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Section 1

General Information

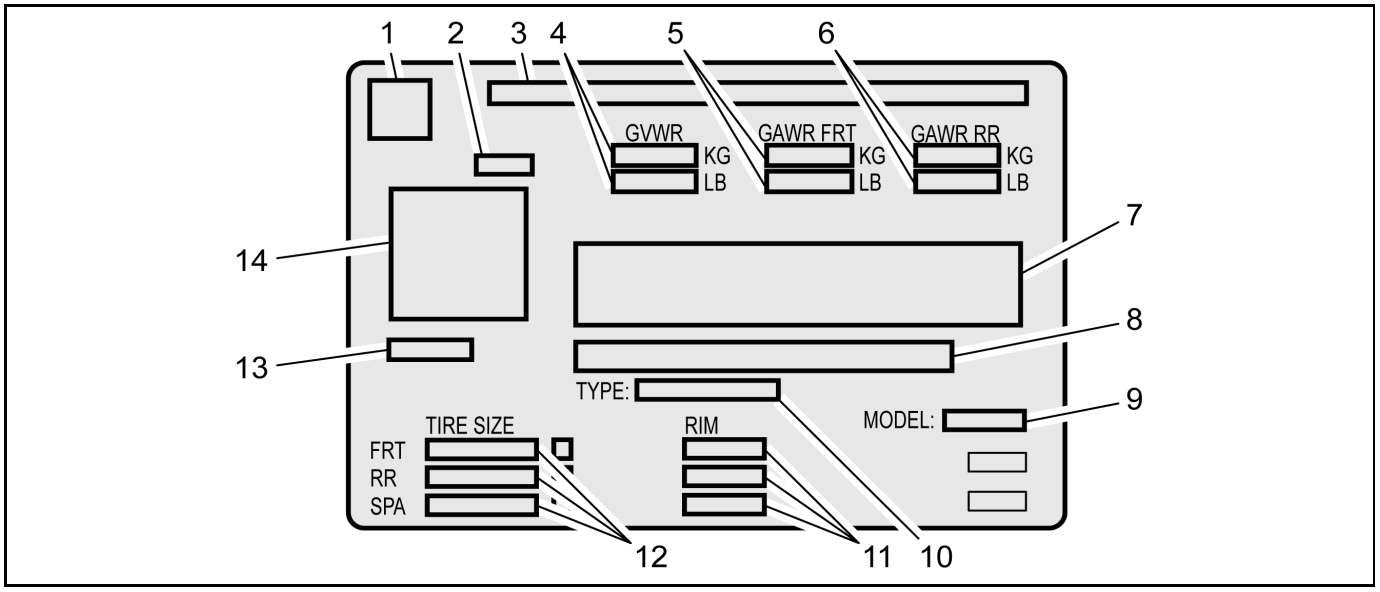
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General Information

Introduction

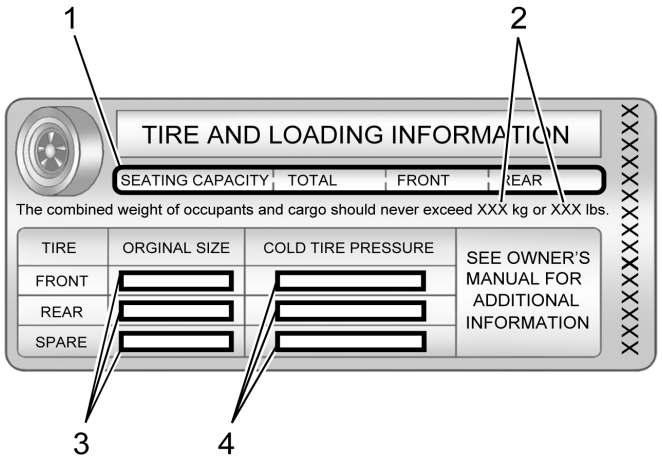
Vehicle Certification, Tire Placard, Anti-Theft, and Service Parts ID Label



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Vehicle Certification Label

Callout	Description
A vehicle-specific Certification label is attached to the vehicle's center pillar (B-pillar) and displays the following assessments:	
1	Logo
2	Final Date of Manufacture (Month and Year MM/YY) Date of manufacture is to reflect the date that the vehicle is counted as built. In those cases where a replacement label is needed, the replacement label should reflect the actual build date not the date of replacement.
3	Name of Manufacturer
4	Maximum Gross Vehicle Weight Rating (GVWR)
5	Maximum Gross Axle Weight Rating (GAWR) - Front
6	Maximum Gross Axle Weight Rating (GAWR) - Rear
7	Certification Statement
8	Vehicle Identification Number (VIN)
9	Engineering Model Number
10	Vehicle Class Type (Pass Car, etc.)
11	Original Equipment Rim Size
12	Original Equipment Tire Size
13	Paint Code
14	QR Code Once the QR code is scanned, the information will appear in this order on your smartphone or laptop: VIN, Model Year, Model, Build Month, Year, Engineering Book, Vehicle Order Number, 3 Digit RPO Codes sorted alphanumerically and the Paint Code (same code appears the lower left of the QR code)


1
2
TIRE AND LOADING INFORMATION
SEATING CAPACITY
TOTAL
FRONT
REAR
The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs.
TIRE
ORGINAL SIZE
COLD TIRE PRESSURE
FRONT
REAR
SPARE
SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION
XXXX

Anti-Theft Label

Callout	Description
This legal identifier is in the front corner of the instrument panel, on the driver side of the vehicle. It can be seen through the windshield from outside. The Vehicle Identification Number (VIN) also appears on the Vehicle Certification and certificates of title and registration.	
1	Vehicle Identification Number (VIN)

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Section 2

Body Systems

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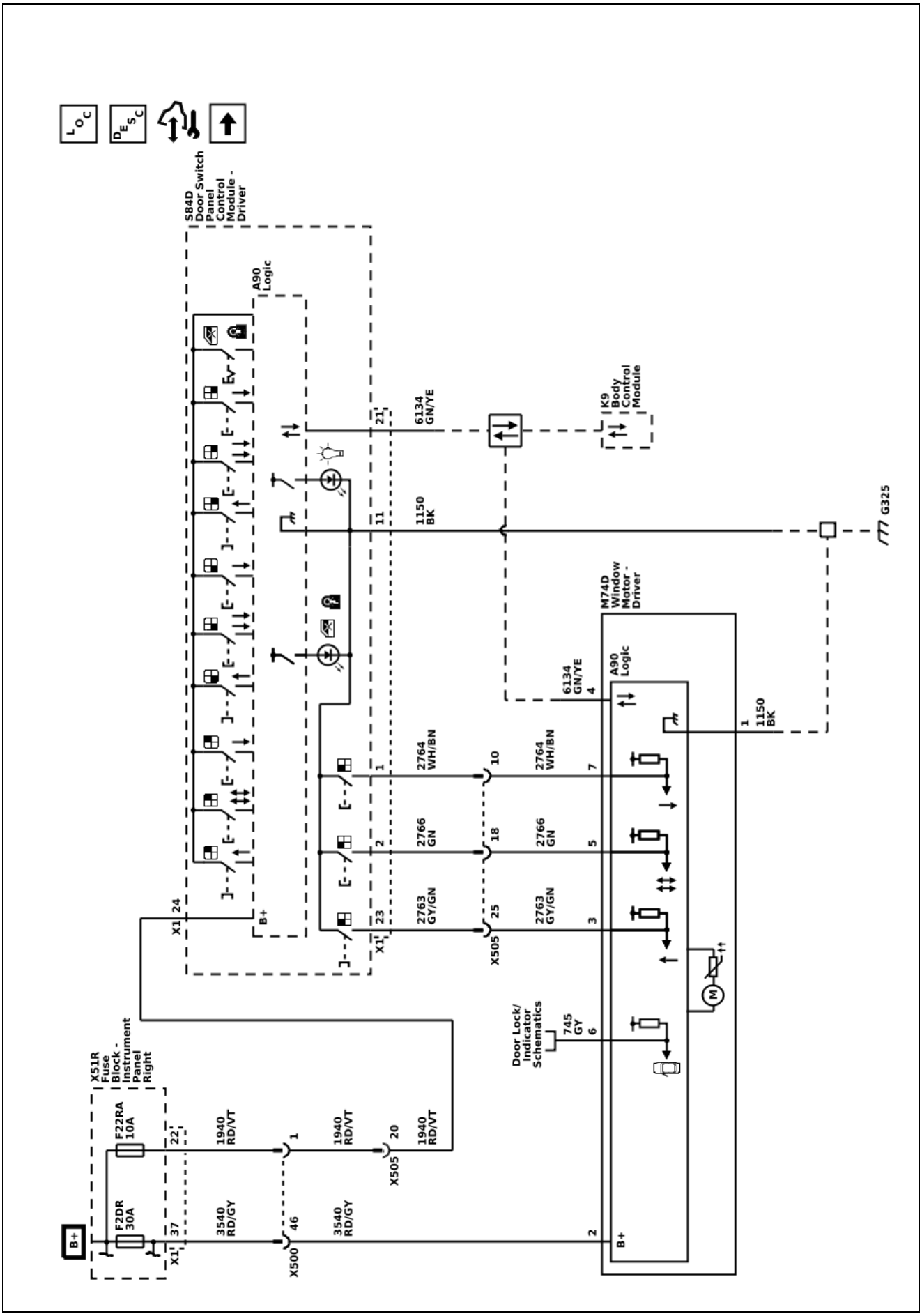
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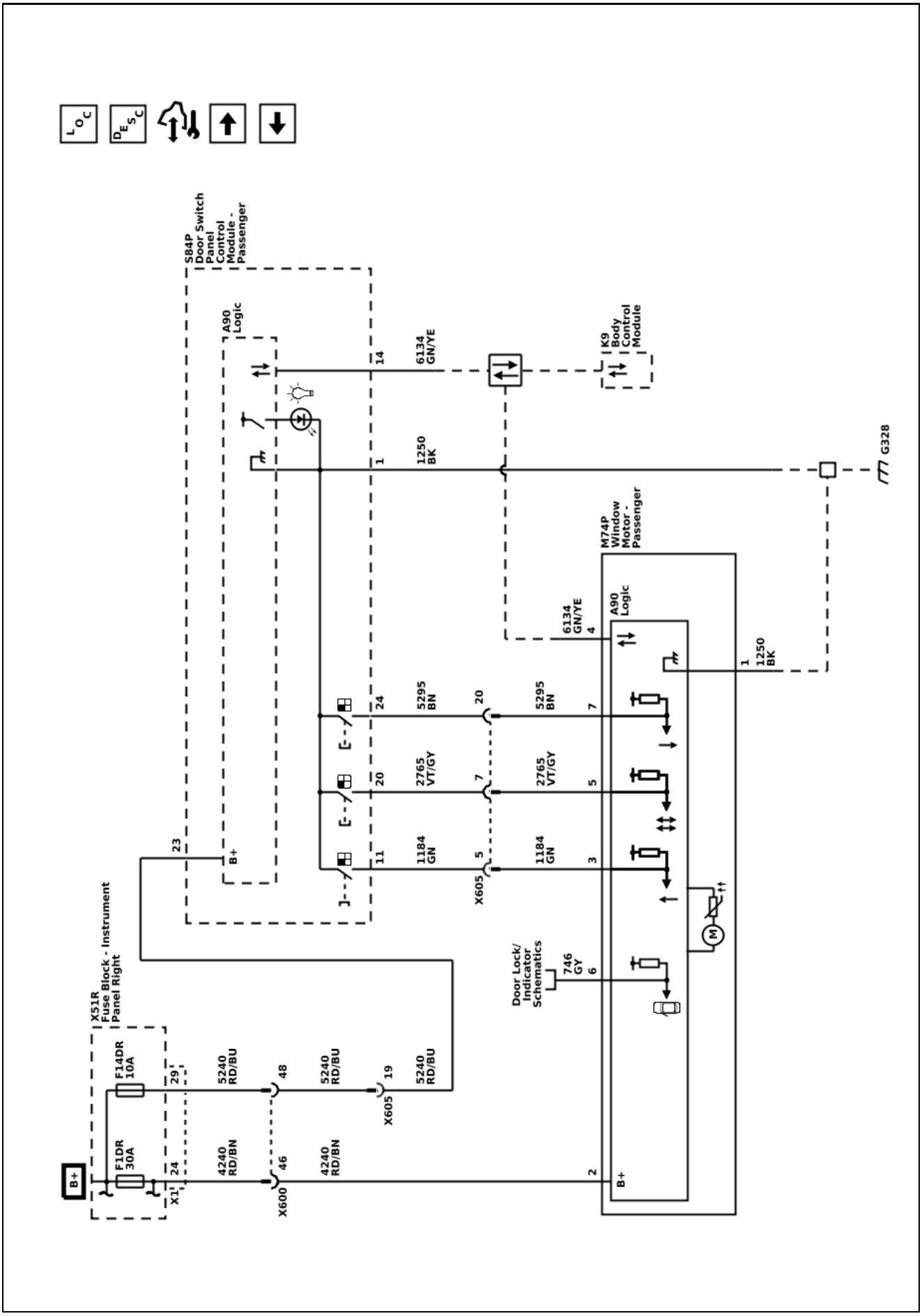
Fixed and Moveable Windows

Schematic and Routing Diagrams

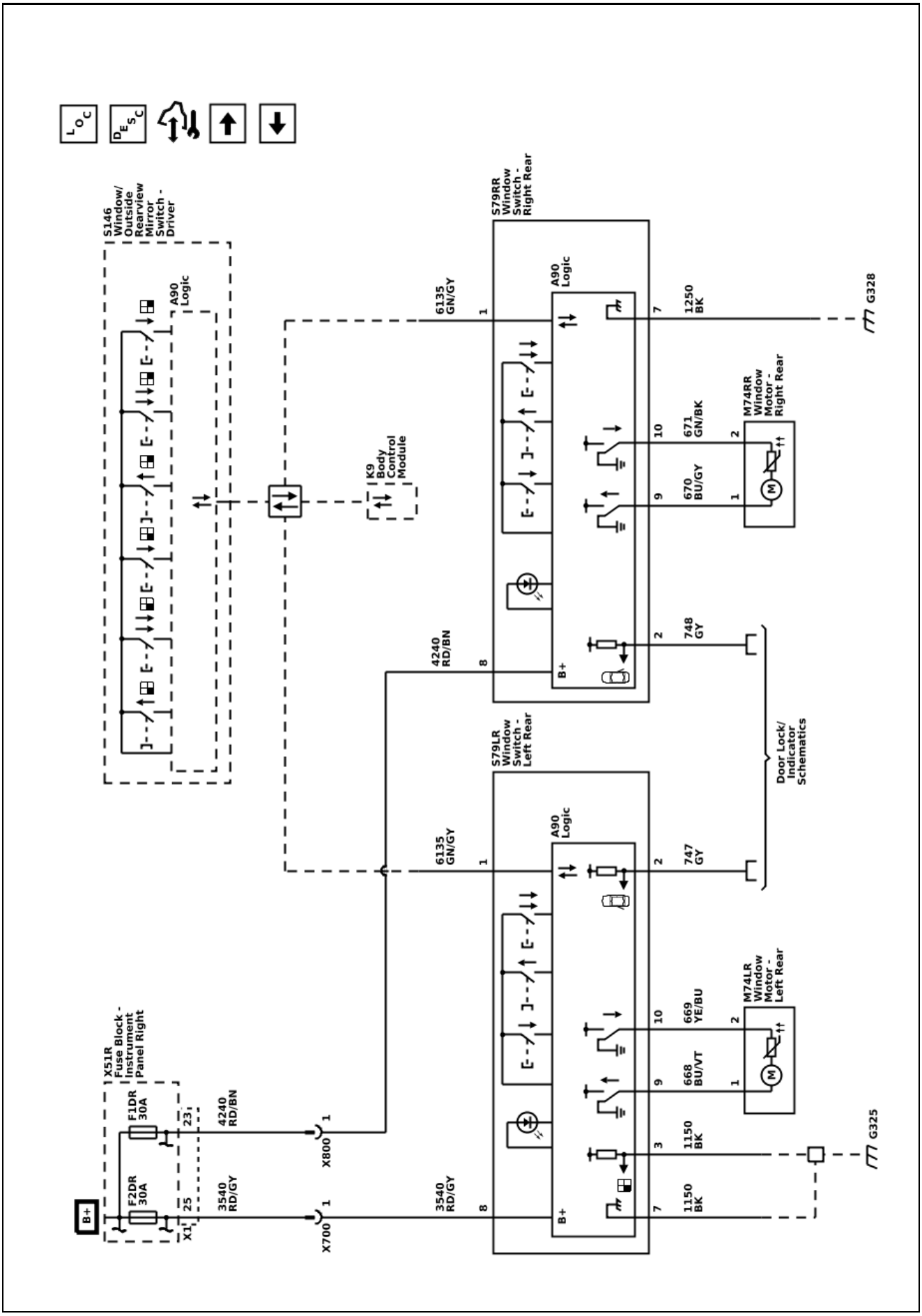
Moveable Window Schematics (Driver)



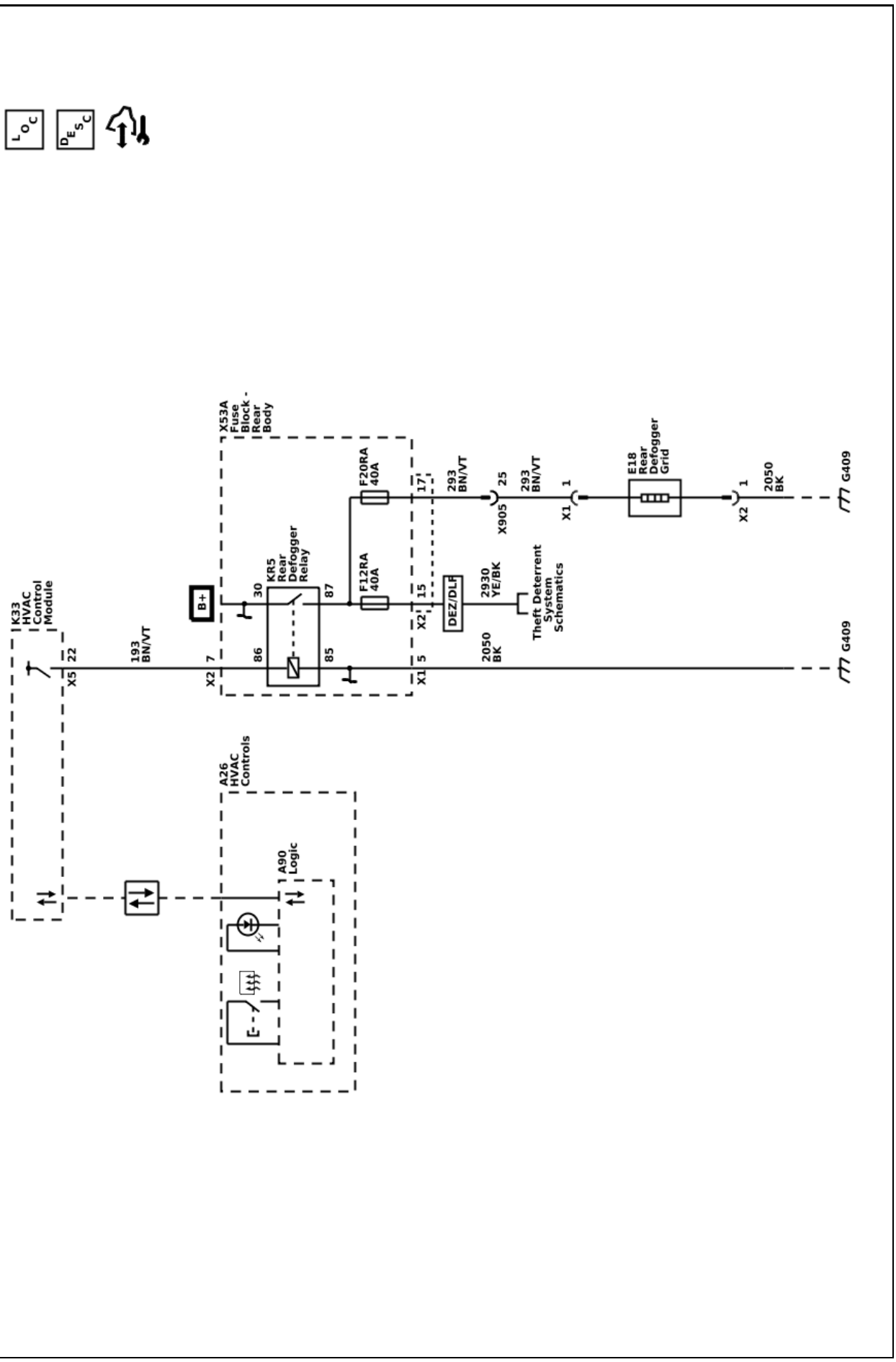
Moveable Window Schematics (Passenger)



Moveable Window Schematics (Rear Windows)



Defogger Schematics (Defogger)



Description and Operation

Power Windows Description and Operation

Power Windows System Components

The power window system consists of the following components:

- Driver front side door window control switch
- Passenger front side door window control switch
- Left rear side door window switch
- Right rear side door window switch
- Window motors in each of the doors
- Body control module (BCM)

Driver and Passenger Express Up and Express Down Power Window Motors

The driver and passenger doors contains a window motor is smart motor that will detect excessive resistance while performing the express up function and automatically reverse direction to prevent injury to any occupants that may become trapped between the closing window and the door frame. The automatic reverse safety feature can be overridden by pulling and holding the window switch.

The logic circuit within the window motor monitors the up, down and express signal circuits which are normally equal to B+ voltage. When a switch is used on the front side door window control switch, the contacts close causing a voltage drop within the appropriate signal circuit. The window motor will detect the voltage drop and will command the window to move in the direction requested.

The driver front side door window control switch communicates to the BCM by a serial data circuit. When the driver wishes to control the passenger window, the driver will use the appropriate switch on the driver front side door window control switch. When this switch is used, a serial data message is sent to the BCM requesting the passenger window motor command, the BCM will then send a serial data message to the passenger window motor which will then move in the direction requested.

Left Rear, Right Rear Express Down Window Motors

For the right rear and left rear doors, when their window switch is pressed in the down position, battery positive voltage is applied to their respective window motor control circuit and ground to the other window motor control circuit causing that window to open. When the individual window switch is pulled in the up position, voltage and ground is applied to the window motor in the opposite direction causing that window to close. The return path to ground is supplied through the inactive control circuit being normally grounded through the window switch.

Each rear side door window switch communicates to the BCM by a serial data circuit. When the driver wishes to control the left rear or right rear window, the driver will use the appropriate switch on the driver front side door window control switch. When this switch is used, a serial data message is sent to the BCM requesting a window motor command, the BCM will then send a serial data message to the appropriate rear side door window switch which will then command that window to move in the direction requested.

Lockout Switch Feature

The driver front side door window control switch contains a window lockout switch, when the driver presses the window lockout switch, a serial data message is sent to the BCM which will send a disable command to the rear side door window switches, deactivating them. The rear windows will still function normally from the switches on the driver front side door window control switch.

Rear Window Defogger Description and Operation

Rear Window Defogger System Components

The rear window defogger system consists of the following components:

- Body Control Module
- Front Heater and Air Conditioning User Interface Control
- Rear Body Wiring Harness Junction Block (Contains PCB Rear Defogger Relay
- Rear Defogger Grid
- 40A Fuse

Rear Window Defogger Operation

The rear defog control system utilizes a single zone backlight design, driven with a single relay configuration. A switch for the customer to control the system is provided within the front heater and air conditioning user interface control. Also included in the front heater and air conditioning user interface control is an indicator to inform the customer with the current state of the system. The system is only operational when engine is running or during remote start.

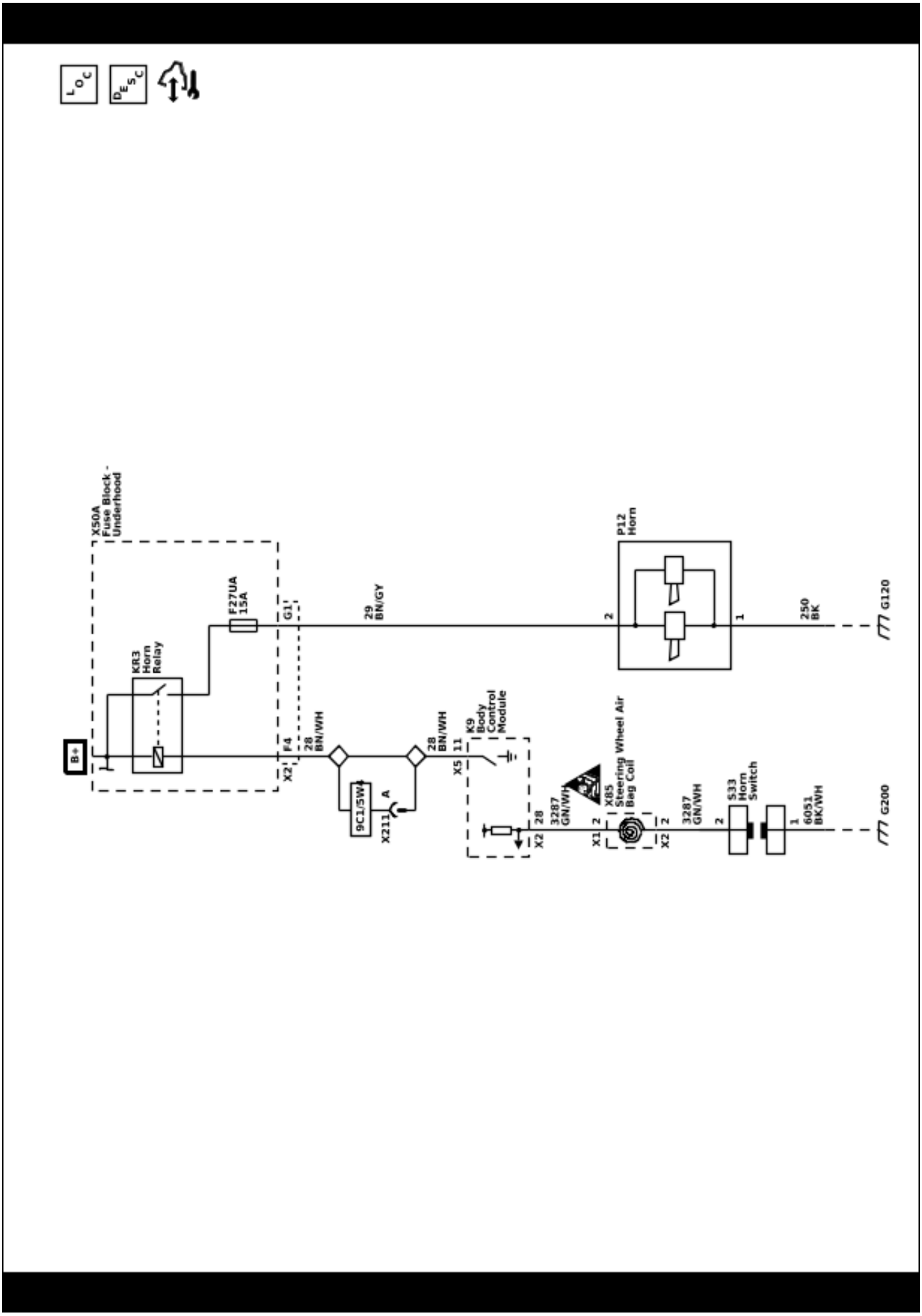
Pressing the heated rear window switch causes the front heater and air conditioning user interface control to send a serial data message to the body control module requesting rear window defog operation. The body control module upon receipt of the serial data message will provide voltage to the coil side of the rear defogger relay, this will energize the relay causing the relay switch contacts to close allowing B+ voltage to flow through the rear defogger grid control circuit to the rear defogger grid.

When the rear heated rear window switch is pressed and the engine is running, the rear window defogger grid will activate and will turn off automatically depending upon the vehicle speed (refer to owner’s manual for rear window defogger operation cycles)

Horns and Pedestrian Alerts

Schematic and Routing Diagrams

Horn Schematics (Horn)



Description and Operation

Horns System Description and Operation

System Description

The horn system consists of the following components:

- HORN fuse
- Engine wiring harness junction block (contains horn PCB relay
- Steering wheel horn contact
- Horn
- Body control module (BCM)

System Operation

The vehicle horn system is activated under the following conditions:

- When the horn switch is depressed
- The BCM commands the horns ON under any of the following conditions:
  - When the content theft deterrent system detects a vehicle intrusion—For further information refer to Theft Systems Description and Operation.
  - When the panic button is depressed on the remote control door lock transmitter—For further information refer to *Keyless Entry System Description and Operation on page 7-41*.
  - When the keyless entry system is used to lock the vehicle, a horn chirp may sound to notify the driver that the vehicle has been locked. The notification feature may be enabled or disabled through personalization. For further information refer to *Keyless Entry System Description and Operation on page 7-41*.
  - When the OnStar® system is used to sound the horns if equipped—For further information, refer to OnStar Description and Operation .

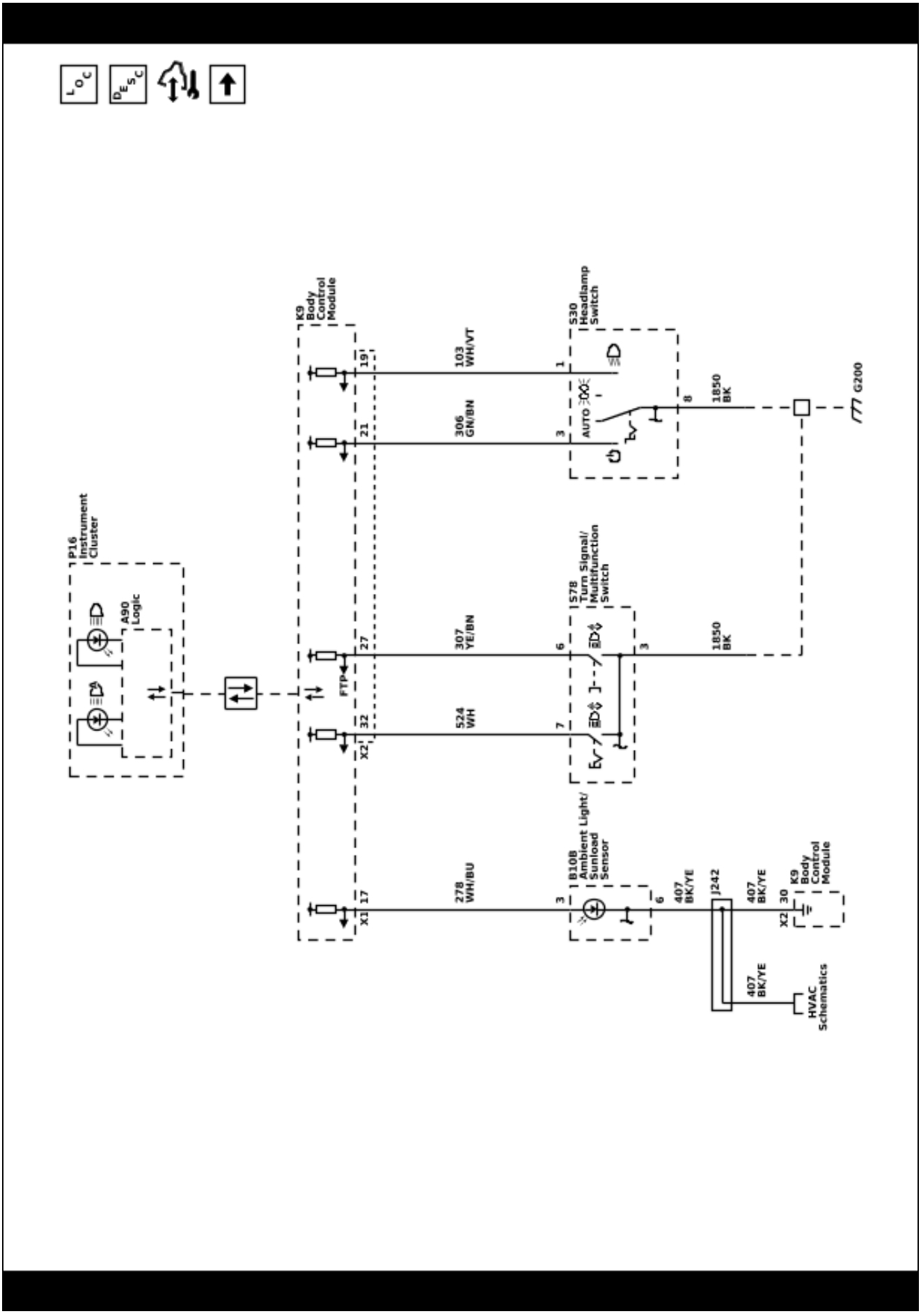
Circuit Operation

Battery positive voltage is applied at all times to the horn relay coil and the horn relay switch. Pressing either of the horn switches applies ground to the horn relay control circuit. The BCM may also apply ground to the horn relay control circuit as described above. When the horn relay control circuit is grounded, the horn relay is energized and battery positive voltage is applied to the horns through the horn control circuit. The horns sound as long as ground is applied to the horn relay control circuit.

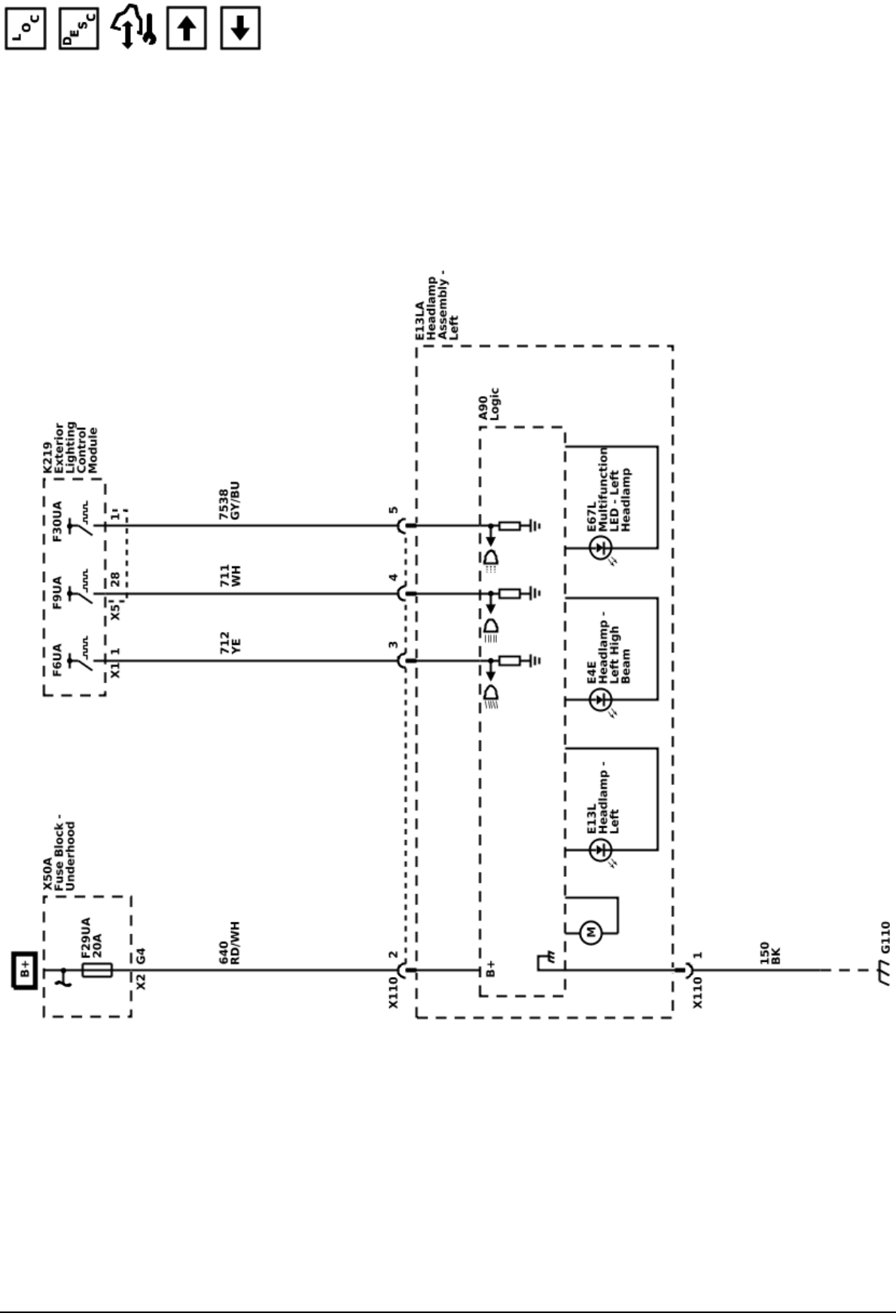
Lighting

Schematic and Routing Diagrams

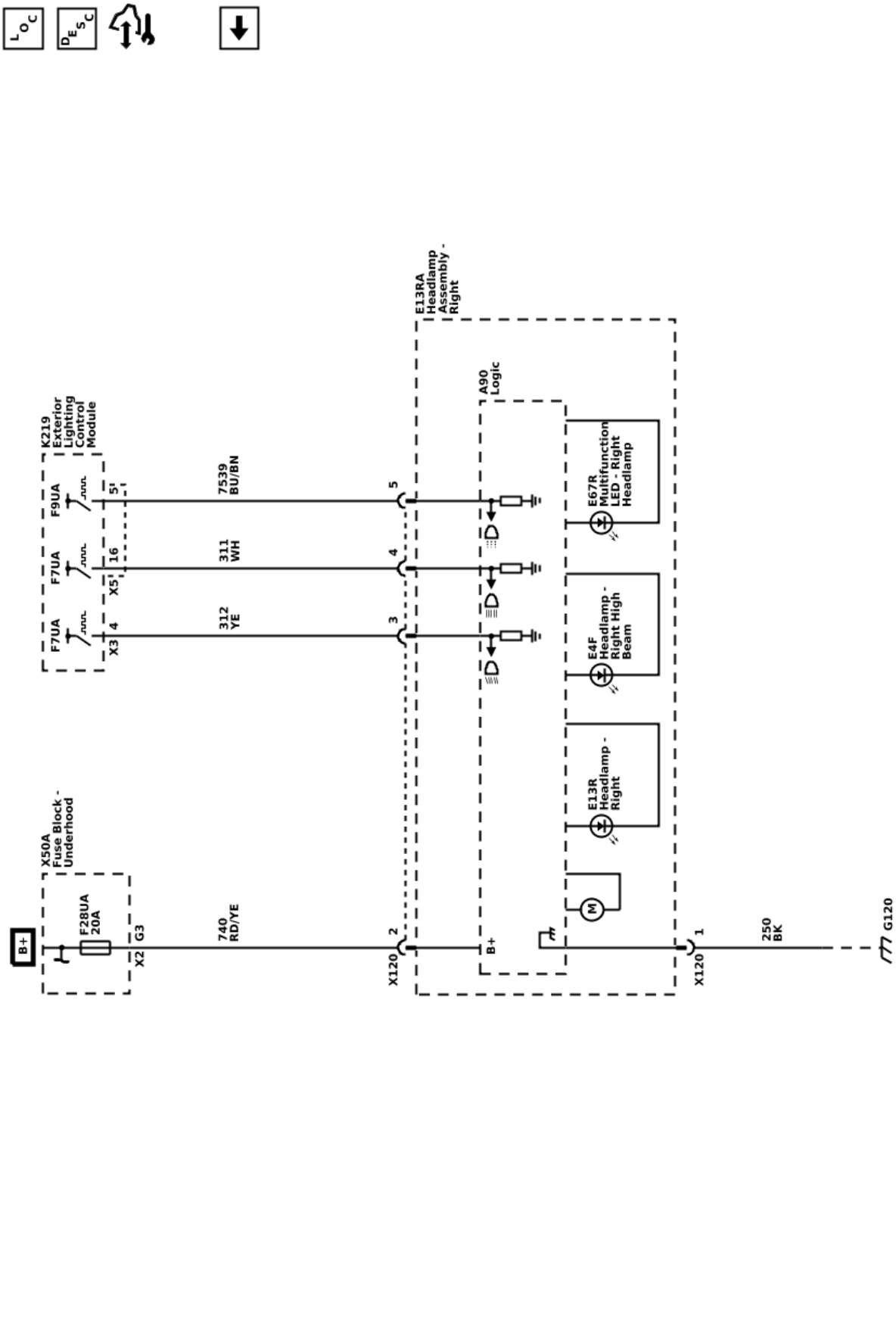
Headlights/Daytime Running Lights (DRL) Schematics (Controls and Indicators)



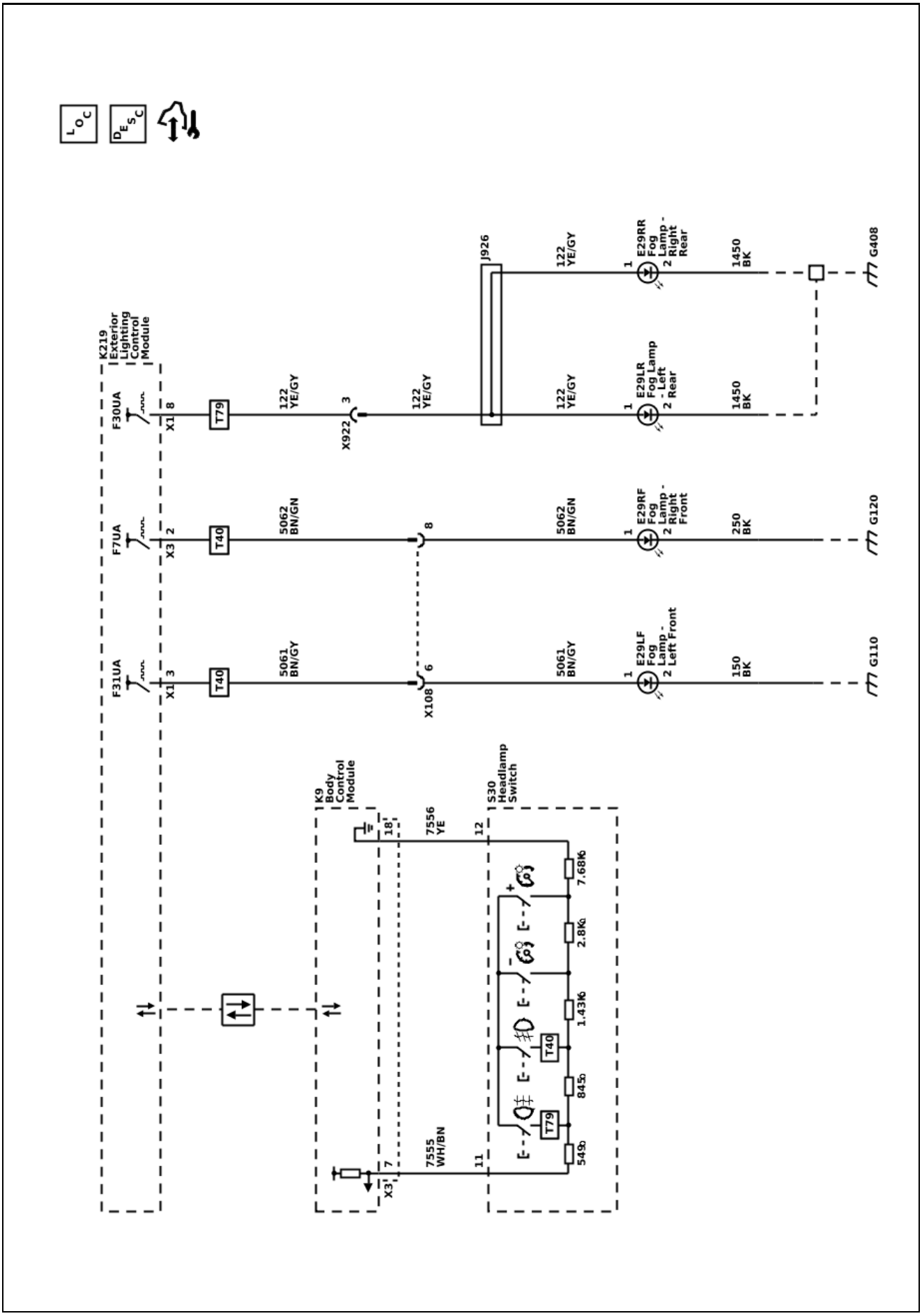
Headlights/Daytime Running Lights (DRL) Schematics (Headlamps and Daytime Running Lamps - Left)



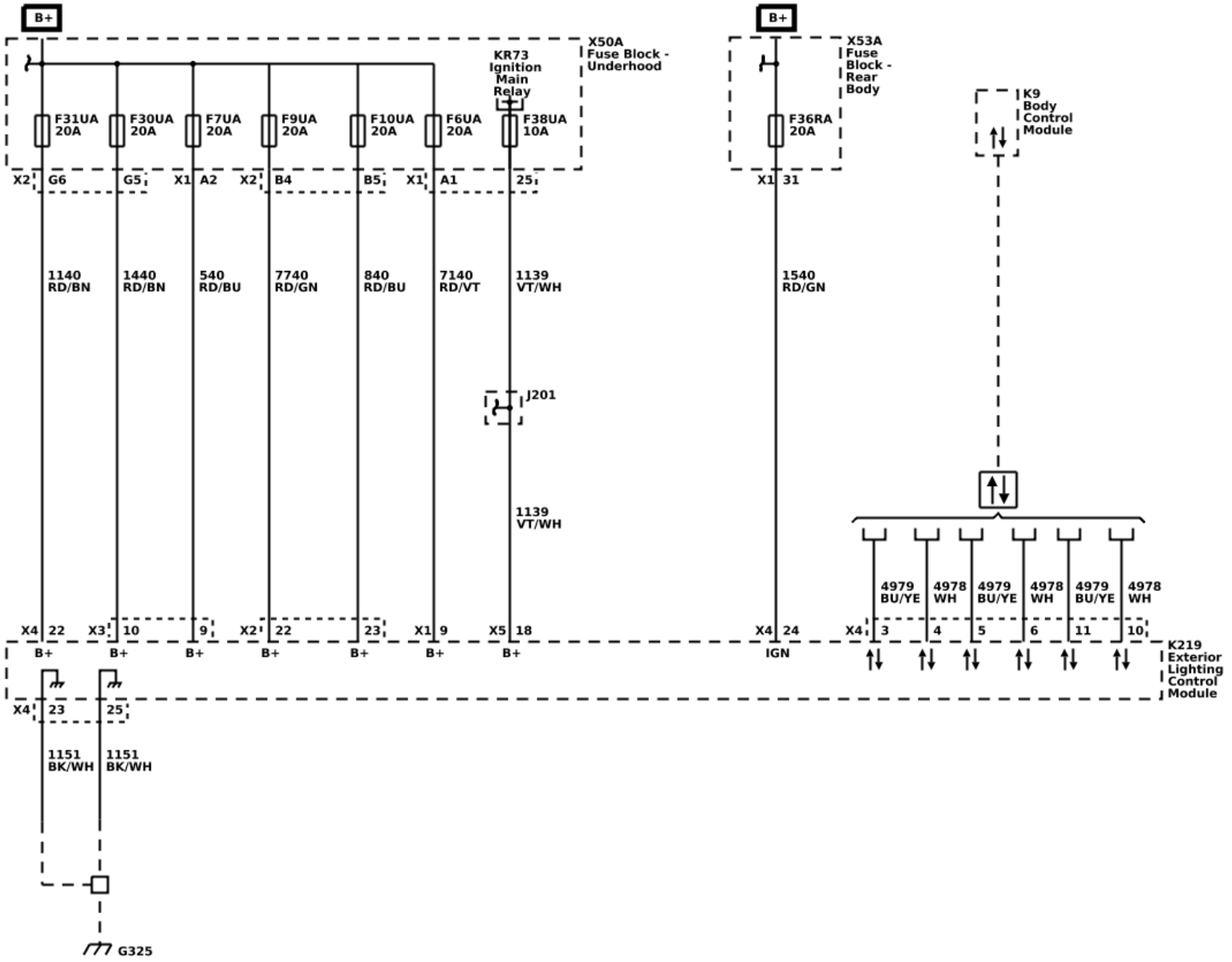
Headlights/Daytime Running Lights (DRL) Schematics (Headlamps and Daytime Running Lamps - Right)



Fog Lights Schematics (Fog Lamps (T40/T79))

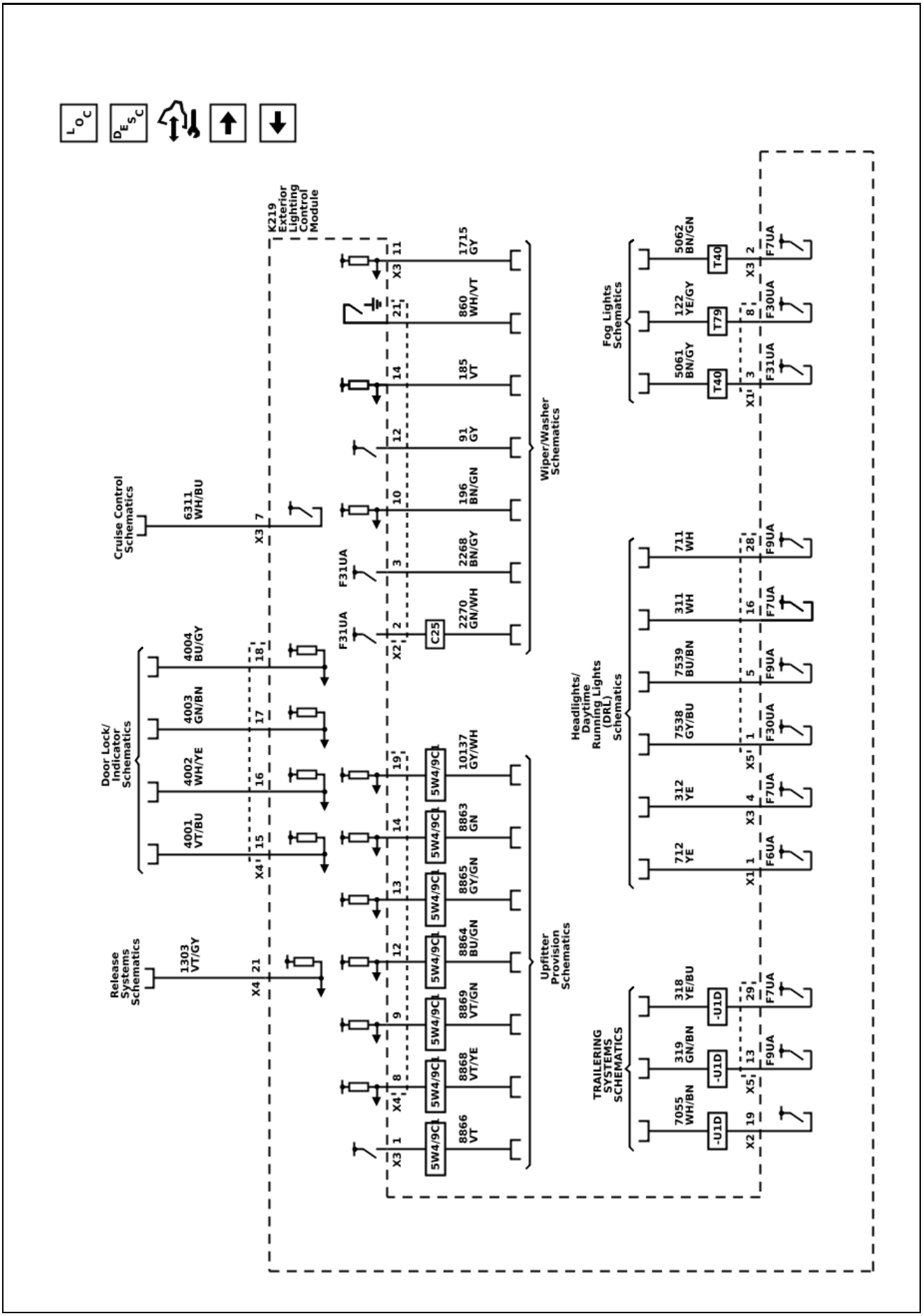


Exterior Lights Schematics (Lighting Control Module Power, Ground, and Serial Data)



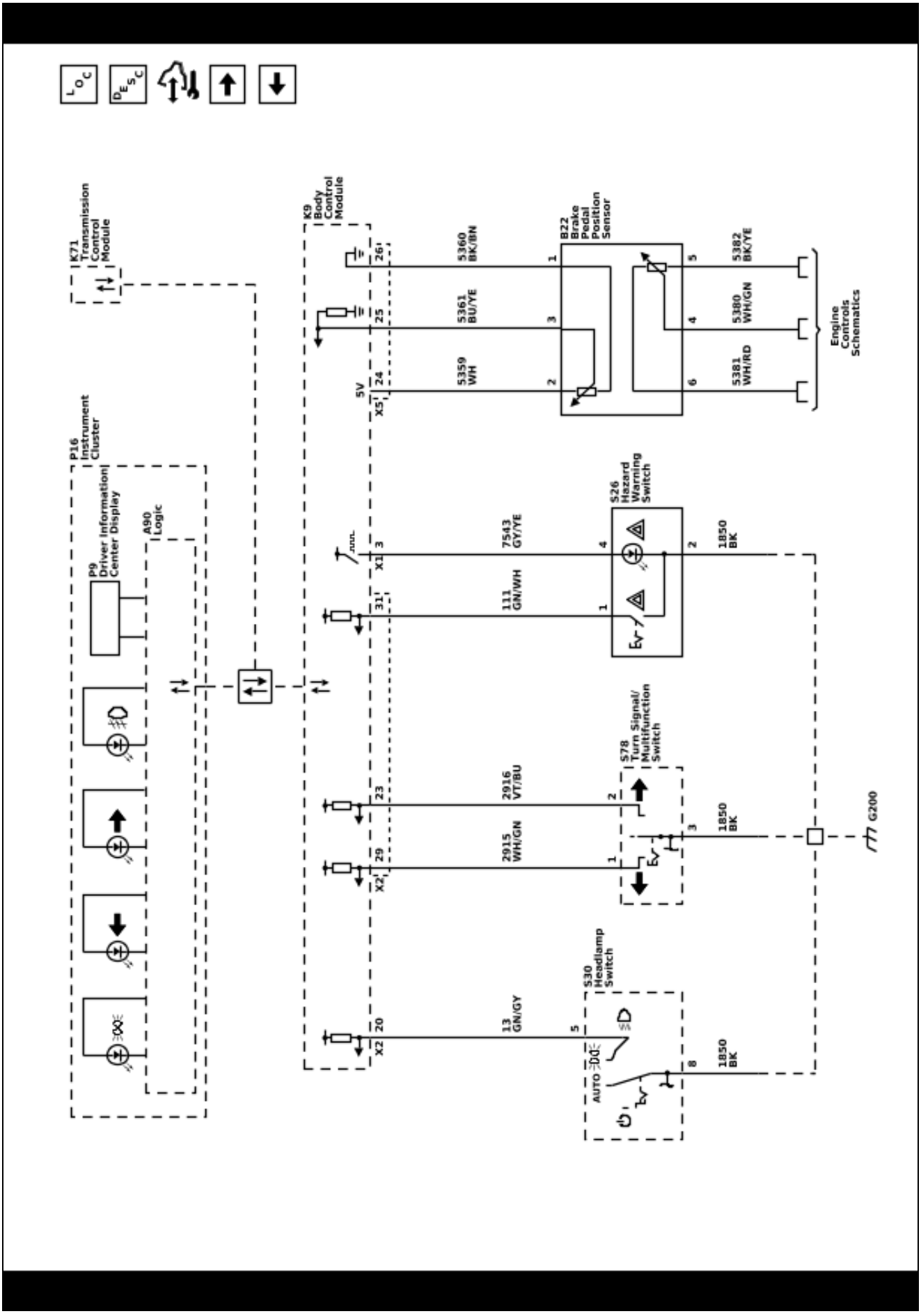
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Exterior Lights Schematics (Lighting Control Module Subsystem References)

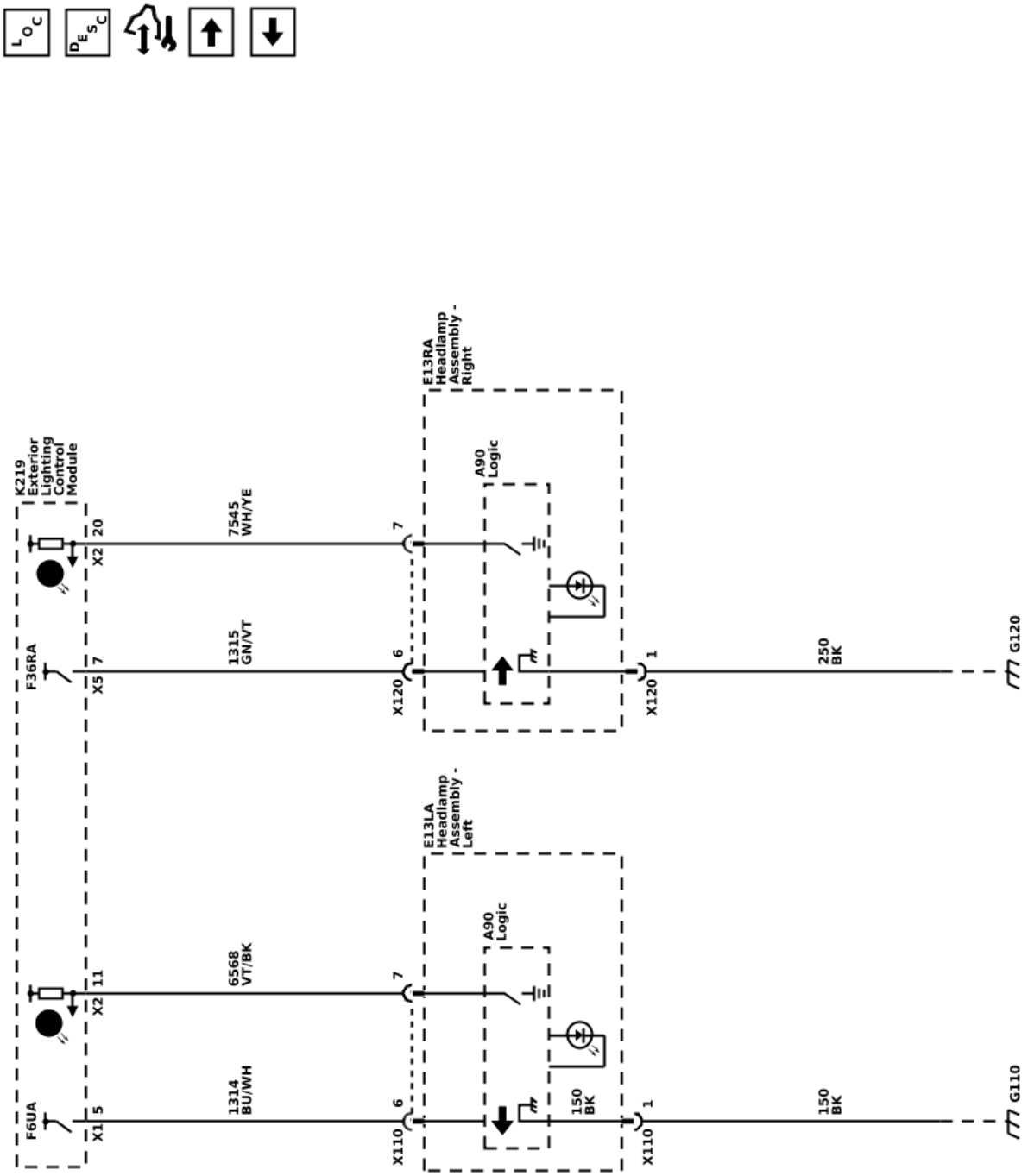


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Exterior Lights Schematics (Controls and Indicators)

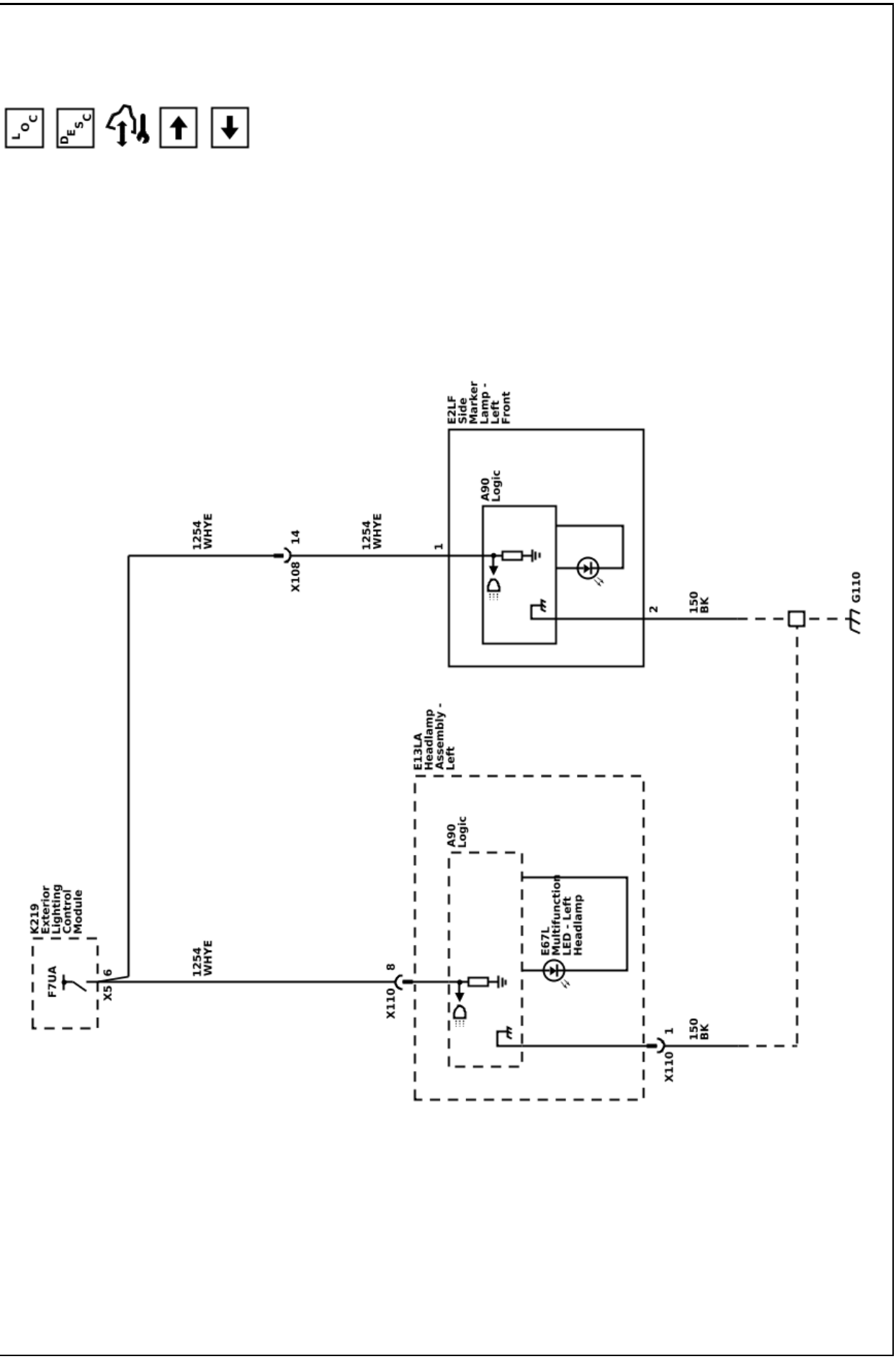


Exterior Lights Schematics (Turn Signals - Front)

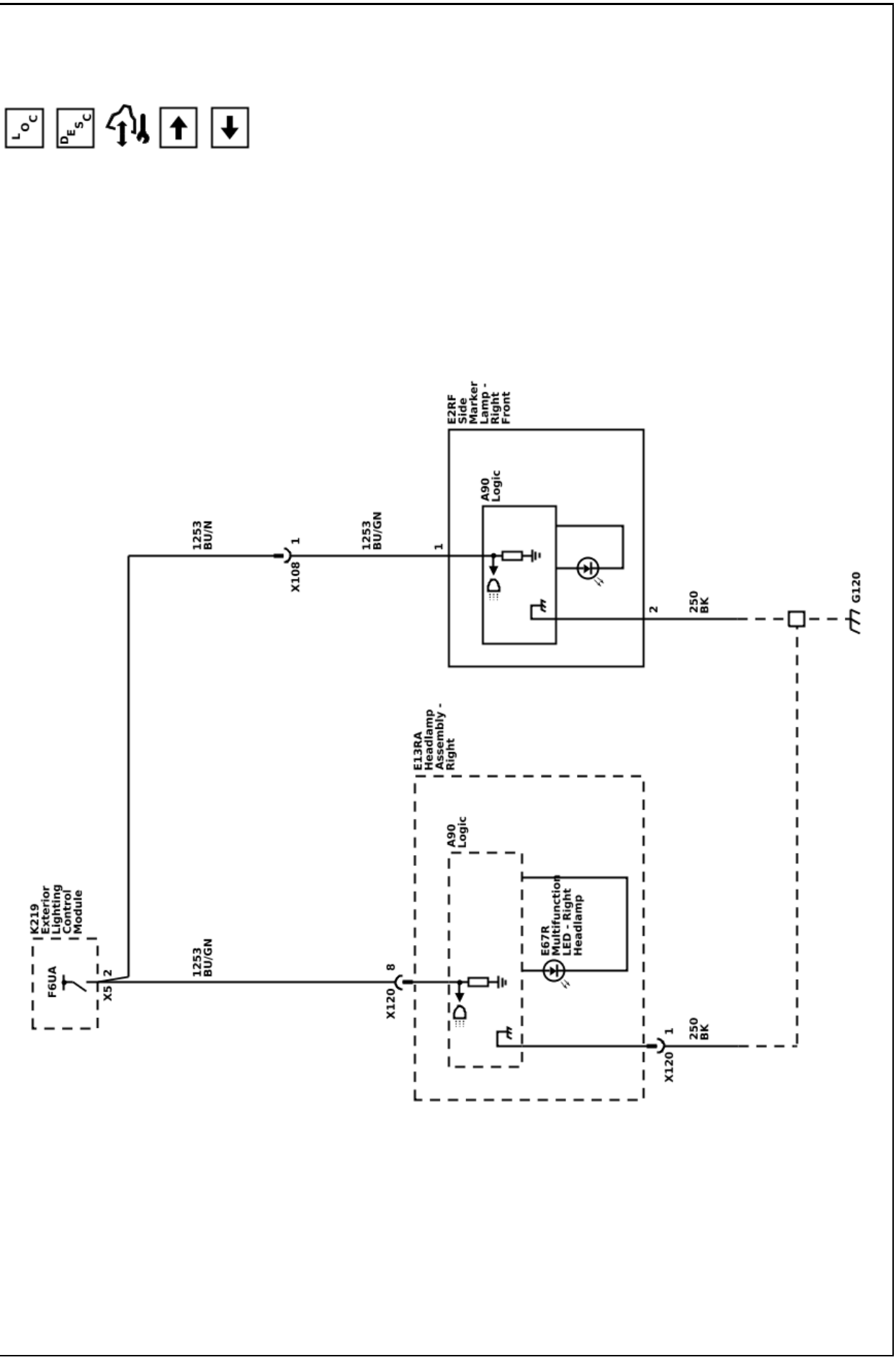


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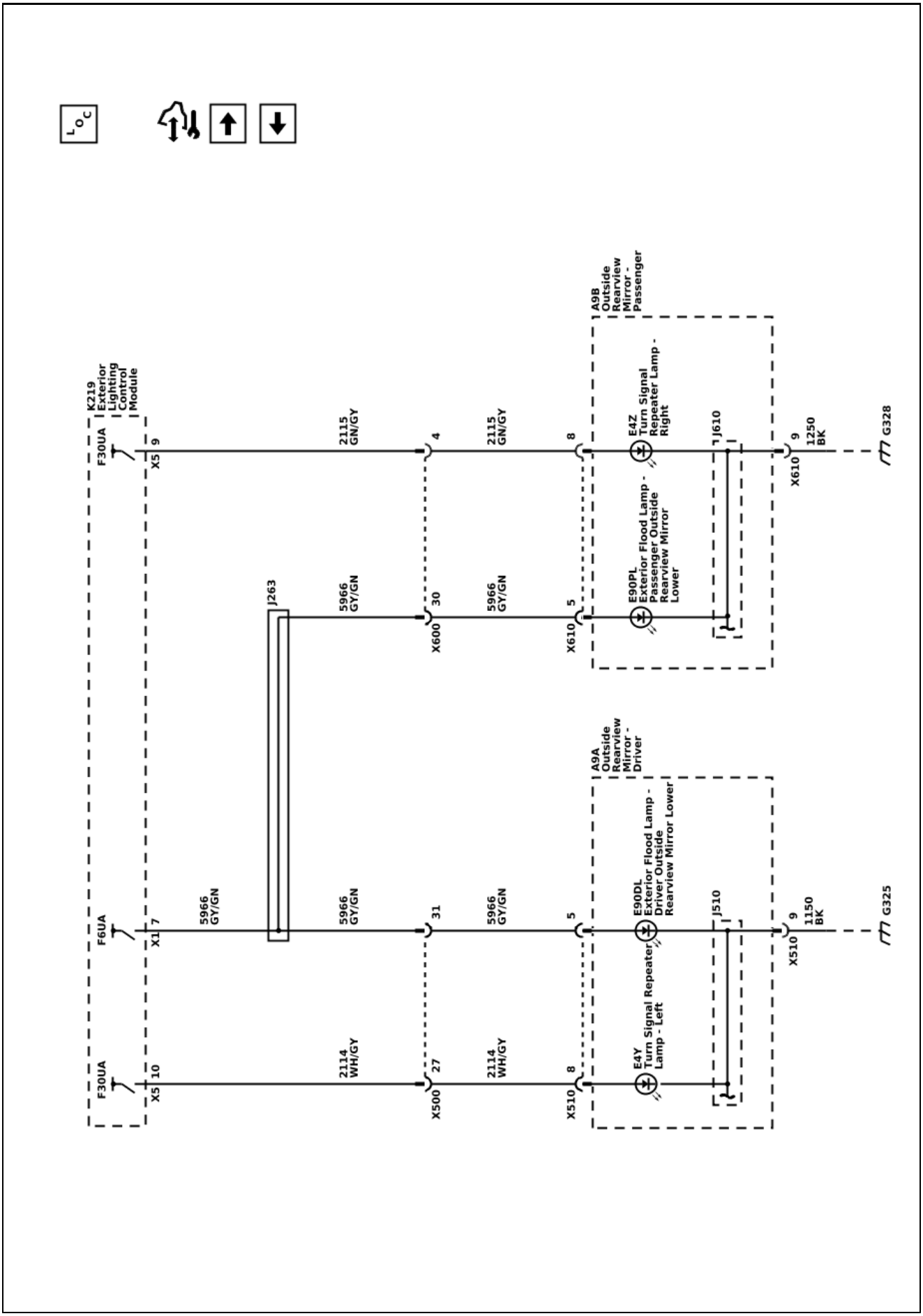
Exterior Lights Schematics (Side Markers and Park Lamps - Left Front)



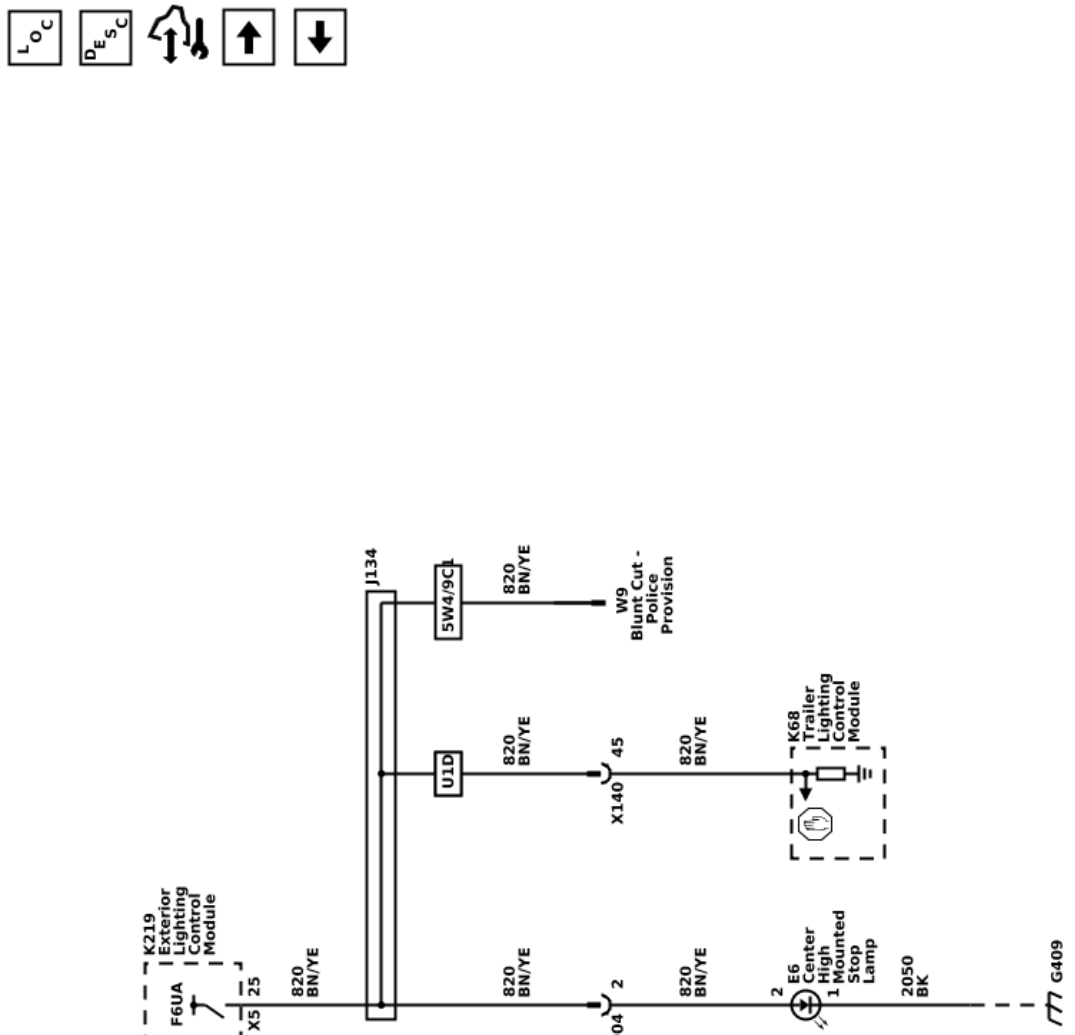
Exterior Lights Schematics (Side Markers and Park Lamps - Right Front)



Exterior Lights Schematics (Outside Rearview Mirror Lamps (DXR/DW6))

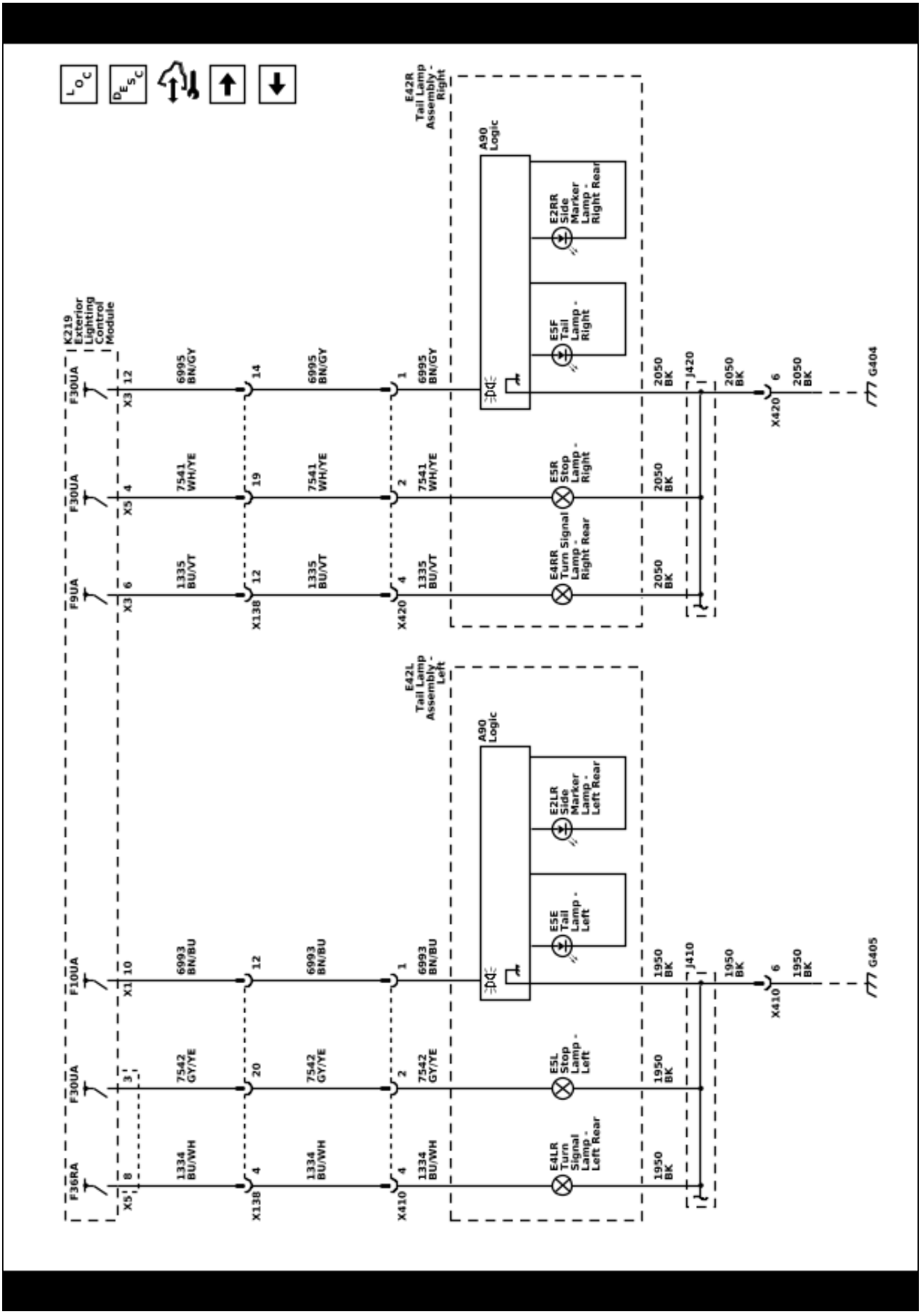


Exterior Lights Schematics (High Mount Stop Lamp)

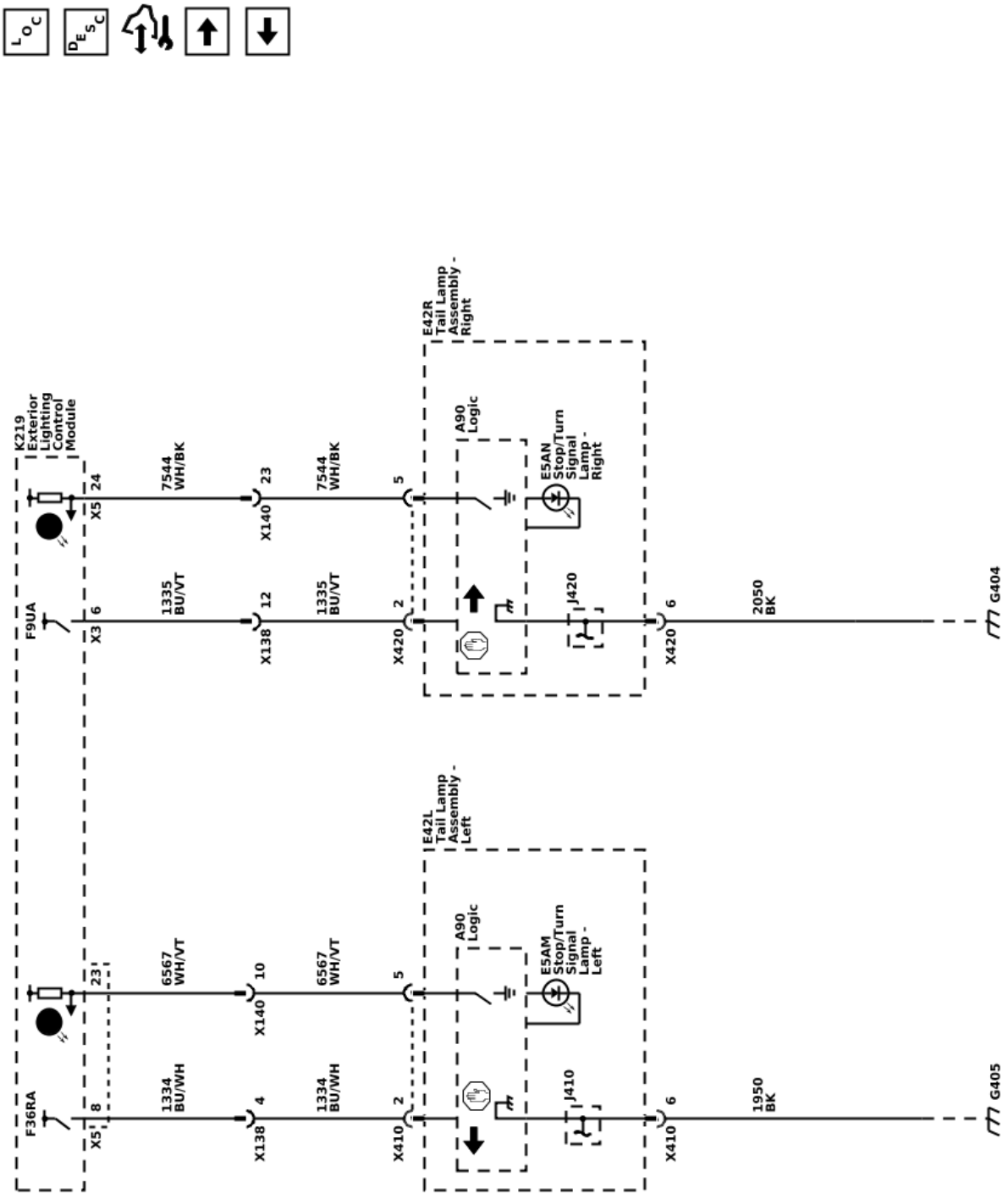


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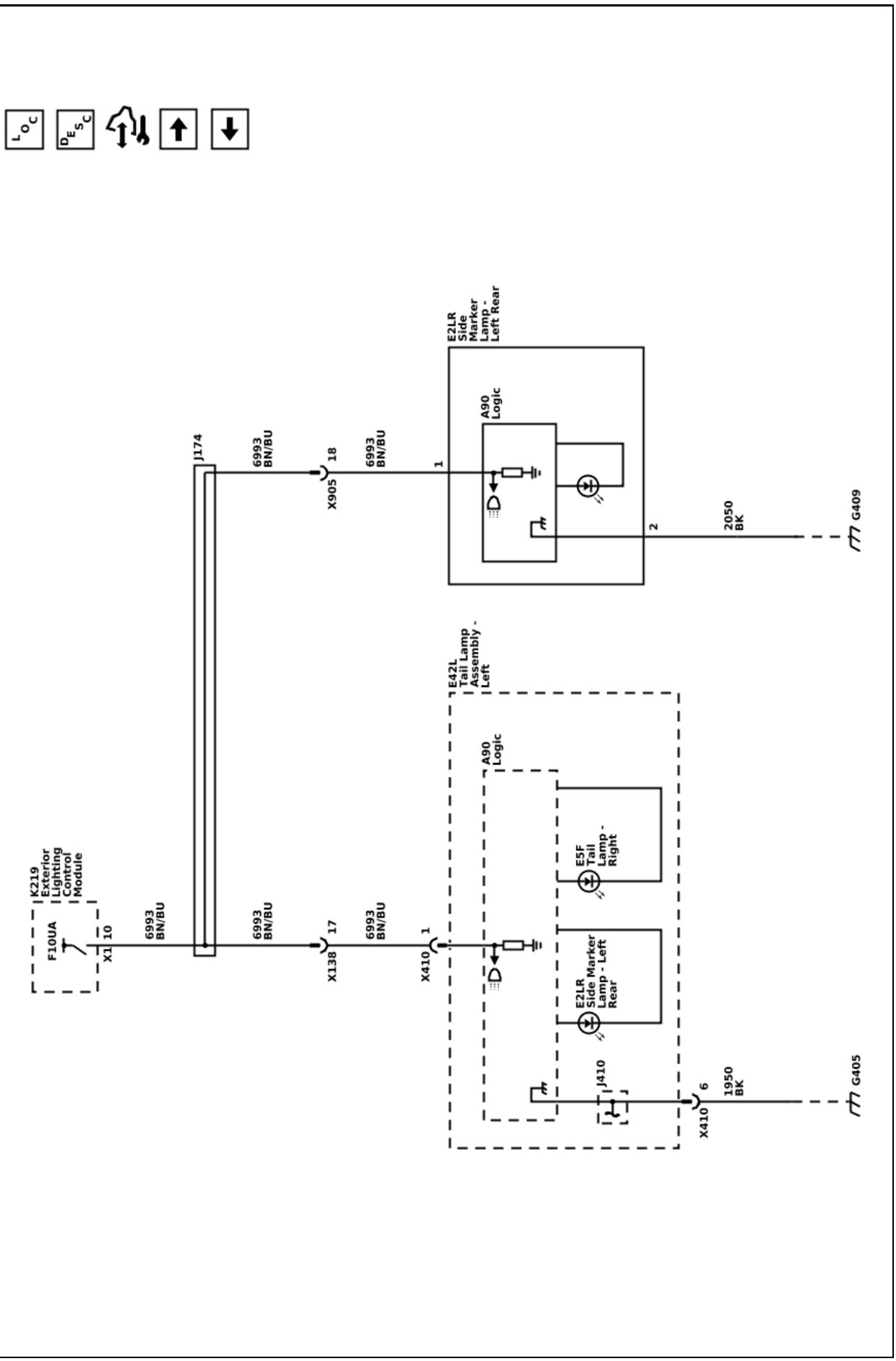
Exterior Lights Schematics (Stop, Tail, Side Markers, and Turn Signals - Rear (X88))



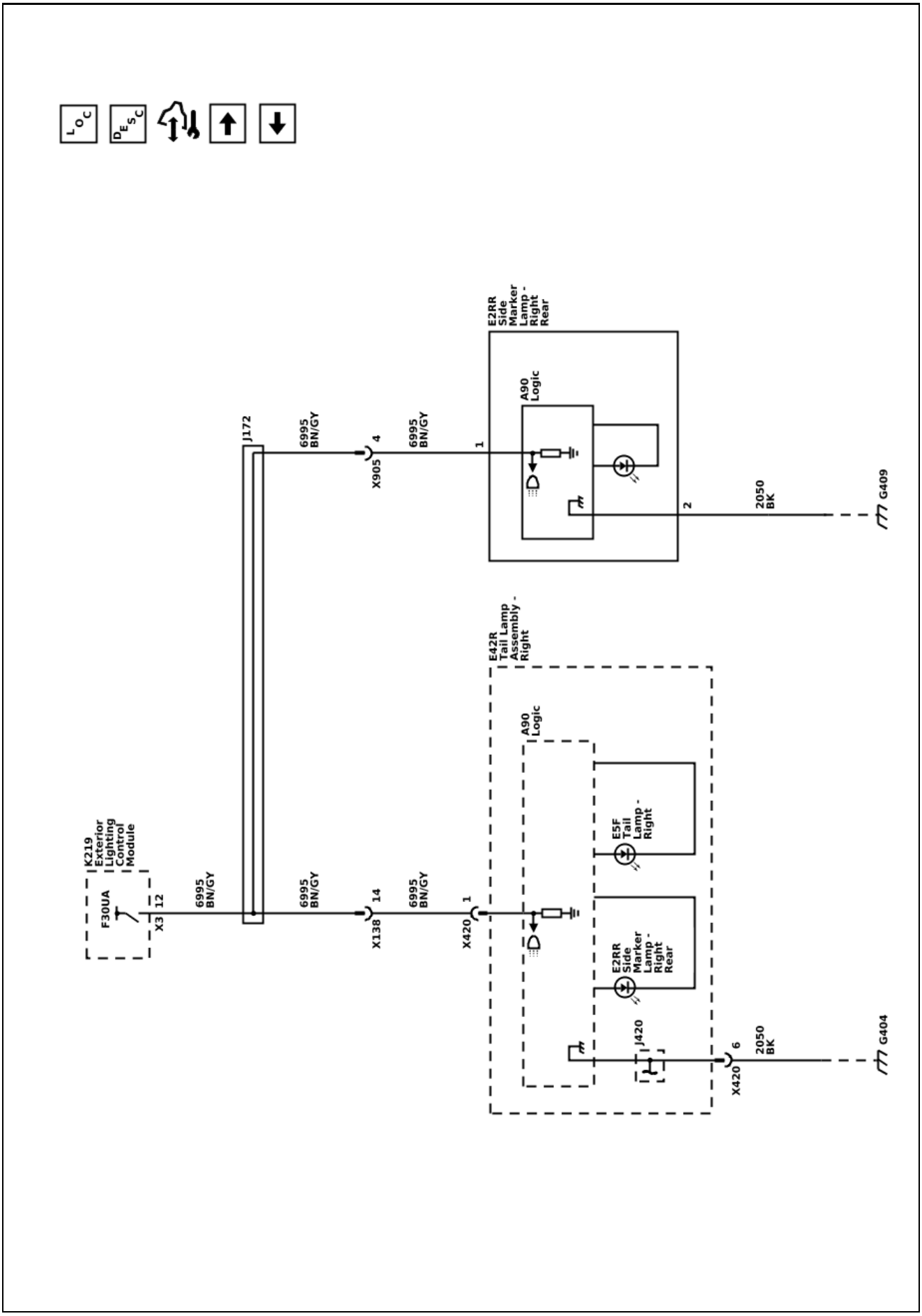
Exterior Lights Schematics (Stop and Turn Signals - Rear (Z88))



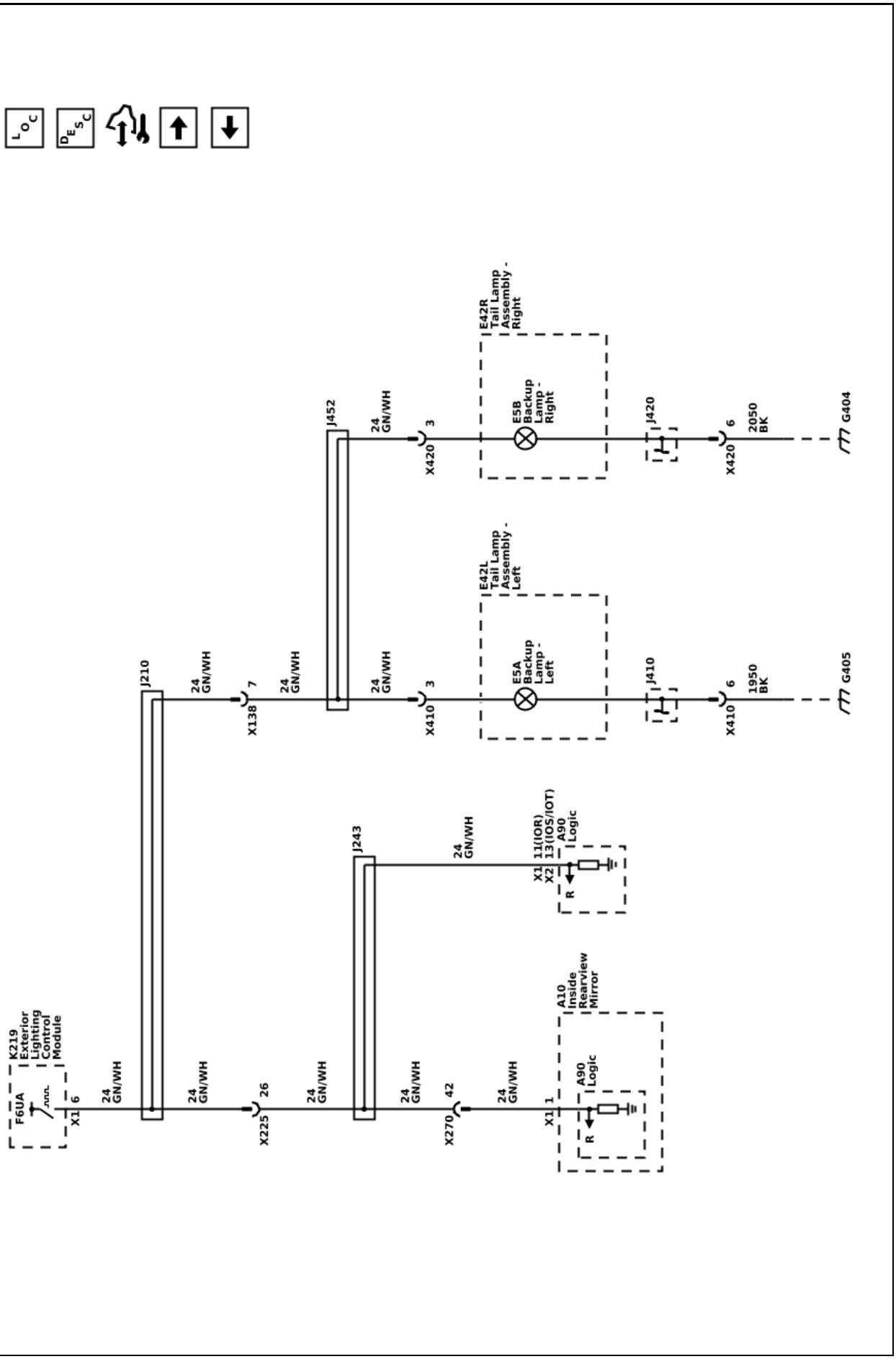
Exterior Lights Schematics (Side Markers and Tail Lamps - Left Rear (Z88))



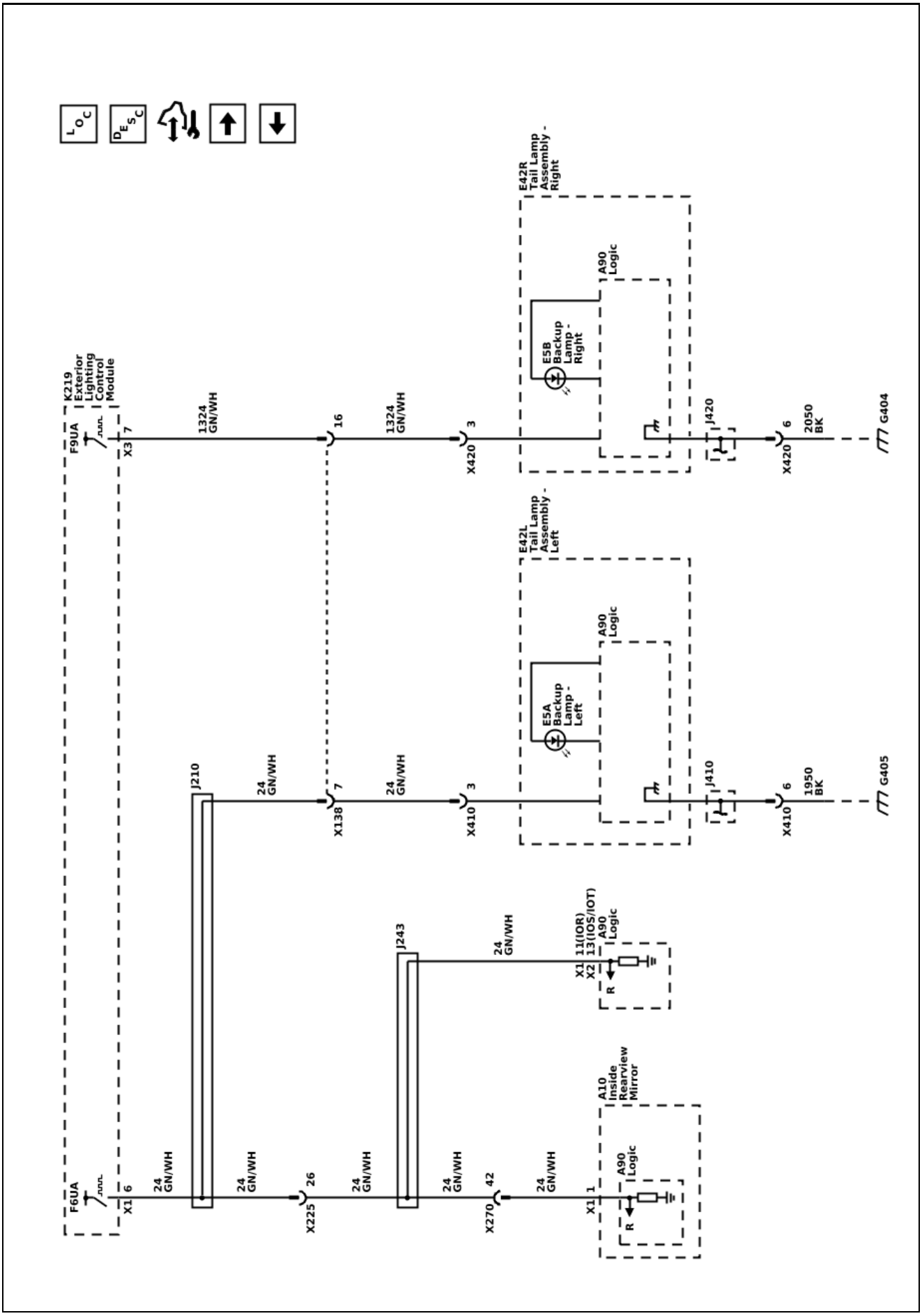
Exterior Lights Schematics (Side Markers and Tail Lamps - Right Rear (Z88))



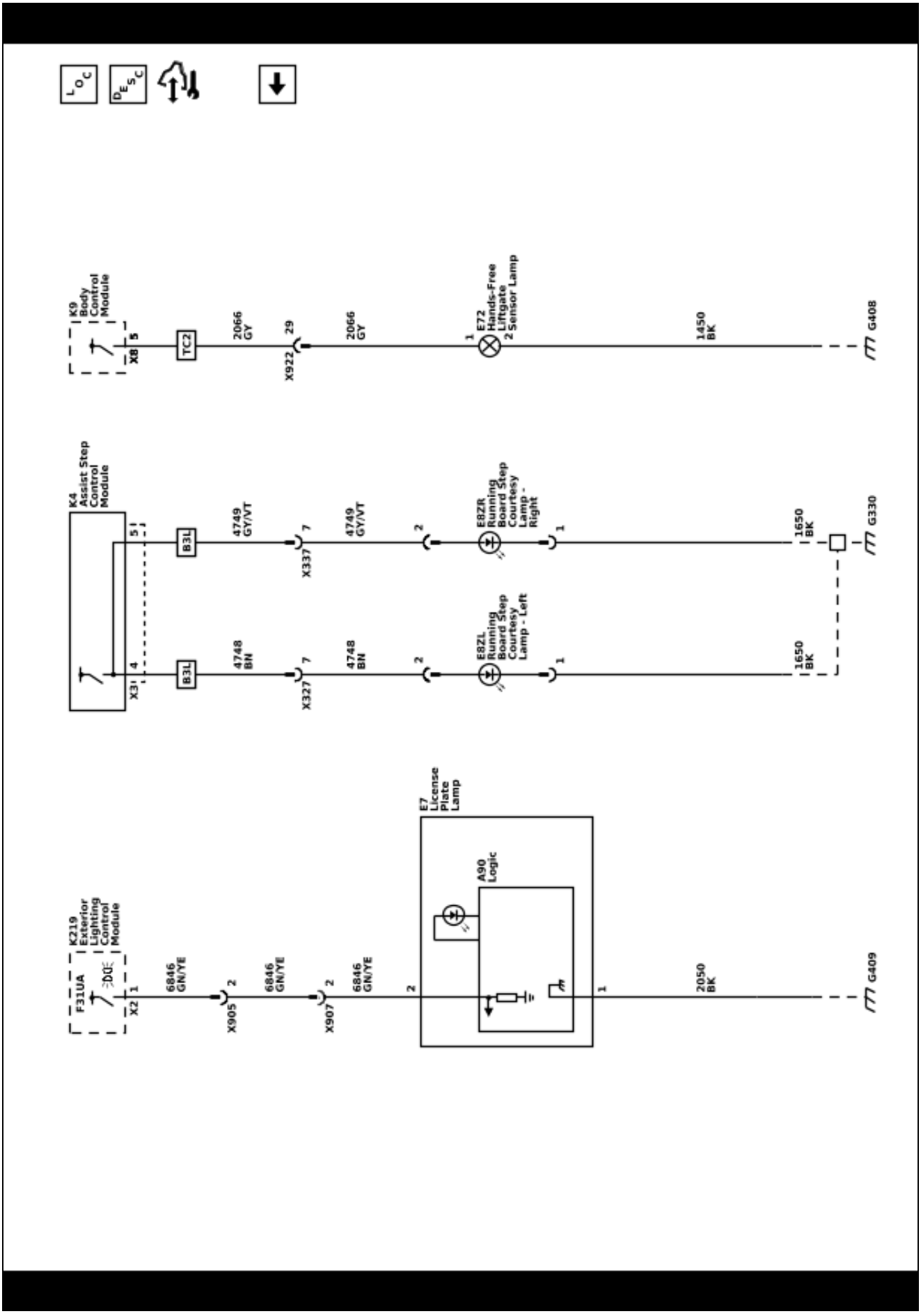
Exterior Lights Schematics (Back Up Lamps (X88))



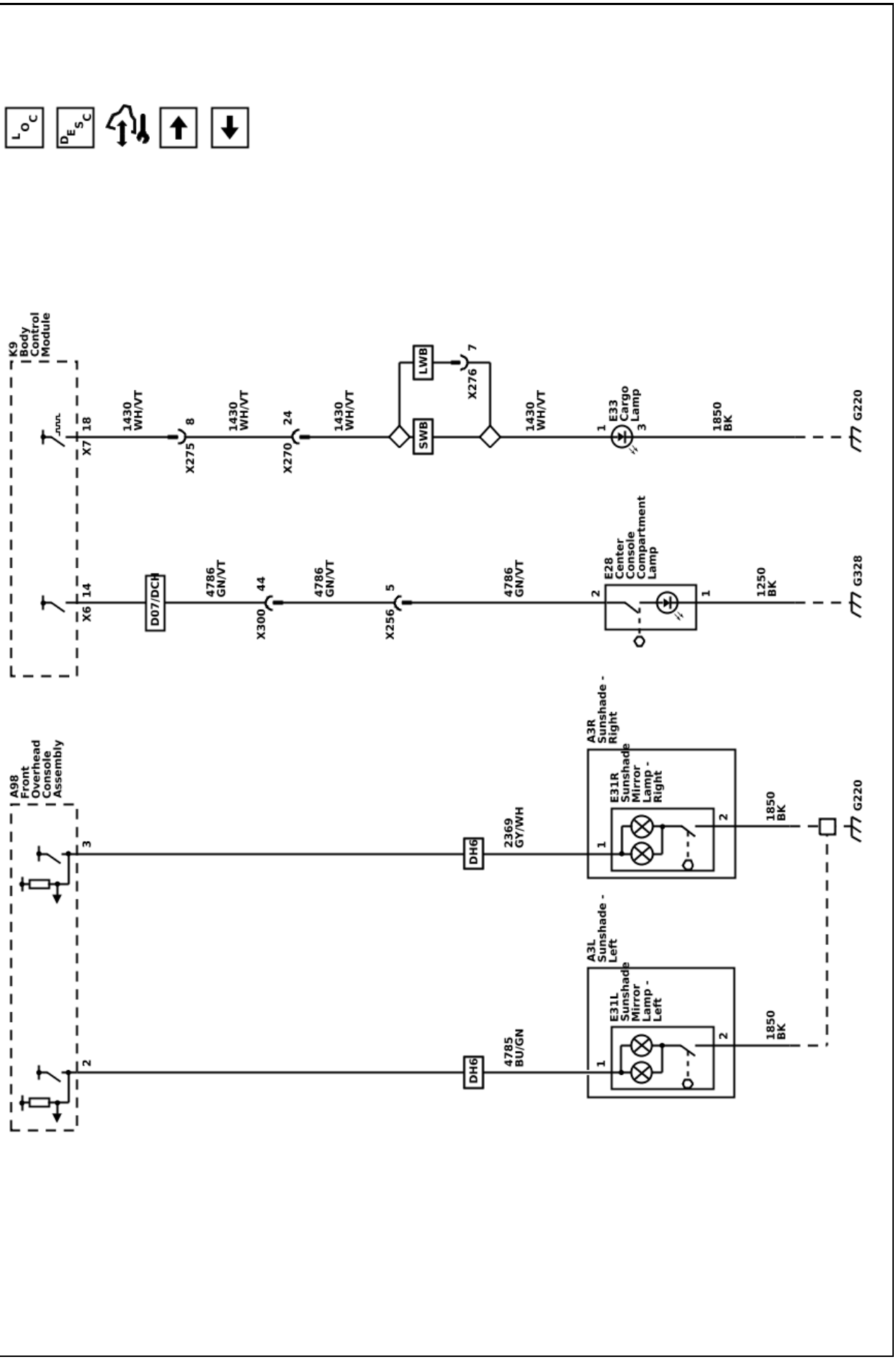
Exterior Lights Schematics (Back Up Lamps (Z88))



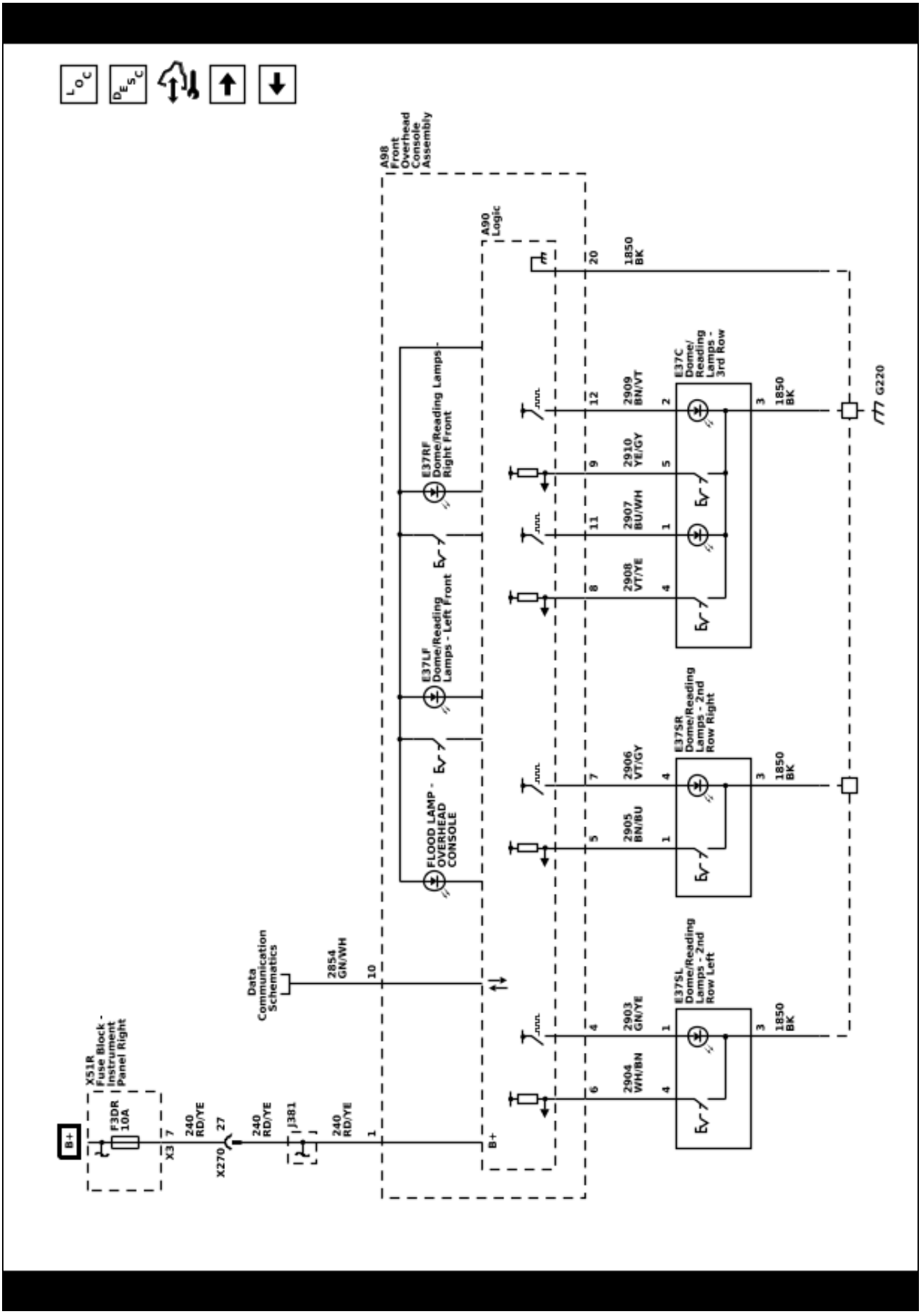
Exterior Lights Schematics (License Plate, Hands-Free Liftgate (TC2), and Running Board Lamps (B3L))



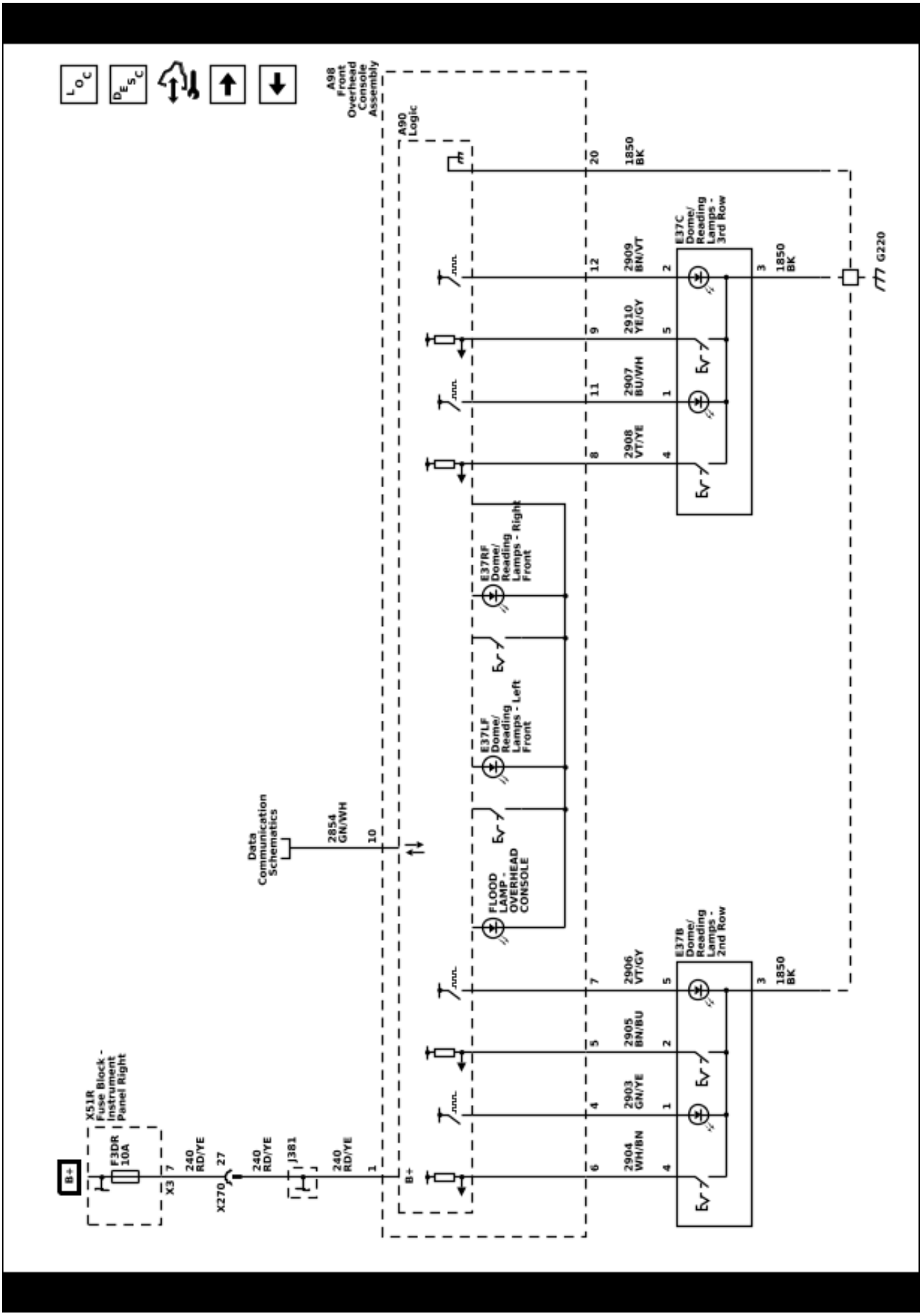
Interior Lights Schematics (Sunshades, Floor Console Compartment, and Cargo Lamps)



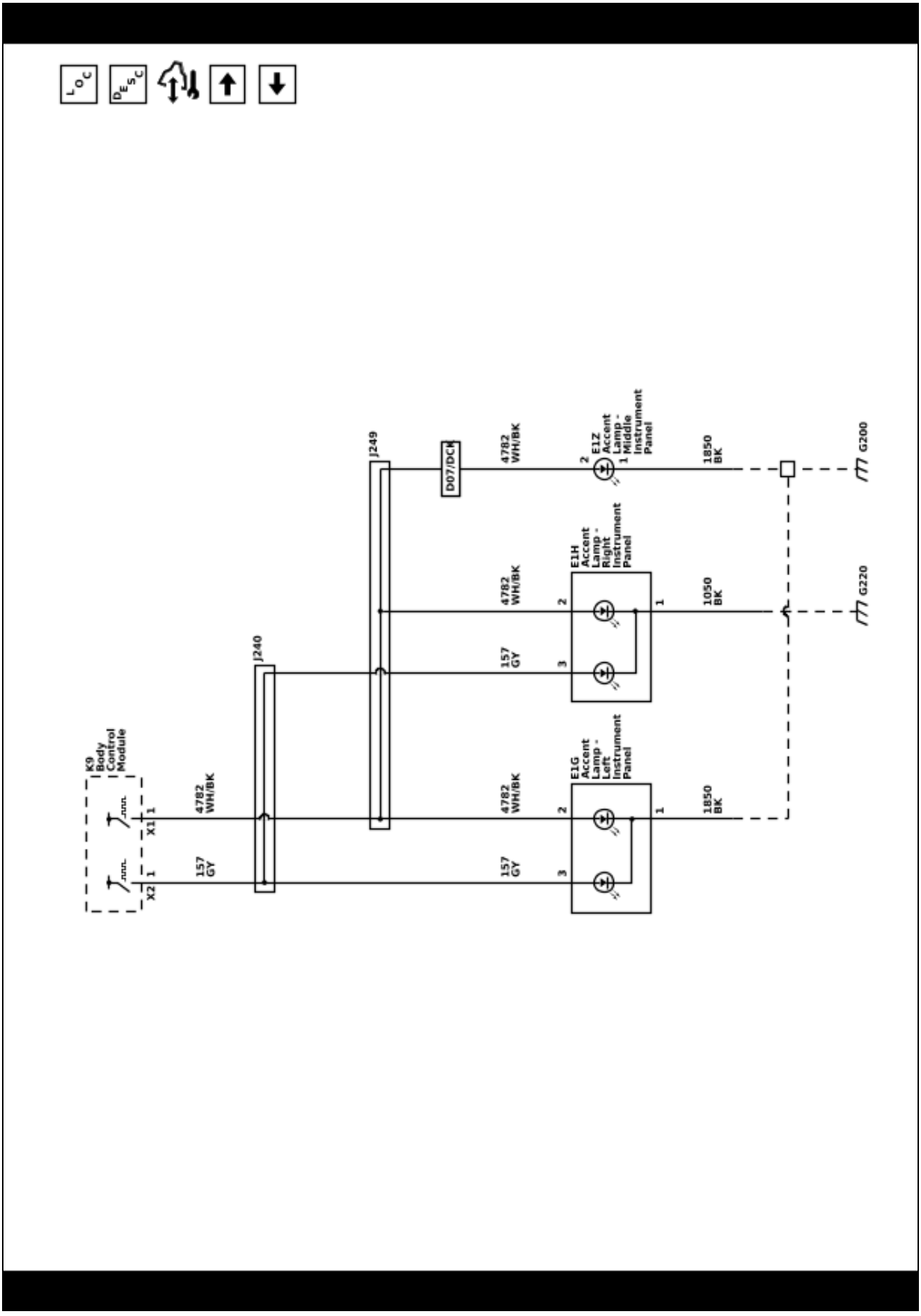
Interior Lights Schematics (Roof Console and Reading and Courtesy Lamps (C3U))



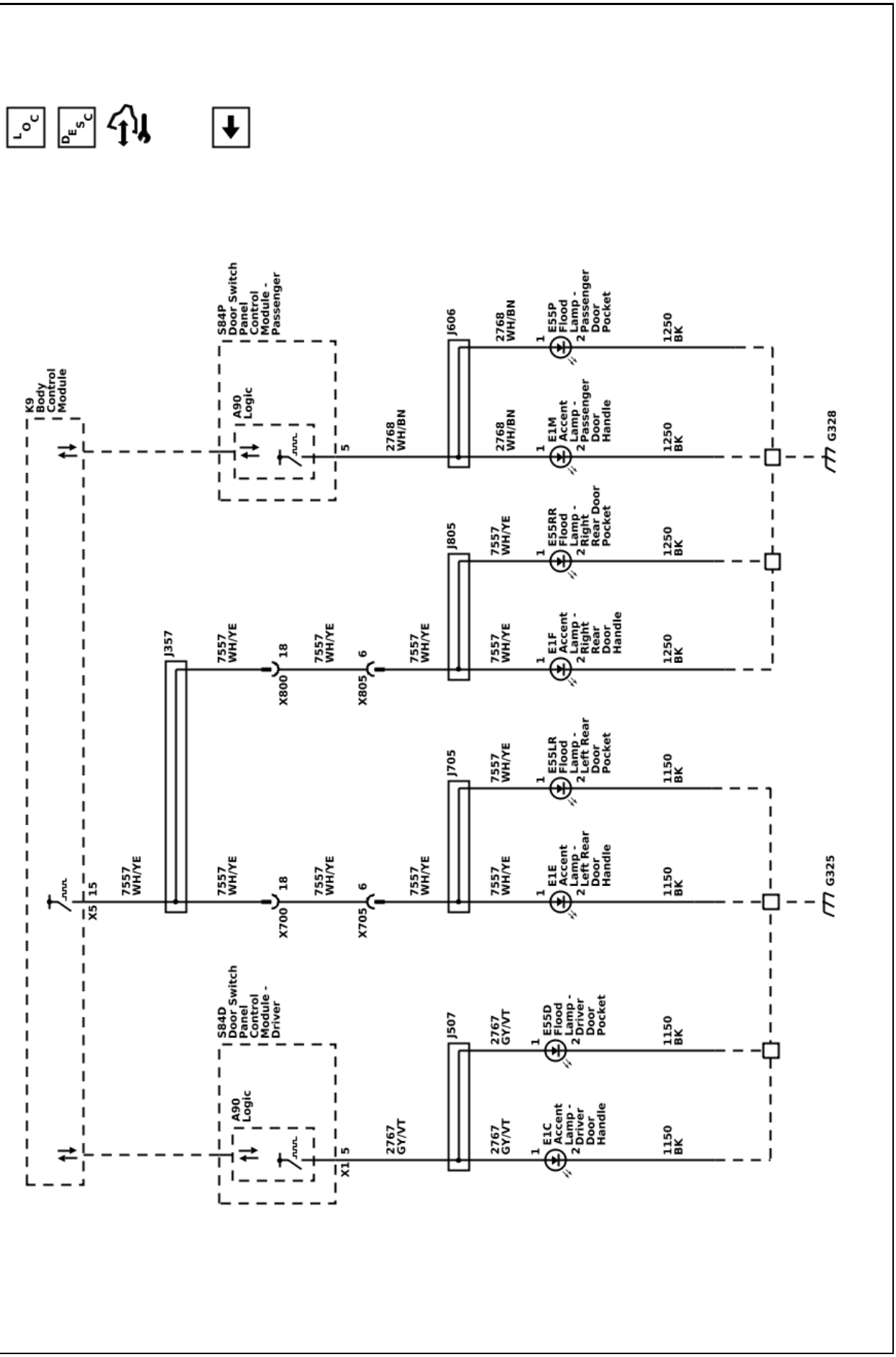
Interior Lights Schematics (Roof Console and Reading and Courtesy Lamps (-C3U))



Interior Lights Schematics (Accent Lamps - Instrument Panel)

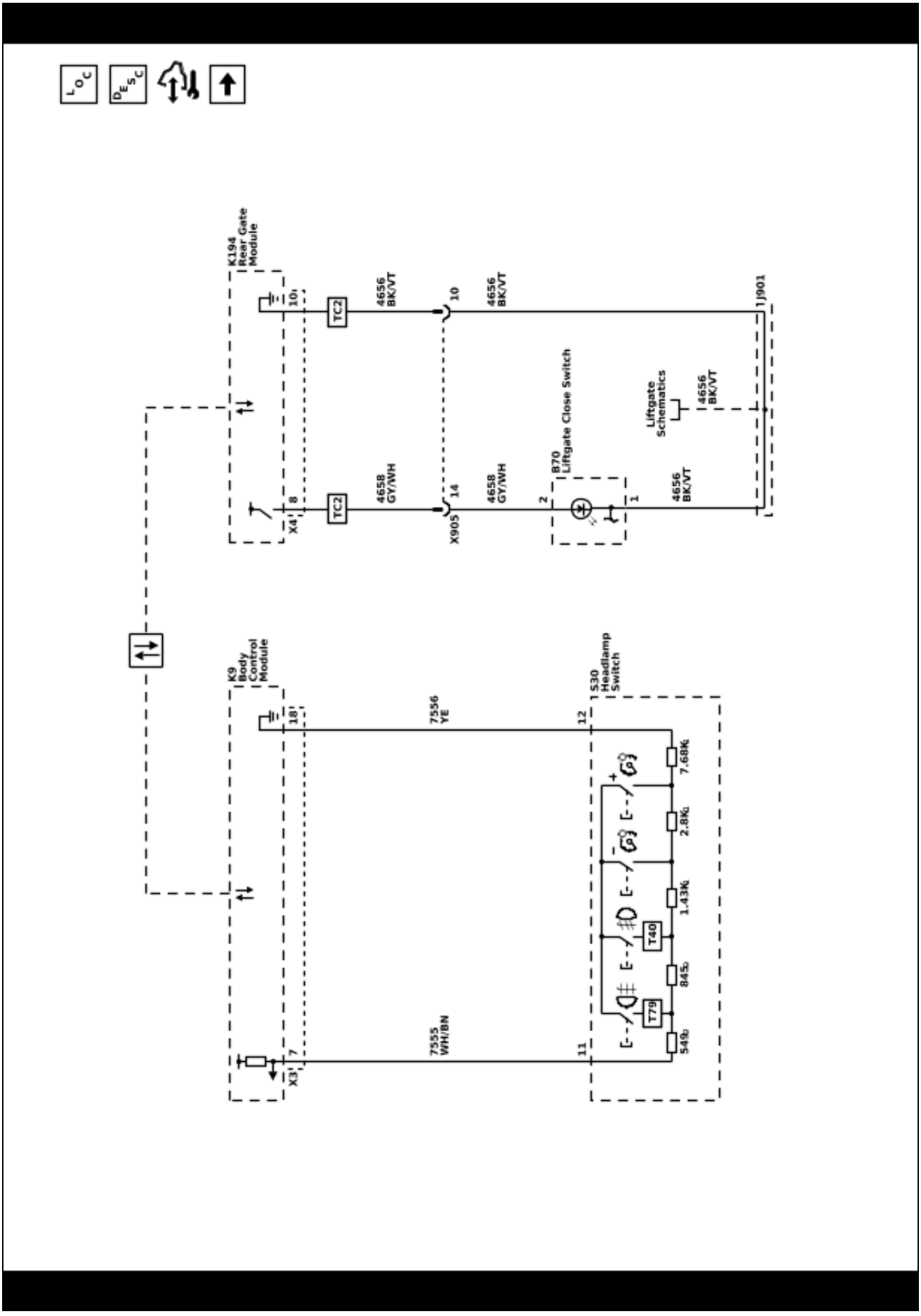


Interior Lights Schematics (Flood Lamps and Accent Lamps - Door Handles and Pockets)

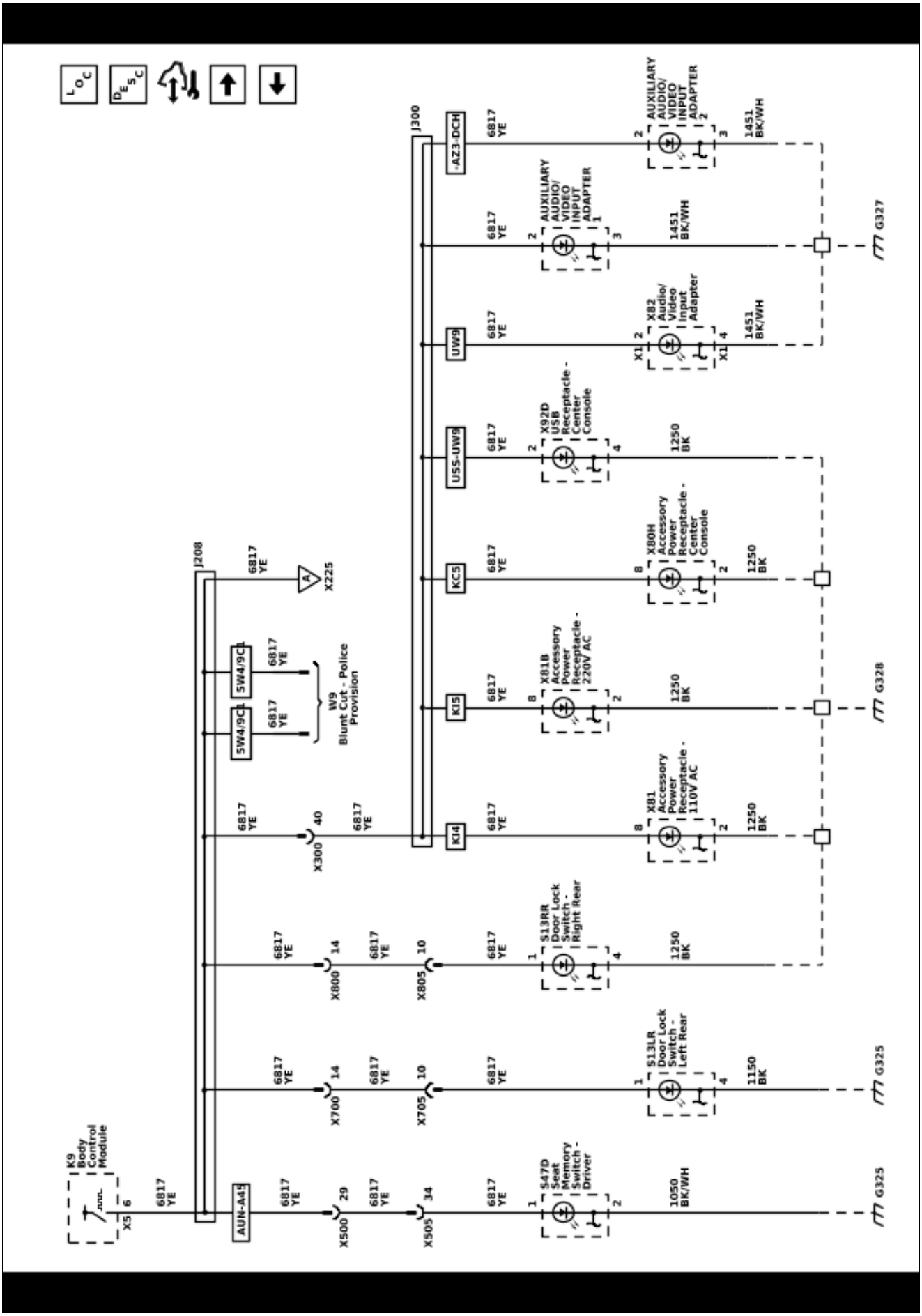


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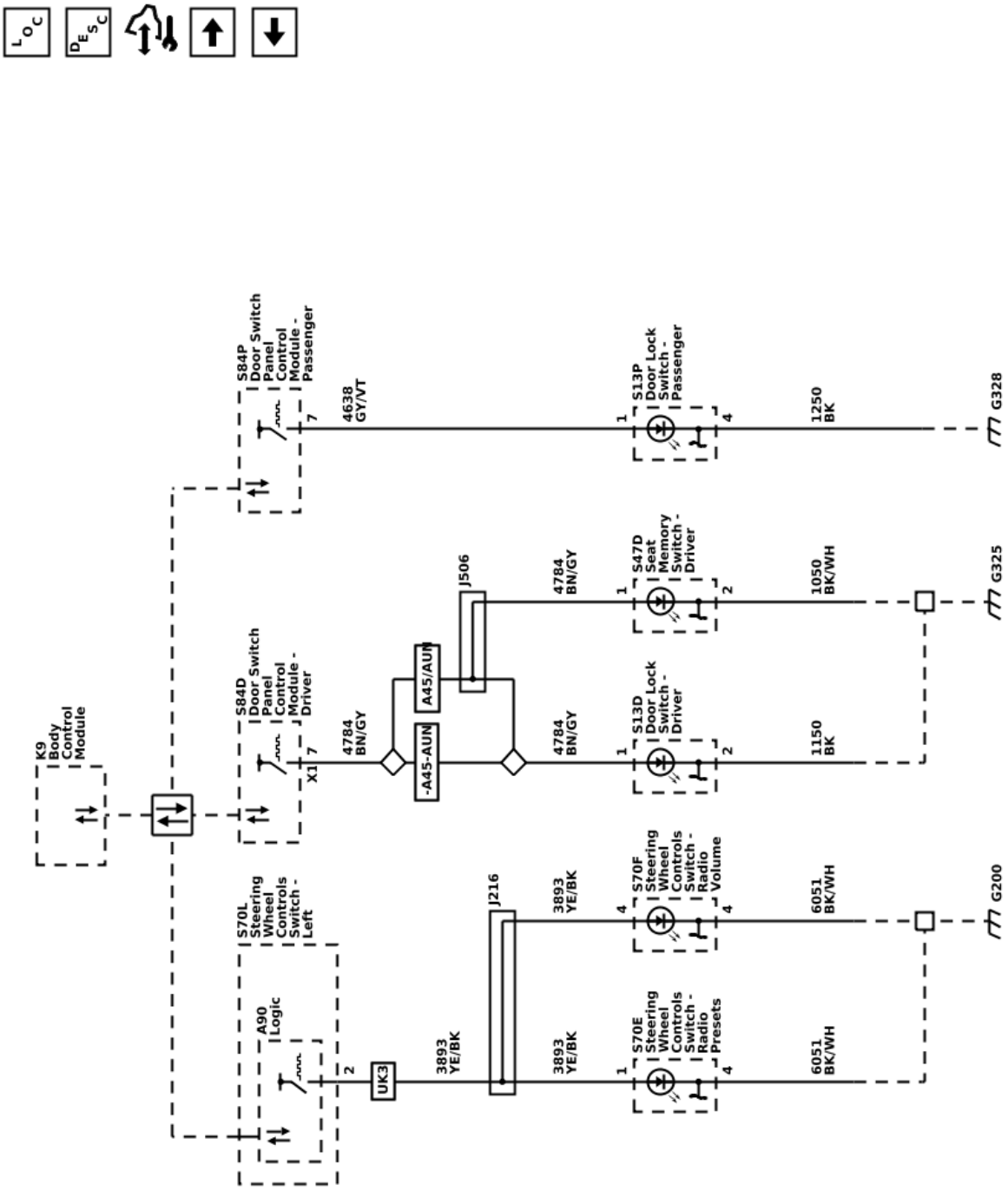
Interior Lights Dimming Schematics (Controls and Liftgate Dimming)



Interior Lights Dimming Schematics (Doors and Floor Console Dimming)

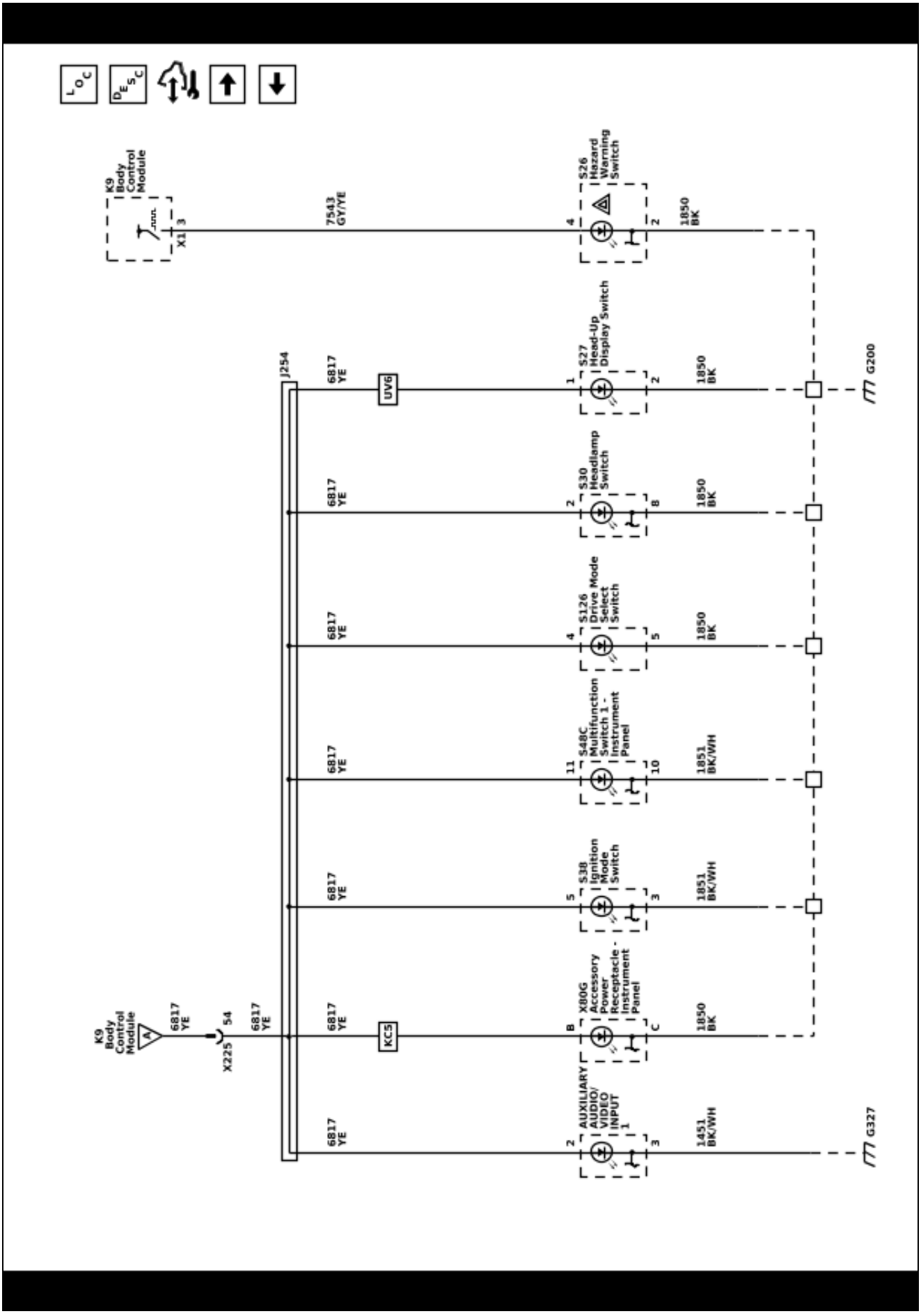


Interior Lights Dimming Schematics (Serial Data Dimming)



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Interior Lights Dimming Schematics (Instrument Panel Dimming)



Description and Operation

Exterior Lighting Systems Description and Operation

The exterior lighting system consist of the following lamps:

- Backup lamps
- Daytime running lamps (DRL)
- Exterior courtesy lamps
- Hazard warning lamps
- Headlamps
- Park, tail, license, and marker lamps
- Front fog lamps (T40)
- Rear fog lamps (T79)
- Stop lamps
- Turn signal lamps
- Trailer lighting, refer to *Trailering Description and Operation on page 2-60* for more information.

Low Beam Headlamps

The headlamps may be turned ON in 3 different ways:

- When the headlamp switch is placed in the ON position, for normal operation
- When the headlamp switch is placed in the AUTO position, for automatic lamp control during low ambient light conditions
- When the headlamp switch is placed in the AUTO position, with the windshield wipers ON in daylight conditions, after a 6 second delay

The K9 Body Control Module (BCM) monitors three signal circuits from the S30 Headlamp Switch. When the headlamp switch is in the AUTO position, the three signal circuits are unaffected (open) and the BCM relies on the B10B Ambient Light/Sunload Sensor input to determine if headlamps are required or if daytime running lamps will be activated based on outside lighting conditions. When the headlamp switch is placed in the headlamp OFF position, the headlamp switch headlamps OFF signal circuit is grounded, indicating to the BCM that the exterior lamps should be turned OFF. With the headlamp switch in the PARK LAMPS position, the headlamp switch park lamps ON signal circuit is grounded, indicating that the park lamps have been requested. When the headlamp switch is in the HEADLAMP position, both the headlamp switch park lamps ON signal circuit and the headlamps ON signal circuit are grounded. The BCM responds to these inputs by sending a serial data message to the K219 Lighting Control Module. The Lighting Control Module responds by applying pulse width modulated (PWM) voltage to both headlamp low beam control circuits, illuminating the low beam headlamps. When the Lighting Control Module commands the low beam headlamps ON, the operator will notice the interior backlighting for the instrument cluster and the various other switches dim to the level of brightness selected by the instrument panel dimmer switch.

High Beam Headlamps

The high beam and flash to pass (FTP) functions are contained within the S78 Turn Signal/Multifunction Switch. The K9 Body Control Module (BCM) provides the turn signal/multifunction switch with two signal circuits, the high beam signal circuit and the FTP signal circuit. When the low beam headlamps are ON, and the turn signal/multifunction switch is placed in either the high beam position or FTP position, ground is applied to the BCM through the high beam/FTP signal circuit. The BCM responds to the high beam request by sending a serial data message to the K219 Lighting Control Module. The Lighting Control Module responds by applying pulse width modulated (PWM) voltage to both headlamp high beam control circuits, illuminating the high beam headlamps. The status of the high beam lamps is shown by a blue indicator located on the instrument cluster. When high beams are commanded on, the indicator will be illuminated continuously. If the driver turns the high beams off, the indicator will also turn off.

Flash to Pass

When the S78 Turn Signal/Multifunction Switch is momentarily placed in the flash to pass position, ground is applied to the turn signal/multifunction switch. The turn signal/multifunction switch applies ground to the K9 Body Control Module (BCM) through the flash to pass switch signal circuit. The BCM responds to the flash to pass request by sending a serial data message to the K219 Lighting Control Module. The Lighting Control Module responds by applying pulse width modulated (PWM) voltage to both headlamp high beam control circuits, illuminating the high beam headlamps. This causes the high beam headlamps to illuminate at full brightness until the turn signal/multifunction switch is returned to the at rest position.

Automatic Headlamp Control

The K9 Body Control Module (BCM) monitors three signal circuits from the S30 Headlamp Switch. When the headlamp switch is in the AUTO position, the three signal circuits are unaffected (open) and the BCM relies on the B10B Ambient Light/Sunload Sensor input to determine if headlamps are required or if daytime running lamps will be activated based on outside lighting conditions. During automatic lamp control, the headlamps will be off during daylight conditions but will turn on when the ambient light sensor detects low ambient light conditions. The ambient light sensor is a light sensitive transistor that varies the voltage signal to the BCM. The BCM provides a 5 volt reference signal and a low reference ground to the ambient light sensor. During low light conditions the BCM will request the low beam headlamps ON by sending a serial data message to the K219 Lighting Control Module. The Lighting Control Module responds by applying pulse width modulated (PWM) voltage to both headlamp low beam control circuits, illuminating the low beam headlamps.

Automatic High Beam Assist (TQ5)

The automatic high beam assist (AHBA) system operates the high beam headlamps ON and OFF automatically when the system is activated and certain conditions are met. The AHBA system consists of a front camera module that detects light and is able to identify approaching vehicles on an even, straight road at a distance of greater than 0.4 km (0.25 mi). The front camera module analyzes light color, intensity, and movement. The AHBA system will turn OFF the high

beam headlamps when approaching vehicle headlamps or preceding vehicle taillights are detected by the front camera module. AHBA can be deactivated when the headlamp dimmer switch is moved from the neutral position to the high beam or flash to pass positions. AHBA can be reactivated by operating the high beam select switch from the neutral position to the high beam position twice within 2 seconds.

AHBA System Activation

- Vehicle ON
- Headlamp switch placed in the AUTO position
- Outside lighting conditions must be dark
- Vehicle speed greater than 25 mph (40 km/h)

AHBA System Operation

The following are conditions that the AHBA system will turn the high beam headlamps off during operation:

- The system detects approaching traffic headlamps
- The system detects preceding traffic tail lamps
- Ambient light level too high due to towns or twilight situations
- The vehicle's speed drops below 13 mph (22 km/h)
- Delay

Note: AHBA may not operate properly if any of the following conditions exist:

- Approaching and preceding vehicles lamps are undetectable due to dirt, snow, road spray, smoke, fog, or any other airborne conditions.
- The front camera module is covered with ice, dirt, snow, haze, or is obstructed.
- The vehicle is being driven on winding or hilly road conditions which would make any on coming vehicle headlamps undetectable by the AHBA.

AHBA System Deactivation

- Manually operating the headlamp switch from neutral to high beam position
- AHBA is deactivated automatically when the front or rear fog lamps are turned ON

AHBA System Indicator

The status of the AHBA system is shown by a green indicator located on the instrument panel cluster. When AHBA is active, the indicator will be illuminated continuously. If the operator deactivates the AHBA system, the indicator will turn off.

Daytime Running Lamps

The daytime running lamps (DRL) will illuminate continuously when the following conditions are met:

- Engine running
- The headlamp switch is in the AUTO position
- Ambient light conditions are daytime conditions

The B10B Ambient Light/Sunload Sensor is used to monitor outside lighting conditions. The ambient light sensor provides a voltage signal that will vary between 0.2 and 4.9 volts depending on outside lighting conditions. The K9 Body Control Module (BCM) provides a 5 volt reference signal and a low reference ground to the ambient light sensor. The BCM monitors the ambient light sensor signal circuit to determine if outside lighting conditions are correct for either daytime running lamps (DRL) or automatic lamp control when the headlamp switch is in the AUTO position. In daylight conditions the BCM will send a serial data message to the K219 Lighting Control Module to command the DRLs ON, the Lighting Control Module responds by applying pulse width modulated (PWM) voltage to both DRL control circuits, illuminating the DRLs. During low light conditions the Lighting Control Module will command the low beam headlamps ON.

Hazard Lamps

The hazard flashers may be activated in any power mode. The S26 Hazard Switch signal circuit is momentarily grounded when the hazard switch is pressed. The K9 Body Control Module (BCM) responds to the hazard switch signal input by sending a serial data message to the K219 Lighting Control Module. The Lighting Control Module responds by supplying battery voltage to all turn signal lamps in an ON and OFF duty cycle. When the hazard switch is activated, the BCM also sends a serial data message to the instrument cluster requesting both turn signal indicators to be cycled ON and OFF.

Park, Tail, and License Lamps

When the S30 Headlamp Switch is placed in the HEAD or PARK position, ground is applied to the park lamp switch ON signal circuit to the K9 Body Control Module (BCM). The BCM responds to the park lamp switch signal input by sending a serial data message to the K219 Lighting Control Module. The Lighting Control Module responds by applying battery voltage to the park lamps, tail lamps, and license lamps control circuits illuminating the park, tail, and license lamps.

Stop Lamps

The B22 Brake Pedal Position Sensor is used to sense the action of the driver application of the brake pedal. The K9 Body Control Module (BCM) provides the brake pedal position sensor with low reference, signal, and 5 volt reference circuits. When the variable signal reaches a voltage threshold indicating the brakes have been applied, the BCM will respond by sending a serial data message to the K219 Lighting Control Module requesting the stop lamps to be turned ON. The Lighting Control Module responds by applying battery voltage to the left and right stop lamp control circuits as well as the center high mounted stop lamp control circuit illuminating the left and right stop lamps and the center high mounted stop lamp. If serial data communication is lost between the BCM and the Lighting Control Module, the Lighting Control Module will receive a serial data message from the Electronic Brake Control Module indicating that the brakes have been applied. If serial data communication is lost between all three modules, the Lighting Control Module also receives a hard wired voltage signal from the BCM to signal the brake lamps ON.

Turn Signal Lamps

Turn Signals

The K9 Body Control Module (BCM) provides the S78 Turn Signal/Multifunction Switch with left and right turn signal switch signal circuits. Ground is applied at

all times to the turn signal/multifunction switch. The turn signal lamps may only be activated with the ignition switch in the ON or START positions. When the turn signal/multifunction switch is placed in either the turn right or turn left position, ground is applied to the BCM through either the right turn or left turn signal switch signal circuit. The BCM responds to the turn signal switch input by sending a serial data message to the K219 Lighting Control Module. The Lighting Control Module responds by applying a pulsating voltage to the turn signal lamps through there respective control circuits. When a turn signal request is received by the BCM, a serial data message is also sent to the instrument cluster requesting the respective turn signal indicator be pulsed ON and OFF.

Turn Signal Outage Detection

Vehicles with LED turn signals require additional turn signal outage detection circuits that provide turn signal feedback to the K219 Lighting Control Module. The Lighting Control Module uses the feedback information to send a serial data message to the instrument cluster to alert the driver anytime a turn signal fault is detected. If a fault is detected on a turn signal circuit or a turn signal feedback circuit, the turn signals will flash in a rapid manner to alert the driver of the fault.

Backup Lamps

With the engine running and the transmission in the reverse position, the transmission control module (TCM) sends a serial data message to the multiple control modules. The message indicates that the gear selector is in the reverse position. The K9 Body Control Module (BCM) responds to the reverse position message by sending a serial data message to the K219 Lighting Control Module to request the backup lamps on. The Lighting Control Module responds by applying battery voltage to the backup lamps control circuit(s) illuminating the backup lamps. The applied voltage is also sent to the A11 Radio and A10 Inside Rearview Mirror for rearview camera purposes. Once the driver moves the gear selector out of the reverse position, a serial data message is sent by the TCM that the transmission is no longer in the reverse position. The BCM responds to the reverse position message by sending a serial data message to the Lighting Control Module to request the backup lamps off. The Lighting Control Module responds by removing battery voltage from the backup lamp circuits. The engine must be running for the backup lamps to operate.

Exterior Courtesy Lamps

The body control module (BCM) supplies battery voltage to each exterior door handle LED backlighting circuit, the LED lighting located under each outside rearview mirror for approach lighting, and both running board step courtesy lamps when equipped. When the keyless entry transmitter is operated to either the lock or unlock functions the LED lighting located under each outside rearview mirror, exterior door handles, and both running board steps are commanded ON for approach lighting.

Hands−Free Liftgate Sensor Lamp (TC2)

If equipped with a hands-free liftgate, a vehicle logo will be projected onto the ground near the rear bumper when:

- An RKE transmitter is detected within an area of approximately 2 m (6 ft) outside the liftgate
- A successful hands-free operation has occurred

The projected logo shows where the kicking motion is to take place. Once activated, the projected vehicle logo will remain active for one minute, unless one of these conditions is met:

- The vehicle battery is low
- The vehicle is not parked
- Hands Free Liftgate Operation is set to OFF in vehicle personalization

Projected logo will not be provided to the customer for this RKE transmitter again for an approach until it has not been detected in the authentication zone for at least 20 s. If an RKE transmitter is again detected within approximately 2 m (6 ft) of the liftgate, or another hands-free operation has been detected, the one-minute timer will be reset. If the vehicle remains parked for an extended period of time with no RKE transmitter use or Keyless Access operation, the projected vehicle logo will be disabled. The projected logo will be re-enabled when:

- Any button is pressed on the RKE transmitter
- One or all vehicle doors are opened and closed
- The liftgate is closed when all doors are opened

The projected logo will not work for a single RKE transmitter when a transmitter:

- Has been left within approximately 5 m (15 ft) of the liftgate for several minutes
- Has been left inside the vehicle and all vehicle doors are closed
- Has approached the area outside of the liftgate several times in a short period of time

Battery Run Down Protection/ Inadvertent Power

To provide battery run down protection, the exterior lamps will be deactivated automatically under certain conditions. The K9 Body Control Module (BCM) monitors the state of the S30 Headlamp Switch. If the headlamp switch is in the park or headlamp position when the ignition switch is ON and then the ignition switch is placed in the OFF position, the BCM initiates a 10 minutes timer. At the end of the 10 minutes, the BCM will send a serial data message to the K219 Lighting Control Module to deactivate the exterior lamps to prevent total battery discharge. This feature will be cancelled if any power mode other than OFF becomes active.

The BCM will disable battery run down protection if any of the following conditions exist:

- The park or headlamp switch is changed from the ON to OFF position, and back to the ON position during battery run down protection.
- The BCM determined that the park or headlamp switch was not active when the ignition was turned OFF.

Interior Lighting Systems Description and Operation

Interior Lamps

The interior lighting system consist of two groups. This first group includes lamps that are not be dimmed.

- Dome/reading lamps
- Instrument panel compartment lamp
- Instrument panel courtesy lamps
- Overhead console accent lamp
- Rear compartment courtesy lamp
- Sunshade mirror lamps

Dome Lamps

The dome lamps are controlled by door ajar inputs to the K9 Body Control Module (BCM). When any door is opened, the door ajar switch contacts close and the BCM receives a door-open input. The BCM illuminates the dome lamp when any door is opened or a door lock/unlock request is activated with the key fob. After all doors have been closed, the dome lamp will remain illuminated approximately 3 seconds after the last door closes. In the event that the dome lamp were to remain illuminated for more than 10 minutes with the ignition switch in the OFF position, the BCM will deactivate the dome lamp control circuit to prevent total battery discharge. The dome lamps will turn OFF using the theater dimming feature when controlled by the BCM.

Keyless Entry Interior Illumination

When the operator uses the keyless entry transmitter in order to unlock the doors, the K9 Body Control Module (BCM) receives a door-unlock signal. The BCM must receive inputs from various systems that indicate that the ignition switch is OFF, the courtesy lamp switch is OFF, and all doors are closed before the BCM will activate the interior lamps. After all doors have been closed, the courtesy lamps will turn OFF immediately if the ignition switch is turned to the ON position, the door locks are LOCKED, or approximately 20 seconds after the last door closes. The BCM will turn off the courtesy lamps through the theater dimming feature. The BCM keeps the courtesy lamps on for 40 seconds after an alarm event is completed.

Instrument Panel Compartment Lamp

The inadvertent power supply voltage circuit from the K9 Body Control Module (BCM) provides battery voltage to the instrument panel compartment (glove box) lamp. When the instrument panel compartment is opened, the instrument panel compartment lamp switch contacts close providing a path to ground and the instrument panel compartment lamp illuminates. If the operator inadvertently leaves the instrument panel compartment door open with the instrument panel compartment lamp ON, the BCM will turn all interior lamps OFF after 10 minutes has passed to prevent total battery discharge.

Reading Lamps

The inadvertent power supply voltage circuit from the K9 Body Control Module (BCM) provides battery positive voltage to each reading lamp. When a reading lamp switch is activated, the switch contacts close providing a path to ground and the reading lamp illuminates. If the operator inadvertently leaves a reading lamp ON, the BCM will turn all interior lamps OFF after 10 minutes has passed to prevent total battery discharge.

Rear Compartment Courtesy Lamps

When the rear compartment is opened, the rear compartment lid latch opens providing a rear compartment open input signal to the K9 Body Control Module (BCM). The BCM responds by applying battery voltage to the rear compartment courtesy lamp control circuit illuminating the rear compartment courtesy lamps. If the operator inadvertently leaves the rear compartment lid open, the BCM will turn all interior lamps OFF after 10 minutes has passed to prevent total battery discharge.

Sunshade Mirror Lamp

The inadvertent power supply voltage circuit from the K9 Body Control Module (BCM) provides battery voltage to the passenger side sunshade mirror lamp. When the sunshade mirror cover is opened, a switch closes providing ground and the sunshade lamp illuminates. If the operator inadvertently leaves the sunshade mirror cover open with the lamp ON, the BCM will turn all interior lamps OFF after 10 minutes has passed to prevent total battery discharge.

Interior Lamps Dimming

The second group includes lamps which may be dimmed. This group may use a combination of light emitting diodes (LED), incandescent lamps, and pulse width modulation (PWM) voltage illumination.

- Audio/Video Input Adapter
- Door lock switch – driver
- Door lock switch – passenger
- Door handle switch – driver interior
- Door handle switch – passenger interior
- Hazard switch
- Hood/liftgate release switch
- HVAC control head assembly
- Ignition mode switch
- Instrument panel dimmer switch
- Multifunction switch – center console
- Multifunction switch – instrument panel
- Outside rearview mirror switch
- Park brake switch
- Radio
- Rear compartment lid unlatch switch
- Seat memory switch – driver
- Seat memory switch – passenger
- Steering wheel controls switch – left

- Steering wheel controls switch – radio presets
- Steering wheel controls switch – radio volume
- Window switch – driver
- Window switch – passenger

With the headlamp switch in the PARK or HEAD position, the park lamp switch signal circuit provides an input to the K9 Body Control Module (BCM). The BCM responds by applying voltage to the backlight dimming control circuits illuminating all components with interior backlighting. All interior backlighting turns on at the dimming level set by the dimmer buttons within the headlamp switch. The headlamp switch is used to increase and decrease the brightness of the interior backlighting components. The BCM provides a signal circuit and a low reference circuit to the headlamp switch for backlight dimming. When a dimming button is pressed, the signal circuit becomes grounded through the appropriate resistor internal to the headlight switch and voltage from the BCM will decrease accordingly. The BCM interprets the signal and responds in two ways. The BCM applies a pulse width modulated (PWM) voltage through the LED dimming control circuits illuminating the interior backlighting to the requested level of brightness. The BCM also sends a serial data message to the appropriate control modules requesting all dimming components to be illuminated to the same level of brightness.

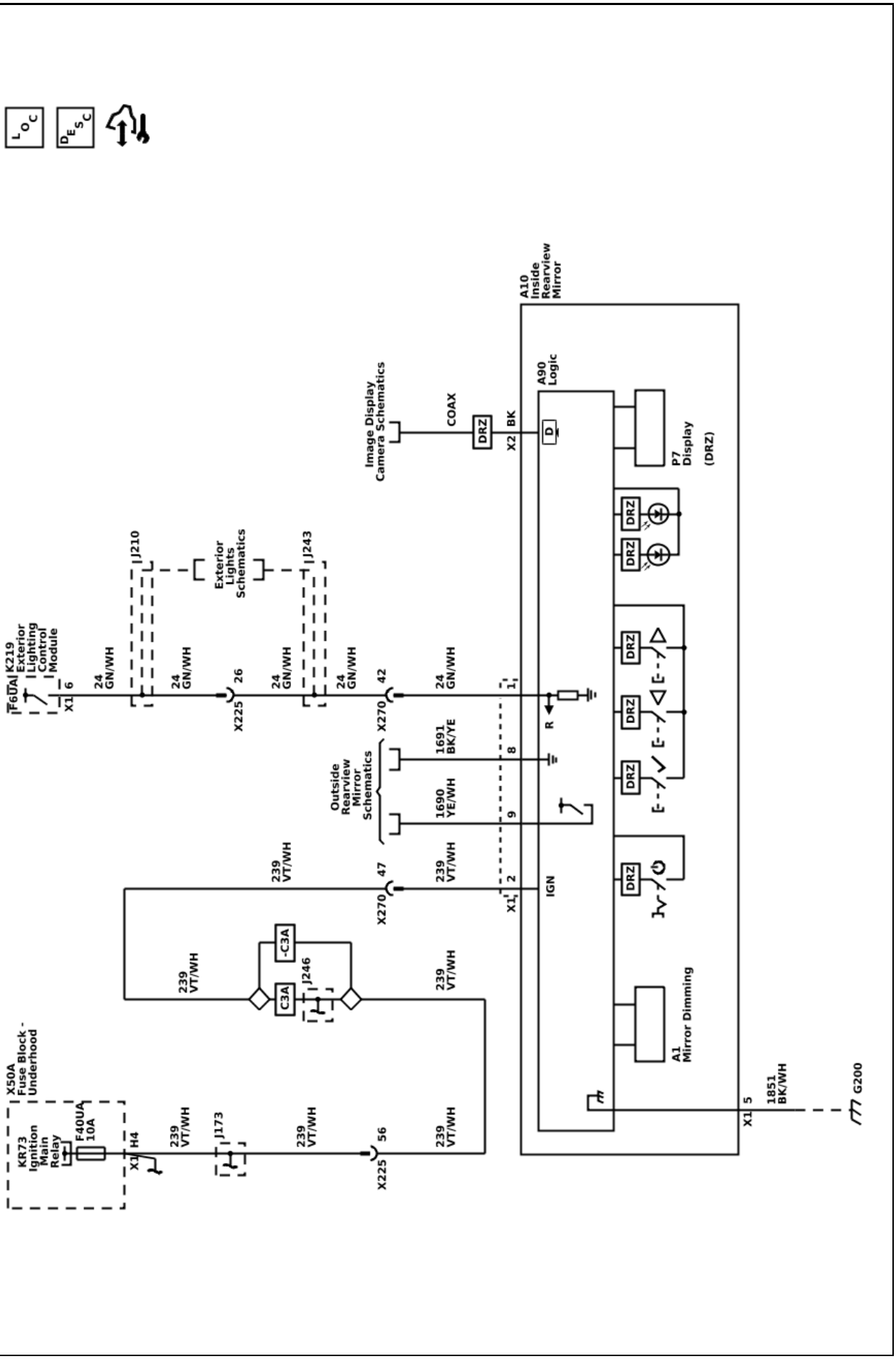
Battery Rundown Protection/ Inadvertent Power

The K9 Body Control Module (BCM) inadvertent power supply voltage circuit provides battery voltage to all of the interior courtesy lamps. In the event that any of these lamps were to remain illuminated for a period of more than 10 minutes with the ignition switch in the OFF position, the BCM will deactivate the inadvertent power supply voltage circuit to prevent total battery discharge. If the ignition switch is turned to any position other than OFF, or if a lamp switch is activated during this 10 minute period, the timer resets for another 10 minutes.

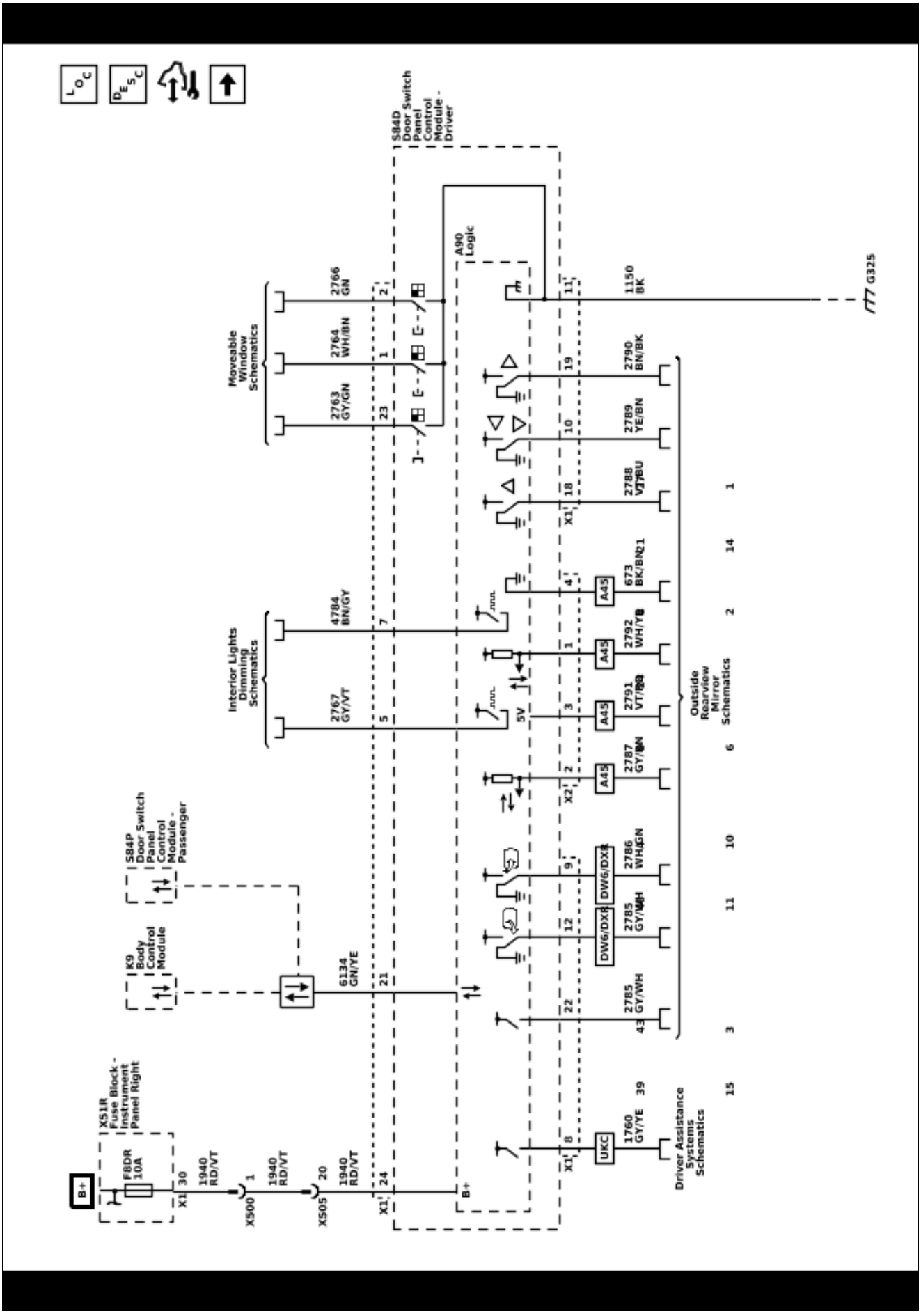
Mirrors

Schematic and Routing Diagrams

Inside Rearview Mirror Schematics (Inside Rearview Mirror (DD8/DRZ))

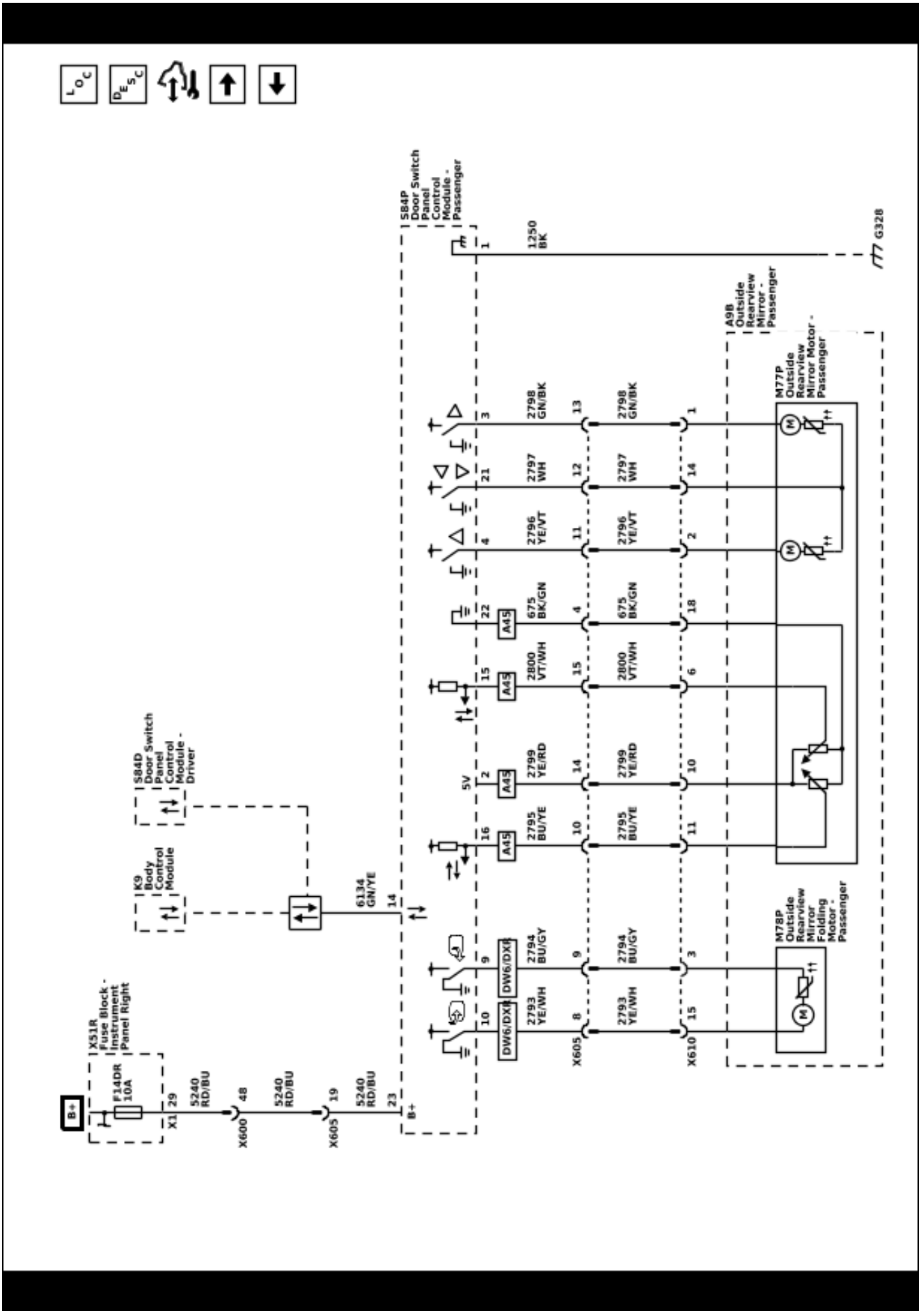


Outside Rearview Mirror Schematics (Driver Controls, Position, and Folding)

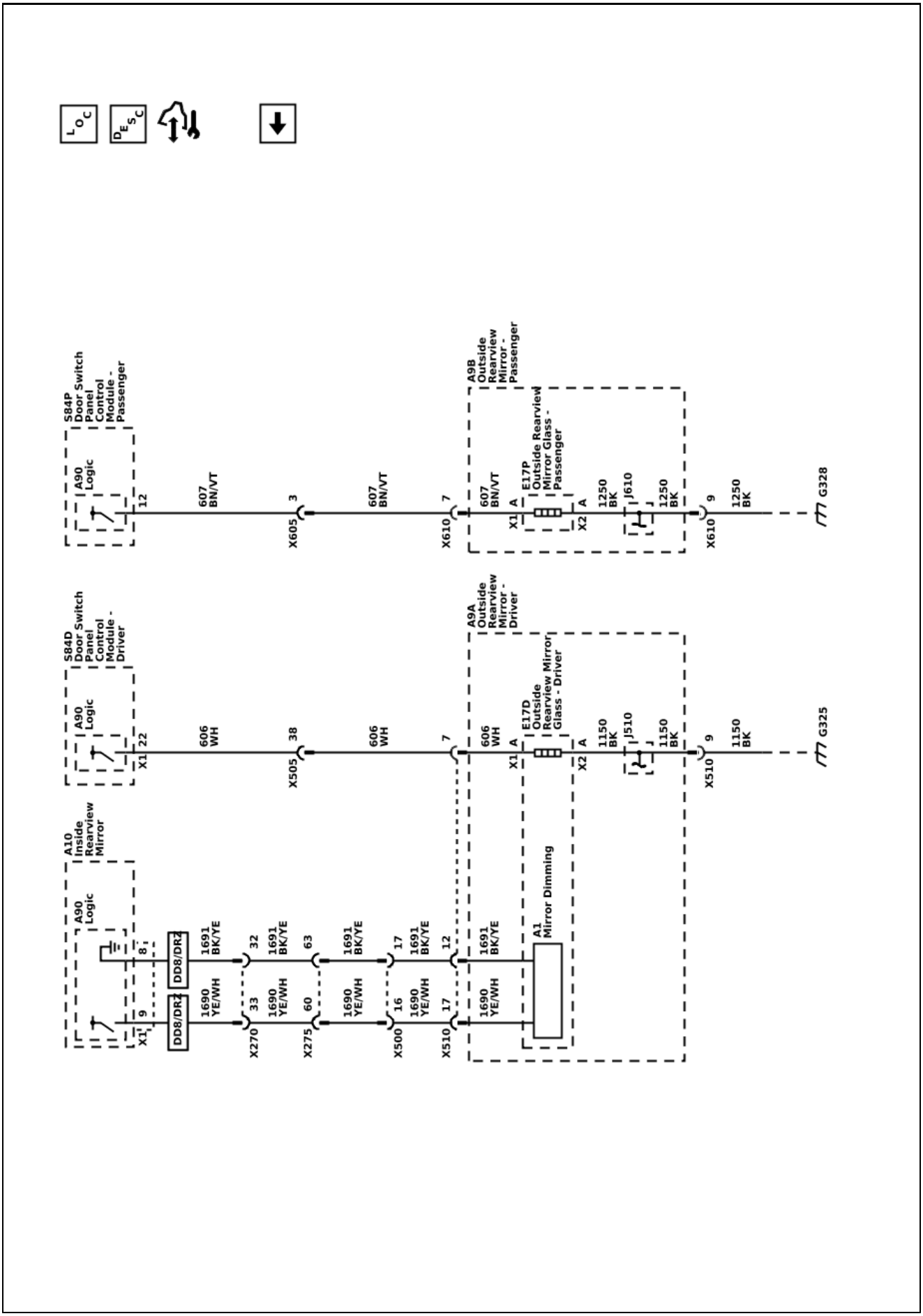


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Outside Rearview Mirror Schematics (Passenger Controls, Position, and Folding)



Outside Rearview Mirror Schematics (Dimming (DD8/DRZ) and Heating)



5371220

Description and Operation

Automatic Day-Night Mirror Description and Operation

Inside Rearview Mirror with the Automatic Day-Night Feature System Operation

The inside rearview mirror uses 2 photocell sensors. One sensor is the headlight sensor, located on the face side of the mirror. The headlight sensor is used to determine light conditions present at the mirror face. The other sensor is the ambient light sensor, located on the rear of the mirror or windshield side. The ambient light sensor is used to determine the exterior light conditions. With a low exterior light condition detected, and a high light condition from behind the car, at the headlight sensor, the inside rearview mirror will automatically darken the face of the mirror.

In the daytime, the mirror is in a normal state because of the high exterior light condition that is indicated by the ambient light sensor. With the gear selector lever in the REVERSE position and the Ignition ON/Vehicle in Service Mode, backup lamp supply voltage is supplied as an input to the inside rearview mirror. The mirror monitors this input to disable the automatic day-night feature. This allows the driver to see objects in the mirror clearly when backing up, even during the night.

Driver Outside Rearview Mirror with Automatic Day-Night System Operation (If Equipped)

The automatic day-night feature of the driver outside rearview mirror is controlled by the inside rearview mirror. The inside rearview mirror supplies control and low reference to the driver outside rearview mirror. At night, with the automatic day-night feature enabled, the driver outside rearview mirror will automatically darken with the inside rearview mirror to reduce glare from headlamps behind the vehicle.

Inside Rearview Camera Full Display Mirror System Operation

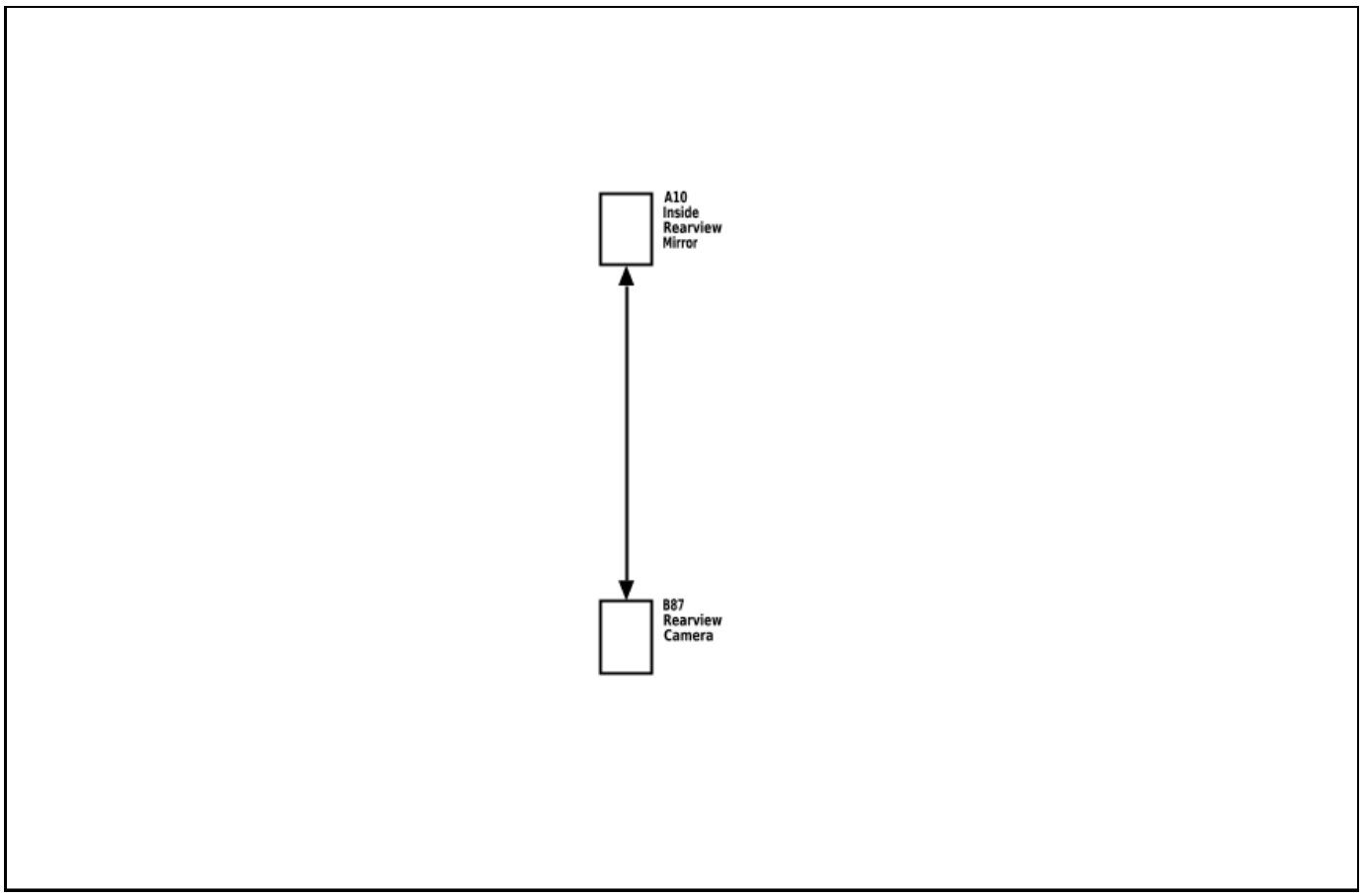
The inside rearview camera full display mirror is connected to the outside rearview camera via a shielded coaxial cable. When the tab under the inside rearview mirror is pulled rearward, a view of the area behind the vehicle displays on the mirror. Adjust the rearview mirror for a clear view of the area behind the vehicle before turning on full display mirror. Use the button on the back of the mirror to adjust the brightness of the display. Make sure the light sensor is not covered when adjusting the brightness.

The inside rearview camera full display mirror may not work properly or display a clear image if:.

- It is dark.
- The sun or the beam of headlamps are shining directly into the camera lens.
- Ice, snow, mud, or anything else builds up on the camera lens. Clean the lens, rinse it with water, and wipe it with a soft cloth.

When the mirror detects that the camera is not sending a valid video signal, it “blue screens” with a “no video” decal for 3 seconds, then reverts back to the mirror. Meanwhile, if a blue screen keeps on displaying instead of the camera view, take the vehicle to your dealer for service.

Rearview Camera Full Display Mirror Block Diagram



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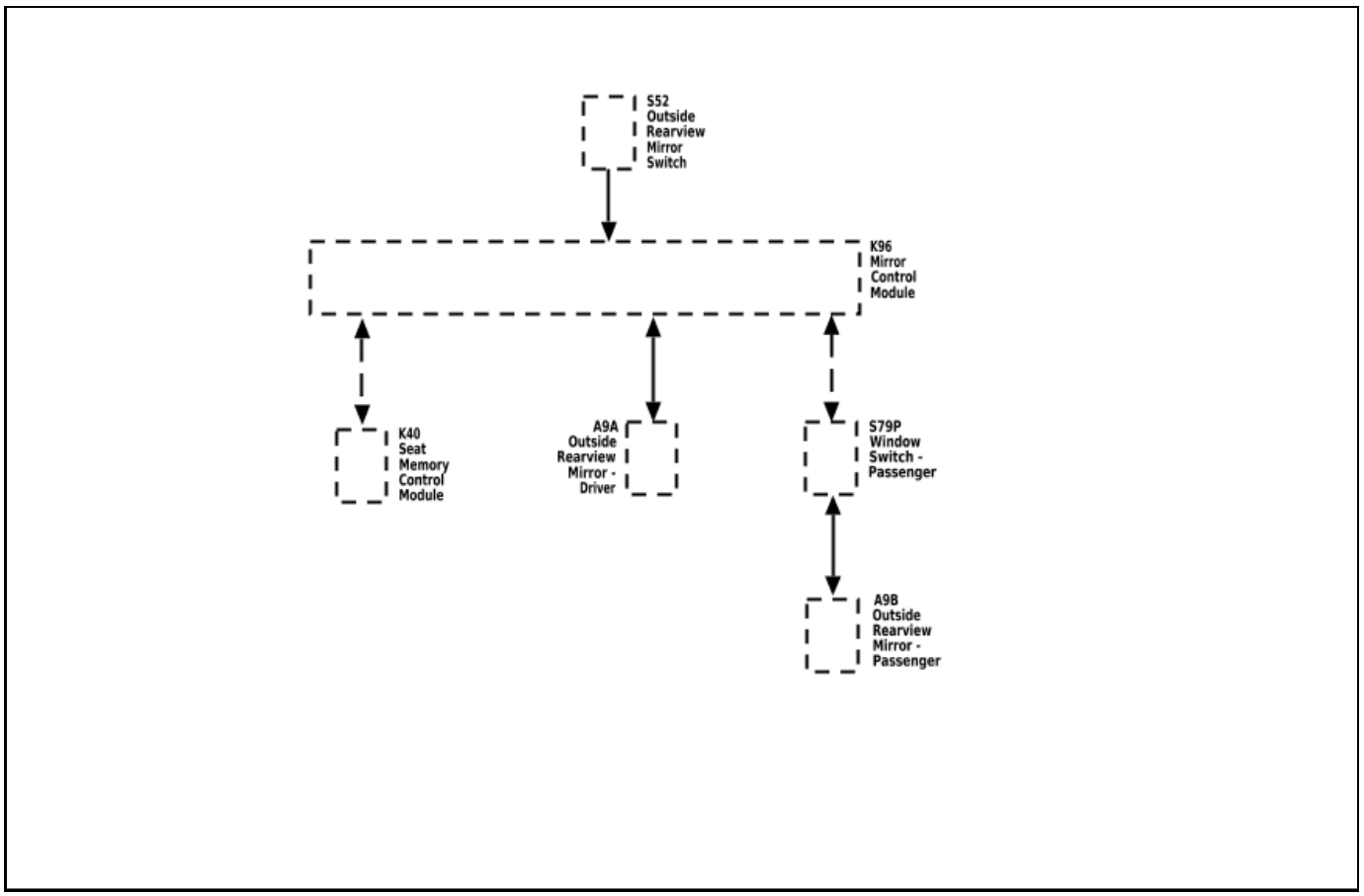
Outside Mirror Description and Operation

Power Mirror System Components

The power mirror system consists of the following components:

- Mirror Control Module
- Memory Seat Control Module
- Outside Mirror Switch
- Passenger Window Switch
- Left Outside Rearview Mirror
- Right Outside Rearview Mirror

Power Mirrors With A45 Block Diagram



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Power Mirror System Controls

The outside rearview mirror switch is a multiplex switch which signals the mirror control module which outside rearview mirror to move (driver or passenger) and which direction to move it. The mirror control module and the passenger window switch are on a serial data circuit with the memory seat module as the master. The mirror select and directional control switches are inputs to the mirror control module. When the memory seat module receives the switch inputs from the mirror control module, mirror output commands are sent to the appropriate module/switch through the serial data circuit. The mirror control module and passenger window switch control the left and right outside rear view mirrors through bi-directional motor control circuits. The motor control circuits are floating while in an inactive state and the switches will apply power and ground to the control circuits as necessary to move the mirror in the commanded direction.

Mirror position is determined by both horizontal and vertical position sensors in each of the power mirrors. The mirror control module and passenger window switch supply a 5 V reference, low reference, and horizontal and vertical position signal circuits to these sensors. The signal circuits are referenced from 5 V by the switches and the signal circuit voltage levels represent the mirror positions. The mirror positions are sent to the memory seat control module through the serial data circuit where they are stored for memory mirror operation. When the memory seat module receives a memory recall command, the memory seat control module will send the go to position commands to the mirror control module and passenger window switch. The switches will then drive the appropriate mirror motors to the commanded position sensor settings.

Folding Mirrors

The outside rearview mirror switch sends the mirror select and mirror fold/unfold inputs to the mirror control module which communicates the inputs to the memory seat control module through serial data. When the memory seat control module receives a fold/unfold signal it will send a fold/unfold command to the mirror control module and the passenger window switch. The outside mirrors will fold or unfold depending on their current state. The mirror control module and the passenger window switch control the fold/unfold motors through bi-directional control circuits.

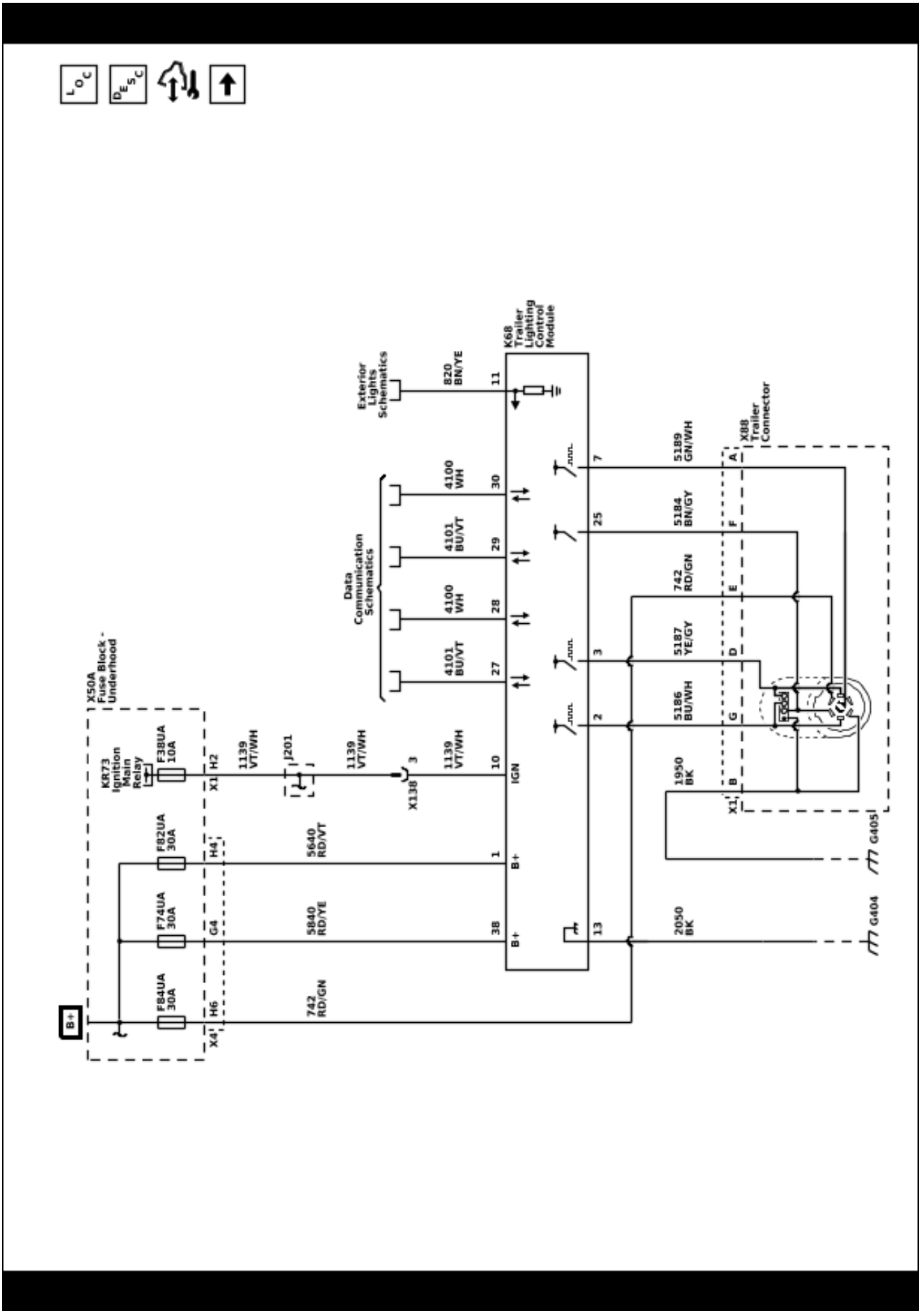
Heated Mirrors

The heated mirrors are controlled through the rear defog relay. Whenever the vehicle is running and the rear window defogger is turned on battery voltage is supplied to the mirror heater elements through the left and right mirror heater element control circuits.

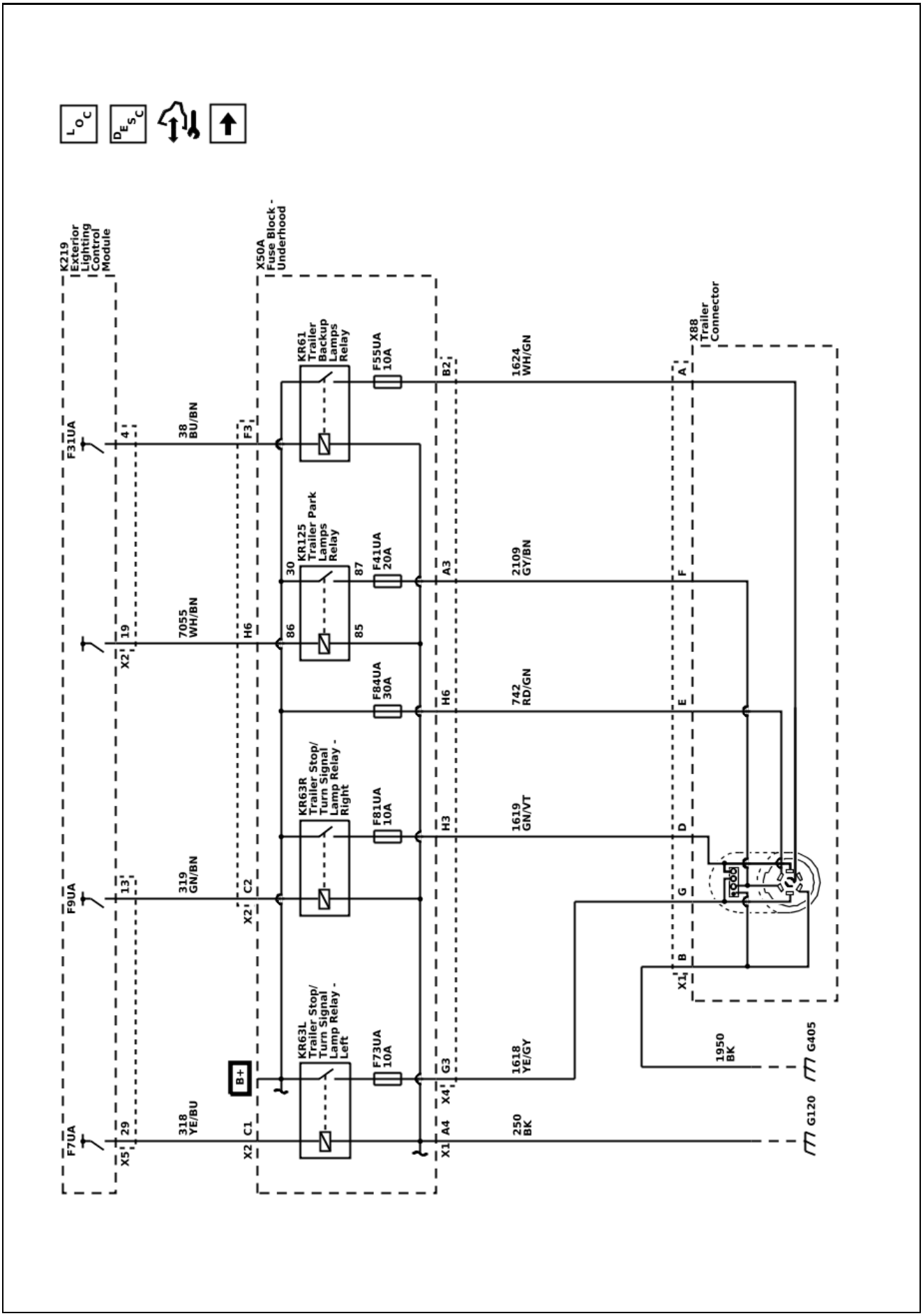
Trailering Systems

Schematic and Routing Diagrams

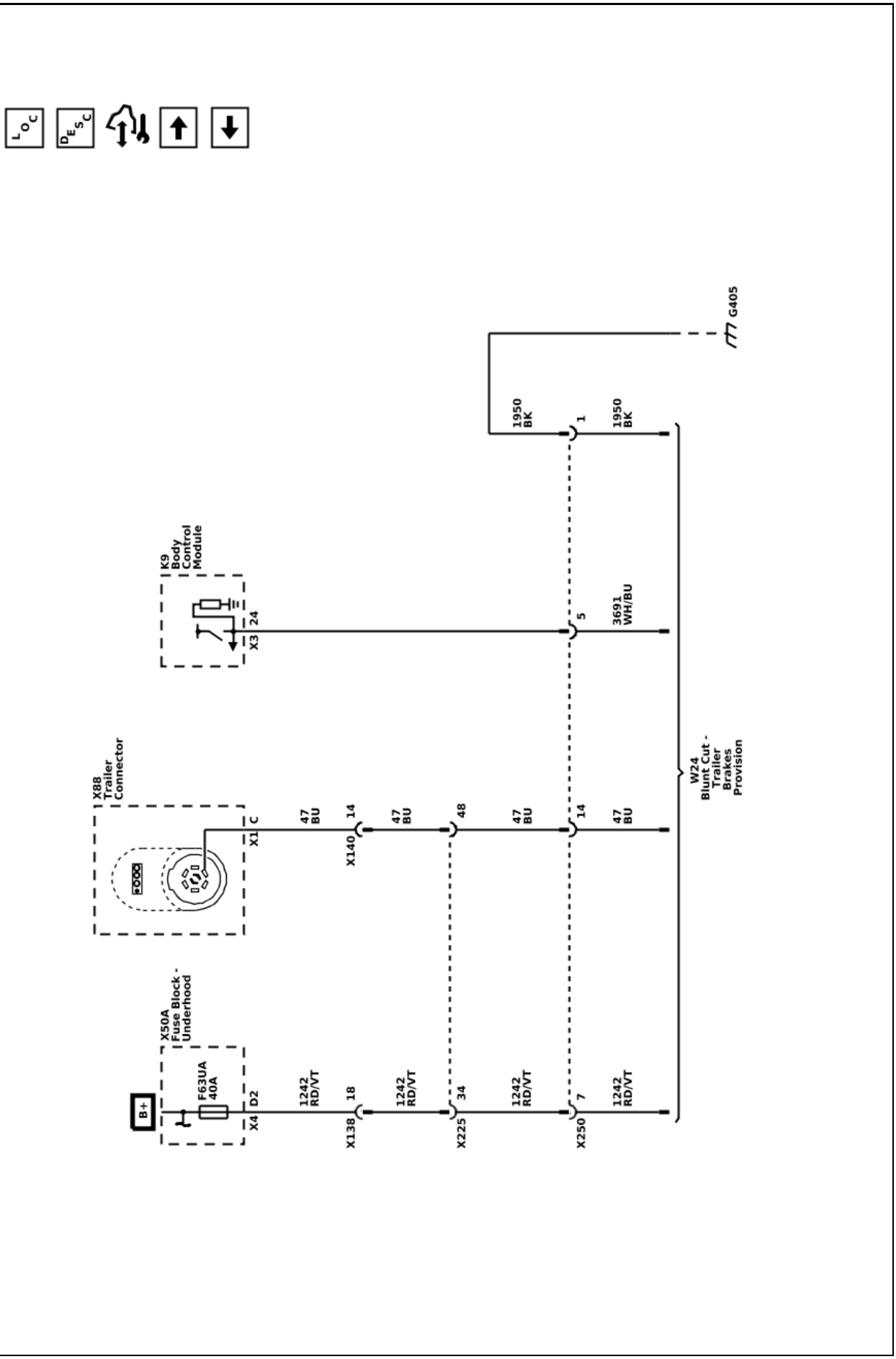
Trailering Systems Schematics (Trailer Lamp Control Module (U1D))



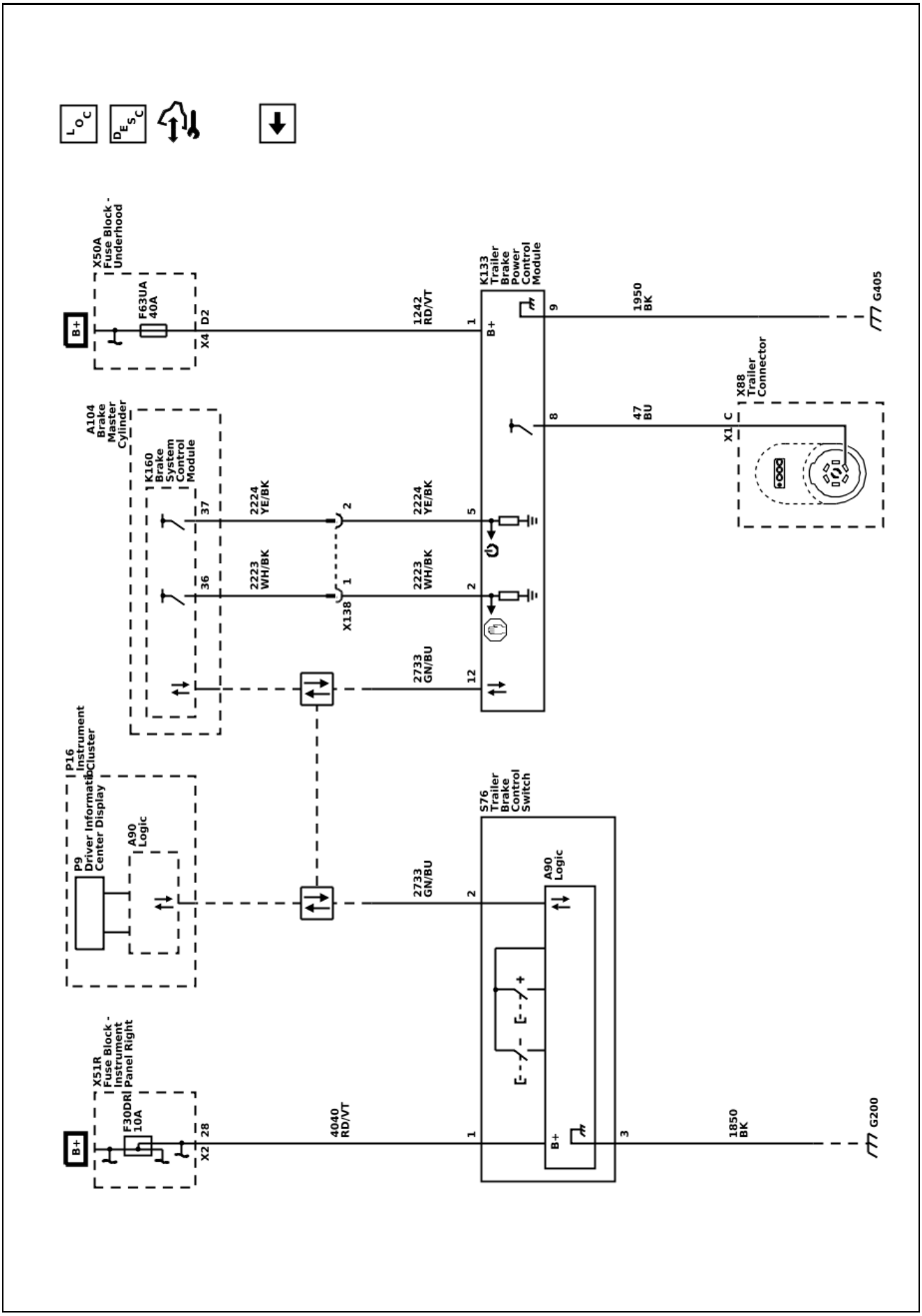
Trailering Systems Schematics (Trailer Connector Pins: A, B, D, E, F, G (Z82-U1D))



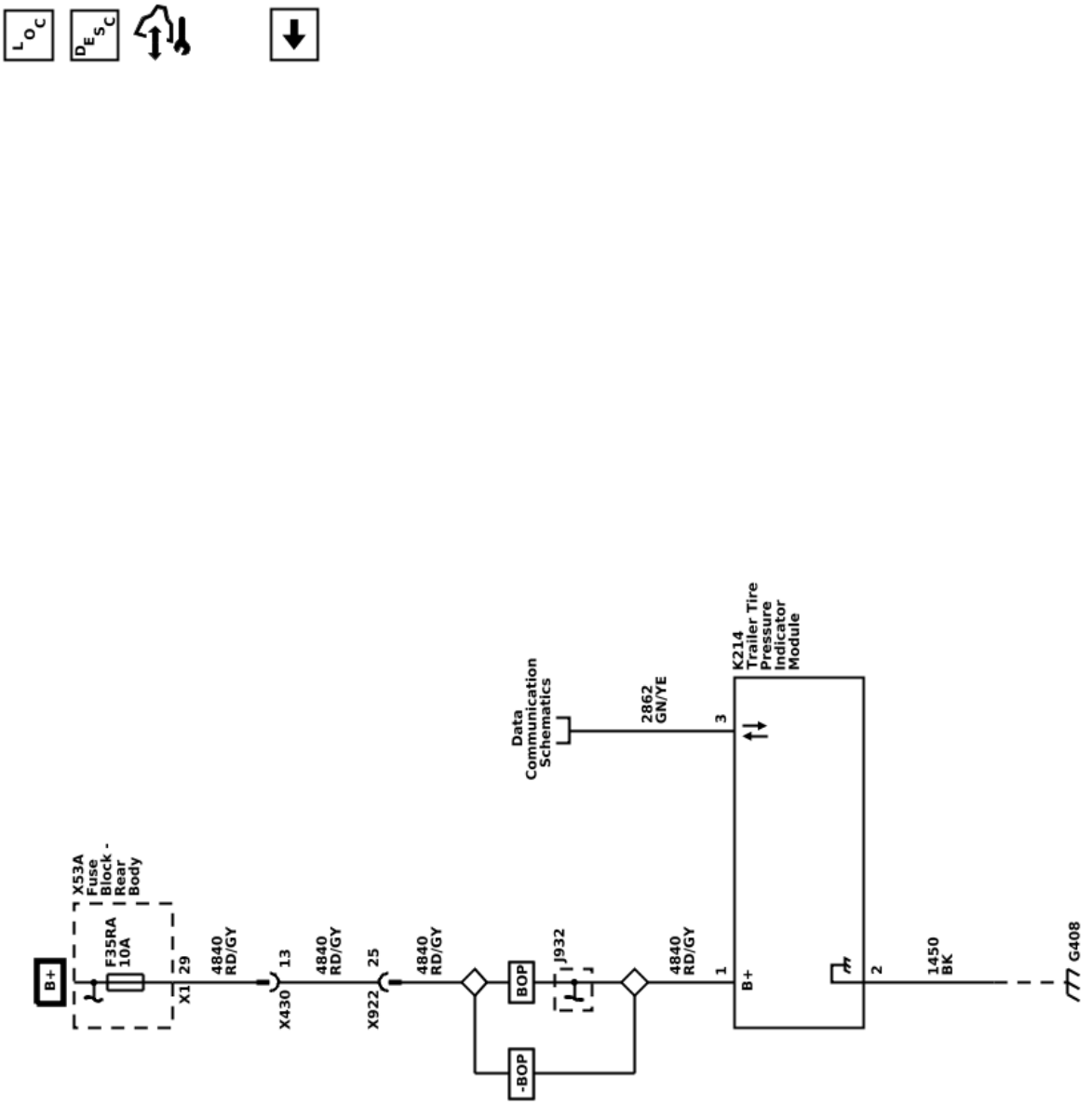
Trailering Systems Schematics (Trailer Brakes Provision (Z82-JL1))



Trailering Systems Schematics (Trailer Brake (Z82+JL1))



Trailering Systems Schematics (Trailer Tire Pressure (PTT))



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Description and Operation

Trailering Description and Operation

Trailering System Overview

Begin the trailering system diagnosis with Diagnostic System Check - Trailering. The Diagnostic System Check - Trailering will provide a complete strategy to locate and repair a vehicle trailering electrical fault. Not following this strategy may cause additional diagnostic time and/or misdiagnosis.

The trailering system consists of the following:

- Trailer Lighting, refer to Trailer Lamps Malfunction for additional diagnostic information.
- Trailer Brakes, refer to Trailer Brake Malfunction for additional diagnostic information.
- Trailer Battery Charging System, refer to Trailer Battery Charging Malfunction for additional diagnostic information.
- Trailer Detection, refer to Trailer Detection Malfunction for additional diagnostic information.
- Trailer Tire Pressure Monitoring System, refer to Trailer Tire Pressure Monitoring Malfunction for additional diagnostic information.
- Trailer Theft Detection.

When a trailer is detected on a vehicle equipped with side blind zone detection, rear park assist, and/or rear cross traffic alert, the vehicle will automatically turn these features off. These features are turned off to prevent false detections due to the trailer obstructing the view of the sensors.

7–Terminal Trailer Connector Pinout (North America)

- Terminal A – Trailer Backup Lamp Control
- Terminal B – Ground
- Terminal C – Trailer Brake Control
- Terminal D – Right Trailer Stop/Turn Signal Lamp Control
- Terminal E – B+
- Terminal F – Trailer Park Lamp Control
- Terminal G – Left Trailer Stop/Turn Signal Lamp Control

13–Terminal Trailer Connector Pinout (Export)

- Terminal 1 – Left Trailer Turn Signal Lamp Control
- Terminal 2 – Trailer Fog Lamp Control
- Terminal 3 – Ground
- Terminal 4 – Right Trailer Turn Signal Lamp Control
- Terminal 5 – Right Trailer Park Lamps Control
- Terminal 6 – Trailer Stop Lamps Control
- Terminal 7 – Left Trailer Park Lamps Control
- Terminal 8 – Trailer Backup Lamp Control
- Terminal 9 – B+
- Terminal 10 – Ignition Voltage
- Terminal 11 – Ground
- Terminal 12 – Trailer Connected Signal
- Terminal 13 – Ground

Connecting Aftermarket Accessories

- Some aftermarket accessories that connect to the X88 Trailer Connector will be recognized by the vehicle as a trailer connected, even if the accessory is not a trailer. As a result, side blind zone detection, rear park assist, and/or rear cross traffic alert will be turned off anytime the vehicle detects a trailer/accessory is connected.
- Vehicles equipped with U1D have trailer theft detection that constantly monitors trailer connected status when enabled. This is done by periodically pulsing the lighting circuits of the trailer when the vehicle is parked. As a result, some aftermarket accessories may be turned ON/OFF when connected to the vehicle with theft detection enabled.
- Vehicles equipped with U1D use pulse width modulation voltage (PWM) for trailer lighting functions. Some aftermarket accessories are incompatible with PWM and may not function correctly when connected to the trailer lighting circuits of the vehicle.

Trailer Battery Charging System

Trailer battery charging is accomplished through constant battery voltage from the X50A Fuse Block – Underhood to the X88 Trailer Connector. Battery voltage is supplied to terminal E at the X88 Trailer Connector at all times. If equipped, the trailer battery will constantly be charged by the vehicle's electrical system anytime the trailer is connected. Some trailers require the B+ circuit to the X88 Trailer Connector for the trailer brakes to function.

Trailer Lighting and Detection With U1D

Note: Some trailers utilize a trailer control module to control the trailer lighting of the trailer. These trailers may require the B+ circuit to the trailer connector to control trailer lighting when equipped with a separate trailer control module. These trailers will not be detected by the K68 Trailer Lighting Control Module and may require an additional trailer adaptor for the vehicle to recognize the trailer is connected.

North America (7-Terminal connector)

North American vehicles use a 7-way trailer connector for trailering features. The K68 Trailer Lighting Control Module is responsible for controlling the trailer lighting on vehicles with U1D. The combined trailer stop/turn signal lamps of the trailer must draw at least 55mA of total current to be detected as a trailer or the Trailer Lighting Control Module will not control the lighting circuits. The Trailer Lighting Control Module receives serial data messages from the K9 Body Control Module (BCM) indicating what lamps have been activated on the vehicle. The Trailer Lighting Control Module responds by applying pulse width modulated voltage (PWM) to the appropriate control circuits for the requested lamps illuminating the lamps on the attached trailer. The Trailer Lighting Control Module constantly monitors for trailer connection status, trailer lighting faults, and trailer theft deterrent purposes. This is accomplished through the lighting circuits of the trailer to determine if a trailer is connected. When a trailer is connected, the Trailer Lighting Control Module senses

the trailer connection and alerts the driver by requesting a trailer profile setup through the Trailering App, which is displayed on the infotainment screen. If a trailer is disconnected with the ignition ON, the vehicle will display multiple trailer lighting messages until a trailer is reconnected or the message is dismissed by the user. With the key OFF, the Trailer Lighting Control Module will periodically pulse the lighting circuits of the trailer to verify it is still connected. The lights on the trailer may flash at different intervals with the key OFF depending on which type of lights the trailer is built with. If a trailer is disconnected with the key ON, the vehicle will display a trailer disconnected message until a trailer is reconnected or the ignition is cycled.

Export (13-Terminal connector)

Export vehicles use a 13-way trailer connector for trailering features. The K68 Trailer Lighting Control Module is responsible for controlling the trailer lighting on vehicles with U1D. The combined trailer turn signal and park lamps of the trailer must draw at least 55mA of total current to be detected as a trailer or the Trailer Lighting Control Module will not control the lighting circuits. The Trailer Lighting Control Module receives serial data messages from the K9 Body Control Module (BCM) indicating what lamps have been activated on the vehicle. The Trailer Lighting Control Module responds by applying pulse width modulated voltage (PWM) to the appropriate control circuits for the requested lamps illuminating the lamps on the attached trailer. The Trailer Lighting Control Module constantly monitors for trailer connection status, trailer lighting faults, and trailer theft deterrent purposes. This is accomplished through the lighting circuits of the trailer to determine if a trailer is connected. With the key OFF, the Trailer Lighting Control Module will periodically pulse the lighting circuits of the trailer to verify it is still connected. The lights on the trailer may flash at different intervals with the key OFF depending on which type of lights the trailer is built with. If a trailer is disconnected with the key ON, the vehicle will display a trailer disconnected message until a trailer is reconnected or the ignition is cycled.

Trailer Lighting Without U1D

The K219 Lighting Control Module is responsible for controlling the trailer lighting on vehicles without U1D. The lighting control module receives serial data messages from the K9 Body Control Module (BCM) indicating what lamps have been activated on the vehicle. The lighting control module responds by applying voltage to the appropriate relay control circuits for the requested lamps anytime the vehicle lamps are commanded ON. With the relay coil energized, the relay contacts close and allow voltage to flow through the relay illuminating the appropriate lamps on the attached trailer.

Trailering Messages

The driver information center (P16 Instrument Cluster) or infotainment screen (P17 Info Display Module) may display one or more of the following messages to the user related to trailering.

Trailering Message	Description
Check Left Trailer Turn Signal Lamp	The K68 Trailer Lighting Control Module detects a fault on the left trailer stop/turn lamp control circuit
Check Right Trailer Turn Signal Lamp	The K68 Trailer Lighting Control Module detects a fault on the right trailer stop/turn lamp control circuit
Check Trailer Rear Lamp	The K68 Trailer Lighting Control Module detects a fault on the trailer park lamp control circuit.
Check Trailer Reversing Lamp	The K68 Trailer Lighting Control Module detects a fault on the trailer backup lamp control circuit.
Check Trailer Stop Lamps	The K68 Trailer Lighting Control Module detects a fault on the left or right trailer stop/turn lamp control circuits
Check Trailer Wiring	The K133 Trailer Brake Power Control Module detects a fault on the trailer brake control circuit or the trailer was disconnected.
Lane Change Alert Off	Reminder to the user that lane change alerts are turned off anytime a trailer is detected.
Rear Cross Traffic Alert Off	Reminder to the user that rear cross traffic alerts are turned off anytime a trailer is detected.
Rear Park Assist Off	Reminder to the user that rear park assist is turned off anytime a trailer is detected.
Remember to turn On Tow/Haul Mode	Reminder to the user to turn ON Tow/Haul Mode when towing.
Service Trailer Brake System	The K133 Trailer Brake Power Control Module detects a fault on the trailer brake control circuit.
Service Trailer Tire Monitor System	The K214 Trailer Tire Pressure Indicator Module detects one or more issues with the trailer tire pressure monitoring system.
Trailer Detected	The K68 Trailer Lighting Control Module detects a trailer has been connected to the X88 Trailer Connector.

Trailering Message	Description
Trailer Brakes Detected (With JL1)	The K133 Trailer Brake Power Control Module detects a trailer with trailer brakes has been connected to the X88 Trailer Connector.
Trailer Disconnected Check Connection	The K68 Trailer Lighting Control Module detects a trailer has been disconnected from the X88 Trailer Connector.
Trailer Tire Pressure High	The K214 Trailer Tire Pressure Indicator Module detects one or more of the trailer tire pressures is high.
Trailer Tire Pressure Low	The K214 Trailer Tire Pressure Indicator Module detects one or more of the trailer tire pressures is low.
Trailer Tire Sensor Fault	The K214 Trailer Tire Pressure Indicator Module detects one or more of the trailer tire pressure sensors has a fault.
Trailer Tire Temperature High	The K214 Trailer Tire Pressure Indicator Module detects one or more of the trailer tire temperatures is too high.

Trailer Theft Detection (With U1D Only)

Trailer theft monitoring can be turned ON and OFF through the vehicle Trailer App. Anytime the content theft deterrent system is armed, the trailer lighting circuits are constantly monitored to determine if a trailer is connected for trailer theft deterrent purposes. With the key OFF, the K68 Trailer Lighting Control Module will periodically pulse the lighting circuits of the trailer to verify it is still connected by monitoring the voltage drop of the circuit. Depending on the configuration of the trailer lights, the trailer lights may periodically flash as part of the trailer theft deterrent function. These flashes correspond to when the K68 Trailer Lighting Control Module pulses the lighting circuits to ensure the trailer is still connected and is considered normal. If the trailer is disconnected while the content theft deterrent system is armed, the vehicle will flash the exterior lights and cycle the horn to alert of a trailer theft event. Refer to Theft Systems Description and Operation for more information on the content theft deterrent system.

Trailer Brakes

A trailer brake control system is used to control the amount of trailer braking power that is made available to trailers with brakes that require a controlled electrical output signal for actuation.

The power output to the trailer brakes is based on both the amount of braking being applied by the vehicle's brake system and on the type of trailer brakes detected.

The Trailer Brake Control System is compatible with two types of Trailer Brake Systems as listed below:

1. **Electric Brakes** A controlled electrical output signal energizes an electric-magnet/lever arm assembly that directly actuates the brake mechanism. The GDS name for this system is "Electromagnetic Brakes".
2. **Electric Over Hydraulic Brakes** A controlled electrical output signal energizes a remote, trailer mounted hydraulic pump to build brake pressure in a closed hydraulic system on the trailer. The hydraulic fluid pressure actuates the brake mechanism. The GDS name for this system is "Electrohydraulic Brakes".

Trailer Brake Output Versus Trailer Brake Type

- The trailer brake system characterizes the trailer brakes as either Electric Brake or Electric Over Hydraulic Brake automatically. This characterization may be affected by the number, type, and age of the trailer brake magnets, as well as any other devices installed on the trailer brakes (i.e. adapters for Electric Over Hydraulic brake functionality).
- The trailer brake system is fully operational with either characterization.
- Some features of the trailer brake system may be different based on the trailer brake type characterization. An example of this is at zero speed, where pressing the service brake pedal will produce output when the trailer brakes are characterized as Electric Brakes, but not when characterized as Electric Over Hydraulic Brakes.
- Sliding the manual trailer brake apply lever will produce output at zero speed for either characterization.

The user gain allows the driver to adjust the amount of trailer brake output to match the trailer load and road surface. The controller determines the desired trailer brake output and provides a control signal to the K133 Trailer Brake Power Control Module (TBPM). The K133 Trailer Brake Power Control Module amplifies the signal and provides the output required to activate the Electric or Electric Over Hydraulic trailer brakes.

The trailer brake control can support up to a maximum of four axles with electric trailer brakes (8 brake magnets).

Connecting a trailer that is not compatible with the trailer brake system may result in reduced or complete loss of trailer braking. There may be an increase in stopping distance or trailer instability which could result in personal injury or damage to the vehicle, trailer or other property. An aftermarket controller may be available for use with trailers with surge or air trailer brake systems.

To determine the type of brakes on your trailer and the availability of controllers, check with your trailer manufacturer or dealer. Do not power up an aftermarket controller with the factory brake controller at the same time.

The vehicle is equipped with the following trailer braking components:

- K160 Brake System Control Module
- K133 Trailer Brake Power Control Module
- S76 Trailer Brake Control Switch
- Manual Trailer Brake Apply
- Trailer Gain Adjustment
- Trailer Brake Driver Information Center Display

Trailer Brake Control Panel

The S76 Trailer Brake Control Switch contains the trailer gain and manual apply switches. It is located in the vehicle center stack. Refer to the owner's manual for more information on the location. The control panel and switches allows you to adjust the amount of output, referred to as trailer gain, available to the Electric or Electric Over Hydraulic brakes. It also allows you to manually apply the trailer brakes. The trailer brake control switch is used along with the trailer brake display page on the driver information center to adjust and display power output to the trailer brakes.

Manual Trailer Brake Apply

The manual trailer brake apply lever is located on the S76 Trailer Brake Control Switch and is used to apply the trailer's Electric or Electric Over Hydraulic brakes independent of the vehicle's brakes. This lever is used in the trailer gain adjustment procedure to properly adjust the power output to the trailer brakes.

Sliding the lever to the left will apply only the trailer brakes. The power output to the trailer is indicated in the trailer brake display page in the Driver Information Center (DIC). If the vehicle's service brakes are applied while using the manual trailer brake apply lever, the trailer output power will be the greater of the two.

The trailer and the vehicle's brake lamps will come on when either the vehicle's braking or manual trailer brakes are applied.

Trailer Brake Gain Adjustment

Trailer gain should be set for a specific trailering condition and must be adjusted any time vehicle loading, trailer loading or road surface conditions change. It is important to re-adjust trailer gain any time the tow vehicle, trailer loading or road surface conditions change or it you notice trailer wheel lock-up at any time while you are towing.

Setting the trailer gain properly is needed for the best trailer stopping performance. A trailer that is over-gained may result in locked trailer brakes. A trailer that is under-gained may result in not enough trailer braking. Both of these conditions may result in poor stopping and stability of the vehicle and trailer.

Trailer Gain Adjustment Procedure

- Adjust trailer gain in 0.5 step increments up to 10 gain setting by using the gain adjustment +/− buttons on the trailer brake control panel switch. Pressing and holding a gain button will cause the trailer gain to continuously increment or decrement. To turn the output to the trailer off, set the gain to zero.
- Drive the tow vehicle and trailer combination on a level surface representative of the towing condition and free of traffic at approximately 32–40 km/h (20–25 mph) and fully apply the manual trailer brake apply lever mechanism located on the trailer brake control panel switch. Adjusting the trailer gain at slower speeds may result in an incorrect gain setting.
- Adjust the trailer gain to just below the threshold of trailer wheel lock-up . Trailer wheel lock-up may not occur if towing a heavily loaded trailer. In this case, adjust the trailer gain to the highest allowable setting for the towing condition.

Trailer Brake Gain and Output Display

This display menu can be accessed by scrolling through the DIC menu, or any time the trailer gain +/− button is depressed, or the manual trailer brake apply lever is actuated. The trailer output is displayed from 0 to full output and indicates the output power provided to the trailer brakes, relative to the gain setting.

After the electrical connection is made to a trailer equipped with electric brakes or electric over hydraulic brakes, the TRAILER CONNECTED message will be displayed momentarily on the DIC. The Trailer Brake Display Page can be selected on the DIC showing TRAILER GAIN and OUTPUT, after all vehicle related service messages are acknowledged by the driver. Depending on which instrument panel cluster is in the vehicle, the DIC may display dashed lines, a greyed out display, or it may be blank signifying a disconnected trailer or a trailer brake fault condition.

Trailer Brake Driver Information Center Indicators and Messages

Trailer Brake Detection

The K133 Trailer Brake Power Control Module constantly monitors the trailer auxiliary control circuit from Terminal C at the X88 Trailer connector. When a trailer is connected with trailer brakes, the K133 Trailer Brake Power Control Module senses the connection and alerts the driver with a Trailer Connected message. If the K133 Trailer Brake Power Control Module senses a fault, or the trailer becomes disconnected, the vehicle will alert the driver with a Check Trailer Wiring message.

The following indicators are used to inform the driver of several different conditions:

Trailer Connected

This message will be briefly displayed when a trailer with Electric or Electric Over Hydraulic brakes is first connected to the vehicle. This message will automatically turn off in about ten seconds. The driver can also acknowledge this message before it automatically turns off.

Check Trailer Wiring

This message will be displayed if:

- The system detects that a trailer with Electric or Electric Over Hydraulic brakes is connected to the vehicle and then the trailer harness becomes disconnected from the vehicle.
- The trailer connection is recognized initially and then a disconnect occurs while the vehicle is stationary. This message will automatically turn off in about thirty seconds. This message will also turn off if the driver acknowledges this message off or if the trailer harness is reconnected.
- A disconnect of the trailer wiring harness occurs while the vehicle is moving. The Check Trailer Wiring message will continue until the ignition is turned off. The message will also turn off if the driver acknowledges this message off or it the trailer harness is re-connected or repairs are completed.
- There is an electrical fault in the wiring to the electric trailer brakes. The Check Trailer Wiring message will continue as long as there is an electrical fault in the trailer wiring. This message will also turn off if the driver acknowledges this message off.
- A poor connection at the 7–way connector may cause the Check Trailer Wiring message. Some aftermarket 7–way trailer side connector adapters or plugs may cause deformation or excessive wear to the vehicle's trailer terminals. It is recommended that you use an OEM or Pollak heavy duty 7–way trailer side connector adapter.

Service Trailer Brake System

This message will be displayed when there is a problem with the trailer brake control system. The trailer brake system may not be fully functional, or may not be functioning at all. The trailer brake system is designed to provide trailer braking, if possible, even when faults prevent it from being fully functional. This reduced functionality includes:

1. Providing trailer braking when the master cylinder pressure or brake pedal switch are faulted.
2. Providing trailer braking when hill start assist and trailer sway control communication is faulted.
3. Providing trailer braking when certain manual trailer brake apply lever faults are present.

Trailer Brake System Fault Detection Scan Tool Parameters

The scan tool has three parameters available that will help determine if a trailer brake system fault is located in the vehicle or in the trailer. The parameters associated with this diagnostic ability are listed below:

- Number of Trailer Brake Circuit Faults
- Number of Trailer Circuit Faults Suspected
- Trailer Circuit Faults Suspected/Trailer Brake Circuit Faults Ratio

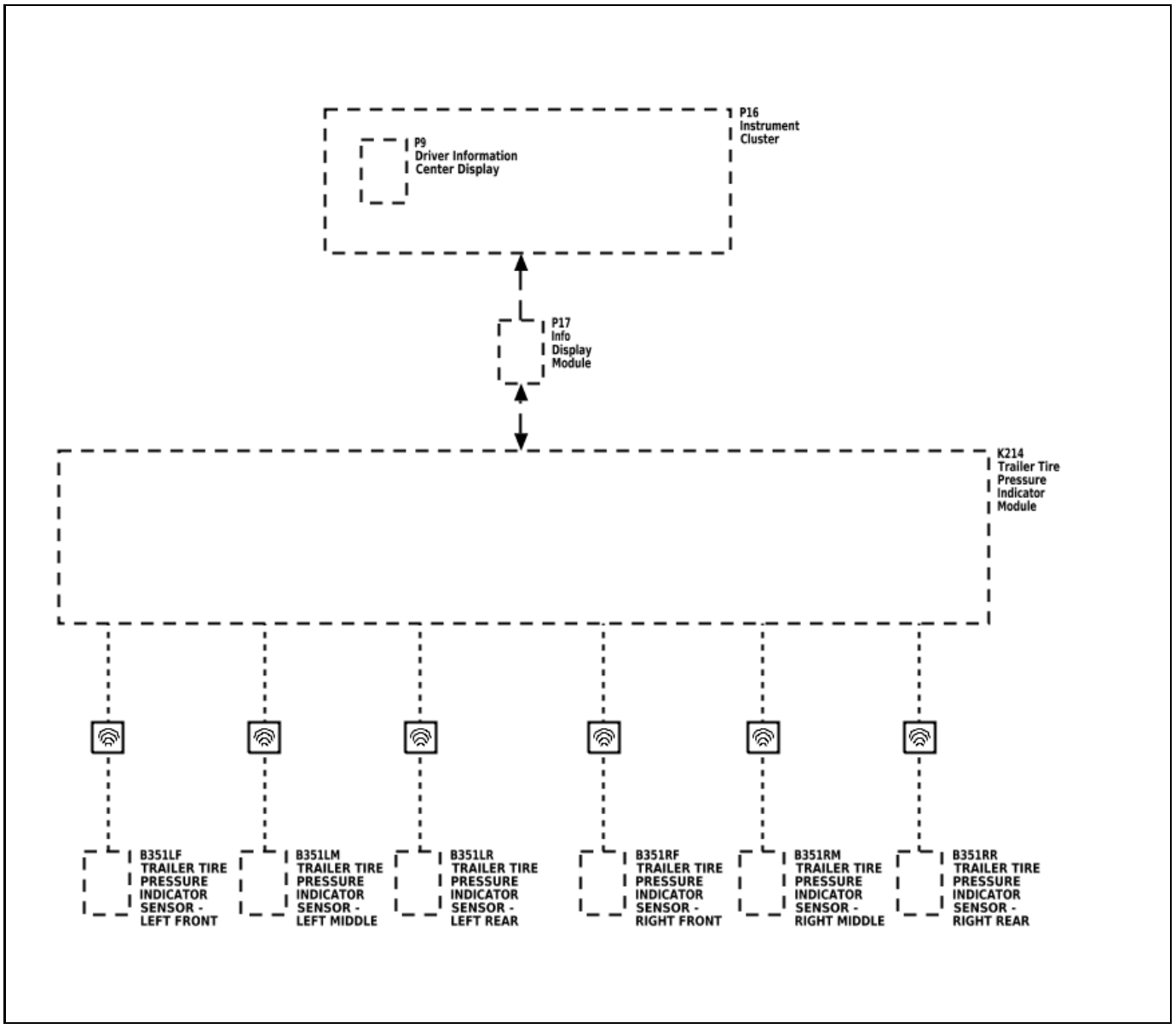
The following table represents the area of the trailer brake system on the vehicle and on the customer's trailer that may be at fault based on a ratio of where a fault is detected. The ratios given in the table are the result of the Trailer Circuit Faults Suspected parameter divided by the Trailer Brake Circuit Faults Ratio parameter. The judgements are a guide as to where the majority of the faults are found, in the vehicle versus in the trailer.

Trailer Circuit Faults Suspected/Trailer Brake Circuit Faults Ratio

Ratio	Judgement
0%	Check vehicle
10%	Check vehicle
20%	Check vehicle
30%	Faults found in both the vehicle and the trailer. Refer to PIT 5509 and PIT 5311 for additional information on possible intermittent faults.
40%	
50%	
60%	
70%	
80%	Check trailer
90%	Check trailer
100%	Check trailer

Trailer Tire Pressure Monitoring

Tire Pressure Monitoring Block Diagram



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Special Tools

- *EL-46079/J-46079* Tire Pressure Monitor Diagnostic Tool
- *EL-50448* Tire Pressure Monitor Sensor Activation Tool
- *EL-52641* Trailer Presence Simulator Tool

For equivalent regional tools, refer to Special Tools.

The Trailer Tire Pressure Monitor System is designed to monitor the pressure of the trailer tires, and warn the driver when a low pressure condition exists. Four Trailer Tire Pressure Monitor System sensors are provided in the vehicle's glove box as an accessory when equipped. The system can accommodate a trailer with up to (6) tires if additional sensors are purchased from the dealership. Also, the system can be paired with up to (5) individual trailers. The sensors must be mounted onto each tire and wheel assembly, and the sensors must be learned by the vehicle by following the learning procedure as shown in the Trailering App section of this manual. For sensor installation assistance, please contact your trailer service center or tire service center. The Trailer Tire Pressure Monitor System sensors monitor the air pressure in the trailer tires and transmit the trailer tire pressure readings to a receiver located in the vehicle. The trailer tire pressure sensors can transmit up to 23 feet (7 meters) from the hitch receiver of the vehicle. The tire pressure values can be viewed in the trailering app in the vehicle's center stack.

Trailering Diagnostic Tools

In some situations when diagnosing trailer tire pressure monitoring, trailer lighting, or integrated trailer brakes, it may be necessary to connect the vehicle to a trailer to confirm proper operation. Performing this activity may prove difficult in the service environment since trailers are not often available for diagnostic use, may have

existing electrical issues outside of the issues a technician is attempting to diagnose, or simply may be too unwieldily to connect for diagnosis.

With all this in mind, it may be helpful to build or create a tool that can be plugged into the vehicle's trailer connector and simulate a connected trailer. This tool would include park lamps, stop lamps, and a reverse lamp for lighting and trailer tire pressure monitoring diagnosis. It can be expanded to include trailer brake magnets to diagnose integrated trailer brake concerns. Also, an additional lamp can be included to diagnose the B+ circuit to the trailer.

Trailer issues are NOT covered under warranty, but these tools may be used to verify the vehicle is functioning properly and to help the customer understand and correct any trailer related issues if they so choose.

Available Trailer Presence Simulator Tool

Illustration	Tool Number/Description
 5166189	*EL-52641* Trailer Presence Simulator Tool

Simulated Trailer Lighting

Creating a tool to simulate a connected trailer can be used to diagnose issues with trailer lighting, trailer brake (if equipped), the Trailering App (if equipped), and trailer tire pressure monitoring system (if equipped).

If the vehicle is equipped with a K68 Trailer Lighting Control Module (U1D), the module monitors the current on the lighting circuits to determine a trailer has been connected. The Trailer Lighting Control Module pulses current on the trailer lighting circuits every 10–15 s to monitor for a connected trailer. If a current draw greater than 55mA is detected, the Trailer Lighting Control Module recognizes this as a connected trailer. This will enable any trailer lighting controlled by the Trailer Lighting Control Module. If the vehicle is also equipped with trailer tire pressure monitoring, the Trailer Lighting Control Module will also use this trailer detection as a cue to enable the Trailering App and trailer tire pressure monitoring functions.

Creating a Simulated Trailer Lighting Tool

Parts needed:

- 7-way RV trailer connector Qty: 1

  Note: The combination trailer stop/turn, and backup lamps must draw at least 55mA of total current to be detected as a trailer. Some LED combination lamps will not draw enough current. If an LED combination lamp is used, make sure it draws at least 55mA. A load resistor can be added to the circuit if necessary to obtain the correct load.

- Combination trailer park/stop/turn lamp (greater than 55mA drawn when on) Qty: 2
- Reverse lamp Qty: 1
- 12 gauge wire and terminals/connectors Qty: As needed
- 18 gauge wire and terminals/connectors Qty: As needed
- Mounting board Qty: 1

1. Connect a 12 gauge wire to the ground terminal of the 7-way trailer connector and the ground circuit of each combination trailer park/stop/turn lamp and the reverse lamp in parallel.
2. Connect an 18 gauge wire between the park lamp terminal of the 7-way trailer connector and the park lamp circuit of each combination trailer park/stop/turn lamp in parallel.
3. Connect an 18 gauge wire between the left turn/stop lamp terminal of the 7-way trailer connector and the turn/stop lamp circuit of left trailer park/stop/turn lamp.
4. Connect an 18 gauge wire between the right turn/stop lamp terminal of the 7-way trailer connector and the turn/stop lamp circuit of right trailer park/stop/turn lamp.
5. Connect an 18 gauge wire between the reverse lamp terminal of the 7-way trailer connector and the reverse lamp.

   Note: A combination trailer lighting and trailer brake tool can be created on the same mounting board.

6. Mount the left combination trailer park/stop/turn lamp, right combination trailer park/stop/turn lamp, and reverse lamp to the mounting board.
7. Plug the 7-way RV trailer connector to the vehicle and verify functionality.

Simulated Trailer Brakes

Creating a tool to simulate trailer brakes can be used to diagnose trailer brake issues.

The trailer brake control system is compatible with two types of trailer brake systems: electromagnetic or electro-over hydraulic trailer brakes. The Brake System Control Module must determine which type of brakes the trailer is equipped with so the system can output correctly for the trailer's brake system. Because the Brake System Control Module has to determine the type of trailer brake system that is being used, it can be sensitive to a variety of trailer wiring issues.

The Trailer Brake Power Control Module continuously sends a test pulse out on the trailer brake control circuit (circuit 47) to determine if a trailer with trailer brakes has been connected. How the pulse reacts when a trailer is connected is how the Trailer Brake Power Control Module determines which type of braking system the trailer is equipped with.

Even after the system detects the trailer, Trailer Brake Power Control Module will continue to send this test pulse on the trailer brake control circuit, which now is monitoring both the truck and trailer circuitry. The trailer

brake control circuit continues to be monitored for any faults so the driver can be notified of any issues that may occur within the truck or trailer, as well as, to determine when the trailer is disconnected from the truck.

Creating a Simulated Trailer Brake Tool

Parts needed:

- 7-way RV trailer connector Qty: 1
- Electric trailer brake magnets Qty: 2, 4, 6, or 8
- Reverse lamp Qty: 1
- Mounting board Qty: 1
- 12 gauge wire and terminals/connectors Qty: As needed

1. Connect a 12 gauge wire to the ground terminal of the 7-way trailer connector.
2. Connect a 12 gauge wire to the brake controller output terminal of the 7-way trailer connector.

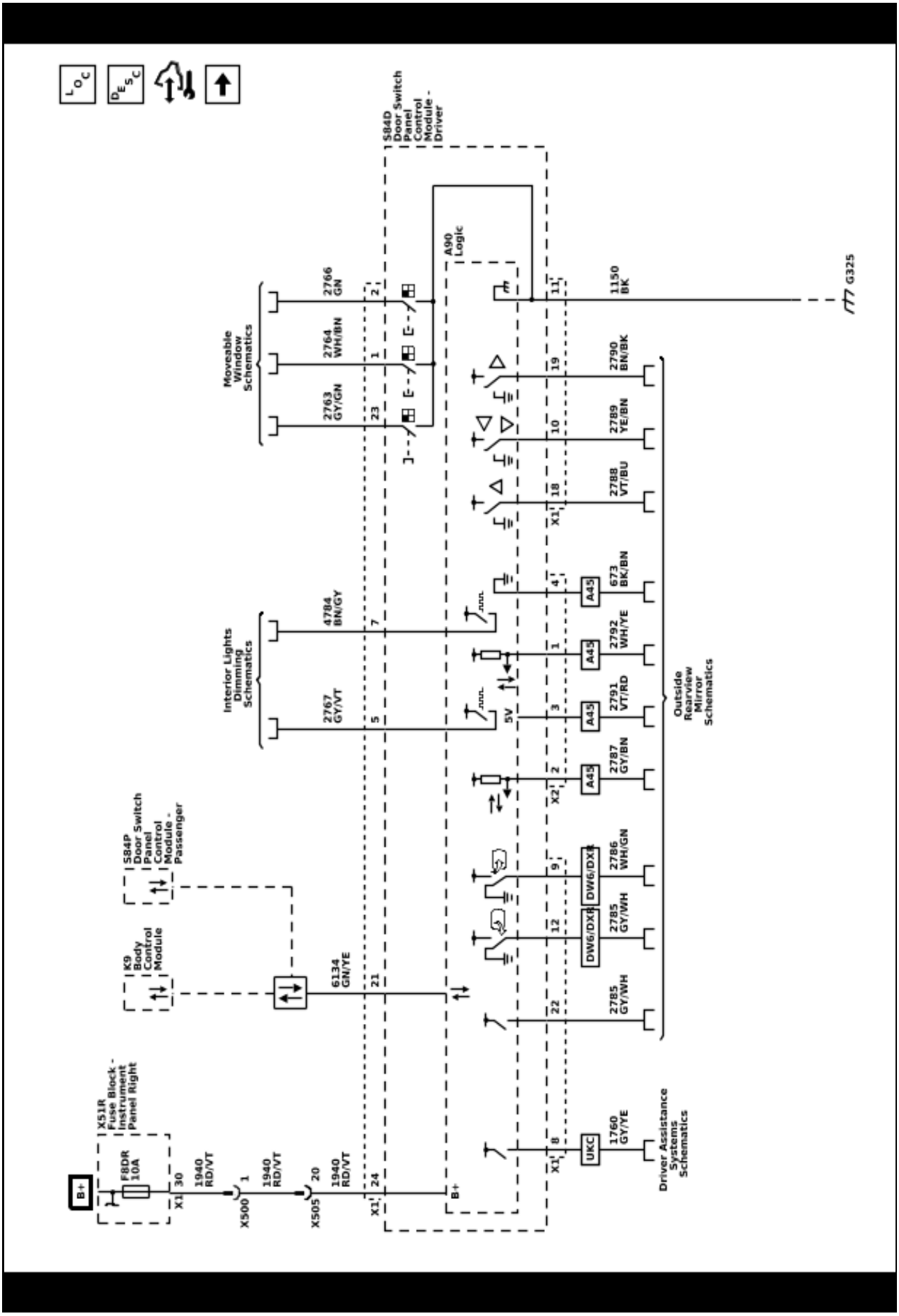
   Note: The trailer brake magnets must be connected in parallel. Connecting in series will create an excessive current draw and disable the trailer brake system.
3. Connect the trailer brake magnets to the 12 gauge wires from the 7-way trailer connector in parallel.

   Note: A combination trailer lighting and trailer brake tool can be created on the same mounting board.
4. Mount the trailer brake magnets to the mounting board.
5. Plug the 7-way RV trailer connector to the vehicle and verify functionality.

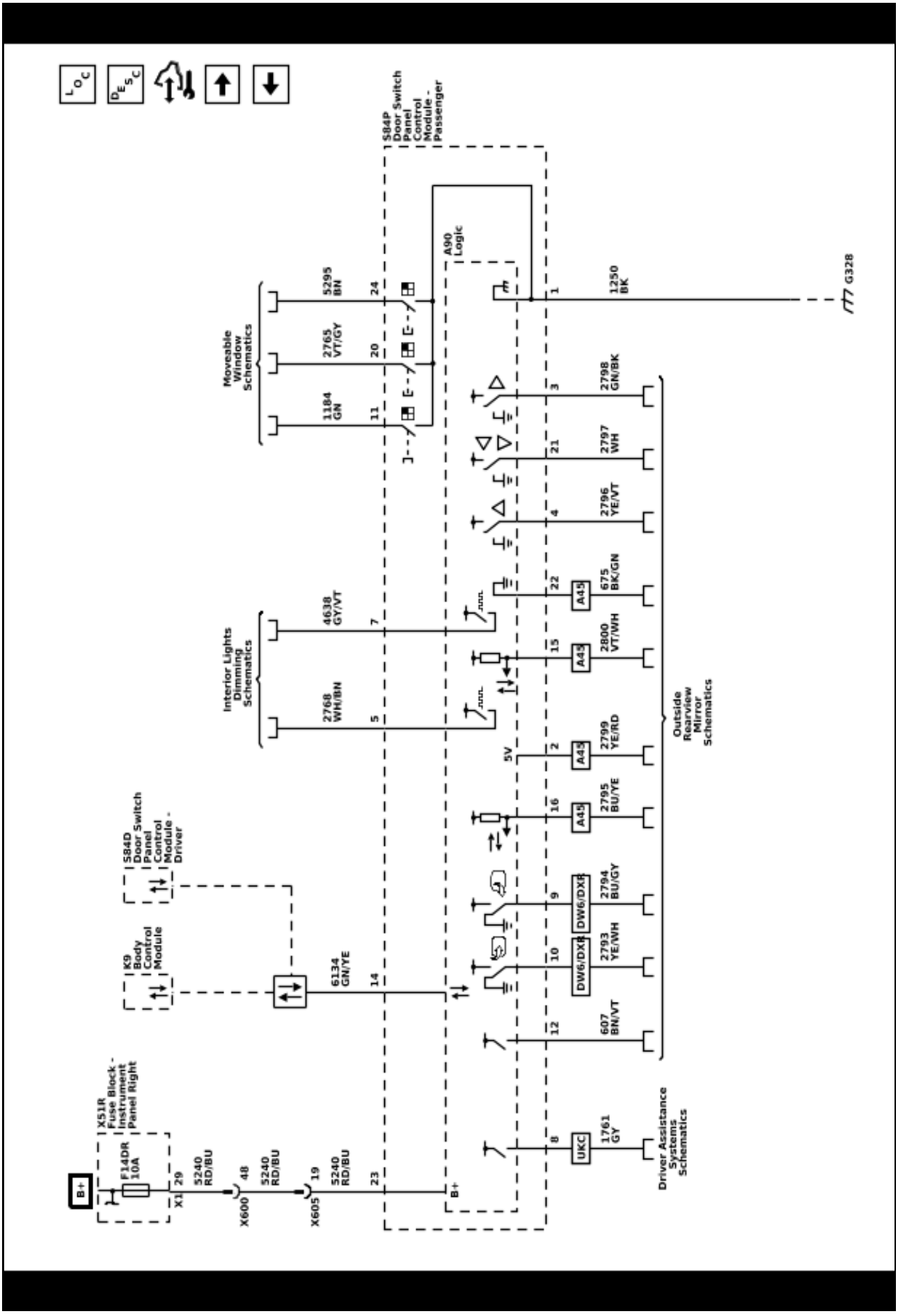
Vehicle Access

Schematic and Routing Diagrams

Door Lock/Indicator Schematics (Driver Door Switch Panel Control Module Power, Ground, Serial Data, and Subsystem References)

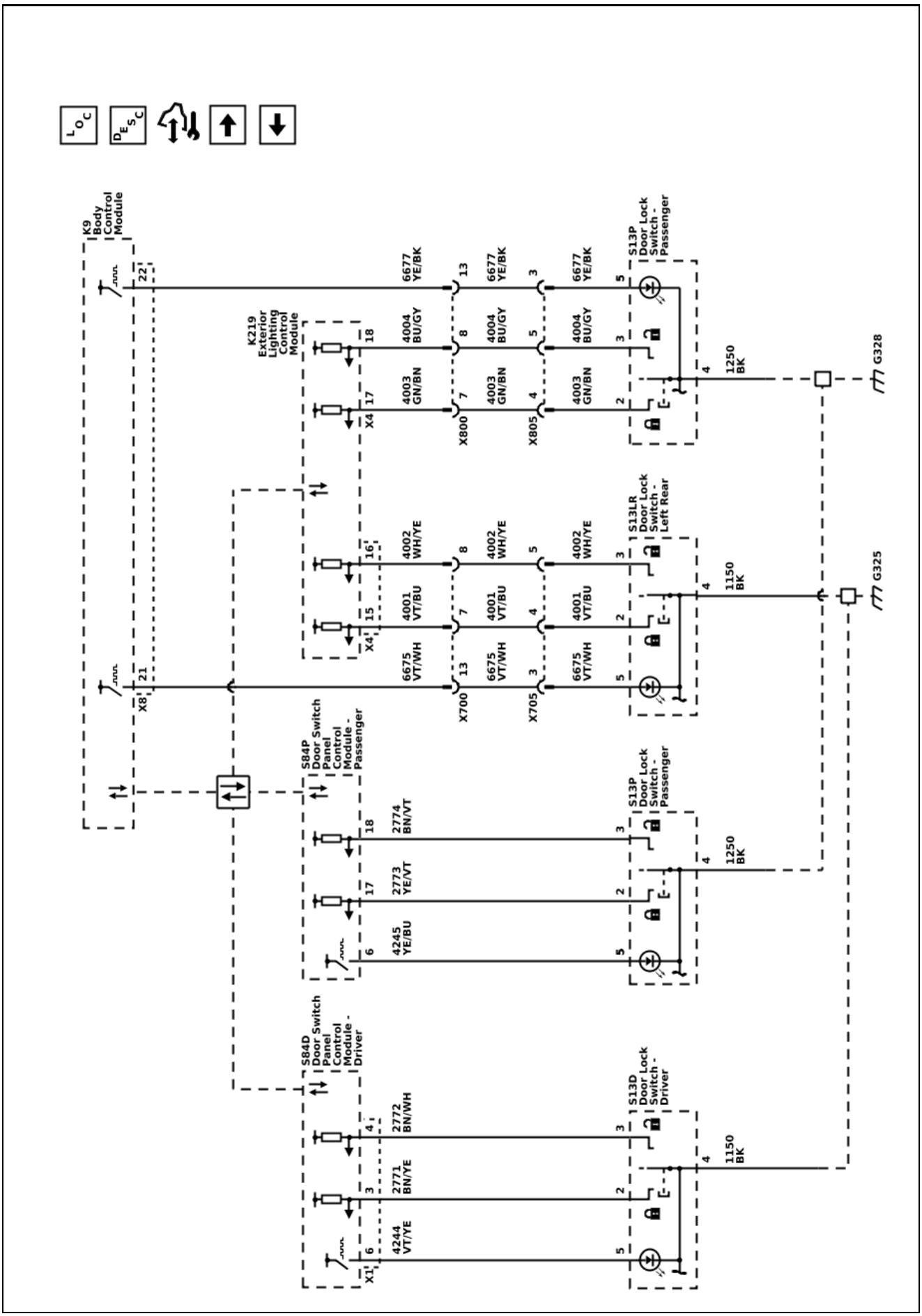


Door Lock/Indicator Schematics (Passenger Door Switch Panel Control Module Power, Ground, Serial Data, and Subsystem References)

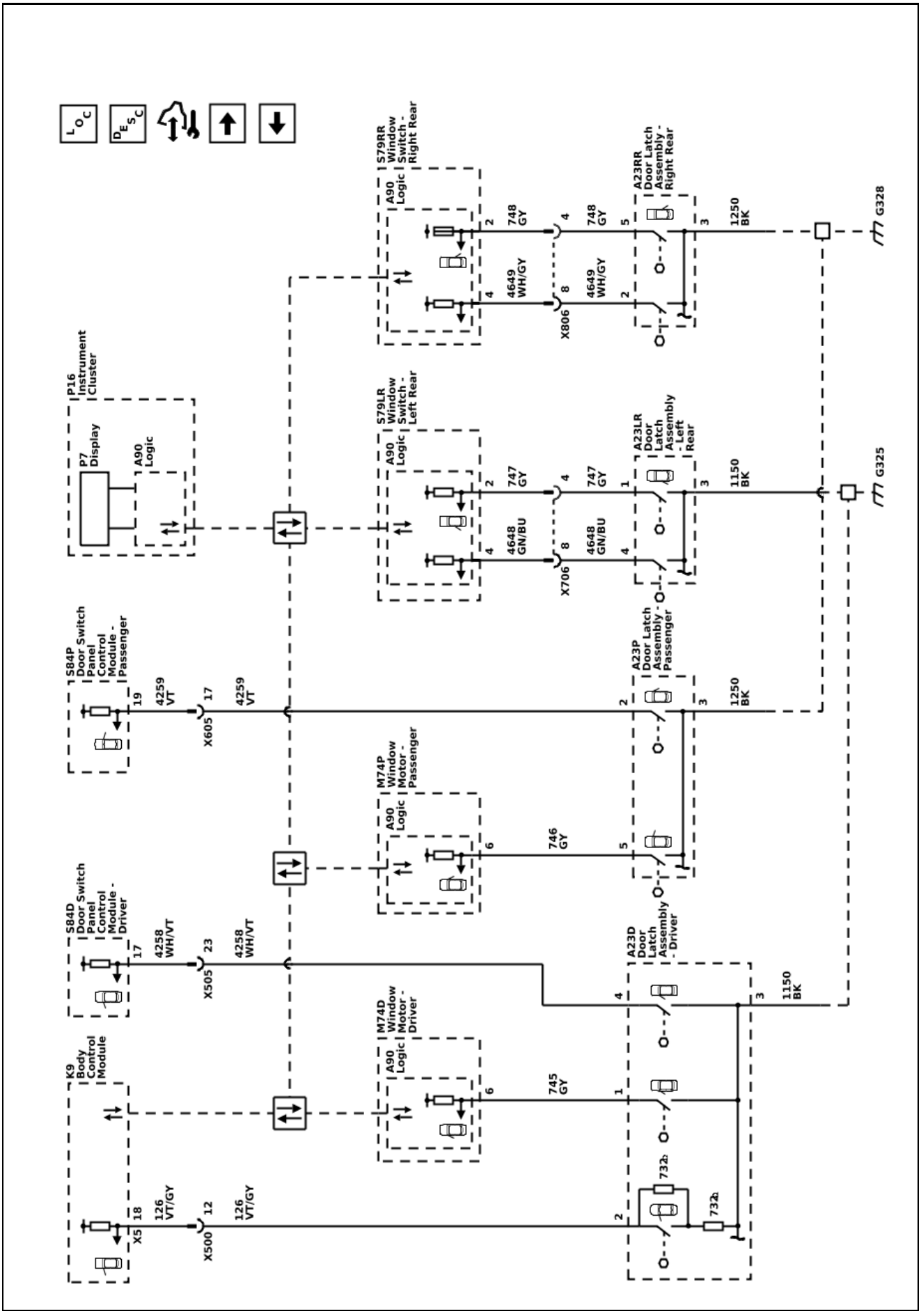


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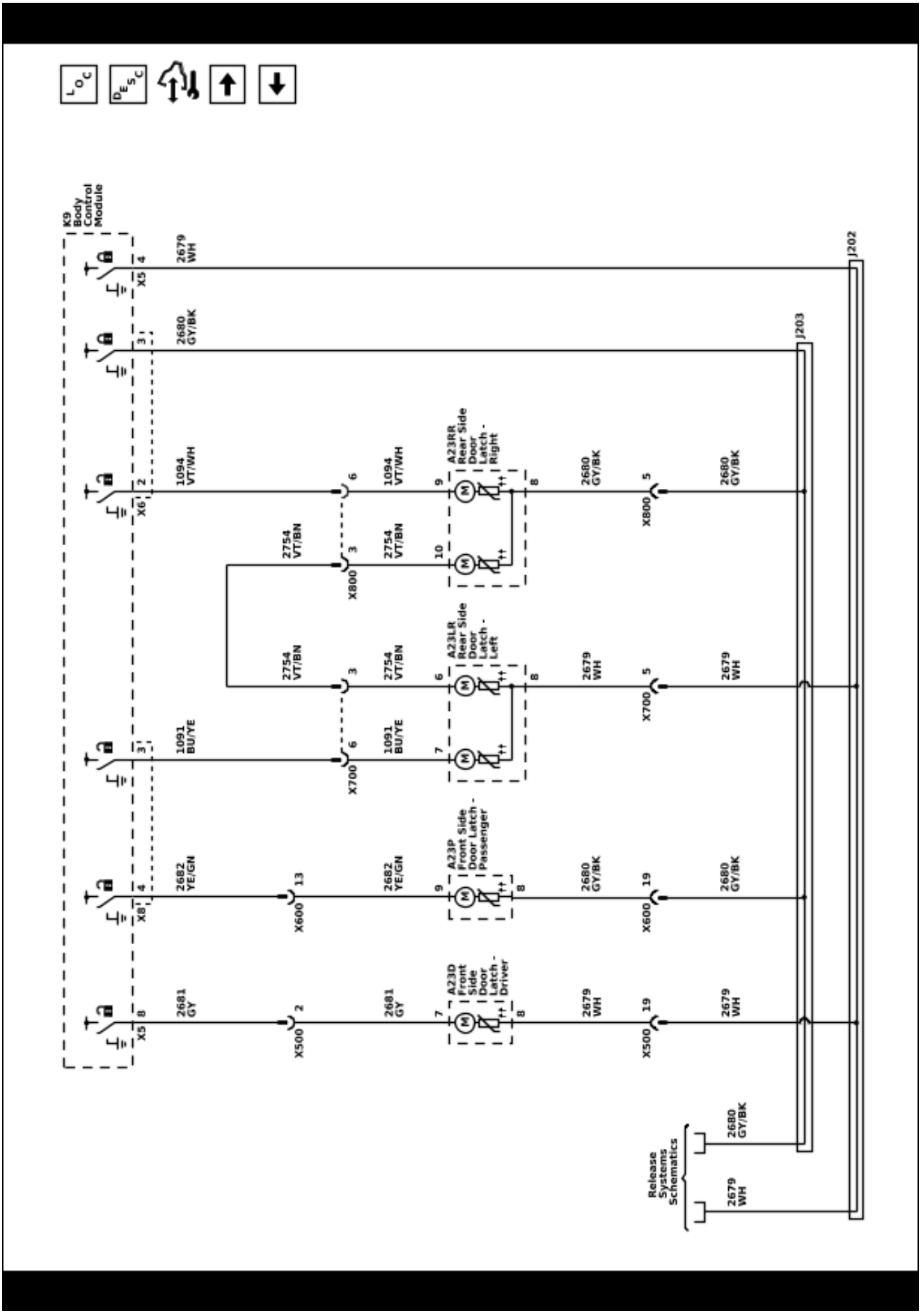
Door Lock/Indicator Schematics (Door Lock Switches and Indicators)



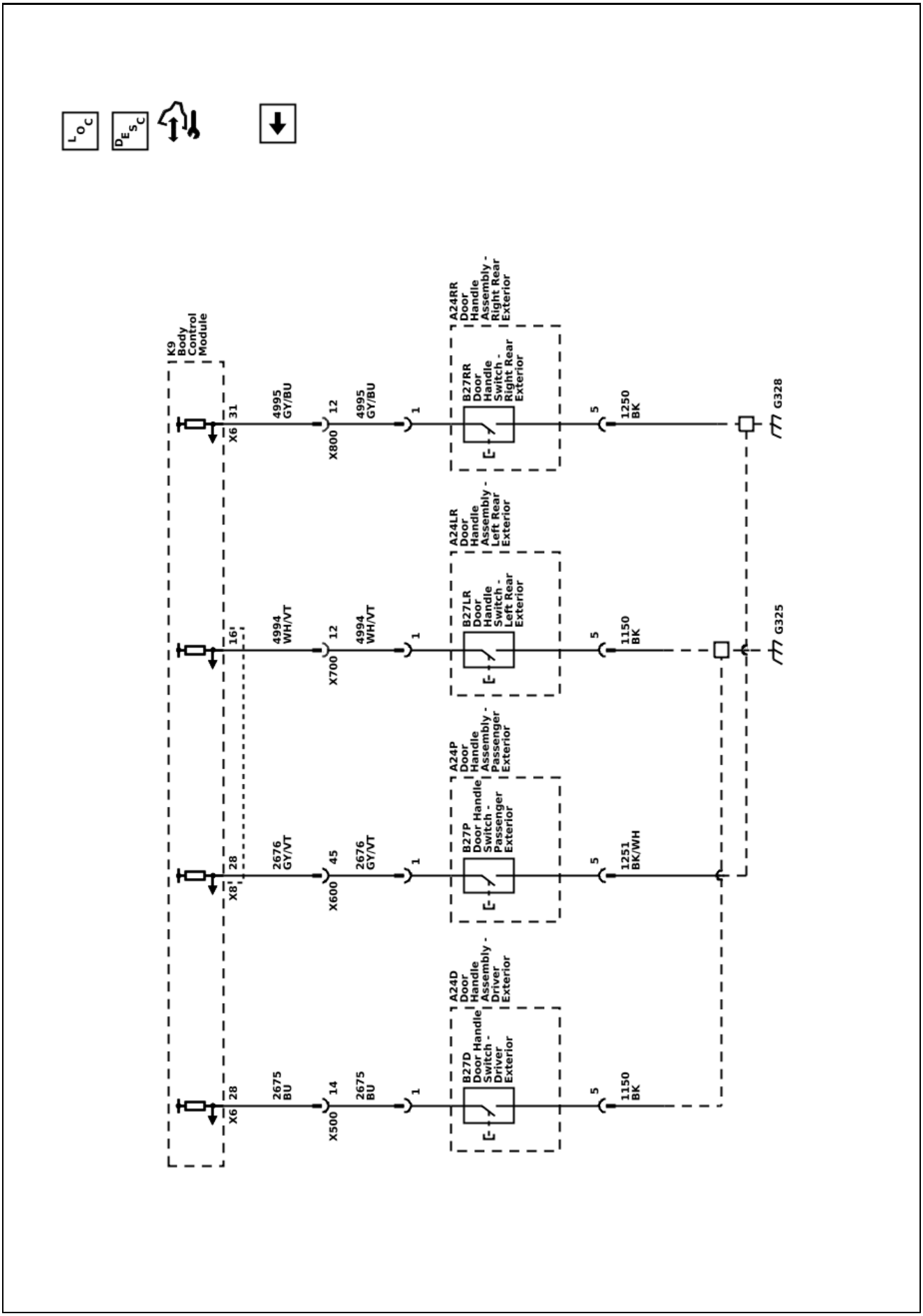
Door Lock/Indicator Schematics (Ajar Switches and Lock Indicators)



Door Lock/Indicator Schematics (Actuators)

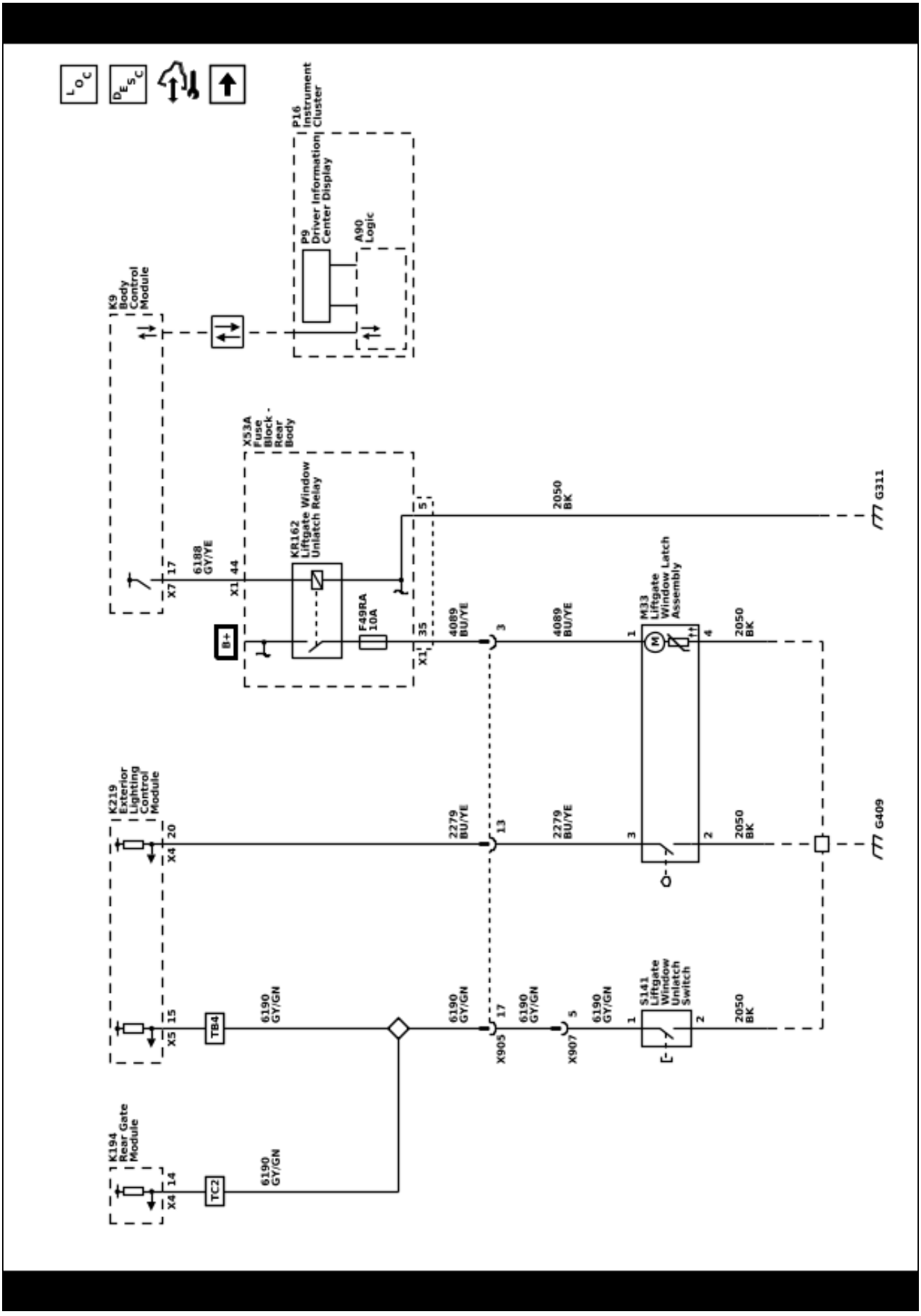


Door Lock/Indicator Schematics (Door Handle Switches)

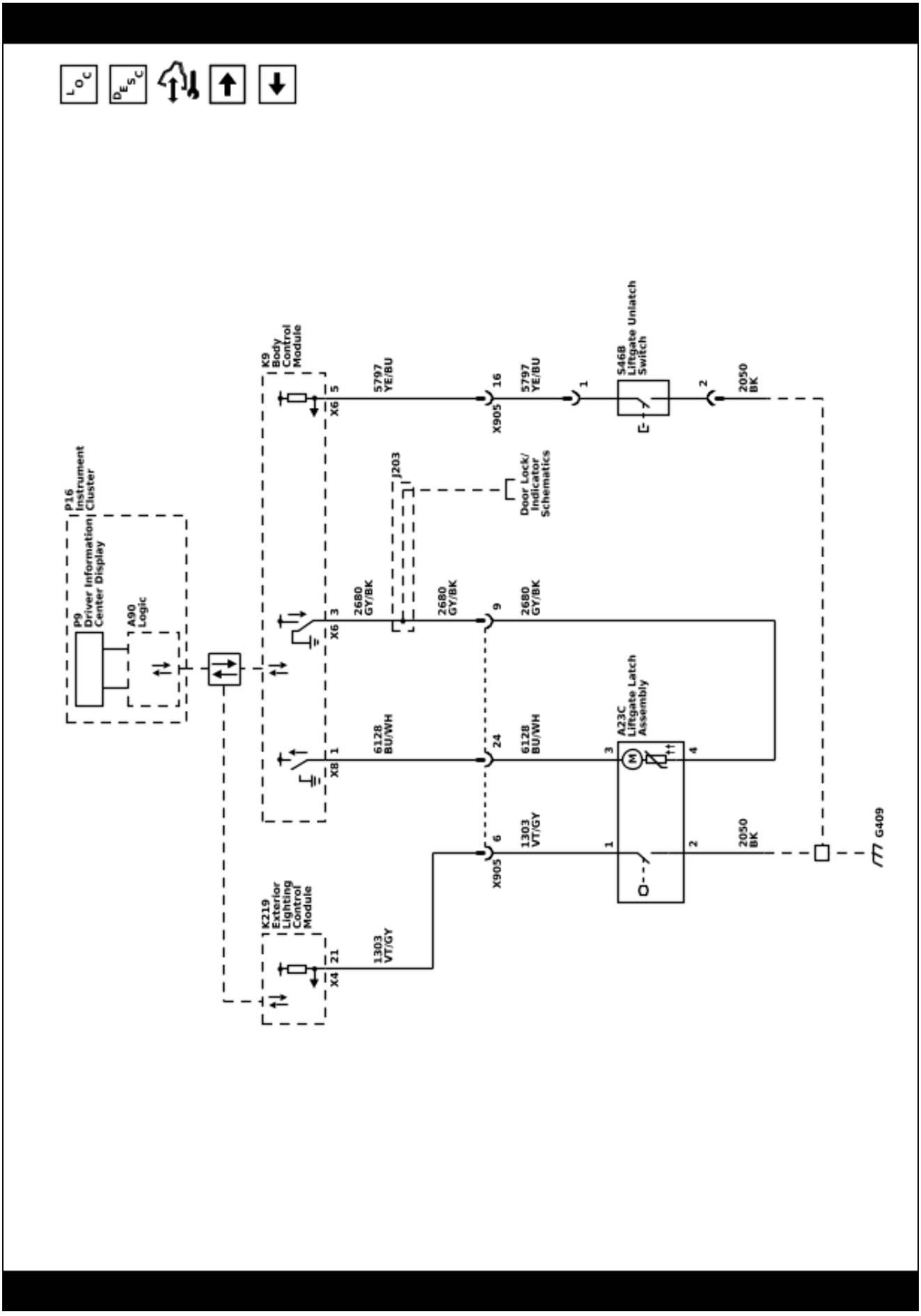


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Release Systems Schematics (Liftglass Release)

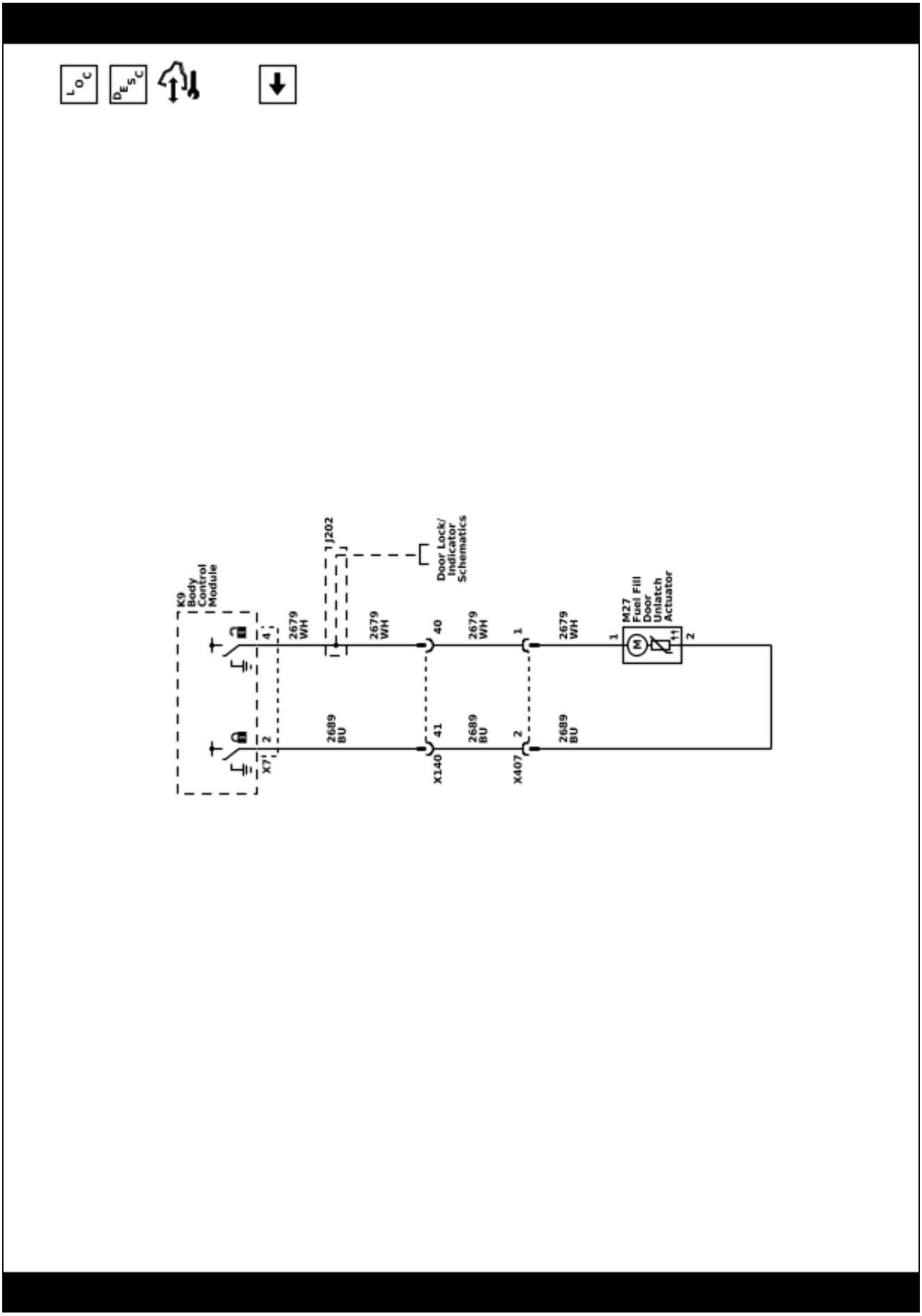


Release Systems Schematics (Liftgate Release (TB4))

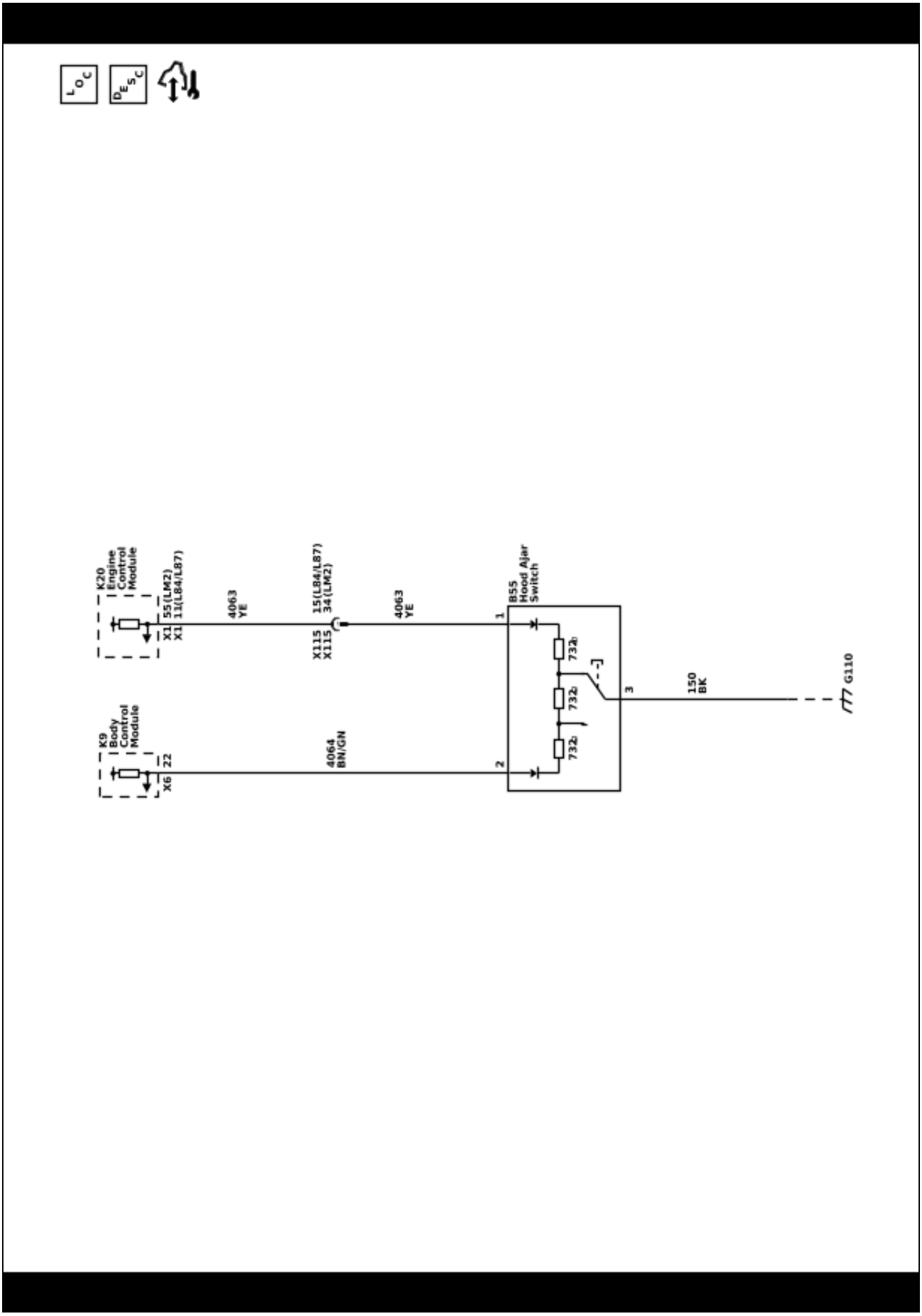


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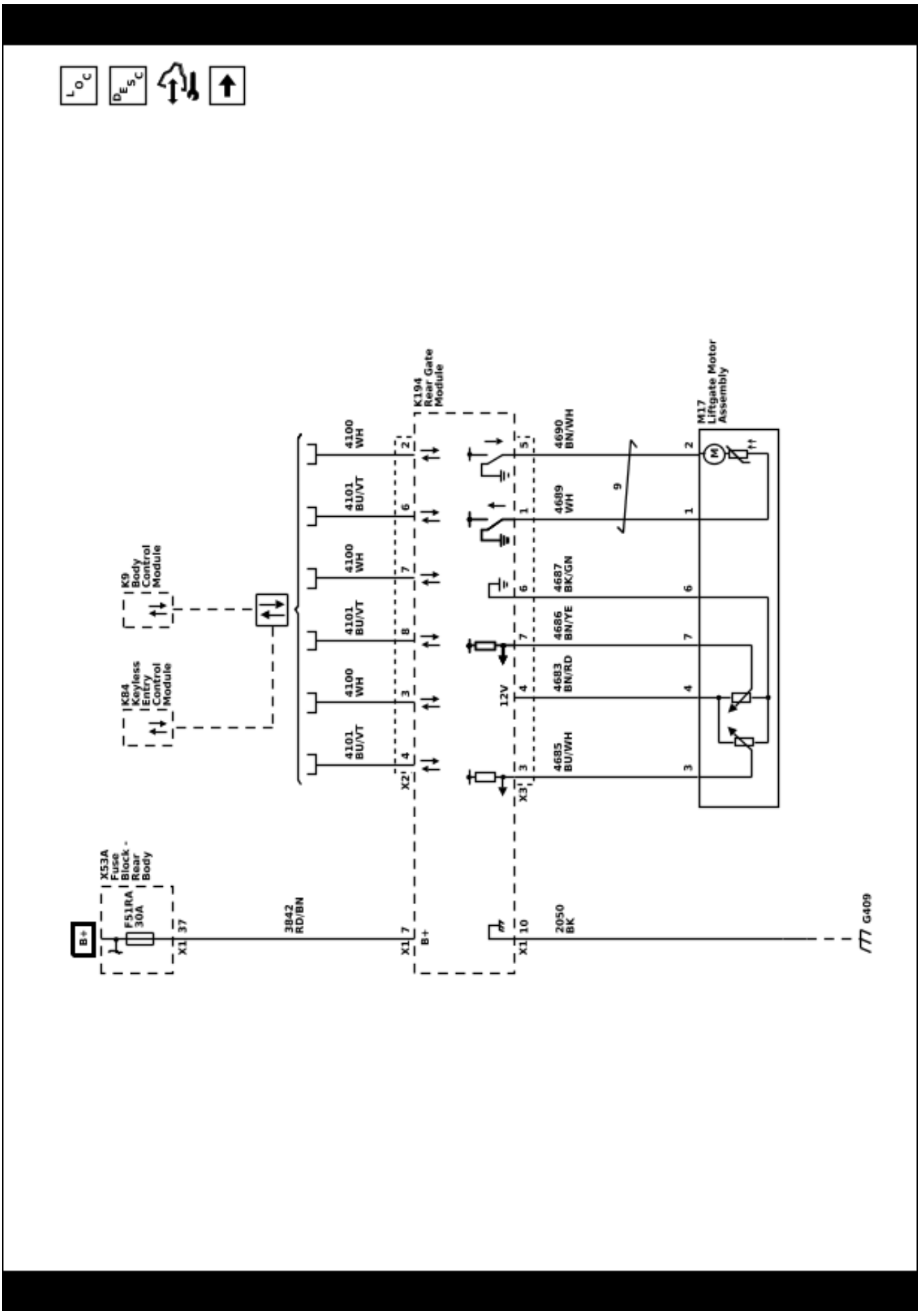
Release Systems Schematics (Fuel Tank Filler Door Lock Actuator (N08))



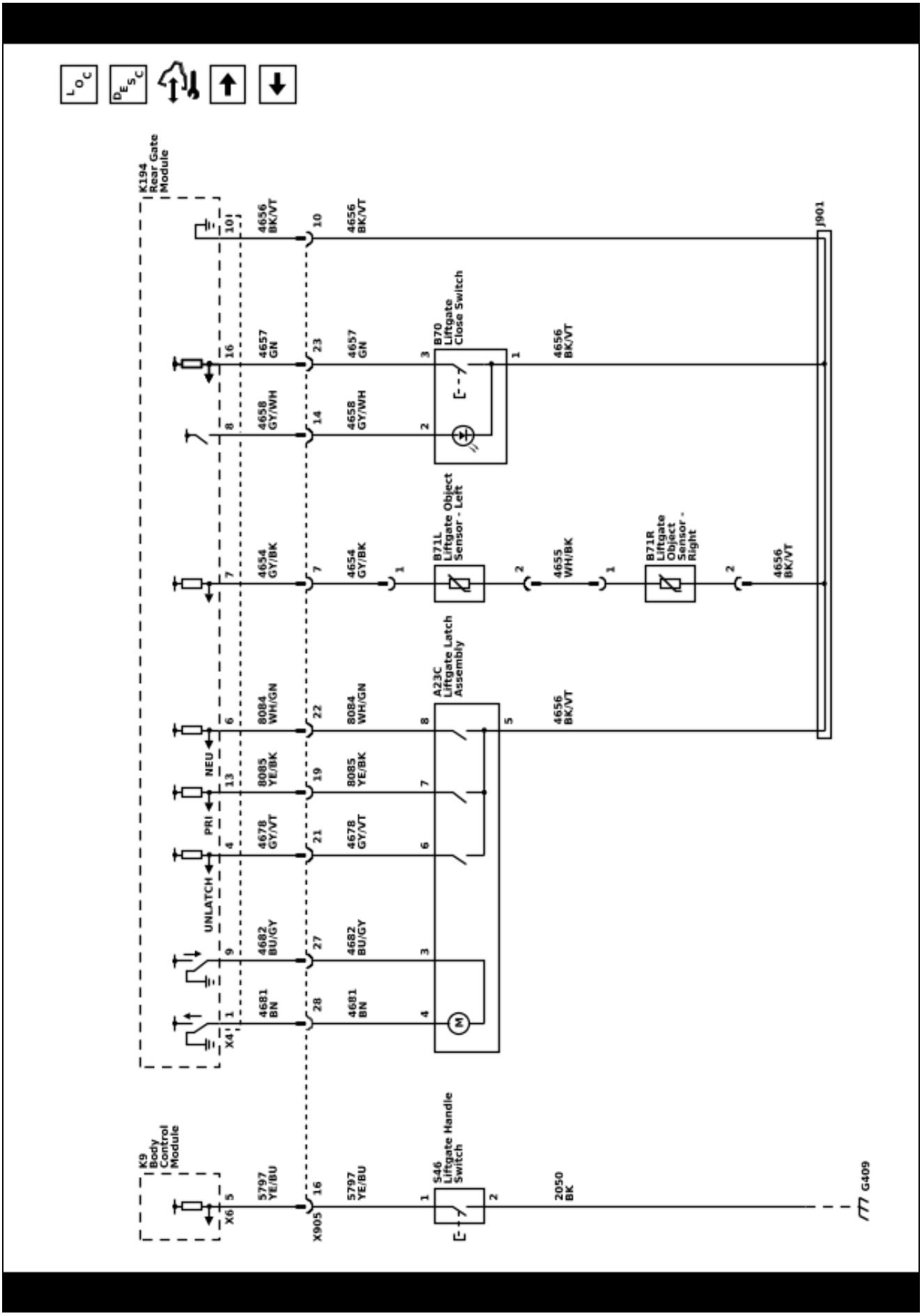
Hood Latch Schematics (Engine Compartment Cover Switch)



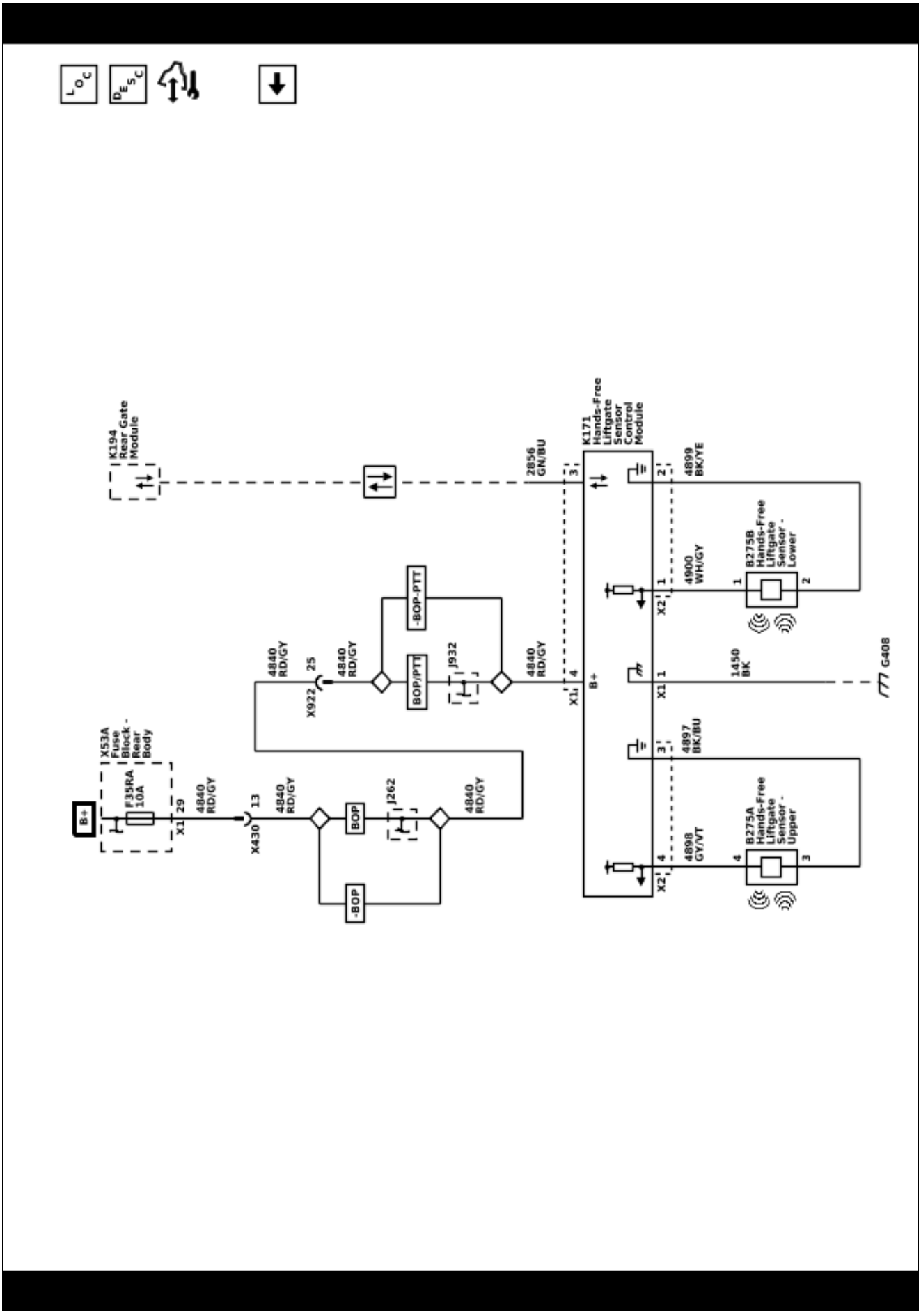
Liftgate Schematics (Rear Gate Module Power, Ground, Serial Data, and Liftgate Motor (TC2))



Liftgate Schematics (Liftgate Latch, Switches, and Side Sensors (TC2))



Liftgate Schematics (Rear Closure Hands Free Module (TC2))



Description and Operation

Door Ajar Indicator Description and Operation

Door Ajar Indicator System Components

The door ajar indicator system consists of the following components:

- Body control module (BCM)
- Instrument cluster
- Driver door latch
- Passenger door latch
- Left rear door latch
- Right rear door latch
- Driver window motor
- Passenger window motor
- Left rear side door window switch
- Right rear side door window switch

Driver and Passenger Door Ajar

The window motor supplies a 12 V signal to the door ajar switch within the door latch, when a door is open the door ajar switch closes pulling the 12 V signal low. When the window motor detects the drop in the 12 V signal circuit, it will then communicate this status to the BCM via local interconnect network (LIN) bus. The BCM communicates with the instrument cluster via serial data message. The instrument cluster, upon receipt of this serial data message, will illuminate the door ajar indicator and also send a serial data message to the radio to activate the door ajar audible warning when the vehicle speed is greater then 8 km/h (5 mph).

Rear Doors Ajar

The rear side door window switches each provide a 12 V signal to their respective door ajar switch signal circuits. The rear door ajar switches are integral to each rear door latch assembly. When a rear door is opened, the normally open door ajar switch closes. With the door ajar switch closed, ground is provided to the door ajar switch signal circuit and the voltage within the signal circuit drops. The rear side door window switches will detect the voltage drop and will send a serial data message to the body control module which will then send a message to the instrument cluster to command the door ajar message

Fuel Fill Door Description and Operation

Fuel Door Release System Components

- Body control module (BCM)
- Fuel door release actuator

The locking and unlocking of the fuel door is a function of the power door lock system. The fuel door release actuator is supplied by the driver door lock control circuit and the fuel door unlock control circuit. The BCM, upon receipt of a lock switch lock or unlock signal, will supply battery voltage to the door lock actuator lock or fuel door unlock control circuits. Since the opposite side of the lock actuator is connected to ground through the other lock actuator control circuit, the doors and fuel filler door will then lock or unlock as commanded.

Hood Ajar Indicator Description and Operation

Hood Ajar Switch

The body control module (BCM) applies B+ to the hood ajar signal circuit and monitors the voltage to determine the position of the hood. When the hood is open, the switch is open and voltage remains high. When the hood is closed, the switch is closed and the voltage is pulled low.

The BCM uses the hood ajar switch as a content theft deterrent alarm trigger.

Hood Ajar Indicator/Message

When the hood is ajar, a message is displayed on the DIC or the hood ajar indicator will be illuminated.

Liftgate Ajar Indicator Description and Operation

Rear Access Open

Manual Liftgate

The driver information center will display the Rear Access Open message when the body control module (BCM) detects that the liftgate is open. The instrument panel cluster receives a serial data message from the BCM requesting illumination. If the vehicle is in the forward or reverse gear position, the BCM activates an audible warning.

Power Liftgate

The rear gate module detects the rear gate latch unlatch switch is closed to ground indicating the liftgate is open. The driver information center receives a serial data message from the rear gate module indicating the liftgate ajar status and the driver information center display the Rear Access Open message

Rear Liftglass Open

Liftgate Window

The lighting control module will monitor the voltage on the liftglass ajar signal circuit, when the ajar switch is open, the voltage level within the signal circuit will be greater than 7 volts indicating the liftgate window is in the closed position. When the liftgate window is open or ajar, the ajar switch will close providing a ground path for the signal circuit, the lighting control module will detect the drop in voltage and will send a serial data message to the driver information center to display the Rear Liftglass Open message.

Liftgate Description and Operation

System Description

The power liftgate system consists of the following components:

- Rear gate module
- Body control module
- Liftgate position sensor (part of the power assist actuator)
- Interior liftgate rotary switch
- Exterior liftgate release switch
- Liftgate close switch
- Liftgate latch
- Liftgate power assist actuator
- Left and right liftgate object sensors
- Rear closure hands free module
- Upper and lower rear closure hands free sensors
- Keyless entry transmitter

Operation

The power liftgate operations will be suspended if the vehicle not in park or if the vehicle speed is above 3KPH

The tail lamps will then flash 3X to indicate that the body control module has received a request to power open or power close

The power liftgate can be commanded to power open and power close by the following methods:

- An open or close command from the interior liftgate rotary switch
- An open command from the exterior liftgate release switch
- A close command from the liftgate close switch
- An open or close request by a signal from the keyless entry transmitter to the remote control door lock receiver (¾ or the MAX modes only)
- An open or closed commanded by a kicking motion of a foot and lower leg under the rear fascia – Sensor location may vary depending upon make and model, refer to owner's manual for the location of the sensors. (configured under personalization)
- The kick projected logo light shows where to perform the kicking motion (Diagnosed in the exterior lighting section)

The rear gate module will respond to a request by commanding the liftgate latch to release the liftgate and activate the liftgate motor in the liftgate power assist actuator and raise the liftgate to the open position or to lower and cinch the liftgate closed.

Power Liftgate System

The rear gate module continuously monitors power liftgate operation and calculates its location and direction of travel from an liftgate position sensor (part of the power assist actuator). One input returns the position of the liftgate relative to the x-axis and y-axis. The rear gate module then uses these 2 inputs together to calculate its angle relative to the liftgate. The interior liftgate rotary switch contains resistors which will incrementally drop the voltage level in the signal circuit as the switch rotated from the OFF position to the ¾ position or the MAX position, the front overhead console assembly will detect the change in voltage and will send a serial data message to the rear gate module which will monitor the x-axis and y-axis as the liftgate is in motion to stop the liftgate parallel to the vehicle roof if the rotary switch is in the ¾ setting or to open fully if the rotary switch is in the MAX setting.

The liftgate latch is a bi-directional motor and latch or unlatch operation is the result of the direction of the motor rotation. The rear gate module controls the liftgate latch through the control circuits by supplying power and ground in the appropriate polarity. The motor control circuits are monitored by the rear gate module prior to activation for a high or low condition and during motor operation for an insufficient current flow condition. The unlatch, primary, and neutral switches are part of the liftgate latch and are used by the rear gate module to determine the state of the latch during the process of latching or unlatching and will send the status of the latches to the body control module which is used to determine if the liftgate is closed or ajar. Each of the latch switch signal circuits are supplied battery voltage and monitored within the rear gate module. The latch switches share a common low reference circuit from the rear gate module and when the switch contacts close the signal circuit goes low and the rear gate module determines the switch to be active.

The exterior liftgate release switch circuit is supplied battery voltage by the body control module, when the switch is pressed the contacts close and the signal circuit goes low, the body control module will detect the voltage drop and will send a serial data message to the rear gate module requesting the rear gate open request (vehicle unlocked).

The liftgate close switch signal circuit is supplied battery voltage by the rear gate module. The switch shares a common low reference circuit from the rear gate module and when the switch is pressed the contacts close and the signal circuit goes low, the rear gate module will detect the voltage drop and will send a serial data message to the body control module requesting the rear gate close request.

For vehicles without the optional passive keyless entry, when the exterior liftgate release switch is pressed, the body control module will check the status of the vehicle door locks. If the vehicle doors are locked, the body control module will ignore the signal from the liftgate handle switch. If the vehicle doors are unlocked, the body control module will permit the liftgate to unlatch and power open when the exterior liftgate release switch is pressed.

For vehicles with the optional passive keyless entry system, the body control module monitors the proximity of the keyless entry transmitter. If the exterior liftgate release switch is pressed and the keyless entry transmitter is within range, the body control module will send a serial data message to the rear gate module and will permit the liftgate to unlatch and power open. If the doors are locked and the keyless entry transmitter is not within range, the body control module will ignore the signal from the exterior liftgate release switch and the liftgate will not power open.

Rear Closure Hands Free Sensor

The sensors are located behind the rear fascia (location may vary depending upon make and model, refer to owner's manual for the location of the sensors) and is designed to detect the motion of the operator's foot by way of a kicking motion. When the keyless entry transmitter is within 3 feet (1 meter) of the liftgate and the operator kicks his or her foot under the rear fascia, the sensors will detect the motion of the foot and the lower leg and if the procedure has been performed correctly the rear closure hands free module will send a serial data message to the body control module. The tail lamps will then flash 3x to indicate that the command has been received and the body control module and will allow the liftgate to perform the power open or power close function. The rear closure hands free functions can be modified within the Vehicle Personalization:

- Open and close with the kicking motion
- Open only with the kicking motion
- Hands free function disabled

Object Detection

The power liftgate system uses an object detection method which consists of liftgate side sensors fixed to both sides of the liftgate near the seal area. The liftgate side sensors consist of an internal fixed resistor and normally open switch contacts which when closed will bypass the resistor. The signal circuit is supplied 5 V through a resistor and monitored within the rear gate module, and during normal power liftgate operation the signal circuit should remain a fixed value. When an liftgate side sensor is presses one of the sensors the contacts close and the resistor is bypassed causing the signal circuit voltage at the module to go low. If the liftgate is being power closed at that time, the rear gate module will command the power liftgate to reverse direction. All power close liftgate operations will be suspended until the obstruction pressing on the liftgate side sensor is removed

The rear gate module continuously monitors power liftgate operation and calculates its location and direction of travel from an liftgate position sensor (part of the power assist actuator). One input returns the position of the liftgate relative to the x-axis and y-axis. The rear gate module then uses these 2 inputs together to calculate its position and motion, if the rear gate module detects a current spike and motion reduction in the liftgate position sensor during the power close operation, it will command the liftgate to reverse direction.

Manual Liftgate Operation

Note: The interior liftgate rotary switch must be in the ¾ position or the MAX position for the remote keyless entry transmitter (key fob) to command the liftgate, The OFF setting will disable the liftgate release of the remote keyless entry transmitter (key fob)

The operator has the option to disable the power liftgate operations by selecting the "OFF" position on the interior liftgate rotary switch. The releasing and cinching for the liftgate latch will function normally, however, the operator must use the exterior liftgate handle switch to activate the liftgate latch and manually pull the liftgate open and push the liftgate closed. All power liftgate operations will be suspended for as long as the liftgate rotary switch is in the "OFF" position.

Power Door Locks Description and Operation

Door Lock System Components

The power door lock system consists of the following components:

- Driver door lock switch
- Passenger door lock switch
- Left rear door lock switch
- Right rear door lock switch
- Driver front side door window control switch
- Passenger front side door window switch
- Driver front side door latch
- Passenger front side door latch
- Left rear side door latch
- Right rear side door latch
- Exterior door handle switches
- Body control module
- Lighting control module

Door Lock System Controls

The power door lock system can be controlled by any of the following:

- Power door lock switch activation
- Keyless entry lock or unlock command
- Delayed locking command
- Automatic door lock command

Door Lock and Unlock Operation

The driver or passenger front side door window control switch will monitor the voltage of their respective door lock switches, when the driver or passenger door lock switch is activated in the lock or unlock position the signal voltage will be pulled low, the corresponding front side door window control switch will detect the voltage drop in the signal circuit and will send a serial data message to the body control module requesting the door lock or unlock command.

The lighting control module will monitor the voltage of the left rear and right rear door lock switches, when the left rear or right rear door lock switch is activated in the lock or unlock position the signal voltage will be pulled low, the lighting control module will detect the voltage drop in the signal circuit and will send a serial data message to the body control module requesting the door lock or unlock command.

The body control module upon receipt of a lock or unlock request, will supply battery voltage to the door lock actuator lock or unlock control circuits. Since the opposite side of the lock actuator is connected to ground through the other lock actuator control circuit, the doors, and fuel filler door will then lock or unlock as commanded.

The following control circuits are used to operate the door lock actuators:

- Driver door unlock only
- Passenger and rear door unlock
- All door lock

This sequence and be modified through the personalization settings

Passive Door Lock/Unlock Operation

The exterior door handle switch signal circuits provide inputs to the body control module when the exterior door handle switches are activated. These inputs allow the body control module to detect a door lock or a door unlock request. The body control module provides a 7 V signal to each exterior door handle switch via the door handle switch signal circuits. When a door handle switch is pressed, the switch closes and the voltage signal within the signal circuit is pulled to ground. The body control module will detect the voltage drop and a low frequency antenna will transmit a challenge to the keyless entry transmitter. If the challenge is met, the keyless entry transmitter will respond, and the body control module will command the door(s) to be locked or unlocked

Rear Hatch/Gate Description and Operation

Liftgate/Liftgate Window Release Components

The liftgate release system consists of the following components:

- Body control module
- Lighting control module
- Rear gate module
- Liftgate latch assembly
- Liftgate unlatch switch
- Liftgate window unlatch switch
- Liftgate window latch assembly
- Liftgate window unlatch relay

Liftgate Latch Assembly

The liftgate uses a system similar to the passenger door locking system. The liftgate contains a liftgate door lock/unlock actuator the shares the same lock and unlock control circuits as the passenger doors. When the passenger doors and liftgate have been commanded to lock with a door lock switch or a keyless entry transmitter, the liftgate handle will become inoperative the same way the passenger door handles will become inoperative to prevent unauthorized access. Also the passenger doors must be commanded to unlock to unlock the liftgate.

Liftgate Window Latch Assembly

Liftgate Window Unlatch Switch

The lighting control module (TB4) or the rear gate module (TB5) monitors supplies a 12 V signal to the liftgate window unlatch switch so that when the switch is pressed, the voltage within the signal circuit is pulled low and in response, the lighting control module (TB4) or the rear gate module (TB5) will detect the voltage drop and send a serila data message to the body control module to command the liftgate window to release.

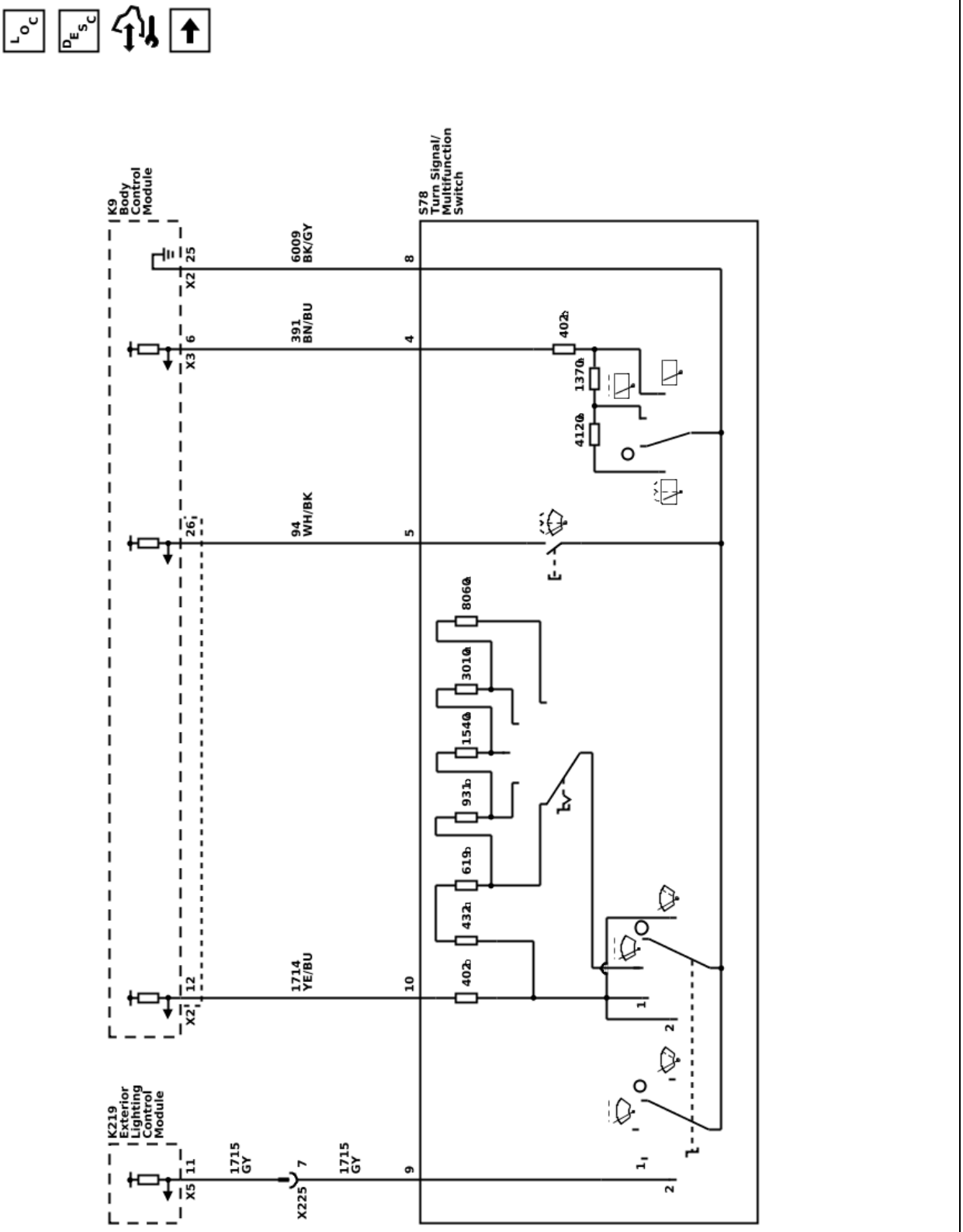
Liftgate Window Latch

When body control module receives a liftgate window release command from the liftgate window unlatch switch, the body control module applies voltage to the liftgate window unlatch relay control circuit, which energizes the coil side of the relay. The switch side of the liftgate window unlatch relay then momentarily closes, supplying a brief pulse of battery positive voltage to the liftgate window latch. The liftgate window latch is continuously grounded and when it receives the voltage pulse, it will become energized and the latch will activate releasing the liftgate window so that it may be manually raised to an open position.

Wipers and Washers

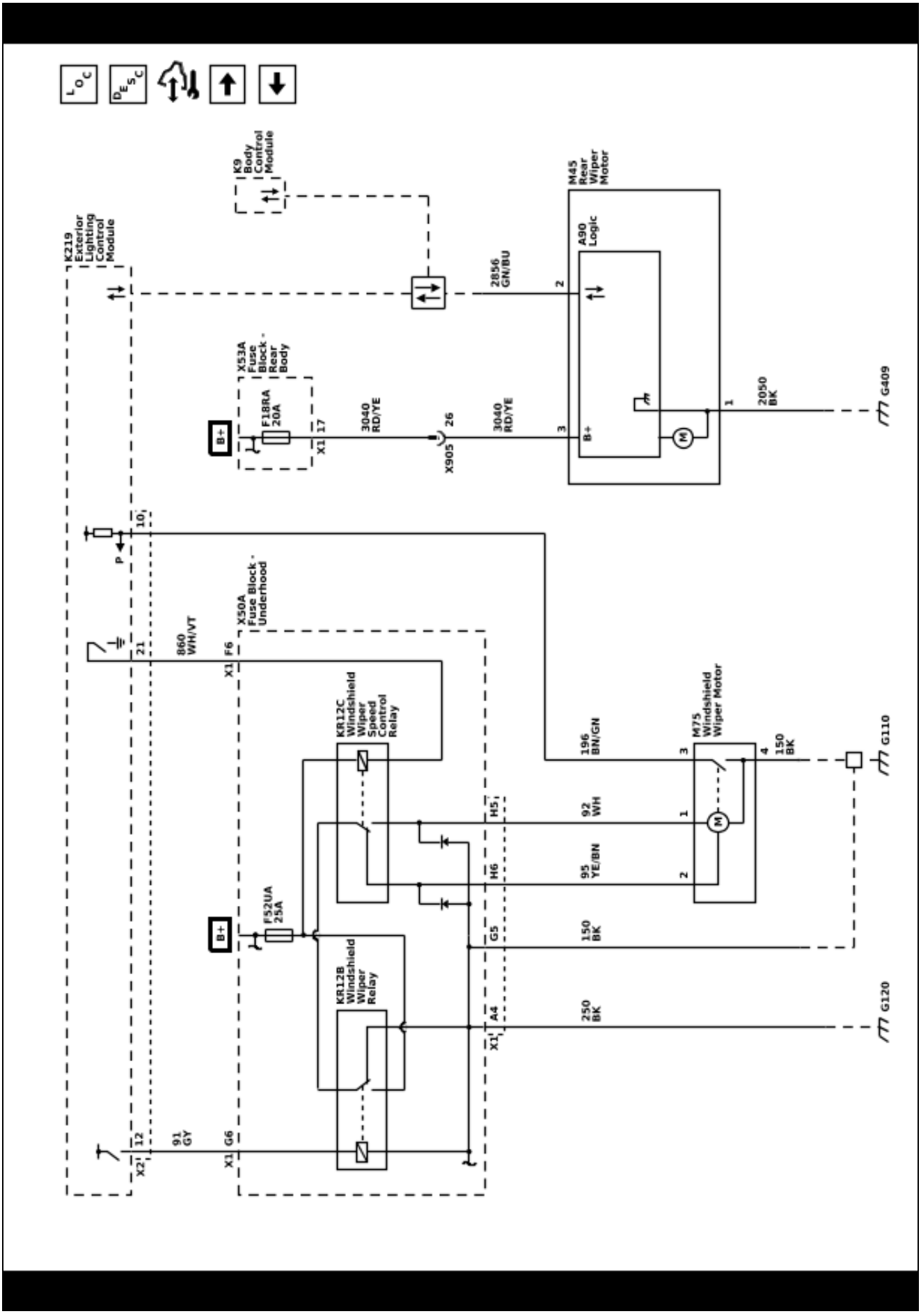
Schematic and Routing Diagrams

Wiper/Washer Schematics (Controls)



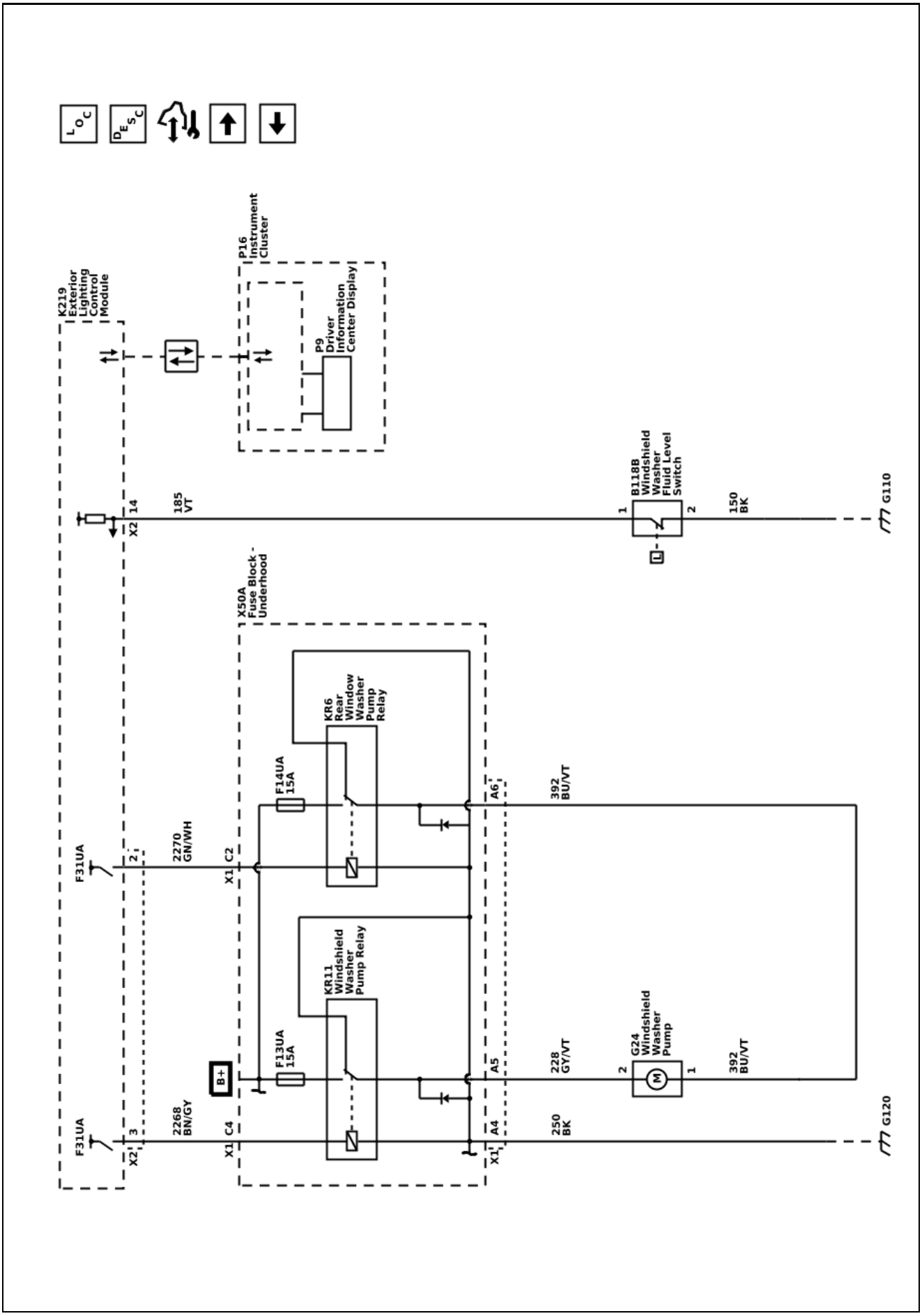
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Wiper/Washer Schematics (Wiper Motors)

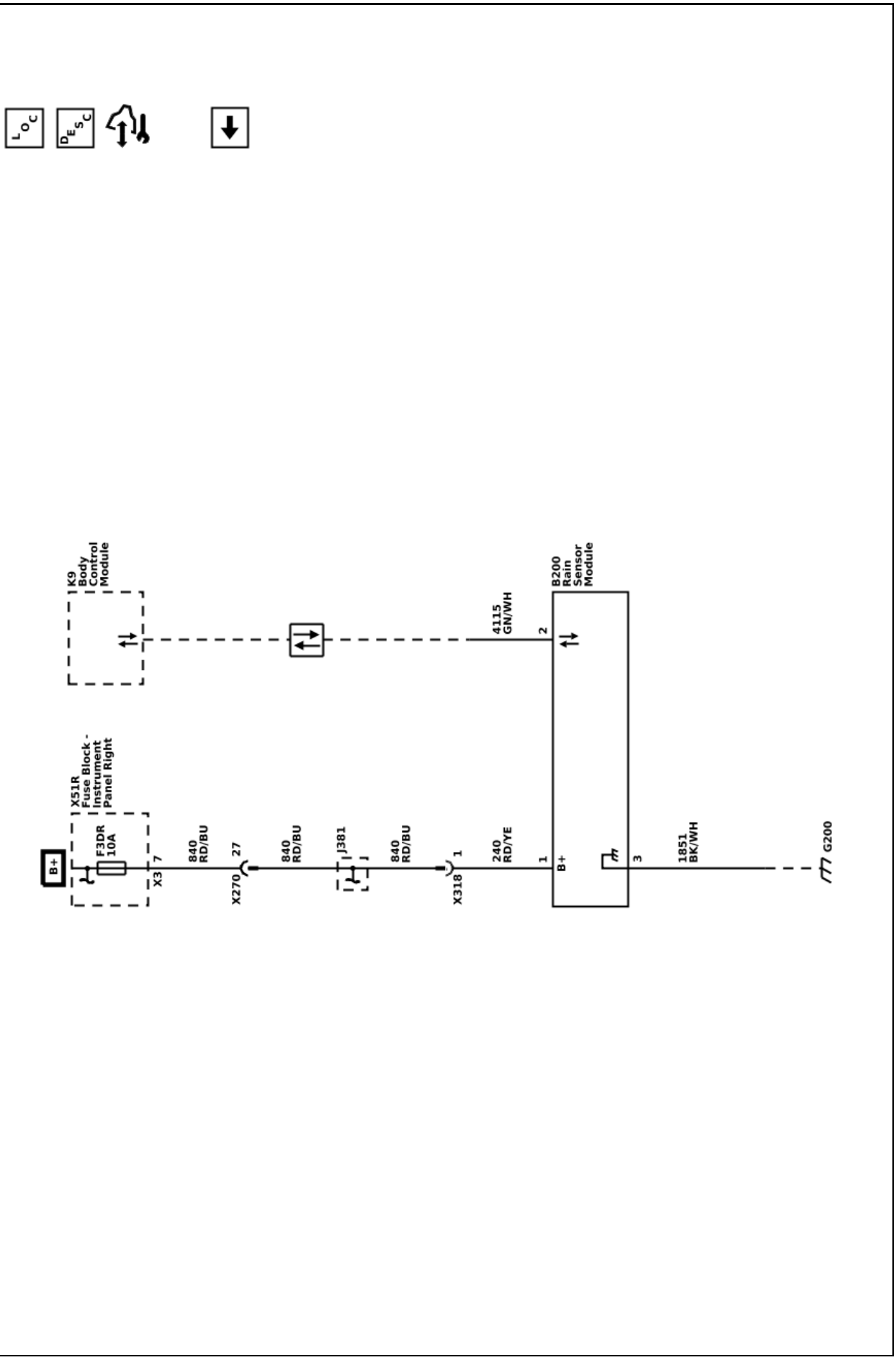


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Wiper/Washer Schematics (Washer Pump)



Wiper/Washer Schematics (Windshield Outside Moisture/Ambient Light and Humidity Sensor)



Description and Operation

Wiper/Washer System Description and Operation

Front Windshield Wiper Operation

The windshield wipers system allows the driver to clear the vehicle's windshield using a discrete switch or through an automatic rain sensing system. The windshield wiper system functions through a primary control, but also allows redundant high speed-only operation in the event of a system fault. The wiper systems uses the S82 Windshield Wiper/Washer Switch as the primary means of driver control, along with the B117A Windshield Outside Moisture/Ambient Light and Humidity Sensor to modulate intermittent wiper operation. The S82 Windshield Wiper/Washer Switch is a discrete input to the K9 Body Control Module. The K9 Body Control Module communicates with the K219 Lighting Control Module over CAN, and with the B117A Windshield Outside Moisture/Ambient Light and Humidity Sensor over LIN, to control wiper activation.

Low Speed Wiper Operation

With the S82 Windshield Wiper/Washer Switch in the low speed position, the discrete signal circuit to the K9 Body Control Module is pulled down through two resistors in a resistor ladder to a low reference provided by the K9 Body Control Module. The K9 Body Control Module communicates with the K219 Lighting Control Module over CAN, requesting consistent low speed wiping operation. To initiate low speed operation, the K219 Lighting Control Module energizes the KR12B Windshield Wiper Relay. This allows battery voltage from the wiper fuse to be applied through the switched contacts of the KR12B Windshield Wiper Relay, through the normally closed contacts of the KR12C Windshield Wiper Speed Control Relay, to the windshield wiper low speed control circuit of the M75 Windshield Wiper Motor.

Intermittent Wiper Operation

With the S82 Windshield Wiper/Washer Switch in the intermittent position, the discrete signal circuit to the K9 Body Control Module is pulled down through a number of resistors within a resistor ladder to a low reference provided by the K9 Body Control Module. The number of resistors the signal travels through is dependent on the intermittent selection made on the S82 Windshield Wiper/Washer Switch. The K9 Body Control Module interprets this range of voltage pull-down as a request for intermittent wiper activation, with each pull-down voltage value equating an intermittent delay (sensitivity) level. If the rain sense is enabled the K9 Body Control Module communicates with the B117A Windshield Outside Moisture/Ambient Light and Humidity Sensor via LIN. The B117A Windshield Outside Moisture/Ambient Light and Humidity Sensor utilizes windshield optics to determine the amount of water on the windshield and will communicate this info to the K9 Body Control Module, which will vary wiping cadence based on the intermittent sensitivity selection on the S82 Windshield Wiper/Washer Switch and the amount of water on the windshield. If the rain sense is disabled the K9 Body Control will vary the wiping cadence based on a preset amount of time determined by the intermittent delay selection on the S82 Windshield Wiper/Washer Switch. To initiate wiper operation, the K219 Lighting Control Module energizes the KR12B Windshield Wiper Relay. This allows battery voltage from the wiper fuse to be applied through the switched contacts of the KR12B Windshield Wiper Relay, through the normally closed contacts of the KR12C Windshield Wiper Speed Control Relay, to the low speed control circuit of the M75 Windshield Wiper Motor.

High Speed Wiper Operation

With the S82 Windshield Wiper/Washer Switch in the high speed position, the discrete signal circuit to the K9 Body Control Module is pulled down through two resistors in a resistor ladder to a low reference provided by the K9 Body Control Module. The K9 Body Control Module interprets this specific voltage pull-down as a request for wiper activation. In addition to this pull-down signal, a second switch in the S82 Windshield Wiper/Washer Switch is also pulled down to low reference. This signal is a discrete input to the K219 Lighting Control Module. The K219 Lighting Control Module requests wiping operation. To initiate high speed operation, the K219 Lighting Control Module energizes the KR12B Windshield Wiper Relay and grounds the KR12C Windshield Wiper Speed Control Relay. This allows battery voltage from the wiper fuse to be applied through the switched contacts of the KR12B Windshield Wiper Relay, through the switched contacts of the KR12C Windshield Wiper Speed Control Relay, to the windshield wiper motor high speed control circuit of the M75 Windshield Wiper Motor.

Mist (Single Wipe) Operation

The mist (single wipe) position is a momentary switch position that will return the S82 Windshield Wiper/Washer Switch to the off position as soon as the switch is released. With the S82 Windshield Wiper/Washer Switch in the mist (single wipe) position, the discrete signal circuit to the K9 Body Control Module is pulled down through two resistors in a resistor ladder to a low reference provided by the K9 Body Control Module. The K9 Body Control Module interprets this specific voltage pull-down as a request for wiper activation. The K9 Body Control Module communicates with the K219 Lighting Control Module via CAN, requesting consistent low speed wiping operation as long as the S82 Windshield Wiper/Washer Switch is held in the mist (single wipe) position. If the mist (single wipe) position is only briefly selected, the K9 Body Control Module will request only a single wipe.

Wiper Park Operation

With the S82 Windshield Wiper/Washer Switch in the off position, the discrete signal circuit to the K9 Body Control Module is pulled down through one resistor in a resistor ladder to a low reference provided by the K9 Body Control Module. The K9 Body Control Module interprets this specific voltage pull-down as a request to stop wiper activation. The K9 Body Control Module communicates with the K219 Lighting Control Module via CAN, requesting wiper operation stop. At this time, the K219 Lighting Control Module will deactivate the KR12B Windshield Wiper Relay and KR12C Windshield Wiper Speed Control Relay. The relay contacts will

switch back to their normally closed position and will apply ground to the wiper motor power inputs through the normally closed contacts of the wiper relays. This deactivates and dynamically brakes the wiper motor in the park position. When the wiper switch is turned to the OFF position while the wiper motor is somewhere in mid-cycle, the K219 Lighting Control Module will continue to operate the motor until the wipers reach the park position. If the ignition is turned OFF while the wipers are in mid-cycle, the wipers will stop immediately, regardless of position. The K219 Lighting Control Module will park the wipers next time the ignition is turned ON.

The windshield wiper system consists of the following electrical components:

- S82 Windshield Wiper/Washer Switch
- K9 Body Control Module
- K219 Lighting Control Module
- KR12B Windshield Wiper Relay
- KR12C Windshield Wiper Speed Control Relay
- B117A Windshield Outside Moisture/Ambient Light and Humidity Sensor
- M75 Windshield Wiper Motor

Front Windshield Wiper Components

S82 Windshield Wiper/Washer Switch

The S82 Windshield Wiper/Washer Switch is the primary input to the K9 Body Control Module for the driver to control windshield wiper operation. The S82 Windshield Wiper/Washer Switch also provides discrete input to the K219 Exterior Lighting Control Module and M75 Windshield Wiper Motor during high speed wiper operation.

The S82 Windshield Wiper/Washer Switch contains three individual internal switch. One switch changes between mist (single wipe), off, intermittent, low speed, and high speed selection. The second switch changes with differing intermittent sensitivity selection. The third switch is only active when high speed wiper operation is selected. A resistor ladder is also used to determine switch selection and intermittent sensitivity selection. The high speed switch does not utilize the resistor ladder.

The K9 Body Control Module provides the S82 Windshield Wiper/Washer Switch with ground through a single low reference circuit and monitors the switch position through a single signal circuit. Voltage is applied by the K9 Body Control Module to this signal circuit and voltage drop is monitored to determine switch selection. This voltage drop will vary depending on the number of resistors in the resistor ladder, which changes depending on switch position. In the off position, current flows through a single resistor. In the mist (single wipe), low speed, and high speed position, current flows through two resistors. In the intermittent position, current flows through three or more resistors, depending on the intermittent sensitivity selected.

The S82 Windshield Wiper/Washer Switch provides a discrete switch input to the K219 Lighting Control Module during high speed wiper operation. Voltage is applied by the K219 Lighting Control Module to this signal circuit and voltage drop is monitored to determine switch selection. When high speed operation is selected, the signal circuit is pulled to ground (low reference).

K9 Body Control Module

The K9 Body Control Module will send a CAN message to the K219 Lighting Control Module to request wiper operation. The K9 Body Control Module responds to input requests from the S82 Windshield Wiper/Washer Switch. The K9 Body Control Module provides a constant ground for the S82 Windshield Wiper/Washer Switch and monitors a signal circuit to determine the requested windshield wiper position.

The K9 Body Control Module communicates with the B117A Windshield Outside Moisture/Ambient Light and Humidity Sensor via LIN. Messages are received from the B117A Windshield Outside Moisture/Ambient Light and Humidity Sensor to indicate the amount of water on the windshield.

K219 Lighting Control Module

The K219 Lighting Control Module controls the wiper motor via two PCB relays (KR12B Windshield Wiper Relay and KR12C Windshield Wiper Speed Control Relay). The K219 Lighting Control Module receives a message from K9 Body Control Module over CAN to determine what type of wiper operation is requested.

KR12B Windshield Wiper Relay

The KR12B Windshield Wiper Relay supplies B+ to the M75 Windshield Wiper Motor and is controlled by the K219 Lighting Control Module. The coil side of the relay receives a constant chassis ground and the switch side receives a constant B+. When wiper operation is requested, the K219 Lighting Control Module will provide voltage to the coil side of the relay. This will energize the relay, closing the high current contact, and supply B+ to the M75 Windshield Wiper Motor through the KR12C Windshield Wiper Speed Control Relay, enabling wiper operation.

KR12C Windshield Wiper Speed Control Relay

The KR12C Windshield Wiper Speed Control Relay controls B+ to the M75 Windshield Wiper Motor and is controlled by the K219 Lighting Control Module. The coil side of the relay receives a ground controlled by the K219 Lighting Control Module. The switch side of the relay receives B+ through the KR12B Windshield Wiper Relay. When high speed wiper operation is requested, the K219 Lighting Control Module will provide ground to the coil side of the relay. This will energize the relay, closing the high current contact, and supply the B+ to the M75 Windshield Wiper Motor high speed control, enabling high speed wiper operation.

B117A Windshield Outside Moisture/Ambient Light and Humidity Sensor

The B117A Windshield Outside Moisture/Ambient Light and Humidity Sensor utilizes an internal infrared LED and an optic sensor to determine the amount of water on the windshield. The infrared LED bounces infrared light against the inside of the windshield. The optic sensor measures the amount of light returned after bouncing off the windshield. With a dry windshield, all light bounced off the windshield is returned to the optic sensor. As water accumulates on the windshield, the light input to the optic sensor is diffused and reduced.

The amount of light reduction corresponds directly to the amount of water on the windshield. The B117A Windshield Outside Moisture/Ambient Light and Humidity Sensor interprets the amount of light returned and communicates this info to the K9 Body Control Module, which will control intermittent wiper operation based on the sensitivity selection of the S82 Windshield Wiper/Washer Switch and the amount of water on the windshield.

M75 Windshield Wiper Motor

The M75 Windshield Wiper Motor receives a constant chassis ground. B+ is controlled by the KR12B Windshield Wiper Relay and KR12C Windshield Wiper Speed Control Relay being operated by the K219 Lighting Control Module.

The M75 Windshield Wiper Motor includes a DC motor and an internal position switch to indicate the wiper park position. When wiper operation is requested, the DC motor spins. The spinning motor is directed to a wiping motion through the windshield wiper transmission. When wiper operation is no longer required, the M75 Windshield Wiper Motor will continue spinning until the internal position switch indicates it is in the park position.

Rear Window Wiper Operation

The rear window wiper system allows the driver to clear the vehicle's rear window using a discrete switch. The rear wiper systems uses the S82 Windshield Wiper/Washer Switch as the means of control. The S82 Windshield Wiper/Washer Switch is a discrete input to the K9 Body Control Module. The K9 Body Control Module communicates with the M45 Rear Wiper Motor via LIN to control wiper activation.

Low Speed Wiper Operation

With the S82 Windshield Wiper/Washer Switch in the low speed position, the discrete signal circuit to the K9 Body Control Module is pulled down through one resistor in a resistor ladder to a low reference provided by the K9 Body Control Module. The K9 Body Control Module communicates with the M45 Rear Wiper Motor over LIN, requesting consistent low speed wiping operation.

Intermittent Wiper Operation

With the S82 Windshield Wiper/Washer Switch in the intermittent position, the discrete signal circuit to the K9 Body Control Module is pulled down through a two resistors in a resistor ladder to a low reference provided by the K9 Body Control Module. The K9 Body Control Module communicates with the M45 Rear Wiper Motor over LIN, requesting consistent intermittent wiping operation. The K9 Body Control will vary the wiping cadence based on a preset amount of time.

Mist (Single Wipe) Operation

The mist (single wipe) position is a momentary switch position that will return the S82 Windshield Wiper/Washer Switch to the off position as soon as the switch is released. With the S82 Windshield Wiper/Washer Switch in the mist (single wipe) position, the discrete signal circuit to the K9 Body Control Module is pulled down through three resistors in a resistor ladder to a low reference provided by the K9 Body Control Module. The K9 Body Control Module interprets this specific voltage pull-down as a request for wiper activation. The K9 Body Control Module communicates with the M45 Rear Wiper Motor via LIN, requesting consistent low speed wiping operation as long as the S82 Windshield Wiper/Washer Switch is held in the mist (single wipe) position. If the mist (single wipe) position is only briefly selected, the K9 Body Control Module will request only a single wipe.

Wiper Park Operation

With the S82 Windshield Wiper/Washer Switch in the off position, the discrete signal circuit to the K9 Body Control Module is opened. The K9 Body Control Module interprets this as a request to stop wiper activation. The K9 Body Control Module communicates with the M45 Rear Wiper Motor via LIN, requesting wiper operation stop. The M45 Rear Wiper Motor will park the rear window wiper in their lowest position. When the wiper switch is turned to the OFF position while the wiper motor is somewhere in mid-cycle, the K9 Body Control Module will continue to operate the motor until the wiper reaches the park position. If the ignition is turned OFF while the wipers are in mid-cycle, the wipers will stop immediately, regardless of position. The K9 Body Control Module will park the wipers next time the ignition is turned ON.

The rear window wiper system consists of the following electrical components:

- S82 Windshield Wiper/Washer Switch
- K9 Body Control Module
- M45 Rear Wiper Motor

Rear Window Wiper Components

S82 Windshield Wiper/Washer Switch

The S82 Windshield Wiper/Washer Switch is the primary input to the K9 Body Control Module for the driver to control rear window wiper operation.

The S82 Windshield Wiper/Washer Switch contains one individual internal switch used to request mist (single wipe) off, intermittent, and low speed selection.

The K9 Body Control Module provides the S82 Windshield Wiper/Washer Switch with ground through a single low reference circuit and monitors the switch position through a single signal circuit. Voltage is applied by the K9 Body Control Module to this signal circuit and voltage drop is monitored to determine switch selection. This voltage drop will vary depending on the number of resistors in the resistor ladder, which changes depending on switch position. In the off position, current doesn't flow. In the mist (single wipe) position current flows through three resistors, in the intermittent speed position current flows through two resistors, and in the low speed position, current flows through one resistor.

K9 Body Control Module

The K9 Body Control Module will send a LIN message to the M45 Rear Wiper Motor to request wiper operation. The K9 Body Control Module responds to input requests from the S82 Windshield Wiper/Washer Switch. The K9 Body Control Module provides a constant ground for the S82 Windshield Wiper/Washer Switch and monitors a signal circuit to determine the requested windshield wiper position.

M45 Rear Wiper Motor

The M45 Rear Wiper Motor receives a constant B+ and chassis ground.

The M45 Rear Wiper Motor includes a DC motor and an internal position switch to indicate the wiper park position. When wiper operation is requested, the DC motor spins. The spinning motor is directed to a wiping motion through the windshield wiper transmission. When wiper operation is no longer required, the M45 Rear Wiper Motor will continue spinning until the internal position switch indicates it is in the park position.

Windshield Washer Operation

The windshield washer system allows the driver to clean the vehicle's windshield or rear window using a discrete switch. The washer system uses the S82 Windshield Wiper/Washer Switch as the primary means of driver control. The S82 Windshield Wiper/Washer Switch is a discrete input to the K9 Body Control Module. The K9 Body Control Module communicates with the K219 Lighting Control Module over CAN to control G24 Windshield Washer Pump activation. The K9 Body Control Module also communicates with the K219 Lighting Control Module to control B+ to the M75 Windshield Wiper Motor during operation.

The windshield wiper system consists of the following electrical components:

- S82 Windshield Wiper/Washer Switch
- K9 Body Control Module
- K219 Lighting Control Module
- KR12B Windshield Wiper Relay
- KR6 Rear Window Washer Pump Relay
- KR11 Windshield Washer Pump Relay
- G24 Windshield Washer Pump
- M45 Rear Wiper Motor
- M75 Windshield Wiper Motor
- B118B Windshield Washer Fluid Level Switch

Windshield Washer Components

S82 Windshield Wiper/Washer Switch

The S82 Windshield Wiper/Washer Switch is the primary input to the K9 Body Control Module for the driver to control washer operation.

For front washers, the K9 Body Control Module provides the S82 Windshield Wiper/Washer Switch with ground through a single low reference circuit and monitors the two switch positions through two signal circuits. Voltage is applied by the K9 Body Control Module to the signal circuits and voltage drop is monitored to determine switch selection. For front washers, the S82 Windshield Wiper/Washer Switch contains an internal switch dedicated to front windshield washer operation. When the switch is closed, the signal circuit is pulled to ground, indicating front washer operation is requested. For rear washers, the switch is part of a resistor ladder. The voltage drop will vary depending on the number of resistors in the resistor ladder. When the switch is closed, the signal circuit is pulled to ground through three resistors, indicating rear washer operation is requested.

K9 Body Control Module

The K9 Body Control Module responds to input requests from the S82 Windshield Wiper/Washer Switch. The K9 Body Control Module provides a constant ground for the S82 Windshield Wiper/Washer Switch and monitors a signal circuit to determine the requested windshield wiper position.

When front washer operation is requested, the K9 Body Control Module will send a CAN message to the K219 Lighting Control Module to enable the G24 Windshield Washer Pump through the KR11 Windshield Washer Pump Relay, as well as supply B+ to the M75 Windshield Wiper Motor for low speed wiper operation.

When rear washer operation is requested, the K9 Body Control Module will send a CAN message to the K219 Lighting Control Module to enable the G24 Windshield Washer Pump through the KR6 Rear Window Washer Pump Relay, as well as send a signal through LIN to the M45 Rear Wiper Motor for low speed wiper operation.

K219 Lighting Control Module

The K219 Lighting Control Module controls B+ to the G24 Windshield Washer Pump. When washer operation is requested from a CAN message from the K9 Body Control Module, the K219 Lighting Control Module will apply voltage via a high side driver to the KR11 Windshield Washer Pump Relay or the KR6 Rear Window Washer Pump Relay. The K219 Lighting Control Module also controls B+ to the M75 Windshield Wiper Motor. When washer operation is requested, the K219 Lighting Control Module will apply voltage via a high side driver to the KR12B Windshield Wiper Relay.

The K219 Lighting Control Module also monitors the B118B Windshield Washer Fluid Level Switch through a discrete signal circuit.

KR12B Windshield Wiper Relay

The KR12B Windshield Wiper Relay supplies B+ to the M75 Windshield Wiper Motor and is controlled by the K219 Lighting Control Module. The coil side of the relay receives a constant chassis ground and the switch side receives a constant B+. When wiper operation is requested, the K219 Lighting Control Module will provide voltage to the coil side of the relay. This will energize the relay, closing the high current contact, and supply B+ to the M75 Windshield Wiper Motor through the KR12C Windshield Wiper Speed Control Relay, enabling wiper operation.

KR6 Rear Window Washer Pump Relay

The KR6 Rear Window Washer Pump Relay supplies B + to the G24 Windshield Washer Pump and is controlled by the K219 Lighting Control Module. The coil side of the relay receives a constant chassis ground and the switch side receives a constant B+. When washer operation is requested, the K219 Lighting Control Module will provide voltage to the coil side of the relay. This will energize the relay, closing the high current contact, and supply B+ to the G24 Windshield Washer Pump, enabling washer pump operation.

KR11 Windshield Washer Pump Relay

The KR11 Windshield Washer Pump Relay supplies B+ to the G24 Windshield Washer Pump and is controlled by the K219 Lighting Control Module. The coil side of the relay receives a constant chassis ground and the switch side receives a constant B+. When wiper operation is requested, the K219 Lighting Control Module will provide voltage to the coil side of the relay. This will energize the relay, closing the high current contact, and supply B+ to the G24 Windshield Washer Pump, enabling washer pump operation.

G24 Windshield Washer Pump

The G24 Windshield Washer Pump is a reversible motor that receives a ground through the non activated relay. B+ is controlled by the KR11 Windshield Washer Pump Relay for front washer operation, or the KR6 Rear Window Washer Pump Relay for rear washer operation. With voltage applied, a DC motor spins, connecting and pressurizing washer fluid from the washer fluid reservoir. The pressurized washer fluid is deposited on the windshield or rear window through a series of lines and nozzles.

M45 Rear Window Wiper Motor

The M45 Rear Wiper Motor communicates with the K9 Body Control Module via LIN and responds to requests to turn the rear wipers on and off. The M45 Rear Wiper Motor receives a constant B+ and chassis ground. In operation, the M45 Rear Wiper Motor monitors LIN messages to determine when washer operation is requested. The M45 Rear Wiper Motor will wipe at low speed when washer operation is requested.

The M45 Rear Wiper Motor includes a DC motor and an internal position switch to indicate the wiper park position. When washer operation is requested, the DC motor spins. When wiper operation is no longer required, the M45 Rear Wiper Motor will continue spinning until the internal position switch indicates it is in the park position.

M75 Windshield Wiper Motor

The M75 Windshield Wiper Motor receives a constant chassis ground. B+ is controlled by the KR12B Windshield Wiper Relay and KR12C Windshield Wiper Speed Control Relay being operated by the K219 Lighting Control Module. The M75 Windshield Wiper Motor will wiper at low speed when washer operation is requested.

The M75 Windshield Wiper Motor includes a DC motor and an internal position switch to indicate the wiper park position. When wiper operation is requested, the DC motor spins. The spinning motor is directed to a wiping motion through the windshield wiper transmission. When wiper operation is no longer required, the M75 Windshield Wiper Motor will continue spinning until the internal position switch indicates it is in the park position.

B118B Windshield Washer Fluid Level Switch

The B118B Windshield Washer Fluid Level Switch receives a constant chassis ground. A signal circuit is monitored by the K219 Lighting Control Module. The K219 Lighting Control Module applies voltage to the signal circuit. When the B118B Windshield Washer Fluid Level Switch is closed, voltage on the signal circuit is pulled to ground, indicating fluid in the washer fluid reservoir.

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Section 3

Driver Information and Entertainment

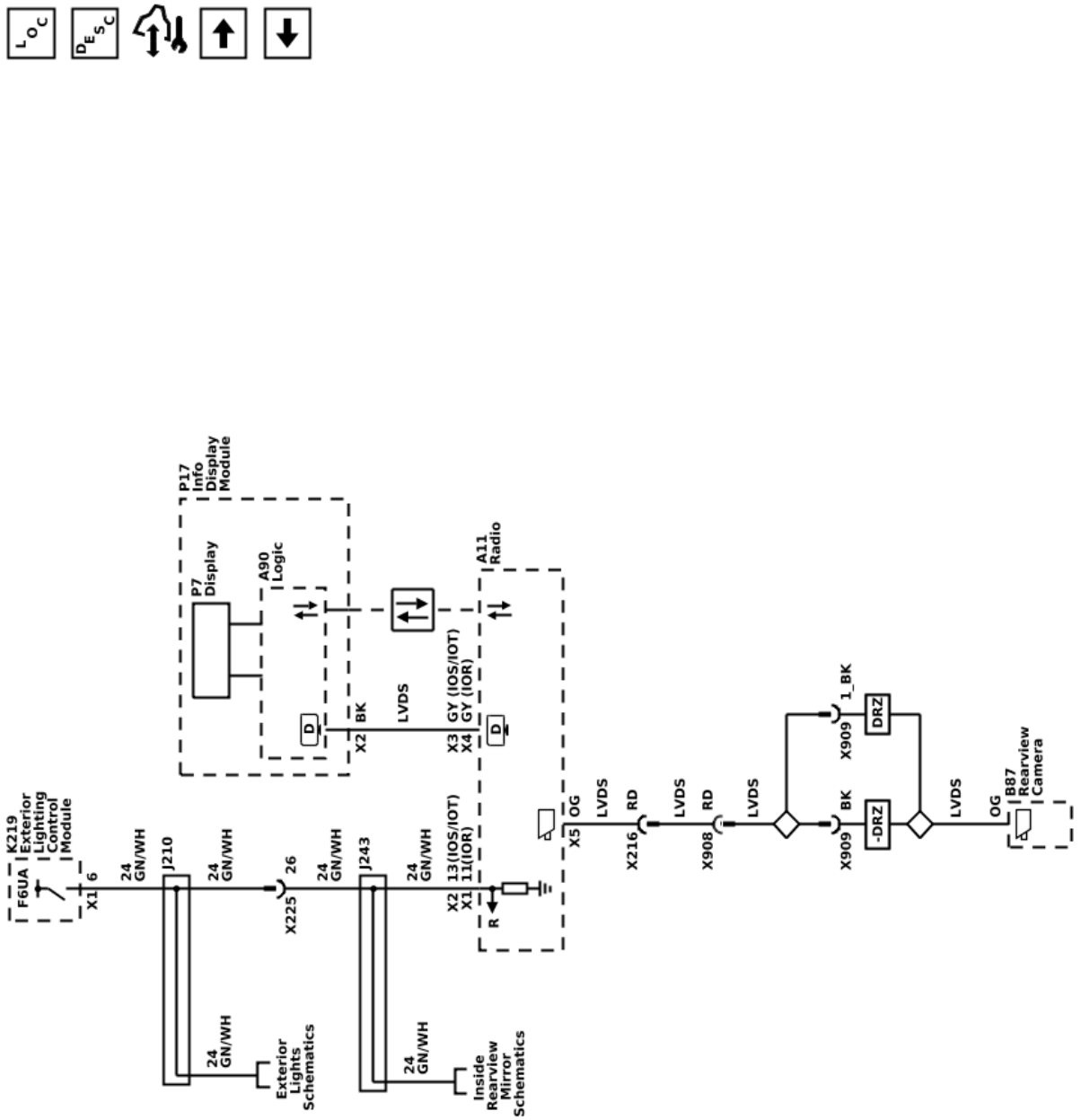
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Image Display Cameras

Schematic and Routing Diagrams

Image Display Camera Schematics (Rearview Driver Information Camera (UVB))



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Image Display Camera Schematics (Inside Rearview Mirror Camera (DRZ))

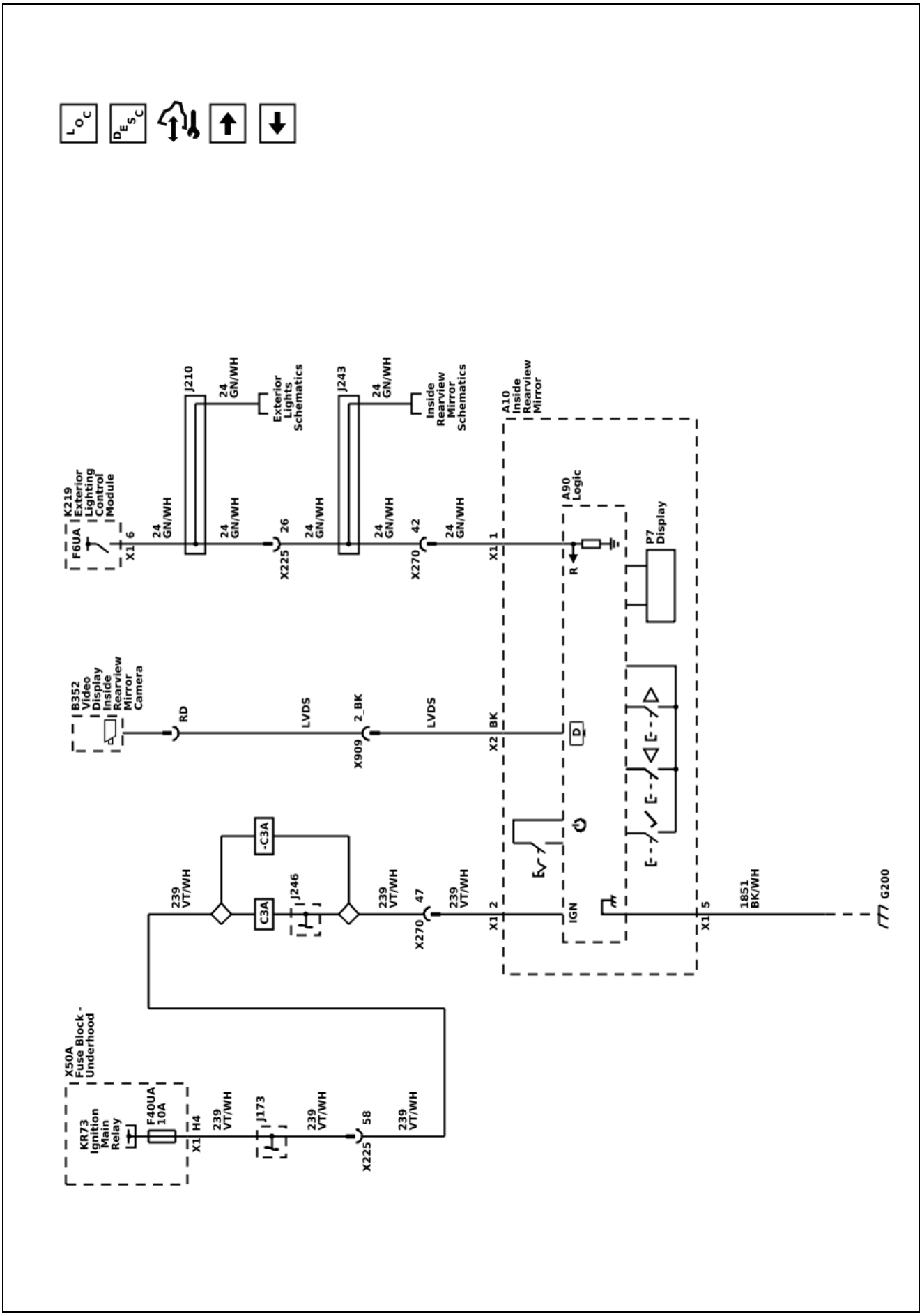


Image Display Camera Schematics (360 Degree Vision - Module Power, Ground, Serial Data, and Controls (UV2))

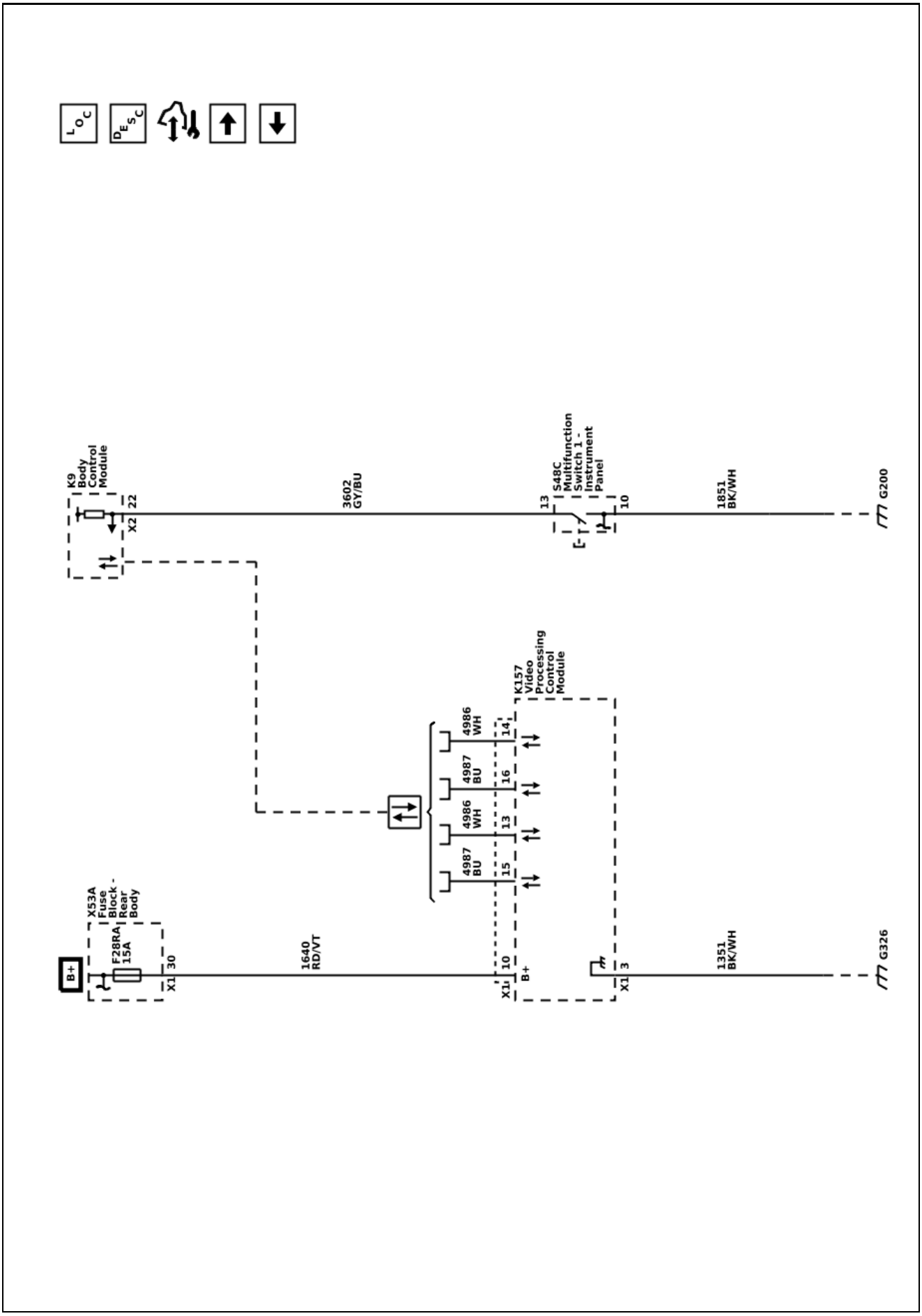
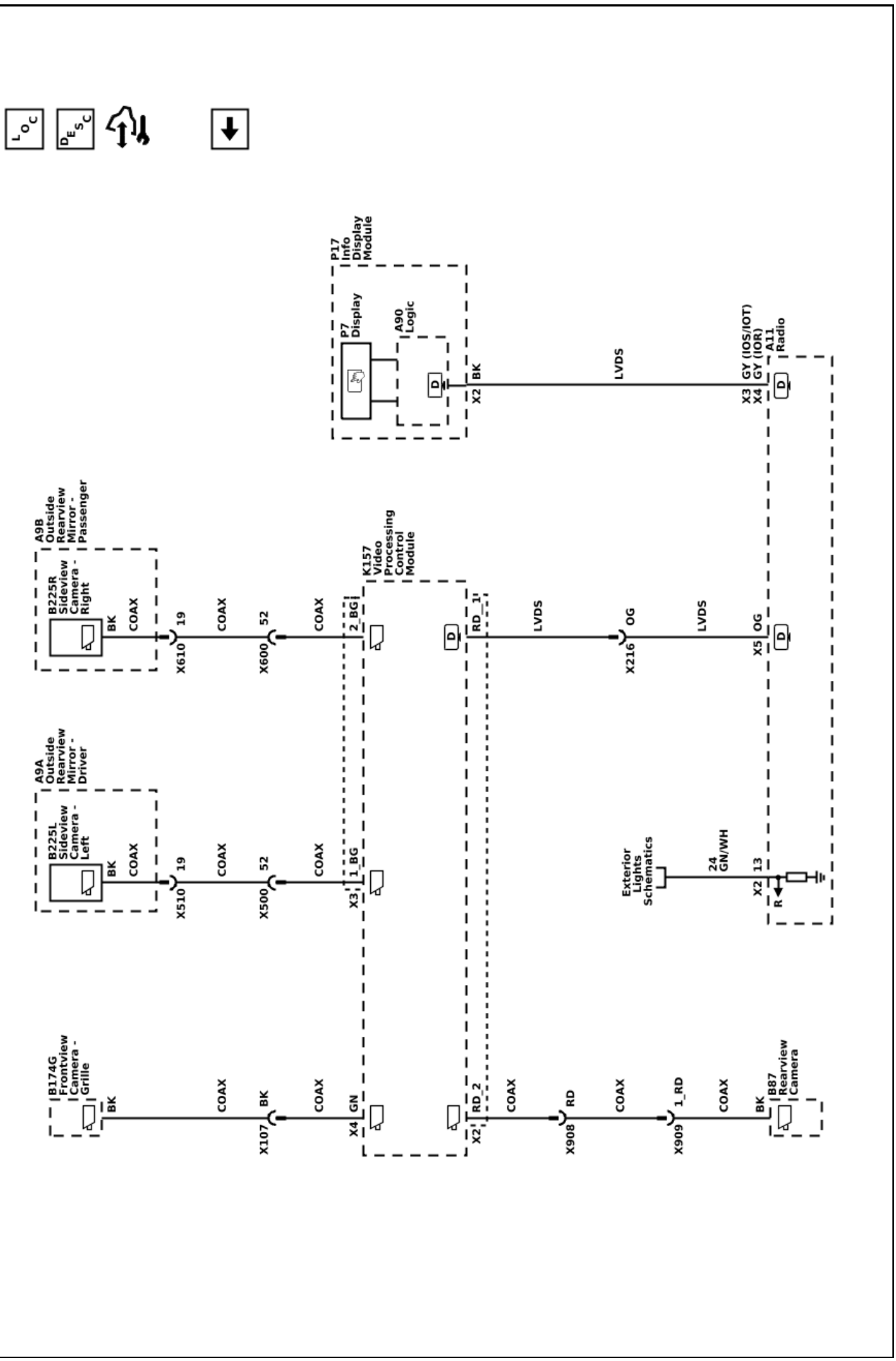


Image Display Camera Schematics (360 Degree Vision - Cameras and Display (UV2))



Description and Operation

Rearview Camera Full Display Mirror Description and Operation

If equipped, full display mirror provides a wider field of view than normally seen from the inside rearview mirror to assist when driving and changing lanes. When the tab under the inside rearview mirror is pulled rearward, a view of the area behind the vehicle displays on the mirror. The inside rearview camera full display mirror is connected to the outside rearview camera via a shielded coaxial cable.

When the tab under the inside rearview mirror is pulled rearward, a view of the area behind the vehicle displays on the mirror.

Adjust the rearview mirror for a clear view of the area behind the vehicle before turning on full display mirror. Use the three buttons on the bottom of the mirror to adjust the brightness, zoom, and tilt of the display. Make sure the light sensor is not covered when adjusting the brightness.

The inside rearview camera full display mirror may not work properly or display a clear image if:.

- It is dark.
- The sun or the beam of headlamps are shining directly into the camera lens.
- Ice, snow, mud, or anything else builds up on the camera lens. Clean the lens, rinse it with water, and wipe it with a soft cloth.

When the mirror detects that the camera is not sending a valid video signal, it “blue screens” with a “no video” decal for 3 seconds, then reverts back to the mirror.

Rear Vision Camera Description and Operation

Rear Vision Camera System Operation

The rear vision camera system consists of a video camera located at the rear of the vehicle and the Rado.

When the transmission is placed into REVERSE, a signal is sent to the Radio indicating that camera operation is requested. The rearview camera sends video information to the radio through a coax cable. The coax cable also provides power from the Radio to the rearview camera.

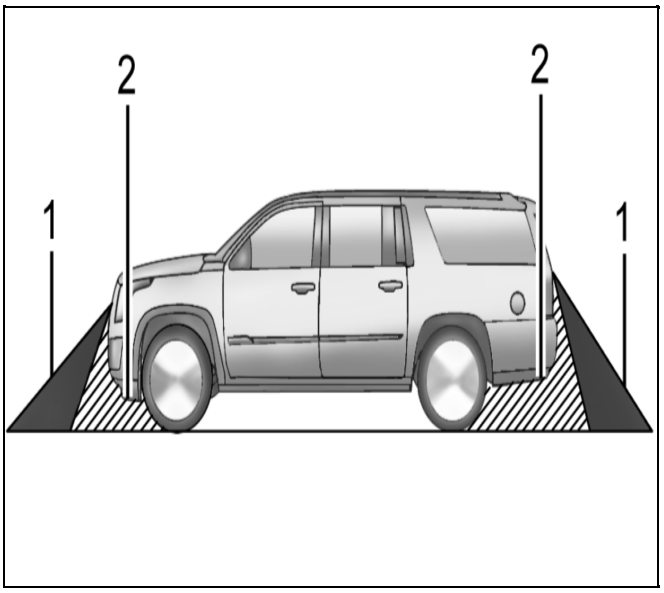
The following conditions may cause a degraded rear vision camera image:

- Ice, snow, or mud has built up on the rear vision camera
- Dark conditions
- Extreme light conditions, such as glare from the sun or the headlights of another vehicle
- Damage to the rear of the vehicle
- Extreme high temperatures or extreme temperature changes

If a malfunction is detected in the system, Service Rear Vision Camera may be displayed on the Info Display Module as an indicator to the customer that a problem exists that requires service.

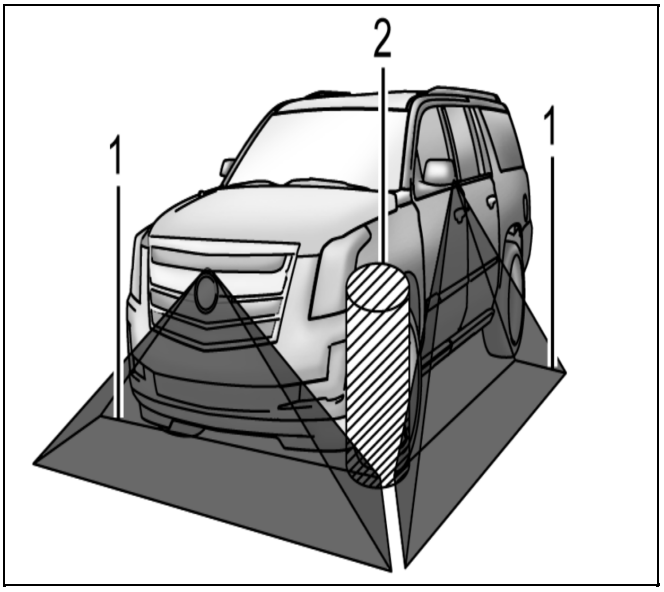
Surround Vision Camera Description and Operation

Warning: The Surround Vision cameras have blind spots and will not display all objects near the corners of the vehicle. Folding outside mirrors that are out of position may not display surround view correctly. Always check around the vehicle when parking or backing.



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1. View Displayed by the Surround Vision Camera
2. Area Not Shown



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1. View Displayed by the Surround Vision Camera
2. Area Not Shown

The surround vision camera system consists of the following components:

- B87 Rearview Camera
- B174G Frontview Camera – Grille
- K157 Video Processing Control Module

- A11 Radio **OR** K74 Human Machine Interface Module
- B225L Sideview Camera – Left
- B225R Sideview Camera – Right
- X20 Memory Card Receptacle (with XVR)

When the vehicle is traveling at speeds slower than 6 mph (10kph) the video processing control module will power up the cameras and send a video signal to the radio or human machine interface module.

The following conditions may cause a degraded surround vision camera image:

- Ice, snow, or mud has built up on the rear vision camera
- Dark conditions
- Extreme light conditions, such as glare from the sun or the headlights of another vehicle
- Damage to the rear of the vehicle
- Extreme high temperatures or extreme temperature changes

Surround Vision displays an overhead view of the area surrounding the vehicle, along with the front or rear camera views in the center stack. The front camera is in the grille or near the front emblem, the side cameras are on the bottom of the outside rearview mirrors, and the rear vision camera is above the license plate.

Note: Images from the Sideview Cameras are only displayed when both front doors are properly closed.

Features of the Surround Vision System

- Rear camera (B87 Rearview Camera) view alongside overhead view is displayed in reverse
- Front camera (B174G Frontview Camera – Grille) view alongside overhead view is displayed after shifting out of reverse to Neutral or Drive
- Will display front view when front park assist object is within trigger range calibration value (30 cm (12 in) in a forward gear
- Image is removed from display when vehicle speed exceeds speed calibration (10kph/6 mph) or button press / screen touch

System Operation

The video processing control module is connected to each camera via a shielded coaxial cable. The coaxial cable provides power for the camera and also carries the video image from the cameras to the video processing control module for processing. The video processing control module will then send the processed image output to infotainment system via another coaxial cable.

The video processing control module receives CAN information from Rear Park Assist object detection module and Steering Wheel angle from body control module during Reverse. A warning triangle may display during the 360 surround view screen if Rear Parking Assist has detected an object during a reverse. This triangle changes from amber to red and increases in size the closer the object. Also a dynamic guideline is displayed in Reverse to show the projected path of the vehicle.

If equipped, the video processing control module system may have a memory card receptacle (with XVR) located in the trunk. The memory card receptacle interfaces with the video processing control module via a USB cable. The memory card receptacle also receives fused battery voltage and ground from the video processing control module. The video processing control module uses the memory card as a mass storage device, similar to a USB storage device.

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Section 4

Engine/Propulsion

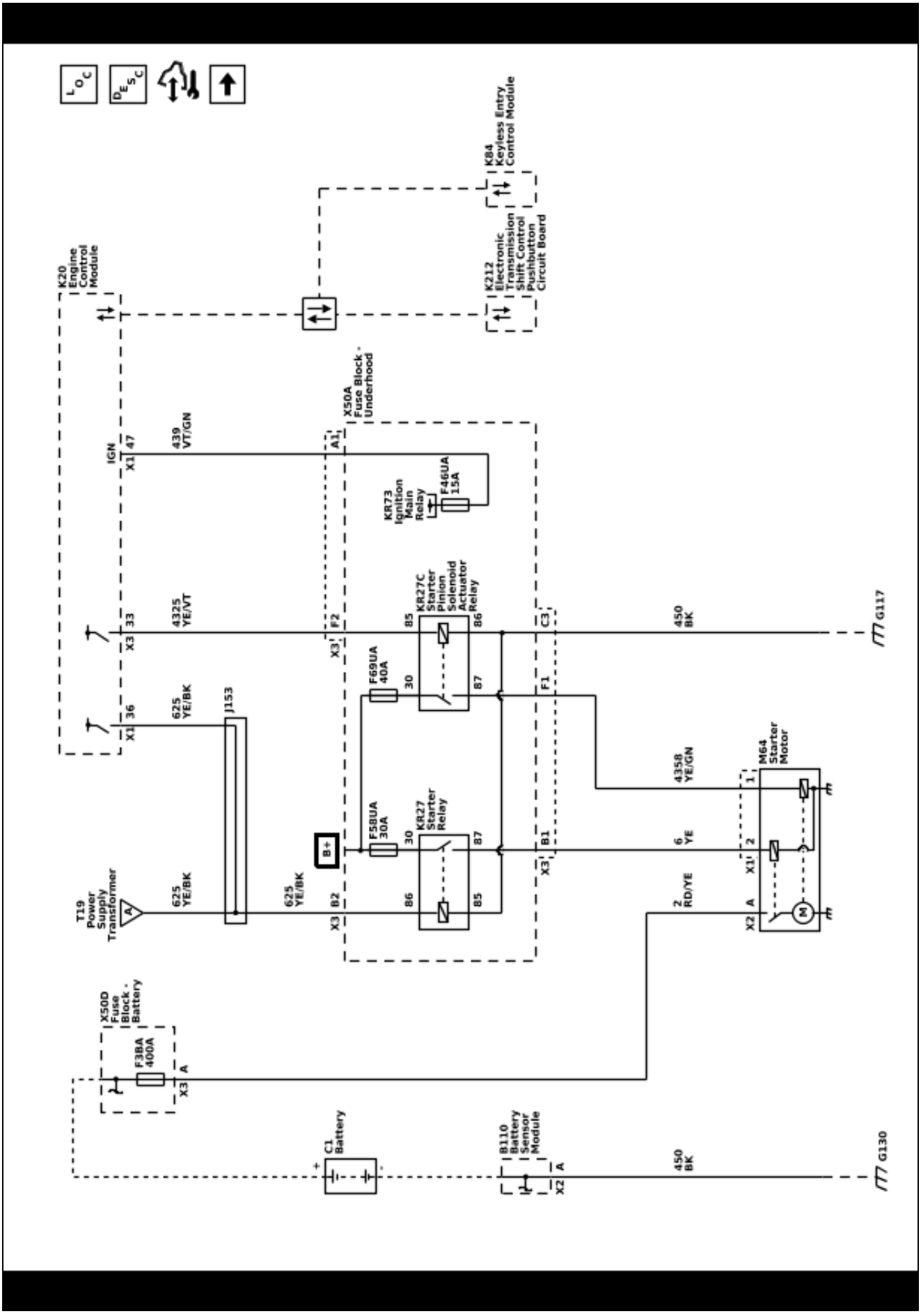
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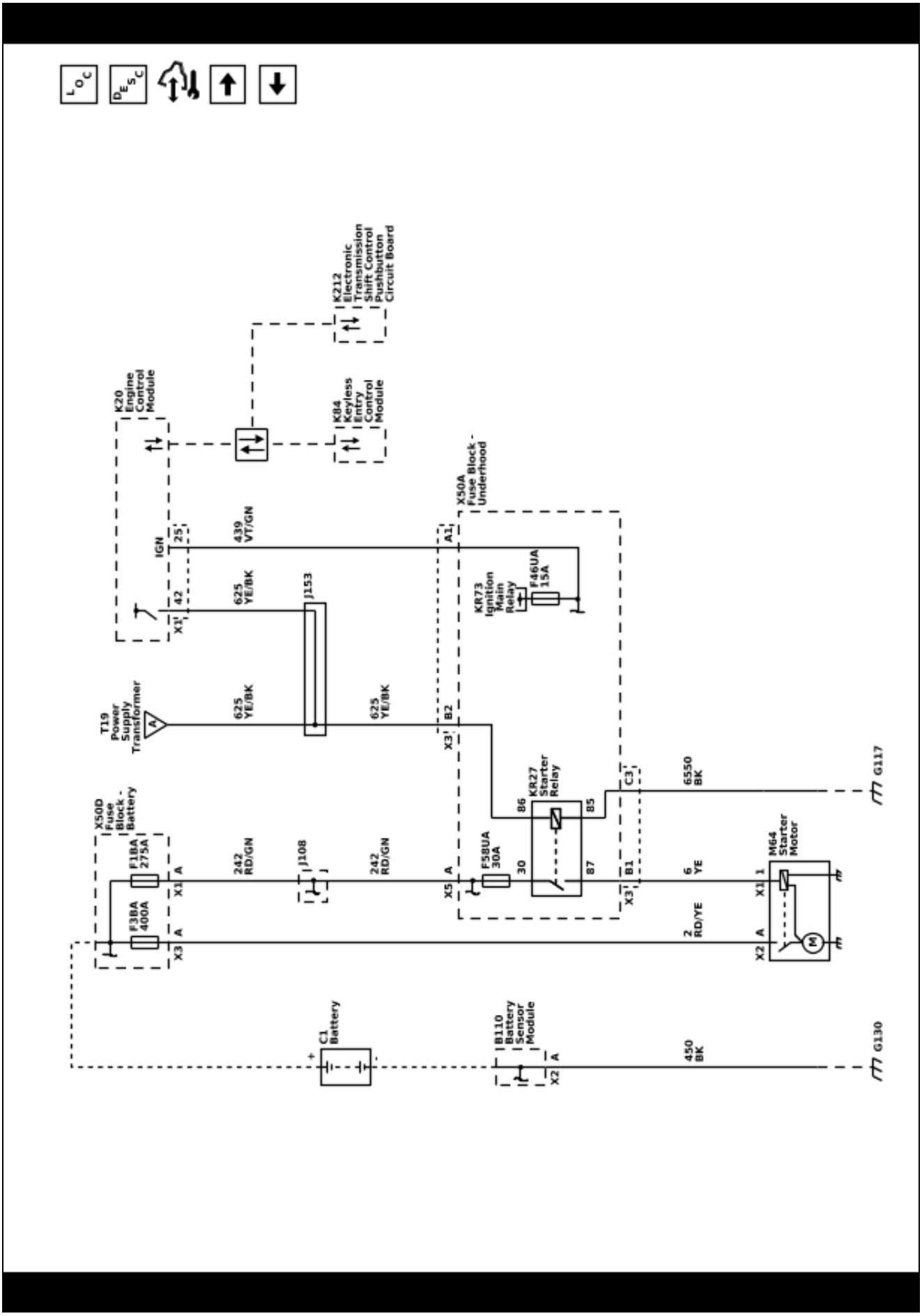
12 V Starting and Charging

Schematic and Routing Diagrams

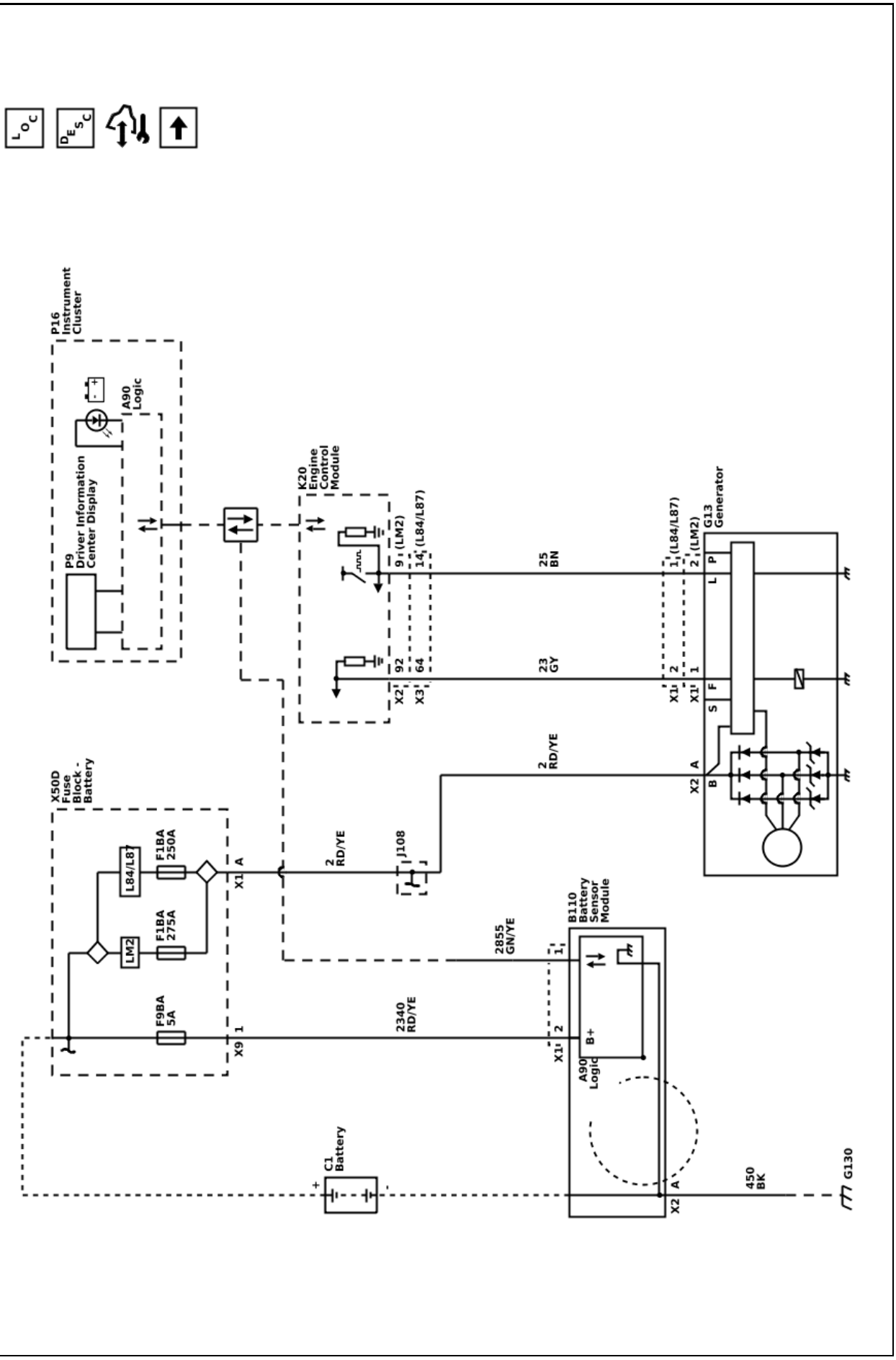
Starting and Charging Schematics (Starting (L84/L87))



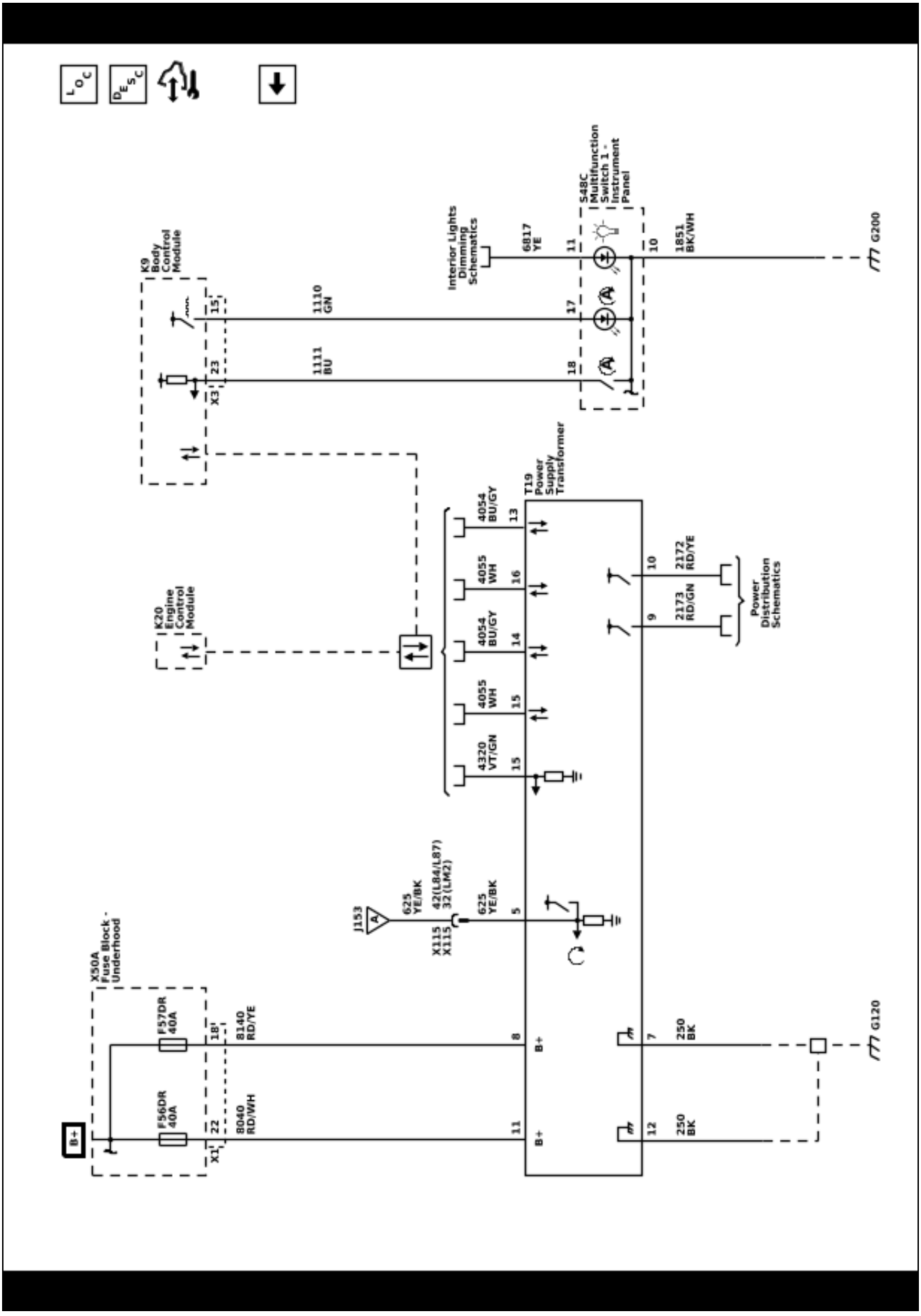
Starting and Charging Schematics (Starting (LM2))



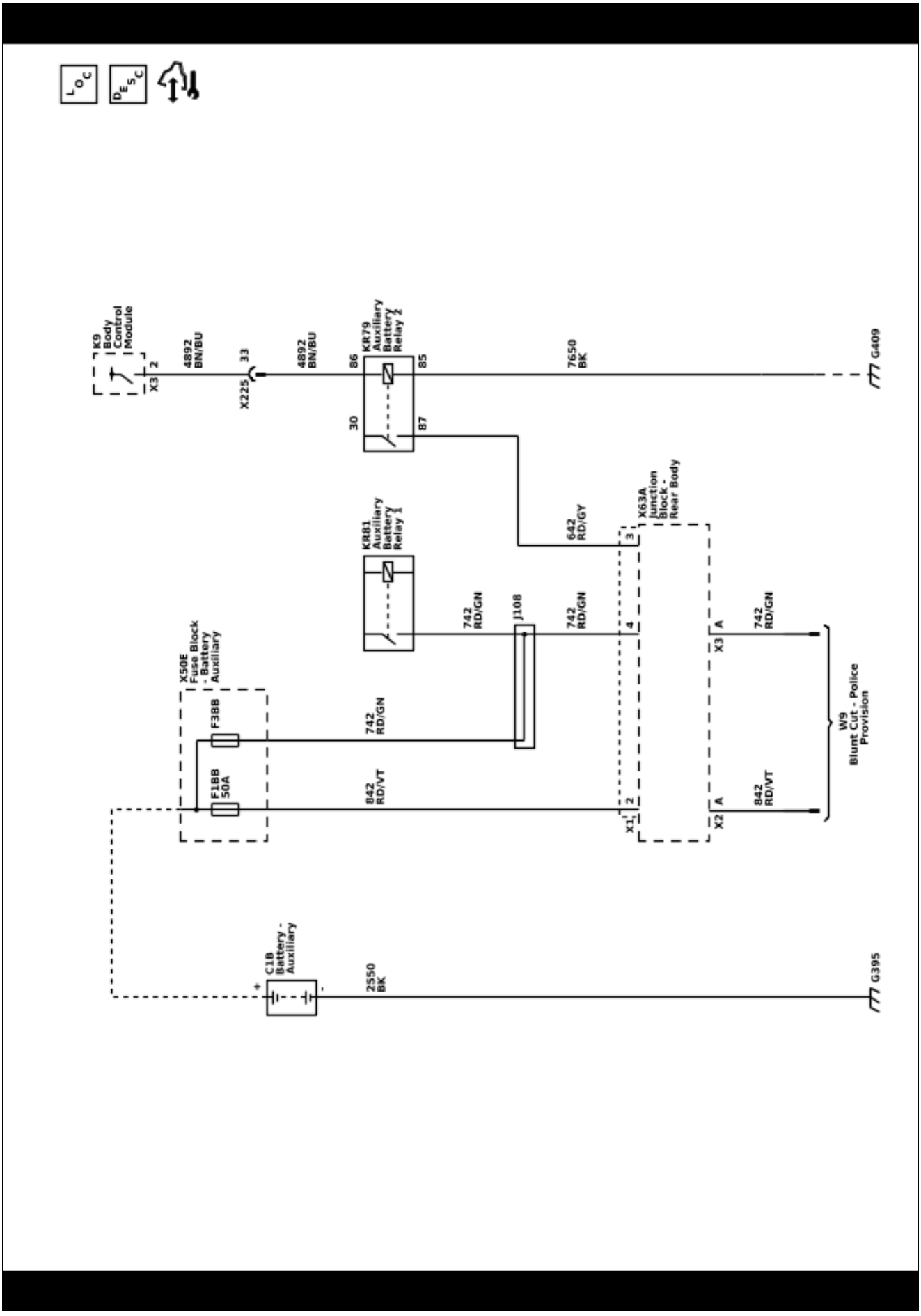
Starting and Charging Schematics (Charging)



Starting and Charging Schematics (Stop/Start System)



Auxiliary Battery Schematics (Auxiliary Battery Relay (5W4/9C1))



Description and Operation

Battery Description and Operation

Warning: Batteries produce explosive gases, contain corrosive acid, and supply levels of electrical current high enough to cause burns. Therefore, to reduce the risk of personal injury when working near a battery:

- ***Always shield your eyes and avoid leaning over the battery whenever possible.***
- ***Do not expose the battery to open flames or sparks.***
- ***Do not allow the battery electrolyte to contact the eyes or the skin. Flush immediately and thoroughly any contacted areas with water and get medical help.***
- ***Follow each step of the jump starting procedure in order.***
- ***Treat both the booster and the discharged batteries carefully when using the jumper cables.***

Batteries that are no longer wanted must be disposed of by an approved battery recycler and must never be thrown in the trash or sent to a landfill.

Batteries that are not part of the vehicle itself, not the battery under the hood, must only be transported on public streets for business purposes via approved hazardous material transportation procedures.

Battery storage, charging and testing facilities in repair shops must meet various requirements for ventilation, safety equipment, material segregation, etc.

The maintenance free battery is standard. There are no vent plugs in the cover. The battery is completely sealed except for 2 small vent holes in the side. These vent holes allow the small amount of gas that is produced in the battery to escape.

The battery has 3 functions as a major source of energy:

- Engine cranking
- Voltage stabilizer
- Alternate source of energy with generator overload

Battery Low Start Vehicle Message

The body control module (BCM) monitors battery positive voltage to determine battery state of charge. If one or more of the BCM battery positive voltage terminals measure less than approximately 11.6V compared to the BCM ground circuits, this message will display and four chimes may sound. Start the vehicle immediately. If the vehicle is not started and the battery continues to discharge, the climate controls, heated seats, and audio systems will shut off and the vehicle may require a jump start. These systems will function again after the vehicle is started.

Battery Ratings

A battery has 2 ratings:

- Cold cranking amperage
- Amperage hours

When a battery is replaced use a battery with similar ratings. See battery specification label on the original battery.

Amperage Hours

The amperage hour rating tells you how much amperage is available when discharged evenly over a 20 hour period. The amperage hour rating is cumulative, so in order to know how many constant amperage the battery will output for 20 h, you have to divide the amperage hour rating by 20. Example: If a battery has an amperage hour rating of 74, dividing by 20 = 3.75. Such a battery can carry a 3.75 A load for 20 hours before dropping to 10.5 V. (10.5 V is the fully discharged level, at which point the battery needs to be recharged.) A battery with an amperage hour rating of 55 will carry a 2.75 A load for 20 hours before dropping to 10.5 V.

Cold Cranking Amperage

The cold cranking amperage is an indication of the ability of the battery to crank the engine at cold temperatures. The cold cranking amperage rating is the minimum amperage the battery must maintain for 30 seconds at −18°C (0°F) while maintaining at least 7.2 V. See battery label for the cold cranking amperage rating of this battery.

Charging System Description and Operation

Electrical Power Management Overview

The electrical power management system is designed to monitor and control the charging system and send diagnostic messages to alert the driver of possible problems with the battery and generator. This electrical power management system primarily utilizes existing on-board computer capability to maximize the effectiveness of the generator, to manage the load, improve battery state-of-charge and life, and minimize the system's impact on fuel economy. The electrical power management system performs 3 functions:

- Monitor the battery voltage and estimate the battery condition
- Take corrective actions by boosting idle speeds, and adjusting the regulated voltage
- Perform diagnostics and driver notification

The battery condition is estimated during ignition/vehicle off and during ignition/vehicle on. During ignition/vehicle off the state-of-charge of the battery is determined by measuring the open-circuit voltage. The state-of-charge is a function of the acid concentration and the internal resistance of the battery, and is estimated by reading the battery open circuit voltage when the battery has been at rest for several hours.

Any time the ignition/vehicle is on, the vehicle algorithm continuously estimates battery state-of-charge based on adjusted net amp hours, battery capacity, initial state-of-charge, and calculated temperature.

While the engine is running, the battery degree of discharge is primarily determined by the integrated battery current sensor, to obtain net amp hours.

In addition, the electrical power management function is designed to perform regulated voltage control to improve battery state-of-charge, battery life, and fuel economy. This is accomplished by using knowledge of the battery state-of-charge and temperature to set the charging voltage to an optimum battery voltage level for recharging without detriment to battery life.

Charging System Components

G13 Generator

The engine drive belt drives the generator. When the rotor is spun, it induces an alternating current (AC) into the stator windings. The AC voltage is then sent through a series of diodes for rectification. The rectified voltage has been converted into a direct current (DC) for use by the vehicles electrical system to maintain electrical loads and the battery charge. The voltage regulator integral to the generator controls the output of the generator; It is not serviceable. The voltage regulator controls the amount of current provided to the rotor. If the generator has field control circuit fault, the generator defaults to an output voltage of 13.8 V.

The generator is serviced as a complete assembly. If there is a diagnosed fault in the generator, it must be replaced as an assembly.

Generator Pulley

The pulley drives the Generator via the engine drive belt. There are 2 types of pulleys:

1. Conventional solid Pulley which is bolted to the Generator stator shaft. This Pulley can be serviced separately.

2. One Way Clutch Pulley or Overrunning Alternator Decoupler Pulley allows the Generator to spin freely when the engine rapidly slows down on sudden deceleration. This part is not serviceable and the Generator needs to be replaced as an assembly.

K9 Body Control Module (BCM)

The K9 Body Control Module communicates with the K20 Engine Control Module and the instrument cluster for electrical power management operation. The BCM determines the output of the generator and sends the information to the ECM for control of the generator turn on signal circuit. It monitors the generator field duty cycle signal circuit information sent from the ECM for control of the generator. It monitors the battery current sensor, the battery positive voltage circuit, and estimates battery temperature to determine battery state of charge. The BCM also performs idle boost.

B110 Battery Monitor Module

The Battery Monitor Module communicates to the BCM via LIN. The BCM shares this information with the ECM. The purpose of the battery sensor module is to transmit battery information that the BCM/ECM can use to make decisions regarding stop/start, battery saver mode, and load shedding.

K20 Engine Control Module (ECM)

When the engine is running, the generator turn-on signal is sent to the generator from the ECM, turning on the regulator. The generator's voltage regulator controls current to the rotor, thereby controlling the output voltage. The rotor current is proportional to the electrical pulse width supplied by the regulator. When the engine is started, the regulator senses generator rotation by detecting AC voltage at the stator through an internal wire. Once the engine is running, the regulator varies the field current by controlling the pulse width. This regulates the generator output voltage for proper battery charging and electrical system operation. The generator field duty terminal is connected internally to the voltage regulator and externally to the ECM. When the voltage regulator detects a charging system problem, it grounds this circuit to signal the ECM that a problem exists. The ECM monitors the generator field duty cycle signal circuit, and receives control decisions based on information from the BCM.

P16 Instrument Cluster

As a means of displaying the charging system functions, some vehicles may be equipped with a voltmeter gauge on the instrument cluster and/or a system voltage display in the driver information center. These will indicate the current vehicle system voltage.

The instrument cluster also provides customer notification if there is a concern with the charging system. There are two means of notification: a charge indicator on the instrument cluster and/or a service system message displayed on the Driver Information Center (DIC) if equipped.

Charging System Operation

The purpose of the charging system is to maintain the battery charge and vehicle loads. There are 6 modes of operation and they include:

- Battery Sulfation Mode
- Charge Mode
- Fuel Economy Mode
- Head lamp Mode
- Start Up Mode
- Voltage Reduction Mode

The ECM Controls the Generator through the generator turn–on signal circuit, also known as the Generator L-terminal. The ECM monitors the generator performance though the Generator field duty cycle signal circuit, also known as the generator F-terminal.

The Generator turn–on signal (Generator L-terminal) is a Pulse Width Modulation (PWM) signal of 128 Hz with a duty cycle of 0–100%. Normal duty cycle is between 5–95%. 0–5% and 95–100% are for diagnostic purposes, with 0–5% monitoring for an open circuit and 95–100% monitoring for a short to ground at a fixed 13.8 V. The following table shows the commanded duty cycle and output voltage of the Generator:

Commanded Duty Cycle	Generator Output Voltage (+/- .25 V)
0–5%	13.8 V
10%	11 V
20%	11.56 V
30%	12.13 V
40%	12.69 V
50%	13.25 V
60%	13.81 V

Commanded Duty Cycle	Generator Output Voltage (+/- .25 V)
70%	14.38 V
80%	14.94 V
90%	15.5 V
95–100%	13.8 V

The Generator provides a PWM feedback signal of the Generator voltage output through the Generator field duty cycle signal circuit to the ECM. This information is sent to the Body Control Module (BCM). The Generator field duty cycle signal (Generator F-terminal) is a PWM signal of 60–460 Hz with a duty cycle of 0–100%. Normal duty cycle is between 5–100%. 0–5% is reserved for diagnostic purposes.

As the charging systems works to maintain the battery charge and manage vehicle electrical loads, it is normal for the voltmeter gauge on the instrument cluster or the system voltage displayed in the DIC to fluctuate or change. This does not indicate a malfunction. Depending on the battery state of charge and the vehicle electrical load, these values may be anywhere from 12.5 V to 15.5 V.

Charging System Modes

Battery Sulfation Mode

The BCM will enter this mode when the interpreted Generator output voltage is less than 13.2 V for 45 minutes. When this condition exists the BCM will enter Charge Mode for 2–3 minutes. The BCM will then determine which mode to enter depending on voltage requirements.

Charge Mode

The BCM will enter Charge Mode when ever one of the following conditions are met:

- Windshield wipers are ON for more than 3 s.
- Climate Control Voltage Boost Mode Request is true, as sensed by the HVAC control module via serial data. High speed cooling fan, rear defogger, and HVAC high speed blower operation can cause the BCM to enter the Charge Mode.
- The estimated battery temperature is less than 0° C (32°F).
- Battery State of Charge is less than 80%.
- Vehicle speed is greater than 145 km/h (90 mph)
- A current sensor malfunction exists.
- System voltage is determined to be below 12.56 V

When any one of these conditions is met, the system will set targeted generator output voltage to a charging voltage between 13.9–15.5 V, depending on the battery state of charge and estimated battery temperature.

Fuel Economy Mode

The BCM will enter Fuel Economy Mode when the estimated battery temperature is at least 0°C (32°F) but less than or equal to 80°C (176°F), the calculated battery current is less than 15 A and greater than −8 A, and the battery state-of-charge is greater than or equal to 80%. Its targeted generator output voltage is the open circuit voltage of the battery and can be between 12.5–13.1 V. When fuel economy mode is active, the generator is not charging, only maintaining open circuit battery voltage. The BCM will exit this mode and enter Charge Mode when any of the conditions described above are present.

Headlamp Mode

The BCM will enter Headlamp Mode when ever the head lamps are ON (high or low beams). Voltage will be regulated between 13.9–14.5 V.

Start Up Mode

When the engine is started the BCM sets a targeted generator output voltage of 14.5 V for 30 s.

Tow/Haul Mode (if applicable)

Pressing the Tow/Haul Mode button located on the center stack, the vehicle system voltage is raised and the remote (non-vehicle) battery will be charged. Having the headlamps on will raise the system voltage and if the Tow/Haul button is applied it will not serve any purpose. The voltage is regulated between 13.9-14.5 V.

Instrument Cluster Operation

Charge Indicator Operation

The instrument cluster illuminates the charge indicator and displays a warning message in the driver information center if equipped, when the one or more of the following occurs:

- The ECM detects that the generator output is less than 11 V or greater than 16 V. The instrument cluster receives a serial data message from the ECM requesting illumination.
- The instrument cluster determines that the system voltage is less than 11 V or greater than 16 V for more than 30 s. The instrument cluster receives a serial data message from the BCM indicating there is a system voltage range concern.
- The instrument cluster performs the displays test at the start of each ignition cycle. The indicator illuminates for approximately 3 s.

Driver Information Center Message: BATTERY NOT CHARGING SERVICE CHARGING SYSTEM or SERVICE BATTERY CHARGING SYSTEM

The BCM and the ECM will send a serial data message to the driver information center for the BATTERY NOT CHARGING SERVICE CHARGING SYSTEM or SERVICE BATTERY CHARGING SYSTEM message to be displayed. It is displayed when a charging system DTC is a current DTC. The message is turned off when the conditions for clearing the DTC have been met.

Voltmeter Gauge and/or System Voltage Display (if equipped)

As a means of displaying the charging system functions, some vehicles may be equipped with a voltmeter gauge on the instrument cluster and/or a system voltage display in the driver information center. These will indicate the current vehicle system voltage.

As the charging systems works to maintain the battery charge and manage vehicle electrical loads, it is normal for the voltmeter gauge on the instrument cluster or the system voltage display in the driver information center to fluctuate or change. This does not indicate a

malfunction. Depending on the battery state of charge and the vehicle electrical load, these values may be anywhere from 12.5 V to 15.5 V.

Electrical Power Management Description and Operation

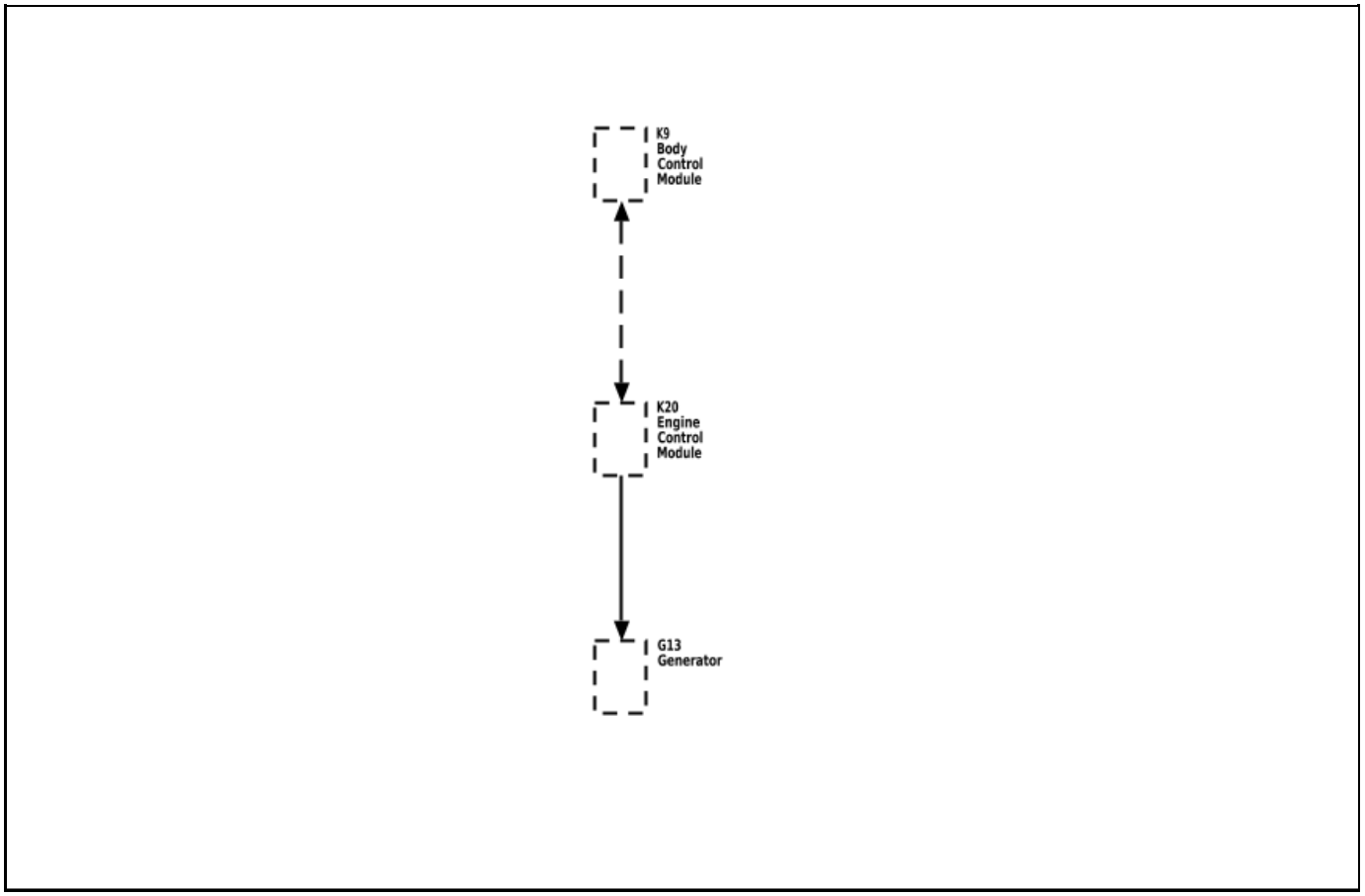
Electrical Power Management

The electrical power management is used to monitor and control the charging system and alert the driver of possible problems within the charging system. The electrical power management system makes the most efficient use of the generator output, improves the battery state-of-charge, extends battery life, and manages system electrical loads.

The load shed operation is a means of reducing electrical loads during a low voltage or low battery state-of-charge condition.

The idle boost operation is a means of improving generator performance during a low voltage or low battery state-of-charge condition.

Each electrical power management function, either idle boost or load shed, is activated in incremental steps. For example, idle boost 1 must be active before idle boost 2 can be active. The criteria used by the body control module (BCM) to regulate electrical power management are outlined below:



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Idle Boost and Load Shed With Current Sensor

Function	Battery Temperature Calculation	Battery Voltage Calculation	Amp-Hour Calculation	Action Taken
Idle Boost 1 Start	Less Than −15°C (5°F)	Less Than 13 V	—	First level Idle boost requested
Idle Boost 1 Start	—	—	Battery has a net loss greater than 0.6 Ah	First level Idle boost requested
Idle Boost 1 Start	—	Less Than 11 V	—	First level Idle boost requested
Idle Boost 1 End	Greater Than −10°C (14°F)	Greater Than 12 V	Battery has a net loss less than 0.2 Ah	First level Idle boost request cancelled
Idle Boost 2 Start	—	—	Battery has a net loss greater than 1.6 Ah	Second level Idle boost requested
Idle Boost 2 Start	—	Less Than 11 V	—	Second level Idle boost requested
Idle Boost 2 End	—	Greater Than 12 V	Battery has a net loss less than 0.8 Ah	Second level Idle boost request cancelled
Load Shed 1 Start	—	—	Battery has a net loss of 4 Ah	Rear Defrost, Heated Mirrors, Heated Seats, HVAC cycled OFF for 20% of their cycle
Load Shed 1 Start	—	Less Than 11 V	—	Rear Defrost, Heated Mirrors, Heated Seats, HVAC cycled OFF for 20% of their cycle
Load Shed 1 End	—	Greater Than 12 V	Battery has a net loss of less than 2 Ah	Clear Load Shed 1
Idle Boost 3 Start	—	—	Battery has a net loss of 10 Ah	Third level Idle boost requested
Idle Boost 3 Start	—	Less Than 11 V	—	Third level Idle boost requested
Idle Boost 3 End	—	Greater Than 12 V	Battery has a net loss of less than 6.0 Ah	Third level Idle boost request cancelled
Load Shed 2 Start	—	—	Battery has a net loss greater than 12 Ah	Rear Defrost, Heated Mirrors, Heated Seats, HVAC cycled OFF for 50% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 2 Start	—	Less Than 11 V	—	Rear Defrost, Heated Mirrors, Heated Seats, HVAC cycled OFF for 50% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 2 End	—	Greater Than 12 V	Battery has a net loss of less than 8 Ah	Clear Load Shed 2
Load Shed 3 Start	—	Less Than 11.9 V	Battery has a net loss greater than 20 Ah	Rear Defrost, Heated Mirrors, Heated Seats, HVAC cycled OFF for 100% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC

Idle Boost and Load Shed With Current Sensor (cont'd)

Function	Battery Temperature Calculation	Battery Voltage Calculation	Amp-Hour Calculation	Action Taken
Load Shed 3 Start	—	Less Than 11 V	—	Rear Defrost, Heated Mirrors, Heated Seats, HVAC cycled OFF for 100% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 3 End	—	Greater Than 12.6 V	Battery has a net loss of less than 13 Ah	Clear Load Shed 3

Idle Boost and Load Shed Without Current Sensor (based on battery voltage)

Function	Battery Temperature Calculation	Battery Voltage Calculation	Action Taken
Idle Boost 1 Start	Less Than −15°C (5°F)	Less Than 13 V	First level Idle boost requested
Idle Boost 1 Start	—	Less Than 12.6 V	First level Idle boost requested
Idle Boost 1 End	Greater Than −15°C (5°F)	—	First level Idle boost request cancelled
Idle Boost 1 End	—	Greater Than 13 V	First level Idle boost request cancelled
Idle Boost 2 Start	—	Less Than 12.4 V	Second level Idle boost requested
Idle Boost 2 End	—	Greater Than 12.5 V	Second level Idle boost request cancelled
Load Shed 1 Start	—	Less Than 12.3 V	Rear Defrost, Heated Mirrors, Heated Seats, HVAC cycled OFF for 20% of their cycle
Load Shed 1 End	—	Greater Than 12.4 V	Clear Load Shed 1
Idle Boost 3 Start	—	Less Than 10 V	Third level Idle boost requested
Idle Boost 3 End	—	Greater Than 12.3 V	Third level Idle boost request cancelled
Load Shed 2 Start	—	Less Than 12.1 V	Rear Defrost, Heated Mirrors, Heated Seats, HVAC cycled OFF for 50% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 2 End	—	Greater Than 12.2 V	Clear Load Shed 2
Load Shed 3 Start	—	Less Than 11.9 V	Rear Defrost, Heated Mirrors, Heated Seats, HVAC cycled OFF for 100% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 3 End	—	Greater Than 12.0 V	Clear Load Shed 3

Starting System Description and Operation

Starter Motor Operation (Without KL9)

The starter motors are non-repairable. They have pole pieces that are arranged around the armature. Both solenoid windings are energized. The pull-in winding circuit is completed to the ground through the starter motor. The windings work together magnetically to pull and hold in the plunger. The plunger moves the shift lever. This action causes the starter drive assembly to rotate on the armature shaft spline as it engages with the flywheel ring gear on the engine. Moving at the same time, the plunger also closes the solenoid switch contacts in the starter solenoid. Full battery voltage is applied directly to the starter motor and it cranks the engine.

As soon as the solenoid switch contacts close, current stops flowing thorough the pull-in winding because battery voltage is applied to both ends of the windings. The hold-in winding remains energized. Its magnetic field is strong enough to hold the plunger, shift lever, starter drive assembly, and solenoid switch contacts in place to continue cranking the engine. When the engine starts, pinion overrun protects the armature from excessive speed until the switch is opened.

When the crank signal is removed, the starter relay opens and battery voltage is removed from the starter solenoid S terminal. Current flows from the motor contacts through both windings to the ground at the end of the hold-in winding. However, the direction of the current flow through the pull-in winding is now opposite the direction of the current flow when the winding was first energized.

The magnetic fields of the pull-in and hold-in windings now oppose one another. This action of the windings, along with the help of the return spring, causes the starter drive assembly to disengage and the solenoid switch contacts to open simultaneously. As soon as the contacts open, the starter circuit is turned off.

Enhanced Starter Motor Operation (KL9)

The Engine Stop/Start system in GM vehicles automatically turns off the engine when the vehicle comes to a stop under certain driving conditions, and can quickly restart the engine in about 0.3 seconds when commanded to do so.

In order to smoothly restart the engine as quickly as possible while managing the greater number of engine starts, the Stop/Start system uses an enhanced starter motor that operates differently from a conventional starter motor. It has a high performance electric motor and a stronger pinion engagement mechanism than a conventional starter. It also has independent control of the pinion and motor.

The enhanced starter motor continues using the typical pinion engagement mechanism with a starter solenoid that drives the pinion gear to engage or disengage the flywheel of the engine. When engaged, the starter motor can rotate the engine flywheel and, in turn, the crankshaft.

On the enhanced starter of a Stop/Start system the operation is done in two separate functions inside the solenoid, Starter Motor and Pinion Actuator. Each function controlled individually by the ECM. There are two separate relays to control the two separate parts of the enhanced solenoid:

- KR27 Starter Motor Relay
- KR27C Starter Pinion Actuator Relay

The two individually-controlled relays allow for smooth engagement of the pinion gear into the flywheel with minimum noise and wear.

When the vehicle is coming to a stop, just before the engine stops rotating (at approximately 50 RPM) during stop/start operation, the ECM energizes the Starter Pinion Solenoid Actuator Relay to easily push the pinion gear into the flywheel gear without gear clash. (Fig. 8) When the engine stops rotating during Stop/Start operation (Auto Stop mode), the starter pinion gear is fully engaged, ready for the starter motor to become energized to quickly start the engine again.

A secondary need for the starter pinion to be driven into the flywheel gear before the engine stops rotating is to address quickly changing demands on the engine. For example, when a driver is slowing nearly to a stop — and the Stop/Start system is preparing for Auto Stop mode — but suddenly decides to release the brake and accelerate

In this situation, the engine has already stopped rotating, or nearly so. A conventional starter cannot restart the engine until the engine has completely stopped. However, with the enhanced starter, the starter pinion gear is fully engaged and ready to begin rotating the engine even before it fully stops turning. Otherwise, the engine would actually have to stop rotating before the pinion can engage smoothly to begin a restart.

To prevent a lag in engine operation, the ECM uses predictive speed matching of the flywheel gear speed and the pinion gear speed to engage the pinion gear into the flywheel gear without gear clash before the engine fully stops. By predicting how long it takes the starter motor to spin up using an algorithm, the pinion gear speed can be matched to the flywheel gear speed. The result is an almost instant restart that is possible at extremely low engine speeds.

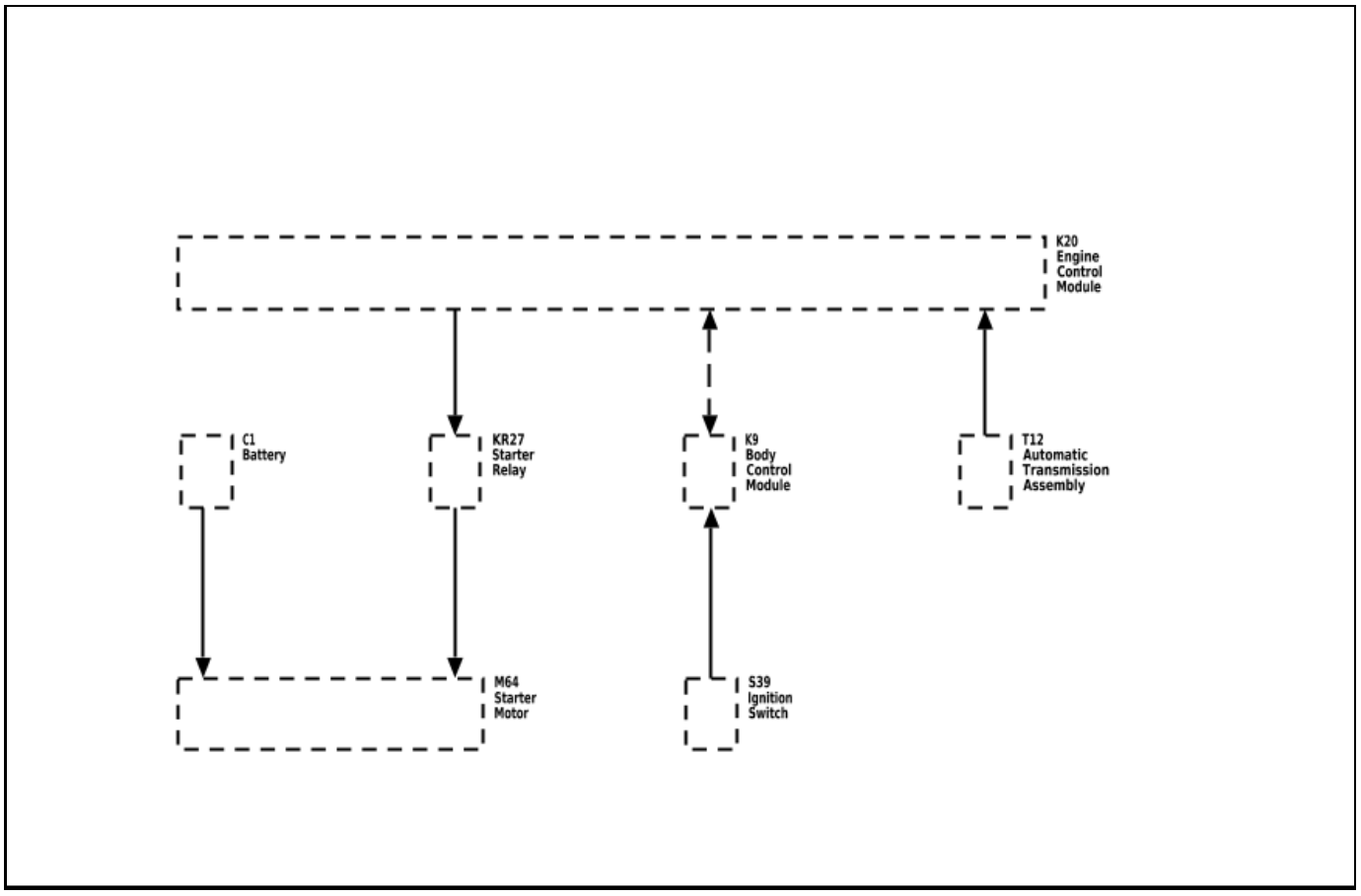
Circuit Description

Keyless Start

When the Ignition mode switch is placed in the crank position, a discrete signal is supplied to the body control module (BCM) notifying it that the ignition is in the crank position. The BCM then sends a serial data message to the engine control module (ECM) that crank has been requested. The ECM then verifies that the clutch is fully depressed or the automatic transmission is in Park/Neutral. If it is, the ECM then supplies 12 V to the control circuit of the starter relay. When this occurs, battery positive voltage is supplied through the switch side of the crank relay to the S terminal of the starter solenoid.

Key Start

When the ignition switch is placed in the Start position, a discrete signal is supplied to the body control module (BCM) notifying it that the ignition is in the Start position. The BCM then sends a message to the engine control module (ECM) notifying it that CRANK has been requested. The ECM verifies that the transmission is in Park or Neutral. If it is, the ECM then supplies 12 V to the control circuit of the crank relay. When this occurs, battery positive voltage is supplied through the switch side of the crank relay to the S terminal of the starter solenoid.



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Stop/Start System Description and Operation

The Stop/Start System is used to improve fuel efficiency in stop/start driving. The vehicle automatically shuts down the engine in appropriate conditions at a traffic light, for example, resulting in zero tail pipe emissions and saving fuel which otherwise is used idling the engine when stationary. The engine instantly restarts when the driver is ready to move away.

As soon as the driver prepares to move away (by releasing the brake pedal and/or depressing the accelerator pedal), the engine will start; it only takes the system around 0.3 s to start the engine.

To support the increased number of engine starts, the starter motor is upgraded with a high performance electric motor and a stronger pinion engagement mechanism with reduced noise levels.

Along with the upgraded starter motor, advanced battery technology is required to ensure the vehicles battery can handle the frequent charge and discharge cycles common with stop/start operation. There is battery sensor module connected to the battery which continually monitors the battery charge and healthy state. The Engine Control Module (ECM) uses this information from the battery sensor module to determine if the battery charge and health is sufficient for an Stop/Start condition.

The Stop/Start system can reduce fuel consumption and carbon dioxide (CO_2) emissions by up to 5% in mixed driving conditions. In an urban environment and in heavy traffic with frequent stops the savings may increase to as much as 10%.

There are also sophisticated controls in place to help ensure the Stop/Start System does not compromise the needs of either the driver or vehicle. For the engine to shutdown, the vehicle must be below 5 km/h (3 MPH), the selector lever in position D, and brake pedal depressed. To restart, the driver simply releases the brake pedal and the enhanced starter motor engages the engine. When the engine has been shut down by the Stop/Start System, a control indicator will be illuminated in the Driver Information Center (DIC). When the engine is restarted, the control indicator in the DIC extinguishes.

To ensure neither the needs of the driver or vehicle are compromised the engine will not shut down in the following circumstances:

- Ambient and coolant temperature correlation does not match specified values.
- Ambient temperature is less than −10°C (14°F)
- Battery temperature is less than 0°C (32°F) or greater than 55°C (131°F)
- Driver seat belt is not fastened and the drivers door is not fully closed (not applicable to vehicles in North America)
- HVAC system demand is high
- HVAC defrost has been selected
- Battery charge is low

Likewise the engine will automatically restart if:

- Driver door opened and driver seat belt unbuckled (not applicable to vehicles in North America)
- Engine hood opened
- Battery charge is low
- HVAC demand increases
- Vehicle speed increases
- Brake booster vacuum has been reduced
- Engine coolant temperature is greater than 125° C (257°F)
- Economy mode turned OFF by driver
- Autostop time exceeded 2 min

When the Stop/Start System has shut down the engine, and the ambient temperature is below 15°C (59°F), the ECM will activate the Stop/Start auxiliary relay which controls the electric engine coolant pump motor to continually circulate the engine coolant through the engine while the engine is off. This is to ensure the engine and passenger compartment temperature is maintained while off. Once the Stop/Start System has restarted the engine, the ECM will turn off the electric coolant pump motor, thus allowing the engines internal coolant pump to circulate the engine coolant. The Stop/Start System is automatically activated each time the ignition switch is turned on.

Through the climate control system, the vehicle can be cycled between off, comfort, and eco air conditioning modes (if equipped). In comfort mode, the priority for Stop/Start operation is on customer comfort. Depending on ambient temp, humidity, cabin temperature and cabin temperature setpoint, the least amount of autostops occur in this mode. In eco mode, the priority is on fuel economy. There are more frequent autostops with some sacrificing of cabin temperature control. With the HVAC turned off, the maximum autostops occur since there will be no A/C compressor requests.

Autostop Criteria

The ECM will send an Autostop state message to the body control module (BCM) and shut down the engine when all of the following criteria is met. The BCM will transmit the Autostop state message to the instrument cluster which will display the Autostop indicator in the tachometer display.

- Initial minimum vehicle speed during drive cycle must be 19 km/h (12 MPH) or greater. Subsequent autostop minimum speed may vary from 2-10 km/h (1-6 MPH), depending on vehicle
- Ambient and engine coolant temperature correlation meets specified values.
- Ambient and transmission fluid temperature correlation meets specified values.
- Hood switch status is closed
- Driver door status is closed
- Driver seat belt status is buckled
- Brake booster vacuum is greater than 45 kPa (7 PSI)
- Transmission gear selector is in the Drive position
- Vehicle speed is less than 5 km/h (3 MPH)
- Engine speed is below 1,500 RPM
- Engine coolant temperature is less than 120° C (248°F)
- Ambient temperature is greater than −10°C (14°F)
- No A/C compressor request from HVAC (A/C or Defrost modes)
- Battery voltage greater than 12 V
- Battery state of charge greater than 75% (changes with state of health)

Autostop Enable Ambient and Engine Coolant Temperature Table

Ambient Temperature	inimum Coolant Temperature	Autostop Enable
−10°C (14°F)	60°C (140°F)	Yes
0°C (32°F)	50°C (122°F)	Yes
6°C (43°F)	40°C (104°F)	Yes
12°C (54°F)	30°C (86°F)	Yes
20°C (68°F)	18°C (64°F)	Yes
30°C (86°F)	18°C (64°F)	Yes

Autostart Criteria

The ECM will send an Autostart state message to the BCM. If all of the following conditions are true the ECM and BCM will restart the vehicle.

Driver Enabled Conditions that will engage Autostart:

- Driver removes pressure from the brake or depresses the accelerator pedal while the vehicle is in the forward Drive gear

System Enabled Conditions that will engage Autostart

Note: If one or more of the following conditions occur, the system will force the engine to restart.

- Brake booster vacuum is less than 40 kPa (6 PSI)
- A/C compressor request from HVAC (A/C or Defrost modes)
- Battery voltage less than 11 V,
- Battery state of charge is less than 73% (changes with state of health)
- Driver door status changes to open and driver seat belt status changes to unbuckled (not applicable to vehicles in North America)

- Hood switch status changes to open
- Autostop time exceeded 2 min

If the crank time exceeds 2 s, a manual ignition switch restart will be necessary.

System Components

Engine Control Module (ECM)

The ECM monitors the inputs from the Engine Coolant Temperature (ECT) sensor, Vehicle Speed Sensor (VSS), Battery Sensor Module, hood ajar switch, brake booster vacuum sensor, and engine speed to determine Autostart and Autostop conditions. The ECM also controls the auxiliary coolant pump motor (if equipped).

Transmission Control Module (TCM)

The TCM monitors the inputs from the transmission neutral safety switch to determine the driver selected gear. This information is transmitted to the ECM via serial data to support the Auto Stop Start algorithm.

Engine Coolant Temperature sensor (ECT)

The ECT sensor is used to determine engine operating temperature.

Intake Air Temperature Sensor (IAT)

The ECM uses this sensor to monitor ambient air temperature. If too cold, the Autostop will not occur.

Inside air temperature sensor

The HVAC control module monitors the passenger compartment temperature sensor to determine the temperature inside the passenger compartment. The HVAC control module sends this temperature reading to the ECM on the data communication circuit. The ECM uses this temperature values to determine if a restart is requires based on the temperature inside the passenger compartment.

Vehicle speed sensor

The vehicle speed sensor is used to determine vehicle speed. If vehicle speed is detected above a calculated value during an Autostop condition, the ECM will start the engine.

Hood Ajar Switch

If the hood switch is in the open position, the vehicle will not Autostop. If the hood is opened during Autostop, the vehicle will automatically restart.

Brake Booster Vacuum Sensor

The ECM monitors vacuum in order to ensure proper power assist for the brake pedal. If the ECM determines vacuum is too low, it will restart the engine.

Brake Pedal Position Sensor (BPPS) & Accelerator Pedal Position Sensor (APP)

The ECM monitors both the brake pedal position sensor and the accelerator pedal position sensor to determine the level of activation for each. While the accelerator pedal is in it's at rest position with no pressure applied by the operator, a partially depressed Brake pedal will cause the ECM to prepare the engine for an Autostop event. When the vehicle is in an auto stop event and the status of the brake pedal position sensor changes from meeting the autostop criteria to not meeting this criteria the engine will be restarted provided all of the other conditions to allow an autostart are met. If the Accelerator pedal is moved from its at rest position the vehicle will also enter an auto start event if all other conditions to support an autostart event, except for the brake pedal position, are met.

Transmission Gear Shift Position Switch

The transmission gear shift position switch is used to determine if the transmission is in the proper state to allow an auto stop/start event. The ECM will not allow Autostop until the brake is engaged, the transmission is in the forward gear position and then the vehicle slows to below the minimum speed required to allow and autostop while meeting all of the other minimum criteria to support an autostop event.

Coolant Pump Motor

The ECM will turn on the auxiliary coolant pump motor during Autostop to maintain engine operating temperature and HVAC temperature. Once the engine is running, the ECM will turn off the coolant pump motor.

Body Control Module (BCM)

The Body Control Module (BCM) monitors the Autostop Disable switch in order to enable or disable the system. It sends the appropriate messages to the ECM Via serial data to enable or disable the system.

Battery Sensor Module

The Battery Sensor Module monitors the battery current load, state of health, and state of charge, the information is sent to the BCM Via LIN then to the ECM Via Serial Data. If the module detects high current load, the battery is in a poor state of health or a low charge condition, the ECM will not allow Autostop to occur.

Autostop Disable Switch

The disable switch is an input to the BCM, it allows the customer to disable or re-enable the Autostop system. After the vehicle is turned off the Autostop system will turn back on the next time the vehicle is started.

Power Supply Transformer

The DC to DC converter monitors battery voltage and will maintain operating voltage to the radio, instrument cluster and instrument panel displays. The DC to DC converter will provide a boosted voltage to sensitive loads during Autostart to ensure proper operation of the driver informational displays.

Instrument Cluster

In order to differentiate between a normal engine shut down (engine speed 0 RPM) and when the engine has been shut down by the Stop/Start System, the tachometer needle will rest at the Autostop indicator icon (500 RPM point) indicating the engine has been shut down by the Stop/Start System. Once the engine is restarted, or the ECO button has disengaged Autostop, the tachometer will function normally.

Section 5

HVAC

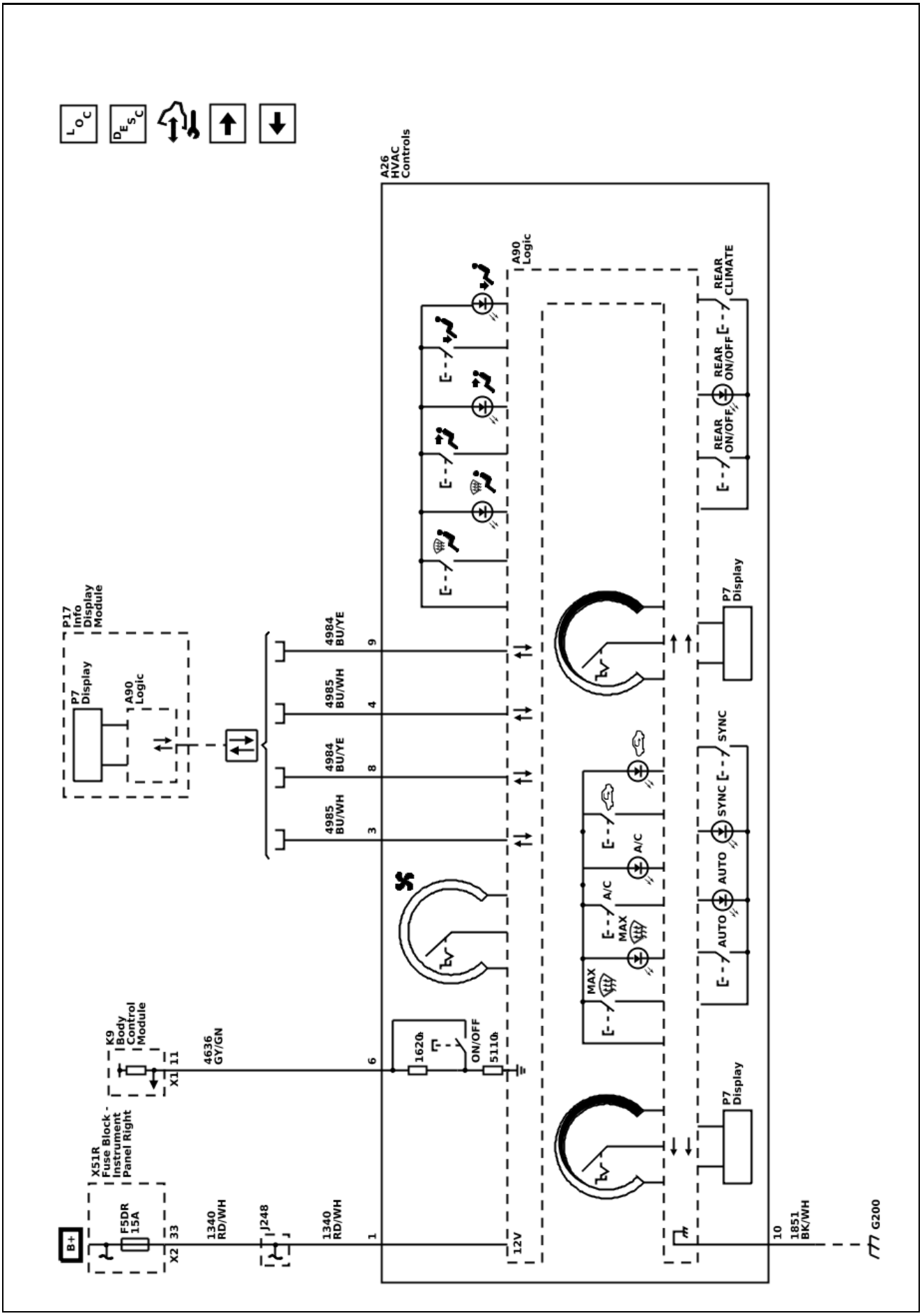
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HVAC Schematics 5-4
Description and Operation 5-13
Automatic HVAC Description and Operation 5-13

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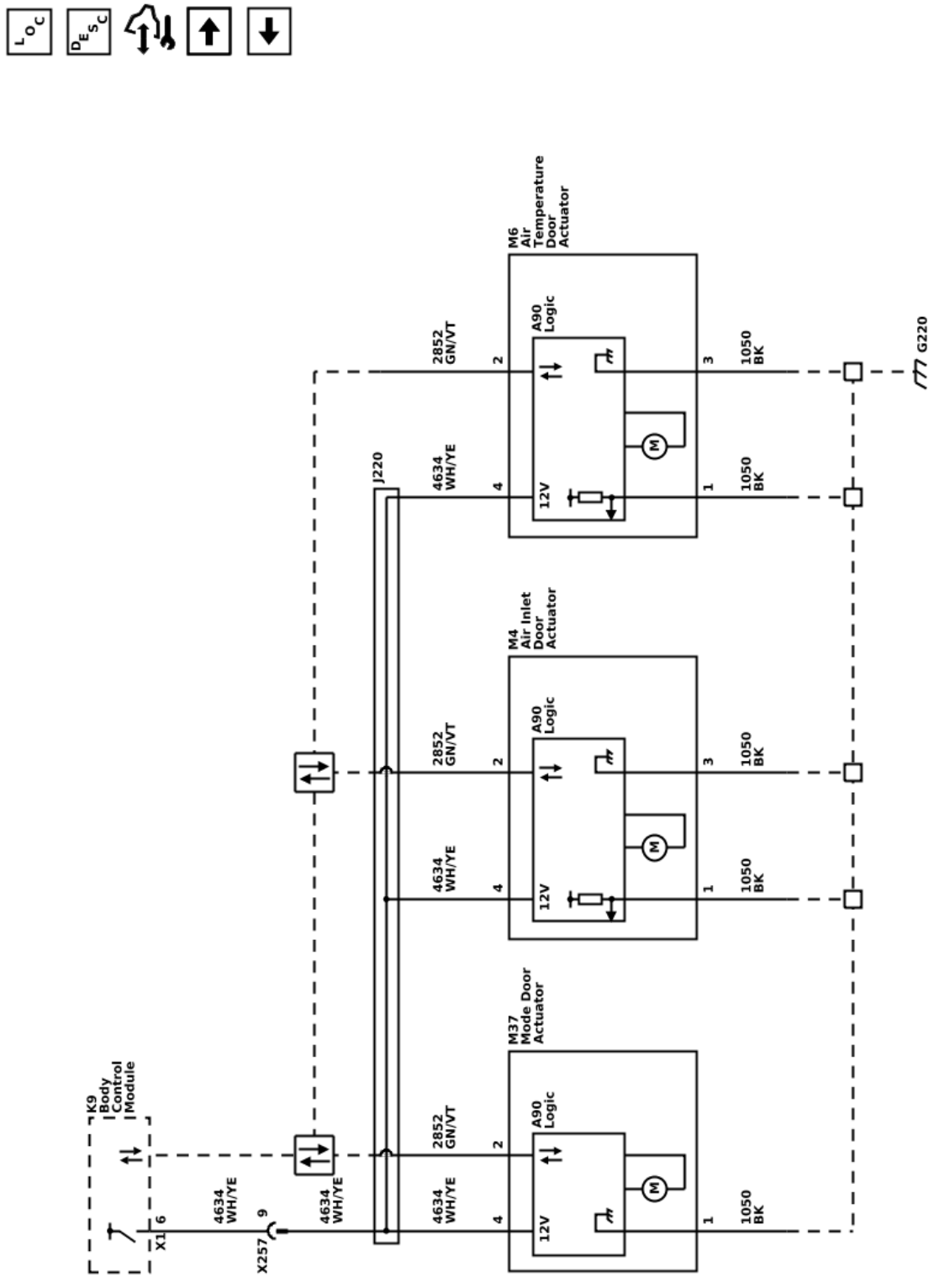
HVAC - Automatic

Schematic and Routing Diagrams

HVAC Schematics (HVAC Controls)

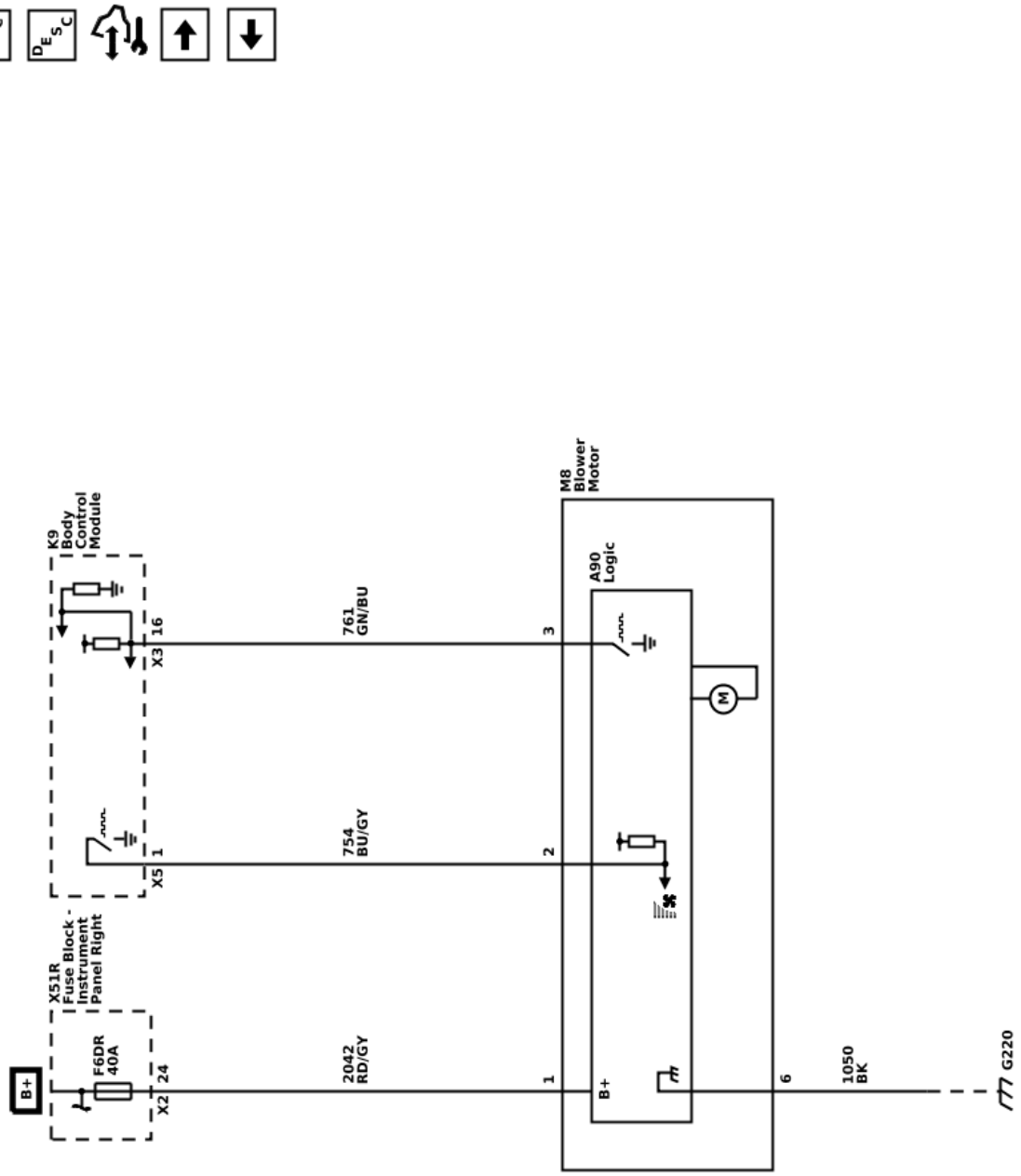


HVAC Schematics (Actuators)



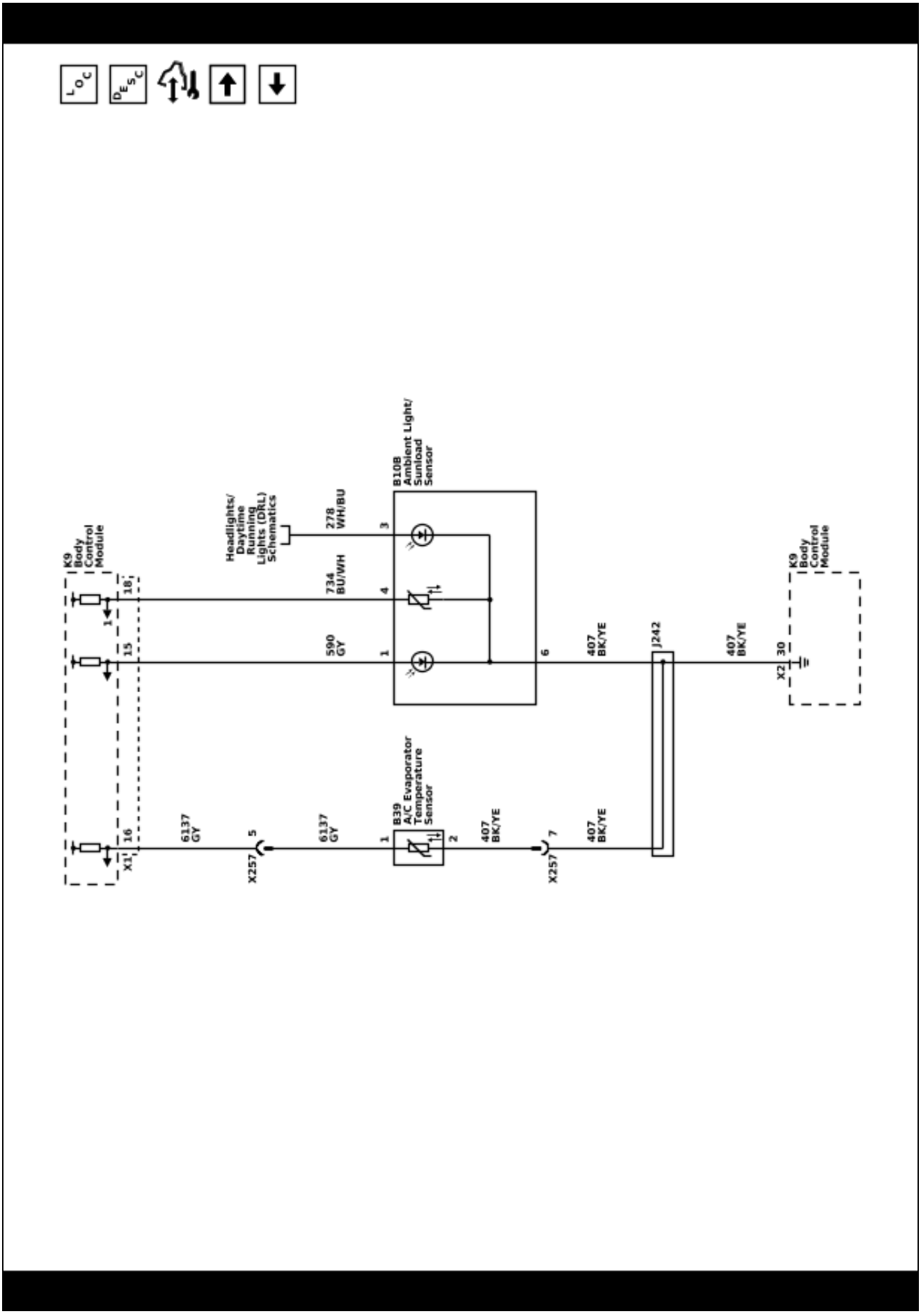
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HVAC Schematics (Blower Motor)

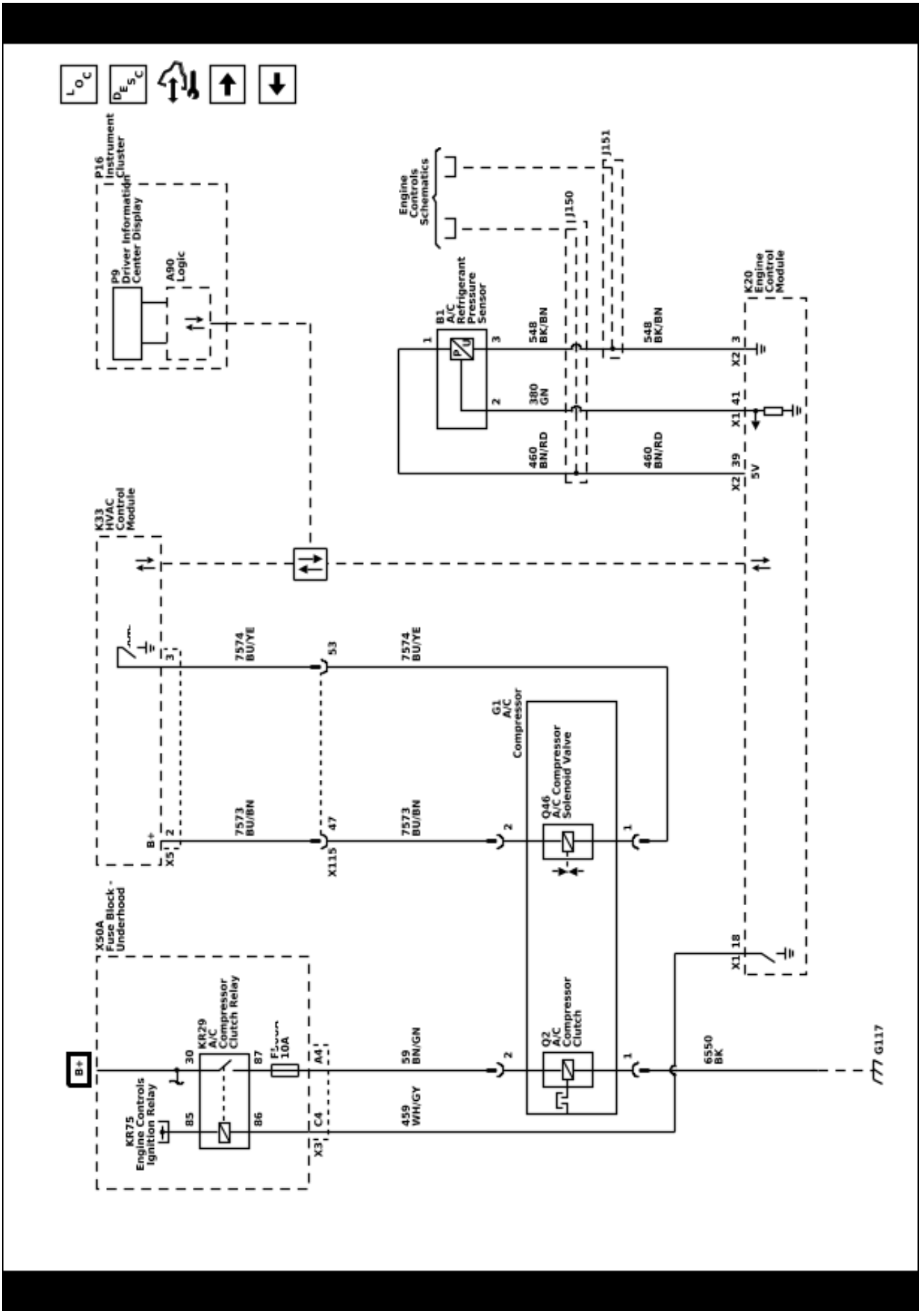


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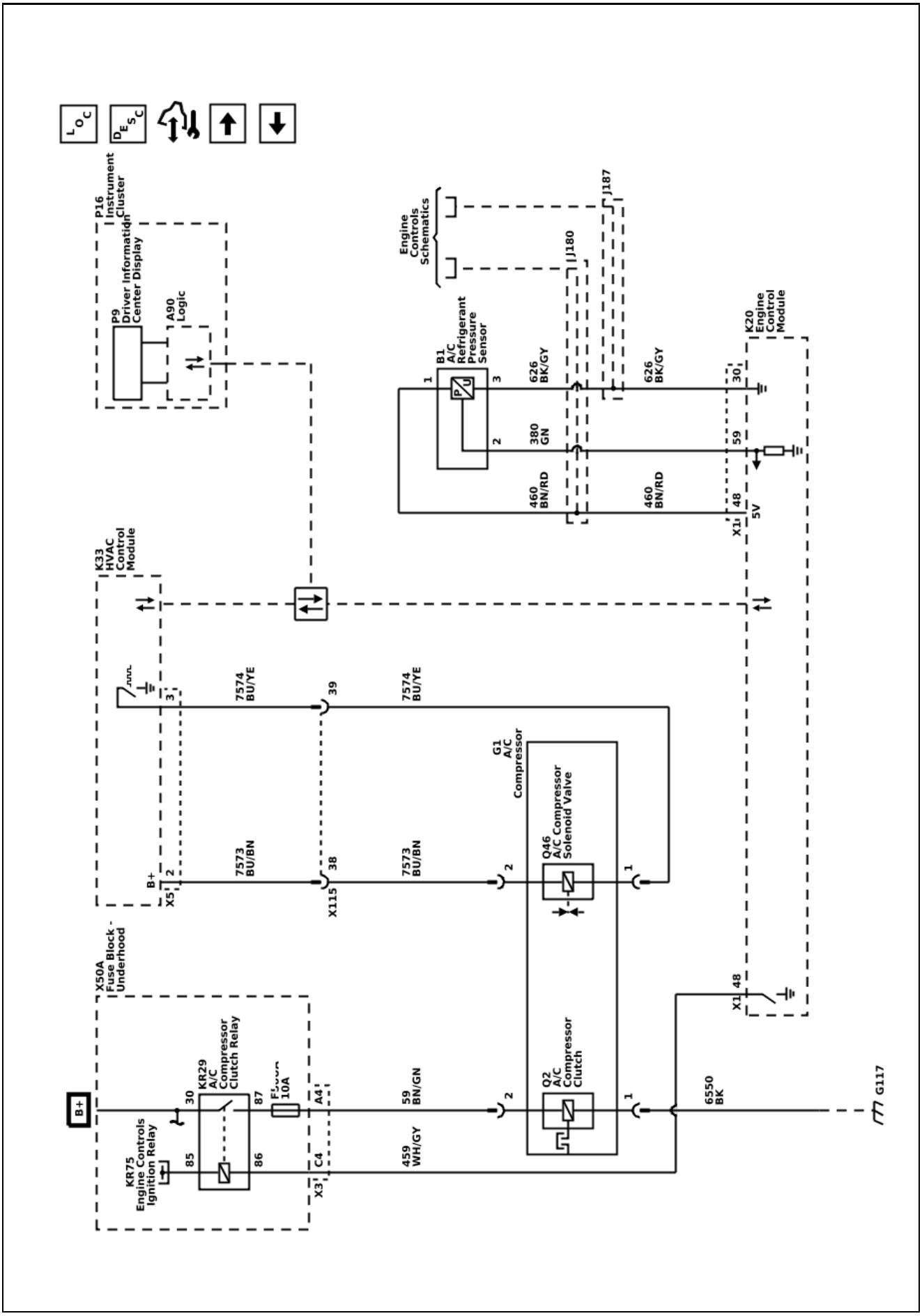
HVAC Schematics (Ambient Light/Sunload Sensor and A/C Evaporator Temperature Sensor)



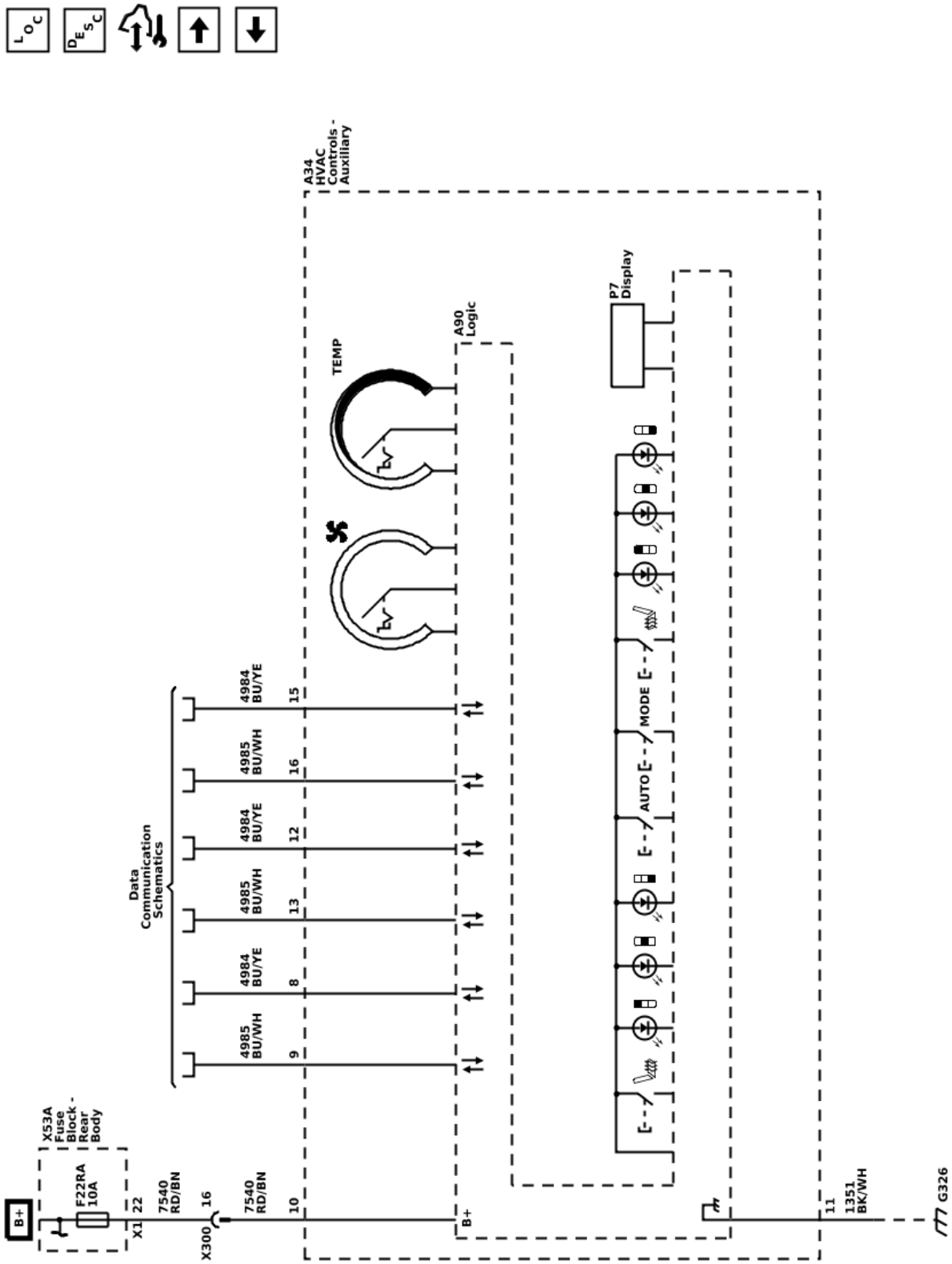
HVAC Schematics (A/C Compressor Controls (L84/L87))



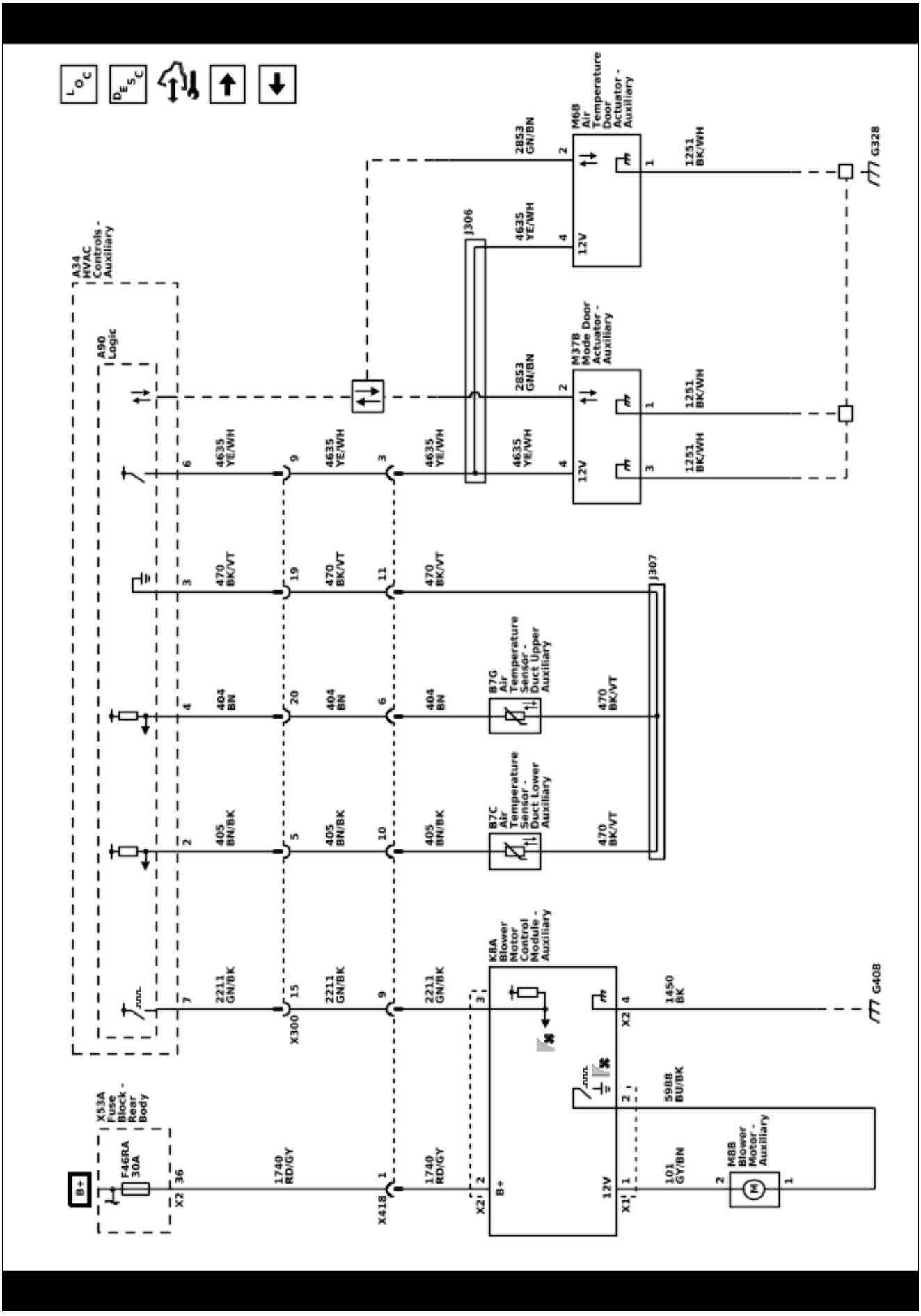
HVAC Schematics (A/C Compressor Controls (LM2))



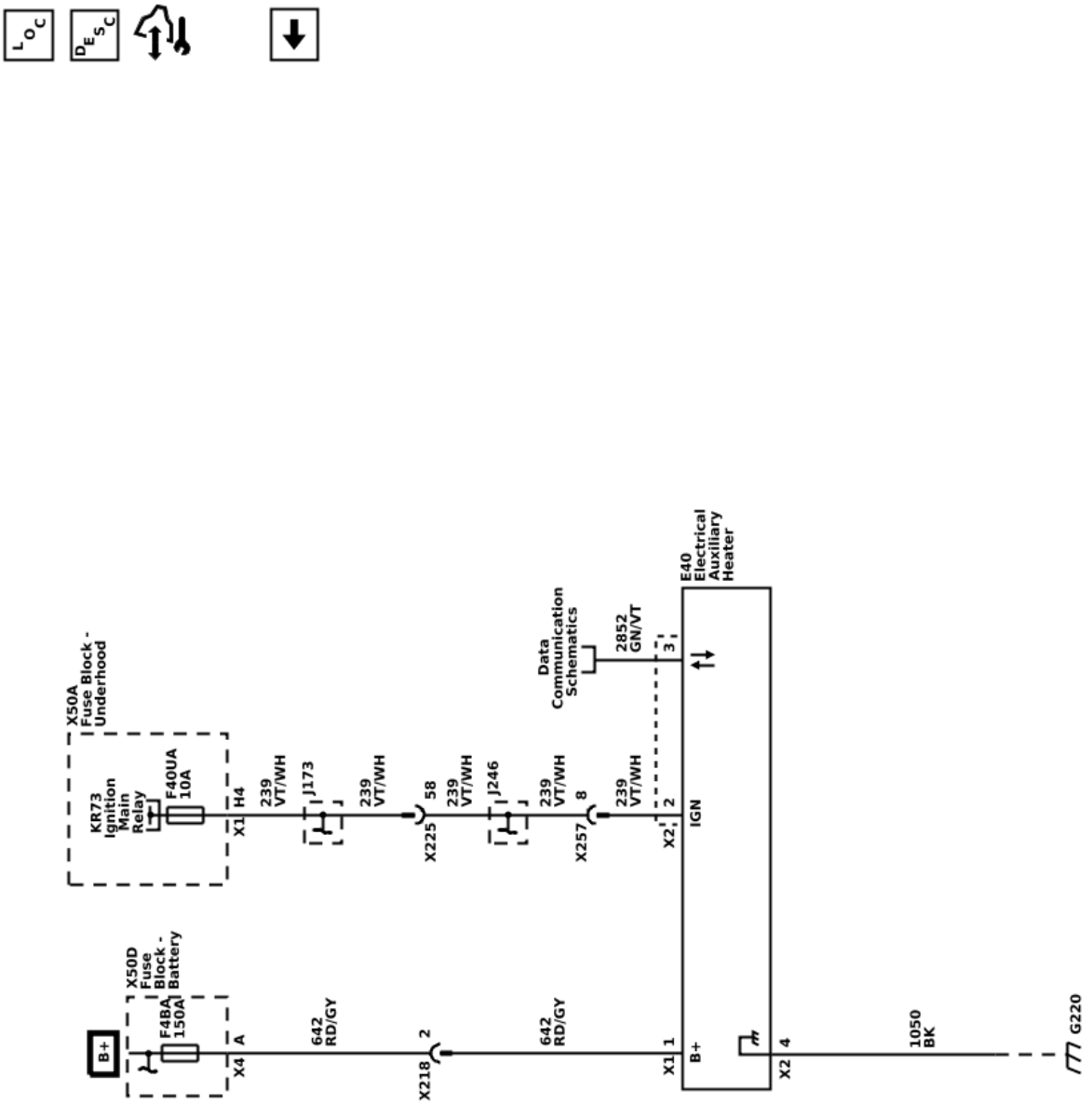
HVAC Schematics (Auxiliary HVAC Controls Power, Ground, and Serial Data (C69))



HVAC Schematics (Auxiliary HVAC Air Speed, Delivery, and Temperature (C69))



HVAC Schematics (Air Heater (C3A))



Description and Operation

Automatic HVAC Description and Operation

The air temperature and the air delivery description and operation are divided into the following:

- HVAC Control Components
- Air Speed and Blower Motor (Front)
- Air Speed and Blower Motor (Rear)
- Air Delivery (Front)
- Air Delivery (Rear)
- Heating and A/C Operation
- Recirculation Operation
- Automatic Operation
- Engine Coolant and A/C System Refrigerant

HVAC Control Components

K9 Body Control Module

The body control module (BCM) is a CAN device that interfaces between the operator and the HVAC system to maintain and control desired air temperature and air distribution settings. The BCM provides a device ON-Signal for the HVAC controls. The BCM provides blower, air delivery mode and air temperature control.

The BCM supports the following features:

Feature	Availability
Afterblow	Available if enabled with a scan tool
Purge	Yes
Personalization	Yes
Actuator Calibration	Yes

A26 Heater and Air Conditioning User Interface Control - Front

The HVAC control contains all switches which are required to control the functions of HVAC and serve as interface between the operator and the BCM. The selected values are passed to the BCM via serial data.

A34 HVAC Controls – Auxiliary (C69)

The HVAC controls – auxiliary contains all switches, buttons, and dials which are required to control the functions of the rear HVAC system and serve as interface between the operator and the BCM. Mode and temperature selections are passed to the BCM via serial data. Rear blower motor speed is controlled via a signal circuit from the HVAC controls – auxiliary to the blower motor control module- auxiliary.

Actuators (Front)

Doors in the HVAC case assembly are used to control air flow. The BCM operates the doors through the use of actuators, with one actuator being used for each door. The system has the following air control doors and associated actuators: mode, left and right temperature, and recirculation.

Each actuator used in the system is a LIN device controlled by the BCM. The BCM supplies a 12 V reference voltage to the actuators, and ground is provided by the wiring harness. When the BCM sends a request message to the actuator, the actuator then operates internal stepper motors to move the door to the required position.

Actuators Rear (C69)

Two additional actuators are added to the system to control the airflow and temperature for the rear seat passengers: rear temperature, and a rear mode.

Each actuator is a LIN device controlled by the BCM. The HVAC controls – auxiliary supplies a 12 V reference voltage to the actuators, and ground is provided by the wiring harness. When the BCM sends a request message to the actuator, the actuator then operates internal stepper motors to move the door to the required position.

Air Speed and M8 Blower Motor (Front)

The selected blower motor speed is passed from the controls to the BCM via serial data.

The motor uses a fused B+, ground, control, and speed output signal circuits to operate. The blower motor speed is controlled by increasing or decreasing the voltage drop on the ground side of the blower motor speed control circuit. The BCM provides a low side pulse width modulation (PWM) signal to the blower motor to request a specific motor speed. The blower motor internal circuitry translates the PWM signal and drives the motor accordingly.

The blower motor has a signal wire used to output a speed signal. The signal is monitored by the BCM. The BCM monitors the blower motor speed to modify the total commanded engine coolant flow rate, which is a percentage of available coolant flow sent to the heater core for occupant comfort and windshield defrosting. The HVAC Blower Speed is monitored so that the ECM can optimize engine coolant flow for fuel economy and emissions.

Air Speed and Blower Motor — Rear (C69)

An auxiliary blower motor is used to regulate the air speed from the rear passenger ducts. The rear blower speed may be selected from the front or rear HVAC controls. The selected value is sent to the A34 HVAC Controls – Auxiliary via serial data.

The K8 Blower Motor Control Module — Auxiliary controls the speed of the rear blower motor by increasing or decreasing the voltage drop on the ground side of the blower motor. The A34 HVAC Controls – Auxiliary provides a low side pulse width modulation (PWM) signal to the blower motor control module — auxiliary via the blower motor speed control circuit. As the requested blower speed increases, the HVAC controls — auxiliary increases the amount of time that the speed signal is modulated to ground. As the requested blower speed decreases, the amount of time that the signal is modulated to ground decreases.

Duct Air Temperature (Front)

Physical duct air temperature sensors are not used with the front system. The air temperature in the air distribution ducts is calculated by the BCM based on the engine coolant temperature, coolant flow, evaporator temperature, outside air temperature, solar

load, blower motor speed, air inlet door position, and temperature door position information. The BCM uses the values to calculate actuator position.

Duct Temperature Sensors– Rear (C69)

The air temperature sensors are 2-wire negative temperature co-efficient thermistors. The sensors operate within a temperature range of −40 to +85°C (−40 to +185°F). The sensors are installed in the air distribution ducts and measure the temperature of the air that streams from the ducts. The HVAC control module uses these values to calculate the mixed air door position.

A signal circuit to each sensor and a common low reference circuit is provided by the A34 HVAC Controls – Auxiliary.

B39 Air Conditioning Evaporator Air Temperature Sensor

The evaporator temperature sensor is a 2-wire negative temperature coefficient thermistor. The sensor operates within a temperature range of −40 to +85°C (−40 to +185°F). The sensor is installed near the evaporator core to measure the air temperature exiting the core.

Based on vehicle operating conditions and operator settings, the HVAC software algorithms will determine a target evaporator air temperature. The operation of the compressor solenoid will be adjusted as needed to quickly reach and maintain the targeted temperature.

B1 Air Conditioning Refrigerant Pressure Sensor

The A/C refrigerant pressure sensor is a 3-wire piezoelectric pressure transducer. A 5 V reference voltage, low reference, and signal circuits enable the sensor to operate. The A/C pressure signal can be between 0.2–4.8 V. When the A/C refrigerant pressure is low, the signal value is near 0 V. When the A/C refrigerant pressure is high, the signal value is near 5 V. The engine control module (ECM) converts the voltage signal to a pressure value. When pressure is too high or too low, the ECM will not allow the A/C compressor clutch to engage.

G1 Air Conditioning Compressor

The A/C compressor uses a conventional belt driven magnetic clutch to engage and mechanically turn the compressor. When the A/C switch is pressed, the BCM sends an A/C request message to the ECM via serial data. If specific criteria is met, the ECM then grounds the A/C compressor clutch relay control circuit, which will switch the A/C compressor clutch relay. With the relay contacts closed, battery voltage is supplied to the permanently grounded A/C compressor clutch. The A/C compressor clutch will then be activated.

This A/C system utilizes a variable displacement solenoid valve to alter the amount of displacement created by the turning of the compressor. The BCM provides both battery voltage and a pulse width modulated ground to the Q46 Air Conditioning Compressor Solenoid Valve. When the A/C switch is pressed, the BCM grounds the variable displacement solenoid using a (PWM) signal in order to determine the amount of compressor displacement. The performance of the A/C compressor is regulated based on cooling load.

B160 Inside Air Moisture and Windshield Temperature Sensor

The windshield temperature and inside moisture sensor includes the relative humidity sensor, windshield temperature sensor and humidity sensing element temperature sensor.

This sensor assembly provides information about:

- Relative humidity level at windshield (passenger compartment side)
- Temperature of the windshield (passenger compartment side)
- Temperature of the humidity sensor element

The relative humidity sensor measures the relative humidity of the passenger compartment side of the windshield. It also detects the temperature of the windshield surface on the passenger compartment side. Both values are used as control inputs for the BCM application to calculate the fog risk on windshield compartment side and ability to reduce fuel consumption by decreasing A/C compressor power to a minimum without causing any fog. The sensor will also enable partial recirculation mode in order to improve heat-up performance of the passenger compartment under cold ambient temperature conditions without the risk of mist build-up on the windshield. The humidity sensor element temperature sensor supplies the temperature of the humidity sensor element. It is only needed if the thermal contact between the humidity sensing element and the inside windshield surface is not sufficient.

The sensor is part of a LIN windshield sensor array, and the windshield temperature and humidity values are transmitted to the BCM via serial data.

B10B Sunload, Temperature and Ambient Light and Security Sensor

The ambient light/sunload sensor includes the solar sensor and passenger compartment temperature sensor.

The solar sensor is connected to a low reference and 5 V supply through the BCM. As the sunload increases, the sensor signal voltage also increases and vice versa. The signal provided to the BCM varies between 1.2–4.85 V.

The passenger compartment temperature sensor is a negative temperature coefficient thermistor, connected to a low reference and 5 V supply through the BCM. As the air temperature increases, the sensor resistance decreases. The signal varies between 0–5 V.

Bright or high intensity light can cause the vehicles interior temperature to increase. The HVAC system uses the sensor values and compensates for the increased temperature to maintain the system settings.

Afterblow

Afterblow is a feature that dries the evaporator core by operating the blower motor after the engine is turned OFF. This reduces the amount of microbial growth that can create undesirable odors. The vehicle does not come equipped with the afterblow feature turned ON. If the afterblow feature is desired due to an odor concern, it must be enabled using the scan tool Afterblow Configuration function.

When the BCM is enabled for afterblow, the following conditions must be met for afterblow to operate:

- The vehicle has been OFF for at least 30 minutes.
- The ambient air temperature is at least 11°C (52°F).
- The A/C compressor operated for more than 5 minutes before shut down.
- The system voltage is at least 12 V.

Once the above conditions have been met, the blower motor will perform the following sequence up to 4 times. This could last up to an hour:

1. The blower motor will be OFF for 7–15 minutes.
2. The blower motor will RUN for approximately 30 seconds.

Air Delivery (Front)

The BCM controls the distribution of air by the use of recirculation and mode door actuators. The modes that may be selected are:

- Defrost: windshield outlet
- Panel: dashboard outlets
- Floor: front footwell outlets
- Defog: defrost + floor
- Bi-level: panel + floor
- Tri-level: panel + defrost + floor
- Hi-level: panel + defrost

The desired air distribution mode can be selected with the air distribution switches at the HVAC control. The HVAC control delivers the values to the BCM via serial data. The BCM sends a request to the mode door actuator to move the door to the required position. Depending on the position of the door, air is distributed through various ducts leading to the outlets in the dash. When defrost airflow is active, the BCM will move the recirculation actuator to outside air, to aid in reducing window fogging. When defrost is selected the blower motor will be activated, regardless of the coolant temperature. A/C is available in all modes.

Refer to the owners manual for operation of the HVAC controls and mode selection.

Recirculation Operation

The recirculation switch is integrated into the HVAC control. The selected recirculation setting is sent to the BCM via serial data. The BCM controls the air intake using the recirculation actuator. In recirculation mode the recirculation door is positioned to block outside air from entering and circulate the air within the vehicle. In outside air mode the recirculation door is positioned to route outside air into the vehicle.

Recirculation is only available if the defrost mode is not active. When the defrost mode is active, the recirculation actuator positions the recirculation door so that outside air is circulated to the windshield to reduce fogging.

In automatic mode the values of the sensors are used as inputs for the BCM to calculate the fog risk on the passenger compartment side of the windshield. The A/C compressor and the defrost mode may be activated to prevent or remove fog on the passenger compartment side of the windshield.

In automatic mode, a partial recirculation mode may be commanded to accelerate cabin heating or cooling and reduce energy usage. The recirculation indicator remains illuminated at all times, regardless of the actual operating mode determined by the system.

Air Delivery — Rear (C69)

The BCM control module controls the distribution of air by the mode door actuator – auxiliary. The modes that may be selected are:

- AUTO
- Floor
- Bi-Level
- Vent

The desired rear air distribution mode can be selected with the Mode switch at the HVAC control – auxiliary. The HVAC control – auxiliary delivers the values to the BCM via serial data. The BCM controls the mode door actuator – auxiliary via LIN bus to move the door to the calculated position. Depending on the position of the door, air is distributed through various ducts.

Heating and A/C Operation

The purpose of the heating and A/C system is to provide heated and cooled air to the interior of the vehicle. The A/C system will also remove humidity from the interior and reduce windshield fogging. Regardless of the temperature setting, the following may affect the rate that the HVAC system can achieve the desired temperature:

- Recirculation setting
- Difference between inside and desired temperature
- Blower motor speed setting
- Mode setting
- Dashboard outlet open/closed position

When the A/C switch or the AUTO switch is pressed, the HVAC control sends a signal to the BCM via serial data. The BCM evaluates this signal and sends an A/C request signal to the ECM via CAN-Bus. The ECM checks all preconditions before releasing and if all conditions are met sends a release signal back to the BCM. The A/C compressor is activated by the BCM. The BCM supplies battery voltage to the A/C compressor solenoid. When the A/C switch is pressed, the BCM provides a pulse width modulation (PWM) signal to the A/C compressor solenoid in order to command the performance of the A/C compressor. The performance of the A/C compressor is regulated using evaporator temperature and engine load.

The A/C indicator does not indicate the compressor is currently active. The A/C indicator shows that A/C has been requested and the system will activate the compressor as needed.

The following conditions must be met in order to activate the A/C compressor:

- Battery voltage is between 9–18 V
- Engine coolant temperature is less than 124°C (255°F)
- Engine speed is greater than 600 RPM
- Engine speed is less than 5 500 RPM

- A/C high side pressure is between 269–2 929 kPa (39–425 PSI)
- Throttle position is less than 100%
- Evaporator temperature is greater than 3°C (38°F)
- ECM does not detect immoderate torque load
- ECM does not detect insufficient idle quality
- The ambient temperature is above 1°C (34°F)

The sensor information is used by the ECM to determine the following:

- The A/C high side pressure
- An A/C system load on the engine
- An immoderate A/C high side pressure
- The heat load at the A/C condenser

The air streams into the passenger compartment through the heater core and the evaporator core. The air temperature actuator drives the mixed air door to direct the airflow. If the interior temperature should be increased, the mixed air door is put into the position in which more air streams through the heater core. If the interior temperature should be decreased, the mixed air door is put into the position in which more air streams through the evaporator core.

Automatic Operation

In automatic operation, the BCM maintains the comfort level inside of the vehicle by controlling the A/C compressor solenoid, the blower motor, the air temperature actuators, mode actuator and recirculation actuator.

The automatic mode indicator shows that the system is in full automatic operation. If an individual setting is changed (excluding temperature), the automatic indicator will turn off, and that function will enter manual control. All other functions will remain under automatic control unless manually changed.

To put the HVAC system in automatic mode, the following is required:

1. The auto switch must be activated.
2. The air temperature switch must not be in either the full hot or full cold position.

Once the desired temperature is reached, the blower motor, mode, recirculation and temperature actuators automatically adjust to maintain the temperature selected. The BCM performs the following functions to maintain the desired air temperature:

- Monitors the following:
  - Ambient (outside) air temperature sensor
  - Passenger compartment temperature sensor
  - Calculated front duct air temperatures
  - Auxiliary duct air temperature sensors (C69)
  - Windshield temperature and inside moisture sensor
  - Evaporator temperature sensor
  - Ambient light/sunload sensor
- Regulate the blower motor speed
- Regulate the rear blower motor speed (C69)
- Position the air temperature actuators
- Position the mode door actuators
- Position the recirculation actuator
- Control of the A/C compressor solenoid

When the temperature setting is set to full hot, the blower speed will increase gradually as the coolant warms to normal operating temperature. When normal engine operating temperature is reached the blower stays on high speed and the air temperature actuators stays in the full heat position.

When the temperature setting is set to full cold, the blower will immediately operate at high speed and the air temperature actuators move to full cold position. The mode actuator moves to the panel position and the recirculation actuator moves to the recirculation position.

Under cold ambient temperatures, the automatic HVAC system provides heat in the most efficient manner. The operator can select an extreme temperature setting but the system will not warm the vehicle any faster. Under warm ambient temperatures, the automatic HVAC system also provides air conditioning in the most efficient manner. Selecting an extreme cool temperature will not cool the vehicle any faster.

In automatic mode the values of the windshield temperature and inside moisture sensor are used as control inputs for the BCM application to calculate the fog risk on the passenger compartment side of the windshield and ability to reduce fuel consumption by decreasing A/C compressor power to a minimum without causing any fog. The A/C compressor and the defrost mode are activated to prevent or remove fog on the passenger compartment side of the windshield. The sensor will also enable partial recirculation mode in order to improve heat-up performance of the passenger compartment under cold ambient temperature conditions without the risk of mist build-up on the windshield.

Engine Coolant and A/C System Refrigerant

For information on engine coolant, coolant flow, A/C refrigerant, and the A/C refrigerant cycle, refer to Heating and Air Conditioning System Description and Operation.

Section 6

Power and Signal Distribution

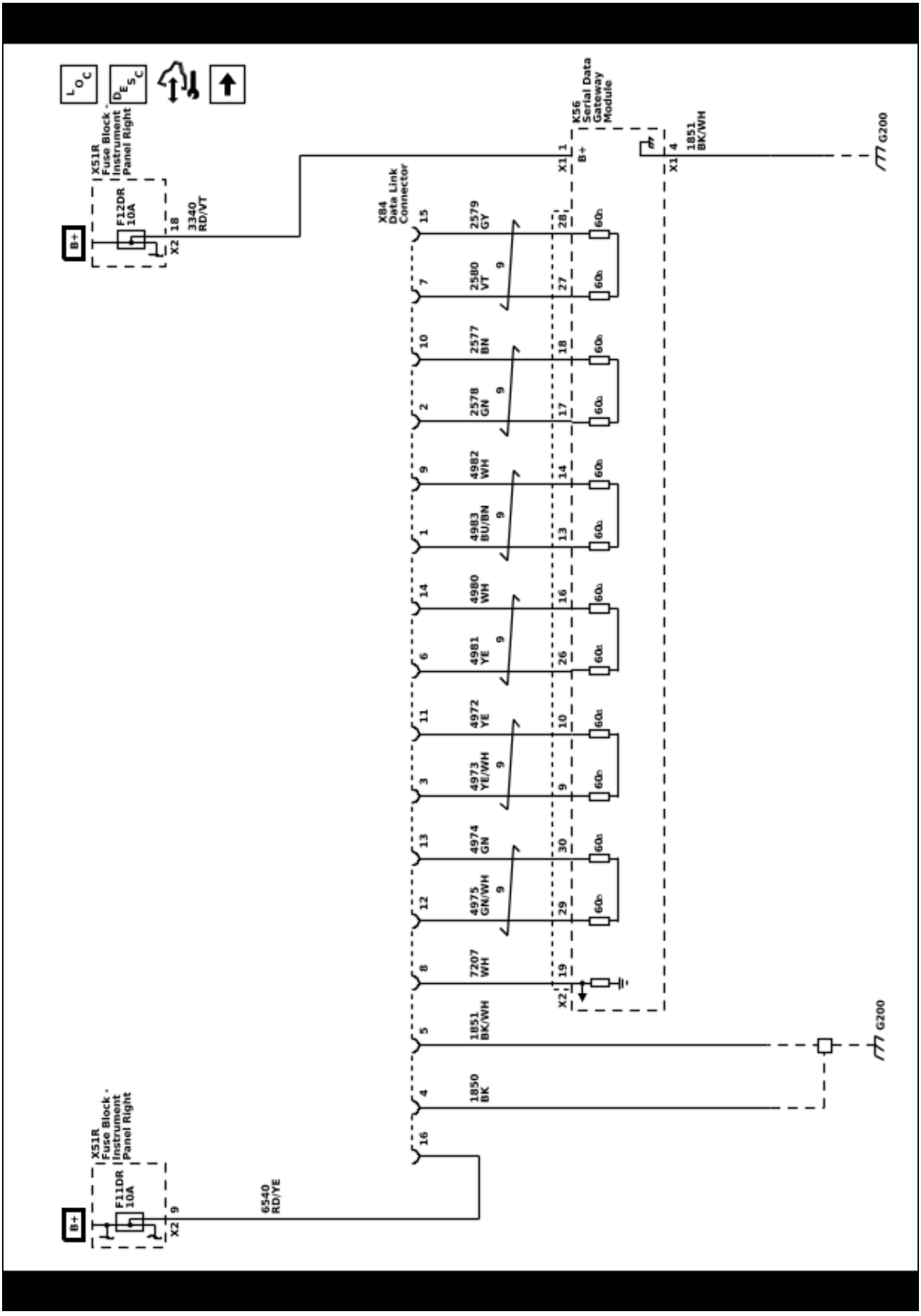
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Data Communications

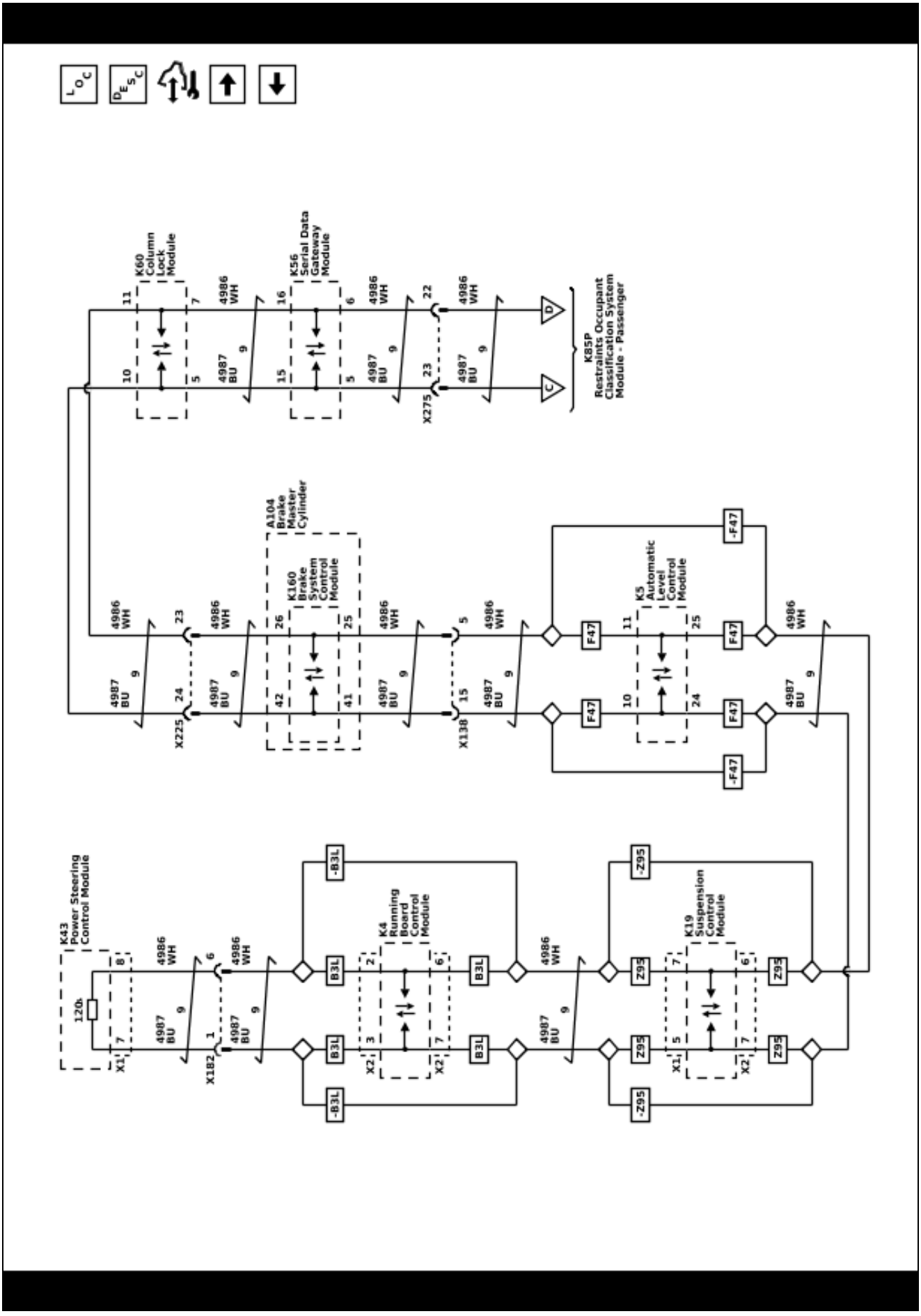
Schematic and Routing Diagrams

Data Communication Schematics (Data Link Connector and Serial Data Gateway Module Power and Ground)



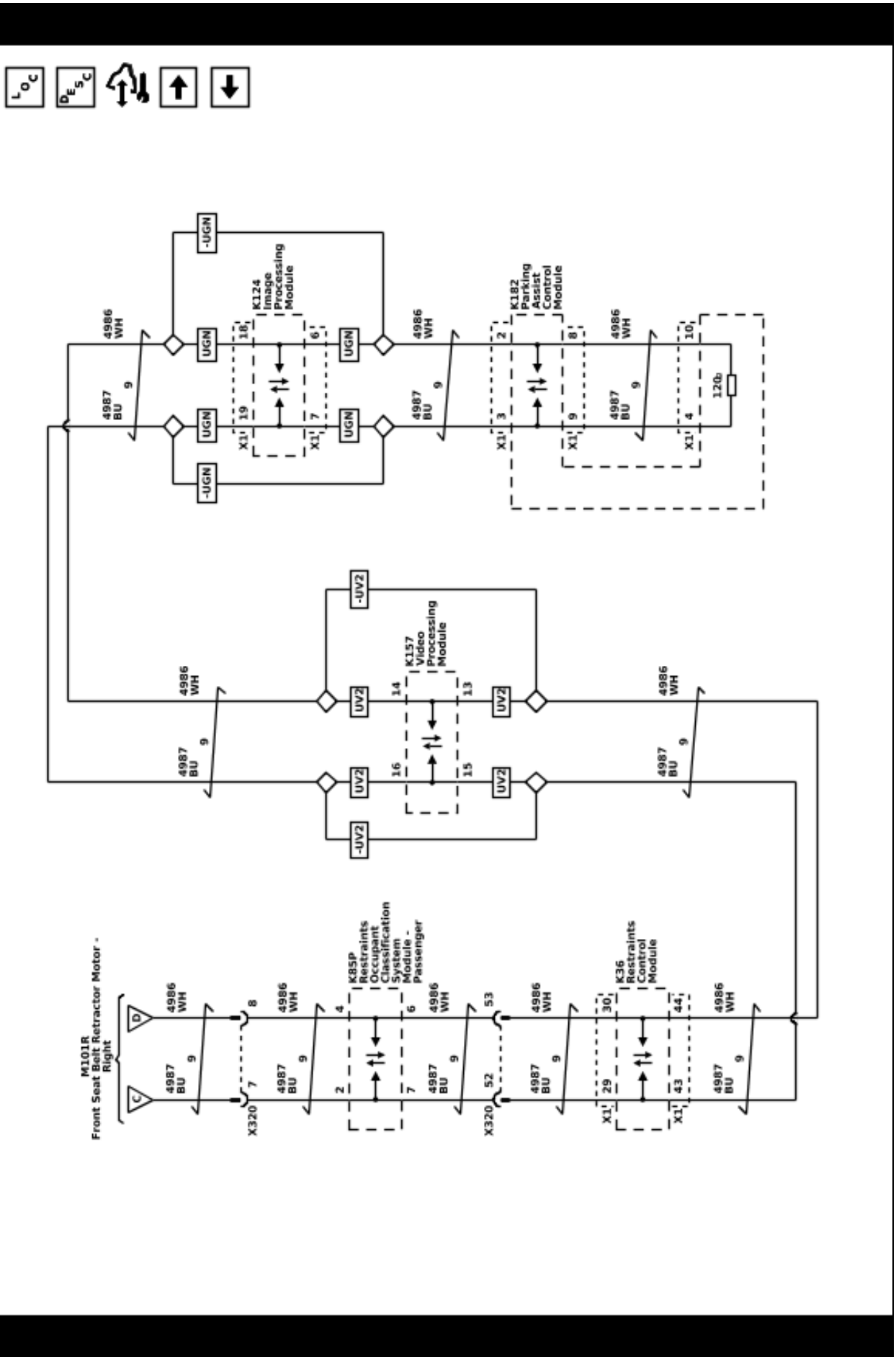
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Data Communication Schematics (CAN 1 (1 of 2))

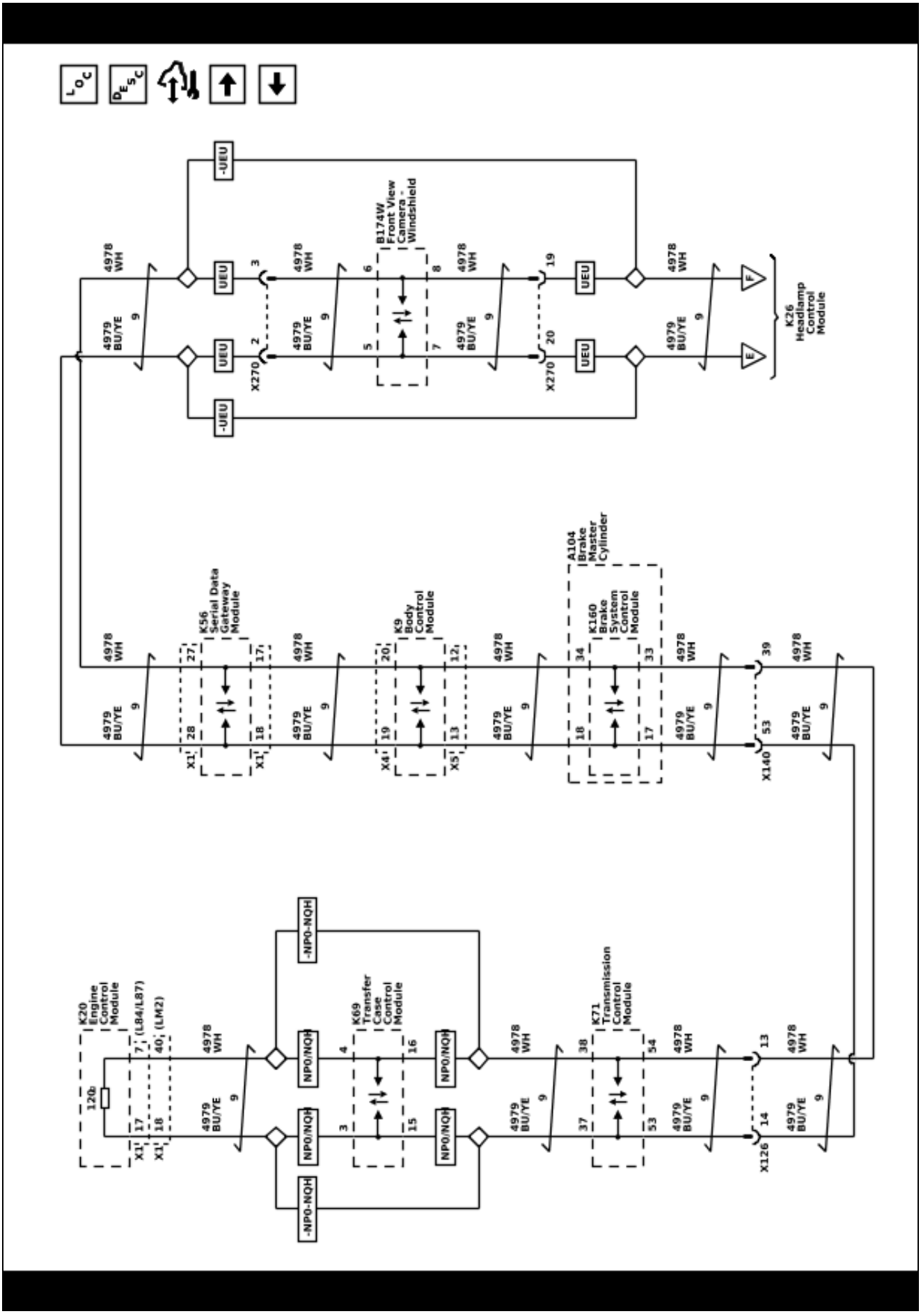


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Data Communication Schematics (CAN 1 (2 of 2))

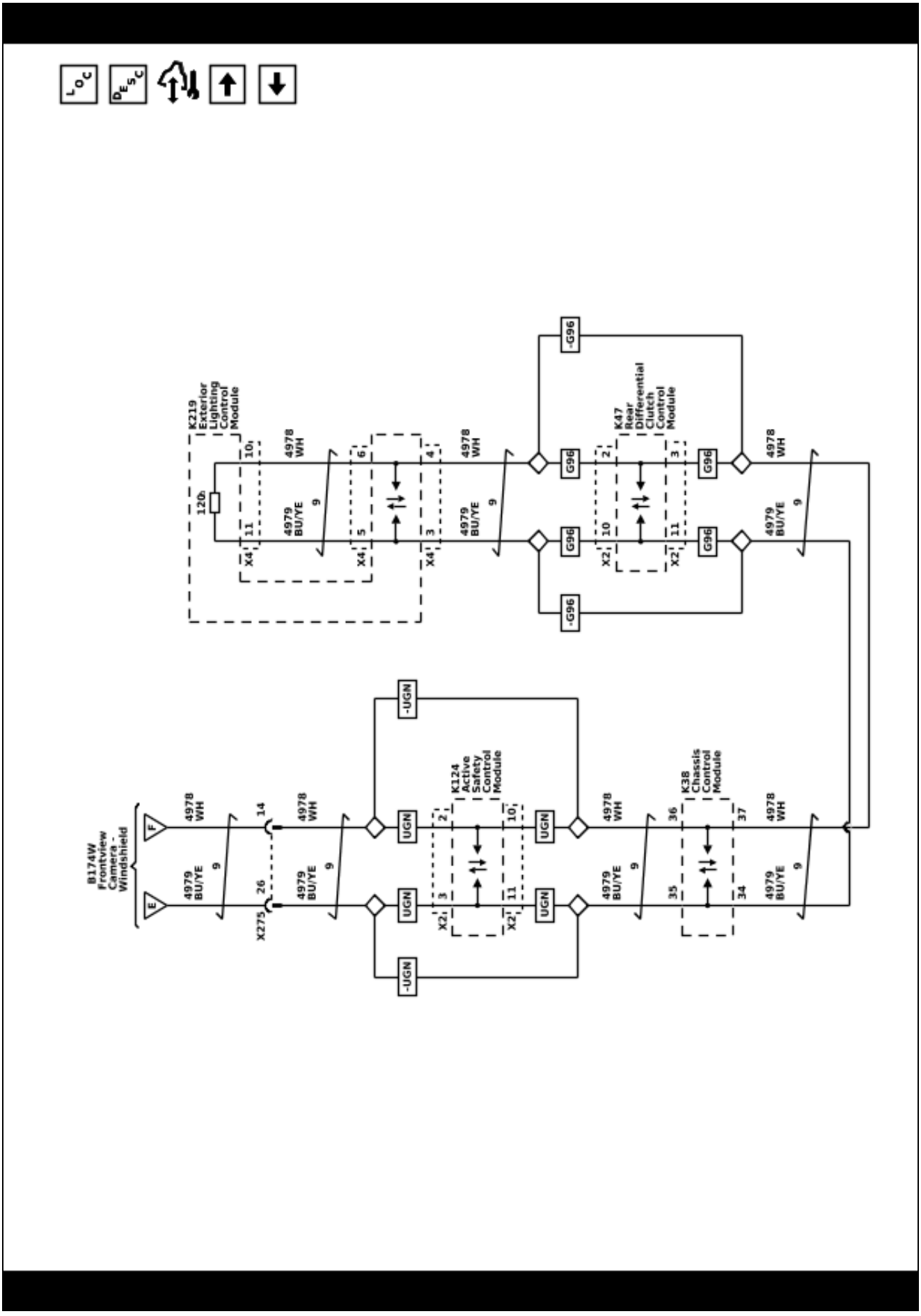


Data Communication Schematics (CAN 2 (1 of 2))



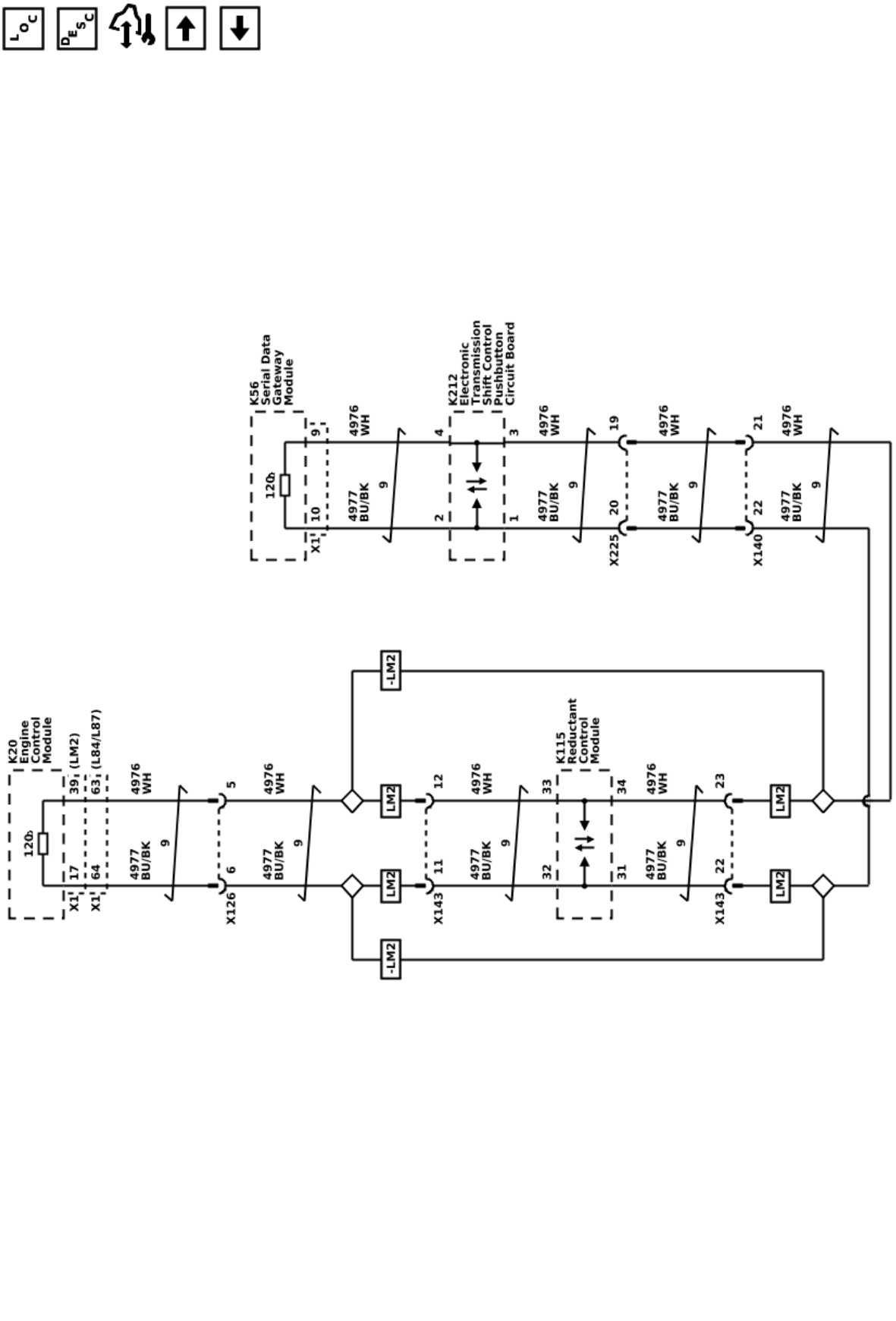
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Data Communication Schematics (CAN 2 (2 of 2))

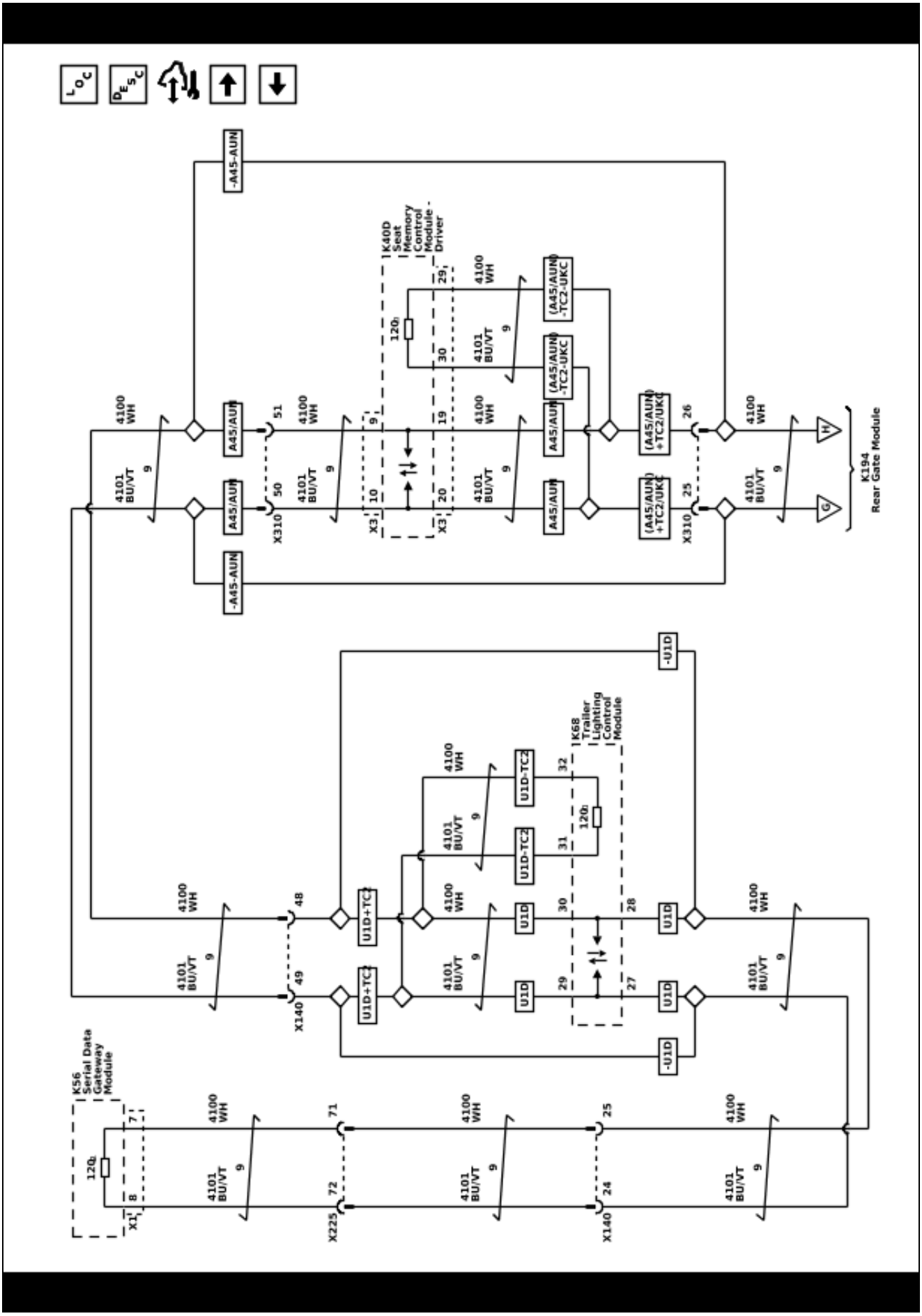


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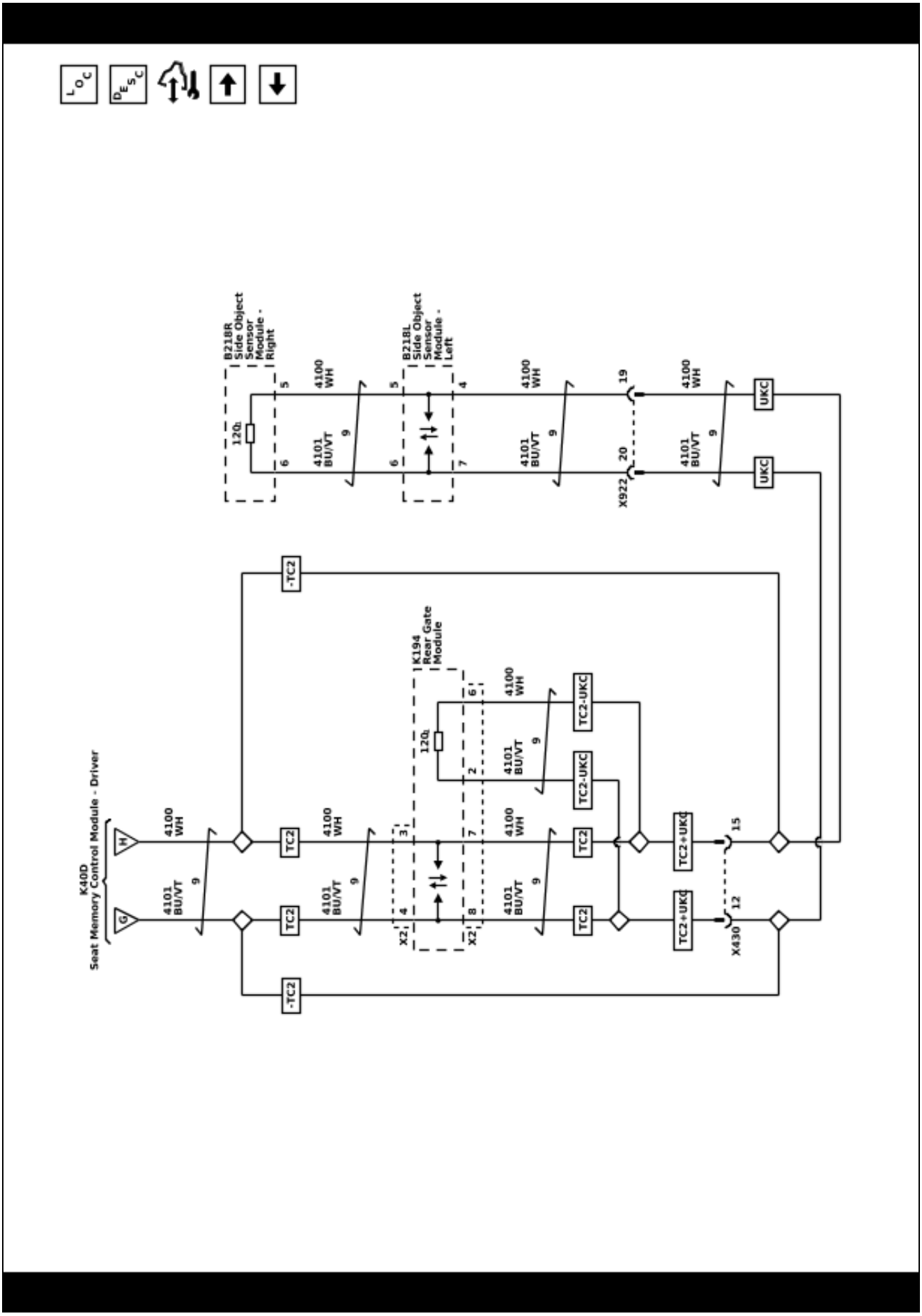
Data Communication Schematics (CAN 3)



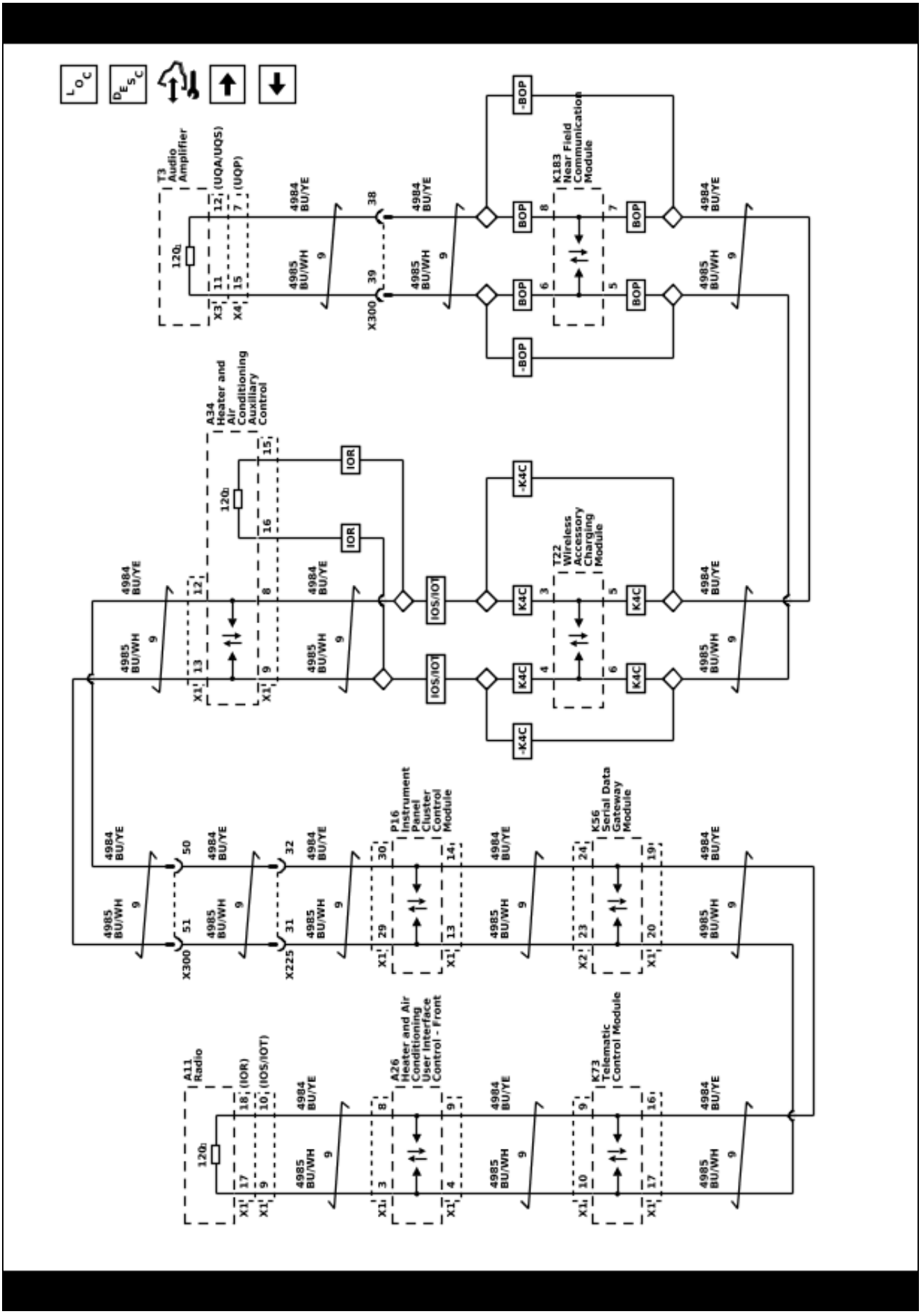
Data Communication Schematics (CAN 4 (1 of 2))



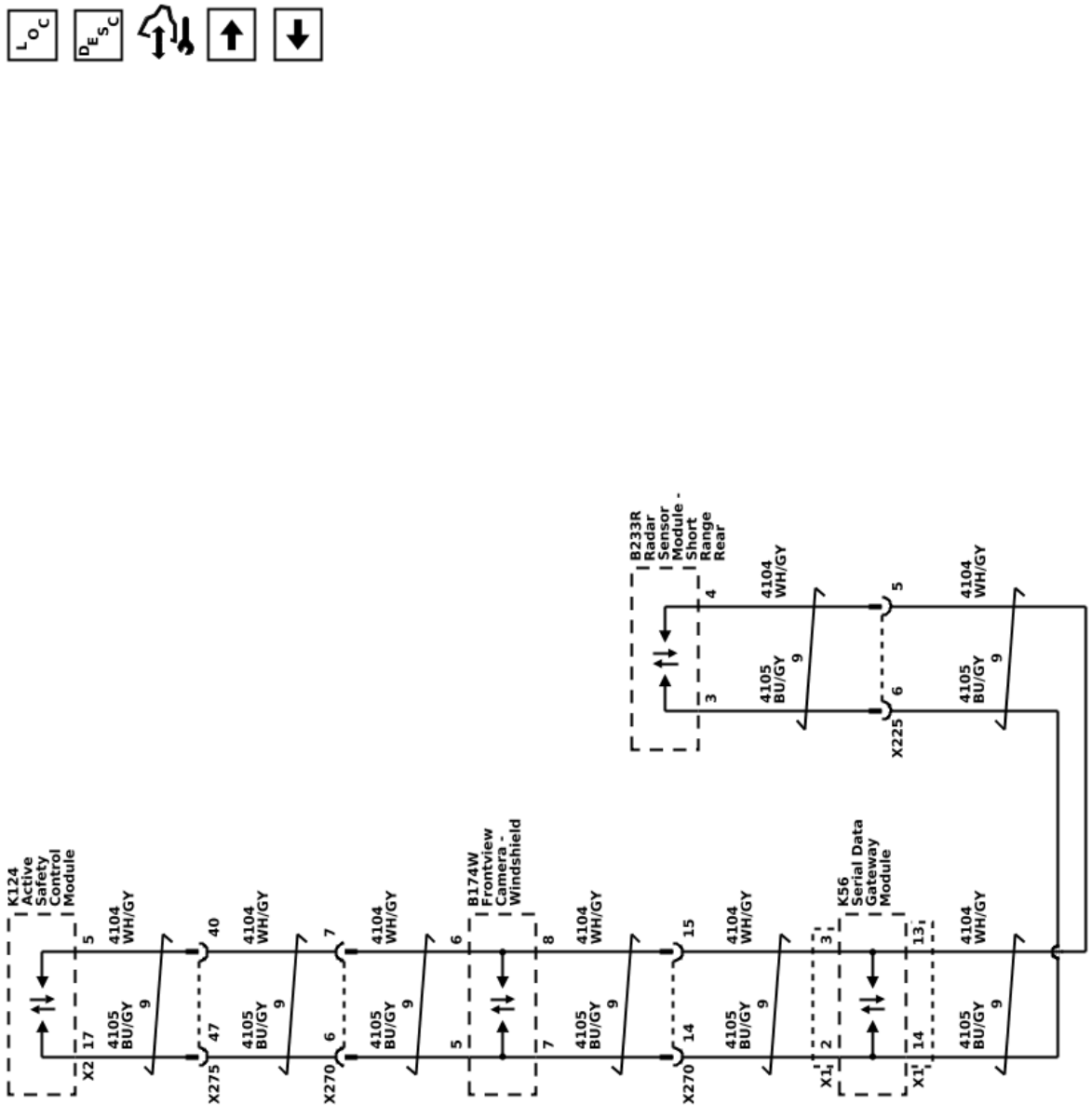
Data Communication Schematics (CAN 4 (2 of 2))



Data Communication Schematics (CAN 5)

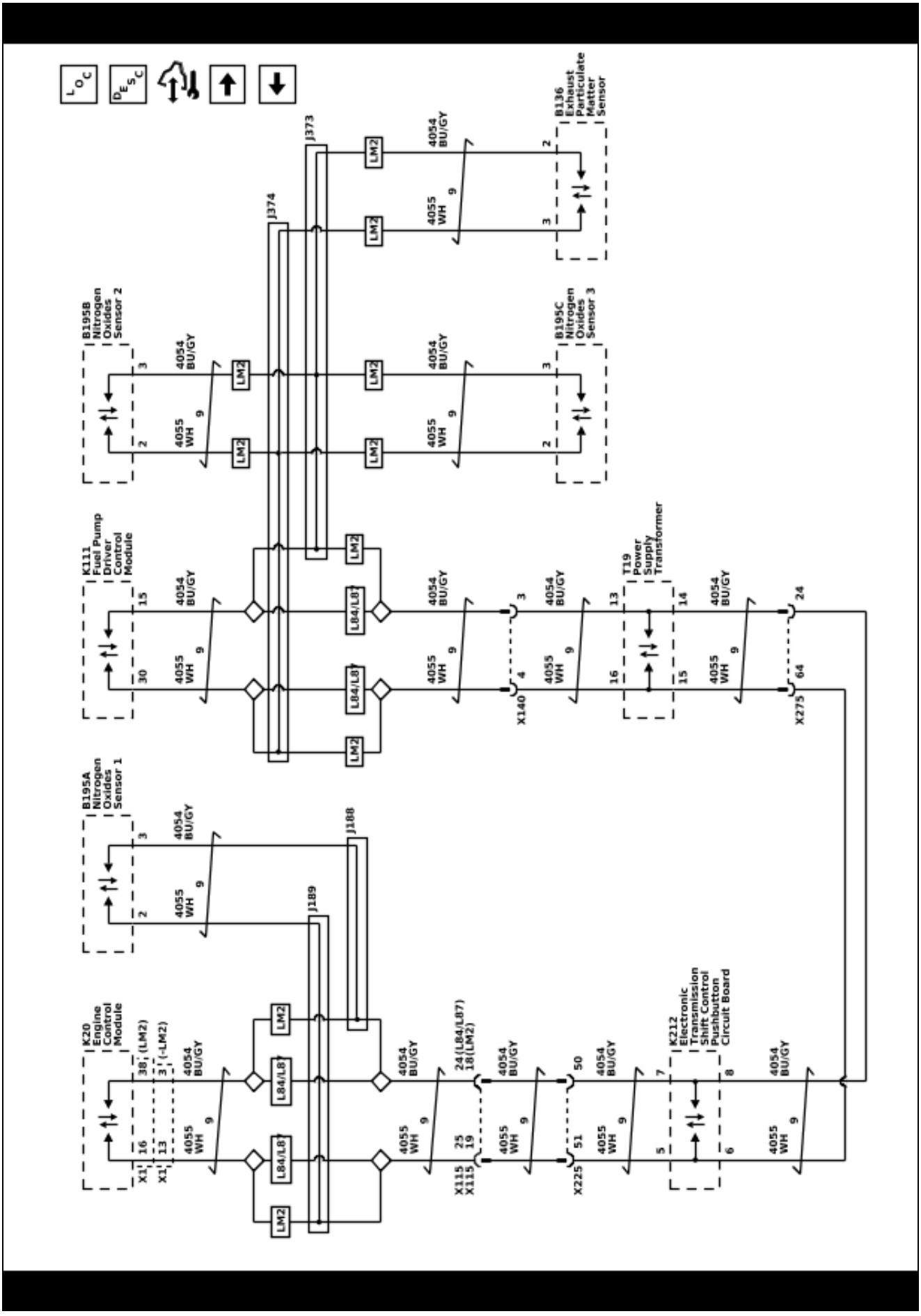


Data Communication Schematics (CAN 8 (UGN))

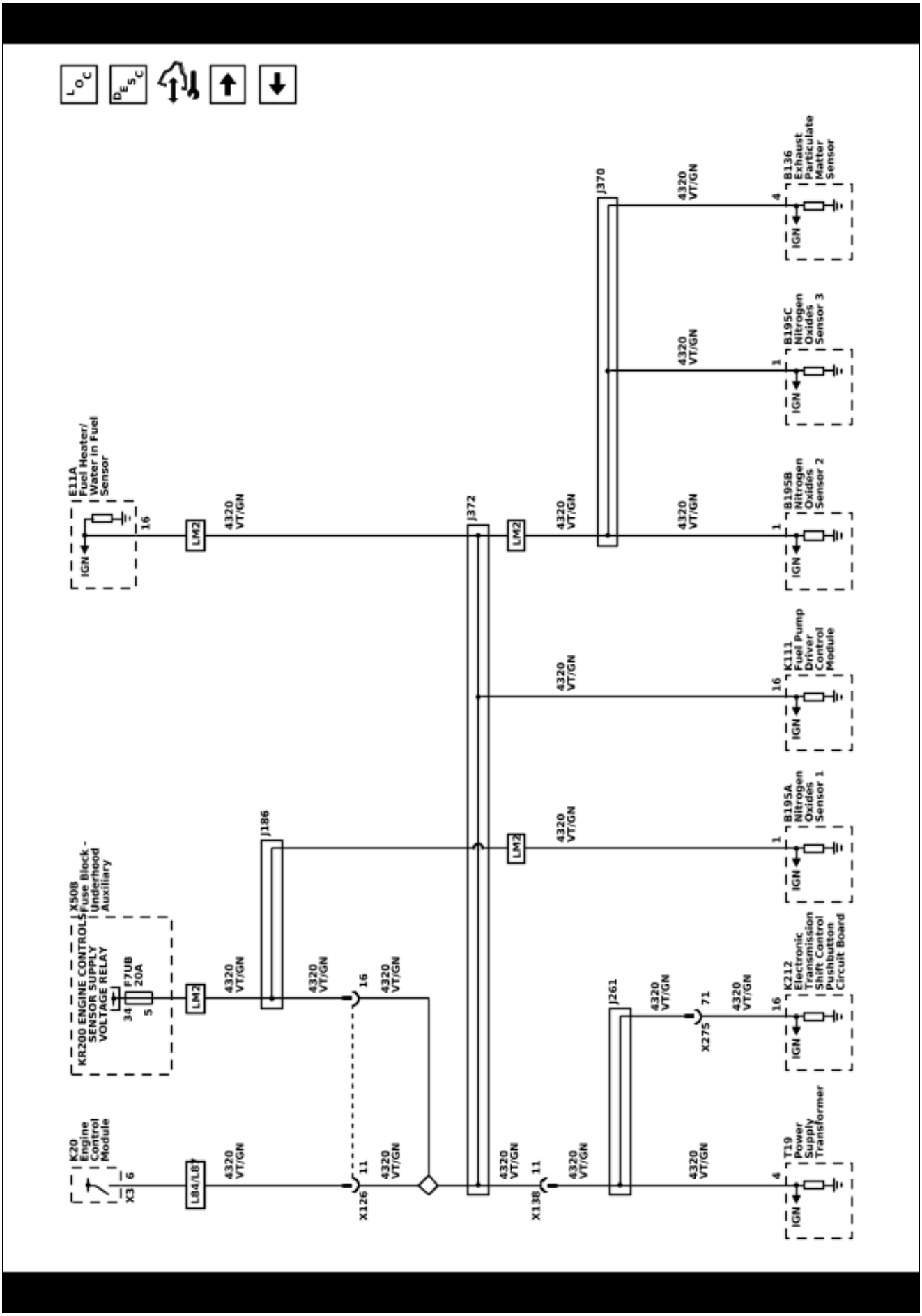


5371046

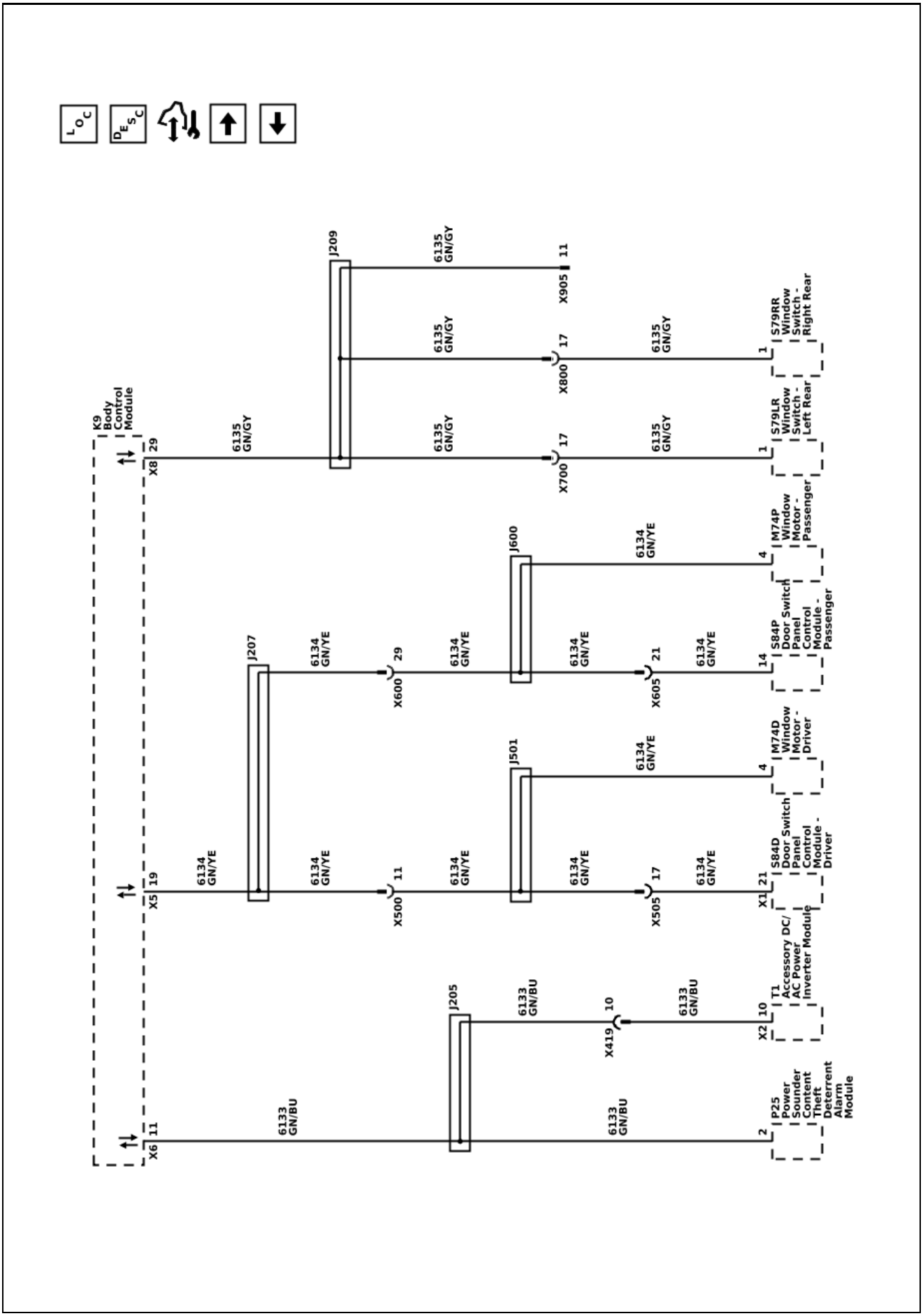
Data Communication Schematics (Powertrain CAN)



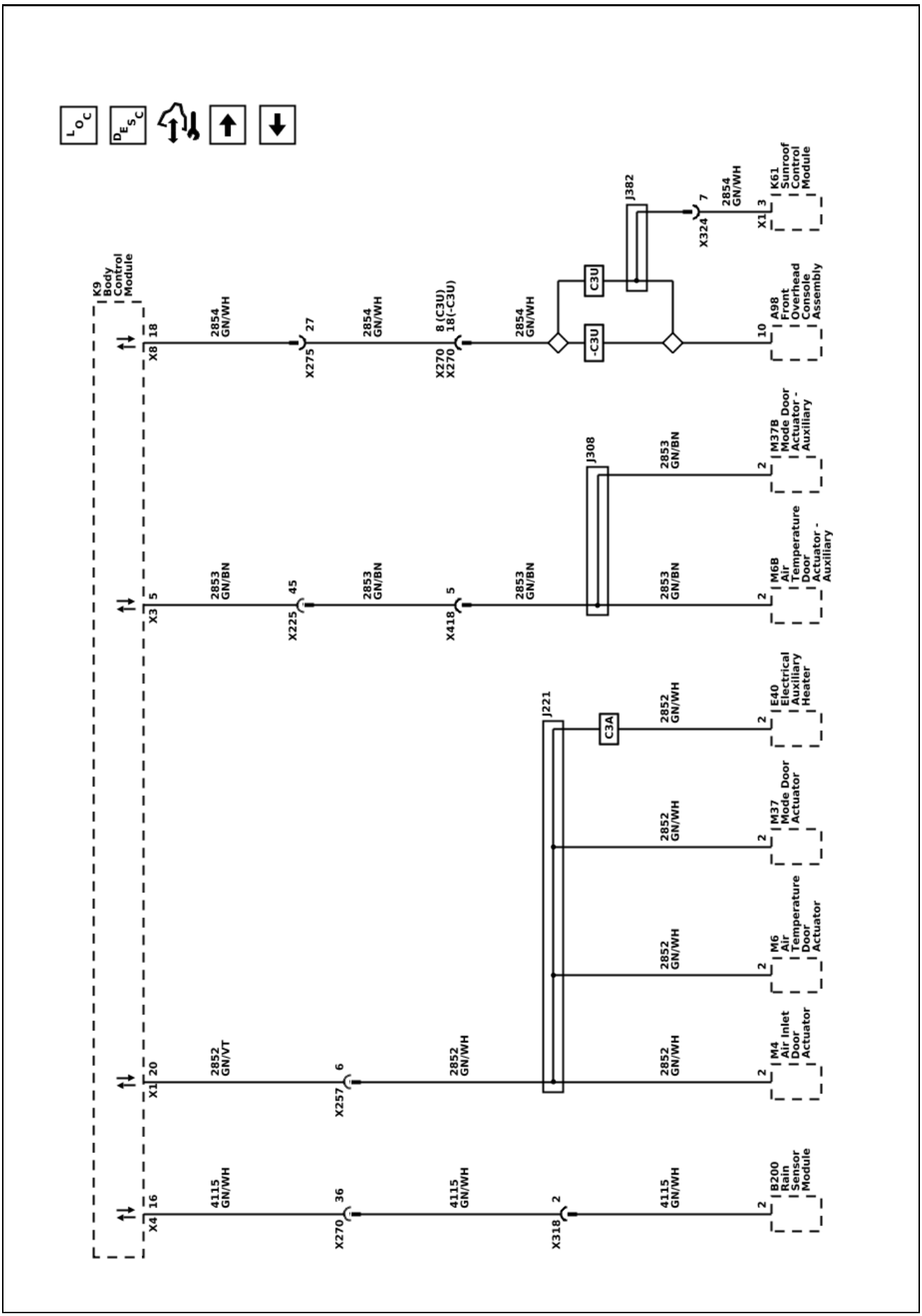
Data Communication Schematics (Powertrain CAN Enable)



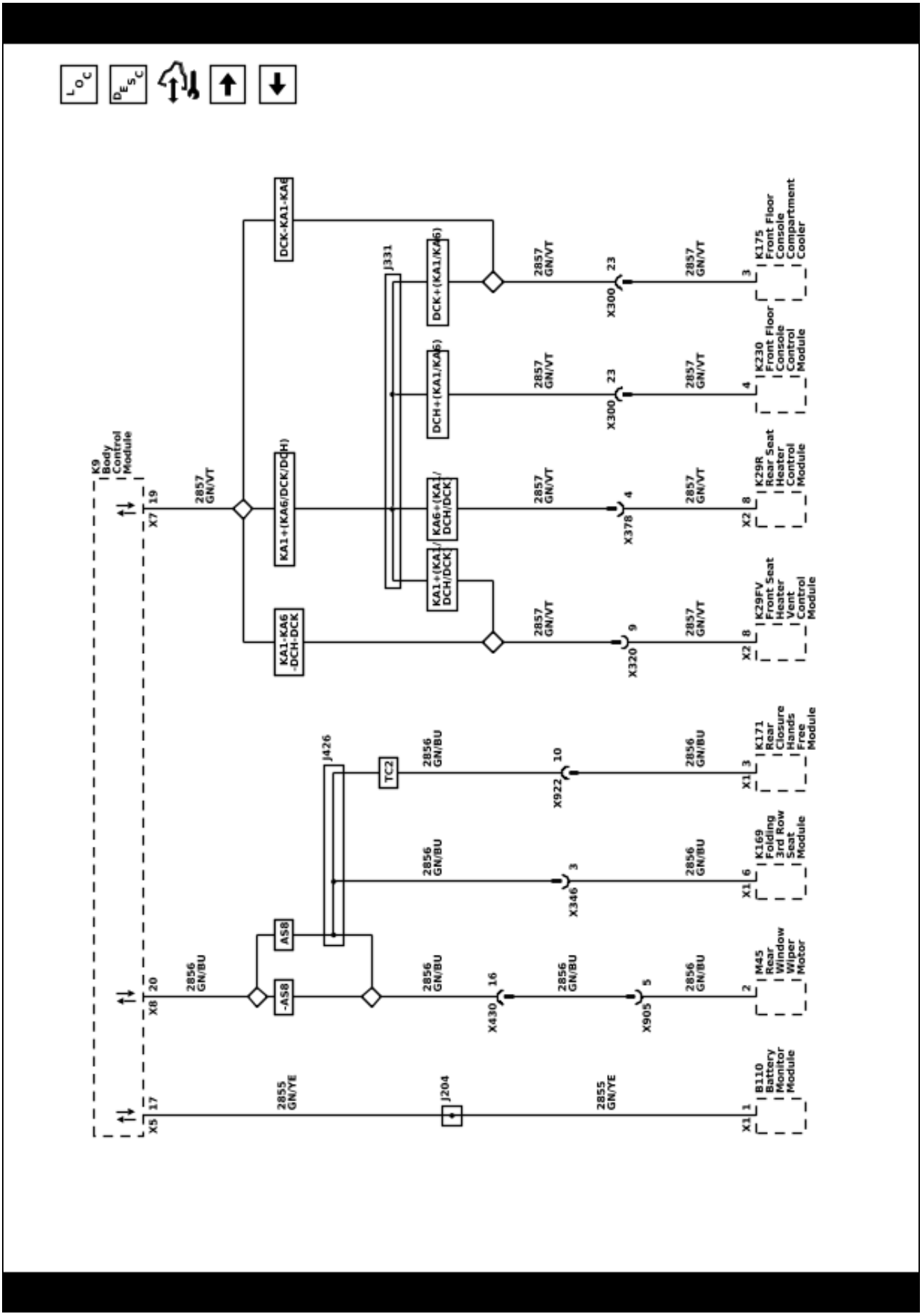
Data Communication Schematics (Body Control Module Local Interconnect Network (LIN) Busses 2, 3, and 4)



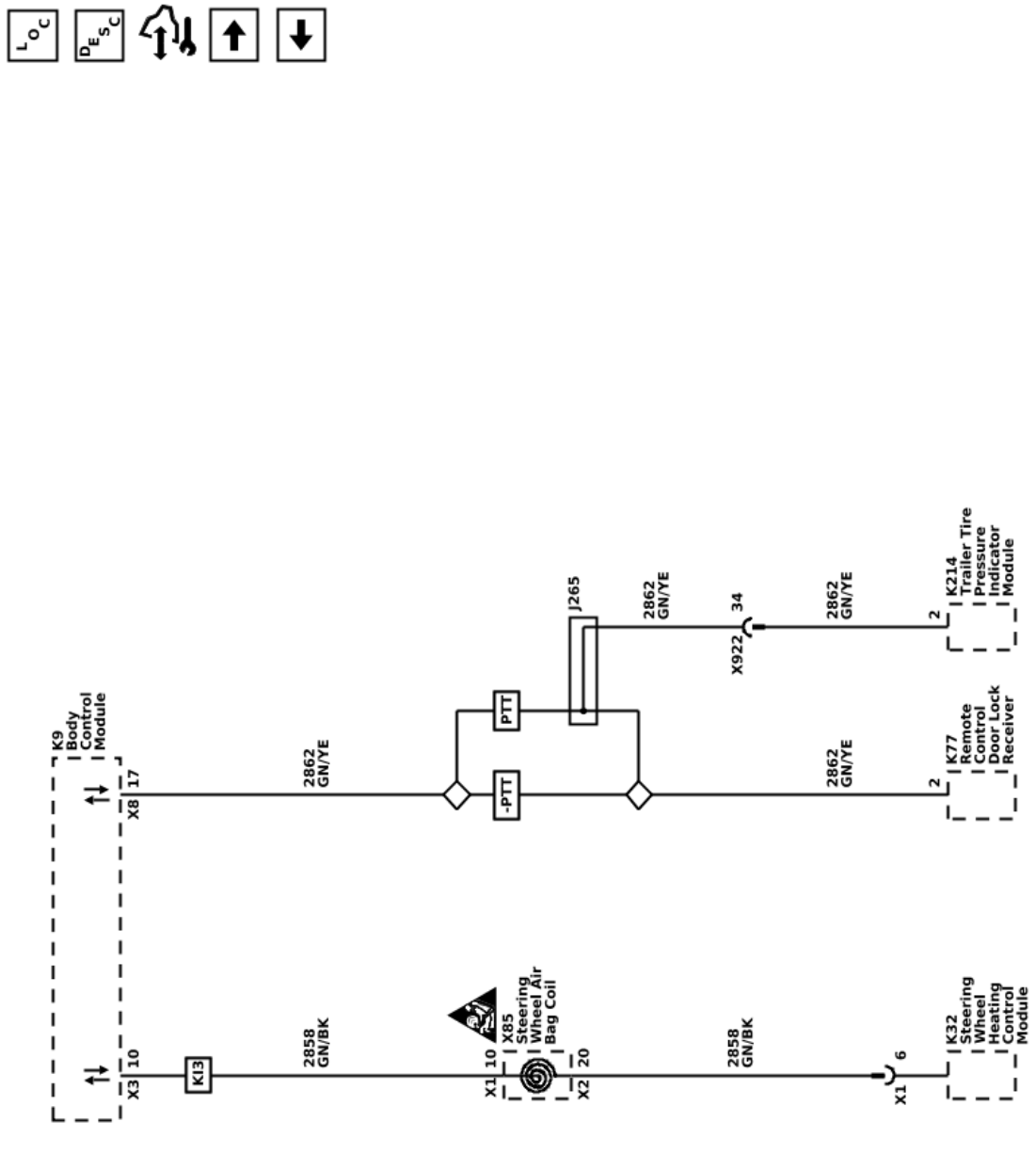
Data Communication Schematics (Body Control Module Local Interconnect Network (LIN) Busses 5, 6, 7, and 8)



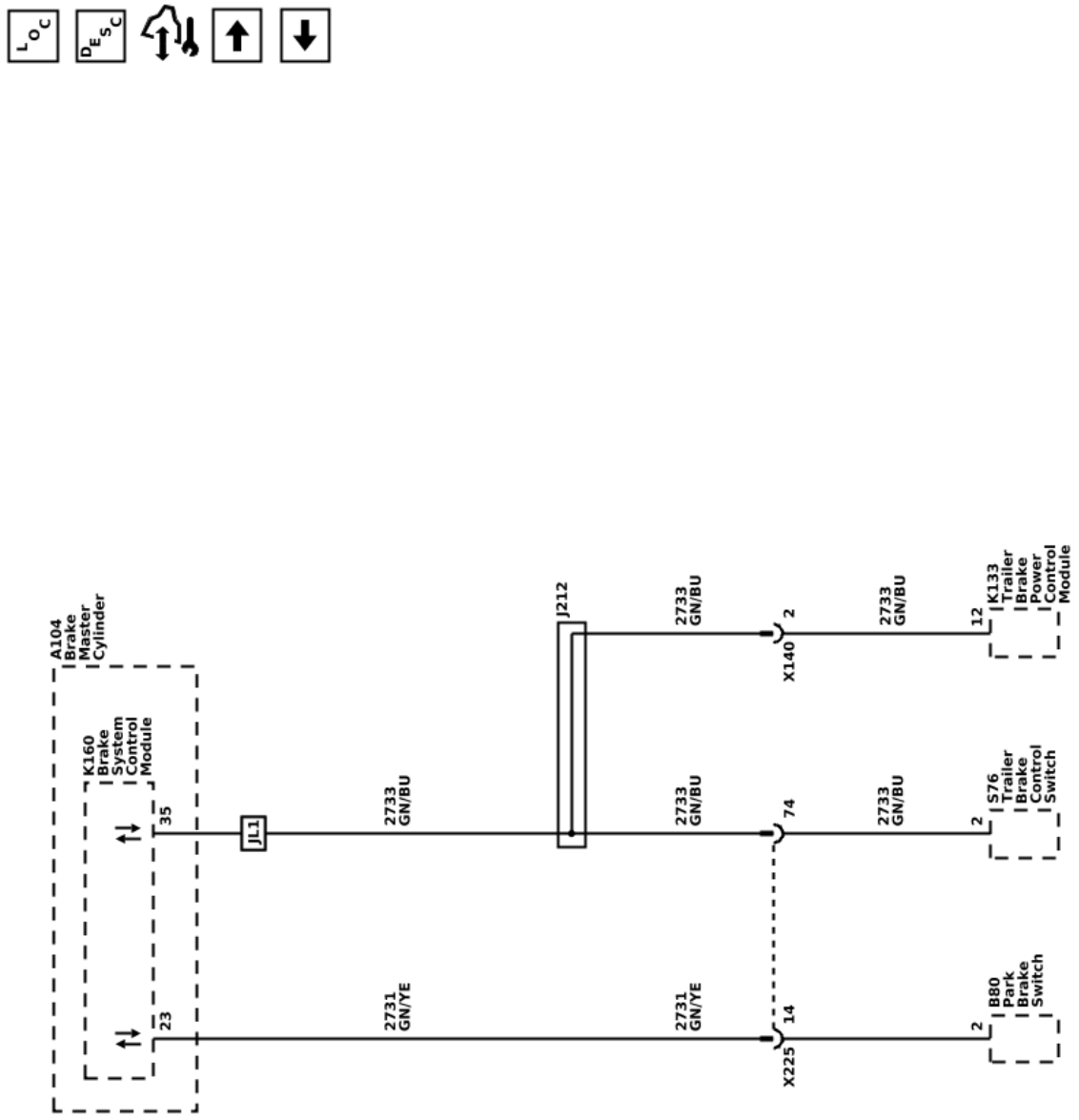
Data Communication Schematics (Body Control Module Local Interconnect Network (LIN) Busses 9, 10, and 11)



Data Communication Schematics (Body Control Module Local Interconnect Network (LIN) Busses 12 and 16)

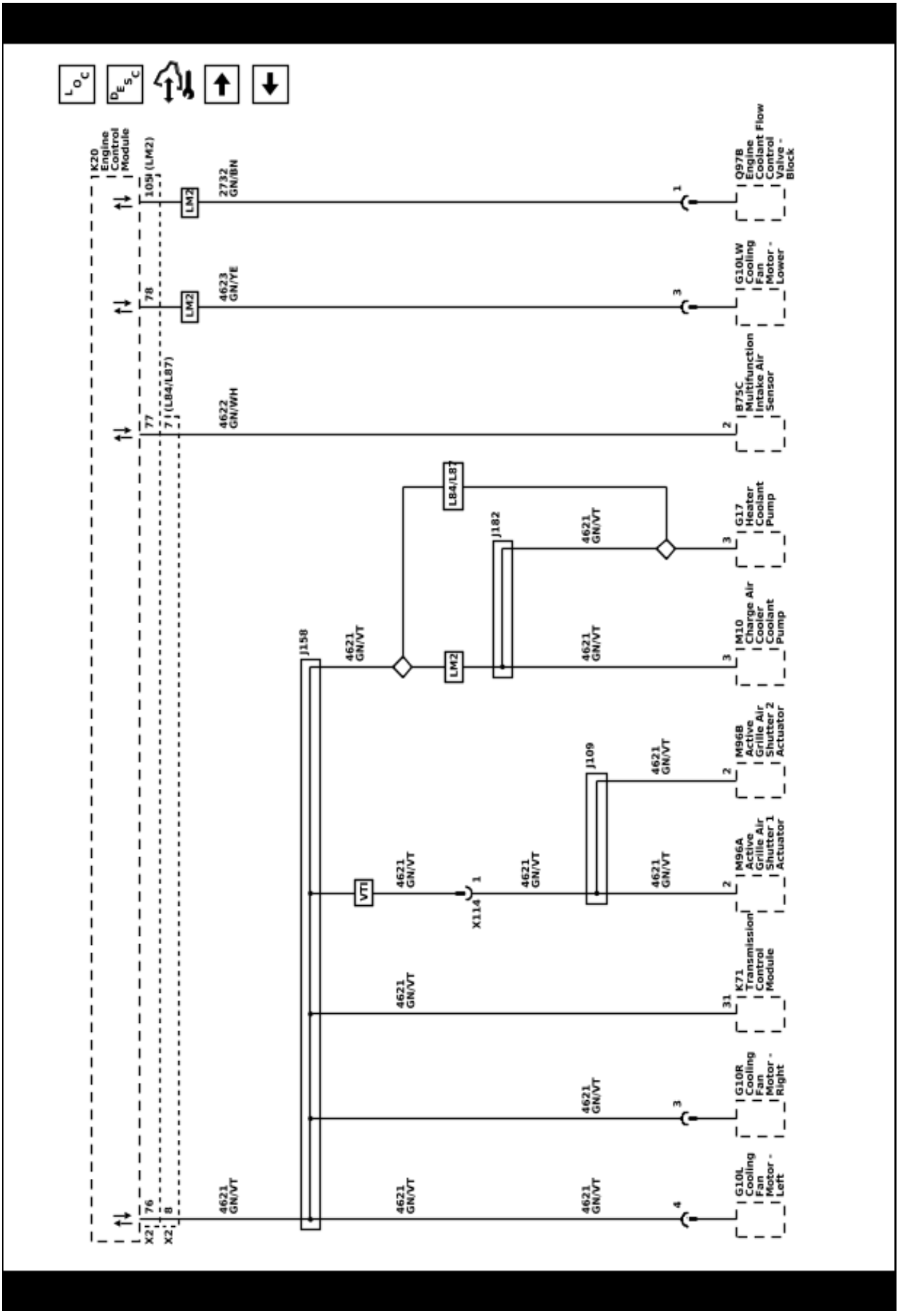


Data Communication Schematics (Brake System Control Module Local Interconnect Network (LIN) Busses 1 and 2)

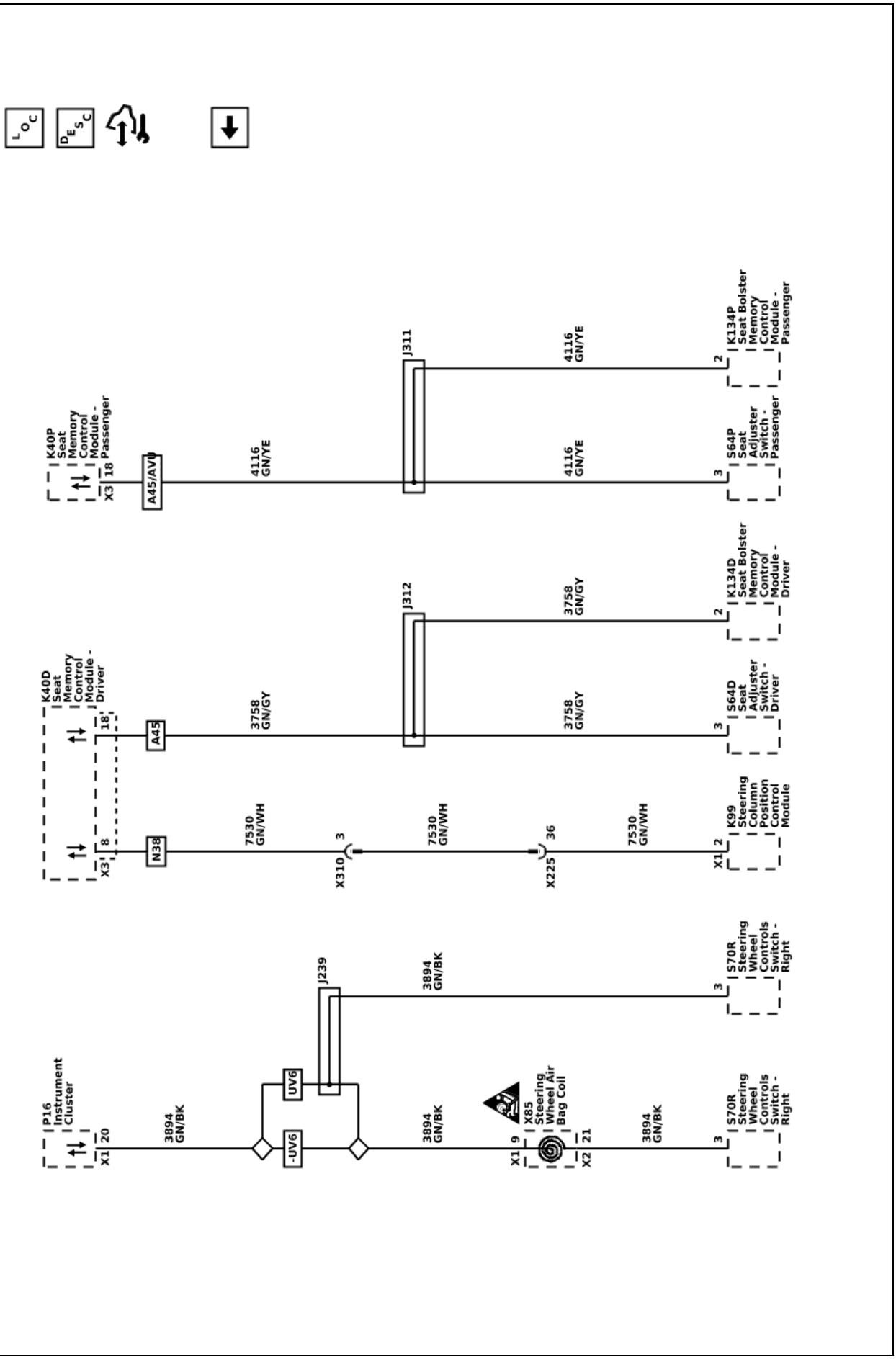


5371056

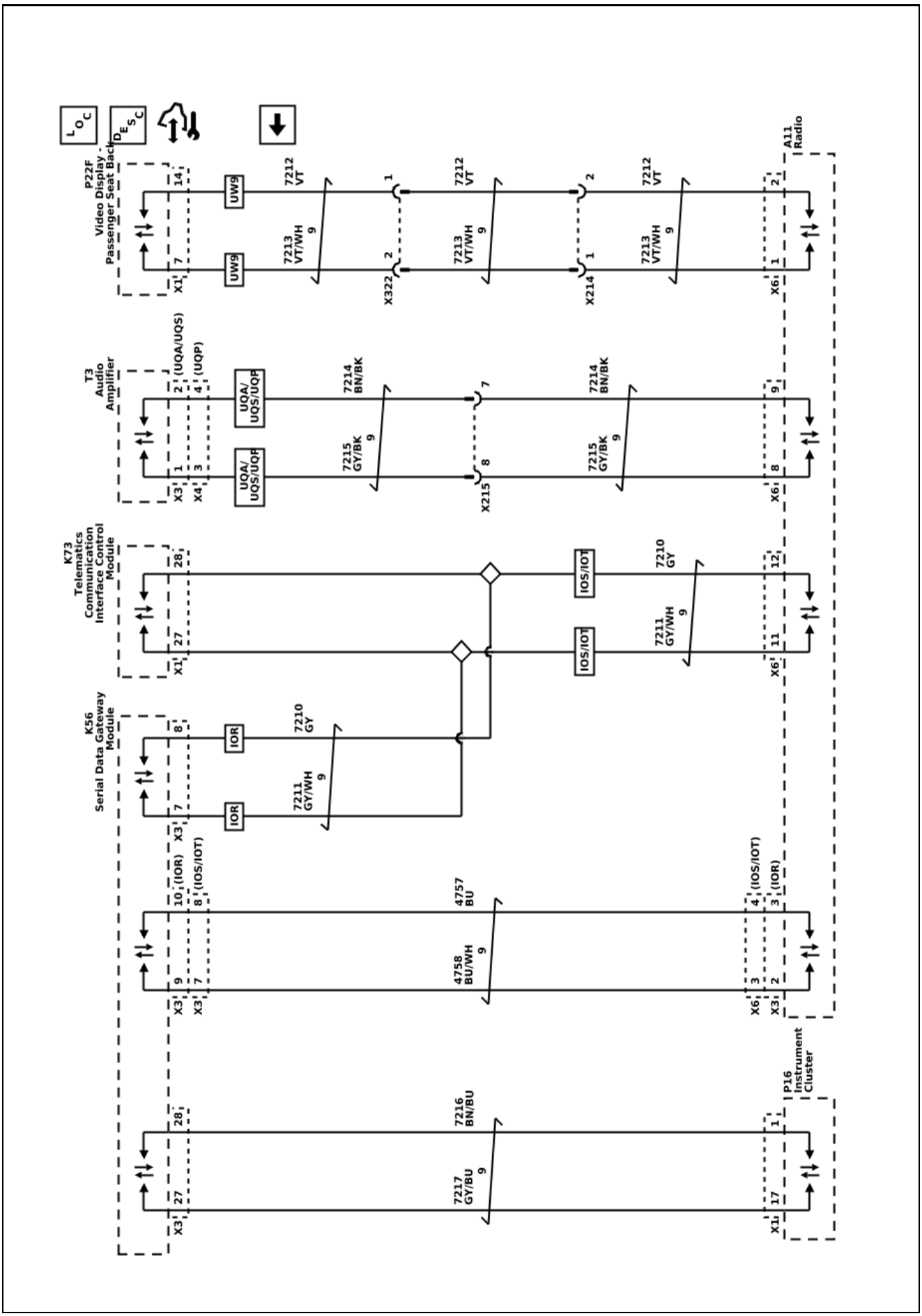
Data Communication Schematics (Engine Control Module Local Interconnect Network (LIN) Busses 1, 2, 3, and 4)



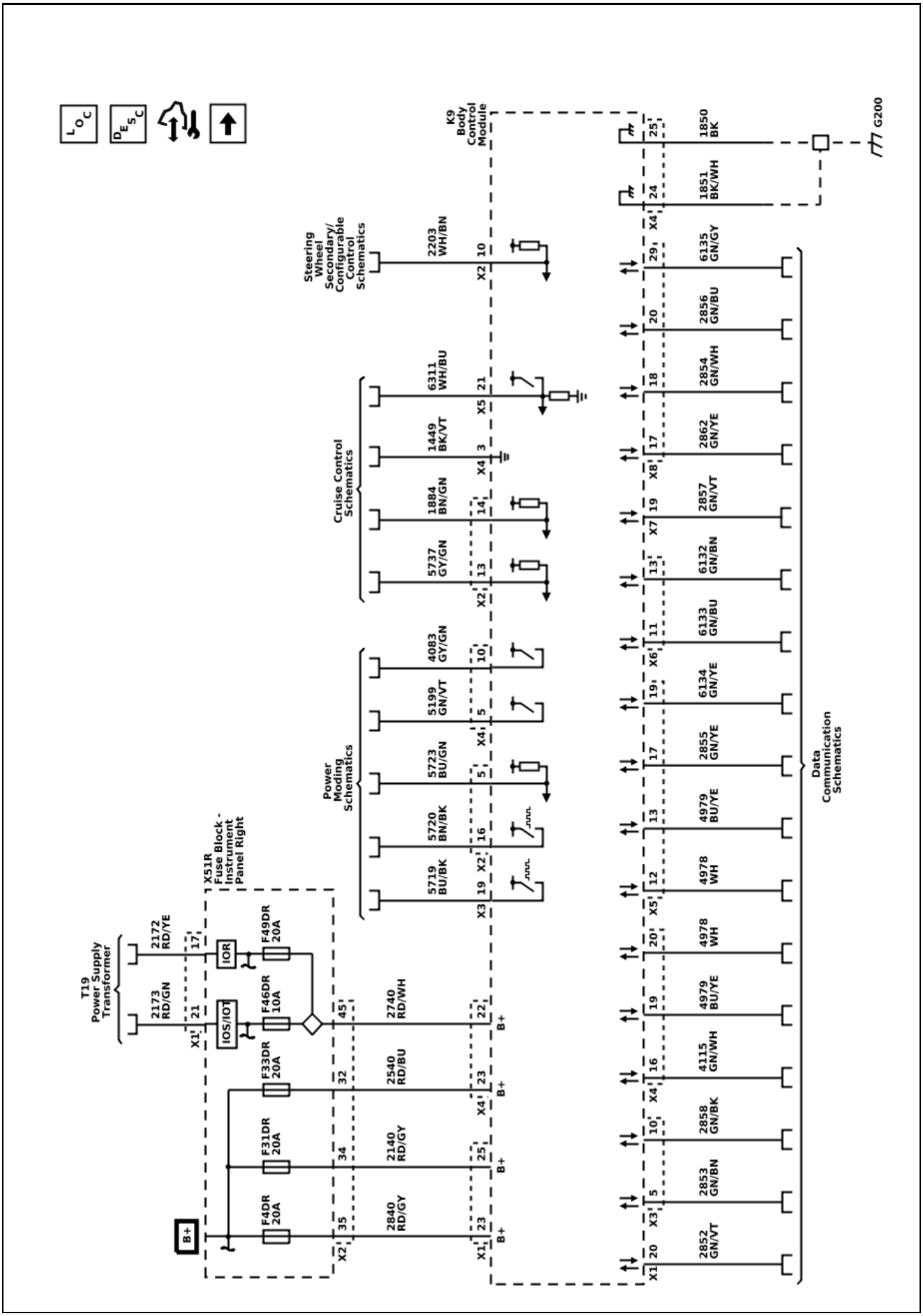
Data Communication Schematics (Local Interconnect Network (LIN))



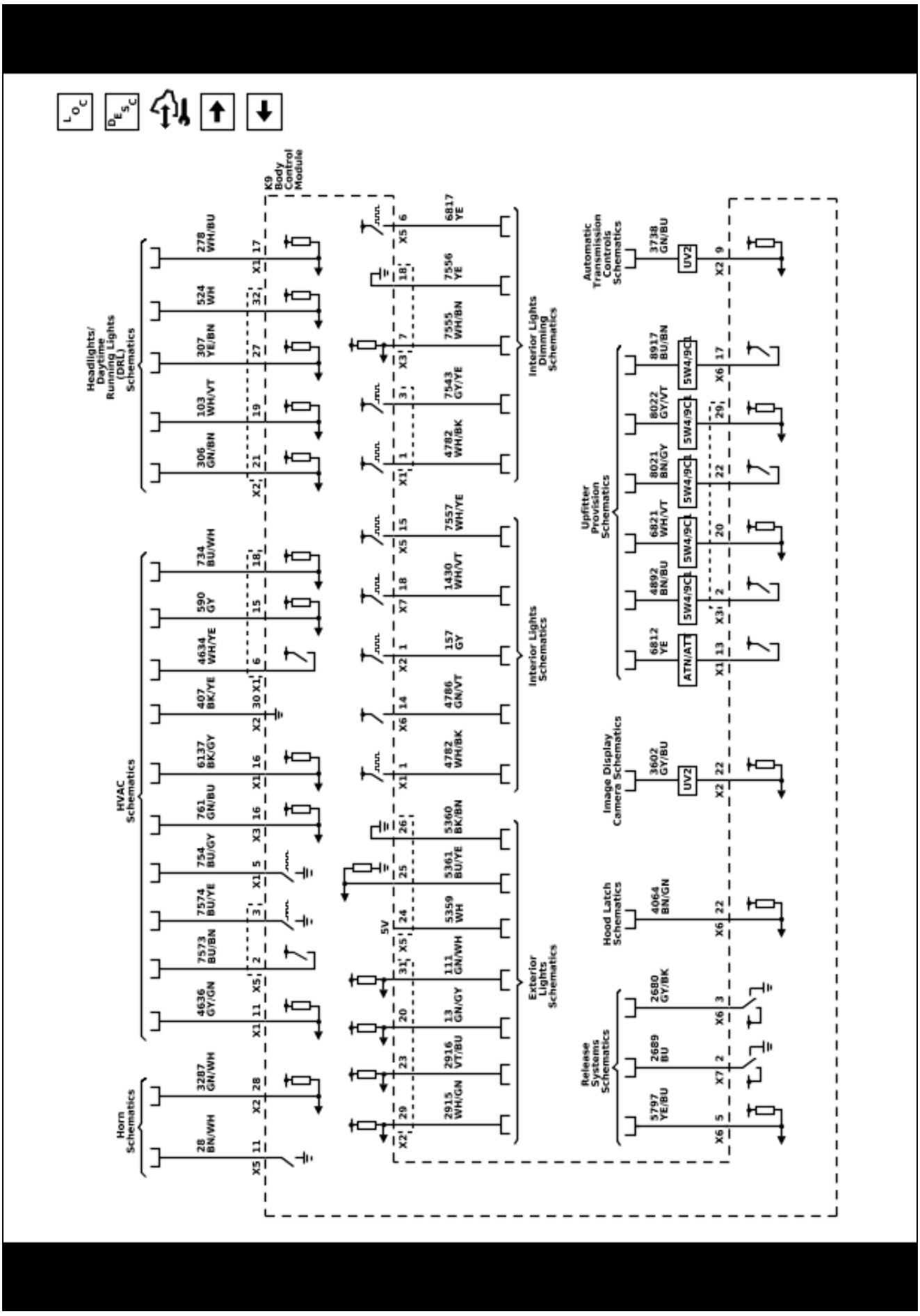
Data Communication Schematics (Ethernet Bus)



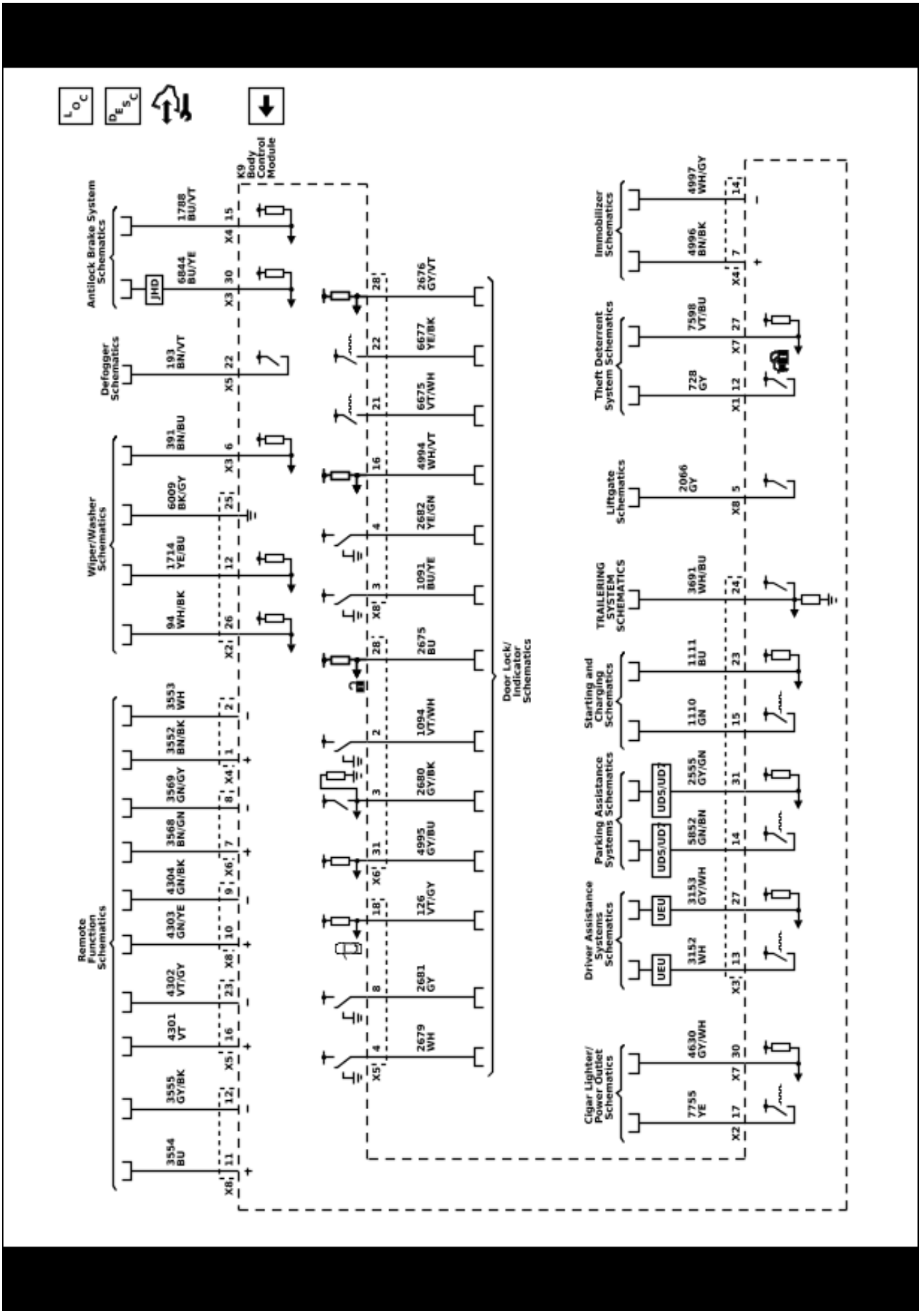
Body Control System Schematics (Power, Ground, Serial Data, and Subsystem References (1 of 3))



Body Control System Schematics (Subsystem References (2 of 3))



Body Control System Schematics (Subsystem References (3 of 3))



5371026

Description and Operation

Data Link Communications Description and Operation

Note: This is an overview of different serial data buses used by control modules to communicate with each others. Use *Data Communication Schematics on page 6-4* to find out which serial data buses are configured for a specific vehicle.

Data Link Communications Overview

There are many components in a vehicle that rely on information from other sources, transmit information to other sources, or both. Serial data communication networks provide a reliable, cost effective, way for various components of the vehicle to “talk” to one another and share information.

General Motors uses a number of different communication buses to insure the timely and efficient exchange of information between control modules. When compared to each other, some of these buses are different in nature as far as speed, signal characteristics, and behavior.

On the other hand, when other buses are compared to each other they have similar characteristics and simply operate in parallel. In this case they are used to group together components which have high interaction. Examples are the Controller Area Network (CAN), private CAN, and LIN buses. This allows them to communicate with each other on a bus with reduced message congestion insuring faster and the more timely exchange of information than if all vehicle control modules were on a single bus.

The majority of information that exists within a given network generally stays local; however some information will have to be shared on other networks. Control modules designated as Gateway’s perform the function of transferring information between the various buses. A Gateway module is connected to at least 2 buses and will interact with each network according to its message strategy and transmission models.

CAN provides the capability for a receiving control module to monitor message transmissions from other control modules in order to determine if messages of interest are not being received. The primary purpose is to allow reasonable default values to be substituted for the information no longer being received. Additionally, a control module may set a Diagnostic Trouble Code (DTC) to indicate that the control module it is expecting information from is no longer communicating.

K9 Body Control Module (BCM)

The body control system consists of the K9 Body Control Module, communications, and various input and outputs. Some inputs, outputs and messages require other control modules to interact with the K9 Body Control Module. The K9 Body Control Module also has discrete input and output terminals to control the vehicle's body functions. The K9 Body Control Module is wired to CAN 2 serial data bus and multiple Local Interconnect Network (LIN) buses and acts as a gateway between them.

The various K9 Body Control Module input and output circuits are illustrated in the corresponding functional areas on the K9 Body Control Module electrical schematics. Refer to the *Body Control System Schematics on page 6-24* for more detailed information.

K56 Serial Data Gateway Module

The K56 Serial Data Gateway Module gates messages between the CAN networks described in the Controller Area Network (CAN) Bus Description section below. The K56 Serial Data Gateway Module needs to know what CAN control modules are present on a given vehicle in order to enable/disable loss of communication DTCs and to know what CAN control modules to track for their communication status. The K56 Serial Data Gateway Module has the ability to learn the diagnostic addresses list of CAN control modules to identify what CAN control modules are equipped on the vehicle and what CAN buses they are on. If the K56 Serial Data Gateway Module is replaced, this learn/verification process will have to be done again through K56 Serial Data Gateway Module programming and setup procedure in SPS. This learn process will not cause any previously learned contents to be forgotten/overwritten. If the learn process is not done on a new K56 Serial Data Gateway Module, DTC U1977 will be set until the learn procedure is executed. If the learn is invalid due to control module internal malfunction or a K56 Serial Data Gateway Module swap, DTC U3000 42 or DTC U3002 56 will be set. If any of these DTCs sets, the K56 Serial Data Gateway Module will enable loss of communication for all CAN control modules. This will result in loss of communication DTCs being set against CAN control modules that are not equipped on the vehicle.

A fault can be localized by monitoring the normal mode messages on a CAN bus. The K56 Serial Data Gateway Module will monitor one signal per CAN control module per CAN bus to determine control module status. When a signal times out, a loss of communication event will be started.

Controller Area Network (CAN) Bus Description

The CAN buses are used where data needs to be exchanged at a high enough rate to minimize the delay between the occurrence of a change in sensor value and the reception of this information by a control device using the information to adjust vehicle system performance.

Each CAN serial data network consists of two twisted wires. One signal circuit is identified as CAN-High and the other signal circuit is identified as CAN-Low. At each end of the data bus there is a 120 Ω termination resistor between the CAN-High and CAN-Low circuits.

The data to be transmitted over a CAN bus is represented by the voltage difference between the CAN-High signal voltage and the CAN-Low signal voltage. Data symbols (1’s and 0’s) are transmitted sequentially at the following rate:

- CAN 1 (circuits 4986 & 4987) = 500 Kbit/s
- CAN 2 (circuits 4978 & 4979) = 2 Mbit/s
- CAN 3 (circuits 4976 & 4977) = 500 Kbit/s
- CAN 4 (circuits 4100 & 4101) = 500 Kbit/s

- CAN 5 (circuits 4984 & 4985) = 500 Kbit/s
- CAN 6 (circuits 4980 & 4981) = 5 Mbit/s
- CAN 7 (circuits 4982 & 4983) = 5 Mbit/s
- CAN 8 (circuits 4104 & 4105) = 2 Mbit/s
- CAN 9 = 2 Mbit/s

When the two wire bus is at rest the CAN-High and CAN-Low signal circuits are not being driven and this represents a logic “1”. In this state both signal circuits are at the same voltage of 2.5 V. The differential voltage is approximately 0 V.

When a logic “0” is to be transmitted, the CAN-High signal circuit is driven higher to about 3.5 V and the CAN-Low circuit is driven lower to about 1.5 V. The differential voltage becomes approximately 2.0 (+/- 0.5) V.

The CAN 1, CAN 2, CAN 3, CAN 4, CAN 5, CAN 8, and CAN 9 buses are used to communicate between the K56 Serial Data Gateway Module and other CAN control modules.

The CAN 8, and CAN 9 buses are reserved for the following systems:

- The CAN 8 bus is reserved for most control modules and sensors related to active safety system, if applicable.
- The CAN 9 bus is reserved for most control modules and sensors related to Hybrid/EV system, if applicable.

The following CAN buses are between the X84 Data Link Connector and the K56 Serial Data Gateway Module:

- The CAN 6 bus is used for CAN diagnostics and programming.
- The CAN 7 bus is used for programming by assembly plant only.
- The Private Presentation CAN 1 bus (circuits 2577 & 2578) is used by Engineering to observe data communications on CAN buses not directly accessible at the X84 Data Link Connector. It requires special security access and will not be used in a service environment.
- The Private Presentation CAN 2 bus (circuits 2579 & 2580) is used by Engineering to observe data communications on CAN buses not directly accessible at the X84 Data Link Connector. It requires special security access and will not be used in a service environment.

Private Powertrain CAN Bus Description

The Private Powertrain CAN bus (circuits 4054 & 4055) is reserved for Powertrain components. It has a transmission rate of 500 Kbit/s. Sometimes communication is required between the Private Powertrain CAN bus and another CAN bus. This is accomplished by using the K20 Engine Control Module (ECM) as the Gateway module. Since the Private Powertrain CAN bus and other CAN buses operate in the same manner, the diagnostics for each are similar.

Local Interconnect Network (LIN) Bus Description

The LIN Bus consists of a single wire with a transmission rate of 10.417 Kbit/s. This bus is used to exchange information between a master control module and other smart devices which provide supporting functionality. This type of configuration does not require the capacity or speed of a CAN bus and is thus relatively simpler.

The data symbols (1’s and 0’s) to be transmitted are represented by different voltage levels on the communication bus. When the LIN Bus is at rest and is not being driven, the signal is in a high voltage state of approximately Vbatt. This represents a logic “1”. When a logic “0” is to be transmitted, the signal voltage is driven low to about ground (0.0 V).

Ethernet Bus Description

Ethernet is a data communication technology that uses a single twisted copper pair of wires at speeds of 100Mbit/s and 1000Mbit/s. The Ethernet system uses point-to-point communication that is connected via an Ethernet switch [Module <–> Switch <–> Module]. The Ethernet bus does not use terminating resistors.

The K56 Serial Data Gateway Module and the A11 Radio have an Ethernet switch that connects to other Ethernet modules. The K56 Serial Data Gateway Module and the A11 Radio communicate with other devices and systems in the vehicle via CAN and LIN buses. Diagnostic Trouble Codes will be read on CAN to diagnose Ethernet, LIN and system faults.

Note: Ethernet harness failures should only be repaired using an appropriate kit to perform de-pin/re-pin overlays or in cases where the wiring harness repair kits are not available, the entire harness should be replaced. No crimps or splicing should be performed on the Ethernet wiring harness.

Ethernet 1

Ethernet bus 1 consists of 2 twisted pair of wires [1 pair for Ethernet bus 1R (circuits 4972 & 4973) and 1 pair for Ethernet bus 1T (circuits 4974 & 4975)]. It is connected between X84 Data Link Connector (DLC) and K56 Serial Data Gateway Module. This bus is used for diagnostics and service programming of control modules using Ethernet instead of CAN. The K56 Serial Data Gateway Module will convert Ethernet serial data to CAN as necessary, and vice versa. There is an Ethernet enable circuit (circuit 7207) which can be used to wake up the K56 Serial Data Gateway Module for Ethernet diagnostic and programming.

Ethernet 2

Ethernet bus 2 (circuits 4757 & 4758) is for connection between the A11 Radio and the K56 Serial Data Gateway Module.

Ethernet 3

Ethernet bus 3 (circuits 7208 & 7209) is for connection between the K56 Serial Data Gateway Module and K179 Automated Driving Mapping Module.

Ethernet 4

Ethernet bus 4 (circuits 7210 & 7211) is for connection between the following control modules:

- K56 Serial Data Gateway Module and K73 Communication Interface Module for vehicles equipped with IOR radio.
- A11 Radio and K73 Communication Interface Module for vehicles equipped with other radios.

Ethernet 5

Ethernet bus 5 (circuits 7212 & 7213) is for connection between the A11 Radio and P22F Video Display - Right Front Seat Back.

Ethernet 6

Ethernet bus 6 (circuits 7214 & 7215) is for connection between the A11 Radio and T3 Audio Amplifier.

Ethernet 7

Ethernet bus 7 (circuits 7216 & 7217) is for connection between the K56 Serial Data Gateway Module and P16 Instrument Panel Cluster Control Module.

Ethernet 11

Ethernet bus 11 (circuits 7224 & 7225) is for connection between the K124 Image Processing Module and K179 Automated Driving Mapping Module.

Ethernet 14

Ethernet bus 14 (circuits 7230 & 7231) is for connection between the A11 Radio and P29 Head-Up Display.

Ethernet 15

Ethernet bus 15 (circuits 7232 & 7233) is for connection between the K56 Serial Data Gateway Module, K161 Vehicle Performance Data Recorder, and P22F Video Display - Passenger Seat Back.

X84 Data Link Connector (DLC)

The X84 Data Link Connector is a standardized 16-cavity connector. Connector design and location is dictated by an industry wide standard, and is required to provide the following:

- Terminal 1: CAN Bus 7 Serial Data [+]
- Terminal 2: Private Presentation CAN Bus 1 Serial Data [+]
- Terminal 3: Ethernet Bus 1R [+]
- Terminal 4: Scan tool power ground
- Terminal 5: Common signal ground
- Terminal 6: CAN Bus 6 Serial Data [+]
- Terminal 7: Private Presentation CAN Bus 2 Serial Data [+]
- Terminal 8: Ethernet Bus 1 Enable Signal
- Terminal 9: CAN Bus 7 Serial Data [-]
- Terminal 10: Private Presentation CAN Bus 1 Serial Data [-]
- Terminal 11: Ethernet Bus 1R [-]
- Terminal 12: Ethernet Bus 1T [+]
- Terminal 13: Ethernet Bus 1T [-]
- Terminal 14: CAN Bus 6 Serial Data [-]
- Terminal 15: Private Presentation CAN Bus 2 Serial Data [-]
- Terminal 16: Scan tool power, B+

Serial Data Reference

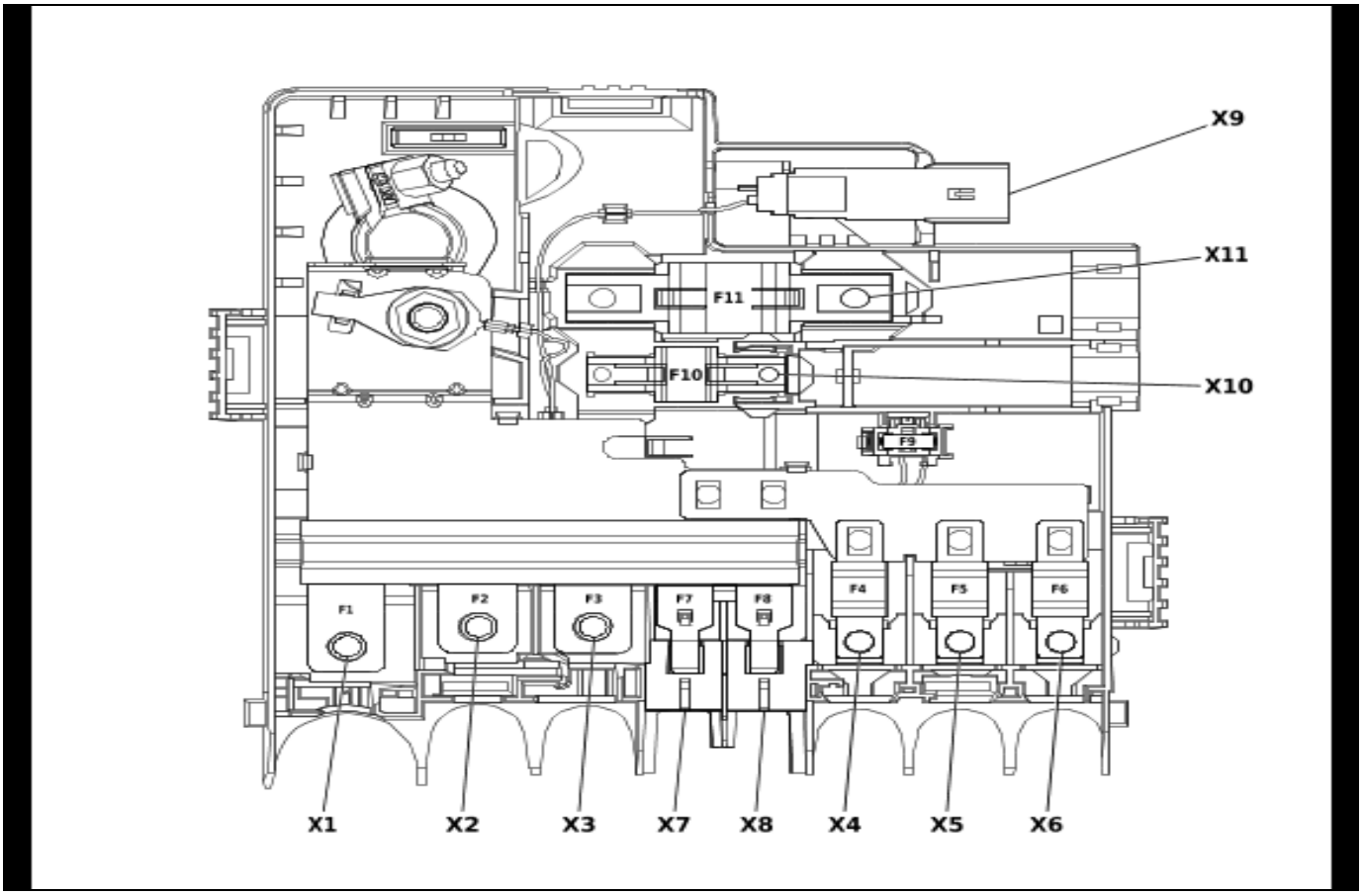
The scan tool communicates over the various buses on the vehicle. When a scan tool is installed on a vehicle, the scan tool will try to communicate with every control module that could be optioned into the vehicle. If an option is not installed on the vehicle, the scan tool will display No Communication for that optional control module. In order to avert misdiagnoses of No Communication with a specific control module, refer to Data Link References for a list of control modules and the buses they communicate with. Use schematics and specific vehicle build RPO codes to determine optional control modules.

Electrical Component and Inline Harness Connector End Views

Visual Identification

Electrical Center Identification Views

X50D Fuse Block - Battery Top View

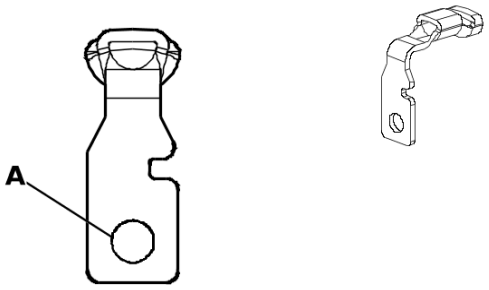


5070128

Usage Table

No.	Device Label Name	Device Assigned Name	Rating	Description
Fuses				
F1	—	F1BA	250A (L84/ L87) 275A (LM2)	• G13 Generator • X50A Fuse Block - Underhood
F2	—	F2BA	175A	• K43 Power Steering Control Module
F3	—	F3BA	400A	• M64 Starter Motor
F4	—	F4BA	150A	• E40 Electrical Auxiliary Heater (C3A)
F5	—	F5BA	100A	• K20 Engine Control Module (LM2)
F6	—	F6BA	80A	• G10R Cooling Fan Motor - Right (LM2)
F7	—	F7BA	60A	• X51R Fuse Block - Instrument Panel Right
F8	—	F8BA	60A	• K160 Brake System Control Module
F9	—	F9BA	5A	• B110 Battery Sensor Module

X50D Fuse Block - Battery X1 (C3A)



5194789

Connector Part Information

Harness Type: Body
OEM Connector: 35085117
Service Connector: Service by Cable Assembly — See Part Catalog
Description: 1-Way Ring Terminal

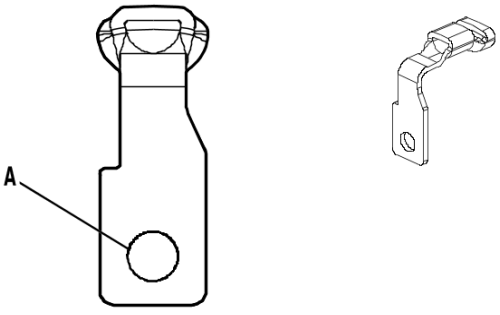
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

X50D Fuse Block - Battery X1 (C3A)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	16	RD/GY	642	Primary Fused Battery Positive Voltage 6	I	—

X50D Fuse Block - Battery X3 (LM2)



4994507

Connector Part Information

Harness Type: Engine
OEM Connector: 35085183
Service Connector: Service by Cable Assembly — See Part Catalog
Description: 1-Way Ring Terminal

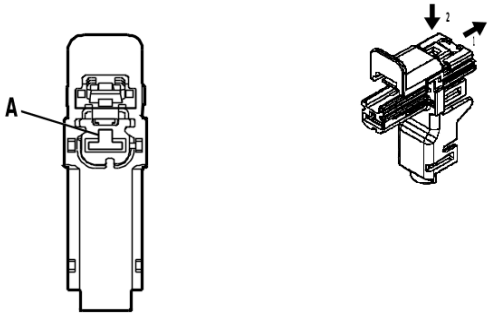
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

X50D Fuse Block - Battery X3 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	10	RD/YE	1442	Primary Fused Battery Positive Voltage 14	I	—

X50D Fuse Block - Battery X5



4994183

Connector Part Information

Harness Type: Body
OEM Connector: 33297578
Service Connector: Service by Harness - See Part Catalog
Description: 1-Way F 6.3 Series (BK)

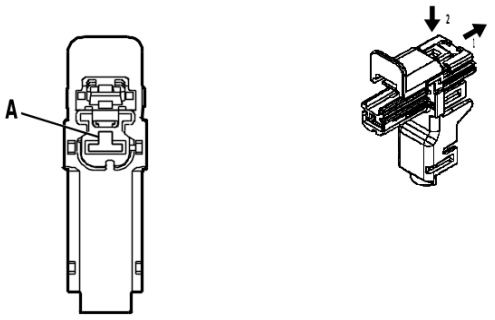
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-42 (RD)	No Tool Required

X50D Fuse Block - Battery X5

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	5	RD/YE	1442	Primary Fused Battery Positive Voltage 14	I	—

X50D Fuse Block - Battery X6



4994171

Connector Part Information

Harness Type: Body
OEM Connector: 33297579
Service Connector: Service by Harness - See Part Catalog
Description: 1-Way F 6.3 Series (BU)

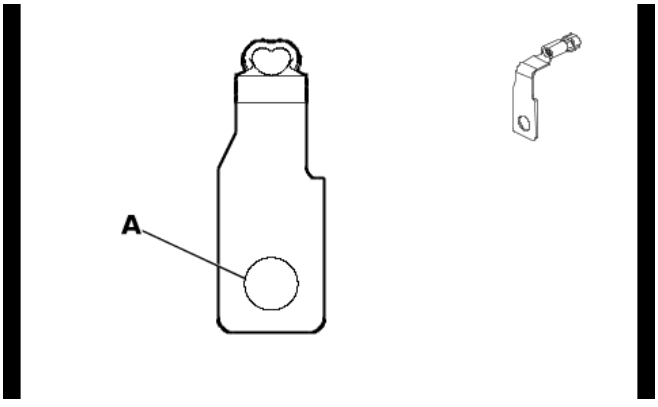
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-42 (RD)	No Tool Required

X50D Fuse Block - Battery X6

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	6	RD/WH	1642	Primary Fused Battery Positive Voltage 16	I	—

X50D Fuse Block - Battery X9 (LM2)



5373306

Connector Part Information

Harness Type: Engine
OEM Connector: 35169508
Service Connector: Service by Cable Assembly — See Part Catalog
Description: 1-Way Ring Terminal

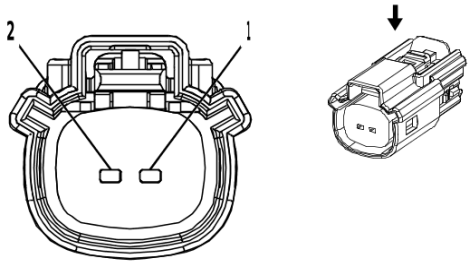
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

X50D Fuse Block - Battery X9 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	6	BN/D-BU	104	Glow Plug Control	I	—

X50D Fuse Block - Battery X11



2474713

Connector Part Information

Harness Type: Body
OEM Connector: 13782480
Service Connector: 13577534
Description: 2-Way F 150 MX Series, Sealed (BK)

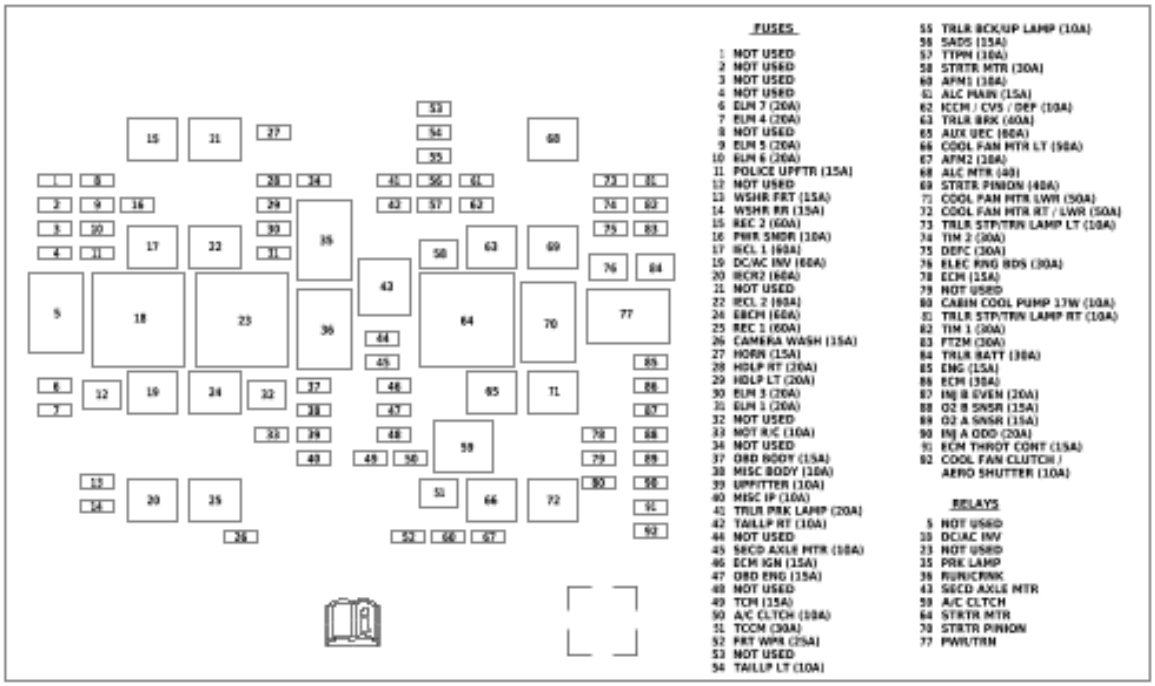
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required

X50D Fuse Block - Battery X11

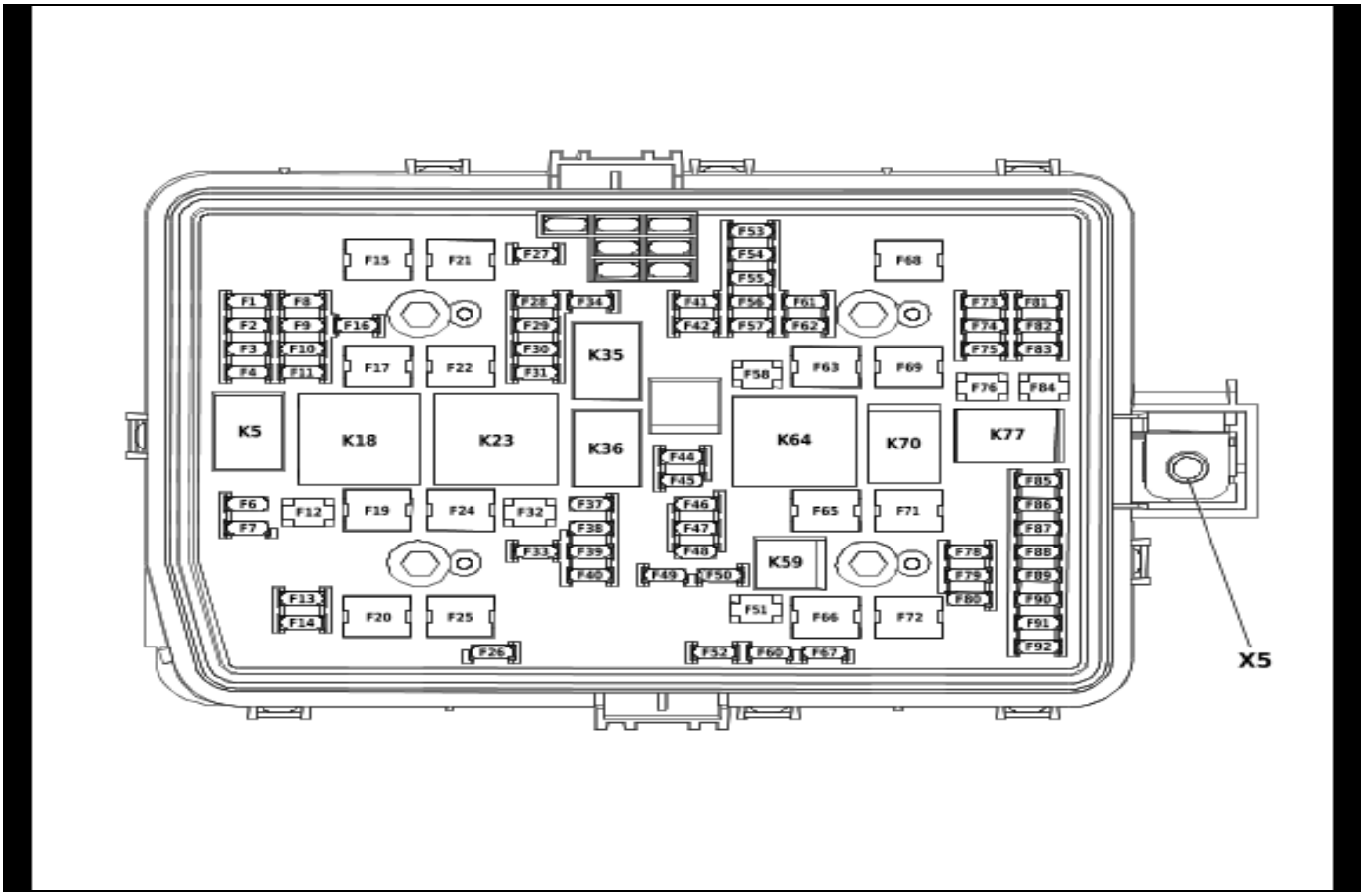
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	I	—
2	—	—	—	Not Occupied	—	—

X50A Fuse Block - Underhood Label



5441141

X50A Fuse Block - Underhood Top View



5041384

Usage Table

No.	Device Label Name	Device Assigned Name	Rating	Description
Fuses				
F1	NOT USED	F1UA	10A	• Not Used
F2	NOT USED	F2UA	10A	• Not Used
F3	NOT USED	F3UA	20A	• Not Used
F4	NOT USED	F4UA	20A	• Not Used
F6	ELM 7	F6UA	20A	• K219 Exterior Lighting Control Module
F7	ELM 4	F7UA	20A	• K219 Exterior Lighting Control Module
F8	NOT USED	F8UA	15A	• Not Used
F9	ELM 5	F9UA	20A	• K219 Exterior Lighting Control Module
F10	ELM 6	F10UA	20A	• K219 Exterior Lighting Control Module
F11	POLICE UPFTR	F11UA	15A	• Not Used
F12	NOT USED	F12UA	30A	• Not Used
F13	WSHR FRT	F13UA	15A	• KR11 Windshield Washer Pump Relay
F14	WSHR RR	F14UA	15A	• KR6 Rear Window Washer Pump Relay
F15	REC 2	F15UA	60A	• X53A Fuse Block - Rear Body
F16	PWR SNDR	F16UA	10A	• P25 Power Sounder Content Theft Deterrent Alarm Module
F17	IECL 1	F17UA	60A	• Not Used

Usage Table (cont'd)

No.	Device Label Name	Device Assigned Name	Rating	Description
F19	DC/AC INV	F19UA	60A	• T1 Accessory DC/AC Power Inverter Module (KI4/KI5)
F20	IECR2	F20UA	60A	• X51R Fuse Block - Instrument Panel Right
F21	NOT USED	F21UA	40A	• Not Used
F22	IECL 2	F22UA	60A	• X51B Fuse Block - Instrument Panel Auxiliary (5W4/9C1)
F24	EBCM	F24UA	60A	• K160 Brake System control Module • X140
F25	REC 1	F25UA	60A	• X53A Fuse Block - Rear Body
F26	CAMERA WASH	F26UA	15A	• Not Used
F27	HORN	F27UA	15A	• P12 Horn
F28	HDLP RT	F28UA	20A	• E13RA Headlamp Assembly - Right
F29	HDLP LT	F29UA	20A	• E13LA Headlamp Assembly - Left
F30	ELM 3	F30UA	20A	• K219 Exterior Lighting Control Module
F31	ELM 1	F31UA	20A	• K219 Exterior Lighting Control Module
F32	NOT USED	F32UA	30A	• Not Used
F33	NOT R/C	F33UA	10A	• K60 Steering Column Lock Module
F34	NOT USED	F34UA	15A	• Not Used
F37	OBD BODY	F37UA	15A	• K38 Chassis Control Module (G96) • K160 Brake System Control Module • K212 Electronic Transmission Shift Control Pushbutton Circuit Board • P16 Instrument Cluster • P43 Collision Alert Indicators (UEU-UV6)
F38	MISC BODY	F38UA	10A	• K68 Trailer Lighting Control Module (U1D) • K219 Exterior Lighting Control Module • M73A Seat Blower Motor - Driver Back (KQV) • M73B Seat Blower Motor - Passenger Back (KQV) • M73C Seat Blower Motor - Driver Cushion (KQV) • M73D Seat Blower Motor - Passenger Cushion (KQV) • T1 Accessory DC/AC Power Inverter Module (KI4/KI5)
F39	UPFITTER	F39UA	10A	• Not Used
F40	MISC IP	F40UA	10A	• A10 Inside Rearview Mirror (DD8/DRZ) • E40 Electrical Auxiliary Heater (C3A) • K36 Inflatable Restraint Sensing and Diagnostic Module
F41	TRLR PRK LAMP	F41UA	20A	• X88 Trailer Connector (Z82-U1D)
F42	TAILP RT	F42UA	10A	• Not Used
F44	NOT USED	F44UA	15A	• Not Used
F45	SECD AXLE MTR	F45UA	10A	• M26 Front Axle Engagement Actuator (NP0/NQH)
F46	ECM IGN	F46UA	15A	• K20 Engine Control Module
F47	OBD ENG	F47UA	15A	• K69 Transfer Case Control Module (NP0/NQH) • K71 Transmission Control Module • K115 Reductant Control Module (LM2)
F48	NOT USED	F48UA	10A	• Not Used
F49	TCM	F49UA	15A	• T12 Automatic Transmission Assembly (MQC)
F50	A/C CLTCH	F50UA	10A	• Q2 A/C Compressor Clutch

Usage Table (cont'd)

No.	Device Label Name	Device Assigned Name	Rating	Description
F51	TCCM	F51UA	30A	• K69 Transfer Case Control Module (NP0/NQH)
F52	FRT WPR	F52UA	25A	• KR12B Windshield Wiper Relay • KR12C Windshield Wiper Speed Control Relay
F53	NOT USED	F53UA	10A	• Not Used
F54	TAILLP LT	F54UA	10A	• Not Used
F55	TRLR BCK/ UP LAMP	F55UA	10A	• X88 Trailer Connector (Z82-U1D)
F56	SADS	F56UA	15A	• K19 Suspension Control Module (Z95)
F57	TTPM	F57UA	10A	• Not Used
F58	STRTR MTR	F58UA	30A	• KR27 Starter Relay
F60	AFM1	F60UA	10A	• Not Used
F61	ALC MAIN	F61UA	15A	• K3 Air Suspension Control Module (F47)
F62	ICCM/CVS/DEF	F62UA	10A	• K115 Reductant Control Module (LM2) • Q13 Evaporative Emission Vent Solenoid Valve (-L84/L87)
F63	TRLR BRK	F63UA	40A	• K133 Trailer Brake Power Control Module (JL1) • W24 Blunt Cut - Trailer Brakes Provision (Z82-JL1)
F65	AUX UEC	F65UA	60A	• X50B Fuse Block - Underhood Auxiliary (LM2)
F66	COOL FAN MTR LT	F66UA	50A	• G10L Cooling Fan Motor - Left
F67	AFM2	F67UA	10A	• Not Used
F68	ALC MTR	F68UA	40A	• K3 Air Suspension Control Module (F47)
F69	STRTR PINION LD	F69UA	40A	• KR27C Starter Pinion Solenoid Actuator Relay
F71	COOL FAN MTR LWR	F71UA	50A	• G10LW Cooling Fan Motor - Right (LM2)
F72	COOL FAN MTR RT/LWR	F72UA	50A	• G10R Cooling Fan Motor - Right (L84/L87)
F73	TRLR STP/TRN LAMP LT	F73UA	10A	• X88 Trailer Connector (Z82-U1D)
F74	TIM 2	F74UA	30A	• K68 Trailer Lighting Control Module (U1D)
F75	DEFC	F75UA	30A	• K115 Reductant Control Module (LM2)
F76	ELEC RNG BDS	F76UA	30A	• K4 Assist Step Control Module (B3L)
F78	ECM	F78UA	15A	• K20 Engine Control Module
F79	NOT USED	F79UA	10A	• Not Used
F80	CABIN COOL PUMP 17W	F80UA	10A	• Not Used
F81	TRLR STP/TRN LAMP RT	F81UA	10A	• X88 Trailer Connector (Z82-U1D)
F82	TIM 1	F82UA	30A	• K68 Trailer Lighting Control Module (U1D)
F83	FTZM	F83UA	30A	• K111 Fuel Pump Driver Control Module
F84	TRLR BATT	F84UA	30A	• X88 Trailer Connector (Z82)
F85	ENG	F85UA	15A	• X50B Fuse Block - Underhood Auxiliary (LM2)
F86	ECM	F86UA	30A	• K20 Engine Control Module

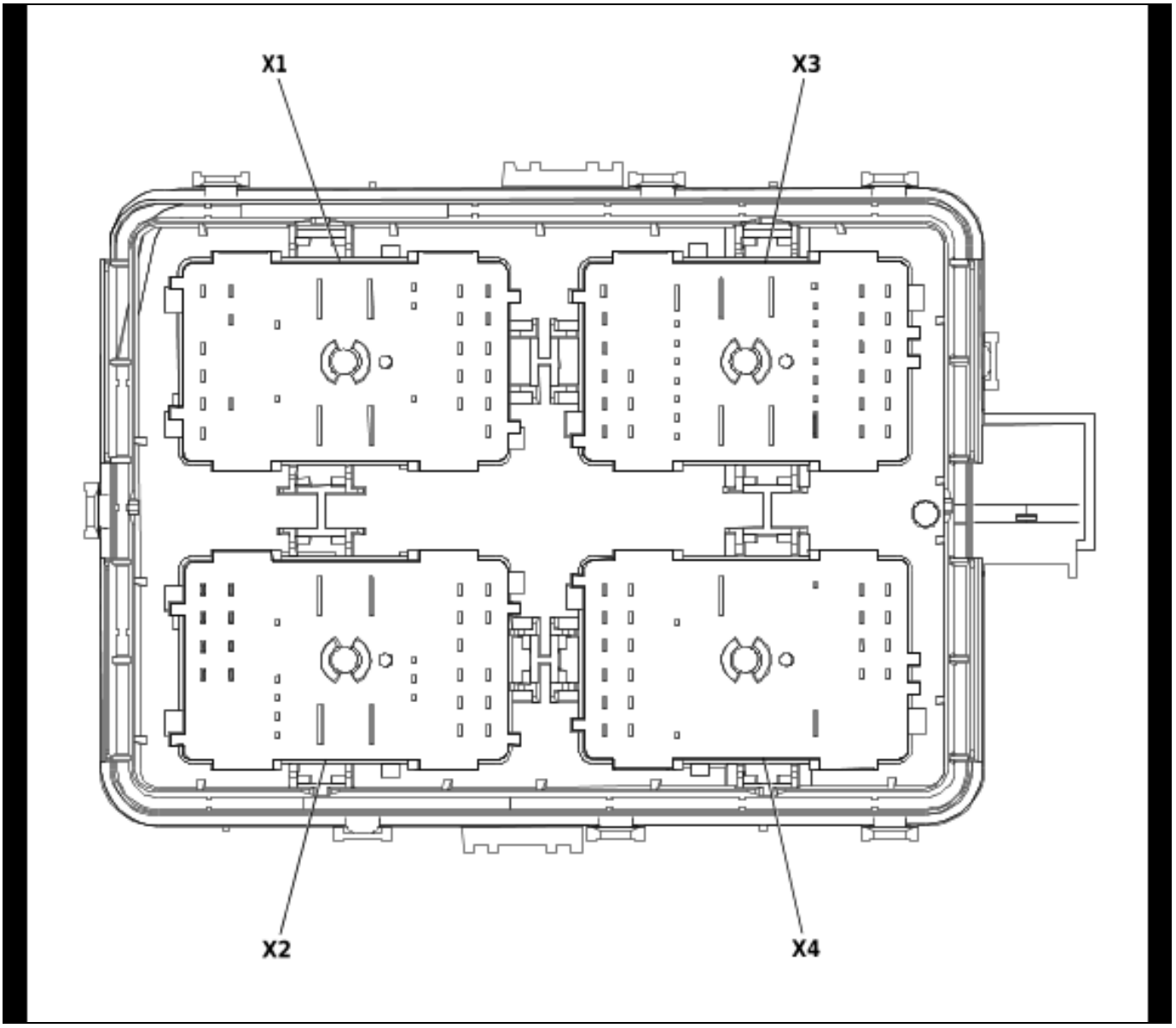
Usage Table (cont'd)

No.	Device Label Name	Device Assigned Name	Rating	Description
F87	INJ B EVEN	F87UA	20A	• K20 Engine Control Module (L84/L87) • T8B Ignition Coil 2 (L84/L87) • T8D Ignition Coil 4 (L84/L87) • T8F Ignition Coil 6 (L84/L87) • T8H Ignition Coil 8 (L84/L87)
F88	O2 B SNSR	F88UA	15A	• B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L84/L87) • B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L84/L87) • B75C Multifunction Intake Air Sensor • K20 Engine Control Module (L84/L87) • M10 Charge Air Cooler Coolant Pump (LM2) • Q97B Engine Flow Control Valve - Block (LM2)
F89	O2 A SNSR	F89UA	15A	• B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L84/L87) • B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L84/L87) • Q12 Evaporative Emission Purge Solenoid Valve (L84/L87) • Q44 Engine Oil Pressure Control Solenoid Valve (L84/L87)
F90	INJ A ODD	F90UA	20A	• K20 Engine Control Module • T8A Ignition Coil 1 (L84/L87) • T8C Ignition Coil 3 (L84/L87) • T8E Ignition Coil 5 (L84/L87) • T8G Ignition Coil 7 (L84/L87)
F91	ECM THROT CONT	F91UA	15A	• Not Used
F92	COOL FAN CLUTCH/AERO SHUTTER	F92UA	10A	• M96A Active Grille Air Shutter 1 Actuator (VTI/WMI) • M96B Active Grille Air Shutter 2 Actuator (WMI)
Relays				
K5	NOT USED	KR50 Headlamp Relay	—	• F3UA • F4UA
K18	DC/AC INV	KR80 Accessory Relay	—	• F19UA
K23	NOT USED	KR5 Rear Defogger Relay	—	• F32UA • F33UA
K35	PRK LAMP	KR125 Trailer Park Lamps Relay	—	• F41UA
K36	RUN/CRNK	KR73 Ignition Main Relay	—	• F33UA • F37UA • F38UA • F39UA • F40UA • F44UA • F46UA • F47UA • F48UA
K43	SECD AXLE MTR	—	—	• Not Used
K59	A/C CLTCH	KR29 A/C Compressor Clutch Relay	—	• F50UA

Usage Table (cont'd)

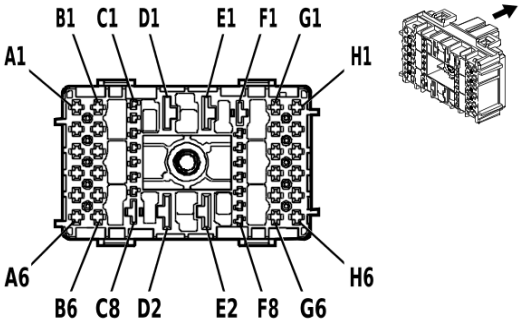
No.	Device Label Name	Device Assigned Name	Rating	Description
K64	STRTR MTR	KR27 Starter Motor	—	• M64 Starter Motor
K70	STRTR PINION	KR27C Starter Pinion Solenoid Actuator Relay	—	• M64 Starter Motor
K77	PWR/TRN	KR75 Engine Controls Ignition Relay	—	• F60UA • F67UA • F80UA • F85UA • F86UA • F87UA • F88UA • F89UA • F90UA • F91UA • F92UA • KR29 A/C Compressor Clutch Relay • KR33 Auxiliary Heater Coolant Pump Relay
—	—	—	—	• Not Used
—	—	—	—	• Not Used
—	—	KR6 Rear Window Washer Pump Relay	—	• G24 Windshield Washer Pump
—	—	KR11 Windshield Washer Pump Relay	—	• G24 Windshield Washer Pump
—	—	KR12B Windshield Wiper Relay	—	• M75 Windshield Wiper Motor
—	—	KR12C Windshield Wiper Speed Control Relay	—	• M75 Windshield Wiper Motor
—	—	KR33 Auxiliary Heater Coolant Pump	—	• G17 Heater Coolant Pump (L84/L87)
—	—	KR61 Trailer Backup Lamps Relay	—	• F55UA
—	—	KR63L Trailer Stop/Turn Signal Lamp Relay - Left	—	• F73UA
—	—	KR63R Trailer Stop/Turn Signal Lamp Relay - Right	—	• F81UA

X50A Fuse Block - Underhood Bottom View



5041382

X50A Fuse Block - Underhood X1



4994109

Connector Part Information

Harness Type: Body
OEM Connector: 33384590
Service Connector: 19370824
Description: 44-Way F 1.5, 2.8, 6.3 CTS, 9.5 MCON-LL Series (BU)

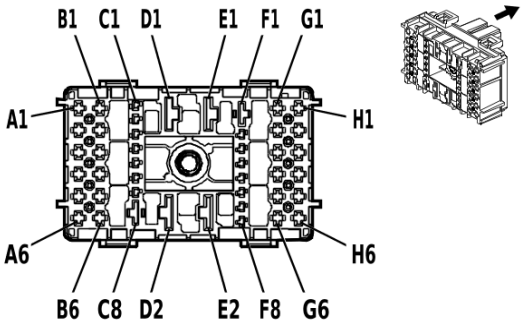
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13582286	J-35616-35 (VT)	J-38125-557
II	19332365	J-35616-14 (GN)	J-38125-560A
III	19332366	J-35616-35 (VT)	J-38125-212
IV	84764079	J-35616-22 (RD)	J-38125-11A
V	Not Required	J-35616-22 (RD)	No Tool Required

X50A Fuse Block - Underhood X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A1	1	RD/VT	7140	Secondary Fused Battery Positive Voltage 71	III	—
A2	0.5	RD/D-BU	540	Secondary Fused Battery Positive Voltage 5	III	—
	0.75	RD/D-BU	540	Secondary Fused Battery Positive Voltage 5	III	—
A3	—	—	—	Not Occupied	—	—
A4	1	BK	250	Ground 2	III	—
A5	0.75	GY/VT	228	Windshield Washer Pump Control	III	—
A6	0.75	D-BU/VT	392	Rear Window Washer Pump Control	III	—
B1 - C2	—	—	—	Not Occupied	—	—
C3	0.5	WH/L-GN	4628	DC/AC Inverter Relay Control	II	—
C4	0.35	BN/GY	2268	Windshield Washer Relay Control	II	—
C5 - C6	—	—	—	Not Occupied	—	—
C7	0.35	L-GN/WH	2270	Rear Window Washer Relay Control	II	—
C8	—	—	—	Not Occupied	—	—
D1	5	BN/BK	4629	DC/AC Inverter Control	IV	—
D2	10	RD/WH	342	Primary Fused Battery Positive Voltage 3	V	—
E1	10	RD/YE	442	Primary Fused Battery Positive Voltage 4	V	—
E2	10	RD/L-GN	1942	Primary Fused Battery Positive Voltage 19	V	—
F1 - F5	—	—	—	Not Occupied	—	—
F6	0.35	WH/VT	860	Windshield Wiper Switch High Signal	II	—
F7 - G2	—	—	—	Not Occupied	—	—
G3	0.35	D-BU/VT	807	Ignition Off/Accessory Ignition Voltage	III	—
G4	0.5	L-GN/VT	5199	Run/Crank Relay Coil Control	III	—
G5	2	BK	150	Ground 1	III	—
	2	BK	150	Ground 1	I	—
G6	0.35	GY	91	Windshield Wiper Motor Relay Coil Control	III	—
H1	0.5	VT/WH	639	Run/Crank Ignition 1 Voltage 6	III	—
H2	0.5	VT/WH	1139	Run/Crank Ignition 1 Voltage 11	III	—
H3	0.75	VT/WH	4939	Run/Crank Ignition 1 Voltage 49	III	—
H4	0.5	VT/WH	239	Run/Crank Ignition 1 Voltage 2	III	—
H5	2	WH	92	Windshield Wiper Motor High Speed Control	III	—
H6	2	YE/BN	95	Windshield Wiper Motor Low Speed Control	III	—

X50A Fuse Block - Underhood X2



4994132

Connector Part Information

Harness Type: Body
OEM Connector: 33384594
Service Connector: 19371174
Description: 44-Way F 1.5, 2.8, 6.3 CTS, 9.5 MCON-LL Series (GN)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19332365	J-35616-14 (GN)	J-38125-560A
II	19332366	J-35616-35 (VT)	J-38125-212
III	84764079	J-35616-22 (RD)	J-38125-11A
IV	Not Required	J-35616-22 (RD)	No Tool Required

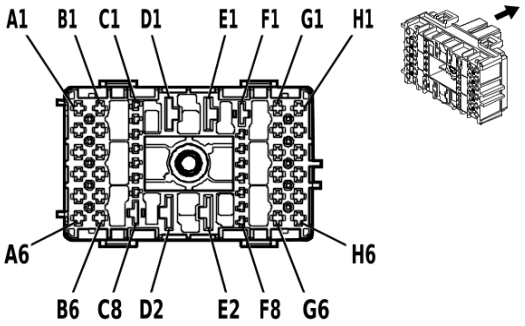
X50A Fuse Block - Underhood X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A1 - B3	—	—	—	Not Occupied	—	—
B4	0.5	RD/L-GN	7740	Secondary Fused Battery Positive Voltage 77	II	—
	0.75	RD/L-GN	7740	Secondary Fused Battery Positive Voltage 77	II	—
B5	0.5	RD/D-BU	840	Secondary Fused Battery Positive Voltage 8	II	—
	0.75	RD/D-BU	840	Secondary Fused Battery Positive Voltage 8	II	—
B6	—	—	—	Not Occupied	—	—
C1	0.35	YE/D-BU	318	Left Rear Trailer Stop/Turn Lamp Control	I	—
C2	0.35	L-GN/BN	319	Right Rear Trailer Stop/Turn Lamp Control	I	—
C3 - C6	—	—	—	Not Occupied	—	—
C7	0.5	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	I	—
C8	—	—	—	Not Occupied	—	—
D1	10	RD/WH	2942	Primary Fused Battery Positive Voltage 29	IV	—
D2 - E1	—	—	—	Not Occupied	—	—
E2	6	RD/GY	2742	Primary Fused Battery Positive Voltage 27	III	—
F1 - F2	—	—	—	Not Occupied	—	—
F3	0.35	D-BU/BN	38	Backup Lamp Relay Control	I	—
F4	0.35	BN/WH	28	Horn Relay Control	I	—
	0.5	BN/WH	28	Horn Relay Control	I	—

X50A Fuse Block - Underhood X2 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
F5 - F8	—	—	—	Not Occupied	—	—
G1	0.75	BN/GY	29	Horn Control	II	—
G2	—	—	—	Not Occupied	—	—
G3	0.75	RD/YE	740	Secondary Fused Battery Positive Voltage 7	II	—
G4	0.75	RD/WH	640	Secondary Fused Battery Positive Voltage 6	II	—
G5	0.5	RD/BN	1440	Secondary Fused Battery Positive Voltage 14	II	—
	0.75	RD/BN	1440	Secondary Fused Battery Positive Voltage 14	II	—
G6	0.5	RD/BN	1140	Secondary Fused Battery Positive Voltage 11	II	—
	0.75	RD/BN	1140	Secondary Fused Battery Positive Voltage 11	II	—
H1 - H5	—	—	—	Not Occupied	—	—
H6	0.35	WH/BN	7055	Auxiliary Park Lamp Relay Control	II	—

X50A Fuse Block - Underhood X3



4992608

Connector Part Information

Harness Type: Engine
OEM Connector: 33384584
Service Connector: 19371176
Description: 44-Way F 1.5, 2.8, 6.3 CTS, 9.5 MCON-LL Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13582285	J-35616-35 (VT)	J-38125-557
II	19332365	J-35616-14 (GN)	J-38125-560A
III	19332366	J-35616-35 (VT)	J-38125-212
IV	19371228	J-35616-42 (RD)	J-38125-215A
V	84764079	J-35616-22 (RD)	J-38125-11A
VI	Not Required	J-35616-22 (RD)	No Tool Required

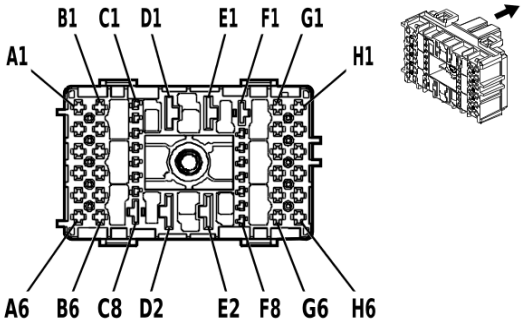
X50A Fuse Block - Underhood X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A1	0.75	VT/L-GN	439	Run/Crank Ignition 1 Voltage 4	III	—

X50A Fuse Block - Underhood X3 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A2	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage 21	III	—
A3	—	—	—	Not Occupied	—	—
A4	0.75	BN/L-GN	59	A/C Compressor Clutch Control	III	—
A5	0.75	RD/VT	7940	Secondary Fused Battery Positive Voltage 79	III	—
A6	0.5	L-GN	8016	Secondary Axle Motor Control	III	—
B1	2.5	YE	6	Starter Solenoid Actuator Crank Ignition Voltage	III	—
B2	0.5	YE/BK	625	Starter Enable Relay Control	III	—
B3	0.5	VT/GY	8017	Secondary Axle Motor Relay Control	III	—
B4 - B5	—	—	—	Not Occupied	—	—
B6	2.5	RD/GY	1342	Primary Fused Battery Positive Voltage 13	III	—
C1 - C2	—	—	—	Not Occupied	—	—
C3	0.75 0.5	BK BK	450 6550	Ground 4 Propulsion Propulsion System	II II	— LM2
C4	0.5	WH/GY	459	A/C Compressor Clutch Relay Control	II	—
C5 - C8	—	—	—	Not Occupied	—	—
D1	10	RD/GY	7040	Secondary Fused Battery Positive Voltage 70	VI	—
D2	5	RD/D-BU	1842	Primary Fused Battery Positive Voltage 18	V	—
E1	5	RD/D-BU	1542	Primary Fused Battery Positive Voltage 15	V	—
E2	5	RD/BN	1742	Primary Fused Battery Positive Voltage 17	V	—
F1	2.5	YE/L-GN	4358	Starter Pinion Solenoid Actuator Voltage	IV	—
F2	0.5	YE/VT	4325	Starter Pinion Solenoid Actuator Relay Control	II	—
F3	0.5	RD/BN	440	Secondary Fused Battery Positive Voltage 4	II	—
F4	0.5	YE	5991	Powertrain Relay Coil Control	II	—
F5	—	—	—	Not Occupied	—	—
F6	0.5	RD/BN	5940	Secondary Fused Battery Positive Voltage 59	II	—
F7	0.5	VT/D-BU	5705	Powertrain Main Relay Fused Supply 6	II	—
F8	—	—	—	Not Occupied	—	—
G1	0.5	VT/D-BU	7078	Powertrain Main Relay Fused Supply Voltage 7	III	—
G2 - G5	—	—	—	Not Occupied	—	—
G6	0.75 0.75	VT/D-BU VT/D-BU	5291 5291	Powertrain Main Relay Fused Supply 2 Powertrain Main Relay Fused Supply 2	III I	— —
H1	2	VT/D-BU	5290	Powertrain Main Relay Fused Supply 1	III	—
H2	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply 3	III	—
H3	0.75	VT/D-BU	5294	Powertrain Main Relay Fused Supply 5	III	—
H4	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply 4	III	—
H5	1	VT/D-BU	5291	Powertrain Main Relay Fused Supply 2	III	—
H6	—	—	—	Not Occupied	—	—

X50A Fuse Block - Underhood X4



4993031

Connector Part Information

Harness Type: Chassis
OEM Connector: 33384574
Service Connector: 19371188
Description: 44-Way F 1.5, 2.8, 6.3 CTS, 9.5 MCON-LL Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13582286	J-35616-35 (VT)	J-38125-557
II	19332365	J-35616-14 (GN)	J-38125-560A
III	19332366	J-35616-35 (VT)	J-38125-212
IV	19367600	J-35616-40 (BU)	J-38125-556
V	19371228	J-35616-42 (RD)	J-38125-215A
VI	84764079	J-35616-22 (RD)	J-38125-11A
VII	84779405	J-35616-35 (VT)	J-38125-215A

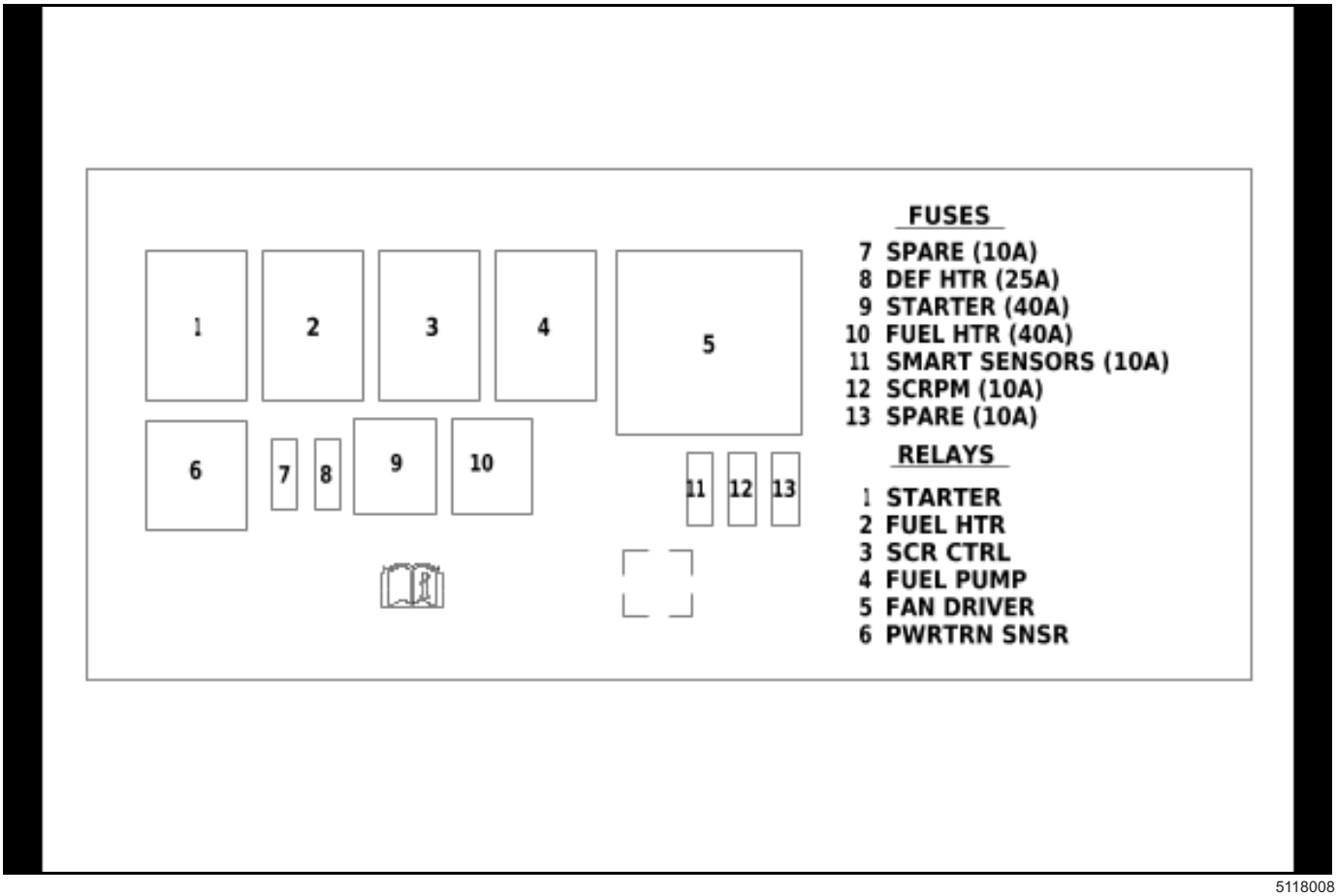
X50A Fuse Block - Underhood X4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A1 - A2	—	—	—	Not Occupied	—	—
A3	0.75	GY/BN	2109	Trailer Park Lamp Control	III	—
A4 - B1	—	—	—	Not Occupied	—	—
B2	0.75	WH/L-GN	1624	Trailer Backup Lamp Control	III	—
B3	0.75	RD/L-GN	2440	Secondary Fused Battery Positive Voltage 24	III	—
B4	0.5	RD/L-GN	6940	Secondary Fused Battery Positive Voltage 69	III	—
B5 - B6	—	—	—	Not Occupied	—	—
C1	0.75	RD/BN	2940	Secondary Fused Battery Positive Voltage 29	II	—
C2 - C6	—	—	—	Not Occupied	—	—
C7	0.5	RD/WH	2040	Secondary Fused Battery Positive Voltage 20	II	—
C8 - D1	—	—	—	Not Occupied	—	—
D2	6	RD/VT	1242	Primary Fused Battery Positive Voltage 12	VI	—
E1 - E2	—	—	—	Not Occupied	—	—
F1	3	RD/D-BU	7640	Secondary Fused Battery Positive Voltage 76	IV	—
	3	RD/D-BU	7640	Secondary Fused Battery Positive Voltage 76	V	—
F2 - G2	—	—	—	Not Occupied	—	—

X50A Fuse Block - Underhood X4 (cont'd)

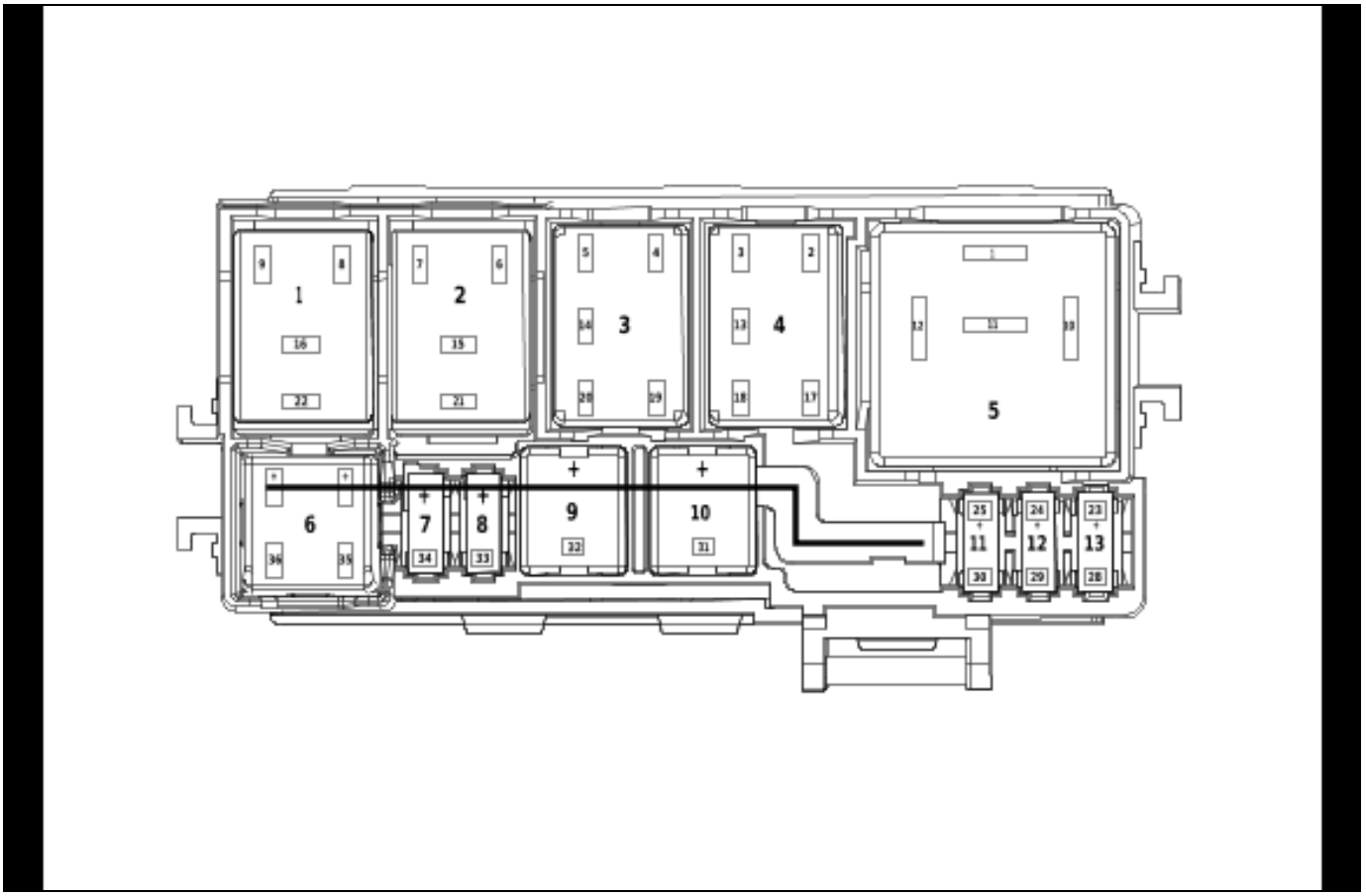
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
G3	0.75	YE/GY	1618	Left Rear Trailer Stop/Turn Lamp Control	III	—
G4	2	RD/YE	5840	Secondary Fused Battery Positive Voltage 58	III	—
	2	RD/YE	5840	Secondary Fused Battery Positive Voltage 58	I	—
G5	2.5	RD/WH	3440	Secondary Fused Battery Positive Voltage 34	III	—
G6	2.5	RD/YE	1142	Primary Fused Battery Positive Voltage 11	III	—
H1 - H2	—	—	—	Not Occupied	—	—
H3	0.75	L-GN/VT	1619	Right Rear Trailer Stop/Turn Lamp Control	III	—
H4	3	RD/VT	5640	Secondary Fused Battery Positive Voltage 56	VII	—
H5	2.5	RD/VT	1940	Secondary Fused Battery Positive Voltage 19	III	—
H6	4	RD/L-GN	742	Primary Fused Battery Positive Voltage 7	VII	—

X50B Fuse Block - Underhood Auxiliary Label (LM2)



5118008

X50B Fuse Block - Underhood Auxiliary Top View (LM2)



5118010

Usage Table

No.	Device Label Name	Device Assigned Name	Rating	Description
Fuses				
7	SPARE	F7UB	—	• KR121B Reductant Control Module Relay 2
8	DEF HTR	F8UB	25A	• Not Used
9	STARTER	F9UB	40A	• KR121A Reductant Control Module Relay 1 • F13UB
10	FUEL HTR	F10UB	40A	• KR22 Fuel Heater Relay
11	SMART SENSORS	F11UB	10A	• B136 Exhaust Particulate Sensor • B195A Nitrogen Oxides Sensor 1 • B195B Nitrogen Oxides Sensor 2 • B195C Nitrogen Oxides Sensor 3
12	SCRPM	F12UB	10A	• K111 Fuel Pump Driver Control Module • K115 Reductant Control Module
13	SPARE	F13UB	—	• KR18 Charge Air Cooler Coolant Pump Relay
Relays				
1	STARTER	KR121A Reductant Control Module Relay 1	—	• K115 Reductant Control Module
2	FUEL HTR	KR22 Fuel Heater Relay	—	• E11A Fuel Heater/Water in Fuel Sensor

Usage Table (cont'd)

No.	Device Label Name	Device Assigned Name	Rating	Description
3	SCR CTRL	KR18 Charge Air Cooler Coolant Pump Relay	—	• M10 Charge Air Cooler Coolant Pump
4	FUEL PUMP	KR121B Reductant Control Module Relay 2	—	• F11UB • F12UB
5	FAN DRIVER	—	—	• Not Used
6	PWRTRN SNSR	—	—	• Not Used

X50B Fuse Block - Underhood Auxiliary Wire Entry (LM2)

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Connector Part Information

Harness Type: Engine
OEM Connector: 35096237
Service Connector: Service by Component Assembly - See Part Catalog
Description: —

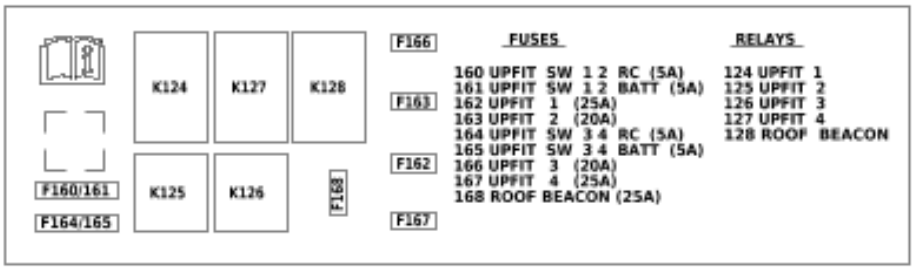
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13327158	J-35616-42 (RD)	J-38125-215A
II	13327178	J-35616-43 (RD)	J-38125-215A
III	13575574	J-35616-5 (PU)	J-38125-36
IV	13582244	J-35616-42 (RD)	J-38125-215A
V	Not Required	J-35616-22 (RD)	No Tool Required

X50B Fuse Block - Underhood Auxiliary Wire Entry (LM2)

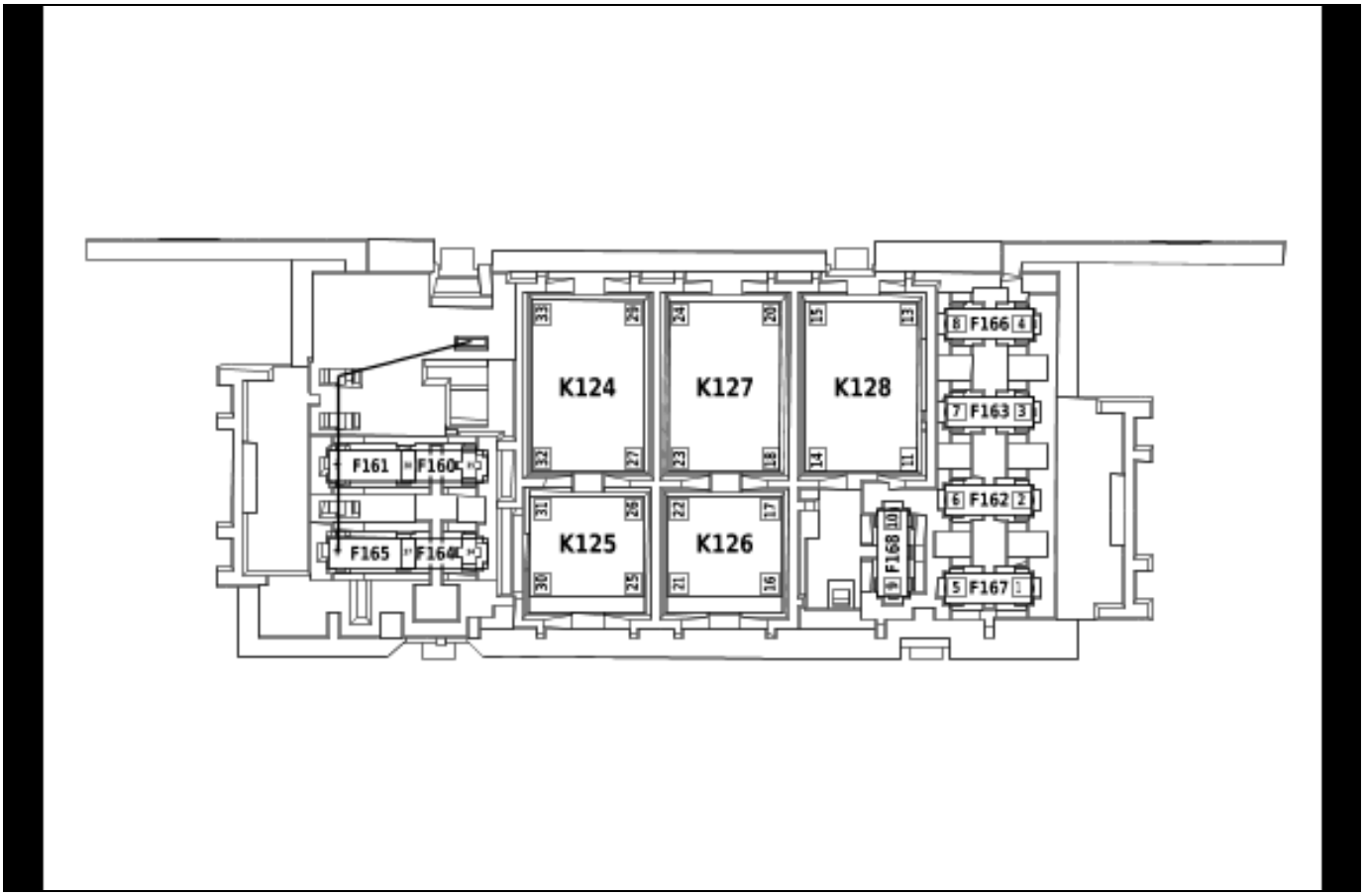
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
4	0.5	L-GN/ D-BU	3889	Powertrain Sensor Bus Relay Control	III	—
5	1	VT/L-GN	4320	Selective Catalytic Reduction Power Module Wake-Up Signal	III	—
6	0.5	D-BU	3017	Fuel Heater Relay 1 Control	I	—
7	0.5	VT/D-BU	7078	Powertrain Main Relay Fused Supply Voltage 7	I	—
15	2.5	BN/YE	2996	Fuel Heater Control 1	IV	—
19	1	VT/D-BU	3674	NOx Sensor 1 Control	III	—
20	0.5	BK	6550	Propulsion Propulsion System	III	—
21	2.5	RD/WH	5440	Secondary Fused Battery Positive Voltage 54	IV	—
26	10	RD/GY	7040	Secondary Fused Battery Positive Voltage 70	V	—
31	2.5	RD/WH	5440	Secondary Fused Battery Positive Voltage 54	II	—
33	1.5	RD/BN	5940	Secondary Fused Battery Positive Voltage 59	III	—
34	1	VT/D-BU	3674	NOx Sensor 1 Control	III	—

X51B Fuse Block - Auxiliary Instrument Panel Label (5W4/9C1)



5573254

X51B Fuse Block - Auxiliary Instrument Panel Top View (5W4/9C1)



5245414

Usage Table

No.	Device Label Name	Device Assigned Name	Rating	Description
Fuses				
F160	SW 1-2 RC	F160DA	5A	• KR161A Configurable Provision Relay 1 • KR161B Configurable Provision Relay 2
F161	SW 1-2 BATT	F161DA	5A	• KR161A Configurable Provision Relay 1 • KR161B Configurable Provision Relay 2
F162	UPFIT1	F162DA	25A	• W12FC Blunt Cut - Front Seat/Center Console
F163	UPFIT2	F163DA	20A	• W12FC Blunt Cut - Front Seat/Center Console
F164	SW 3-4 RC	F164DA	5A	• KR161C Configurable Provision Relay 3 • KR161D Configurable Provision Relay 4
F165	SW 3-4 BATT	F165DA	5A	• KR161C Configurable Provision Relay 3 • KR161D Configurable Provision Relay 4
F166	UPFIT3	F166DA	20A	• W12RCL Blunt Cut - Left Rear Cargo Trim
F167	UPFIT4	F167DA	25A	• W12RCL Blunt Cut - Left Rear Cargo Trim
Relays				
K124	UPFIT1	KR161A Configurable Provision Relay 1	—	• F162DA
K125	UPFIT2	KR161B Configurable Provision Relay 2	—	• F163DA

Usage Table (cont'd)

No.	Device Label Name	Device Assigned Name	Rating	Description
K126	UPFIT3	KR161C Configurable Provision Relay 3	—	• F166DA
K127	UPFIT4	KR161D Configurable Provision Relay 4	—	• F167DA
K128	ROOF BEACON	—	—	• Not Used

X51B Fuse Block - Auxiliary Instrument Panel Wire Entry (5W4/9C1)

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Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33323307
Service Connector: Service by Component Assembly - See Part Catalog
Description: —

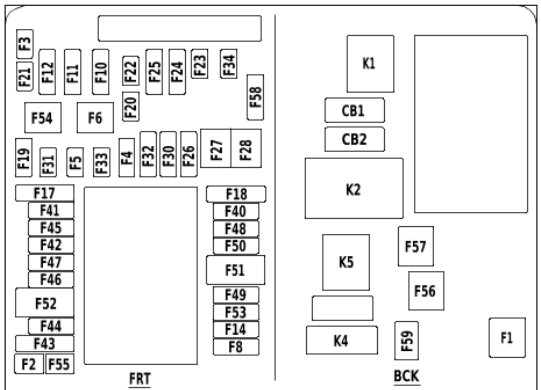
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575574	J-35616-5 (PU)	J-38125-36
II	84779405	J-35616-35 (VT)	J-38125-215A

X51B Fuse Block - Auxiliary Instrument Panel Wire Entry (5W4/9C1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	5	RD/GY	2742	Primary Fused Battery Positive Voltage 27	II	—
2	0.75	D-BU/YE	8895	Police Relay 1 Control	I	—
3	0.75	L-GN/YE	8896	Police Relay 2 Control	I	—
4	0.75	GY/YE	8897	Police Relay 3 Control	I	—
5	0.75	VT/YE	8898	Police Relay 4 Control	I	—
6	0.75	RD/L-GN	8911	—	I	—
7	0.75	RD/GY	8912	—	I	—
8	0.75	RD/WH	8913	—	I	—
9	0.75	RD/YE	8914	—	I	—

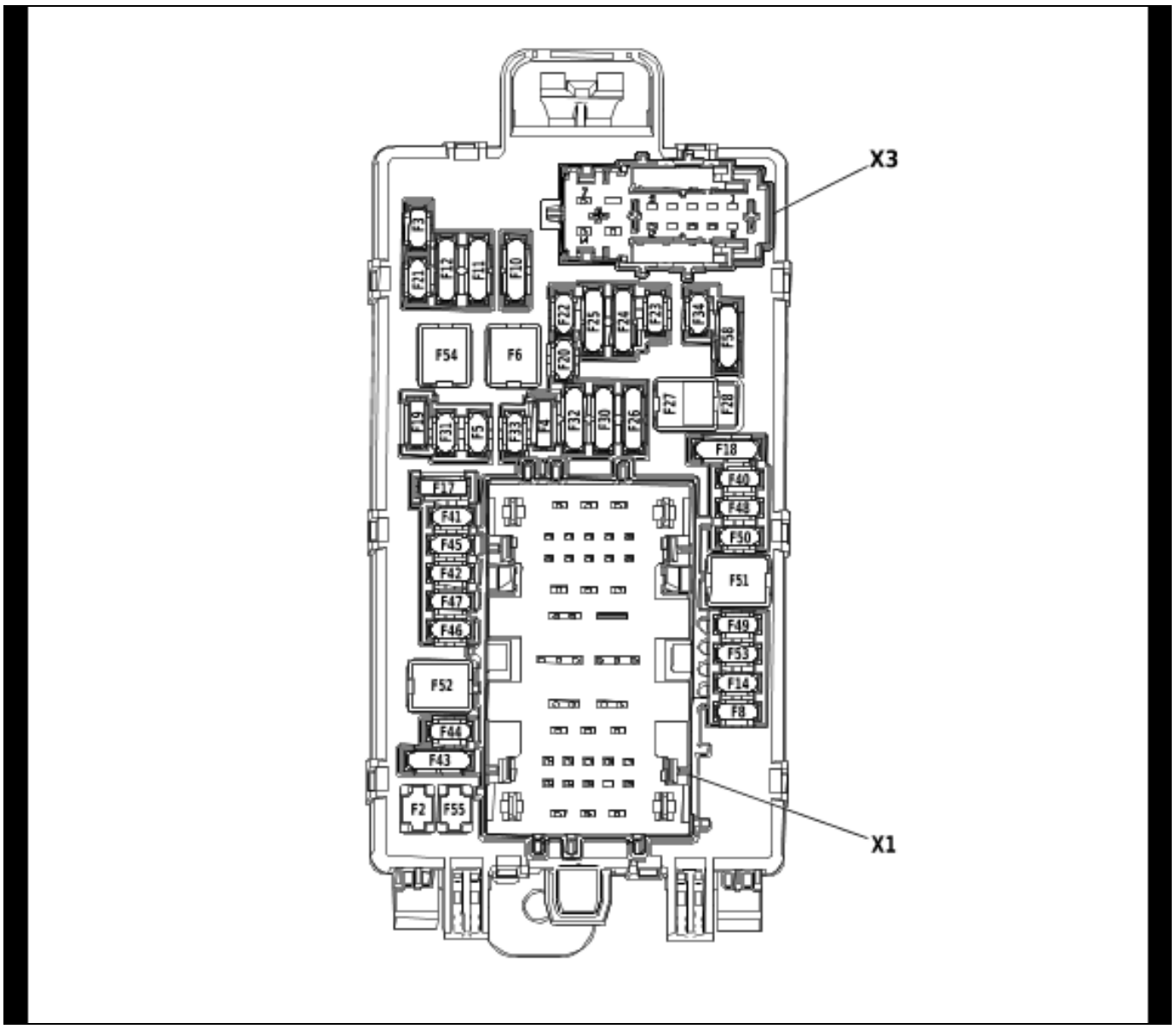
X51R Fuse Block - Instrument Panel Right Label



CB1-15A-APO1
CB2-15A-APO2
F1-30A-RT DR
F2-30A-LT DR
F3-10A-UGDO/OHC/CAMERA
F4-20A-BCM 2
F5-20A-DISPLAYS
F6-40A-FRT BLWR
F8-15A-LT DR PNL
F10-15A-TILT/COL LOCK
F11-10A-USB/DLC
F12-15A-CGM/ONSTAR
F14-10A-RT DR PNL
F17-2A-STR WHL CNTRL
F18-10A-AVM 1
F19-2A-NOT USED
F20-5A-NOT USED
F21-10A-NOT USED
F22-7.5A-HTD WHL
F23-10A-NOT USED
F24-10A-NOT USED
F25-15A-SEO/UPFITTER
F26-10A-USB/SEO RAP
F27-50A-APO/RAP
F28-50A-APO/BATT
F30-10A-SDM AOS
F31-20A-BCM 3
F32-15A-CSM USB
F33-30A-BCM 4
F34-5A-OUT OF PARK
F40-10A-NOT USED
F41-10A-NOT USED
F42-10A-ELEC PRK/ BRK SW
F43-10A-NOT USED
F44-10A-AVM 2
F45-15A-RADIO MDL
F46-10A-BCM 1A
F47-10A-NOT USED
F48-20A-TCM
F49-15A-BCM1
F50-10A-DMS
F51-40A-NOT USED
F52-40A-NOT USED
F53-10A-NOT USED
F54-40A-SUNROOF
F55-30A-NOT USED
F56-40A-DC/DC CNV BATT 1
F57-40A-DC/DC CNV BATT 2
F58-15A-SPARE
F59-15A-APO 3
K1-NOT USED
K2-RAP/ACCY1
K4-RAP/ACCY2
K5-NOT USED

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X51R Fuse Block - Instrument Panel Right Top View



5041376

Usage Table

No.	Device Label Name	Device Assigned Name	Rating	Description
Fuses				
F1	RT DR	F1DR	30A	• M74P Window Motor - Passenger • S79RR Window Switch - Right Rear
F2	LT DR	F2DR	30A	• M74D Window Motor - Driver • S79LR Window Switch - Left Rear
F3	UGDO/OHC/ CAMERA	F3DR	10A	• A98 Front Overhead Console Assembly • B174W Frontview Camera - Windshield (UEU) • B200 Rain Sensor Module • W9 Blunt Cut - Police Provision (5W4/9C1)
F4	BCM 2	F4DR	20A	• K9 Body Control Module

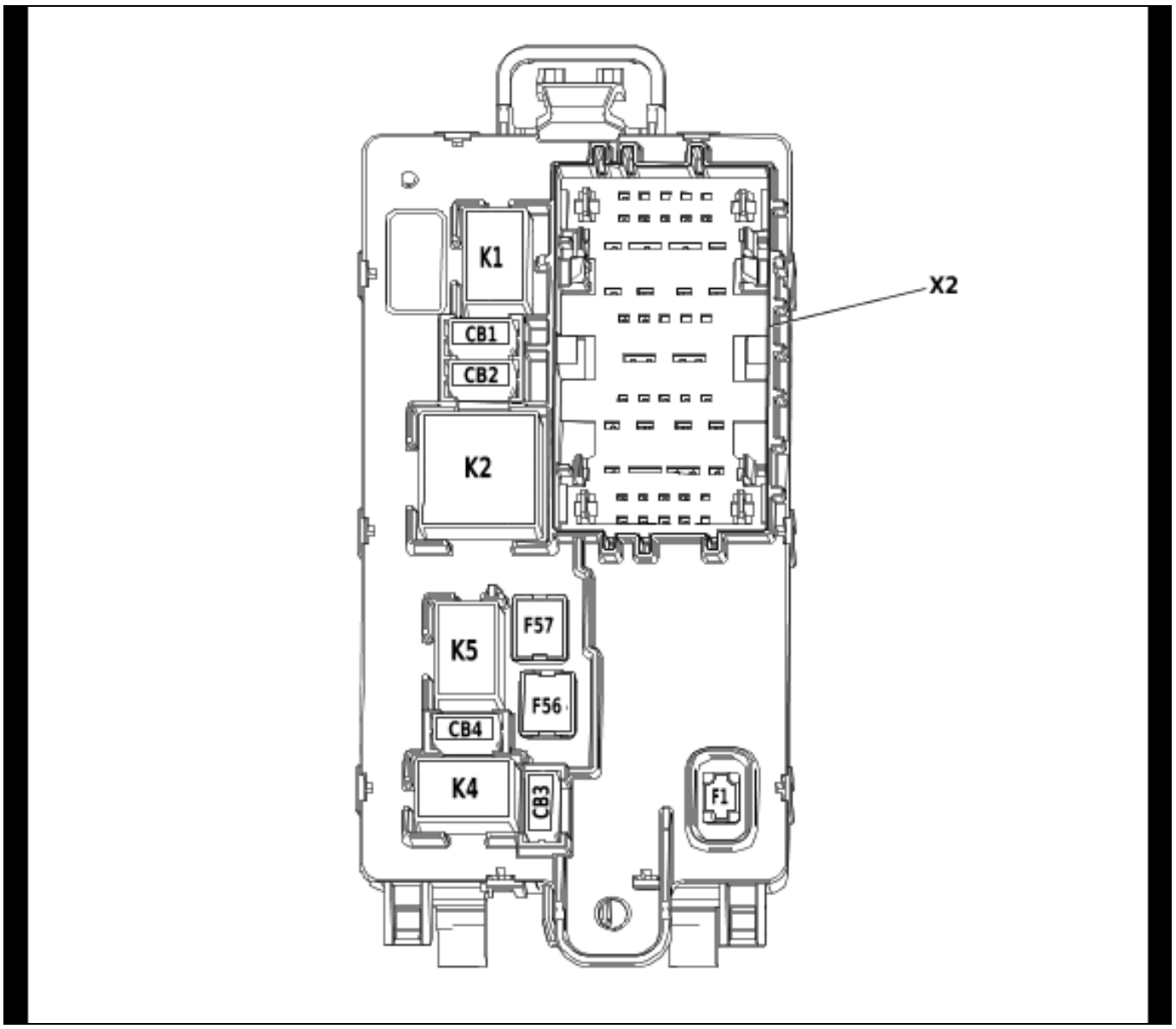
Usage Table (cont'd)

No.	Device Label Name	Device Assigned Name	Rating	Description
F5	DISPLAYS	F5DR	20A	• A26 HVAC Controls • P16 Instrument Cluster • P17 Info Display Module • P29 Head-Up Display (UV6)
F6	FRT BLWR	F6DR	40A	• M8 Blower Motor
F8	LT DR PNL	F8DR	15A	• S84D Door Switch Panel Control Module - Driver
F10	TILT/COL LOCK	F10DR	15A	• K60 Steering Colmn Lock Module • K99 Steering Column Position Control Module
F11	USB/DLC	F11DR	10A	• X84 Data Link Connector
F12	CGM/ONSTAR	F12DR	15A	• K56 Serial Data Gateway Module • K73 Telematics Communication Interface Control Module
F14	RT DR PNL	F14DR	10A	• S84P Door Switch Panel Control Module - Passenger
F17	STR WHL CNTRL	F17DR	2A	• S70L Steering Wheel Controls Switch - Left (KI3) • S70R Steering Wheel Controls Switch - Right (KI3)
F18	AVM 1	F18DR	10A	• Q80L Engine Mount Solenoid Valve - Left (LM2) • Q80R Engine Mount Solenoid Valve - Right (LM2)
F19	NOT USED	F19DR	2A	• Not Used
F20	NOT USED	F20DR	5A	• Not Used
F21	NOT USED	F21DR	10A	• Not Used
F22	HTD WHL	F22DR	7.5A	• K32 Steering Wheel Heating Control Module (KI3)
F23	NOT USED	F23DR	10A	• Not Used
F24	NOT USED	F24DR	10A	• Not Used
F25	SEO/UPFITTER	F25DR	15A	• W9 Blunt Cut - Police Provision (5W4/9C1)
F26	USB/SEO RAP	F26DR	10A	• W9 Blunt Cut - Police Provision (5W4/9C1) • X92BCL USB Receptacle - 3rd Row Seat Left • X92BCR USB Receptacle - 3rd Row Seat Right • X92C USB Receptacle - Center Console Rear
F27	APO/RAP	F27DR	50A	• CB1DR
F28	APO/BATT	F28DR	50A	• CB1DR
F30	SDM AOS	F30DR	10A	• K36 Inflatable Restraint Sensing and Diagnostic Module • K85 Passenger Presence Module • S76 Trailer Brake Control Switch (JL1)
F31	BCM 3	F31DR	20A	• K9 Body Control Module
F32	CSM USB	F32DR	15A	• Auxiliary Audio/Video Input Adapter - 1 (AZ3/D07/DCK/DCH) • Auxiliary Audio/ Video Input Adapter - 2 (D07/DCK/UW9) • A11 Radio
F33	BCM 4	F33DR	30A	• K9 Body Control Module
F34	OUT OF PARK	F34DR	5A	• KR87 Transmission Park Position Relay
F40	NOT USED	F40DR	10A	• Not Used
F41	NOT USED	F41DR	10A	• Not Used
F42	ELEC PRK/ BRK SW	F42DR	10A	• B80 Park Brake Switch • K212 Electronic Transmission Shift Control Pushbutton Circuit Board
F43	NOT USED	F43DR	10A	• Not Used

Usage Table (cont'd)

No.	Device Label Name	Device Assigned Name	Rating	Description
F44	AVM 2	F44DR	10A	• Not Used
F45	RADIO MDL	F45DR	15A	• A11 Radio (IOR)
F46	BCM 1A	F46DR	10A	• K9 Body Control Module (IOS/IOT)
F47	NOT USED	F47DR	10A	• Not Used
F48	TCM	F48DR	20A	• K71 Transmission Control Module
F49	BCM 1	F49DR	15A	• K9 Body Control Module
F50	DMS	F50DR	10A	• Not Used
F51	NOT USED	F51DR	40A	• Not Used
F52	NOT USED	F52DR	40A	• Not Used
F53	NOT USED	F53DR	10A	• Not Used
F54	SUNROOF	F54DR	40A	• K61 Sunroof Control Module (C3U)
F55	NOT USED	F55DR	30A	• Not Used
F56	DC/DC CNV BATT1	F56DR	40A	• T19 Power Supply Transformer
F57	DC/DC CNV BATT2	F57DR	40A	• T19 Power Supply Transformer
F58	SPARE	F58DR	15A	• Not Used
F59	APO 3	F59DR	15A	• Not Used
Circuit Breakers				
CB1	APO 1	CB1DR	15A	• X80G Accessory Power Receptacle - Instrument Panel • X80H Accessory Power Receptacle - Center Console
CB2	APO 2	CB2DR	15A	• Not Used
Relays				
K1	NOT USED	—	—	• Not Used
K2	RAP/ACCY 1	KR76A Retained Accessory Power Relay 1	—	• F26DR • CB1DR
K4	RAP/ACCY 2	—	—	• Not Used
K5	NOT USED	—	—	• Not Used
Note: Relays listed below are non-serviceable Printed Circuit Board (PCB) relays and are internal to the block.				
—	—	KR87 Transmission Park Position Relay	—	• S143L Folding Seat Control Switch - 2nd Row Left (ATN/ATT) • S143R Folding Seat Control Switch - 2nd Row Right (ATN/ATT) • S144A Folding Seat Control Switch - Rear Compartment 2nd Row (ATN/ATT)

X51R Fuse Block - Instrument Panel Right Bottom View



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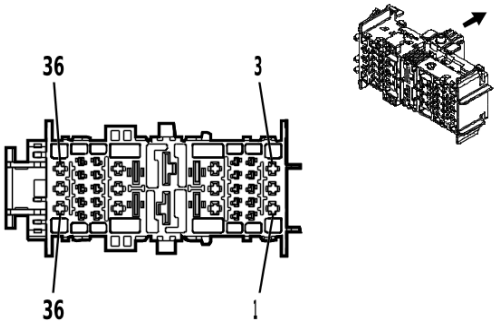
Usage Table

No.	Device Label Name	Device Assigned Name	Rating	Description
Circuit Breakers				
CB1	APO2	CB1DR	15A	• X80G Accessory Power Receptacle - Instrument Panel
CB2	APO1/LTR	CB2DR	15A	• X80L Accessory Power Receptacle - Center Console Rear (D07) • X80M Accessory Power Receptacle - Rear Seat (AZ3)
CB3	APO3	CB3DR	15A	—
CB4	APO4	CB4DR	15A	—
Fuses				
F1	LT DR	F1DR	30A	• M74D Window Motor - Driver (AXG) • S79LR Window Switch - Left Rear (AEQ)

Usage Table (cont'd)

No.	Device Label Name	Device Assigned Name	Rating	Description
F56	DC DC TRANS1	F56DR	40A	• T19 Power Supply Transformer (KL9)
F57	DC DC TRANS2	F57DR	40A	• T19 Power Supply Transformer (KL9)
Relays				
K1	RUN CRANK	KR73 Ignition Main Relay	—	• F20DR • F21DR • F22DR • F23DR • F24DR • F25DR
K2	RAP/ACCY1	KR76A Retained Accessory Power Relay 1	—	• F26DR • F27DR
K4	RAP/ACCY2	KR76B Retained Accessory Power Relay 2	—	• CB3DR • CB4DR
K5	NOT USED	—	—	—

X51R Fuse Block - Instrument Panel Right X1



4994712

Connector Part Information

Harness Type: Body
OEM Connector: 33371909
Service Connector: 19371181
Description: 38-Way F 1.5, 2.8, 6.3 CTS Series (BU)

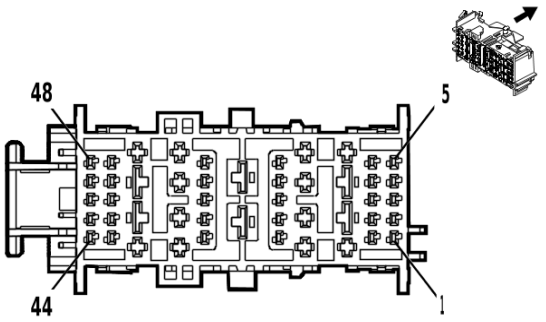
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13579915	J-35616-40 (BU)	J-38125-556
II	19332366	J-35616-35 (VT)	J-38125-212
III	19371175	J-35616-2A (GY)	J-38125-11A
IV	84764079	J-35616-22 (RD)	J-38125-11A
V	Not Required	J-35616-22 (RD)	No Tool Required

X51R Fuse Block - Instrument Panel Right X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.75	RD/L-GN	1840	Secondary Fused Battery Positive Voltage 18	II	—
4	0.35	RD/WH	7240	Secondary Fused Battery Positive Voltage 72	III	—
5	0.5	RD/L-GN	4440	Secondary Fused Battery Positive Voltage 44	III	—
6	0.5	VT	4701	Retained Accessory Power Control 11	III	—
7	—	—	—	Not Occupied	—	—
8	0.5	VT	4701	Retained Accessory Power Control 11	III	—
9	—	—	—	Not Occupied	—	—
10	0.35	GY/L-GN	4083	Retained Accessory Power Relay 2 Coil Control	III	—
11	0.5	RD/VT	340	Secondary Fused Battery Positive Voltage 3	III	—
12	—	—	—	Not Occupied	—	—
13	0.35	YE/BK	5813	Park Enable Control	III	—
14 - 16	—	—	—	Not Occupied	—	—
17	2.5	RD/YE	2172	12 Volt Regulated Supply Voltage 1	I	—
18	2.5	RD/YE	8140	Secondary Fused Battery Positive Voltage 81	I	—
19	5	RD/YE	1442	Primary Fused Battery Positive Voltage 14	IV	—
20	10	RD/WH	342	Primary Fused Battery Positive Voltage 3	V	—
21	2.5	RD/L-GN	2173	12 Volt Regulated Supply Voltage 2	I	—
22	2.5	RD/WH	8040	Secondary Fused Battery Positive Voltage 80	I	—
23	2.5	RD/BN	4240	Secondary Fused Battery Positive Voltage 42	II	—
24	2.5	RD/BN	4240	Secondary Fused Battery Positive Voltage 42	II	—
25	2.5	RD/GY	3540	Secondary Fused Battery Positive Voltage 35	II	—
26	—	—	—	Not Occupied	—	—
27	0.5	RD/VT	340	Secondary Fused Battery Positive Voltage 3	III	—
28	—	—	—	Not Occupied	—	—
29	0.5	RD/D-BU	5240	Secondary Fused Battery Positive Voltage 52	III	—
30	0.5	RD/VT	1940	Secondary Fused Battery Positive Voltage 19	III	—
31	—	—	—	Not Occupied	—	—
32	0.5	YE	6812	Out of Park Signal	III	—
33	0.35	GY/L-GN	4083	Retained Accessory Power Relay 2 Coil Control	III	—
34 - 35	—	—	—	Not Occupied	—	—
36	1.5	VT	1701	Retained Accessory Power Control 4	II	—
37	2.5	RD/GY	3540	Secondary Fused Battery Positive Voltage 35	II	—
38	—	—	—	Not Occupied	—	—

X51R Fuse Block - Instrument Panel Right X2



4997272

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33371910
Service Connector: 19371180
Description: 48-Way F 1.5, 2.8, 6.3 CTS Series (GN)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19332366	J-35616-35 (VT)	J-38125-212
II	19370816	J-35616-42 (RD)	J-38125-11A
III	19371175	J-35616-2A (GY)	J-38125-11A
IV	84764078	J-35616-42 (RD)	J-38125-11A

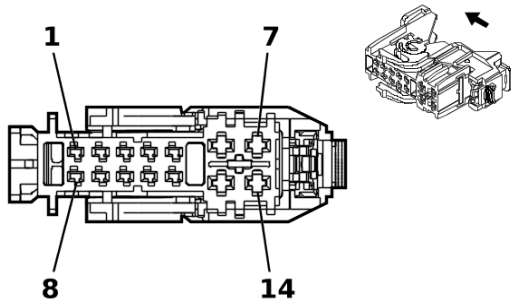
X51R Fuse Block - Instrument Panel Right X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK	1050	Ground 10	III	—
2 - 7	—	—	—	Not Occupied	—	—
8	0.35	RD/GY	4140	Secondary Fused Battery Positive Voltage 41	III	—
9	0.5	RD/YE	6540	Secondary Fused Battery Positive Voltage 65	III	—
10	—	—	—	Not Occupied	—	—
11	0.75	RD/L-GN	10240	Secondary Fused Battery Positive Voltage 102 Police	I	—
12 - 13	—	—	—	Not Occupied	—	—
14	0.5	RD/D-BU	3240	Secondary Fused Battery Positive Voltage 32	I	—
15	0.35	RD/BN	10040	Secondary Fused Battery Positive Voltage 100	I	—
16	1.5	RD/VT	4640	Secondary Fused Battery Positive Voltage 46	I	—
17	—	—	—	Not Occupied	—	—
18	0.35	RD/VT	3340	Secondary Fused Battery Positive Voltage 33	I	—
19	—	—	—	Not Occupied	—	—
20	0.75	RD/GY	10340	Secondary Fused Battery Positive Voltage 103 Police	III	—
21 - 23	—	—	—	Not Occupied	—	—
24	5	RD/GY	2042	Primary Fused Battery Positive Voltage 20	IV	—
25	2.5	RD/D-BU	4540	Secondary Fused Battery Positive Voltage 45	II	—
26	—	—	—	Not Occupied	—	—

X51R Fuse Block - Instrument Panel Right X2 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
27	0.35	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	III	—
	0.5	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	III	D07
	0.5	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	III	-D07
28	0.35	RD/VT	4040	Secondary Fused Battery Positive Voltage 40	III	—
29 - 30	—	—	—	Not Occupied	—	—
31	1.5	VT	1001	Retained Accessory Power Control 2	I	—
32	0.75	RD/D-BU	2540	Secondary Fused Battery Positive Voltage 25	I	—
33	0.75	RD/WH	1340	Secondary Fused Battery Positive Voltage 13	I	—
34	0.75	RD/GY	2140	Secondary Fused Battery Positive Voltage 21	I	—
35	1	RD/GY	2840	Secondary Fused Battery Positive Voltage 28	I	—
36	—	—	—	Not Occupied	—	—
37	0.75	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	IV	—
38 - 39	—	—	—	Not Occupied	—	—
40	0.5	VT	2801	Retained Accessory Power Control 8	III	—
41	0.75	RD/L-GN	5140	Secondary Fused Battery Positive Voltage 51	III	—
42	0.35	RD/L-GN	5140	Secondary Fused Battery Positive Voltage 51	III	—
43 - 44	—	—	—	Not Occupied	—	—
45	0.5	RD/WH	2740	Secondary Fused Battery Positive Voltage 27	III	—
46 - 48	—	—	—	Not Occupied	—	—

X51R Fuse Block - Instrument Panel Right X3



5190115

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33377074
Service Connector: 13525315
Description: 14-Way F 1.5, 2.8 MCP Series (GY)

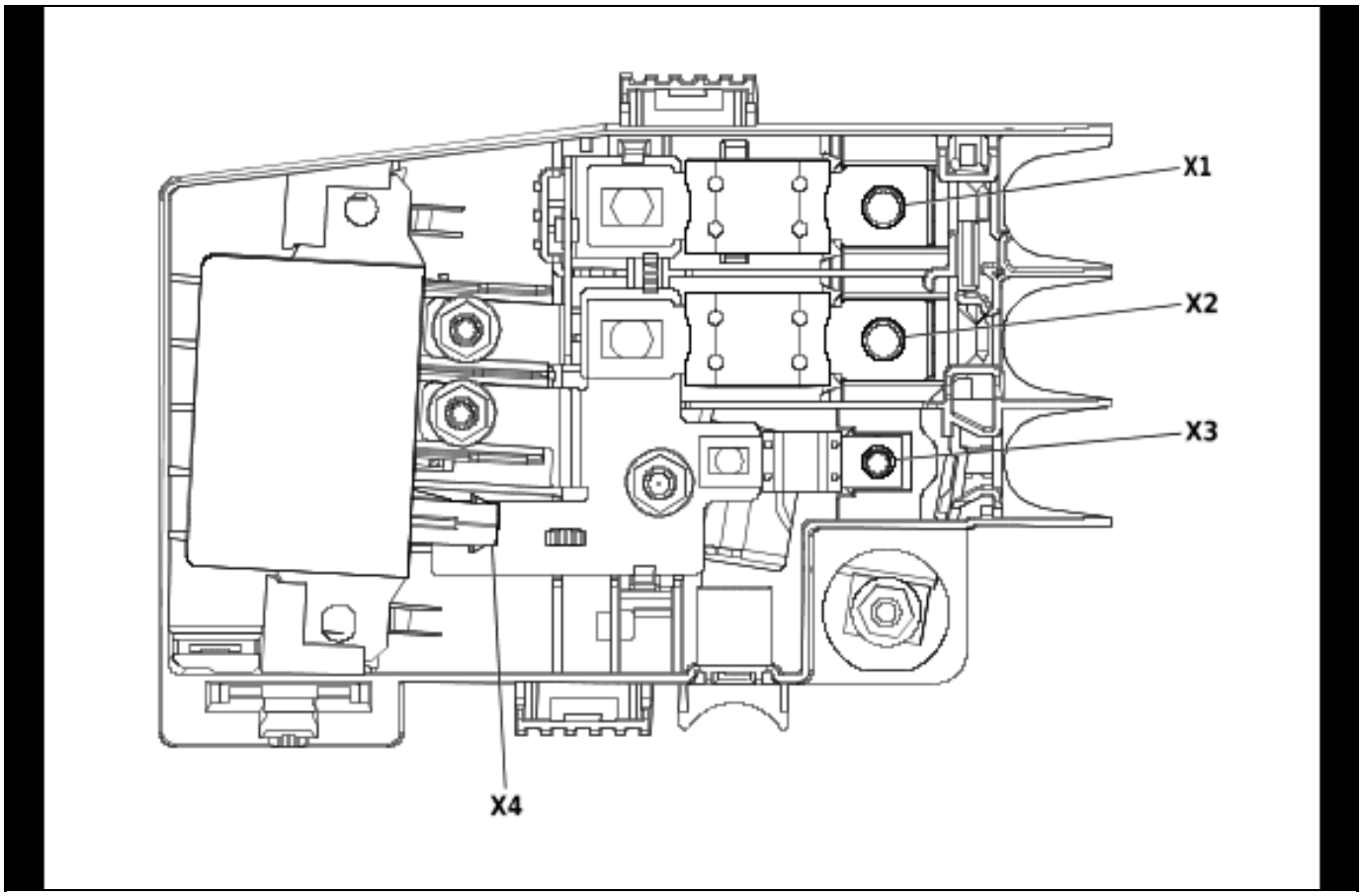
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19332366	J-35616-35 (VT)	J-38125-212

X51R Fuse Block - Instrument Panel Right X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 6	—	—	—	Not Occupied	—	—
7	1	RD/YE	240	Secondary Fused Battery Positive Voltage 2	I	—
8 - 14	—	—	—	Not Occupied	—	—

X50E Fuse Block - Battery Auxiliary Top View (5W4/9C1)

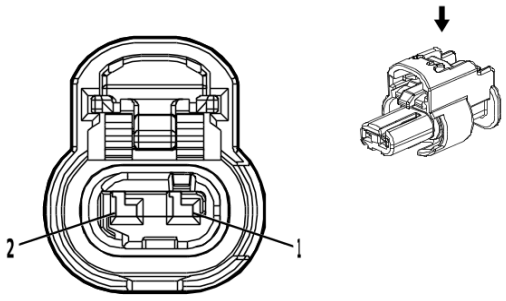


5573251

Usage Table

No.	Device Label Name	Device Assigned Name	Rating	Description
Fuses				
—	—	F1BB	100A	• X50D Fuse Block - Battery
—	—	F2BB	100A	• W12RCL Blunt Cut - Left Rear Cargo Trim
—	—	F3BB	50A	• W12RCL Blunt Cut - Left Rear Cargo Trim
Relays				
—	—	KR81 Auxiliary Battery Relay	—	• F1BB

X50E Fuse Block - Battery Auxiliary Wire Entry (5W4/9C1)



4649903

Connector Part Information

Harness Type: Body
OEM Connector: 33327048
Service Connector: 19366858
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

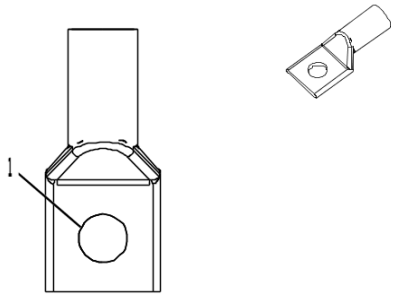
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

X50E Fuse Block - Battery Auxiliary Wire Entry (5W4/9C1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/D-BU	4892	Auxiliary Battery Relay Control	I	—
2	0.5	BK	7650	Police Ground 76	I	—

X50E Fuse Block - Battery Auxiliary X1 (5W4/9C1)



3273653

Connector Part Information

Harness Type: Body
OEM Connector: 13516384
Service Connector: Service by Cable Assembly — See Part Catalog
Description: 1-Way Ring Terminal

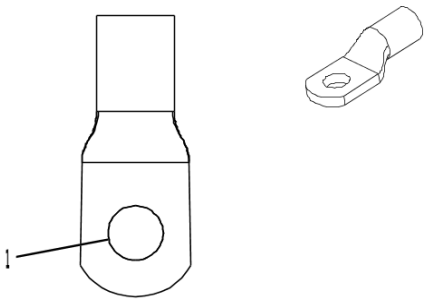
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

X50E Fuse Block - Battery Auxiliary X1 (5W4/9C1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	16	RD/GY	642	Primary Fused Battery Positive Voltage 6	I	—

X50E Fuse Block - Battery Auxiliary X2 (5W4/9C1)



4050490

Connector Part Information

Harness Type: Body
OEM Connector: 13516383
Service Connector: Service by Cable Assembly — See Part Catalog
Description: 1-Way Ring Terminal

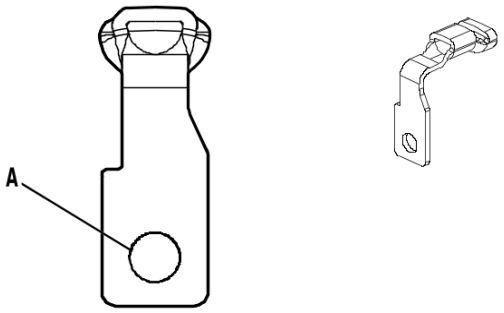
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

X50E Fuse Block - Battery Auxiliary X2 (5W4/9C1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	10	RD/VT	842	Primary Fused Battery Positive Voltage 8	I	—

X50E Fuse Block - Battery Auxiliary X3 (5W4/9C1)



4994507

Connector Part Information

Harness Type: Body
OEM Connector: 35085183
Service Connector: Service by Cable Assembly — See Part Catalog
Description: 1-Way Ring Terminal

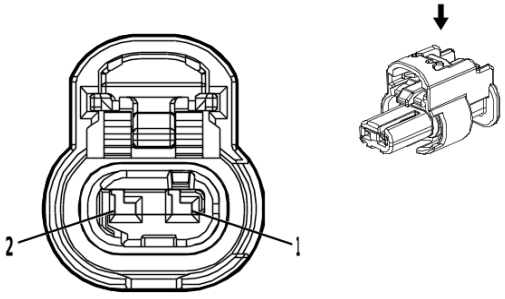
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

X50E Fuse Block - Battery Auxiliary X3 (5W4/9C1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	5	RD/L-GN	742	Primary Fused Battery Positive Voltage 7	I	—

X50E Fuse Block - Battery Auxiliary X4 (5W4/9C1)



4649903

Connector Part Information

Harness Type: Body
OEM Connector: 33327048
Service Connector: 19366858
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

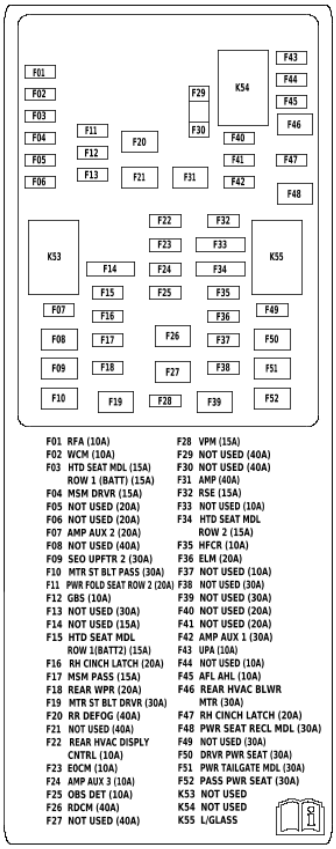
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	No Tool Required	Not Required	Not Required	Not Required	Not Required

X50E Fuse Block - Battery Auxiliary X4 (5W4/9C1)

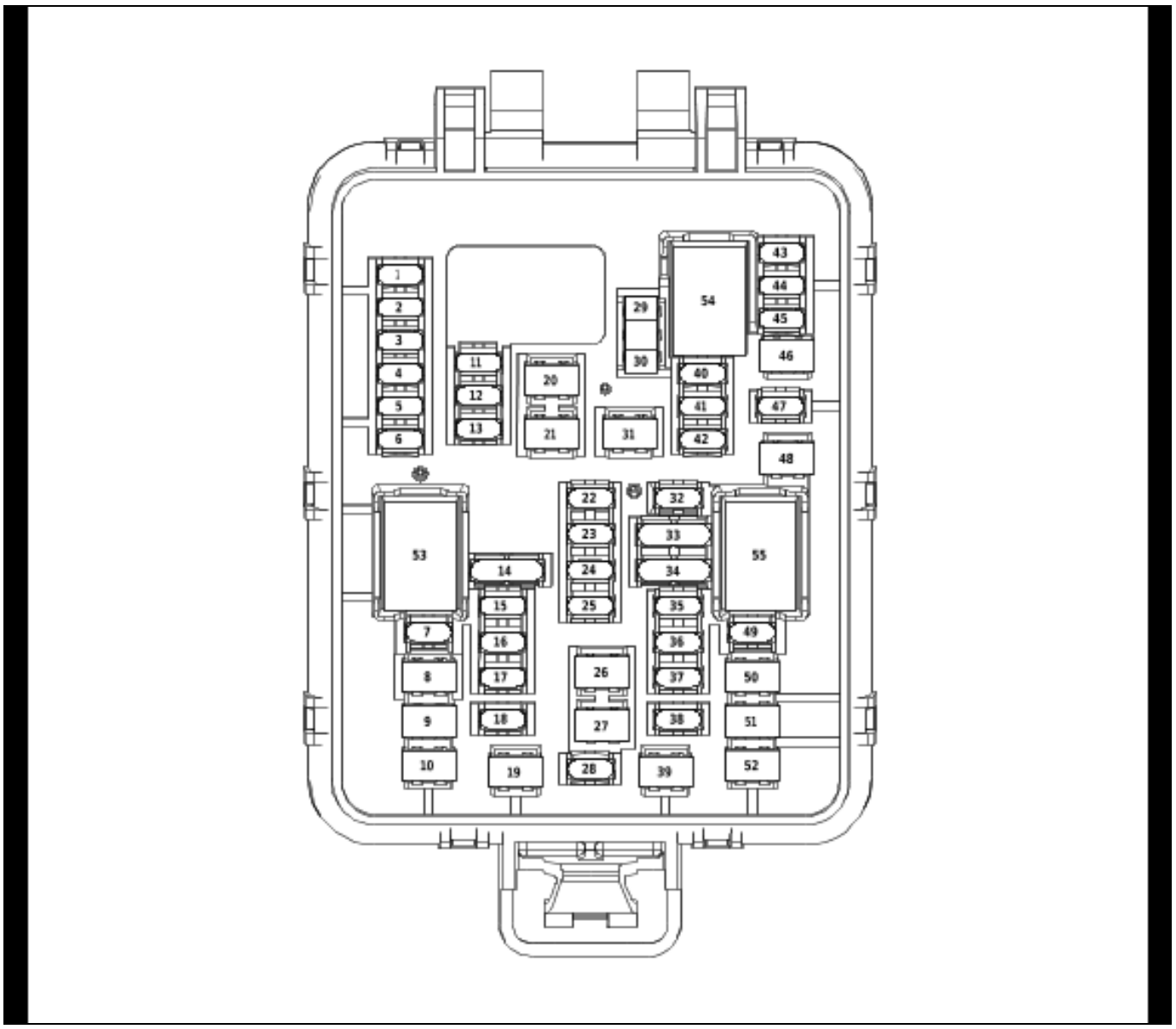
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/D-BU	4892	Auxiliary Battery Relay Control	I	—
2	0.5	BK	7650	Police Ground 76	I	—

X53A Fuse Block - Rear Body Label



5441152

X53A Fuse Block - Rear Body Top View



5331356

Usage Table

No.	Device Label Name	Device Assigned Name	Rating	Description
Fuses				
F01	RFA	F1RA	10A	• K77 Remote Function Actuator Module
F02	ECM	F2RA	10A	• K20 Engine Control Module
F03	DRVR HTD/SEAT	F3RA	15A	• K29FV Front Seat Heater Vent Control Module
F04	FTZM	F4RA	20A	• K111 Fuel Pump Power Control Module
F05	Not Used	F5RA	—	• Not Used
F06	Not Used	F6RA	—	• Not Used
F07	Not Used	F7RA	—	• Not Used
F08	Not Used	F8RA	—	• Not Used
F09	Not Used	F9RA	—	• Not Used
F10	MTR ST BLT PASS	F10RA	30A	• M101R Front Seat Belt Retractor Motor - Right

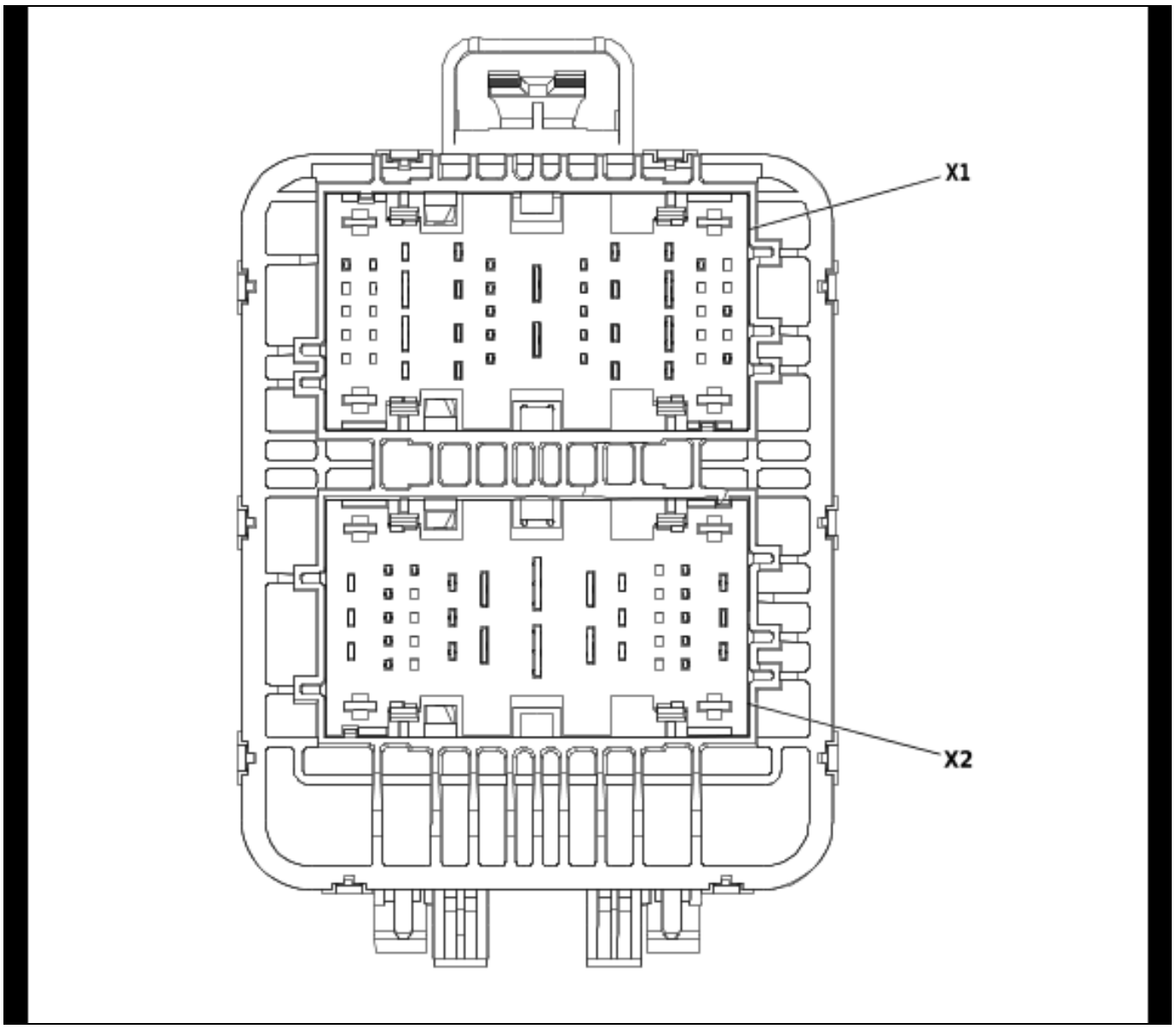
Usage Table (cont'd)

No.	Device Label Name	Device Assigned Name	Rating	Description
F11	CNSTR VENT SOL	F11RA	10A	• Q13 Evaporative Emission Canister Vent Valve Solenoid
F12	S/ROOF	F12RA	30A	• K61 Sunroof Control Module
F13	Not Used	F13RA	—	• Not Used
F14	Not Used	F14RA	—	• Not Used
F15	PASS HTD/SEAT	F15RA	15A	• K29FV Front Seat Heater Vent Control Module
F16	ACDCINV	F16RA	30A	• Not Used
F17	ESC	F17RA	25A	• K19 Suspension Control Module (F55)
F18	Not Used	F18RA	—	• Not Used
F19	MTR ST BLT DRVR	F19RA	30A	• M101L Front Seat Belt Retractor Motor - Left
F20	RR DEFOG	F20RA	40A	• R14L Radio Antenna Ground Coil - Left
F21	DC DC TRANS	F21RA	40A	• T19 Multifunction Power Supply Converter
F22	DRVR WINDW DR/LCK SW	F22RA	10A	• A24D Front Side Door Outside Handle - Left • S79D Front Side Door Window Control Switch - Driver
F23	EOCM	F23RA	10A	• B174W Front View Camera - Windshield • B233R Short Range Radar Sensor - Rear (UGN) • K124 Image Processing Module (UGN)
F24	PASS DRVR WINDW DR/ LCK SW	F24RA	10A	• A24P Front Side Door Outside Handle - Right • S79P Front Side Door Window Switch - Passenger
F25	Not Used	F25RA	—	• Not Used
F26	TRLR	F26RA	40A	• Not Used
F27	RDCM	F27RA	40A	• K164 Differential Control Module
F28	REAR HTD/ SEAT 2	F28RA	15A	• Not Used
F29	Not Used	F29RA	—	• Not Used
F30	Not Used	F30RA	10A	• Not Used
F31	DC DC TRANS	F31RA	40A	• T19 Multifunction Power Supply Converter
F32	TREC	F32RA	15A	• K69 Transfer Case Control Module (F46)
F33	CGM/SBZA	F33RA	10A	• B218L Side Obstacle Detection Control Module - Left (UKC) • B218R Side Obstacle Detection Control Module - Right (UKC) • K56 Serial Data Gateway Module
F34	REAR HTD/SEAT 1/VPM	F34RA	15A	• K157 Video Processing Module (UV2)
F35	HFCR	F35RA	10A	• K171 Rear Closure Hands Free Module (TL3) • W23 Blunt Cut - Body Provision (-TL3)
F36	ELM 2	F36RA	20A	• K219 Lighting Control Module
F37	MSM PASS	F37RA	10A	• K40P Passenger Seat Adjuster Memory Module (AVU) • K104P Front Seat Bladder Control Module - Passenger (AVU-AHH/AKE) • K134P Front Seat Bolster Memory Module - Passenger (AHH) • S64P Front Seat Adjuster Switch - Passenger (A7K+AHH) • S65P Front Seat Lumbar Switch - Passenger (A7J)

Usage Table (cont'd)

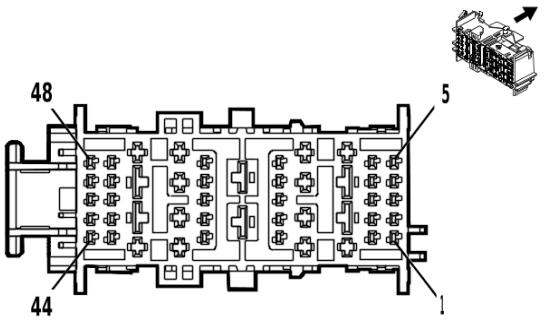
No.	Device Label Name	Device Assigned Name	Rating	Description
F38	TRLR 2	F38RA	30A	• Not Used
F39	RF/RR WINDW	F39RA	30A	• M74P Front Side Door Window Regulator Motor - Passenger • M74RR Rear Side Door Window Regulator Motor - Right
F40	Not Used	F40RA	—	• Not Used
F41	Not Used	F41RA	—	• Not Used
F42	AMP	F42RA	30A	• T3 Audio Amplifier
F43	PRK ASSIST MDL	F43RA	10A	• K182 Parking Assist Control Module (UD7/UKG)
F44	MSM DRVR	F44RA	10A	• K40D Driver Seat Adjuster Memory Module (A45) • K134D Front Seat Bolster Memory Module - Driver (A45) • S64D Front Seat Adjuster Switch - Driver (A45) • S65D Front Seat Lumbar Switch - Driver (-A45)
F45	ONSTAR	F45RA	10A	• K73 Telematic Control Module (UE1)
F46	Not Used	F46RA	—	• Not Used
F47	Not Used	F47RA	—	• Not Used
F48	Not Used	F48RA	—	• Not Used
F49	TRLR (EUROPE)	F49RA	30A	• Not Used
F50	DRVR SEAT	F50RA	30A	• K40D Driver Seat Adjuster Memory Module (A45) • S64D Front Seat Adjuster Switch - Driver (-A45)
F51	LF/RF WINDW	F51RA	30A	• M74D Front Side Door Window Regulator Motor - Driver • M74LR Rear Side Door Window Regulator Motor - Left
F52	PASS SEAT	F52RA	30A	• K40P Passenger Seat Adjuster Memory Module (AVU) • S64P Front Seat Adjuster Switch - Passenger (A7J/A7K-AHH)
Relays				
K53	Not Used	—	—	• Not Used
K54	Not Used	—	—	• Not Used
K55	RUN (HC)	—	KR124 Trailer Ignition Power Relay	• F49RA Fuse
Important: Relays listed below are non-serviceable Printed Circuit Board (PCB) relays and are internal to the block.				
—	—	KR5 Rear Window Defogger Relay	—	• F20RA Fuse

X53A Fuse Block - Rear Body Bottom View



5331358

X53A Fuse Block - Rear Body X1



4997272

Connector Part Information

Harness Type: Body
OEM Connector: 33371910
Service Connector: 19371180
Description: 48-Way F 1.5, 2.8, 6.3 CTS Series (GN)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13579915	J-35616-40 (BU)	J-38125-556
II	19332366	J-35616-35 (VT)	J-38125-212
III	19371175	J-35616-2A (GY)	J-38125-11A
IV	19371228	J-35616-42 (RD)	J-38125-215A

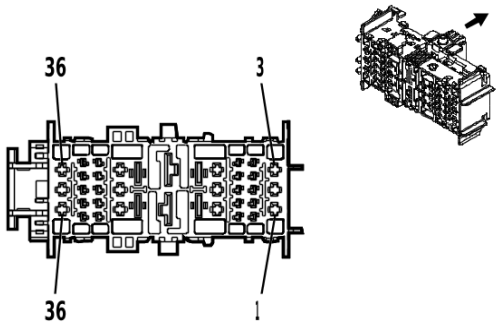
X53A Fuse Block - Rear Body X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 4	—	—	—	Not Occupied	—	—
5	0.5	BK	2050	Ground 20	III	—
6 - 9	—	—	—	Not Occupied	—	—
10	1	RD/VT	8640	Secondary Fused Battery Positive Voltage 86	III	—
11 - 15	—	—	—	Not Occupied	—	—
16	0.75	RD/D-BU	3940	Secondary Fused Battery Positive Voltage 39	II	—
17	0.75	RD/YE	3040	Secondary Fused Battery Positive Voltage 30	II	—
18	—	—	—	Not Occupied	—	—
19	0.75	RD/L-GN	6140	Secondary Fused Battery Positive Voltage 61	III	—
20	—	—	—	Not Occupied	—	—
21	0.5	RD/BN	4940	Secondary Fused Battery Positive Voltage 49	III	—
22	0.5	RD/BN	7540	Secondary Fused Battery Positive Voltage 75	III	—
23	0.5	RD/L-GN	3140	Secondary Fused Battery Positive Voltage 31	III	—
24	3	RD/GY	5540	Secondary Fused Battery Positive Voltage 55	IV	—
25	—	—	—	Not Occupied	—	—
26	0.75	RD/WH	5740	Secondary Fused Battery Positive Voltage 57	III	—
27	—	—	—	Not Occupied	—	—
28	0.5	RD/BN	3640	Secondary Fused Battery Positive Voltage 36	III	—
29	0.5	RD/GY	4840	Secondary Fused Battery Positive Voltage 48	III	—
30	0.5	RD/VT	1640	Secondary Fused Battery Positive Voltage 16	III	—
31	1	RD/L-GN	1540	Secondary Fused Battery Positive Voltage 15	II	—
32	—	—	—	Not Occupied	—	—
33	1	RD/VT	8640	Secondary Fused Battery Positive Voltage 86	II	—
34	—	—	—	Not Occupied	—	—
35	0.35	D-BU/ L-GN	4089	Rear Closure Motor Control	II	—
36	2.5	RD/YE	5040	Secondary Fused Battery Positive Voltage 50	I	—
37	2.5	RD/BN	3842	Primary Fused Battery Positive Voltage 38	I	—
38	2.5	RD/YE	7440	Secondary Fused Battery Positive Voltage 74	II	—
39 - 42	—	—	—	Not Occupied	—	—
43	0.75	RD/D-BU	6740	Secondary Fused Battery Positive Voltage 67	III	—

X53A Fuse Block - Rear Body X1 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
44	0.35	GY/YE	6188	Liftgate Window/Rear Compartment Lid Motor Unlatch Control	III	—
45	—	—	—	Not Occupied	—	—
46	0.5	RD/L-GN	2642	Primary Fused Battery Positive Voltage 26	III	—
47 - 48	—	—	—	Not Occupied	—	—

X53A Fuse Block - Rear Body X2



4994712

Connector Part Information

Harness Type: Body
OEM Connector: 33371909
Service Connector: 19371181
Description: 38-Way F 1.5, 2.8, 6.3 CTS Series (BU)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13579915	J-35616-40 (BU)	J-38125-556
II	19332366	J-35616-35 (VT)	J-38125-212
III	19367600	J-35616-40 (BU)	J-38125-556
IV	19371175	J-35616-2A (GY)	J-38125-11A
V	Not Required	J-35616-22 (RD)	No Tool Required

X53A Fuse Block - Rear Body X2

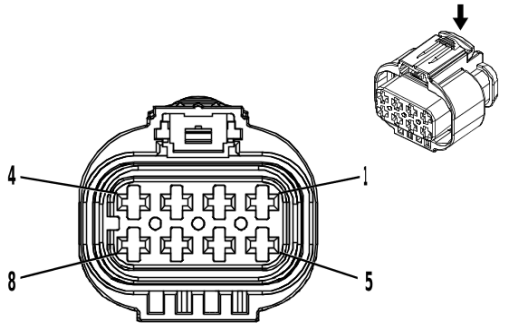
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/BN	2240	Secondary Fused Battery Positive Voltage 22	II	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.75	RD/BN	6640	Secondary Fused Battery Positive Voltage 66	IV	—
5	0.5	RD/VT	2640	Secondary Fused Battery Positive Voltage 26	IV	—
6	0.5	RD/VT	6340	Secondary Fused Battery Positive Voltage 63	IV	—
7	0.35	BN/VT	193	Rear Defogger Relay Control	IV	—
8 - 13	—	—	—	Not Occupied	—	—
14	0.75	RD/GY	6240	Secondary Fused Battery Positive Voltage 62	II	—

X53A Fuse Block - Rear Body X2 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
15	0.5	YE/BK	2930	Glass Breakage Sensor Supply Voltage	II	—
16	—	—	—	Not Occupied	—	—
17	2.5	BN/VT	293	Rear Defogger Grid Control	I	—
18	—	—	—	Not Occupied	—	—
19	10	RD/L-GN	1942	Primary Fused Battery Positive Voltage 19	V	—
20	10	RD/WH	2942	Primary Fused Battery Positive Voltage 29	V	—
21	—	—	—	Not Occupied	—	—
22	3	RD/YE	3740	Secondary Fused Battery Positive Voltage 37	III	—
23 - 30	—	—	—	Not Occupied	—	—
31	0.5	RD/WH	4740	Secondary Fused Battery Positive Voltage 47	IV	—
32 - 35	—	—	—	Not Occupied	—	—
36	3	RD/GY	1740	Secondary Fused Battery Positive Voltage 17	II	—
37	—	—	—	Not Occupied	—	—
38	2.5	RD/GY	7840	Secondary Fused Battery Positive Voltage 78	II	—

Component Connector End Views

A7 Fuel Pump and Level Sensor Assembly



3749582

Connector Part Information

Harness Type: Chassis
OEM Connector: 33180742
Service Connector: 19354078
Description: 8-Way F 2.8 Series, Sealed (L-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required

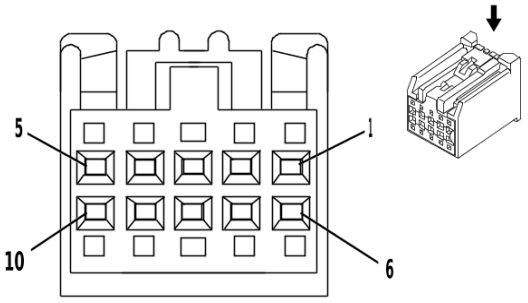
A7 Fuel Pump and Level Sensor Assembly

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	GY	120	Fuel Pump Control	I	—
2	2.5	YE/GY	4137	Fuel Pump Supply Voltage Phase 2	I	—
3	2.5	WH/BN	4138	Fuel Pump Supply Voltage Phase 3	I	—

A7 Fuel Pump and Level Sensor Assembly (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
4	0.5	BK	7444	Fuel Pump Assembly Shield Ground	I	—
5	0.5	D-BU/ L-GN	1936	Primary Fuel Level Sensor Signal	I	—
6	0.5	BK/L-GN	6281	Fuel Level Sensor Low Reference	I	—
7 - 8	—	—	—	Not Occupied	—	—

A10 Inside Rearview Mirror



2180211

Connector Part Information

Harness Type: Headliner
OEM Connector: 13815336
Service Connector: 13577390
Description: 10-Way F 0.64 Kaizen Series (BK)

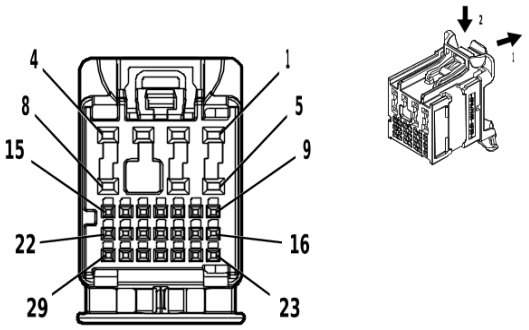
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575742	J-35616-64B (LT BU)	J-38125-215A
II	13575867	J-35616-64B (LT BU)	J-38125-215A

A10 Inside Rearview Mirror

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-GN/WH	24	Backup Lamp Control	II	—
2	0.5	VT/WH	239	Run/Crank Ignition 1 Voltage 2	I	—
3 - 4	—	—	—	Not Occupied	—	—
5	0.35	BK/WH	1851	Ground 18	II	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.35	BK/YE	1691	Mirror Dimming Low Reference	II	—
9	0.35	YE/WH	1690	Mirror Dimming Signal	II	—
10	—	—	—	Not Occupied	—	—

A11 Radio X1



4584346

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33303653
Service Connector: 13506123
Description: 29-Way F 0.5 NANO, 1.2 MCON Series Sealed (GN)

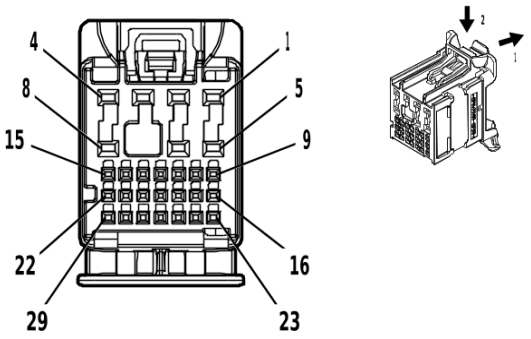
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19367551	J-35616-16 (LT GN)	J-38125-215A
II	19369846	J-35616-16 (LT GN)	J-38125-215A
III	19370262	EL-35616-58 (BK)	EL-38125-58
IV	19370818	J-35616-16 (LT GN)	J-38125-559
V	19371240	J-35616-16 (LT GN)	J-38125-215A

A11 Radio X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	I	—
2	0.75	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	I	—
3	0.75	BK/WH	1451	Ground 14	I	—
4 - 5	—	—	—	Not Occupied	—	—
6	0.35	BK/WH	1451	Ground 14	V	—
7	—	—	—	Not Occupied	—	—
8	0.75 0.75	L-GN/BK L-GN/BK	116 116	Left Rear Speaker [-] Control Left Rear Speaker [-] Control	II IV	— —
9 - 10	—	—	—	Not Occupied	—	—
11	0.35	L-GN/WH	24	Backup Lamp Control	III	—
12 - 16	—	—	—	Not Occupied	—	—
17	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	III	—
18	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	III	—
19 - 29	—	—	—	Not Occupied	—	—

A11 Radio X2



4584398

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33303654
Service Connector: 13506123
Description: 29-Way F 0.5 NANO, 1.2 MCON Series Sealed (GY)

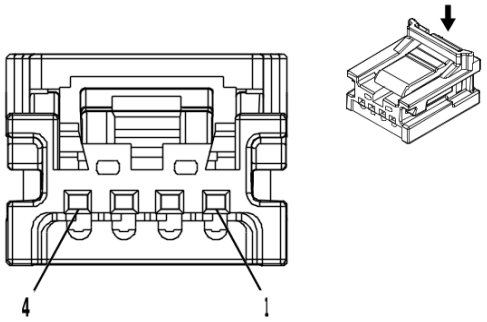
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19367551	J-35616-16 (LT GN)	J-38125-215A
II	19369846	J-35616-16 (LT GN)	J-38125-215A
III	19370262	EL-35616-58 (BK)	EL-38125-58
IV	19370818	J-35616-16 (LT GN)	J-38125-559

A11 Radio X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	L-GN	199	Left Rear Speaker [+] Control	II	—
	0.75	L-GN	199	Left Rear Speaker [+] Control	IV	—
2	0.5	D-BU	201	Left Front Speaker 1 [+] Control	I	—
3	0.5	YE	200	Right Front Speaker 1 [+] Control	I	—
4	0.75	D-BU/BK	115	Right Rear Speaker [-] Control	II	—
	0.75	D-BU/BK	115	Right Rear Speaker [-] Control	IV	—
5	0.5	BN/D-BU	118	Left Front Speaker [-] Control 1	I	—
6	0.5	YE/BK	117	Right Front Speaker [-] Control 1	I	—
7	—	—	—	Not Occupied	—	—
8	0.75	WH	46	Right Rear Speaker [+] Control	I	—
	0.75	WH	46	Right Rear Speaker [+] Control	II	—
9	0.35	BK/GY	5152	Voice Recognition Audio [-] Control	III	—
	0.35	BK/BN	654	Cellular Telephone Microphone Low Reference	III	—
10	0.35	GY/YE	5149	Voice Recognition Audio Signal	III	—
	0.35	D-BU	655	Cellular Telephone Microphone Signal	III	—
11 - 29	—	—	—	Not Occupied	—	—

A11 Radio X3



4215060

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33228283
Service Connector: 19354840
Description: 4-Way F Mini 50 Series (BK)

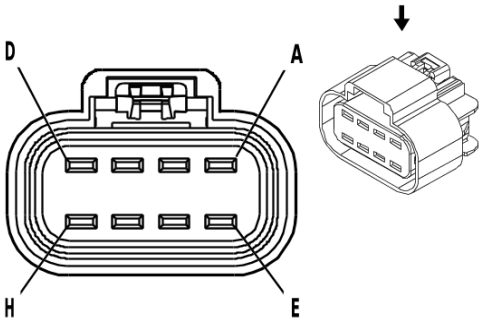
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	EL-35616-58 (BK)	No Tool Required

A11 Radio X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	D-BU/WH	4758	Ethernet Bus 2 [+]	I	—
3	0.35	D-BU	4757	Ethernet Bus 2 [-]	I	—
4	—	—	—	Not Occupied	—	—

A16 Transfer Case Motor (NP0/NQH)



646372

Connector Part Information

Harness Type: Engine
OEM Connector: 13538370

Service Connector: 19369184
Description: 8-Way F 280 GT Series, Sealed (BK)

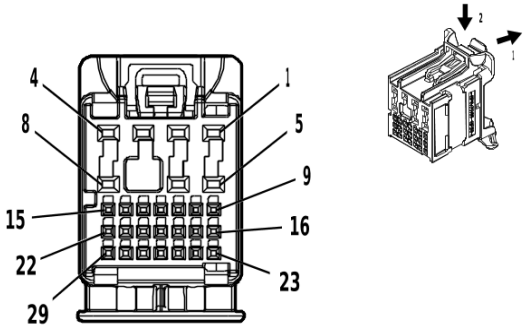
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required

A16 Transfer Case Motor (NP0/NQH)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	2.5	YE/GY	1552	Transfer Case Motor Clockwise Control	I	—
B	0.5	D-BU	8013	Transfer Case Lock Solenoid Control 2	I	—
C	0.5	YE/BN	1569	Transfer Case Lock Solenoid Valve Control	I	—
D	2.5	YE/VT	1553	Transfer Case Motor Counter Clockwise Control	I	—
E	0.5	YE	7474	Incremental Encoder Direction Signal	I	—
F	0.5	D-BU/GY	7473	Incremental Encoder Impulse Signal	I	—
G	0.5	WH/L-GN	7475	Incremental Encoder Sensor 8V Reference	I	—
H	0.5	VT	7476	Incremental Encoder Sensor Low Reference	I	—

A22 Radio Controls X3



4578560

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33303967
Service Connector: 84655160
Description: 29-Way F 0.5 NANO, 1.2 MCON Series Sealed (GY)

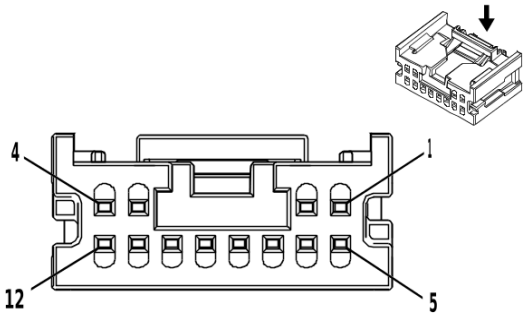
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19367551	J-35616-16 (LT GN)	J-38125-215A
II	19370262	EL-35616-58 (BK)	EL-38125-58
III	19370818	J-35616-16 (LT GN)	J-38125-559

A22 Radio Controls X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	L-GN	199	Left Rear Speaker [+] Control	III	—
2	0.5	D-BU	201	Left Front Speaker 1 [+] Control	I	—
3	0.5	YE/BK	117	Right Front Speaker [-] Control 1	I	—
4	0.75	D-BU/BK	115	Right Rear Speaker [-] Control	III	—
5	0.5	BN/D-BU	118	Left Front Speaker [-] Control 1	I	—
6	0.5	YE	200	Right Front Speaker 1 [+] Control	I	—
7	—	—	—	Not Occupied	—	—
8	0.75	WH	46	Right Rear Speaker [+] Control	I	—
9	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	II	—
10	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	II	—
11 - 12	—	—	—	Not Occupied	—	—
13	0.35	L-GN/WH	24	Backup Lamp Control	II	—
14	0.35	L-GN/YE	7066	Entertainment Remote Enable Signal	II	—
15 - 29	—	—	—	Not Occupied	—	—

A22 Radio Controls X6



3824362

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33235297
Service Connector: 13507121
Description: 12-Way F Mini 50 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19333221	EL-35616-58 (BK)	EL-38125-58

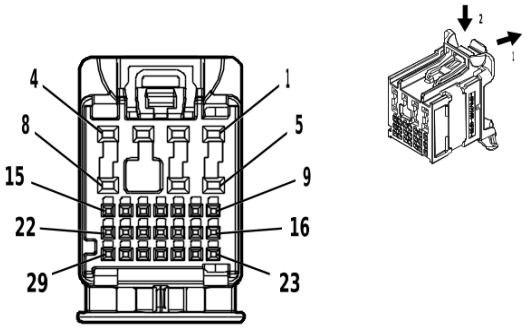
A22 Radio Controls X6

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	VT/WH	7213	Ethernet Bus 5 [+]	I	—
2	0.35	VT	7212	Ethernet Bus 5 [-]	I	—
3	0.35	D-BU/WH	4758	Ethernet Bus 2 [+]	I	—

A22 Radio Controls X6 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
4	0.35	D-BU	4757	Ethernet Bus 2 [-]	I	—
5 - 7	—	—	—	Not Occupied	—	—
8	0.35	GY/BK	7215	Ethernet Bus 6 [+]	I	—
9	0.35	BN/BK	7214	Ethernet Bus 6 [-]	I	—
10	—	—	—	Not Occupied	—	—
11	0.35	GY/WH	7211	Ethernet Bus 4 [+]	I	—
12	0.35	GY	7210	Ethernet Bus 4 [-]	I	—

A22 Radio Controls X2 (UQF)



4496253

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33303954
Service Connector: 13506123
Description: 29-Way F 0.5 NANO, 1.2 MCON Series Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19367551	J-35616-16 (LT GN)	J-38125-215A
II	19370262	EL-35616-58 (BK)	EL-38125-58
III	19370818	J-35616-16 (LT GN)	J-38125-559

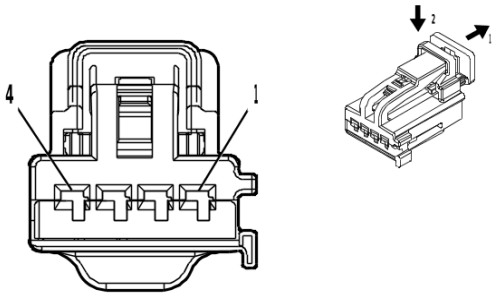
A22 Radio Controls X2 (UQF)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	BK/WH	1451	Ground 14	I	—
4 - 7	—	—	—	Not Occupied	—	—
8	0.75	L-GN/BK	116	Left Rear Speaker [-] Control	III	—
9	0.35 0.35	GY/YE D-BU	5149 655	Voice Recognition Audio Signal Cellular Telephone Microphone Signal	II II	IOS+UDA+UE1 IOS-UDA-UE1
10	0.35	BK/GY	5152	Voice Recognition Audio [-] Control	II	IOS+UDA+UE1

A22 Radio Controls X2 (UQF) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
	0.35	BK/BN	654	Cellular Telephone Microphone Low Reference	II	IOS-UDA-UE1
11	0.35	VT/YE	7043	Microphone [+] Signal	II	—
12	0.35	D-BU/BK	7044	Microphone [-]	II	—
13 - 29	—	—	—	Not Occupied	—	—

A23C Liftgate Latch Assembly (TB4)



5137287

Connector Part Information

Harness Type: Liftgate
OEM Connector: 15509333
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.5 YESC Series (BK)

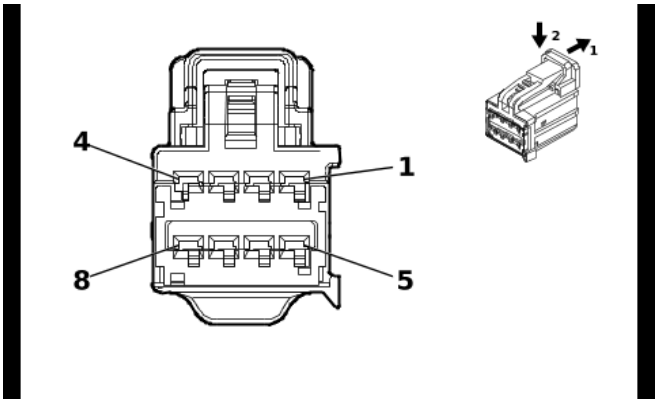
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required

A23C Liftgate Latch Assembly (TB4)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	VT/GY	1303	Liftgate Ajar Switch Signal 1	I	—
2	0.5	BK	2050	Ground 20	I	—
3	0.5	D-BU/WH	6128	Rear Closure Unlatch Actuator Unlatch Control	I	—
4	0.5	GY/BK	2680	Lock Actuators Unlock Control 2	I	—

A23C Liftgate Latch Assembly (TC2)



5377684

Connector Part Information

Harness Type: Liftgate
OEM Connector: 15509366
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way F 1.5 YESC Kaizen Series (BK)

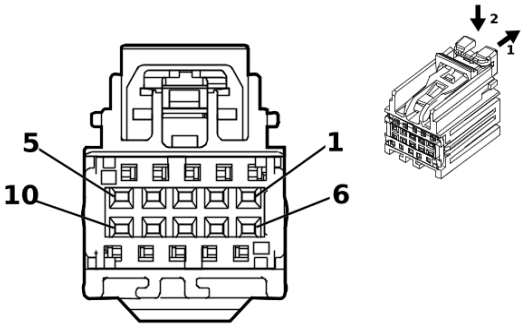
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required

A23C Liftgate Latch Assembly (TC2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
3	1	D-BU/GY	4682	Rear Closure Cinch Latch Motor Release Control	I	—
4	1	BN	4681	Rear Closure Cinch Latch Motor Cinch Control	I	—
5	0.35	BK/VT	4656	Rear Closure Object Sensor Low Reference	I	—
6	0.35	GY/VT	4678	Rear Closure Latch Unlatch Status	I	—
7	0.35	YE/BK	8085	Rear Closure Latch Primary Status	I	—
8	0.35	WH/L-GN	8084	Rear Closure Latch Neutral Status	I	—

A23D Door Latch Assembly - Driver



4622549

Connector Part Information

Harness Type: Driver Door
OEM Connector: 33320811
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way F 0.64 YESC Kaizen Series (GN)

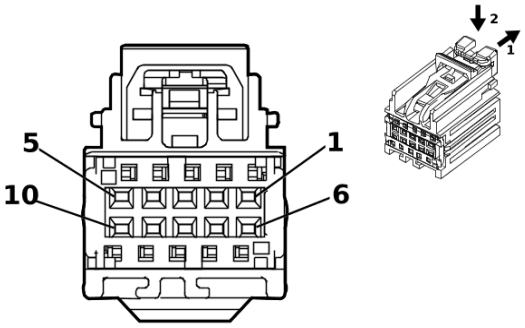
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

A23D Door Latch Assembly - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY	745	Left Front Door Ajar Switch Signal	I	—
2	0.35	VT/GY	126	Left Front Door Open Switch Signal	I	—
3	0.75	BK	1150	Ground 11	I	—
4	0.35	WH/VT	4258	Left Front Door Lock Status Signal	I	—
5 - 6	—	—	—	Not Occupied	—	—
7	0.75	GY	2681	Left Front Door Lock Actuator Lock Control	I	—
8	0.75	WH	2679	Lock Actuators Unlock Control 1	I	—
9 - 10	—	—	—	Not Occupied	—	—

A23LR Door Latch Assembly - Left Rear



4622549

Connector Part Information

Harness Type: Left Rear Door
OEM Connector: 33320811
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way F 0.64 YESC Kaizen Series (GN)

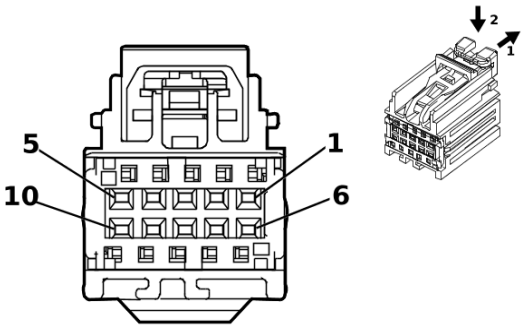
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

A23LR Door Latch Assembly - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY	747	Left Rear Door Ajar Switch Signal	I	—
2	—	—	—	Not Occupied	—	—
3	0.75	BK	1150	Ground 11	I	—
4	0.35	L-GN/ D-BU	4648	Left Rear Door Lock Status Signal	I	—
5	—	—	—	Not Occupied	—	—
6	0.75	VT/BN	2754	Door Double Lock Actuator Lock Control 2	I	—
7	0.75	D-BU/YE	1091	Left Rear Door Lock Actuator Lock Control	I	—
8	0.75	WH	2679	Lock Actuators Unlock Control 1	I	—
9 - 10	—	—	—	Not Occupied	—	—

A23P Door Latch Assembly - Passenger



4622549

Connector Part Information

Harness Type: Passenger Door
OEM Connector: 33320811
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way F 0.64 YESC Kaizen Series (GN)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

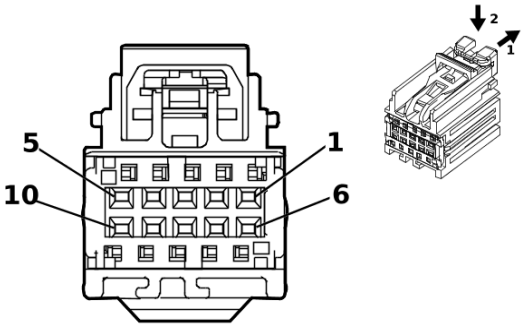
A23P Door Latch Assembly - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	VT	4259	Right Front Door Lock Status Signal	I	—
3	0.75	BK	1250	Ground 12	I	—
4	—	—	—	Not Occupied	—	—
5	0.35	GY	746	Right Front Door Ajar Switch Signal	I	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.75	GY/BK	2680	Lock Actuators Unlock Control 2	I	—

A23P Door Latch Assembly - Passenger (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
9	0.75	YE/L-GN	2682	Right Front Door Lock Actuator Lock Control	I	—
10	—	—	—	Not Occupied	—	—

A23RR Door Latch Assembly - Right Rear



4622549

Connector Part Information

Harness Type: Right Rear Door
OEM Connector: 33320811
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way F 0.64 YESC Kaizen Series (GN)

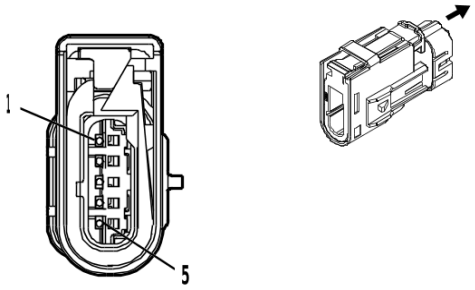
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

A23RR Door Latch Assembly - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	WH/GY	4649	Right Rear Door Lock Status Signal	I	—
3	0.5	BK	1250	Ground 12	I	—
4	—	—	—	Not Occupied	—	—
5	0.35	GY	748	Right Rear Door Ajar Switch Signal	I	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.75	GY/BK	2680	Lock Actuators Unlock Control 2	I	—
9	0.75	VT/WH	1094	Right Rear Door Lock Actuator Lock Control	I	—
10	0.75	VT/BN	2754	Door Double Lock Actuator Lock Control 2	I	—

A24D Door Handle Assembly - Driver Exterior



4808325

Connector Part Information

Harness Type: Driver Door
OEM Connector: 35028907
Service Connector: Service by Harness - See Part Catalog
Description: 5-Way M 1.2 Series, Sealed (BK)

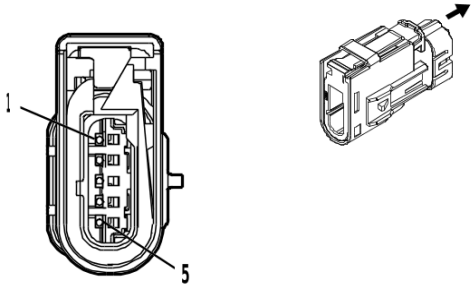
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-17 (LT GN)	No Tool Required

A24D Door Handle Assembly - Driver Exterior

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU	2675	Left Front Exterior Door Handle Switch Unlock Signal	I	—
2 - 4	—	—	—	Not Occupied	—	—
5	0.75	BK	1150	Ground 11	I	—

A24LR Door Handle Assembly - Left Rear Exterior



4808325

Connector Part Information

Harness Type: Left Rear Door
OEM Connector: 35028907

Service Connector: Service by Harness - See Part Catalog
Description: 5-Way M 1.2 Series, Sealed (BK)

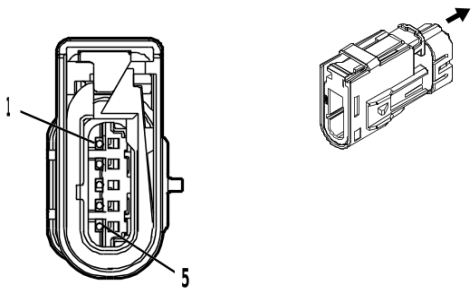
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-13 (BU)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

A24LR Door Handle Assembly - Left Rear Exterior

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/VT	4994	Left Rear Door Exterior Switch Unlock Signal	I	—
2 - 4	—	—	—	Not Occupied	—	—
5	0.5	BK	1150	Ground 11	II	—

A24P Door Handle Assembly - Passenger Exterior



4808325

Connector Part Information

Harness Type: Passenger Door
OEM Connector: 35028907
Service Connector: Service by Harness - See Part Catalog
Description: 5-Way M 1.2 Series, Sealed (BK)

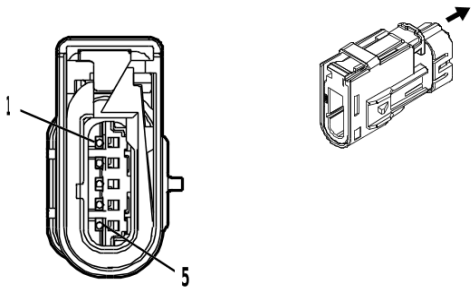
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-13 (BU)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

A24P Door Handle Assembly - Passenger Exterior

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/VT	2676	Right Front Door Exterior Switch Unlock Signal	I	—
2 - 4	—	—	—	Not Occupied	—	—
5	0.5	BK/WH	1251	Ground 12	II	—

A24RR Door Handle Assembly - Right Rear Exterior



4808325

Connector Part Information

Harness Type: Right Rear Door
OEM Connector: 35028907
Service Connector: Service by Harness - See Part Catalog
Description: 5-Way M 1.2 Series, Sealed (BK)

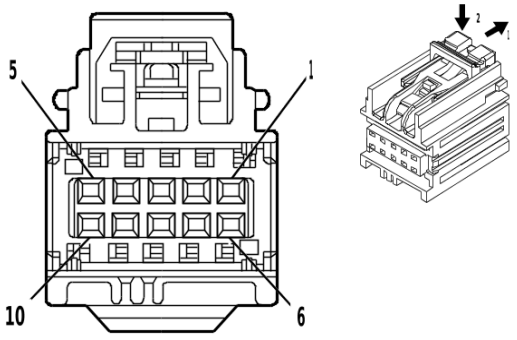
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-13 (BU)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

A24RR Door Handle Assembly - Right Rear Exterior

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/D-BU	4995	Right Rear Door Exterior Switch Unlock Signal	I	—
2 - 4	—	—	—	Not Occupied	—	—
5	0.5	BK	1250	Ground 12	II	—

A26 HVAC Controls



4891168

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33315379

Service Connector: 13509649
Description: 10-Way F 0.64 YESC Kaizen Series (NA)

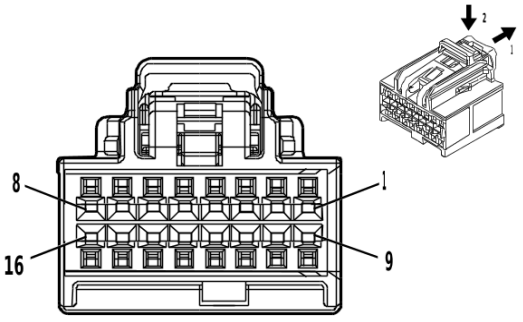
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575742	J-35616-64B (LT BU)	J-38125-215A
II	13575867	J-35616-64B (LT BU)	J-38125-215A

A26 HVAC Controls

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/WH	1340	Secondary Fused Battery Positive Voltage 13	I	—
2	—	—	—	Not Occupied	—	—
3	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	II	—
4	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	II	—
5	—	—	—	Not Occupied	—	—
6	0.35	GY/L-GN	4636	HVAC System Enable Signal	II	—
7	—	—	—	Not Occupied	—	—
8	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	II	—
9	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	II	—
10	0.5	BK/WH	1851	Ground 18	I	—

A34 HVAC Controls - Auxiliary (BOP)



4873243

Connector Part Information

Harness Type: Floor Console
OEM Connector: 35016343
Service Connector: Service by Harness - See Part Catalog
Description: 16-Way F 0.64 OCS Series (BK)

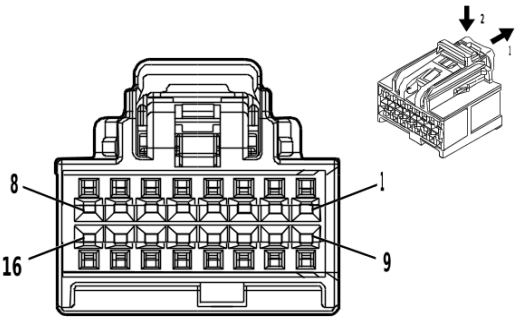
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

A34 HVAC Controls - Auxiliary (BOP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	BN/BK	405	Lower Duct Air Temperature Sensor Signal	I	—
3	0.75	BK/VT	470	Sensor Low Reference 3	I	—
4	0.35	BN	404	Upper Duct Air Temperature Sensor Signal	I	—
5	—	—	—	Not Occupied	—	—
6	0.75	YE/WH	4635	HVAC Remote Enable 2 Signal	I	—
7	0.5	L-GN/BK	2211	Rear Blower Motor Speed Control	I	—
8	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
9	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
10	0.5	RD/BN	7540	Secondary Fused Battery Positive Voltage 75	I	—
11	0.5	BK/WH	1351	Ground 13	I	—
12	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
13	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
14	—	—	—	Not Occupied	—	—
15	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
16	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—

A34 HVAC Controls - Auxiliary (C69)



4873243

Connector Part Information

Harness Type: Floor Console
OEM Connector: 35016343
Service Connector: Service by Harness - See Part Catalog
Description: 16-Way F 0.64 OCS Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

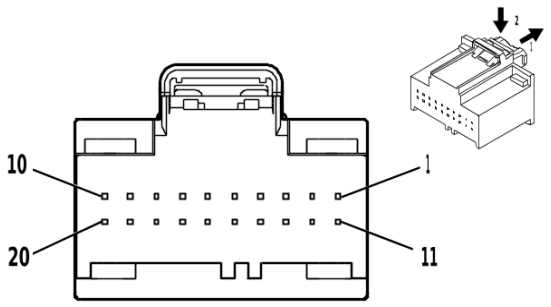
A34 HVAC Controls - Auxiliary (C69)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—

A34 HVAC Controls - Auxiliary (C69) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
2	0.35	BN/BK	405	Lower Duct Air Temperature Sensor Signal	I	—
3	0.75	BK/VT	470	Sensor Low Reference 3	I	—
4	0.35	BN	404	Upper Duct Air Temperature Sensor Signal	I	—
5	—	—	—	Not Occupied	—	—
6	0.75	YE/WH	4635	HVAC Remote Enable 2 Signal	I	—
7	0.5	L-GN/BK	2211	Rear Blower Motor Speed Control	I	—
8	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
9	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
10	0.5	RD/BN	7540	Secondary Fused Battery Positive Voltage 75	I	—
11	0.5	BK/WH	1351	Ground 13	I	—
12	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
13	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
14	—	—	—	Not Occupied	—	—
15	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
16	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—

A98 Front Overhead Console Assembly



5112891

Connector Part Information

Harness Type: Headliner
OEM Connector: 35160140
Service Connector: 13525990
Description: 20-Way F 0.64 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575742	J-35616-64B (LT BU)	J-38125-215A
II	13575867	J-35616-64B (LT BU)	J-38125-215A

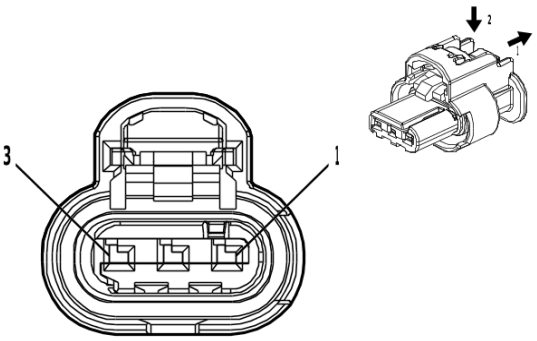
A98 Front Overhead Console Assembly

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/YE	240	Secondary Fused Battery Positive Voltage 2	I	—

A98 Front Overhead Console Assembly (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
2	0.5	D-BU/ L-GN	4785	Interior Lamp Overhead Enable Signal	I	—
3	0.5	GY/WH	2369	Interior Lamp Overhead 2 Enable Signal	I	—
4	0.35	L-GN/YE	2903	Row 2 Dome Reading Lamp Interior Lamp Control	II	—
5	0.35	BN/D-BU	2905	Row 2 Dome Reading Lamp 2 Interior Lamp Control	II	—
6	0.35	WH/BN	2904	Row 2 Dome Reading Lamp Switch Signal	II	—
7	0.35	VT/GY	2906	Row 2 Dome Reading Lamp 2 Switch Signal	II	—
8	0.35	VT/YE	2908	Row 3 Dome Reading Lamp Switch Signal	II	—
9	0.35	YE/GY	2910	Row 3 Dome Reading Lamp 2 Switch Signal	II	—
10	0.35	L-GN/WH	2854	Body Control Module LIN Bus 8	II	—
11	0.35	D-BU/WH	2907	Row 3 Dome Reading Lamp Interior Lamp Control	II	—
12	0.5	BN/VT	2909	Row 3 Dome Reading Lamp 2 Interior Lamp Control	I	—
13	0.5	BK/BN	654	Cellular Telephone Microphone Low Reference	I	—
14	0.5	D-BU	655	Cellular Telephone Microphone Signal	I	—
15	0.35	L-GN/BK	2515	Keypad Control	II	—
16	0.35	L-GN/WH	2514	Keypad Signal	II	—
17	0.35	YE/VT	2516	Keypad Green LED Control	II	—
18	0.35	BN/WH	2517	Keypad Red LED Control	II	—
19	—	—	—	Not Occupied	—	—
20	0.35	BK	1850	Ground 18	II	—

B1 A/C Refrigerant Pressure Sensor



4581126

Connector Part Information

Harness Type: Engine
OEM Connector: 33358800
Service Connector: 19366844
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

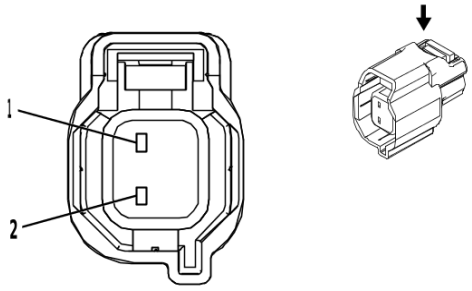
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B1 A/C Refrigerant Pressure Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	I	—
2	0.5	L-GN	380	A/C Refrigerant Pressure Sensor Signal	I	—
3	0.5 0.5	BK/YE BK/GY	548 626	Engine Control Sensors Low Reference 1 Engine Control Vehicle Sensors Low Reference 1	I I	L84 LM2

B5LF Wheel Speed Sensor - Left Front



2900396

Connector Part Information

Harness Type: Chassis
OEM Connector: 15503634
Service Connector: 19366856
Description: 2-Way F 1.5 Series (L-GY)

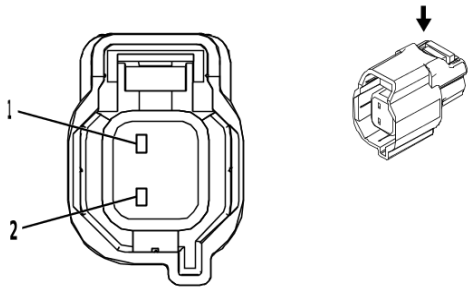
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B5LF Wheel Speed Sensor - Left Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/WH	7064	Left Front Wheel Speed Sensor Control	I	—
2	0.5	GY	830	Left Front Wheel Speed Sensor Signal	I	—

B5LR Wheel Speed Sensor - Left Rear



2900396

Connector Part Information

Harness Type: Chassis
OEM Connector: 15503634
Service Connector: 19366856
Description: 2-Way F 1.5 Series (L-GY)

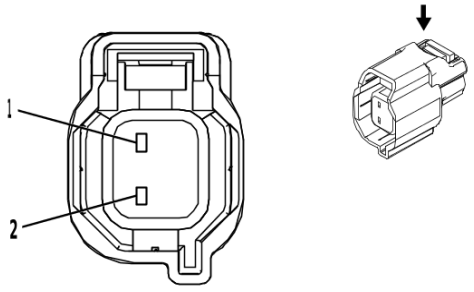
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B5LR Wheel Speed Sensor - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/BK	7127	Left Rear Wheel Speed Sensor Control	I	—
2	0.5	D-BU	884	Left Rear Wheel Speed Sensor Signal	I	—

B5RF Wheel Speed Sensor - Right Front



2900396

Connector Part Information

Harness Type: Chassis
OEM Connector: 15503634
Service Connector: 19366856
Description: 2-Way F 1.5 Series (L-GY)

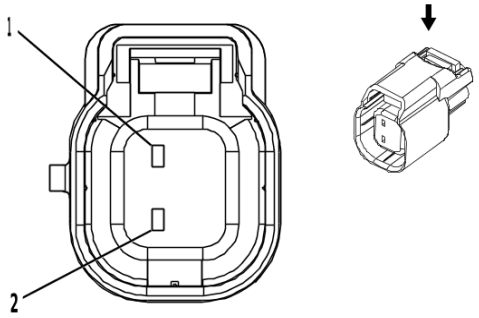
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B5RF Wheel Speed Sensor - Right Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/BN	7065	Right Front Wheel Speed Sensor Control	I	—
2	0.5	YE	872	Right Front Wheel Speed Sensor Signal	I	—

B5RR Wheel Speed Sensor - Right Rear



4115616

Connector Part Information

Harness Type: Chassis
OEM Connector: 33122852
Service Connector: 19366860
Description: 2-Way F 1.5 Series, Sealed (BK)

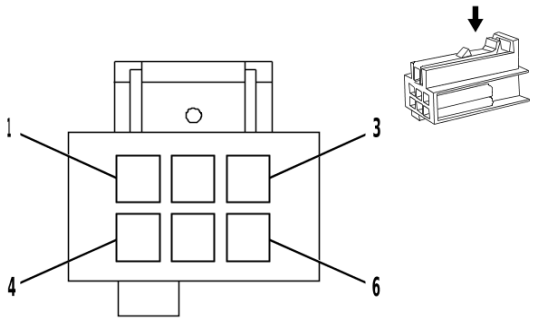
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B5RR Wheel Speed Sensor - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/YE	7128	Right Rear Wheel Speed Sensor Control	I	—
2	0.5	VT	882	Right Rear Wheel Speed Sensor Signal	I	—

B10B Ambient Light/Sunload Sensor



2282896

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 15338980
Service Connector: 19333315
Description: 6-Way F 0.64 Micro-Quadlock Series (BK)

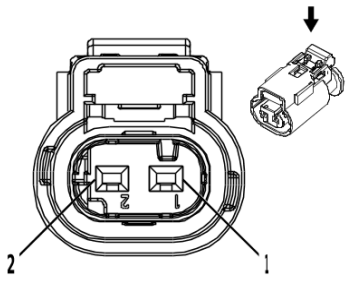
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

B10B Ambient Light/Sunload Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY	590	Driver Solar Sensor Signal	I	—
2	—	—	—	Not Occupied	—	—
3	0.35	WH/D-BU	278	Ambient Light Sensor Signal	I	—
4	0.35	D-BU/WH	734	Inside Air Temperature Sensor Signal	I	—
5	—	—	—	Not Occupied	—	—
6	0.35	BK/YE	407	Sensor Low Reference	I	—

B20 Brake Fluid Level Switch



2717066

Connector Part Information

Harness Type: Body
OEM Connector: 13735326
Service Connector: 13587326
Description: 2-Way F 1.2 Multilock Series, Sealed (BK)

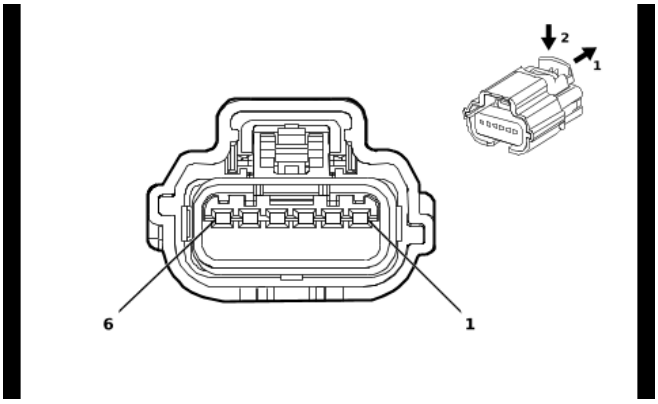
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B20 Brake Fluid Level Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/GY	333	Brake Fluid Level Switch Signal	I	—
2	0.5	BK/WH	1151	Ground 11	I	—

B22 Brake Pedal Position Sensor



4773396

Connector Part Information

Harness Type: Body
OEM Connector: 35199160
Service Connector: 84683650
Description: 6-Way F 64 Series, Sealed (NA)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

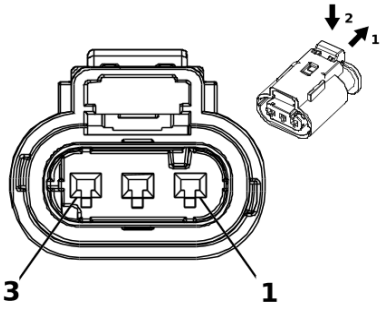
B22 Brake Pedal Position Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/BN	5360	Brake Apply Sensor Low Reference	I	—
2	0.35	WH	5359	Brake Apply Sensor Voltage Reference	I	—
3	0.35	D-BU/YE	5361	Brake Apply Sensor Signal	I	—
4	0.5	WH/L-GN	5380	Brake Position Sensor Signal	I	—
5	0.5	BK/YE	5382	Brake Position Sensor Low Reference	I	—

B22 Brake Pedal Position Sensor (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
6	0.5	WH/RD	5381	Brake Position Sensor 5V Reference	I	—

B23 Camshaft Position Sensor (L84/L87)



2717069

Connector Part Information

Harness Type: Camshaft Position Sensor Jumper
OEM Connector: 13763990
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F 1.2 Multilock Series, Sealed (BK)

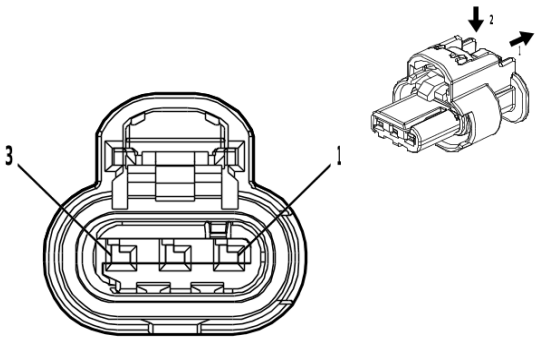
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B23 Camshaft Position Sensor (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/D-BU	5300	Intake Camshaft Position Sensor 1 Voltage Reference	I	—
2	0.5	BK/L-GN	5301	Intake Camshaft Position Sensor Low Reference 1	I	—
3	0.5	YE/VT	5275	Intake Camshaft Position Sensor 1	I	—

B23 Camshaft Position Sensor (LM2)



4581126

Connector Part Information

Harness Type: Engine
OEM Connector: 33358800
Service Connector: 19366844
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

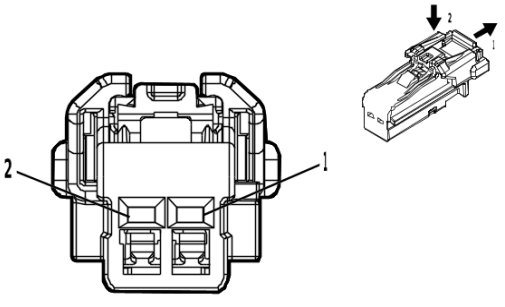
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B23 Camshaft Position Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/YE	5297	Exhaust Camshaft Position Sensor 1 Voltage Reference	I	—
2	0.5	BK/GY	5296	Exhaust Camshaft Position Sensor Low Reference 1	I	—
3	0.5	VT/BK	5273	Exhaust Camshaft Position Sensor 1	I	—

B24D Mobile Telephone Microphone - Driver



4115691

Connector Part Information

Harness Type: Headliner
OEM Connector: 35311666

Service Connector: 19352066
Description: 2-Way F 1.2 MCON Series (BK)

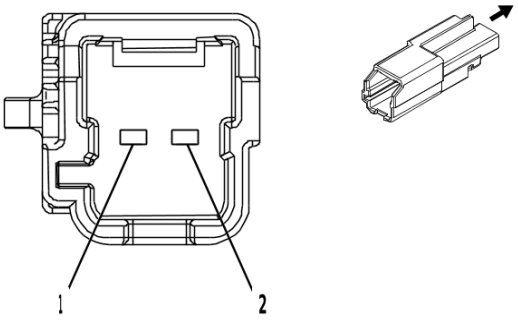
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B24D Mobile Telephone Microphone - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/BN	654	Cellular Telephone Microphone Low Reference	I	—
2	0.5	D-BU	655	Cellular Telephone Microphone Signal	I	—

B24P Mobile Telephone Microphone - Passenger



4116495

Connector Part Information

Harness Type: Headliner
OEM Connector: 33251047
Service Connector: 19332377
Description: 2-Way M 1.2 Series (GY)

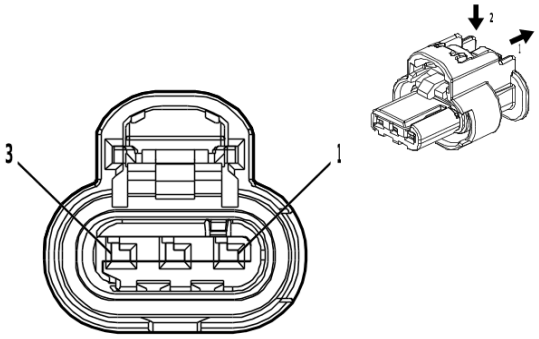
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-17 (LT GN)	No Tool Required

B24P Mobile Telephone Microphone - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/BK	7044	Microphone [-]	I	—
2	0.5	VT/YE	7043	Microphone [+] Signal	I	—

B26 Crankshaft Position Sensor



4581126

Connector Part Information

Harness Type: Engine
OEM Connector: 33358800
Service Connector: 19366844
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

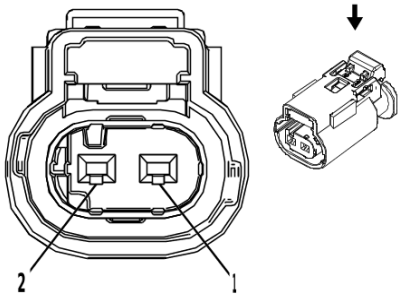
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B26 Crankshaft Position Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN	6271	Crankshaft Position Sensor Signal	I	L84/L87
	0.5	VT/D-BU	6270	Crankshaft Position Sensor Voltage	I	LM2
2	0.5	BK/VT	6272	Crankshaft Position Sensor Low Reference	I	—
3	0.5	VT/D-BU	6270	Crankshaft Position Sensor Voltage	I	L84/L87
	0.5	L-GN	6271	Crankshaft Position Sensor Signal	I	LM2

B34A Engine Coolant Temperature Sensor 1 (LM2)



2830969

Connector Part Information

Harness Type: Engine
OEM Connector: 13840071

Service Connector: 13587321
Description: 2-Way F 1.2 Multilock Series, Sealed (D-GY)

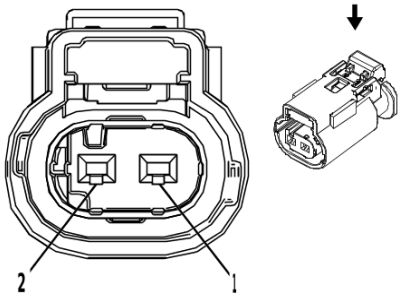
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B34A Engine Coolant Temperature Sensor 1 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/D-BU	2408	Engine Inlet Coolant Temperature Signal	I	—
2	0.5	BK/YE	548	Engine Control Sensors Low Reference 1	I	—

B34B Engine Coolant Temperature Sensor 2 (LM2)



2830969

Connector Part Information

Harness Type: Engine Coolant Temperature Jumper
OEM Connector: 10010339
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 Multilock Series, Sealed (D-GY)

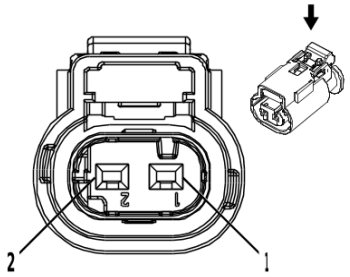
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B34B Engine Coolant Temperature Sensor 2 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT	2988	Engine Outlet Coolant Temperature Signal	I	—
2	0.5	BK/GY	626	Engine Control Vehicle Sensors Low Reference 1	I	—

B34E Engine Coolant Temperature Sensor 5 (LM2)



2717066

Connector Part Information

Harness Type: Engine
OEM Connector: 13735326
Service Connector: 13587326
Description: 2-Way F 1.2 Multilock Series, Sealed (BK)

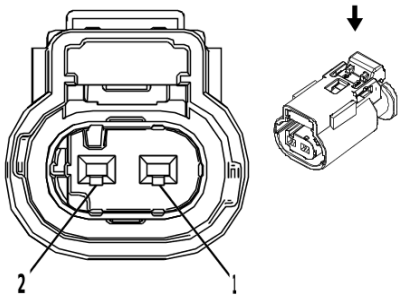
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B34E Engine Coolant Temperature Sensor 5 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/BK	1422	Engine Water Charge Air Coolant Temperature Signal	I	—
2	0.5	BK/GY	626	Engine Control Vehicle Sensors Low Reference 1	I	—

B34F Engine Coolant Temperature Sensor 6 (LM2)



2830969

Connector Part Information

Harness Type: Engine Coolant Temperature Jumper
OEM Connector: 10010339
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 Multilock Series, Sealed (D-GY)

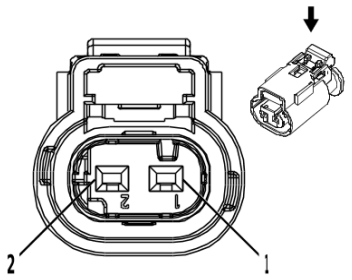
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B34F Engine Coolant Temperature Sensor 6 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/VT	2404	Engine Block Coolant Temperature Signal	I	—
2	0.5	BK/GN	580	Engine Control Sensors Low Reference 2	I	—

B35 Engine Oil Level Switch (L84/L87)



2717066

Connector Part Information

Harness Type: Engine
OEM Connector: 13735326
Service Connector: 13587326
Description: 2-Way F 1.2 Multilock Series, Sealed (BK)

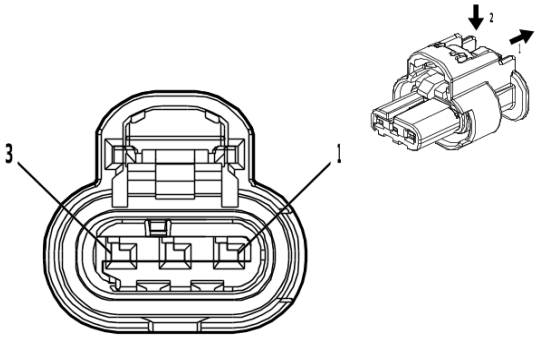
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B35 Engine Oil Level Switch (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/L-GN	1174	Oil Level Switch Signal	I	—
2	1	BK/WH	6151	Engine Control Module Ground 61	I	—

B36 Engine Oil Temperature Sensor (LM2)



4994602

Connector Part Information

Harness Type: Engine
OEM Connector: 33358809
Service Connector: 19371199
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

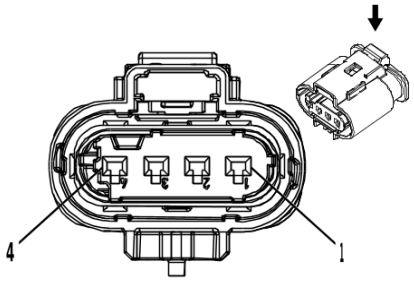
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B36 Engine Oil Temperature Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/GY	626	Engine Control Vehicle Sensors Low Reference 1	I	—
2	0.5	BN/D-BU	357	Oil Temperature Sensor Signal	I	—
3	0.5	VT	7485	Transfer Case Fluid Temperatue Sensor Signal	I	—

B37B Engine Oil Pressure Sensor (L84/L87)



2717079

Connector Part Information

Harness Type: Engine
OEM Connector: 13815341

Service Connector: 13587299
Description: 4-Way F 1.2 Multilock Series, Sealed (BK)

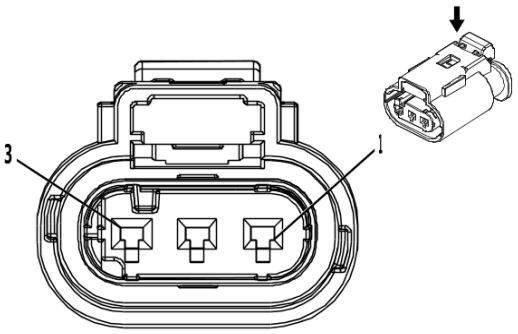
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B37B Engine Oil Pressure Sensor (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/YE	548	Engine Control Sensors Low Reference 1	I	—
2	0.5	YE/BN	331	Oil Pressure Sensor Signal	I	—
3	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	I	—
4	0.5	BN/D-BU	357	Oil Temperature Sensor Signal	I	—

B37B Engine Oil Pressure Sensor (LM2)



3240107

Connector Part Information

Harness Type: Engine
OEM Connector: 13889776
Service Connector: 19301717
Description: 3-Way F 1.2 Multilock Series, Sealed (BK)

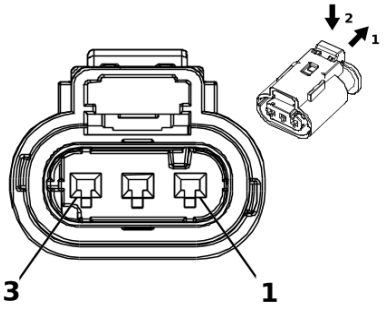
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B37B Engine Oil Pressure Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BN	331	Oil Pressure Sensor Signal	I	—
2	0.5	BK/YE	548	Engine Control Sensors Low Reference 1	I	—
3	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	I	—

B47 Fuel Pressure Sensor (L84/L87)



2717069

Connector Part Information

Harness Type: Chassis
OEM Connector: 13763990
Service Connector: 84601390
Description: 3-Way F 1.2 Multilock Series, Sealed (BK)

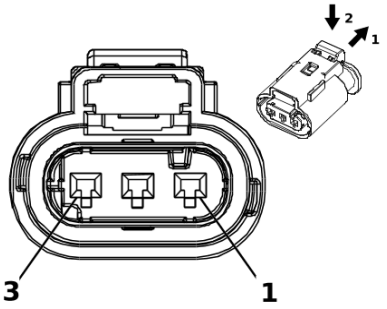
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B47 Fuel Pressure Sensor (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/RD	7445	Fuel Pressure Sensor 5V Reference	I	—
2	0.5	BK/YE	7447	Fuel Pressure Sensor Low Reference	I	—
3	0.5	D-BU/WH	7446	Fuel Pressure Sensor Signal	I	—

B47 Fuel Pressure Sensor (LM2)



2717069

Connector Part Information

Harness Type: Chassis
OEM Connector: 13763990
Service Connector: 84601390
Description: 3-Way F 1.2 Multilock Series, Sealed (BK)

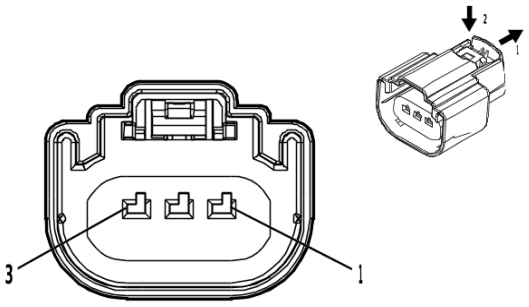
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B47 Fuel Pressure Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/RD	7445	Fuel Pressure Sensor 5V Reference	I	—
2	0.5	BK/YE	7447	Fuel Pressure Sensor Low Reference	I	—
3	0.5	D-BU/WH	7446	Fuel Pressure Sensor Signal	I	—

B51F Suspension Height Sensor - Front (TR7-F47)



4569745

Connector Part Information

Harness Type: Chassis
OEM Connector: 33343869
Service Connector: 19179750
Description: 3-Way F 150 MX Series, Sealed (BK)

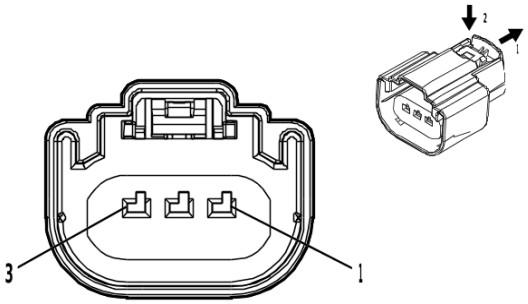
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B51F Suspension Height Sensor - Front (TR7-F47)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/RD	7524	Front Vehicle Level Sensor 5V Reference	I	—
2	0.5	BK/GY	7526	Front Vehicle Level Sensor Low Reference	I	—
3	0.5	BN/WH	7525	Front Vehicle Level Sensor Signal	I	—

B51R Suspension Height Sensor - Rear (TR7-F47)



4569745

Connector Part Information

Harness Type: Chassis
OEM Connector: 33343869
Service Connector: 19179750
Description: 3-Way F 150 MX Series, Sealed (BK)

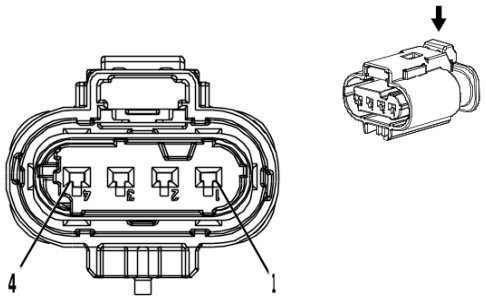
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B51R Suspension Height Sensor - Rear (TR7-F47)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/RD	2165	Vehicle Level Control Position Sensor 5V Reference	I	—
2	0.5	BK/BN	2185	Vehicle Level Control Position Sensor Low Reference	I	—
3	0.5	BN	2184	Vehicle Level Control Position Sensor Signal	I	—

B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L84/L87)



4381050

Connector Part Information

Harness Type: Engine
OEM Connector: 33253021

Service Connector: 19354075
Description: 4-Way F 1.2 Multilock Series, Sealed (BK)

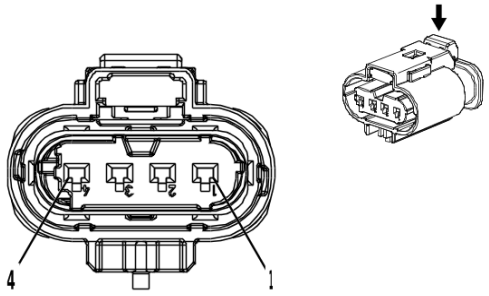
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/WH	3113	HO2S Heater Low Control Bank 1 Sensor 1	I	—
2	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply 4	I	—
3	0.5	WH/BK	3111	HO2S Low Signal Bank 1 Sensor 1 (3)	I	—
4	0.5	VT/GY	3110	HO2S High Signal Bank 1 Sensor 1	I	—

B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L84/L87)



4036370

Connector Part Information

Harness Type: Engine
OEM Connector: 15532690
Service Connector: 19330920
Description: 4-Way F 1.2 Multilock Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

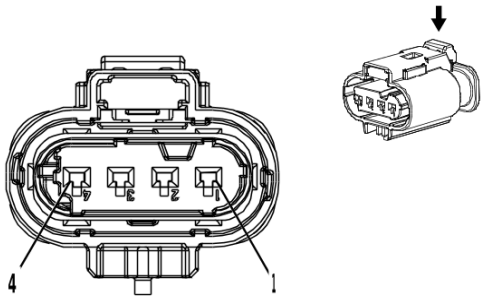
B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75 0.75	WH/BN GY/WH	3223 3122	HO2S Heater Low Control Bank 2 Sensor 2 HO2S Heater Low Control Bank 1 Sensor 2	I I	— L84/L87
2	0.75	VT/D-BU	5294	Powertrain Main Relay Fused Supply 5	I	—
3	0.5 0.5	YE/D-BU WH/YE	3221 3121	HO2S Low Signal Bank 2 Sensor 2 HO2S Low Signal Bank 1 Sensor 2	I I	— L84/L87

B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
4	0.5	VT/D-BU	3120	HO2S High Signal Bank 1 Sensor 2	I	—
	0.5	VT/L-GN	3220	HO2S High Signal Bank 2 Sensor 2	I	—

B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L84/L87)



4381050

Connector Part Information

Harness Type: Engine
OEM Connector: 33253021
Service Connector: 19354075
Description: 4-Way F 1.2 Multilock Series, Sealed (BK)

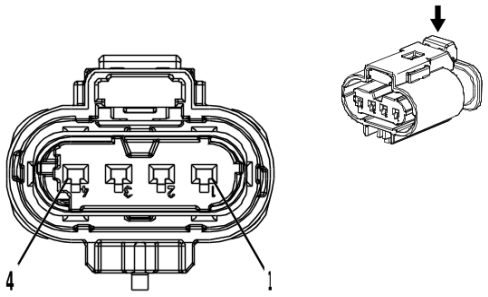
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/YE	3212	HO2S Heater Low Control Bank 2 Sensor 1	I	—
2	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply 4	I	—
3	0.5	YE/WH	3211	HO2S Low Signal Bank 2 Sensor 1	I	—
4	0.5	VT/WH	3210	HO2S High Signal Bank 2 Sensor 1	I	—

B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L84/L87)



4036370

Connector Part Information

Harness Type: Engine
OEM Connector: 15532690
Service Connector: 19330920
Description: 4-Way F 1.2 Multilock Series, Sealed (GY)

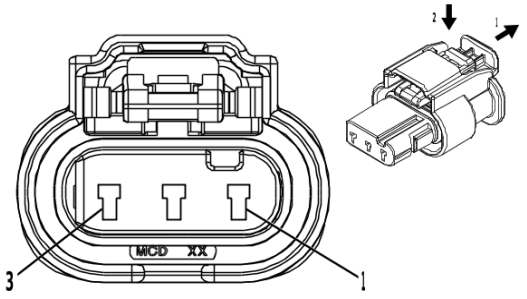
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/BN	3223	HO2S Heater Low Control Bank 2 Sensor 2	I	—
2	0.75	VT/D-BU	5294	Powertrain Main Relay Fused Supply 5	I	—
3	0.5	YE/D-BU	3221	HO2S Low Signal Bank 2 Sensor 2	I	—
4	0.5	VT/L-GN	3220	HO2S High Signal Bank 2 Sensor 2	I	—

B55 Engine Hood Switch



4421568

Connector Part Information

Harness Type: Body
OEM Connector: 33320864

Service Connector: 19368220
Description: 3-Way F 1.2 MCON-LL Series, Sealed (BK)

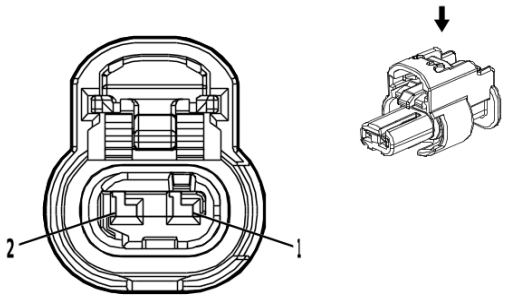
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B55 Engine Hood Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE	4063	Hood Status A Signal	I	—
2	0.35	BN/L-GN	4064	Hood Status B Signal	I	—
3	0.75	BK	150	Ground 1	I	—

B59L Front Impact Sensor - Left



4649903

Connector Part Information

Harness Type: Body
OEM Connector: 33327048
Service Connector: 19366858
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

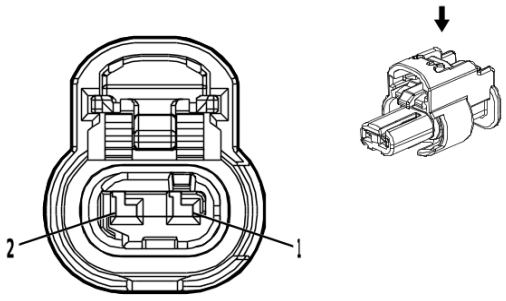
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B59L Front Impact Sensor - Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/YE	354	Left Front Impact Discriminating Sensor Signal	I	—
2	0.5	BK/OG	5045	Left Front Impact Discriminating Sensor Low Reference	I	—

B59R Front Impact Sensor - Right



4649903

Connector Part Information

Harness Type: Body
OEM Connector: 33327048
Service Connector: 19366858
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

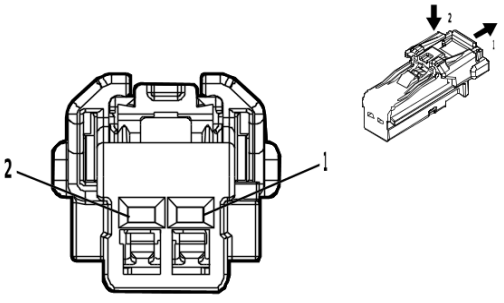
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B59R Front Impact Sensor - Right

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/L-GN	1409	Right Front Impact Discriminating Sensor Signal	I	—
2	0.5	BK/OG	5600	Right Front Impact Discriminating Sensor Low Reference	I	—

B61P Seat Belt Tension Sensor - Passenger



4115691

Connector Part Information

Harness Type: Body
OEM Connector: 35026312
Service Connector: 19352066
Description: 2-Way F 1.2 Series (BK)

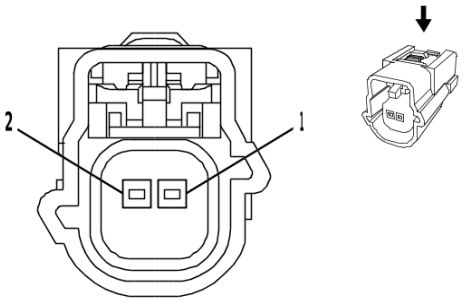
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B61P Seat Belt Tension Sensor - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/OG	3946	Passenger Automatic Locking Retractor Switch Low Reference	I	—
2	0.5	OG/BN	3947	Passenger Automatic Locking Retractor Switch Signal	I	—

B63LF Side Impact Sensor - Left Front



2179777

Connector Part Information

Harness Type: Driver Door
OEM Connector: 13610095
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 0.64 Series, Sealed (D-GY)

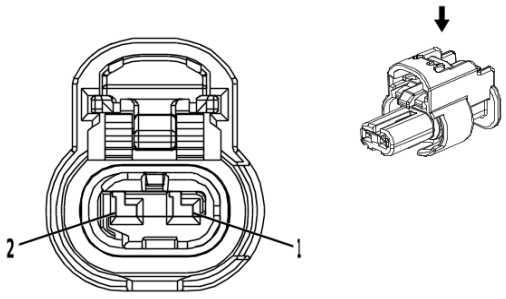
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

B63LF Side Impact Sensor - Left Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/L-GN	2132	Left Front Side Impact Sensor Signal	I	—
2	0.5	BK/OG	6628	Left Front Side Impact Sensor Low Reference	I	—

B63LR Side Impact Sensor - Left Rear



4335931

Connector Part Information

Harness Type: Body
OEM Connector: 33371691
Service Connector: 19366843
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

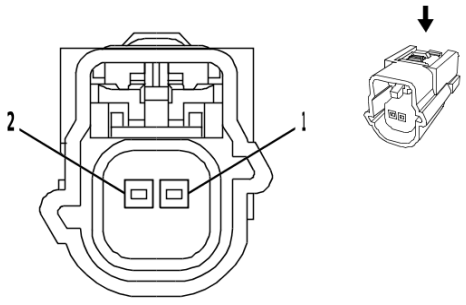
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B63LR Side Impact Sensor - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/D-BU	6622	Left Rear Side Impact Sensor Signal	I	—
2	0.5	BK/OG	6623	Left Rear Side Impact Sensor Low Reference	I	—

B63RF Side Impact Sensor - Right Front



2179777

Connector Part Information

Harness Type: Passenger Door
OEM Connector: 13610095
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 0.64 Series, Sealed (D-GY)

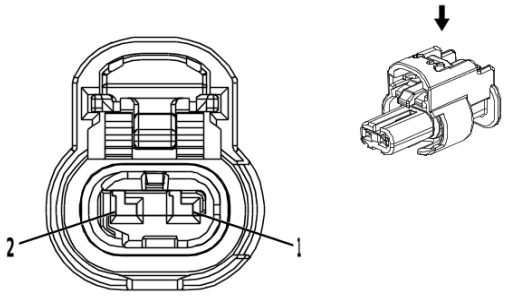
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

B63RF Side Impact Sensor - Right Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/OG	2134	Right Front Side Impact Sensor Signal	I	—
2	0.5	BK/OG	6629	Right Front Side Impact Sensor Low Reference	I	—

B63RR Side Impact Sensor - Right Rear



4335931

Connector Part Information

Harness Type: Body
OEM Connector: 33371691
Service Connector: 19366843
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

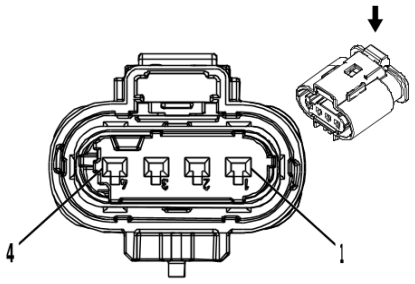
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B63RR Side Impact Sensor - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/WH	6626	Right Rear Side Impact Sensor Signal	I	—
2	0.5	BK/OG	6627	Right Rear Side Impact Sensor Low Reference	I	—

B65 Intake Manifold Pressure and Air Temperature Sensor (LM2)



2717079

Connector Part Information

Harness Type: Engine
OEM Connector: 13815341
Service Connector: 13587299
Description: 4-Way F 1.2 Multilock Series, Sealed (BK)

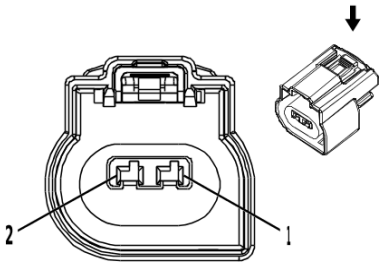
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B65 Intake Manifold Pressure and Air Temperature Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/D-BU	7329	Pre-Throttle Air Temperature Signal	I	—
2	0.5	D-BU/RD	460	Engine Control Sensors 5 Volt Reference 1	I	—
3	0.5	BK/L-GN	580	Engine Control Sensors Low Reference 2	I	—
4	0.5	L-GN/WH	432	Manifold Absolute Pressure Sensor Signal	I	—

B68A Knock Sensor 1 (L84/L87)



2717073

Connector Part Information

Harness Type: Engine
OEM Connector: 13814755

Service Connector: 19301207
Description: 2-Way F 150 MX Series, Sealed (BK)

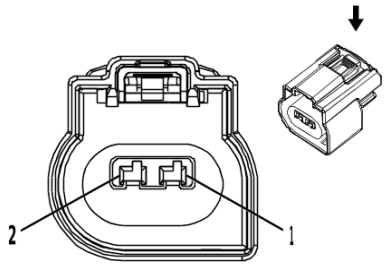
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required

B68A Knock Sensor 1 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK/YE	1716	Knock Sensor 1 Low Reference	I	—
2	0.75	VT/GY	496	Knock Sensor 1 Signal	I	—

B68B Knock Sensor 2 (L84/L87)



2717073

Connector Part Information

Harness Type: Engine
OEM Connector: 13814755
Service Connector: 19301207
Description: 2-Way F 150 MX Series, Sealed (BK)

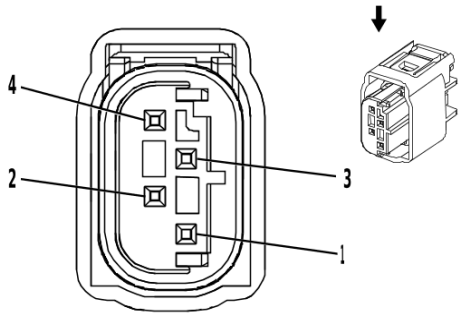
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required

B68B Knock Sensor 2 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/GY	1876	Knock Sensor 2 Signal	I	—
2	0.75	BK/GY	2303	Knock Sensor 2 Low Reference	I	—

B70 Liftgate Close Switch (TC2)



2173574

Connector Part Information

Harness Type: Liftgate
OEM Connector: 13679454
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 0.64 Micro-Quadlock Series, Sealed (BK)

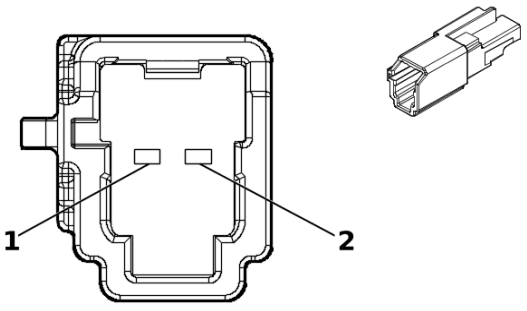
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

B70 Liftgate Close Switch (TC2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/VT	4656	Rear Closure Object Sensor Low Reference	I	—
2	0.35	GY/WH	4658	Rear Closure Switch LED Control	I	—
3	0.35	L-GN	4657	Rear Closure Switch Signal	I	—
4	—	—	—	Not Occupied	—	—

B71L Liftgate Object Sensor - Left (TC2)



5355341

Connector Part Information

Harness Type: Liftgate
OEM Connector: 35258943

Service Connector: Service by Harness - See Part Catalog
Description: 2-Way M 1.2 MCON Series (BK)

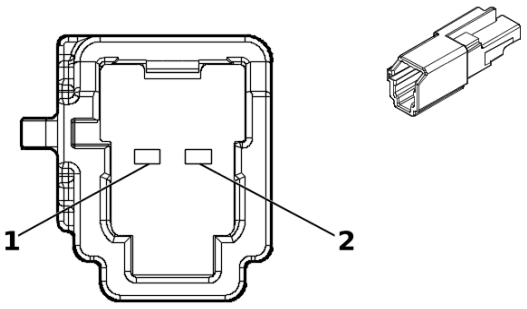
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-17 (LT GN)	No Tool Required

B71L Liftgate Object Sensor - Left (TC2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/BK	4655	Rear Closure Object Sensor 2 Signal	I	—
2	0.35	BK/VT	4656	Rear Closure Object Sensor Low Reference	I	—

B71R Liftgate Object Sensor - Right (TC2)



5355341

Connector Part Information

Harness Type: Liftgate
OEM Connector: 35258943
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way M 1.2 MCON Series (BK)

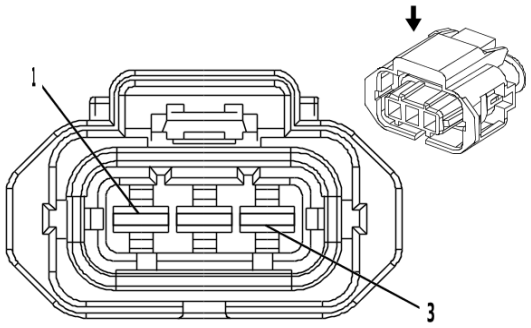
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-17 (LT GN)	No Tool Required

B71R Liftgate Object Sensor - Right (TC2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/BK	4654	Rear Closure Object Sensor Signal	I	—
2	0.35	WH/BK	4655	Rear Closure Object Sensor 2 Signal	I	—

B74 Manifold Absolute Pressure Sensor (L84/L87)



1914850

Connector Part Information

Harness Type: Engine
OEM Connector: 15397338
Service Connector: 13585845
Description: 3-Way F 2.8 Junior Power Timer Series, Sealed (BK)

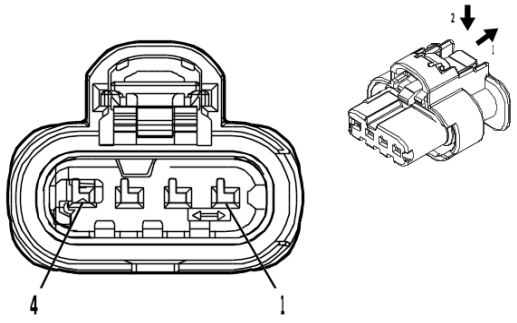
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

B74 Manifold Absolute Pressure Sensor (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/RD	2704	Manifold Absolute Pressure Sensor 5V Reference	I	—
2	0.5	BK/L-GN	469	Manifold Absolute Pressure Sensor Low Reference	I	—
3	0.5	L-GN/WH	432	Manifold Absolute Pressure Sensor Signal	I	—

B75C Multifunction Intake Air Sensor (L84/L87)



4934614

Connector Part Information

Harness Type: Engine
OEM Connector: 33367416

Service Connector: 19371196
Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

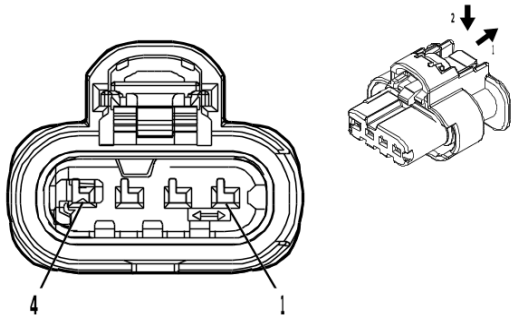
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B75C Multifunction Intake Air Sensor (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	VT/D-BU	5294	Powertrain Main Relay Fused Supply 5	I	—
2	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	I	—
3	0.5	L-GN/WH	4622	Engine Control Module LIN Bus 2	I	—
4	1	BK/WH	6151	Engine Control Module Ground 61	I	—

B75C Multifunction Intake Air Sensor (LM2)



4934614

Connector Part Information

Harness Type: Engine
OEM Connector: 33367416
Service Connector: 19371196
Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

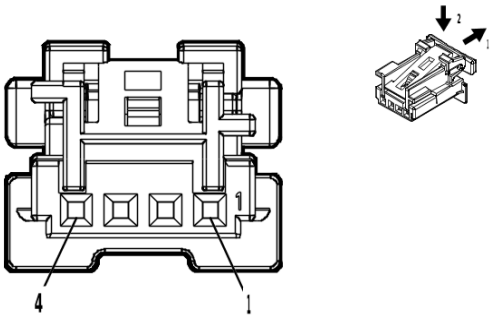
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B75C Multifunction Intake Air Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	VT/D-BU	5294	Powertrain Main Relay Fused Supply 5	I	—
2	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	I	—
3	0.5	L-GN/WH	4622	Engine Control Module LIN Bus 2	I	—
4	1	BK/WH	6151	Engine Control Module Ground 61	I	—

B80 Park Brake Switch



4997407

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35082250
Service Connector: 19371192
Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

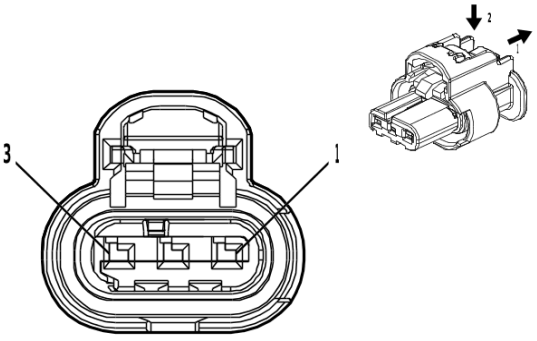
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

B80 Park Brake Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/L-GN	5140	Secondary Fused Battery Positive Voltage 51	I	—
2	0.5	L-GN/YE	2731	Electronic Brake Control Module LIN Bus 1	I	—
3	—	—	—	Not Occupied	—	—
4	0.5	BK/WH	1851	Ground 18	I	—

B96 Cylinder Head Temperature Sensor (LM2)



4994602

Connector Part Information

Harness Type: Engine
OEM Connector: 33358809

Service Connector: 19371199
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

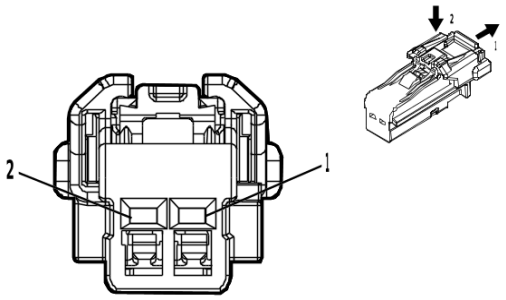
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B96 Cylinder Head Temperature Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/GY	626	Engine Control Vehicle Sensors Low Reference 1	I	—
2	0.5	L-GN/YE	37	Engine Block Temperature Sensor Signal	I	—
3	0.5	BN/YE	1372	Engine Metal Temperature Sensor Signal 2	I	—

B101 Immobilizer Antenna



4115691

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35026312
Service Connector: 19352066
Description: 2-Way F 1.2 Series (BK)

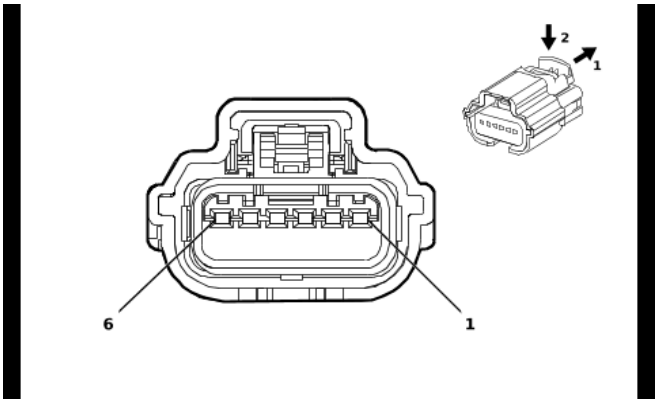
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B101 Immobilizer Antenna

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN/BK	4996	Immobilizer Antenna Signal [+]	I	—
2	0.35	WH/GY	4997	Immobilizer Antenna Low Signal	I	—

B107 Accelerator Pedal Position Sensor



5157678

Connector Part Information

Harness Type: Body
OEM Connector: 35199156
Service Connector: 84773558
Description: 6-Way F 64 Series, Sealed (BK)

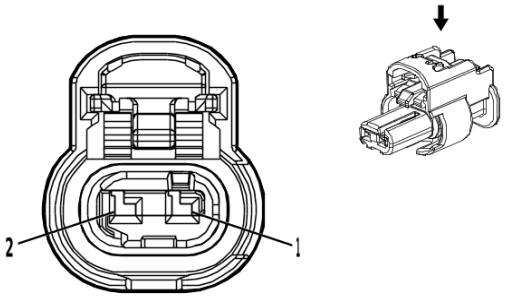
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

B107 Accelerator Pedal Position Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/RD	1164	Accelerator Pedal Position 5 Volt Reference 1	I	—
2	0.5	YE/WH	1161	Accelerator Pedal Position Signal 1	I	—
3	0.5	BK/D-BU	1271	Accelerator Pedal Position Low Reference 1	I	—
4	0.5	BK/VT	1272	Accelerator Pedal Position Low Reference 2	I	—
5	0.5	L-GN/WH	1162	Accelerator Pedal Position Signal 2	I	—
6	0.5	BN/RD	1274	Accelerator Pedal Position 5V Reference 2	I	—

B110 Battery Sensor Module



4649903

Connector Part Information

Harness Type: Body
OEM Connector: 33327048
Service Connector: 19366858
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

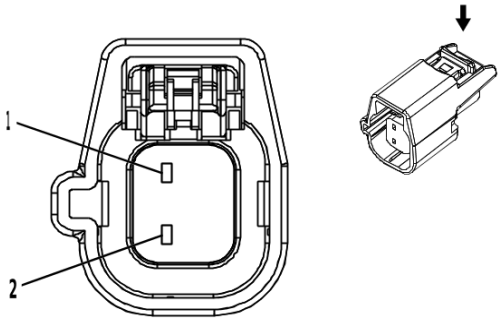
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B110 Battery Sensor Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/YE	2855	Body Control Module LIN Bus 9	I	—
2	0.75	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	I	—

B118 Windshield Washer Fluid Level Sensor



3958652

Connector Part Information

Harness Type: Body
OEM Connector: 33113086
Service Connector: 13593220
Description: 2-Way F 1.5 Series (L-GY)

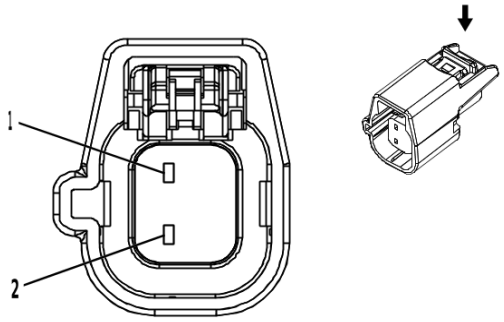
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B118 Windshield Washer Fluid Level Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	VT	185	Low Washer Fluid Indicator Control	I	—
2	0.75	BK	150	Ground 1	I	—

B118B Windshield Washer Fluid Level Switch



3958652

Connector Part Information

Harness Type: Body
OEM Connector: 33113086
Service Connector: 13593220
Description: 2-Way F 1.5 Series (L-GY)

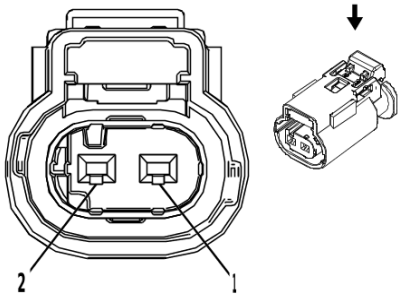
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B118B Windshield Washer Fluid Level Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	VT	185	Low Washer Fluid Indicator Control	I	—
2	0.75	BK	150	Ground 1	I	—

B130A Exhaust Gas Recirculation Temperature Sensor 1 (LM2)



2830969

Connector Part Information

Harness Type: Engine
OEM Connector: 13840071
Service Connector: 13587321
Description: 2-Way F 1.2 Multilock Series, Sealed (D-GY)

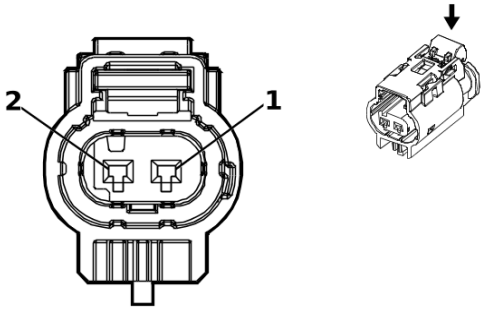
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B130A Exhaust Gas Recirculation Temperature Sensor 1 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/WH	5277	Exhaust Gas Temperature Sensor 1 Signal	I	—
2	0.5	BK/BN	6782	Exhaust Gas Temperature Sensor 1 Low Reference	I	—

B130AH Exhaust Gas Recirculation Temperature Sensor 1 - High Pressure (LM2)



5207726

Connector Part Information

Harness Type: Engine
OEM Connector: 33180624
Service Connector: 19332628
Description: 2-Way F 1.2 Multilock Series, Sealed (GY)

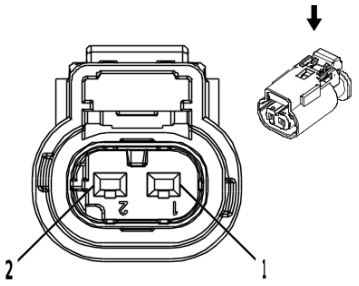
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B130AH Exhaust Gas Recirculation Temperature Sensor 1 - High Pressure (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/D-BU	6274	Exhaust Gas Recirculation Temperature Sensor Low Reference	I	—
2	0.5	WH/BN	3237	Exhaust Gas Recirculation Temperature Sensor Signal	I	—

B130B Exhaust Gas Recirculation Temperature Sensor 2 (LM2)



2717037

Connector Part Information

Harness Type: Engine
OEM Connector: 13735325
Service Connector: 13587325
Description: 2-Way F 1.2 Multilock Series, Sealed (L-GY)

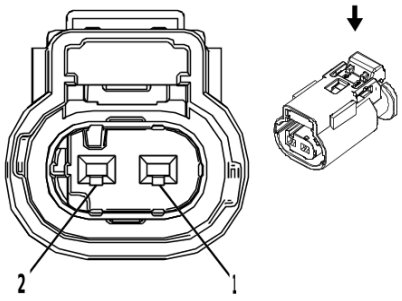
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B130B Exhaust Gas Recirculation Temperature Sensor 2 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/ L-GN	5377	Exhaust Gas Temperature Sensor 2 Signal	I	—
2	0.5	BK/D-BU	6783	Exhaust Gas Temperature Sensor 2 Low Reference	I	—

B130BH Exhaust Gas Recirculation Temperature Sensor 2 - High Pressure (LM2)



2830969

Connector Part Information

Harness Type: Engine
OEM Connector: 13840071
Service Connector: 13587321
Description: 2-Way F 1.2 Multilock Series, Sealed (D-GY)

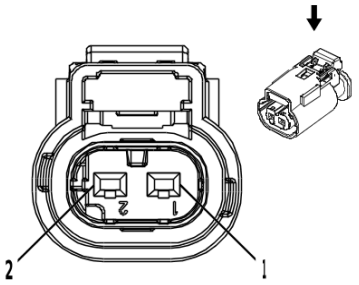
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B130BH Exhaust Gas Recirculation Temperature Sensor 2 - High Pressure (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/GY	3234	Exhaust Gas Recirculation Temperature Sensor 3 Signal	I	—
2	0.5	BK/L-GN	3235	Exhaust Gas Recirculation Temperature Sensor 3 Low Reference	I	—

B130C Exhaust Gas Recirculation Temperature Sensor 3 (LM2)



2717037

Connector Part Information

Harness Type: Engine
OEM Connector: 13735325
Service Connector: 13587325
Description: 2-Way F 1.2 Multilock Series, Sealed (L-GY)

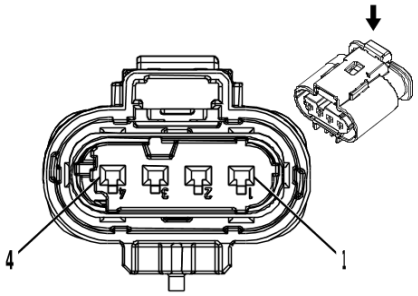
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B130C Exhaust Gas Recirculation Temperature Sensor 3 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/L-GN	5378	Exhaust Gas Temperature Sensor 3 Signal	I	—
2	0.5	BK/L-GN	3657	Exhaust Gas Temperature Sensor 3 Low Reference	I	—

B136 Exhaust Particulate Matter Sensor (LM2)



2717096

Connector Part Information

Harness Type: Chassis
OEM Connector: 13815348
Service Connector: 13587298
Description: 4-Way F 1.2 Multilock Series, Sealed (L-GY)

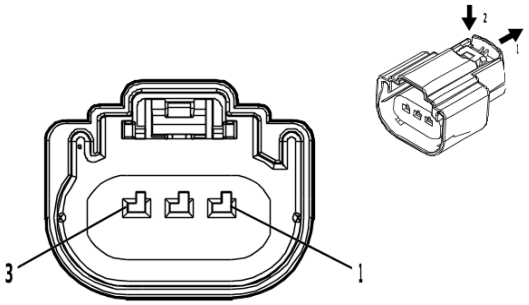
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B136 Exhaust Particulate Matter Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	BK/WH	6151	Engine Control Module Ground 61	I	LWB
	1	VT/L-GN	4320	Selective Catalytic Reduction Power Module Wake-Up Signal	I	SWB
2	0.5	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	I	LWB
	0.5	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	I	SWB
3	0.5	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	I	LWB
	0.5	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	I	SWB
4	1	VT/L-GN	4320	Selective Catalytic Reduction Power Module Wake-Up Signal	I	LWB
	1	BK/WH	6151	Engine Control Module Ground 61	I	SWB

B150 Fuel Tank Pressure Sensor



4589538

Connector Part Information

Harness Type: Chassis
OEM Connector: 33343864
Service Connector: 84569854
Description: 3-Way F 150 MX Series, Sealed (GY)

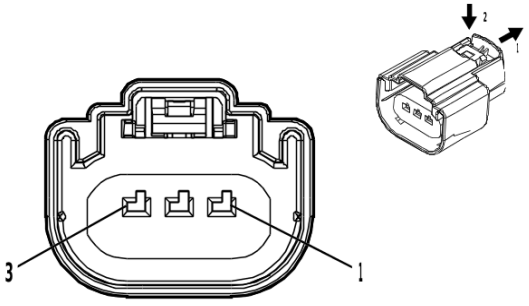
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B150 Fuel Tank Pressure Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/WH	890	Fuel Tank Pressure Sensor Signal	I	—
2	0.5	BK/BN	6284	Fuel Tank Pressure Sensor Low Reference	I	—
3	0.5	YE/RD	2709	Fuel Tank Pressure Sensor 5V Reference	I	—

B152LF Suspension Position Sensor - Left Front (F47)



4569745

Connector Part Information

Harness Type: Chassis
OEM Connector: 33343869
Service Connector: 19179750
Description: 3-Way F 150 MX Series, Sealed (BK)

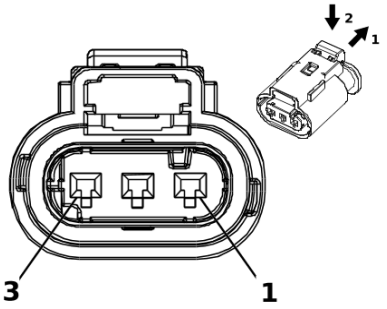
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B152LF Suspension Position Sensor - Left Front (F47)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/RD	1205	Left Front Suspension Position Sensor Voltage Reference	I	—
2	0.5	BK/D-BU	1206	Left Front Suspension Position Sensor Low Reference	I	—
3	0.5	BN/WH	1207	Left Front Suspension Position Sensor Signal	I	—

B154 Diesel Particulate Filter Exhaust Differential Pressure Sensor (LM2)



2717069

Connector Part Information

Harness Type: Engine
OEM Connector: 13763990
Service Connector: 84601390
Description: 3-Way F 1.2 Multilock Series, Sealed (BK)

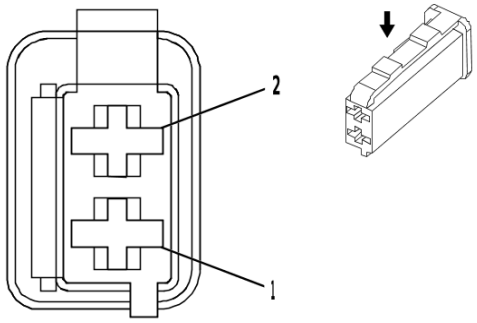
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B154 Diesel Particulate Filter Exhaust Differential Pressure Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	I	—
2	0.5	D-BU	6053	Exhaust Pressure Sensor 1 Signal	I	—
3	0.5	BK/L-GN	580	Engine Control Sensors Low Reference 2	I	—

B159L Glass Breakage Sensor - Left (UTJ)



2339593

Connector Part Information

Harness Type: Body
OEM Connector: 13670097
Service Connector: 13580951
Description: 2-Way F 1.6 Timer Series (BK)

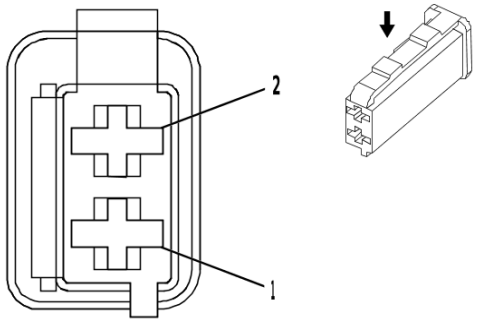
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B159L Glass Breakage Sensor - Left (UTJ)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/VT	7597	Glass Breakage Sensor Signal	I	—
2	0.35	VT/D-BU	7598	Glass Breakage Sensor 2 Signal	I	—

B159R Glass Breakage Sensor - Right (UTJ)



2339593

Connector Part Information

Harness Type: Body
OEM Connector: 13670097
Service Connector: 13580951
Description: 2-Way F 1.6 Timer Series (BK)

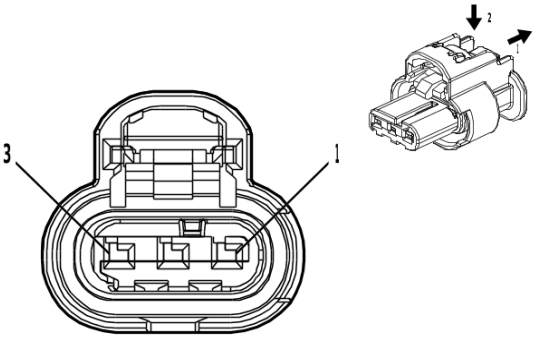
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

B159R Glass Breakage Sensor - Right (UTJ)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BK	2930	Glass Breakage Sensor Supply Voltage	I	—
2	0.5	D-BU/VT	7597	Glass Breakage Sensor Signal	I	—

B161LF Vertical Suspension Acceleration Sensor - Left Front (Z95)



4778903

Connector Part Information

Harness Type: Chassis
OEM Connector: 33358808
Service Connector: 84811561
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B161LF Vertical Suspension Acceleration Sensor - Left Front (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/RD	1817	Left Front Vertical Suspension Acceleration Sensor Voltage Reference	I	—
2	0.5	BK/BN	1099	Left Front Vertical Suspension Acceleration Sensor Low Reference	I	—
3	0.5	WH	1100	Left Front Vertical Suspension Acceleration Sensor Signal	I	—

B161LR Vertical Suspension Acceleration Sensor - Left Rear (Z95)

—

Connector Part Information

Harness Type: Chassis Rear Extension
OEM Connector: 84237878
Service Connector: Service by Harness - See Part Catalog
Description: —

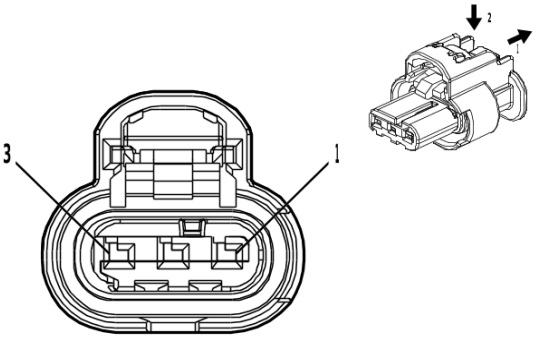
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

B161LR Vertical Suspension Acceleration Sensor - Left Rear (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	VT/RD	1818	Left Rear Vertical Suspension Acceleration Sensor Voltage Reference	I	—
2	0.75	BK/VT	1833	Left Rear Vertical Suspension Acceleration Sensor Low Reference	I	—
3	0.75	YE/BN	1103	Left Rear Vertical Suspension Acceleration Sensor Signal	I	—

B161RF Vertical Suspension Acceleration Sensor - Right Front (Z95)



4778903

Connector Part Information

Harness Type: Chassis
OEM Connector: 33358808
Service Connector: 84811561
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B161RF Vertical Suspension Acceleration Sensor - Right Front (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/RD	1819	Right Front Vertical Suspension Acceleration Sensor Voltage Reference	I	—
2	0.5	BK/L-GN	1105	Right Front Vertical Suspension Acceleration Sensor Low Reference	I	—
3	0.5	WH	1106	Right Front Vertical Suspension Acceleration Sensor Signal	I	—

B161RR Vertical Suspension Acceleration Sensor - Right Rear (Z95)

—

Connector Part Information

Harness Type: Chassis Rear Extension
OEM Connector: 84237879
Service Connector: Service by Harness - See Part Catalog
Description: —

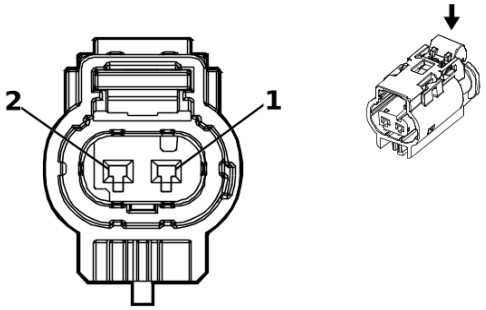
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

B161RR Vertical Suspension Acceleration Sensor - Right Rear (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GY/RD	1820	Right Rear Vertical Suspension Acceleration Sensor Voltage Reference	I	—
2	0.75	BK/BU	1108	Right Rear Vertical Suspension Acceleration Sensor Low Reference	I	—
3	0.75	YE/BU	1109	Right Rear Vertical Suspension Acceleration Sensor Signal	I	—

B172LF Brake Pad Wear Sensor - Left Front (JBK)



3747581

Connector Part Information

Harness Type: Chassis
OEM Connector: 33226772
Service Connector: 84727362
Description: 2-Way F 1.2 Multilock Series, Sealed (BK)

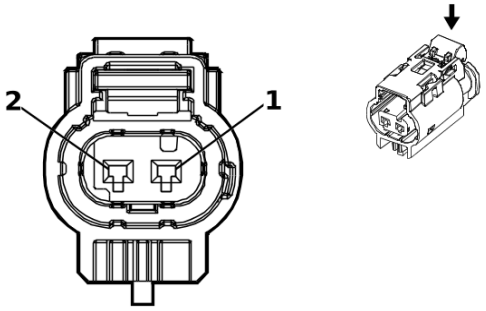
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B172LF Brake Pad Wear Sensor - Left Front (JBK)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BN/D-BU	1602	Front Brake Pad Wear Sensor Signal	I	—
2	0.5	BK	2050	Ground 20	I	—

B172LR Brake Pad Wear Sensor - Left Rear (JBK)



3747581

Connector Part Information

Harness Type: Chassis Rear Extension
OEM Connector: 13583195
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 Multilock Series, Sealed (BK)

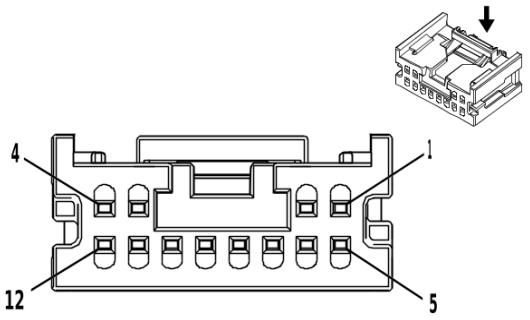
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B172LR Brake Pad Wear Sensor - Left Rear (JBK)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GN/YE	1616	Rear Brake Pad Wear Sensor Signal	I	—
2	0.75	BK	2050	Ground 20	I	—

B174W Frontview Camera - Windshield (UEU/UHY/UGN)



3824362

Connector Part Information

Harness Type: Headliner
OEM Connector: 33235297
Service Connector: 13507121
Description: 12-Way F Mini 50 Series (BK)

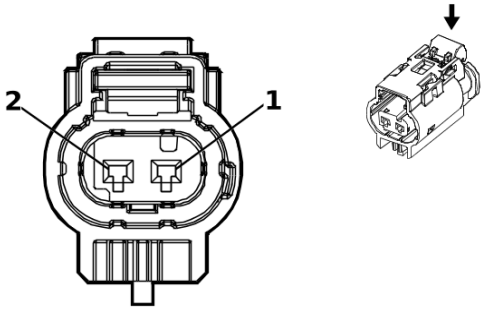
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19333221	EL-35616-58 (BK)	EL-38125-58
II	19369210	EL-35616-58 (BK)	EL-38125-58

B174W Frontview Camera - Windshield (UEU/UHY/UGN)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/WH	1851	Ground 18	II	—
2	—	—	—	Not Occupied	—	—
3	0.5	RD/YE	240	Secondary Fused Battery Positive Voltage 2	II	—
4	—	—	—	Not Occupied	—	—
5	0.5 0.5	D-BU/GY D-BU/YE	4105 4979	AUTOSAR Serial Data CAN Bus [+] 8 Serial Data AUTOSAR CAN Bus [+] 2 Serial Data	II II	UEU+UGN UEU+UHY
6	0.5 0.5	WH/GY WH	4104 4978	AUTOSAR Serial Data CAN Bus [-] 8 Serial Data AUTOSAR CAN Bus [-] 2 Serial Data	II II	UEU+UGN UEU+UHY
7	0.35 0.5	D-BU/GY D-BU/YE	4105 4979	AUTOSAR Serial Data CAN Bus [+] 8 Serial Data AUTOSAR CAN Bus [+] 2 Serial Data	I II	UEU+UGN UEU+UHY
8	0.35 0.5	WH/GY WH	4104 4978	AUTOSAR Serial Data CAN Bus [-] 8 Serial Data AUTOSAR CAN Bus [-] 2 Serial Data	I II	UEU+UGN UEU+UHY
9 - 12	—	—	—	Not Occupied	—	—

B193A Charge Air Cooler Inlet Temperature Sensor (LM2)



3747581

Connector Part Information

Harness Type: Engine
OEM Connector: 33226772
Service Connector: 84727362
Description: 2-Way F 1.2 Multilock Series, Sealed (BK)

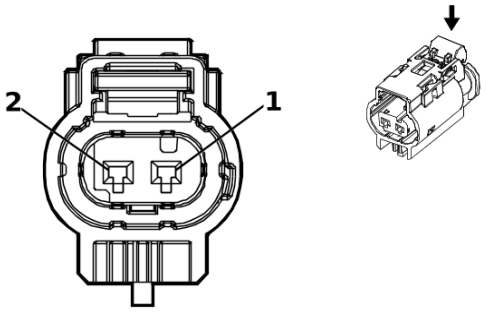
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B193A Charge Air Cooler Inlet Temperature Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BK	3682	Charge Air Cooler Inlet Temperature Sensor Low Reference	I	—
2	0.5	L-GN	3683	Charge Air Cooler Inlet Temperature Sensor Signal	I	—

B193B Charge Air Cooler Outlet Temperature Sensor (LM2)



3747581

Connector Part Information

Harness Type: Engine
OEM Connector: 33226772
Service Connector: 84727362
Description: 2-Way F 1.2 Multilock Series, Sealed (BK)

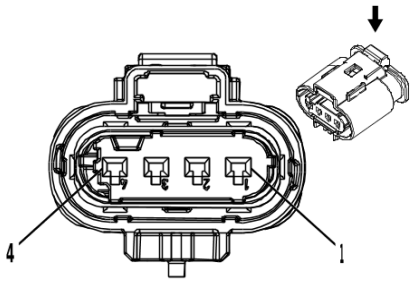
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B193B Charge Air Cooler Outlet Temperature Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/D-BU	3680	Charge Air Cooler Outlet Temperature Sensor Low Reference	I	—
2	0.5	BN	3681	Charge Air Cooler Outlet Temperature Sensor Signal	I	—

B195A Nitrogen Oxides Sensor 1 (LM2)



2717079

Connector Part Information

Harness Type: Engine
OEM Connector: 13815341
Service Connector: 13587299
Description: 4-Way F 1.2 Multilock Series, Sealed (BK)

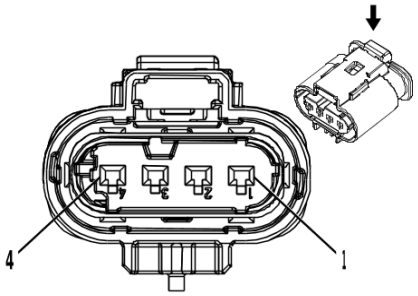
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B195A Nitrogen Oxides Sensor 1 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	VT/L-GN	4320	Selective Catalytic Reduction Power Module Wake-Up Signal	I	—
2	0.5	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	I	—
3	0.5	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	I	—
4	1	BK/WH	6151	Engine Control Module Ground 61	I	—

B195B Nitrogen Oxides Sensor 2 (LM2)



2717096

Connector Part Information

Harness Type: Chassis
OEM Connector: 13815348
Service Connector: 13587298
Description: 4-Way F 1.2 Multilock Series, Sealed (L-GY)

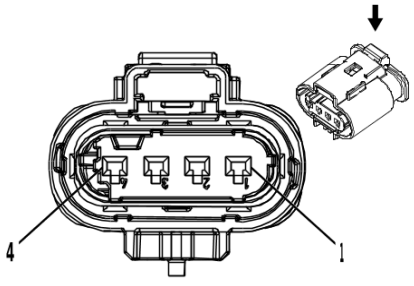
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B195B Nitrogen Oxides Sensor 2 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	VT/L-GN	4320	Selective Catalytic Reduction Power Module Wake-Up Signal	I	—
2	0.5	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	I	—
3	0.5	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	I	—
4	1	BK/WH	6151	Engine Control Module Ground 61	I	—

B195C Nitrogen Oxides Sensor 3 (LM2)



2717079

Connector Part Information

Harness Type: Chassis
OEM Connector: 13815341
Service Connector: 13587299
Description: 4-Way F 1.2 Multilock Series, Sealed (BK)

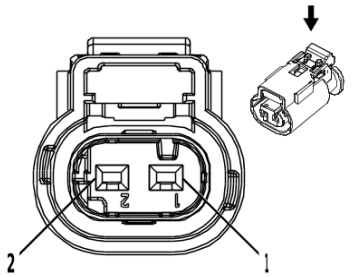
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B195C Nitrogen Oxides Sensor 3 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	VT/L-GN	4320	Selective Catalytic Reduction Power Module Wake-Up Signal	I	—
2	0.5	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	I	—
3	0.5	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	I	—
4	1	BK/WH	6151	Engine Control Module Ground 61	I	—

B203 Radiator Coolant Temperature Sensor (LM2)



2717066

Connector Part Information

Harness Type: Engine
OEM Connector: 13735326
Service Connector: 13587326
Description: 2-Way F 1.2 Multilock Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

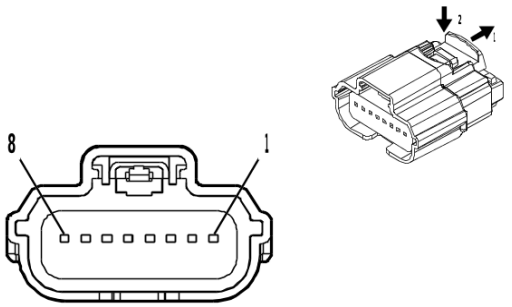
B203 Radiator Coolant Temperature Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BK	3000	Coolant Temperature Sensor 2 Signal	I	—

B203 Radiator Coolant Temperature Sensor (LM2) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
2	0.5	BK/L-GN	580	Engine Control Sensors Low Reference 2	I	—

B218L Side Object Sensor Module - Left (UKC/UKV)



4708234

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 35192853
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way F 64 Series, Sealed (BK)

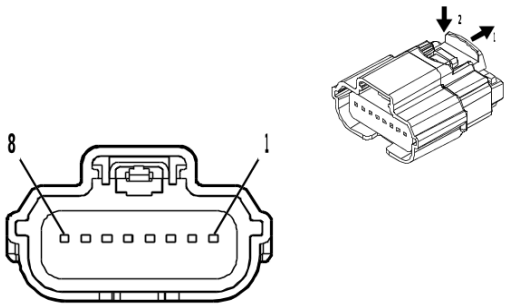
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

B218L Side Object Sensor Module - Left (UKC/UKV)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	4087	Private Serial Data Side Obstacle Detection CAN Bus [-] Serial Data	I	—
2	0.5	D-BU/VT	4088	Private Serial Data Side Obstacle Detection CAN Bus [+] Serial Data	I	—
3	0.5	BK	1450	Ground 14	I	—
4	0.35	WH	4100	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	I	—
5	0.5	WH	4100	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	I	—
6	0.5	D-BU/VT	4101	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	I	—
7	0.35	D-BU/VT	4101	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	I	—
8	0.5	RD/BN	4940	Secondary Fused Battery Positive Voltage 49	I	—

B218R Side Object Sensor Module - Right (UKC/UKV)



4708234

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 35200888
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way F 64 Series, Sealed (BK)

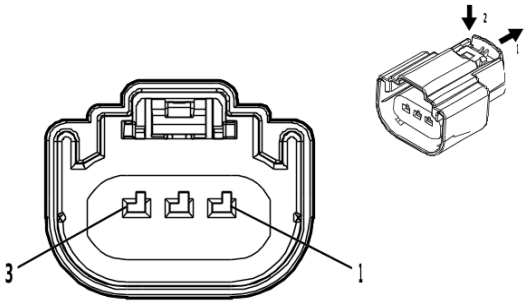
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

B218R Side Object Sensor Module - Right (UKC/UKV)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	4087	Private Serial Data Side Obstacle Detection CAN Bus [-] Serial Data	I	—
2	0.5	D-BU/VT	4088	Private Serial Data Side Obstacle Detection CAN Bus [+] Serial Data	I	—
3	0.5	BK	1450	Ground 14	I	—
4	—	—	—	Not Occupied	—	—
5	0.5	WH	4100	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	I	—
6	0.5	D-BU/VT	4101	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	I	—
7	—	—	—	Not Occupied	—	—
8	0.5	RD/BN	4940	Secondary Fused Battery Positive Voltage 49	I	—

B227 Gear Position Sensor (NP0/NQH)



4569745

Connector Part Information

Harness Type: Engine
OEM Connector: 33343869
Service Connector: 19179750
Description: 3-Way F 150 MX Series, Sealed (BK)

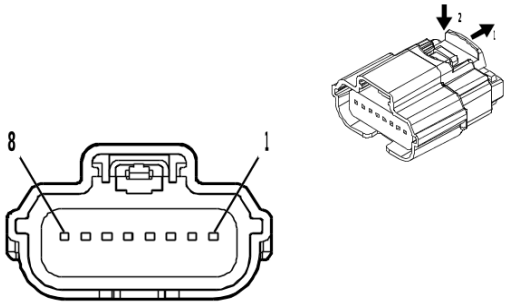
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required
II	Not Required	J-35616-2A (GY)	No Tool Required

B227 Gear Position Sensor (NP0/NQH)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/RD	7477	Gear Position Sensor 5V Reference	I	—
	0.5	WH/RD	7477	Gear Position Sensor 5V Reference	II	—
2	0.5	WH/L-GN	7479	Rotary Position Sensor Signal	I	—
	0.5	WH/L-GN	7479	Rotary Position Sensor Signal	II	—
3	0.5	YE/BK	7478	Gear Position Sensor Low Reference	I	—
	0.5	YE/BK	7478	Gear Position Sensor Low Reference	II	—

B233B Radar Sensor Module - Long Range (UGN/UVZ)



4708234

Connector Part Information

Harness Type: Body
OEM Connector: 35211138
Service Connector: 84677313
Description: 8-Way F 64 Series, Sealed (BK)

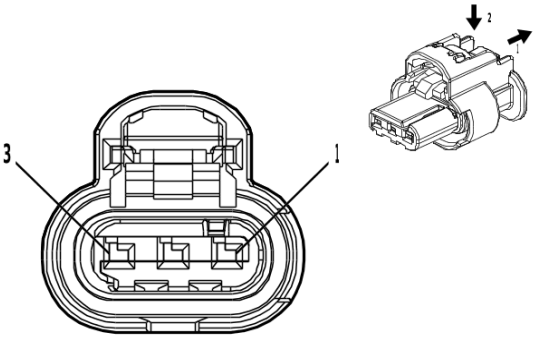
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

B233B Radar Sensor Module - Long Range (UGN/UVZ)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	D-BU/GY	4105	AUTOSAR Serial Data CAN Bus [+] 8 Serial Data	I	—
4	0.5	WH/GY	4104	AUTOSAR Serial Data CAN Bus [-] 8 Serial Data	I	—
5	0.5	RD/L-GN	3140	Secondary Fused Battery Positive Voltage 31	I	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.5	BK/WH	251	Ground 2	I	—

B306A Parking Assist Sensor - Front Left Outer (UD5/UD7)



4581126

Connector Part Information

Harness Type: Front Fascia
OEM Connector: 33358800
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

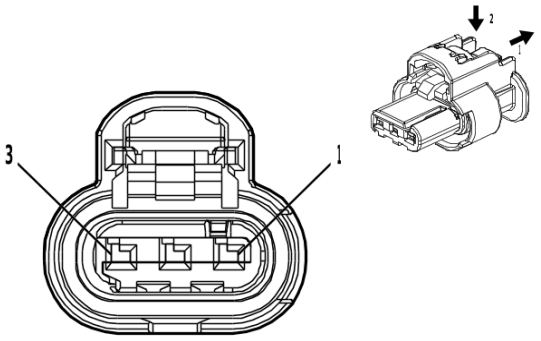
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B306A Parking Assist Sensor - Front Left Outer (UD5/UD7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN	6581	Front Parking Assist Display Control	I	—
2	0.5	VT/WH	5215	Left Front Outer Parking Assist Sensor	I	—
3	0.5	BK/D-BU	5214	Front Parking Assist Sensor Low Reference	I	—

B306B Parking Assist Sensor - Front Left Middle (UD5/UD7)



4581126

Connector Part Information

Harness Type: Front Fascia
OEM Connector: 33358800
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

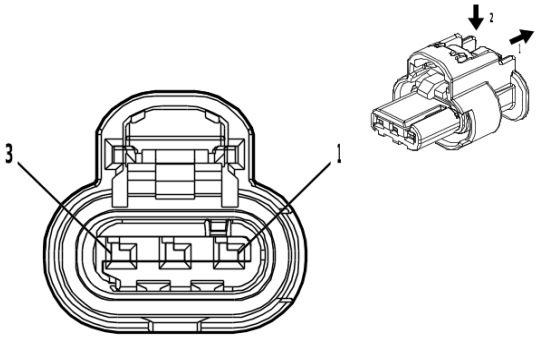
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B306B Parking Assist Sensor - Front Left Middle (UD5/UD7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN	6581	Front Parking Assist Display Control	I	—
2	0.5	YE/GY	5216	Left Front Middle Parking Assist Sensor	I	—
3	0.5	BK/D-BU	5214	Front Parking Assist Sensor Low Reference	I	—

B306C Parking Assist Sensor - Front Right Middle (UD5/UD7)



4581126

Connector Part Information

Harness Type: Front Fascia
OEM Connector: 33358800
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

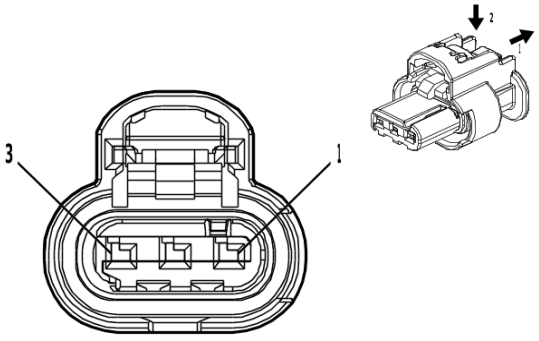
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B306C Parking Assist Sensor - Front Right Middle (UD5/UD7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN	6581	Front Parking Assist Display Control	I	—
2	0.5	VT/GY	5218	Right Front Middle Parking Assist Sensor	I	—
3	0.5	BK/D-BU	5214	Front Parking Assist Sensor Low Reference	I	—

B306D Parking Assist Sensor - Front Right Outer (UD5/UD7)



4581126

Connector Part Information

Harness Type: Front Fascia
OEM Connector: 33358800
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

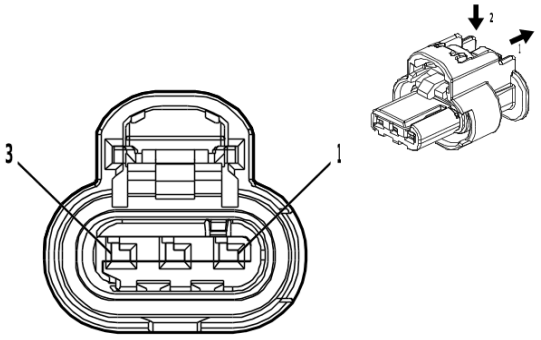
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B306D Parking Assist Sensor - Front Right Outer (UD5/UD7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN	6581	Front Parking Assist Display Control	I	—
2	0.5	WH/GY	5217	Right Front Outer Parking Assist Sensor	I	—
3	0.5	BK/D-BU	5214	Front Parking Assist Sensor Low Reference	I	—

B306E Parking Assist Sensor - Rear Left Outer (UD5/UD7)



4581126

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 33358800
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

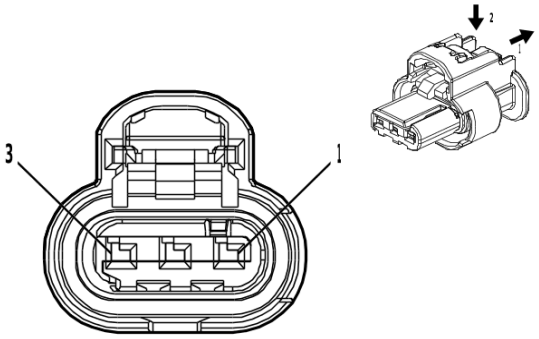
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B306E Parking Assist Sensor - Rear Left Outer (UD5/UD7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/WH	2374	Object Sensor Supply Voltage	I	—
2	0.5	YE	2375	Left Rear Outer Parking Assist Sensor Signal	I	—
3	0.5	BK/GY	2379	Object Sensor Low Reference	I	—

B306F Parking Assist Sensor - Rear Left Middle (UD5/UD7)



4581126

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 33358800
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

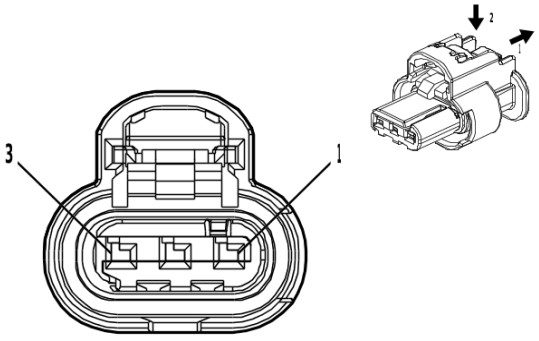
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B306F Parking Assist Sensor - Rear Left Middle (UD5/UD7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/WH	2374	Object Sensor Supply Voltage	I	—
2	0.5	YE/D-BU	2376	Left Rear Middle Parking Assist Sensor Signal	I	—
3	0.5	BK/GY	2379	Object Sensor Low Reference	I	—

B306G Parking Assist Sensor - Rear Right Middle (UD5/UD7)



4581126

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 33358800
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

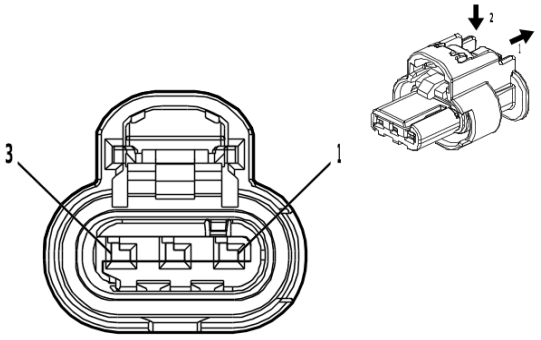
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B306G Parking Assist Sensor - Rear Right Middle (UD5/UD7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/WH	2374	Object Sensor Supply Voltage	I	—
2	0.5	YE/WH	2377	Right Rear Middle Parking Assist Sensor Signal	I	—
3	0.5	BK/GY	2379	Object Sensor Low Reference	I	—

B306H Parking Assist Sensor - Rear Right Outer (UD5/UD7)



4581126

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 33358800
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

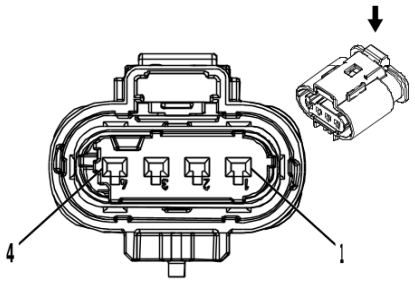
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B306H Parking Assist Sensor - Rear Right Outer (UD5/UD7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/WH	2374	Object Sensor Supply Voltage	I	—
2	0.5	YE/VT	2378	Right Rear Outer Parking Assist Sensor Signal	I	—
3	0.5	BK/GY	2379	Object Sensor Low Reference	I	—

B310 Fuel Pressure/Temperature Sensor (LM2)



2717079

Connector Part Information

Harness Type: Engine
OEM Connector: 13815341
Service Connector: 13587299
Description: 4-Way F 1.2 Multilock Series, Sealed (BK)

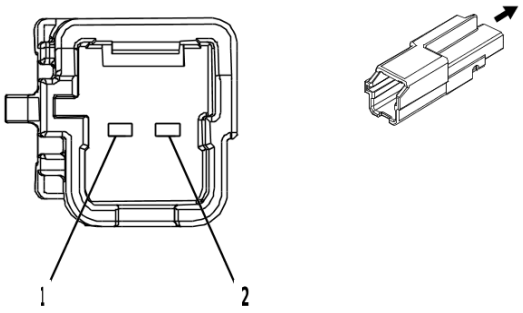
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B310 Fuel Pressure/Temperature Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/RD	2917	Fuel Rail Pressure Sensor 5V Reference	I	—
2	0.5	BN/YE	2161	Fuel Rail Pressure Sensor 2 Signal	I	—
3	0.5	BK/L-GN	2919	Fuel Rail Pressure Sensor Low Reference	I	—
4	0.5	D-BU/WH	2918	Fuel Rail Pressure Sensor Signal	I	—

B312LF Active Noise Cancellation Microphone - Left Front



4116496

Connector Part Information

Harness Type: Headliner
OEM Connector: 33189233

Service Connector: 19332376
Description: 2-Way M 1.2 Series (BK)

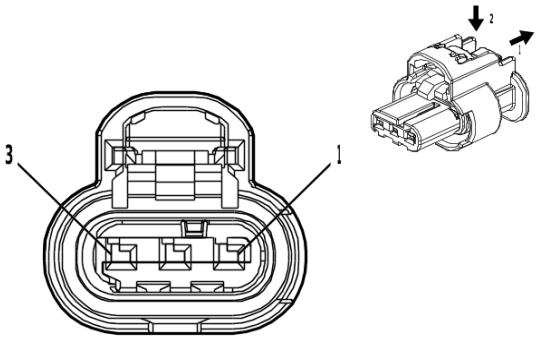
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-17 (LT GN)	No Tool Required

B312LF Active Noise Cancellation Microphone - Left Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/BK	3008	Active Noise Cancellation Microphone 1 Feedback Signal	I	—
2	0.5	L-GN/BN	3005	Active Noise Cancellation Microphone 1 Signal	I	—

B321 Crankcase Pressure Sensor (LM2)



4778903

Connector Part Information

Harness Type: Engine
OEM Connector: 33358808
Service Connector: 84811561
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

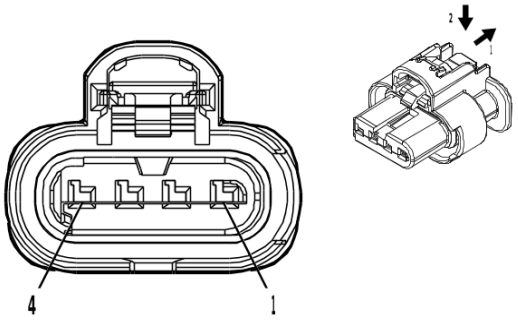
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B321 Crankcase Pressure Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	I	—
2	0.5	YE/GY	3926	Crankcase Differential Pressure Sensor Signal	I	—
3	0.5	BK/YE	548	Engine Control Sensors Low Reference 1	I	—

B342A UHF Low Energy Remote Control Access Sensor Transceiver 1 (BOP)



4973942

Connector Part Information

Harness Type: Front Fascia
OEM Connector: 35075013
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.2 MCON-CB Series, Sealed (GY)

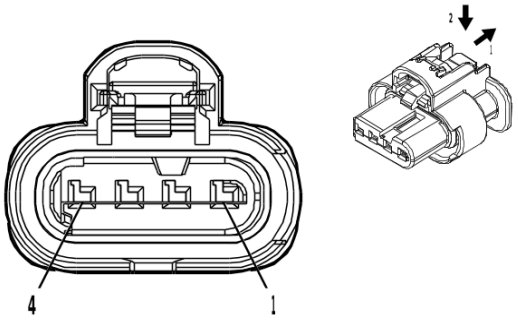
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B342A UHF Low Energy Remote Control Access Sensor Transceiver 1 (BOP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/BK	2738	Virtual Key Module LIN Bus 1	I	—
2	0.5	RD/GY	4840	Secondary Fused Battery Positive Voltage 48	I	—
3	0.5	BK/WH	251	Ground 2	I	—
4	—	—	—	Not Occupied	—	—

B342B UHF Low Energy Remote Control Access Sensor Transceiver 2 (BOP)



4900699

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 35151760

Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

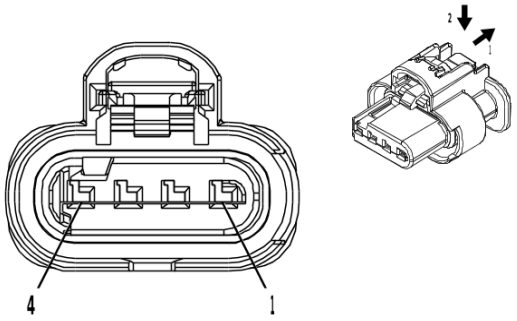
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B342B UHF Low Energy Remote Control Access Sensor Transceiver 2 (BOP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/BK	2738	Virtual Key Module LIN Bus 1	I	—
2	0.5	RD/GY	4840	Secondary Fused Battery Positive Voltage 48	I	—
3	0.5	BK	1450	Ground 14	I	—
4	—	—	—	Not Occupied	—	—

B342C UHF Low Energy Remote Control Access Sensor Transceiver 3 (BOP)



4210809

Connector Part Information

Harness Type: Front Fascia
OEM Connector: 33390897
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

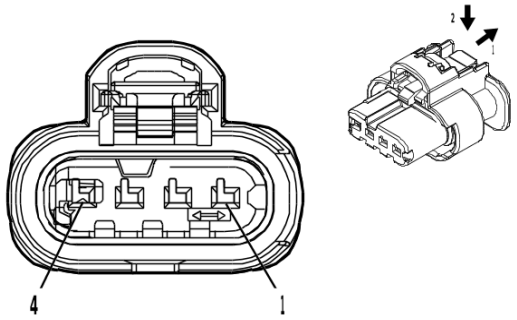
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B342C UHF Low Energy Remote Control Access Sensor Transceiver 3 (BOP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/BK	2738	Virtual Key Module LIN Bus 1	I	—
2	0.5	RD/GY	4840	Secondary Fused Battery Positive Voltage 48	I	—
3	0.5	BK/WH	251	Ground 2	I	—
4	—	—	—	Not Occupied	—	—

B342D UHF Low Energy Remote Control Access Sensor Transceiver 4 (BOP)



4934614

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 33367416
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

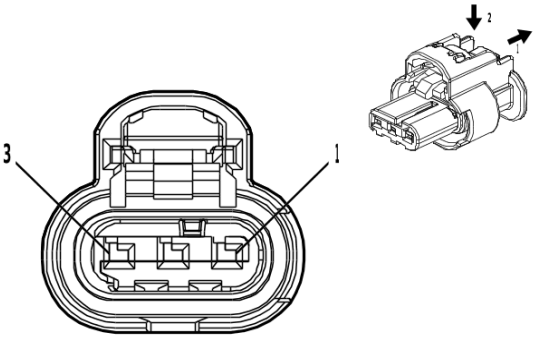
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B342D UHF Low Energy Remote Control Access Sensor Transceiver 4 (BOP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/BK	2738	Virtual Key Module LIN Bus 1	I	—
2	0.5	RD/GY	4840	Secondary Fused Battery Positive Voltage 48	I	—
3	0.5	BK	1450	Ground 14	I	—
4	—	—	—	Not Occupied	—	—

B345R Exhaust Pressure Differential Sensor - Exhaust Gas Recirculation (LM2)



4778903

Connector Part Information

Harness Type: Engine
OEM Connector: 33358808

Service Connector: 84811561
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

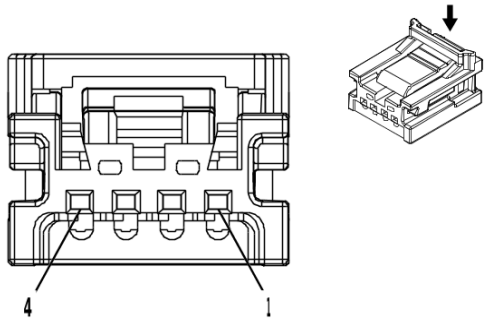
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

B345R Exhaust Pressure Differential Sensor - Exhaust Gas Recirculation (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	I	—
2	0.5	VT/GY	7246	Exhaust Gas Recirculation Differential Pressure Signal 1	I	—
3	0.5	BK/L-GN	580	Engine Control Sensors Low Reference 2	I	—

B355LF Communication Interface Module Microphone - Left Front (IOV)



4215060

Connector Part Information

Harness Type: Headliner
OEM Connector: 33228283
Service Connector: 19354840
Description: 4-Way F Mini 50 Series (BK)

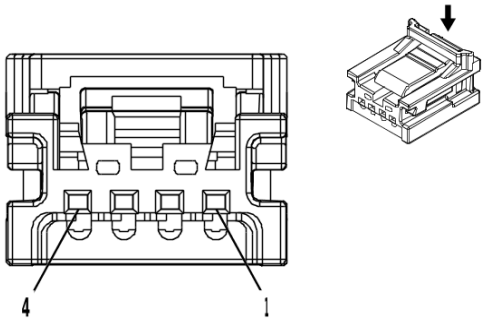
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	EL-35616-58 (BK)	No Tool Required

B355LF Communication Interface Module Microphone - Left Front (IOV)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-BU	8579	Automotive Audio Bus A2B Serial Data 1 [-]	I	—
2	0.35	L-GN	8580	Automotive Audio Bus A2B Serial Data 1 [+]	I	—
3	0.35	L-GN	8580	Automotive Audio Bus A2B Serial Data 1 [+]	I	—
4	0.35	L-BU	8579	Automotive Audio Bus A2B Serial Data 1 [-]	I	—

B355LR Communication Interface Module Microphone - Left Rear (IOV)



4215060

Connector Part Information

Harness Type: Headliner
OEM Connector: 33228283
Service Connector: 19354840
Description: 4-Way F Mini 50 Series (BK)

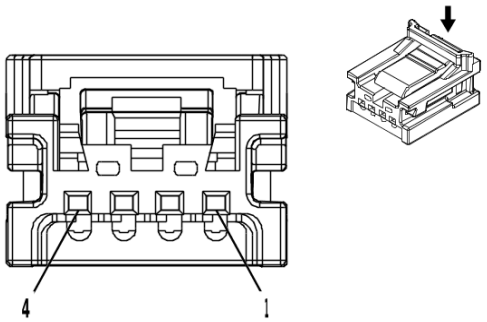
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	EL-35616-58 (BK)	No Tool Required

B355LR Communication Interface Module Microphone - Left Rear (IOV)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-BU	8579	Automotive Audio Bus A2B Serial Data 1 [-]	I	—
2	0.35	L-GN	8580	Automotive Audio Bus A2B Serial Data 1 [+]	I	—
3	0.35	L-GN	8580	Automotive Audio Bus A2B Serial Data 1 [+]	I	—
4	0.35	L-BU	8579	Automotive Audio Bus A2B Serial Data 1 [-]	I	—

B355RF Communication Interface Module Microphone - Right Front (IOV)



4215060

Connector Part Information

Harness Type: Headliner
OEM Connector: 33228283

Service Connector: 19354840
Description: 4-Way F Mini 50 Series (BK)

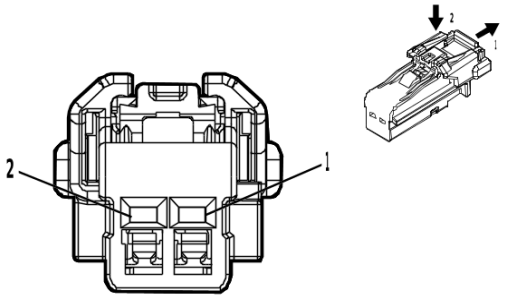
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	EL-35616-58 (BK)	No Tool Required

B355RF Communication Interface Module Microphone - Right Front (IOV)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-BU	8579	Automotive Audio Bus A2B Serial Data 1 [-]	I	—
2	0.35	L-GN	8580	Automotive Audio Bus A2B Serial Data 1 [+]	I	—
3	0.35	L-GN	8580	Automotive Audio Bus A2B Serial Data 1 [+]	I	—
4	0.35	L-BU	8579	Automotive Audio Bus A2B Serial Data 1 [-]	I	—

E1C Accent Lamp - Driver Door Handle



4115691

Connector Part Information

Harness Type: Driver Door Trim
OEM Connector: 35311666
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BK)

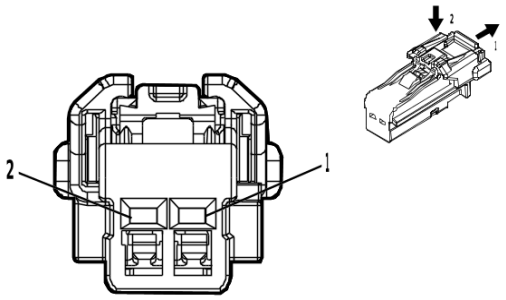
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E1C Accent Lamp - Driver Door Handle

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/VT	2767	LED Ambient Lighting Control Left Front Door	I	—
2	0.35	BK	1150	Ground 11	I	—

E1E Accent Lamp - Left Rear Door Handle



4115691

Connector Part Information

Harness Type: Left Rear Door Trim
OEM Connector: 35311666
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BK)

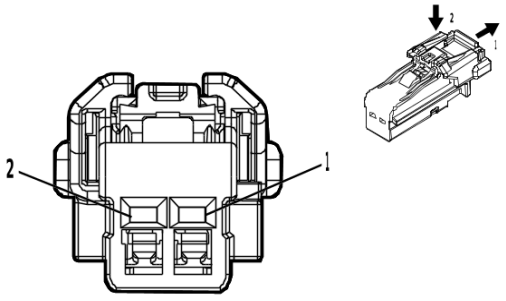
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E1E Accent Lamp - Left Rear Door Handle

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/YE	7557	Interior Door Handle Accent Lighting Control	I	—
2	0.35	BK	1150	Ground 11	I	—

E1F Accent Lamp - Right Rear Door Handle



4115691

Connector Part Information

Harness Type: Right Rear Door Trim
OEM Connector: 35311666
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BK)

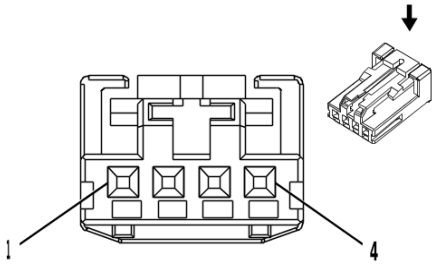
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E1F Accent Lamp - Right Rear Door Handle

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/YE	7557	Interior Door Handle Accent Lighting Control	I	—
2	0.35	BK	1250	Ground 12	I	—

E1G Accent Lamp - Left Instrument Panel



2717162

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 13969166
Service Connector: 13587297
Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

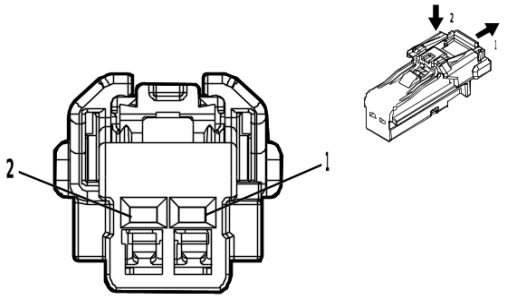
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

E1G Accent Lamp - Left Instrument Panel

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	1850	Ground 18	I	—
2	0.35	WH/BK	4782	Instrument Panel Accent Lighting Control	I	—
3	0.35	GY	157	Dome/Reading Lamp Control	I	—
4	—	—	—	Not Occupied	—	—

E1H Accent Lamp - Right Instrument Panel



4115691

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35311666
Service Connector: 19352066
Description: 2-Way F 1.2 MCON Series (BK)

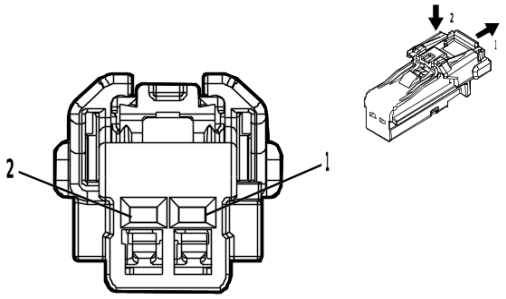
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E1H Accent Lamp - Right Instrument Panel

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	1850	Ground 18	I	—
2	0.35	WH/BK	4782	Instrument Panel Accent Lighting Control	I	—

E1M Accent Lamp - Passenger Door Handle



4115691

Connector Part Information

Harness Type: Passenger Door Trim
OEM Connector: 35311666
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BK)

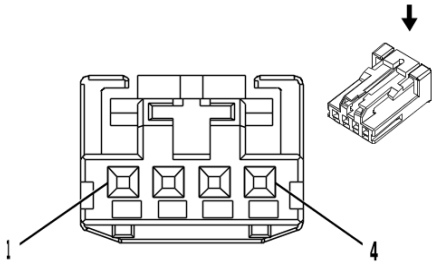
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E1M Accent Lamp - Passenger Door Handle

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/BN	2768	LED Ambient Lighting Control Right Front Door	I	—
2	0.35	BK	1250	Ground 12	I	—

E1Z Accent Lamp - Middle Instrument Panel



2717162

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 13969166
Service Connector: 13587297
Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

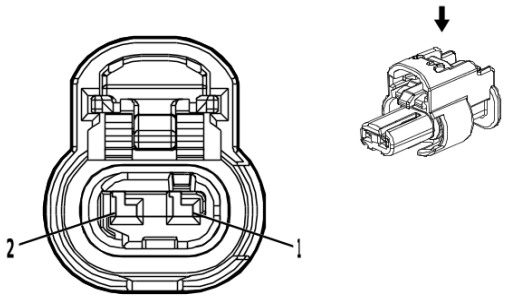
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

E1Z Accent Lamp - Middle Instrument Panel

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	1050	Ground 10	I	—
2	0.35	WH/BK	4782	Instrument Panel Accent Lighting Control	I	—
3	0.35	GY	157	Dome/Reading Lamp Control	I	—
4	—	—	—	Not Occupied	—	—

E2LF Side Marker Lamp - Left Front



4649903

Connector Part Information

Harness Type: Front Fascia
OEM Connector: 33327048
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

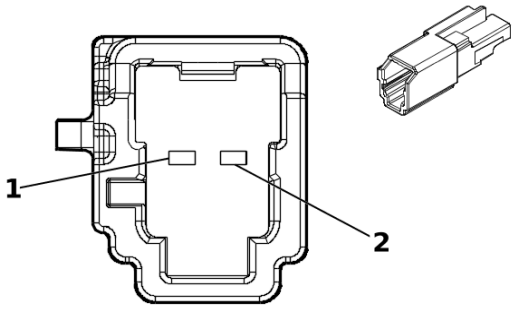
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E2LF Side Marker Lamp - Left Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/YE	1254	Left Front Park Lamp Control	I	—
2	0.5	BK	150	Ground 1	I	—

E2LR Side Marker Lamp - Left Rear (Z88)



5360948

Connector Part Information

Harness Type: Liftgate
OEM Connector: 35264701
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way M 1.2 MCON Series (GY)

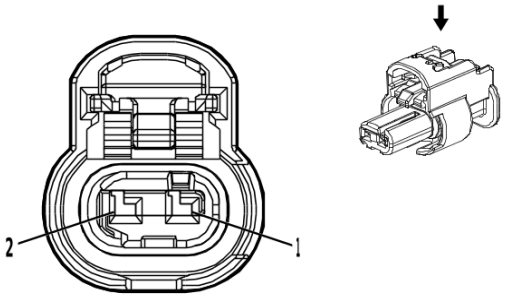
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-17 (LT GN)	No Tool Required

E2LR Side Marker Lamp - Left Rear (Z88)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN/D-BU	6993	Left Rear Park Lamp Control	I	—
2	0.35	BK	2050	Ground 20	I	—

E2RF Side Marker Lamp - Right Front



4649903

Connector Part Information

Harness Type: Front Fascia
OEM Connector: 33327048
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

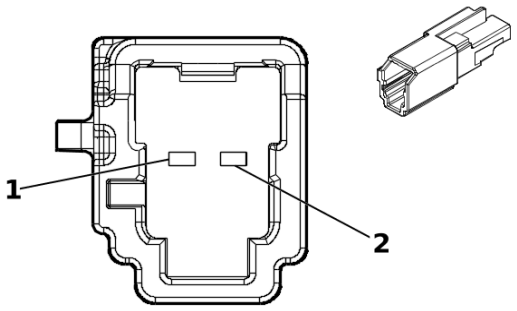
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E2RF Side Marker Lamp - Right Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/ L-GN	1253	Right Front Park Lamp Control	I	—
2	0.5	BK	250	Ground 2	I	—

E2RR Side Marker Lamp - Right Rear (Z88)



5360948

Connector Part Information

Harness Type: Liftgate
OEM Connector: 35264701
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way M 1.2 MCON Series (GY)

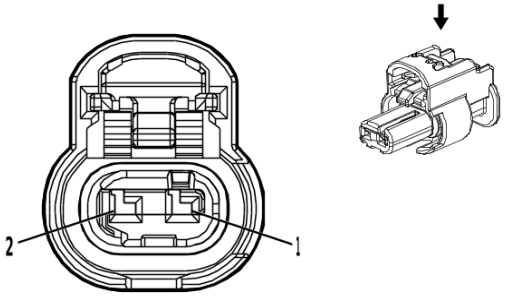
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-17 (LT GN)	No Tool Required

E2RR Side Marker Lamp - Right Rear (Z88)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/GY	6995	Right Rear Park Lamp Control	I	—
2	0.5	BK	2050	Ground 20	I	—

E7 License Plate Lamp



4649903

Connector Part Information

Harness Type: Liftgate Extension
OEM Connector: 33327048
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

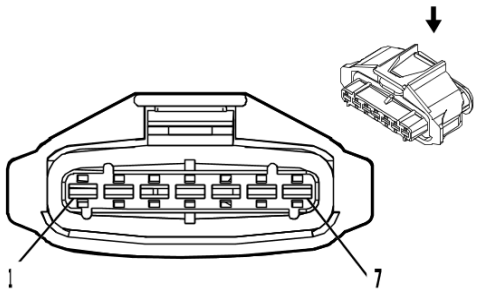
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E7 License Plate Lamp

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	2050	Ground 20	I	—
2	0.35	L-GN/YE	6846	Rear License Plate Lamp Control	I	—

E11A Fuel Heater/Water in Fuel Sensor (LM2)



2537256

Connector Part Information

Harness Type: Chassis
OEM Connector: 10774827
Service Connector: 19354080
Description: 7-Way F 2.8 Junior Power Timer Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required
I	Not Required	J-35616-35 (VT)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required

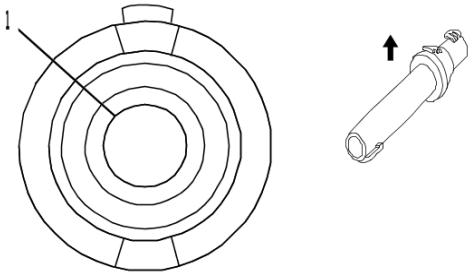
E11A Fuel Heater/Water in Fuel Sensor (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	BK	1950	Ground 19	I	—
2	2.5	BN/YE	2996	Fuel Heater Control 1	I	—
3	0.5 0.5	VT/L-GN VT/L-GN	4320 4320	Selective Catalytic Reduction Power Module Wake-Up Signal Selective Catalytic Reduction Power Module Wake-Up Signal	I II	FHX FJW
4	0.5	BK/D-BU	6863	Water In Fuel Sensor Low Reference	II	—
5	0.5	D-BU/YE	6861	Water In Fuel Sensor Signal	II	—
6	0.5	BN/GY	7072	Fuel Temperature Sensor 1 Signal	II	—

E11A Fuel Heater/Water in Fuel Sensor (LM2) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
7	0.5	BN/WH	7073	Fuel Temperature Sensor 1 Low Reference	II	—

E12A Glow Plug 1 (LM2)



2231591

Connector Part Information

Harness Type: Glow Plug Jumper
OEM Connector: 284818-1
Service Connector: Service by Cable Assembly - See Part Catalog
Description: 1-Way F 4.0 Series (BK)

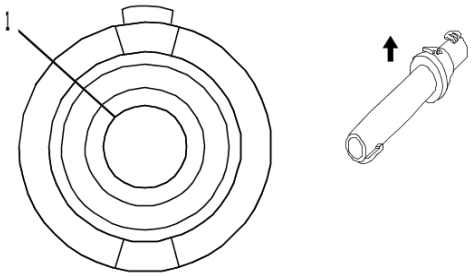
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

E12A Glow Plug 1 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	GY/RD	1581	Glow Plug 1 Control	I	—

E12B Glow Plug 2 (LM2)



2231591

Connector Part Information

Harness Type: Glow Plug Jumper
OEM Connector: 284818-1
Service Connector: Service by Cable Assembly - See Part Catalog
Description: 1-Way F 4.0 Series (BK)

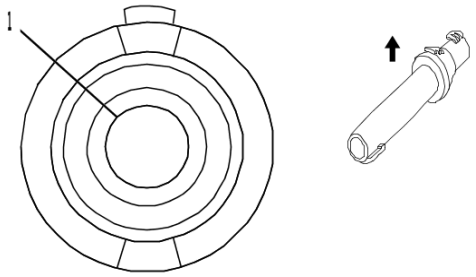
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

E12B Glow Plug 2 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	GY/BK	1582	Glow Plug 2 Control	I	—

E12C Glow Plug 3 (LM2)



2231591

Connector Part Information

Harness Type: Glow Plug Jumper
OEM Connector: 284818-1
Service Connector: Service by Cable Assembly - See Part Catalog
Description: 1-Way F 4.0 Series (BK)

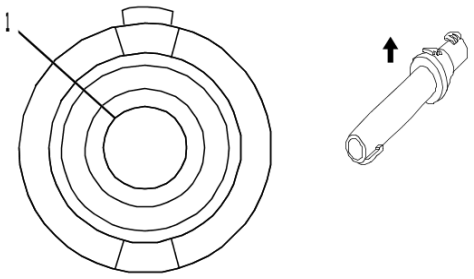
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

E12C Glow Plug 3 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	GY/GN	1583	Glow Plug 3 Control	I	—

E12D Glow Plug 4 (LM2)



2231591

Connector Part Information

Harness Type: Glow Plug Jumper
OEM Connector: 284818-1
Service Connector: Service by Cable Assembly - See Part Catalog
Description: 1-Way F 4.0 Series (BK)

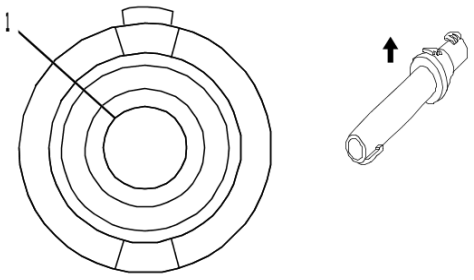
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

E12D Glow Plug 4 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	GY/YE	1584	Glow Plug 4 Control	I	—

E12E Glow Plug 5 (LM2)



2231591

Connector Part Information

Harness Type: Glow Plug Jumper
OEM Connector: 284818-1
Service Connector: Service by Cable Assembly - See Part Catalog
Description: 1-Way F 4.0 Series (BK)

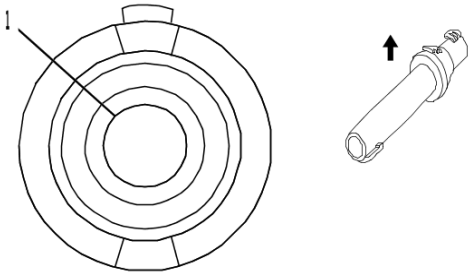
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

E12E Glow Plug 5 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	GY/WH	1585	Glow Plug 5 Control	I	—

E12F Glow Plug 6 (LM2)



2231591

Connector Part Information

Harness Type: Glow Plug Jumper
OEM Connector: 284818-1
Service Connector: Service by Cable Assembly - See Part Catalog
Description: 1-Way F 4.0 Series (BK)

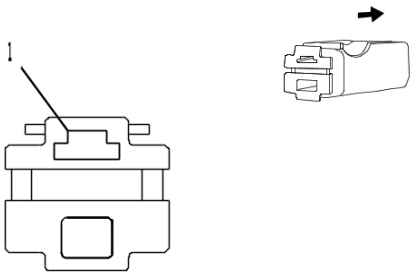
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

E12F Glow Plug 6 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	GY	1586	Glow Plug 6 Control	I	—

E18 Rear Defogger Grid X1



1413086

Connector Part Information

Harness Type: Liftgate
OEM Connector: 13511619
Service Connector: Service by Harness - See Part Catalog
Description: 1-Way F 250 Series (BK)

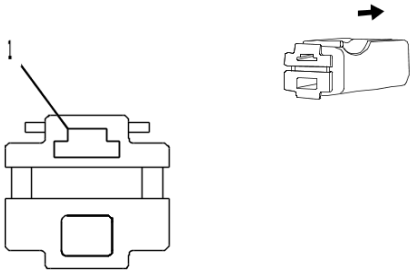
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-42 (RD)	No Tool Required

E18 Rear Defogger Grid X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	BN/VT	293	Rear Defogger Grid Control	I	—

E18 Rear Defogger Grid X2



1413086

Connector Part Information

Harness Type: Liftgate
OEM Connector: 13511619
Service Connector: Service by Harness - See Part Catalog
Description: 1-Way F 250 Series (BK)

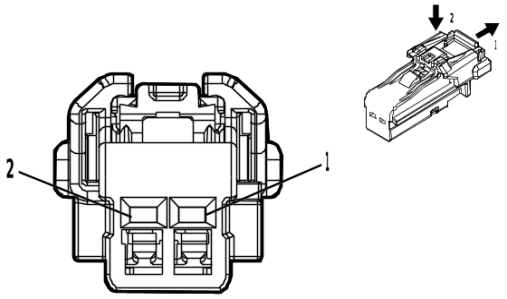
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-42 (RD)	No Tool Required

E18 Rear Defogger Grid X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	BK	2050	Ground 20	I	—

E28 Center Console Compartment Lamp



4115691

Connector Part Information

Harness Type: Floor Console
OEM Connector: 35311666
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BK)

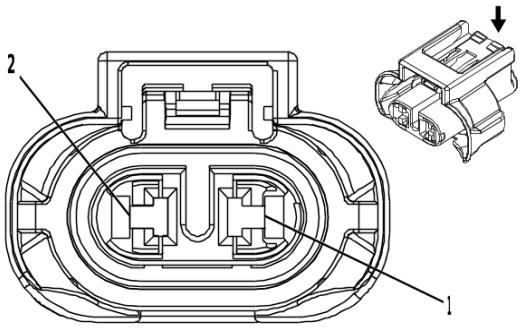
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E28 Center Console Compartment Lamp

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	1250	Ground 12	I	—
	0.5	BK	1250	Ground 12	I	D07/DCH
2	0.75	L-GN/VT	4786	Dome/Reading Lamp Enable Signal	I	—

E29LF Fog Lamp - Left Front (T40)



3404058

Connector Part Information

Harness Type: Front Fascia
OEM Connector: 13930730
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 APEX Series, Sealed (BK)

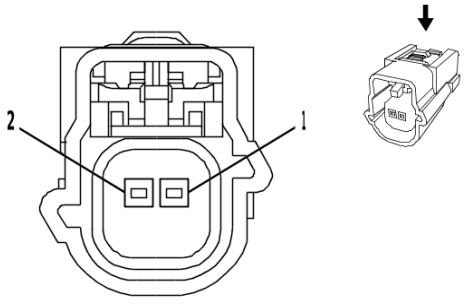
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required

E29LF Fog Lamp - Left Front (T40)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/GY	5061	Left Front Fog Lamp Control	I	—
2	0.5	BK	150	Ground 1	I	—

E29LF Fog Lamp - Left Front (T79)



2179777

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 13610095
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 0.64 Series, Sealed (D-GY)

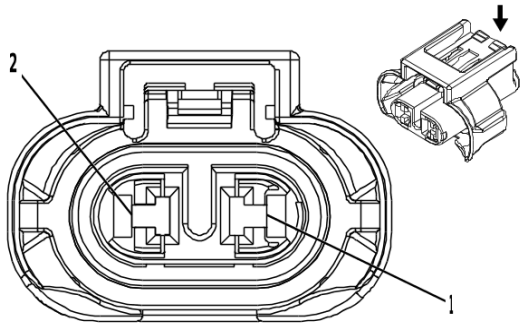
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

E29LF Fog Lamp - Left Front (T79)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/GY	122	Rear Fog Lamp Control	I	—
2	0.5	BK	1450	Ground 14	I	—

E29RF Fog Lamp - Right Front (T40)



3404058

Connector Part Information

Harness Type: Front Fascia
OEM Connector: 13930730
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 APEX Series, Sealed (BK)

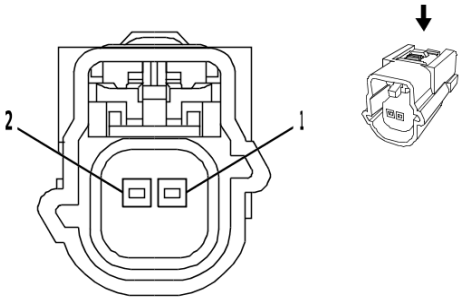
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required

E29RF Fog Lamp - Right Front (T40)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/L-GN	5062	Right Front Fog Lamp Control	I	—
2	0.5	BK	250	Ground 2	I	—

E29RR Fog Lamp - Right Rear (T79)



2179777

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 13610095
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 0.64 Series, Sealed (D-GY)

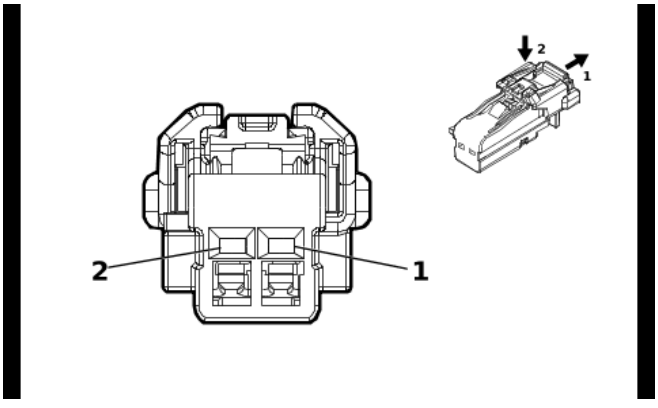
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

E29RR Fog Lamp - Right Rear (T79)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/GY	122	Rear Fog Lamp Control	I	—
2	0.5	BK	1450	Ground 14	I	—

E31L Sunshade Mirror Lamp - Left



5377746

Connector Part Information

Harness Type: Headliner
OEM Connector: 35327306
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BN)

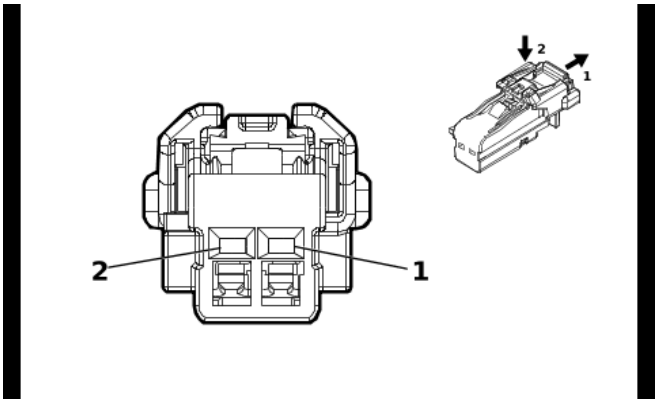
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E31L Sunshade Mirror Lamp - Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/ L-GN	4785	Interior Lamp Overhead Enable Signal	I	—
2	0.5	BK	1850	Ground 18	I	—

E31R Sunshade Mirror Lamp - Right



5377746

Connector Part Information

Harness Type: Headliner
OEM Connector: 35327306
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BN)

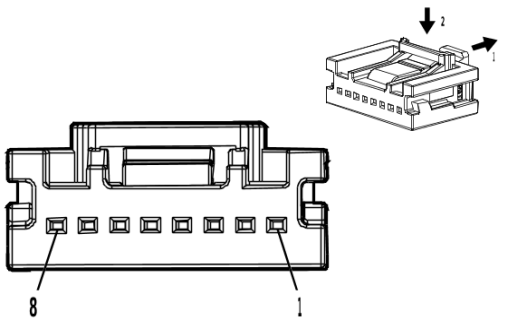
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E31R Sunshade Mirror Lamp - Right

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/WH	2369	Interior Lamp Overhead 2 Enable Signal	I	—
2	0.5	BK	1850	Ground 18	I	—

E33 Cargo Lamp



4584216

Connector Part Information

Harness Type: Rear Cargo Lamp Jumper
OEM Connector: 35018399
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way F Mini 50 Series (GY)

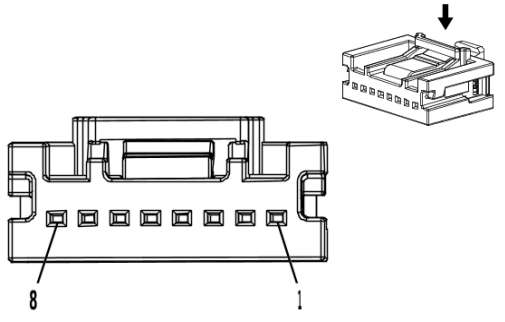
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	EL-35616-58 (BK)	No Tool Required

E33 Cargo Lamp

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/VT	1430	Exterior Courtesy Lamp Control	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	BK	2050	Ground 20	I	—
4 - 8	—	—	—	Not Occupied	—	—

E37B Dome/Reading Lamps - 2nd Row (-C3U)



4017639

Connector Part Information

Harness Type: Headliner
OEM Connector: 33227522

Service Connector: 19354223
Description: 8-Way F Mini 50 Series (BK)

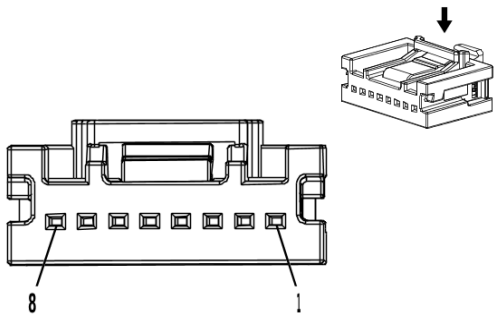
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	EL-35616-58 (BK)	No Tool Required

E37B Dome/Reading Lamps - 2nd Row (-C3U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-GN/YE	2903	Row 2 Dome Reading Lamp Interior Lamp Control	I	—
2	0.35	BN/D-BU	2905	Row 2 Dome Reading Lamp 2 Interior Lamp Control	I	—
3	0.35	BK	1850	Ground 18	I	—
4	0.35	WH/BN	2904	Row 2 Dome Reading Lamp Switch Signal	I	—
5	0.35	VT/GY	2906	Row 2 Dome Reading Lamp 2 Switch Signal	I	—
6 - 8	—	—	—	Not Occupied	—	—

E37C Dome/Reading Lamps - 3rd Row



4017639

Connector Part Information

Harness Type: Headliner
OEM Connector: 33227522
Service Connector: 19354223
Description: 8-Way F Mini 50 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	EL-35616-58 (BK)	No Tool Required

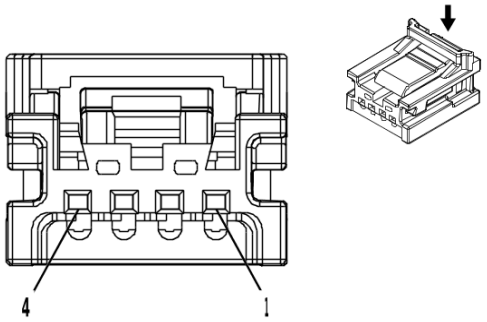
E37C Dome/Reading Lamps - 3rd Row

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU/WH	2907	Row 3 Dome Reading Lamp Interior Lamp Control	I	—

E37C Dome/Reading Lamps - 3rd Row (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
2	0.5	BN/VT	2909	Row 3 Dome Reading Lamp 2 Interior Lamp Control	I	—
3	0.35	BK	1850	Ground 18	I	—
4	0.35	VT/YE	2908	Row 3 Dome Reading Lamp Switch Signal	I	—
5	0.35	YE/GY	2910	Row 3 Dome Reading Lamp 2 Switch Signal	I	—
6 - 8	—	—	—	Not Occupied	—	—

E37SL Dome/Reading Lamps - 2nd Row Left (C3U)



4215060

Connector Part Information

Harness Type: Headliner
OEM Connector: 33228283
Service Connector: 19354840
Description: 4-Way F Mini 50 Series (BK)

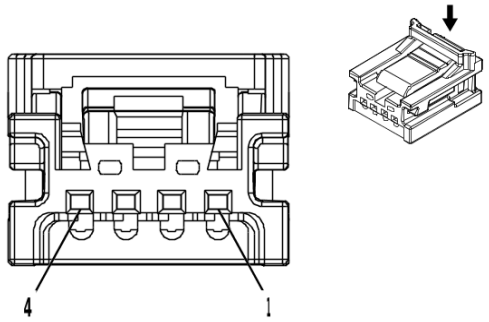
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	EL-35616-58 (BK)	No Tool Required

E37SL Dome/Reading Lamps - 2nd Row Left (C3U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-GN/YE	2903	Row 2 Dome Reading Lamp Interior Lamp Control	I	—
2	—	—	—	Not Occupied	—	—
3	0.35	BK	1850	Ground 18	I	—
4	0.35	WH/BN	2904	Row 2 Dome Reading Lamp Switch Signal	I	—

E37SR Dome/Reading Lamps - 2nd Row Right (C3U)



4215060

Connector Part Information

Harness Type: Headliner
OEM Connector: 33228283
Service Connector: 19354840
Description: 4-Way F Mini 50 Series (BK)

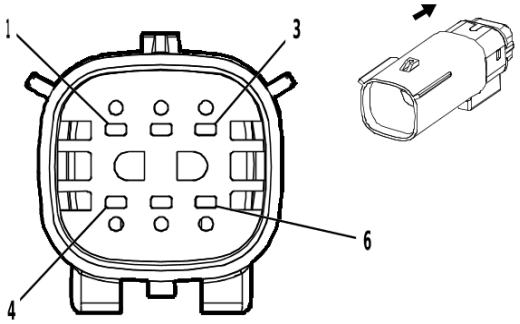
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	EL-35616-58 (BK)	No Tool Required

E37SR Dome/Reading Lamps - 2nd Row Right (C3U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN/D-BU	2905	Row 2 Dome Reading Lamp 2 Interior Lamp Control	I	—
2	—	—	—	Not Occupied	—	—
3	0.35	BK	1850	Ground 18	I	—
4	0.35	VT/GY	2906	Row 2 Dome Reading Lamp 2 Switch Signal	I	—

E42L Tail Lamp Assembly - Left



1986159

Connector Part Information

Harness Type: Chassis
OEM Connector: 35014074

Service Connector: 19367742
Description: 6-Way M 150 MX Series, Sealed (BK)

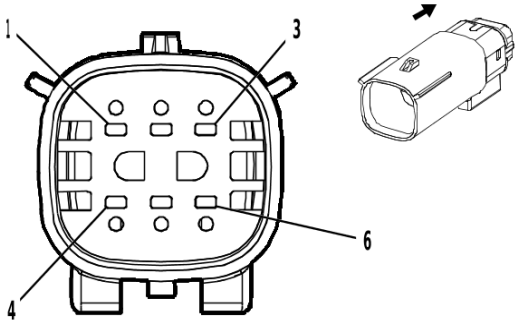
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-3 (GY)	No Tool Required

E42L Tail Lamp Assembly - Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/D-BU	6993	Left Rear Park Lamp Control	I	—
2	0.5	GY/YE	7542	Left Rear Stop Lamp Control	I	Z75
	0.5	D-BU/WH	1334	Left Rear Turn Signal Lamp Control 2	I	Z88
3	0.5	L-GN/WH	24	Backup Lamp Control	I	—
4	0.5	D-BU/WH	1334	Left Rear Turn Signal Lamp Control 2	I	—
5	0.5	WH/VT	6567	Rear Turn Signal Lamp Feedback Signal	I	—
6	1.5	BK	1950	Ground 19	I	—

E42R Tail Lamp Assembly - Right



1986159

Connector Part Information

Harness Type: Chassis
OEM Connector: 35014074
Service Connector: 19367742
Description: 6-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-3 (GY)	No Tool Required

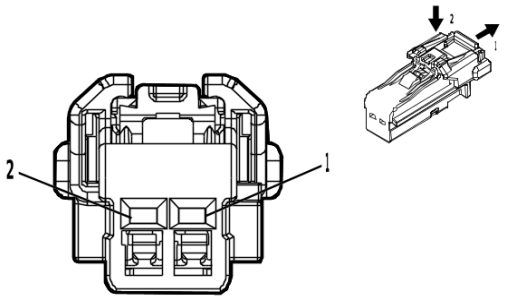
E42R Tail Lamp Assembly - Right

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/GY	6995	Right Rear Park Lamp Control	I	—
2	0.5	WH/YE	7541	Right Rear Stop Lamp Control	I	Z75
	0.5	D-BU/VT	1335	Right Rear Turn Signal Lamp Control 2	I	Z88

E42R Tail Lamp Assembly - Right (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
3	0.5	L-GN/WH	24	Backup Lamp Control	I	X88
4	0.5	D-BU/VT	1335	Right Rear Turn Signal Lamp Control 2	I	—
5	0.5	WH/BK	7544	Right Rear Turn Signal Lamp Feedback Signal	I	—
6	0.5	BK	2050	Ground 20	I	—

E55D Flood Lamp - Driver Door Pocket



4115691

Connector Part Information

Harness Type: Driver Door Trim
OEM Connector: 35311666
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BK)

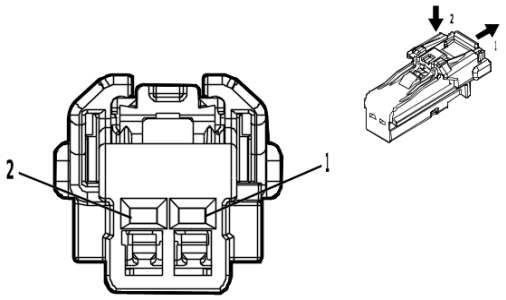
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E55D Flood Lamp - Driver Door Pocket

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/VT	2767	LED Ambient Lighting Control Left Front Door	I	—
2	0.35	BK	1150	Ground 11	I	—

E55LR Flood Lamp - Left Rear Door Pocket



4115691

Connector Part Information

Harness Type: Left Rear Door Trim
OEM Connector: 35311666
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BK)

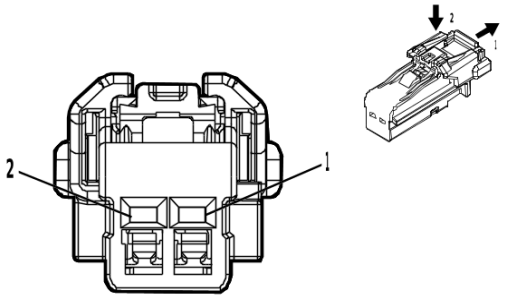
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E55LR Flood Lamp - Left Rear Door Pocket

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/YE	7557	Interior Door Handle Accent Lighting Control	I	—
2	0.35	BK	1150	Ground 11	I	—

E55P Flood Lamp - Passenger Door Pocket



4115691

Connector Part Information

Harness Type: Passenger Door Trim
OEM Connector: 35311666
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BK)

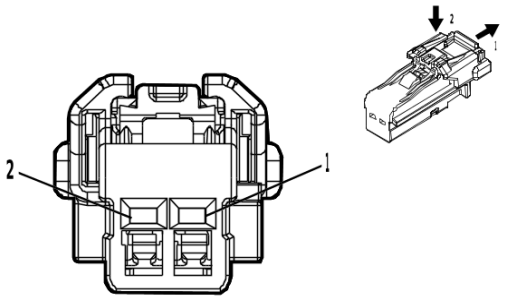
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E55P Flood Lamp - Passenger Door Pocket

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/BN	2768	LED Ambient Lighting Control Right Front Door	I	—
2	0.35	BK	1250	Ground 12	I	—

E55RR Flood Lamp - Right Rear Door Pocket



4115691

Connector Part Information

Harness Type: Right Rear Door Trim
OEM Connector: 35311666
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BK)

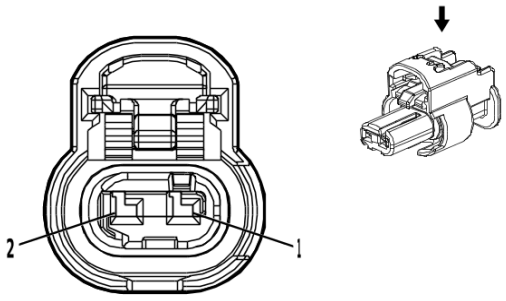
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E55RR Flood Lamp - Right Rear Door Pocket

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/YE	7557	Interior Door Handle Accent Lighting Control	I	—
2	0.35	BK	1250	Ground 12	I	—

E72 Hands-Free Liftgate Sensor Lamp (QT6)



4649903

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 33327048
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

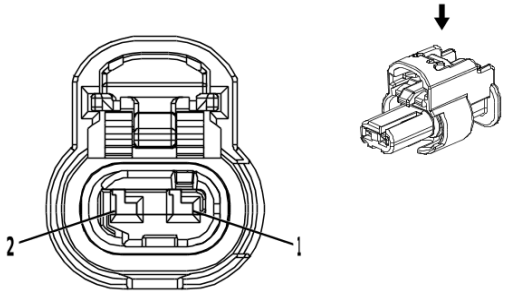
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

E72 Hands-Free Liftgate Sensor Lamp (QT6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY	2066	Hands-Free Liftgate Sensor Lamp Control	I	—
2	0.5	BK	1450	Ground 14	I	—

F105L Roof Rail Air Bag - Left



4036662

Connector Part Information

Harness Type: Body
OEM Connector: 33386204
Service Connector: 19369032
Description: 2-Way F 1.2 MCON-CB Series, Sealed (BK)

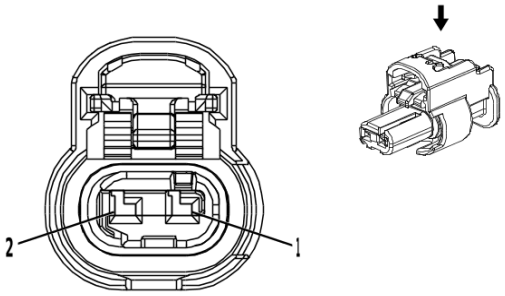
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

F105L Roof Rail Air Bag - Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/L-GN	5019	Left Front Roof Rail Air Bag High Control	I	—
2	0.5	VT/OG	5020	Left Front Roof Rail Air Bag Low Control	I	—

F105R Roof Rail Air Bag - Right



4036662

Connector Part Information

Harness Type: Body
OEM Connector: 33386204
Service Connector: 19369032
Description: 2-Way F 1.2 MCON-CB Series, Sealed (BK)

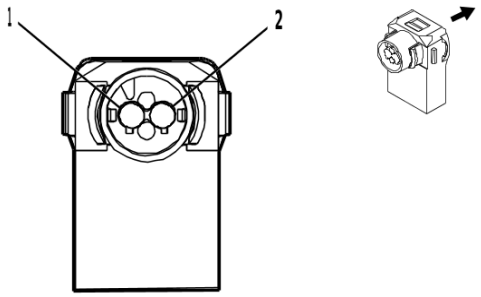
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

F105R Roof Rail Air Bag - Right

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/GY	5021	Right Front Roof Rail Air Bag High Control	I	—
2	0.5	WH/OG	5022	Right Front Roof Rail Air Bag Low Control	I	—

F112D Seat Belt Retractor Pretensioner - Driver



4679778

Connector Part Information

Harness Type: Body
OEM Connector: 33345783
Service Connector: 19355491
Description: 2-Way F ABX-5 Series (GY with YE Cover)

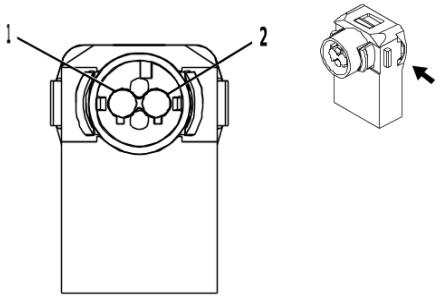
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

F112D Seat Belt Retractor Pretensioner - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/WH	3477	Driver Seat Belt Retractor Pretensioner High Control	I	—
2	0.5	VT/OG	3478	Driver Seat Belt Retractor Pretensioner Low Control	I	—

F112P Seat Belt Retractor Pretensioner - Passenger



4241364

Connector Part Information

Harness Type: Body
OEM Connector: 33345778
Service Connector: 19355490
Description: 2-Way F ABX-5 Series (PU with YE Cover)

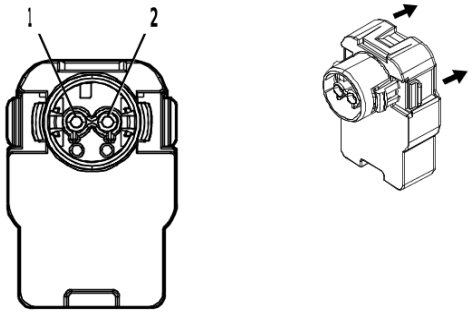
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

F112P Seat Belt Retractor Pretensioner - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/L-GN	3475	Passenger Seat Belt Retractor Pretensioner High Control	I	—
2	0.5	WH/OG	3476	Passenger Seat Belt Retractor Pretensioner Low Control	I	—

F113D Seat Belt Anchor Pretensioner - Driver



4823732

Connector Part Information

Harness Type: Body
OEM Connector: 1-1801930-1
Service Connector: 13598467
Description: 2-Way F 1.0 Series (PK with YE Cover)

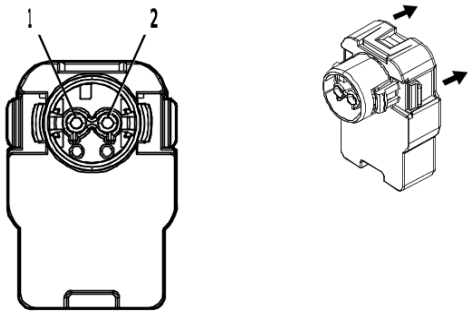
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

F113D Seat Belt Anchor Pretensioner - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/YE	3481	Driver Seat Belt Anchor Pretensioner High Control	I	—
2	0.5	VT/OG	3482	Driver Seat Belt Anchor Pretensioner Low Control	I	—

F113P Seat Belt Anchor Pretensioner - Passenger



4823732

Connector Part Information

Harness Type: Body
OEM Connector: 1-1801930-1
Service Connector: 13598467
Description: 2-Way F 1.0 Series (PK with YE Cover)

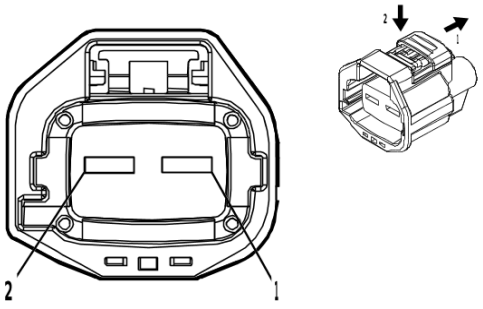
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

F113P Seat Belt Anchor Pretensioner - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/BN	3479	Passenger Seat Belt Anchor Pretensioner High Control	I	—
2	0.5	GY/OG	3480	Passenger Seat Belt Anchor Pretensioner Low Control	I	—

G3 Air Suspension Compressor (F47)



4584202

Connector Part Information

Harness Type: Chassis
OEM Connector: 13888959
Service Connector: 19355452
Description: 2-Way F 6.3 Series, Sealed (D-GY)

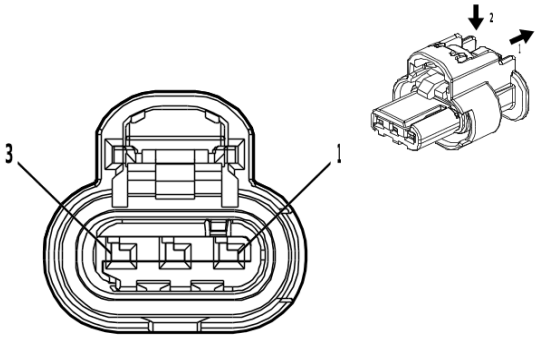
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-42 (RD)	No Tool Required

G3 Air Suspension Compressor (F47)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	L-GN/BN	2357	Vehicle Level Control Compressor Motor Control	I	—
2	2.5	GY/BN	2693	Leveling Compressor Motor Low Reference	I	—

G8 Coolant Pump - Auxiliary (L84/L87)



4581126

Connector Part Information

Harness Type: Engine
OEM Connector: 33358800
Service Connector: 19366844
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

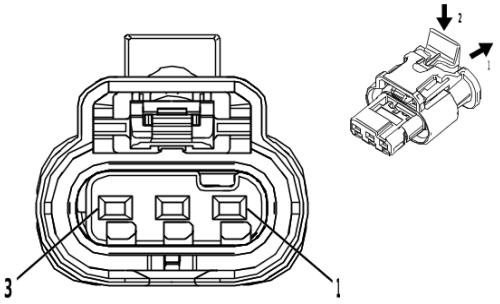
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

G8 Coolant Pump - Auxiliary (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	450	Ground 4	I	—
2	0.5	RD/BN	5940	Secondary Fused Battery Positive Voltage 59	I	—
3	0.5	L-GN/VT	4621	Engine Control Module LIN Bus 1	I	—

G8 Coolant Pump - Auxiliary (LM2)



4249125

Connector Part Information

Harness Type: Engine
OEM Connector: 33176362
Service Connector: 19366844
Description: 3-Way F 1.2 MCP Series, Sealed (BN)

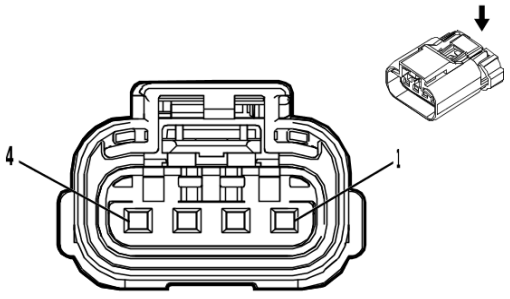
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

G8 Coolant Pump - Auxiliary (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK	6550	Propulsion Propulsion System	I	—
2	1.5	RD/BN	5940	Secondary Fused Battery Positive Voltage 59	I	—
3	0.5	L-GN/VT	4621	Engine Control Module LIN Bus 1	I	—

G10L Cooling Fan Motor - Left (L84/L87)



4732789

Connector Part Information

Harness Type: Engine
OEM Connector: 33234243
Service Connector: 84625007
Description: 4-Way F 2.8 APEX Series, Sealed (BK)

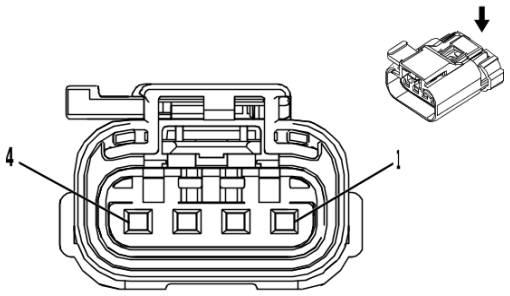
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required

G10L Cooling Fan Motor - Left (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	5	BK	450	Ground 4	II	—
2	5	RD/D-BU	1842	Primary Fused Battery Positive Voltage 18	II	—
3	—	—	—	Not Occupied	—	—
4	0.75	L-GN/VT	4621	Engine Control Module LIN Bus 1	I	—

G10L Cooling Fan Motor - Left (LM2)



4446642

Connector Part Information

Harness Type: Engine
OEM Connector: 33234267
Service Connector: 19371208
Description: 4-Way F 2.8 APEX Series, Sealed (BK)

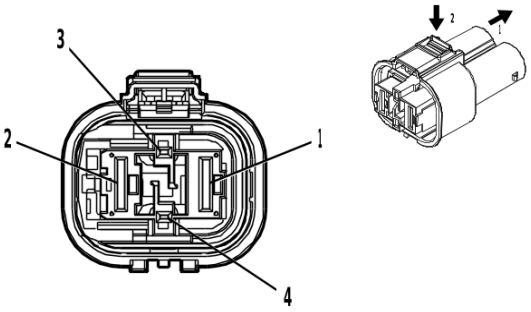
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required

G10L Cooling Fan Motor - Left (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	5	BK	450	Ground 4	II	—
2	5	RD/D-BU	1842	Primary Fused Battery Positive Voltage 18	II	—
3	—	—	—	Not Occupied	—	—
4	0.75	L-GN/VT	4621	Engine Control Module LIN Bus 1	I	—

G10LW Cooling Fan Motor - Lower (LM2)



4847569

Connector Part Information

Harness Type: Engine
OEM Connector: 33376654
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.2, 9.5 MCON Series (BK)

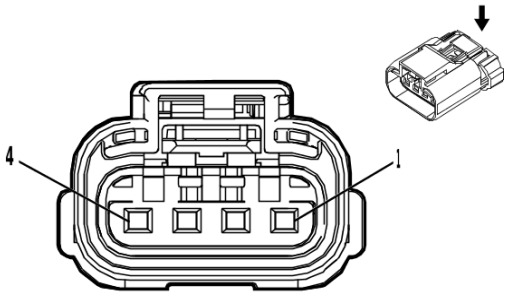
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-22 (RD)	No Tool Required

G10LW Cooling Fan Motor - Lower (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	5	RD/D-BU	1542	Primary Fused Battery Positive Voltage 15	II	—
2	5	BK	450	Ground 4	II	—
3	0.5	L-GN/YE	4623	Engine Control Module LIN Bus 3	I	—
4	—	—	—	Not Occupied	—	—

G10R Cooling Fan Motor - Right (L84/L87)



4732789

Connector Part Information

Harness Type: Engine
OEM Connector: 33234243

Service Connector: 84625007
Description: 4-Way F 2.8 APEX Series, Sealed (BK)

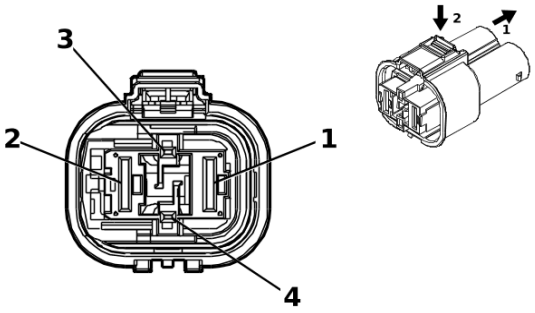
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required

G10R Cooling Fan Motor - Right (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	5	BK	450	Ground 4	II	—
2	5	RD/BN	1742	Primary Fused Battery Positive Voltage 17	II	—
3	—	—	—	Not Occupied	—	—
4	0.75	L-GN/VT	4621	Engine Control Module LIN Bus 1	I	—

G10R Cooling Fan Motor - Right (LM2)



5187743

Connector Part Information

Harness Type: Engine
OEM Connector: 35194180
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.2, 9.5 MCON Series (GY)

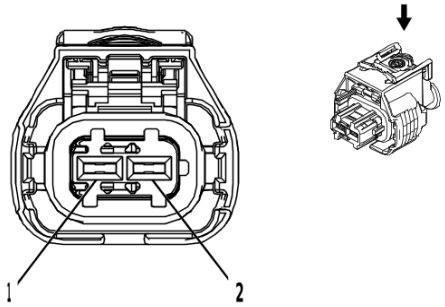
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-22 (RD)	No Tool Required

G10R Cooling Fan Motor - Right (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	10	RD/YE	1442	Primary Fused Battery Positive Voltage 14	II	—
2	8	BK	450	Ground 4	II	—
3	0.5	L-GN/VT	4621	Engine Control Module LIN Bus 1	I	—
4	—	—	—	Not Occupied	—	—

G13 Generator



2577394

Connector Part Information

Harness Type: Engine
OEM Connector: 13930085
Service Connector: 13384371
Description: 2-Way F 2.8 Series, Sealed (BK)

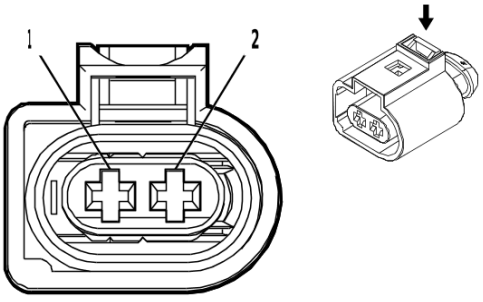
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

G13 Generator

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN	25	Charge Indicator Control	I	—
2	0.5	GY	23	Generator Field Duty Cycle Signal	I	—

G24 Windshield Washer Pump



2474738

Connector Part Information

Harness Type: Body
OEM Connector: 10863916

Service Connector: 19368727
Description: 2-Way F 2.8 MDK5 Series, Sealed (BK)

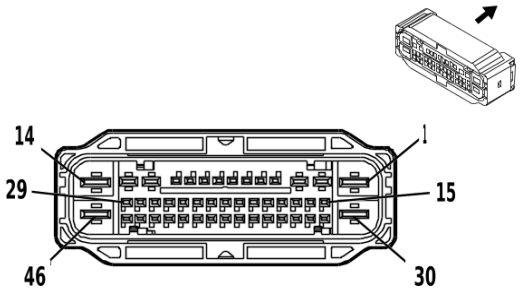
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required

G24 Windshield Washer Pump

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	D-BU/VT	392	Rear Window Washer Pump Control	I	—
2	0.75	GY/VT	228	Windshield Washer Pump Control	I	—

K3 Air Suspension Control Module (F47)



4162046

Connector Part Information

Harness Type: Chassis
OEM Connector: 33222138
Service Connector: 19333026
Description: 46-Way F 1.2 OCS, 2.8, 4.8 CTS Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19119560	J-35616-40 (BU)	J-38125-556
II	19332900	J-35616-42 (RD)	J-38125-215A
III	19333088	J-35616-35 (VT)	J-38125-215A
IV	19371240	J-35616-16 (LT GN)	J-38125-215A

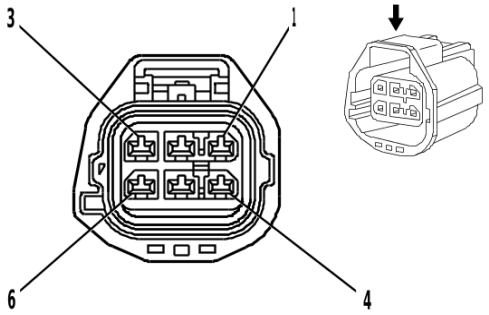
K3 Air Suspension Control Module (F47)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	3	RD/D-BU	7640	Secondary Fused Battery Positive Voltage 76	II	—
2	0.75	RD/BN	2940	Secondary Fused Battery Positive Voltage 29	III	—
3 - 6	—	—	—	Not Occupied	—	—
7	0.5	WH/L-GN	320	Vehicle Level Control Exhaust Solenoid Valve Control	IV	—

K3 Air Suspension Control Module (F47) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
8	—	—	—	Not Occupied	—	—
9	0.5	WH/D-BU	3261	Vehicle Level Control Exhaust Solenoid Valve Control	IV	—
10	0.5	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	IV	—
11	0.5	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	IV	—
12	—	—	—	Not Occupied	—	—
13	0.75	BK	2150	Ground 21	III	—
14	3	BK	2150	Ground 21	II	—
15 - 17	—	—	—	Not Occupied	—	—
18	0.5	BK/D-BU	1206	Left Front Suspension Position Sensor Low Reference	IV	—
19	0.5	BN/WH	1207	Left Front Suspension Position Sensor Signal	IV	—
20	0.5	D-BU/RD	1205	Left Front Suspension Position Sensor Voltage Reference	IV	—
21	0.5	YE/RD	1208	Left Rear Suspension Position Sensor Voltage Reference	IV	—
22	0.5	L-GN/WH	1210	Left Rear Suspension Position Sensor Signal	IV	—
23	0.5	BK/L-GN	1209	Left Rear Suspension Position Sensor Low Reference	IV	—
24	0.5	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	IV	—
25	0.5	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	IV	—
26 - 29	—	—	—	Not Occupied	—	—
30	2.5	L-GN/BN	2357	Vehicle Level Control Compressor Motor Control	II	—
	2.5	L-GN/BN	2357	Vehicle Level Control Compressor Motor Control	I	—
31 - 33	—	—	—	Not Occupied	—	—
34	0.5	BK/GY	1212	Right Front Suspension Position Sensor Low Reference	IV	—
35	0.5	YE/WH	1213	Right Front Suspension Position Sensor Signal	IV	—
36	0.5	BN/RD	1211	Right Front Suspension Position Sensor Voltage Reference	IV	—
37	0.5	L-GN/RD	1214	Right Rear Suspension Position Sensor Voltage Reference	IV	—
38	0.5	L-GN/GY	1216	Right Rear Suspension Position Sensor Signal	IV	—
39	0.5	BK/YE	1215	Right Rear Suspension Position Sensor Low Reference	IV	—
40 - 45	—	—	—	Not Occupied	—	—
46	2.5	GY/BN	2693	Leveling Compressor Motor Low Reference	II	—
	2.5	GY/BN	2693	Leveling Compressor Motor Low Reference	I	—

K4 Assist Step Control Module X1 (B3L)



1420587

Connector Part Information

Harness Type: Chassis
OEM Connector: 33334914
Service Connector: 19368855
Description: 6-Way F 2.8 Series, Sealed (GY)

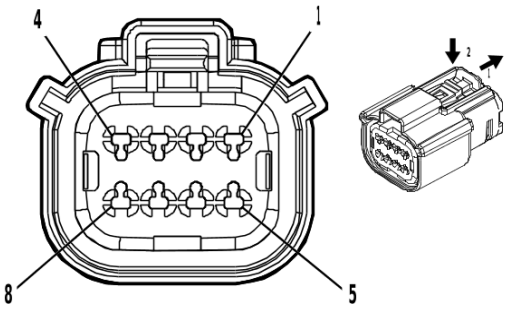
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

K4 Assist Step Control Module X1 (B3L)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	RD/YE	1142	Primary Fused Battery Positive Voltage 11	I	—
2	2	GY	7472	Left Running Board Step Motor Control Retract	I	—
3	2	D-BU	7470	Right Running Board Step Motor Control Extend	I	—
4	2.5	BK	1650	Ground 16	I	—
5	2	WH/BN	7471	Left Running Board Step Motor Control Extend	I	—
6	2	L-GN	7469	Right Left Running Board Step Motor Control Retract	I	—

K4 Assist Step Control Module X2 (B3L)



4846407

Connector Part Information

Harness Type: Chassis
OEM Connector: 35037827
Service Connector: 19366859
Description: 8-Way F 150 MX Series, Sealed (BK)

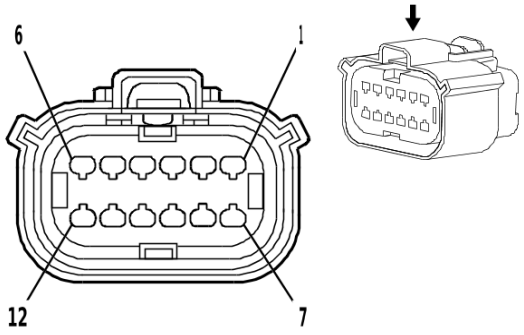
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required

K4 Assist Step Control Module X2 (B3L)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	I	—
3	0.5	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	I	—
4 - 5	—	—	—	Not Occupied	—	—
6	0.5	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	I	—
7	0.5	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	I	—
8	—	—	—	Not Occupied	—	—

K4 Assist Step Control Module X3 (B3L)



1825165

Connector Part Information

Harness Type: Chassis
OEM Connector: 13653762
Service Connector: 19352907
Description: 12-Way F 1.5 Series, Sealed (BK)

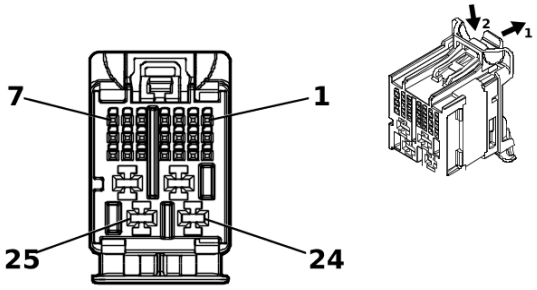
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300432	J-35616-2A (GY)	J-38125-217

K4 Assist Step Control Module X3 (B3L)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/RD	7464	Right Running Board Step Motor Hall Sensor 5V Reference	I	—
2	0.5	VT	7465	Right Running Board Step Motor Hall Sensor Signal	I	—
3	0.5	YE/BK	7463	Right Running Board Step Motor Hall Sensor Low Reference	I	—
4	0.5	BN	4748	Left Running Board Step Courtesy Lamp Control	I	—
5	0.5	GY/VT	4749	Right Running Board Step Courtesy Lamp Control	I	—
6	—	—	—	Not Occupied	—	—
7	0.5	VT/RD	7468	Left Running Board Step Motor Hall Sensor 5V Reference	I	—
8	0.5	YE	7467	Left Running Board Step Motor Hall Sensor Signal	I	—
9	0.5	YE/BN	7466	Left Running Board Step Motor Hall Sensor Low Reference	I	—
10 - 12	—	—	—	Not Occupied	—	—

K9 Body Control Module X1



5203995

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33381963
Service Connector: 13509976
Description: 25-Way F 0.5 MQS, 2.8 MCP Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19332366	J-35616-35 (VT)	J-38125-212
II	19370262	EL-35616-58 (BK)	EL-38125-58

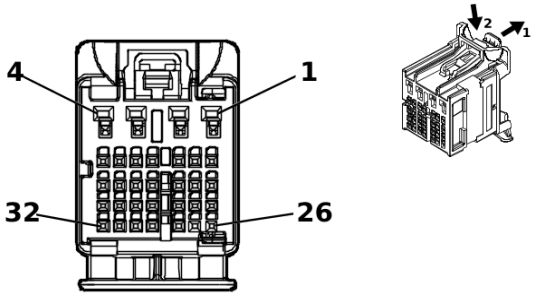
K9 Body Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/BK	4782	Instrument Panel Accent Lighting Control	II	—
2	—	—	—	Not Occupied	—	—

K9 Body Control Module X1 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
3	0.35	GY/YE	7543	Hazard Warning Indicator LED Dimming Signal	II	—
4	—	—	—	Not Occupied	—	—
5	0.35	D-BU/GY	754	Blower Motor Speed Control	II	—
6	0.35	WH/YE	4634	HVAC Remote Enable Signal	II	—
7 - 10	—	—	—	Not Occupied	—	—
11	0.35	GY/L-GN	4636	HVAC System Enable Signal	II	—
12	0.35	GY	728	Security Indicator Control	II	—
13	0.35	YE	6812	Out of Park Signal	II	—
14	—	—	—	Not Occupied	—	—
15	0.35	GY	590	Driver Solar Sensor Signal	II	—
16	0.35	GY	6137	A/C Evaporator Temperature Sensor Signal	II	—
17	0.35	WH/D-BU	278	Ambient Light Sensor Signal	II	—
18	0.35	D-BU/WH	734	Inside Air Temperature Sensor Signal	II	—
19	—	—	—	Not Occupied	—	—
20	0.35	L-GN/VT	2852	Body Control Module LIN Bus 6	II	—
21 - 22	—	—	—	Not Occupied	—	—
23	1	RD/GY	2840	Secondary Fused Battery Positive Voltage 28	I	—
24	—	—	—	Not Occupied	—	—
25	0.75	RD/GY	2140	Secondary Fused Battery Positive Voltage 21	I	—

K9 Body Control Module X2



5204222

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33381962
Service Connector: 13509981
Description: 32-Way F 0.5 MQS, 1.2 OCS Series (PK with GY Inner Connector)

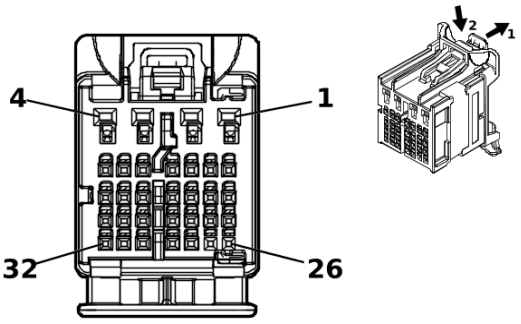
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19370262	EL-35616-58 (BK)	EL-38125-58
II	19371240	J-35616-16 (LT GN)	J-38125-215A

K9 Body Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY	157	Dome/Reading Lamp Control	II	—
2 - 4	—	—	—	Not Occupied	—	—
5	0.35	D-BU/ L-GN	5723	Ignition Mode Switch Mode Voltage	I	—
6 - 8	—	—	—	Not Occupied	—	—
9	0.35	L-GN/ D-BU	3738	Tap Up/Tap Down Switch Signal 2	I	—
10	0.35	WH/BN	2203	Enhanced Driver Mode 2 Switch Signal	I	—
11	—	—	—	Not Occupied	—	—
12	0.35	YE/D-BU	1714	Windshield Wiper Switch Low Signal	I	—
13	0.35	GY/L-GN	5737	Distance Sensing Cruise Control Gap Up/Down Switch Signal	I	—
14	0.35	BN/L-GN	1884	Cruise Control Set/Coast/Resume/Accelerate Switch Signal	I	—
15	—	—	—	Not Occupied	—	—
16	0.35	BN/BK	5720	Ignition Mode Switch Accessory LED Signal	I	—
17	0.35	YE	7755	AC Power Outlet Status Indicator Control	I	—
18	—	—	—	Not Occupied	—	—
19	0.35	WH/VT	103	Headlamp Switch On Signal	I	—
20	0.35	L-GN/GY	13	Headlamp Switch Park Lamp Signal	I	—
21	0.35	L-GN/BN	306	Headlamp Switch Off Signal	I	—
22	0.35	GY/D-BU	3602	Curb View Enable Signal	I	—
23	0.35	VT/D-BU	2916	Right Turn Signal Switch Signal	I	—
24	—	—	—	Not Occupied	—	—
25	0.35	BK/GY	6009	Windshield Wiper Switch Low Reference	I	—
26	0.35	WH/BK	94	Windshield Washer Switch Signal	I	—
27	0.35	YE/BN	307	Headlamp Switch Flash Signal	I	—
28	0.35	L-GN/WH	3287	Horn Switch Signal	I	—
29	0.35	WH/L-GN	2915	Left Turn Signal Switch Signal	I	—
30	0.35	BK/YE	407	Sensor Low Reference	I	—
31	0.35	L-GN/WH	111	Hazard Warning Switch Signal	I	—
32	0.35	WH	524	High Beam Select Switch High Beam Signal	I	—

K9 Body Control Module X3



5203925

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33381956
Service Connector: 13509979
Description: 32-Way F 0.5 MQS, 1.2 OCS Series (BU with GY Inner Connector)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19367551	J-35616-16 (LT GN)	J-38125-215A
II	19370262	EL-35616-58 (BK)	EL-38125-58

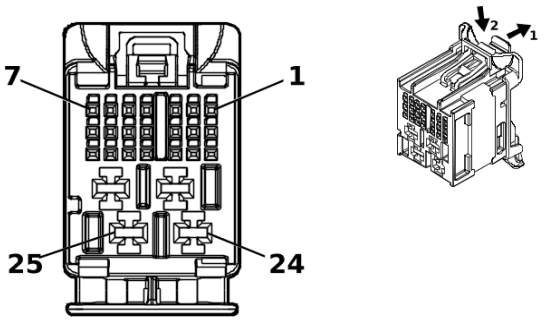
K9 Body Control Module X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	BN/D-BU	4892	Auxiliary Battery Relay Control	I	—
3 - 4	—	—	—	Not Occupied	—	—
5	0.35	L-GN/BN	2853	Body Control Module LIN Bus 7	II	—
6	0.35	BN/D-BU	391	Rear Window Wiper Switch Signal	II	—
7	0.35	WH/BN	7555	Headlamp Switch Signal	II	—
8 - 9	—	—	—	Not Occupied	—	—
10	0.35	L-GN/BK	2858	Body Control Module LIN Bus 12	II	—
11 - 12	—	—	—	Not Occupied	—	—
13	0.35	WH	3152	Lane Departure Warning Indicator Control	II	—
14	0.35	L-GN/BN	5852	Rear Parking Assist Disable LED Signal	II	—
15	0.35	L-GN	1110	Stop/Start Indicator Control	II	—
16	0.35	L-GN/ D-BU	761	Blower Speed Feedback Signal	II	—
17	—	—	—	Not Occupied	—	—
18	0.35	YE	7556	Headlamp Switch Reference	II	—
19	0.35	D-BU/BK	5719	Ignition Mode Switch Start LED Signal	II	—
20	0.35	WH/VT	6821	Surveillance Switch Signal	II	—
21	—	—	—	Not Occupied	—	—
22	0.35	BN/GY	8021	Police Microphone Enable Signal	II	—
23	0.35	D-BU	1111	Stop/Start Switch Signal	II	—
24	0.35	WH/D-BU	3691	Trailer Brake Apply Signal	II	—

K9 Body Control Module X3 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
25 - 26	—	—	—	Not Occupied	—	—
27	0.35	GY/WH	3153	Lane Departure Warning Disable Switch Signal	II	—
28	—	—	—	Not Occupied	—	—
29	0.35	GY/VT	8022	Police Roof Lamp Control	II	—
30	0.35	D-BU/YE	6844	ABS/Traction Control Hill Descent Control Switch Signal	II	—
31	0.35	GY/L-GN	2555	Rear Parking Assist Disable Signal	II	—
32	—	—	—	Not Occupied	—	—

K9 Body Control Module X4



5203893

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33381959
Service Connector: 13509978
Description: 25-Way F 0.5 MQS, 2.8 MCP Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19119592	J-35616-4A (PU)	J-38125-557
II	19332366	J-35616-35 (VT)	J-38125-212
III	19370262	EL-35616-58 (BK)	EL-38125-58

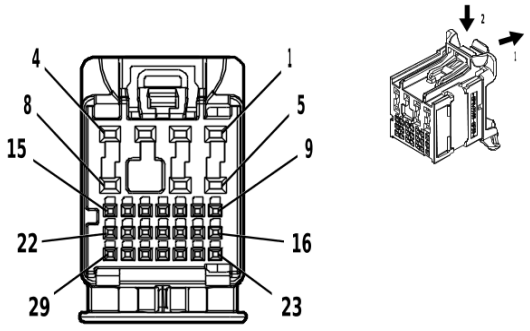
K9 Body Control Module X4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN/BK	3552	Interior Keyless Entry Antenna 1 High Signal	III	—
2	0.35	WH	3553	Interior Keyless Entry Antenna 1 Low Signal	III	—
3	0.35	BK/VT	1449	Steering Wheel Resistor Ladder Low Reference	III	—
4	—	—	—	Not Occupied	—	—
5	0.35	L-GN/VT	5199	Run/Crank Relay Coil Control	III	—
6	—	—	—	Not Occupied	—	—
7	0.35	BN/BK	4996	Immobilizer Antenna Signal [+]	III	—

K9 Body Control Module X4 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
8 - 9	—	—	—	Not Occupied	—	—
10	0.35	GY/L-GN	4083	Retained Accessory Power Relay 2 Coil Control	III	—
11 - 13	—	—	—	Not Occupied	—	—
14	0.35	WH/GY	4997	Immobilizer Antenna Low Signal	III	—
15	0.35	D-BU/VT	1788	Traction Control Switch Signal 1	III	—
16	0.35	L-GN/WH	4115	Body Control Module LIN Bus 5	III	—
17 - 18	—	—	—	Not Occupied	—	—
19	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	III	—
20	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	III	—
21	—	—	—	Not Occupied	—	—
22	0.5	RD/WH	2740	Secondary Fused Battery Positive Voltage 27	I	—
23	0.75	RD/D-BU	2540	Secondary Fused Battery Positive Voltage 25	II	—
24	2.5	BK/WH	1851	Ground 18	I	—
25	2.5	BK	1850	Ground 18	I	—

K9 Body Control Module X5



4584346

Connector Part Information

Harness Type: Body
OEM Connector: 33303653
Service Connector: 13506123
Description: 29-Way F 0.5 NANO, 1.2 MCON Series (GN)

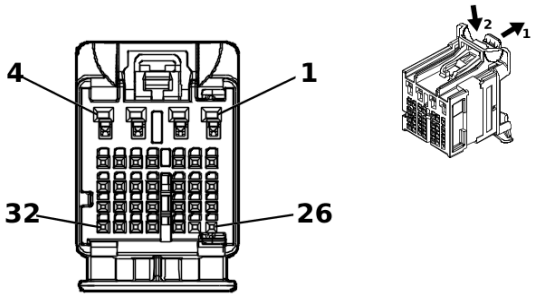
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19367551	J-35616-16 (LT GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
II	19370262	EL-35616-58 (BK)	EL-38125-58	Not Available	Not Available	Not Available	Not Available
III	19370818	J-35616-16 (LT GN)	J-38125-559	Not Available	Not Available	Not Available	Not Available
IV	19371240	J-35616-16 (LT GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available

K9 Body Control Module X5

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GN/VT	4786	Dome/Reading Lamp Enable Signal	III	—
2	0.5	BU/BN	7573	A/C Compressor Solenoid Valve Control	I	—
3	0.5	BU/YE	7574	A/C Compressor Solenoid Valve Control	I	—
4	0.75	WH	2679	Lock Actuators Unlock Control 1	I	—
5	0.5	GY	157	Dome/Reading Lamp Control	IV	—
6	0.5	YE	6817	LED Backlight Dimming Control 1	I	—
7	—	—	—	Not Occupied	—	—
8	0.75	GY	2681	Left Front Door Lock Actuator Lock Control	I	—
9 - 10	—	—	—	Not Occupied	—	—
11	0.35	BN/WH	28	Horn Relay Control	II	—
12	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	II	—
13	0.35	BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	II	—
14	—	—	—	Not Occupied	—	—
15	0.35	WH/YE	7557	Interior Door Handle Accent Lighting Control	II	—
16	0.35	VT	4301	Passive Entry Left Front Antenna Signal High	II	—
17	0.35	GN/YE	2855	Body Control Module LIN Bus 9	II	—
18	0.35	VT/GY	126	Left Front Door Open Switch Signal	II	—
19	0.35	GN/YE	6134	Body Control Module LIN Bus 3	II	—
20	—	—	—	Not Occupied	—	—
21	0.35	WH/BU	6311	Cruise/ETC/TCC Brake Signal	II	—
22	0.35	BN/VT	193	Rear Defogger Relay Control	II	—
23	0.35	VT/GY	4302	Passive Entry Left Front Antenna Signal Low	II	—
24	0.35	WH	5359	Brake Apply Sensor Voltage Reference	II	—
25	0.35	BU/YE	5361	Brake Apply Sensor Signal	II	—
26	0.35	BK/BN	5360	Brake Apply Sensor Low Reference	II	—
27 - 29	—	—	—	Not Occupied	—	—

K9 Body Control Module X6



5202291

Connector Part Information

Harness Type: Body
OEM Connector: 33381954

Service Connector: 13509982
Description: 32-Way F 0.5 MQS, 1.2 OCS Series (BN with GY Inner Connector)

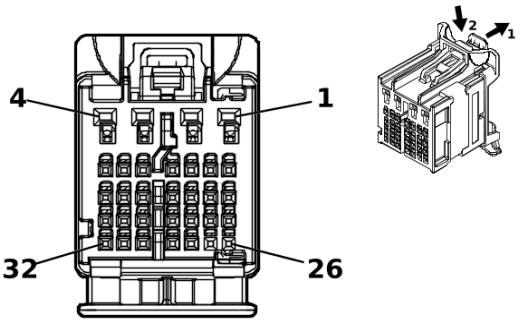
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19367551	J-35616-16 (LT GN)	J-38125-215A
II	19370262	EL-35616-58 (BK)	EL-38125-58
III	19370818	J-35616-16 (LT GN)	J-38125-559

K9 Body Control Module X6

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.75	VT/WH	1094	Right Rear Door Lock Actuator Lock Control	I	—
	0.75	VT/WH	1094	Right Rear Door Lock Actuator Lock Control	III	—
3	0.75	GY/BK	2680	Lock Actuators Unlock Control 2	I	—
	0.75	GY/BK	2680	Lock Actuators Unlock Control 2	III	—
4	—	—	—	Not Occupied	—	—
5	0.35	YE/D-BU	5797	Rear Closure Handle Switch Open Signal	II	—
6	—	—	—	Not Occupied	—	—
7	0.35	BN/L-GN	3568	Rear Closure Keyless Entry Antenna High Signal	II	—
8	0.35	L-GN/GY	3569	Rear Closure Keyless Entry Antenna Low Signal	II	—
9 - 10	—	—	—	Not Occupied	—	—
11	0.35	L-GN/ D-BU	6133	Body Control Module LIN Bus 2	II	—
12	—	—	—	Not Occupied	—	—
13	0.35	L-GN/BN	6132	Body Control Module LIN Bus 1	II	—
14	0.35	L-GN/VT	4786	Dome/Reading Lamp Enable Signal	II	—
15 - 16	—	—	—	Not Occupied	—	—
17	0.35	D-BU/BN	8917	Left Front Door Ajar Switch Signal 2	II	—
18 - 21	—	—	—	Not Occupied	—	—
22	0.35	BN/L-GN	4064	Hood Status B Signal	II	—
23 - 27	—	—	—	Not Occupied	—	—
28	0.35	D-BU	2675	Left Front Exterior Door Handle Switch Unlock Signal	II	—
29 - 30	—	—	—	Not Occupied	—	—
31	0.35	GY/D-BU	4995	Right Rear Door Exterior Switch Unlock Signal	II	—
32	—	—	—	Not Occupied	—	—

K9 Body Control Module X7



5202294

Connector Part Information

Harness Type: Body
OEM Connector: 33381958
Service Connector: 84766290
Description: 32-Way F 0.5 MQS, 1.2 OCS Series (PU with GY Inner Connector)

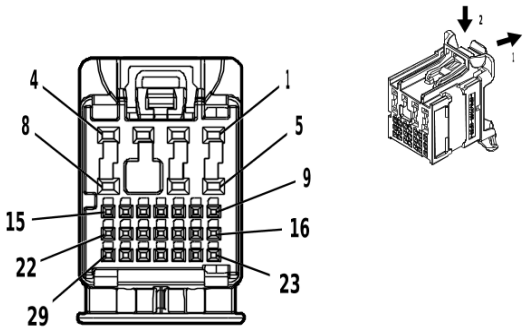
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19367551	J-35616-16 (LT GN)	J-38125-215A
II	19370262	EL-35616-58 (BK)	EL-38125-58
III	19371240	J-35616-16 (LT GN)	J-38125-215A

K9 Body Control Module X7

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	D-BU	2689	Fuel Door Actuator Lock Control	III	—
	0.5	D-BU	2689	Fuel Door Actuator Lock Control	I	—
	0.35	D-BU/BK	2690	Fuel Door Actuator Unlock Control	III	N08+Z75
3 - 15	—	—	—	Not Occupied	—	—
16	0.35	YE	5810	Park Enable Signal	II	—
17	0.35	GY/YE	6188	Liftgate Window/Rear Compartment Lid Motor Unlatch Control	II	—
18	0.35	WH/VT	1430	Exterior Courtesy Lamp Control	II	—
19	0.35	L-GN/VT	2857	Body Control Module LIN Bus 11	II	—
20 - 26	—	—	—	Not Occupied	—	—
27	0.35	VT/D-BU	7598	Glass Breakage Sensor 2 Signal	II	—
28 - 29	—	—	—	Not Occupied	—	—
30	0.35	GY/WH	4630	AC Power Outlet Switch Signal	II	—
31 - 32	—	—	—	Not Occupied	—	—

K9 Body Control Module X8



4578560

Connector Part Information

Harness Type: Body
OEM Connector: 33303967
Service Connector: 84655160
Description: 29-Way F 0.5 NANO, 1.2 MCON Series Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19333323	J-35616-16 (LT GN)	J-38125-215A
II	19367551	J-35616-16 (LT GN)	J-38125-215A
III	19370262	EL-35616-58 (BK)	EL-38125-58
IV	19370818	J-35616-16 (LT GN)	J-38125-559
V	19371240	J-35616-16 (LT GN)	J-38125-215A

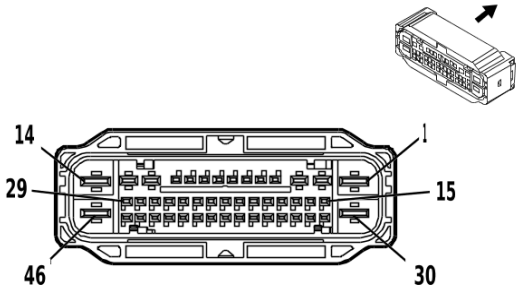
K9 Body Control Module X8

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/WH	6128	Rear Closure Unlatch Actuator Unlatch Control	II	—
	0.5	D-BU/WH	6128	Rear Closure Unlatch Actuator Unlatch Control	V	—
2	—	—	—	Not Occupied	—	—
3	0.75	D-BU/YE	1091	Left Rear Door Lock Actuator Lock Control	II	—
	0.75	D-BU/YE	1091	Left Rear Door Lock Actuator Lock Control	IV	—
4	0.75	YE/L-GN	2682	Right Front Door Lock Actuator Lock Control	IV	—
	0.75	YE/L-GN	2682	Right Front Door Lock Actuator Lock Control	II	—
5	0.35	GY	2066	Hands-Free Liftgate Sensor Lamp Control	I	—
	0.35	GY	2066	Hands-Free Liftgate Sensor Lamp Control	V	—
6 - 8	—	—	—	Not Occupied	—	—
9	0.35	L-GN/BK	4304	Passive Entry Right Front Door Antenna Signal Low	III	—
10	0.35	L-GN/YE	4303	Passive Entry Right Front Door Antenna Signal High	III	—
11	0.35	D-BU	3554	Interior Keyless Entry Antenna 2 High Signal	III	—
12	0.35	GY/BK	3555	Interior Keyless Entry Antenna 2 Low Signal	III	—
13 - 15	—	—	—	Not Occupied	—	—
16	0.35	WH/VT	4994	Left Rear Door Exterior Switch Unlock Signal	III	—
17	0.35	L-GN/YE	2862	Body Control Module LIN Bus 16	III	—
18	0.35	L-GN/WH	2854	Body Control Module LIN Bus 8	III	—

K9 Body Control Module X8 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
19	—	—	—	Not Occupied	—	—
20	0.35	L-GN/ D-BU	2856	Body Control Module LIN Bus 10	III	—
21	0.35	VT/WH	6675	Left Rear Door Lock Indicator Control	III	—
22	0.35	YE/BK	6677	Right Rear Door Lock Indicator Control	III	—
23 - 27	—	—	—	Not Occupied	—	—
28	0.35	GY/VT	2676	Right Front Door Exterior Switch Unlock Signal	III	—
29	0.35	L-GN/GY	6135	Body Control Module LIN Bus 4	III	—

K19 Suspension Control Module (Z95)



4162046

Connector Part Information

Harness Type: Chassis
OEM Connector: 33222138
Service Connector: 19333026
Description: 46-Way F 1.2 OCS, 2.8, 4.8 CTS Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19332900	J-35616-43 (RD)	J-38125-215A
II	19371240	J-35616-16 (LT GN)	J-38125-215A

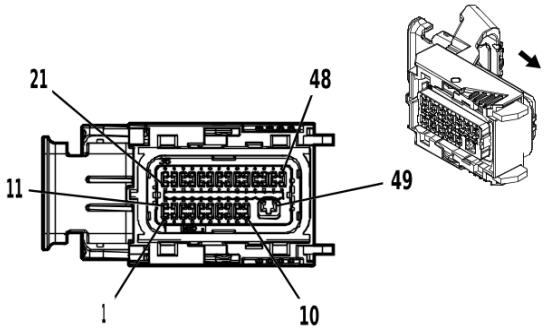
K19 Suspension Control Module (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/L-GN	2440	Secondary Fused Battery Positive Voltage 24	I	—
2 - 4	—	—	—	Not Occupied	—	—
5	0.5	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	II	—
6	0.5	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	II	—
7	0.5	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	II	—
8	0.5	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	II	—
9	—	—	—	Not Occupied	—	—
10	0.5	BN/D-BU	1116	Right Front Shock Absorber Actuator Control	II	—

K19 Suspension Control Module (Z95) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
11	0.5	GY/WH	1117	Right Front Shock Absorber Actuator Control	II	—
12 - 13	—	—	—	Not Occupied	—	—
14	0.75	BK	2150	Ground 21	I	—
15	0.5	BN/WH	1107	Left Front Shock Absorber Actuator Control	II	—
16 - 21	—	—	—	Not Occupied	—	—
22	0.5	D-BU/GY	1114	Left Rear Shock Absorber Actuator Control	II	—
23	0.5	BK/BN	1099	Left Front Vertical Suspension Acceleration Sensor Low Reference	II	—
24	0.5	WH	1100	Left Front Vertical Suspension Acceleration Sensor Signal	II	—
25	0.5	YE/RD	1817	Left Front Vertical Suspension Acceleration Sensor Voltage Reference	II	—
26	0.5	VT/RD	1818	Left Rear Vertical Suspension Acceleration Sensor Voltage Reference	II	—
27	0.5	YE/BN	1103	Left Rear Vertical Suspension Acceleration Sensor Signal	II	—
28	0.5	BK/VT	1833	Left Rear Vertical Suspension Acceleration Sensor Low Reference	II	—
29	0.5	BN/L-GN	1118	Right Rear Shock Absorber Actuator Control	II	—
30	—	—	—	Not Occupied	—	—
31	0.5	GY/D-BU	1113	Left Front Shock Absorber Actuator Control	II	—
32 - 37	—	—	—	Not Occupied	—	—
38	0.5	L-GN/VT	1115	Left Rear Shock Absorber Actuator Control	II	—
39	0.5	BK/L-GN	1105	Right Front Vertical Suspension Acceleration Sensor Low Reference	II	—
40	0.5	WH	1106	Right Front Vertical Suspension Acceleration Sensor Signal	II	—
41	0.5	BN/RD	1819	Right Front Vertical Suspension Acceleration Sensor Voltage Reference	II	—
42	0.5	GY/RD	1820	Right Rear Vertical Suspension Acceleration Sensor Voltage Reference	II	—
43	0.5	YE/D-BU	1109	Right Rear Vertical Suspension Acceleration Sensor Signal	II	—
44	0.5	BK/D-BU	1108	Right Rear Vertical Suspension Acceleration Sensor Low Reference	II	—
45	0.5	L-GN/GY	1119	Right Rear Shock Absorber Actuator Control	II	—
46	—	—	—	Not Occupied	—	—

K20 Engine Control Module X1 (L84/L87)



4596458

Connector Part Information

Harness Type: Engine
OEM Connector: 33315785
Service Connector: 19368142
Description: 49-Way F 0.64, 2.8 Series, Sealed (BK with BU Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13576377	J-35616-35 (VT)	J-38125-12A
II	19355819	J-35616-64B (LT BU)	J-38125-215A

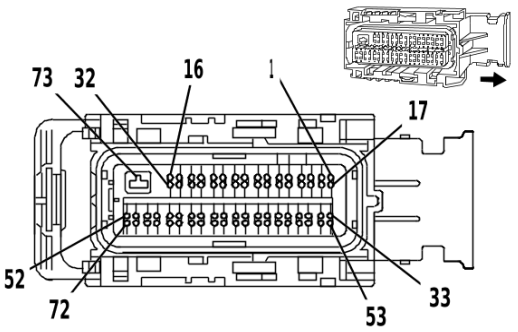
K20 Engine Control Module X1 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	II	—
2	—	—	—	Not Occupied	—	—
3	0.5	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	II	—
4	—	—	—	Not Occupied	—	—
5	0.5	WH	4976	AUTOSAR CAN Bus [-] 3 Serial Data	II	—
6	0.5	WH/D-BU	6311	Cruise/ETC/TCC Brake Signal	II	—
7	0.5	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	II	—
8	—	—	—	Not Occupied	—	—
9	0.5	YE	5991	Powertrain Relay Coil Control	II	—
10	—	—	—	Not Occupied	—	—
11	0.5	YE	4063	Hood Status A Signal	II	—
12	0.5	D-BU/GY	636	Ambient Air Temperature Sensor Signal	II	—
13	0.5	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	II	—
14	0.5	WH/L-GN	5380	Brake Position Sensor Signal	II	—
15	0.5	D-BU/BK	4977	AUTOSAR CAN Bus [+] 3 Serial Data	II	—
16	—	—	—	Not Occupied	—	—
17	0.5	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	II	—
18	0.5	WH/GY	459	A/C Compressor Clutch Relay Control	II	—
19 - 20	—	—	—	Not Occupied	—	—

K20 Engine Control Module X1 (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
21	0.75	L-GN/ D-BU	428	EVAP Purge Solenoid Valve Control	II	—
22 - 23	—	—	—	Not Occupied	—	—
24	0.5	BK/D-BU	1271	Accelerator Pedal Position Low Reference 1	II	—
25 - 27	—	—	—	Not Occupied	—	—
28	0.5	BN/L-GN	1174	Oil Level Switch Signal	II	—
29	—	—	—	Not Occupied	—	—
30	0.5	BK/VT	1272	Accelerator Pedal Position Low Reference 2	II	—
31	—	—	—	Not Occupied	—	—
32	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply 2	II	—
33	—	—	—	Not Occupied	—	—
34	0.5	RD/BN	440	Secondary Fused Battery Positive Voltage 4	II	—
35	—	—	—	Not Occupied	—	—
36	0.5	YE/BK	625	Starter Enable Relay Control	II	—
37	0.5	L-GN/GY	465	Fuel Pump Primary Relay Control	II	—
38	0.5	WH/RD	1164	Accelerator Pedal Position 5 Volt Reference 1	II	—
39	0.5	YE/WH	1161	Accelerator Pedal Position Signal 1	II	—
40	0.5	YE/BN	331	Oil Pressure Sensor Signal	II	—
41	0.5	L-GN	380	A/C Refrigerant Pressure Sensor Signal	II	—
42 - 43	—	—	—	Not Occupied	—	—
44	0.5	L-GN/WH	1162	Accelerator Pedal Position Signal 2	II	—
45	0.5	BN/RD	1274	Accelerator Pedal Position 5V Reference 2	II	—
46	—	—	—	Not Occupied	—	—
47	0.75	VT/L-GN	439	Run/Crank Ignition 1 Voltage 4	II	—
48	0.75	VT/D-BU	5290	Powertrain Main Relay Fused Supply 1	II	—
49	2	VT/D-BU	5290	Powertrain Main Relay Fused Supply 1	I	—

K20 Engine Control Module X2 (L84/L87)



1590596

Connector Part Information

Harness Type: Engine
OEM Connector: 15499466
Service Connector: 19333090
Description: 73-Way F 0.64, 2.8 Series, Sealed (BK with BK Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19355819	J-35616-64B (LT BU)	J-38125-215A
II	Not Required	No Tool Required	No Tool Required

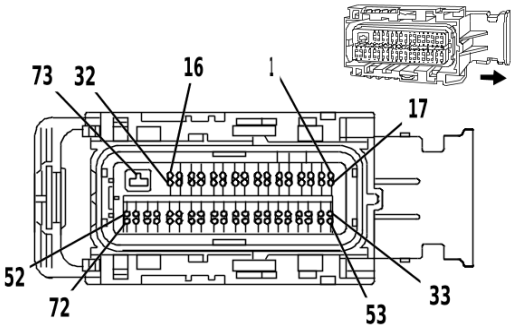
K20 Engine Control Module X2 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/YE	3212	HO2S Heater Low Control Bank 2 Sensor 1	I	—
2	0.5	GY	5493	Cylinder Deactivation Solenoid Valve Control 3	I	—
3	0.5	BK/YE	548	Engine Control Sensors Low Reference 1	I	—
4 - 6	—	—	—	Not Occupied	—	—
7	0.5	L-GN/WH	4622	Engine Control Module LIN Bus 2	I	—
8	0.75	L-GN/VT	4621	Engine Control Module LIN Bus 1	I	—
9	—	—	—	Not Occupied	—	—
10	0.5	VT/GY	3110	HO2S High Signal Bank 1 Sensor 1	I	—
11	0.5	WH/BK	3111	HO2S Low Signal Bank 1 Sensor 1 (3)	I	—
12	0.5	YE/D-BU	2124	Ignition Control 4	I	—
13	0.5	BN/D-BU	2126	Ignition Control 6	I	—
14	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply 5	I	—
15	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply 5	I	—
16	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply 5	I	—
17	0.5	GY/WH	3113	HO2S Heater Low Control Bank 1 Sensor 1	I	—
18	0.5	YE/GY	2493	Cylinder Shutoff Solenoid Enable Signal 3	I	—
19 - 25	—	—	—	Not Occupied	—	—
26	0.5	VT/WH	3210	HO2S High Signal Bank 2 Sensor 1	I	—
27	0.5	YE/WH	3211	HO2S Low Signal Bank 2 Sensor 1	I	—
28	0.5	L-GN/ D-BU	2123	Ignition Control 3	I	—
29	0.5	D-BU/GY	2125	Ignition Control 5	I	—
30	0.75	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
31	0.5	BN	5496	Cylinder Deactivation Solenoid Valve Control 6	I	—
32	0.5	YE/BN	2496	Cylinder Shutoff Solenoid Enable Signal 6	I	—
33	0.75	WH/BN	3223	HO2S Heater Low Control Bank 2 Sensor 2	I	—
34	—	—	—	Not Occupied	—	—
35	0.5	D-BU	179	Engine Oil Pump Control	I	—
36	0.5	YE/L-GN	2494	Cylinder Shutoff Solenoid Enable Signal 4	I	—
37	0.75	VT/D-BU	5294	Powertrain Main Relay Fused Supply 5	I	—
38	—	—	—	Not Occupied	—	—
39	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	I	—
40 - 45	—	—	—	Not Occupied	—	—
46	0.5	YE/D-BU	3221	HO2S Low Signal Bank 2 Sensor 2	I	—
47	0.5	VT/L-GN	3220	HO2S High Signal Bank 2 Sensor 2	I	—
48 - 49	—	—	—	Not Occupied	—	—
50	0.75	BK/GY	2303	Knock Sensor 2 Low Reference	I	—
51	0.75	BK/YE	1716	Knock Sensor 1 Low Reference	I	—
52	0.5	BN/WH	582	Throttle Actuator Close Control	I	—

K20 Engine Control Module X2 (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
53	0.75	GY/WH	3122	HO2S Heater Low Control Bank 1 Sensor 2	I	—
54	0.5	VT	5495	Cylinder Deactivation Solenoid Valve Control 5	I	—
55	0.5	WH/VT	2495	Cylinder Shutoff Solenoid Enable Signal 5	I	—
56	0.5	YE/D-BU	5494	Cylinder Deactivation Solenoid Valve Control 4	I	—
57	0.5	L-GN	5492	Cylinder Deactivation Solenoid Valve Control 2	I	—
58	0.5	WH/L-GN	2492	Cylinder Shutoff Solenoid Enable Signal 2	I	—
59 - 65	—	—	—	Not Occupied	—	—
66	0.5	WH/YE	3121	HO2S Low Signal Bank 1 Sensor 2	I	—
67	0.5	VT/D-BU	3120	HO2S High Signal Bank 1 Sensor 2	I	—
68 - 69	—	—	—	Not Occupied	—	—
70	0.75	WH/GY	1876	Knock Sensor 2 Signal	I	—
71	0.75	VT/GY	496	Knock Sensor 1 Signal	I	—
72	0.5	YE	581	Throttle Actuator Open Control	I	—
73	2.5	BK/WH	6151	Engine Control Module Ground 61	II	—

K20 Engine Control Module X3 (L84/L87)



1590596

Connector Part Information

Harness Type: Engine
OEM Connector: 15497996
Service Connector: 19333091
Description: 73-Way F 0.64, 2.8 Series, Sealed (BK with GY Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19355819	J-35616-64B (LT BU)	J-38125-215A
II	Not Required	No Tool Required	No Tool Required

K20 Engine Control Module X3 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	5497	Cylinder Deactivation Solenoid Valve Control 7	I	—
2	0.5	L-GN/GY	2497	Cylinder Shutoff Solenoid Enable Signal 7	I	—

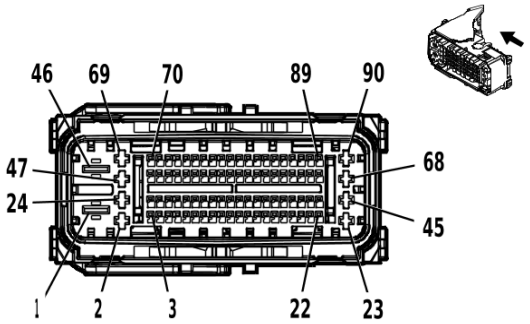
K20 Engine Control Module X3 (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
3 - 4	—	—	—	Not Occupied	—	—
5	0.5	VT/BN	5284	Intake Camshaft Position Actuator Solenoid Valve 1	I	—
6	0.5	VT/L-GN	4320	Selective Catalytic Reduction Power Module Wake-Up Signal	I	—
7	—	—	—	Not Occupied	—	—
8	0.5	YE/VT	5275	Intake Camshaft Position Sensor 1	I	—
9	0.5	GY/D-BU	5300	Intake Camshaft Position Sensor 1 Voltage Reference	I	—
10	0.5	L-GN	6271	Crankshaft Position Sensor Signal	I	—
11	—	—	—	Not Occupied	—	—
12	0.75	D-BU/WH	2122	Ignition Control 2	I	—
13	0.5	VT/WH	2128	Ignition Control 8	I	—
14	0.5	BN	25	Charge Indicator Control	I	—
15	—	—	—	Not Occupied	—	—
16	0.75	YE	7301	High Pressure Fuel Pump High Control	I	—
17 - 20	—	—	—	Not Occupied	—	—
21	0.5	BK/BN	6753	Camshaft Position Actuator Solenoid Valve W Low Reference	I	—
22 - 23	—	—	—	Not Occupied	—	—
24	0.5	BK/L-GN	5301	Intake Camshaft Position Sensor Low Reference 1	I	—
25	0.5	VT/D-BU	6270	Crankshaft Position Sensor Voltage	I	—
26	0.5	BK/VT	6272	Crankshaft Position Sensor Low Reference	I	—
27	—	—	—	Not Occupied	—	—
28	0.5	L-GN/GY	2127	Ignition Control 7	I	—
29	0.5	D-BU/VT	2121	Ignition Control 1	I	—
30	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
31	—	—	—	Not Occupied	—	—
32	0.75	VT/BK	7300	High Pressure Fuel Pump Low Control	I	—
33	0.5	YE/VT	4325	Starter Pinion Solenoid Actuator Relay Control	I	—
34	0.5	WH/D-BU	2491	Cylinder Shutoff Solenoid Enable Signal 1	I	—
35	0.5	WH/YE	2498	Cylinder Shutoff Solenoid Enable Signal 8	I	—
36	0.5	BK/BN	2752	Throttle Position Sensor Low Reference	I	—
37	0.5	BK/L-GN	469	Manifold Absolute Pressure Sensor Low Reference	I	—
38 - 39	—	—	—	Not Occupied	—	—
40	0.5	BN/D-BU	357	Oil Temperature Sensor Signal	I	—
41 - 43	—	—	—	Not Occupied	—	—
44	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply 3	I	—
45	0.75	L-GN	4803	Direct Fuel Injector High Voltage Control Cylinder 3	I	—
46	0.75	GY/D-BU	4804	Direct Fuel Injector High Voltage Control Cylinder 4	I	—
47	0.75	WH/L-GN	4805	Direct Fuel Injector High Voltage Control Cylinder 5	I	—
48	0.75	VT/L-GN	4806	Direct Fuel Injector High Voltage Control Cylinder 6	I	—

K20 Engine Control Module X3 (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
49	0.75	D-BU	4802	Direct Fuel Injector High Voltage Control Cylinder 2	I	—
50	0.75	YE/GY	4807	Direct Fuel Injector High Voltage Control Cylinder 7	I	—
51	0.75	GY	4808	Direct Fuel Injector High Voltage Control Cylinder 8	I	—
52	0.75	BN	4801	Direct Fuel Injector High Voltage Control Cylinder 1	I	—
53	0.5	D-BU	5491	Cylinder Deactivation Solenoid Valve Control 1	I	—
54	0.5	YE	5498	Cylinder Deactivation Solenoid Valve Control 8	I	—
55	0.5	BN/RD	2701	Throttle Position Sensor 5V Reference 2	I	—
56	0.5	D-BU/WH	3630	Throttle Position Sensor SENT 1 Signal	I	—
57	0.5	GY/RD	2704	Manifold Absolute Pressure Sensor 5V Reference	I	—
58	0.5	L-GN/WH	432	Manifold Absolute Pressure Sensor Signal	I	—
59 - 60	—	—	—	Not Occupied	—	—
61	0.5	D-BU	410	Engine Coolant Temperature Sensor Signal	I	—
62	—	—	—	Not Occupied	—	—
63	0.5	D-BU/WH	2918	Fuel Rail Pressure Sensor Signal	I	—
64	0.5	GY	23	Generator Field Duty Cycle Signal	I	—
65	0.75	L-GN/GY	4903	Direct Fuel Injector High Voltage Supply Cylinder 3	I	—
66	0.75	D-BU/WH	4904	Direct Fuel Injector High Voltage Supply Cylinder 4	I	—
67	0.75	L-GN/WH	4905	Direct Fuel Injector High Voltage Supply Cylinder 5	I	—
68	0.75	VT/GY	4906	Direct Fuel Injector High Voltage Supply Cylinder 6	I	—
69	0.75	D-BU/GY	4902	Direct Fuel Injector High Voltage Supply Cylinder 2	I	—
70	0.75	WH/YE	4907	Direct Fuel Injector High Voltage Supply Cylinder 7	I	—
71	0.75	GY/WH	4908	Direct Fuel Injector High Voltage Supply Cylinder 8	I	—
72	0.75	BN/WH	4901	Direct Fuel Injector High Voltage Supply Cylinder 1	I	—
73	2.5	BK/WH	6151	Engine Control Module Ground 61	II	—

K20 Engine Control Module X1 (LM2)



4997706

Connector Part Information

Harness Type: Engine
OEM Connector: 35021651
Service Connector: 84628960
Description: 90-Way F 0.64 GEN-Y, 2.8, 6.3 MCP Series, Sealed (BU)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19367373	J-35616-64B (LT BU)	J-38125-215A
II	19368490	J-35616-64B (LT BU)	J-38125-215A
III	19371214	J-35616-35 (VT)	J-38125-557
IV	19371240	J-35616-35 (VT)	J-38125-557
V	84616649	J-35616-40 (BU)	J-38125-556

K20 Engine Control Module X1 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	6	BN/D-BU	104	Glow Plug Control	V	—
2	2.5	GY/VT	1586	Glow Plug 6 Control	III	—
3 - 5	—	—	—	Not Occupied	—	—
6	0.5	WH/GY	459	A/C Compressor Clutch Relay Control	II	—
7	0.5	RD/BN	440	Secondary Fused Battery Positive Voltage 4	II	—
8	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	II	—
9	—	—	—	Not Occupied	—	—
10	0.5	WH/D-BU	6311	Cruise/ETC/TCC Brake Signal	II	—
11	0.5	GY	2973	Coolant Flow Control Valve Position Signal	II	—
12	0.5	L-GN/GY	7316	Intake Manifold Runner Valve Actuator Control	II	—
13 - 14	—	—	—	Not Occupied	—	—
15	0.5	BN/L-GN	4305	Exhaust Flow Control Valve 1	II	—
16	0.5	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	II	—
17	0.5	D-BU/BK	4977	AUTOSAR CAN Bus [+] 3 Serial Data	II	—
18	0.5	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	II	—
19	0.5	BK/L-GN	580	Engine Control Sensors Low Reference 2	II	—
20	—	—	—	Not Occupied	—	—

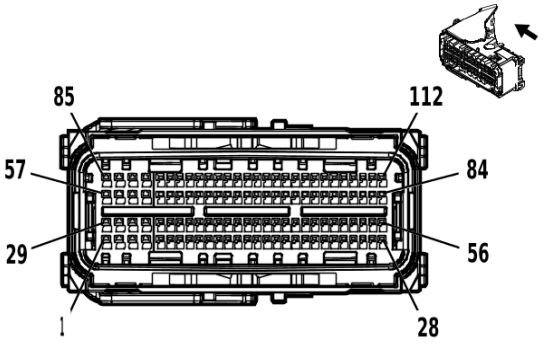
K20 Engine Control Module X1 (LM2) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
21	0.75	GY/BK	1330	Variable Geometry Turbocharger Position Sensor Motor Close Control	II	—
22	0.75	WH/BN	1313	Variable Geometry Turbocharger Position Sensor Motor Open Control	II	—
23	2.5	GY/L-GN	1583	Glow Plug 3 Control	III	—
24	2.5	GY/WH	1585	Glow Plug 5 Control	III	—
25	0.75	VT/L-GN	439	Run/Crank Ignition 1 Voltage 4	II	—
26	0.5	YE	5991	Powertrain Relay Coil Control	II	—
27	—	—	—	Not Occupied	—	—
28	0.35	L-GN/BN	507	Wait To Start Indicator Control	I	—
29	—	—	—	Not Occupied	—	—
30	0.5	BK/GY	626	Engine Control Vehicle Sensors Low Reference 1	II	—
31 - 33	—	—	—	Not Occupied	—	—
34	0.5	VT/YE	5947	Turbocharger Vane Position Sensor Signal	II	—
35	0.5	BN/WH	5763	Exhaust Gas Recirculation Position Signal	II	—
36	0.5	D-BU/GY	2978	Coolant Diverter Valve Position Signal	II	—
37	—	—	—	Not Occupied	—	—
38	0.5	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	II	—
39	0.5	WH	4976	AUTOSAR CAN Bus [-] 3 Serial Data	II	—
40	0.5	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	II	—
41	0.5	BN/D-BU	4065	Driveline Mount Actuator 1 Control	II	—
42	0.5	YE/BK	625	Starter Enable Relay Control	II	—
43	0.5	VT/BK	5746	Exhaust Gas Recirculation Valve Low Control	II	—
44	0.5	WH/VT	5764	Exhaust Gas Recirculation Valve High Control	II	—
45	2.5	GY/BN	1582	Glow Plug 2 Control	III	—
46	1	BK/WH	6151	Engine Control Module Ground 61	V	—
47	2.5	GY/YE	1584	Glow Plug 4 Control	III	—
48	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	II	—
49	0.5	L-GN/WH	1162	Accelerator Pedal Position Signal 2	II	—
50	0.5	BK/VT	1272	Accelerator Pedal Position Low Reference 2	II	—
51	0.5	BK/D-BU	1271	Accelerator Pedal Position Low Reference 1	II	—
52	0.5	WH/L-GN	5380	Brake Position Sensor Signal	II	—
53 - 54	—	—	—	Not Occupied	—	—
55	0.5	YE	4063	Hood Status A Signal	II	—
56 - 58	—	—	—	Not Occupied	—	—
59	0.5	L-GN	380	A/C Refrigerant Pressure Sensor Signal	II	—
60	0.5	YE/BN	331	Oil Pressure Sensor Signal	II	—
61	0.5	YE/GY	3926	Crankcase Differential Pressure Sensor Signal	II	—
62 - 63	—	—	—	Not Occupied	—	—
64	0.5	L-GN/ D-BU	3889	Powertrain Sensor Bus Relay Control	II	—
65	—	—	—	Not Occupied	—	—
66	0.5	BN	1421	Exhaust Restrictor Motor Closed Control	II	—
67	0.5	YE/BN	1420	Exhaust Restrictor Motor Open Control	II	—

K20 Engine Control Module X1 (LM2) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
68	2.5	GY/D-BU	1581	Glow Plug 1 Control	III	—
69	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply 2	IV	—
70	0.5	D-BU/RD	460	Engine Control Sensors 5 Volt Reference 1	II	—
71	0.5	BN/RD	1274	Accelerator Pedal Position 5V Reference 2	II	—
72	0.5	WH/RD	1164	Accelerator Pedal Position 5 Volt Reference 1	II	—
73	0.5	YE/WH	1161	Accelerator Pedal Position Signal 1	II	—
74	0.5	D-BU/GY	636	Ambient Air Temperature Sensor Signal	II	—
75	0.5	VT	7485	Transfer Case Fluid Temperatue Sensor Signal	II	—
76 - 77	—	—	—	Not Occupied	—	—
78	0.5	GY/VT	2404	Engine Block Coolant Temperature Signal	II	—
79 - 83	—	—	—	Not Occupied	—	—
84	0.5	VT/GY	7246	Exhaust Gas Recirculation Differential Pressure Signal 1	II	—
85	—	—	—	Not Occupied	—	—
86	0.5	L-GN/GY	465	Fuel Pump Primary Relay Control	II	—
87	0.75	VT/D-BU	5294	Powertrain Main Relay Fused Supply 5	II	—
88	0.75	GY/BN	2972	Coolant Flow Control Actuator Control Close	II	—
89	0.75	GY/D-BU	2971	Coolant Flow Control Actuator Control Open	II	—
90	2	VT/D-BU	5290	Powertrain Main Relay Fused Supply 1	III	—

K20 Engine Control Module X2 (LM2)



4997563

Connector Part Information

Harness Type: Engine
OEM Connector: 35021652
Service Connector: 84628959
Description: 112-Way F 0.64 GEN-Y, 1.2 MCON Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13582289	J-35616-16 (LT GN)	J-38125-215A
II	19331733	J-35616-16 (LT GN)	J-38125-215A
III	19368490	J-35616-64B (LT BU)	J-38125-215A

K20 Engine Control Module X2 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	L-GN	4803	Direct Fuel Injector High Voltage Control Cylinder 3	I	—
2	1.5	GY/D-BU	4804	Direct Fuel Injector High Voltage Control Cylinder 4	I	—
3	0.75	YE/VT	2420	Fuel High Pressure Pump Low Enable Signal	II	—
4	0.75	YE/VT	7245	High Pressure Fuel Pump Low Enable Signal	II	—
5	0.5	GY/YE	5297	Exhaust Camshaft Position Sensor 1 Voltage Reference	III	—
6	0.5	L-GN	6271	Crankshaft Position Sensor Signal	III	—
7	0.5	VT/D-BU	6270	Crankshaft Position Sensor Voltage	III	—
8	—	—	—	Not Occupied	—	—
9	0.5	BN	25	Charge Indicator Control	III	—
10	—	—	—	Not Occupied	—	—
11	0.5	BK/L-GN	3235	Exhaust Gas Recirculation Temperature Sensor 3 Low Reference	III	—
12	0.5	YE/D-BU	3680	Charge Air Cooler Outlet Temperature Sensor Low Reference	III	—
13	0.5	YE/BK	3682	Charge Air Cooler Inlet Temperature Sensor Low Reference	III	—
14	0.5	BK/D-BU	6274	Exhaust Gas Recirculation Temperature Sensor Low Reference	III	—
15	—	—	—	Not Occupied	—	—
16	0.5	BK/L-GN	3657	Exhaust Gas Temperature Sensor 3 Low Reference	III	—
17	—	—	—	Not Occupied	—	—
18	0.5	BK/D-BU	6783	Exhaust Gas Temperature Sensor 2 Low Reference	III	—
19	—	—	—	Not Occupied	—	—
20	0.5	BK/BN	6782	Exhaust Gas Temperature Sensor 1 Low Reference	III	—
21 - 22	—	—	—	Not Occupied	—	—
23	0.75	BN/WH	3100	Diesel Exhaust Fluid Dosing Valve Low Control	III	—
24	0.5	BK/YE	2834	Fuel Rail Pressure Solenoid Valve Low Reference	III	—
25	0.5	D-BU	179	Engine Oil Pump Control	III	—
26	0.5	BN/YE	4066	Driveline Mount Actuator 2 Control	III	—
27	0.5	BN/WH	582	Throttle Actuator Close Control	III	—
28	0.5	YE	581	Throttle Actuator Open Control	III	—
29	1.5	L-GN/GY	4903	Direct Fuel Injector High Voltage Supply Cylinder 3	I	—
30	1.5	D-BU/WH	4904	Direct Fuel Injector High Voltage Supply Cylinder 4	I	—
31	0.75	GY/BN	2419	—	II	—
32	0.75	GY/BN	7244	High Pressure Fuel Pump High Side Control	II	—
33	0.5	BK/GY	5296	Exhaust Camshaft Position Sensor Low Reference 1	III	—
34	0.5	VT/BK	5273	Exhaust Camshaft Position Sensor 1	III	—
35	0.5	BK/VT	6272	Crankshaft Position Sensor Low Reference	III	—
36	—	—	—	Not Occupied	—	—
37	0.5	D-BU	3017	Fuel Heater Relay 1 Control	III	—

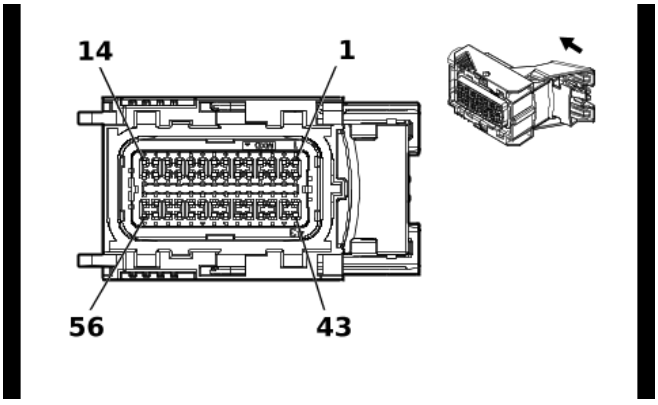
K20 Engine Control Module X2 (LM2) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
38	—	—	—	Not Occupied	—	—
39	0.5	WH/GY	3234	Exhaust Gas Recirculation Temperature Sensor 3 Signal	III	—
40	0.5	BN	3681	Charge Air Cooler Outlet Temperature Sensor Signal	III	—
41	0.5	L-GN	3683	Charge Air Cooler Inlet Temperature Sensor Signal	III	—
42	0.5	WH/BN	3237	Exhaust Gas Recirculation Temperature Sensor Signal	III	—
43	—	—	—	Not Occupied	—	—
44	0.5	GY/L-GN	5378	Exhaust Gas Temperature Sensor 3 Signal	III	—
45	—	—	—	Not Occupied	—	—
46	0.5	D-BU/ L-GN	5377	Exhaust Gas Temperature Sensor 2 Signal	III	—
47	—	—	—	Not Occupied	—	—
48	0.5	D-BU/WH	5277	Exhaust Gas Temperature Sensor 1 Signal	III	—
49 - 50	—	—	—	Not Occupied	—	—
51	0.75	BN	3099	Diesel Exhaust Fluid Dosing Valve High Control	III	—
52	0.5	D-BU/WH	2530	Fuel Rail Pressure Solenoid Valve Control	III	—
53	0.5	YE/BN	106	Oil Pump Motor Control	III	—
54	—	—	—	Not Occupied	—	—
55	0.75	BK/D-BU	1408	Variable Swirl Valve Close Control	III	—
56	0.75	BK/L-GN	1389	Variable Swirl Valve Open Control	III	—
57	1.5	VT/GY	4906	Direct Fuel Injector High Voltage Supply Cylinder 6	I	—
58	1.5	BN/WH	4901	Direct Fuel Injector High Voltage Supply Cylinder 1	I	—
59	1.5	L-GN/WH	4905	Direct Fuel Injector High Voltage Supply Cylinder 5	I	—
60	1.5	D-BU/GY	4902	Direct Fuel Injector High Voltage Supply Cylinder 2	I	—
61 - 65	—	—	—	Not Occupied	—	—
66	0.5	BN/RD	2917	Fuel Rail Pressure Sensor 5V Reference	III	—
67	0.5	BK/L-GN	2919	Fuel Rail Pressure Sensor Low Reference	III	—
68	—	—	—	Not Occupied	—	—
69	0.5	BN/D-BU	357	Oil Temperature Sensor Signal	III	—
70	0.5	YE/BK	3000	Coolant Temperature Sensor 2 Signal	III	—
71	—	—	—	Not Occupied	—	—
72	0.5	BN/YE	1372	Engine Metal Temperature Sensor Signal 2	III	—
73	0.5	WH/D-BU	7329	Pre-Throttle Air Temperature Signal	III	—
74	0.5	D-BU	6053	Exhaust Pressure Sensor 1 Signal	III	—
75	0.5	BK/YE	548	Engine Control Sensors Low Reference 1	III	—
76	0.75	L-GN/VT	4621	Engine Control Module LIN Bus 1	III	—
77	0.5	L-GN/WH	4622	Engine Control Module LIN Bus 2	III	—
78	0.5	L-GN/YE	4623	Engine Control Module LIN Bus 3	III	—
79 - 82	—	—	—	Not Occupied	—	—
83	0.75	D-BU/BN	2977	Coolant Diverter Valve Actuator Control Close	III	—
84	0.75	D-BU	2976	Coolant Diverter Valve Actuator Control Open	III	—

K20 Engine Control Module X2 (LM2) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
85	1.5	VT/L-GN	4806	Direct Fuel Injector High Voltage Control Cylinder 6	I	—
86	1.5	BN	4801	Direct Fuel Injector High Voltage Control Cylinder 1	I	—
87	1.5	D-BU	4802	Direct Fuel Injector High Voltage Control Cylinder 2	I	—
88	1.5	WH/L-GN	4805	Direct Fuel Injector High Voltage Control Cylinder 5	I	—
89	—	—	—	Not Occupied	—	—
90	0.5	D-BU/WH	3630	Throttle Position Sensor SENT 1 Signal	III	—
91	0.5	D-BU/ L-GN	4012	Exhaust Gas Recirculation 2 Valve Position Sensor Signal	III	—
92	0.5	GY	23	Generator Field Duty Cycle Signal	III	—
93	—	—	—	Not Occupied	—	—
94	0.5	D-BU/WH	2918	Fuel Rail Pressure Sensor Signal	III	—
95	0.5	YE/D-BU	2408	Engine Inlet Coolant Temperature Signal	III	—
96	0.5	BN/YE	2161	Fuel Rail Pressure Sensor 2 Signal	III	—
97	0.5	VT	2988	Engine Outlet Coolant Temperature Signal	III	—
98 - 100	—	—	—	Not Occupied	—	—
101	0.5	L-GN/WH	432	Manifold Absolute Pressure Sensor Signal	III	—
102	0.5	L-GN/YE	37	Engine Block Temperature Sensor Signal	III	—
103	0.5	D-BU/BK	1422	Engine Water Charge Air Coolant Temperature Signal	III	—
104	—	—	—	Not Occupied	—	—
105	0.5	L-GN/BN	2732	Engine Control Module LIN Bus 4	III	—
106 - 110	—	—	—	Not Occupied	—	—
111	0.5	D-BU/BN	4013	Exhaust Gas Recirculation 2 Valve Close Control	III	—
112	0.5	D-BU/WH	4014	Exhaust Gas Recirculation 2 Valve Open Control	III	—

K36 Inflatable Restraint Sensing and Diagnostic Module X1



5377109

Connector Part Information

Harness Type: Body

OEM Connector: 35280988

Service Connector: 26314571
Description: 56-Way F 0.64 Series, Sealed (BU)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300631	J-35616-64B (LT BU)	J-38125-215A
II	19330179	J-35616-64B (LT BU)	J-38125-215A
III	19354746	J-35616-64B (LT BU)	J-38125-215A
IV	Not Required	J-35616-64B (LT BU)	No Tool Required

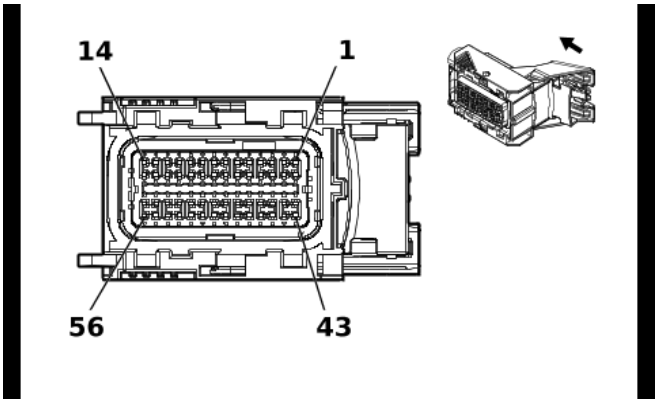
K36 Inflatable Restraint Sensing and Diagnostic Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
7	0.5	BK/OG	5045	Left Front Impact Discriminating Sensor Low Reference	II	—
8	0.5	OG/YE	354	Left Front Impact Discriminating Sensor Signal	II	—
9	0.5	OG/L-GN	1409	Right Front Impact Discriminating Sensor Signal	II	—
10	0.5	BK/OG	5600	Right Front Impact Discriminating Sensor Low Reference	II	—
11	0.5	WH/OG	3476	Passenger Seat Belt Retractor Pretensioner Low Control	IV	—
12	0.5	OG/L-GN	3475	Passenger Seat Belt Retractor Pretensioner High Control	IV	—
13	0.5	YE/OG	3025	Passenger Instrument Panel Air Bag Stage 1 High Control	II	—
14	0.5	OG/WH	3024	Passenger Instrument Panel Air Bag Stage 1 Low Control	II	—
25	0.5	VT/OG	3478	Driver Seat Belt Retractor Pretensioner Low Control	IV	—
26	0.5	OG/WH	3477	Driver Seat Belt Retractor Pretensioner High Control	IV	—
27	0.5	OG/VT	3021	Steering Wheel Air Bag Stage 1 High Control	II	—
28	0.5	BN/OG	3020	Steering Wheel Air Bag Stage 1 Low Control	II	—
29	0.5	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	II	—
30	0.5	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	III	—
	0.5	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	II	—
32	0.5	OG/BN	3479	Passenger Seat Belt Anchor Pretensioner High Control	IV	—
33	0.5	GY/OG	3480	Passenger Seat Belt Anchor Pretensioner Low Control	IV	—
36	0.5	OG/L-GN	5055	Driver Seat Position Switch Signal	II	—
38	0.5	OG/VT	3026	Passenger Instrument Panel Air Bag Stage 2 Low Control	II	—
39	0.5	GY/OG	3027	Passenger Instrument Panel Air Bag Stage 2 High Control	II	—
42	0.5	BK/WH	1351	Ground 13	II	—
	0.75	BK/WH	1351	Ground 13	II	—
43	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	II	—
	0.5	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	I	—
44	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	II	—
	0.5	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	I	—
46	0.5	VT/OG	3482	Driver Seat Belt Anchor Pretensioner Low Control	IV	—

K36 Inflatable Restraint Sensing and Diagnostic Module X1 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
47	0.5	OG/YE	3481	Driver Seat Belt Anchor Pretensioner High Control	IV	—
50	0.5	BN/WH	3895	Roof Rail Air Bag Disable Switch Low Reference	II	—
51	0.5	D-BU/WH	3119	Roof Rail Air Bag Disable Switch Signal	II	—
53	0.5	WH/OG	3022	Steering Wheel Air Bag Stage 2 Low Control	II	—
54	0.5	OG/L-GN	3023	Steering Wheel Air Bag Stage 2 High Control	II	—
55	0.5	VT/WH	239	Run/Crank Ignition 1 Voltage 2	II	—
56	0.5	RD/L-GN	4440	Secondary Fused Battery Positive Voltage 44	II	—

K36 Inflatable Restraint Sensing and Diagnostic Module X2



5377124

Connector Part Information

Harness Type: Body
OEM Connector: 35280986
Service Connector: Service by Harness - See Part Catalog
Description: 56-Way F 0.64 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19330179	J-35616-64B (LT BU)	J-38125-215A

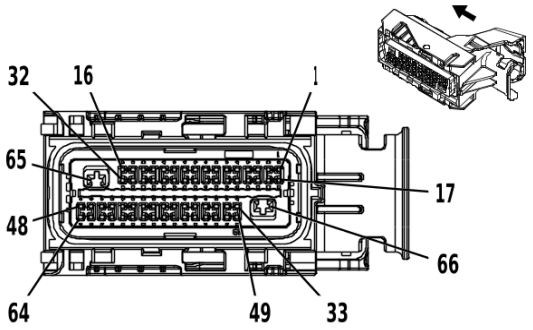
K36 Inflatable Restraint Sensing and Diagnostic Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
9	0.5	VT/OG	3517	3rd Row Right Seat Belt Switch Signal	I	—
10	0.5	D-BU/OG	5163	Rear Center Seat Belt Switch Signal	I	—
11	0.5	YE/OG	5161	Left Rear Seat Belt Switch Signal	I	—
12	0.5 0.5	OG/BN OG/GY	238 2652	Driver Seat Belt Switch Signal Driver Seat Belt Sensor Signal	I I	— —
13	0.5	BK/OG	6627	Right Rear Side Impact Sensor Low Reference	I	—
14	0.5	OG/WH	6626	Right Rear Side Impact Sensor Signal	I	—
21	0.5	OG/L-GN	3700	3rd Row Center Seat Belt Switch Signal	I	—
22	0.5	L-GN/OG	3516	3rd Row Left Seat Belt Switch Signal	I	—
23	0.5	BK/OG	1363	Driver Seat Belt Switch Low Reference	I	—

K36 Inflatable Restraint Sensing and Diagnostic Module X2 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
24	0.5	BN/OG	5162	Right Rear Seat Belt Switch Signal	I	—
25	0.5	OG/VT	1362	Passenger Seat Belt Switch Signal	I	—
27	0.5	BK/OG	6628	Left Front Side Impact Sensor Low Reference	I	—
28	0.5	OG/L-GN	2132	Left Front Side Impact Sensor Signal	I	—
37	0.5	OG/GY	5021	Right Front Roof Rail Air Bag High Control	I	—
38	0.5	WH/OG	5022	Right Front Roof Rail Air Bag Low Control	I	—
39	0.5	D-BU/OG	4957	Passenger Seat Back Air Bag Low Control	I	—
40	0.5	OG/GY	4956	Passenger Seat Back Air Bag High Control	I	—
41	0.5	BK/OG	6629	Right Front Side Impact Sensor Low Reference	I	—
42	0.5	BN/OG	2134	Right Front Side Impact Sensor Signal	I	—
45	0.5	GY/OG	4208	Driver Inboard Seat Side Air Bag Low Control	I	—
46	0.5	OG/BN	4207	Driver Inboard Seat Side Air Bag High Control	I	—
51	0.5	OG/L-GN	5019	Left Front Roof Rail Air Bag High Control	I	—
52	0.5	VT/OG	5020	Left Front Roof Rail Air Bag Low Control	I	—
53	0.5	BK/OG	4963	Driver Seat Back Air Bag Low Control	I	—
54	0.5	OG/D-BU	4962	Driver Seat Back Air Bag High Control	I	—
55	0.5	BK/OG	6623	Left Rear Side Impact Sensor Low Reference	I	—
56	0.5	OG/D-BU	6622	Left Rear Side Impact Sensor Signal	I	—

K38 Chassis Control Module



3621452

Connector Part Information

Harness Type: Body
OEM Connector: 13965710
Service Connector: 19329822
Description: 66-Way F 0.64, 2.8 Series, Sealed (BK with BK Terminal Position Assurance)

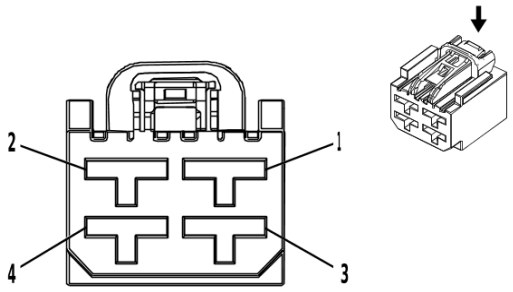
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575796	J-35616-35 (VT)	J-38125-11A
II	13579769	J-35616-4A (PU)	J-38125-11A
III	19355819	J-35616-64B (LT BU)	J-38125-215A

K38 Chassis Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 5	—	—	—	Not Occupied	—	—
6	0.5	VT/WH	639	Run/Crank Ignition 1 Voltage 6	III	—
7 - 33	—	—	—	Not Occupied	—	—
34	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	III	—
35	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	III	—
36	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	III	—
37	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	III	—
38 - 64	—	—	—	Not Occupied	—	—
65	0.5	BK	2050	Ground 20	I	—
	0.5	BK	2050	Ground 20	II	—
66	0.5	RD/L-GN	2642	Primary Fused Battery Positive Voltage 26	I	—
	0.5	RD/L-GN	2642	Primary Fused Battery Positive Voltage 26	II	—

K47 Rear Differential Clutch Control Module X1 (G96)



3787366

Connector Part Information

Harness Type: Body
OEM Connector: 10846813
Service Connector: 84766433
Description: 4-Way F 6.3 Series (L-GY)

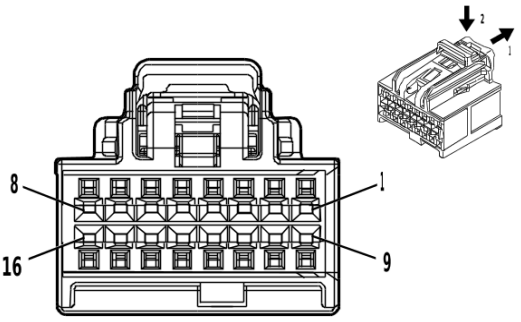
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-42 (RD)	No Tool Required

K47 Rear Differential Clutch Control Module X1 (G96)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	4	GY/BN	7968	Axle Differential Lock Control High	I	—
2	3	BK	2050	Ground 20	I	—
3	3	RD/GY	5540	Secondary Fused Battery Positive Voltage 55	I	—
4	4	YE/WH	7969	Axle Differential Lock Control Low	I	—

K47 Rear Differential Clutch Control Module X2 (G96)



4873243

Connector Part Information

Harness Type: Body
OEM Connector: 35016343
Service Connector: 13519738
Description: 16-Way F 0.64 OCS Series (BK)

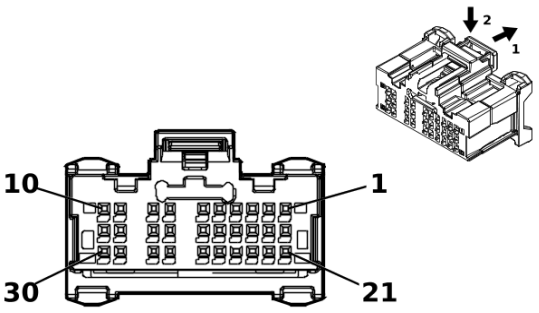
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300660	J-35616-64B (LT BU)	J-38125-12A
II	84619127	J-35616-64B (LT BU)	J-38125-215A

K47 Rear Differential Clutch Control Module X2 (G96)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	I	—
3	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	I	—
4	0.35	D-BU/WH	7978	Axle Differential Lock Motor Temperature Sensor Signal	I	—
5	0.35	GY	7976	Axle Differential Lock Motor Position Sensor Signal 2	I	—
6	0.35	L-GN/BN	7975	Axle Differential Lock Motor Position Sensor Signal 1	I	—
7	0.35	VT/BK	7972	Axle Differential Lock Motor Brake Control Low	I	—
8	0.5	Bare	7970	Axle Differential Lock Control Shield	I	—
9	—	—	—	Not Occupied	—	—
10	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	I	—
11	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	I	—
12	0.35	BK/YE	7977	Axle Differential Lock Motor Temperature Sensor Low Reference	I	—
13	0.35	BK/VT	7974	Axle Differential Lock Motor Position Sensor Low Reference	I	—
14	0.75	WH/RD	7973	Axle Differential Lock Motor Position Sensor High Reference	II	—
15	—	—	—	Not Occupied	—	—
16	0.35	WH	7971	Axle Differential Lock Motor Brake Control High	I	—

K56 Serial Data Gateway Module X1



5202284

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35085331
Service Connector: 84766507
Description: 30-Way F 0.5 MQS Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19370262	EL-35616-58 (BK)	EL-38125-58

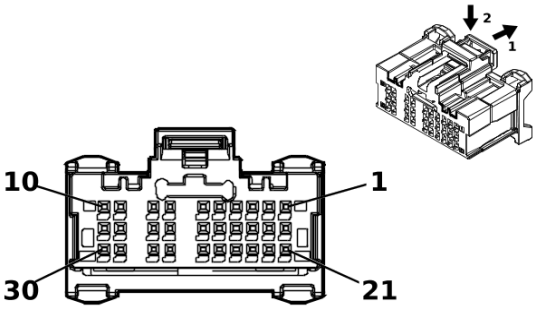
K56 Serial Data Gateway Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/VT	3340	Secondary Fused Battery Positive Voltage 33	I	—
2	0.35	D-BU/GY	4105	AUTOSAR Serial Data CAN Bus [+] 8 Serial Data	I	—
3	0.35	WH/GY	4104	AUTOSAR Serial Data CAN Bus [-] 8 Serial Data	I	—
4	0.35	BK/WH	1851	Ground 18	I	—
5	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	I	—
6	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	I	—
7	0.35	WH	4100	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	I	—
8	0.35	D-BU/VT	4101	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	I	—
9	0.35	WH	4976	AUTOSAR CAN Bus [-] 3 Serial Data	I	—
10	0.35	D-BU/BK	4977	AUTOSAR CAN Bus [+] 3 Serial Data	I	—
11 - 12	—	—	—	Not Occupied	—	—
13	0.35	WH/GY	4104	AUTOSAR Serial Data CAN Bus [-] 8 Serial Data	I	—
14	0.35	D-BU/GY	4105	AUTOSAR Serial Data CAN Bus [+] 8 Serial Data	I	—
15	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	I	—
16	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	I	—
17	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	I	—
18	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	I	—
19	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—

K56 Serial Data Gateway Module X1 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
20	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
21 - 26	—	—	—	Not Occupied	—	—
27	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	I	—
28	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	I	—
29 - 30	—	—	—	Not Occupied	—	—

K56 Serial Data Gateway Module X2



5203942

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35094158
Service Connector: 84766509
Description: 30-Way F 0.5 MQS Series (BK with GY Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19370262	EL-35616-58 (BK)	EL-38125-58

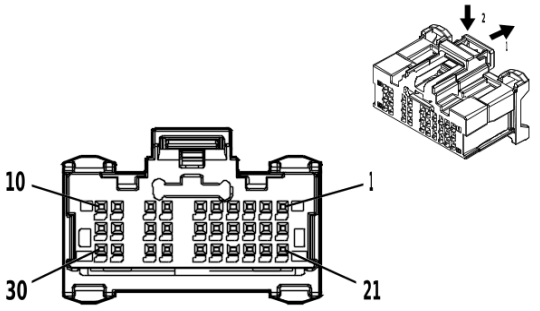
K56 Serial Data Gateway Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 4	—	—	—	Not Occupied	—	—
5	0.35	BK/GY	3559	Passive Start Switch 2 Low Reference	I	—
6	—	—	—	Not Occupied	—	—
7	0.35	L-GN/VT	5199	Run/Crank Relay Coil Control	I	—
8	—	—	—	Not Occupied	—	—
9	0.35	YE/WH	4973	Ethernet Bus 1R [+]	I	—
10	0.35	YE	4972	Ethernet Bus 1R [-]	I	—
11 - 12	—	—	—	Not Occupied	—	—
13	0.35	D-BU/BN	4983	AUTOSAR CAN Bus [+] 7 Serial Data	I	—
14	0.35	WH	4982	AUTOSAR CAN Bus [-] 7 Serial Data	I	—
15	0.35	L-GN/BK	3558	Ignition Mode Switch Signal 2	I	—
16	0.35	WH	4980	AUTOSAR CAN Bus [-] 6 Serial Data	I	—

K56 Serial Data Gateway Module X2 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
17	0.35	L-GN	2578	Private Serial Data Presentation CAN Bus [+] 1 Serial Data	I	—
18	0.35	BN	2577	Private Serial Data Presentation CAN Bus [-] 1 Serial Data	I	—
19	0.35	WH	7207	Ethernet Bus 1 Enable Signal	I	—
20 - 22	—	—	—	Not Occupied	—	—
23	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
24	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
25	—	—	—	Not Occupied	—	—
26	0.35	YE	4981	AUTOSAR CAN Bus [+] 6 Serial Data	I	—
27	0.35	VT	2580	Private Serial Data Presentation CAN Bus [+] 2 Serial Data	I	—
28	0.35	GY	2579	Private Serial Data Presentation CAN Bus [-] 2 Serial Data	I	—
29	0.35	L-GN/WH	4975	Ethernet Bus 1T [+]	I	—
30	0.35	L-GN	4974	Ethernet Bus 1T [-]	I	—

K56 Serial Data Gateway Module X3



4900333

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35077574
Service Connector: 13519319
Description: 30-Way F 0.5 MQS Series (BK with GY Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19370262	EL-35616-58 (BK)	EL-38125-58

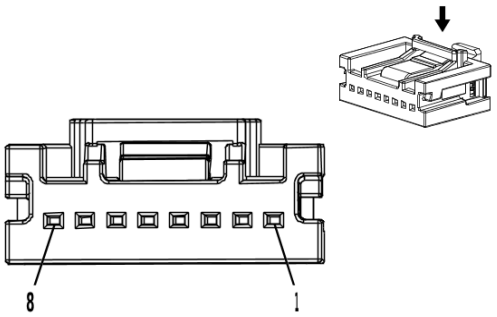
K56 Serial Data Gateway Module X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 6	—	—	—	Not Occupied	—	—

K56 Serial Data Gateway Module X3 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
7	0.35 0.35	D-BU/WH GY/WH	4758 7211	Ethernet Bus 2 [+] Ethernet Bus 4 [+]	I I	(IOS/IOT/ IOV)+IOV IOR+UDA/IOR +UE1/IOR+UI3
8	0.35 0.35	D-BU GY	4757 7210	Ethernet Bus 2 [-] Ethernet Bus 4 [-]	I I	(IOS/IOT/ IOV)+IOV IOR+UDA/IOR +UE1/IOR+UI3
9	0.35	D-BU/WH	4758	Ethernet Bus 2 [+]	I	—
10	0.35	D-BU	4757	Ethernet Bus 2 [-]	I	—
11 - 26	—	—	—	Not Occupied	—	—
27	0.35	GY/D-BU	7217	Ethernet Bus 7 [+]	I	—
28	0.35	BN/D-BU	7216	Ethernet Bus 7 [-]	I	—
29 - 30	—	—	—	Not Occupied	—	—

K60 Steering Column Lock Module



4017639

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33227522
Service Connector: 19354223
Description: 8-Way F Mini 50 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	EL-35616-58 (BK)	No Tool Required

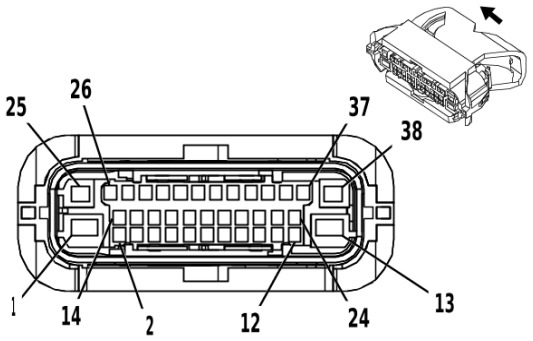
K60 Steering Column Lock Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/GY	4140	Secondary Fused Battery Positive Voltage 41	I	—
2	—	—	—	Not Occupied	—	—
3	0.35	BK	1850	Ground 18	I	—
4	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	I	—
5	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	I	—

K60 Steering Column Lock Module (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
6	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	I	—
7	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	I	—
8	0.35	D-BU/VT	807	Ignition Off/Accessory Ignition Voltage	I	—

K68 Trailer Lighting Control Module (U1D)



3638282

Connector Part Information

Harness Type: Chassis
OEM Connector: 13655518
Service Connector: 19303771
Description: 38-Way F 1.5 CTS, 2.8 MCP, 4.8 MCP Series, Sealed (BK with BN Inner Connector)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13576374	J-35616-35 (VT)	J-38125-557
II	19119560	J-35616-40 (BU)	J-38125-556
III	19119560	J-35616-40 (BU)	J-38125-556
IV	19301776	J-35616-14 (GN)	J-38125-215A

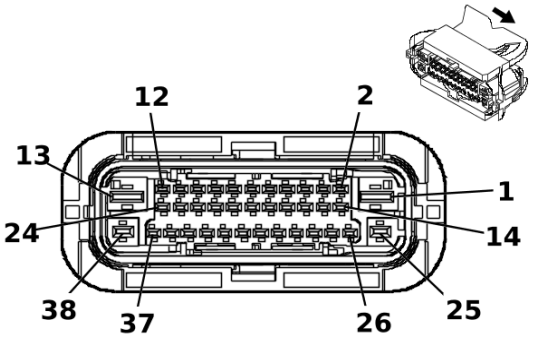
K68 Trailer Lighting Control Module (U1D)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	3	RD/VT	5640	Secondary Fused Battery Positive Voltage 56	III	—
2	0.75	D-BU/WH	5186	Left Trailer Turn Signal Lamp Control	IV	—
3	0.75	YE/GY	5187	Right Trailer Turn Signal Lamp Control	IV	—
4	—	—	—	Not Occupied	—	—
5	0.75	BN/GY	5184	Left Trailer Park Lamp Control	IV	—
6	—	—	—	Not Occupied	—	—
7	0.75	L-GN/WH	5189	Trailer Backup Lamp Control	IV	—
8 - 9	—	—	—	Not Occupied	—	—
10	0.5	VT/WH	1139	Run/Crank Ignition 1 Voltage 11	IV	—
11	0.5	BN/YE	820	Center High Mounted Stop Lamp Supply Voltage	IV	—
12	—	—	—	Not Occupied	—	—

K68 Trailer Lighting Control Module (U1D) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
13	2.5	BK	2050	Ground 20	II	—
14 - 26	—	—	—	Not Occupied	—	—
27	0.5	D-BU/VT	4101	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	IV	—
28	0.5	WH	4100	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	IV	—
29	0.5	D-BU/VT	4101	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	IV	—
30	0.5	WH	4100	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	IV	—
31 - 37	—	—	—	Not Occupied	—	—
38	2	RD/YE	5840	Secondary Fused Battery Positive Voltage 58	I	—

K69 Transfer Case Control Module (NP0/NQH)



5199340

Connector Part Information

Harness Type: Engine
OEM Connector: 33235465
Service Connector: 84769286
Description: 38-Way F 1.5, 2.8, 4.8 MCP Series, Sealed (BK with BN Inner Connector)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13576374	J-35616-35 (VT)	J-38125-557
II	13582180	J-35616-14 (GN)	J-38125-557
III	19119560	J-35616-40 (BU)	J-38125-556
IV	19301776	J-35616-14 (GN)	J-38125-215A

K69 Transfer Case Control Module (NP0/NQH)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	RD/GY	1342	Primary Fused Battery Positive Voltage 13	III	—
2	—	—	—	Not Occupied	—	—
3	0.5 0.5	D-BU/YE D-BU/YE	4979 4979	AUTOSAR CAN Bus [+] 2 Serial Data AUTOSAR CAN Bus [+] 2 Serial Data	II IV	— —

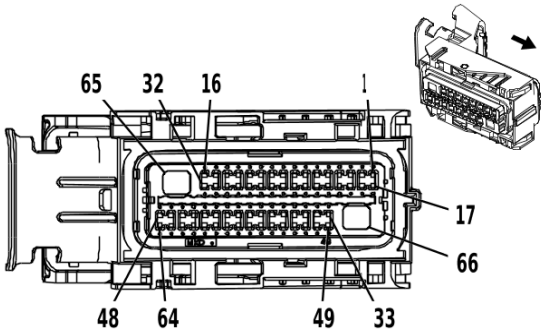
K69 Transfer Case Control Module (NP0/NQH) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
4	0.5	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	II	—
	0.5	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	IV	—
5	0.5	WH/L-GN	7479	Rotary Position Sensor Signal	II	—
	0.5	WH/L-GN	7479	Rotary Position Sensor Signal	IV	—
6	—	—	—	Not Occupied	—	—
7	0.5	YE	7474	Incremental Encoder Direction Signal	IV	—
	0.5	YE	7474	Incremental Encoder Direction Signal	II	—
8	—	—	—	Not Occupied	—	—
9	0.5	YE/WH	1695	4WD Locked Range Indicator Control	IV	—
	0.5	YE/WH	1695	4WD Locked Range Indicator Control	II	—
10	—	—	—	Not Occupied	—	—
11	0.5	VT/GY	8017	Secondary Axle Motor Relay Control	IV	—
	0.5	VT/GY	8017	Secondary Axle Motor Relay Control	II	—
12	0.5	GY/BK	1570	Front Axle Actuator Control	II	—
	0.5	GY/BK	1570	Front Axle Actuator Control	IV	—
13	2.5	YE/VT	1553	Transfer Case Motor Counter Clockwise Control	III	—
14	—	—	—	Not Occupied	—	—
15	0.5	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	IV	—
	0.5	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	II	—
16	0.5	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	IV	—
	0.5	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	II	—
17	—	—	—	Not Occupied	—	—
18	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage 21	II	—
	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage 21	IV	—
19	0.5	D-BU/GY	7473	Incremental Encoder Impulse Signal	II	—
	0.5	D-BU/GY	7473	Incremental Encoder Impulse Signal	IV	—
20	0.5	WH/RD	7477	Gear Position Sensor 5V Reference	II	—
	0.5	WH/RD	7477	Gear Position Sensor 5V Reference	IV	—
21 - 23	—	—	—	Not Occupied	—	—
24	0.5	BK	8015	Transfer Case Motor Low Reference	II	—
	0.5	BK	8015	Transfer Case Motor Low Reference	IV	—
25	2.5	BK	450	Ground 4	I	—
	2.5	BK	6550	Propulsion Propulsion System	I	—
26	—	—	—	Not Occupied	—	—
27	0.5	BK	8014	Transfer Case Lock Solenoid Low Reference	II	—
	0.5	BK	8014	Transfer Case Lock Solenoid Low Reference	IV	—
28 - 29	—	—	—	Not Occupied	—	—
30	0.5	YE/BK	7478	Gear Position Sensor Low Reference	IV	—
	0.5	YE/BK	7478	Gear Position Sensor Low Reference	II	—
31	0.5	WH/L-GN	7475	Incremental Encoder Sensor 8V Reference	IV	—
	0.5	WH/L-GN	7475	Incremental Encoder Sensor 8V Reference	II	—
32	—	—	—	Not Occupied	—	—
33	0.5	D-BU	8013	Transfer Case Lock Solenoid Control 2	IV	—
	0.5	D-BU	8013	Transfer Case Lock Solenoid Control 2	II	—
34	0.5	YE/BN	1569	Transfer Case Lock Solenoid Valve Control	IV	—
	0.5	YE/BN	1569	Transfer Case Lock Solenoid Valve Control	II	—
35	—	—	—	Not Occupied	—	—

K69 Transfer Case Control Module (NP0/NQH) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
36	0.5	VT	7476	Incremental Encoder Sensor Low Reference	IV	—
	0.5	VT	7476	Incremental Encoder Sensor Low Reference	II	—
37	—	—	—	Not Occupied	—	—
38	2.5	YE/GY	1552	Transfer Case Motor Clockwise Control	I	—

K71 Transmission Control Module



4024881

Connector Part Information

Harness Type: Engine
OEM Connector: 33344977
Service Connector: 19330900
Description: 66-Way F 0.64, 2.8 Series, Sealed (BK with BK Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575796	J-35616-35 (VT)	J-38125-11A
II	19355819	J-35616-64B (LT BU)	J-38125-215A

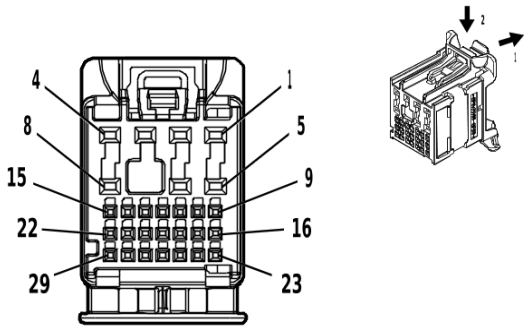
K71 Transmission Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/WH	422	Torque Converter Clutch Solenoid Valve Control	II	—
2	0.5	GY/L-GN	6403	Clutch Solenoid Valve D Control	II	—
3	0.5	WH/D-BU	4507	Transmission Clutch H Control	II	—
4	0.5	WH	4508	Transmission Clutch G Control	II	—
5 - 6	—	—	—	Not Occupied	—	—
7	0.5	YE/L-GN	4170	Transmission Output Shaft Speed Sensor Circuit 9V Reference	II	—
8	0.5	YE/D-BU	4171	Transmission Input Shaft Speed Sensor Circuit 9V Reference	II	—
9 - 11	—	—	—	Not Occupied	—	—
12	0.5	L-GN/YE	6353	Input Speed Signal	II	—
13	0.5	L-GN/VT	4510	Transmission Intermediate Speed Signal	II	—
14	0.5	GY/D-BU	6358	Output Speed Signal	II	—

K71 Transmission Control Module (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
15	0.5	BN/WH	6254	Transmission Input Speed Sensor Signal	II	—
16	—	—	—	Not Occupied	—	—
17	0.5	L-GN/WH	1530	Transmission Line Pressure Control Solenoid Valve Control	II	—
18	0.5	YE/BN	6404	Clutch Solenoid Valve E Control	II	—
19	0.5	GY	6402	Clutch Solenoid Valve C Control	II	—
20	0.5	VT	4509	Transmission Clutch F Control	II	—
21	0.5	WH/YE	2159	Park Inhibit Solenoid Assembly Control	II	—
22	0.5	L-GN/BK	7819	Default Disable Solenoid Control	II	—
23	—	—	—	Not Occupied	—	—
24	0.5	L-GN/WH	2968	Auxiliary Transmission Fluid Pump Control	II	—
25 - 27	—	—	—	Not Occupied	—	—
28	0.5	BK/BN	586	Transmission Fluid Temperature Sensor Low Reference	II	—
29 - 30	—	—	—	Not Occupied	—	—
31	0.75	L-GN/VT	4621	Engine Control Module LIN Bus 1	II	—
32	—	—	—	Not Occupied	—	—
33	0.5	L-GN/GY	6387	Transmission High Side Driver 1 Control	II	—
34	—	—	—	Not Occupied	—	—
35	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage 21	II	—
36	—	—	—	Not Occupied	—	—
37	0.5	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	II	—
38	0.5	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	II	—
39 - 48	—	—	—	Not Occupied	—	—
49	0.5	GY/BN	6388	Transmission High Side Driver 2 Control	II	—
50 - 52	—	—	—	Not Occupied	—	—
53	0.5	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	II	—
54	0.5	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	II	—
55 - 58	—	—	—	Not Occupied	—	—
59	0.5	VT/WH	6319	Electronic Transmission Range Select Out of Park Switch 2 Signal	II	—
60	—	—	—	Not Occupied	—	—
61	0.5	WH/YE	6317	Electronic Transmission Range Select Out of Park Switch Signal	II	—
62	0.5	BN	3706	Electronic Transmission Range Select Switch Analog Signal 1	II	—
63	0.5	BN/WH	585	Transmission Fluid Temperature Sensor Signal	II	—
64	—	—	—	Not Occupied	—	—
65	1	BK/WH	6151	Engine Control Module Ground 61	I	—
66	1	RD/L-GN	1840	Secondary Fused Battery Positive Voltage 18	I	—

K73 Telematics Communication Interface Control Module (UE1)



4496253

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33303954
Service Connector: 13506123
Description: 29-Way F 0.5 NANO, 1.2 MCON Series Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19367551	J-35616-16 (LT GN)	J-38125-215A
II	19370262	EL-35616-58 (BK)	EL-38125-58
III	19371240	J-35616-16 (LT GN)	J-38125-215A

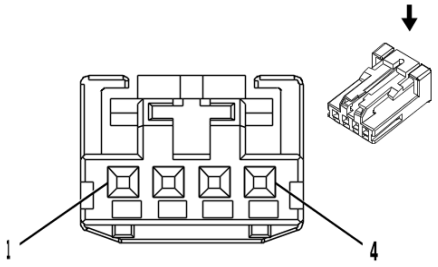
K73 Telematics Communication Interface Control Module (UE1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/D-BU	3240	Secondary Fused Battery Positive Voltage 32	I	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.35	BK/WH	1451	Ground 14	III	—
5	—	—	—	Not Occupied	—	—
6	0.35	L-GN/BK	2515	Keypad Control	III	—
7 - 8	—	—	—	Not Occupied	—	—
9	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	II	—
10	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	II	—
11	0.35	L-GN/WH	2514	Keypad Signal	II	—
12	—	—	—	Not Occupied	—	—
13	0.35	Bare	1792	Low Reference 7	II	—
14	0.35	BK/GY	5152	Voice Recognition Audio [-] Control	II	—
15	0.35	GY/YE	5149	Voice Recognition Audio Signal	II	—
16	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	II	—
17	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	II	—
18	0.35	WH/BK	4769	Emergency Call Backup Speaker [-] Control	II	—
19	0.35	YE/VT	2516	Keypad Green LED Control	II	—
20	—	—	—	Not Occupied	—	—
21	0.35	BK/BN	654	Cellular Telephone Microphone Low Reference	II	—
22	0.35	D-BU	655	Cellular Telephone Microphone Signal	II	—

K73 Telematics Communication Interface Control Module (UE1) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
23 - 24	—	—	—	Not Occupied	—	—
25	0.35	GY/L-GN	4770	Emergency Call Backup Speaker [+] Control	II	—
26	0.35	BN/WH	2517	Keypad Red LED Control	II	—
27	0.35	GY	7210	Ethernet Bus 4 [-]	II	—
28	0.35	GY/WH	7211	Ethernet Bus 4 [+]	II	—
29	—	—	—	Not Occupied	—	—

K77 Remote Control Door Lock Receiver (ATH)



2717162

Connector Part Information

Harness Type: Body
OEM Connector: 13969166
Service Connector: 13587297
Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

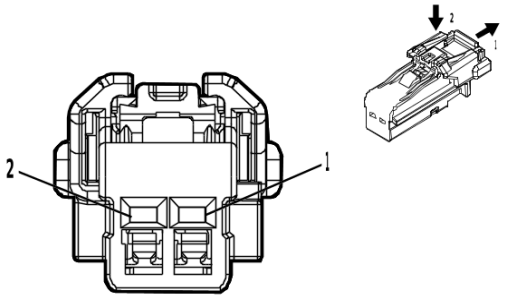
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

K77 Remote Control Door Lock Receiver (ATH)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/VT	2640	Secondary Fused Battery Positive Voltage 26	I	—
2	0.5	L-GN/YE	2862	Body Control Module LIN Bus 16	I	—
3	—	—	—	Not Occupied	—	—
4	0.5	BK/WH	1351	Ground 13	I	—

K89 Immobilizer Control Module



4115691

Connector Part Information

Harness Type: Floor Console
OEM Connector: 35311666
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BK)

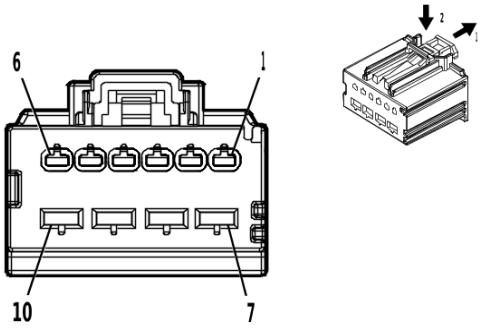
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

K89 Immobilizer Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/BK	4996	Immobilizer Antenna Signal [+]	I	—
2	0.5	WH/GY	4997	Immobilizer Antenna Low Signal	I	—

K99 Steering Column Position Control Module (N38)



5035058

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35152553
Service Connector: 13525907
Description: 10-Way F 1.5, 2.8 Series (BK)

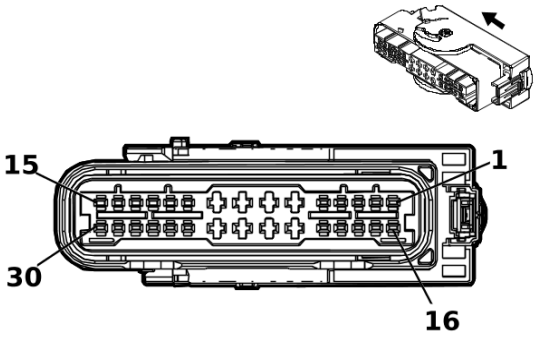
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13587516	J-35616-4A (PU)	J-38125-11A
II	19300635	J-35616-2A (GY)	J-38125-217

K99 Steering Column Position Control Module (N38)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	VT/BK	2020	Steering Column Tilt and Telescope Switch Feedback Signal	II	—
2	0.35	L-GN/WH	7530	Driver Seat Memory Control Module LIN Bus 1	II	—
3	0.35	L-GN/BN	2095	Steering Column Tilt and Telescope Switch Rearward Signal	II	—
4	0.35	BN/GY	2096	Steering Column Tilt and Telescope Switch Up Signal	II	—
5	0.35	YE/BN	2097	Steering Column Tilt and Telescope Switch Down Signal	II	—
6	0.35	D-BU/YE	2094	Steering Column Tilt and Telescope Switch Forward Signal	II	—
7	1.5	RD/VT	4640	Secondary Fused Battery Positive Voltage 46	I	—
8	1.5	BK	1850	Ground 18	I	—
9 - 10	—	—	—	Not Occupied	—	—

K111 Fuel Pump Driver Control Module



3240109

Connector Part Information

Harness Type: Chassis
OEM Connector: 33386317
Service Connector: 19354086
Description: 30-Way F 1.5, 2.8 Series, Sealed (BK)

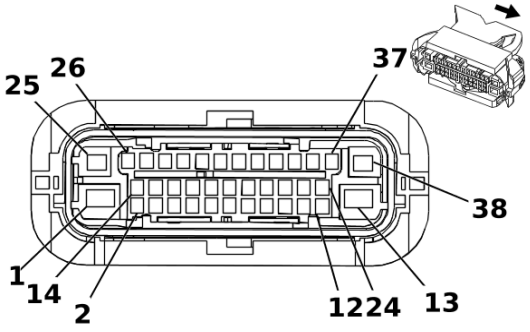
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300440	J-35616-4A (PU)	J-38125-557
II	19329958	J-35616-2A (GY)	J-38125-11A

K111 Fuel Pump Driver Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	D-BU/YE	6861	Water In Fuel Sensor Signal	II	—
3	0.5	BK/D-BU	6863	Water In Fuel Sensor Low Reference	II	—
4	0.5	BN/GY	7072	Fuel Temperature Sensor 1 Signal	II	—
5 - 6	—	—	—	Not Occupied	—	—
7	2.5	RD/VT	1940	Secondary Fused Battery Positive Voltage 19	I	—
8	2.5	GY	120	Fuel Pump Control	I	—
9	2.5	YE/GY	4137	Fuel Pump Supply Voltage Phase 2	I	—
10	0.5	YE/RD	2709	Fuel Tank Pressure Sensor 5V Reference	II	—
11	0.5	D-BU/WH	890	Fuel Tank Pressure Sensor Signal	II	—
12	0.5	BN/RD	7445	Fuel Pressure Sensor 5V Reference	II	—
13	0.5	D-BU/ L-GN	1936	Primary Fuel Level Sensor Signal	II	—
14	—	—	—	Not Occupied	—	—
15	0.5	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	II	—
16	0.5	VT/L-GN	4320	Selective Catalytic Reduction Power Module Wake-Up Signal	II	—
17	—	—	—	Not Occupied	—	—
18	0.5	L-GN/GY	465	Fuel Pump Primary Relay Control	II	—
19	0.5	BN/WH	7073	Fuel Temperature Sensor 1 Low Reference	II	—
20	—	—	—	Not Occupied	—	—
21	0.5	WH	1310	EVAP Vent Solenoid Valve Control	I	—
22	2.5	BK	1950	Ground 19	I	—
23	0.5	BK	7444	Fuel Pump Assembly Shield Ground	I	—
24	2.5	WH/BN	4138	Fuel Pump Supply Voltage Phase 3	I	—
25	0.5	BK/BN	6284	Fuel Tank Pressure Sensor Low Reference	II	—
26	0.5	D-BU/WH	7446	Fuel Pressure Sensor Signal	II	—
27	0.5	BK/YE	7447	Fuel Pressure Sensor Low Reference	II	—
28	0.5	BK/L-GN	6281	Fuel Level Sensor Low Reference	II	—
29	—	—	—	Not Occupied	—	—
30	0.5	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	II	—

K115 Reductant Control Module (LM2)



3240110

Connector Part Information

Harness Type: DEF Jumper
OEM Connector: 13582126
Service Connector: Service by Harness - See Part Catalog
Description: 38-Way F 1.5 CTS, 2.8 MCP, 4.8 MCP Series, Sealed (BK with BK Inner Connector)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

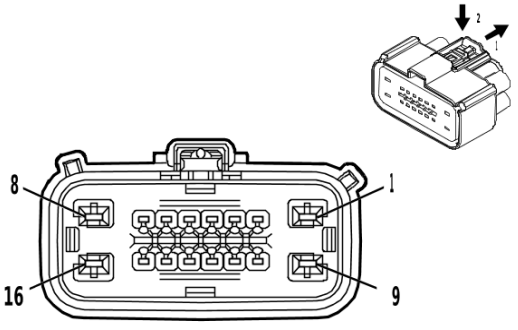
K115 Reductant Control Module (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	RD/WH	2040	Secondary Fused Battery Positive Voltage 20	I	—
2	0.5	VT/WH	3676	Diesel Exhaust Fluid Heating Tank 2 Heater Control	I	—
3	—	—	—	Not Occupied	—	—
4	0.5	WH/BN	3677	Diesel Exhaust Fluid Reservoir Heater Control	I	—
5	—	—	—	Not Occupied	—	—
6	0.5	YE	3244	Diesel Exhaust Fluid Tank Temperature Sensor Signal	I	—
7	0.5	VT	7290	Diesel Exhaust Fluid Sensor Voltage Reference 1	I	—
8	0.5	YE/GN	7284	Diesel Exhaust Fluid Liquid Quality Temperature Signal	I	—
9	0.5	BK/YE	8434	Diesel Exhaust Fluid Sensor Low Reference	I	—
10	—	—	—	Not Occupied	—	—
11	0.5	VT/WH	3876	Diesel Exhaust Fluid Smart Pump Supply Voltage Phase 3	I	—
12	—	—	—	Not Occupied	—	—
13	0.75	BK	1650	Ground 16	I	—
14	0.5	BN/GY	2936	Diesel Exhaust Fluid Heating Tank 2 Heater Control Low	I	—
15	—	—	—	Not Occupied	—	—
16	0.5	BU/BK	4318	Diesel Exhaust Fluid Tank Heater Low Control	I	—

K115 Reductant Control Module (LM2) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
17	—	—	—	Not Occupied	—	—
18	0.5	YE/GN	3245	Diesel Exhaust Fluid Tank Temperature Sensor Feedback Signal	I	—
19	0.5	YE/RD	3106	Diesel Exhaust Fluid Pressure Sensor 5 Volt Reference	I	—
20	0.5	BN/YE	3108	Diesel Exhaust Fluid Pressure Sensor Signal	I	—
21	0.5	BK/GN	3107	Diesel Exhaust Fluid Pressure Sensor Low Reference	I	—
22 - 23	—	—	—	Not Occupied	—	—
24	0.5	VT	3875	Diesel Exhaust Fluid Smart Pump Supply Voltage Phase 2	I	—
25	2.5	BK	1650	Ground 16	I	—
26	0.5	YE/GY	3199	Diesel Exhaust Fluid Pressure Line Heater Control	I	—
27	—	—	—	Not Occupied	—	—
28	0.5	GN/BK	4319	Diesel Exhaust Fluid Line Heater Low Control	I	—
29	—	—	—	Not Occupied	—	—
30	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage 21	I	—
31	0.35	BU/BK	4977	AUTOSAR CAN Bus [+] 3 Serial Data	I	—
32	0.5	BU/BK	4977	AUTOSAR CAN Bus [+] 3 Serial Data	I	—
33	0.5	WH	4976	AUTOSAR CAN Bus [-] 3 Serial Data	I	—
34	0.5	WH	4976	AUTOSAR CAN Bus [-] 3 Serial Data	I	—
35	—	—	—	Not Occupied	—	—
36	0.5	GY/BK	2937	Diesel Exhaust Fluid Pump Motor Stator Low Reference	I	—
37	0.5	GY	3103	Diesel Exhaust Fluid Smart Pump Control	I	—
38	0.5	RD/WH	3440	Secondary Fused Battery Positive Voltage 34	I	—

K133 Trailer Brake Power Control Module (JL1)



4624589

Connector Part Information

Harness Type: Chassis
OEM Connector: 33297568
Service Connector: 13599889
Description: 16-Way F 1.5, 2.8 Series, Sealed (GY)

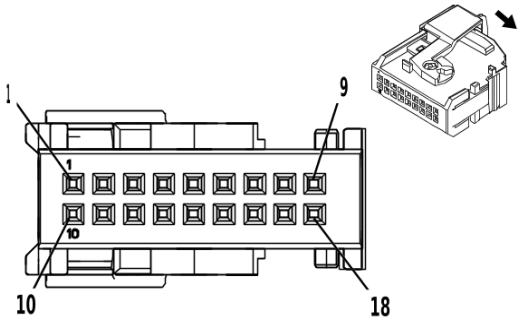
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13576377	J-35616-35 (VT)	J-38125-12A
II	19300432	J-35616-2A (GY)	J-38125-217

K133 Trailer Brake Power Control Module (JL1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	3	RD/VT	1242	Primary Fused Battery Positive Voltage 12	I	—
2	0.5	WH/BK	2223	Trailer Brake Apply Signal	II	—
3 - 4	—	—	—	Not Occupied	—	—
5	0.5	YE/BK	2224	Trailer Brake Enable Signal	II	—
6 - 7	—	—	—	Not Occupied	—	—
8	2.5	D-BU	47	Trailer Auxiliary Control	I	—
9	2.5	BK	1950	Ground 19	I	—
10 - 11	—	—	—	Not Occupied	—	—
12	0.75	L-GN/ D-BU	2733	Electronic Brake Control Module LIN Bus 2	II	—
13 - 16	—	—	—	Not Occupied	—	—

K157 Video Processing Control Module (UV2)



4329088

Connector Part Information

Harness Type: Body
OEM Connector: 33168840
Service Connector: 19369840
Description: 18-Way F Micro-Quadlock Series (BK)

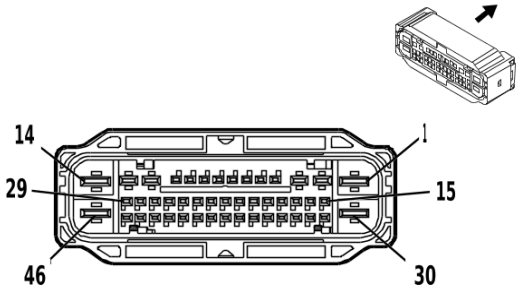
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575587	J-35616-64B (LT BU)	J-38125-12A
II	13575859	J-35616-64B (LT BU)	J-38125-12A

K157 Video Processing Control Module (UV2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	BK/WH	1351	Ground 13	II	—
4 - 9	—	—	—	Not Occupied	—	—
10	0.5	RD/VT	1640	Secondary Fused Battery Positive Voltage 16	II	—
11 - 12	—	—	—	Not Occupied	—	—
13	0.5	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	II	—
14	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	I	—
15	0.5	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	II	—
16	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	I	—
17 - 18	—	—	—	Not Occupied	—	—

K160 Brake System Control Module



4162046

Connector Part Information

Harness Type: Body
OEM Connector: 33222138
Service Connector: 19333026
Description: 46-Way F 1.2 OCS, 2.8, 4.8 CTS Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19333088	J-35616-35 (VT)	J-38125-212
II	19370818	J-35616-16 (LT GN)	J-38125-559
III	19371240	J-35616-16 (LT GN)	J-38125-215A
IV	84634921	J-35616-42 (RD)	J-38125-215A

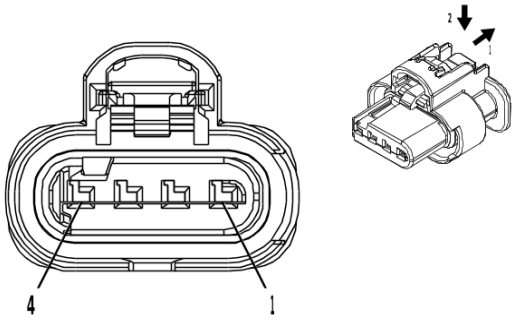
K160 Brake System Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	6	BK	150	Ground 1	IV	—
2	2.5	WH	2001	Left Park Brake Motor Apply Control	I	—
3	2.5	GY/BK	4369	Left Park Brake Motor Low Reference	I	—
4	0.5	GY/WH	7064	Left Front Wheel Speed Sensor Control	III	—

K160 Brake System Control Module (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
5	0.5	GY	830	Left Front Wheel Speed Sensor Signal	III	—
6 - 8	—	—	—	Not Occupied	—	—
9	0.5	VT/WH	639	Run/Crank Ignition 1 Voltage 6	III	—
10	0.5	GY/BN	7065	Right Front Wheel Speed Sensor Control	III	—
11	0.5	YE	872	Right Front Wheel Speed Sensor Signal	III	—
12	2.5	L-GN/VT	1988	Right Park Brake Motor Apply Control	I	—
13	2.5	GY	4368	Right Park Brake Motor Low Reference	I	—
14	6	RD/YE	442	Primary Fused Battery Positive Voltage 4	IV	—
15	0.5	GY/BK	7127	Left Rear Wheel Speed Sensor Control	III	—
16	0.5	D-BU	884	Left Rear Wheel Speed Sensor Signal	III	—
17	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	III	—
18	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	III	—
19	0.5	L-GN/GY	817	Vehicle Speed Signal 4	III	—
20 - 22	—	—	—	Not Occupied	—	—
23	0.5	L-GN/YE	2731	Electronic Brake Control Module LIN Bus 1	III	—
24	—	—	—	Not Occupied	—	—
25	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	III	—
26	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	III	—
27	—	—	—	Not Occupied	—	—
28	0.5	GY/YE	7128	Right Rear Wheel Speed Sensor Control	III	—
29	0.5	VT	882	Right Rear Wheel Speed Sensor Signal	III	—
30	6	BK	150	Ground 1	IV	—
31 - 32	—	—	—	Not Occupied	—	—
33	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	III	—
34	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	III	—
35	0.75	L-GN/ D-BU	2733	Electronic Brake Control Module LIN Bus 2	II	—
36	0.5	WH/BK	2223	Trailer Brake Apply Signal	III	—
37	0.5	YE/BK	2224	Trailer Brake Enable Signal	III	—
38	0.5	L-GN/GY	333	Brake Fluid Level Switch Signal	III	—
39	0.75	BN/D-BU	1602	Front Brake Pad Wear Sensor Signal	II	—
40	—	—	—	Not Occupied	—	—
41	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	III	—
42	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	III	—
43	—	—	—	Not Occupied	—	—
44	0.75	L-GN/YE	1616	Rear Brake Pad Wear Sensor Signal	II	—
45	—	—	—	Not Occupied	—	—
46	6	RD/WH	1642	Primary Fused Battery Positive Voltage 16	IV	—

K171 Hands-Free Liftgate Sensor Control Module (QT8)



4210809

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 33390897
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

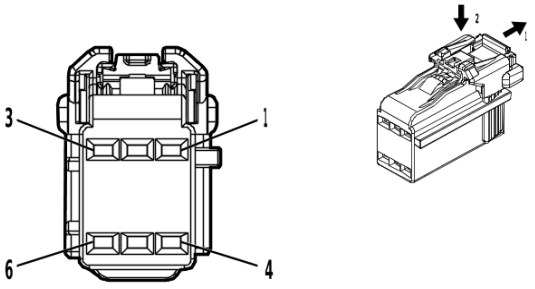
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

K171 Hands-Free Liftgate Sensor Control Module (QT8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK	1450	Ground 14	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	L-GN/ D-BU	2856	Body Control Module LIN Bus 10	I	—
4	0.5	RD/GY	4840	Secondary Fused Battery Positive Voltage 48	I	—

K175 Center Console Compartment Cooler Control Module (DCK)



4862126

Connector Part Information

Harness Type: Floor Console
OEM Connector: 35327305

Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 1.2 Series (BK)

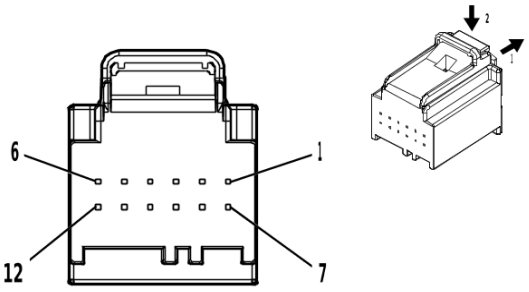
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

K175 Center Console Compartment Cooler Control Module (DCK)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/VT	6340	Secondary Fused Battery Positive Voltage 63	I	—
2	0.75	BK	1250	Ground 12	I	—
3	0.35	L-GN/VT	2857	Body Control Module LIN Bus 11	I	—
4	0.35	L-GN/WH	7846	Refrigerator On Indicator Control	I	—
5	0.35	D-BU/ L-GN	7845	Refrigerator Freeze Indicator Control	I	—
6	0.35	BN/BK	7844	Refrigerator Enable Signal	I	—

K182 Parking Assist Control Module X1 (UD5/UD7)



5095565

Connector Part Information

Harness Type: Body
OEM Connector: 35130710
Service Connector: 13525987
Description: 12-Way F 0.64 Series, Sealed (BK)

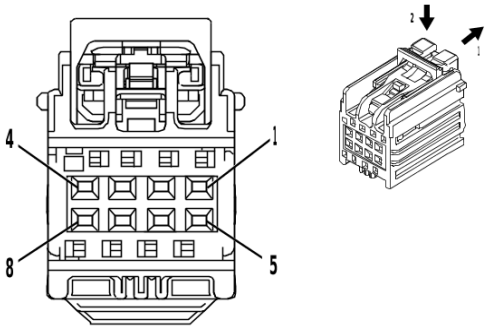
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575742	J-35616-64B (LT BU)	J-38125-215A
II	13575867	J-35616-64B (LT BU)	J-38125-215A
III	19300631	J-35616-64B (LT BU)	J-38125-215A

K182 Parking Assist Control Module X1 (UD5/UD7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/WH	4740	Secondary Fused Battery Positive Voltage 47	I	—
	0.5	RD/WH	4740	Secondary Fused Battery Positive Voltage 47	III	—
2	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	III	—
	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	II	—
3	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	II	—
	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	III	—
4	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	II	—
	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	III	—
5	—	—	—	Not Occupied	—	—
6	0.5	BK/WH	1351	Ground 13	III	—
	0.5	BK/WH	1351	Ground 13	I	—
7	—	—	—	Not Occupied	—	—
8	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	III	—
	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	II	—
9	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	II	—
	0.35	D-BU	4987	AUTOSAR CAN Bus [+] 1 Serial Data	III	—
10	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	II	—
	0.35	WH	4986	AUTOSAR CAN Bus [-] 1 Serial Data	III	—
11 - 12	—	—	—	Not Occupied	—	—

K182 Parking Assist Control Module X2 (UD5/UD7)



4280711

Connector Part Information

Harness Type: Body
OEM Connector: 33183559
Service Connector: 19355209
Description: 8-Way F YESC Kaizen Series (GY)

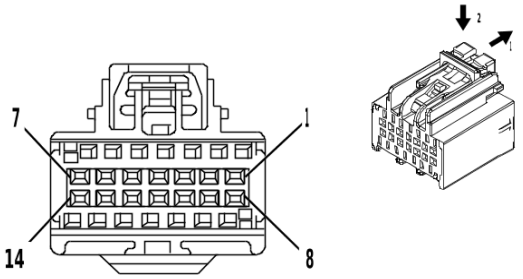
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

K182 Parking Assist Control Module X2 (UD5/UD7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	YE/WH	2377	Right Rear Middle Parking Assist Sensor Signal	I	—
3	0.5	YE	2375	Left Rear Outer Parking Assist Sensor Signal	I	—
4	0.5	BN/WH	2374	Object Sensor Supply Voltage	I	—
5	0.5	YE/VT	2378	Right Rear Outer Parking Assist Sensor Signal	I	—
6	0.5	YE/D-BU	2376	Left Rear Middle Parking Assist Sensor Signal	I	—
7	—	—	—	Not Occupied	—	—
8	0.5	BK/GY	2379	Object Sensor Low Reference	I	—

K182 Parking Assist Control Module X3 (UD5/UD7)



4547098

Connector Part Information

Harness Type: Body
OEM Connector: 35014564
Service Connector: 19354933
Description: 14-Way F 0.64 Kaizen Series (BU)

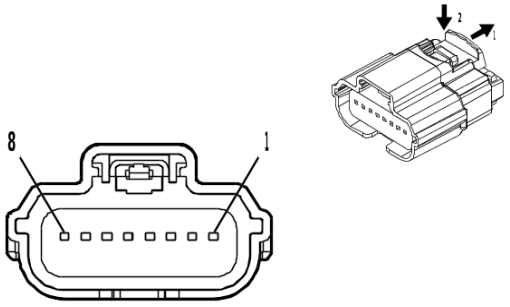
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300631	J-35616-64B (LT BU)	J-38125-215A

K182 Parking Assist Control Module X3 (UD5/UD7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 4	—	—	—	Not Occupied	—	—
5	0.5	YE/GY	5216	Left Front Middle Parking Assist Sensor	I	—
6	0.5	WH/GY	5217	Right Front Outer Parking Assist Sensor	I	—
7	0.5	BN	6581	Front Parking Assist Display Control	I	—
8 - 10	—	—	—	Not Occupied	—	—
11	0.5	VT/WH	5215	Left Front Outer Parking Assist Sensor	I	—
12	0.5	VT/GY	5218	Right Front Middle Parking Assist Sensor	I	—
13	—	—	—	Not Occupied	—	—
14	0.5	BK/D-BU	5214	Front Parking Assist Sensor Low Reference	I	—

K183 UHF Short Range Low Energy Remote Control Access Transceiver (BOP)



4708234

Connector Part Information

Harness Type: Floor Console
OEM Connector: 35200886
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way F 64 Series, Sealed (BK)

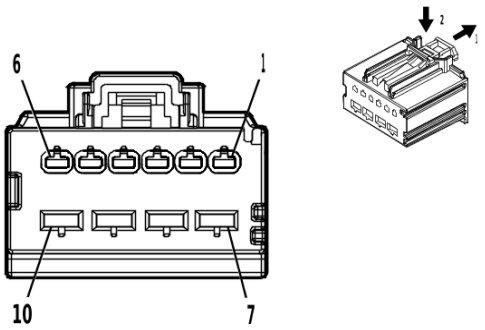
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

K183 UHF Short Range Low Energy Remote Control Access Transceiver (BOP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/BK	2738	Virtual Key Module LIN Bus 1	I	—
2	0.35	RD/VT	6340	Secondary Fused Battery Positive Voltage 63	I	—
3	—	—	—	Not Occupied	—	—
4	0.35	BK/WH	1351	Ground 13	I	—
5	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
6	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
7	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
8	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—

K194 Rear Gate Module X1 (TC2)



5035058

Connector Part Information

Harness Type: Body
OEM Connector: 35152553
Service Connector: 13525907
Description: 10-Way F 1.5, 2.8 Series (BK)

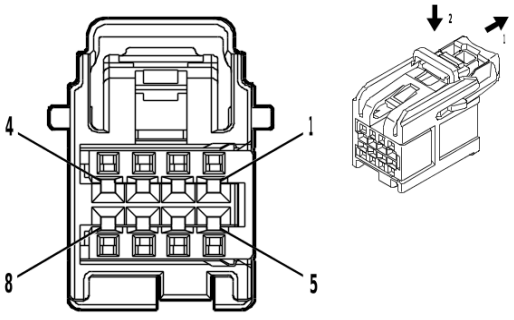
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13587516	J-35616-4A (PU)	J-38125-11A	7116-4112-02	Yazaki 9	C	D

K194 Rear Gate Module X1 (TC2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 6	—	—	—	Not Occupied	—	—
7	2.5	RD/BN	3842	Primary Fused Battery Positive Voltage 38	I	—
8 - 9	—	—	—	Not Occupied	—	—
10	2.5	BK	2050	Ground 20	I	—

K194 Rear Gate Module X2 (TC2)



4935776

Connector Part Information

Harness Type: Body
OEM Connector: 15526972
Service Connector: 19370429
Description: 8-Way F 0.64 OCS Series (BK)

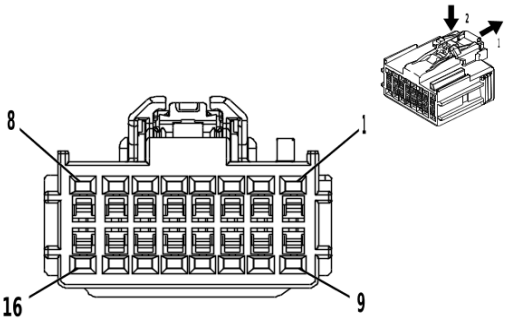
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	No Tool Required	Not Required	Not Required	Not Required	Not Required

K194 Rear Gate Module X2 (TC2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	WH	4100	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	I	—
3	0.35	WH	4100	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	I	—
4	0.35	D-BU/VT	4101	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	I	—
5	—	—	—	Not Occupied	—	—
6	0.35	D-BU/VT	4101	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	I	—
7	0.35	WH	4100	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	I	—
8	0.35	D-BU/VT	4101	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	I	—

K194 Rear Gate Module X4 (TC2)



4115730

Connector Part Information

Harness Type: Body
OEM Connector: 35029309
Service Connector: 13533121
Description: 16-Way F 1.2 Series (BK)

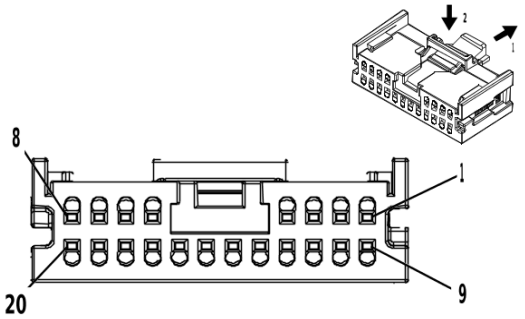
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19371240	J-35616-16 (LT GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
II	-	J-35616-13 (BU)	-	Not Available	Not Available	Not Available	Not Available

K194 Rear Gate Module X4 (TC2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	BN	4681	Rear Closure Cinch Latch Motor Cinch Control	I	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.35	GY/VT	4678	Rear Closure Latch Unlatch Status	II	—
5	—	—	—	Not Occupied	—	—
6	0.35	WH/L-GN	8084	Rear Closure Latch Neutral Status	II	—
7	0.5	GY/BK	4654	Rear Closure Object Sensor Signal	II	—
8	0.35	GY/WH	4658	Rear Closure Switch LED Control	II	—
9	1	D-BU/GY	4682	Rear Closure Cinch Latch Motor Release Control	I	—
10	0.35	BK/VT	4656	Rear Closure Object Sensor Low Reference	II	—
11 - 12	—	—	—	Not Occupied	—	—
13	0.35	YE/BK	8085	Rear Closure Latch Primary Status	II	—
14	0.35	GY/L-GN	6190	Liftgate Window/Rear Compartment Lid, Exterior Unlatch Signal	II	—
15	—	—	—	Not Occupied	—	—
16	0.35	L-GN	4657	Rear Closure Switch Signal	II	—

K212 Electronic Transmission Shift Control Pushbutton Circuit Board



4231339

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33167777
Service Connector: 13596105
Description: 20-Way F Mini 50 Series (BK)

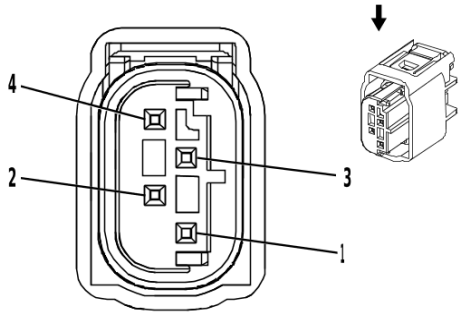
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19333221	EL-35616-58 (BK)	EL-38125-58

K212 Electronic Transmission Shift Control Pushbutton Circuit Board

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU/BK	4977	AUTOSAR CAN Bus [+] 3 Serial Data	I	—
2	0.35	D-BU/BK	4977	AUTOSAR CAN Bus [+] 3 Serial Data	I	—
3	0.35	WH	4976	AUTOSAR CAN Bus [-] 3 Serial Data	I	—
4	0.35	WH	4976	AUTOSAR CAN Bus [-] 3 Serial Data	I	—
5	0.35	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	I	—
6	0.35	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	I	—
7	0.35	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	I	—
8	0.35	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	I	—
9	0.35	RD/L-GN	5140	Secondary Fused Battery Positive Voltage 51	I	—
10	—	—	—	Not Occupied	—	—
11	0.35	L-GN/ D-BU	3738	Tap Up/Tap Down Switch Signal 2	I	—
12	0.35	BK	1050	Ground 10	I	—
13 - 15	—	—	—	Not Occupied	—	—
16	0.35	VT/L-GN	4320	Selective Catalytic Reduction Power Module Wake-Up Signal	I	—
17	0.35	VT/WH	639	Run/Crank Ignition 1 Voltage 6	I	—
18 - 19	—	—	—	Not Occupied	—	—
20	0.35	BK	1050	Ground 10	I	—

K214 Trailer Tire Pressure Indicator Module (PTT)



2173574

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 13679454
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 0.64 Micro-Quadlock Series, Sealed (BK)

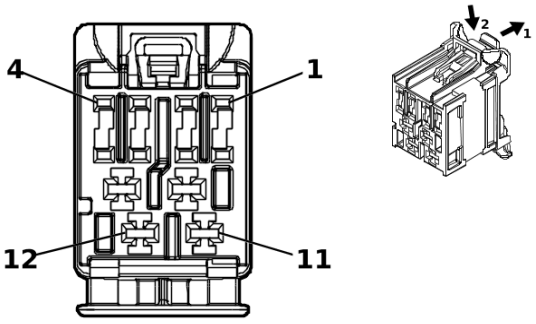
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

K214 Trailer Tire Pressure Indicator Module (PTT)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/GY	4840	Secondary Fused Battery Positive Voltage 48	I	—
2	0.5	BK	1450	Ground 14	I	—
3	0.5	L-GN/YE	2862	Body Control Module LIN Bus 16	I	—
4	—	—	—	Not Occupied	—	—

K219 Exterior Lighting Control Module X1



5203784

Connector Part Information

Harness Type: Body
OEM Connector: 33382115
Service Connector: 13509990
Description: 12-Way F 1.2, 2.8 Series (PU)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19332366	J-35616-35 (VT)	J-38125-212
II	19367551	J-35616-16 (LT GN)	J-38125-215A
III	19371240	J-35616-16 (LT GN)	J-38125-215A

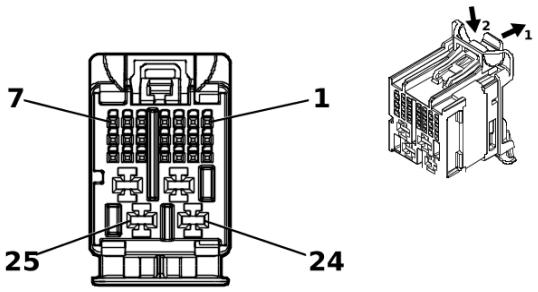
K219 Exterior Lighting Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	YE	712	Left Headlamp Low Beam Control	III	—
2	—	—	—	Not Occupied	—	—
3	0.5 0.5	BN/GY BN/GY	5061 5061	Left Front Fog Lamp Control Left Front Fog Lamp Control	II III	— —
4	—	—	—	Not Occupied	—	—
5	0.5	D-BU/WH	1314	Left Front Turn Signal Lamp Control	III	—
6	0.5	L-GN/WH	24	Backup Lamp Control	III	—

K219 Exterior Lighting Control Module X1 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
7	0.5	WH/L-GN	5966	Approach Lamp Control	III	—
8	0.5	YE/GY	122	Rear Fog Lamp Control	III	—
9	1	RD/VT	7140	Secondary Fused Battery Positive Voltage 71	I	—
10	0.5	BN/D-BU	6993	Left Rear Park Lamp Control	I	—
11 - 12	—	—	—	Not Occupied	—	—

K219 Exterior Lighting Control Module X2



5203807

Connector Part Information

Harness Type: Body
OEM Connector: 33382136
Service Connector: 84766289
Description: 25-Way F 0.5 MQS, 2.8 MCP Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19332366	J-35616-35 (VT)	J-38125-212
II	19370262	EL-35616-58 (BK)	EL-38125-58

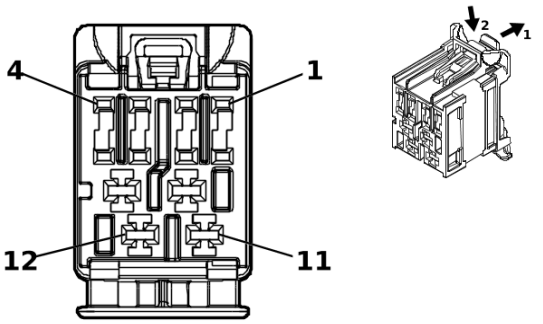
K219 Exterior Lighting Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-GN/YE	6846	Rear License Plate Lamp Control	II	—
2	0.35	L-GN/WH	2270	Rear Window Washer Relay Control	II	—
3	0.35	BN/GY	2268	Windshield Washer Relay Control	II	—
4	0.35	D-BU/BN	38	Backup Lamp Relay Control	II	—
5 - 8	—	—	—	Not Occupied	—	—
9	0.35	VT/L-GN	10130	Auxiliary Center Stack Display Backlight Dimming Control	II	—
10	0.35	BN/L-GN	196	Windshield Wiper Motor Park Switch Signal	II	—
11	0.35	VT/BK	6568	Front Turn Signal Lamp Feedback Signal	II	—
12	0.35	GY	91	Windshield Wiper Motor Relay Coil Control	II	—
13	—	—	—	Not Occupied	—	—

K219 Exterior Lighting Control Module X2 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
14	0.35	VT	185	Low Washer Fluid Indicator Control	II	—
15 - 18	—	—	—	Not Occupied	—	—
19	0.35	WH/BN	7055	Auxiliary Park Lamp Relay Control	II	—
20	0.35	WH/YE	7545	Right Front Turn Signal Lamp Feedback Signal	II	—
21	0.35	WH/VT	860	Windshield Wiper Switch High Signal	II	—
22	0.5	RD/L-GN	7740	Secondary Fused Battery Positive Voltage 77	I	—
	0.75	RD/L-GN	7740	Secondary Fused Battery Positive Voltage 77	I	—
23	0.5	RD/D-BU	840	Secondary Fused Battery Positive Voltage 8	I	—
	0.75	RD/D-BU	840	Secondary Fused Battery Positive Voltage 8	I	—
24 - 25	—	—	—	Not Occupied	—	—

K219 Exterior Lighting Control Module X3



5203797

Connector Part Information

Harness Type: Body
OEM Connector: 33382116
Service Connector: 13509989
Description: 12-Way F 1.2, 2.8 Series (GN)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19332366	J-35616-35 (VT)	J-38125-212
II	19371240	J-35616-16 (LT GN)	J-38125-215A

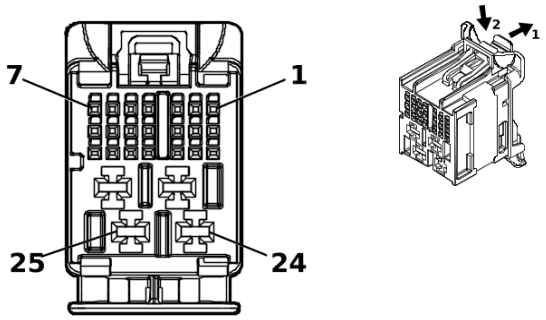
K219 Exterior Lighting Control Module X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT	8866	Police Liftgate Strobe Control	II	—
2	0.5	BN/L-GN	5062	Right Front Fog Lamp Control	II	—
3	—	—	—	Not Occupied	—	—
4	0.5	YE	312	Right Headlamp Low Beam Control	II	—
5	—	—	—	Not Occupied	—	—
6	0.5	D-BU/VT	1335	Right Rear Turn Signal Lamp Control 2	II	—

K219 Exterior Lighting Control Module X3 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
7	0.5	L-GN/WH	1324	Backup Lamp Control 2	II	—
8	—	—	—	Not Occupied	—	—
9	0.5 0.75	RD/D-BU RD/D-BU	540 540	Secondary Fused Battery Positive Voltage 5 Secondary Fused Battery Positive Voltage 5	I I	— —
10	0.5 0.75	RD/BN RD/BN	1440 1440	Secondary Fused Battery Positive Voltage 14 Secondary Fused Battery Positive Voltage 14	I I	— —
11	—	—	—	Not Occupied	—	—
12	0.5	BN/GY	6995	Right Rear Park Lamp Control	I	—

K219 Exterior Lighting Control Module X4



5203416

Connector Part Information

Harness Type: Body
OEM Connector: 33381951
Service Connector: 13509977
Description: 25-Way F 0.5 MQS, 2.8 MCP Series (PU)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19332366	J-35616-35 (VT)	J-38125-212
II	19370262	EL-35616-58 (BK)	EL-38125-58

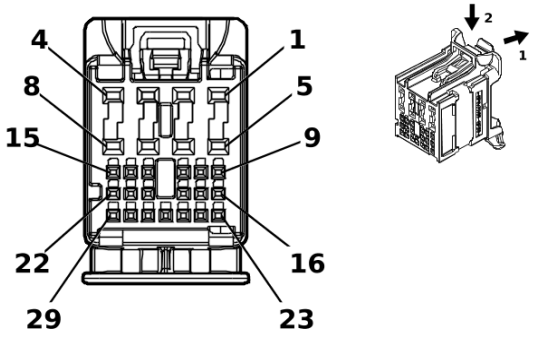
K219 Exterior Lighting Control Module X4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	II	—
4	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	II	—
5	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	II	—
6	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	II	—
7	0.35	WH/D-BU	6311	Cruise/ETC/TCC Brake Signal	II	—
8	0.35	VT/YE	8868	Police Liftgate Strobe Enable 1 Signal	II	—
9	0.35	VT/L-GN	8869	Police Liftgate Strobe Rear On OFF Control	II	—

K219 Exterior Lighting Control Module X4 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
10	0.35	WH	4978	AUTOSAR CAN Bus [-] 2 Serial Data	II	—
11	0.35	D-BU/YE	4979	AUTOSAR CAN Bus [+] 2 Serial Data	II	—
12	0.35	D-BU/ L-GN	8864	Police Tail Lamp Red/Red Alternate Flash Enable Signal	II	—
13	0.35	GY/L-GN	8865	Police Tail Lamp Red/White Alternate Flash Enable Signal	II	—
14	0.35	L-GN	8863	Police High Beam Alternate Flash Enable Signal	II	—
15	0.35	VT/D-BU	4001	Left Rear Door Lock Switch Lock Control	II	—
16	0.35	WH/YE	4002	Left Rear Door Lock Switch Unlock Control	II	—
17	0.35	L-GN/BN	4003	Right Rear Door Lock Switch Lock Control	II	—
18	0.35	D-BU/GY	4004	Right Rear Door Lock Switch Unlock Control	II	—
19	0.35	GY/WH	10137	Radio Audio Mute Police Signal	II	—
20	0.35	D-BU/YE	2279	Liftgate Window Ajar Switch Signal	II	—
21	0.35	VT/GY	1303	Liftgate Ajar Switch Signal 1	II	—
22	0.5	RD/BN	1140	Secondary Fused Battery Positive Voltage 11	I	—
	0.75	RD/BN	1140	Secondary Fused Battery Positive Voltage 11	I	—
23	1	BK/WH	1151	Ground 11	I	—
24	1	RD/L-GN	1540	Secondary Fused Battery Positive Voltage 15	I	—
25	1	BK/WH	1151	Ground 11	I	—

K219 Exterior Lighting Control Module X5



5203373

Connector Part Information

Harness Type: Body
OEM Connector: 33381952
Service Connector: 13509983
Description: 29-Way F 0.5 NANO, 1.2 MCON Series Sealed (BU)

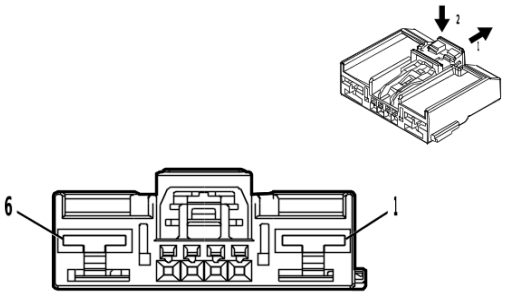
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19367551	J-35616-16 (LT GN)	J-38125-215A
II	19369846	J-35616-16 (LT GN)	J-38125-215A
III	19370262	EL-35616-58 (BK)	EL-38125-58
IV	19371240	J-35616-16 (LT GN)	J-38125-215A

K219 Exterior Lighting Control Module X5

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/D-BU	7538	Left Front DRL Control	I	—
	0.5	GY/D-BU	7538	Left Front DRL Control	IV	—
2	0.5	D-BU/ L-GN	1253	Right Front Park Lamp Control	IV	—
	0.5	D-BU/ L-GN	1253	Right Front Park Lamp Control	II	—
3	0.5	GY/YE	7542	Left Rear Stop Lamp Control	IV	—
	0.5	GY/YE	7542	Left Rear Stop Lamp Control	I	—
4	0.5	WH/YE	7541	Right Rear Stop Lamp Control	I	—
	0.5	WH/YE	7541	Right Rear Stop Lamp Control	IV	—
5	0.5	D-BU/BN	7539	Right Front DRL Control	I	—
	0.5	D-BU/BN	7539	Right Front DRL Control	IV	—
6	0.5	WH/YE	1254	Left Front Park Lamp Control	IV	—
	0.5	WH/YE	1254	Left Front Park Lamp Control	II	—
7	0.5	L-GN/VT	1315	Right Front Turn Signal Lamp Control	IV	—
	0.5	L-GN/VT	1315	Right Front Turn Signal Lamp Control	I	—
8	0.5	D-BU/WH	1334	Left Rear Turn Signal Lamp Control 2	IV	—
	0.5	D-BU/WH	1334	Left Rear Turn Signal Lamp Control 2	I	—
9	0.35	L-GN/GY	2115	Right Turn Signal Lamp Control 2	III	—
10	0.35	WH/GY	2114	Left Turn Signal Lamp Control 2	III	—
11	0.35	GY	1715	Windshield Wiper Switch High Signal	III	—
13	0.35	L-GN/BN	319	Right Rear Trailer Stop/Turn Lamp Control	III	—
14	—	—	—	Not Occupied	—	—
15	0.35	GY/L-GN	6190	Liftgate Window/Rear Compartment Lid, Exterior Unlatch Signal	III	—
16	0.35	WH	311	Right Headlamp High Beam Control	III	—
17	—	—	—	Not Occupied	—	—
18	0.35	VT/WH	1139	Run/Crank Ignition 1 Voltage 11	III	—
20 - 22	—	—	—	Not Occupied	—	—
23	0.35	WH/VT	6567	Rear Turn Signal Lamp Feedback Signal	III	—
24	0.35	WH/BK	7544	Right Rear Turn Signal Lamp Feedback Signal	III	—
25	0.35	BN/YE	820	Center High Mounted Stop Lamp Supply Voltage	III	—
26 - 27	—	—	—	Not Occupied	—	—
28	0.35	WH	711	Left Headlamp High Beam Control	III	—
29	0.35	YE/D-BU	318	Left Rear Trailer Stop/Turn Lamp Control	III	—

M8 Blower Motor



4650258

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33395154
Service Connector: 19356432
Description: 6-Way F 0.64, 6.3 Series (BK)

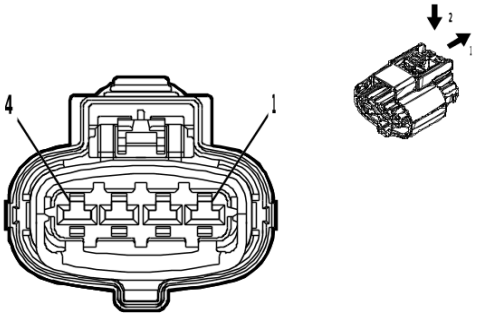
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-42 (RD)	No Tool Required
II	Not Required	J-35616-64B (LT BU)	No Tool Required

M8 Blower Motor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	5	RD/GY	2042	Primary Fused Battery Positive Voltage 20	I	—
2	0.35	D-BU/GY	754	Blower Motor Speed Control	II	—
3	0.35	L-GN/ D-BU	761	Blower Speed Feedback Signal	II	—
4 - 5	—	—	—	Not Occupied	—	—
6	5	BK	1050	Ground 10	I	—

M10 Charge Air Cooler Coolant Pump (LM2)



4997613

Connector Part Information

Harness Type: Engine
OEM Connector: 33230781
Service Connector: 19371209
Description: 4-Way F 2.8 CTS Series, Sealed (BK)

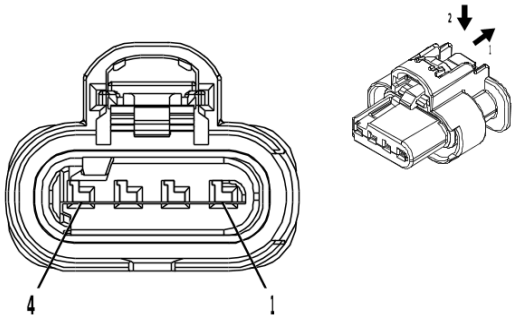
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

M10 Charge Air Cooler Coolant Pump (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	6550	Propulsion Propulsion System	I	—
2	0.75	BK	9000	—	I	—
3	0.75	L-GN/VT	4621	Engine Control Module LIN Bus 1	I	—
4	0.75	VT/D-BU	5294	Powertrain Main Relay Fused Supply 5	I	—

M26 Front Axle Engagement Actuator (NP0/NQH)



4210809

Connector Part Information

Harness Type: Front Axle
OEM Connector: 33390897
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

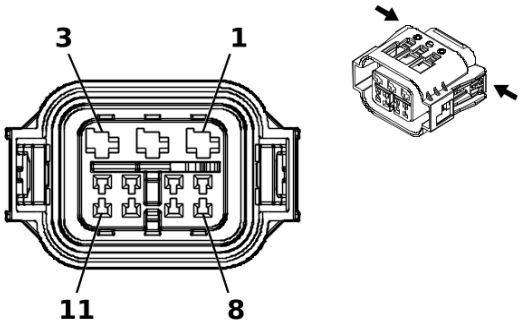
M26 Front Axle Engagement Actuator (NP0/NQH)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage 21	I	—
2	0.5	GY/BK	1570	Front Axle Actuator Control	I	—
3	0.5	YE/WH	1695	4WD Locked Range Indicator Control	I	—

M26 Front Axle Engagement Actuator (NP0/NQH) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
4	0.5	BK	4450	Ground 44	I	—

M32 Differential Clutch Pump (G96)



5202126

Connector Part Information

Harness Type: Differential Lock Jumper
OEM Connector: 33131692
Service Connector: Service by Harness - See Part Catalog
Description: 11-Way F 1.2 Multilock, 2.8 SLK Series, Sealed (BK)

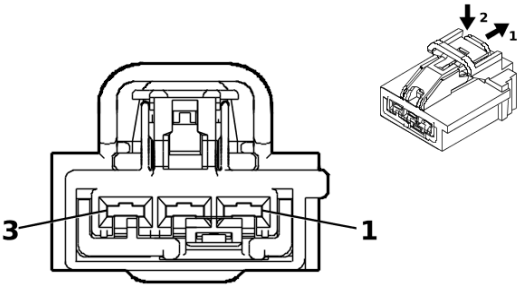
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required

M32 Differential Clutch Pump (G96)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	2.5	YE/WH	7969	Axle Differential Lock Control Low	II	—
3	2.5	GY/BN	7968	Axle Differential Lock Control High	II	—
4	0.5	WH/RD	7973	Axle Differential Lock Motor Position Sensor High Reference	I	—
5	0.5	D-BU/WH	7978	Axle Differential Lock Motor Temperature Sensor Signal	I	—
6	0.5	L-GN/BN	7975	Axle Differential Lock Motor Position Sensor Signal 1	I	—
7	0.5	WH	7971	Axle Differential Lock Motor Brake Control High	I	—
8	0.5	BK/YE	7977	Axle Differential Lock Motor Temperature Sensor Low Reference	I	—
9	0.5	BK/VT	7974	Axle Differential Lock Motor Position Sensor Low Reference	I	—
10	0.5	GY	7976	Axle Differential Lock Motor Position Sensor Signal 2	I	—
11	0.5	VT/BK	7972	Axle Differential Lock Motor Brake Control Low	I	—

M45 Rear Wiper Motor



5215435

Connector Part Information

Harness Type: Liftgate
OEM Connector: 35340169
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F 2.8 YESC Series (GY)

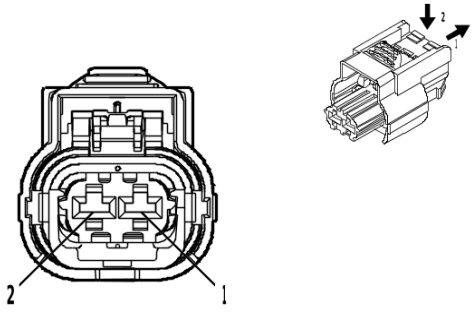
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required

M45 Rear Wiper Motor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	2050	Ground 20	I	—
2	0.35	L-GN/ D-BU	2856	Body Control Module LIN Bus 10	I	—
3	0.75	RD/YE	3040	Secondary Fused Battery Positive Voltage 30	I	—

M64 Starter Motor X1 (L84/L87)



4992524

Connector Part Information

Harness Type: Engine
OEM Connector: 35050650
Service Connector: 19371194
Description: 2-Way F 2.8 CTS Series, Sealed (BK)

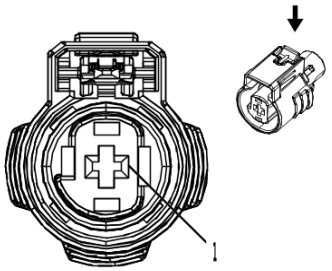
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

M64 Starter Motor X1 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	YE/L-GN	4358	Starter Pinion Solenoid Actuator Voltage	I	—
2	2.5	YE	6	Starter Solenoid Actuator Crank Ignition Voltage	I	—

M64 Starter Motor X1 (LM2)



2717134

Connector Part Information

Harness Type: Engine
OEM Connector: 15526411
Service Connector: 19300471
Description: 1-Way F 2.8 MCP Series, Sealed (BK)

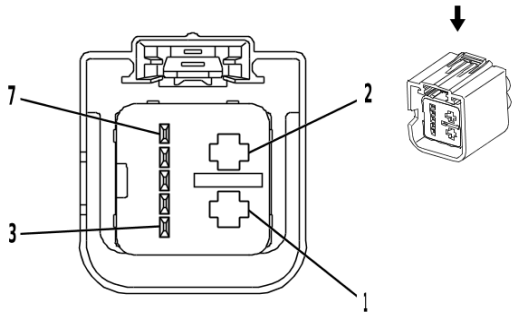
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

M64 Starter Motor X1 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	YE	6	Starter Solenoid Actuator Crank Ignition Voltage	I	—

M74D Window Motor - Driver



2282932

Connector Part Information

Harness Type: Driver Door
OEM Connector: 15504732
Service Connector: Service by Harness - See Part Catalog
Description: 7-Way F 0.64, 2.8 Kaizen Timer Series, Sealed (GY)

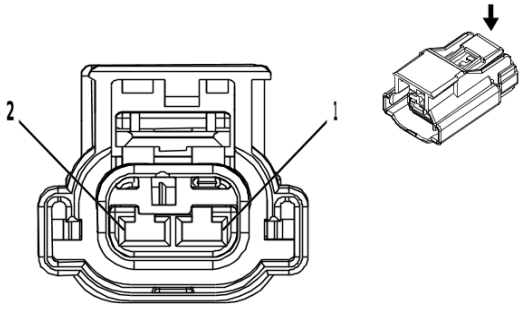
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required
II	Not Required	J-35616-64B (LT BU)	No Tool Required

M74D Window Motor - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	BK	1150	Ground 11	I	—
2	2.5	RD/GY	3540	Secondary Fused Battery Positive Voltage 35	I	—
3	0.35	GY/L-GN	2763	Window Switch Left Front Up Signal	II	—
4	0.35	L-GN/YE	6134	Body Control Module LIN Bus 3	II	—
5	0.35	L-GN	2766	Power Window Switch Left Front Express Signal	II	—
6	0.35	GY	745	Left Front Door Ajar Switch Signal	II	—
7	0.35	WH/BN	2764	Window Switch Left Front Down Signal	II	—

M74LR Window Motor - Left Rear



2716333

Connector Part Information

Harness Type: Left Rear Door
OEM Connector: 13863838
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 Series, Sealed (BK)

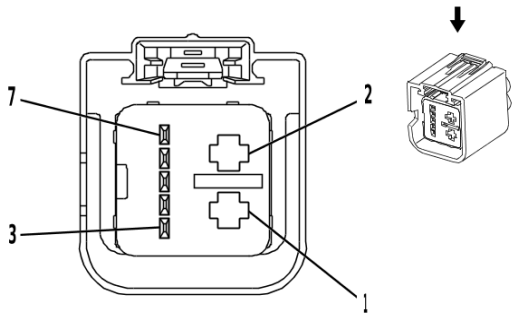
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

M74LR Window Motor - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2	D-BU/VT	668	Left Rear Window Motor Up Control	I	—
2	2	YE/D-BU	669	Left Rear Window Motor Down Control	I	—

M74P Window Motor - Passenger



2282932

Connector Part Information

Harness Type: Passenger Door
OEM Connector: 15504732
Service Connector: Service by Harness - See Part Catalog
Description: 7-Way F 0.64, 2.8 Kaizen Timer Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required
II	Not Required	J-35616-64B (LT BU)	No Tool Required

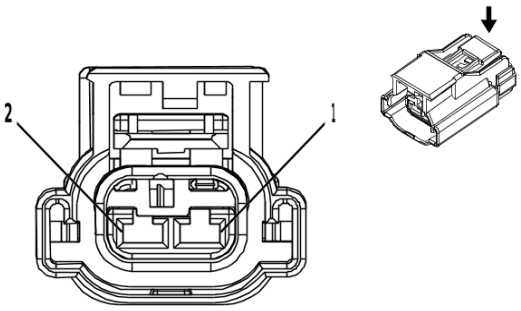
M74P Window Motor - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	BK	1250	Ground 12	I	—
2	2.5	RD/BN	4240	Secondary Fused Battery Positive Voltage 42	I	—
3	0.35	L-GN	1184	Window Switch Right Front Up Signal	II	—
4	0.35	L-GN/YE	6134	Body Control Module LIN Bus 3	II	—

M74P Window Motor - Passenger (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
5	0.35	VT/GY	2765	Window Switch Right Front Express Signal	II	—
6	0.35	GY	746	Right Front Door Ajar Switch Signal	II	—
7	0.35	BN	5295	Window Switch Right Front Down Signal	II	—

M74RR Window Motor - Right Rear



2716333

Connector Part Information

Harness Type: Right Rear Door
OEM Connector: 13863838
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 Series, Sealed (BK)

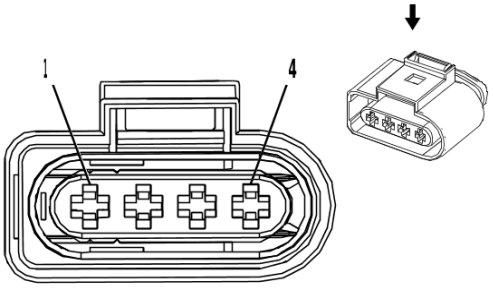
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

M74RR Window Motor - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2	D-BU/GY	670	Right Rear Window Motor Up Control	I	—
2	2	L-GN/BK	671	Right Rear Window Motor Down Control	I	—

M75 Windshield Wiper Motor



2474722

Connector Part Information

Harness Type: Body
OEM Connector: 13941663
Service Connector: 19367598
Description: 4-Way F Junior Power Timer Series (BK)

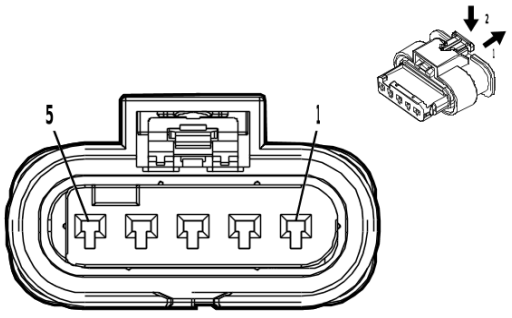
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required

M75 Windshield Wiper Motor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2	WH	92	Windshield Wiper Motor High Speed Control	I	—
2	2	YE/BN	95	Windshield Wiper Motor Low Speed Control	I	—
3	0.35	BN/L-GN	196	Windshield Wiper Motor Park Switch Signal	I	—
4	2	BK	150	Ground 1	I	—

M103 Turbocharger Vane Position Actuator



3338689

Connector Part Information

Harness Type: Engine
OEM Connector: 13943325

Service Connector: 19119351
Description: 5-Way F 1.2 MCON-LL Series, Sealed (BK)

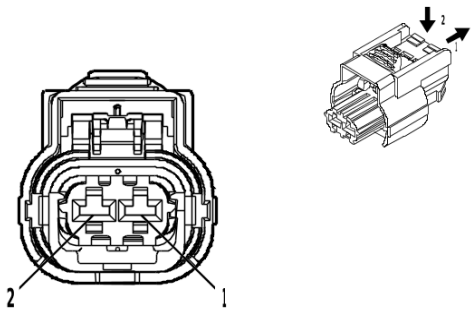
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

M103 Turbocharger Vane Position Actuator

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/BN	1313	Variable Geometry Turbocharger Position Sensor Motor Open Control	I	—
2	0.5	VT/YE	5947	Turbocharger Vane Position Sensor Signal	I	—
3	0.5	BK/L-GN	580	Engine Control Sensors Low Reference 2	I	—
4	0.5	D-BU/RD	460	Engine Control Sensors 5 Volt Reference 1	I	—
5	0.75	GY/BK	1330	Variable Geometry Turbocharger Position Sensor Motor Close Control	I	—

M104L Park Brake Actuator - Left



4992524

Connector Part Information

Harness Type: Chassis Rear Extension
OEM Connector: 13532979
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 CTS Series, Sealed (BK)

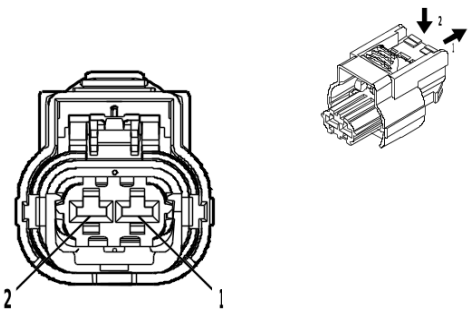
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

M104L Park Brake Actuator - Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	WH	2001	Left Park Brake Motor Apply Control	I	—
2	2.5	GY/BK	4369	Left Park Brake Motor Low Reference	I	—

M104R Park Brake Actuator - Right



4992524

Connector Part Information

Harness Type: Chassis Rear Extension
OEM Connector: 13532979
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 CTS Series, Sealed (BK)

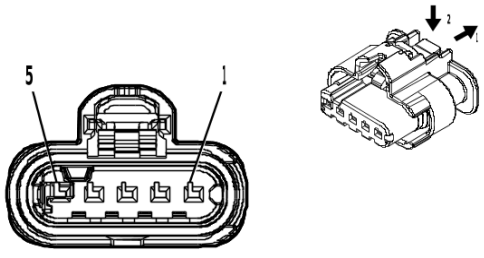
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

M104R Park Brake Actuator - Right

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	GN/VT	1988	Right Park Brake Motor Apply Control	I	—
2	2.5	GY	4368	Right Park Brake Motor Low Reference	I	—

M106 Exhaust Flow Control Valve Actuator (LM2)



4997783

Connector Part Information

Harness Type: Engine
OEM Connector: 35026727
Service Connector: 19371195
Description: 5-Way F 1.2 MCON-CB Series, Sealed (BK)

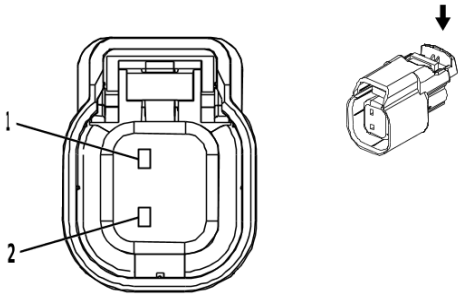
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

M106 Exhaust Flow Control Valve Actuator (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/YE	548	Engine Control Sensors Low Reference 1	I	—
2	0.5	BN/L-GN	4305	Exhaust Flow Control Valve 1	I	—
3	0.5	D-BU/RD	460	Engine Control Sensors 5 Volt Reference 1	I	—
4	0.5	BN	1421	Exhaust Restrictor Motor Closed Control	I	—
5	0.5	YE/BN	1420	Exhaust Restrictor Motor Open Control	I	—

P12 Horn



2792100

Connector Part Information

Harness Type: Body
OEM Connector: 13828712
Service Connector: 19352068
Description: 2-Way F 1.5 Series, Sealed (BK)

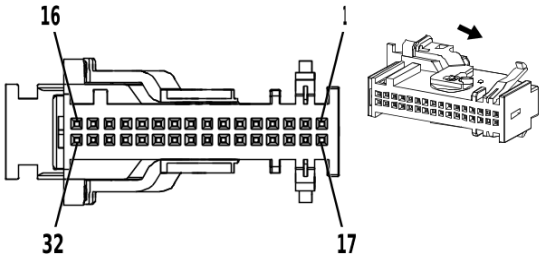
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

P12 Horn

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	250	Ground 2	I	—
2	0.75	BN/GY	29	Horn Control	I	—

P16 Instrument Cluster



627214

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33323630
Service Connector: 13511333
Description: 32-Way F 0.64 Micro-Quadlock Series (GY)

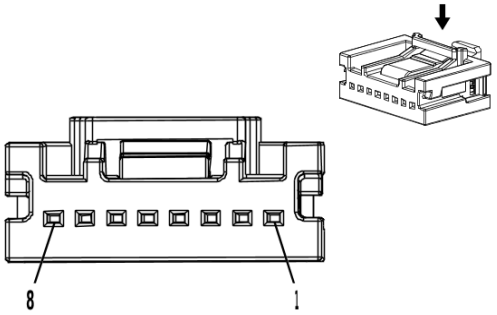
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575736	J-35616-64B (LT BU)	J-38125-12A
II	13575859	J-35616-64B (LT BU)	J-38125-12A

P16 Instrument Cluster

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN/D-BU	7216	Ethernet Bus 7 [-]	I	—
2 - 6	—	—	—	Not Occupied	—	—
7	0.5	RD/WH	1340	Secondary Fused Battery Positive Voltage 13	II	—
8	0.5	VT/WH	639	Run/Crank Ignition 1 Voltage 6	II	—
9 - 10	—	—	—	Not Occupied	—	—
11	0.35	GY/BK	4787	Day Night LED Control	I	—
12	0.35	GY/YE	3885	Forward Collision Alert LED Control	I	—
13	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
14	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
15 - 16	—	—	—	Not Occupied	—	—
17	0.35	GY/D-BU	7217	Ethernet Bus 7 [+]	I	—
18	—	—	—	Not Occupied	—	—
19	0.5	BK	1851	Ground 18	II	—
20	0.35	L-GN/BK	3894	Instrument Cluster LIN Bus 1	I	—
21 - 28	—	—	—	Not Occupied	—	—
29	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
30	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
31	—	—	—	Not Occupied	—	—
32	0.35	L-GN/BN	507	Wait To Start Indicator Control	I	—

P17 Info Display Module



4017639

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33227522
Service Connector: 19354223
Description: 8-Way F Mini 50 Series (BK)

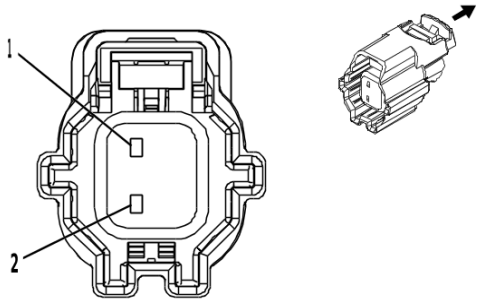
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	EL-35616-58 (BK)	No Tool Required

P17 Info Display Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/WH	1340	Secondary Fused Battery Positive Voltage 13	I	—
2 - 7	—	—	—	Not Occupied	—	—
8	0.35	BK/WH	1451	Ground 14	I	—

P19AG Speaker - Left Front Door



4223204

Connector Part Information

Harness Type: Driver Door
OEM Connector: 15548606
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 150 MX Series (BK)

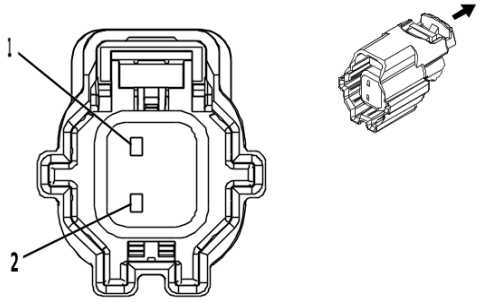
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

P19AG Speaker - Left Front Door

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BN/D-BU	118	Left Front Speaker [-] Control 1	I	—
2	0.75	D-BU	201	Left Front Speaker 1 [+] Control	I	—

P19AH Speaker - Right Front Door



4223204

Connector Part Information

Harness Type: Passenger Door
OEM Connector: 15548606
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 150 MX Series (BK)

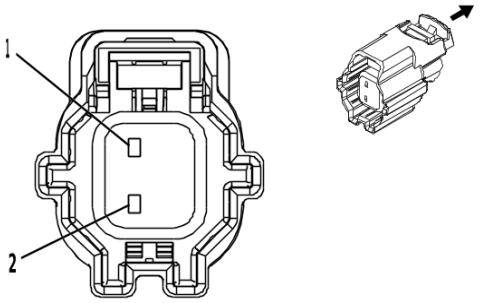
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

P19AH Speaker - Right Front Door

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	YE/BK	117	Right Front Speaker [-] Control 1	I	—
2	0.75	YE	200	Right Front Speaker 1 [+] Control	I	—

P19AL Speaker - Left Rear Door



4223204

Connector Part Information

Harness Type: Left Rear Door
OEM Connector: 15548606
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 150 MX Series (BK)

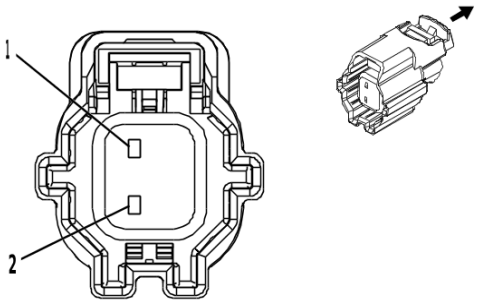
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

P19AL Speaker - Left Rear Door

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	L-GN/BK	116	Left Rear Speaker [-] Control	I	—
2	0.75	L-GN	199	Left Rear Speaker [+] Control	I	—

P19AM Speaker - Right Rear Door (UQA/UQF/UQS)



4223204

Connector Part Information

Harness Type: Right Rear Door
OEM Connector: 15548606
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 150 MX Series (BK)

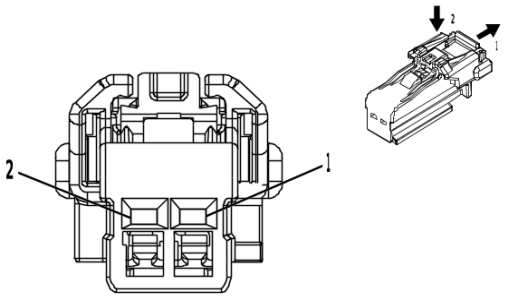
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

P19AM Speaker - Right Rear Door (UQA/UQF/UQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	D-BU/BK	115	Right Rear Speaker [-] Control	I	—
2	0.75	WH	46	Right Rear Speaker [+] Control	I	—

P19AM Speaker - Right Rear Door (UQP)



4373379

Connector Part Information

Harness Type: Right Rear Door Trim
OEM Connector: 35311601
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (GY)

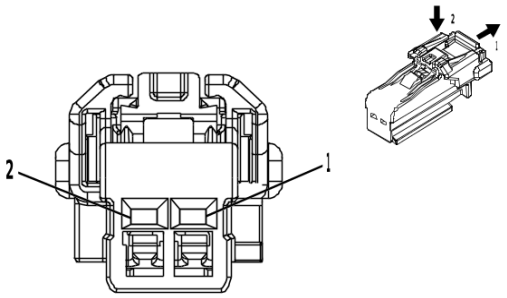
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P19AM Speaker - Right Rear Door (UQP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	D-BU/BK	115	Right Rear Speaker [-] Control	I	—
2	0.75	WH	46	Right Rear Speaker [+] Control	I	—

P19AN Speaker - Left Rear Trim Panel (UQA)



4373379

Connector Part Information

Harness Type: Body
OEM Connector: 35034269
Service Connector: 19369632
Description: 2-Way F 1.2 Series (GY)

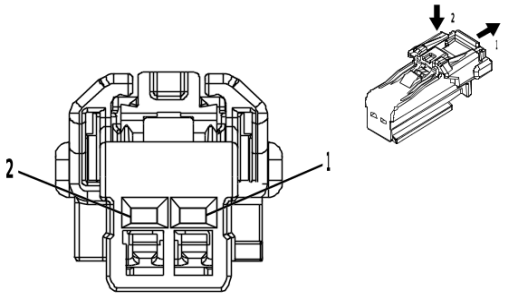
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P19AN Speaker - Left Rear Trim Panel (UQA)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	L-GN/BK	116	Left Rear Speaker [-] Control	I	—
2	0.75	L-GN	199	Left Rear Speaker [+] Control	I	—

P19AN Speaker - Left Rear Trim Panel (UQP)



4373379

Connector Part Information

Harness Type: Body
OEM Connector: 35034269
Service Connector: 19369632
Description: 2-Way F 1.2 Series (GY)

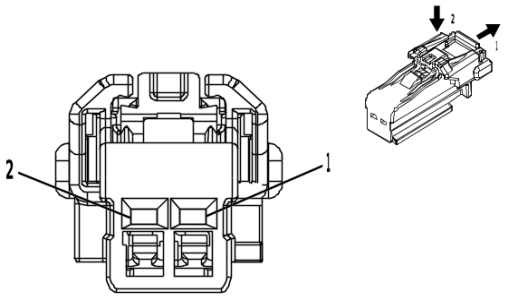
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P19AN Speaker - Left Rear Trim Panel (UQP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BN/WH	8575	Left Rear D-Pillar Speaker [-] Control	I	—
2	0.75	WH/L-GN	8576	Left Rear D-Pillar Speaker [+] Control	I	—

P19AN Speaker - Left Rear Trim Panel (UQS)



4373379

Connector Part Information

Harness Type: Body
OEM Connector: 35034269
Service Connector: 19369632
Description: 2-Way F 1.2 Series (GY)

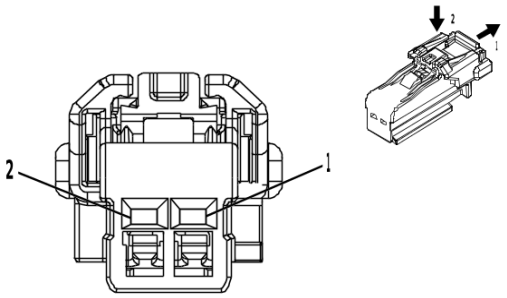
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P19AN Speaker - Left Rear Trim Panel (UQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/BN	1891	Rear/Left Rear Surround Speaker [-] Control	I	—
2	0.75	GY	8365	Rear Surround Speaker Series [+] to [-]	I	—

P19AP Speaker - Right Rear Trim Panel (UQA)



4373379

Connector Part Information

Harness Type: Body
OEM Connector: 35034269
Service Connector: 19369632
Description: 2-Way F 1.2 Series (GY)

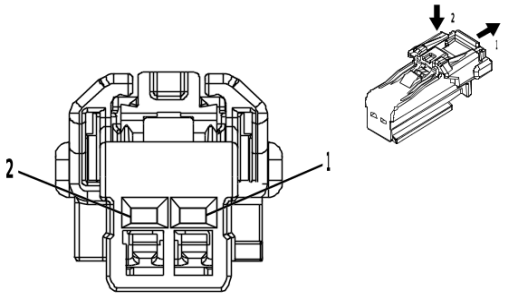
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P19AP Speaker - Right Rear Trim Panel (UQA)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	D-BU/BK	115	Right Rear Speaker [-] Control	I	—
2	0.75	WH	46	Right Rear Speaker [+] Control	I	—

P19AP Speaker - Right Rear Trim Panel (UQP)



4373379

Connector Part Information

Harness Type: Body
OEM Connector: 35034269
Service Connector: 19369632
Description: 2-Way F 1.2 Series (GY)

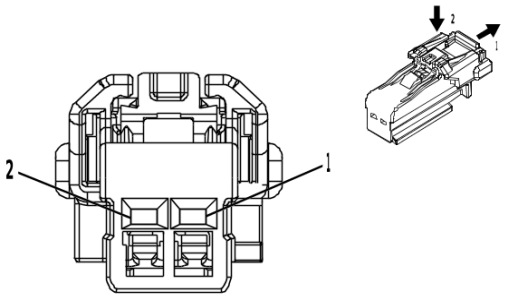
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P19AP Speaker - Right Rear Trim Panel (UQP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GY/WH	8577	Right Rear D-Pillar Speaker [-] Control	I	—
2	0.75	VT	8578	Right Rear D-Pillar Speaker [+] Control	I	—

P19AP Speaker - Right Rear Trim Panel (UQS)



4373379

Connector Part Information

Harness Type: Body
OEM Connector: 35034269
Service Connector: 19369632
Description: 2-Way F 1.2 Series (GY)

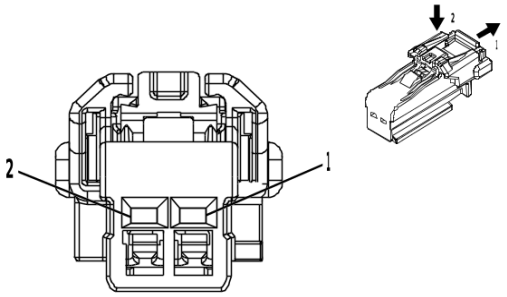
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P19AP Speaker - Right Rear Trim Panel (UQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GY	8365	Rear Surround Speaker Series [+] to [-]	I	—
2	0.75	VT/D-BU	1889	Rear/Left Rear Surround Speaker [+] Control	I	—

P19B Speaker - Center Instrument Panel (UQH/UQP/UQS)



4373379

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35311601
Service Connector: 19369632
Description: 2-Way F 1.2 MCON Series (GY)

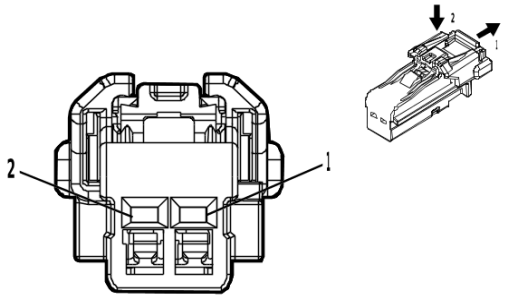
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P19B Speaker - Center Instrument Panel (UQH/UQP/UQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	D-BU/YE	1960	Front Center Speaker [-] Control	I	—
2	0.75	YE/WH	1860	Front Center Speaker [+]	I	—

P19J Speaker - Left Instrument Panel (UQF)



4115691

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35311666
Service Connector: 19352066
Description: 2-Way F 1.2 MCON Series (BK)

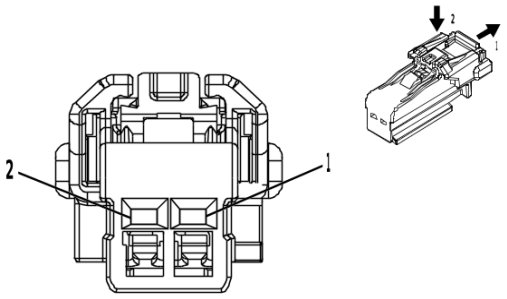
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P19J Speaker - Left Instrument Panel (UQF)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/D-BU	118	Left Front Speaker [-] Control 1	I	—
2	0.5	D-BU	201	Left Front Speaker 1 [+] Control	I	—

P19V Speaker - Right Front Tweeter (UQP/UQH)



4373379

Connector Part Information

Harness Type: Left Rear Door Trim
OEM Connector: 35311601
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (GY)

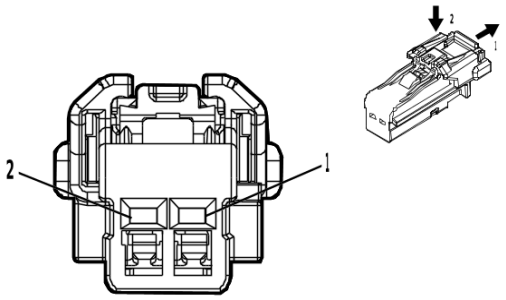
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P19V Speaker - Right Front Tweeter (UQP/UQH)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	L-GN/BK	116	Left Rear Speaker [-] Control	I	—
2	0.75	L-GN	199	Left Rear Speaker [+] Control	I	—

P19W Speaker - Right Instrument Panel (UQF)



4115691

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35311666
Service Connector: 19352066
Description: 2-Way F 1.2 MCON Series (BK)

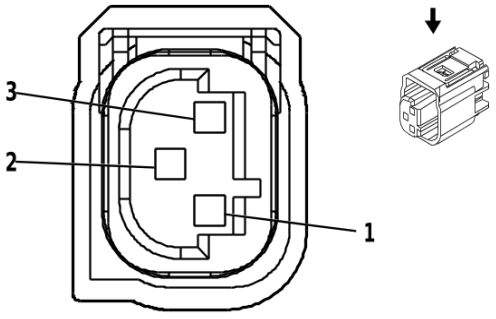
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P19W Speaker - Right Instrument Panel (UQF)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BK	117	Right Front Speaker [-] Control 1	I	—
2	0.5	YE	200	Right Front Speaker 1 [+] Control	I	—

P25 Power Sounder Content Theft Deterrent Alarm Module (UTJ)



655785

Connector Part Information

Harness Type: Body
OEM Connector: 15324398
Service Connector: 13580107
Description: 3-Way F 0.64 Micro-Quadlock Series, Sealed (BK)

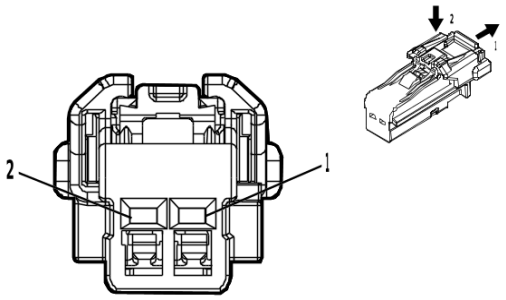
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

P25 Power Sounder Content Theft Deterrent Alarm Module (UTJ)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	150	Ground 1	I	—
2	0.5	L-GN/ D-BU	6133	Body Control Module LIN Bus 2	I	—
3	0.5	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	I	—

P27 Mobile Telephone Speaker



4115691

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35311666
Service Connector: 19352066
Description: 2-Way F 1.2 MCON Series (BK)

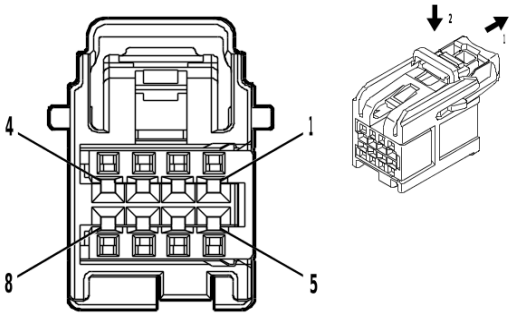
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

P27 Mobile Telephone Speaker

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/BK	4769	Emergency Call Backup Speaker [-] Control	I	—
2	0.35	GY/L-GN	4770	Emergency Call Backup Speaker [+] Control	I	—

P29 Head-Up Display X1 (UV6)



4935776

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 15526972
Service Connector: 19370429
Description: 8-Way F 0.64 OCS Series (BK)

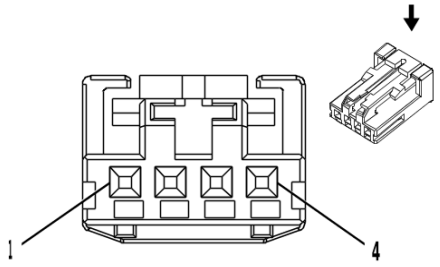
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

P29 Head-Up Display X1 (UV6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-GN/BK	3894	Instrument Cluster LIN Bus 1	I	—
2	—	—	—	Not Occupied	—	—
3	0.35	YE/WH	622	Head-Up Display Switch Signal	I	—
4	0.5	BK	1850	Ground 18	I	—
5	—	—	—	Not Occupied	—	—
6	0.5	RD/WH	1340	Secondary Fused Battery Positive Voltage 13	I	—
7	—	—	—	Not Occupied	—	—
8	0.35	BK/L-GN	5699	Head-Up Display Switch Low Reference	I	—

P43 Collision Alert Indicators (UEU-UV6)



2717162

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 13969166
Service Connector: 13587297
Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

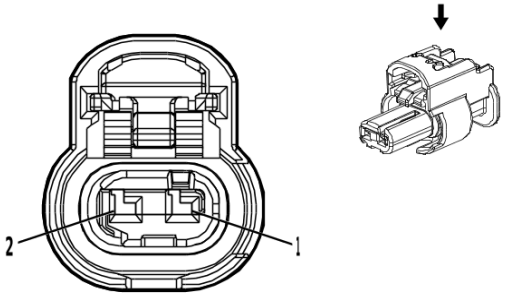
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

P43 Collision Alert Indicators (UEU-UV6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/WH	639	Run/Crank Ignition 1 Voltage 6	I	—
2	0.35	GY/YE	3885	Forward Collision Alert LED Control	I	—
3	0.35	GY/BK	4787	Day Night LED Control	I	—
4	0.35	BK/WH	1851	Ground 18	I	—

Q2 A/C Compressor Clutch X2



4649903

Connector Part Information

Harness Type: Engine
OEM Connector: 33327048
Service Connector: 19366858
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

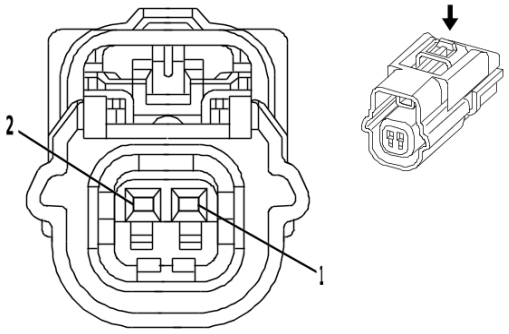
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q2 A/C Compressor Clutch X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75 0.75	BK BK	450 6550	Ground 4 Propulsion Propulsion System	I I	CJ2 LM2
2	0.75	BN/L-GN	59	A/C Compressor Clutch Control	I	—

Q6 Camshaft Position Actuator Solenoid Valve (L84/L87)



1664592

Connector Part Information

Harness Type: Camshaft Position Sensor Jumper
OEM Connector: 13528494
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 0.64 Kaizen Series, Sealed (BK)

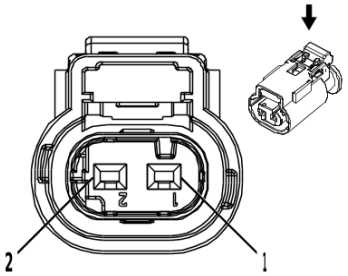
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

Q6 Camshaft Position Actuator Solenoid Valve (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/BN	6753	Camshaft Position Actuator Solenoid Valve W Low Reference	I	—
2	0.5	VT/BN	5284	Intake Camshaft Position Actuator Solenoid Valve 1	I	—

Q12 Evaporative Emission Purge Solenoid Valve (L84/L87)



2717066

Connector Part Information

Harness Type: Engine
OEM Connector: 13735326

Service Connector: 13587326
Description: 2-Way F 1.2 Multilock Series, Sealed (BK)

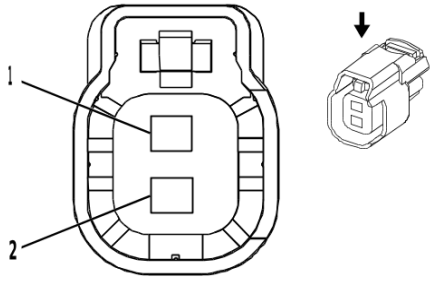
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q12 Evaporative Emission Purge Solenoid Valve (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply 4	I	—
2	0.75	L-GN/ D-BU	428	EVAP Purge Solenoid Valve Control	I	—

Q13 Evaporative Emission Vent Solenoid Valve (L84/L87)



2422378

Connector Part Information

Harness Type: Chassis
OEM Connector: 13771883
Service Connector: 13579002
Description: 2-Way F 1.5 Series, Sealed (BK)

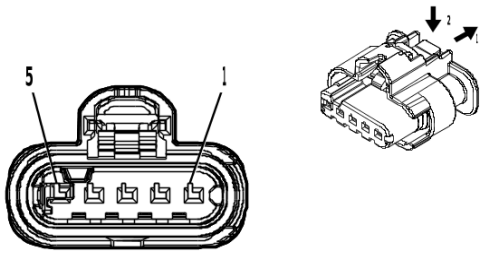
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

Q13 Evaporative Emission Vent Solenoid Valve (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	1310	EVAP Vent Solenoid Valve Control	I	—
2	0.5	RD/WH	2040	Secondary Fused Battery Positive Voltage 20	I	—

Q14A Exhaust Gas Recirculation Valve 1 (LM2)



4997783

Connector Part Information

Harness Type: Engine
OEM Connector: 35026727
Service Connector: 19371195
Description: 5-Way F 1.2 MCON-CB Series, Sealed (BK)

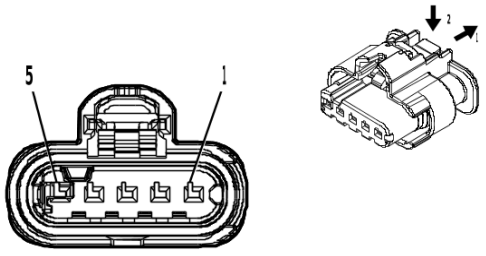
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q14A Exhaust Gas Recirculation Valve 1 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/RD	460	Engine Control Sensors 5 Volt Reference 1	I	—
2	0.5	BN/WH	5763	Exhaust Gas Recirculation Position Signal	I	—
3	0.5	BK/YE	548	Engine Control Sensors Low Reference 1	I	—
4	0.5	WH/VT	5764	Exhaust Gas Recirculation Valve High Control	I	—
5	0.5	VT/BK	5746	Exhaust Gas Recirculation Valve Low Control	I	—

Q14B Exhaust Gas Recirculation Valve 2 (LM2)



4997783

Connector Part Information

Harness Type: Engine
OEM Connector: 35026727

Service Connector: 19371195
Description: 5-Way F 1.2 MCON-CB Series, Sealed (BK)

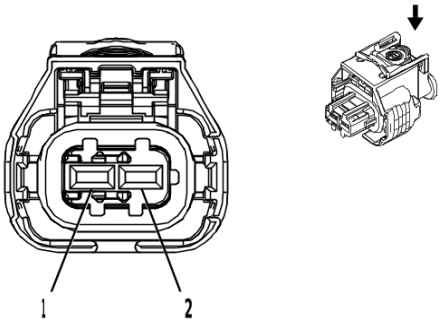
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q14B Exhaust Gas Recirculation Valve 2 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/YE	548	Engine Control Sensors Low Reference 1	I	—
2	0.5	D-BU/ L-GN	4012	Exhaust Gas Recirculation 2 Valve Position Sensor Signal	I	—
3	0.5	D-BU/RD	460	Engine Control Sensors 5 Volt Reference 1	I	—
4	0.5	D-BU/WH	4014	Exhaust Gas Recirculation 2 Valve Open Control	I	—
5	0.5	D-BU/BN	4013	Exhaust Gas Recirculation 2 Valve Close Control	I	—

Q17A Fuel Injector 1 (LM2)



2845578

Connector Part Information

Harness Type: Fuel Injector
OEM Connector: 1928405715
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 Series, Sealed (BK)

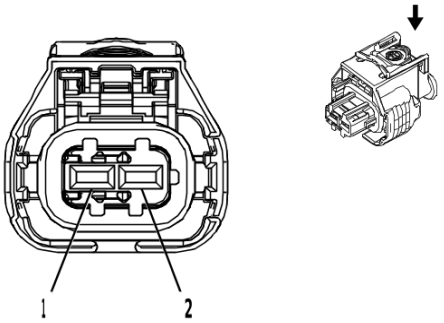
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

Q17A Fuel Injector 1 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	BN/WH	4901	Direct Fuel Injector High Voltage Supply Cylinder 1	I	—
2	1.5	BN	4801	Direct Fuel Injector High Voltage Control Cylinder 1	I	—

Q17B Fuel Injector 2 (LM2)



2845578

Connector Part Information

Harness Type: Fuel Injector
OEM Connector: 1928405715
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 Series, Sealed (BK)

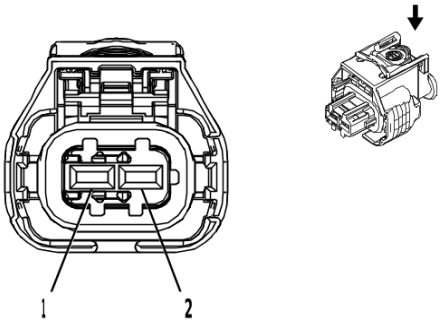
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

Q17B Fuel Injector 2 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	BU/GY	4902	Direct Fuel Injector High Voltage Supply Cylinder 2	I	—
2	1.5	BU	4802	Direct Fuel Injector High Voltage Control Cylinder 2	I	—

Q17C Fuel Injector 3 (LM2)



2845578

Connector Part Information

Harness Type: Fuel Injector
OEM Connector: 1928405715

Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 Series, Sealed (BK)

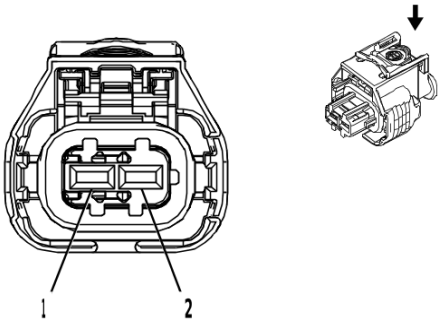
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

Q17C Fuel Injector 3 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	GN/GY	4903	Direct Fuel Injector High Voltage Supply Cylinder 3	I	—
2	1.5	GN	4803	Direct Fuel Injector High Voltage Control Cylinder 3	I	—

Q17D Fuel Injector 4 (LM2)



2845578

Connector Part Information

Harness Type: Fuel Injector
OEM Connector: 1928405715
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 Series, Sealed (BK)

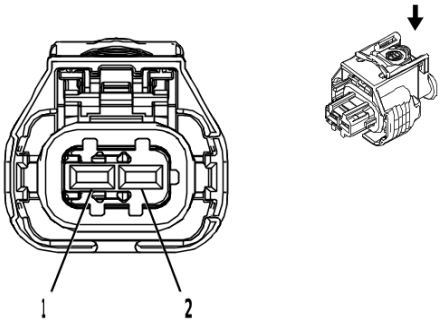
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

Q17D Fuel Injector 4 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	BU/WH	4904	Direct Fuel Injector High Voltage Supply Cylinder 4	I	—
2	1.5	GY/BU	4804	Direct Fuel Injector High Voltage Control Cylinder 4	I	—

Q17E Fuel Injector 5 (LM2)



2845578

Connector Part Information

Harness Type: Fuel Injector
OEM Connector: 1928405715
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 Series, Sealed (BK)

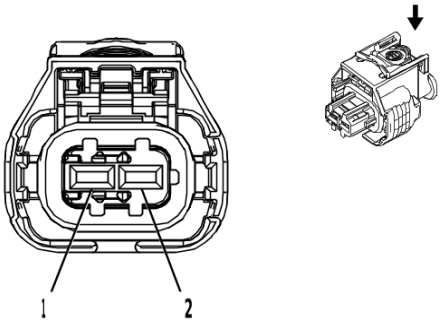
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

Q17E Fuel Injector 5 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	GN/WH	4905	Direct Fuel Injector High Voltage Supply Cylinder 5	I	—
2	1.5	WH/GN	4805	Direct Fuel Injector High Voltage Control Cylinder 5	I	—

Q17F Fuel Injector 6 (LM2)



2845578

Connector Part Information

Harness Type: Fuel Injector
OEM Connector: 1928405715
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 Series, Sealed (BK)

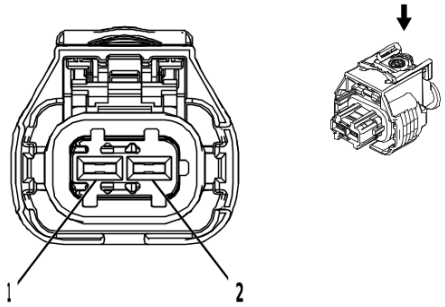
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

Q17F Fuel Injector 6 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	VT/GY	4906	Direct Fuel Injector High Voltage Supply Cylinder 6	I	—
2	1.5	VT/GN	4806	Direct Fuel Injector High Voltage Control Cylinder 6	I	—

Q18A Fuel Pressure Regulator 1 (LM2)



2577394

Connector Part Information

Harness Type: Engine
OEM Connector: 13930085
Service Connector: 13384371
Description: 2-Way F 2.8 Series, Sealed (BK)

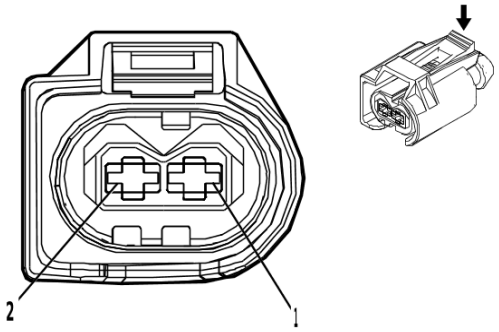
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

Q18A Fuel Pressure Regulator 1 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	YE/VT	7245	High Pressure Fuel Pump Low Enable Signal	I	—
2	0.75	GY/BN	7244	High Pressure Fuel Pump High Side Control	I	—

Q18B Fuel Pressure Regulator 2 (LM2)



5095463

Connector Part Information

Harness Type: Engine
OEM Connector: 33163309
Service Connector: 84616656
Description: 2-Way F 2.8 Series, Sealed (BK)

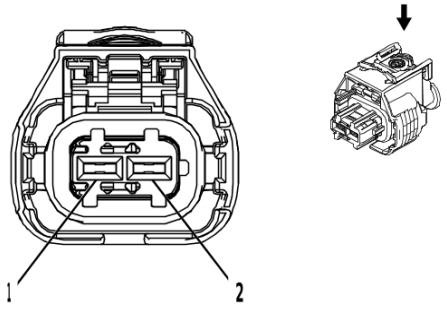
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required

Q18B Fuel Pressure Regulator 2 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/YE	2834	Fuel Rail Pressure Solenoid Valve Low Reference	I	—
2	0.5	D-BU/WH	2530	Fuel Rail Pressure Solenoid Valve Control	I	—

Q18C Fuel Pressure Regulator 3 (LM2)



2577394

Connector Part Information

Harness Type: Engine
OEM Connector: 13930085
Service Connector: 13384371
Description: 2-Way F 2.8 Series, Sealed (BK)

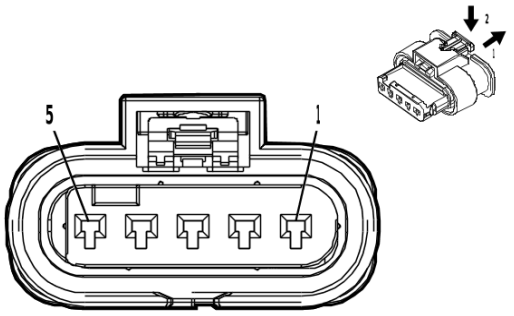
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

Q18C Fuel Pressure Regulator 3 (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	YE/VT	2420	Fuel High Pressure Pump Low Enable Signal	I	—
2	0.75	GY/BN	2419	—	I	—

Q22 Intake Manifold Tuning Solenoid Valve (LM2)



3338689

Connector Part Information

Harness Type: Engine
OEM Connector: 13943325
Service Connector: 19119351
Description: 5-Way F 1.2 MCON-LL Series, Sealed (BK)

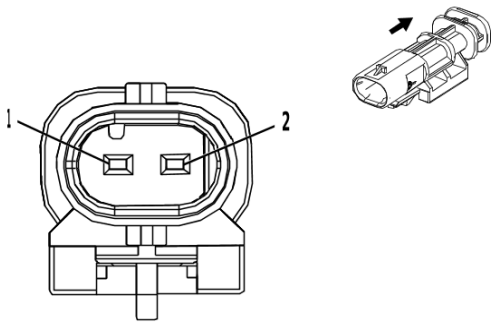
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q22 Intake Manifold Tuning Solenoid Valve (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/L-GN	580	Engine Control Sensors Low Reference 2	I	—
2	0.5	L-GN/GY	7316	Intake Manifold Runner Valve Actuator Control	I	—
3	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	I	—
4	0.75	BK/D-BU	1408	Variable Swirl Valve Close Control	I	—
5	0.75	BK/L-GN	1389	Variable Swirl Valve Open Control	I	—

Q37LF Shock Absorber Actuator - Left Front (Z95)



2474755

Connector Part Information

Harness Type: Chassis
OEM Connector: 33207247
Service Connector: 19332631
Description: 2-Way M 1.2 Multilock Series, Sealed (BK)

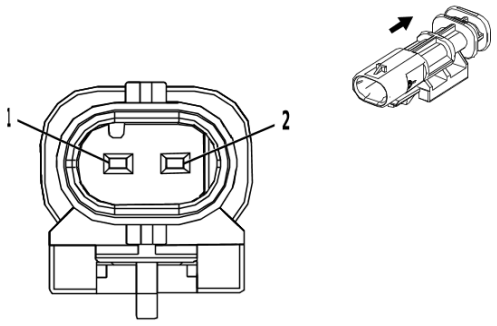
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-17 (LT GN)	No Tool Required

Q37LF Shock Absorber Actuator - Left Front (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/WH	1107	Left Front Shock Absorber Actuator Control	I	—
2	0.5	GY/D-BU	1113	Left Front Shock Absorber Actuator Control	I	—

Q37LR Shock Absorber Actuator - Left Rear (Z95)



2474755

Connector Part Information

Harness Type: Chassis
OEM Connector: 33207247
Service Connector: 19332631
Description: 2-Way M 1.2 Multilock Series, Sealed (BK)

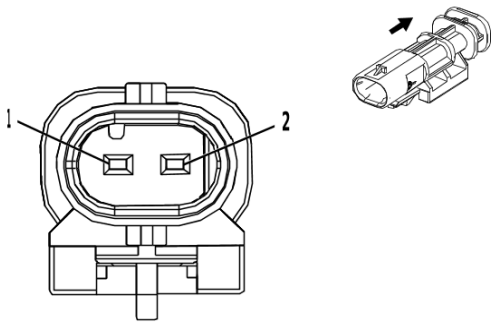
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-17 (LT GN)	No Tool Required

Q37LR Shock Absorber Actuator - Left Rear (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/GY	1114	Left Rear Shock Absorber Actuator Control	I	—
2	0.5	L-GN/VT	1115	Left Rear Shock Absorber Actuator Control	I	—

Q37RF Shock Absorber Actuator - Right Front (Z95)



2474755

Connector Part Information

Harness Type: Chassis
OEM Connector: 33207247
Service Connector: 19332631
Description: 2-Way M 1.2 Multilock Series, Sealed (BK)

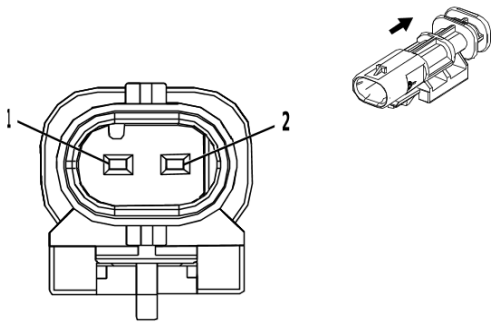
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-17 (LT GN)	No Tool Required

Q37RF Shock Absorber Actuator - Right Front (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/D-BU	1116	Right Front Shock Absorber Actuator Control	I	—
2	0.5	GY/WH	1117	Right Front Shock Absorber Actuator Control	I	—

Q37RR Shock Absorber Actuator - Right Rear (Z95)



2474755

Connector Part Information

Harness Type: Chassis
OEM Connector: 33207247
Service Connector: 19332631
Description: 2-Way M 1.2 Multilock Series, Sealed (BK)

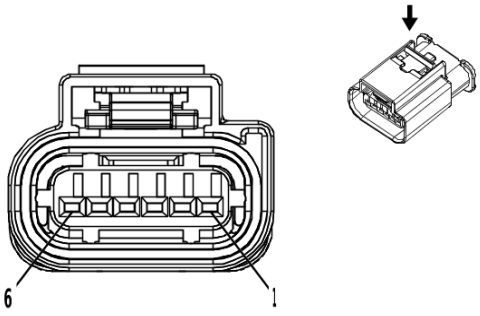
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-17 (LT GN)	No Tool Required

Q37RR Shock Absorber Actuator - Right Rear (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/L-GN	1118	Right Rear Shock Absorber Actuator Control	I	—
2	0.5	L-GN/GY	1119	Right Rear Shock Absorber Actuator Control	I	—

Q38 Throttle Body (L84/L87)



3747579

Connector Part Information

Harness Type: Engine
OEM Connector: 33220833
Service Connector: 19352911
Description: 6-Way F 1.2 MCON Series, Sealed (BK)

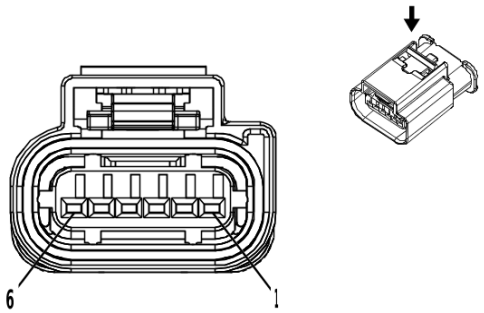
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q38 Throttle Body (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE	581	Throttle Actuator Open Control	I	—
2	0.5	BN/WH	582	Throttle Actuator Close Control	I	—
3	0.5	D-BU/WH	3630	Throttle Position Sensor SENT 1 Signal	I	—
4	0.5	BK/BN	2752	Throttle Position Sensor Low Reference	I	—
5	0.5	BN/RD	2701	Throttle Position Sensor 5V Reference 2	I	—
6	—	—	—	Not Occupied	—	—

Q38 Throttle Body (LM2)



3747579

Connector Part Information

Harness Type: Engine
OEM Connector: 33220833
Service Connector: 19352911
Description: 6-Way F 1.2 MCON Series, Sealed (BK)

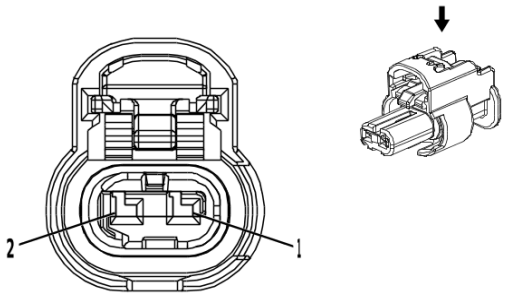
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q38 Throttle Body (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE	581	Throttle Actuator Open Control	I	—
2	0.5	BN/WH	582	Throttle Actuator Close Control	I	—
3	0.5	D-BU/WH	3630	Throttle Position Sensor SENT 1 Signal	I	—
4	0.5	BK/L-GN	580	Engine Control Sensors Low Reference 2	I	—
5	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	I	—
6	—	—	—	Not Occupied	—	—

Q46 A/C Compressor Solenoid Valve X1



4335931

Connector Part Information

Harness Type: Engine
OEM Connector: 33371691
Service Connector: 19366843
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

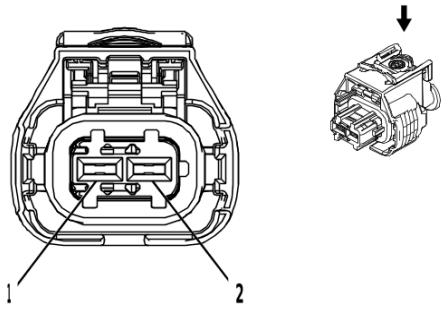
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q46 A/C Compressor Solenoid Valve X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/YE	7574	A/C Compressor Solenoid Valve Control	I	—
2	0.5	D-BU/BN	7573	A/C Compressor Solenoid Valve Control	I	—

Q61 Reductant Injector (LM2)



2577394

Connector Part Information

Harness Type: Engine
OEM Connector: 13930085

Service Connector: 13384371
Description: 2-Way F 2.8 Series, Sealed (BK)

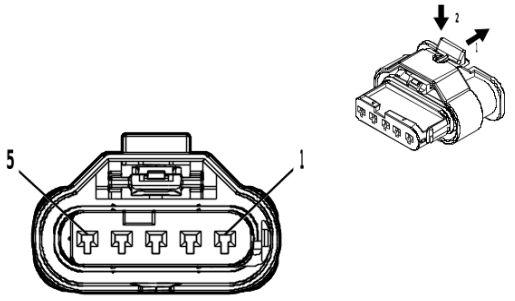
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

Q61 Reductant Injector (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BN/WH	3100	Diesel Exhaust Fluid Dosing Valve Low Control	I	—
2	0.75	BN	3099	Diesel Exhaust Fluid Dosing Valve High Control	I	—

Q74 Engine Coolant Bypass Valve (LM2)



4994456

Connector Part Information

Harness Type: Engine
OEM Connector: 35110578
Service Connector: 19371191
Description: 5-Way F 1.2 MCON-LL Series, Sealed (NA)

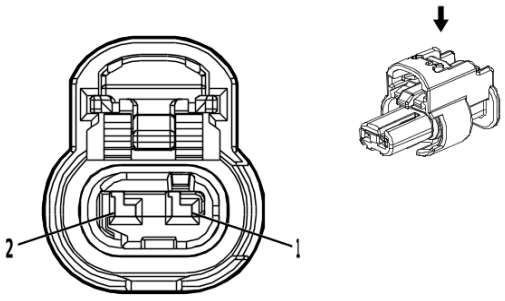
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q74 Engine Coolant Bypass Valve (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	D-BU	2976	Coolant Diverter Valve Actuator Control Open	I	—
2	0.75	D-BU/BN	2977	Coolant Diverter Valve Actuator Control Close	I	—
3	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	I	—
4	0.5	D-BU/GY	2978	Coolant Diverter Valve Position Signal	I	—
5	0.5	BK/L-GN	580	Engine Control Sensors Low Reference 2	I	—

Q78 Air Suspension Reservoir Solenoid Valve (F47)



4649903

Connector Part Information

Harness Type: Chassis
OEM Connector: 33327048
Service Connector: 19366858
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

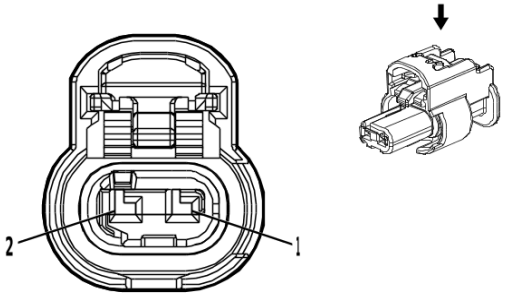
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q78 Air Suspension Reservoir Solenoid Valve (F47)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/D-BU	3261	Vehicle Level Control Exhaust Solenoid Valve Control	I	—
2	0.5	WH/L-GN	320	Vehicle Level Control Exhaust Solenoid Valve Control	I	—

Q80L Engine Mount Solenoid Valve - Left (LM2)



4690744

Connector Part Information

Harness Type: Engine
OEM Connector: 33375932
Service Connector: 19366871
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

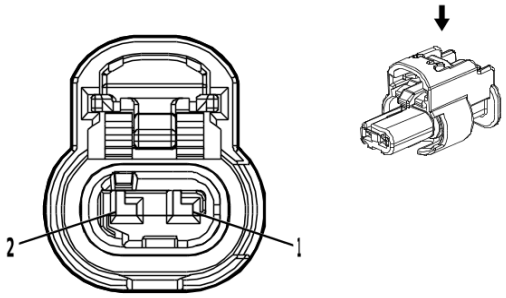
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q80L Engine Mount Solenoid Valve - Left (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/VT	340	Secondary Fused Battery Positive Voltage 3	I	—
2	0.5	BN/D-BU	4065	Driveline Mount Actuator 1 Control	I	—

Q80R Engine Mount Solenoid Valve - Right (LM2)



4690744

Connector Part Information

Harness Type: Engine
OEM Connector: 33375932
Service Connector: 19366871
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

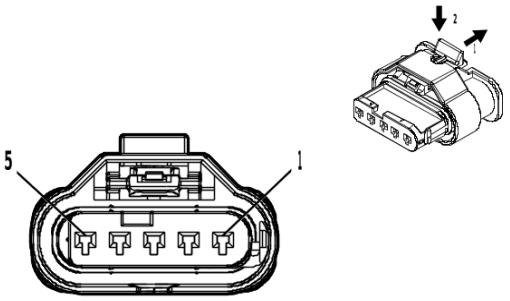
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q80R Engine Mount Solenoid Valve - Right (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/VT	340	Secondary Fused Battery Positive Voltage 3	I	—
2	0.5	BN/YE	4066	Driveline Mount Actuator 2 Control	I	—

Q97M Engine Coolant Flow Control Valve - Main (LM2)



4994456

Connector Part Information

Harness Type: Engine
OEM Connector: 35110578
Service Connector: 19371191
Description: 5-Way F 1.2 MCON-LL Series, Sealed (NA)

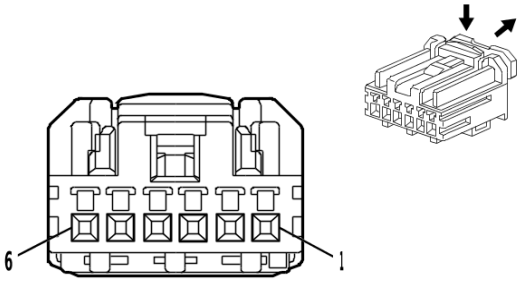
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

Q97M Engine Coolant Flow Control Valve - Main (LM2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GY/BN	2972	Coolant Flow Control Actuator Control Close	I	—
2	0.75	GY/D-BU	2971	Coolant Flow Control Actuator Control Open	I	—
3	0.5	WH/RD	480	Engine Control Vehicle Sensors 5 Volt Reference 1	I	—
4	0.5	GY	2973	Coolant Flow Control Valve Position Signal	I	—
5	0.5	BK/L-GN	580	Engine Control Sensors Low Reference 2	I	—

S13D Door Lock Switch - Driver



4650256

Connector Part Information

Harness Type: Driver Door Trim
OEM Connector: 33315784
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 0.64 HCM Series (BK)

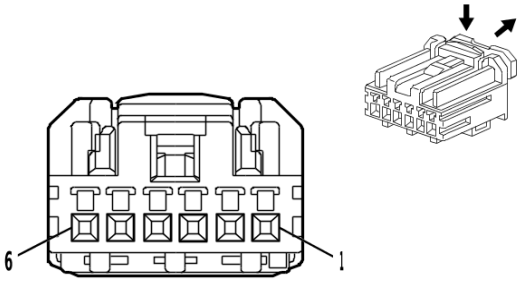
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S13D Door Lock Switch - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN/GY	4784	Left Front Door LED Backlight Dimming Control	I	—
2	0.35	BN/YE	2771	Left Front Door Lock Switch Lock Signal	I	—
3	0.35	BN/WH	2772	Left Front Door Lock Switch Unlock Signal	I	—
4	0.35	BK	1150	Ground 11	I	—
5	0.35	VT/YE	4244	Left Front Door Lock Indicator Control	I	—
6	—	—	—	Not Occupied	—	—

S13LR Door Lock Switch - Left Rear



4650256

Connector Part Information

Harness Type: Left Rear Door Trim
OEM Connector: 33315784
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 0.64 HCM Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

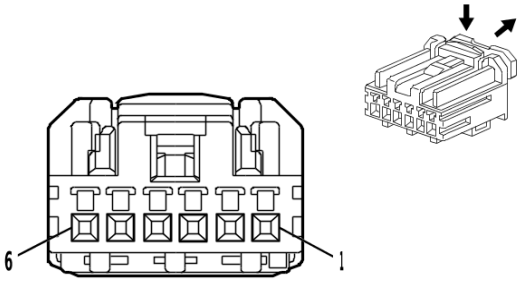
S13LR Door Lock Switch - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	YE	6817	LED Backlight Dimming Control 1	I	—

S13LR Door Lock Switch - Left Rear (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
2	0.35	VT/D-BU	4001	Left Rear Door Lock Switch Lock Control	I	—
3	0.35	WH/YE	4002	Left Rear Door Lock Switch Unlock Control	I	—
4	0.35	BK	1150	Ground 11	I	—
5	0.35	VT/WH	6675	Left Rear Door Lock Indicator Control	I	—
6	—	—	—	Not Occupied	—	—

S13P Door Lock Switch - Passenger



4650256

Connector Part Information

Harness Type: Passenger Door Trim
OEM Connector: 33315784
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 0.64 HCM Series (BK)

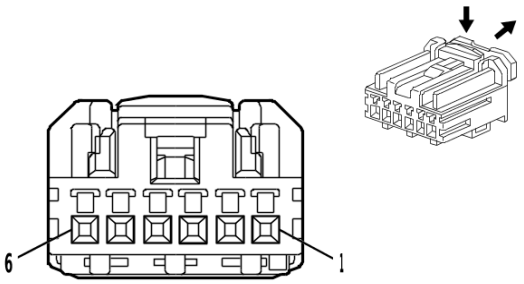
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S13P Door Lock Switch - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/VT	4638	LED Backlight Dimming Control Right Front Door	I	—
2	0.35	YE/VT	2773	Right Front Door Lock Switch Lock Control	I	—
3	0.35	BN/VT	2774	Right Front Door Lock Switch Unlock Control	I	—
4	0.35	BK	1250	Ground 12	I	—
5	0.35	YE/D-BU	4245	Right Front Door Lock Indicator Control	I	—
6	—	—	—	Not Occupied	—	—

S13RR Door Lock Switch - Right Rear



4650256

Connector Part Information

Harness Type: Right Rear Door Trim
OEM Connector: 33315784
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 0.64 HCM Series (BK)

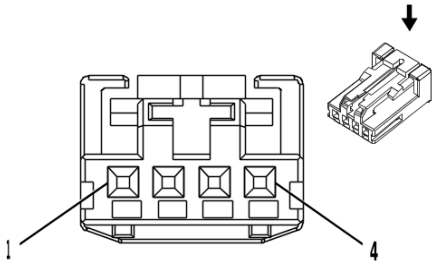
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S13RR Door Lock Switch - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE	6817	LED Backlight Dimming Control 1	I	—
2	0.35	L-GN/BN	4003	Right Rear Door Lock Switch Lock Control	I	—
3	0.35	D-BU/GY	4004	Right Rear Door Lock Switch Unlock Control	I	—
4	0.35	BK	1250	Ground 12	I	—
5	0.5	YE/BK	6677	Right Rear Door Lock Indicator Control	I	—
6	—	—	—	Not Occupied	—	—

S26 Hazard Warning Switch



2717162

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 13969166
Service Connector: 13587297
Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

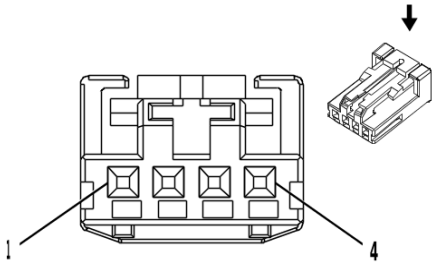
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S26 Hazard Warning Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-GN/WH	111	Hazard Warning Switch Signal	I	—
2	0.5 0.35	BK BK	1850 1850	Ground 18 Ground 18	I I	— X88/Z88
3	—	—	—	Not Occupied	—	—
4	0.35	GY/YE	7543	Hazard Warning Indicator LED Dimming Signal	I	—

S27 Head-Up Display Switch (UV6)



2717162

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 13969166
Service Connector: 13587297
Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

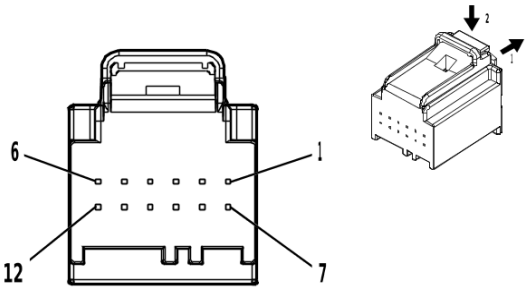
S27 Head-Up Display Switch (UV6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	YE	6817	LED Backlight Dimming Control 1	I	—
2	0.35	BK	1850	Ground 18	I	—

S27 Head-Up Display Switch (UV6) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
3	0.35	BK/L-GN	5699	Head-Up Display Switch Low Reference	I	—
4	0.35	YE/WH	622	Head-Up Display Switch Signal	I	—

S30 Headlamp Switch



5095565

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35130710
Service Connector: 13525987
Description: 12-Way F 0.64 Series, Sealed (BK)

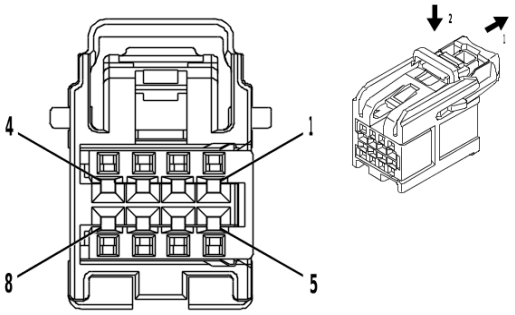
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575867	J-35616-64B (LT BU)	J-38125-215A
II	19300631	J-35616-64B (LT BU)	J-38125-215A

S30 Headlamp Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/VT	103	Headlamp Switch On Signal	II	—
2	0.5	YE	6817	LED Backlight Dimming Control 1	II	—
3	0.35 0.35	L-GN/BN L-GN/BN	306 306	Headlamp Switch Off Signal Headlamp Switch Off Signal	I II	— —
4	—	—	—	Not Occupied	—	—
5	0.35	L-GN/GY	13	Headlamp Switch Park Lamp Signal	II	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.35 0.35	BK BK	1850 1850	Ground 18 Ground 18	I II	— —
9 - 10	—	—	—	Not Occupied	—	—
11	0.35	WH/BN	7555	Headlamp Switch Signal	II	—
12	0.35	YE	7556	Headlamp Switch Reference	II	—

S38 Ignition Mode Switch



4232228

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 15526973
Service Connector: 19353873
Description: 8-Way F 0.64 OCS Series (GY)

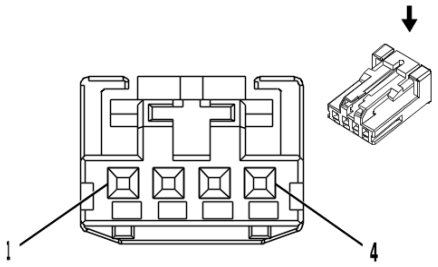
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S38 Ignition Mode Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU/BK	5719	Ignition Mode Switch Start LED Signal	I	—
2	0.35	BN/BK	5720	Ignition Mode Switch Accessory LED Signal	I	—
3	0.5	BK/WH	1851	Ground 18	I	—
4	0.35	D-BU/ L-GN	5723	Ignition Mode Switch Mode Voltage	I	—
5	0.35	YE	6817	LED Backlight Dimming Control 1	I	—
6	—	—	—	Not Occupied	—	—
7	0.35	BK/GY	3559	Passive Start Switch 2 Low Reference	I	—
8	0.35	L-GN/BK	3558	Ignition Mode Switch Signal 2	I	—

S47D Seat Memory Switch - Driver (A45/AUN)



2717162

Connector Part Information

Harness Type: Driver Door Trim
OEM Connector: 13969166
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

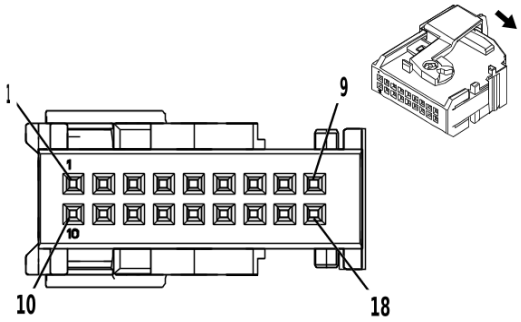
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S47D Seat Memory Switch - Driver (A45/AUN)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN/GY	4784	Left Front Door LED Backlight Dimming Control	I	—
2	0.35	BK/WH	1151	Ground 11	I	—
3	0.35	WH	615	Seat Memory Switch Signal 1	I	—
4	0.35	D-BU/ L-GN	614	Seat Memory Switch Set Signal	I	—

S48C Multifunction Switch 1 - Instrument Panel



4329088

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33168840

Service Connector: 19369840
Description: 18-Way F Micro-Quadlock Series (BK)

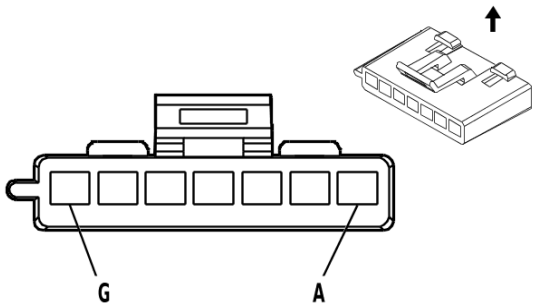
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575587	J-35616-64B (LT BU)	J-38125-12A
II	13575859	J-35616-64B (LT BU)	J-38125-12A

S48C Multifunction Switch 1 - Instrument Panel

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU/VT	1788	Traction Control Switch Signal 1	I	—
2	0.35	GY/WH	4630	AC Power Outlet Switch Signal	I	—
3	0.35	YE	7755	AC Power Outlet Status Indicator Control	I	—
4	0.35	GY/WH	3153	Lane Departure Warning Disable Switch Signal	I	—
5	0.35	WH	3152	Lane Departure Warning Indicator Control	I	—
6	0.35	GY/L-GN	2555	Rear Parking Assist Disable Signal	I	—
7	0.35	L-GN/BN	5852	Rear Parking Assist Disable LED Signal	I	—
8	0.5	D-BU/WH	3119	Roof Rail Air Bag Disable Switch Signal	II	—
9	0.35	D-BU/YE	6844	ABS/Traction Control Hill Descent Control Switch Signal	I	—
10	0.35	BK/WH	1851	Ground 18	I	—
11	0.5	YE	6817	LED Backlight Dimming Control 1	II	—
12	—	—	—	Not Occupied	—	—
13	0.35	GY/D-BU	3602	Curb View Enable Signal	I	—
14	0.5	BN/WH	3895	Roof Rail Air Bag Disable Switch Low Reference	II	—
15 - 16	—	—	—	Not Occupied	—	—
17	0.35	L-GN	1110	Stop/Start Indicator Control	I	—
18	0.35	D-BU	1111	Stop/Start Switch Signal	I	—

S71 Steering Column Tilt and Telescope Switch (N38)



73146

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 12052854

Service Connector: 15862656
Description: 7-Way F 280 Metri-Pack Series (BK)

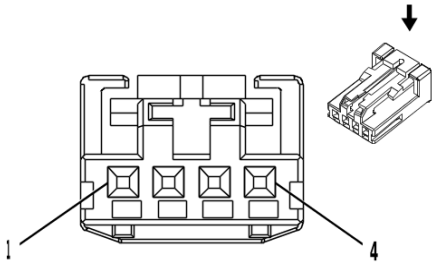
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required

S71 Steering Column Tilt and Telescope Switch (N38)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.35	D-BU/YE	2094	Steering Column Tilt and Telescope Switch Forward Signal	I	—
B	0.35	YE/BN	2097	Steering Column Tilt and Telescope Switch Down Signal	I	—
C	0.35	BN/GY	2096	Steering Column Tilt and Telescope Switch Up Signal	I	—
D - E	—	—	—	Not Occupied	—	—
F	0.35	L-GN/BN	2095	Steering Column Tilt and Telescope Switch Rearward Signal	I	—
G	0.35	VT/BK	2020	Steering Column Tilt and Telescope Switch Feedback Signal	I	—

S76 Trailer Brake Control Switch (JL1)



2717162

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 13599500
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 0.64 Micro-Quadlock Series (YE)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

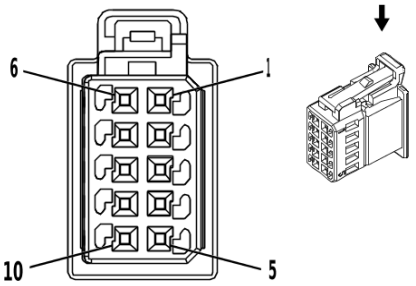
S76 Trailer Brake Control Switch (JL1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/VT	4040	Secondary Fused Battery Positive Voltage 40	I	—

S76 Trailer Brake Control Switch (JL1) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
2	0.35	L-GN/ D-BU	2733	Electronic Brake Control Module LIN Bus 2	I	—
3	0.35	BK	1850	Ground 18	I	—
4	—	—	—	Not Occupied	—	—

S78 Turn Signal/Multifunction Switch



2830955

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 13650061
Service Connector: 19299776
Description: 10-Way F 0.64 Micro-Quadlock Series (BK)

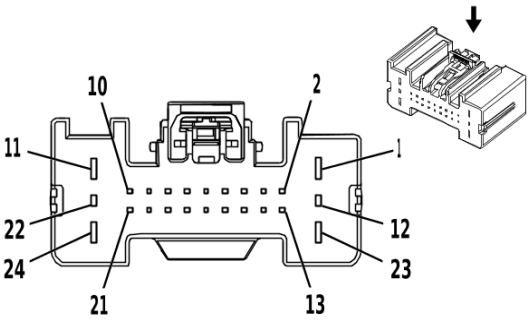
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575736	J-35616-64B (LT BU)	J-38125-12A
II	13579993	J-35616-64B (LT BU)	J-38125-12A

S78 Turn Signal/Multifunction Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/L-GN	2915	Left Turn Signal Switch Signal	I	—
2	0.35	VT/D-BU	2916	Right Turn Signal Switch Signal	I	—
3	0.35	BK	1850	Ground 18	I	—
4	0.35	BN/D-BU	391	Rear Window Wiper Switch Signal	I	—
5	0.35	WH/BK	94	Windshield Washer Switch Signal	I	—
6	0.35 0.35	YE/BN YE/BN	307 307	Headlamp Switch Flash Signal Headlamp Switch Flash Signal	I II	— —
7	0.35	WH	524	High Beam Select Switch High Beam Signal	I	—
8	0.35	BK/GY	6009	Windshield Wiper Switch Low Reference	I	—
9	0.35	GY	1715	Windshield Wiper Switch High Signal	I	—
10	0.35	YE/D-BU	1714	Windshield Wiper Switch Low Signal	I	—

S79D Window Switch - Driver X1



2871905

Connector Part Information

Harness Type: Driver Door Trim
OEM Connector: 13706537
Service Connector: Service by Harness - See Part Catalog
Description: 24-Way F 0.64, 1.5, 2.8 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required
III	Not Required	J-35616-64B (LT BU)	No Tool Required

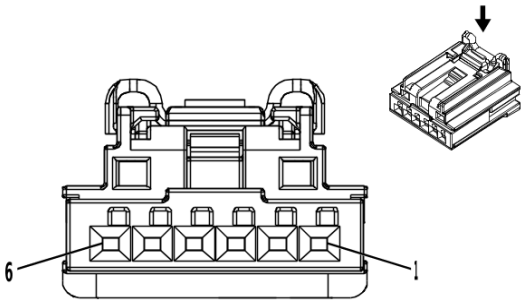
S79D Window Switch - Driver X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/BN	2764	Window Switch Left Front Down Signal	II	—
2	0.35	L-GN	2766	Power Window Switch Left Front Express Signal	III	—
3	0.35	BN/YE	2771	Left Front Door Lock Switch Lock Signal	III	—
4	0.35	BN/WH	2772	Left Front Door Lock Switch Unlock Signal	III	—
5	0.35	GY/VT	2767	LED Ambient Lighting Control Left Front Door	III	—
6	0.35	VT/YE	4244	Left Front Door Lock Indicator Control	III	—
7	0.35	BN/GY	4784	Left Front Door LED Backlight Dimming Control	III	—
8	0.35	GY/YE	1760	Left Side Object Detection LED Control	III	—
9	0.35	WH/L-GN	2786	Left Front Mirror Motor Fold In Control	III	—
10	0.35	YE/BN	2789	Left Front Mirror Motor Common Control	III	—
11	0.5	BK	1150	Ground 11	II	—
12	0.35	GY/WH	2785	Left Front Mirror Motor Fold Out Control	I	—
13 - 16	—	—	—	Not Occupied	—	—
17	0.35	WH/VT	4258	Left Front Door Lock Status Signal	III	—
18	0.35	VT/D-BU	2788	Left Front Mirror Motor Up [+] Down [-] Control	III	—
19	0.35	BN/BK	2790	Left Front Mirror Motor Right [+] Left [-] Control	III	—
20	—	—	—	Not Occupied	—	—
21	0.35	L-GN/YE	6134	Body Control Module LIN Bus 3	III	—
22	0.35	WH	606	Left Outside Rearview Mirror Heater Control	I	—
23	0.35	GY/L-GN	2763	Window Switch Left Front Up Signal	II	—

S79D Window Switch - Driver X1 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
24	0.5	RD/VT	1940	Secondary Fused Battery Positive Voltage 19	II	—

S79D Window Switch - Driver X2



4145138

Connector Part Information

Harness Type: Driver Door Trim
OEM Connector: 33251915
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 0.64 Generation Y Series (BK)

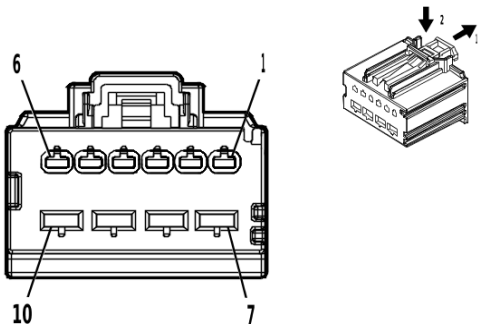
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S79D Window Switch - Driver X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/YE	2792	Left Front Mirror Position Sensor Left [-] Right [+] Signal	I	—
2	0.35	GY/BN	2787	Left Front Mirror Position Sensor Up [+] Down [-] Signal	I	—
3	0.35	VT/RD	2791	Left Front Mirror Position Sensor High Reference	I	—
4	0.35	BK/BN	673	Left Outside Rearview Mirror Position Sensor Low Reference	I	—
5 - 6	—	—	—	Not Occupied	—	—

S79LR Window Switch - Left Rear



5035058

Connector Part Information

Harness Type: Left Rear Door Trim
OEM Connector: 35152553
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way F 1.5, 2.8 Series (BK)

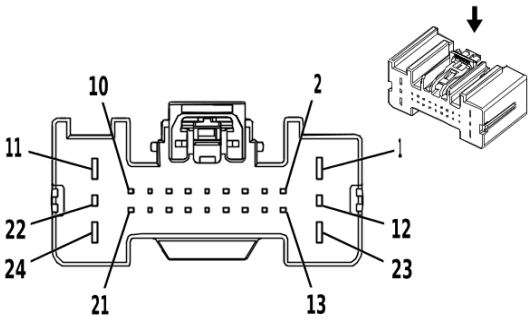
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required

S79LR Window Switch - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-GN/GY	6135	Body Control Module LIN Bus 4	I	—
2	0.35	GY	747	Left Rear Door Ajar Switch Signal	I	—
3	0.5	BK	1150	Ground 11	I	—
4	0.35	L-GN/ D-BU	4648	Left Rear Door Lock Status Signal	I	—
5 - 6	—	—	—	Not Occupied	—	—
7	2.5	BK	1150	Ground 11	II	—
8	2.5	RD/GY	3540	Secondary Fused Battery Positive Voltage 35	II	—
9	2	D-BU/VT	668	Left Rear Window Motor Up Control	II	—
10	2	YE/D-BU	669	Left Rear Window Motor Down Control	II	—

S79P Window Switch - Passenger



2871905

Connector Part Information

Harness Type: Passenger Door Trim
OEM Connector: 13706537
Service Connector: Service by Harness - See Part Catalog
Description: 24-Way F 0.64, 1.5, 2.8 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required
III	Not Required	J-35616-64B (LT BU)	No Tool Required

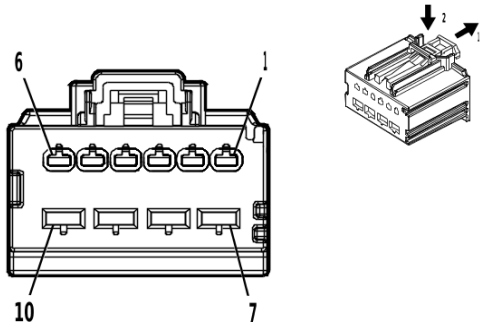
S79P Window Switch - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK	1250	Ground 12	II	—
2	0.35	YE/RD	2799	Right Front Mirror Position Sensor High Reference	III	—
3	0.35	L-GN/BK	2798	Right Front Mirror Motor Right [+] Left [-] Control	III	—
4	0.35	YE/VT	2796	Right Front Mirror Motor Up [+] Down [-] Control	III	—
5	0.35	WH/BN	2768	LED Ambient Lighting Control Right Front Door	III	—
6	0.35	YE/D-BU	4245	Right Front Door Lock Indicator Control	III	—
7	0.35	GY/VT	4638	LED Backlight Dimming Control Right Front Door	III	—
8	0.35	GY	1761	Right Side Object Detection LED Control	III	—
9	0.35	D-BU/GY	2794	Right Front Mirror Motor Fold In Control	III	—
10	0.35	YE/WH	2793	Right Front Mirror Motor Fold Out Control	III	—
11	0.35	L-GN	1184	Window Switch Right Front Up Signal	II	—
12	0.35	BN/VT	607	Right Outside Rearview Mirror Heater Control	I	—
13	—	—	—	Not Occupied	—	—
14	0.35	L-GN/YE	6134	Body Control Module LIN Bus 3	III	—
15	0.35	VT/WH	2800	Right Front Mirror Position Sensor Left [-] Right [+] Signal	III	—
16	0.35	D-BU/YE	2795	Right Front Mirror Position Sensor Up [+] Down [-] Signal	III	—
17	0.35	YE/VT	2773	Right Front Door Lock Switch Lock Control	III	—
18	0.35	BN/VT	2774	Right Front Door Lock Switch Unlock Control	III	—

S79P Window Switch - Passenger (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
19	0.35	VT	4259	Right Front Door Lock Status Signal	III	—
20	0.35	VT/GY	2765	Window Switch Right Front Express Signal	III	—
21	0.35	WH	2797	Right Front Mirror Motor Common Control	III	—
22	0.35	BK/L-GN	675	Right Outside Rearview Mirror Position Sensor Low Reference	I	—
23	0.5	RD/D-BU	5240	Secondary Fused Battery Positive Voltage 52	II	—
24	0.35	BN	5295	Window Switch Right Front Down Signal	II	—

S79RR Window Switch - Right Rear



5035058

Connector Part Information

Harness Type: Right Rear Door Trim
OEM Connector: 35152553
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way F 1.5, 2.8 Series (BK)

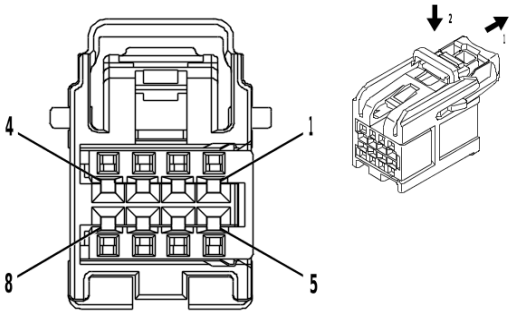
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required

S79RR Window Switch - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-GN/GY	6135	Body Control Module LIN Bus 4	I	—
2	0.35	GY	748	Right Rear Door Ajar Switch Signal	I	—
3	—	—	—	Not Occupied	—	—
4	0.35	WH/GY	4649	Right Rear Door Lock Status Signal	I	—
5 - 6	—	—	—	Not Occupied	—	—
7	2.5	BK	1250	Ground 12	II	—
8	2.5	RD/BN	4240	Secondary Fused Battery Positive Voltage 42	II	—
9	2	D-BU/GY	670	Right Rear Window Motor Up Control	II	—
10	2	L-GN/BK	671	Right Rear Window Motor Down Control	II	—

S126 Drive Mode Select Switch



4232228

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 15526973
Service Connector: 19353873
Description: 8-Way F 0.64 OCS Series (GY)

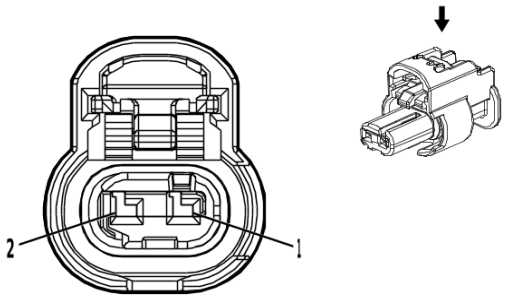
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S126 Drive Mode Select Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/BN	2203	Enhanced Driver Mode 2 Switch Signal	I	—
2	—	—	—	Not Occupied	—	—
3	0.35	BK/GY	1449	Steering Wheel Resistor Ladder Low Reference	I	—
	0.35	BK/VT	1449	Steering Wheel Resistor Ladder Low Reference	I	X88/Z88
4	0.35	YE	6817	LED Backlight Dimming Control 1	I	—
5	0.35	BK	1850	Ground 18	I	—
6 - 8	—	—	—	Not Occupied	—	—

S141 Liftgate Window Unlatch Switch



4649903

Connector Part Information

Harness Type: Liftgate Extension
OEM Connector: 33327048
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

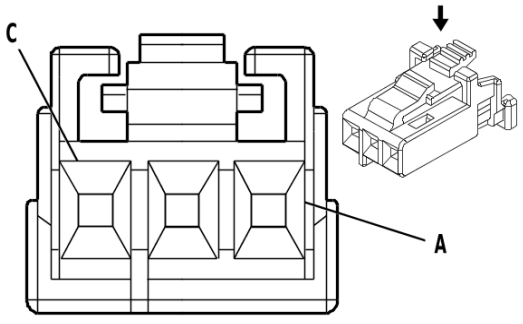
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

S141 Liftgate Window Unlatch Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/L-GN	6190	Liftgate Window/Rear Compartment Lid, Exterior Unlatch Signal	I	—
2	0.35	BK	2050	Ground 20	I	—

S143L Folding Seat Control Switch - 2nd Row Left (ATN/ATT)



1376712

Connector Part Information

Harness Type: Body
OEM Connector: 15417063
Service Connector: 88987857
Description: 3-Way F 0.64 Micro-Pack Series (BK)

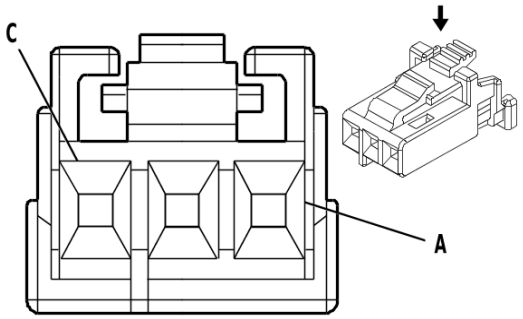
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S143L Folding Seat Control Switch - 2nd Row Left (ATN/ATT)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.35	YE/BK	5813	Park Enable Control	I	—
B	—	—	—	Not Occupied	—	—
C	0.5	L-GN	6808	Left Rear Folding Seat Motor Control	I	—

S143R Folding Seat Control Switch - 2nd Row Right (ATN/ATT)



1376712

Connector Part Information

Harness Type: Body
OEM Connector: 15417063
Service Connector: 88987857
Description: 3-Way F 0.64 Micro-Pack Series (BK)

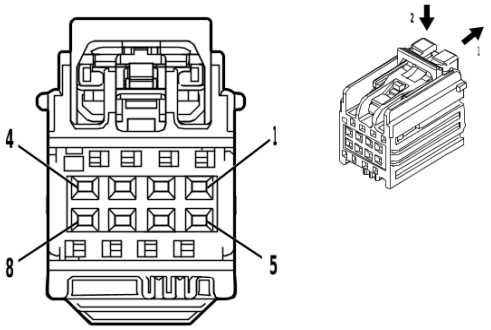
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S143R Folding Seat Control Switch - 2nd Row Right (ATN/ATT)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.35	YE/BK	5813	Park Enable Control	I	—
B	—	—	—	Not Occupied	—	—
C	0.5	BN/WH	6809	Right Rear Folding Seat Motor Control	I	—

S144A Folding Seat Control Switch - Rear Compartment 2nd Row (ATN/ATT)



4808677

Connector Part Information

Harness Type: Body
OEM Connector: 35015626
Service Connector: 19368548
Description: 8-Way F 0.64 YESC Series (BK)

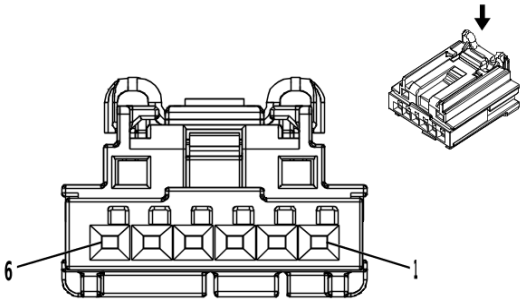
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S144A Folding Seat Control Switch - Rear Compartment 2nd Row (ATN/ATT)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	YE/BK	5813	Park Enable Control	I	—
3	—	—	—	Not Occupied	—	—
4	0.5	L-GN	6808	Left Rear Folding Seat Motor Control	I	—
5	0.75	BN/WH	6809	Right Rear Folding Seat Motor Control	I	—
6 - 8	—	—	—	Not Occupied	—	—

S145 Center Console Compartment Cooler Switch (DCK)



3960313

Connector Part Information

Harness Type: Floor Console
OEM Connector: 13920633
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 0.64 Generation Y Series (BK)

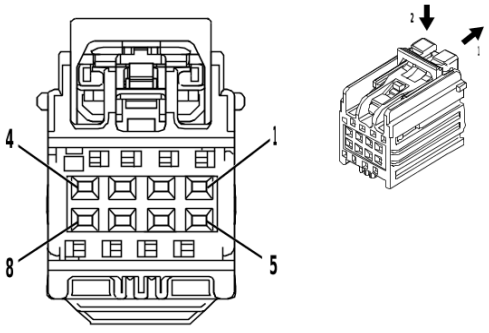
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S145 Center Console Compartment Cooler Switch (DCK)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	1250	Ground 12	I	—
2	0.35	YE	6817	LED Backlight Dimming Control 1	I	—
3	0.35	L-GN/WH	7846	Refrigerator On Indicator Control	I	—
4	0.35	BN/BK	7844	Refrigerator Enable Signal	I	—
5	0.35	D-BU/ L-GN	7845	Refrigerator Freeze Indicator Control	I	—
6	—	—	—	Not Occupied	—	—

S174L 3rd Row Seat Folding Switch - Left (AS8)



4280711

Connector Part Information

Harness Type: Body
OEM Connector: 33183559
Service Connector: 19355209
Description: 8-Way F YESC Kaizen Series (GY)

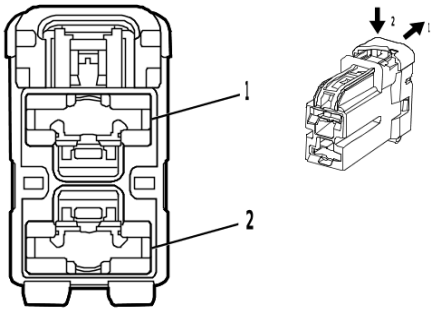
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

S174L 3rd Row Seat Folding Switch - Left (AS8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/D-BU	2698	Left 3rd Row Seat Recline Switch Signal	I	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.5	BK/D-BU	5474	3rd Row Seat Sensor Low Reference	I	—
5	—	—	—	Not Occupied	—	—
6	0.5	L-GN/GY	2699	Right 3rd Row Seat Recline Switch Signal	I	—
7 - 8	—	—	—	Not Occupied	—	—

T1 Accessory DC/AC Power Inverter Module X1 (KI4/KI5)



2453116

Connector Part Information

Harness Type: Body
OEM Connector: 13581928
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 9.5 Series (BK)

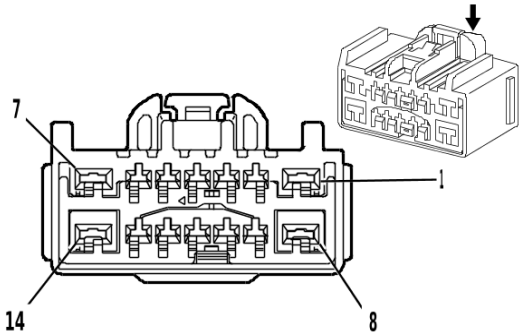
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-22 (RD)	No Tool Required

T1 Accessory DC/AC Power Inverter Module X1 (KI4/KI5)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	5	BN/BK	4629	DC/AC Inverter Control	I	—
2	5	BK	1450	Ground 14	I	—

T1 Accessory DC/AC Power Inverter Module X2 (KI4/KI5)



1540775

Connector Part Information

Harness Type: Power Inverter Module Jumper
OEM Connector: 33356826
Service Connector: Service by Harness - See Part Catalog
Description: 14-Way F 1.5, 2.8 Series (BU)

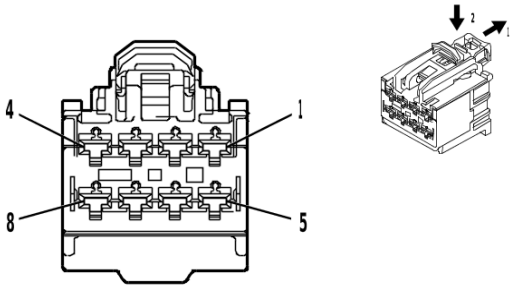
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required

T1 Accessory DC/AC Power Inverter Module X2 (KI4/KI5)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	VT/RD	4049	AC Power Outlet Sensor High Reference	I	—
3	0.5	VT/WH	1139	Run/Crank Ignition 1 Voltage 11	I	—
4	0.5	WH/L-GN	4628	DC/AC Inverter Relay Control	I	—
5	0.5	D-BU/BN	6807	DC/AC Inverter Control	I	—
6	—	—	—	Not Occupied	—	—
7	0.75	BN/WH	2262	230V AC Phase A 2	II	—
8 - 9	—	—	—	Not Occupied	—	—
10	0.5	L-GN/ D-BU	6133	Body Control Module LIN Bus 2	I	—
11	—	—	—	Not Occupied	—	—
12	0.5	L-GN/BN	2266	DC/AC Inverter Control 2	I	—
13	0.5	Bare	2544	230V AC Outlet 2 Low Reference	I	—
14	0.75	D-BU/WH	2263	230V AC Phase B 2	II	—

T3 Audio Amplifier X1 (UQA/UQF/UQS/UQP)



4875738

Connector Part Information

Harness Type: Body
OEM Connector: 33223792
Service Connector: 19369366
Description: 8-Way F 2.8 OCS Series (BK)

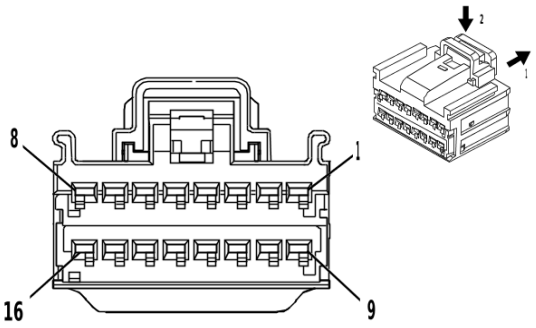
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required

T3 Audio Amplifier X1 (UQA/UQF/UQS/UQP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5 2.5	D-BU/GY L-GN/VT	346 1795	Left/Rear Subwoofer Control [+] Right Subwoofer Control [+]	I I	UQA-UQH/ (-UQH+UQS) -UQH +UQP+Z75
2	0.75	YE	200	Right Front Speaker 1 [+] Control	I	—
3	0.75	D-BU	201	Left Front Speaker 1 [+] Control	I	—
4	3	RD/YE	3740	Secondary Fused Battery Positive Voltage 37	I	—
5	2.5 2.5	L-GN/BK GY/BK	1794 315	Left/Rear Subwoofer Control [-] Right Subwoofer Control [-]	I I	UQA-UQH/ (-UQH+UQS) -UQH +UQP+Z88
6	0.75	YE/BK	117	Right Front Speaker [-] Control 1	I	—
7	0.75	BN/D-BU	118	Left Front Speaker [-] Control 1	I	—
8	2.5	BK/WH	1451	Ground 14	I	—

T3 Audio Amplifier X2 (UQA/UQF/UQS/UQP)



4332214

Connector Part Information

Harness Type: Body
OEM Connector: 15512506
Service Connector: 13591061
Description: 16-Way F 1.5 OCS Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19301767	J-35616-2A (GY)	J-38125-215A

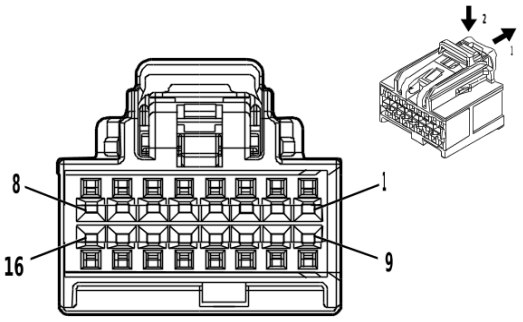
T3 Audio Amplifier X2 (UQA/UQF/UQS/UQP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	D-BU/YE	1960	Front Center Speaker [-] Control	I	—
2	0.75	BN/BK	1975	Right Front Speaker [-] Control 2	I	—
3	0.75	D-BU/VT	1874	Left Front Speaker [+] Control 2	I	—
4	0.75	WH	46	Right Rear Speaker [+] Control	I	—
5	0.75	L-GN	199	Left Rear Speaker [+] Control	I	—
6	0.75	VT/D-BU	1889	Rear/Left Rear Surround Speaker [+] Control	I	—
	0.75	WH/BN	1891	Rear/Left Rear Surround Speaker [-] Control	I	—
	0.75	VT	8578	Right Rear D-Pillar Speaker [+] Control	I	—
7	0.75	WH/L-GN	8576	Left Rear D-Pillar Speaker [+] Control	I	—
	1	YE/WH	1860	Front Center Speaker [+]	I	—
	1	D-BU/YE	1960	Front Center Speaker [-] Control	I	—
8	—	—	—	Not Occupied	—	—
9	1	YE/WH	1860	Front Center Speaker [+]	I	—
10	0.75	L-GN/ D-BU	1875	Right Front Speaker [+] Control 2	I	—
11	0.75	GY/BK	1974	Left Front Speaker [-] Control 2	I	—
12	0.75	D-BU/BK	115	Right Rear Speaker [-] Control	I	—
13	0.75	L-GN/BK	116	Left Rear Speaker [-] Control	I	—
14	0.75	VT/D-BU	1889	Rear/Left Rear Surround Speaker [+] Control	I	—
	0.75	WH/BN	1891	Rear/Left Rear Surround Speaker [-] Control	I	—
	0.75	GY/WH	8577	Right Rear D-Pillar Speaker [-] Control	I	—
15	0.75	BN/WH	8575	Left Rear D-Pillar Speaker [-] Control	I	—
	1	YE/WH	1860	Front Center Speaker [+]	I	—
	1	D-BU/YE	1960	Front Center Speaker [-] Control	I	—

T3 Audio Amplifier X2 (UQA/UQF/UQS/UQP) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
16	—	—	—	Not Occupied	—	—

T3 Audio Amplifier X3 (UQA/UQF/UQS/UQP)



4873243

Connector Part Information

Harness Type: Body
OEM Connector: 35016343
Service Connector: 13519738
Description: 16-Way F 0.64 OCS Series (BK)

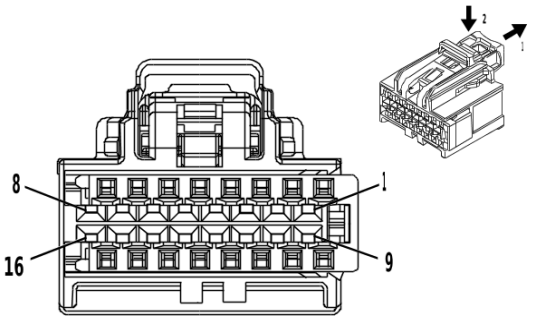
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300660	J-35616-64B (LT BU)	J-38125-12A

T3 Audio Amplifier X3 (UQA/UQF/UQS/UQP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/BK	7215	Ethernet Bus 6 [+]	I	—
2	0.35	BN/BK	7214	Ethernet Bus 6 [-]	I	—
3	—	—	—	Not Occupied	—	—
4	0.5	L-GN/BN	3005	Active Noise Cancellation Microphone 1 Signal	I	—
5	0.5	L-GN/BN	3005	Active Noise Cancellation Microphone 1 Signal	I	—
6 - 10	—	—	—	Not Occupied	—	—
11	0.5	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
12	0.5 0.5	D-BU/YE L-GN/BK	4984 3008	AUTOSAR CAN Bus [-] 5 Serial Data Active Noise Cancellation Microphone 1 Feedback Signal	I I	UQA/UQS UQP+Z88
13	0.5	L-GN/BK	3008	Active Noise Cancellation Microphone 1 Feedback Signal	I	—
14 - 16	—	—	—	Not Occupied	—	—

T3 Audio Amplifier X4 (UQA/UQF/UQS/UQP)



4256181

Connector Part Information

Harness Type: Body
OEM Connector: 35016345
Service Connector: 13519740
Description: 16-Way F 0.64 OCS Series (BN)

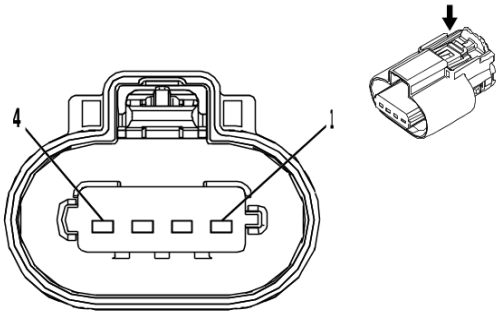
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300660	J-35616-64B (LT BU)	J-38125-12A

T3 Audio Amplifier X4 (UQA/UQF/UQS/UQP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.35	GY/BK	7215	Ethernet Bus 6 [+]	I	—
4	0.35	BN/BK	7214	Ethernet Bus 6 [-]	I	—
5 - 6	—	—	—	Not Occupied	—	—
7	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
8 - 14	—	—	—	Not Occupied	—	—
15	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
16	—	—	—	Not Occupied	—	—

T8A Ignition Coil 1 (L84/L87)



3240115

Connector Part Information

Harness Type: Engine
OEM Connector: 13863211
Service Connector: 19367596
Description: 4-Way F 150 MX Series, Sealed (BK)

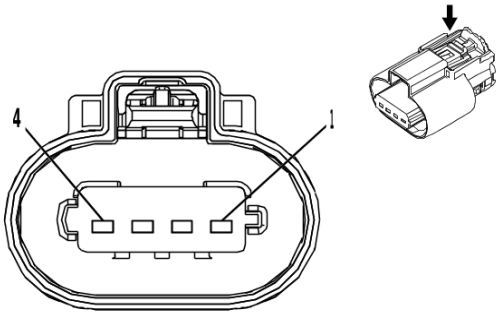
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

T8A Ignition Coil 1 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	6150	Engine Odd Bank Ground 61	I	—
2	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
3	0.5	D-BU/VT	2121	Ignition Control 1	I	—
4	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply 2	I	—

T8B Ignition Coil 2 (L84/L87)



3240115

Connector Part Information

Harness Type: Engine
OEM Connector: 13863211
Service Connector: 19367596
Description: 4-Way F 150 MX Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

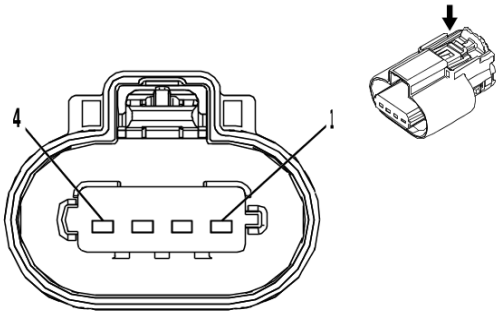
T8B Ignition Coil 2 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	6450	Engine Even Bank Ground 64	I	—
2	0.75	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
3	0.75	D-BU/WH	2122	Ignition Control 2	I	—

T8B Ignition Coil 2 (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
4	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply 3	I	—

T8C Ignition Coil 3 (L84/L87)



3240115

Connector Part Information

Harness Type: Engine
OEM Connector: 13863211
Service Connector: 19367596
Description: 4-Way F 150 MX Series, Sealed (BK)

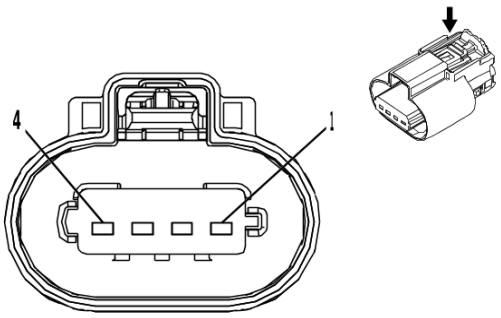
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

T8C Ignition Coil 3 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	6150	Engine Odd Bank Ground 61	I	—
2	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
3	0.5	L-GN/ D-BU	2123	Ignition Control 3	I	—
4	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply 2	I	—

T8D Ignition Coil 4 (L84/L87)



3240115

Connector Part Information

Harness Type: Engine
OEM Connector: 13863211
Service Connector: 19367596
Description: 4-Way F 150 MX Series, Sealed (BK)

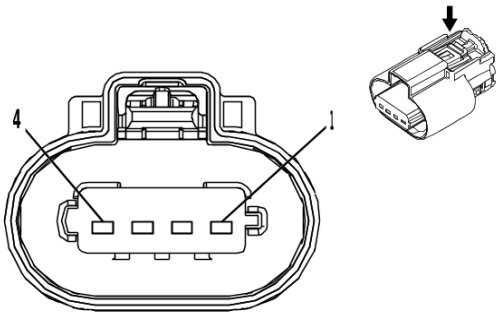
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

T8D Ignition Coil 4 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	6450	Engine Even Bank Ground 64	I	—
2	0.75	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
3	0.5	YE/D-BU	2124	Ignition Control 4	I	—
4	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply 3	I	—

T8E Ignition Coil 5 (L84/L87)



3240115

Connector Part Information

Harness Type: Engine
OEM Connector: 13863211

Service Connector: 19367596
Description: 4-Way F 150 MX Series, Sealed (BK)

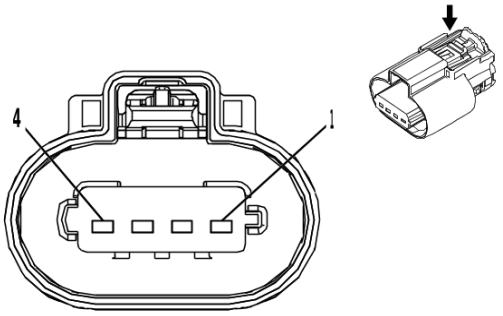
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

T8E Ignition Coil 5 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	6150	Engine Odd Bank Ground 61	I	—
2	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
3	0.5	D-BU/GY	2125	Ignition Control 5	I	—
4	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply 2	I	—

T8F Ignition Coil 6 (L84/L87)



3240115

Connector Part Information

Harness Type: Engine
OEM Connector: 13863211
Service Connector: 19367596
Description: 4-Way F 150 MX Series, Sealed (BK)

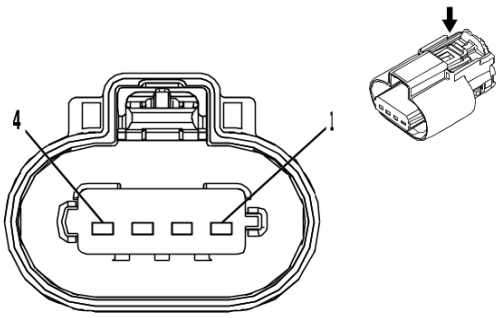
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

T8F Ignition Coil 6 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	6450	Engine Even Bank Ground 64	I	—
2	0.75	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
3	0.5	BN/D-BU	2126	Ignition Control 6	I	—
4	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply 3	I	—

T8G Ignition Coil 7 (L84/L87)



3240115

Connector Part Information

Harness Type: Engine
OEM Connector: 13863211
Service Connector: 19367596
Description: 4-Way F 150 MX Series, Sealed (BK)

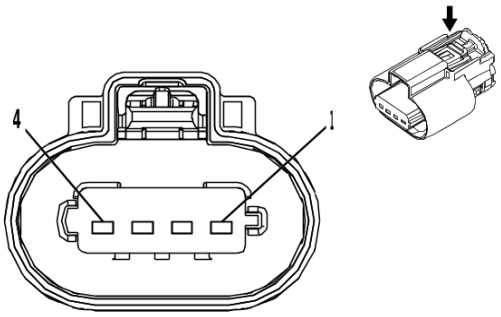
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

T8G Ignition Coil 7 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	6150	Engine Odd Bank Ground 61	I	—
2	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
3	0.5	L-GN/GY	2127	Ignition Control 7	I	—
4	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply 2	I	—

T8H Ignition Coil 8 (L84/L87)



3240115

Connector Part Information

Harness Type: Engine
OEM Connector: 13863211

Service Connector: 19367596
Description: 4-Way F 150 MX Series, Sealed (BK)

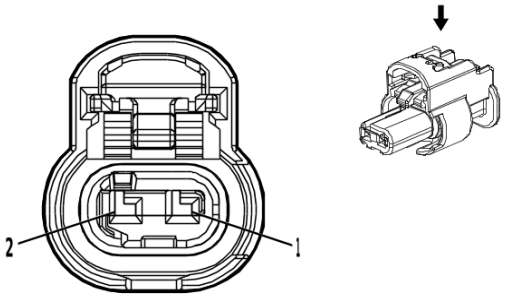
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

T8H Ignition Coil 8 (L84/L87)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	6450	Engine Even Bank Ground 64	I	—
2	0.75	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
3	0.5	VT/WH	2128	Ignition Control 8	I	—
4	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply 3	I	—

T10G Keyless Entry Antenna - Rear Fascia



4690744

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 33375932
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

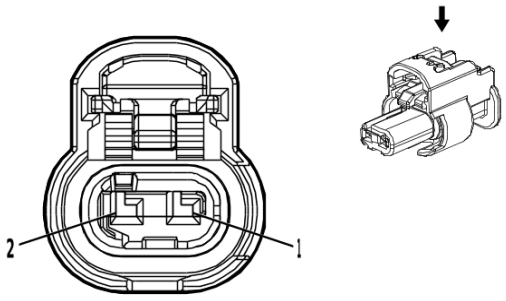
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

T10G Keyless Entry Antenna - Rear Fascia

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/L-GN	3568	Rear Closure Keyless Entry Antenna High Signal	I	—
2	0.5	L-GN/GY	3569	Rear Closure Keyless Entry Antenna Low Signal	I	—

T10J Keyless Entry Antenna - Center Console Front (5W4/9C1/AZ3)



4690744

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33375932
Service Connector: 19366871
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

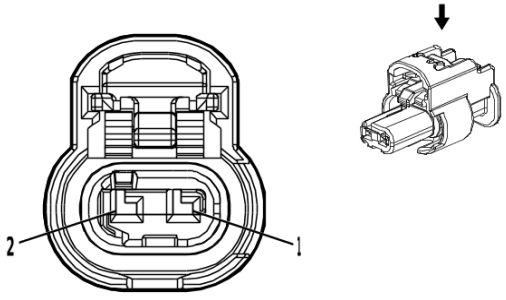
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

T10J Keyless Entry Antenna - Center Console Front (5W4/9C1/AZ3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN/BK	3552	Interior Keyless Entry Antenna 1 High Signal	I	—
2	0.35	WH	3553	Interior Keyless Entry Antenna 1 Low Signal	I	—

T10J Keyless Entry Antenna - Center Console Front (D07/DCH/DCK)



4690744

Connector Part Information

Harness Type: Floor Console
OEM Connector: 33375932
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

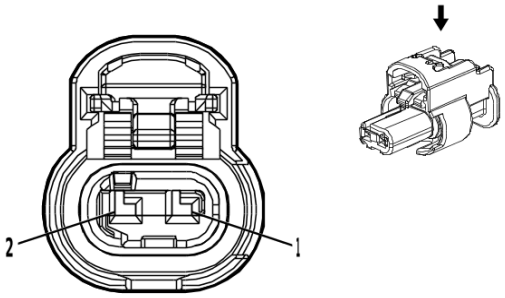
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

T10J Keyless Entry Antenna - Center Console Front (D07/DCH/DCK)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN/BK	3552	Interior Keyless Entry Antenna 1 High Signal	I	—
2	0.35	WH	3553	Interior Keyless Entry Antenna 1 Low Signal	I	—

T10L Keyless Entry Antenna - Left Body



4690744

Connector Part Information

Harness Type: Left Rear Door
OEM Connector: 33375932
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

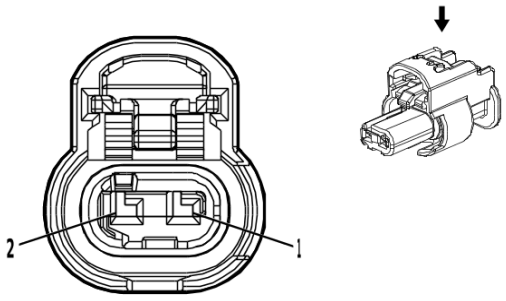
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

T10L Keyless Entry Antenna - Left Body

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT	4301	Passive Entry Left Front Antenna Signal High	I	—
2	0.5	VT/GY	4302	Passive Entry Left Front Antenna Signal Low	I	—

T10R Keyless Entry Antenna - Right Body



4690744

Connector Part Information

Harness Type: Right Rear Door
OEM Connector: 33375932
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

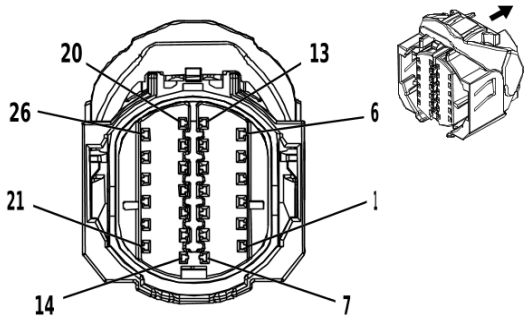
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

T10R Keyless Entry Antenna - Right Body

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/YE	4303	Passive Entry Right Front Door Antenna Signal High	I	—
2	0.5	L-GN/BK	4304	Passive Entry Right Front Door Antenna Signal Low	I	—

T12 Automatic Transmission Assembly



4420489

Connector Part Information

Harness Type: Engine
OEM Connector: 33178413
Service Connector: 13596549
Description: 26-Way F 1.2 MCON-CB Series, Sealed (BK)

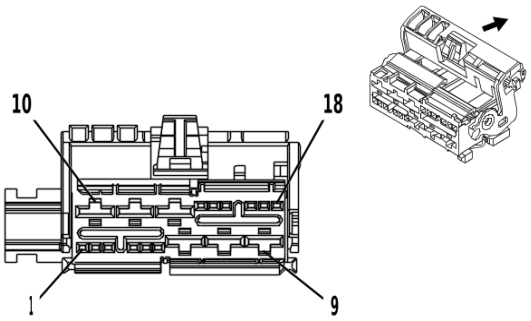
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13582289	J-35616-16 (LT GN)	J-38125-11A

T12 Automatic Transmission Assembly

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/YE	6353	Input Speed Signal	I	—
2	0.5	L-GN/VT	4510	Transmission Intermediate Speed Signal	I	—
3	0.5	BN/WH	6254	Transmission Input Speed Sensor Signal	I	—
4	0.5	GY/D-BU	6358	Output Speed Signal	I	—
5	0.5	WH/YE	6317	Electronic Transmission Range Select Out of Park Switch Signal	I	—
6	0.5	VT/WH	6319	Electronic Transmission Range Select Out of Park Switch 2 Signal	I	—
7	0.5	YE/L-GN	4170	Transmission Output Shaft Speed Sensor Circuit 9V Reference	I	—
8	0.5	YE/D-BU	4171	Transmission Input Shaft Speed Sensor Circuit 9V Reference	I	—
9	0.5	GY/BN	6388	Transmission High Side Driver 2 Control	I	—
10	0.75	RD/VT	7940	Secondary Fused Battery Positive Voltage 79	I	—
11	0.5	L-GN/GY	6387	Transmission High Side Driver 1 Control	I	—
12	0.5	WH/YE	2159	Park Inhibit Solenoid Assembly Control	I	—
13	0.5	BN/WH	585	Transmission Fluid Temperature Sensor Signal	I	—
14	0.5	YE/BN	6404	Clutch Solenoid Valve E Control	I	—
15	0.5	GY/L-GN	6403	Clutch Solenoid Valve D Control	I	—
16	0.5	GY	6402	Clutch Solenoid Valve C Control	I	—
17	0.75 0.75	BK BK	450 6550	Ground 4 Propulsion Propulsion System	I I	— —
18	0.5	L-GN/WH	2968	Auxiliary Transmission Fluid Pump Control	I	—
19	0.5	L-GN/BK	7819	Default Disable Solenoid Control	I	—
20	0.5	BN	3706	Electronic Transmission Range Select Switch Analog Signal 1	I	—
21	0.5	VT	4509	Transmission Clutch F Control	I	—
22	0.5	WH/D-BU	4507	Transmission Clutch H Control	I	—
23	0.5	WH	4508	Transmission Clutch G Control	I	—
24	0.5	L-GN/WH	1530	Transmission Line Pressure Control Solenoid Valve Control	I	—
25	0.5	VT/WH	422	Torque Converter Clutch Solenoid Valve Control	I	—
26	0.5	BK/BN	586	Transmission Fluid Temperature Sensor Low Reference	I	—

T19 Power Supply Transformer



3825662

Connector Part Information

Harness Type: Body
OEM Connector: 15534193
Service Connector: 84789277
Description: 18-Way F 0.64 MTS, 6.3 MCP Series (BK)

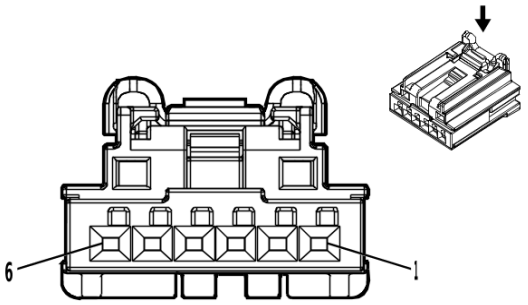
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13327123	J-35616-64B (LT BU)	J-38125-215A
II	13579915	J-35616-40 (BU)	J-38125-556

T19 Power Supply Transformer

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 3	—	—	—	Not Occupied	—	—
4	0.35	VT/L-GN	4320	Selective Catalytic Reduction Power Module Wake-Up Signal	I	—
5	0.35	YE/BK	625	Starter Enable Relay Control	I	—
6	—	—	—	Not Occupied	—	—
7	2.5	BK	250	Ground 2	II	—
8	2.5	RD/YE	8140	Secondary Fused Battery Positive Voltage 81	II	—
9	2.5	RD/L-GN	2173	12 Volt Regulated Supply Voltage 2	II	—
10	2.5	RD/YE	2172	12 Volt Regulated Supply Voltage 1	II	—
11	2.5	RD/WH	8040	Secondary Fused Battery Positive Voltage 80	II	—
12	2.5	BK	250	Ground 2	II	—
13	0.35	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	I	—
14	0.35	D-BU/GY	4054	Private Serial Data Powertrain CAN Bus [-] Serial Data	I	—
15	0.35	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	I	—
16	0.35	WH	4055	Private Serial Data Powertrain CAN Bus [+] Serial Data	I	—
17 - 18	—	—	—	Not Occupied	—	—

T22 Mobile Device Wireless Charger Module (K4C)



5020940

Connector Part Information

Harness Type: Floor Console
OEM Connector: 13920634
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 0.64 Generation Y Series (BK)

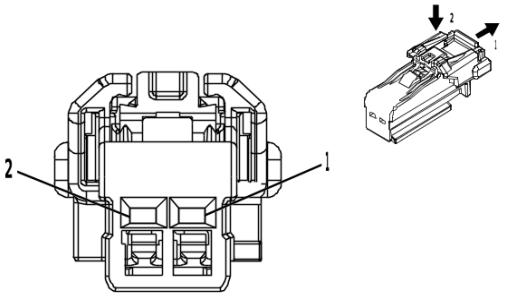
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

T22 Mobile Device Wireless Charger Module (K4C)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/VT	6340	Secondary Fused Battery Positive Voltage 63	I	BOP
	0.35	RD/VT	6340	Secondary Fused Battery Positive Voltage 63	I	-BOP
2	0.75	BK	1250	Ground 12	I	—
	0.5	BK	1250	Ground 12	I	K4C
3	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
4	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—
5	0.35	D-BU/YE	4984	AUTOSAR CAN Bus [-] 5 Serial Data	I	—
6	0.35	D-BU/WH	4985	AUTOSAR CAN Bus [+] 5 Serial Data	I	—

TBD1 Speaker - Right Instrument Panel 2 (UQP)



4373379

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35311601
Service Connector: 19369632
Description: 2-Way F 1.2 MCON Series (GY)

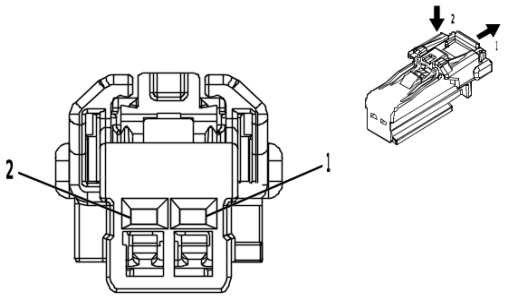
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

TBD1 Speaker - Right Instrument Panel 2 (UQP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BN/BK	1975	Right Front Speaker [-] Control 2	I	—
2	0.75	L-GN/ D-BU	1875	Right Front Speaker [+] Control 2	I	—

TBD2 Speaker - Left Instrument Panel 2 (UQP)



4373379

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35311601
Service Connector: 19369632
Description: 2-Way F 1.2 MCON Series (GY)

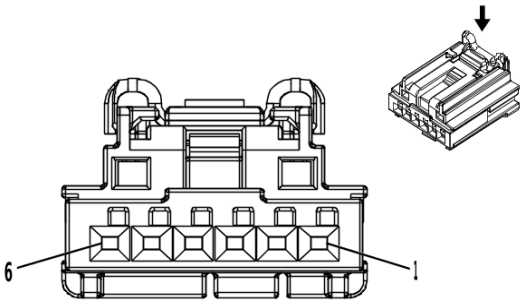
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

TBD2 Speaker - Left Instrument Panel 2 (UQP)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GY/BK	1974	Left Front Speaker [-] Control 2	I	—
2	0.75	D-BU/VT	1874	Left Front Speaker [+] Control 2	I	—

TBD3 Auxiliary Audio Input 2 (UW9)



3960313

Connector Part Information

Harness Type: Floor Console
OEM Connector: 13920633
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 0.64 Generation Y Series (BK)

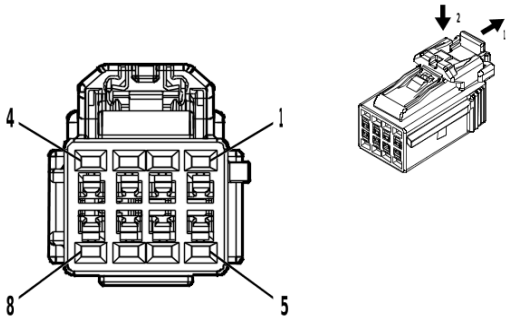
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

TBD3 Auxiliary Audio Input 2 (UW9)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/WH	7240	Secondary Fused Battery Positive Voltage 72	I	—
2	0.35	YE	6817	LED Backlight Dimming Control 1	I	—
3	0.35	BK/WH	1451	Ground 14	I	—
4 - 6	—	—	—	Not Occupied	—	—

TBD4 Accessory Power Preceptacle - Rear Compartmednt 110V AC



5086387

Connector Part Information

Harness Type: Body
OEM Connector: 35029311

Service Connector: 84613126
Description: 8-Way F 1.2 Series (BK)

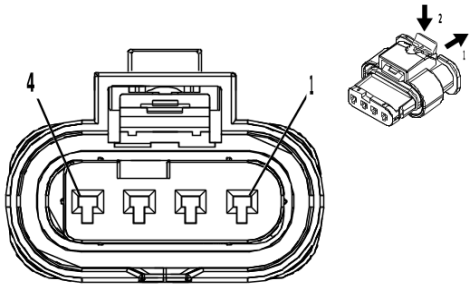
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

TBD4 Accessory Power Preceptacle - Rear Compartmednt 110V AC

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/WH	2264	120V AC Phase A 2	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	VT/RD	4049	AC Power Outlet Sensor High Reference	I	—
4	0.75	L-GN/BN	2266	DC/AC Inverter Control 2	I	—
5	0.5	RD/WH	2265	120V AC Phase B 2	I	—
6	—	—	—	Not Occupied	—	—
7	0.5	BK	1450	Ground 14	I	—
8	0.5	YE	6817	LED Backlight Dimming Control 1	I	—

TBD5 Active Air Dam Actuator



4256124

Connector Part Information

Harness Type: Chassis
OEM Connector: 33190792
Service Connector: 19371196
Description: 4-Way F 1.2 MCON Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

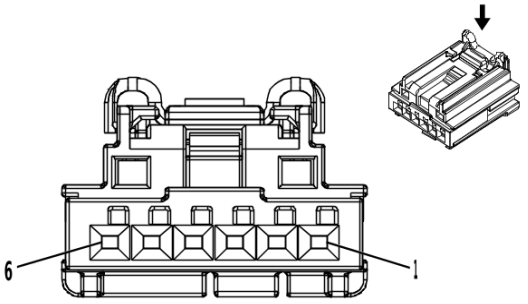
TBD5 Active Air Dam Actuator

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/L-GN	6940	Secondary Fused Battery Positive Voltage 69	I	—
2	0.5	L-GN/YE	2855	Body Control Module LIN Bus 9	I	—

TBD5 Active Air Dam Actuator (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
3	—	—	—	Not Occupied	—	—
4	1.5	BK	1950	Ground 19	I	—

TBD6 Auxiliary Audio Input 1 X1 (USR)



3960313

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 13920633
Service Connector: 19332786
Description: 6-Way F 0.64 Generation Y Series (BK)

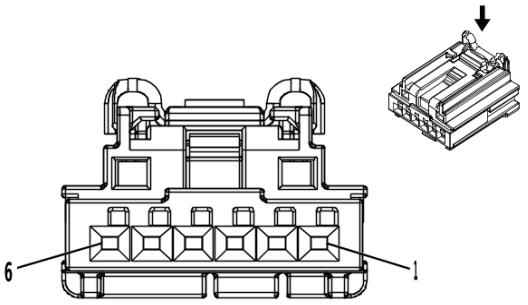
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

TBD6 Auxiliary Audio Input 1 X1 (USR)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	I	—
2	0.5	YE	6817	LED Backlight Dimming Control 1	I	—
3	0.35 0.5	BK/WH BK/WH	1451 1451	Ground 14 Ground 14	I I	— —
4 - 6	—	—	—	Not Occupied	—	—

TBD6 Auxiliary Audio Input 1 X1 (UW9+DCH)



3960313

Connector Part Information

Harness Type: Floor Console
OEM Connector: 13920633
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 0.64 Generation Y Series (BK)

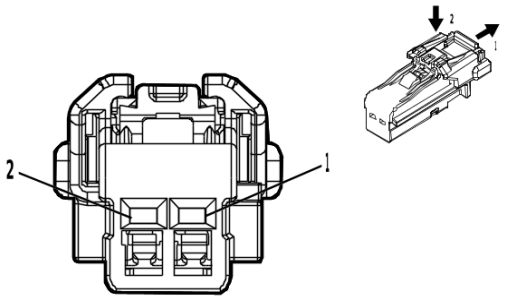
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

TBD6 Auxiliary Audio Input 1 X1 (UW9+DCH)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/YE	2340	Secondary Fused Battery Positive Voltage 23	I	—
2	0.5	YE	6817	LED Backlight Dimming Control 1	I	—
3	0.35 0.75	BK/WH BK/WH	1451 1451	Ground 14 Ground 14	I I	— —
4 - 6	—	—	—	Not Occupied	—	—

TBD7 Content Theft Deterrent Indicator



4115691

Connector Part Information

Harness Type: Driver Door Trim
OEM Connector: 35311666

Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series (BK)

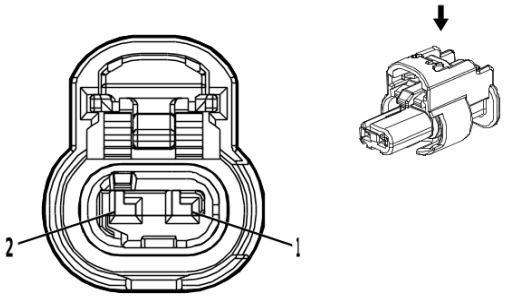
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

TBD7 Content Theft Deterrent Indicator

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY	728	Security Indicator Control	I	—
2	0.35	BK	1150	Ground 11	I	—

TBD8 Keyless Entry Antenna - Passenger Comartment Rear



4690744

Connector Part Information

Harness Type: Body
OEM Connector: 33375932
Service Connector: 19366871
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

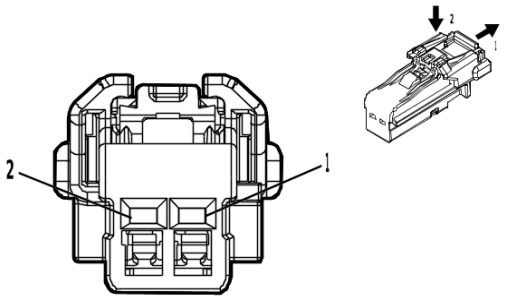
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

TBD8 Keyless Entry Antenna - Passenger Comartment Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU	3554	Interior Keyless Entry Antenna 2 High Signal	I	—
2	0.35	GY/BK	3555	Interior Keyless Entry Antenna 2 Low Signal	I	—

TBD9 Receptacle - 3rd Row Right (USS)



4115691

Connector Part Information

Harness Type: Body
OEM Connector: 35311666
Service Connector: 19352066
Description: 2-Way F 1.2 MCON Series (BK)

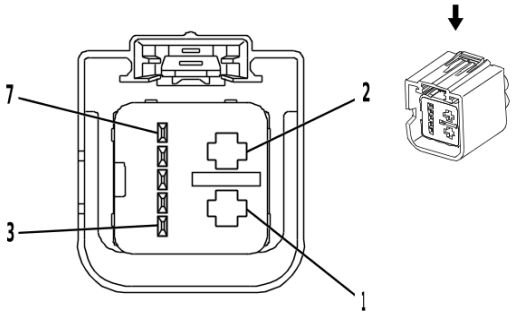
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

TBD9 Receptacle - 3rd Row Right (USS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT	4701	Retained Accessory Power Control 11	I	—
2	0.5	BK	1450	Ground 14	I	—

TBD10 Sliding Floor Console Module (DCH)



2282932

Connector Part Information

Harness Type: Floor Console
OEM Connector: 35232687
Service Connector: Service by Harness - See Part Catalog
Description: 7-Way F 0.64, 2.8 Kaizen Timer Series, Sealed (GY)

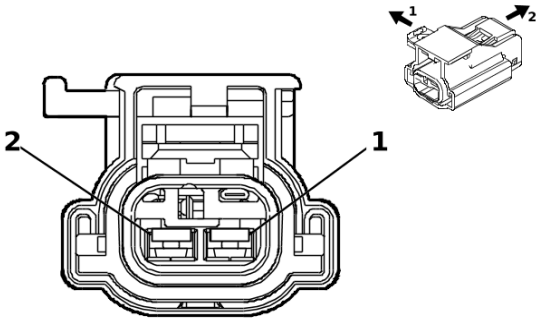
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required
II	Not Required	J-35616-64B (LT BU)	No Tool Required

TBD10 Sliding Floor Console Module (DCH)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	BK	1250	Ground 12	I	—
2	1	RD/VT	8640	Secondary Fused Battery Positive Voltage 86	I	—
3	—	—	—	Not Occupied	—	—
4	0.5	L-GN/VT	2857	Body Control Module LIN Bus 11	II	—
5 - 7	—	—	—	Not Occupied	—	—

TBD11 Speaker - Subwoofer Front (UQA/UQS)



5219859

Connector Part Information

Harness Type: Body
OEM Connector: 33512070
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 APEX Series, Sealed (BK)

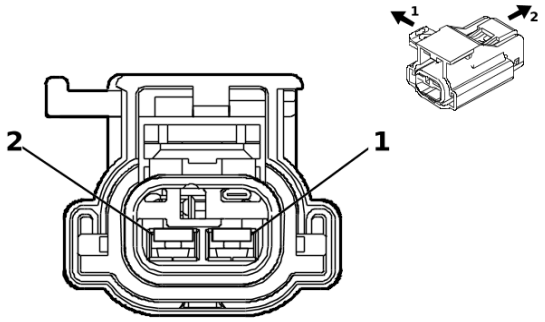
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

TBD11 Speaker - Subwoofer Front (UQA/UQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	L-GN/BK	1794	Left/Rear Subwoofer Control [-]	I	—
2	2.5	D-BU/GY	346	Left/Rear Subwoofer Control [+]	I	—

TBD12 Speaker - Subwoofer Rear (UQH)



5219859

Connector Part Information

Harness Type: Body
OEM Connector: 33512070
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 APEX Series, Sealed (BK)

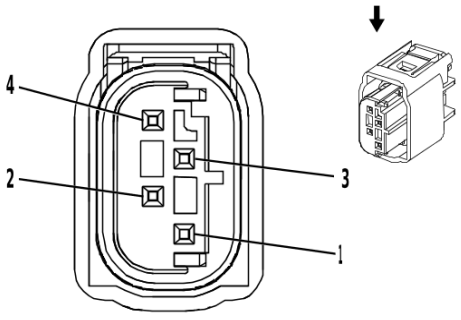
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required

TBD12 Speaker - Subwoofer Rear (UQH)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	L-GN/VT	1795	Right Subwoofer Control [+]	I	—
	2.5	GY/BK	315	Right Subwoofer Control [-]	I	—
2	2.5	L-GN/VT	1795	Right Subwoofer Control [+]	I	—
	2.5	GY/BK	315	Right Subwoofer Control [-]	I	—

TBD13 Strobe Light Switch (5W4/9C1)



2173574

Connector Part Information

Harness Type: Liftgate
OEM Connector: 13679454

Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 0.64 Micro-Quadlock Series, Sealed (BK)

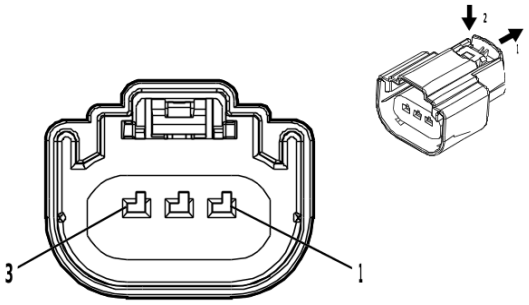
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

TBD13 Strobe Light Switch (5W4/9C1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	2050	Ground 20	I	—
2	—	—	—	Not Occupied	—	—
3	0.75	VT/L-GN	8869	Police Liftgate Strobe Rear On OFF Control	I	—
4	—	—	—	Not Occupied	—	—

TBD14 Suspension Height Sensor - Left Front (F47)



4569745

Connector Part Information

Harness Type: Chassis
OEM Connector: 33343869
Service Connector: 19179750
Description: 3-Way F 150 MX Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

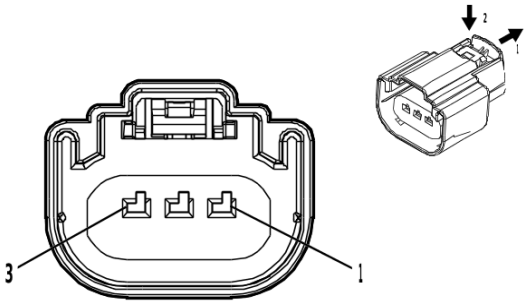
TBD14 Suspension Height Sensor - Left Front (F47)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5 0.75	D-BU/RD WH/RD	1205 7524	Left Front Suspension Position Sensor Voltage Reference Front Vehicle Level Sensor 5V Reference	I I	— —
2	0.5 0.5	BK/D-BU BK/GY	1206 7526	Left Front Suspension Position Sensor Low Reference Front Vehicle Level Sensor Low Reference	I I	— —

TBD14 Suspension Height Sensor - Left Front (F47) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
3	0.5	BN/WH	1207	Left Front Suspension Position Sensor Signal	I	—
	0.5	BN/WH	7525	Front Vehicle Level Sensor Signal	I	—

TBD15 Suspension Height Sensor - Left Rear (F47)



4569745

Connector Part Information

Harness Type: Chassis
OEM Connector: 33343869
Service Connector: 19179750
Description: 3-Way F 150 MX Series, Sealed (BK)

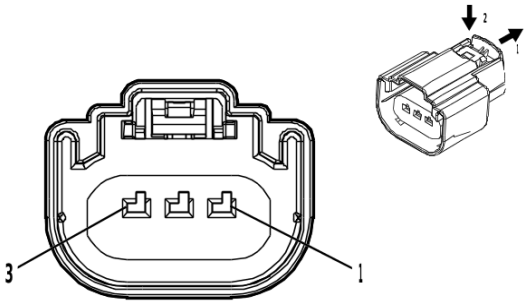
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

TBD15 Suspension Height Sensor - Left Rear (F47)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/RD	1208	Left Rear Suspension Position Sensor Voltage Reference	I	—
2	0.5	BK/L-GN	1209	Left Rear Suspension Position Sensor Low Reference	I	—
3	0.5	L-GN/WH	1210	Left Rear Suspension Position Sensor Signal	I	—

TBD16 Suspension Height Sensor - Right Front (F47)



4569745

Connector Part Information

Harness Type: Chassis
OEM Connector: 33343869
Service Connector: 19179750
Description: 3-Way F 150 MX Series, Sealed (BK)

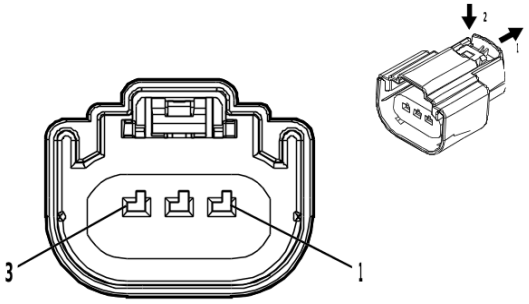
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

TBD16 Suspension Height Sensor - Right Front (F47)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/RD	1211	Right Front Suspension Position Sensor Voltage Reference	I	—
2	0.5	BK/GY	1212	Right Front Suspension Position Sensor Low Reference	I	—
3	0.5	YE/WH	1213	Right Front Suspension Position Sensor Signal	I	—

TBD17 Suspension Height Sensor - Right Rear (F47)



4569745

Connector Part Information

Harness Type: Chassis
OEM Connector: 33343869

Service Connector: 19179750
Description: 3-Way F 150 MX Series, Sealed (BK)

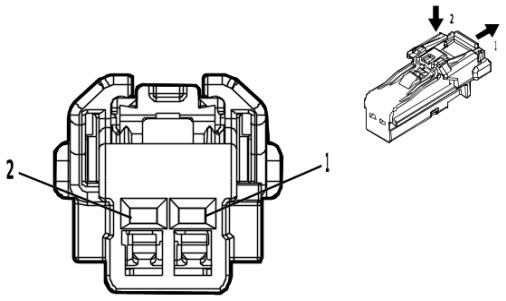
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required

TBD17 Suspension Height Sensor - Right Rear (F47)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/RD	1214	Right Rear Suspension Position Sensor Voltage Reference	I	—
2	0.5	BK/YE	1215	Right Rear Suspension Position Sensor Low Reference	I	—
3	0.5	L-GN/GY	1216	Right Rear Suspension Position Sensor Signal	I	—

TBD18 USB Receptacle - 3rd Row Left (USS)



4115691

Connector Part Information

Harness Type: Body
OEM Connector: 35026312
Service Connector: 19352066
Description: 2-Way F 1.2 Series (BK)

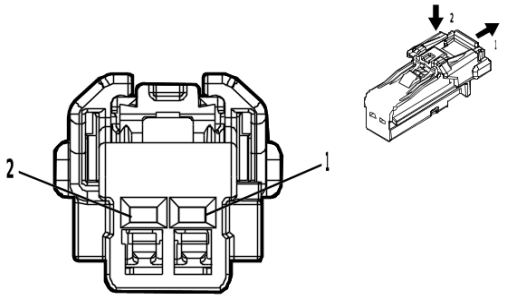
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

TBD18 USB Receptacle - 3rd Row Left (USS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT	4701	Retained Accessory Power Control 11	I	—
2	0.5	BK	1150	Ground 11	I	—

TBD19 USB Receptacle - 3rd Row Right (USS)



4115691

Connector Part Information

Harness Type: Body
OEM Connector: 35026312
Service Connector: 19352066
Description: 2-Way F 1.2 Series (BK)

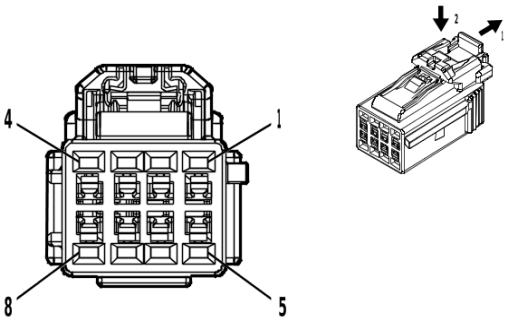
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

TBD19 USB Receptacle - 3rd Row Right (USS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT	4701	Retained Accessory Power Control 11	I	—
2	0.5	BK	1450	Ground 14	I	—

TBD20 Accessory Power Receptacle - Center Console 110V AC (KI4/KI5)



5086387

Connector Part Information

Harness Type: Floor Console
OEM Connector: 35029311
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way F 1.2 Series (BK)

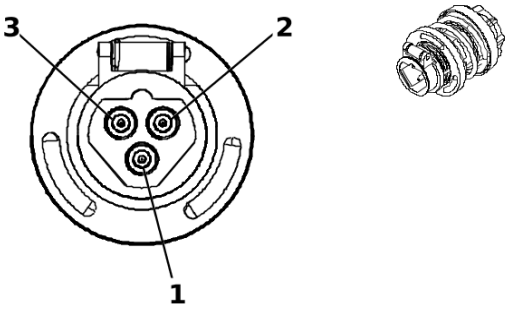
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required

TBD20 Accessory Power Receptacle - Center Console 110V AC (KI4/KI5)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	5683	120V AC Phase A	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	VT/RD	4049	AC Power Outlet Sensor High Reference	I	—
4	0.75	D-BU/BN	6807	DC/AC Inverter Control	I	—
5	0.75	RD	5684	120V AC Phase B	I	—
6	—	—	—	Not Occupied	—	—
7	0.75	BK	1250	Ground 12	I	—
8	0.5	YE	6817	LED Backlight Dimming Control 1	I	—

W28 Engine Coolant Heater Cable



5204301

Connector Part Information

Harness Type: Heater Cable Jumper
OEM Connector: 676-3A
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way M THB HV

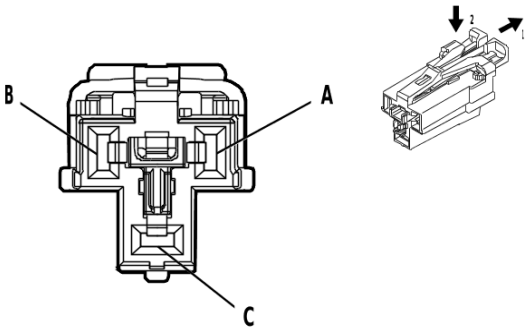
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required

W28 Engine Coolant Heater Cable

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	GN	5686	120V AC Ground	I	—
2	0.8	PRINT	5685	120V AC Neutral	I	—
3	0.8	—	5683	120V AC Phase A	I	—

X80G Accessory Power Receptacle - Instrument Panel (KC5)



4872413

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33386302
Service Connector: 19369281
Description: 3-Way F 2.8 APEX Series (GY)

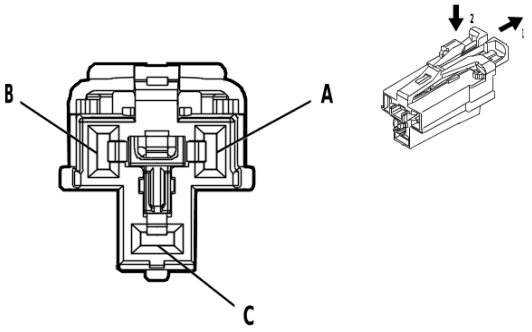
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-35 (VT)	No Tool Required

X80G Accessory Power Receptacle - Instrument Panel (KC5)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	VT	1001	Retained Accessory Power Control 2	II	—
B	0.5	YE	6817	LED Backlight Dimming Control 1	I	—
C	1.5	BK	1850	Ground 18	II	—

X80H Accessory Power Receptacle - Center Console (D07/DCH/DCK)



4872413

Connector Part Information

Harness Type: Floor Console
OEM Connector: 33386302

Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F 2.8 APEX Series (GY)

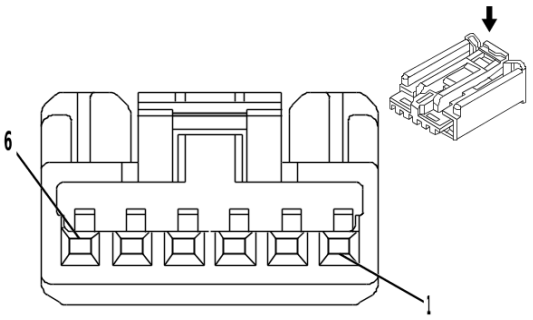
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-35 (VT)	No Tool Required

X80H Accessory Power Receptacle - Center Console (D07/DCH/DCK)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	VT	1001	Retained Accessory Power Control 2	II	—
B	0.5	YE	6817	LED Backlight Dimming Control 1	I	—
	0.5	YE	6817	LED Backlight Dimming Control 1	II	—
C	1	BK	1250	Ground 12	I	—
	1.5	BK	1250	Ground 12	II	—

X82 Audio/Video Input Adapter (UW9)



1862240

Connector Part Information

Harness Type: Floor Console
OEM Connector: 13595476
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 0.64 Kaizen Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

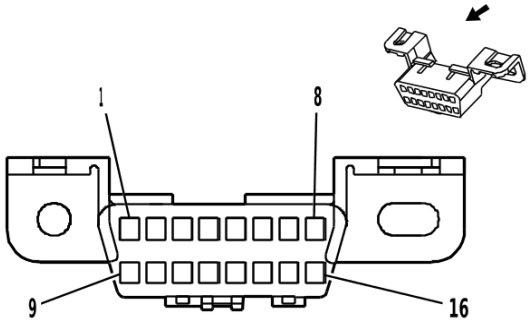
X82 Audio/Video Input Adapter (UW9)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	YE	6817	LED Backlight Dimming Control 1	I	—
3	—	—	—	Not Occupied	—	—
4	0.35	BK/WH	1451	Ground 14	I	—

X82 Audio/Video Input Adapter (UW9) (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
5	—	—	—	Not Occupied	—	—
6	0.35	RD/WH	7240	Secondary Fused Battery Positive Voltage 72	I	—

X84 Data Link Connector



68793

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 12110250
Service Connector: 12110250
Description: 16-Way F 150 Metri-Pack Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13580059	J-35616-14 (GN)	J-38125-12A
II	13580059	J-35616-14 (GN)	J-38125-12A

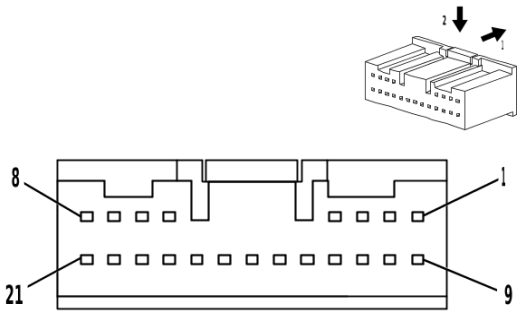
X84 Data Link Connector

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU/BN	4983	AUTOSAR CAN Bus [+] 7 Serial Data	II	—
2	0.35	L-GN	2578	Private Serial Data Presentation CAN Bus [+] 1 Serial Data	II	—
3	0.35	YE/WH	4973	Ethernet Bus 1R [+]	II	—
4	1	BK	1850	Ground 18	I	—
5	0.75	BK/WH	1851	Ground 18	I	—
6	0.35	YE	4981	AUTOSAR CAN Bus [+] 6 Serial Data	II	—
7	0.35	VT	2580	Private Serial Data Presentation CAN Bus [+] 2 Serial Data	II	—
8	0.35	WH	7207	Ethernet Bus 1 Enable Signal	II	—
9	0.35	WH	4982	AUTOSAR CAN Bus [-] 7 Serial Data	II	—
10	0.35	BN	2577	Private Serial Data Presentation CAN Bus [-] 1 Serial Data	II	—
11	0.35	YE	4972	Ethernet Bus 1R [-]	II	—
12	0.35	L-GN/WH	4975	Ethernet Bus 1T [+]	II	—

X84 Data Link Connector (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
13	0.35	L-GN	4974	Ethernet Bus 1T [-]	II	—
14	0.35	WH	4980	AUTOSAR CAN Bus [-] 6 Serial Data	II	—
15	0.35	GY	2579	Private Serial Data Presentation CAN Bus [-] 2 Serial Data	II	—
16	0.5	RD/YE	6540	Secondary Fused Battery Positive Voltage 65	II	—

X85 Steering Wheel Air Bag Coil



3960237

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 33291416
Service Connector: 13510218
Description: 21-Way F 0.64 Series, Sealed (YE)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575742	J-35616-64B (LT BU)	J-38125-215A
II	13575867	J-35616-64B (LT BU)	J-38125-215A

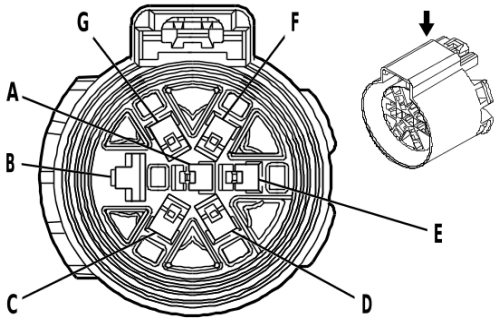
X85 Steering Wheel Air Bag Coil

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK/WH	1851	Ground 18	I	—
2	0.35	L-GN/WH	3287	Horn Switch Signal	II	—
3 - 4	—	—	—	Not Occupied	—	—
5	0.5	OG/L-GN	3023	Steering Wheel Air Bag Stage 2 High Control	I	—
6	0.5	WH/OG	3022	Steering Wheel Air Bag Stage 2 Low Control	I	—
7	0.5	BN/OG	3020	Steering Wheel Air Bag Stage 1 Low Control	I	—
8	0.5	OG/VT	3021	Steering Wheel Air Bag Stage 1 High Control	I	—
9	0.35	L-GN/BK	3894	Instrument Cluster LIN Bus 1	II	—
10	0.35	L-GN/BK	2858	Body Control Module LIN Bus 12	II	—
11	0.35	BN/L-GN	1884	Cruise Control Set/Coast/Resume/Accelerate Switch Signal	II	—
12	0.35	BK/VT	1449	Steering Wheel Resistor Ladder Low Reference	II	—

X85 Steering Wheel Air Bag Coil (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
13	—	—	—	Not Occupied	—	—
14	0.75	RD/L-GN	5140	Secondary Fused Battery Positive Voltage 51	I	—
15	0.35	GY/L-GN	5737	Distance Sensing Cruise Control Gap Up/Down Switch Signal	II	—
16 - 19	—	—	—	Not Occupied	—	—
20	0.5	BK	1850	Ground 18	I	—
21	0.35	RD/BN	10040	Secondary Fused Battery Positive Voltage 100	II	—

X88 Trailer Connector X1



2056936

Connector Part Information

Harness Type: Chassis
OEM Connector: 13857223
Service Connector: 15306164
Description: 7-Way F 280, 630 Metri-Pack Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-42 (RD)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required

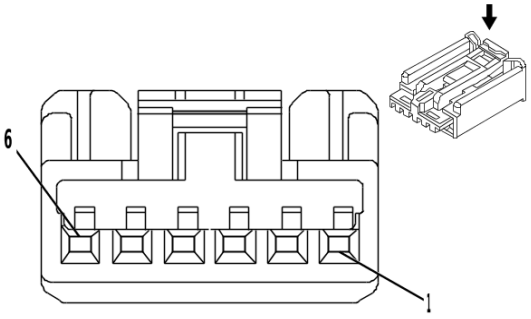
X88 Trailer Connector X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75 0.75	L-GN/WH WH/L-GN	5189 1624	Trailer Backup Lamp Control Trailer Backup Lamp Control	II II	MBM+U1D+Z82 -U1D+Z82
B	3	BK	1950	Ground 19	I	—
C	2.5	D-BU	47	Trailer Auxiliary Control	II	—
D	0.75 0.75	YE/GY L-GN/VT	5187 1619	Right Trailer Turn Signal Lamp Control Right Rear Trailer Stop/Turn Lamp Control	II II	MBM+U1D+Z82 -U1D+Z82
E	4	RD/L-GN	742	Primary Fused Battery Positive Voltage 7	II	—
F	0.75 0.75	BN/GY GY/BN	5184 2109	Left Trailer Park Lamp Control Trailer Park Lamp Control	II II	MBM+U1D+Z82 -U1D+Z82

X88 Trailer Connector X1 (cont'd)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
G	0.75	D-BU/WH	5186	Left Trailer Turn Signal Lamp Control	II	MBM+U1D+Z82
	0.75	YE/GY	1618	Left Rear Trailer Stop/Turn Lamp Control	II	-U1D+Z82

X92D USB Receptacle - Center Console



1862240

Connector Part Information

Harness Type: Floor Console
OEM Connector: 13595476
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way F 0.64 Kaizen Series (BK)

Terminal Part Information

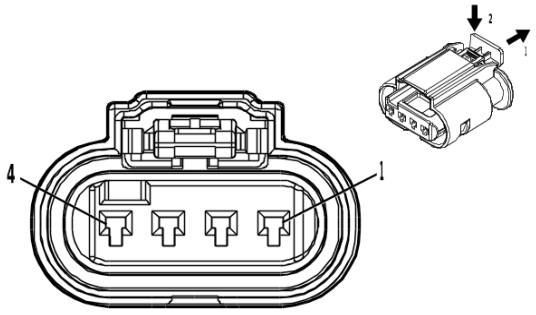
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required

X92D USB Receptacle - Center Console

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	YE	6817	LED Backlight Dimming Control 1	I	—
3	—	—	—	Not Occupied	—	—
4	0.35	BK/WH	1451	Ground 14	I	—
	0.75	BK	1250	Ground 12	I	—
	0.5	BK	1250	Ground 12	I	USS-UW9
5	—	—	—	Not Occupied	—	—
6	0.35	RD/WH	7240	Secondary Fused Battery Positive Voltage 72	I	—
	0.5	VT	4701	Retained Accessory Power Control 11	I	USS-UW9

Inline Harness Connector End Views

X102 Body Harness to Left Police Provisional Harness (5W4/9C1)



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4994577

Connector Part Information

Harness Type: Body
OEM Connector: 33351631
Service Connector: 19371202
Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

Connector Part Information

Harness Type: Left Police Provisional
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way M

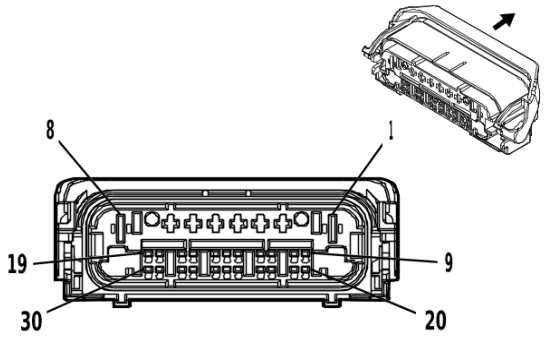
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

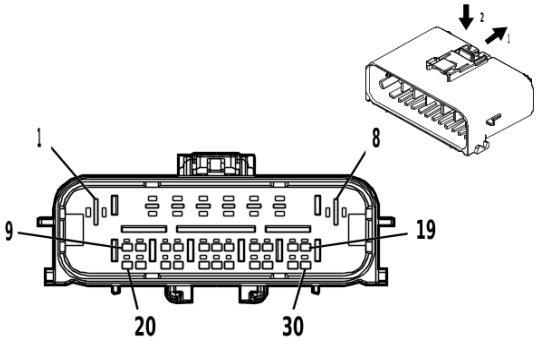
X102 Body Harness to Left Police Provisional Harness (5W4/9C1)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	D-BU	8890	I	—	Police Front Corner Light Control	1	0.75	D-BU	8890	II	—
2	0.75	BK	2050	I	—	Ground 20	2	0.75	BK	2050	II	—
3	0.75	D-BU/WH	8891	I	—	Police Corner Strobe Synchron-ization Signal	3	0.75	D-BU/WH	8891	II	—
4	0.75	VT	8893	I	—	Police Front Corner Strobe Control	4	0.75	VT	8893	II	—

X108 Front Fascia Harness to Body Harness



4650150



4817393

Connector Part Information

Harness Type: Front Fascia
OEM Connector: 33378383
Service Connector: Service by Harness - See Part Catalog
Description: 30-Way F 1.2 MCON, 2.8, 6.3 MCP Series (BK)

Connector Part Information

Harness Type: Body
OEM Connector: 33363373
Service Connector: 19371177
Description: 30-Way M 1.2 MCON, 2.8, 6.3 MCP Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-40 (BU)	No Tool Required
III	Not Required	J-35616-4A (PU)	No Tool Required
IV	13575350	J-35616-5 (PU)	J-38125-36
V	13575376	J-35616-43 (RD)	J-38125-557
VI	19330703	J-35616-13 (BU)	J-38125-215A
VII	19330704	J-35616-17 (LT GN)	J-38125-215A

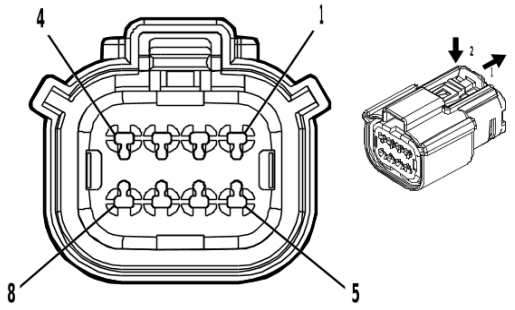
X108 Front Fascia Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	D-BU/L-GN	1253	II	—	Right Front Park Lamp Control	1	0.5	D-BU/L-GN	1253	V	—
2	0.5	VT/GY	5218	III	—	Right Front Middle Parking Assist Sensor	2	0.5	VT/GY	5218	IV	—
3	0.5	L-GN/BK	2738	III	—	Virtual Key Module LIN Bus 1	3	0.5	L-GN/BK	2738	IV	—
4	0.5	BK/WH	251	III	—	Ground 2	4	0.5	BK/WH	251	IV	—
5	—	—	—	—	—	Not Occupied	5	—	—	—	—	—
6	0.5	BN/GY	5061	III	—	Left Front Fog Lamp Control	6	0.5	BN/GY	5061	IV	—
7	—	—	—	—	—	Not Occupied	7	—	—	—	—	—

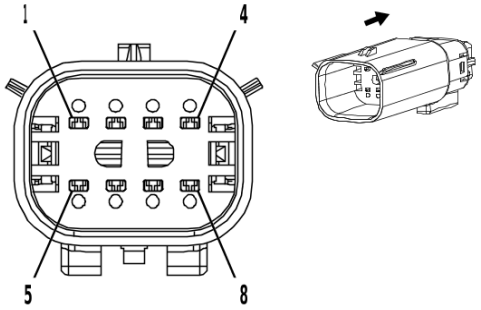
X108 Front Fascia Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
8	0.5	BN/ L-GN	5062	II	—	Right Front Fog Lamp Control	8	0.5	BN/ L-GN	5062	V	—
9 - 10	—	—	—	—	—	Not Occupied	9 - 10	—	—	—	—	—
11	0.5	WH/ GY	5217	I	—	Right Front Outer Parking Assist Sensor	11	0.5	WH/ GY	5217	VII	—
12	0.5	BK/ D-BU	5214	I	—	Front Parking Assist Sensor Low Reference	12	0.5	BK/ D-BU	5214	VII	—
13	—	—	—	—	—	Not Occupied	13	—	—	—	—	—
14	0.5	WH/ YE	1254	I	—	Left Front Park Lamp Control	14	0.5	WH/ YE	1254	VII	—
15	0.5	BN	6581	I	—	Front Parking Assist Display Control	15	0.5	BN	6581	VII	—
16	0.5	YE/ GY	5216	I	—	Left Front Middle Parking Assist Sensor	16	0.5	YE/ GY	5216	VII	—
17 - 18	—	—	—	—	—	Not Occupied	17 - 18	—	—	—	—	—
19	0.5	RD/ GY	4840	I	—	Secondary Fused Battery Positive Voltage 48	19	0.5	RD/ GY	4840	VII	—
20	0.5	VT/ WH	5215	I	—	Left Front Outer Parking Assist Sensor	20	0.5	VT/ WH	5215	VII	—
21 - 22	—	—	—	—	—	Not Occupied	21 - 22	—	—	—	—	—
23	0.75 0.5	BK BK	250 250	I I	T40/Z75 -T40+X88	Ground 2 Ground 2	23	0.35	BK	250	VI	—
24 - 27	—	—	—	—	—	Not Occupied	24 - 27	—	—	—	—	—
28	0.5 0.75	BK BK	150 150	I I	T40/Z75 -T40+X88	Ground 1 Ground 1	28	0.75	BK	150	VII	—
29 - 30	—	—	—	—	—	Not Occupied	29 - 30	—	—	—	—	—

X110 Body Harness to Left Headlamp Harness



4846407



2667653

Connector Part Information

Harness Type: Body
OEM Connector: 35037827
Service Connector: 19366859
Description: 8-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Left Headlamp
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way M

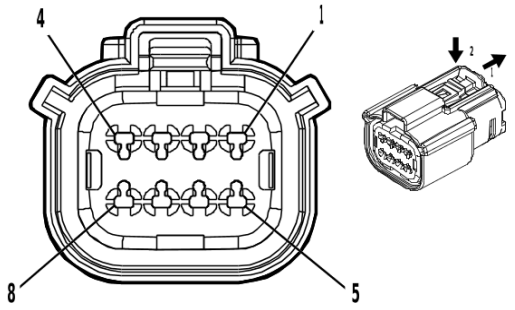
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

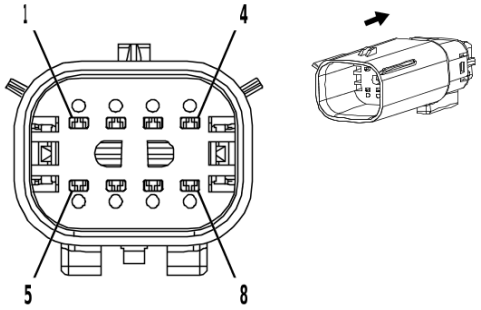
X110 Body Harness to Left Headlamp Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	BK	150	I	—	Ground 1	1	0.75	BK	150	II	—
2	0.75	RD/WH	640	I	—	Secondary Fused Battery Positive Voltage 6	2	0.75	RD/WH	640	II	—
3	0.35	YE	712	I	—	Left Headlamp Low Beam Control	3	0.35	YE	712	II	—
4	0.35	WH	711	I	—	Left Headlamp High Beam Control	4	0.35	WH	711	II	—
5	0.5	GY/D-BU	7538	I	—	Left Front DRL Control	5	0.5	GY/D-BU	7538	II	—
6	0.5	D-BU/WH	1314	I	—	Left Front Turn Signal Lamp Control	6	0.5	D-BU/WH	1314	II	—
7	0.35	VT/BK	6568	I	—	Front Turn Signal Lamp Feedback Signal	7	0.35	VT/BK	6568	II	—
8	0.5	WH/YE	1254	I	—	Left Front Park Lamp Control	8	0.5	WH/YE	1254	II	—

X111 Body Harness to Off-Road Grille Lamp Provisional Harness (5W4/9C1)



4846407



2667653

Connector Part Information

Harness Type: Body
OEM Connector: 35037827
Service Connector: 19366859
Description: 8-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Off-Road Grille Lamp Provisional
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

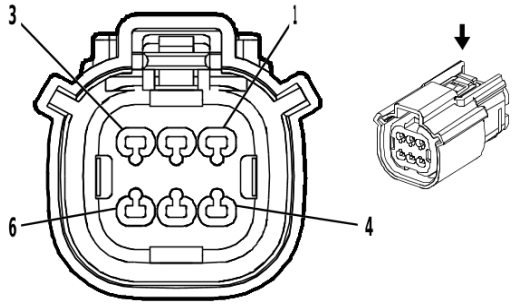
X111 Body Harness to Off-Road Grille Lamp Provisional Harness (5W4/9C1)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	BN	8855	I	—	Police Front Grille Light 1 Control	1	0.5	BN	8855	II	—
2	0.5	BN/ D-BU	8856	I	—	Police Front Grille Light 2 Control	2	0.5	BN/ D-BU	8856	II	—
3	0.5	BK/ BN	8857	I	—	Police Front Grille Light Low Reference	3	0.5	BK/ BN	8857	II	—
4	0.5	WH	8858	I	—	Police Front Grille Light Synchroni-zation Signal	4	0.5	WH	8858	II	—
5	0.5	BN/ YE	8859	I	—	Police Front Grille Light Steady Burn Control	5	0.5	BN/ YE	8859	II	—
6	0.5	WH/ BK	8860	I	—	Police Front Grille Spare 1 Signal	6	0.5	WH/ BK	8860	II	—
7	0.5	L-GN/ WH	8861	I	—	Police Front Grille Speaker [+] Control	7	0.5	L-GN/ WH	8861	II	—

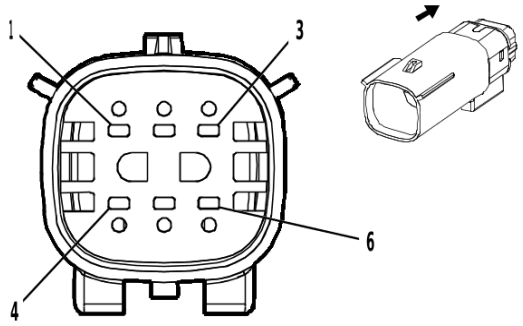
X111 Body Harness to Off-Road Grille Lamp Provisional Harness (5W4/9C1) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
8	0.5	D-BU/WH	8862	I	—	Police Front Grille Speaker [-] Control	8	0.5	D-BU/WH	8862	II	—

X114 Engine Harness to Active Grille Air Shutter Harness (VTI+(L84/L87))



1986157



1986159

Connector Part Information

Harness Type: Engine
OEM Connector: 13609714
Service Connector: 13578533
Description: 6-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Active Grille Air Shutter
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way M

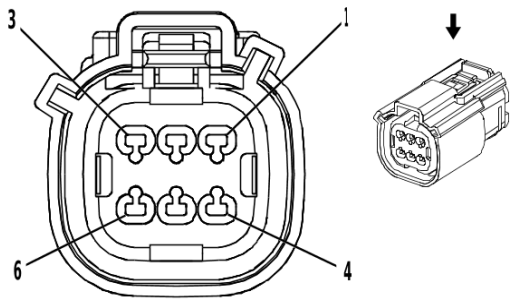
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

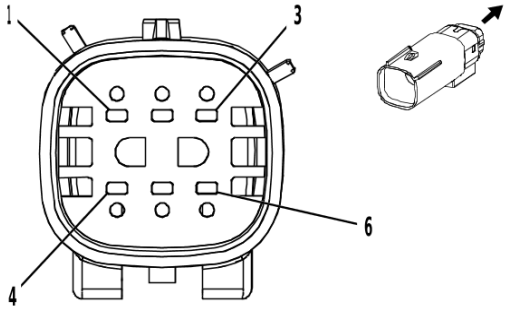
X114 Engine Harness to Active Grille Air Shutter Harness (VTI+(L84/L87))

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	L-GN/VT	4621	I	—	Engine Control Module LIN Bus 1	1	0.5	L-GN/VT	4621	II	—
2	0.75	BK	450	I	—	Ground 4	2	0.75	BK	450	II	—
3	0.5	VT/D-BU	5705	I	—	Powertrain Main Relay Fused Supply 6	3	0.5	VT/D-BU	5705	II	—
4	—	—	—	—	—	Not Occupied	4	—	—	—	—	—
5	0.5	D-BU/GY	636	I	—	Ambient Air Temperature Sensor Signal	5	0.5	D-BU/GY	636	II	—
6	0.5	BK/YE	548	I	—	Engine Control Sensors Low Reference 1	6	0.5	BK/YE	548	II	—

X114 Engine Harness to Active Grille Air Shutter Harness (VTI+LM2)



3225042



3225221

Connector Part Information

Harness Type: Engine
OEM Connector: 33141414
Service Connector: 19301527
Description: 6-Way F 150 MX Series, Sealed (GY)

Connector Part Information

Harness Type: Active Grille Air Shutter
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way M

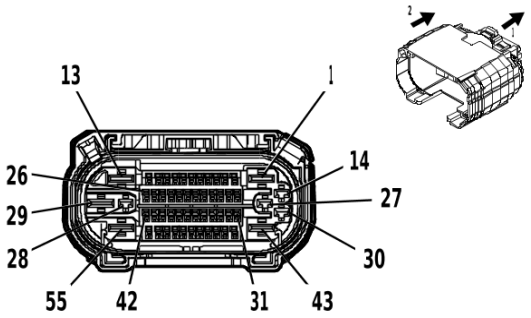
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

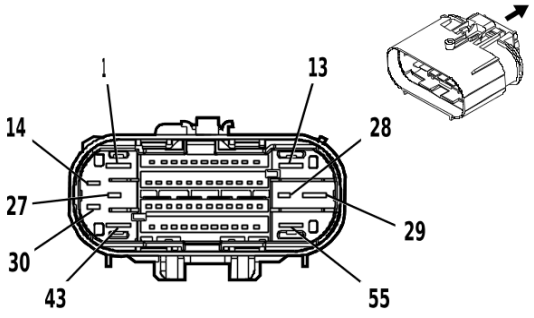
X114 Engine Harness to Active Grille Air Shutter Harness (VTI+LM2)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	L-GN/VT	4621	I	—	Engine Control Module LIN Bus 1	1	0.5	L-GN/VT	4621	II	—
2	0.5	BK	6550	I	—	Propulsion Propulsion System	2	0.5	BK	6550	II	—
3	0.5	VT/D-BU	5705	I	—	Powertrain Main Relay Fused Supply 6	3	0.5	VT/D-BU	5705	II	—
4	—	—	—	—	—	Not Occupied	4	—	—	—	—	—
5	0.5	D-BU/GY	636	I	—	Ambient Air Temperature Sensor Signal	5	0.5	D-BU/GY	636	II	—
6	0.5	BK/GY	626	I	—	Engine Control Vehicle Sensors Low Reference 1	6	0.5	BK/GY	626	II	—

X115 Engine Harness to Body Harness (L84/L87)



4992329



4994369

Connector Part Information

Harness Type: Engine

OEM Connector: 35016653

Service Connector: 19371184

Description: 55-Way F 1.2 OCS, 2.8, 6.3 CTS Series, Sealed (GY)

Connector Part Information

Harness Type: Body

OEM Connector: 35205174

Service Connector: 84727363

Description: 55-Way M 1.2 OCS, 2.8, 6.3 CTS Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19332900	J-35616-42 (RD)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
II	19371240	J-35616-16 (LT GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
III	19301750	J-35616-32 (OR)	J-38125-36	Not Available	Not Available	Not Available	Not Available
IV	19370818	J-35616-17 (LT GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
V	84616651	J-35616-17 (LT GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available

X115 Engine Harness to Body Harness (L84/L87)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 2	—	—	—	—	—	Not Occupied	1 - 2	—	—	—	—	—
3	0.5	BK/BU	1271	II	—	Accelerator Pedal Position Low Reference 1	3	0.5	BK/BU	1271	V	—
4	—	—	—	—	—	Not Occupied	4	—	—	—	—	—
5	0.5	GN/WH	1162	II	—	Accelerator Pedal Position Signal 2	5	0.5	GN/WH	1162	V	—
6 - 14	—	—	—	—	—	Not Occupied	6 - 14	—	—	—	—	—
15	0.5	YE	4063	II	—	Hood Status A Signal	15	0.5	YE	4063	V	—

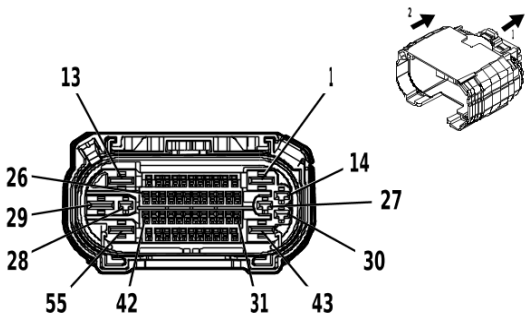
X115 Engine Harness to Body Harness (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
16 - 23	—	—	—	—	—	Not Occupied	16 - 23	—	—	—	—	—
24	0.5	BU/ GY	4054	II	—	Private Serial Data Powertrain CAN Bus [-] Serial Data	24	0.35	BU/ GY	4054	V	—
25	0.5	WH	4055	II	—	Private Serial Data Powertrain CAN Bus [+] Serial Data	25	0.35	WH	4055	V	—
26 - 30	—	—	—	—	—	Not Occupied	26 - 30	—	—	—	—	—
31	0.5	WH/ BU	6311	II	—	Cruise/ETC/ TCC Brake Signal	31	0.5	WH/ BU	6311	V	—
32 - 34	—	—	—	—	—	Not Occupied	32 - 34	—	—	—	—	—
35	0.5	BK/ YE	548	II	—	Engine Control Sensors Low Reference 1	35	0.5	BK/ YE	5382	V	—
36	0.5	WH/ GN	5380	II	—	Brake Position Sensor Signal	36	0.5	WH/ GN	5380	V	—
37	0.5	WH/ RD	480	II	—	Engine Control Vehicle Sensors 5 Volt Reference 1	37	0.5	WH/ RD	5381	V	—
38 - 39	—	—	—	—	—	Not Occupied	38 - 39	—	—	—	—	—
40	0.5	BK/ VT	1272	II	—	Accelerator Pedal Position Low Reference 2	40	0.5	BK/ VT	1272	V	—
41	—	—	—	—	—	Not Occupied	41	—	—	—	—	—
42	0.5	YE/ BK	625	II	—	Starter Enable Relay Control	42	0.35	YE/ BK	625	V	—
43	4	BK/ WH	6151	I	—	Engine Control Module Ground 61	43	4	BK/ WH	6151	III	—
44	1	RD/ GN	1840	II	—	Secondary Fused Battery Positive Voltage 18	44	0.75	RD/ GN	1840	IV	—
45 - 46	—	—	—	—	—	Not Occupied	45 - 46	—	—	—	—	—

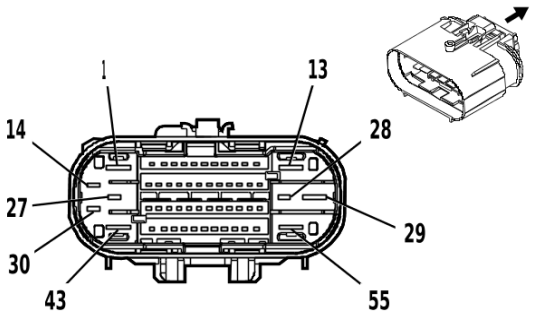
X115 Engine Harness to Body Harness (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
47	0.5	BU/ BN	7573	II	—	A/C Compressor Solenoid Valve Control	47	0.5	BU/ BN	7573	V	—
48	—	—	—	—	—	Not Occupied	48	—	—	—	—	—
49	0.5	YE/ WH	1161	II	—	Accelerator Pedal Position Signal 1	49	0.5	YE/ WH	1161	V	—
50	0.5	WH/ RD	1164	II	—	Accelerator Pedal Position 5 Volt Reference 1	50	0.5	WH/ RD	1164	V	—
51	0.5	BN/ RD	1274	II	—	Accelerator Pedal Position 5V Reference 2	51	0.5	BN/ RD	1274	V	—
52	—	—	—	—	—	Not Occupied	52	—	—	—	—	—
53	0.5	BU/ YE	7574	II	—	A/C Compressor Solenoid Valve Control	53	0.5	BU/ YE	7574	V	—
54 - 55	—	—	—	—	—	Not Occupied	54 - 55	—	—	—	—	—

X115 Engine Harness to Body Harness (LM2)



4992329



4994369

Connector Part Information

Harness Type: Engine

OEM Connector: 35016653

Service Connector: 19371184

Description: 55-Way F 1.2 OCS, 2.8, 6.3 CTS Series, Sealed (GY)

Connector Part Information

Harness Type: Body

OEM Connector: 35205174

Service Connector: 84727363

Description: 55-Way M 1.2 OCS, 2.8, 6.3 CTS Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19332900	J-35616-42 (RD)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
II	19332900	J-35616-43 (RD)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
III	19333088	J-35616-35 (VT)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
IV	19371240	J-35616-16 (LT GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
V	13505800	J-35616-5 (PU)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
VI	19301750	J-35616-32 (OR)	J-38125-36	Not Available	Not Available	Not Available	Not Available
VII	84616651	J-35616-17 (LT GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available

X115 Engine Harness to Body Harness (LM2)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	1	RD/GN	1840	II	—	Secondary Fused Battery Positive Voltage 18	1	0.75	RD/GN	1840	VI	—
2 - 4	—	—	—	—	—	Not Occupied	2 - 4	—	—	—	—	—
5	0.5	WH/RD	480	IV	—	Engine Control Vehicle Sensors 5 Volt Reference 1	5	0.5	WH/RD	5381	VII	—

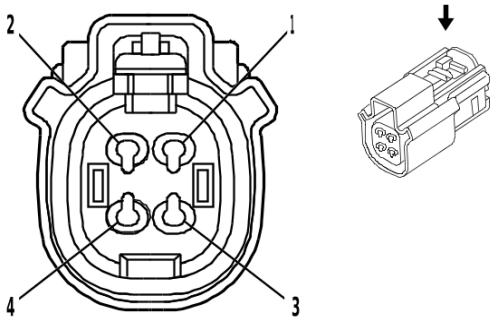
X115 Engine Harness to Body Harness (LM2) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
6	0.5	WH/ GN	5380	IV	—	Brake Position Sensor Signal	6	0.5	WH/ GN	5380	VII	—
7	0.5	BK/ GY	626	IV	—	Engine Control Vehicle Sensors Low Reference 1	7	0.5	BK/ YE	5382	VII	—
8	0.5	WH/ RD	1164	IV	—	Accelerator Pedal Position 5 Volt Reference 1	8	0.5	WH/ RD	1164	VII	—
9	—	—	—	—	—	Not Occupied	9	—	—	—	—	—
10	0.5	BK/ VT	1272	IV	—	Accelerator Pedal Position Low Reference 2	10	0.5	BK/ VT	1272	VII	—
11 - 13	—	—	—	—	—	Not Occupied	11 - 13	—	—	—	—	—
14	0.5	RD/ VT	340	III	—	Secondary Fused Battery Positive Voltage 3	14	0.5	RD/ VT	340	V	—
15	—	—	—	—	—	Not Occupied	15	—	—	—	—	—
16	0.5	WH/ BU	6311	IV	—	Cruise/ETC/ TCC Brake Signal	16	0.5	WH/ BU	6311	VII	—
17	—	—	—	—	—	Not Occupied	17	—	—	—	—	—
18	0.5	BU/ GY	4054	IV	—	Private Serial Data Powertrain CAN Bus [-] Serial Data	18	0.35	BU/ GY	4054	VII	—
19	0.5	WH	4055	IV	—	Private Serial Data Powertrain CAN Bus [+] Serial Data	19	0.35	WH	4055	VII	—
20 - 31	—	—	—	—	—	Not Occupied	20 - 31	—	—	—	—	—
32	0.5	YE/ BK	625	IV	—	Starter Enable Relay Control	32	0.35	YE/ BK	625	VII	—
33	0.5	BK/ BU	1271	IV	—	Accelerator Pedal Position Low Reference 1	33	0.5	BK/ BU	1271	VII	—
34	0.5	YE	4063	IV	—	Hood Status A Signal	34	0.5	YE	4063	VII	—
35	—	—	—	—	—	Not Occupied	35	—	—	—	—	—

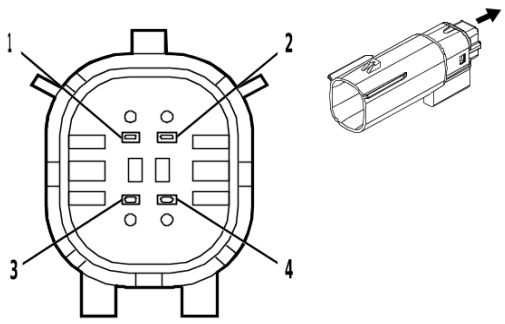
X115 Engine Harness to Body Harness (LM2) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
36	0.5	BN/ RD	1274	IV	—	Accelerator Pedal Position 5V Reference 2	36	0.5	BN/ RD	1274	VII	—
37	0.5	GN/ WH	1162	IV	—	Accelerator Pedal Position Signal 2	37	0.5	GN/ WH	1162	VII	—
38	0.5	BU/ BN	7573	IV	—	A/C Compressor Solenoid Valve Control	38	0.5	BU/ BN	7573	VII	—
39	0.5	BU/ YE	7574	IV	—	A/C Compressor Solenoid Valve Control	39	0.5	BU/ YE	7574	VII	—
40 - 48	—	—	—	—	—	Not Occupied	40 - 48	—	—	—	—	—
49	0.5	YE/ WH	1161	IV	—	Accelerator Pedal Position Signal 1	49	0.5	YE/ WH	1161	VII	—
50	0.35	GN/ BN	507	IV	—	Wait To Start Indicator Control	50	0.35	GN/ BN	507	VII	—
51 - 54	—	—	—	—	—	Not Occupied	51 - 54	—	—	—	—	—
55	4	BK/ WH	6151	I	—	Engine Control Module Ground 61	55	4	BK/ WH	6151	VI	—

X116 Front Axle Harness to Engine Harness (NP0/NQH)



1960031



2368875

Connector Part Information

Harness Type: Front Axle
OEM Connector: 33346391
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Engine
OEM Connector: 33344515
Service Connector: 19330396
Description: 4-Way M 150 MX Series, Sealed (BK)

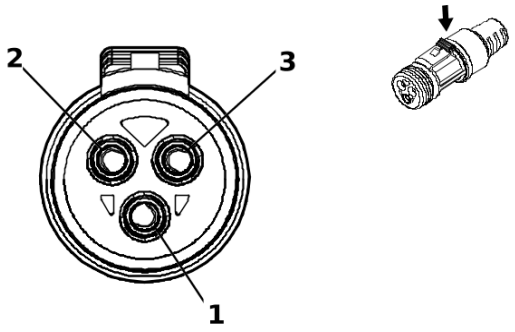
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

X116 Front Axle Harness to Engine Harness (NP0/NQH)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	BK	4450	I	—	Propulsion Propulsion System Ground 44	1	0.5 0.75	BK BK	6550 450	II II	LM2+NP0/ LM2+NQH L84+NP0
2	0.5	YE/ WH	1695	I	—	Secondary Axle Motor Control 4WD Locked Range Indicator Control	2	0.5 0.5	L-GN YE/ WH	8016 1695	II II	NP0/NQH —
3	0.5	VT/ BK	2139	I	—	Front Axle Actuator Control Run/Crank Ignition 1 Voltage 21	3	0.5 0.5	GY/ BK L-GN	1570 8016	II II	NP0/NQH —
4	0.5	GY/ BK	1570	I	—	4WD Locked Range Indicator Control Front Axle Actuator Control	4	0.5 0.5	YE/ WH GY/ BK	1695 1570	II II	NP0/NQH —

X118 Heater Cable Jumper Harness to Engine Harness (K05)



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5204318

Connector Part Information

Harness Type: Heater Cable Jumper
OEM Connector: 676-4A
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F THB HV

Connector Part Information

Harness Type: Engine
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way M

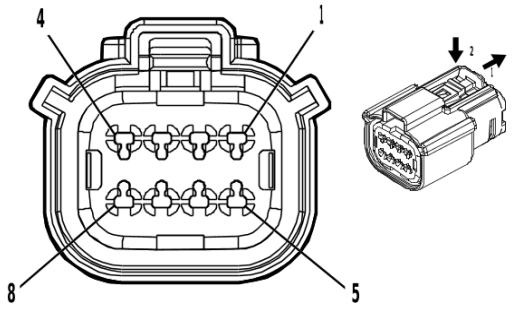
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	No Tool Required	No Tool Required
II	Not Required	No Tool Required	No Tool Required

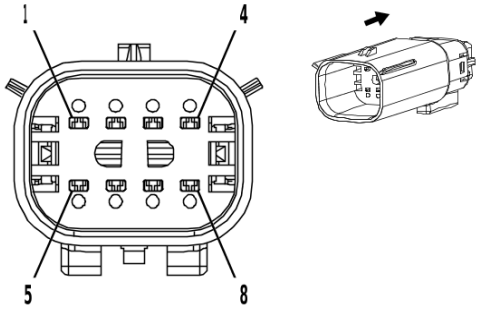
X118 Heater Cable Jumper Harness to Engine Harness (K05)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.8	GN	5686	I	—	120V AC Ground	1	0.8	GN	5686	II	—
2	0.8	PRINT	5685	I	—	120V AC Neutral	2	0.8	PRINT	5685	II	—
3	0.8	—	5683	I	—	120V AC Phase A	3	0.8	—	5683	II	—

X120 Body Harness to Right Headlamp Harness



4846407



2667653

Connector Part Information

Harness Type: Body
OEM Connector: 35037827
Service Connector: 19366859
Description: 8-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Right Headlamp
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way M

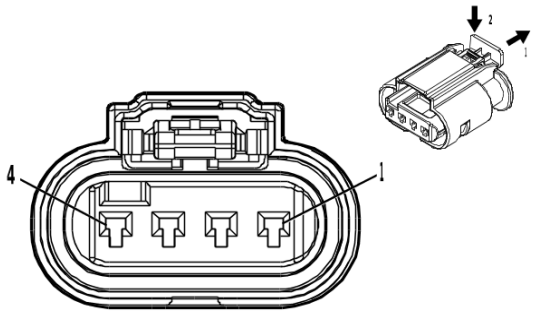
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

X120 Body Harness to Right Headlamp Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	BK	250	I	—	Ground 2	1	0.75	BK	250	II	—
2	0.75	RD/YE	740	I	—	Secondary Fused Battery Positive Voltage 7	2	0.75	RD/YE	740	II	—
3	0.5	YE	312	I	—	Right Headlamp Low Beam Control	3	0.5	YE	312	II	—
4	0.35	WH	311	I	—	Right Headlamp High Beam Control	4	0.35	WH	311	II	—
5	0.5	D-BU/BN	7539	I	—	Right Front DRL Control	5	0.5	D-BU/BN	7539	II	—
6	0.5	L-GN/VT	1315	I	—	Right Front Turn Signal Lamp Control	6	0.5	L-GN/VT	1315	II	—
7	0.35	WH/YE	7545	I	—	Right Front Turn Signal Lamp Feedback Signal	7	0.35	WH/YE	7545	II	—
8	0.5	D-BU/L-GN	1253	I	—	Right Front Park Lamp Control	8	0.5	D-BU/L-GN	1253	II	—

X122 Body Harness to Right Police Provisional Harness (5W4/9C1)



—

4994577

Connector Part Information

Harness Type: Body
OEM Connector: 33351631
Service Connector: 19371202
Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

Connector Part Information

Harness Type: Right Police Provisional
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way M

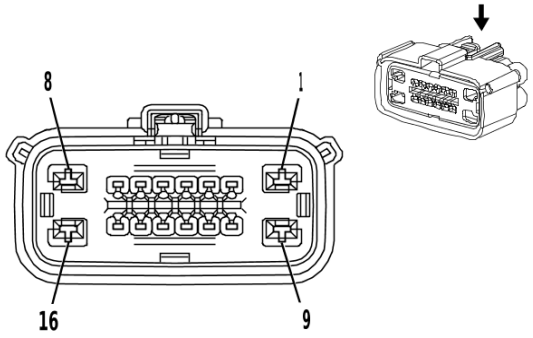
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

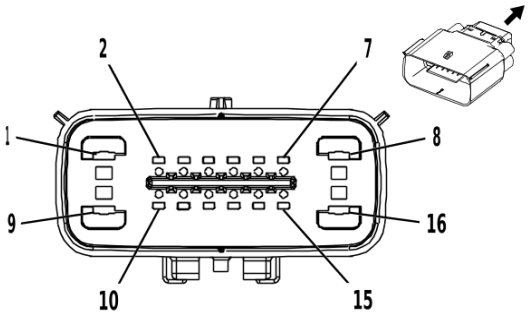
X122 Body Harness to Right Police Provisional Harness (5W4/9C1)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	D-BU	8890	I	—	Police Front Corner Light Control	1	0.75	D-BU	8890	II	—
2	0.75	BK	2050	I	—	Ground 20	2	0.75	BK	2050	II	—
3	0.75	D-BU/WH	8891	I	—	Police Corner Strobe Synchroni-zation Signal	3	0.75	D-BU/WH	8891	II	—
4	0.75	VT	8893	I	—	Police Front Corner Strobe Control	4	0.75	VT	8893	II	—

X126 Engine Harness to Chassis Harness



3684497



2373686

Connector Part Information

Harness Type: Engine
OEM Connector: 33218250
Service Connector: 19352906
Description: 16-Way F 1.5, 2.8 Series, Sealed (BK)

Connector Part Information

Harness Type: Chassis
OEM Connector: 33129084
Service Connector: 19331031
Description: 16-Way M 1.5, 2.8 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13576376	J-35616-35 (VT)	J-38125-12A
II	13576376	J-35616-35 (VT)	J-38125-12A
III	13576377	J-35616-35 (VT)	J-38125-12A
IV	13576377	J-35616-35 (VT)	J-38125-12A
V	19300432	J-35616-2A (GY)	J-38125-217
VI	13584530	J-35616-5 (PU)	J-38125-215A
VII	19119395	J-35616-3 (GY)	J-38125-217
VIII	19119440	J-35616-3 (GY)	J-38125-217
IX	19328632	J-35616-5 (PU)	J-38125-215A
X	19329833	J-35616-5 (PU)	J-38125-12A
XI	19332835	J-35616-5 (PU)	J-38125-12A

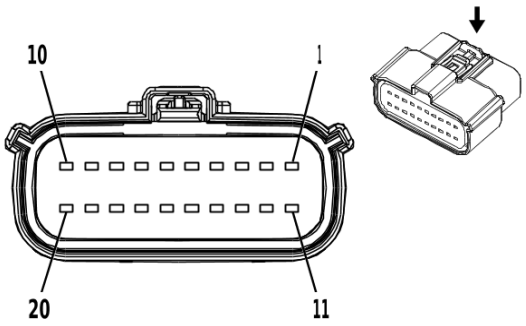
X126 Engine Harness to Chassis Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	1.5	BK/WH	6151	IV	—	Engine Control Module Ground 61	1	1.5	BK/WH	6151	VI	—
2	—	—	—	—	—	Not Occupied	2	—	—	—	—	—
3	0.5	L-GN/GY	465	V	—	Fuel Pump Primary Relay Control Fuel Pump Primary Relay Control	3	0.5 0.5	L-GN/GY L-GN/GY	465 465	VII VIII	— —
4	—	—	—	—	—	Not Occupied	4	—	—	—	—	—

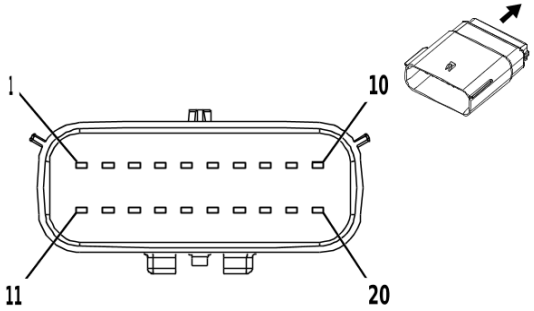
X126 Engine Harness to Chassis Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
5	0.5	WH	4976	V	—	AUTOSAR CAN Bus [-] 3 Serial Data AUTOSAR CAN Bus [-] 3 Serial Data	5	0.5 0.5	WH WH	4976 4976	VII VIII	— —
6	0.5	D-BU/BK	4977	V	—	AUTOSAR CAN Bus [+] 3 Serial Data AUTOSAR CAN Bus [+] 3 Serial Data	6	0.5 0.5	D-BU/BK D-BU/BK	4977 4977	VII VIII	— —
7	—	—	—	—	—	Not Occupied	7	—	—	—	—	—
8	2.5	BN/YE	2996	III	—	Fuel Heater Control 1 Fuel Heater Control 1	8	2.5 2.5	BN/YE BN/YE	2996 2996	XI VI	— —
9	0.5	VT/BK	2139	II	—	Run/Crank Ignition 1 Voltage 21 Run/Crank Ignition 1 Voltage 21	9	0.5 0.5	VT/BK VT/BK	2139 2139	X IX	— —
10	—	—	—	—	—	Not Occupied	10	—	—	—	—	—
11	0.5	VT/L-GN	4320	V	—	Selective Catalytic Reduction Power Module Wake-Up Signal	11	1	VT/L-GN	4320	VIII	—
12	—	—	—	—	—	Not Occupied	12	—	—	—	—	—
13	0.5	WH	4978	V	—	AUTOSAR CAN Bus [-] 2 Serial Data AUTOSAR CAN Bus [-] 2 Serial Data	13	0.5 0.5	WH WH	4978 4978	VII VIII	— —
14	0.5	D-BU/YE	4979	V	—	AUTOSAR CAN Bus [+] 2 Serial Data AUTOSAR CAN Bus [+] 2 Serial Data	14	0.5 0.5	D-BU/YE D-BU/YE	4979 4979	VII VIII	— —
15	—	—	—	—	—	Not Occupied	15	—	—	—	—	—
16	1	VT/L-GN	4320	I	—	Selective Catalytic Reduction Power Module Wake-Up Signal	16	0.5	VT/L-GN	4320	X	—

X138 Body Harness to Chassis Harness



2871898



2871861

Connector Part Information

Harness Type: Body
OEM Connector: 13650143
Service Connector: 19300557
Description: 20-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Chassis
OEM Connector: 33181044
Service Connector: 19351705
Description: 20-Way M 1.5 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300432	J-35616-14 (GN)	J-38125-557
II	19300432	J-35616-2A (GY)	J-38125-217
III	19300635	J-35616-2A (GY)	J-38125-217
IV	19119395	J-35616-3 (GY)	J-38125-217
V	19119440	J-35616-3 (GY)	J-38125-217
VI	19119842	J-35616-3 (GY)	J-38125-217

X138 Body Harness to Chassis Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	WH/ BK	2223	II	—	Trailer Brake Apply Signal Trailer Brake Apply Signal	1	0.5	WH/ BK	2223	IV	—
2	0.5	YE/ BK	2224	II	—	Trailer Brake Enable Signal Trailer Brake Enable Signal	2	0.5	YE/ BK	2224	IV	—
3	0.5	VT/ WH	1139	II	—	Run/Crank Ignition 1 Voltage 11 Run/Crank Ignition 1 Voltage 11	3	0.5	VT/ WH	1139	IV	—

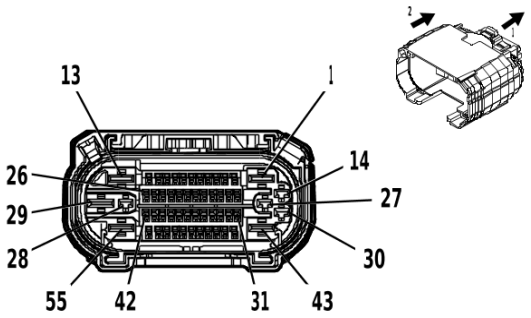
X138 Body Harness to Chassis Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
4	0.5	D-BU/WH	1334	II	—	Left Rear Turn Signal Lamp Control 2	4	0.5	D-BU/WH	1334	IV	—
						Left Rear Turn Signal Lamp Control 2						
5	0.35	WH	4986	III	—	AUTOSAR CAN Bus [-] 1 Serial Data	5	0.5	WH	4986	IV	—
						AUTOSAR CAN Bus [-] 1 Serial Data						
6	0.5	L-GN/YE	2855	II	—	Body Control Module LIN Bus 9	6	0.5	L-GN/YE	2855	IV	—
						Body Control Module LIN Bus 9						
7	0.5	L-GN/WH	24	II	—	Backup Lamp Control	7	0.5	L-GN/WH	24	IV	—
						Backup Lamp Control						
8	—	—	—	—	—	Secondary Fused Battery Positive Voltage 6	8	0.75	RD/WH	640	V	—
9	—	—	—	—	—	Secondary Fused Battery Positive Voltage 7	9	0.75	RD/YE	740	V	—
10						Animation Lighting Control	10	0.5	YE/L-GN	2024	IV	—
11	0.35	VT/L-GN	4320	III	—	Selective Catalytic Reduction Power Module Wake-Up Signal	11	0.5	VT/L-GN	4320	IV	—
						Selective Catalytic Reduction Power Module Wake-Up Signal						
12	0.5	D-BU/VT	1335	II	—	Right Rear Turn Signal Lamp Control 2	12	0.5	D-BU/VT	1335	IV	—
						Right Rear Turn Signal Lamp Control 2						
13	—	—	—	—	—	Ground 19	13	1.5	BK	1950	VI	—

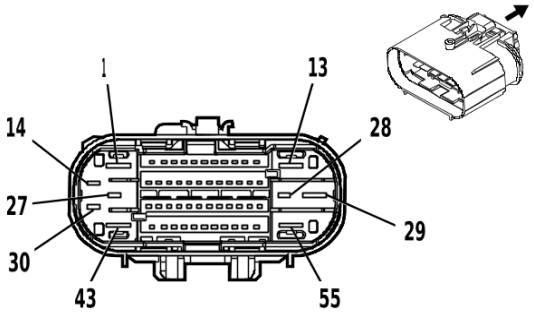
X138 Body Harness to Chassis Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
14	0.5	BN/GY	6995	II	—	Right Rear Park Lamp Control	14	0.5	BN/GY	6995	IV	—
						Right Rear Park Lamp Control						
15	0.35	D-BU	4987	III	—	AUTOSAR CAN Bus [+] 1 Serial Data	15	0.5	D-BU	4987	IV	—
						AUTOSAR CAN Bus [+] 1 Serial Data						
16	0.5	L-GN/WH	1324	II	—	Backup Lamp Control 2	16	0.5	L-GN/WH	1324	IV	—
						Backup Lamp Control 2						
17	0.5	BN/D-BU	6993	II	—	Left Rear Park Lamp Control	17	0.5	BN/D-BU	6993	IV	—
						Left Rear Park Lamp Control						
18	2	RD/VT	1242	I	—	Primary Fused Battery Positive Voltage 12	18	2	RD/VT	1242	VI	—
19	0.5	WH/YE	7541	II	—	Right Rear Stop Lamp Control	19	0.5	WH/YE	7541	IV	—
						Right Rear Stop Lamp Control						
20	0.5	GY/YE	7542	II	—	Left Rear Stop Lamp Control	20	0.5	GY/YE	7542	IV	—
						Left Rear Stop Lamp Control						

X140 Chassis Harness to Body Harness



4992168



4993301

Connector Part Information

Harness Type: Chassis

OEM Connector: 35016652

Service Connector: 19371185

Description: 55-Way F 1.2 OCS, 2.8, 6.3 CTS Series, Sealed (BK)

Connector Part Information

Harness Type: Body

OEM Connector: 35205173

Service Connector: 84727364

Description: 55-Way M 1.2 OCS, 2.8, 6.3 CTS Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19119560	J-35616-40 (BU)	J-38125-556
II	19119560	J-35616-40 (BU)	J-38125-556
III	19332900	J-35616-42 (RD)	J-38125-215A
IV	19333088	J-35616-35 (VT)	J-38125-212
V	19370818	J-35616-16 (LT GN)	J-38125-559
VI	19371240	J-35616-16 (LT GN)	J-38125-215A
VII	84729890	J-35616-16 (LT GN)	J-38125-215A
VIII	19301750	J-35616-32 (OR)	J-38125-36
IX	19368968	J-35616-5 (PU)	J-38125-215A
X	19369843	J-35616-17 (LT GN)	J-38125-215A
XI	19370818	J-35616-17 (LT GN)	J-38125-215A
XII	84616651	J-35616-17 (LT GN)	J-38125-215A

X140 Chassis Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	4 4	L-GN/ VT L-GN/ VT	1988 1988	III II	— —	Right Park Brake Motor Apply Control Right Park Brake Motor Apply Control	1	2.5	L-GN/ VT	1988	VIII	—
2	0.75 1.5	L-GN/ D-BU BK	2733 5050	V VII	— —	Electronic Brake Control Module LIN Bus 2 Ground 50	2	0.75	L-GN/ D-BU	2733	XI	—

X140 Chassis Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
3	0.5	D-BU/GY	4054	VI	—	Private Serial Data Powertrain CAN Bus [-] Serial Data	3	0.35	D-BU/GY	4054	XII	—
4	0.5	WH	4055	VI	—	Private Serial Data Powertrain CAN Bus [+] Serial Data	4	0.35	WH	4055	XII	—
5	0.5	BK/BN	2185	VI	—	Vehicle Level Control Position Sensor Low Reference	5	—	—	—	—	—
6	0.5	WH/RD	2165	VI	—	Vehicle Level Control Position Sensor 5V Reference	6	—	—	—	—	—
7	0.5	BN	2184	VI	—	Vehicle Level Control Position Sensor Signal	7	—	—	—	—	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—
9	—	—	—	—	—	Run/Crank Ignition 1 Voltage 6	9	0.5	VT/WH	639	XII	—
10	0.5	WH/VT	6567	VI	—	Rear Turn Signal Lamp Feedback Signal	10	0.35	WH/VT	6567	XII	—
11	0.75	L-GN/YE	1616	V	—	Rear Brake Pad Wear Sensor Signal	11	0.75	L-GN/YE	1616	XI	—
12	0.75	BN/D-BU	1602	V	—	Front Brake Pad Wear Sensor Signal	12	0.75	BN/D-BU	1602	XI	—
13	2.5 2.5	WH WH	2001 2001	I III	— —	Left Park Brake Motor Apply Control Left Park Brake Motor Apply Control	13	2.5	WH	2001	VIII	—
14	2.5	D-BU	47	IV	—	Trailer Auxiliary Control	14	2.5	D-BU	47	IX	—
15	—	—	—	—	—	Not Occupied	15	—	—	—	—	—
16	0.5	GY/YE	7128	VI	—	Right Rear Wheel Speed Sensor Control	16	0.5	GY/YE	7128	XII	—

X140 Chassis Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
17	0.5	VT	882	VI	—	Right Rear Wheel Speed Sensor Signal	17	0.5	VT	882	XII	—
18	0.75	WH/ RD	7524	V	—	Front Vehicle Level Sensor 5V Reference	18	—	—	—	—	—
19	0.5 0.5	BK/ GY BK/ GY	7526 7526	V VI	— —	Front Vehicle Level Sensor Low Reference Front Vehicle Level Sensor Low Reference	19					
20	0.5 0.5	BN/ WH BN/ WH	7525 7525	V VI	— —	Front Vehicle Level Sensor Signal Front Vehicle Level Sensor Signal	20					
21	0.5	WH	4976	VI	—	AUTOSAR CAN Bus [-] 3 Serial Data	21	0.35	WH	4976	XII	—
22	0.5	D-BU/ BK	4977	VI	—	AUTOSAR CAN Bus [+] 3 Serial Data	22	0.35	D-BU/ BK	4977	XII	—
23	0.5	WH/ BK	7544	VI	—	Right Rear Turn Signal Lamp Feedback Signal	23	0.35	WH/ BK	7544	XII	—
24	0.5	D-BU/ VT	4101	VI	—	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	24	0.35	D-BU/ VT	4101	XII	—
25	0.5	WH	4100	VI	—	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	25	0.35	WH	4100	XII	—
26	0.5	BK	7970	VI	—	Axle Differential Lock Control Shield	26	0.5	BK	7970	XII	—
27	—	—	—	—	—	Ground 1	27	2.5	BK	150	IX	—
28	2.5	GY/ BN	7968	IV	—	Axle Differential Lock Control High	28	2.5	GY/ BN	7968	IX	—
29	4	GY/ BK	4369	III	—	Left Park Brake Motor Low Reference	29	2.5	GY/ BK	4369	VIII	—
30	2.5	YE/ WH	7969	IV	—	Axle Differential Lock Control Low	30	2.5	YE/ WH	7969	IX	—

X140 Chassis Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
31	0.5	BK/YE	7977	VI	—	Axle Differential Lock Motor Temperature Sensor Low Reference	31	0.35	BK/YE	7977	XII	—
32	0.5	D-BU/WH	7978	VI	—	Axle Differential Lock Motor Temperature Sensor Signal	32	0.35	D-BU/WH	7978	XII	—
33	0.5	YE	872	VI	—	Right Front Wheel Speed Sensor Signal	33	0.5	YE	872	XII	—
34	0.5	GY/BN	7065	VI	—	Right Front Wheel Speed Sensor Control	34	0.5	GY/BN	7065	XII	—
35	0.5	WH	7971	VI	—	Axle Differential Lock Motor Brake Control High	35	0.35	WH	7971	XII	—
36	0.5	VT/BK	7972	VI	—	Axle Differential Lock Motor Brake Control Low	36	0.35	VT/BK	7972	XII	—
37	0.5	GY	830	VI	—	Left Front Wheel Speed Sensor Signal	37	0.5	GY	830	XII	—
38	0.5	GY/WH	7064	VI	—	Left Front Wheel Speed Sensor Control	38	0.5	GY/WH	7064	XII	—
39	0.5	WH	4978	VI	—	AUTOSAR CAN Bus [-] 2 Serial Data	39	0.35	WH	4978	XII	—
40	0.5 0.5	WH VT/GY	2679 2683	VI VI	— —	Lock Actuators Unlock Control 1 Unlatch Actuators Unlatch Low Reference 1	40	0.75	WH	2679	XI	—
41	0.5 0.5	D-BU D-BU/BK	2689 2690	VI VI	— —	Fuel Door Actuator Lock Control Fuel Door Actuator Unlock Control	41	0.5 0.35	D-BU D-BU	2689 2689	XII XII	— —
42	—	—	—	—	—	Not Occupied	42	—	—	—	—	—

X140 Chassis Harness to Body Harness (cont'd)

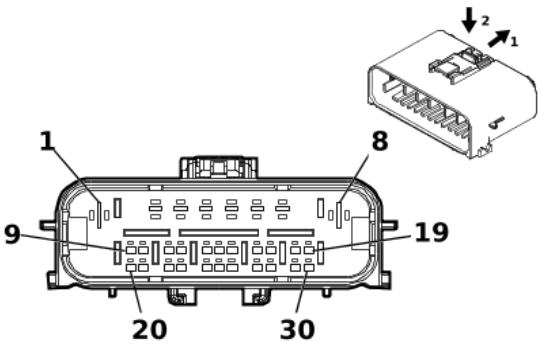
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
43	4 4	GY GY	4368 4368	III II	— —	Right Park Brake Motor Low Reference Right Park Brake Motor Low Reference	43	2.5	GY	4368	VIII	—
44	1.5	BK	5051	VII	—	—	44	1.5	BK	9000	X	—
45	0.5	BN/YE	820	VI	—	Center High Mounted Stop Lamp Supply Voltage	45	0.5	BN/YE	820	XII	—
46	0.5	GY/BK	7127	VI	—	Left Rear Wheel Speed Sensor Control	46	0.5	GY/BK	7127	XII	—
47	0.5	D-BU	884	VI	—	Left Rear Wheel Speed Sensor Signal	47	0.5	D-BU	884	XII	—
48	0.5	WH	4100	VI	—	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	48	0.35	WH	4100	XII	—
49	0.5	D-BU/VT	4101	VI	—	Fuel Door Actuator Unlock Control AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	49	0.35 0.35	D-BU/BK D-BU/VT	2690 4101	XII XII	— —
50	0.5	GY	7976	VI	—	Axle Differential Lock Motor Position Sensor Signal 2	50	0.35	GY	7976	XII	—
51	0.5	BK/VT	7974	VI	—	Axle Differential Lock Motor Position Sensor Low Reference	51	0.35	BK/VT	7974	XII	—
52	0.5	L-GN/BN	7975	VI	—	Axle Differential Lock Motor Position Sensor Signal 1	52	0.35	L-GN/BN	7975	XII	—
53	0.5	D-BU/YE	4979	VI	—	AUTOSAR CAN Bus [+] 2 Serial Data	53	0.35	D-BU/YE	4979	XII	—

X140 Chassis Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
54	0.75 1.5	WH/ RD BK	7973 5052	V VII	— —	Axle Differential Lock Motor Position Sensor High Reference Headlamp Washer Low Reference	54	0.75 1.5	WH/ RD BK	7973 9000	XI X	— —
55	—	—	—	—	—	Primary Fused Battery Positive Voltage 4	55	4	RD/ YE	442	VIII	—

X143 Chassis Harness to Chassis Harness (LM2)

—



5377298

Connector Part Information

Harness Type: Chassis
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 30-Way F

Connector Part Information

Harness Type: Chassis
OEM Connector: 35101472
Service Connector: Service by Harness - See Part Catalog
Description: 30-Way M 1.2 MCON-CB, 2.8 MCP Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	13575350	J-35616-5 (PU)	J-38125-36
III	13575376	J-35616-43 (RD)	J-38125-557
IV	13578827	J-35616-5 (PU)	J-38125-36
V	19330704	J-35616-17 (LT GN)	J-38125-215A

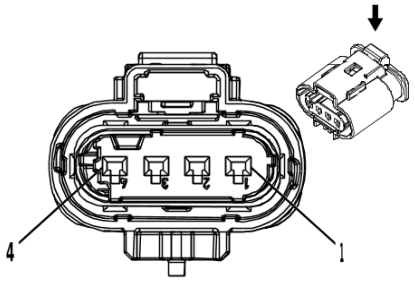
X143 Chassis Harness to Chassis Harness (LM2)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5 2.5	RD/WH RD/WH	2040 3440	I I	— —	Secondary Fused Battery Positive Voltage 20 Secondary Fused Battery Positive Voltage 34	1	0.5 2.5	RD/WH RD/WH	2040 3440	III III	— —
2	0.5 2.5	RD/WH RD/WH	2040 3440	I I	— —	Secondary Fused Battery Positive Voltage 20 Secondary Fused Battery Positive Voltage 34	2	0.5 2.5	RD/WH RD/WH	2040 3440	II IV	— —
7	0.75	BK	1650	I	—	Ground 16	7	0.75	BK	1650	II	—
8	2.5	BK	1650	I	—	Ground 16	8	2.5	BK	1650	III	—

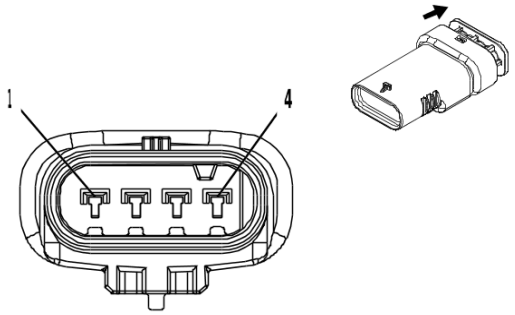
X143 Chassis Harness to Chassis Harness (LM2) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
11	0.5	D-BU/BK	4977	I	—	AUTOSAR CAN Bus [+] 3 Serial Data	11	0.5	D-BU/BK	4977	V	—
12	0.5	WH	4976	I	—	AUTOSAR CAN Bus [-] 3 Serial Data	12	0.5	WH	4976	V	—
22	0.5	D-BU/BK	4977	I	—	AUTOSAR CAN Bus [+] 3 Serial Data	22	0.5	D-BU/BK	4977	V	—
23	0.5	WH	4976	I	—	AUTOSAR CAN Bus [-] 3 Serial Data	23	0.5	WH	4976	V	—
25	0.5	VT/BK	2139	I	—	Run/Crank Ignition 1 Voltage 21	25	0.5	VT/BK	2139	V	—

X153 Engine Harness to Engine Coolant Temperature Jumper Harness (LM2)



2717079



4560843

Connector Part Information

Harness Type: Engine
OEM Connector: 13815341
Service Connector: 13587299
Description: 4-Way F 1.2 Multilock Series, Sealed (BK)

Connector Part Information

Harness Type: Engine Coolant Temperature Jumper
OEM Connector: 10013906
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way M 1.2 Multilock Series (GY)

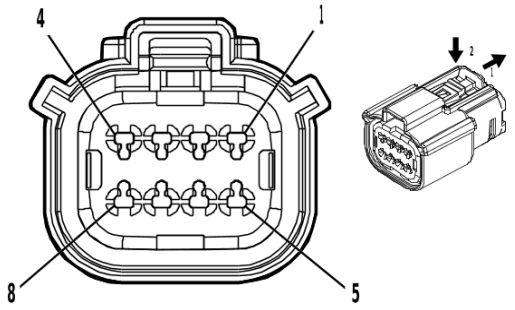
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

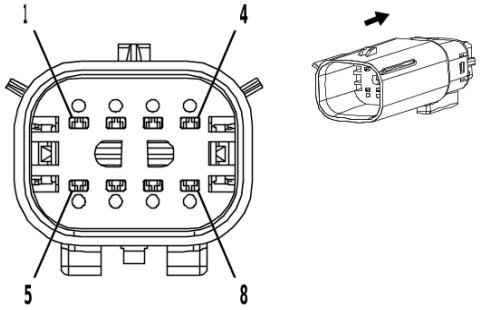
X153 Engine Harness to Engine Coolant Temperature Jumper Harness (LM2)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	GY/VT	2404	I	—	Engine Block Coolant Temperature Signal	1	0.5	GY/VT	2404	II	—
2	0.5	BK/GY	626	I	—	Engine Control Vehicle Sensors Low Reference 1	2	0.5	BK/GN	580	II	—
3	0.5	VT	2988	I	—	Engine Outlet Coolant Temperature Signal	3	0.5	VT	2988	II	—
4	0.5	BK/YE	548	I	—	Engine Control Sensors Low Reference 1	4	0.5	BK/GY	626	II	—

X154 Engine Harness to Camshaft Position Sensor Jumper Harness (L84/L87)



4846407



2667653

Connector Part Information

Harness Type: Engine
OEM Connector: 35063116
Service Connector: 19366859
Description: 8-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Camshaft Position Sensor Jumper
OEM Connector: 35021067
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

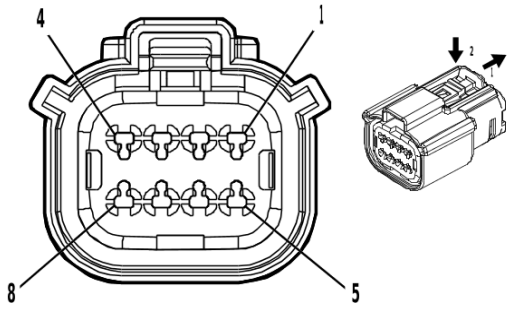
X154 Engine Harness to Camshaft Position Sensor Jumper Harness (L84/L87)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	GY/ D-BU	5300	I	—	Intake Camshaft Position Sensor 1 Voltage Reference	1	0.5	GY/ D-BU	5300	II	—
2	0.5	BK/ L-GN	5301	I	—	Intake Camshaft Position Sensor Low Reference 1	2	0.5	BK/ L-GN	5301	II	—
3	0.5	YE/ VT	5275	I	—	Intake Camshaft Position Sensor 1	3	0.5	YE/ VT	5275	II	—
4	0.5	D-BU	179	I	—	Engine Oil Pump Control	4	0.5	D-BU	179	II	—
5	0.5	VT/ BN	5284	I	—	Intake Camshaft Position Actuator Solenoid Valve 1	5	0.5	VT/ BN	5284	II	—
6	0.5	BK/ BN	6753	I	—	Camshaft Position Actuator Solenoid Valve W Low Reference	6	0.5	BK/ BN	6753	II	—

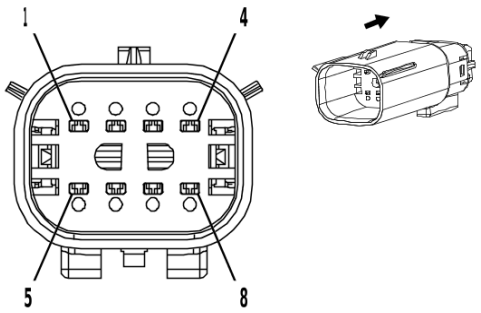
X154 Engine Harness to Camshaft Position Sensor Jumper Harness (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
7	0.75	VT/ D-BU	5293	I	—	Powertrain Main Relay Fused Supply 4	7	0.5	VT/ D-BU	5293	II	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—

X155 Engine Harness to Active Fuel Management Solenoid Jumper Harness (L84/L87)



4846407



2667653

Connector Part Information

Harness Type: Engine
OEM Connector: 35037827
Service Connector: 19366859
Description: 8-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Active Fuel Management Solenoid Jumper
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required
II	Not Required		No Tool Required

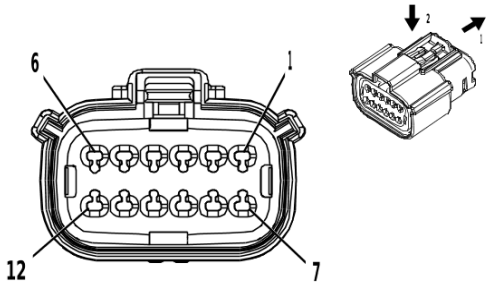
X155 Engine Harness to Active Fuel Management Solenoid Jumper Harness (L84/L87)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	WH/ L-GN	2492	I	—	Cylinder Shutoff Solenoid Enable Signal 2	1	0.5	WH/ L-GN	2492	II	—
2	0.5	L-GN	5492	I	—	Cylinder Deactivation Solenoid Valve Control 2	2	0.5	L-GN	5492	II	—
3	0.5	YE/ GY	2493	I	—	Cylinder Shutoff Solenoid Enable Signal 3	3	0.5	YE/ GY	2493	II	—
4	0.5	GY	5493	I	—	Cylinder Deactivation Solenoid Valve Control 3	4	0.5	GY	5493	II	—
5	0.5	WH/ VT	2495	I	—	Cylinder Shutoff Solenoid Enable Signal 5	5	0.5	WH/ VT	2495	II	—

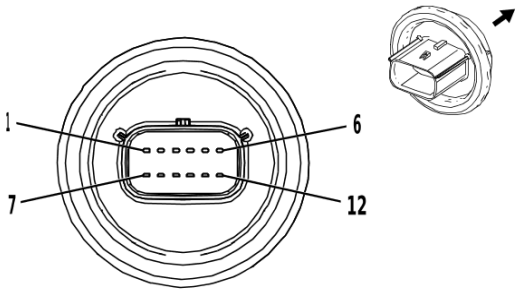
X155 Engine Harness to Active Fuel Management Solenoid Jumper Harness (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
6	0.5	VT	5495	I	—	Cylinder Deactivation Solenoid Valve Control 5	6	0.5	VT	5495	II	—
7	0.5	WH/ YE	2498	I	—	Cylinder Shutoff Solenoid Enable Signal 8	7	0.5	WH/ YE	2498	II	—
8	0.5	YE	5498	I	—	Cylinder Deactivation Solenoid Valve Control 8	8	0.5	YE	5498	II	—

X156 Engine Harness to Active Fuel Management Solenoid Jumper Harness (L84/L87)



2871860



3238775

Connector Part Information

Harness Type: Engine
OEM Connector: 33362189
Service Connector: 19352907
Description: 12-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Active Fuel Management Solenoid Jumper
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 12-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13578813	J-35616-14 (GN)	J-38125-217
II	Not Required		No Tool Required

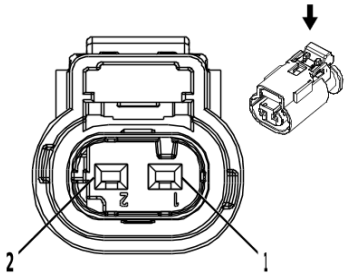
X156 Engine Harness to Active Fuel Management Solenoid Jumper Harness (L84/L87)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	WH/ D-BU	2491	I	—	Cylinder Shutoff Solenoid Enable Signal 1	1	0.5	WH/ D-BU	2491	II	—
2	0.5	D-BU	5491	I	—	Cylinder Deactivation Solenoid Valve Control 1	2	0.5	D-BU	5491	II	—
3	0.5	YE/ L-GN	2494	I	—	Cylinder Shutoff Solenoid Enable Signal 4	3	0.5	YE/ L-GN	2494	II	—
4	0.5	YE/ D-BU	5494	I	—	Cylinder Deactivation Solenoid Valve Control 4	4	0.5	YE/ D-BU	5494	II	—
5	0.5	YE/ BN	2496	I	—	Cylinder Shutoff Solenoid Enable Signal 6	5	0.5	YE/ BN	2496	II	—

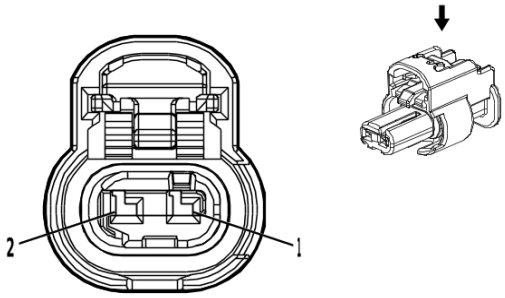
X156 Engine Harness to Active Fuel Management Solenoid Jumper Harness (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
6	0.5	BN	5496	I	—	Cylinder Deactivation Solenoid Valve Control 6	6	0.5	BN	5496	II	—
7	0.5	L-GN/GY	2497	I	—	Cylinder Shutoff Solenoid Enable Signal 7	7	0.5	L-GN/GY	2497	II	—
8	0.5	WH	5497	I	—	Cylinder Deactivation Solenoid Valve Control 7	8	0.5	WH	5497	II	—
9	0.5	D-BU	410	I	—	Engine Coolant Temperature Sensor Signal	9	0.5	D-BU	410	II	—
10	0.5	BK/YE	548	I	—	Engine Control Sensors Low Reference 1	10	0.5	BK/YE	548	II	—
11 - 12	—	—	—	—	—	Not Occupied	11 - 12	—	—	—	—	—

X158 Camshaft Position Sensor Jumper Harness to Engine Harness (L84/L87)



2717066



4649903

Connector Part Information

Harness Type: Camshaft Position Sensor Jumper
OEM Connector: 13735326
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 Multilock Series, Sealed (BK)

Connector Part Information

Harness Type: Engine
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way M

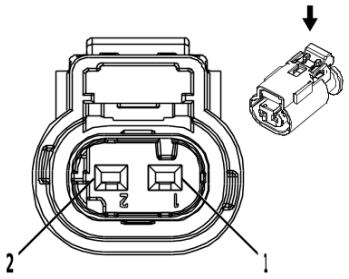
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

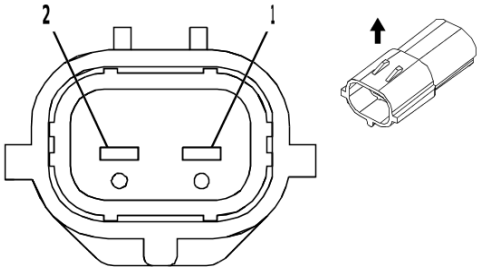
X158 Camshaft Position Sensor Jumper Harness to Engine Harness (L84/L87)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	VT/ D-BU	5293	I	—	Powertrain Main Relay Fused Supply 4	1	0.5	VT/ D-BU	5293	II	—
2	0.5	D-BU	179	I	—	Engine Oil Pump Control	2	0.5	D-BU	179	II	—

X158 Engine Harness to Engine Oil Pressure Control Solenoid Valve Jumper Harness (LM2)



2717066



2684367

Connector Part Information

Harness Type: Engine
OEM Connector: 13735326
Service Connector: 13587326
Description: 2-Way F 1.2 Multilock Series, Sealed (BK)

Connector Part Information

Harness Type: Engine Oil Pressure Control Solenoid Valve Jumper
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way M

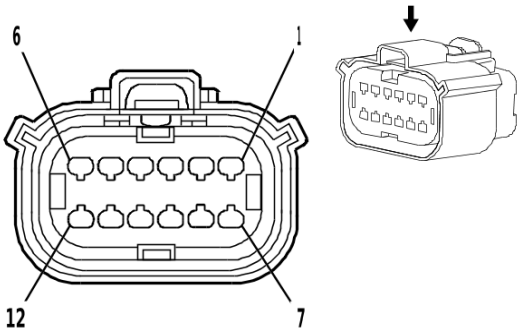
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

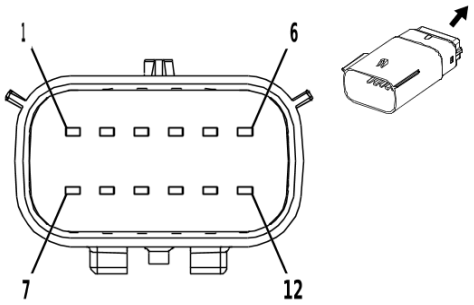
X158 Engine Harness to Engine Oil Pressure Control Solenoid Valve Jumper Harness (LM2)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	YE/BN	106	I	—	Oil Pump Motor Control	1	0.5	YE/BN	106	II	—
2	0.5	D-BU	179	I	—	Engine Oil Pump Control	2	0.5	D-BU	179	II	—

X160 Engine Harness to Bank 1 Fuel Rail Harness (L84/L87)



1825165



2687960

Connector Part Information

Harness Type: Engine
OEM Connector: 13595088
Service Connector: 19352907
Description: 12-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Bank 1 Fuel Rail
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 12-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300432	J-35616-2A (GY)	J-38125-217
II	Not Required	J-35616-3 (GY)	No Tool Required

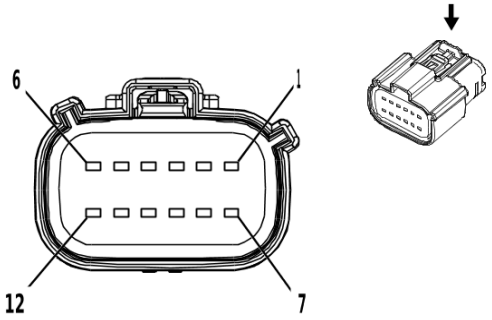
X160 Engine Harness to Bank 1 Fuel Rail Harness (L84/L87)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	BN/WH	4901	I	—	Direct Fuel Injector High Voltage Supply Cylinder 1	1	0.75	BN/WH	4901	II	—
2	0.75	L-GN/GY	4903	I	—	Direct Fuel Injector High Voltage Supply Cylinder 3	2	0.75	L-GN/GY	4903	II	—
3	0.75	L-GN/WH	4905	I	—	Direct Fuel Injector High Voltage Supply Cylinder 5	3	0.75	L-GN/WH	4905	II	—
4	0.75	WH/YE	4907	I	—	Direct Fuel Injector High Voltage Supply Cylinder 7	4	0.75	WH/YE	4907	II	—
5	0.75	BN	4801	I	—	Direct Fuel Injector High Voltage Control Cylinder 1	5	0.75	BN	4801	II	—
6	—	—	—	—	—	Not Occupied	6	—	—	—	—	—

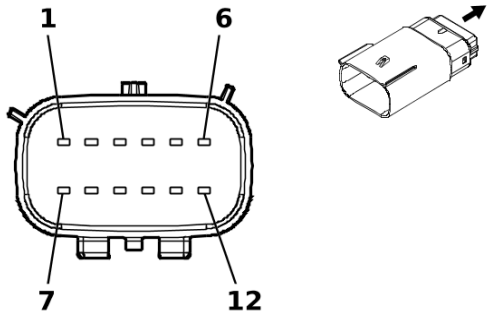
X160 Engine Harness to Bank 1 Fuel Rail Harness (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
7	0.75	L-GN	4803	I	—	Direct Fuel Injector High Voltage Control Cylinder 3	7	0.75	L-GN	4803	II	—
8	0.75	WH/ L-GN	4805	I	—	Direct Fuel Injector High Voltage Control Cylinder 5	8	0.75	WH/ L-GN	4805	II	—
9	0.75	YE/ GY	4807	I	—	Direct Fuel Injector High Voltage Control Cylinder 7	9	0.75	YE/ GY	4807	II	—
10	0.5	WH/ RD	480	I	—	Engine Control Vehicle Sensors 5 Volt Reference 1	10	0.5	WH/ RD	480	II	—
11	0.5	D-BU/ WH	2918	I	—	Fuel Rail Pressure Sensor Signal	11	0.5	D-BU/ WH	2918	II	—
12	0.5	BK/ YE	548	I	—	Engine Control Sensors Low Reference 1	12	0.5	BK/ YE	548	II	—

X160 Engine Harness to Fuel Injector Harness (LM2)



2871866



5187933

Connector Part Information

Harness Type: Engine
OEM Connector: 33221171
Service Connector: 19333239
Description: 12-Way F 150 MX Series, Sealed (D-GY)

Connector Part Information

Harness Type: Fuel Injector
OEM Connector: 33482-6261
Service Connector: Service by Harness - See Part Catalog
Description: 12-Way M 150 MX Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13578813	J-35616-14 (GN)	J-38125-217
II	Not Required	J-35616-3 (GY)	No Tool Required

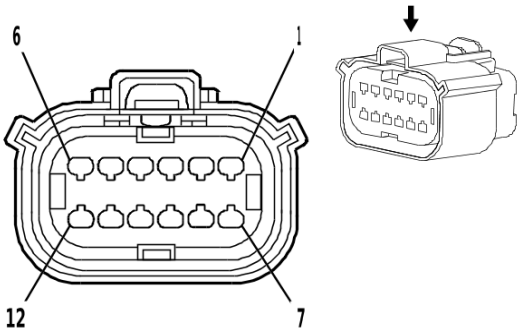
X160 Engine Harness to Fuel Injector Harness (LM2)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	1.5	BN/WH	4901	I	—	Direct Fuel Injector High Voltage Supply Cylinder 1	1	1.5	BN/WH	4901	II	—
2	1.5	BN	4801	I	—	Direct Fuel Injector High Voltage Control Cylinder 1	2	1.5	BN	4801	II	—
3	1.5	D-BU/GY	4902	I	—	Direct Fuel Injector High Voltage Supply Cylinder 2	3	1.5	BU/GY	4902	II	—
4	1.5	D-BU	4802	I	—	Direct Fuel Injector High Voltage Control Cylinder 2	4	1.5	BU	4802	II	—
5	1.5	L-GN/GY	4903	I	—	Direct Fuel Injector High Voltage Supply Cylinder 3	5	1.5	GN/GY	4903	II	—
6	1.5	L-GN	4803	I	—	Direct Fuel Injector High Voltage Control Cylinder 3	6	1.5	GN	4803	II	—

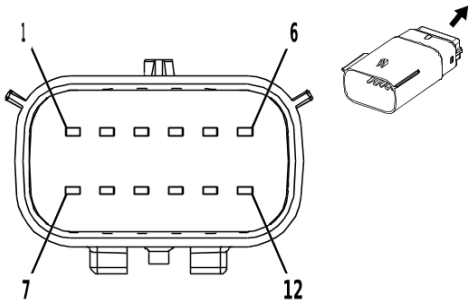
X160 Engine Harness to Fuel Injector Harness (LM2) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
7	1.5	D-BU/WH	4904	I	—	Direct Fuel Injector High Voltage Supply Cylinder 4	7	1.5	BU/WH	4904	II	—
8	1.5	GY/D-BU	4804	I	—	Direct Fuel Injector High Voltage Control Cylinder 4	8	1.5	GY/BU	4804	II	—
9	1.5	L-GN/WH	4905	I	—	Direct Fuel Injector High Voltage Supply Cylinder 5	9	1.5	GN/WH	4905	II	—
10	1.5	WH/L-GN	4805	I	—	Direct Fuel Injector High Voltage Control Cylinder 5	10	1.5	WH/GN	4805	II	—
11	1.5	VT/GY	4906	I	—	Direct Fuel Injector High Voltage Supply Cylinder 6	11	1.5	VT/GY	4906	II	—
12	1.5	VT/L-GN	4806	I	—	Direct Fuel Injector High Voltage Control Cylinder 6	12	1.5	VT/GN	4806	II	—

X161 Engine Harness to Bank 2 Fuel Rail Harness (L84/L87)



1825165



2687960

Connector Part Information

Harness Type: Engine
OEM Connector: 13922706
Service Connector: 19352907
Description: 12-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Bank 2 Fuel Rail
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 12-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300432	J-35616-2A (GY)	J-38125-217
II	Not Required	J-35616-3 (GY)	No Tool Required

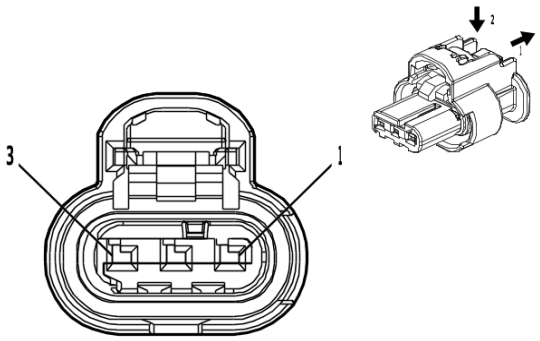
X161 Engine Harness to Bank 2 Fuel Rail Harness (L84/L87)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	D-BU/GY	4902	I	—	Direct Fuel Injector High Voltage Supply Cylinder 2	1	0.75	D-BU/GY	4902	II	—
2	0.75	D-BU/WH	4904	I	—	Direct Fuel Injector High Voltage Supply Cylinder 4	2	0.75	D-BU/WH	4904	II	—
3	0.75	VT/GY	4906	I	—	Direct Fuel Injector High Voltage Supply Cylinder 6	3	0.75	VT/GY	4906	II	—
4	0.75	GY/WH	4908	I	—	Direct Fuel Injector High Voltage Supply Cylinder 8	4	0.75	GY/WH	4908	II	—
5	0.75	D-BU	4802	I	—	Direct Fuel Injector High Voltage Control Cylinder 2	5	0.75	D-BU	4802	II	—
6 - 7	—	—	—	—	—	Not Occupied	6 - 7	—	—	—	—	—

X161 Engine Harness to Bank 2 Fuel Rail Harness (L84/L87) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
8	0.75	GY/ D-BU	4804	I	—	Direct Fuel Injector High Voltage Control Cylinder 4	8	0.75	GY/ D-BU	4804	II	—
9	0.75	VT/ L-GN	4806	I	—	Direct Fuel Injector High Voltage Control Cylinder 6	9	0.75	VT/ L-GN	4806	II	—
10	0.75	GY	4808	I	—	Direct Fuel Injector High Voltage Control Cylinder 8	10	0.75	GY	4808	II	—
11	0.75	VT/ BK	7300	I	—	High Pressure Fuel Pump Low Control	11	0.75	VT/ BK	7300	II	—
12	0.75	YE	7301	I	—	High Pressure Fuel Pump High Control	12	0.75	YE	7301	II	—

X165 Engine Harness to Engine Coolant Flow Control Valve Jumper Harness (LM2)



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4778903

Connector Part Information

Harness Type: Engine
OEM Connector: 33277161
Service Connector: 19371206
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

Connector Part Information

Harness Type: Engine Coolant Flow Control Valve Jumper
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way M

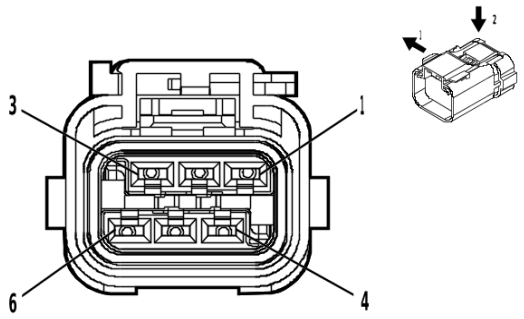
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

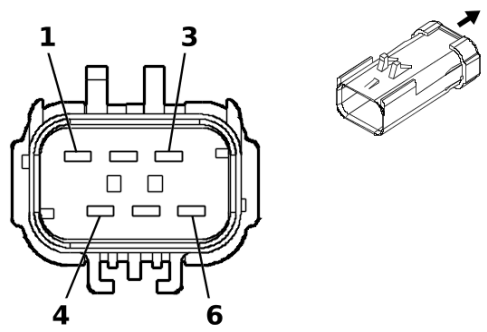
X165 Engine Harness to Engine Coolant Flow Control Valve Jumper Harness (LM2)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	L-GN/BN	2732	I	—	Engine Control Module LIN Bus 4	1	0.5	L-GN/BN	2732	II	—
2	0.5	BK	6550	I	—	Propulsion Propulsion System	2	0.5	BK	6550	II	—
3	0.5	VT/D-BU	5294	I	—	Powertrain Main Relay Fused Supply 5	3	0.5	VT/D-BU	5294	II	—

X172 Engine Harness to Glow Plug Jumper Harness (LM2)



4997615



5187846

Connector Part Information

Harness Type: Engine
OEM Connector: 15419838
Service Connector: 19371212
Description: 6-Way F 2.8 APEX Series, Sealed (BK)

Connector Part Information

Harness Type: Glow Plug Jumper
OEM Connector: 54200612
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way M 2.8 APEX Series, Sealed (BK)

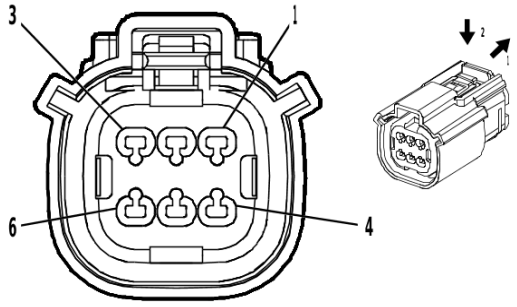
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required
II	Not Required	J-35616-5 (PU)	No Tool Required

X172 Engine Harness to Glow Plug Jumper Harness (LM2)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	GY/ D-BU	1581	I	—	Glow Plug 1 Control	1	2.5	GY/ RD	1581	II	—
2	2.5	GY/ BN	1582	I	—	Glow Plug 2 Control	2	2.5	GY/ BK	1582	II	—
3	2.5	GY/ L-GN	1583	I	—	Glow Plug 3 Control	3	2.5	GY/ GN	1583	II	—
4	2.5	GY/ YE	1584	I	—	Glow Plug 4 Control	4	2.5	GY/ YE	1584	II	—
5	2.5	GY/ WH	1585	I	—	Glow Plug 5 Control	5	2.5	GY/ WH	1585	II	—
6	2.5	GY/ VT	1586	I	—	Glow Plug 6 Control	6	2.5	GY	1586	II	—

X182 Chassis Harness to Power Steering Harness



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4574736

Connector Part Information

Harness Type: Chassis
OEM Connector: 35147566
Service Connector: 13578533
Description: 6-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Power Steering
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 6-Way M

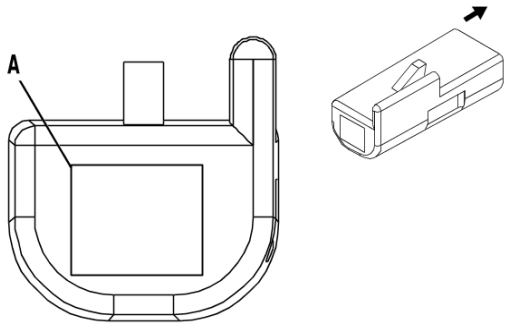
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

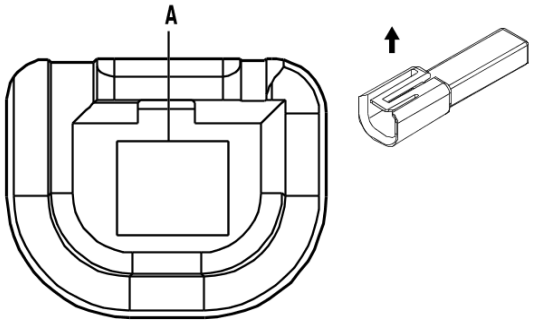
X182 Chassis Harness to Power Steering Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	D-BU	4987	I	—	AUTOSAR CAN Bus [+] 1 Serial Data	1	0.5	D-BU	4987	II	—
2 - 5	—	—	—	—	—	Not Occupied	2 - 5	—	—	—	—	—
6	0.5	WH	4986	I	—	AUTOSAR CAN Bus [-] 1 Serial Data	6	0.5	WH	4986	II	—

X211 Body Harness to Body Harness



439818



611495

Connector Part Information

Harness Type: Body
OEM Connector: 12047682
Service Connector: 12101850
Description: 1-Way F 150 Metri-Pack Series (BK)

Connector Part Information

Harness Type: Body
OEM Connector: 12047683
Service Connector: 12101828
Description: 1-Way M 150 Metri-Pack Series (BK)

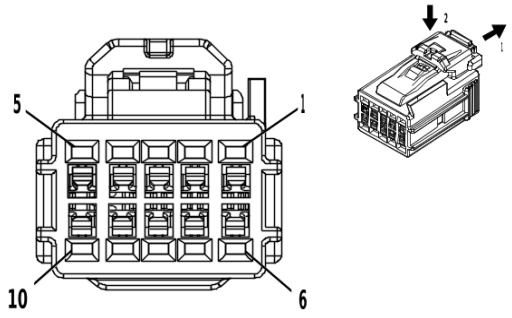
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

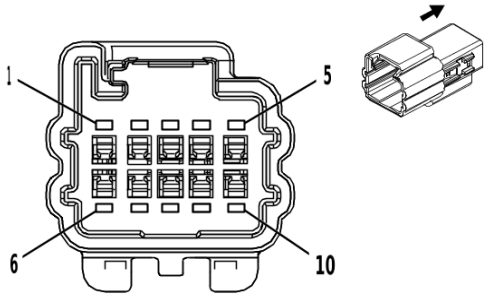
X211 Body Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	0.5	BN/WH	28	I	—	Horn Relay Control	A	0.35	BN/WH	28	II	—

X214 Instrument Panel Harness to Body Harness



4254030



4249317

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35327186
Service Connector: 13517411
Description: 10-Way F 1.2 Series (BK)

Connector Part Information

Harness Type: Body
OEM Connector: 33174126
Service Connector: 13530136
Description: 10-Way M 1.2 Series (BK)

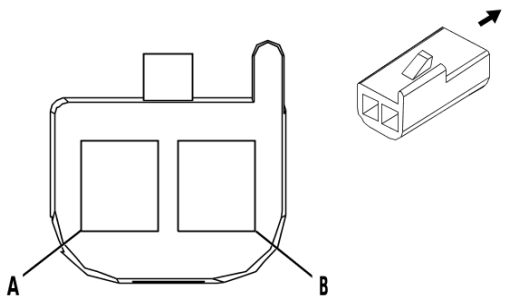
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19333323	J-35616-16 (LT GN)	J-38125-215A
II	84616651	J-35616-17 (LT GN)	J-38125-215A

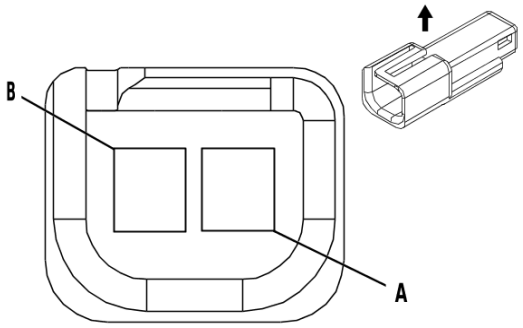
X214 Instrument Panel Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	VT/ WH	7213	I	—	Ethernet Bus 5 [+]	1	0.35	VT/ WH	7213	II	—
2	0.35	VT	7212	I	—	Ethernet Bus 5 [-]	2	0.35	VT	7212	II	—
3 - 6	—	—	—	—	—	Not Occupied	3 - 6	—	—	—	—	—
7	0.35	BN/ BK	7214	I	—	Ethernet Bus 6 [-]	7	0.35	BN/ BK	7214	II	—
8	0.35	GY/ BK	7215	I	—	Ethernet Bus 6 [+]	8	0.35	GY/ BK	7215	II	—
9 - 10	—	—	—	—	—	Not Occupied	9 - 10	—	—	—	—	—

X215 Police Provisional Harness to Instrument Panel Harness (5W4/9C1)



82383



35441

Connector Part Information

Harness Type: Police Provisional
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 13649649
Service Connector: 13395383
Description: 2-Way M 150 Metri-Pack Series (BK)

Terminal Part Information

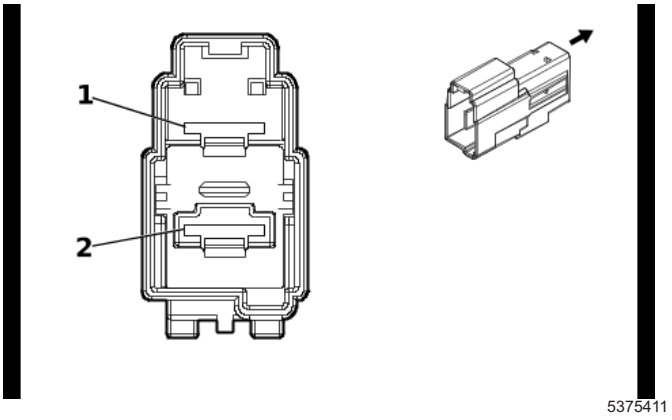
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

X215 Police Provisional Harness to Instrument Panel Harness (5W4/9C1)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
B	0.5	BK	1850	I	—	Ground 18	B	0.5	BK	1850	II	—
A	0.75	RD/ L-GN	10240	I	—	Secondary Fused Battery Positive Voltage 102 Police	A	0.75	RD/ L-GN	10240	II	—

X218 Body Harness to Body Harness (C3A)

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Connector Part Information

Harness Type: Body
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F

Connector Part Information

Harness Type: Body
OEM Connector: 35013203
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way M 9.5 Y-Type Series (BK)

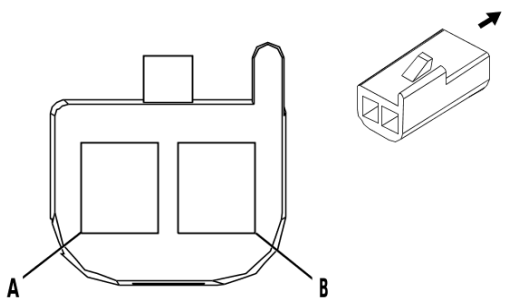
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-22 (RD)	No Tool Required
II	Not Required	J-35616-21 (RD)	No Tool Required

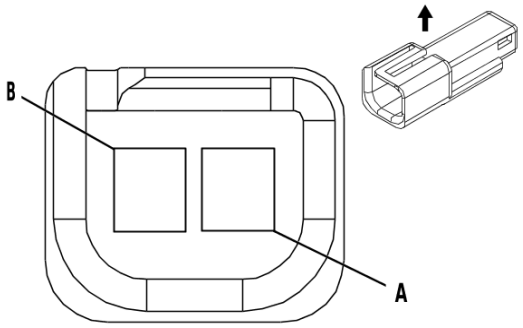
X218 Body Harness to Body Harness (C3A)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
2	16	RD/ GY	642	I	—	Primary Fused Battery Positive Voltage 6	2	16	RD/ GY	642	II	—

X219 Police Provisional Harness to Instrument Panel Harness (5W4/9C1)



82383



35441

Connector Part Information

Harness Type: Police Provisional
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 13649649
Service Connector: 13395383
Description: 2-Way M 150 Metri-Pack Series (BK)

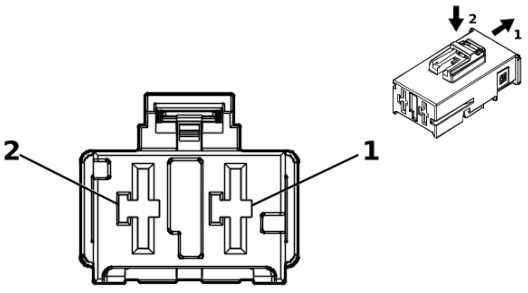
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

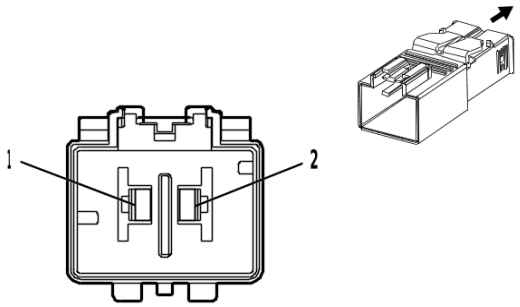
X219 Police Provisional Harness to Instrument Panel Harness (5W4/9C1)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
B	0.35	BK	1050	I	—	Ground 10	B	0.35	BK	1050	II	—
A	0.75	RD/GY	10340	I	—	Secondary Fused Battery Positive Voltage 103 Police	A	0.75	RD/GY	10340	II	—

X220 Instrument Panel Harness to Body Harness (5W4/9C1)



5187955



4891120

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35134698
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 9.5 MCON-LL Series (BK)

Connector Part Information

Harness Type: Body
OEM Connector: 35134697
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way M 9.5 MCON-LL Series (BK)

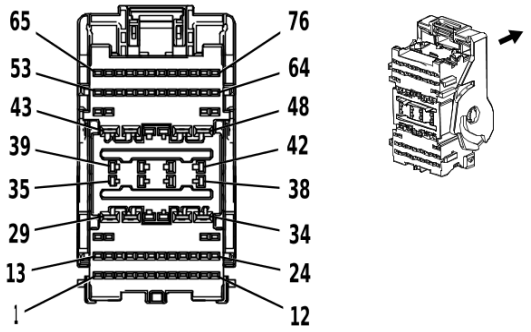
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-22 (RD)	No Tool Required
II	Not Required	J-35616-21 (RD)	No Tool Required

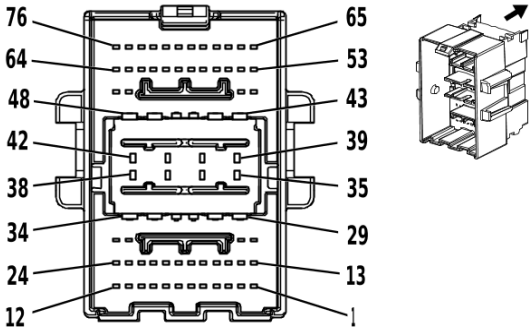
X220 Instrument Panel Harness to Body Harness (5W4/9C1)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	5	RD/GY	2742	I	—	Primary Fused Battery Positive Voltage 27	1	6	RD/GY	2742	II	—
2	—	—	—	—	—	Not Occupied	2	—	—	—	—	—

X225 Instrument Panel Harness to Body Harness



3960183



3960526

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35142991
Service Connector: 84581287
Description: 76-Way F 1.2, 1.5, 2.8 YESC Series (BK)

Connector Part Information

Harness Type: Body
OEM Connector: 33303580
Service Connector: 19369989
Description: 76-Way M 1.2 MCON-CB, 1.5, 2.8 YESC Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13578891	J-35616-2A (GY)	J-38125-11A
II	13580025	J-35616-4A (PU)	J-38125-11A
III	13582322	J-35616-4A (PU)	J-38125-11A
IV	13587516	J-35616-4A (PU)	J-38125-11A
V	19300649	J-35616-4A (PU)	J-38125-215A
VI	19301752	J-35616-4A (PU)	J-38125-215A
VII	19301761	J-35616-4A (PU)	J-38125-215A
VIII	19301767	J-35616-2A (GY)	J-38125-215A
IX	19333323	J-35616-16 (LT GN)	J-38125-215A
X	19367551	J-35616-16 (LT GN)	J-38125-215A
XI	19371240	J-35616-16 (LT GN)	J-38125-215A
XII	13575818	J-35616-3 (GY)	J-38125-553
XIII	13575821	J-35616-5 (PU)	J-38125-11A
XIV	13575824	J-35616-5 (PU)	J-38125-11A
XV	13575824	J-35616-5 (PU)	J-38125-11A
XVI	13575824	J-35616-5 (PU)	J-38125-11A
XVII	13575824	J-35616-5 (PU)	J-38125-11A
XVIII	19330704	J-35616-17 (LT GN)	J-38125-215A
XIX	19354072	J-35616-5 (PU)	J-38125-215A
XX	19355729	J-35616-5 (PU)	J-38125-215A
XXI	19370818	J-35616-17 (LT GN)	J-38125-215A
XXII	84616651	J-35616-17 (LT GN)	J-38125-215A

X225 Instrument Panel Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	D-BU/VT	8900	X	—	Immobilizer Antenna Signal [+] Police Microphone Input Signal	1	0.5 0.5	BN/BK D-BU/VT	4996 8900	XXII XXII	— —
2	0.35	BN/GY	8021	IX	—	Immobilizer Antenna Low Signal Police Microphone Enable Signal	2	0.5 0.35	WH/GY BN/GY	4997 8021	XXII XXII	— —
3	0.35	BN	7952	IX	—	E-Stop Relay 1 Control	3	0.5	BN	7952	XXII	—
4	0.5	BN/WH	3895	XI	—	Roof Rail Air Bag Disable Switch Low Reference	4	0.5	BN/WH	3895	XXII	—
5	0.35	WH/GY	4104	XI	—	AUTOSAR Serial Data CAN Bus [-] 8 Serial Data	5	0.5	WH/GY	4104	XXII	—
6	0.35	D-BU/GY	4105	XI	—	AUTOSAR Serial Data CAN Bus [+] 8 Serial Data	6	0.5	D-BU/GY	4105	XXII	—
7	0.35 0.35	GY GY	1715 1715	XI IX	— —	Windshield Wiper Switch High Signal Windshield Wiper Switch High Signal	7	0.35	GY	1715	XXII	—
8	—	—	—	—	—	Park Enable Signal	8	0.35	YE	5810	XXII	—
9	0.75	L-GN/YE	8896	X	—	Police Relay 2 Control	9	0.75	L-GN/YE	8896	XXI	—
10	0.75	D-BU/YE	8895	X	—	Police Relay 1 Control	10	0.75	D-BU/YE	8895	XXI	—
11 - 13	—	—	—	—	—	Not Occupied	11 - 13	—	—	—	—	—
14	0.5 0.5	L-GN/YE L-GN/YE	2731 2731	XI X	— —	Electronic Brake Control Module LIN Bus 1 Electronic Brake Control Module LIN Bus 1	14	0.5	L-GN/YE	2731	XXII	—
15	0.35	L-GN/VT	5199	XI	—	Run/Crank Relay Coil Control	15	0.5	L-GN/VT	5199	XXII	—

X225 Instrument Panel Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
16	0.5 0.5	VT/WH VT/WH	639 639	XI X	— —	Run/Crank Ignition 1 Voltage 6 Run/Crank Ignition 1 Voltage 6	16	0.5	VT/WH	639	XXII	—
17	0.35 0.5	GY/VT D-BU/WH	8022 3119	IX XI	— —	Roof Rail Air Bag Disable Switch Signal Police Roof Lamp Control Roof Rail Air Bag Disable Switch Signal	17	0.5 0.5 0.5	D-BU/WH GY/VT D-BU/WH	3119 8022 3119	XXII XXI XXI	— — —
18	0.35	L-GN/BN	2853	XI	—	Body Control Module LIN Bus 7	18	0.35	L-GN/BN	2853	XXII	—
19	0.35 0.35	WH WH	4976 4976	XI IX	— —	AUTOSAR CAN Bus [-] 3 Serial Data AUTOSAR CAN Bus [-] 3 Serial Data	19	0.35	WH	4976	XXII	—
20	0.35 0.35	D-BU/BK D-BU/BK	4977 4977	XI IX	— —	AUTOSAR CAN Bus [+] 3 Serial Data AUTOSAR CAN Bus [+] 3 Serial Data	20	0.35	D-BU/BK	4977	XXII	—
21	0.5 0.5	OG/VT OG/VT	3026 3026	XI X	— —	Passenger Instrument Panel Air Bag Stage 2 Low Control Passenger Instrument Panel Air Bag Stage 2 Low Control	21	0.5	OG/VT	3026	XXII	—
22	0.5 0.5	GY/OG GY/OG	3027 3027	XI X	— —	Passenger Instrument Panel Air Bag Stage 2 High Control Passenger Instrument Panel Air Bag Stage 2 High Control	22	0.5	GY/OG	3027	XXII	—
23	0.35 0.35	WH WH	4986 4986	XI IX	— —	AUTOSAR CAN Bus [-] 1 Serial Data AUTOSAR CAN Bus [-] 1 Serial Data	23	0.35	WH	4986	XXII	—
24	0.35 0.35	D-BU D-BU	4987 4987	XI IX	— —	AUTOSAR CAN Bus [+] 1 Serial Data AUTOSAR CAN Bus [+] 1 Serial Data	24	0.35	D-BU	4987	XXII	—

X225 Instrument Panel Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
25	—	—	—	—	—	Not Occupied	25	—	—	—	—	—
26	0.5 0.5	L-GN/WH L-GN/WH	24 24	XI X	— —	Backup Lamp Control Backup Lamp Control	26	0.5	L-GN/WH	24	XXII	—
27 - 28	—	—	—	—	—	Not Occupied	27 - 28	—	—	—	—	—
29	2.5 2.5	BK BK	1950 1950	VI IV	— —	Ground 19 Ground 19	29					
30	0.75 0.75	BK/WH BK/WH	1451 1451	VII II	— —	Ground 14 Ground 14	30	0.75	BK/WH	1451	XVII	—
31	0.35 0.35	D-BU/WH D-BU/WH	4985 4985	VIII I	— —	AUTOSAR CAN Bus [+] 5 Serial Data AUTOSAR CAN Bus [+] 5 Serial Data	31	0.35	D-BU/WH	4985	XII	—
32	0.35 0.35	D-BU/YE D-BU/YE	4984 4984	VIII I	— —	AUTOSAR CAN Bus [-] 5 Serial Data AUTOSAR CAN Bus [-] 5 Serial Data	32	0.35	D-BU/YE	4984	XII	—
33	0.5	BN/D-BU	4892	III	—	Auxiliary Battery Relay Control	33	0.5	BN/D-BU	4892	XIV	—
34	2.5 2.5	RD/VT RD/VT	1242 1242	VI IV	— —	Primary Fused Battery Positive Voltage 12 Primary Fused Battery Positive Voltage 12	34	2	RD/VT	1242	XVI	—
35	0.35	YE	5991	I	—	Powertrain Relay Coil Control	35	0.35	YE	5991	XII	—
36	0.35	L-GN/WH	7530	VIII	—	Driver Seat Memory Control Module LIN Bus 1	36	0.5	L-GN/WH	7530	XII	—
37	—	—	—	—	—	Front Center Speaker [-] Control	37	1	D-BU/YE	1960	XII	—
38	0.35	WH/VT	6821	I	—	Surveillance Switch Signal	38	0.75	WH/VT	6821	XII	—
39	—	—	—	—	—	Not Occupied	39	—	—	—	—	—

X225 Instrument Panel Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
40	0.75	D-BU/VT	1874	VIII	—	Left Front Speaker [+] Control 2	40	0.75	D-BU/VT	1874	XII	—
41	0.35 0.75	L-GN/VT GY/BK	5199 1974	I VIII	— —	Run/Crank Relay Coil Control Left Front Speaker [-] Control 2	41	0.5 0.75	L-GN/VT GY/BK	5199 1974	XII XII	— —
42	0.35	YE	5991	I	—	Powertrain Relay Coil Control	42	0.35	YE	5991	XII	—
43	0.75 0.75	D-BU/YE RD/YE	1960 8914	VII II	— —	Front Center Speaker [-] Control —	43	1 0.75	D-BU/YE RD/YE	1960 8914	XV XX	— —
44	0.75	YE/WH	1860	VII	—	Front Center Speaker [+]	44	1	YE/WH	1860	XV	—
45	0.35	L-GN/BN	2853	I	—	Body Control Module LIN Bus 7	45	0.35	L-GN/BN	2853	XII	—
46	0.35	RD	7953	I	—	E-Stop Relay 2 Control	46	0.5	RD	7953	XII	—
47	0.35	L-GN/BN	507	V	—	Wait To Start Indicator Control Wait To Start Indicator Control	47	0.35 0.35	L-GN/BN L-GN/BN	507 507	XIII XIX	— —
48	2.5 2.5	D-BU D-BU	47 47	VI IV	— —	Trailer Auxiliary Control Trailer Auxiliary Control	48	2.5	D-BU	47	XVI	—
49	0.35 0.5	WH YE/OG	4055 3025	XI X	— —	Private Serial Data Powertrain CAN Bus [+] Serial Data Passenger Instrument Panel Air Bag Stage 1 High Control	49	0.35 0.5	WH YE/OG	4055 3025	XXII XXII	— —
50	0.35 0.35	D-BU/GY D-BU/GY	4054 4054	XI IX	— —	Private Serial Data Powertrain CAN Bus [-] Serial Data Private Serial Data Powertrain CAN Bus [-] Serial Data	50	0.35	D-BU/GY	4054	XXII	—
51	0.35	WH	4055	IX	—	Private Serial Data Powertrain CAN Bus [+] Serial Data	51	0.35	WH	4055	XXII	—

X225 Instrument Panel Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
52	—	—	—	—	—	Auxiliary Center Stack Display Backlight Dimming Control	52	0.35	VT/ L-GN	10130	XXII	—
53	0.35 0.35	GY GY	728 728	XI IX	— —	Security Indicator Control Security Indicator Control	53	0.5	GY	728	XXII	—
54	0.5 0.5	YE YE	6817 6817	XI X	— —	LED Backlight Dimming Control 1 LED Backlight Dimming Control 1	54	0.5 0.5	YE YE	6817 6817	XXII XVIII	— —
55	0.5	BN/ D-BU	118	XI	—	Left Front Speaker [-] Control 1	55	0.5 0.75 0.5	BN/ D-BU BN/ D-BU BN/ D-BU	118 118 118	XXI XXII XXII	— — —
56	0.5	YE/ OG	3025	XI	—	Passenger Instrument Panel Air Bag Stage 1 High Control	56	0.5	YE/ OG	3025	XXII	—
57	0.35 0.35	GY/ WH GY/ WH	4630 4630	XI IX	— —	AC Power Outlet Switch Signal AC Power Outlet Switch Signal	57	0.35	GY/ WH	4630	XXII	—
58	0.5	VT/ WH	239	XI	—	Run/Crank Ignition 1 Voltage 2	58	0.5	VT/ WH	239	XXII	—
59 - 60	—	—	—	—	—	Not Occupied	59 - 60	—	—	—	—	—
61	0.5	D-BU/ WH	8899	X	—	Police Microphone Data Signal	61	0.5	D-BU/ WH	8899	XXII	—
62	0.75	VT/ YE	8898	X	—	Police Relay 4 Control	62	—	—	—	—	—
63	0.5 0.5	OG/ VT OG/ VT	3021 3021	XI X	— —	Steering Wheel Air Bag Stage 1 High Control Steering Wheel Air Bag Stage 1 High Control	63	0.5	OG/ VT	3021	XXII	—

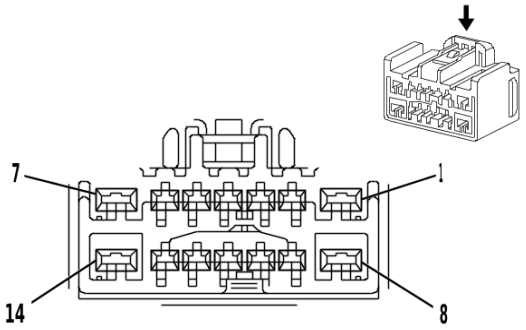
X225 Instrument Panel Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
64	0.5 0.5	BN/OG BN/OG	3020 3020	XI X	— —	Steering Wheel Air Bag Stage 1 Low Control Steering Wheel Air Bag Stage 1 Low Control	64	0.5	BN/OG	3020	XXII	—
65	0.5 0.5	OG/L-GN OG/L-GN	3023 3023	XI X	— —	Steering Wheel Air Bag Stage 2 High Control Steering Wheel Air Bag Stage 2 High Control	65	0.5	OG/L-GN	3023	XXII	—
66	0.5 0.5	WH/OG WH/OG	3022 3022	XI X	— —	Steering Wheel Air Bag Stage 2 Low Control Steering Wheel Air Bag Stage 2 Low Control	66	0.5	WH/OG	3022	XXII	—
67	0.5	D-BU	201	XI	—	Left Front Speaker 1 [+] Control	67	0.5 0.75 0.5	D-BU D-BU D-BU	201 201 201	XXI XXII XXII	— — —
68	0.5 0.5	OG/WH OG/WH	3024 3024	XI X	— —	Passenger Instrument Panel Air Bag Stage 1 Low Control Passenger Instrument Panel Air Bag Stage 1 Low Control	68	0.5	OG/WH	3024	XXII	—
69	0.75	RD/L-GN	8911	X	—	—	69	0.75	RD/L-GN	8911	XXI	—
70	—	—	—	—	—	Body Control Module LIN Bus 1	70	0.35	L-GN/BN	6132	XXII	—
71	0.35 0.35	WH WH	4100 4100	XI IX	— —	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	71	0.35	WH	4100	XXII	—
72	0.35 0.35	D-BU/VT D-BU/VT	4101 4101	XI IX	— —	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	72	0.35	D-BU/VT	4101	XXII	—
73	—	—	—	—	—	Not Occupied	73	—	—	—	—	—

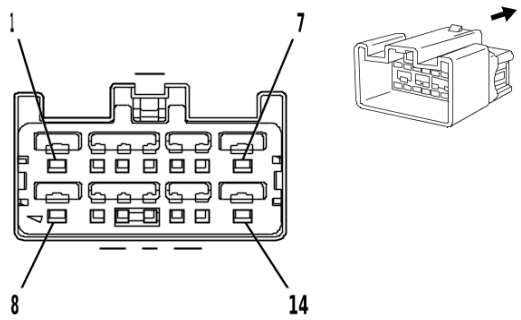
X225 Instrument Panel Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
74	0.35 0.35	L-GN/ D-BU L-GN/ D-BU	2733 2733	XI IX	— —	Electronic Brake Control Module LIN Bus 2 Electronic Brake Control Module LIN Bus 2	74	0.75	L-GN/ D-BU	2733	XXI	—
75	0.75	RD/ GY	8912	X	—	—	75	0.75	RD/ GY	8912	XXI	—
76	0.75	RD/ WH	8913	X	—	—	76	0.75	RD/ WH	8913	XXI	—

X250 Trailer Harness to Instrument Panel Harness



823290



1283905

Connector Part Information

Harness Type: Trailer
OEM Connector: 10847017
Service Connector: Service by Harness - See Part Catalog
Description: 14-Way F 1.5, 2.8 Series (L-GY)

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 10846900
Service Connector: 88956523
Description: 14-Way M 1.5, 2.8 Series (L-GY)

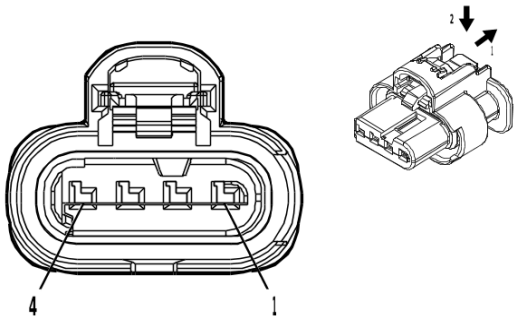
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required
III	13575818	J-35616-3 (GY)	J-38125-553
IV	13575824	J-35616-5 (PU)	J-38125-11A

X250 Trailer Harness to Instrument Panel Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2	BK	1250	II	—	Ground 12	1	2.5	BK	1950	IV	—
2 - 4	—	—	—	—	—	Not Occupied	2 - 4	—	—	—	—	—
5	0.5	WH/ D-BU	3691	I	—	Trailer Brake Apply Signal	5	0.35	WH/ D-BU	3691	III	—
6	—	—	—	—	—	Not Occupied	6	—	—	—	—	—
7	2	RD/ VT	1242	II	—	Primary Fused Battery Positive Voltage 12	7	2.5	RD/ VT	1242	IV	—
8 - 13	—	—	—	—	—	Not Occupied	8 - 13	—	—	—	—	—
14	2	D-BU	47	II	—	Trailer Auxiliary Control	14	2.5	D-BU	47	IV	—

X254 Instrument Panel Harness to Passenger Instrument Panel Air Bag Jumper Harness



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4900699

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35053710
Service Connector: 19371193
Description: 4-Way F 1.2 MCON-CB Series, Sealed (YE)

Connector Part Information

Harness Type: Passenger Instrument Panel Air Bag Jumper
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way M

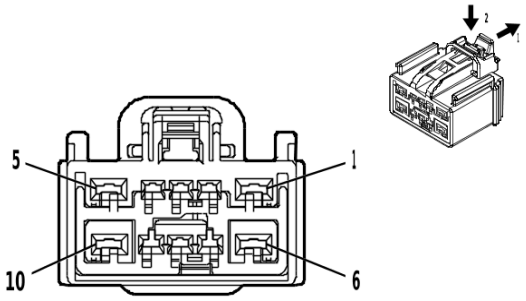
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

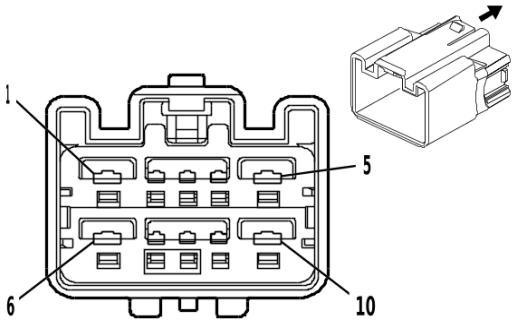
X254 Instrument Panel Harness to Passenger Instrument Panel Air Bag Jumper Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	YE/OG	3025	I	—	Passenger Instrument Panel Air Bag Stage 1 High Control	1	0.5	YE/OG	3025	II	—
2	0.5	OG/WH	3024	I	—	Passenger Instrument Panel Air Bag Stage 1 Low Control	2	0.5	OG/WH	3024	II	—
3	0.5	GY/OG	3027	I	—	Passenger Instrument Panel Air Bag Stage 2 High Control	3	0.5	GY/OG	3027	II	—
4	0.5	OG/VT	3026	I	—	Passenger Instrument Panel Air Bag Stage 2 Low Control	4	0.5	OG/VT	3026	II	—

X256 Instrument Panel Harness to Floor Console Harness (D07/DCK)



5020939



1851890

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35061724
Service Connector: 13518747
Description: 10-Way F 1.5, 2.8 Kaizen Series (L-GY)

Connector Part Information

Harness Type: Floor Console
OEM Connector: 13506926
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way M YESC Kaizen Series (L-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575850	J-35616-2A (GY)	J-38125-11A
II	13587516	J-35616-4A (PU)	J-38125-11A
III	Not Required	J-35616-3 (GY)	No Tool Required
IV	Not Required	J-35616-5 (PU)	No Tool Required

X256 Instrument Panel Harness to Floor Console Harness (D07/DCK)

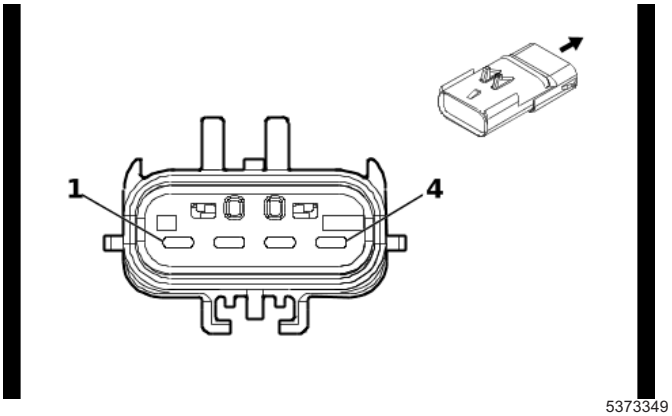
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	1.5	VT	1001	II	—	Retained Accessory Power Control 2	1	1.5	VT	1001	IV	—
2	0.35 0.5	RD/YE RD/YE	2340 2340	I I	— —	Secondary Fused Battery Positive Voltage 23 Secondary Fused Battery Positive Voltage 23	2	0.5	RD/YE	2340	III	—
3	0.35	BN/BK	4996	I	—	Immobilizer Antenna Signal [+]	3	0.5	BN/BK	4996	III	—
4	0.35	WH/GY	4997	I	—	Immobilizer Antenna Low Signal	4	0.5	WH/GY	4997	III	—
5 - 7	—	—	—	—	—	Not Occupied	5 - 7	—	—	—	—	—

X256 Instrument Panel Harness to Floor Console Harness (D07/DCK) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
8	0.35	BN/ BK	3552	I	—	Interior Keyless Entry Antenna 1 High Signal	8	0.35	BN/ BK	3552	III	—
9	0.35	WH	3553	I	—	Interior Keyless Entry Antenna 1 Low Signal	9	0.35	WH	3553	III	—
10	—	—	—	—	—	Not Occupied	10	—	—	—	—	—

X256 Instrument Panel Harness to Floor Console Harness (DCH)

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5373349

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F

Connector Part Information

Harness Type: Floor Console
OEM Connector: 33500099
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way M 2.8 APEX Series (BK)

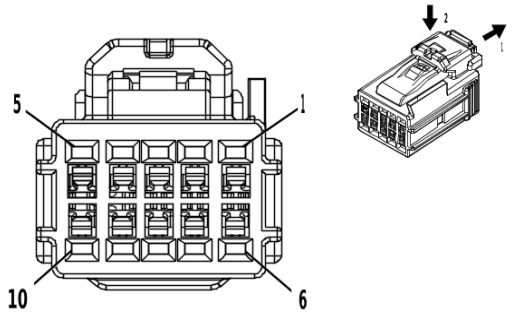
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required		No Tool Required
II	Not Required	J-35616-35 (VT)	No Tool Required

X256 Instrument Panel Harness to Floor Console Harness (DCH)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	1.5	VT	1001	I	—	Retained Accessory Power Control 2	1	1.5	VT	1001	II	—
2	0.5	RD/YE	2340	I	—	Secondary Fused Battery Positive Voltage 23	2	0.5	RD/YE	2340	II	—

X257 Instrument Panel Harness to HVAC Harness



—

4254030

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35327186
Service Connector: 13517411
Description: 10-Way F 1.2 Series (BK)

Connector Part Information

Harness Type: HVAC
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way M

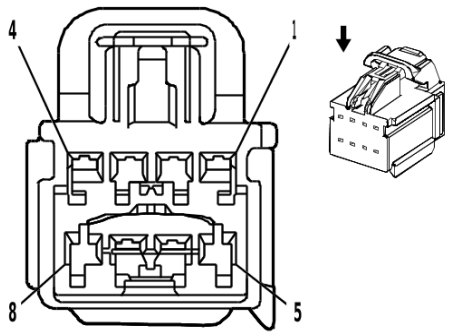
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19333323	J-35616-16 (LT GN)	J-38125-215A
II	19367551	J-35616-16 (LT GN)	J-38125-215A
III	Not Required	J-35616-17 (LT GN)	No Tool Required

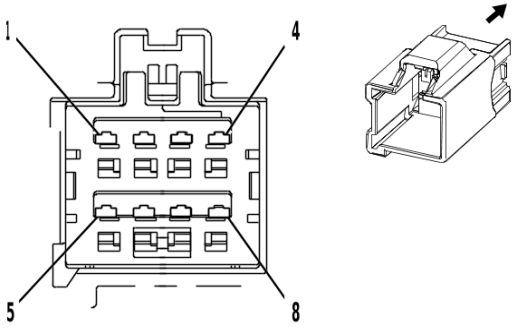
X257 Instrument Panel Harness to HVAC Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	—	—	—	—	—	Not Occupied	1	—	—	—	—	—
2	0.5	BK	1050	II	—	Ground 10	2	0.5	BK	1050	III	—
3 - 4	—	—	—	—	—	Not Occupied	3 - 4	—	—	—	—	—
5	0.35	GY	6137	I	—	A/C Evaporator Temperature Sensor Signal	5	0.35	GY	6137	III	—
6	0.35	L-GN/VT	2852	I	—	Body Control Module LIN Bus 6	6	0.35	L-GN/VT	2852	III	—
7	0.35	BK/YE	407	I	—	Sensor Low Reference	7	0.35	BK/YE	407	III	—
8	0.35	VT/WH	239	I	—	Run/Crank Ignition 1 Voltage 2	8	0.35	VT/WH	239	III	—
9	0.35	WH/YE	4634	I	—	HVAC Remote Enable Signal	9	0.35	WH/YE	4634	III	—
10	—	—	—	—	—	Not Occupied	10	—	—	—	—	—

X258 Instrument Panel Harness to Instrument Panel Harness



1849808



1849807

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 10846802
Service Connector: 19153166
Description: 8-Way F 1.5 YESC Kaizen Series (L-GY)

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 10847035
Service Connector: 19153162
Description: 8-Way M 1.5 YESC Kaizen Series (L-GY)

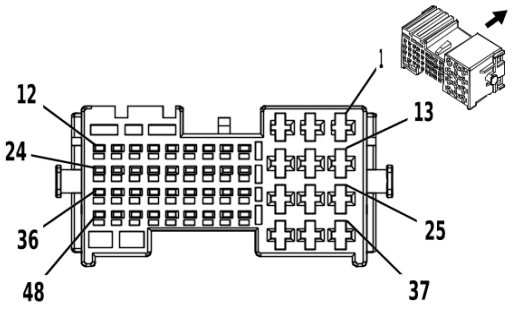
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-14 (GN)	No Tool Required
II	Not Required	J-35616-2A (GY)	No Tool Required
III	Not Required	J-35616-3 (GY)	No Tool Required

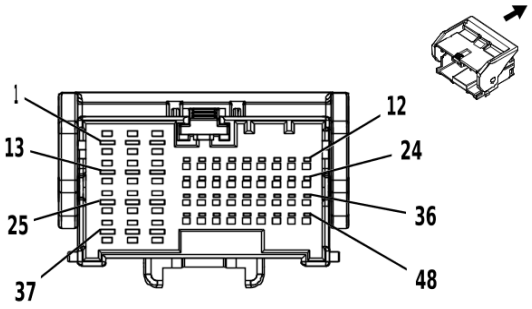
X258 Instrument Panel Harness to Instrument Panel Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	D-BU	201	II	—	Left Front Speaker 1 [+] Control	1	0.5	D-BU	201	III	—
2	0.5	YE	200	II	—	Right Front Speaker 1 [+] Control	2	0.5	YE	200	III	—
3	0.75	L-GN	199	I	—	Left Rear Speaker [+] Control	3	0.75	L-GN	199	III	—
4	0.75	WH	46	I	—	Right Rear Speaker [+] Control	4	0.75	WH	46	III	—
5	0.5	BN/ D-BU	118	II	—	Left Front Speaker [-] Control 1	5	0.5	BN/ D-BU	118	III	—
6	0.5	YE/ BK	117	II	—	Right Front Speaker [-] Control 1	6	0.5	YE/ BK	117	III	—
7	0.75	L-GN/ BK	116	I	—	Left Rear Speaker [-] Control	7	0.75	L-GN/ BK	116	III	—
8	0.75	D-BU/ BK	115	I	—	Right Rear Speaker [-] Control	8	0.75	D-BU/ BK	115	III	—

X270 Headliner Harness to Instrument Panel Harness



3277913



3277901

Connector Part Information

Harness Type: Headliner
OEM Connector: 13889713
Service Connector: 19329739
Description: 48-Way F 1.2 MCON, 2.8 MCP Series (BK)

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 15512031
Service Connector: 19329740
Description: 48-Way M 1.2 MCON, 2.8 MCP Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19119592	J-35616-4A (PU)	J-38125-557
II	19329758	J-35616-16 (LT GN)	J-38125-215A
III	13575529	J-35616-5 (PU)	J-38125-215A
IV	13575574	J-35616-5 (PU)	J-38125-215A
V	19329749	J-35616-17 (LT GN)	J-38125-215A

X270 Headliner Harness to Instrument Panel Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	RD/ D-BU	4540	I	—	Secondary Fused Battery Positive Voltage 45	1	2.5	RD/ D-BU	4540	IV	—
2	0.5	D-BU/ YE	4979	I	—	AUTOSAR CAN Bus [+] 2 Serial Data	2	0.35	D-BU/ YE	4979	III	—
3	0.5	WH	4978	I	—	AUTOSAR CAN Bus [-] 2 Serial Data	3	0.35	WH	4978	III	—
4	0.5	L-GN/ BK	3008	II	—	Active Noise Cancellation Microphone 1 Feedback Signal	4	0.5	L-GN/ BK	3008	V	—
5	0.5	L-GN/ BN	3005	II	—	Active Noise Cancellation Microphone 1 Signal	5	0.5	L-GN/ BN	3005	V	—
6	0.5	D-BU/ GY	4105	II	—	AUTOSAR Serial Data CAN Bus [+] 8 Serial Data	6	0.35	D-BU/ GY	4105	V	—

X270 Headliner Harness to Instrument Panel Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
7	0.5	WH/ GY	4104	II	—	AUTOSAR Serial Data CAN Bus [-] 8 Serial Data	7	0.35	WH/ GY	4104	V	—
8	0.35	D-BU/ VT	8900	II	—	Police Microphone Input Signal	8	0.5	D-BU/ VT	8900	V	—
9	0.35	YE/ VT	2516	II	—	Keypad Green LED Control	9	0.35	YE/ VT	2516	V	—
10	0.35	L-GN/ WH	2514	II	—	Keypad Signal	10	0.35	L-GN/ WH	2514	V	—
11	0.35	L-GN/ BK	2515	II	—	Keypad Control	11	0.35	L-GN/ BK	2515	V	—
12	0.35	BN/ WH	2517	II	—	Keypad Red LED Control	12	0.35	BN/ WH	2517	V	—
13	0.5	RD/ YE	240	I	—	Secondary Fused Battery Positive Voltage 2	13	1	RD/ YE	240	IV	—
14	0.35	D-BU/ GY	4105	I	—	AUTOSAR Serial Data CAN Bus [+] 8 Serial Data	14	0.35	D-BU/ GY	4105	III	—
15	0.35	WH/ GY	4104	I	—	AUTOSAR Serial Data CAN Bus [-] 8 Serial Data	15	0.35	WH/ GY	4104	III	—
16	—	—	—	—	—	Cellular Telephone Microphone Low Reference	16	0.35	BK/ BN	654	V	—
17	—	—	—	—	—	Cellular Telephone Microphone Signal	17	0.35	D-BU	655	V	—
18	0.35	L-GN/ WH	2854	II	—	Body Control Module LIN Bus 8	18	0.35	L-GN/ WH	2854	V	—
19	0.5	WH	4978	II	—	AUTOSAR CAN Bus [-] 2 Serial Data	19	0.5	WH	4978	V	—
20	0.5	D-BU/ YE	4979	II	—	AUTOSAR CAN Bus [+] 2 Serial Data	20	0.5	D-BU/ YE	4979	V	—
21	0.5	D-BU	655	II	—	Cellular Telephone Microphone Signal	21	0.35	D-BU	655	V	—
22	0.5	BK/ BN	654	II	—	Ground 10 Cellular Telephone Microphone Low Reference	22	0.5 0.35	BK BK/ BN	1050 654	V V	— —

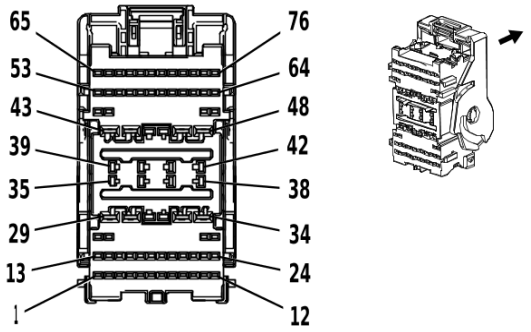
X270 Headliner Harness to Instrument Panel Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
23	0.35	L-GN/WH	24	II	—	Backup Lamp Control	23	0.5	L-GN/WH	24	V	—
24	—	—	—	—	—	Exterior Courtesy Lamp Control	24	0.5	WH/VT	1430	V	—
25	0.5	BK	1850	I	—	Ground 18	25	0.5	BK	1050	IV	—
26	0.5	VT/WH	239	I	—	Run/Crank Ignition 1 Voltage 2	26	0.5	VT/WH	239	IV	—
27	—	—	—	—	—	Secondary Fused Battery Positive Voltage 2	27	1	RD/YE	240	IV	—
28	0.35	L-BU	8579	II	—	Automotive Audio Bus A2B Serial Data 1 [-]	28	0.35	BK/WH	1851	V	—
29	0.35	L-GN	8580	II	—	Automotive Audio Bus A2B Serial Data 1 [+]	29	—	—	—	—	—
30	0.5	VT/YE	7043	II	—	Microphone [+] Signal	30	0.35	VT/YE	7043	V	—
31	0.35	BK/WH	1851	II	—	Ground 18	31	0.35	BK/WH	1851	V	—
32	0.35	BK/YE	1691	II	—	Mirror Dimming Low Reference	32	0.35	BK/YE	1691	V	—
33	0.35	YE/WH	1690	II	—	Mirror Dimming Signal	33	0.35	YE/WH	1690	V	—
34	0.35	D-BU/WH	8899	II	—	Police Microphone Data Signal	34	0.5	D-BU/WH	8899	V	—
35	0.75	BN	8569	II	—	Right Rear Headliner Speaker [-] Control	35	—	—	—	—	—
36	0.75	VT/GY	8570	II	—	Right Rear Headliner Speaker [+] Control	36	0.35	L-GN/WH	4115	V	—
37	2.5	BK	1850	I	—	Ground 18	37	2.5	BK	1050	IV	—
38	0.5	L-GN/WH	4115	I	—	Body Control Module LIN Bus 5	38	0.35	L-GN/WH	4115	III	—
39	—	—	—	—	—	Not Occupied	39	—	—	—	—	—
40	0.35	L-GN	8580	II	—	Automotive Audio Bus A2B Serial Data 1 [+]	40	—	—	—	—	—
41	0.35	L-BU	8579	II	—	Automotive Audio Bus A2B Serial Data 1 [-]	41	—	—	—	—	—

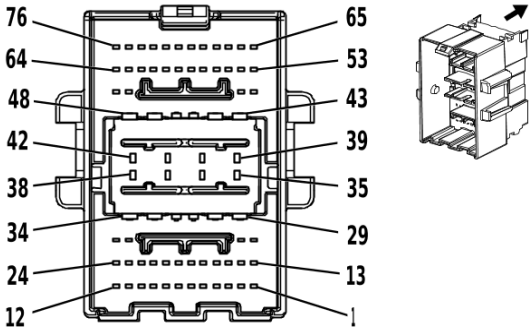
X270 Headliner Harness to Instrument Panel Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
42	0.5	D-BU/BK	7044	II	—	Backup Lamp Control Microphone [-]	42	0.5 0.35	L-GN/WH D-BU/BK	24 7044	V V	— —
43	0.75	D-BU/WH	8571	II	—	Left Front Headliner Speaker [-] Control	43	—	—	—	—	—
44	0.75	L-GN/BN	8572	II	—	Left Front Headliner Speaker [+] Control	44	—	—	—	—	—
45	0.75	GY/L-GN	8574	II	—	Right Front Headliner Speaker [+] Control	45	—	—	—	—	—
46	0.75	BN/VT	8573	II	—	Right Front Headliner Speaker [-] Control	46	—	—	—	—	—
47	0.75	L-GN/WH	8567	II	—	Left Rear Headliner Speaker [-] Control	47	0.5	VT/WH	239	V	—
48	0.75	GY/BN	8568	II	—	Left Rear Headliner Speaker [+] Control	48	—	—	—	—	—

X275 Instrument Panel Harness to Body Harness



3960183



3960526

Connector Part Information

Harness Type: Instrument Panel
OEM Connector: 35142991
Service Connector: 84581287
Description: 76-Way F 1.2, 1.5, 2.8 YESC Series (BK)

Connector Part Information

Harness Type: Body
OEM Connector: 33303580
Service Connector: 19369989
Description: 76-Way M 1.2 MCON-CB, 1.5, 2.8 YESC Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300649	J-35616-4A (PU)	J-38125-215A
II	19301767	J-35616-2A (GY)	J-38125-215A
III	19333323	J-35616-16 (LT GN)	J-38125-215A
IV	19367551	J-35616-16 (LT GN)	J-38125-215A
V	19369846	J-35616-16 (LT GN)	J-38125-215A
VI	19370817	J-35616-14 (GN)	J-38125-215A
VII	19370818	J-35616-16 (LT GN)	J-38125-559
VIII	19371240	J-35616-16 (LT GN)	J-38125-215A
IX	13575818	J-35616-3 (GY)	J-38125-553
X	13575821	J-35616-5 (PU)	J-38125-11A
XI	19370818	J-35616-17 (LT GN)	J-38125-215A
XII	84616651	J-35616-17 (LT GN)	J-38125-215A

X275 Instrument Panel Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 7	—	—	—	—	—	Not Occupied	1 - 7	—	—	—	—	—
8	0.5	WH/ VT	1430	IV	—	Exterior Courtesy Lamp Control	8	0.35	WH/ VT	1430	XII	—
9	0.75	L-GN/ D-BU	1875	VII	—	Right Front Speaker [+] Control 2	9	0.75	L-GN/ D-BU	1875	XI	—
10	0.75	BN/ BK	1975	VII	—	Right Front Speaker [-] Control 2	10	0.75	BN/ BK	1975	XI	—

X275 Instrument Panel Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
11	0.5	L-GN/BN	3005	VIII	—	Active Noise Cancellation Microphone 1 Signal	11	0.5	L-GN/BN	3005	XII	—
12	0.5	L-GN/BK	3008	VIII	—	Active Noise Cancellation Microphone 1 Feedback Signal	12	0.5	L-GN/BK	3008	XII	—
13	0.5	VT	2801	IV	—	Retained Accessory Power Control 8	13	0.5	VT	2801	XII	—
14	0.35 0.5 0.5	WH WH WH	4978 4978 4978	VIII IV VIII	— — —	AUTOSAR CAN Bus [-] 2 Serial Data AUTOSAR CAN Bus [-] 2 Serial Data AUTOSAR CAN Bus [-] 2 Serial Data	14	0.35	WH	4978	XII	—
15	0.5 0.5	YE/BK YE/BK	117 117	IV VIII	— —	Right Front Speaker [-] Control 1 Right Front Speaker [-] Control 1	15	0.5 0.5 0.75	YE/BK YE/BK YE/BK	117 117 117	XII XI XII	— — —
16	0.5	YE	200	VIII	—	Right Front Speaker 1 [+] Control Right Front Speaker 1 [+] Control	16	0.75 0.5	YE YE	200 200	XII XI	— —
17	0.35	YE	6812	VIII	—	Out of Park Signal	17	0.5	YE	6812	XII	—
18	0.5	YE	200	IV	—	Right Front Speaker 1 [+] Control Right Front Speaker 1 [+] Control	18	0.5 0.75 0.5	YE YE YE	200 200 200	XI XII XII	— — —
19	—	—	—	—	—	Active Noise Cancellation Microphone 1 Signal	19	0.5	L-GN/BN	3005	XII	—
20	0.75	L-GN/BK	116	VII	—	Left Front Speaker [+] Control 2 Left Rear Speaker [-] Control	20	0.75 0.75	D-BU/VT L-GN/BK	1874 116	XI XI	— —
21	0.75 0.75	L-GN L-GN	199 199	VII V	— —	Left Rear Speaker [+] Control Left Rear Speaker [+] Control	21	0.75	L-GN	199	XI	—

X275 Instrument Panel Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
22	0.35 0.35	WH WH	4986 4986	VIII III	— —	AUTOSAR CAN Bus [-] 1 Serial Data AUTOSAR CAN Bus [-] 1 Serial Data	22	0.35	WH	4986	XII	—
23	0.35 0.35	D-BU D-BU	4987 4987	VIII III	— —	AUTOSAR CAN Bus [+] 1 Serial Data AUTOSAR CAN Bus [+] 1 Serial Data	23	0.35	D-BU	4987	XII	—
24	0.35 0.35	D-BU/GY D-BU/GY	4054 4054	VIII III	— —	Private Serial Data Powertrain CAN Bus [-] Serial Data Private Serial Data Powertrain CAN Bus [-] Serial Data	24	0.35	D-BU/GY	4054	XII	—
25	0.35 0.75	WH L-GN/BK	4055 116	VIII V	— —	Private Serial Data Powertrain CAN Bus [+] Serial Data Left Rear Speaker [-] Control	25	0.35 0.75	WH L-GN/BK	4055 116	XII XI	— —
26	0.35 0.5 0.5	D-BU/YE D-BU/YE D-BU/YE	4979 4979 4979	VIII IV VIII	— — —	AUTOSAR CAN Bus [+] 2 Serial Data AUTOSAR CAN Bus [+] 2 Serial Data AUTOSAR CAN Bus [+] 2 Serial Data	26	0.35	D-BU/YE	4979	XII	—
27	0.35 0.35	L-GN/WH L-GN/WH	2854 2854	VIII III	— —	Body Control Module LIN Bus 8 Body Control Module LIN Bus 8	27	0.35	L-GN/WH	2854	XII	—
28 - 31	—	—	—	—	—	Not Occupied	28 - 31	—	—	—	—	—
32	0.75 0.75	WH WH	46 46	II VI	— —	Right Rear Speaker [+] Control Right Rear Speaker [+] Control	32	0.75	WH	46	IX	—
33 - 39	—	—	—	—	—	Not Occupied	33 - 39	—	—	—	—	—
40	0.35	WH/GY	4104	II	—	AUTOSAR Serial Data CAN Bus [-] 8 Serial Data	40	0.35	WH/GY	4104	IX	—

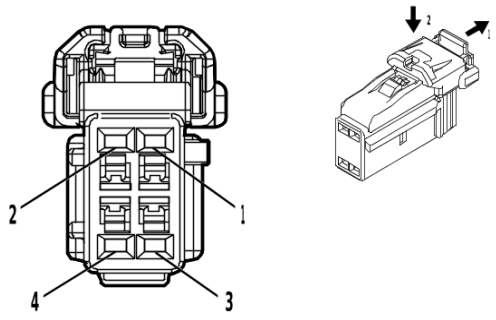
X275 Instrument Panel Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
41 - 43	—	—	—	—	—	Not Occupied	41 - 43	—	—	—	—	—
44	0.35	L-GN/YE	7066	I	—	Entertainment Remote Enable Signal	44	0.35	L-GN/YE	7066	X	—
45 - 46	—	—	—	—	—	Not Occupied	45 - 46	—	—	—	—	—
47	0.35	D-BU/GY	4105	I	—	AUTOSAR Serial Data CAN Bus [+] 8 Serial Data	47	0.35	D-BU/GY	4105	X	—
48 - 49	—	—	—	—	—	Not Occupied	48 - 49	—	—	—	—	—
50	—	—	—	—	—	Right Front Speaker [+] Control 2	50	0.75	L-GN/D-BU	1875	XI	—
51	0.35 0.35	D-BU/VT D-BU/VT	807 807	VIII III	— —	Ignition Off/ Accessory Ignition Voltage Ignition Off/ Accessory Ignition Voltage	51	0.35	D-BU/VT	807	XII	—
52	—	—	—	—	—	Run/Crank Ignition 1 Voltage 11	52	0.35	VT/WH	1139	XII	—
53 - 56	—	—	—	—	—	Not Occupied	53 - 56	—	—	—	—	—
57	—	—	—	—	—	Left Front Speaker [-] Control 2	57	0.75	GY/BK	1974	XI	—
58	—	—	—	—	—	Not Occupied	58	—	—	—	—	—
59	—	—	—	—	—	Interior Keyless Entry Antenna 1 Low Signal	59	0.35	WH	3553	XII	—
60	0.35 0.35	YE/WH YE/WH	1690 1690	VIII III	— —	Mirror Dimming Signal Mirror Dimming Signal	60	0.35	YE/WH	1690	XII	—
61	0.35	OG	7954	III	—	E-Stop Relay 3 Control	61	0.5	OG	7954	XII	—
62	0.75 0.75	D-BU/BK D-BU/BK	115 115	VII V	— —	Right Rear Speaker [-] Control Right Rear Speaker [-] Control	62	0.75	D-BU/BK	115	XI	—

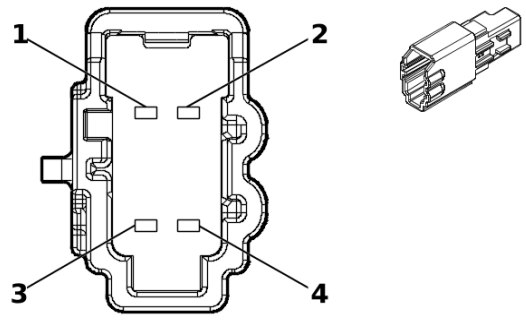
X275 Instrument Panel Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
63	0.35 0.35	BK/YE BK/YE	1691 1691	VIII III	— —	Mirror Dimming Low Reference Mirror Dimming Low Reference	63	0.35	BK/YE	1691	XII	—
64	0.35	WH	4055	III	—	Private Serial Data Powertrain CAN Bus [+] Serial Data	64	0.35	WH	4055	XII	—
65 - 67	—	—	—	—	—	Not Occupied	65 - 67	—	—	—	—	—
68	0.75	GY/YE	8897	IV	—	Police Relay 3 Control	68	0.75	GY/YE	8897	XI	—
69 - 70	—	—	—	—	—	Not Occupied	69 - 70	—	—	—	—	—
71	0.35 0.35	VT/L-GN VT/L-GN	4320 4320	VIII III	— —	Selective Catalytic Reduction Power Module Wake-Up Signal Selective Catalytic Reduction Power Module Wake-Up Signal	71	0.35	VT/L-GN	4320	XII	—
72 - 74	—	—	—	—	—	Not Occupied	72 - 74	—	—	—	—	—
75	—	—	—	—	—	Interior Keyless Entry Antenna 1 High Signal	75	0.35	BN/BK	3552	XII	—
76	0.35 0.35	GY/L-GN GY/L-GN	4083 4083	VIII III	— —	Retained Accessory Power Relay 2 Coil Control Retained Accessory Power Relay 2 Coil Control	76	0.35	GY/L-GN	4083	XII	—

X276 Rear Cargo Lamp Jumper Harness to Body Harness



4872683



5360963

Connector Part Information

Harness Type: Rear Cargo Lamp Jumper
OEM Connector: 35029308
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.2 Series (BK)

Connector Part Information

Harness Type: Body
OEM Connector: 35264699
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way M 1.2 MCON Series (BK)

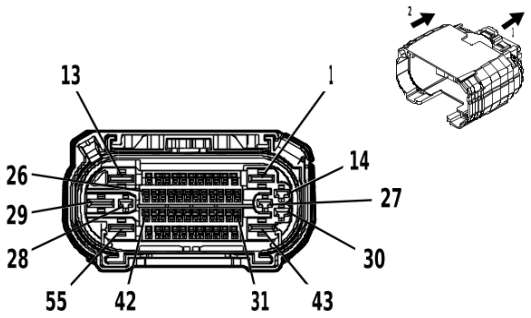
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

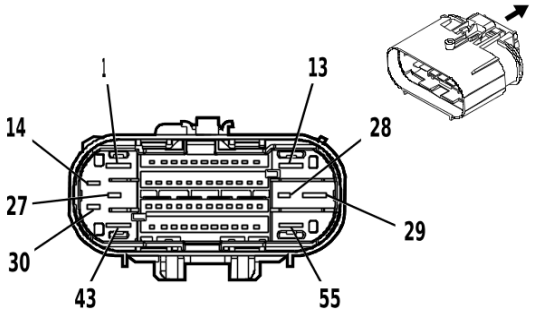
X276 Rear Cargo Lamp Jumper Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	WH/VT	1430	I	—	Exterior Courtesy Lamp Control	1	0.35	WH/VT	1430	II	—
2	—	—	—	—	—	Not Occupied	2	—	—	—	—	—
3	0.5	BK	2050	I	—	Ground 20	3	0.5	BK	2050	II	—
4	—	—	—	—	—	Not Occupied	4	—	—	—	—	—

X300 Floor Console Harness to Body Harness



4992168



4993301

Connector Part Information

Harness Type: Floor Console

OEM Connector: 35016652

Service Connector: Service by Harness - See Part Catalog

Description: 55-Way F 1.2 OCS, 2.8, 6.3 CTS Series, Sealed (BK)

Connector Part Information

Harness Type: Body

OEM Connector: 35205173

Service Connector: 84727364

Description: 55-Way M 1.2 OCS, 2.8, 6.3 CTS Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-35 (VT)	No Tool Required
III	Not Required	J-35616-42 (RD)	No Tool Required
IV	Not Required	J-35616-43 (RD)	No Tool Required
V	13505800	J-35616-5 (PU)	J-38125-215A
VI	19301750	J-35616-31 (OR)	J-38125-215A
VII	19301750	J-35616-32 (OR)	J-38125-36
VIII	19368968	J-35616-5 (PU)	J-38125-215A
IX	19369843	J-35616-17 (LT GN)	J-38125-215A
X	19370818	J-35616-17 (LT GN)	J-38125-215A
XI	84616651	J-35616-17 (LT GN)	J-38125-215A

X300 Floor Console Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35 0.5 0.5	BK/WH BK/WH BK/WH	1351 1351 1351	IV III IV	— — —	Ground 13 Ground 13 Ground 13	1	0.5	BK/WH	1351	VII	—
2	0.75	BK/WH	1451	I	—	— Ground 14	2	1.5 0.75	BK BK/WH	9000 1451	IX X	— —
3	0.5	VT/RD	4049	I	—	AC Power Outlet Sensor High Reference	3	0.5	VT/RD	4049	XI	—

X300 Floor Console Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
4	0.5 0.35	RD/VT RD/VT	6340 6340	I I	BOP -BOP	Secondary Fused Battery Positive Voltage 63 Secondary Fused Battery Positive Voltage 63	4	0.5	RD/VT	6340	XI	—
5	0.35	BN/BK	405	I	—	Lower Duct Air Temperature Sensor Signal	5	0.5	BN/BK	405	XI	—
6	—	—	—	—	—	Not Occupied	6	—	—	—	—	—
7	0.35	RD/WH	7240	I	—	Secondary Fused Battery Positive Voltage 72	7	0.35	RD/WH	7240	XI	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—
9	0.75	YE/WH	4635	I	—	HVAC Remote Enable 2 Signal	9	0.5	YE/WH	4635	XI	—
10	0.5	L-GN/BK	2738	I	—	Virtual Key Module LIN Bus 1	10	0.5	L-GN/BK	2738	XI	—
11	—	—	—	—	—	Not Occupied	11	—	—	—	—	—
12	1.5	BK	9001	I	—	—	12	1.5	BK	9000	IX	—
13	—	—	—	—	—	Not Occupied	13	—	—	—	—	—
14	0.5	VT	4701	II	—	Retained Accessory Power Control 11	14	0.5	VT	4701	V	—
15	0.5	L-GN/BK	2211	I	—	Rear Blower Motor Speed Control	15	0.5	L-GN/BK	2211	XI	—
16	0.5	RD/BN	7540	I	—	Secondary Fused Battery Positive Voltage 75	16	0.5	RD/BN	7540	XI	—
17 - 18	—	—	—	—	—	Not Occupied	17 - 18	—	—	—	—	—
19	0.75	BK/VT	470	I	—	Sensor Low Reference 3	19	0.5	BK/VT	470	XI	—
20	0.35	BN	404	I	—	Upper Duct Air Temperature Sensor Signal	20	0.5	BN	404	XI	—

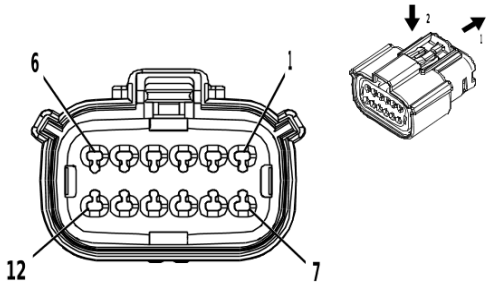
X300 Floor Console Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
21	0.5	VT/ RD	4049	I	—	AC Power Outlet Sensor High Reference	21	0.5	VT/ RD	4049	XI	—
22	0.35	BK/ WH	1451	I	—	Ground 14	22	0.75	BK/ WH	1451	X	—
23	0.5 0.35	L-GN/ VT L-GN/ VT	2857 2857	I I	DCH -DCH	Body Control Module LIN Bus 11 Body Control Module LIN Bus 11	23	0.5 0.35	L-GN/ VT L-GN/ VT	2857 2857	XI XI	DCH -DCH
24 - 25	—	—	—	—	—	Not Occupied	24 - 25	—	—	—	—	—
26	0.75	BK	5683	I	—	120V AC Phase A	26	0.75	BK	5683	X	—
27	—	—	—	—	—	Retained Accessory Power Control 4	27	1.5	VT	1701	VIII	—
28	1	RD/ VT	8640	II	—	Secondary Fused Battery Positive Voltage 86	28	1	RD/ VT	8640	V	—
29 - 32	—	—	—	—	—	Not Occupied	29 - 32	—	—	—	—	—
33	0.5	BN/ BK	4996	I	—	Immobilizer Antenna Signal [+]	33	0.5	BN/ BK	4996	XI	—
34	0.5	WH/ GY	4997	I	—	Immobilizer Antenna Low Signal	34	0.5	WH/ GY	4997	XI	—
35	0.75	D-BU/ BN	6807	I	—	DC/AC Inverter Control	35	0.75	D-BU/ BN	6807	X	—
36 - 37	—	—	—	—	—	Not Occupied	36 - 37	—	—	—	—	—
38	0.35	D-BU/ YE	4984	I	—	AUTOSAR CAN Bus [-] 5 Serial Data AUTOSAR CAN Bus [-] 5 Serial Data	38	0.5 0.35	D-BU/ YE D-BU/ YE	4984 4984	XI XI	UQA/UQS BOP
39	0.35	D-BU/ WH	4985	I	—	AUTOSAR CAN Bus [+] 5 Serial Data AUTOSAR CAN Bus [+] 5 Serial Data	39	0.5 0.35	D-BU/ WH D-BU/ WH	4985 4985	XI XI	UQA/UQS BOP
40	0.5	YE	6817	I	—	LED Backlight Dimming Control 1	40	0.5	YE	6817	XI	—
41	—	—	—	—	—	Not Occupied	41	—	—	—	—	—

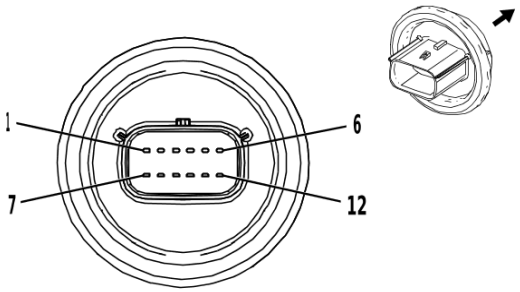
X300 Floor Console Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
42	0.75	RD	5684	I	—	120V AC Phase B	42	0.75	RD	5684	X	—
43	—	—	—	—	—	Not Occupied	43	—	—	—	—	—
44	1.5 0.75	BK L-GN/VT	9001 4786	I I	— D07	— Dome/ Reading Lamp Enable Signal	44	0.35 0.75	L-GN/VT L-GN/VT	4786 4786	XI X	-D07 D07
45 - 47	—	—	—	—	—	Not Occupied	45 - 47	—	—	—	—	—
48	0.35	WH	3553	I	—	Interior Keyless Entry Antenna 1 Low Signal	48	0.35	WH	3553	XI	—
49	0.35	BN/BK	3552	I	—	Interior Keyless Entry Antenna 1 High Signal	49	0.35	BN/BK	3552	XI	—
50	0.35	D-BU/YE	4984	I	—	AUTOSAR CAN Bus [-] 5 Serial Data	50	0.35	D-BU/YE	4984	XI	—
51	0.35	D-BU/WH	4985	I	—	AUTOSAR CAN Bus [+] 5 Serial Data	51	0.35	D-BU/WH	4985	XI	—
52 - 53	—	—	—	—	—	Not Occupied	52 - 53	—	—	—	—	—
54	1	BK	2519	I	—	120V AC Outlet Low Reference	54	1	BK	2519	X	—
55	2	BK	1250	III	—	Ground 12	55	2	BK	1250	VI	—

X308 Body Harness to Left Second Row Seat Harness



2871860



3238775

Connector Part Information

Harness Type: Body
OEM Connector: 33362189
Service Connector: 19352907
Description: 12-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Left Second Row Seat
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 12-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300432	J-35616-2A (GY)	J-38125-217
II	Not Required	J-35616-3 (GY)	No Tool Required

X308 Body Harness to Left Second Row Seat Harness

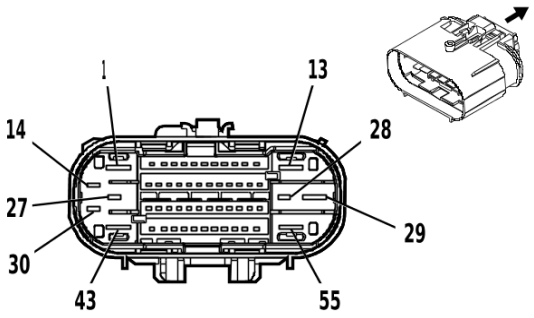
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	RD/GY	6240	I	—	Secondary Fused Battery Positive Voltage 62	1	0.75	RD/GY	6240	II	—
2	0.75	GY	2294	I	—	Left Rear Seat Cushion Heating Element Control	2	0.75	GY	2294	II	—
3	0.75	D-BU/BK	2446	I	—	Left Rear Seat Heating Element Low Reference	3	0.75	D-BU/BK	2446	II	—
4	0.5	WH/D-BU	7047	I	—	Left Rear Seat Cushion Temperature Sensor Signal	4	0.5	WH/D-BU	7047	II	—
5	0.5	D-BU/WH	7048	I	—	Left Rear Cushion Thermistor Feedback Signal	5	0.5	D-BU/WH	7048	II	—
6	0.5	L-GN	6808	I	—	Left Rear Folding Seat Motor Control	6	0.5	L-GN	6808	II	—

X308 Body Harness to Left Second Row Seat Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
7	0.75	BK	2050	I	—	Ground 20	7	0.75	BK	2050	II	—
8	0.5	YE/OG	5161	I	—	Left Rear Seat Belt Switch Signal	8	0.5	YE/OG	5161	II	—
9	0.5	BK/OG	1363	I	—	Driver Seat Belt Switch Low Reference	9	0.5	BK/OG	1363	II	—
10	0.5	D-BU/OG	5163	I	—	Rear Center Seat Belt Switch Signal	10	0.5	D-BU/OG	5163	II	—
11 - 12	—	—	—	—	—	Not Occupied	11 - 12	—	—	—	—	—

X310 Driver Seat Harness to Body Harness

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4993301

Connector Part Information

Harness Type: Driver Seat
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 55-Way F

Connector Part Information

Harness Type: Body
OEM Connector: 35205173
Service Connector: 84727364
Description: 55-Way M 1.2 OCS, 2.8, 6.3 CTS Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	19301750	J-35616-32 (OR)	J-38125-36
III	19369843	J-35616-17 (LT GN)	J-38125-215A
IV	19370818	J-35616-17 (LT GN)	J-38125-215A
V	84616651	J-35616-17 (LT GN)	J-38125-215A

X310 Driver Seat Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	BK	1150	I	—	Ground 11	1	2.5	BK	1150	II	—
2	1.5	BK	9000	I	—	—	2	1.5	BK	9000	III	—
3	0.5	L-GN/WH	7530	I	—	Driver Seat Memory Control Module LIN Bus 1	3	0.5	L-GN/WH	7530	V	—
4	0.75	RD/BN	2240	I	—	Secondary Fused Battery Positive Voltage 22	4	0.75	RD/BN	2240	IV	—
5	0.5	WH	615	I	—	Seat Memory Switch Signal 1	5	0.5	WH	615	V	—
6	0.5	D-BU/L-GN	614	I	—	Seat Memory Switch Set Signal	6	0.5	D-BU/L-GN	614	V	—
10	0.5	BK/YE	2080	I	—	Driver Heated Seat Thermistor Low Reference	10	0.5	BK/YE	2080	V	—

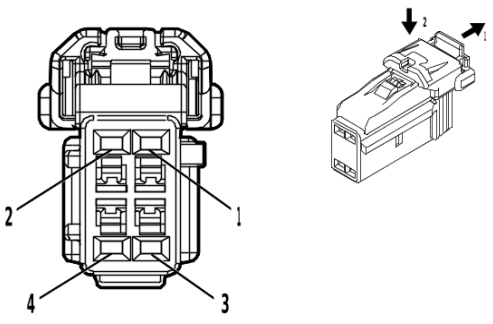
X310 Driver Seat Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
11	0.5	YE/ GY	2079	I	—	Driver Seat Heating Temperature Sensor Signal	11	0.5	YE/ GY	2079	V	—
12	1.5 0.75	BK RD/ BN	9000 3640	I I	— UW9	— Secondary Fused Battery Positive Voltage 36	12	1.5 0.75	BK RD/ BN	9000 3640	III IV	— UW9
15	0.75	BN/ VT	2077	I	—	Driver Seat Heating Element Control	15	0.75	BN/ VT	2077	IV	—
16	0.75	BN/ BK	2078	I	—	Driver Seat Heating Element Low Reference	16	0.75	BN/ BK	2078	IV	—
18	0.5	D-BU	2425	I	—	Driver Seat Back Heating Temperature Sensor Signal	18	0.5	D-BU	2425	V	—
19	0.75	BN	2432	I	—	Driver Seat Back Heating Element Control	19	0.75	BN	2432	IV	—
20	0.5	L-GN/ VT	5906	I	—	Driver Seat Blower Motor Control 1	20	0.5	L-GN/ VT	5906	V	—
21	0.5	VT/ WH	1139	I	—	Run/Crank Ignition 1 Voltage 11	21	0.5	VT/ WH	1139	V	—
22	0.75	BK/ WH	1451	I	—	Ground 14	22	0.75	BK/ WH	1451	IV	—
25	0.35	D-BU/ VT	4101	I	—	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	25	0.35	D-BU/ VT	4101	V	—
26	0.35	WH	4100	I	—	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	26	0.35	WH	4100	V	—
29	2.5	RD/ YE	5040	I	—	Secondary Fused Battery Positive Voltage 50	29	2.5	RD/ YE	5040	II	—
31	0.5	OG/ L-GN	5055	I	—	Driver Seat Position Switch Signal	31	0.5	OG/ L-GN	5055	V	—
32	0.5 0.5	OG/ BN OG/ GY	238 2652	I I	— —	Driver Seat Belt Switch Signal Driver Seat Belt Sensor Signal	32	0.5 0.5	OG/ BN OG/ GY	238 2652	V V	— —

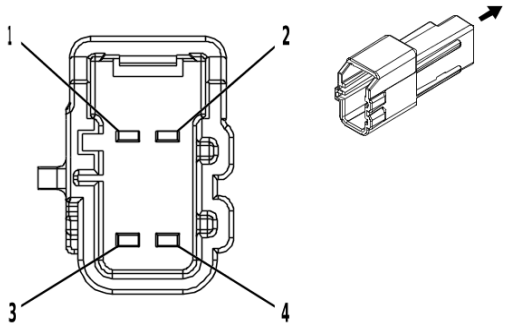
X310 Driver Seat Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
33	0.5	BK/ OG	1363	I	—	Driver Seat Belt Switch Low Reference	33	0.5	BK/ OG	1363	V	—
35	0.5	OG/ D-BU	4962	I	—	Driver Seat Back Air Bag High Control	35	0.5	OG/ D-BU	4962	V	—
36	0.5	BK/ OG	4963	I	—	Driver Seat Back Air Bag Low Control	36	0.5	BK/ OG	4963	V	—
37	0.35	L-GN/ YE	7066	I	—	Entertain-ment Remote Enable Signal	37	0.35	L-GN/ YE	7066	V	—
44	1.5	BK	9000	I	—	—	44	1.5	BK	9000	III	—
50	0.35	D-BU/ VT	4101	I	—	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	50	0.35	D-BU/ VT	4101	V	—
51	0.35	WH	4100	I	—	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	51	0.35	WH	4100	V	—
52	0.5	OG/ BN	4207	I	—	Driver Inboard Seat Side Air Bag High Control	52	0.5	OG/ BN	4207	V	—
53	0.5	GY/ OG	4208	I	—	Driver Inboard Seat Side Air Bag Low Control	53	0.5	GY/ OG	4208	V	—
54	1.5	BK	9000	I	—	—	54	1.5	BK	9000	III	—

X313 Headliner Harness to Microphone Provisional Harness (5W4/9C1)



4872683



4210503

Connector Part Information

Harness Type: Headliner
OEM Connector: 35029308
Service Connector: 19369633
Description: 4-Way F 1.2 Series (BK)

Connector Part Information

Harness Type: Microphone Provisional
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way M

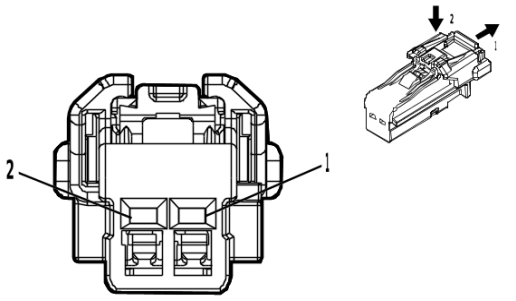
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

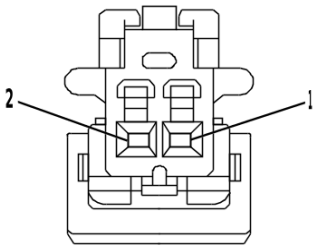
X313 Headliner Harness to Microphone Provisional Harness (5W4/9C1)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	BK	1850	I	—	Ground 18	1	0.35	BK	1850	II	—
2	0.35	D-BU/WH	8899	I	—	Police Microphone Data Signal	2	0.35	D-BU/WH	8899	II	—
3	0.35	D-BU/VT	8900	I	—	Police Microphone Input Signal	3	0.35	D-BU/VT	8900	II	—
4	—	—	—	—	—	Not Occupied	4	—	—	—	—	—

X315 Headliner Harness to Microphone Provisional Harness (5W4/9C1)



4115691



4065460

Connector Part Information

Harness Type: Headliner
OEM Connector: 35311666
Service Connector: 19352066
Description: 2-Way F 1.2 MCON Series (BK)

Connector Part Information

Harness Type: Microphone Provisional
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way M

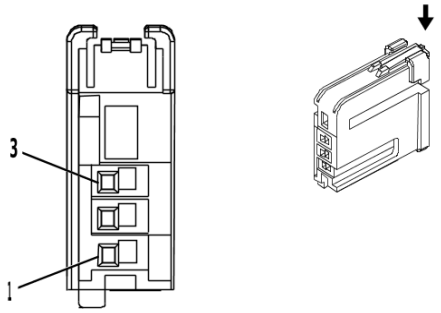
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

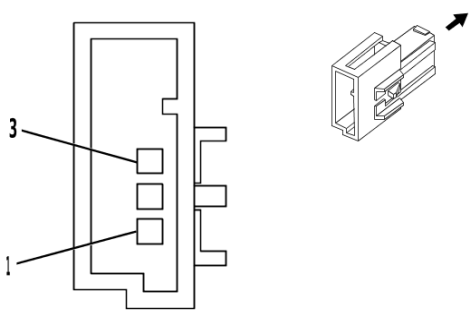
X315 Headliner Harness to Microphone Provisional Harness (5W4/9C1)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	BK	1850	I	—	Ground 18	1	0.5	BK	1850	II	—
2	0.5	RD/YE	240	I	—	Secondary Fused Battery Positive Voltage 2	2	0.5	RD/YE	240	II	—

X318 Rain Sensor Jumper Harness to Headliner Harness



2831062



2179788

Connector Part Information

Harness Type: Rain Sensor Jumper
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way F

Connector Part Information

Harness Type: Headliner
OEM Connector: 13646861
Service Connector: 19367729
Description: 3-Way M 0.64 Series (BK)

Terminal Part Information

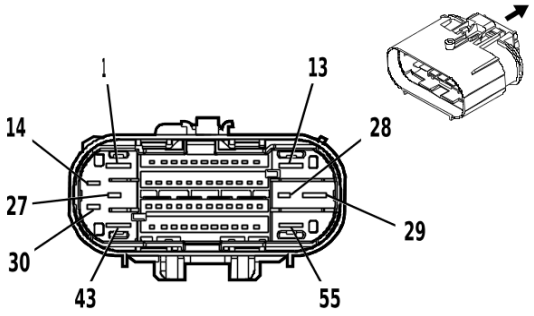
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-64B (LT BU)	No Tool Required
II	Not Required	J-35616-65B (LT BU)	No Tool Required

X318 Rain Sensor Jumper Harness to Headliner Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	RD/YE	240	I	—	Secondary Fused Battery Positive Voltage 2	1	0.5	RD/YE	240	II	—
2	0.5	L-GN/WH	4115	I	—	Body Control Module LIN Bus 5	2	0.5	L-GN/WH	4115	II	—
3	0.5	BK/WH	1851	I	—	Ground 18	3	0.5	BK/WH	1851	II	—

X320 Body Harness to Body Harness

—



4993301

Connector Part Information

Harness Type: Body
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 55-Way F

Connector Part Information

Harness Type: Body
OEM Connector: 35205173
Service Connector: 84727364
Description: 55-Way M 1.2 OCS, 2.8, 6.3 CTS Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	13505800	J-35616-5 (PU)	J-38125-215A
III	19301750	J-35616-32 (OR)	J-38125-36
III	19301750	J-35616-32 (OR)	J-38125-36
IV	19369843	J-35616-17 (LT GN)	J-38125-215A
V	19370818	J-35616-17 (LT GN)	J-38125-215A
VI	84616651	J-35616-17 (LT GN)	J-38125-215A
VI	84616651	J-35616-17 (LT GN)	J-38125-215A

X320 Body Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	BK	1250	I	—	Ground 12	1	2.5	BK	1250	III	—
2	1.5	BK	9000	I	—	—	2	1.5	BK	9000	IV	—
4	0.75	RD/ D-BU	3940	I	—	Secondary Fused Battery Positive Voltage 39	4	0.75	RD/ D-BU	3940	V	—
7	0.35	D-BU	4987	I	—	AUTOSAR CAN Bus [+] 1 Serial Data	7	0.35	D-BU	4987	VI	—
8	0.35	WH	4986	I	—	AUTOSAR CAN Bus [-] 1 Serial Data	8	0.35	WH	4986	VI	—

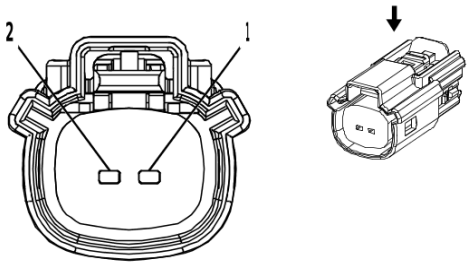
X320 Body Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
9	0.35 0.5	L-GN/VT L-GN/VT	2857 2857	I I	— —	Body Control Module LIN Bus 11 Body Control Module LIN Bus 11	9	0.35 0.5	L-GN/VT L-GN/VT	2857 2857	VI VI	— —
11	0.75	BK/WH	1451	I	—	Ground 14	11	0.75	BK/WH	1451	V	—
12	0.75 1.5	RD/BN BK	3640 9000	I I	— —	Secondary Fused Battery Positive Voltage 36 —	12	0.75 1.5	RD/BN BK	3640 9000	V IV	— —
13	0.75	RD/L-GN	6140	I	—	Secondary Fused Battery Positive Voltage 61	13	0.75	RD/L-GN	6140	III	—
14	0.5	YE/GY	2079	I	—	Driver Seat Heating Temperature Sensor Signal	14	0.5	YE/GY	2079	II	—
15	0.75	BN/VT	2077	I	—	Driver Seat Heating Element Control	15	0.75	BN/VT	2077	V	—
16	0.75	BN/BK	2078	I	—	Driver Seat Heating Element Low Reference	16	0.75	BN/BK	2078	V	—
17	0.5	BK/YE	2080	I	—	Driver Heated Seat Thermistor Low Reference	17	0.5	BK/YE	2080	VI	—
18	0.5	D-BU	2425	I	—	Driver Seat Back Heating Temperature Sensor Signal	18	0.5	D-BU	2425	VI	—
19	0.75	BN	2432	I	—	Driver Seat Back Heating Element Control	19	0.75	BN	2432	V	—
20	0.5	L-GN/VT	5906	I	—	Driver Seat Blower Motor Control 1	20	0.5	L-GN/VT	5906	VI	—
21	0.5	VT/WH	1139	I	—	Run/Crank Ignition 1 Voltage 11	21	0.5	VT/WH	1139	VI	—
22	0.5	RD/L-GN	4440	I	—	Secondary Fused Battery Positive Voltage 44	22	0.5	RD/L-GN	4440	VI	—

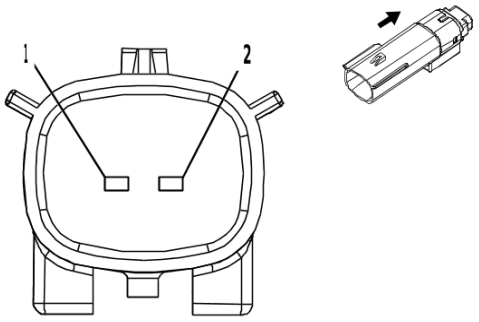
X320 Body Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
24	0.5	GY/OG	3946	I	—	Passenger Automatic Locking Retractor Switch Low Reference	24	0.5	GY/OG	3946	VI	—
25	0.5	OG/BN	3947	I	—	Passenger Automatic Locking Retractor Switch Signal	25	0.5	OG/BN	3947	VI	—
26	0.5	BK/WH	1351	I	—	Ground 13	26	0.5	BK/WH	1351	VI	—
27	0.75	RD/BN	6640	I	—	Secondary Fused Battery Positive Voltage 66	27	0.75	RD/BN	6640	II	—
29	2.5	RD/YE	7440	I	—	Secondary Fused Battery Positive Voltage 74	29	2.5	RD/YE	7440	III	—
32	0.5	OG/VT	1362	I	—	Passenger Seat Belt Switch Signal	32	0.5	OG/VT	1362	VI	—
33	0.5	BK/OG	1363	I	—	Driver Seat Belt Switch Low Reference	33	0.5	BK/OG	1363	VI	—
35	0.5	OG/GY	4956	I	—	Passenger Seat Back Air Bag High Control	35	0.5	OG/GY	4956	VI	—
36	0.5	D-BU/OG	4957	I	—	Passenger Seat Back Air Bag Low Control	36	0.5	D-BU/OG	4957	VI	—
37	0.35	L-GN/YE	7066	I	—	Entertain-ment Remote Enable Signal	37	0.35	L-GN/YE	7066	VI	—
44	1.5	BK	9000	I	—	—	44	1.5	BK	9000	IV	—
52	0.5	D-BU	4987	I	—	AUTOSAR CAN Bus [+] 1 Serial Data	52	0.5	D-BU	4987	VI	—
53	0.5	WH	4986	I	—	AUTOSAR CAN Bus [-] 1 Serial Data	53	0.5	WH	4986	VI	—
54	1.5	BK	9000	I	—	—	54	1.5	BK	9000	IV	—

X322 Video Display Ethernet Jumper Harness to Body Harness (UW9)



2474713



3338703

Connector Part Information

Harness Type: Video Display Ethernet Jumper
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F

Connector Part Information

Harness Type: Body
OEM Connector: 35198959
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way M 1.5 MX Series, Sealed (BK)

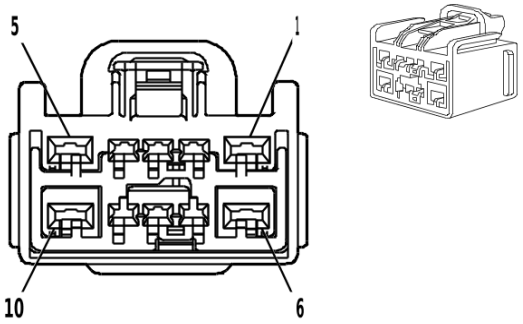
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

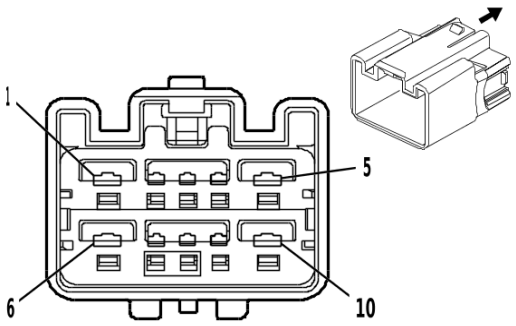
X322 Video Display Ethernet Jumper Harness to Body Harness (UW9)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	VT	7212	I	—	Ethernet Bus 5 [-]	1	0.35	VT	7212	II	—
2	0.35	VT/ WH	7213	I	—	Ethernet Bus 5 [+]	2	0.35	VT/ WH	7213	II	—

X324 Sunroof Harness to Headliner Harness (C3U)



1851891



1851890

Connector Part Information

Harness Type: Sunroof
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way F

Connector Part Information

Harness Type: Headliner
OEM Connector: 13506926
Service Connector: 89047070
Description: 10-Way M YESC Kaizen Series (L-GY)

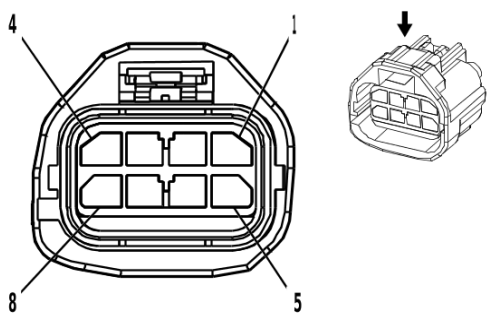
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required
II	13575824	J-35616-5 (PU)	J-38125-11A
III	19301755	J-35616-3 (GY)	J-38125-215A
IV	19355732	J-35616-5 (PU)	J-38125-215A

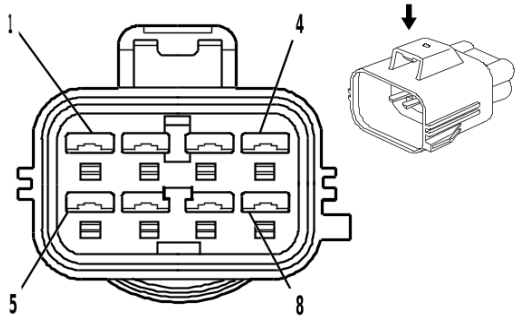
X324 Sunroof Harness to Headliner Harness (C3U)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	RD/ D-BU	4540	I	—	Secondary Fused Battery Positive Voltage 45	1	2.5	RD/ D-BU	4540	IV	—
2 - 4	—	—	—	—	—	Not Occupied	2 - 4	—	—	—	—	—
5	2.5	BK	1850	I	—	Ground 18	5	2.5	BK	1850	II	—
6	—	—	—	—	—	Not Occupied	6	—	—	—	—	—
7	0.35	L-GN/ WH	2854	I	—	Body Control Module LIN Bus 8	7	0.35	L-GN/ WH	2854	III	—
8 - 10	—	—	—	—	—	Not Occupied	8 - 10	—	—	—	—	—

X327 Left Assist Step Harness to Chassis Harness (B3L)



1401778



1856785

Connector Part Information

Harness Type: Left Assist Step
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way F

Connector Part Information

Harness Type: Chassis
OEM Connector: 15419459
Service Connector: 19367561
Description: 8-Way M 2.8 Series, Sealed (D-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required
III	Not Required	J-35616-5 (PU)	No Tool Required

X327 Left Assist Step Harness to Chassis Harness (B3L)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2	WH/ BN	7471	I	—	Left Running Board Step Motor Control Extend	1	2	WH/ BN	7471	III	—
						Left Running Board Step Motor Control Extend						
1	2	WH/ BN	7471	I	—	Left Running Board Step Motor Control Extend	1	2	WH/ BN	7471	III	—
						Left Running Board Step Motor Control Extend						

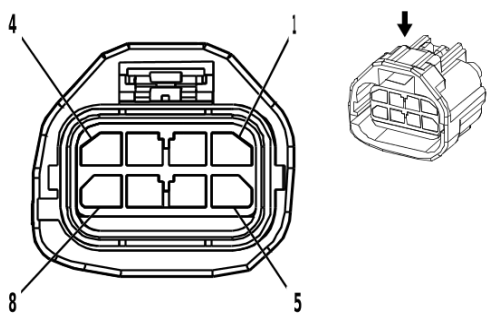
X327 Left Assist Step Harness to Chassis Harness (B3L) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
2	0.5	VT/ RD	7468	I	—	Left Running Board Step Motor Hall Sensor 5V Reference	2	0.5	VT/ RD	7468	III	—
						Left Running Board Step Motor Hall Sensor 5V Reference						
2	0.5	VT/ RD	7468	I	—	Left Running Board Step Motor Hall Sensor 5V Reference	2	0.5	VT/ RD	7468	III	—
						Left Running Board Step Motor Hall Sensor 5V Reference						
3	0.5	YE	7467	I	—	Left Running Board Step Motor Hall Sensor Signal	3	0.5	YE	7467	III	—
						Left Running Board Step Motor Hall Sensor Signal						
3	0.5	YE	7467	I	—	Left Running Board Step Motor Hall Sensor Signal	3	0.5	YE	7467	III	—
						Left Running Board Step Motor Hall Sensor Signal						
4	0.5	YE/ BN	7466	I	—	Left Running Board Step Motor Hall Sensor Low Reference	4	0.5	YE/ BN	7466	III	—
						Left Running Board Step Motor Hall Sensor Low Reference						
4	0.5	YE/ BN	7466	I	—	Left Running Board Step Motor Hall Sensor Low Reference	4	0.5	YE/ BN	7466	III	—
						Left Running Board Step Motor Hall Sensor Low Reference						

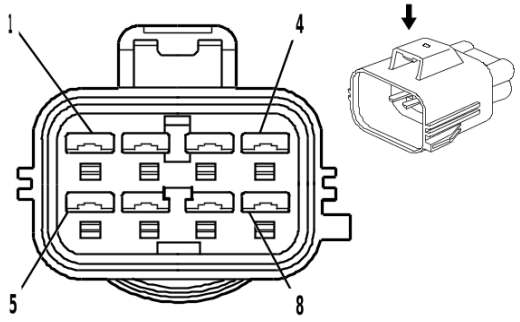
X327 Left Assist Step Harness to Chassis Harness (B3L) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
5	2	GY	7472	I	—	Left Running Board Step Motor Control Retract	5	2	GY	7472	III	—
						Left Running Board Step Motor Control Retract						
5	2	GY	7472	I	—	Left Running Board Step Motor Control Retract	5	2	GY	7472	III	—
						Left Running Board Step Motor Control Retract						
6	0.75	BK	1650	I	—	Ground 16	6	0.75	BK	1650	II	—
7	0.5	BN	4748	I	—	Left Running Board Step Courtesy Lamp Control	7	0.5	BN	4748	III	—
						Left Running Board Step Courtesy Lamp Control						
7	0.5	BN	4748	I	—	Left Running Board Step Courtesy Lamp Control	7	0.5	BN	4748	III	—
						Left Running Board Step Courtesy Lamp Control						
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—

X337 Left Assist Step Harness to Chassis Harness (B3L)



1401778



1856785

Connector Part Information

Harness Type: Left Assist Step
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way F

Connector Part Information

Harness Type: Chassis
OEM Connector: 15419459
Service Connector: 19367561
Description: 8-Way M 2.8 Series, Sealed (D-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-4A (PU)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required
III	Not Required	J-35616-5 (PU)	No Tool Required

X337 Left Assist Step Harness to Chassis Harness (B3L)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2	D-BU	7470	I	—	Right Running Board Step Motor Control Extend	1	2	D-BU	7470	III	—
1	2	D-BU	7470	I	—	Right Running Board Step Motor Control Extend	1	2	D-BU	7470	III	—

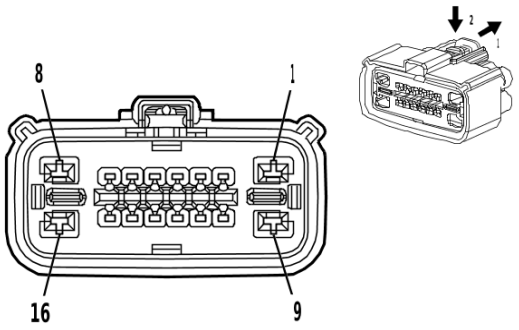
X337 Left Assist Step Harness to Chassis Harness (B3L) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
2	0.5	L-GN/RD	7464	I	—	Right Running Board Step Motor Hall Sensor 5V Reference	2	0.5	L-GN/RD	7464	III	—
2	0.5	L-GN/RD	7464	I	—	Right Running Board Step Motor Hall Sensor 5V Reference	2	0.5	L-GN/RD	7464	III	—
3	0.5	VT	7465	I	—	Right Running Board Step Motor Hall Sensor Signal	3	0.5	VT	7465	III	—
3	0.5	VT	7465	I	—	Right Running Board Step Motor Hall Sensor Signal	3	0.5	VT	7465	III	—
4	0.5	YE/BK	7463	I	—	Right Running Board Step Motor Hall Sensor Low Reference	4	0.5	YE/BK	7463	III	—

X337 Left Assist Step Harness to Chassis Harness (B3L) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
4	0.5	YE/ BK	7463	I	—	Right Running Board Step Motor Hall Sensor Low Reference	4	0.5	YE/ BK	7463	III	—
						Right Running Board Step Motor Hall Sensor Low Reference						
5	2	L-GN	7469	I	—	Right Left Running Board Step Motor Control Retract	5	2	L-GN	7469	III	—
						Right Left Running Board Step Motor Control Retract						
5	2	L-GN	7469	I	—	Right Left Running Board Step Motor Control Retract	5	2	L-GN	7469	III	—
						Right Left Running Board Step Motor Control Retract						
6	—	—	—	—	—	Not Occupied	6	—	—	—	—	—
7	0.5	GY/ VT	4749	I	—	Right Running Board Step Courtesy Lamp Control	7	0.5	GY/ VT	4749	III	—
						Right Running Board Step Courtesy Lamp Control						
7	0.5	GY/ VT	4749	I	—	Right Running Board Step Courtesy Lamp Control	7	0.5	GY/ VT	4749	III	—
						Right Running Board Step Courtesy Lamp Control						
8	0.75	BK	1650	I	—	Ground 16	8	0.75	BK	1650	II	—

X346 Body Harness to Body Harness (AS8)



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4283035

Connector Part Information

Harness Type: Body
OEM Connector: 35105593
Service Connector: 19352906
Description: 16-Way F 1.5, 2.8 Series, Sealed (BK)

Connector Part Information

Harness Type: Body
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 16-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13576377	J-35616-35 (VT)	J-38125-12A
II	19300432	J-35616-2A (GY)	J-38125-217
III	Not Required	J-35616-3 (GY)	No Tool Required

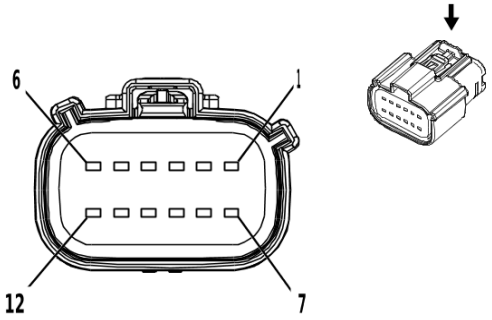
X346 Body Harness to Body Harness (AS8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	RD/ GY	7840	I	—	Secondary Fused Battery Positive Voltage 78	1	2.5	RD/ GY	7840	III	—
2	—	—	—	—	—	Not Occupied	2	—	—	—	—	—
3	0.5	L-GN/ D-BU	2856	II	—	Body Control Module LIN Bus 10	3	0.5	L-GN/ D-BU	2856	III	—
4	0.75	BK/ D-BU	5474	II	—	3rd Row Seat Sensor Low Reference	4	0.75	BK/ D-BU	5474	III	—
5	—	—	—	—	—	Not Occupied	5	—	—	—	—	—
6	0.5	YE/ D-BU	2698	II	—	Left 3rd Row Seat Recline Switch Signal	6	0.5	YE/ D-BU	2698	III	—
7	0.5	L-GN/ GY	2699	II	—	Right 3rd Row Seat Recline Switch Signal	7	0.5	L-GN/ GY	2699	III	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—

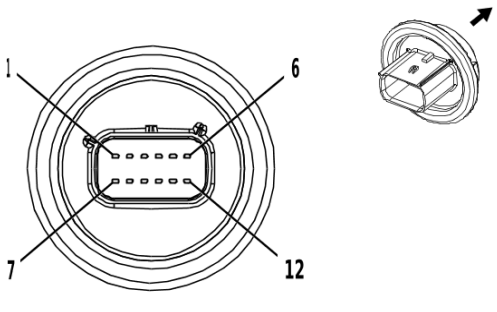
X346 Body Harness to Body Harness (AS8) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
9	2.5	BK	2050	I	—	Ground 20	9	2.5	BK	2050	III	—
10	—	—	—	—	—	Not Occupied	10	—	—	—	—	—
11	0.5	L-GN/OG	3516	II	—	3rd Row Left Seat Belt Switch Signal	11	0.5	L-GN/OG	3516	III	—
12	0.5	VT/OG	3517	II	—	3rd Row Right Seat Belt Switch Signal	12	0.5	VT/OG	3517	III	—
13	0.5	OG/L-GN	3700	II	—	3rd Row Center Seat Belt Switch Signal	13	0.5	OG/L-GN	3700	III	—
14	—	—	—	—	—	Not Occupied	14	—	—	—	—	—
15	0.5	BK/OG	1363	II	—	Driver Seat Belt Switch Low Reference	15	0.5	BK/OG	1363	III	—
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—

X378 Body Harness to Right 2nd Row Seat Harness



2871866



3610369

Connector Part Information

Harness Type: Body
OEM Connector: 33221171
Service Connector: 19333239
Description: 12-Way F 150 MX Series, Sealed (D-GY)

Connector Part Information

Harness Type: Right 2nd Row Seat
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 12-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	19300432	J-35616-2A (GY)	J-38125-217
II	Not Required	J-35616-3 (GY)	No Tool Required

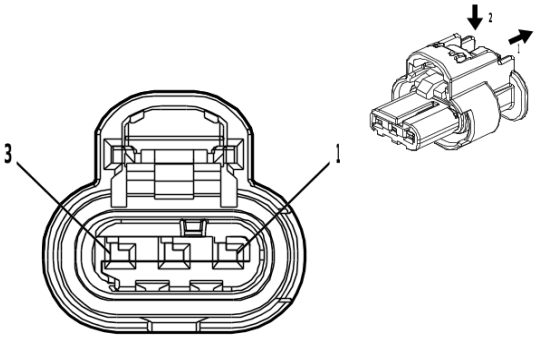
X378 Body Harness to Right 2nd Row Seat Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	RD/WH	5740	I	—	Secondary Fused Battery Positive Voltage 57	1	0.75	RD/WH	5740	II	—
2	0.75	RD/D-BU	6740	I	—	Secondary Fused Battery Positive Voltage 67	2	0.75	RD/D-BU	6740	II	—
3	0.75	GY	2294	I	—	Left Rear Seat Cushion Heating Element Control	3	0.75	GY	2294	II	—
4	0.5	L-GN/VT	2857	I	—	Body Control Module LIN Bus 11	4	0.5	L-GN/VT	2857	II	—
5	0.75	RD/GY	6240	I	—	Secondary Fused Battery Positive Voltage 62	5	0.75	RD/GY	6240	II	—
6	0.5	BN/WH	6809	I	—	Right Rear Folding Seat Motor Control	6	0.5	BN/WH	6809	II	—

X378 Body Harness to Right 2nd Row Seat Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
7	0.75	D-BU/BK	2446	I	—	Left Rear Seat Heating Element Low Reference	7	0.75	D-BU/BK	2446	II	—
8	0.75	BK	1450	I	—	Ground 14	8	0.75	BK	1450	II	—
9	0.5	WH/D-BU	7047	I	—	Left Rear Seat Cushion Temperature Sensor Signal	9	0.5	WH/D-BU	7047	II	—
10	0.5	D-BU/WH	7048	I	—	Left Rear Cushion Thermistor Feedback Signal	10	0.5	D-BU/WH	7048	II	—
11	0.5	BN/OG	5162	I	—	Right Rear Seat Belt Switch Signal	11	0.5	BN/OG	5162	II	—
12	0.5	BK/OG	1363	I	—	Driver Seat Belt Switch Low Reference	12	0.5	BK/OG	1363	II	—

X403 Chassis Harness to Chassis Rear Extension Harness (Z95)



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4778903

Connector Part Information

Harness Type: Chassis
OEM Connector: 33358808
Service Connector: 84811561
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

Connector Part Information

Harness Type: Chassis Rear Extension
OEM Connector: 84237878
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way M

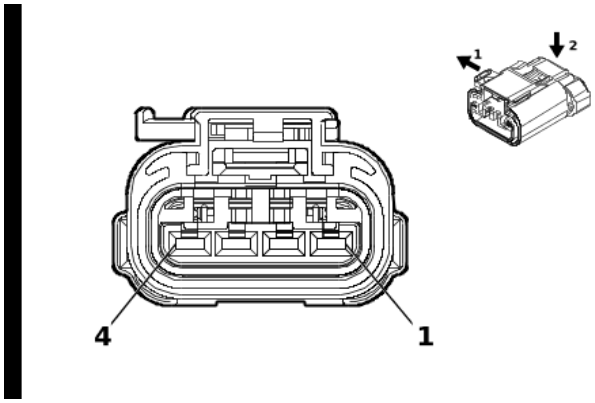
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	No Tool Required	No Tool Required

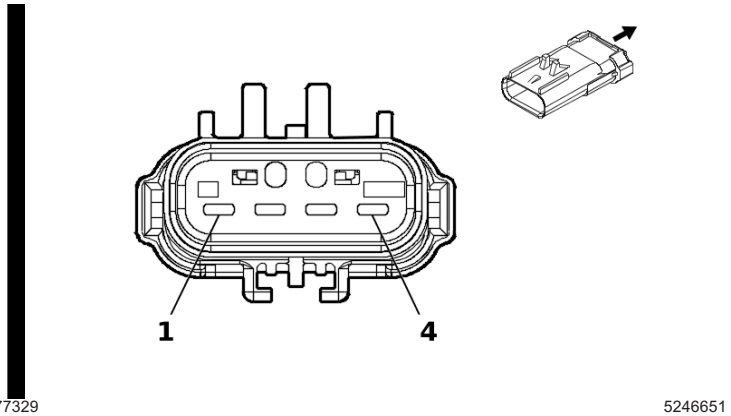
X403 Chassis Harness to Chassis Rear Extension Harness (Z95)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	VT/ RD	1818	I	—	Left Rear Vertical Suspension Acceleration Sensor Voltage Reference	1	0.75	VT/ RD	1818	II	—
2	0.5	BK/ VT	1833	I	—	Left Rear Vertical Suspension Acceleration Sensor Low Reference	2	0.75	BK/ VT	1833	II	—
3	0.5	YE/ BN	1103	I	—	Left Rear Vertical Suspension Acceleration Sensor Signal	3	0.75	YE/ BN	1103	II	—

X406 Chassis Harness to Chassis Rear Extension Harness



5377329



5246651

Connector Part Information

Harness Type: Chassis
OEM Connector: 15324787
Service Connector: 15306349
Description: 4-Way F 2.8 APEX Series, Sealed (GY)

Connector Part Information

Harness Type: Chassis Rear Extension
OEM Connector: 13518460
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way M 2.8 APEX Series, Sealed (GY)

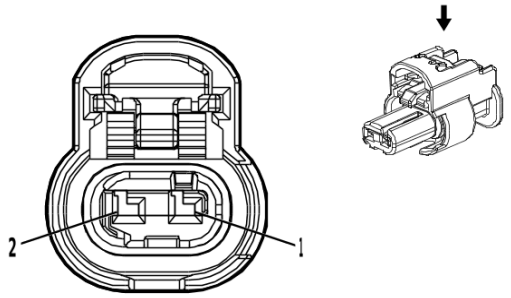
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-35 (VT)	No Tool Required
III	Not Required	J-35616-35 (VT)	No Tool Required
IV	Not Required	J-35616-5 (PU)	No Tool Required

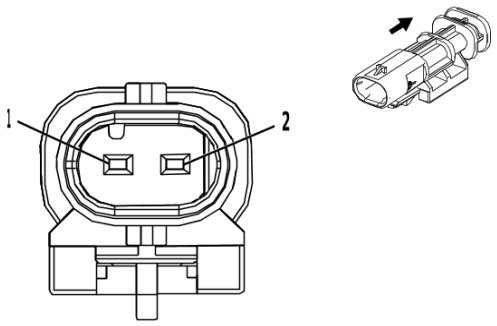
X406 Chassis Harness to Chassis Rear Extension Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75 0.75	L-GN/YE L-GN/YE	1616 1616	I II	— —	Rear Brake Pad Wear Sensor Signal Rear Brake Pad Wear Sensor Signal	1	0.75	GN/YE	1616	III	—
2	0.75 0.75	BK BK	2050 2050	I II	— —	Ground 20 Ground 20	2	0.75	BK	2050	III	—
3	4	GY/BK	4369	II	—	Left Park Brake Motor Low Reference	3	2.5	GY/BK	4369	IV	—
4	2.5	WH	2001	II	—	Left Park Brake Motor Apply Control	4	2.5	WH	2001	IV	—

X407 Fuel Door Jumper Harness to Chassis Harness



4649903



2474755

Connector Part Information

Harness Type: Fuel Door Jumper
OEM Connector: 33327048
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 1.2 MCON Series, Sealed (BK)

Connector Part Information

Harness Type: Chassis
OEM Connector: 33207247
Service Connector: 19332631
Description: 2-Way M 1.2 Multilock Series, Sealed (BK)

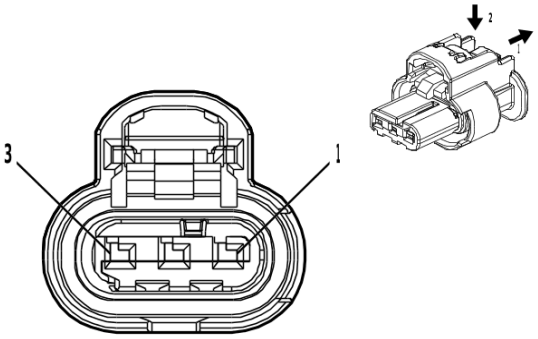
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

X407 Fuel Door Jumper Harness to Chassis Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	D-BU/BK	2690	I	—	Lock Actuators Unlock Control 1 Fuel Door Actuator Unlock Control	1	0.5 0.5	WH D-BU/BK	2679 2690	II II	— —
2	0.5	VT/GY	2683	I	—	Fuel Door Actuator Lock Control Unlatch Actuators Unlatch Low Reference 1	2	0.5 0.5	D-BU VT/GY	2689 2683	II II	— —

X413 Chassis Harness to Chassis Rear Extension Harness (Z95)



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4778903

Connector Part Information

Harness Type: Chassis
OEM Connector: 33358808
Service Connector: 84811561
Description: 3-Way F 1.2 MCON-CB Series, Sealed (BK)

Connector Part Information

Harness Type: Chassis Rear Extension
OEM Connector: 84237879
Service Connector: Service by Harness - See Part Catalog
Description: 3-Way M

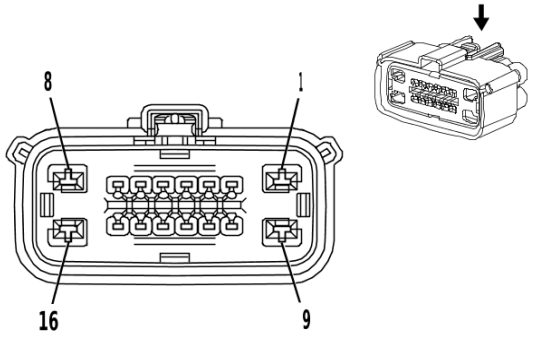
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	No Tool Required	No Tool Required

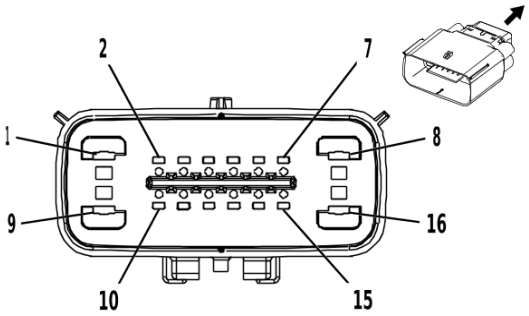
X413 Chassis Harness to Chassis Rear Extension Harness (Z95)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	GY/RD	1820	I	—	Right Rear Vertical Suspension Acceleration Sensor Voltage Reference	1	0.75	GY/RD	1820	II	—
2	0.5	BK/D-BU	1108	I	—	Right Rear Vertical Suspension Acceleration Sensor Low Reference	2	0.75	BK/BU	1108	II	—
3	0.5	YE/D-BU	1109	I	—	Right Rear Vertical Suspension Acceleration Sensor Signal	3	0.75	YE/BU	1109	II	—

X415 Chassis Harness to Differential Lock Jumper Harness (G96)



3684497



2373686

Connector Part Information

Harness Type: Chassis
OEM Connector: 33218250
Service Connector: 19352906
Description: 16-Way F 1.5, 2.8 Series, Sealed (BK)

Connector Part Information

Harness Type: Differential Lock Jumper
OEM Connector: 33129084
Service Connector: Service by Harness - See Part Catalog
Description: 16-Way M 1.5, 2.8 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13576377	J-35616-35 (VT)	J-38125-12A
II	19300432	J-35616-2A (GY)	J-38125-217
III	Not Required	J-35616-3 (GY)	No Tool Required
IV	Not Required	J-35616-5 (PU)	No Tool Required

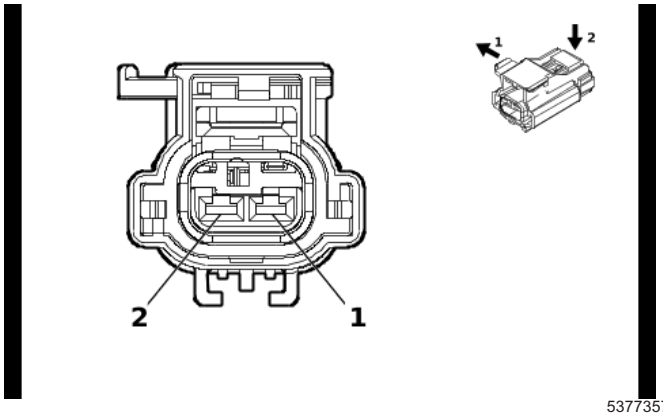
X415 Chassis Harness to Differential Lock Jumper Harness (G96)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	GY/BN	7968	I	—	Axle Differential Lock Control High	1	2.5	GY/BN	7968	IV	—
2	0.5	WH	7971	II	—	Axle Differential Lock Motor Brake Control High	2	0.5	WH	7971	III	—
3	0.5	L-GN/BN	7975	II	—	Axle Differential Lock Motor Position Sensor Signal 1	3	0.5	L-GN/BN	7975	III	—
4	0.5	BK/VT	7974	II	—	Axle Differential Lock Motor Position Sensor Low Reference	4	0.5	BK/VT	7974	III	—
5	0.5	VT/BK	7972	II	—	Axle Differential Lock Motor Brake Control Low	5	0.5	VT/BK	7972	III	—

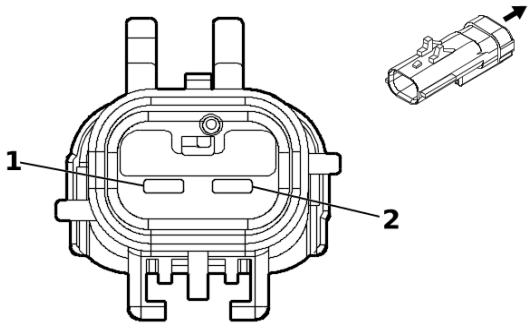
X415 Chassis Harness to Differential Lock Jumper Harness (G96) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
6	0.75	WH/ RD	7973	II	—	Axle Differential Lock Motor Position Sensor High Reference	6	0.5	WH/ RD	7973	III	—
7	0.5	BK/ YE	7977	II	—	Axle Differential Lock Motor Temperature Sensor Low Reference	7	0.5	BK/ YE	7977	III	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—
9	2.5	YE/ WH	7969	I	—	Axle Differential Lock Control Low	9	2.5	YE/ WH	7969	IV	—
10	0.5	BK	7970	II	—	Axle Differential Lock Control Shield	10	0.5	BK	7970	III	—
11	0.5	GY	7976	II	—	Axle Differential Lock Motor Position Sensor Signal 2	11	0.5	GY	7976	III	—
12	0.5	D-BU/ WH	7978	II	—	Axle Differential Lock Motor Temperature Sensor Signal	12	0.5	D-BU/ WH	7978	III	—
13 - 16	—	—	—	—	—	Not Occupied	13 - 16	—	—	—	—	—

X416 Chassis Harness to Chassis Rear Extension Harness



5377357



5246766

Connector Part Information

Harness Type: Chassis
OEM Connector: 15380781
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F 2.8 APEX Series, Sealed (GY)

Connector Part Information

Harness Type: Chassis Rear Extension
OEM Connector: 13512891
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way M 2.8 APEX Series, Sealed (GY)

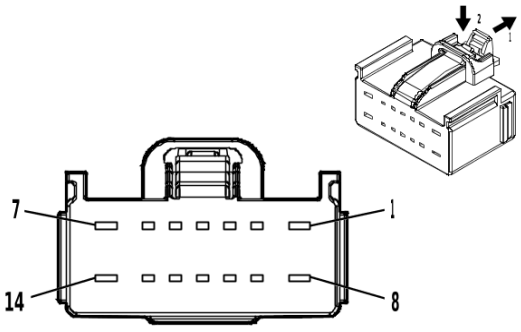
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-35 (VT)	No Tool Required
II	Not Required	J-35616-5 (PU)	No Tool Required

X416 Chassis Harness to Chassis Rear Extension Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2 2.5	GY GY	4368 4368	I I	— —	Right Park Brake Motor Low Reference Right Park Brake Motor Low Reference	1	2.5	GY	4368	II	—
2	2 2.5	L-GN/VT L-GN/VT	1988 1988	I I	— —	Right Park Brake Motor Apply Control Right Park Brake Motor Apply Control	2	2.5	GN/VT	1988	II	—

X418 Body Harness to HVAC Harness (C69)



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4934172

Connector Part Information

Harness Type: Body
OEM Connector: 33366376
Service Connector: 13513605
Description: 14-Way F 1.5, 2.8 Series (GY)

Connector Part Information

Harness Type: HVAC
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 14-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575708	J-35616-2A (GY)	J-38125-11A
II	13575832	J-35616-4A (PU)	J-38125-11A
III	13578891	J-35616-2A (GY)	J-38125-11A
IV	Not Required	J-35616-3 (GY)	No Tool Required

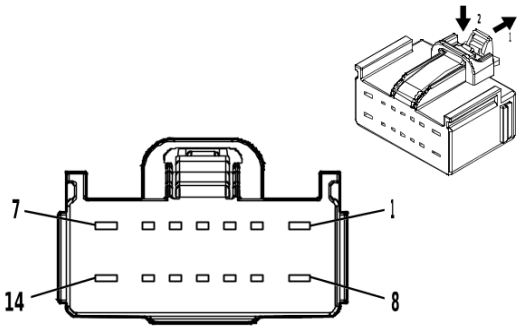
X418 Body Harness to HVAC Harness (C69)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	3	RD/GY	1740	II	—	Secondary Fused Battery Positive Voltage 17	1	3	RD/GY	1740	IV	—
2	—	—	—	—	—	Not Occupied	2	—	—	—	—	—
3	0.5	YE/WH	4635	I	—	HVAC Remote Enable 2 Signal	3	0.5	YE/WH	4635	IV	—
4	0.5 0.5	BK/WH BK	1251 1450	I I	— —	Ground 12 Ground 14	4	0.5 0.5	BK/WH BK	1251 1450	IV IV	— —
5	0.35	L-GN/BN	2853	III	—	Body Control Module LIN Bus 7	5	0.35	L-GN/BN	2853	IV	—
6	0.5	BN	404	I	—	Upper Duct Air Temperature Sensor Signal	6	0.5	BN	404	IV	—
7 - 8	—	—	—	—	—	Not Occupied	7 - 8	—	—	—	—	—

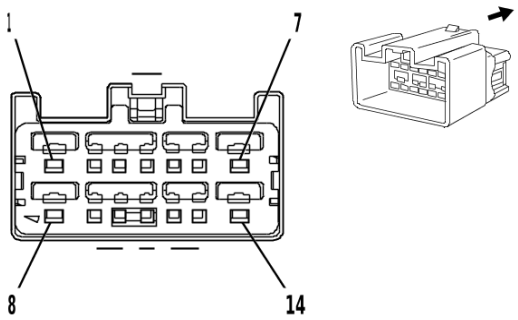
X418 Body Harness to HVAC Harness (C69) (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
9	0.5	L-GN/BK	2211	I	—	Rear Blower Motor Speed Control	9	0.5	L-GN/BK	2211	IV	—
10	0.5	BN/BK	405	I	—	Lower Duct Air Temperature Sensor Signal	10	0.5	BN/BK	405	IV	—
11	0.5	BK/VT	470	I	—	Sensor Low Reference 3	11	0.5	BK/VT	470	IV	—
12 - 13	—	—	—	—	—	Not Occupied	12 - 13	—	—	—	—	—
14	3	BK	1450	II	—	Ground 14	14	3	BK	1450	IV	—

X419 Body Harness to Power Inverter Module Jumper Harness



4934172



1283905

Connector Part Information

Harness Type: Body
OEM Connector: 35105595
Service Connector: 13513604
Description: 14-Way F 1.5, 2.8 Series (BK)

Connector Part Information

Harness Type: Power Inverter Module Jumper
OEM Connector: 10846900
Service Connector: Service by Harness - See Part Catalog
Description: 14-Way M 1.5, 2.8 Series (L-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575839	J-35616-35 (VT)	J-38125-11A
II	13575839	J-35616-35 (VT)	J-38125-11A
III	13575850	J-35616-14 (GN)	J-38125-557
IV	13575850	J-35616-2A (GY)	J-38125-11A
V	Not Required	J-35616-3 (GY)	No Tool Required
VI	Not Required	J-35616-5 (PU)	No Tool Required

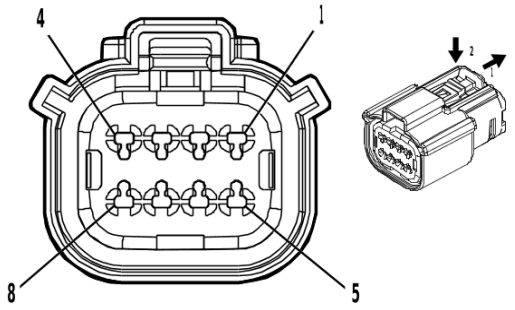
X419 Body Harness to Power Inverter Module Jumper Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	BK	5683	I	—	120V AC Phase A	1	—	—	—	—	—
2	0.5	VT/ RD	4049	IV	—	AC Power Outlet Sensor High Reference	2	0.5	VT/ RD	4049	V	—
3	0.5	VT/ WH	1139	IV	—	Run/Crank Ignition 1 Voltage 11	3	0.5	VT/ WH	1139	V	—
4	0.5	WH/ L-GN	4628	IV	—	DC/AC Inverter Relay Control	4	0.5	WH/ L-GN	4628	V	—
5	0.75	D-BU/ BN	6807	III	—	DC/AC Inverter Control	5	0.5	D-BU/ BN	6807	V	—
6	—	—	—	—	—	Not Occupied	6	—	—	—	—	—
7	0.5	BK/ WH	2264	II	—	120V AC Phase A 2	7	0.75	BN/ WH	2262	VI	—
8	0.75	RD	5684	I	—	120V AC Phase B	8	—	—	—	—	—

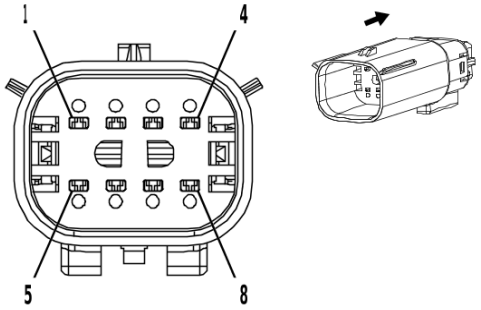
X419 Body Harness to Power Inverter Module Jumper Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
9	0.5	Bare	2519	IV	—	120V AC Outlet Low Reference	9	—	—	—	—	—
10	0.35 0.5	L-GN/D-BU L-GN/D-BU	6133 6133	IV IV	-UTJ /-UTR UTJ+UTR	Body Control Module LIN Bus 2 Body Control Module LIN Bus 2	10	0.5	L-GN/D-BU	6133	V	—
11	—	—	—	—	—	Not Occupied	11	—	—	—	—	—
12	0.75	L-GN/BN	2266	III	—	DC/AC Inverter Control 2	12	0.5	L-GN/BN	2266	V	—
13	0.5	Bare	2521	IV	—	120V AC Outlet 2 Low Reference	13	0.5	Bare	2544	V	—
14	0.5	RD/WH	2265	II	—	120V AC Phase B 2	14	0.75	D-BU/WH	2263	VI	—

X421 Body Harness to Police Strobe Light Provisional Harness (5W4/9C1)



4846407



2667653

Connector Part Information

Harness Type: Body
OEM Connector: 35037827
Service Connector: 19366859
Description: 8-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Police Strobe Light Provisional
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way M

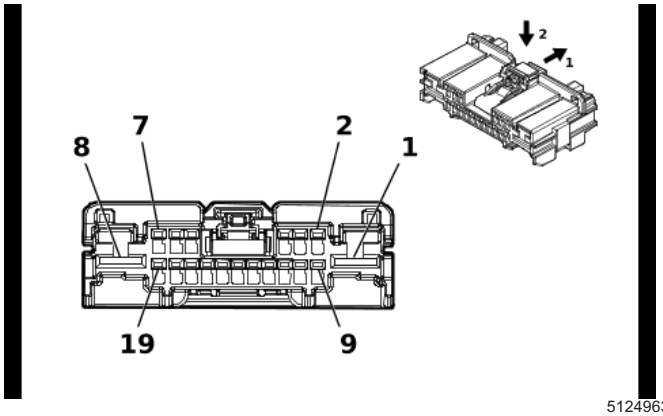
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-3 (GY)	No Tool Required

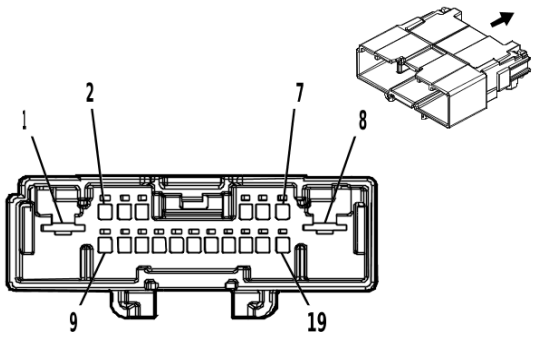
X421 Body Harness to Police Strobe Light Provisional Harness (5W4/9C1)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	L-GN	8892	I	—	Police Rear Corner Light Control	1	0.75	L-GN	8892	II	—
2	0.75	BK	2050	I	—	Ground 20	2	0.75	BK	2050	II	—
3	0.75	D-BU/WH	8891	I	—	Police Corner Strobe Synchroni-zation Signal	3	0.75	D-BU/WH	8891	II	—
4	0.75	YE	8894	I	—	Police Rear Corner Strobe Control	4	0.75	YE	8894	II	—
5	0.75	L-GN	8892	I	—	Police Rear Corner Light Control	5	0.75	L-GN	8892	II	—
6	0.75	D-BU/WH	8891	I	—	Police Corner Strobe Synchroni-zation Signal	6	0.75	D-BU/WH	8891	II	—
7	0.75	BK	2050	I	—	Ground 20	7	0.75	BK	2050	II	—
8	0.75	YE	8894	I	—	Police Rear Corner Strobe Control	8	0.75	YE	8894	II	—

X430 Body Harness to Body Harness



5124963



4879946

Connector Part Information

Harness Type: Body
OEM Connector: 35196009
Service Connector: 13526847
Description: 19-Way F 1.2, 6.3 Series (BK)

Connector Part Information

Harness Type: Body
OEM Connector: 33351246
Service Connector: 13597288
Description: 19-Way M 1.2, 6.3 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575833	J-35616-42 (RD)	J-38125-11A
II	19370818	J-35616-16 (LT GN)	J-38125-559
III	19371240	J-35616-16 (LT GN)	J-38125-215A
IV	13575825	J-35616-43 (RD)	J-38125-11A
V	19370818	J-35616-17 (LT GN)	J-38125-215A
VI	84616651	J-35616-17 (LT GN)	J-38125-215A

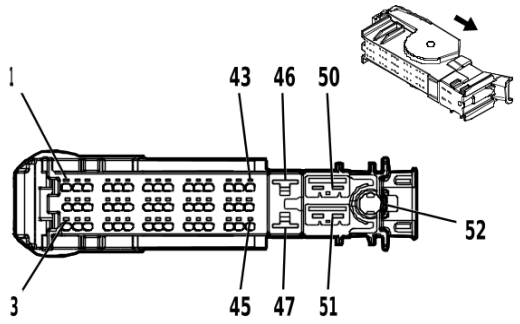
X430 Body Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	YE	2375	I	—	Left Rear Outer Parking Assist Sensor Signal	1	0.5	YE	2375	IV	—
2	0.5	BK/GY	2379	III	—	Object Sensor Low Reference	2	0.5	BK/GY	2379	VI	—
3	0.5	YE/VT	2378	III	—	Right Rear Outer Parking Assist Sensor Signal	3	0.5	YE/VT	2378	VI	—
4	0.5	BN/WH	2374	III	—	Object Sensor Supply Voltage	4	0.5	BN/WH	2374	VI	—
5	—	—	—	—	—	Not Occupied	5	—	—	—	—	—

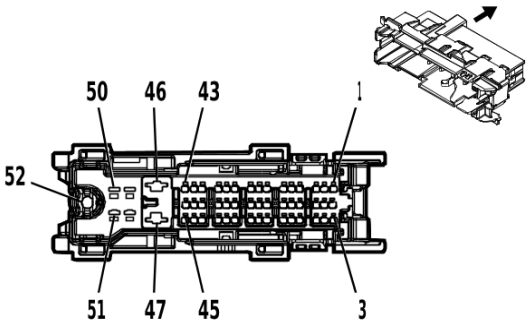
X430 Body Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
6	0.5	YE/ D-BU	2698	III	—	Left 3rd Row Seat Recline Switch Signal	6	0.5	YE/ D-BU	2698	VI	—
7	0.5	YE/ D-BU	2376	III	—	Left Rear Middle Parking Assist Sensor Signal	7	0.5	YE/ D-BU	2376	VI	—
8	0.5	YE/ WH	2377	I	—	Right Rear Middle Parking Assist Sensor Signal	8	0.5	YE/ WH	2377	IV	—
9 - 11	—	—	—	—	—	Not Occupied	9 - 11	—	—	—	—	—
12	0.35	D-BU/ VT	4101	III	—	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	12	0.35	D-BU/ VT	4101	VI	—
13	0.5	RD/ GY	4840	III	—	Secondary Fused Battery Positive Voltage 48 Secondary Fused Battery Positive Voltage 48	13	0.5 0.5	RD/ GY RD/ GY	4840 4840	VI V	— —
14	0.75	GY/ WH	8577	II	—	Right Rear D-Pillar Speaker [-] Control	14	0.75	GY/ WH	8577	V	—
15	0.35	WH	4100	III	—	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	15	0.35	WH	4100	VI	—
16	0.5	L-GN/ D-BU	2856	III	—	Body Control Module LIN Bus 10 Body Control Module LIN Bus 10	16	0.35 0.5	L-GN/ D-BU L-GN/ D-BU	2856 2856	VI VI	AS8 C25
17	0.75	BK/ D-BU	5474	II	—	3rd Row Seat Sensor Low Reference	17	0.5	BK/ D-BU	5474	VI	—
18	—	—	—	—	—	Not Occupied	18	—	—	—	—	—
19	0.75	VT	8578	II	—	Right Rear D-Pillar Speaker [+] Control	19	0.75	VT	8578	V	—

X500 Driver Door Harness to Body Harness



4992530



4993484

Connector Part Information

Harness Type: Driver Door

OEM Connector: 35077349

Service Connector: Service by Harness - See Part Catalog

Description: 52-Way F 1.2, 2.8, 6.3, Coaxial Series, Sealed (BK)

Connector Part Information

Harness Type: Body

OEM Connector: 35190453

Service Connector: 13527236

Description: 52-Way M 1.2, 2.8, 6.3, Coaxial Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-42 (RD)	No Tool Required
III	Service by Cable	No Tool Required	No Tool Required
IV	19301536	J-35616-43 (RD)	J-38125-11A
V	19370818	J-35616-17 (LT GN)	J-38125-215A
VI	84616651	J-35616-17 (LT GN)	J-38125-215A
VII	Service by Cable	No Tool Required	No Tool Required

X500 Driver Door Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	RD/VT	1940	I	—	Secondary Fused Battery Positive Voltage 19	1	0.5	RD/VT	1940	VI	—
2	0.75	GY	2681	I	—	Left Front Door Lock Actuator Lock Control	2	0.75	GY	2681	V	—
3 - 4	—	—	—	—	—	Not Occupied	3 - 4	—	—	—	—	—
5	0.5	BK/WH	1151	I	—	Ground 11	5	0.5	BK/WH	1151	VI	—
6	—	—	—	—	—	Not Occupied	6	—	—	—	—	—
7	0.75	BK/VT	8871	I	—	Police Left Mirror Light Low Reference	7	0.75	BK/VT	8871	V	—

X500 Driver Door Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
8	0.75	VT	8870	I	—	Police Left Mirror Light Control	8	0.75	VT	8870	V	—
9						Left Front Speaker 1 [+] Control	9	0.5 0.5 0.75	D-BU D-BU D-BU	201 201 201	V VI VI	— — —
10	0.75	BN/ D-BU	118	I	—	Left Front Speaker [-] Control 1 Left Front Speaker [-] Control 1	10	0.5 0.5 0.75	BN/ D-BU BN/ D-BU BN/ D-BU	118 118 118	V VI VI	— — —
11	0.35	L-GN/ YE	6134	I	—	Body Control Module LIN Bus 3	11	0.5	L-GN/ YE	6134	VI	—
12	0.35	VT/ GY	126	I	—	Left Front Door Open Switch Signal	12	0.35	VT/ GY	126	VI	—
13	0.75	D-BU	201	I	—	Left Front Speaker 1 [+] Control Left Front Speaker 1 [+] Control	13	0.5 0.75	D-BU D-BU	201 201	V VI	— —
14	0.5	D-BU	2675	I	—	Left Front Exterior Door Handle Switch Unlock Signal	14	0.35	D-BU	2675	VI	—
15	—	—	—	—	—	Not Occupied	15	—	—	—	—	—
16	0.35	YE/ WH	1690	I	—	Mirror Dimming Signal	16	0.35	YE/ WH	1690	VI	—
17	0.35	BK/ YE	1691	I	—	Mirror Dimming Low Reference	17	0.35	BK/ YE	1691	VI	—
18	—	—	—	—	—	Not Occupied	18	—	—	—	—	—
19	0.75	WH	2679	I	—	Lock Actuators Unlock Control 1	19	0.75	WH	2679	V	—
20 - 21	—	—	—	—	—	Not Occupied	20 - 21	—	—	—	—	—
22	0.75	YE/ L-GN	8879	I	—	Police Left Rear Window Light Flash Enable Signal	22	—	—	—	—	—
23	0.75	D-BU/ VT	8873	I	—	Police Left Mirror Light Steady Burn Control	23	0.75	D-BU/ VT	8873	V	—

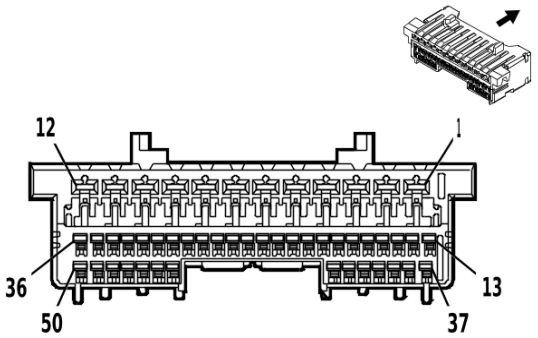
X500 Driver Door Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
24	0.75	L-GN	8875	I	—	Police Left Rear Window Light Control	24	—	—	—	—	—
25	0.75	D-BU/ L-GN	8878	I	—	Police Left Rear Window Light Steady Burn Control	25	—	—	—	—	—
26	0.75	BK/ L-GN	8876	I	—	Police Left Rear Window Light Low Reference	26	—	—	—	—	—
27	0.35	WH/ GY	2114	I	—	Left Turn Signal Lamp Control 2	27	0.35	WH/ GY	2114	VI	—
28	—	—	—	—	—	Not Occupied	28	—	—	—	—	—
29	—	—	—	—	—	LED Backlight Dimming Control 1	29	0.5	YE	6817	VI	—
30	—	—	—	—	—	Not Occupied	30	—	—	—	—	—
31	0.35	WH/ L-GN	5966	I	—	Approach Lamp Control	31	0.5	WH/ L-GN	5966	VI	—
32	—	—	—	—	—	Not Occupied	32	—	—	—	—	—
33	0.35	GY	728	I	—	Security Indicator Control	33	0.5	GY	728	VI	—
34	—	—	—	—	—	Not Occupied	34	—	—	—	—	—
35	0.5	BK/ OG	6628	I	—	Left Front Side Impact Sensor Low Reference	35	0.5	BK/ OG	6628	VI	—
36	0.5	OG/ L-GN	2132	I	—	Left Front Side Impact Sensor Signal	36	0.5	OG/ L-GN	2132	VI	—
37 - 40	—	—	—	—	—	Not Occupied	37 - 40	—	—	—	—	—
41	0.5	WH	615	I	—	Seat Memory Switch Signal 1	41	0.5	WH	615	VI	—
42	0.5	D-BU/ L-GN	614	I	—	Seat Memory Switch Set Signal	42	0.5	D-BU/ L-GN	614	VI	—
43	0.75	YE/ VT	8874	I	—	Police Left Mirror Light Flash Enable Signal	43	0.75	YE/ VT	8874	V	—
44	0.75	WH/ VT	8872	I	—	Police Left Mirror Light Synchroni-zation Signal	44	0.75	WH/ VT	8872	V	—

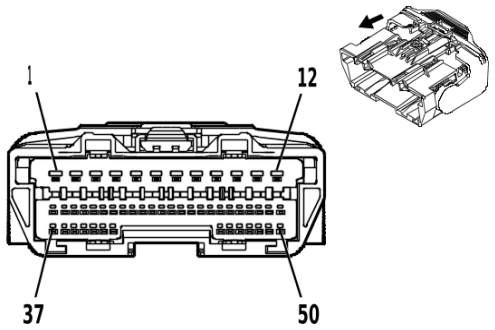
X500 Driver Door Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
45	0.75	WH/ L-GN	8877	I	—	Police Left Rear Window Light Synchroni-zation Signal	45	—	—	—	—	—
46	2.5	RD/ GY	3540	II	—	Secondary Fused Battery Positive Voltage 35	46	2.5	RD/ GY	3540	IV	—
47	2.5	BK	1150	II	—	Ground 11	47	2.5	BK	1150	IV	—
48 - 51	—	—	—	—	—	Not Occupied	48 - 51	—	—	—	—	—
52	0	—	4725	III	—	Left Sideview Camera LVDS (Low Voltage Differential Signaling) Coaxial Signal	52	0	—	5088	VII	—

X505 Driver Door Harness to Driver Door Trim Harness



4997556



5022037

Connector Part Information

Harness Type: Driver Door
OEM Connector: 33390107
Service Connector: Service by Harness - See Part Catalog
Description: 50-Way F 1.2, 2.8 OCS Series (BK)

Connector Part Information

Harness Type: Driver Door Trim
OEM Connector: 33390111
Service Connector: Service by Harness - See Part Catalog
Description: 50-Way M 1.2, 2.8 OCS Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required
III	Not Required	J-35616-17 (LT GN)	No Tool Required
IV	Not Required	J-35616-5 (PU)	No Tool Required

X505 Driver Door Harness to Driver Door Trim Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 2	—	—	—	—	—	Not Occupied	1 - 2	—	—	—	—	—
3	0.35	VT/ D-BU	2788	II	—	Left Front Mirror Motor Up [+] Down [-] Control	3	0.35	VT/ D-BU	2788	IV	—
4	0.35	VT/ RD	2791	II	—	Left Front Mirror Position Sensor High Reference	4	0.35	VT/ RD	2791	IV	—
5	—	—	—	—	—	Not Occupied	5	—	—	—	—	—
6	0.35	GY	728	II	—	Security Indicator Control	6	0.35	GY	728	IV	—
7 - 8	—	—	—	—	—	Not Occupied	7 - 8	—	—	—	—	—
9	0.35	WH/ YE	2792	II	—	Left Front Mirror Position Sensor Left [-] Right [+] Signal	9	0.35	WH/ YE	2792	IV	—

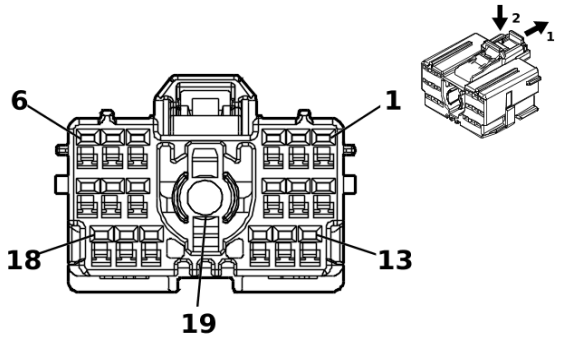
X505 Driver Door Harness to Driver Door Trim Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
10	0.35	WH/ BN	2764	II	—	Window Switch Left Front Down Signal	10	0.35	WH/ BN	2764	IV	—
11 - 14	—	—	—	—	—	Not Occupied	11 - 14	—	—	—	—	—
15	0.5	WH	615	I	—	Seat Memory Switch Signal 1	15	0.35	WH	615	III	—
16	0.75	BK	1150	I	—	Ground 11	16	0.35	BK	1150	III	—
17	0.35	L-GN/ YE	6134	I	—	Body Control Module LIN Bus 3	17	0.35	L-GN/ YE	6134	III	—
18	0.35	L-GN	2766	I	—	Power Window Switch Left Front Express Signal	18	0.35	L-GN	2766	III	—
19	—	—	—	—	—	Not Occupied	19	—	—	—	—	—
20	0.5	RD/ VT	1940	I	—	Secondary Fused Battery Positive Voltage 19	20	0.5	RD/ VT	1940	III	—
21	0.35	YE/ BN	2789	I	—	Left Front Mirror Motor Common Control	21	0.35	YE/ BN	2789	III	—
22	—	—	—	—	—	Not Occupied	22	—	—	—	—	—
23	0.35	WH/ VT	4258	I	—	Left Front Door Lock Status Signal	23	0.35	WH/ VT	4258	III	—
24	0.35	BK/ BN	673	I	—	Left Outside Rearview Mirror Position Sensor Low Reference	24	0.35	BK/ BN	673	III	—
25	0.35	GY/ L-GN	2763	I	—	Window Switch Left Front Up Signal	25	0.35	GY/ L-GN	2763	III	—
26	—	—	—	—	—	Not Occupied	26	—	—	—	—	—
27	0.35	BN/ BK	2790	I	—	Left Front Mirror Motor Right [+] Left [-] Control	27	0.35	BN/ BK	2790	III	—
28 - 30	—	—	—	—	—	Not Occupied	28 - 30	—	—	—	—	—
31	0.35	GY/ YE	1760	I	—	Left Side Object Detection LED Control	31	0.35	GY/ YE	1760	III	—

X505 Driver Door Harness to Driver Door Trim Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
32 - 35	—	—	—	—	—	Not Occupied	32 - 35	—	—	—	—	—
36	0.5	BK/ WH	1151	I	—	Ground 11	36	0.35	BK/ WH	1151	III	—
37	—	—	—	—	—	Not Occupied	37	—	—	—	—	—
38	0.35	WH	606	I	—	Left Outside Rearview Mirror Heater Control	38	0.35	WH	606	III	—
39	0.35	GY/ WH	2785	I	—	Left Front Mirror Motor Fold Out Control	39	0.35	GY/ WH	2785	III	—
40 - 42	—	—	—	—	—	Not Occupied	40 - 42	—	—	—	—	—
43	0.35	WH/ L-GN	2786	I	—	Left Front Mirror Motor Fold In Control	43	0.35	WH/ L-GN	2786	III	—
44	—	—	—	—	—	Not Occupied	44	—	—	—	—	—
45	0.5	D-BU/ L-GN	614	I	—	Seat Memory Switch Set Signal	45	0.35	D-BU/ L-GN	614	III	—
46	0.35	GY/ BN	2787	I	—	Left Front Mirror Position Sensor Up [+] Down [-] Signal	46	0.35	GY/ BN	2787	III	—
47 - 50	—	—	—	—	—	Not Occupied	47 - 50	—	—	—	—	—

X510 Driver Door Harness to Driver Outside Rearview Mirror Harness



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5253439

Connector Part Information

Harness Type: Driver Door
OEM Connector: 35165322
Service Connector: Service by Harness - See Part Catalog
Description: 19-Way F 1.2 MCON, Coaxial Series, Sealed (BK)

Connector Part Information

Harness Type: Driver Outside Rearview Mirror
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 19-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-13 (BU)	No Tool Required
II	Not Required	J-35616-16 (LT GN)	No Tool Required
III	Not Required	J-35616-64B (LT BU)	No Tool Required
IV	Not Required	Not Available	No Tool Required

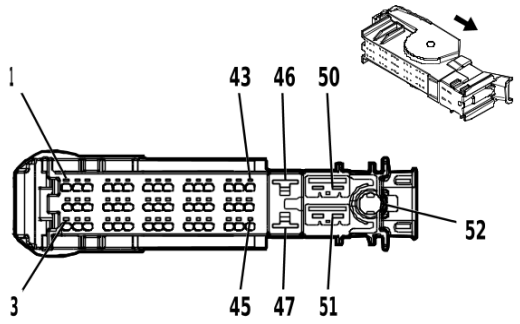
X510 Driver Door Harness to Driver Outside Rearview Mirror Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	BN/ BK	2790	I	—	Left Front Mirror Motor Right [+] Left [-] Control	1	0.35	BN/ BK	2790	IV	—
2	0.35	VT/ D-BU	2788	I	—	Left Front Mirror Motor Up [+] Down [-] Control	2	0.35	VT/ D-BU	2788	IV	—
3	0.35	WH/ L-GN	2786	I	—	Left Front Mirror Motor Fold In Control	3	0.35	WH/ L-GN	2786	IV	—
4	0.35	GY/ YE	1760	I	—	Left Side Object Detection LED Control	4	0.35	GY/ YE	1760	IV	—
5	0.35	WH/ L-GN	5966	I	—	Approach Lamp Control	5	0.35	WH/ L-GN	5966	IV	—
6	0.35	WH/ YE	2792	I	—	Left Front Mirror Position Sensor Left [-] Right [+] Signal	6	0.35	WH/ YE	2792	IV	—

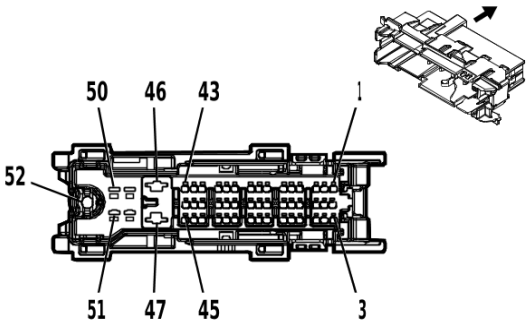
X510 Driver Door Harness to Driver Outside Rearview Mirror Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
7	0.35	WH	606	I	—	Left Outside Rearview Mirror Heater Control	7	0.35	WH	606	IV	—
8	0.35	WH/GY	2114	I	—	Left Turn Signal Lamp Control 2	8	0.35	WH/GY	2114	IV	—
9	0.75	BK	1150	II	—	Ground 11	9	0.75	BK	1150	IV	—
10	0.35	VT/RD	2791	I	—	Left Front Mirror Position Sensor High Reference	10	0.35	VT/RD	2791	IV	—
11	0.35	GY/BN	2787	I	—	Left Front Mirror Position Sensor Up [+] Down [-] Signal	11	0.35	GY/BN	2787	IV	—
12	0.35	BK/YE	1691	I	—	Mirror Dimming Low Reference	12	0.35	BK/YE	1691	IV	—
13	—	—	—	—	—	Not Occupied	13	—	—	—	—	—
14	0.35	YE/BN	2789	I	—	Left Front Mirror Motor Common Control	14	0.35	YE/BN	2789	IV	—
15	0.35	GY/WH	2785	I	—	Left Front Mirror Motor Fold Out Control	15	0.35	GY/WH	2785	IV	—
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—
17	0.35	YE/WH	1690	I	—	Mirror Dimming Signal	17	0.35	YE/WH	1690	IV	—
18	0.35	BK/BN	673	I	—	Left Outside Rearview Mirror Position Sensor Low Reference	18	0.35	BK/BN	673	IV	—
19	—	—	4725	III	—	Left Sideview Camera LVDS (Low Voltage Differential Signaling) Coaxial Signal	19	—	—	4725	IV	—

X600 Passenger Door Harness to Body Harness



4992530



4993484

Connector Part Information

Harness Type: Passenger Door

OEM Connector: 35077349

Service Connector: Service by Harness - See Part Catalog

Description: 52-Way F 1.2, 2.8, 6.3, Coaxial Series, Sealed (BK)

Connector Part Information

Harness Type: Body

OEM Connector: 35190453

Service Connector: 13527236

Description: 52-Way M 1.2, 2.8, 6.3, Coaxial Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-42 (RD)	No Tool Required
III	Not Required	J-35616-4A (PU)	No Tool Required
IV	Service by Cable	No Tool Required	No Tool Required
V	13575824	J-35616-5 (PU)	J-38125-11A
VI	19301536	J-35616-43 (RD)	J-38125-11A
VII	19370818	J-35616-17 (LT GN)	J-38125-215A
VIII	84616651	J-35616-17 (LT GN)	J-38125-215A
IX	Service by Cable	No Tool Required	No Tool Required

X600 Passenger Door Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 3	—	—	—	—	—	Not Occupied	1 - 3	—	—	—	—	—
4	0.35	L-GN/GY	2115	I	—	Right Turn Signal Lamp Control 2	4	0.35	L-GN/GY	2115	VIII	—
5	0.5	BK/WH	1251	I	—	Ground 12	5	0.5	BK/WH	1251	VIII	—
6	—	—	—	—	—	Not Occupied	6	—	—	—	—	—
7	0.75	BK/BN	8886	I	—	Police Right Rear Window Light Low Reference	7	—	—	—	—	—
8	0.75	BK/GY	8881	I	—	Police Right Mirror Light Low Reference	8	0.75	BK/GY	8881	VII	—

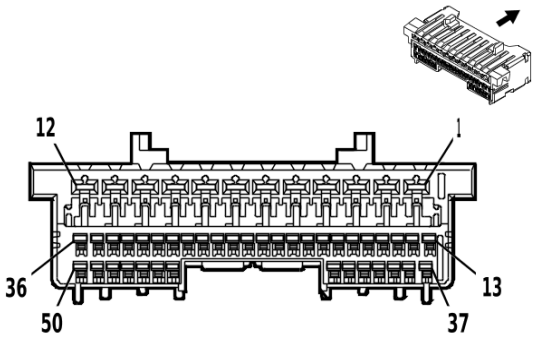
X600 Passenger Door Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
9						Right Front Speaker 1 [+] Control	9	0.5 0.5 0.75	YE YE YE	200 200 200	VII VIII VIII	— — —
10	0.75	YE/ BK	117	I	—	Right Front Speaker [-] Control 1 Right Front Speaker [-] Control 1	10	0.5 0.5 0.75	YE/ BK YE/ BK YE/ BK	117 117 117	VII VIII VIII	— — —
11	0.75	GY	8880	I	—	Police Right Mirror Light Control	11	0.75	GY	8880	VII	—
12	0.75	YE/ BN	8889	I	—	Police Right Rear Window Light Flash Enable Signal	12	—	—	—	—	—
13	0.75	YE	200	I	—	Right Front Speaker 1 [+] Control Right Front Speaker 1 [+] Control	13	0.5 0.75 0.75	YE YE/ L-GN YE	200 2682 200	VII VII VIII	— — —
14 - 17	—	—	—	—	—	Not Occupied	14 - 17	—	—	—	—	—
18	0.75	YE/ GY	8884	I	—	Police Right Mirror Light Flash Enable Signal	18	0.75	YE/ GY	8884	VII	—
19	0.75	GY/ BK	2680	I	—	Lock Actuators Unlock Control 2	19	0.75	GY/ BK	2680	VII	—
20	0.5	BN/ OG	2134	I	—	Right Front Side Impact Sensor Signal	20	0.5	BN/ OG	2134	VIII	—
21	0.5	BK/ OG	6629	I	—	Right Front Side Impact Sensor Low Reference	21	0.5	BK/ OG	6629	VIII	—
22	0.75	YE/ L-GN	2682	I	—	Right Front Side Impact Sensor Signal Right Front Door Lock Actuator Lock Control	22	0.5 0.75	BN/ OG YE/ L-GN	2134 2682	VIII VII	— —
23 - 28	—	—	—	—	—	Not Occupied	23 - 28	—	—	—	—	—
29	0.35	L-GN/ YE	6134	I	—	Body Control Module LIN Bus 3	29	0.5	L-GN/ YE	6134	VIII	—
30	0.35	WH/ L-GN	5966	I	—	Approach Lamp Control	30	0.5	WH/ L-GN	5966	VIII	—

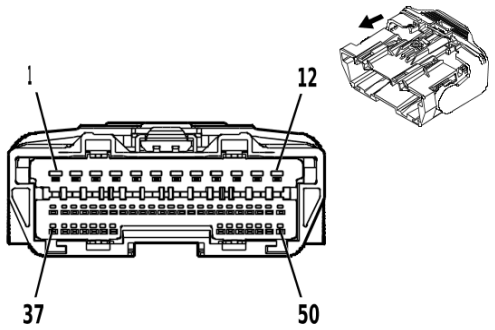
X600 Passenger Door Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
31 - 35	—	—	—	—	—	Not Occupied	31 - 35	—	—	—	—	—
36	0.75	BN	8885	I	—	Police Right Rear Window Light Control	36	—	—	—	—	—
37	0.75	WH/ GY	8882	I	—	Police Right Mirror Light Synchroni- zation Signal	37	0.75	WH/ GY	8882	VII	—
38	0.75	D-BU/ BN	8888	I	—	Police Right Rear Window Light Steady Burn Control	38	—	—	—	—	—
39	—	—	—	—	—	Not Occupied	39	—	—	—	—	—
40	0.75	D-BU/ GY	8883	I	—	Police Right Mirror Light Steady Burn Control	40	0.75	D-BU/ GY	8883	VII	—
41	0.75	WH/ BN	8887	I	—	Police Right Rear Window Light Synchroni- zation Signal	41	—	—	—	—	—
42 - 44	—	—	—	—	—	Not Occupied	42 - 44	—	—	—	—	—
45	0.35	GY/ VT	2676	I	—	Right Front Door Exterior Switch Unlock Signal	45	0.35	GY/ VT	2676	VIII	—
46	2.5	RD/ BN	4240	II	—	Secondary Fused Battery Positive Voltage 42	46	2.5	RD/ BN	4240	VI	—
47	2.5	BK	1250	II	—	Ground 12	47	2.5	BK	1250	VI	—
48	0.5	RD/ D-BU	5240	III	—	Secondary Fused Battery Positive Voltage 52	48	0.5	RD/ D-BU	5240	V	—
49 - 51	—	—	—	—	—	Not Occupied	49 - 51	—	—	—	—	—
52	0	—	4724	IV	—	Right Sideview Camera LVDS (Low Voltage Differential Signaling) Coaxial Signal	52	0	—	5088	IX	—

X605 Passenger Door Harness to Passenger Door Trim Harness



4997556



5022037

Connector Part Information

Harness Type: Passenger Door
OEM Connector: 33390107
Service Connector: Service by Harness - See Part Catalog
Description: 50-Way F 1.2, 2.8 OCS Series (BK)

Connector Part Information

Harness Type: Passenger Door Trim
OEM Connector: 33390111
Service Connector: Service by Harness - See Part Catalog
Description: 50-Way M 1.2, 2.8 OCS Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required
III	Not Required	J-35616-17 (LT GN)	No Tool Required
IV	Not Required	J-35616-5 (PU)	No Tool Required

X605 Passenger Door Harness to Passenger Door Trim Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 2	—	—	—	—	—	Not Occupied	1 - 2	—	—	—	—	—
3	0.35	BN/VT	607	II	—	Right Outside Rearview Mirror Heater Control	3	0.35	BN/VT	607	IV	—
4	0.35	BK/L-GN	675	II	—	Right Outside Rearview Mirror Position Sensor Low Reference	4	0.35	BK/L-GN	675	IV	—
5	0.35	L-GN	1184	II	—	Window Switch Right Front Up Signal	5	0.35	L-GN	1184	IV	—
6	0.35	GY	1761	II	—	Right Side Object Detection LED Control	6	0.35	GY	1761	IV	—

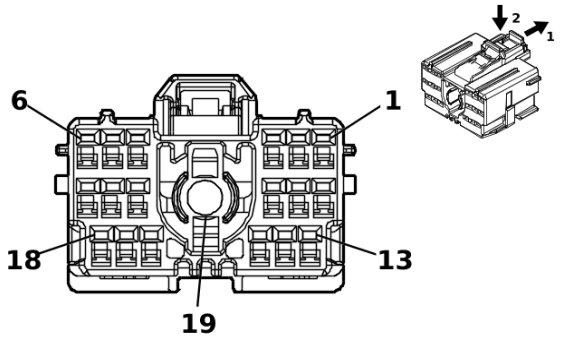
X605 Passenger Door Harness to Passenger Door Trim Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
7	0.35	VT/ GY	2765	II	—	Window Switch Right Front Express Signal	7	0.35	VT/ GY	2765	IV	—
8	0.35	YE/ WH	2793	II	—	Right Front Mirror Motor Fold Out Control	8	0.35	YE/ WH	2793	IV	—
9	0.35	D-BU/ GY	2794	II	—	Right Front Mirror Motor Fold In Control	9	0.35	D-BU/ GY	2794	IV	—
10	0.35	D-BU/ YE	2795	II	—	Right Front Mirror Position Sensor Up [+] Down [-] Signal	10	0.35	D-BU/ YE	2795	IV	—
11	0.35	YE/ VT	2796	II	—	Right Front Mirror Motor Up [+] Down [-] Control	11	0.35	YE/ VT	2796	IV	—
12	0.35	WH	2797	II	—	Right Front Mirror Motor Common Control	12	0.35	WH	2797	IV	—
13	0.35	L-GN/ BK	2798	I	—	Right Front Mirror Motor Right [+] Left [-] Control	13	0.35	L-GN/ BK	2798	III	—
14	0.35	YE/ RD	2799	I	—	Right Front Mirror Position Sensor High Reference	14	0.35	YE/ RD	2799	III	—
15	0.35	VT/ WH	2800	I	—	Right Front Mirror Position Sensor Left [-] Right [+] Signal	15	0.35	VT/ WH	2800	III	—
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—
17	0.35	VT	4259	I	—	Right Front Door Lock Status Signal	17	0.35	VT	4259	III	—
18	0.5	BK	1250	I	—	Ground 12	18	0.35	BK	1250	III	—
19	0.5	RD/ D-BU	5240	I	—	Secondary Fused Battery Positive Voltage 52	19	0.5	RD/ D-BU	5240	III	—
20	0.35	BN	5295	I	—	Window Switch Right Front Down Signal	20	0.35	BN	5295	III	—
21	0.35	L-GN/ YE	6134	I	—	Body Control Module LIN Bus 3	21	0.35	L-GN/ YE	6134	III	—

X605 Passenger Door Harness to Passenger Door Trim Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
22 - 50	—	—	—	—	—	Not Occupied	22 - 50	—	—	—	—	—

X610 Passenger Door Harness to Passenger Outside Rearview Mirror Harness



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5253439

Connector Part Information

Harness Type: Passenger Door
OEM Connector: 35165322
Service Connector: Service by Harness - See Part Catalog
Description: 19-Way F 1.2 MCON, Coaxial Series, Sealed (BK)

Connector Part Information

Harness Type: Passenger Outside Rearview Mirror
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 19-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-13 (BU)	No Tool Required
II	Not Required	J-35616-64B (LT BU)	No Tool Required
III	Not Required	Not Available	No Tool Required

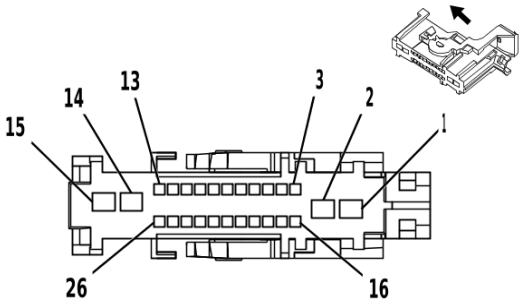
X610 Passenger Door Harness to Passenger Outside Rearview Mirror Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	L-GN/BK	2798	I	—	Right Front Mirror Motor Right [+] Left [-] Control	1	0.35	L-GN/BK	2798	III	—
2	0.35	YE/VT	2796	I	—	Right Front Mirror Motor Up [+] Down [-] Control	2	0.35	YE/VT	2796	III	—
3	0.35	D-BU/GY	2794	I	—	Right Front Mirror Motor Fold In Control	3	0.35	D-BU/GY	2794	III	—
4	0.35	GY	1761	I	—	Right Side Object Detection LED Control	4	0.35	GY	1761	III	—
5	0.35	WH/L-GN	5966	I	—	Approach Lamp Control	5	0.35	WH/L-GN	5966	III	—
6	0.35	VT/WH	2800	I	—	Right Front Mirror Position Sensor Left [-] Right [+] Signal	6	0.35	VT/WH	2800	III	—

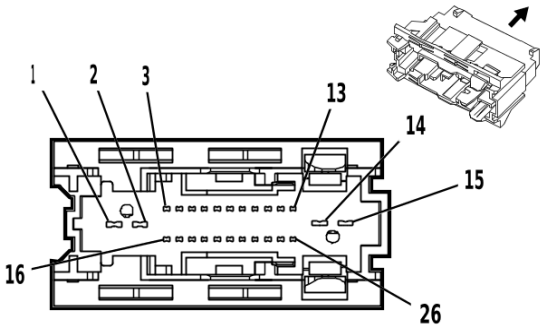
X610 Passenger Door Harness to Passenger Outside Rearview Mirror Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
7	0.35	BN/ VT	607	I	—	Right Outside Rearview Mirror Heater Control	7	0.35	BN/ VT	607	III	—
8	0.35	L-GN/ GY	2115	I	—	Right Turn Signal Lamp Control 2	8	0.35	L-GN/ GY	2115	III	—
9	0.5	BK	1250	I	—	Ground 12	9	0.5	BK	1250	III	—
10	0.35	YE/ RD	2799	I	—	Right Front Mirror Position Sensor High Reference	10	0.35	YE/ RD	2799	III	—
11	0.35	D-BU/ YE	2795	I	—	Right Front Mirror Position Sensor Up [+] Down [-] Signal	11	0.35	D-BU/ YE	2795	III	—
12 - 13	—	—	—	—	—	Not Occupied	12 - 13	—	—	—	—	—
14	0.35	WH	2797	I	—	Right Front Mirror Motor Common Control	14	0.35	WH	2797	III	—
15	0.35	YE/ WH	2793	I	—	Right Front Mirror Motor Fold Out Control	15	0.35	YE/ WH	2793	III	—
16 - 17	—	—	—	—	—	Not Occupied	16 - 17	—	—	—	—	—
18	0.35	BK/ L-GN	675	I	—	Right Outside Rearview Mirror Position Sensor Low Reference	18	0.35	BK/ L-GN	675	III	—
19	—	—	4724	II	—	Right Sideview Camera LVDS (Low Voltage Differential Signaling) Coaxial Signal	19	—	—	4724	III	—

X700 Left Rear Door Harness to Body Harness



3530739



3530694

Connector Part Information

Harness Type: Left Rear Door
OEM Connector: 13981046
Service Connector: Service by Harness - See Part Catalog
Description: 26-Way F 1.2, 2.8 OCS Series (L-GY)

Connector Part Information

Harness Type: Body
OEM Connector: 15531019
Service Connector: 13591678
Description: 26-Way M 1.2, 2.8 OCS Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required
III	13575824	J-35616-5 (PU)	J-38125-11A
IV	13575824	J-35616-5 (PU)	J-38125-11A
V	13575824	J-35616-5 (PU)	J-38125-11A
VI	19333310	J-35616-65B (LT BU)	J-38125-215A
VII	19369190	J-35616-65B (LT BU)	J-38125-215A

X700 Left Rear Door Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	RD/GY	3540	II	—	Secondary Fused Battery Positive Voltage 35	1	2.5	RD/GY	3540	IV	—
2	—	—	—	—	—	Police Left Rear Window Light Control	2	0.75	L-GN	8875	V	—
3	0.75	VT/BN	2754	I	—	Door Double Lock Actuator Lock Control 2	3	0.75	VT/BN	2754	VII	—
4	—	—	—	—	—	Police Left Rear Window Light Low Reference	4	0.75	BK/L-GN	8876	VII	—
5	0.75	WH	2679	I	—	Lock Actuators Unlock Control 1	5	0.75	WH	2679	VII	—

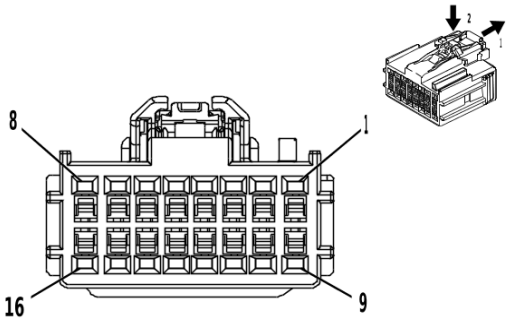
X700 Left Rear Door Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
6	0.75	D-BU/YE	1091	I	—	Left Rear Door Lock Actuator Lock Control	6	0.75	D-BU/YE	1091	VII	—
7	0.35	VT/D-BU	4001	I	—	Left Rear Door Lock Switch Lock Control	7	0.35	VT/D-BU	4001	VI	—
8	0.35	WH/YE	4002	I	—	Left Rear Door Lock Switch Unlock Control	8	0.35	WH/YE	4002	VI	—
9	—	—	—	—	—	Police Left Rear Window Light Synchroni-zation Signal	9	0.75	WH/L-GN	8877	VII	—
10	—	—	—	—	—	Police Left Rear Window Light Steady Burn Control	10	0.75	D-BU/L-GN	8878	VII	—
11	—	—	—	—	—	Not Occupied	11	—	—	—	—	—
12	0.35	WH/VT	4994	I	—	Left Rear Door Exterior Switch Unlock Signal	12	0.35	WH/VT	4994	VI	—
13	0.35	VT/WH	6675	I	—	Left Rear Door Lock Indicator Control	13	0.35	VT/WH	6675	VI	—
14	0.35	YE	6817	II	—	LED Backlight Dimming Control 1	14	0.5	YE	6817	III	—
15	2.5	BK	1150	II	—	Ground 11	15	2.5	BK	1150	IV	—
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—
17	0.35	L-GN/GY	6135	I	—	Body Control Module LIN Bus 4	17	0.35	L-GN/GY	6135	VI	—
18	0.35	WH/YE	7557	I	—	Interior Door Handle Accent Lighting Control	18	0.35	WH/YE	7557	VI	—
19	—	—	—	—	—	Police Left Rear Window Light Flash Enable Signal	19	0.75	YE/L-GN	8879	VII	—
20 - 22	—	—	—	—	—	Not Occupied	20 - 22	—	—	—	—	—
23	0.75	L-GN/BK	116	I	—	Left Rear Speaker [-] Control	23	0.75	L-GN/BK	116	VII	—

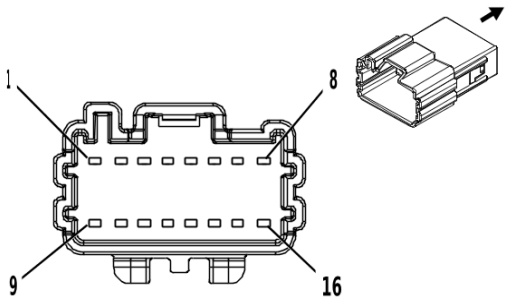
X700 Left Rear Door Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
24	0.75	L-GN	199	I	—	Left Rear Speaker [+] Control	24	0.75	L-GN	199	VII	—
25	0.5	VT	4301	I	—	Passive Entry Left Front Antenna Signal High	25	0.35	VT	4301	VI	—
26	0.5	VT/ GY	4302	I	—	Passive Entry Left Front Antenna Signal Low	26	0.35	VT/ GY	4302	VI	—

X705 Left Rear Door Harness to Left Rear Door Trim Harness



4115730



4223086

Connector Part Information

Harness Type: Left Rear Door
OEM Connector: 35029309
Service Connector: Service by Harness - See Part Catalog
Description: 16-Way F 1.2 Series (BK)

Connector Part Information

Harness Type: Left Rear Door Trim
OEM Connector: 35225462
Service Connector: Service by Harness - See Part Catalog
Description: 16-Way M 1.2 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-13 (BU)	No Tool Required

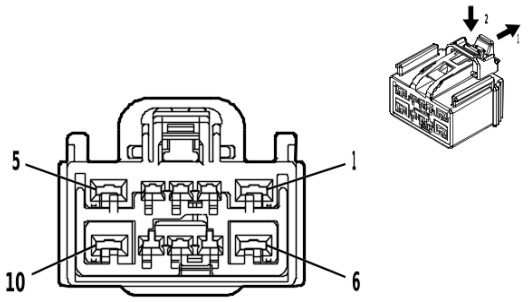
X705 Left Rear Door Harness to Left Rear Door Trim Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 2	—	—	—	—	—	Not Occupied	1 - 2	—	—	—	—	—
3	0.35	VT/ WH	6675	I	—	Left Rear Door Lock Indicator Control	3	0.35	VT/ WH	6675	II	—
4	0.35	VT/ D-BU	4001	I	—	Left Rear Door Lock Switch Lock Control	4	0.35	VT/ D-BU	4001	II	—
5	0.35	WH/ YE	4002	I	—	Left Rear Door Lock Switch Unlock Control	5	0.35	WH/ YE	4002	II	—
6	0.35	WH/ YE	7557	I	—	Interior Door Handle Accent Lighting Control	6	0.35	WH/ YE	7557	II	—
7	—	—	—	—	—	Not Occupied	7	—	—	—	—	—
8	0.75	L-GN/ BK	116	I	—	Left Rear Speaker [-] Control	8	0.75	L-GN/ BK	116	II	—
9	0.75	L-GN	199	I	—	Left Rear Speaker [+] Control	9	0.75	L-GN	199	II	—

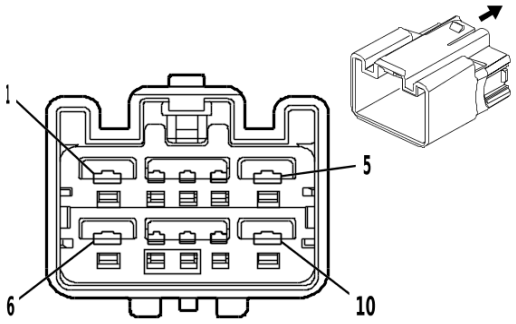
X705 Left Rear Door Harness to Left Rear Door Trim Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
10	0.35	YE	6817	I	—	LED Backlight Dimming Control 1	10	0.35	YE	6817	II	—
11 - 15	—	—	—	—	—	Not Occupied	11 - 15	—	—	—	—	—
16	0.5	BK	1150	I	—	Ground 11	16	0.35	BK	1150	II	—

X706 Left Rear Door Harness to Left Rear Door Trim Harness



5020939



1851890

Connector Part Information

Harness Type: Left Rear Door
OEM Connector: 35061724
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way F 1.5, 2.8 Kaizen Series (L-GY)

Connector Part Information

Harness Type: Left Rear Door Trim
OEM Connector: 13506926
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way M YESC Kaizen Series (L-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required
III	Not Required	J-35616-3 (GY)	No Tool Required
IV	Not Required	J-35616-5 (PU)	No Tool Required

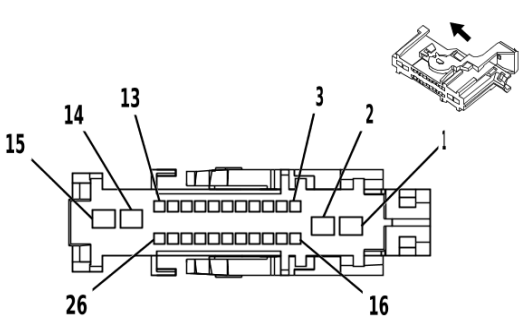
X706 Left Rear Door Harness to Left Rear Door Trim Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	RD/GY	3540	II	—	Secondary Fused Battery Positive Voltage 35	1	2.5	RD/GY	3540	IV	—
2	—	—	—	—	—	Not Occupied	2	—	—	—	—	—
3	0.35	L-GN/GY	6135	I	—	Body Control Module LIN Bus 4	3	0.35	L-GN/GY	6135	III	—
4	0.35	GY	747	I	—	Left Rear Door Ajar Switch Signal	4	0.35	GY	747	III	—
5	2	D-BU/VT	668	II	—	Left Rear Window Motor Up Control	5	2	D-BU/VT	668	IV	—
6	2.5	BK	1150	II	—	Ground 11	6	2.5	BK	1150	IV	—
7	—	—	—	—	—	Not Occupied	7	—	—	—	—	—
8	0.35	L-GN/D-BU	4648	I	—	Left Rear Door Lock Status Signal	8	0.35	L-GN/D-BU	4648	III	—

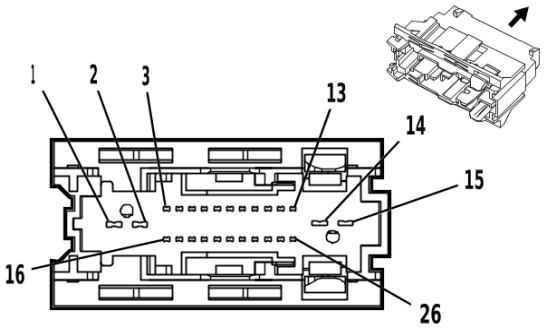
X706 Left Rear Door Harness to Left Rear Door Trim Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
9	—	—	—	—	—	Not Occupied	9	—	—	—	—	—
10	2	YE/ D-BU	669	II	—	Left Rear Window Motor Down Control	10	2	YE/ D-BU	669	IV	—

X800 Right Rear Door Harness to Body Harness



3530739



3530694

Connector Part Information

Harness Type: Right Rear Door
OEM Connector: 13981046
Service Connector: Service by Harness - See Part Catalog
Description: 26-Way F 1.2, 2.8 OCS Series (L-GY)

Connector Part Information

Harness Type: Body
OEM Connector: 15531019
Service Connector: 13591678
Description: 26-Way M 1.2, 2.8 OCS Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required
III	13575824	J-35616-5 (PU)	J-38125-11A
IV	13575824	J-35616-5 (PU)	J-38125-11A
V	13575824	J-35616-5 (PU)	J-38125-11A
VI	19333310	J-35616-65B (LT BU)	J-38125-215A
VII	19369190	J-35616-65B (LT BU)	J-38125-215A

X800 Right Rear Door Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	RD/BN	4240	II	—	Secondary Fused Battery Positive Voltage 42	1	2.5	RD/BN	4240	IV	—
2	—	—	—	—	—	Police Right Rear Window Light Control	2	0.75	BN	8885	V	—
3	0.75	VT/BN	2754	I	—	Door Double Lock Actuator Lock Control 2	3	0.75	VT/BN	2754	VII	—
4	—	—	—	—	—	Police Right Rear Window Light Low Reference	4	0.75	BK/BN	8886	VII	—
5	0.75	GY/BK	2680	I	—	Lock Actuators Unlock Control 2	5	0.75	GY/BK	2680	VII	—

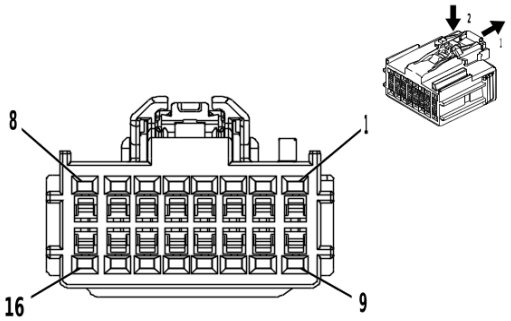
X800 Right Rear Door Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
6	0.75	VT/ WH	1094	I	—	Right Rear Door Lock Actuator Lock Control	6	0.75	VT/ WH	1094	VII	—
7	0.35	L-GN/ BN	4003	I	—	Right Rear Door Lock Switch Lock Control	7	0.35	L-GN/ BN	4003	VI	—
8	0.35	D-BU/ GY	4004	I	—	Right Rear Door Lock Switch Unlock Control	8	0.35	D-BU/ GY	4004	VI	—
9	—	—	—	—	—	Police Right Rear Window Light Synchroni-zation Signal	9	0.75	WH/ BN	8887	VII	—
10	—	—	—	—	—	Police Right Rear Window Light Steady Burn Control	10	0.75	D-BU/ BN	8888	VII	—
11	—	—	—	—	—	Not Occupied	11	—	—	—	—	—
12	0.35	GY/ D-BU	4995	I	—	Right Rear Door Exterior Switch Unlock Signal	12	0.35	GY/ D-BU	4995	VI	—
13	0.35	YE/ BK	6677	I	—	Right Rear Door Lock Indicator Control	13	0.35	YE/ BK	6677	VI	—
14	0.35	YE	6817	II	—	LED Backlight Dimming Control 1	14	0.5	YE	6817	III	—
15	2.5	BK	1250	II	—	Ground 12	15	2.5	BK	1250	IV	—
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—
17	0.35	L-GN/ GY	6135	I	—	Body Control Module LIN Bus 4	17	0.35	L-GN/ GY	6135	VI	—
18	0.35	WH/ YE	7557	I	—	Interior Door Handle Accent Lighting Control	18	0.35	WH/ YE	7557	VI	—
19	—	—	—	—	—	Police Right Rear Window Light Flash Enable Signal	19	0.75	YE/ BN	8889	VII	—
20 - 22	—	—	—	—	—	Not Occupied	20 - 22	—	—	—	—	—
23	0.75	D-BU/ BK	115	I	—	Right Rear Speaker [-] Control	23	0.75	D-BU/ BK	115	VII	—

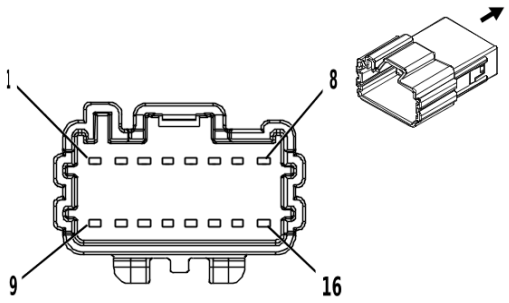
X800 Right Rear Door Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
24	0.75	WH	46	I	—	Right Rear Speaker [+] Control	24	0.75	WH	46	VII	—
25	0.5	L-GN/YE	4303	I	—	Passive Entry Right Front Door Antenna Signal High	25	0.35	L-GN/YE	4303	VI	—
26	0.5	L-GN/BK	4304	I	—	Passive Entry Right Front Door Antenna Signal Low	26	0.35	L-GN/BK	4304	VI	—

X805 Right Rear Door Harness to Right Rear Door Trim Harness



4115730



4223086

Connector Part Information

Harness Type: Right Rear Door
OEM Connector: 35029309
Service Connector: Service by Harness - See Part Catalog
Description: 16-Way F 1.2 Series (BK)

Connector Part Information

Harness Type: Right Rear Door Trim
OEM Connector: 35225462
Service Connector: Service by Harness - See Part Catalog
Description: 16-Way M 1.2 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-13 (BU)	No Tool Required

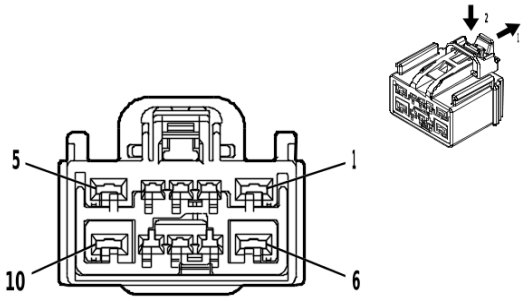
X805 Right Rear Door Harness to Right Rear Door Trim Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 2	—	—	—	—	—	Not Occupied	1 - 2	—	—	—	—	—
3	0.35	YE/ BK	6677	I	—	Right Rear Door Lock Indicator Control	3	0.5	YE/ BK	6677	II	—
4	0.35	L-GN/ BN	4003	I	—	Right Rear Door Lock Switch Lock Control	4	0.35	L-GN/ BN	4003	II	—
5	0.35	D-BU/ GY	4004	I	—	Right Rear Door Lock Switch Unlock Control	5	0.35	D-BU/ GY	4004	II	—
6	0.35	WH/ YE	7557	I	—	Interior Door Handle Accent Lighting Control	6	0.35	WH/ YE	7557	II	—
7	—	—	—	—	—	Not Occupied	7	—	—	—	—	—
8	0.75	D-BU/ BK	115	I	—	Right Rear Speaker [-] Control	8	0.75	D-BU/ BK	115	II	—
9	0.75	WH	46	I	—	Right Rear Speaker [+] Control	9	0.75	WH	46	II	—

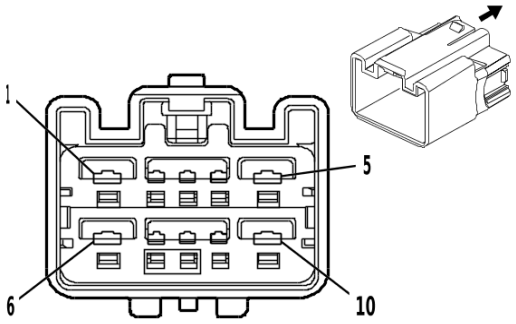
X805 Right Rear Door Harness to Right Rear Door Trim Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
10	0.35	YE	6817	I	—	LED Backlight Dimming Control 1	10	0.5	YE	6817	II	—
11 - 15	—	—	—	—	—	Not Occupied	11 - 15	—	—	—	—	—
16	0.5	BK	1250	I	—	Ground 12	16	0.35	BK	1250	II	—

X806 Right Rear Door Harness to Right Rear Door Trim Harness



5020939



1851890

Connector Part Information

Harness Type: Right Rear Door
OEM Connector: 35061724
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way F 1.5, 2.8 Kaizen Series (L-GY)

Connector Part Information

Harness Type: Right Rear Door Trim
OEM Connector: 13506926
Service Connector: Service by Harness - See Part Catalog
Description: 10-Way M YESC Kaizen Series (L-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-2A (GY)	No Tool Required
II	Not Required	J-35616-4A (PU)	No Tool Required
III	Not Required	J-35616-3 (GY)	No Tool Required
IV	Not Required	J-35616-5 (PU)	No Tool Required

X806 Right Rear Door Harness to Right Rear Door Trim Harness

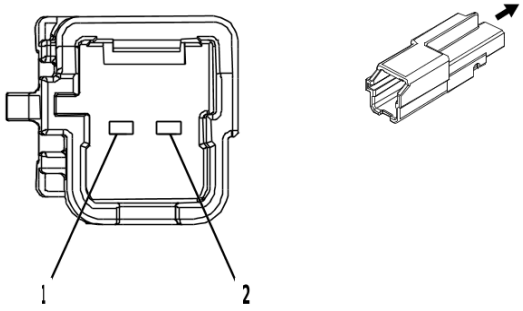
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	RD/BN	4240	II	—	Secondary Fused Battery Positive Voltage 42	1	2.5	RD/BN	4240	IV	—
2	—	—	—	—	—	Not Occupied	2	—	—	—	—	—
3	0.35	L-GN/GY	6135	I	—	Body Control Module LIN Bus 4	3	0.35	L-GN/GY	6135	III	—
4	0.35	GY	748	I	—	Right Rear Door Ajar Switch Signal	4	0.35	GY	748	III	—
5	2	L-GN/BK	671	II	—	Right Rear Window Motor Down Control	5	2	L-GN/BK	671	IV	—
6	2.5	BK	1250	II	—	Ground 12	6	2.5	BK	1250	IV	—
7	—	—	—	—	—	Not Occupied	7	—	—	—	—	—
8	0.35	WH/GY	4649	I	—	Right Rear Door Lock Status Signal	8	0.35	WH/GY	4649	III	—

X806 Right Rear Door Harness to Right Rear Door Trim Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
9	—	—	—	—	—	Not Occupied	9	—	—	—	—	—
10	2	D-BU/GY	670	II	—	Right Rear Window Motor Up Control	10	2	D-BU/GY	670	IV	—

X904 Center High Mounted Stop Lamp Jumper Harness to Body Harness

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4116496

Connector Part Information

Harness Type: Center High Mounted Stop Lamp Jumper
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 2-Way F

Connector Part Information

Harness Type: Body
OEM Connector: 33189233
Service Connector: 19332376
Description: 2-Way M 1.2 Series (BK)

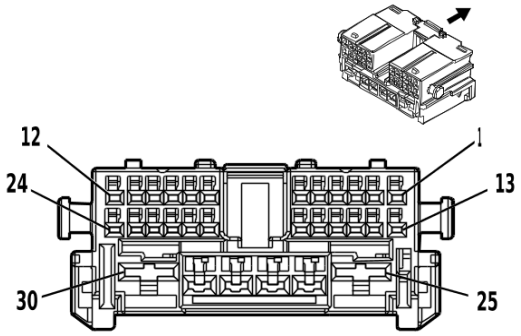
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

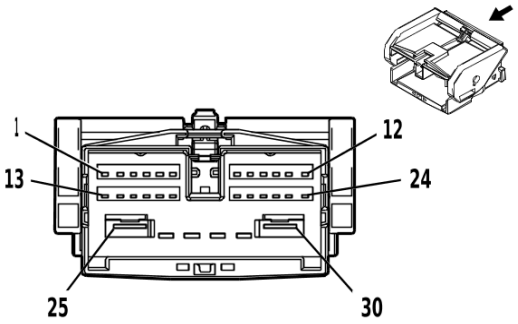
X904 Center High Mounted Stop Lamp Jumper Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5 0.5	BK BN/YE	2050 820	I I	— —	Ground 20 Center High Mounted Stop Lamp Supply Voltage	1	0.5 0.5	BK BN/YE	2050 820	II II	— —
2	0.5 0.5	BK BN/YE	2050 820	I I	— MBM+Z82	Ground 20 Center High Mounted Stop Lamp Supply Voltage	2	0.5 0.5	BK BN/YE	2050 820	II II	— MBM+Z82

X905 Liftgate Harness to Body Harness



4253192



4249201

Connector Part Information

Harness Type: Liftgate
OEM Connector: 33198155
Service Connector: Service by Harness - See Part Catalog
Description: 30-Way F 1.2 MCON, 2.8, 6.3 YESC Series (BK)

Connector Part Information

Harness Type: Body
OEM Connector: 35056785
Service Connector: 13518087
Description: 30-Way M 1.2 MCON, 2.8, 6.3 YESC Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-42 (RD)	No Tool Required
III	Not Required	J-35616-4A (PU)	No Tool Required
IV	13575824	J-35616-5 (PU)	J-38125-11A
V	13575824	J-35616-5 (PU)	J-38125-11A
VI	13575824	J-35616-5 (PU)	J-38125-11A
VII	19301536	J-35616-43 (RD)	J-38125-11A
VIII	19330704	J-35616-17 (LT GN)	J-38125-215A
IX	84616651	J-35616-17 (LT GN)	J-38125-215A

X905 Liftgate Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	—	—	—	—	—	Not Occupied	1	—	—	—	—	—
2	0.35	L-GN/YE	6846	I	—	Rear License Plate Lamp Control	2	0.35	L-GN/YE	6846	IX	—
3	0.35	D-BU/L-GN	4089	I	—	Rear Closure Motor Control	3	0.35	D-BU/L-GN	4089	IX	—
4	0.5	BN/GY	6995	I	—	Right Rear Park Lamp Control	4	0.5	BN/GY	6995	IX	—
5	0.35	L-GN/D-BU	2856	I	—	Body Control Module LIN Bus 10	5	0.5	L-GN/D-BU	2856	IX	—
6	0.35	VT/GY	1303	I	—	Liftgate Ajar Switch Signal 1	6	0.35	VT/GY	1303	IX	—

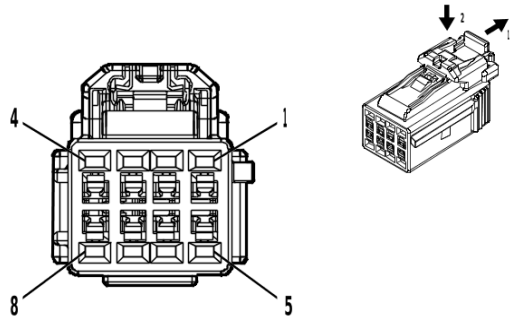
X905 Liftgate Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
7	0.35	GY/ BK	4654	I	—	Rear Closure Object Sensor Signal	7	0.5	GY/ BK	4654	IX	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—
9	0.5	GY/ BK	2680	I	—	Lock Actuators Unlock Control 2	9	0.75	GY/ BK	2680	VIII	—
10	0.35	BK/ VT	4656	I	—	Rear Closure Object Sensor Low Reference	10	0.35	BK/ VT	4656	IX	—
11	—	—	—	—	—	Body Control Module LIN Bus 4	11	0.35	L-GN/ GY	6135	IX	—
12	0.75	VT/ L-GN	8869	I	—	Police Liftgate Strobe Rear On OFF Control	12	0.35	VT/ L-GN	8869	IX	—
13	0.35	D-BU/ YE	2279	I	—	Liftgate Window Ajar Switch Signal	13	0.35	D-BU/ YE	2279	IX	—
14	0.35	GY/ WH	4658	I	—	Rear Closure Switch LED Control	14	0.35	GY/ WH	4658	IX	—
15	—	—	—	—	—	Not Occupied	15	—	—	—	—	—
16	0.35	YE/ D-BU	5797	I	—	Rear Closure Handle Switch Open Signal	16	0.35	YE/ D-BU	5797	IX	—
17	0.35	GY/ L-GN	6190	I	—	Liftgate Window/ Rear Compart-ment Lid, Exterior Unlatch Signal	17	0.35	GY/ L-GN	6190	IX	—
18	0.35	BN/ D-BU	6993	I	—	Left Rear Park Lamp Control	18	0.5	BN/ D-BU	6993	IX	—
19	0.35	YE/ BK	8085	I	—	Rear Closure Latch Primary Status	19	0.35	YE/ BK	8085	IX	—
20	—	—	—	—	—	Not Occupied	20	—	—	—	—	—
21	0.35	GY/ VT	4678	I	—	Rear Closure Latch Unlatch Status	21	0.35	GY/ VT	4678	IX	—
22	0.35	WH/ L-GN	8084	I	—	Rear Closure Latch Neutral Status	22	0.35	WH/ L-GN	8084	IX	—

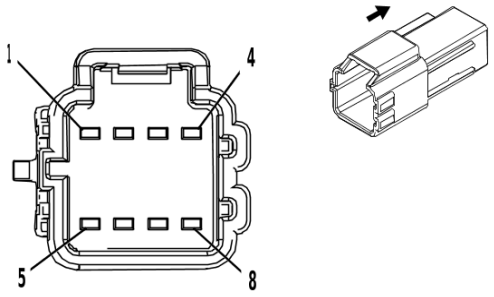
X905 Liftgate Harness to Body Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
23	0.35	L-GN	4657	I	—	Rear Closure Switch Signal	23	0.35	L-GN	4657	IX	—
24	0.5	D-BU/WH	6128	I	—	Rear Closure Unlatch Actuator Unlatch Control	24	0.5	D-BU/WH	6128	IX	—
25	2.5	BN/VT	293	II	—	Rear Defogger Grid Control	25	2.5	BN/VT	293	VII	—
26	0.75	RD/YE	3040	III	—	Secondary Fused Battery Positive Voltage 30	26	0.75	RD/YE	3040	VI	—
27	0.5 1	VT D-BU/GY	8866 4682	III III	5W4/9C1 QT6/QT8	Police Liftgate Strobe Control Rear Closure Cinch Latch Motor Release Control	27	0.5 1	VT D-BU/GY	8866 4682	IV V	5W4/9C1 QT6/QT8
28	0.75 1	WH BN	8867 4681	III III	5W4/9C1 QT6/QT8	Police Liftgate Strobe Synchroni-zation Signal Rear Closure Cinch Latch Motor Cinch Control	28	0.75 1	WH BN	8867 4681	VI V	5W4/9C1 QT6/QT8
29	0.75	BK	2050	III	—	Ground 20	29	0.75	BK	2050	VI	—
30	2.5	BK	2050	II	—	Ground 20	30	2.5	BK	2050	VII	—

X907 Liftgate Extension Harness to Liftgate Harness



5086387



4331672

Connector Part Information

Harness Type: Liftgate Extension
OEM Connector: 35029311
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way F 1.2 Series (BK)

Connector Part Information

Harness Type: Liftgate
OEM Connector: 33226445
Service Connector: Service by Harness - See Part Catalog
Description: 8-Way M 1.2 Series (BK)

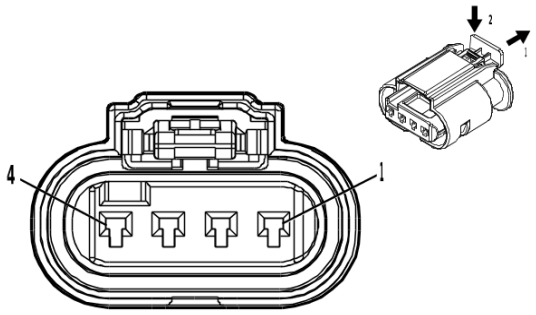
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

X907 Liftgate Extension Harness to Liftgate Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	YE/ D-BU	5797	I	—	Rear Closure Handle Switch Open Signal	1	0.35	YE/ D-BU	5797	II	—
2	0.35	L-GN/ YE	6846	I	—	Rear License Plate Lamp Control	2	0.35	L-GN/ YE	6846	II	—
3 - 4	—	—	—	—	—	Not Occupied	3 - 4	—	—	—	—	—
5	0.35	GY/ L-GN	6190	I	—	Liftgate Window/ Rear Compart-ment Lid, Exterior Unlatch Signal	5	0.35	GY/ L-GN	6190	II	—
6	—	—	—	—	—	Not Occupied	6	—	—	—	—	—
7	0.35	BK	2050	I	—	Ground 20	7	0.35	BK	2050	II	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—

X917 Liftgate Harness to Left Strobe Light Blunt Harness



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4994577

Connector Part Information

Harness Type: Liftgate
OEM Connector: 33351631
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

Connector Part Information

Harness Type: Left Strobe Light Blunt
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way M

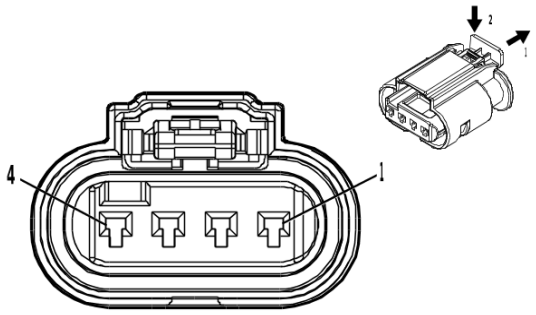
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

X917 Liftgate Harness to Left Strobe Light Blunt Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	VT	8866	I	—	Police Liftgate Strobe Control	1	0.75	VT	8866	II	—
2	0.75	BK	2050	I	—	Ground 20	2	0.75	BK	2050	II	—
3	0.75	WH	8867	I	—	Police Liftgate Strobe Synchroni-zation Signal	3	0.75	WH	8867	II	—
4	—	—	—	—	—	Not Occupied	4	—	—	—	—	—

X918 Liftgate Harness to Right Strobe Light Blunt Cut Harness



—

4994577

Connector Part Information

Harness Type: Liftgate
OEM Connector: 33351631
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

Connector Part Information

Harness Type: Right Strobe Light Blunt Cut
OEM Connector: Not Available
Service Connector: Service by Harness - See Part Catalog
Description: 4-Way M

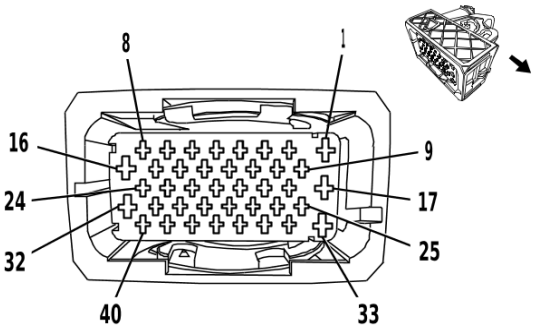
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	Not Required	J-35616-16 (LT GN)	No Tool Required
II	Not Required	J-35616-17 (LT GN)	No Tool Required

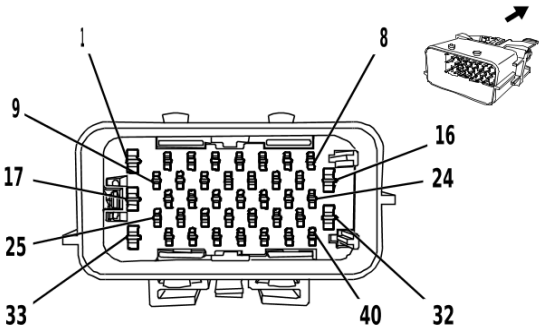
X918 Liftgate Harness to Right Strobe Light Blunt Cut Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	VT	8866	I	—	Police Liftgate Strobe Control	1	0.75	VT	8866	II	—
2	0.75	BK	2050	I	—	Ground 20	2	0.75	BK	2050	II	—
3	0.75	WH	8867	I	—	Police Liftgate Strobe Synchroni-zation Signal	3	0.75	WH	8867	II	—
4	—	—	—	—	—	Not Occupied	4	—	—	—	—	—

X922 Body Harness to Rear Fascia Harness



2220548



2339640

Connector Part Information

Harness Type: Body
OEM Connector: 13603185
Service Connector: 13576549
Description: 40-Way F 1.5, 2.8 Series, Sealed (BK)

Connector Part Information

Harness Type: Rear Fascia
OEM Connector: 13603208
Service Connector: Service by Harness - See Part Catalog
Description: 40-Way M 1.5 DSQ, 2.8 ATS Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool
I	13575384	J-35616-14 (GN)	J-38125-560
II	13576369	J-35616-14 (GN)	J-38125-560
III	13580830	J-35616-4A (PU)	J-38125-36
IV	13582248	J-35616-14 (GN)	J-38125-560
V	Not Required	J-35616-3 (GY)	No Tool Required
VI	Not Required	J-35616-5 (PU)	No Tool Required

X922 Body Harness to Rear Fascia Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	—	—	—	—	—	Not Occupied	1	—	—	—	—	—
2	0.5	BN/WH	2374	II	—	Object Sensor Supply Voltage	2	0.5	BN/WH	2374	V	—
3	0.5	YE/GY	122	II	—	Rear Fog Lamp Control	3	0.5	YE/GY	122	V	—
4 - 6	—	—	—	—	—	Not Occupied	4 - 6	—	—	—	—	—
7	0.5	YE	2375	II	—	Left Rear Outer Parking Assist Sensor Signal	7	0.5	YE	2375	V	—
8 - 9	—	—	—	—	—	Not Occupied	8 - 9	—	—	—	—	—
10	0.35	L-GN/D-BU	2856	I	—	Body Control Module LIN Bus 10	10	0.5	L-GN/D-BU	2856	V	—

X922 Body Harness to Rear Fascia Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
11 - 14	—	—	—	—	—	Not Occupied	11 - 14	—	—	—	—	—
15	0.35	BN/ L-GN	3568	I	—	Rear Closure Keyless Entry Antenna High Signal	15	0.5	BN/ L-GN	3568	V	—
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—
17	0.5	BK	1450	III	—	Ground 14	17	0.5	BK	1450	VI	—
18	0.5	YE/ D-BU	2376	II	—	Left Rear Middle Parking Assist Sensor Signal	18	0.5	YE/ D-BU	2376	V	—
19	0.35	WH	4100	I	—	AUTOSAR Serial Data CAN Bus [-] 4 Serial Data	19	0.35	WH	4100	V	—
20	0.35	D-BU/ VT	4101	I	—	AUTOSAR Serial Data CAN Bus [+] 4 Serial Data	20	0.35	D-BU/ VT	4101	V	—
21	0.5	BK/ GY	2379	II	—	Object Sensor Low Reference	21	0.5	BK/ GY	2379	V	—
22 - 24	—	—	—	—	—	Not Occupied	22 - 24	—	—	—	—	—
25	0.5 0.5	RD/ GY RD/ GY	4840 4840	II IV	— —	Secondary Fused Battery Positive Voltage 48 Secondary Fused Battery Positive Voltage 48	25	0.5	RD/ GY	4840	V	—
26	—	—	—	—	—	Not Occupied	26	—	—	—	—	—
27	0.5	RD/ BN	4940	II	—	Secondary Fused Battery Positive Voltage 49	27	0.5	RD/ BN	4940	V	—
28	0.5	L-GN/ BK	2738	II	—	Virtual Key Module LIN Bus 1	28	0.5	L-GN/ BK	2738	V	—
29	0.35	GY	2066	I	—	Hands-Free Liftgate Sensor Lamp Control	29	0.5	GY	2066	V	—
30 - 31	—	—	—	—	—	Not Occupied	30 - 31	—	—	—	—	—

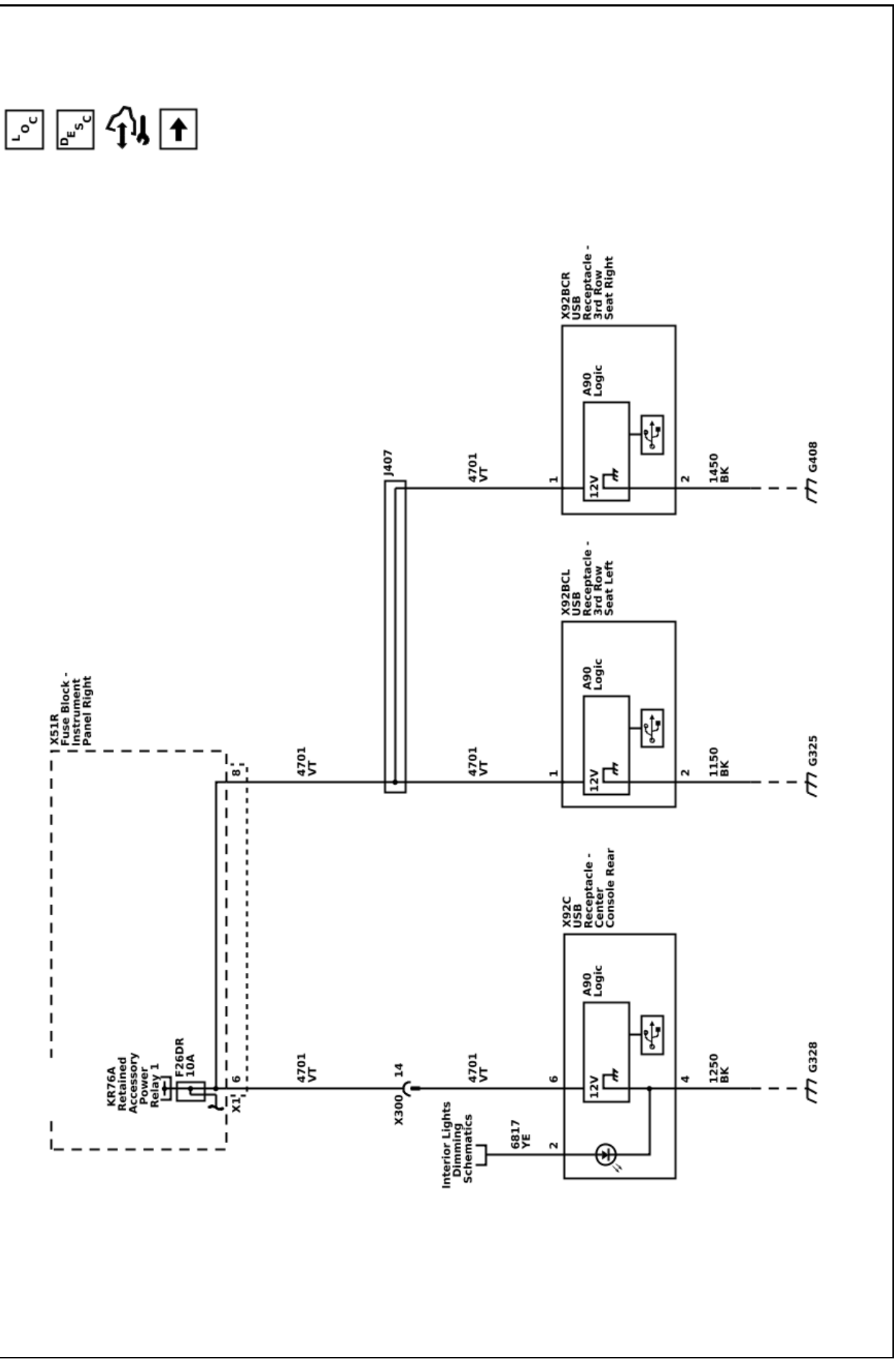
X922 Body Harness to Rear Fascia Harness (cont'd)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
32	0.5	YE/WH	2377	III	—	Right Rear Middle Parking Assist Sensor Signal	32	0.5	YE/WH	2377	VI	—
33	—	—	—	—	—	Not Occupied	33	—	—	—	—	—
34	0.35 0.5	L-GN/YE L-GN/YE	2862 2862	I II	ATH/PTT PTT	Body Control Module LIN Bus 16 Body Control Module LIN Bus 16	34	0.5	L-GN/YE	2862	V	—
35	0.35	L-GN/GY	3569	I	—	Rear Closure Keyless Entry Antenna Low Signal	35	0.5	L-GN/GY	3569	V	—
36	0.5	YE/VT	2378	II	—	Right Rear Outer Parking Assist Sensor Signal	36	0.5	YE/VT	2378	V	—
37 - 40	—	—	—	—	—	Not Occupied	37 - 40	—	—	—	—	—

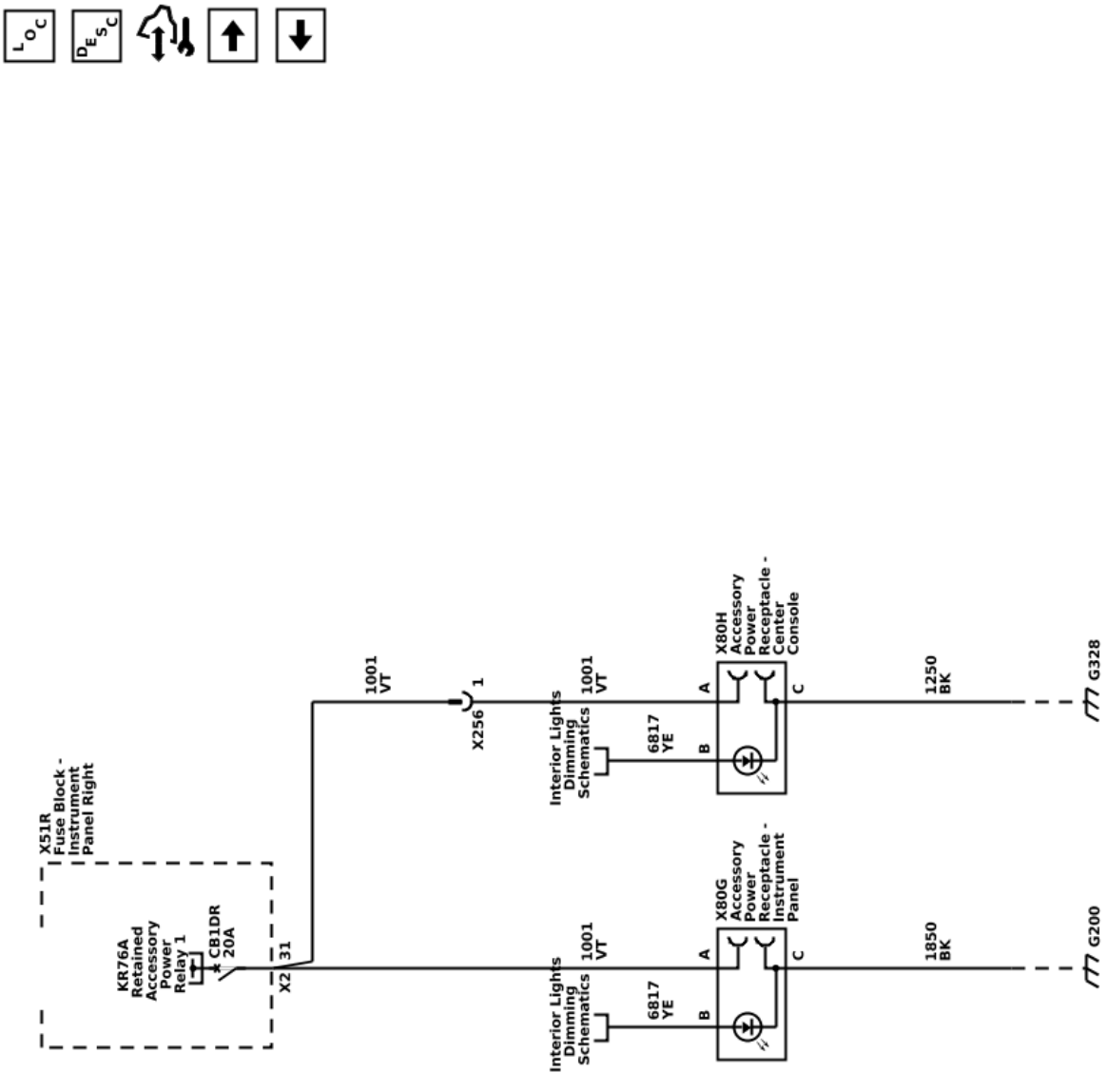
Power Outlets

Schematic and Routing Diagrams

Cigar Lighter/Power Outlet Schematics (USB Receptacles (-UW9))

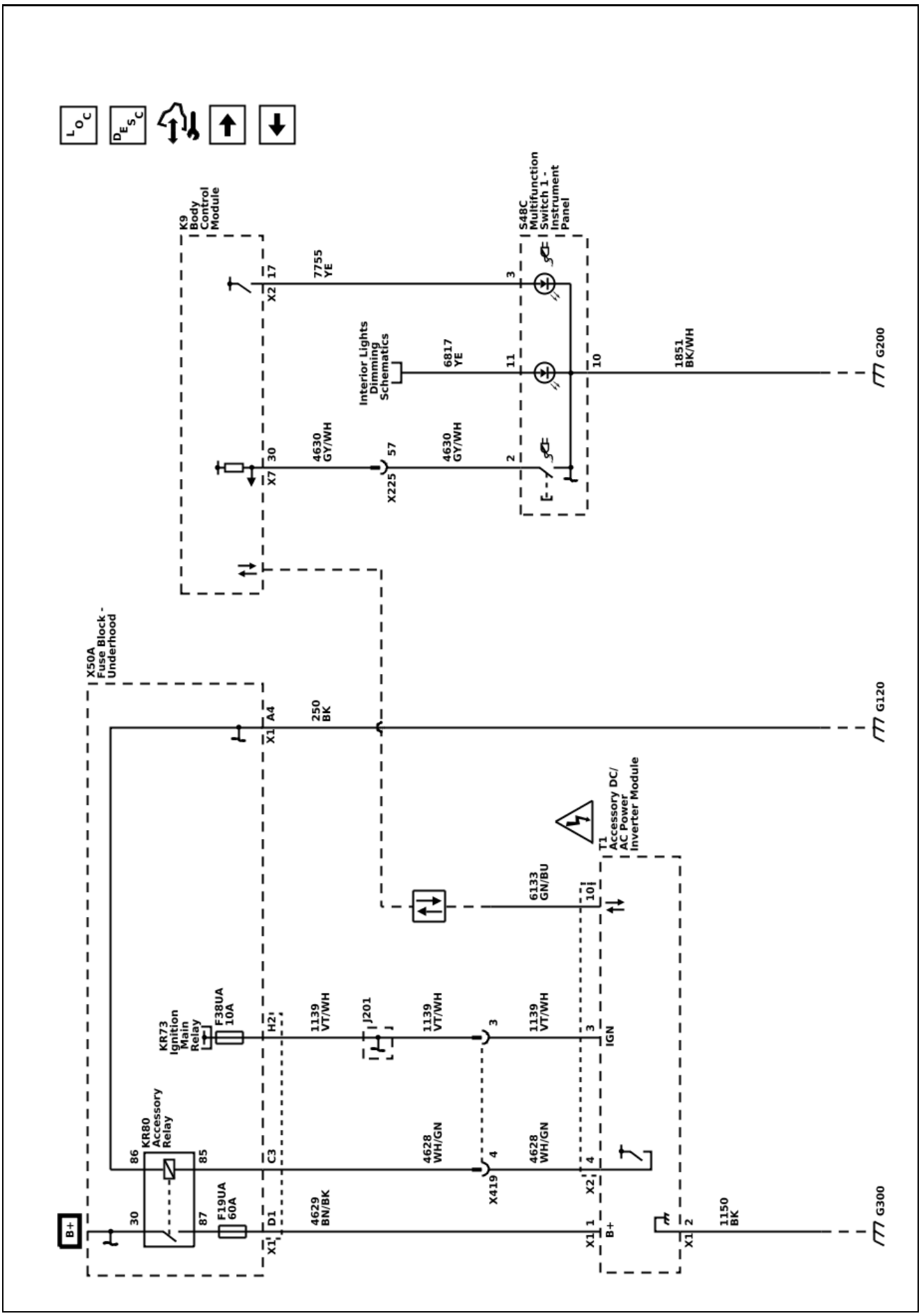


Cigar Lighter/Power Outlet Schematics (Power Receptacles)

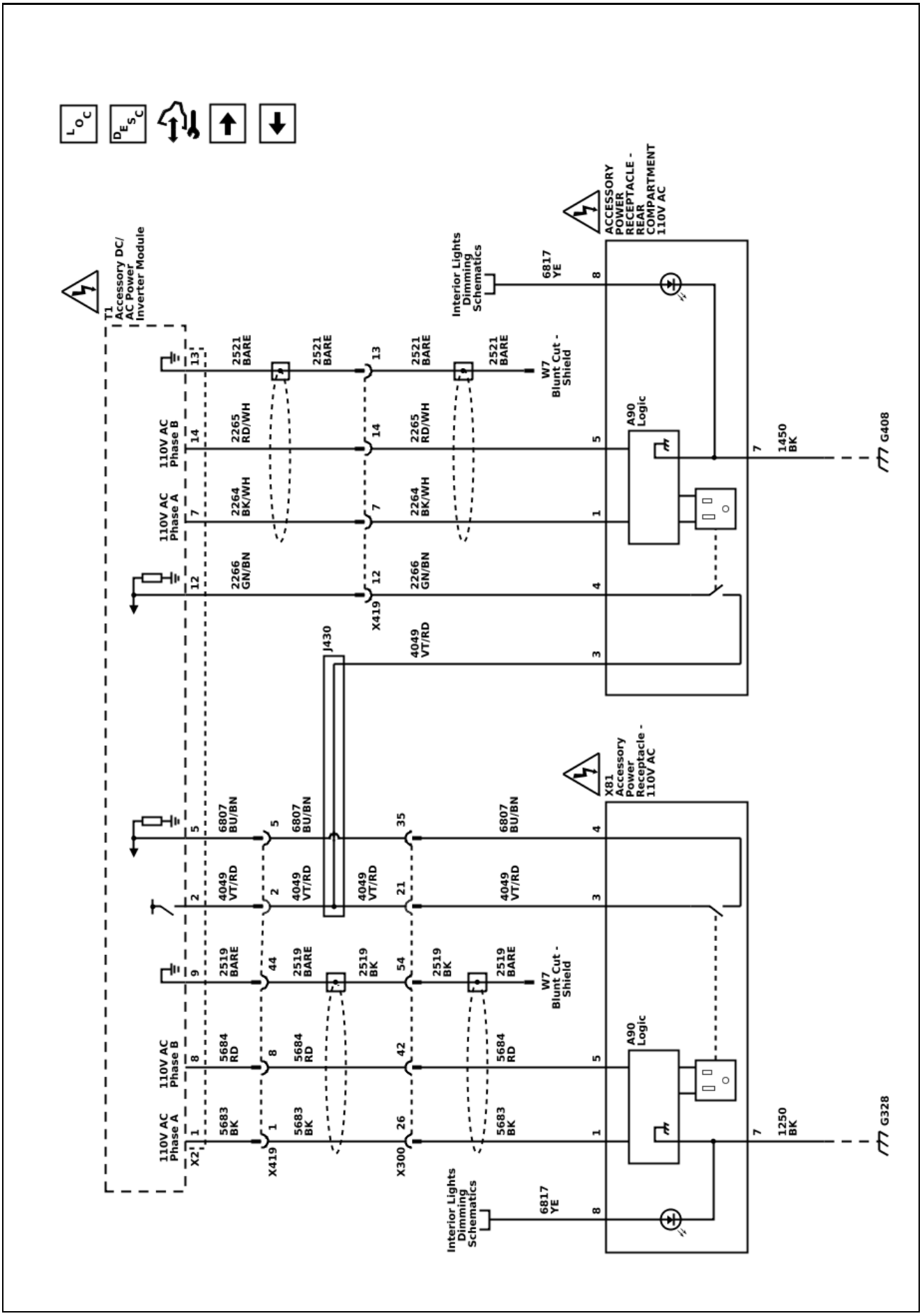


5371028

Cigar Lighter/Power Outlet Schematics (Inverter Module Power, Ground, Serial Data, and Controls (KI4/KI5))

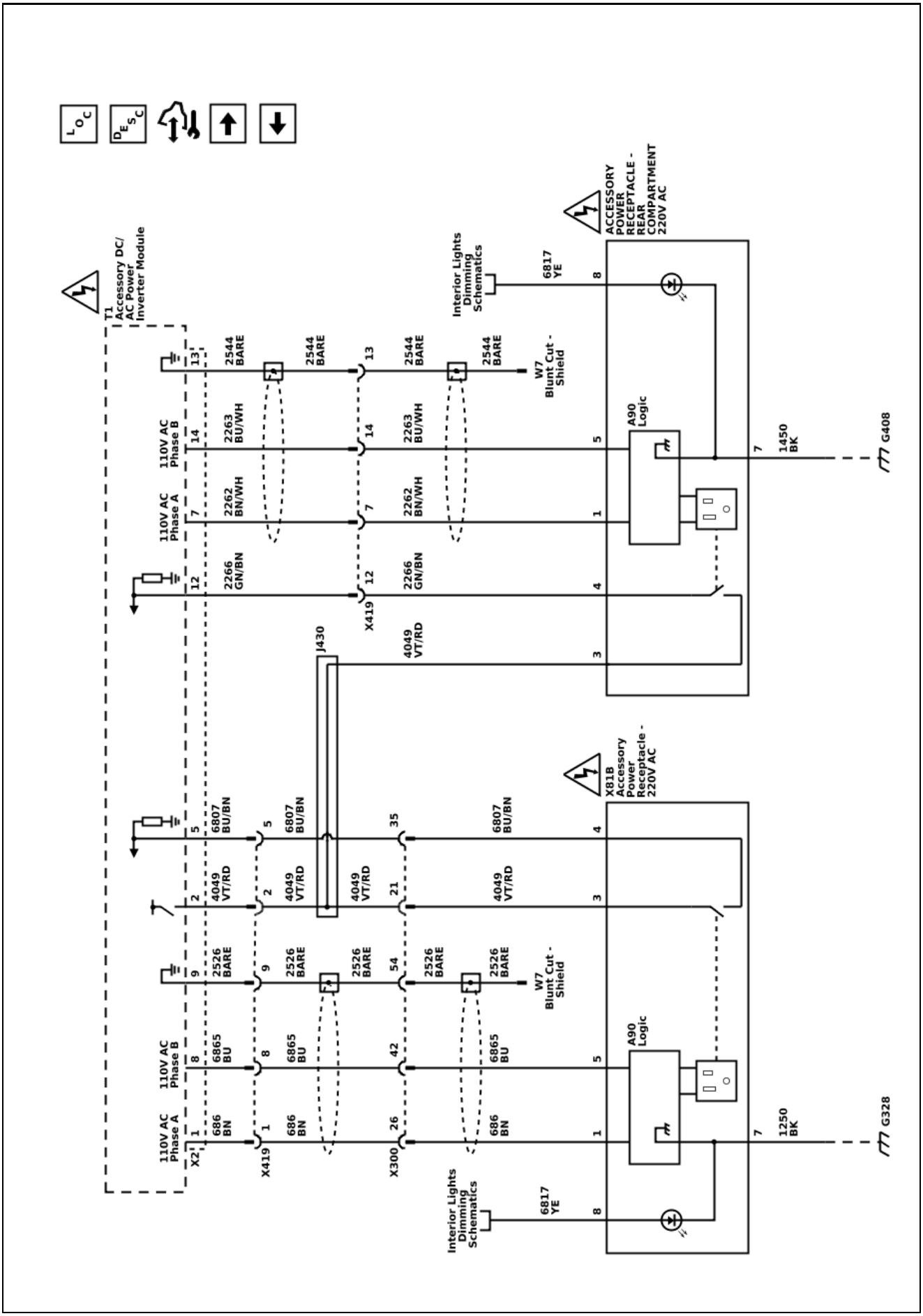


Cigar Lighter/Power Outlet Schematics (110V AC Accessory Power Receptacles (KI4))

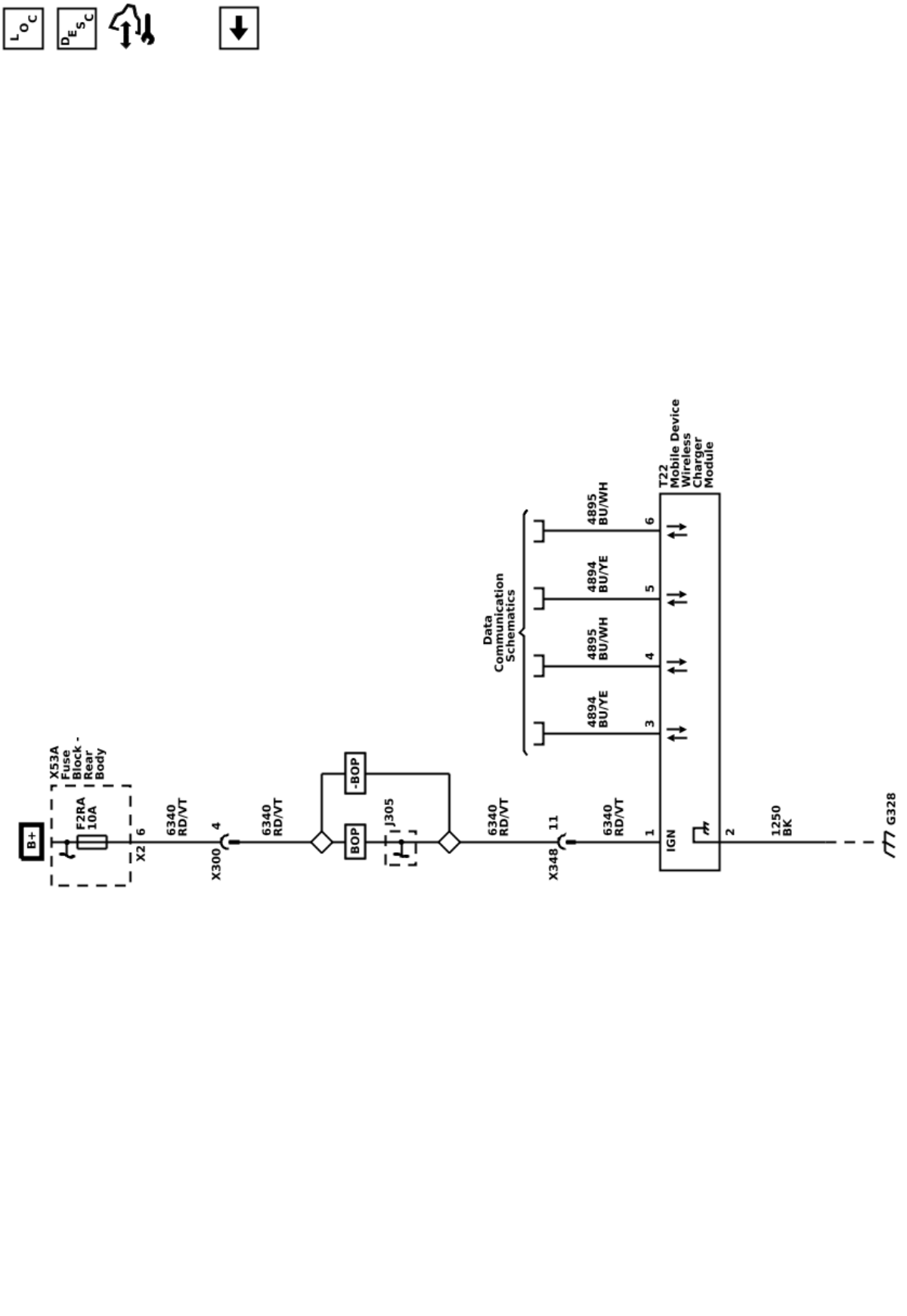


5371030

Cigar Lighter/Power Outlet Schematics (230V AC Accessory Power Receptacles (KI5))



Cigar Lighter/Power Outlet Schematics (Wireless Charging (K4C))



5371034

Description and Operation

Mobile Device Wireless Charger Description and Operation

Mobile Device Wireless Charging System

The Mobile Device Wireless Charging System (WCS) is an system for wirelessly charging mobile devices. It is capable of charging the batteries of compatible mobile devices. A compatible device is one that is compliant with Power Matters Alliance (PMA), Wireless Power Consortium (WPC) Standard, or Alliance for Wireless Power (A4WP), meaning that it is equipped with a PMA, WPC, or A4WP wireless charge “receiver” that will work with the charge “transmitter” installed in the vehicle. The devices may utilize built-in charging circuitry or an adapter (external plug-in device which contains the charging circuitry). To check for phone or other device compatibility, refer to GM Total Connect.

Warning: Remove all objects from the charging pad before charging your mobile device. Objects, such as coins, keys, rings, paper clips, or cards, between the phone and charging pad will become very hot. On the rare occasion that the charging system does not detect an object, and the object gets wedged between the phone and charger, remove the phone and allow the object to cool before removing it from the charging pad, to prevent burns.

Charging

To charge a device, place it on the charging surface in the vehicle. There is a charging coil located in the center of the charging surface. The device has a charging coil typically near the center of the device. These coils must be lined up in order for charging to proceed. When the interruptible retained accessory power (IRAP) relay is closed (this is true typically when vehicle ignition is in Run or Accessory position), the WCS will detect the device, establish communications with the device to confirm it is a compatible device, and then deliver charging power to the device via wireless interface. The WCS will be able to deliver 5W to 15W of power as requested by the compatible device. It shall only enter a charging state if communication is established and a compatible device is identified.

The WCS shall not enter a charging state if there is no communication established with a compatible device. Due to differences in objects, a foreign object detection protocol is employed to detect a non-compliant device and hold power transfer initiation until the non-compliant object has been removed and a compliant object has been detected. The charger monitors its internal temperature and will shut down if the charger temperature exceeds 185F (85C).

Indicator

The body control module will detect the device battery is charging and send a serial data message on the GMLAN bus to the radio display. The radio display will indicate a device is currently charging by displaying a lightning bolt over the phone icon. When the indicator is toggling on and off this indicates a thermal limit has been reached and the device will not charge. For more information refer to the owners manual.

Cooling

The wireless charger is kept cool using the HVAC system. There is a dedicated HVAC duct that connects to the Wireless Charging Module bracket (which holds the module and the mat).

Power Outlets Description and Operation

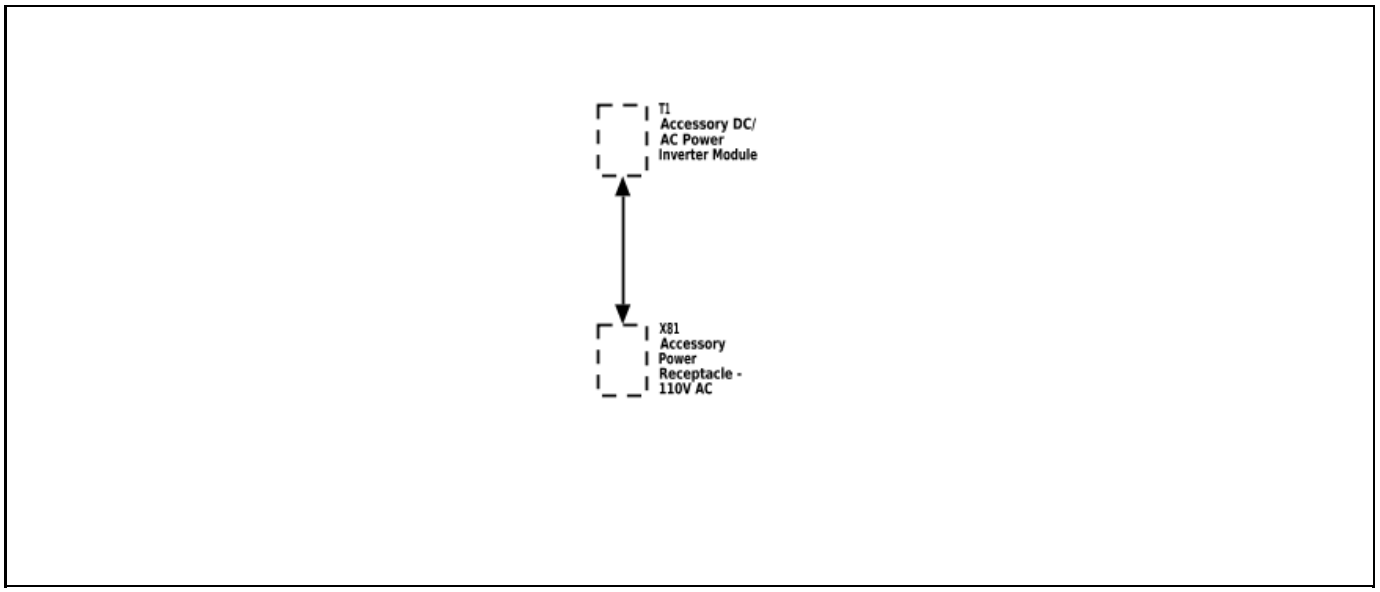
12 Volt Power Outlet Receptacle Description and Operation

The 12 V accessory power receptacles are supplied with power by the accessory relay.

The vehicle is fitted with a cigarette lighter and/or with a 12 V accessory power receptacle. The cigarette lighter and accessory power outlets are controlled by an ignition operated relay. The accessory power receptacle and cigarette lighter are operational when the ignition is turned to either the On or the Accessories positions. To operate the cigarette lighter, press in the lighter knob. When the element is hot, the lighter automatically pops out and is ready for use.

110 Volt Power Outlet Receptacle System Description

Power Outlets Block Diagram



3403851

The alternating current (AC) accessory power outlet system consists of the accessory DC/AC power inverter module and the accessory power receptacle – 110 V AC. The accessory DC/AC power inverter module converts 12 V direct current (DC) battery power to 110 V at 60 Hertz (Hz) AC power to operate AC powered devices. The accessory DC/AC power inverter module provides up to 150 watts of power. The accessory power receptacle – 110 V AC provides the usual connection for AC powered devices.

110 Volt Power Outlet Receptacle System Operation

The accessory DC/AC power inverter module receives fuse protected battery voltage and is connected to the 12 V electrical system ground. The accessory power receptacle – 110 V AC has an internal switch, that detects when an AC powered device is plugged into the outlet. When the ignition is ON, and an AC powered device is plugged into the accessory power receptacle – 110 V AC, the normally open switch in the accessory power receptacle – 110 V AC, closes. When the accessory DC/AC power inverter module detects the voltage from the accessory power receptacle – 110 V AC switch, the inverter module begins to supply 110 V AC to the accessory power receptacle – 110 V AC after a 1.5 s delay. The accessory AC power system is protected against circuit overload and circuit shorts to ground.

110 Volt Power Outlet Receptacle Isolation Fault Protection

The accessory DC/AC power inverter module contains a ground fault circuit interrupter (GFCI). GFCI monitors the 110 V circuit for a short to vehicle chassis ground. If a 110 V AC short to ground is detected, the accessory DC/AC power inverter module will turn OFF. The module remains OFF, until the AC powered device is unplugged from the outlet, and then plugged into the outlet after a 3 s delay.

110 Volt Power Outlet Receptacle Overload Shutdown

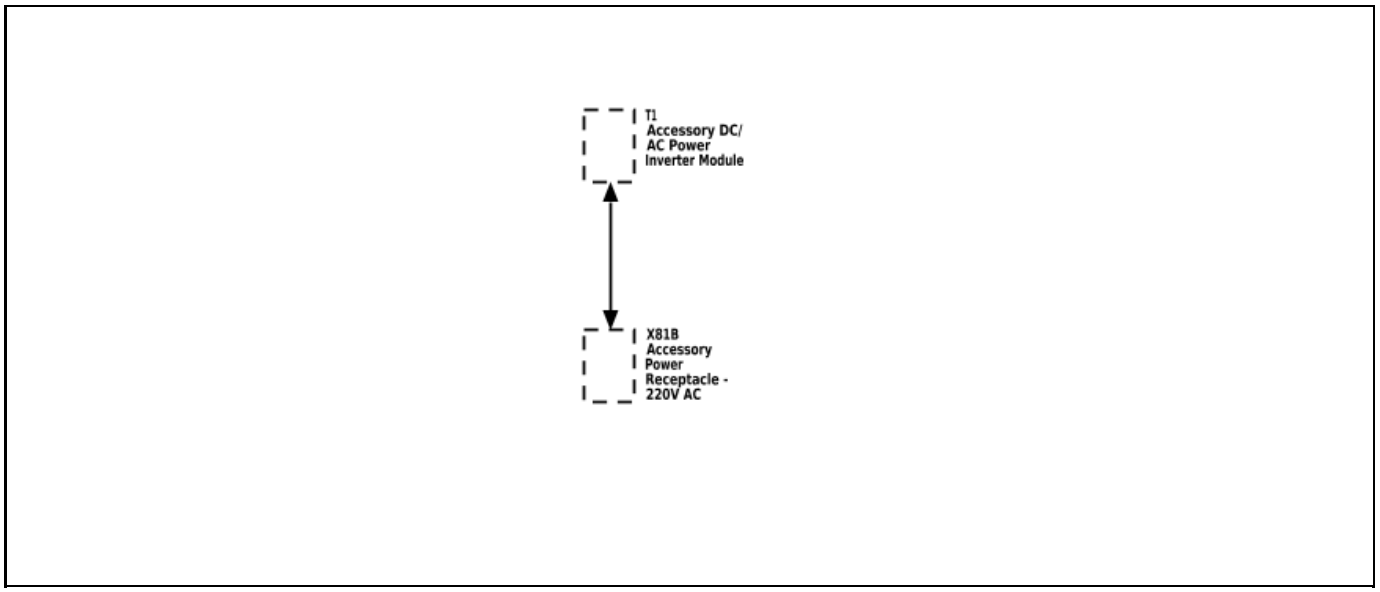
The accessory DC/AC power inverter module will turn OFF if the current in the 110 V circuit is greater than 3.8 A for 1 s , or 2.5 A for 10 s . The module will turn ON again, when the AC powered device is unplugged from the outlet, and then plugged into the outlet after a 3 s delay.

110 Volt Power Outlet Receptacle Internal Shutdown

The accessory DC/AC power inverter module will turn OFF if the B+ supply voltage is greater than 16.5 V or less than 11 V. The module will also turn OFF if the device temperature is greater than 85°C (185°F). The module will turn ON again, after the shutdown condition is corrected, and the AC powered device is unplugged from the outlet, and then plugged into the outlet.

230 Volt Power Outlet Receptacle System Description

Power Outlets Block Diagram



3403853

The alternating current (AC) accessory power outlet system consists of the accessory DC/AC power inverter module and the accessory power receptacle – 220V AC. The accessory DC/AC power inverter module converts 12 V direct current (DC) battery power to 220–230 V at 50 Hertz (Hz) AC power to operate AC powered devices. The accessory DC/AC power inverter module provides up to 150 watts of power. The accessory power receptacle – 220V AC provides the usual connection for AC powered devices.

230 Volt Power Outlet Receptacle System Operation

The accessory DC/AC power inverter module receives fuse protected battery voltage and is connected to the 12 V electrical system ground. The accessory power receptacle – 220V AC has an internal switch, that detects when an AC powered device is plugged into the outlet. When the ignition is ON, and an AC powered device is plugged into the accessory power receptacle – 220V AC, the normally open switch in the accessory power receptacle – 220V AC, closes. When the accessory DC/AC power inverter module detects the voltage from the accessory power receptacle – 220V AC switch, the inverter module begins to supply 220–230 V AC to the accessory power receptacle – 220V AC after a 1.5 second delay. The accessory AC power system is protected against circuit overload and circuit shorts to ground.

230 Volt Power Outlet Receptacle Isolation Fault Protection

The accessory DC/AC power inverter module contains a ground fault circuit interrupter (GFCI). GFCI monitors the 230 V circuit for a short to vehicle chassis ground. If a 230 V AC short to ground is detected, the accessory DC/AC power inverter module will turn OFF. The module remains OFF, until the AC powered device is unplugged from the outlet, and then plugged into the outlet after a 3 s delay.

230 Volt Power Outlet Receptacle Overload Shutdown

The accessory AC/DC power control module will turn OFF if the current in the 230 V circuit is greater than 3.8 A for 1 second, or 2.5 A for 10 seconds. The module will turn ON again, when the AC powered device is unplugged from the outlet, and then plugged into the outlet after a 3 second delay.

230 Volt Power Outlet Receptacle Internal Shutdown

The accessory DC/AC power inverter module will turn OFF if the B+ supply voltage is greater than 16.5 V or less than 11 V. The module will also turn OFF if the device temperature is greater than 85°C (185°F). The module will turn ON again, after the shutdown condition is corrected, and the AC powered device is unplugged from the accessory power receptacle – 220V AC, and then plugged into the accessory power receptacle – 220V AC.

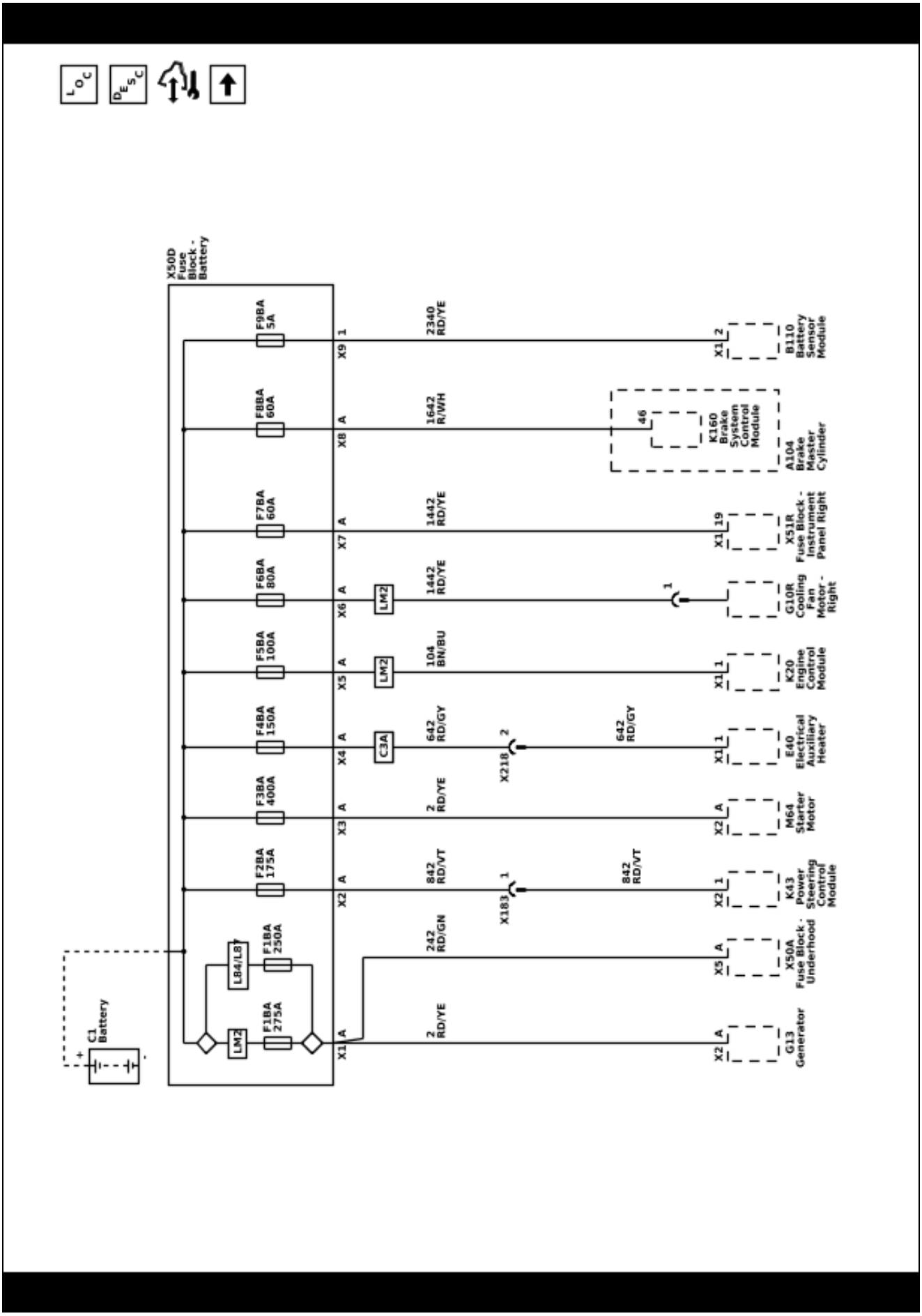
USB Receptacle Description and Operation (USS)

The vehicle is fitted with USB charge port receptacles at the rear of the floor console. These USB receptacles are for charging devices only. The USB receptacles are controlled by an ignition operated relay and are operational when the ignition is turned to either the On or the Accessories positions.

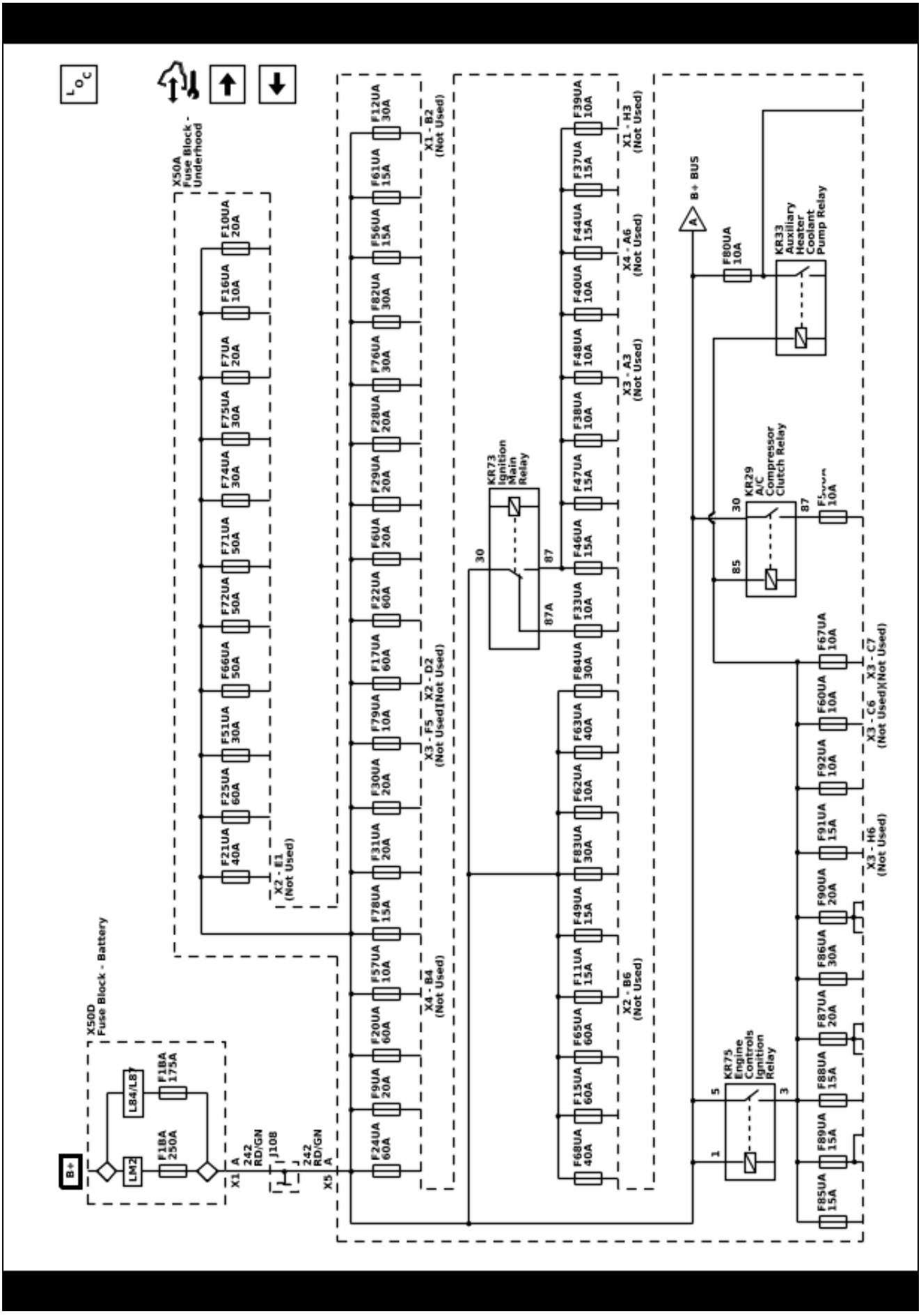
Wiring Systems and Power Management

Schematic and Routing Diagrams

Power Distribution Schematics (X50D Battery Distribution Fuse Block)

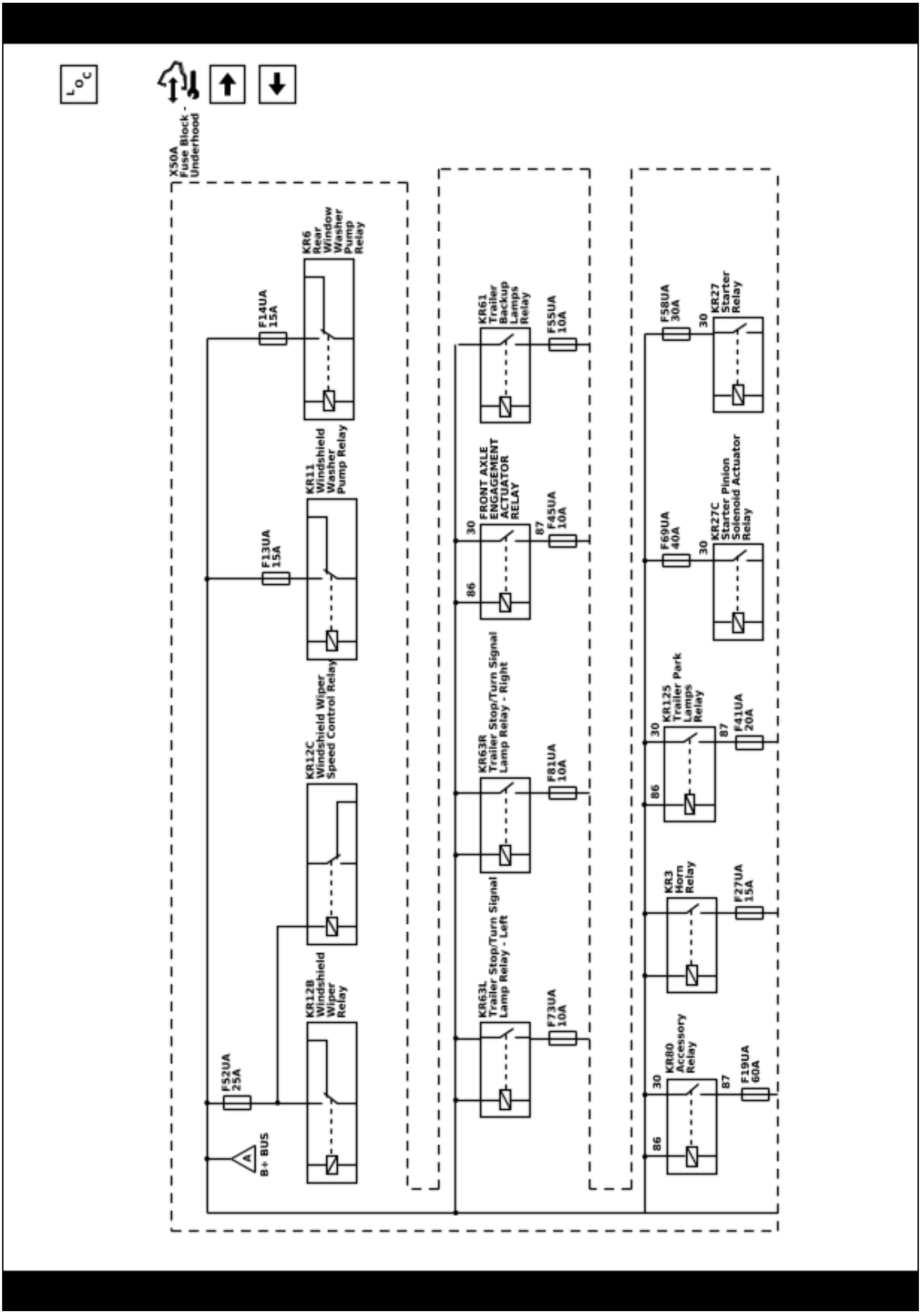


Power Distribution Schematics (X50A Engine Wiring Harness Junction Block - B+ Bus (1 of 2))

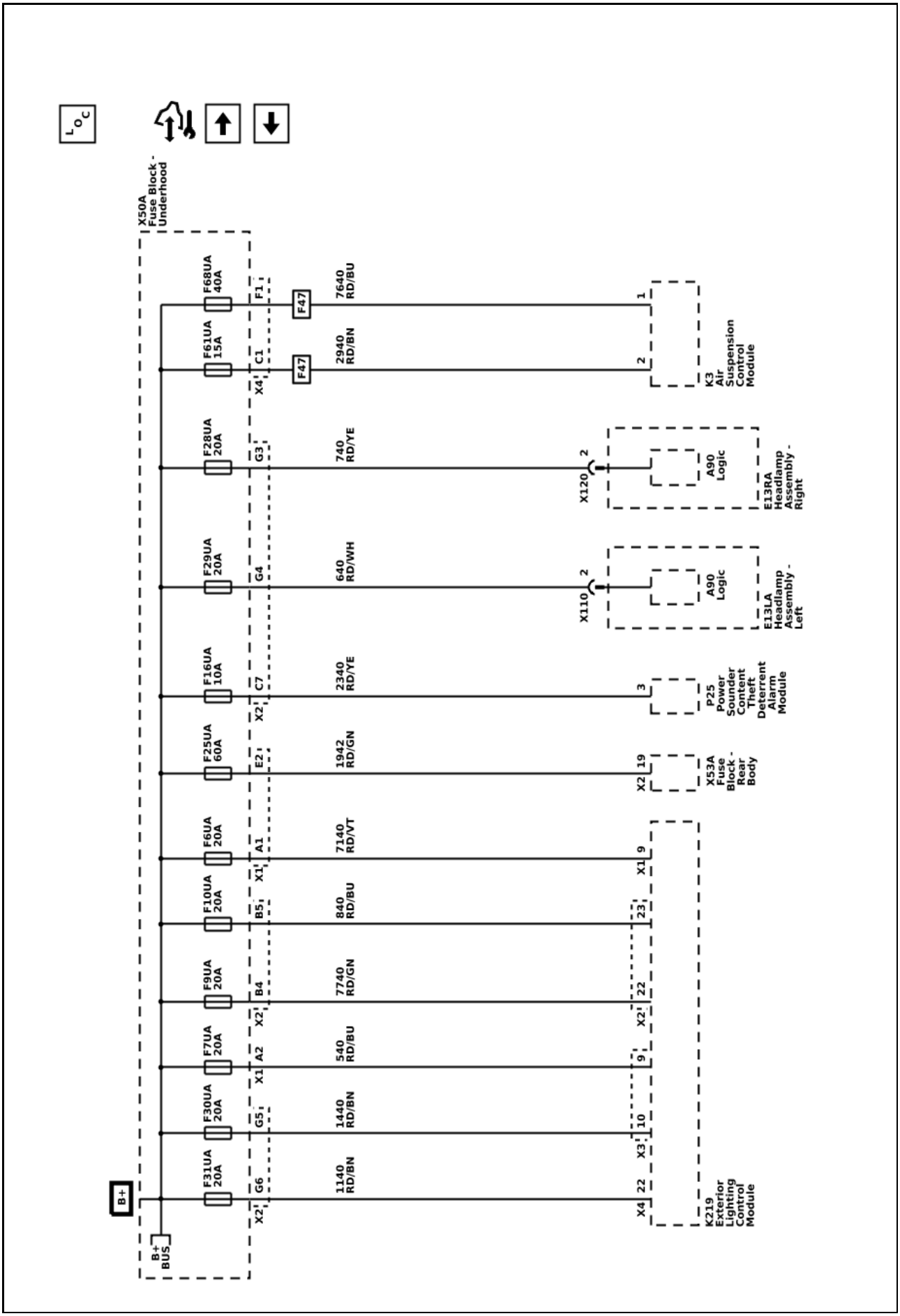


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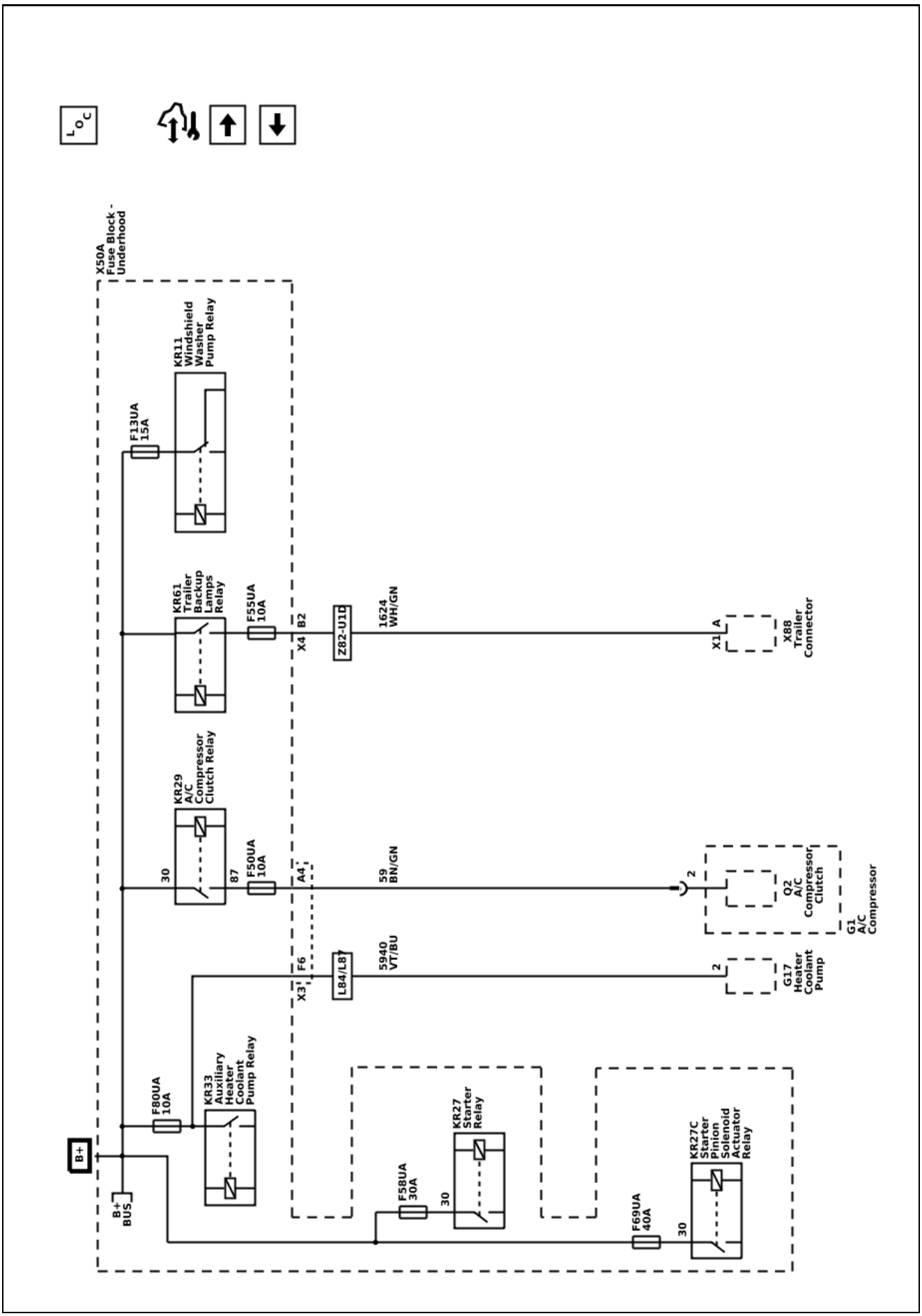
Power Distribution Schematics (X50A Engine Wiring Harness Junction Block - B+ Bus (2 of 2))



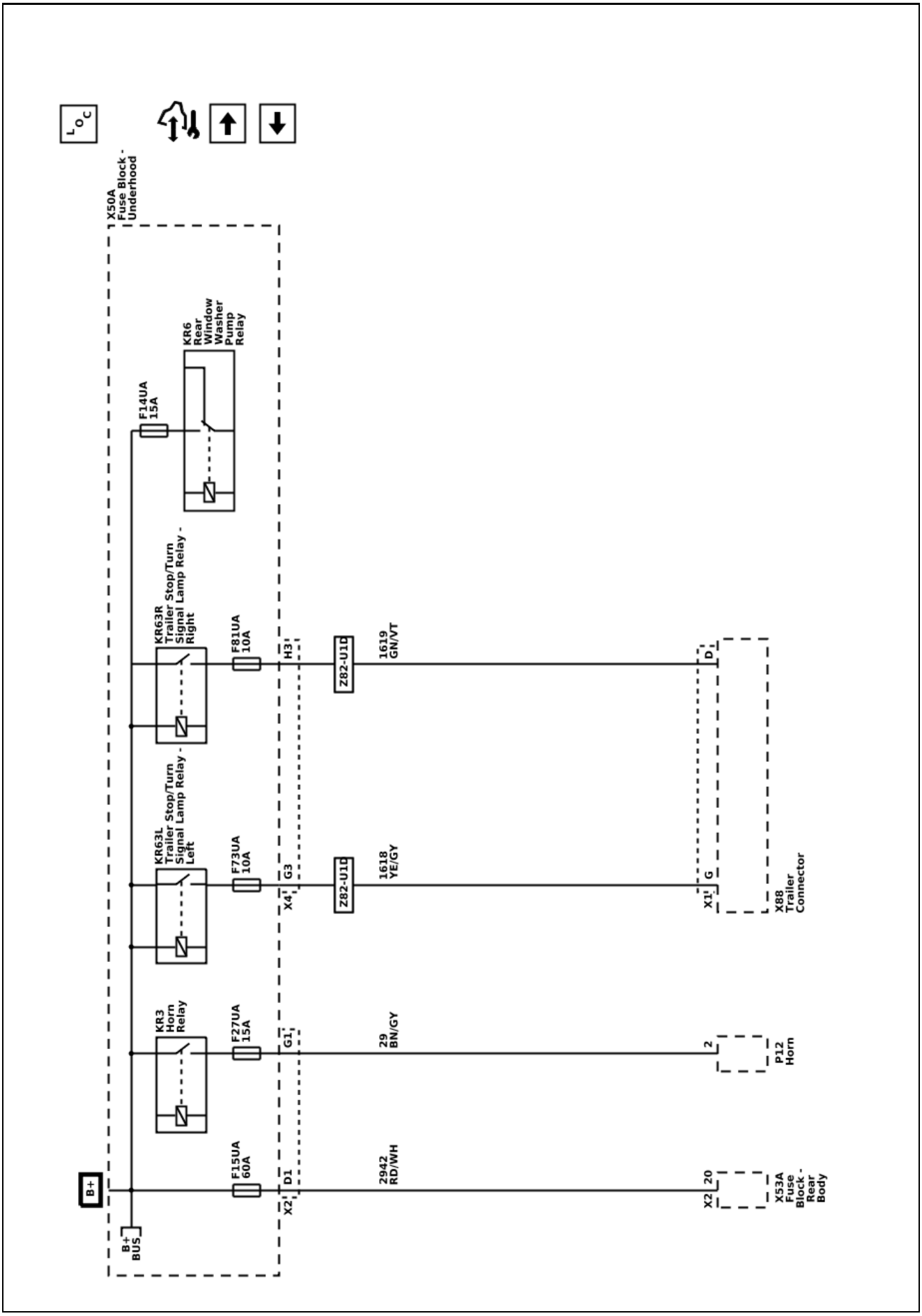
Power Distribution Schematics (F6UA, F7UA, F9UA, F10UA, F16UA, F25UA, F28UA, F29UA, F30UA, F31UA, F61UA, and F68UA Fuses)



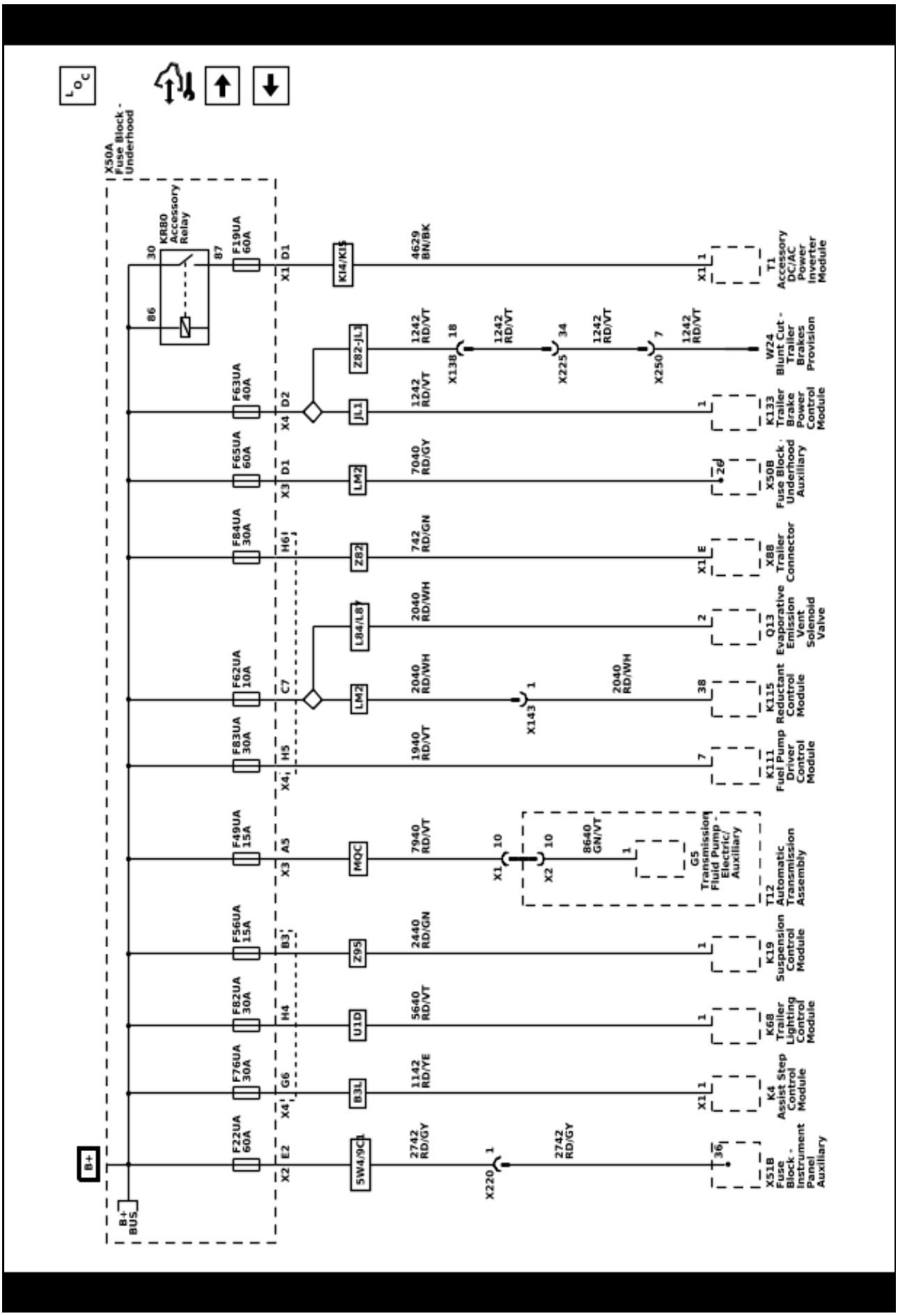
Power Distribution Schematics (F13UA, F50UA, F55UA, F58UA, F69UA, and F80UA Fuses)



Power Distribution Schematics (F14UA, F15UA, F27UA, F73UA, and F81UA Fuses)

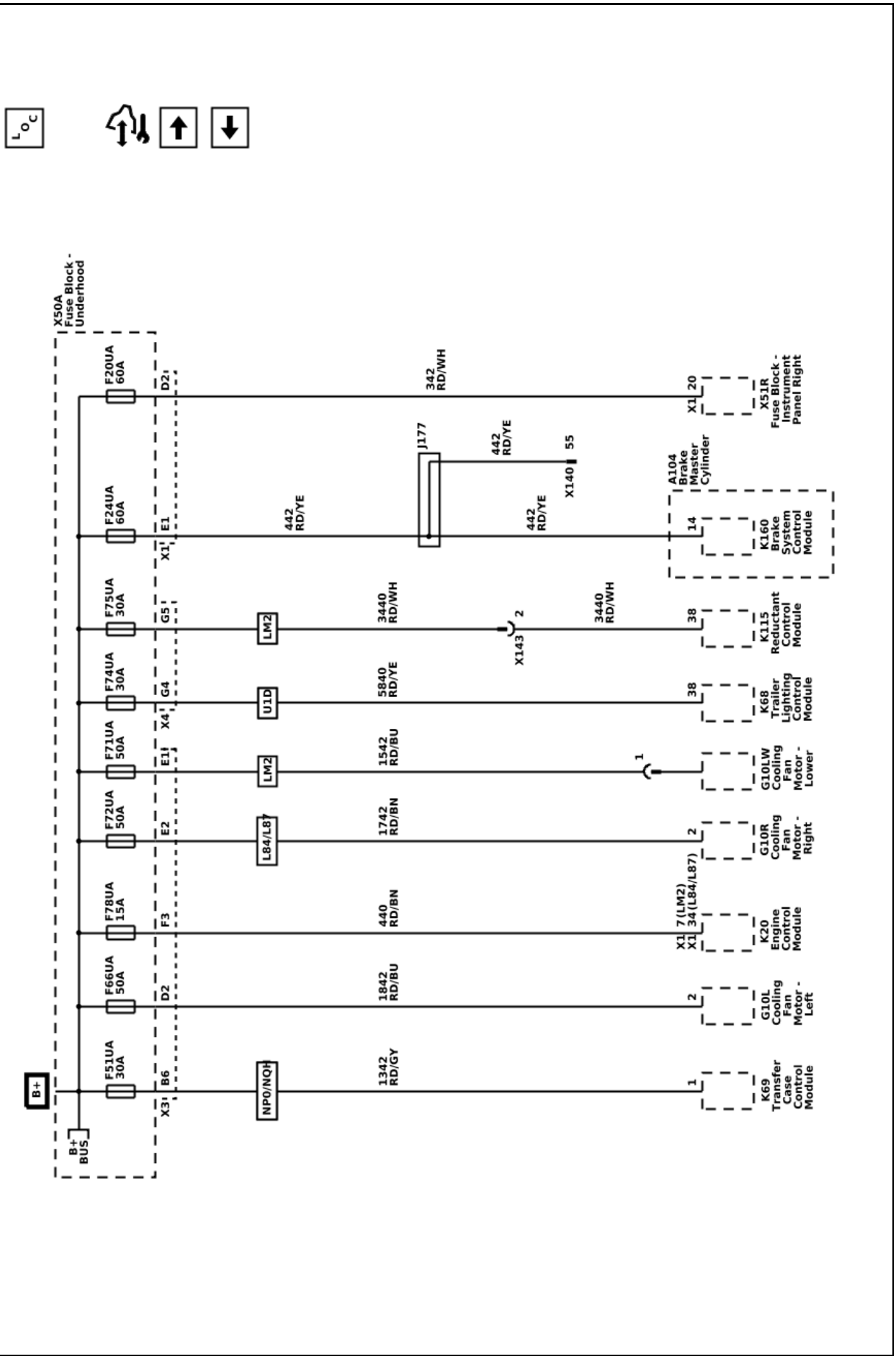


Power Distribution Schematics (F19UA, F22UA, F49UA, F56UA, F62UA, F63UA, F65UA, F76UA, F82UA, F83UA, and F84UA Fuses)

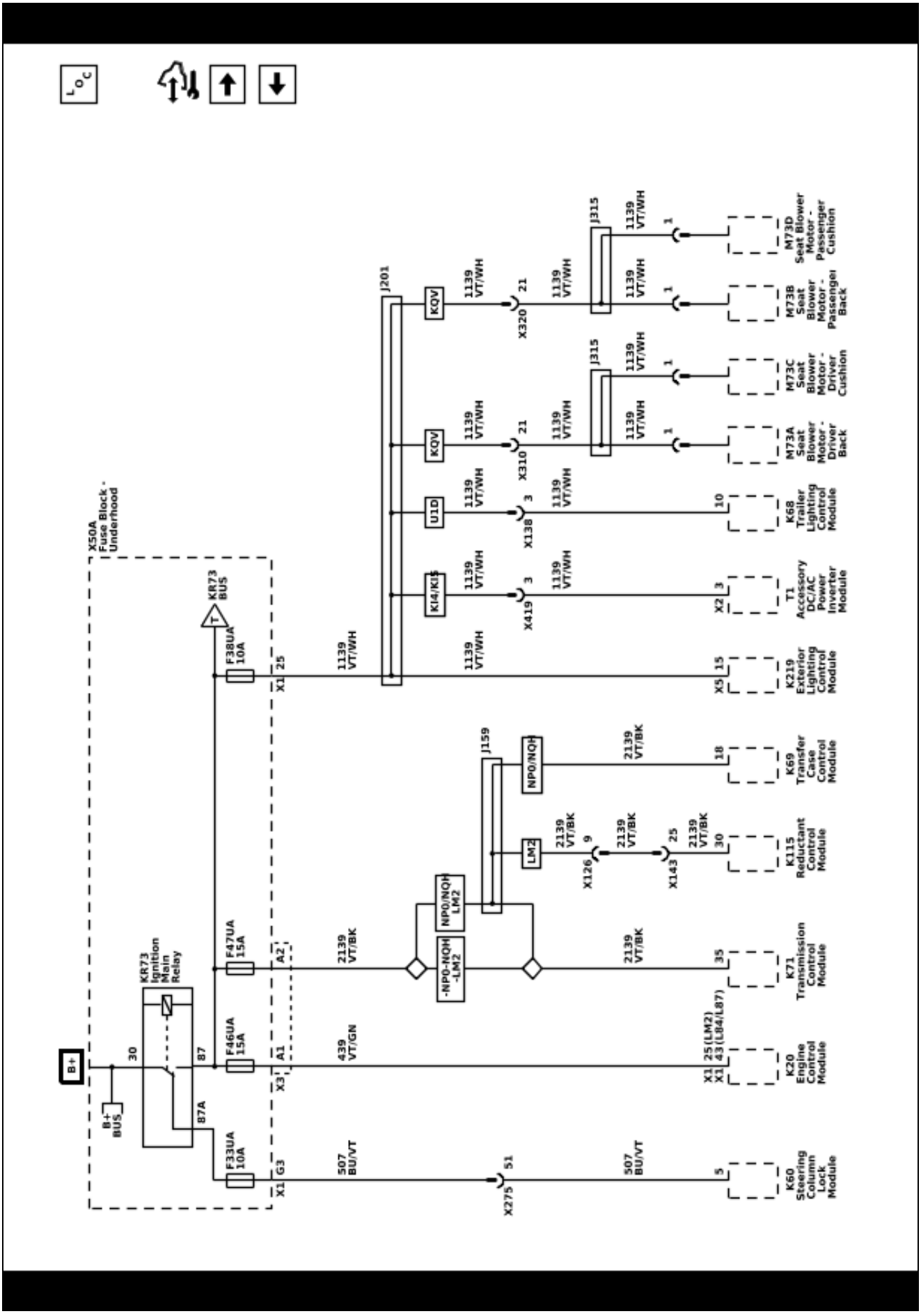


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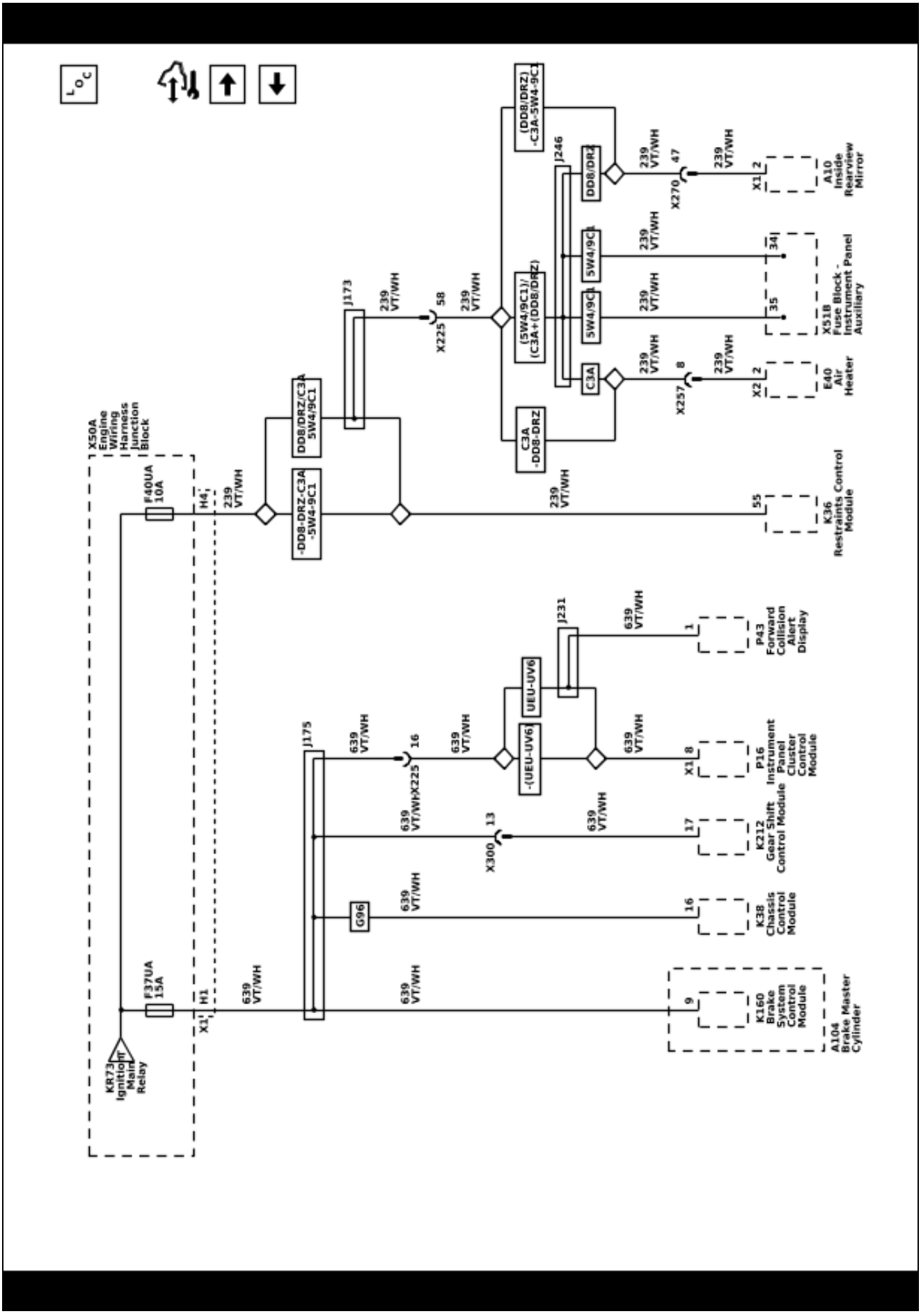
Power Distribution Schematics (F20UA, F24UA, F51UA, F66UA, F71UA, F72UA, F74UA, F75UA, and F78UA Fuses)



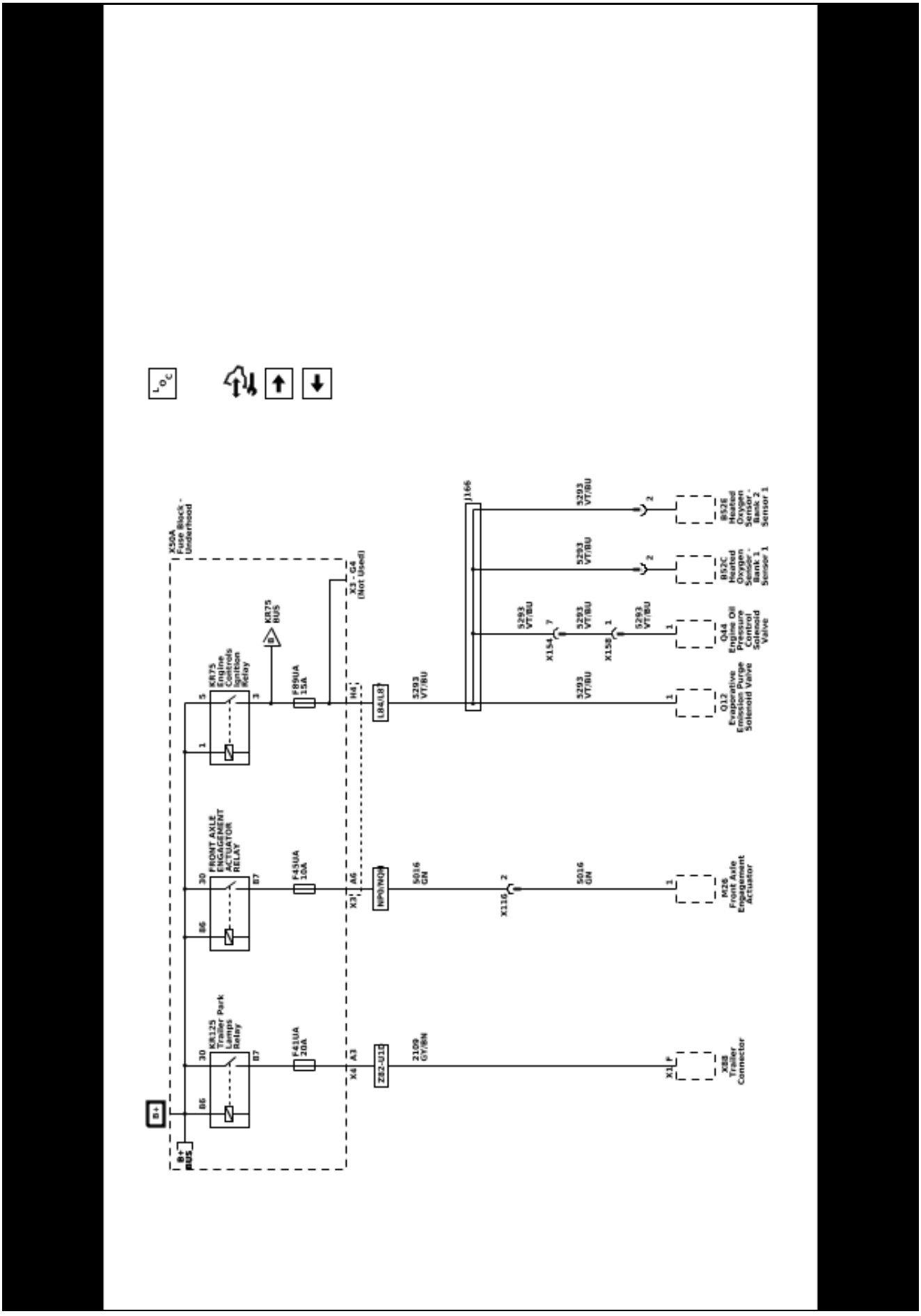
Power Distribution Schematics (F33UA, F38UA, F46UA, and F47UA Fuses)



Power Distribution Schematics (F37UA and F40UA Fuses)

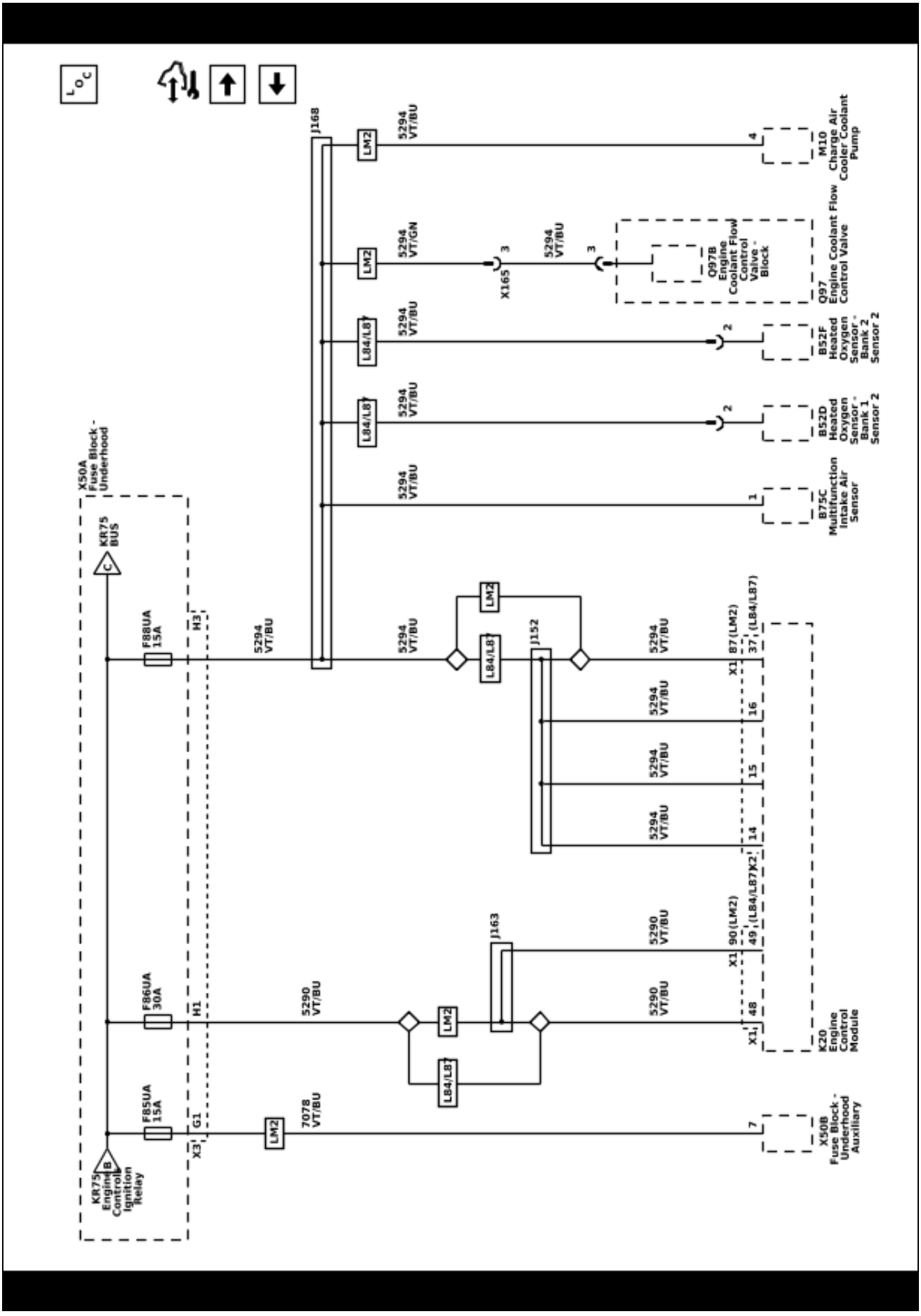


Power Distribution Schematics (F41UA, F45UA, and F89UA Fuses)

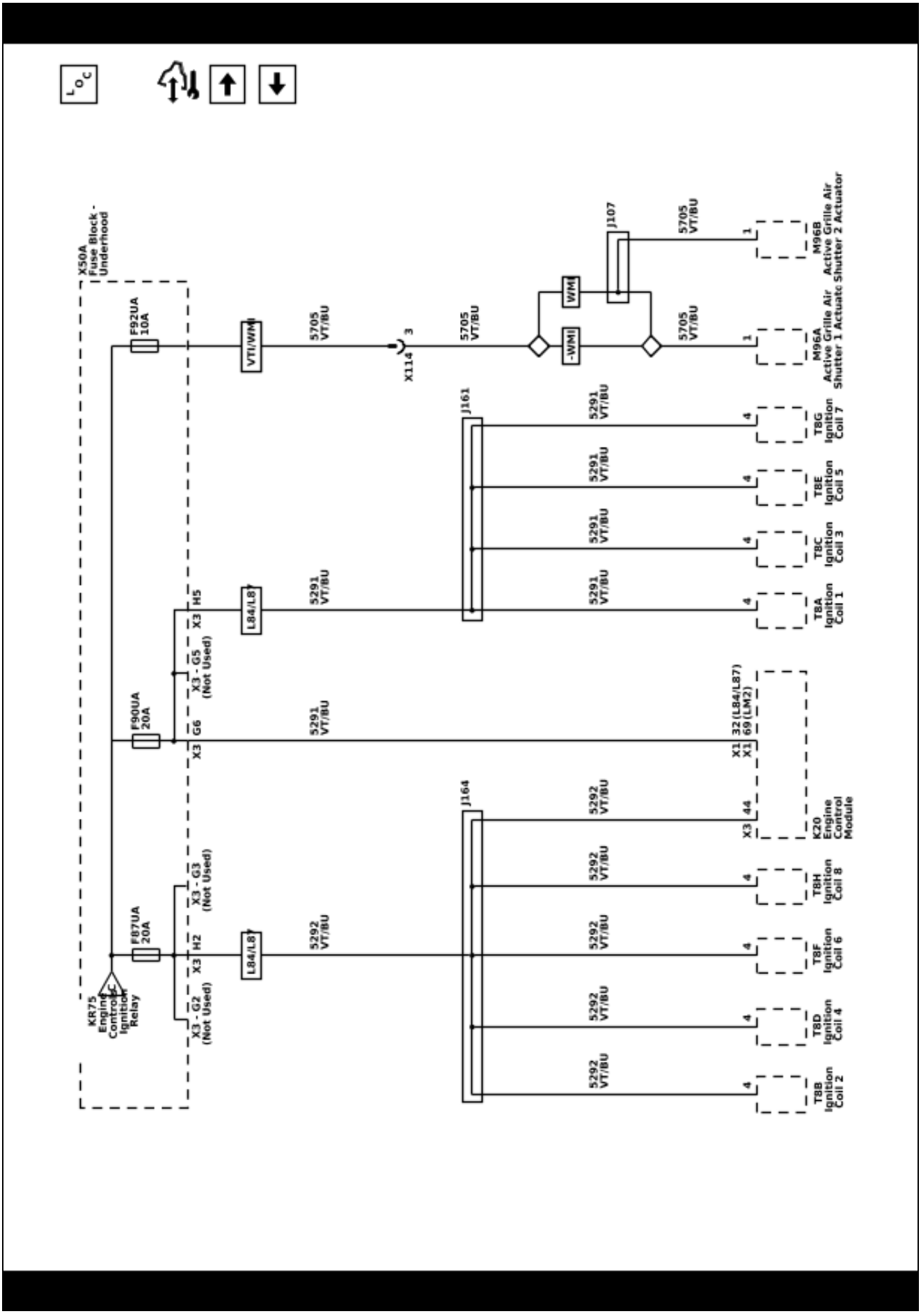


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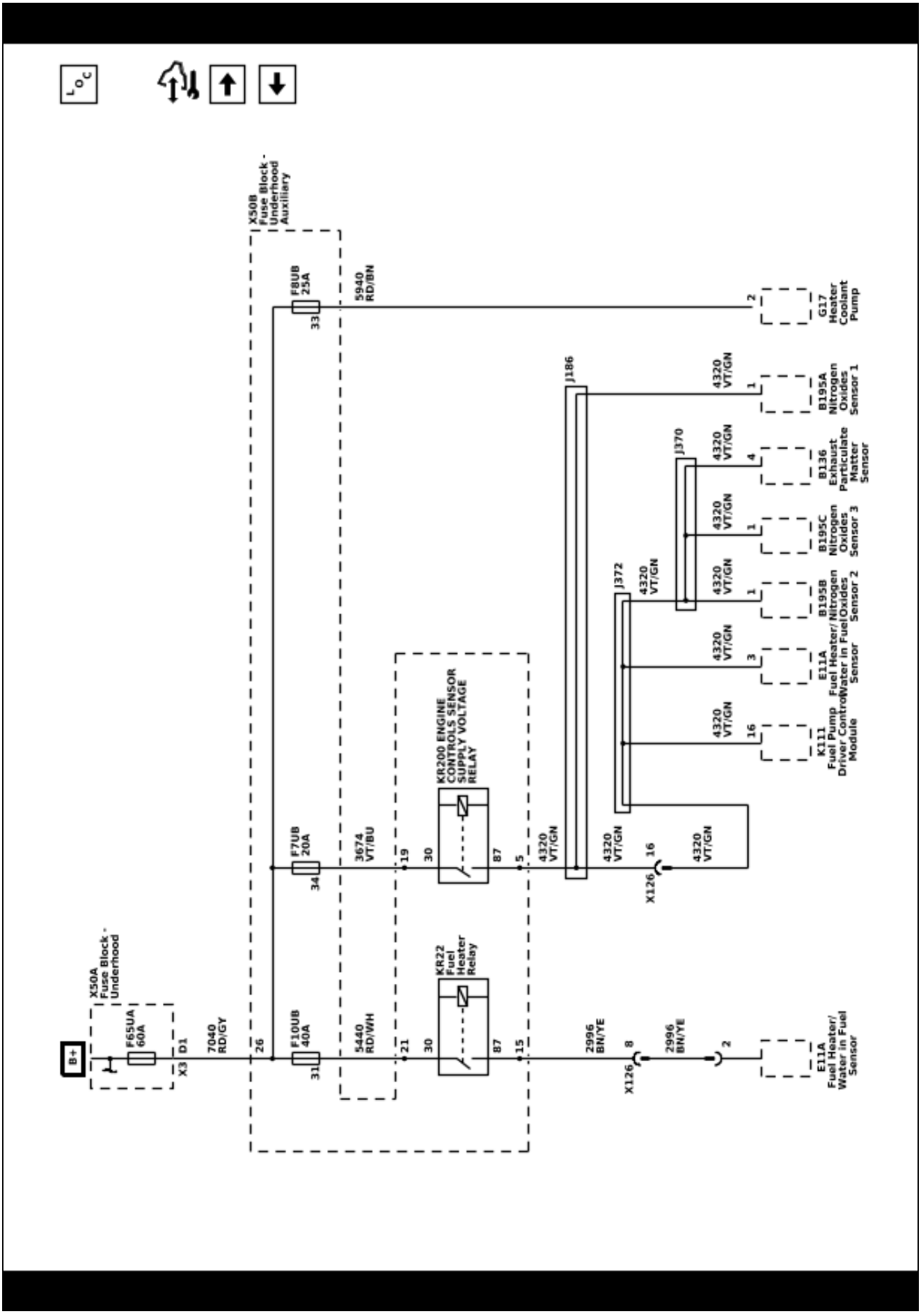
Power Distribution Schematics (F85UA, F86UA, and F88UA Fuses)



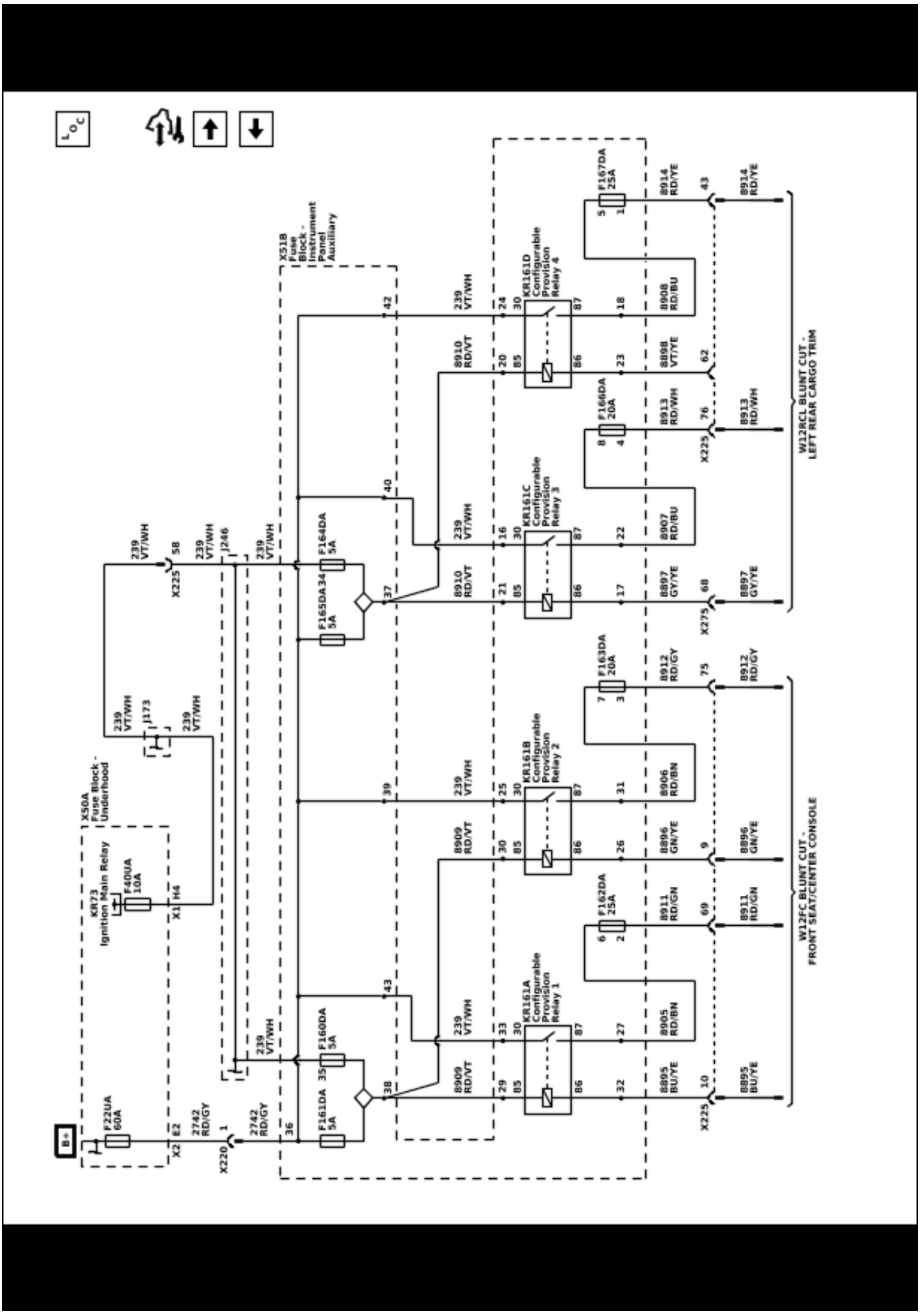
Power Distribution Schematics (F87UA, F90UA, and F92UA Fuses)



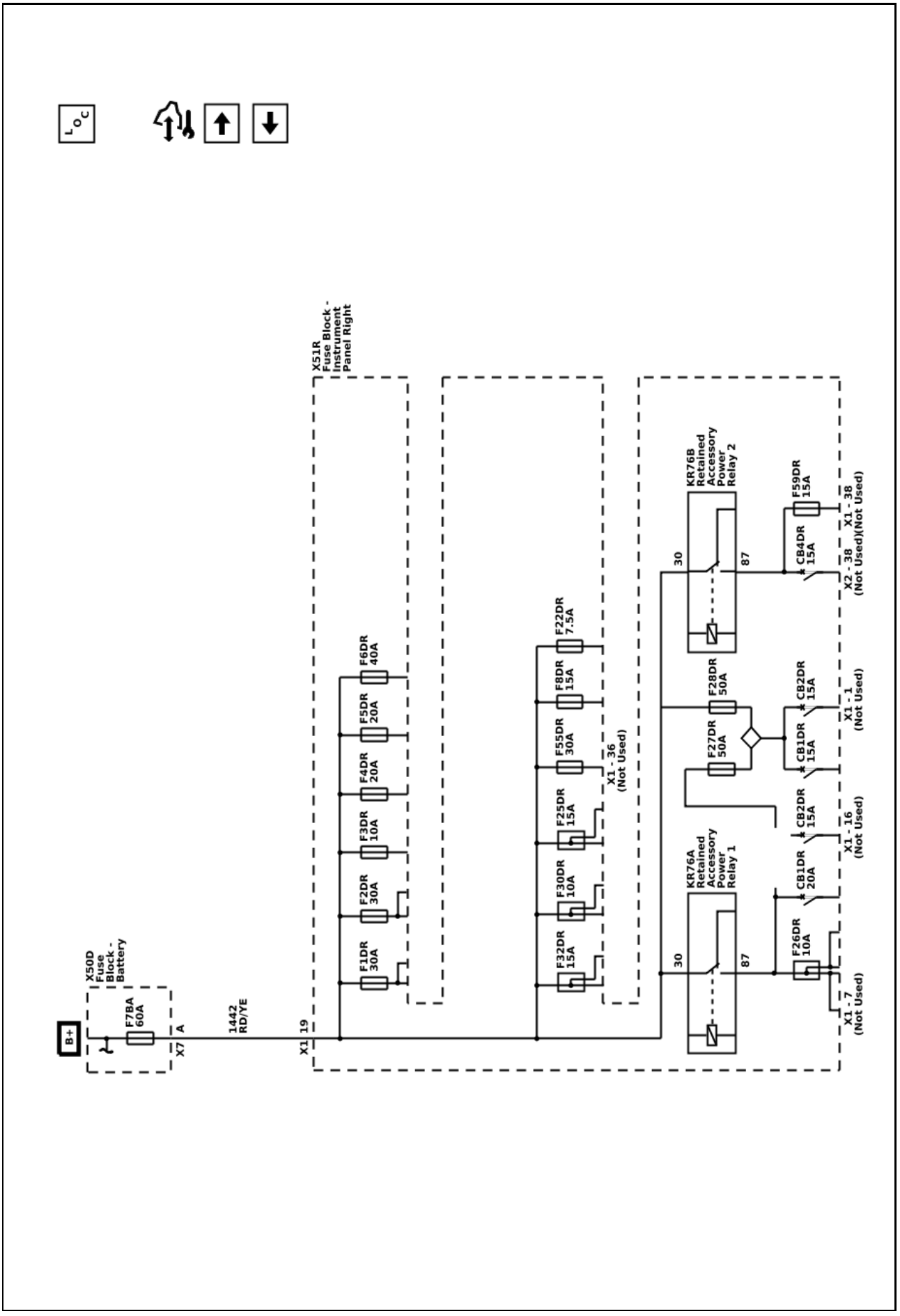
Power Distribution Schematics (X50UA Accessory Wiring Junction Block - Underhood (LM2))



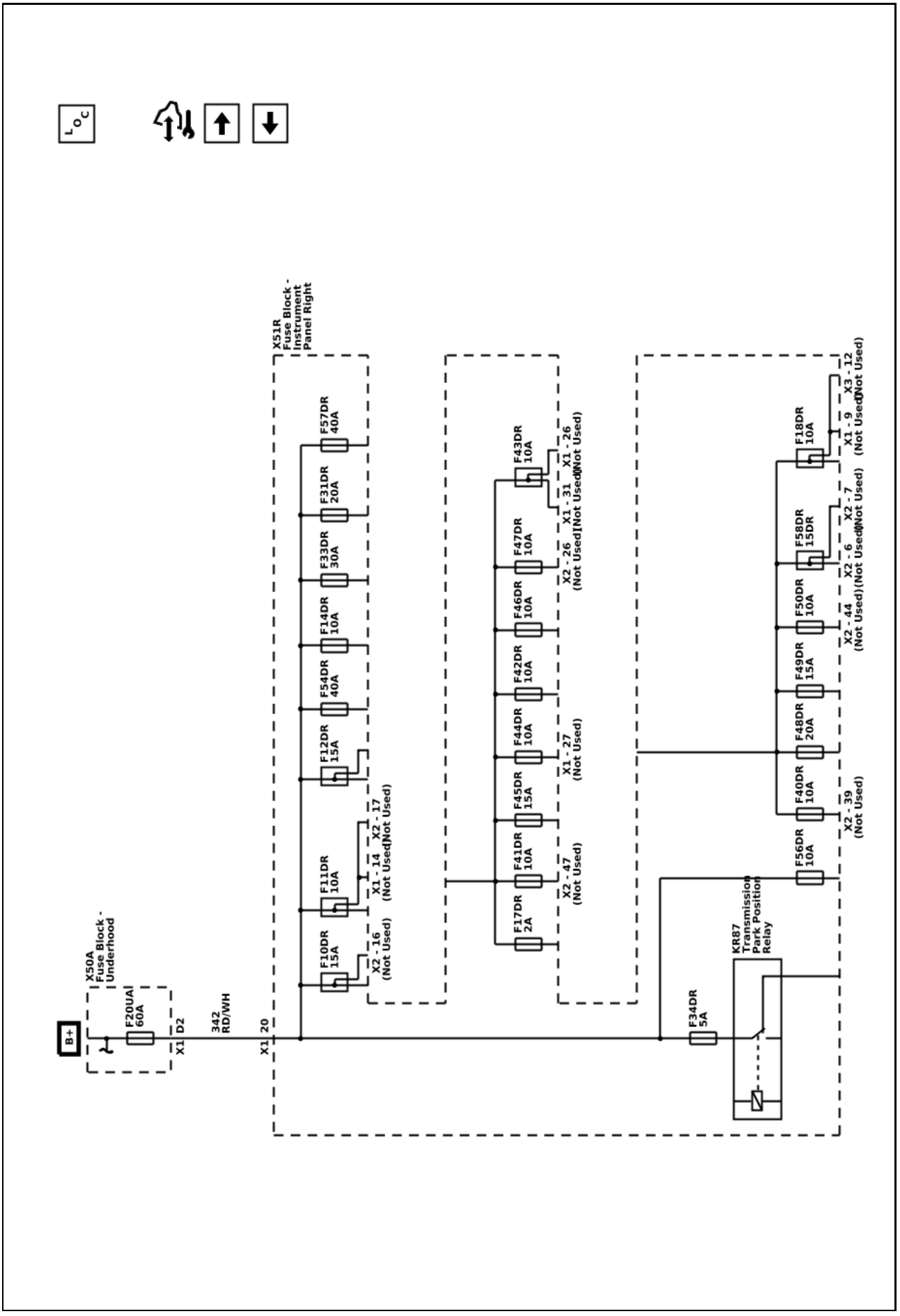
Power Distribution Schematics (X51AX Instrument Panel Wiring Harness Junction Block - Auxiliary (5W4/9C1))



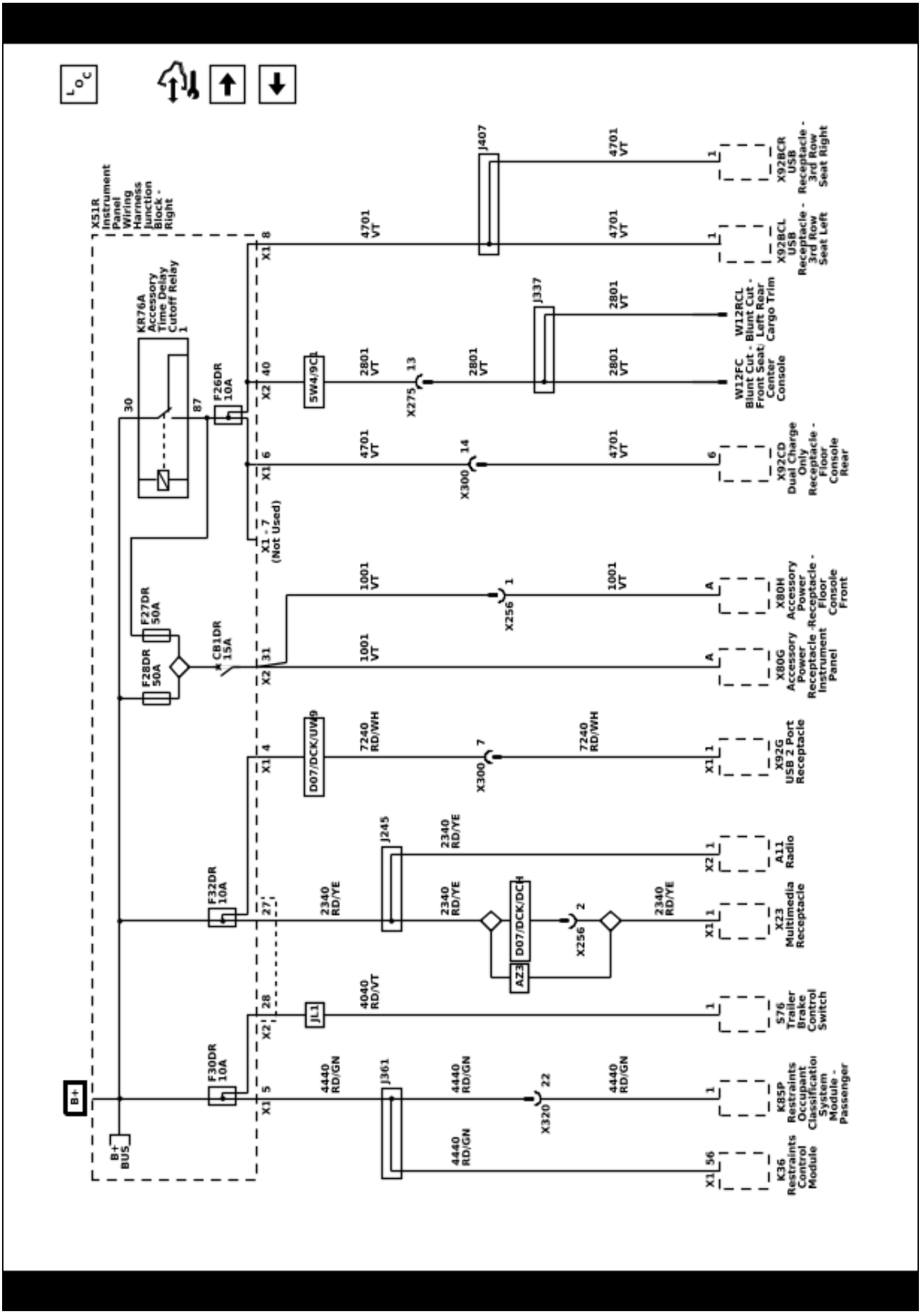
Power Distribution Schematics (X51R Instrument Panel Wiring Harness Junction Block - Right - B+ Bus (1 of 2))



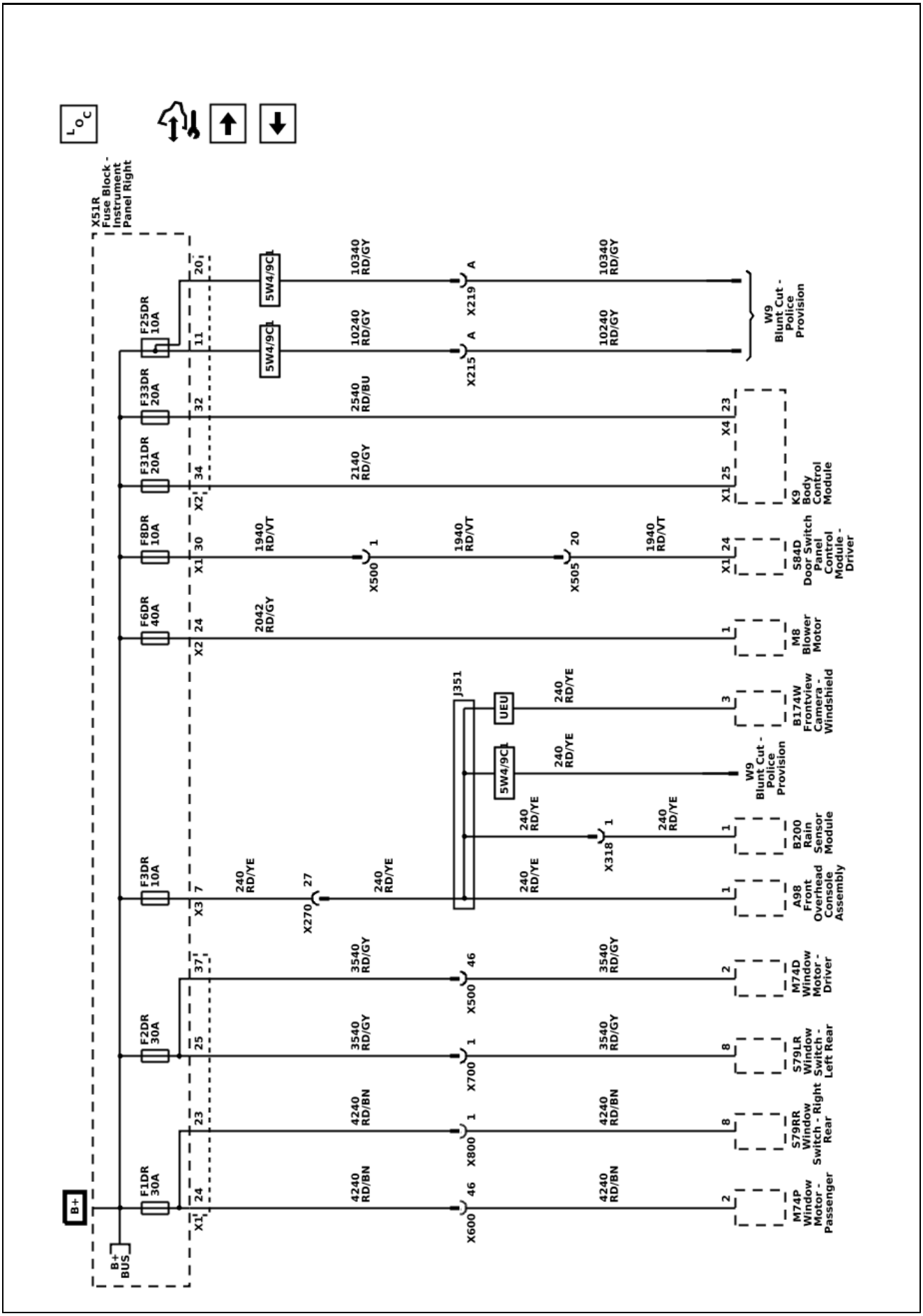
Power Distribution Schematics (X51R Instrument Panel Wiring Harness Junction Block - Right - B+ Bus (2 of 2))



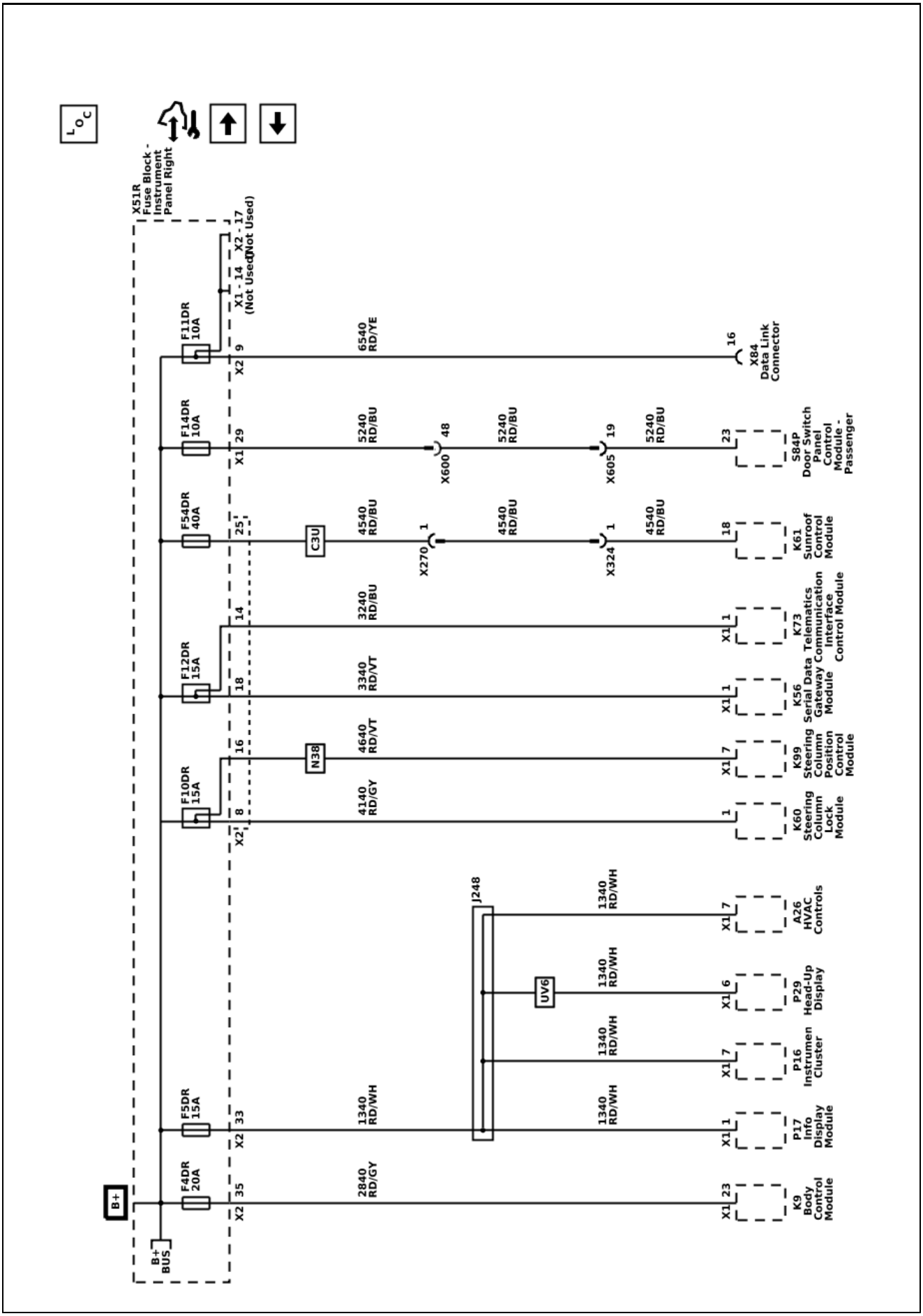
Power Distribution Schematics (CB1DR Circuit Breaker, F26DR, F27DR, F28DR, F30DR, and F32DR Fuses)



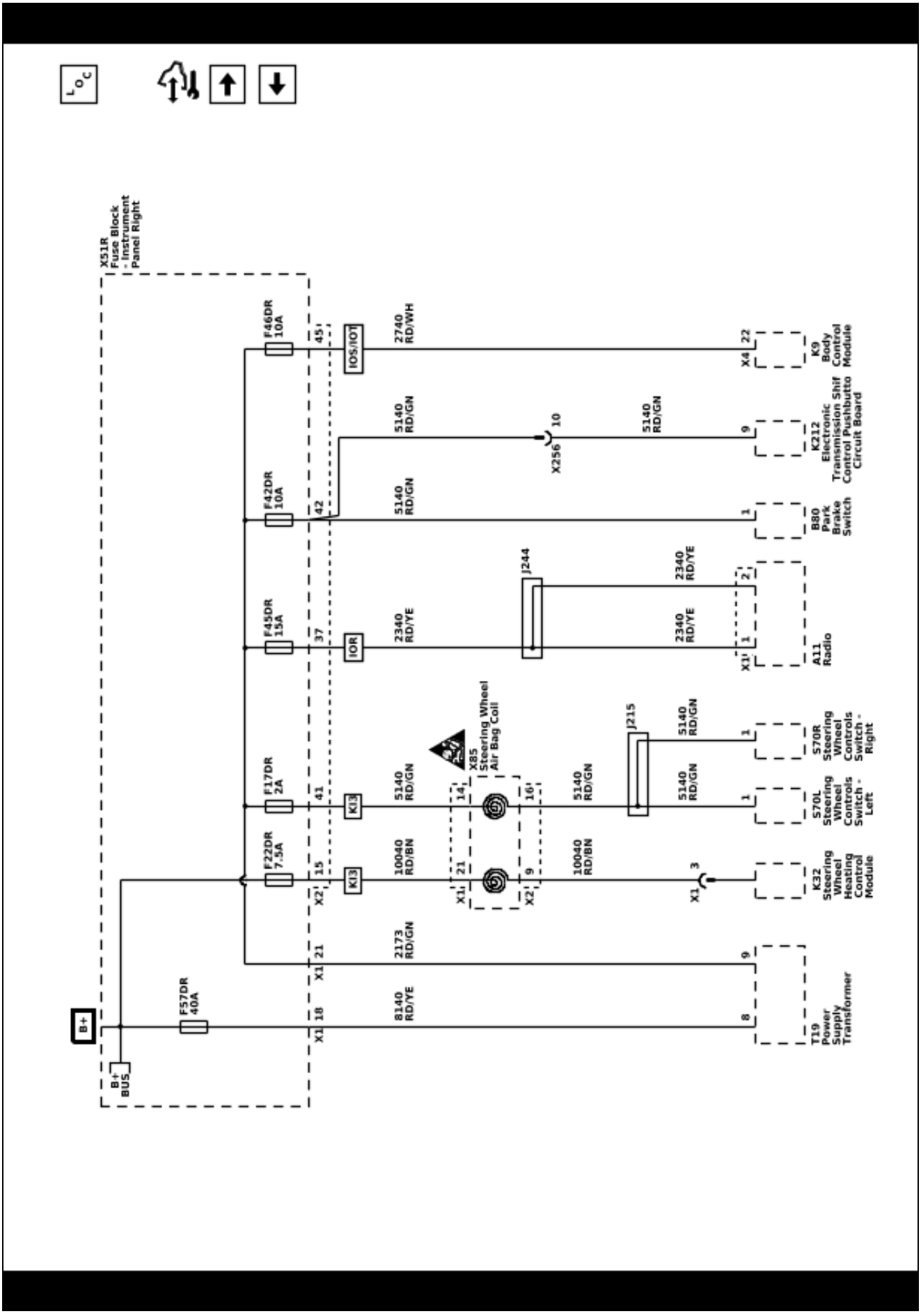
Power Distribution Schematics (F1DR, F2DR, F3DR, F6DR, F8DR, F24DR, F31DR, and F33DR Fuses)



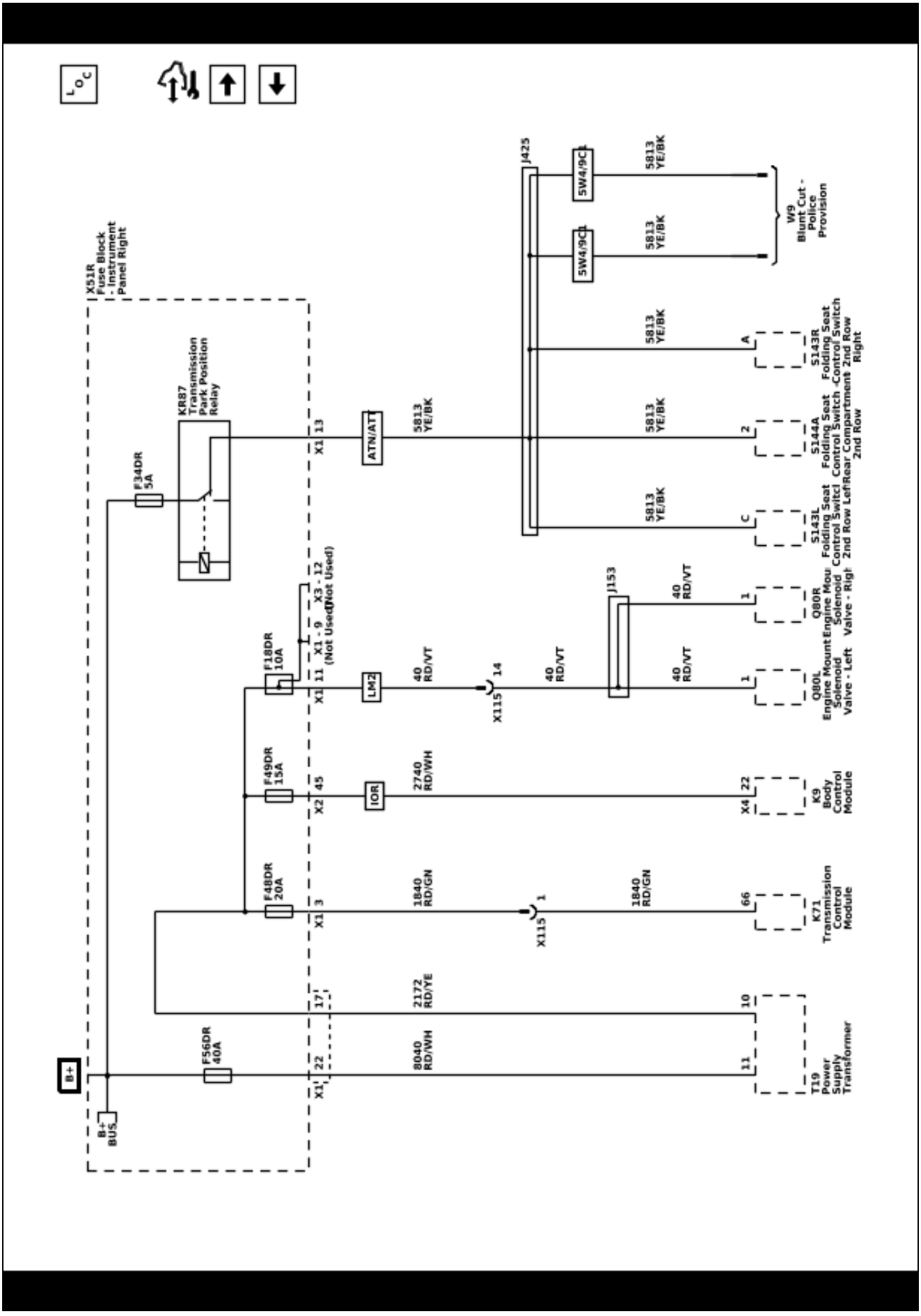
Power Distribution Schematics (F4DR, F5DR, F10DR, F11DR, F12DR, F14DR, and F54DR Fuses)



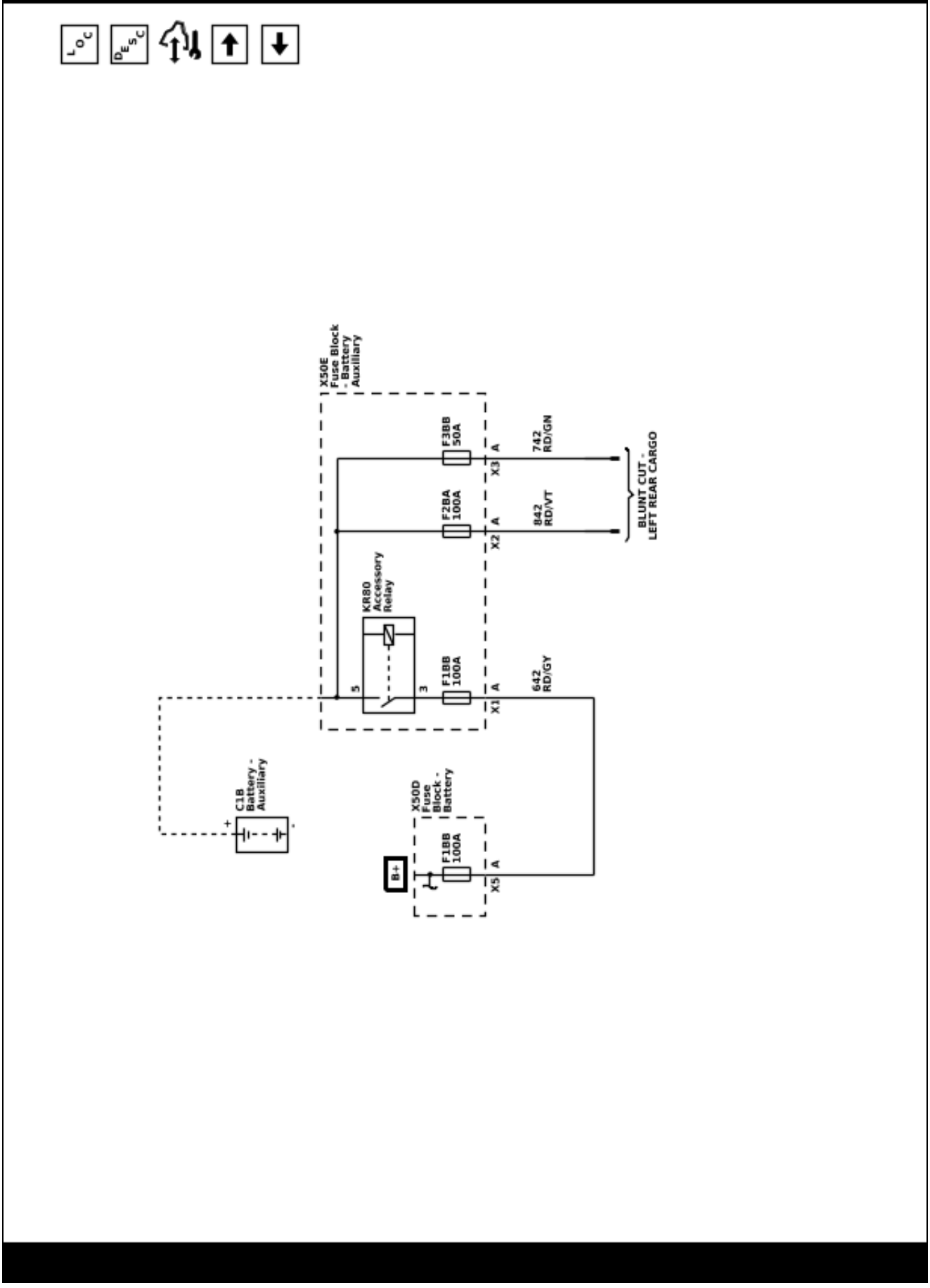
Power Distribution Schematics (F17DR, F22DR, F42DR, F45DR, F46DR, and F57DR Fuses)



Power Distribution Schematics (F18DR, F34DR, F48DR, F49DR, and F56DR Fuses)

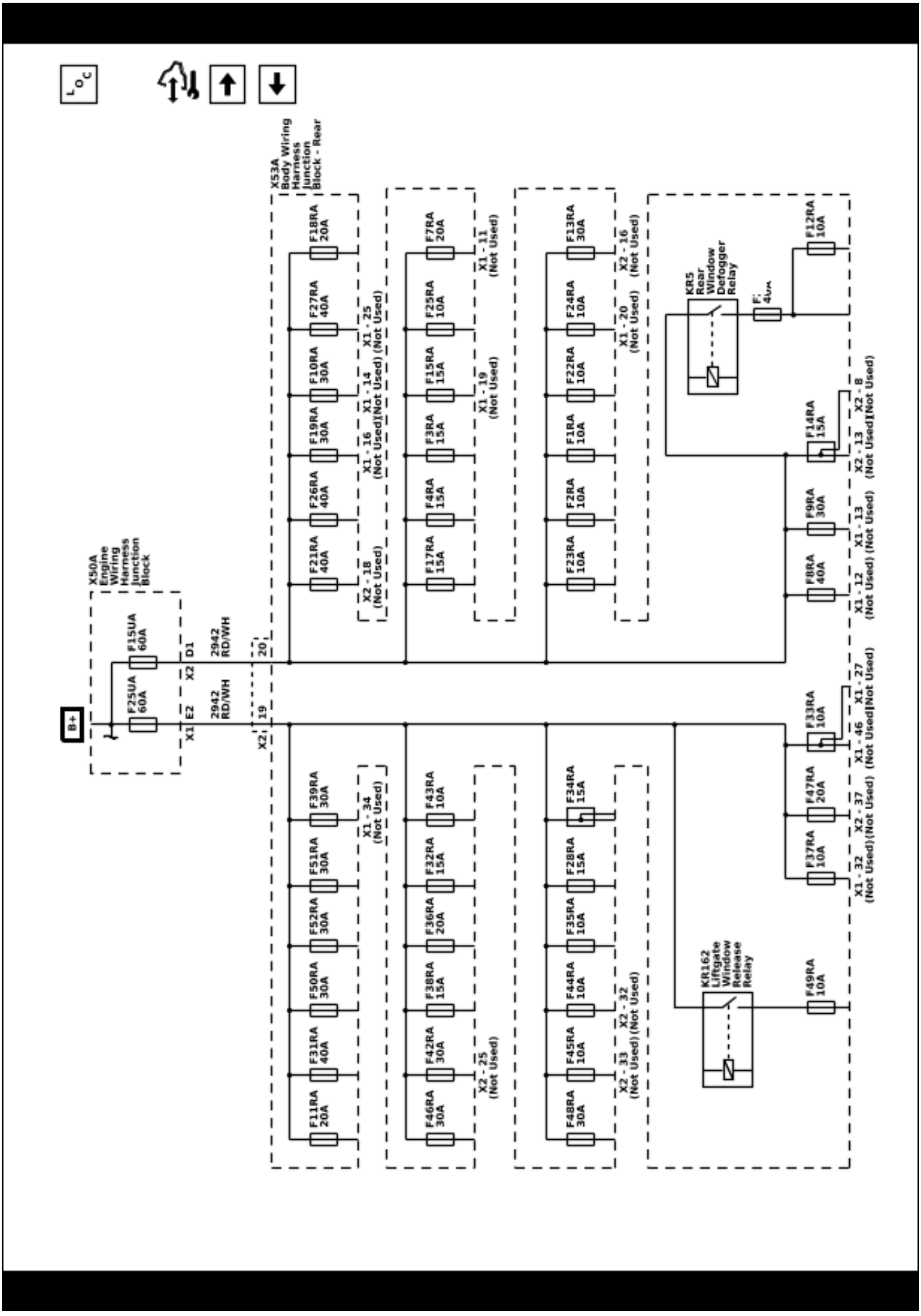


Power Distribution Schematics (X50EA Battery Distribution Fuse Block - Auxiliary (5W4/9C1))

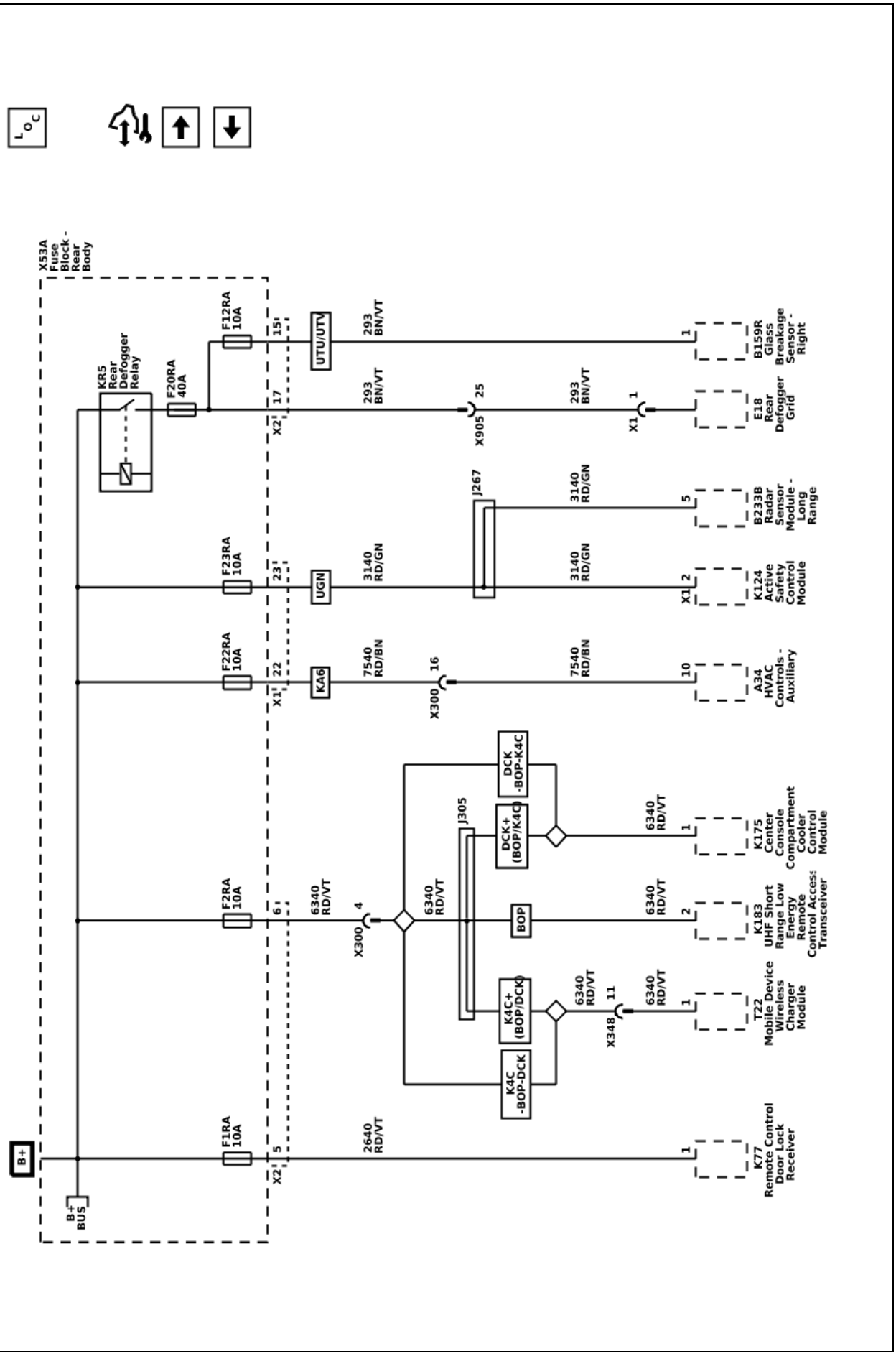


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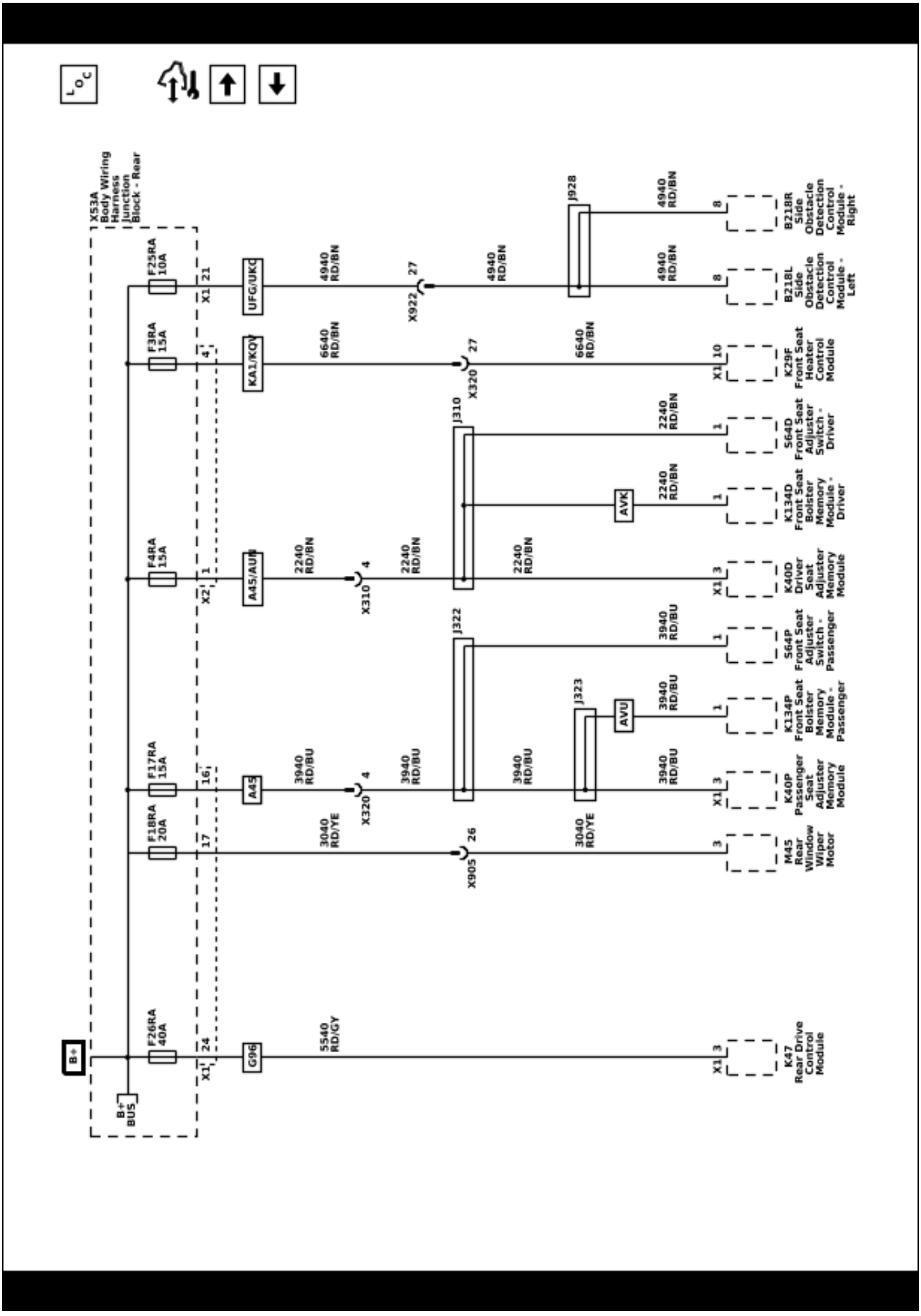
Power Distribution Schematics (X53A Body Wiring Harness Junction Block - Rear - B+ Bus)



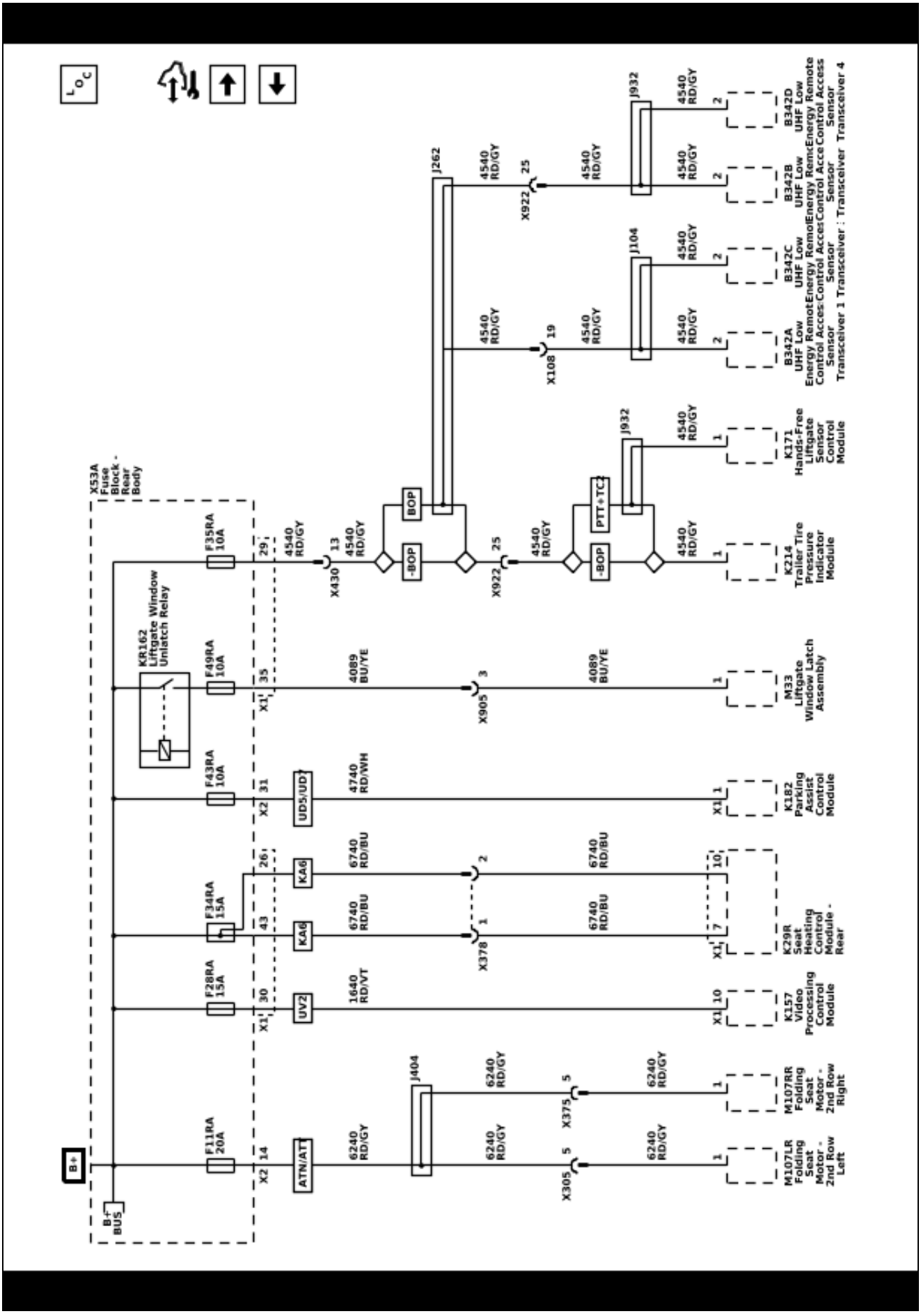
Power Distribution Schematics (F1RA, F2RA, F12RA, F20RA, F22RA, and F23RA Fuses)



Power Distribution Schematics (F3RA, F4RA, F17RA, F18RA, F25RA, and F26RA Fuses)

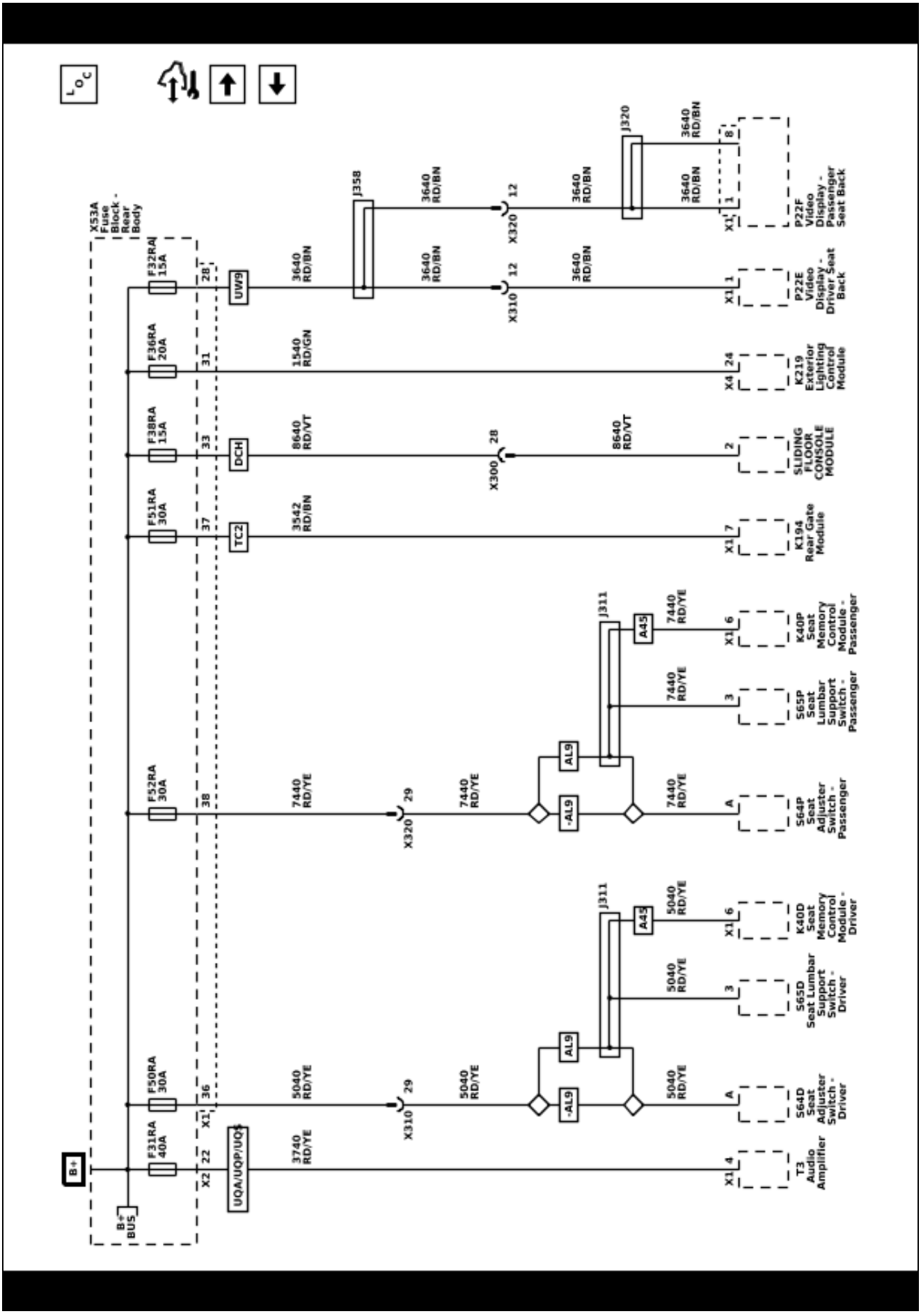


Power Distribution Schematics (F11RA, F28RA, F34RA, F35RA, F43RA, F46RA, and F48RA Fuses)

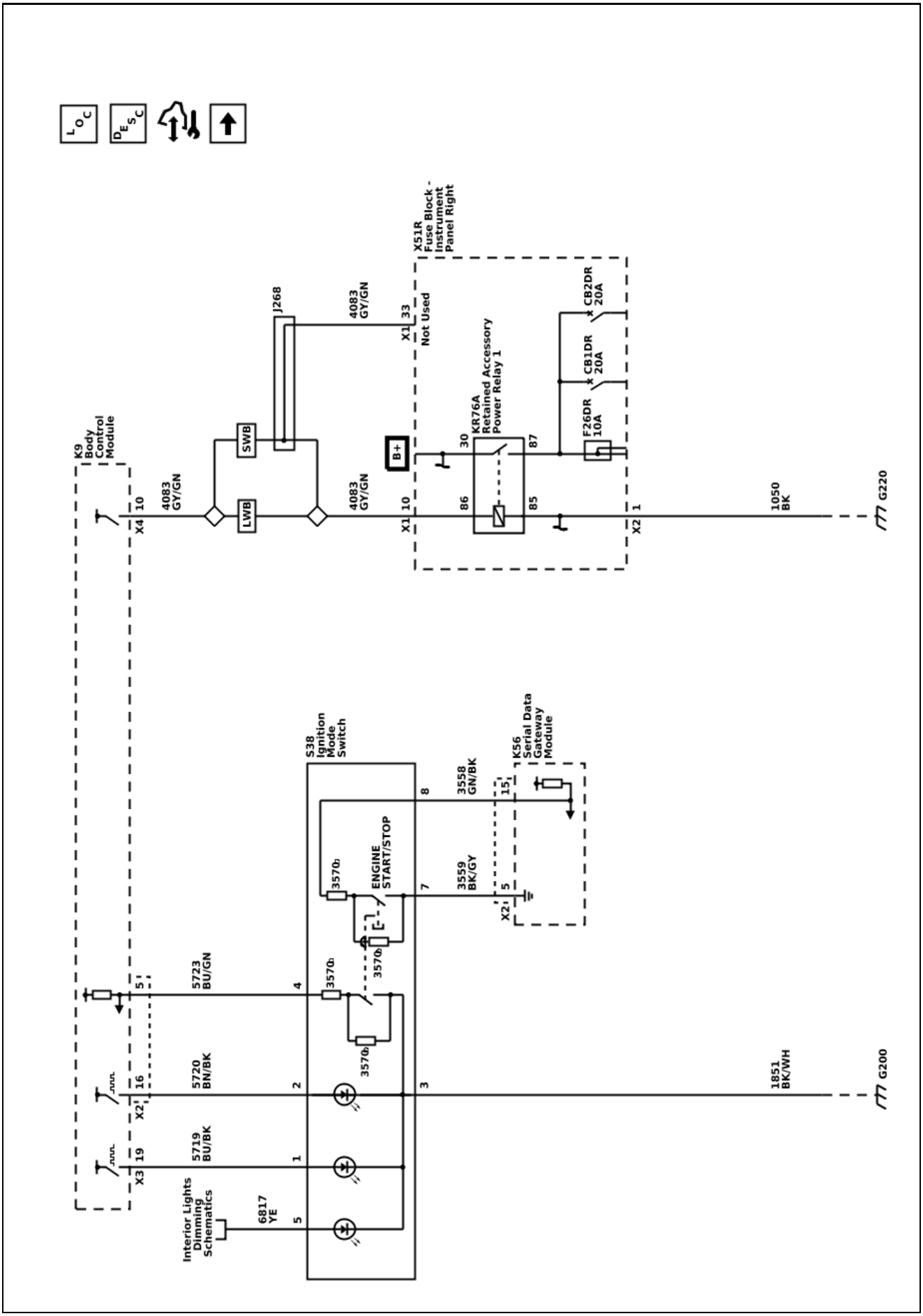


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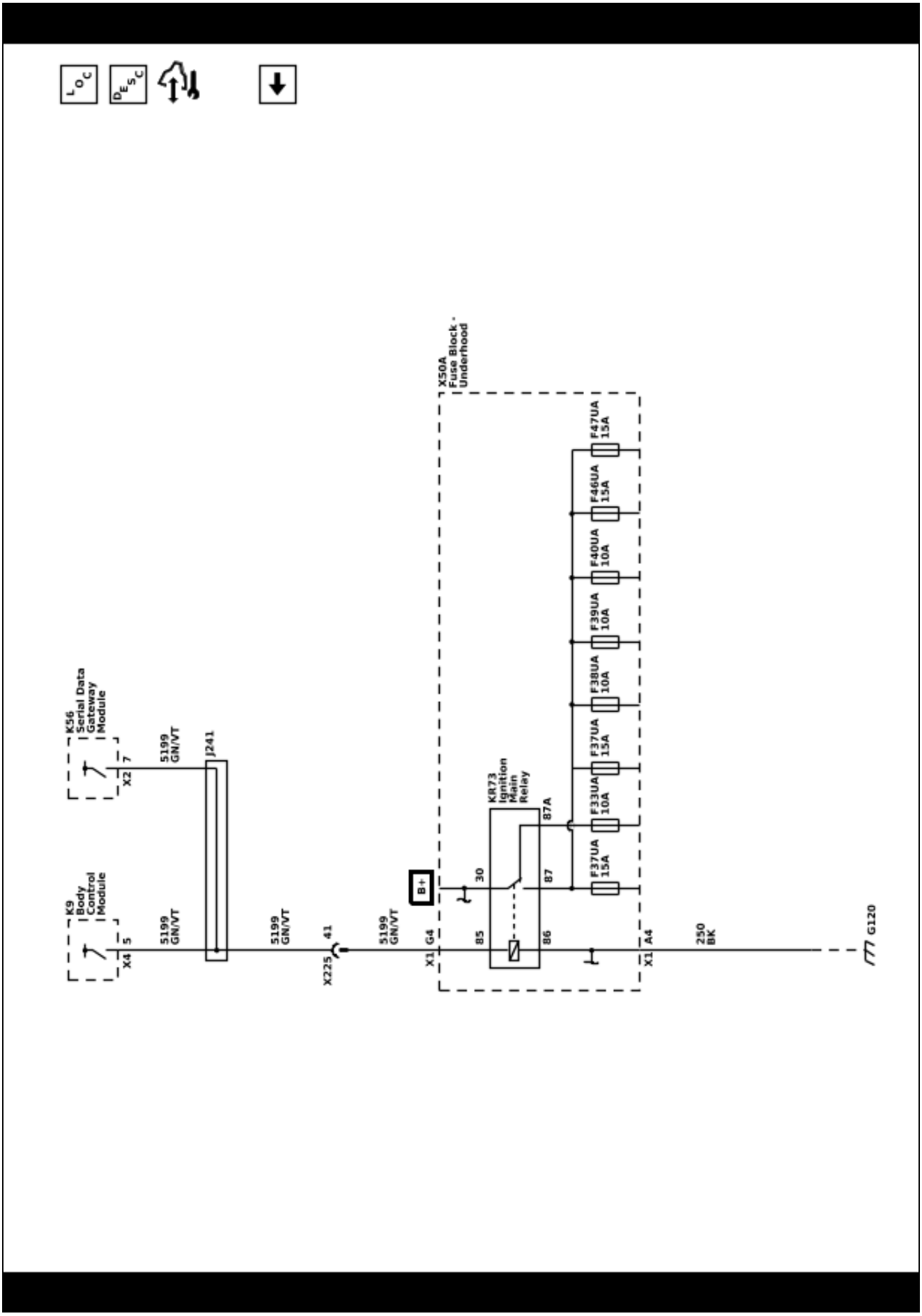
Power Distribution Schematics (F31RA, F32RA, F36RA, F38RA, F50RA, F51RA, and F52RA Fuses)



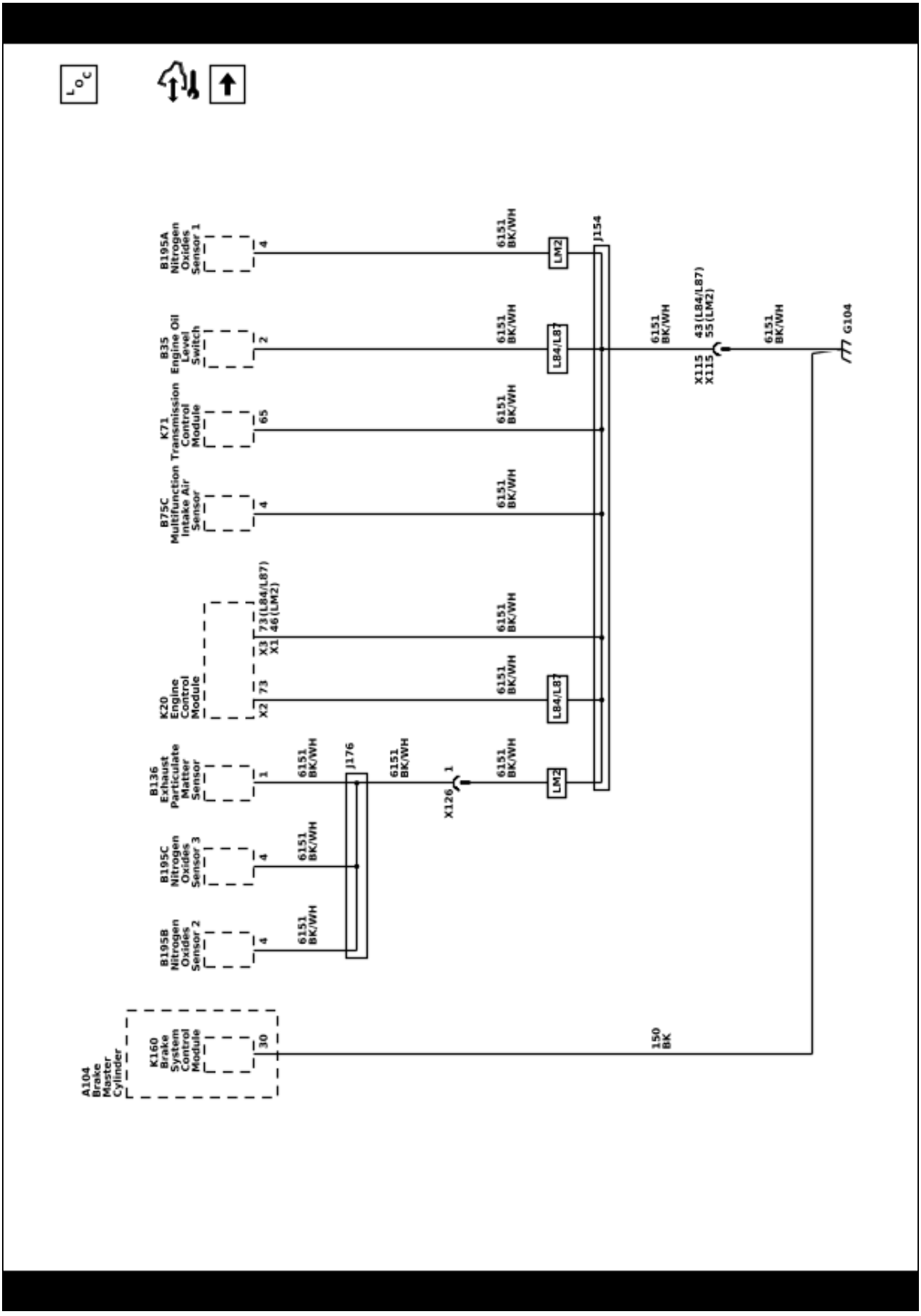
Power Moding Schematics (On/Off Vehicle Switch and Retained Accessory Power)



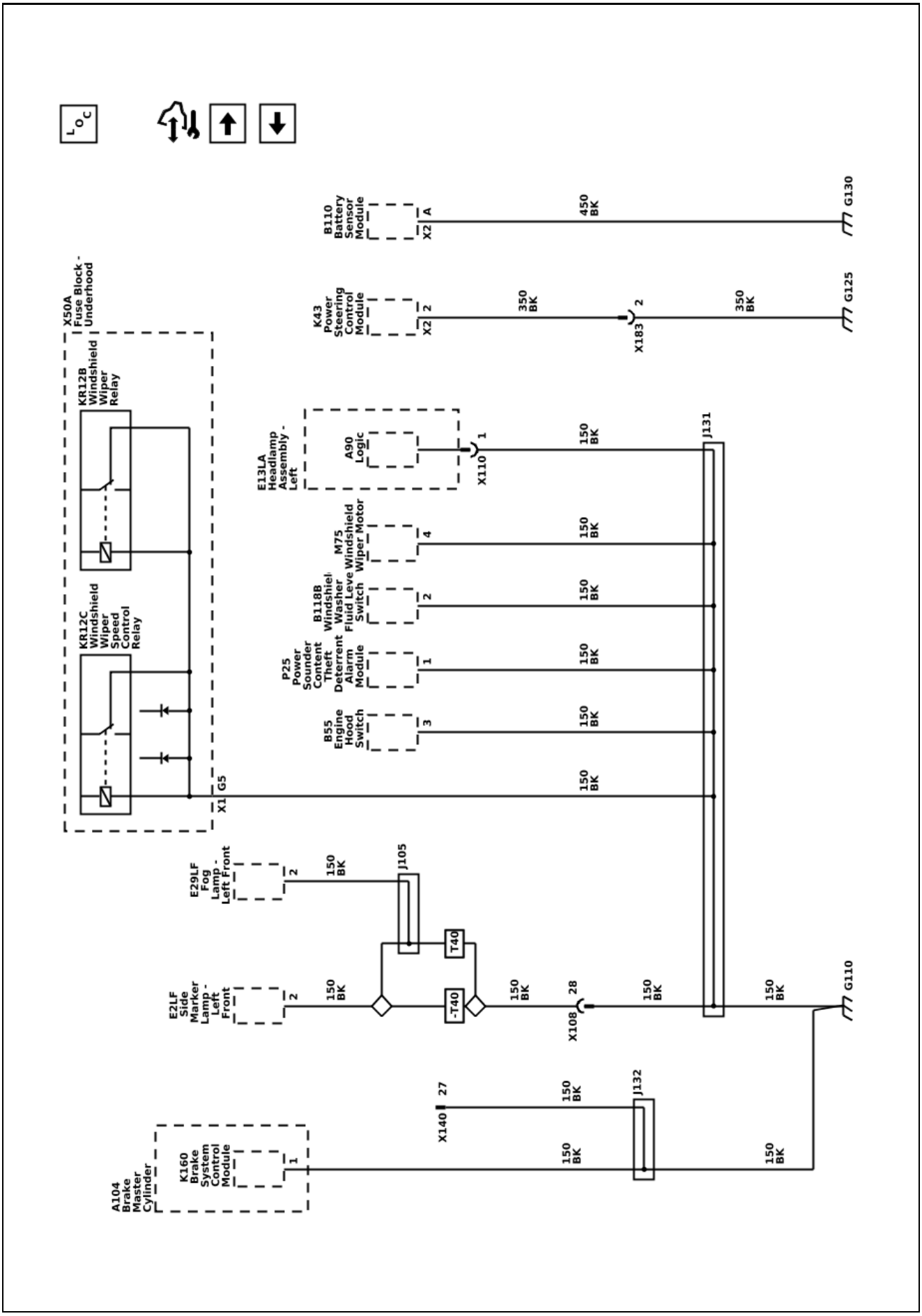
Power Moding Schematics (Ignition Main Relay)



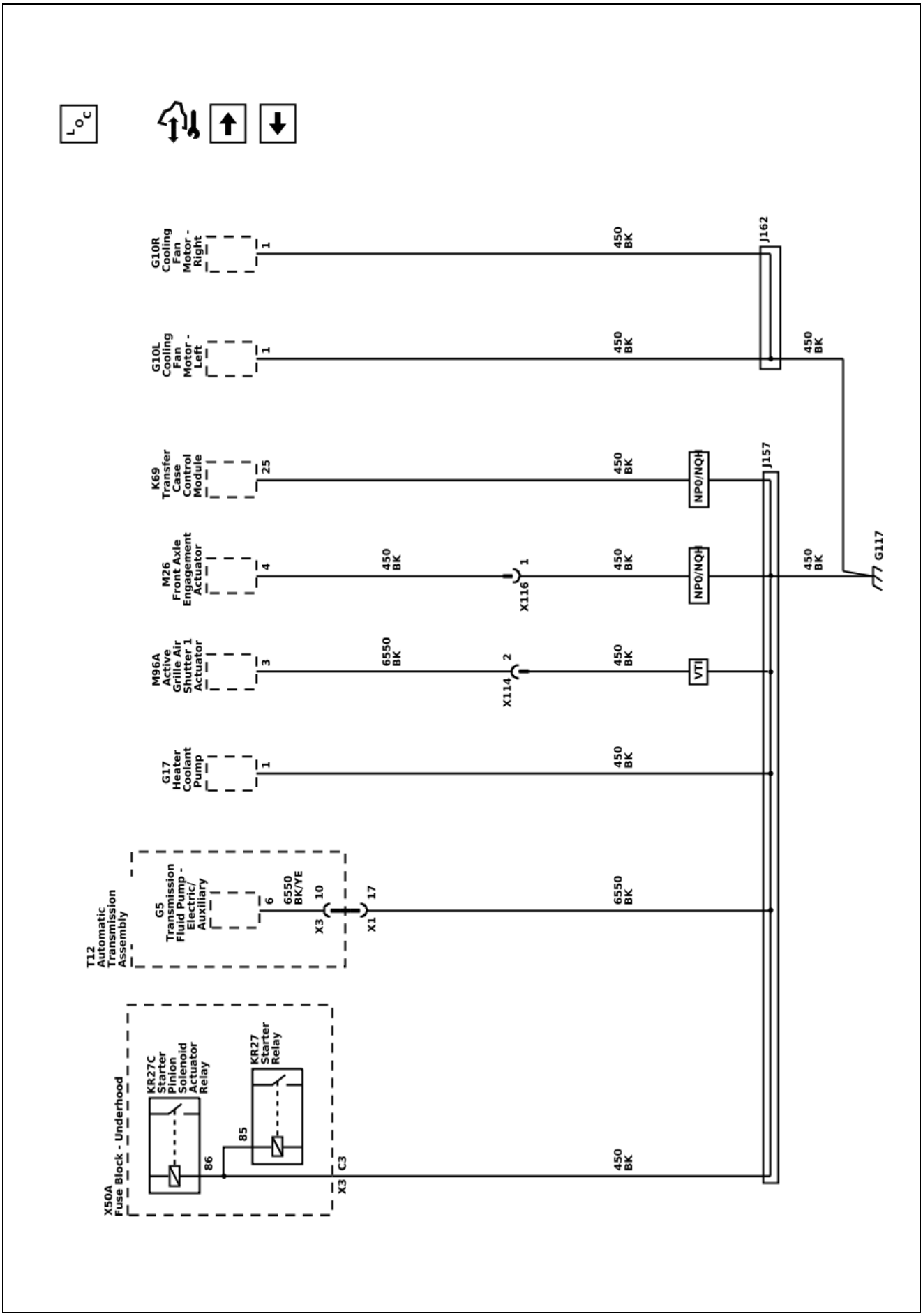
Ground Distribution Schematics (G104)



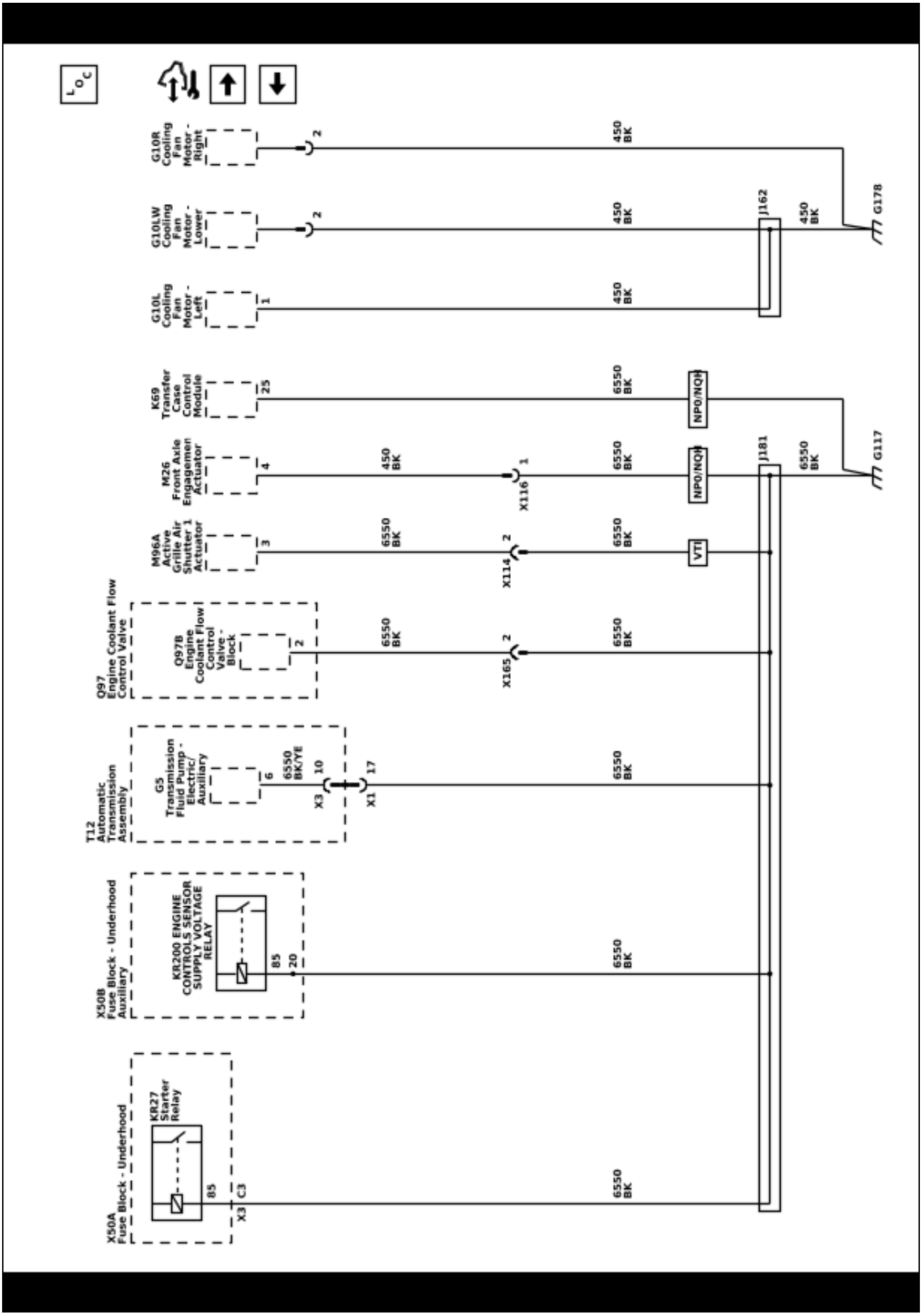
Ground Distribution Schematics (G110, G125, and G130)



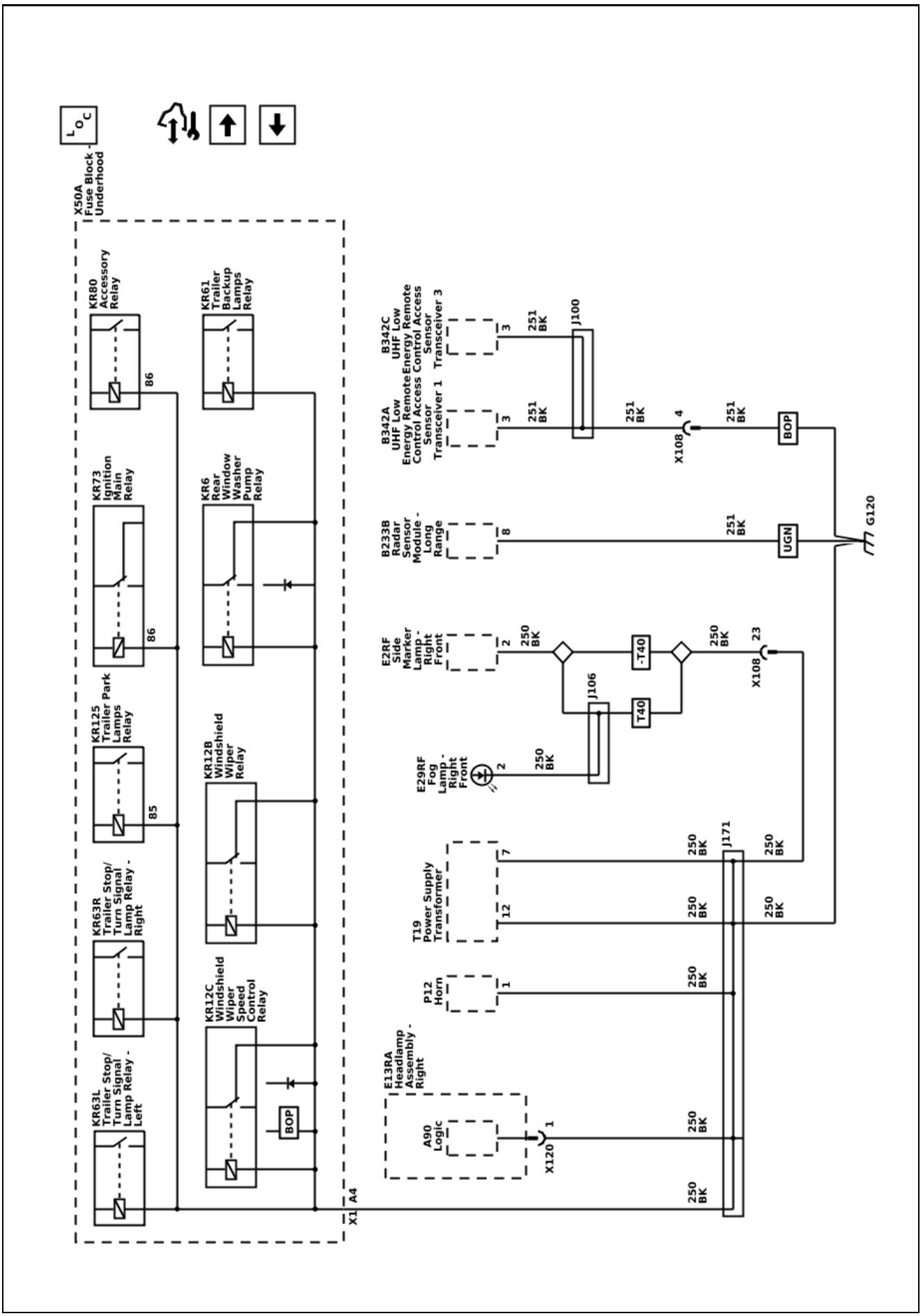
Ground Distribution Schematics (G117 (L84/L87))



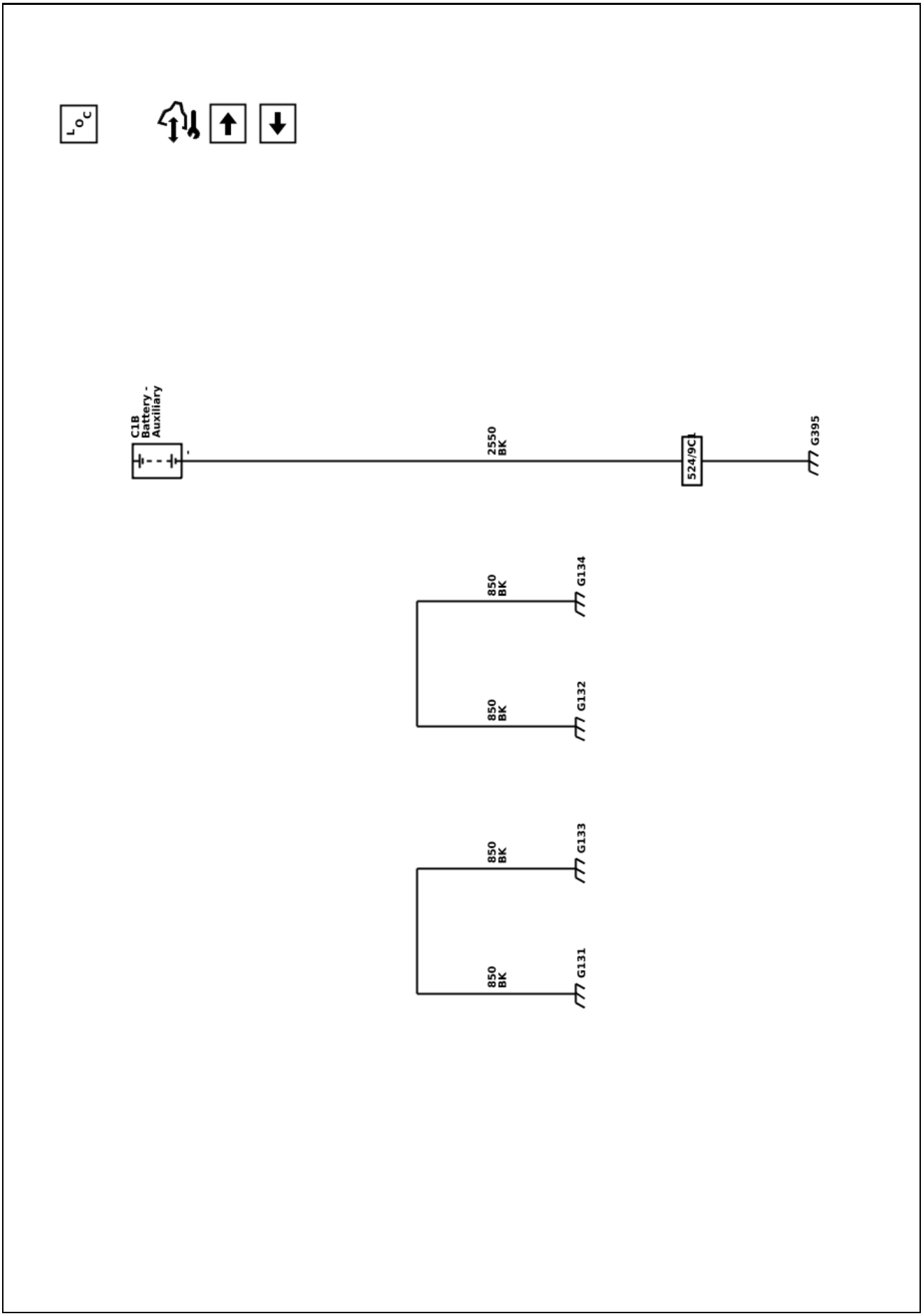
Ground Distribution Schematics (G117 and G178 (LM2))



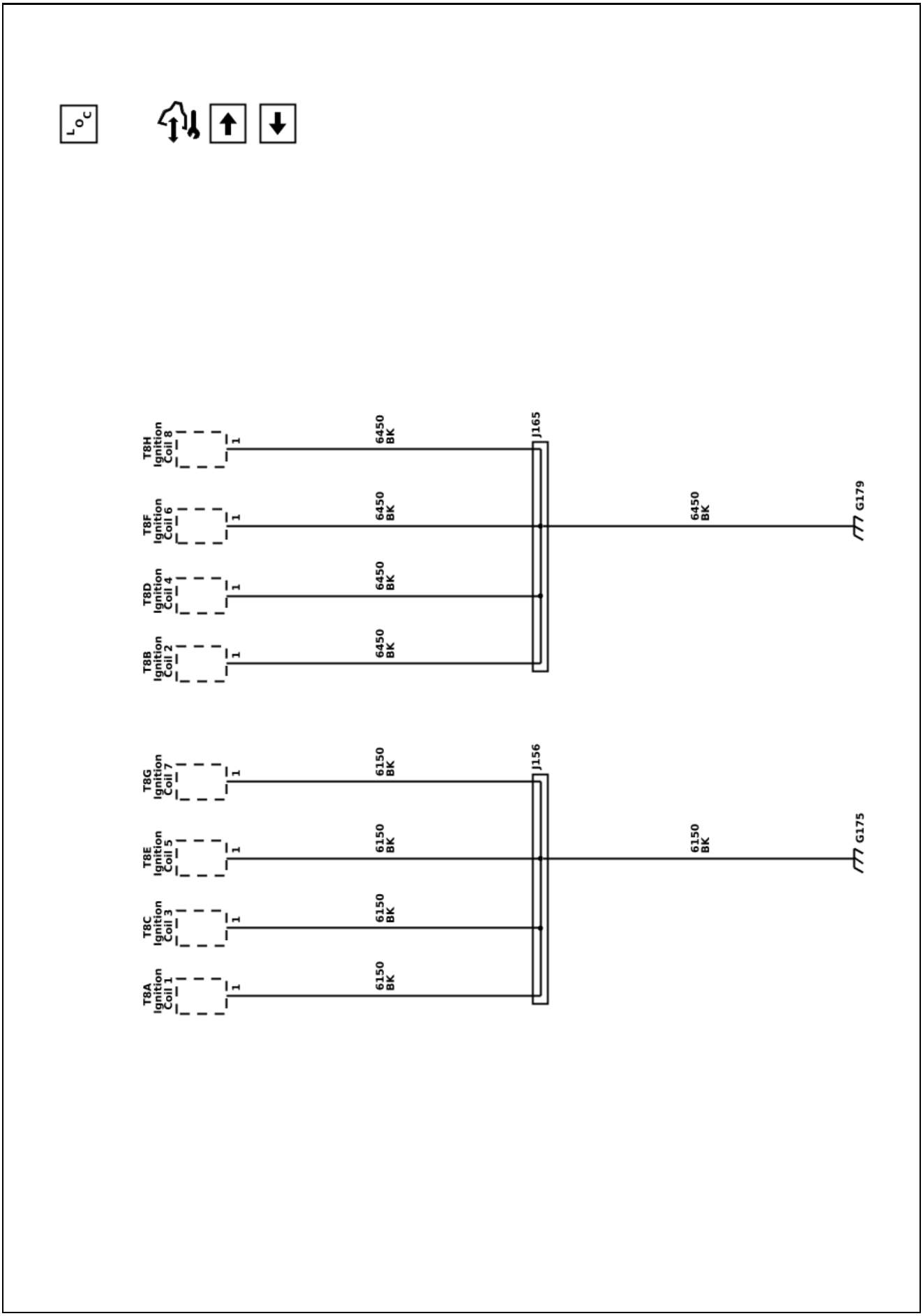
Ground Distribution Schematics (G120)



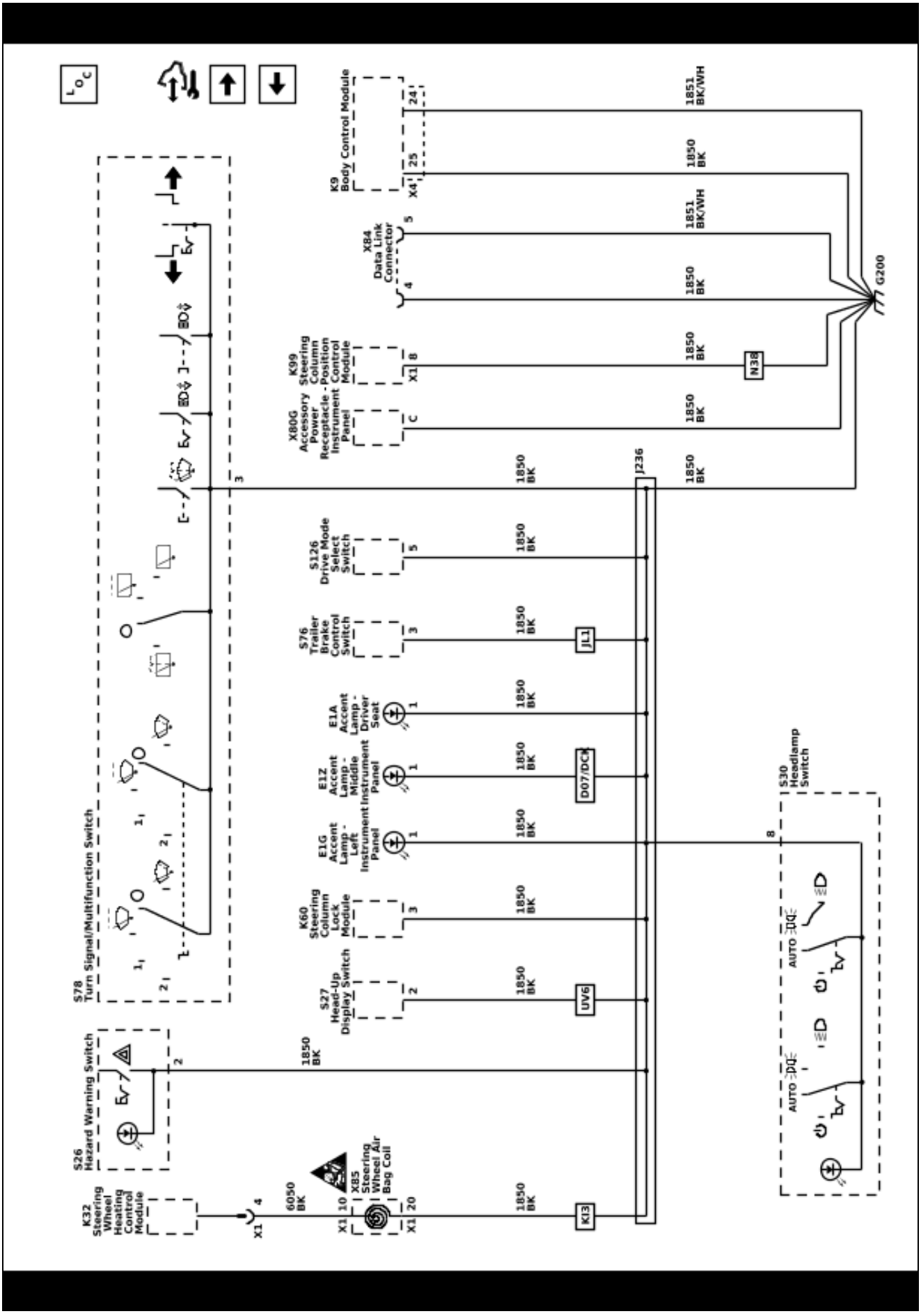
Ground Distribution Schematics (G131, G132, G133, G134, and G395)



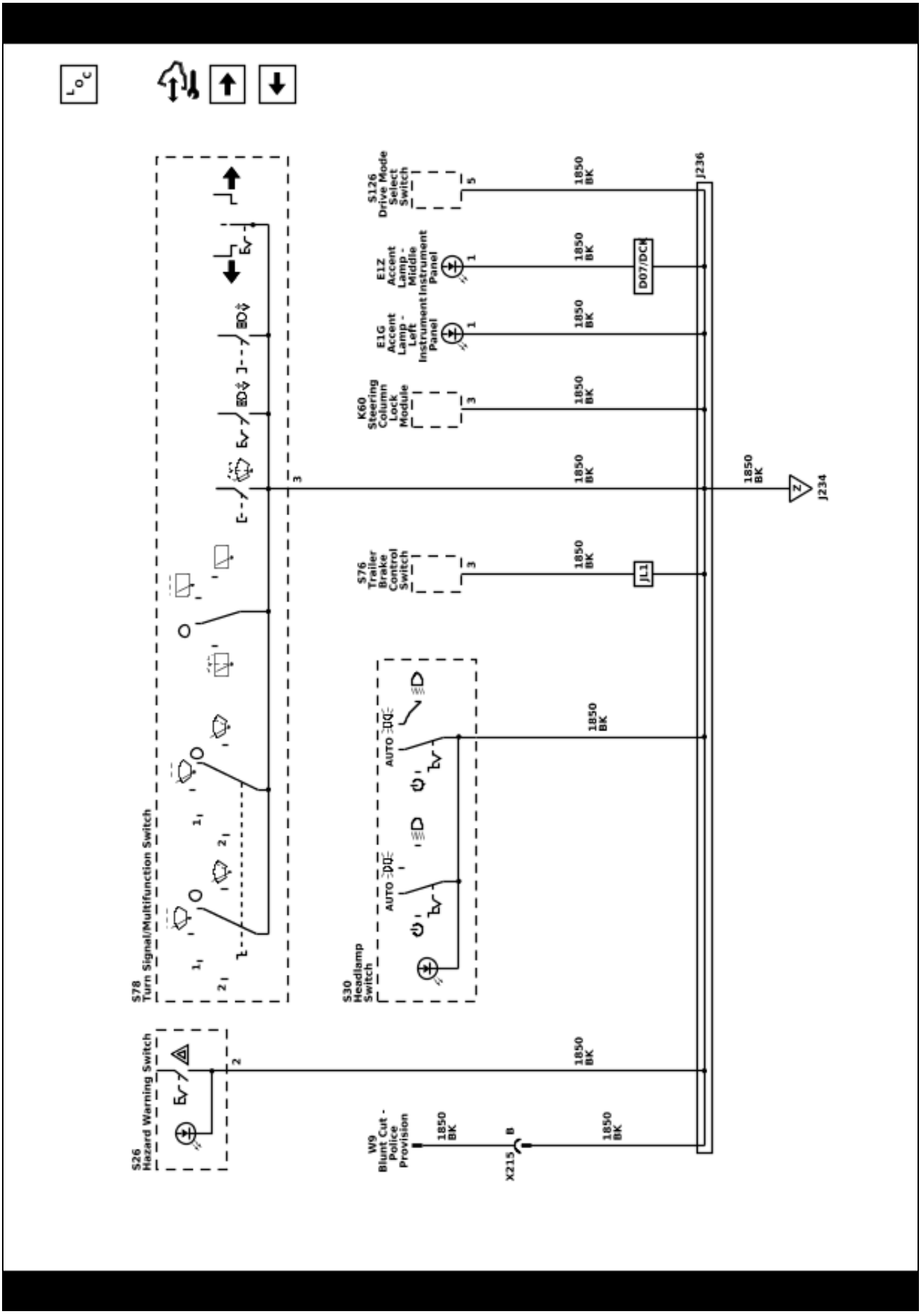
Ground Distribution Schematics (G175 and G179 (L84/L87))



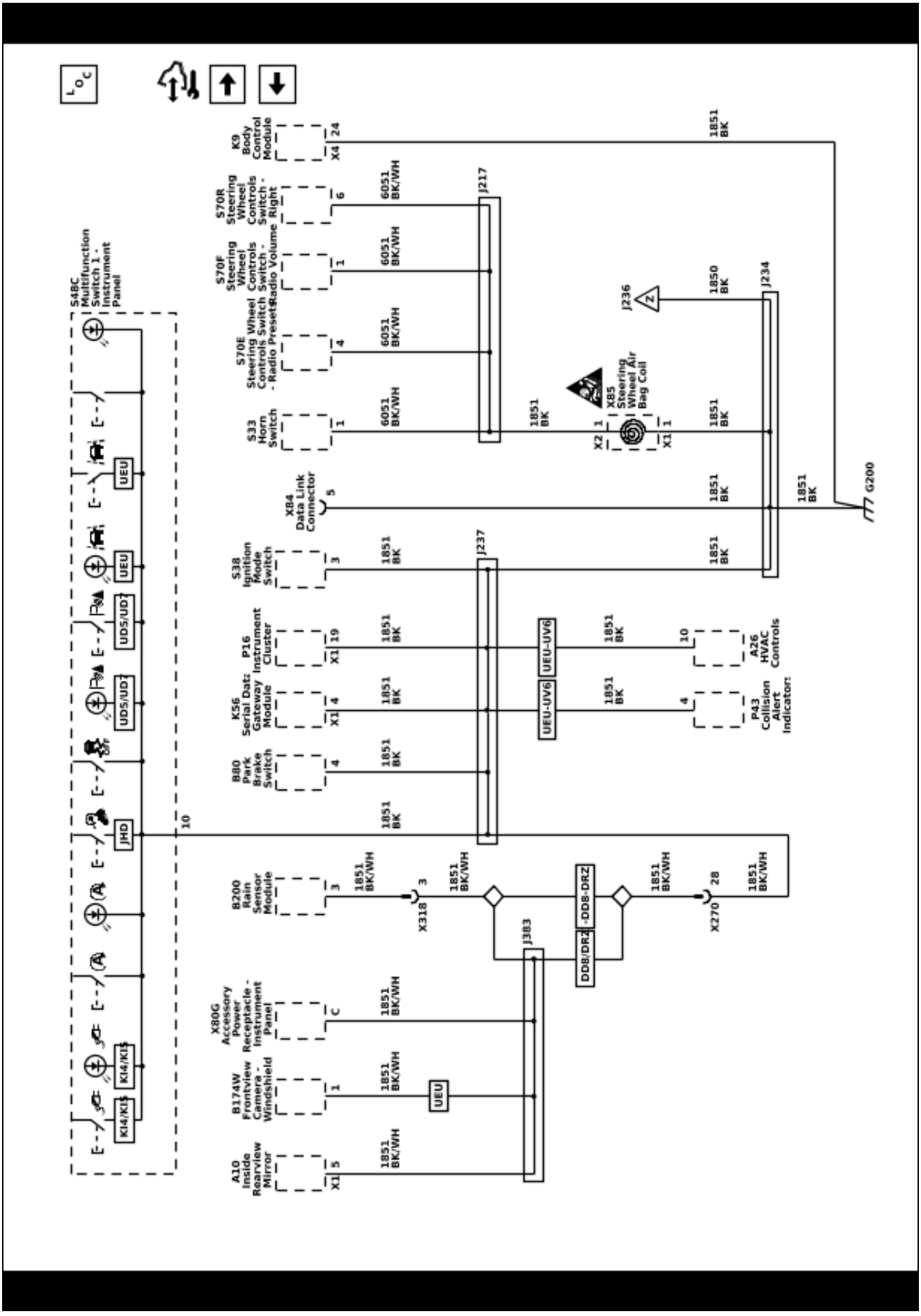
Ground Distribution Schematics (G200 (-5W4-9C1) (1 of 2))



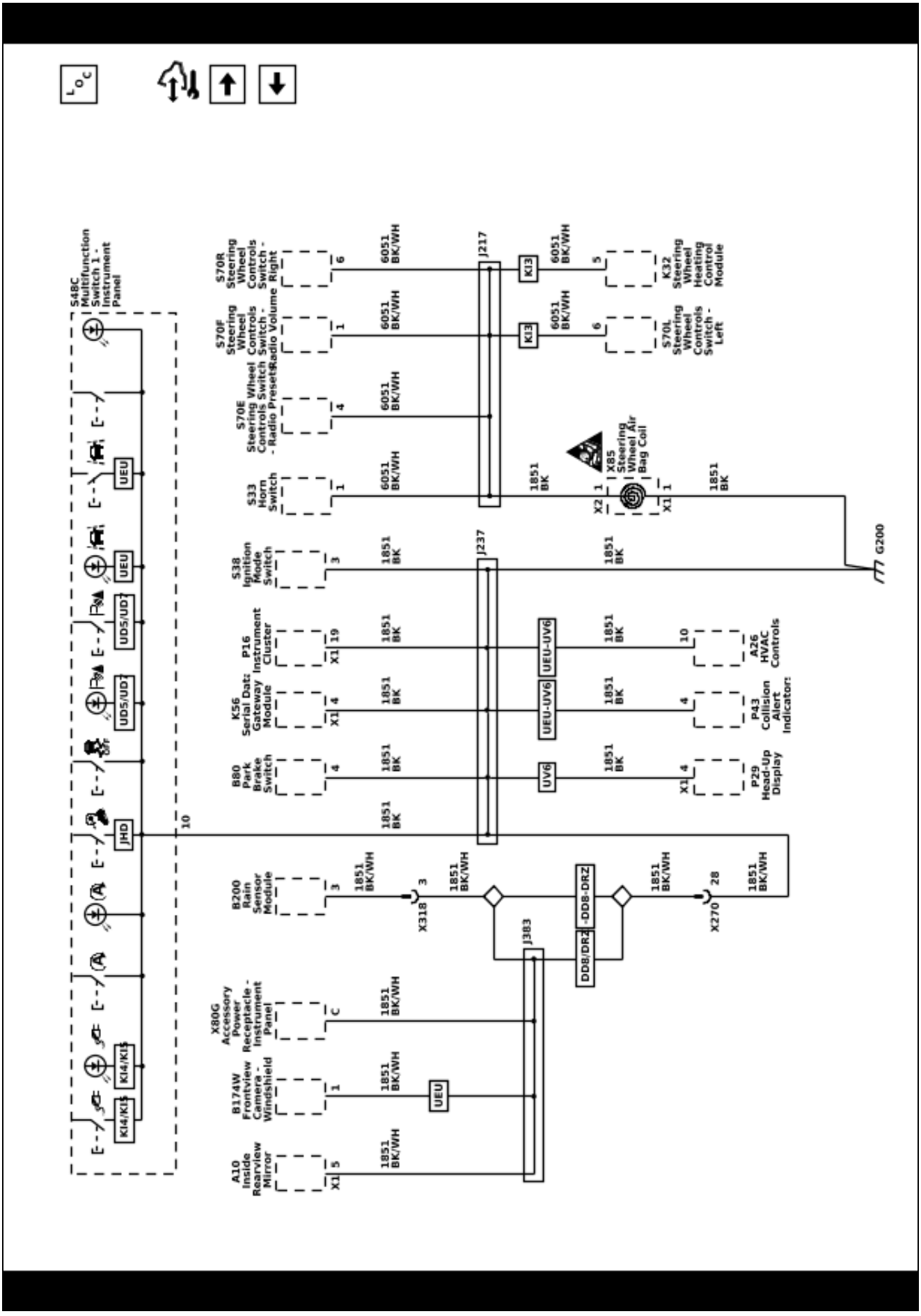
Ground Distribution Schematics (G200 (-5W4-9C1) (2 of 2))



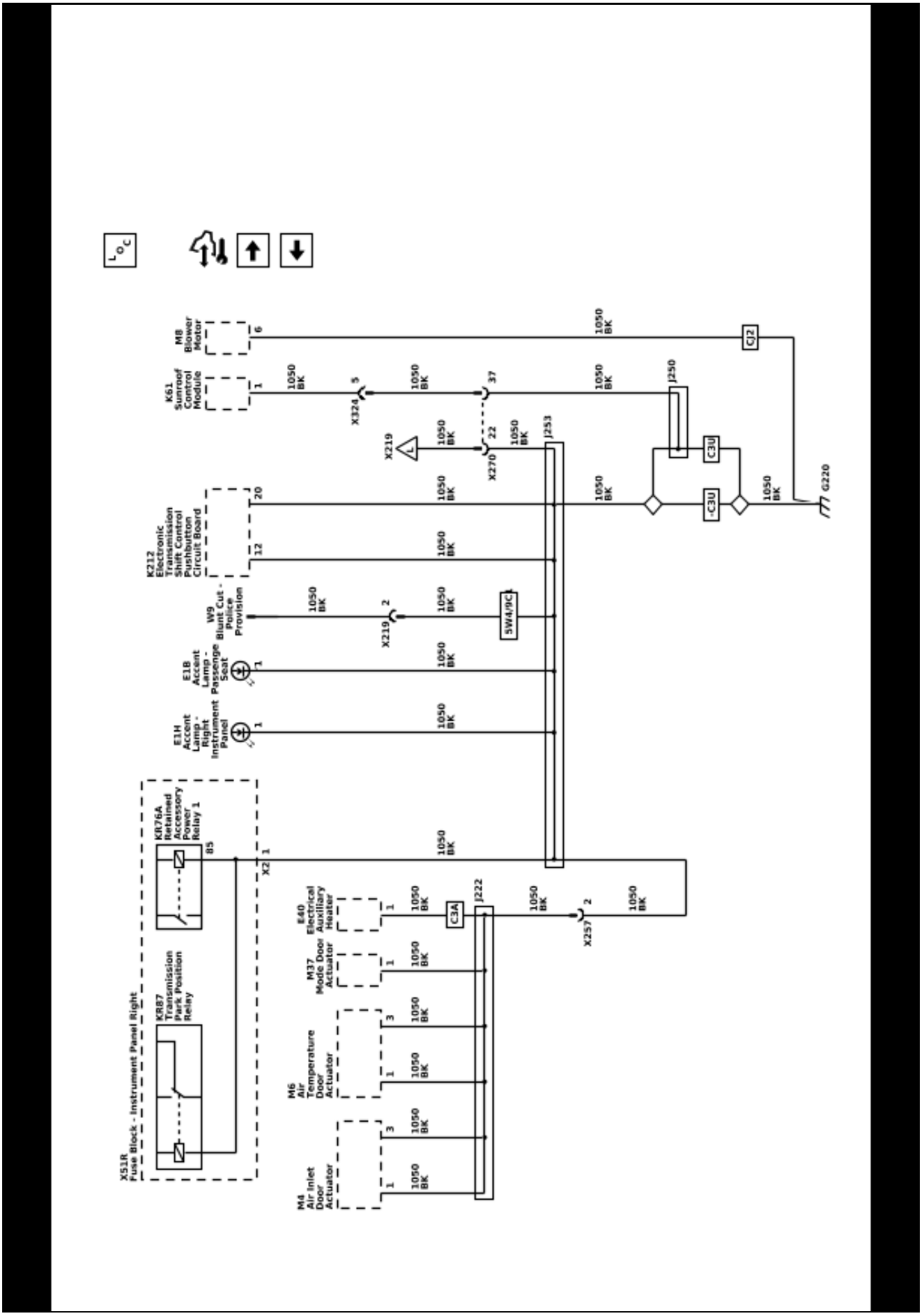
Ground Distribution Schematics (G200 (5W4/9C1) (1 of 2))



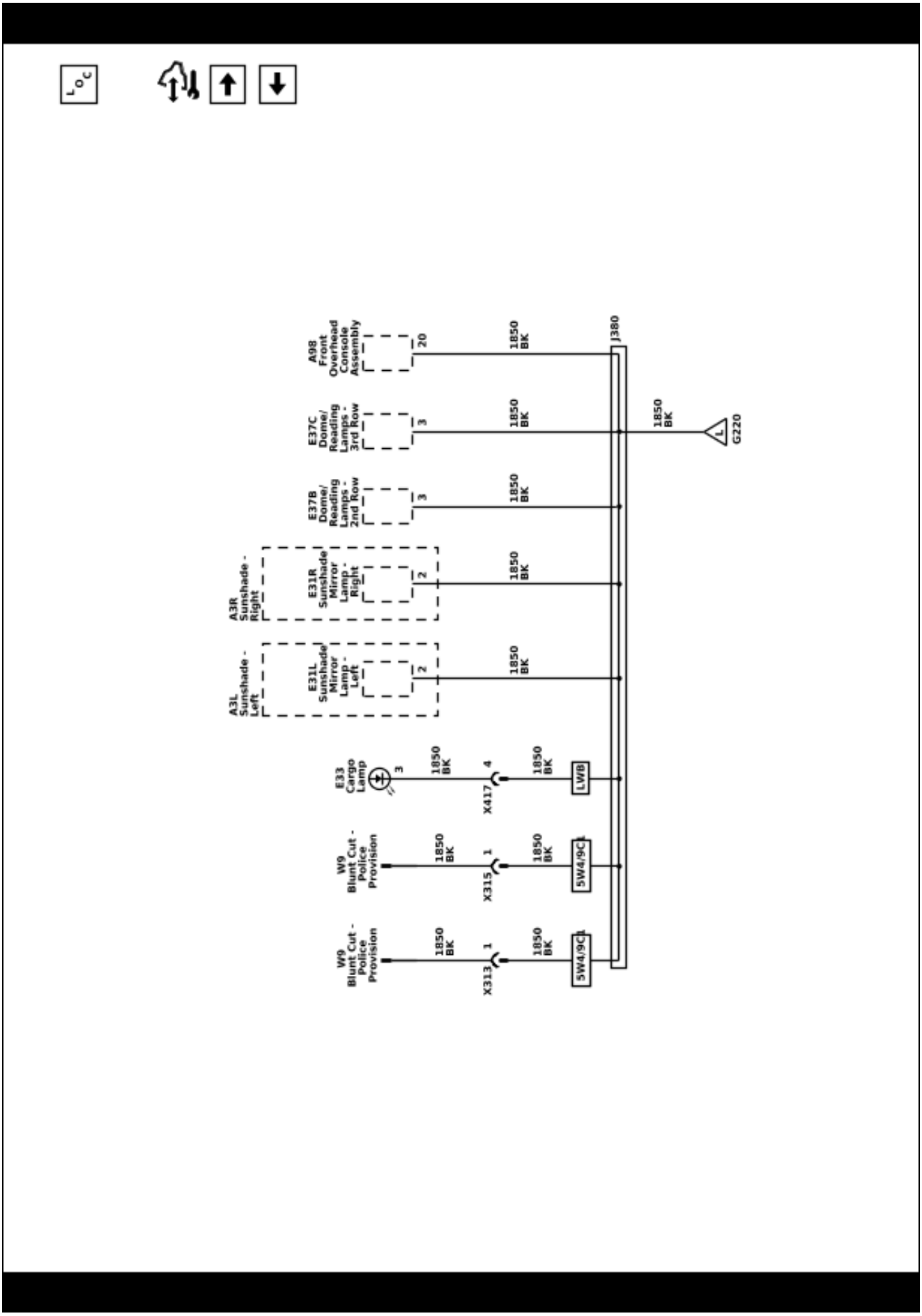
Ground Distribution Schematics (G200 (5W4/9C1) (2 of 2))



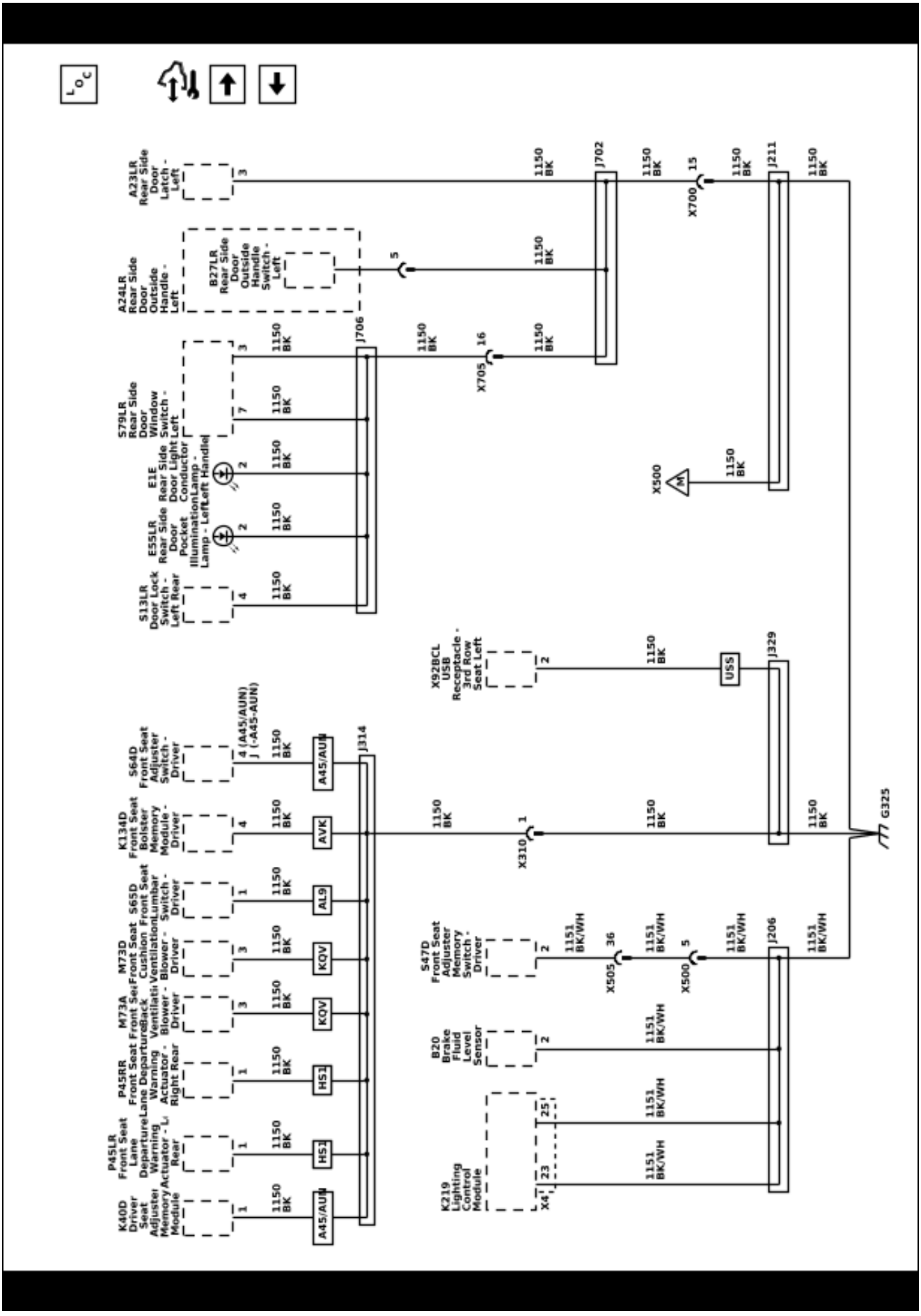
Ground Distribution Schematics (G220 (1 of 2))



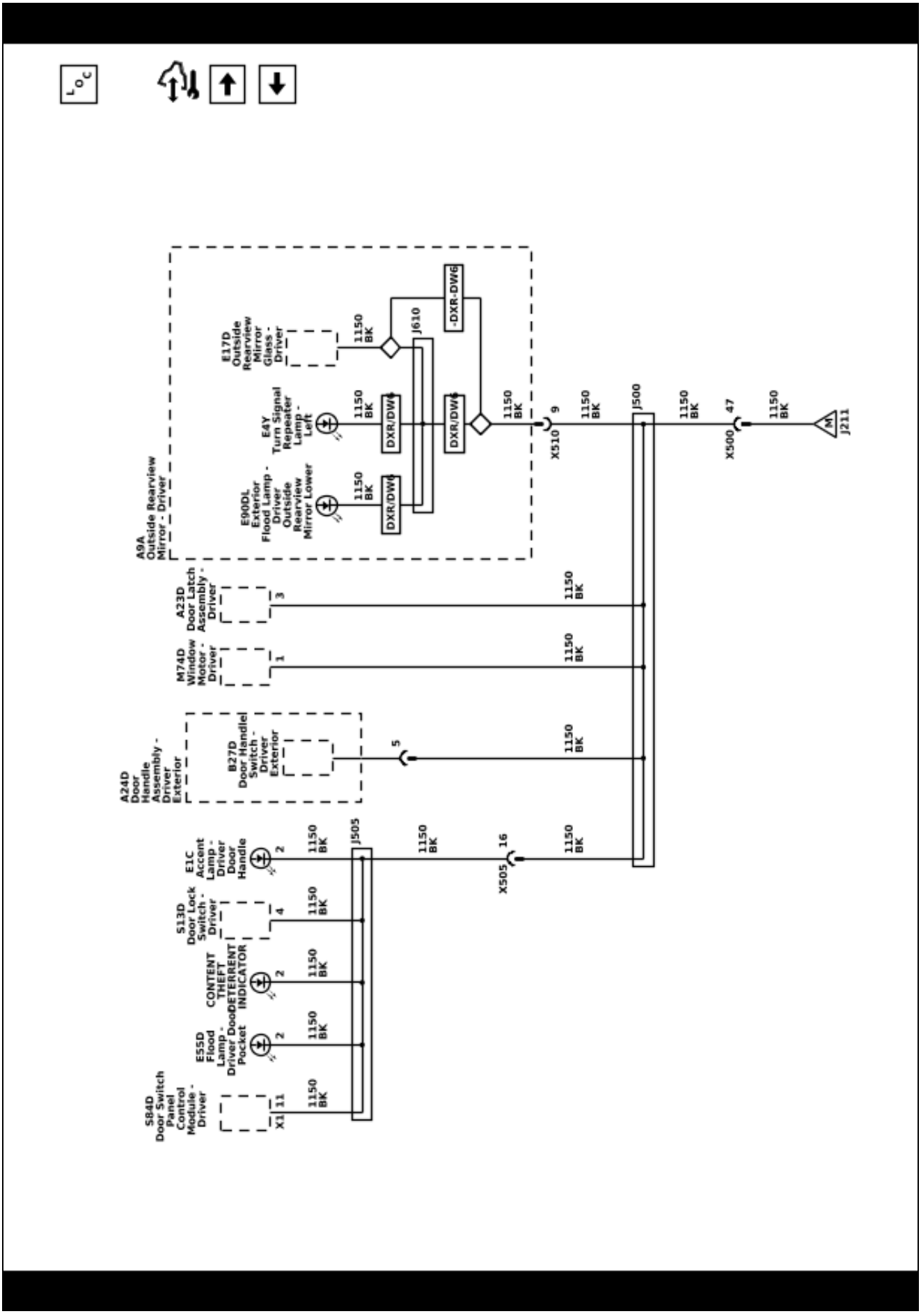
Ground Distribution Schematics (G220 (2 of 2))



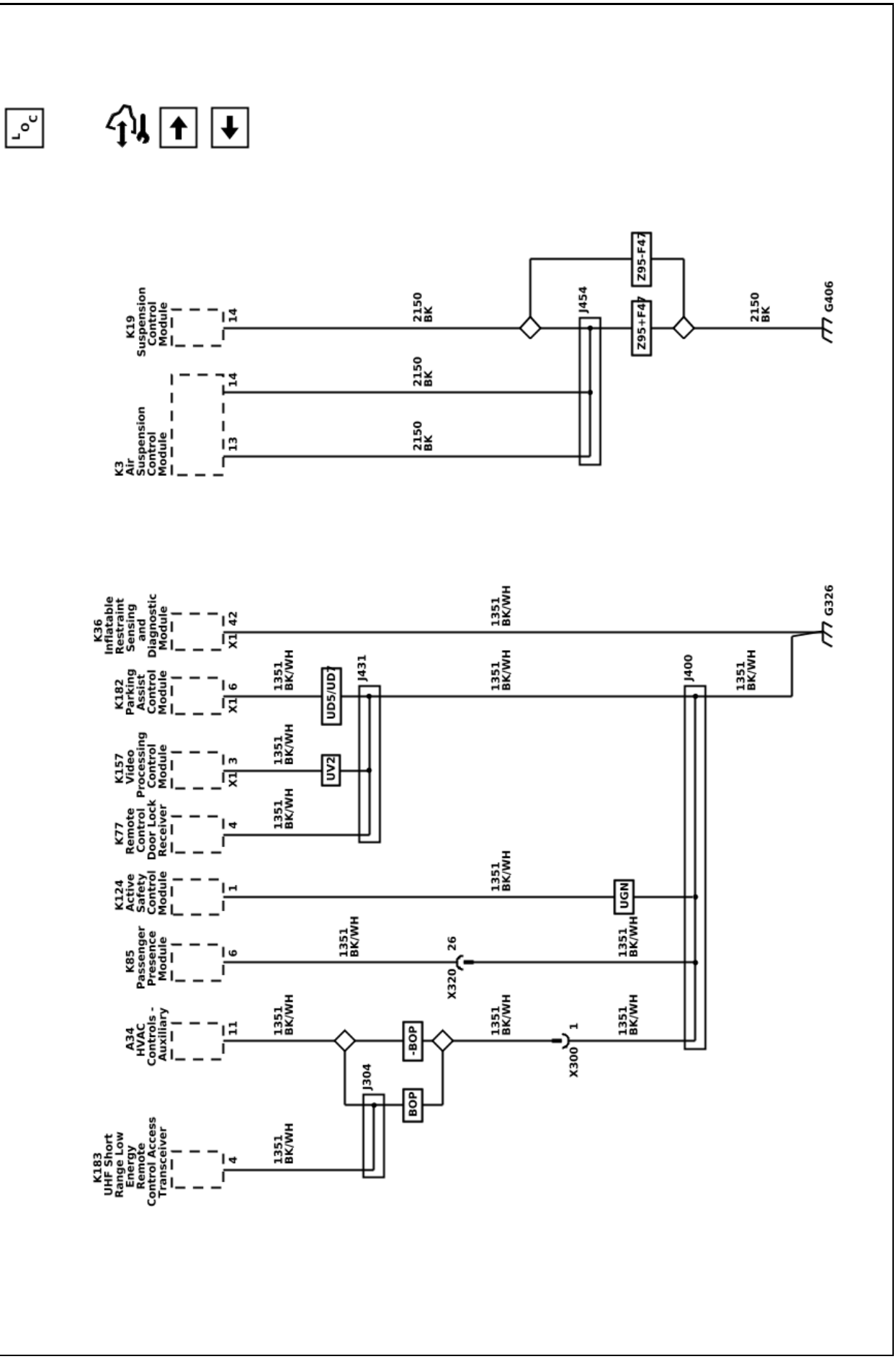
Ground Distribution Schematics (G325 (1 of 2))



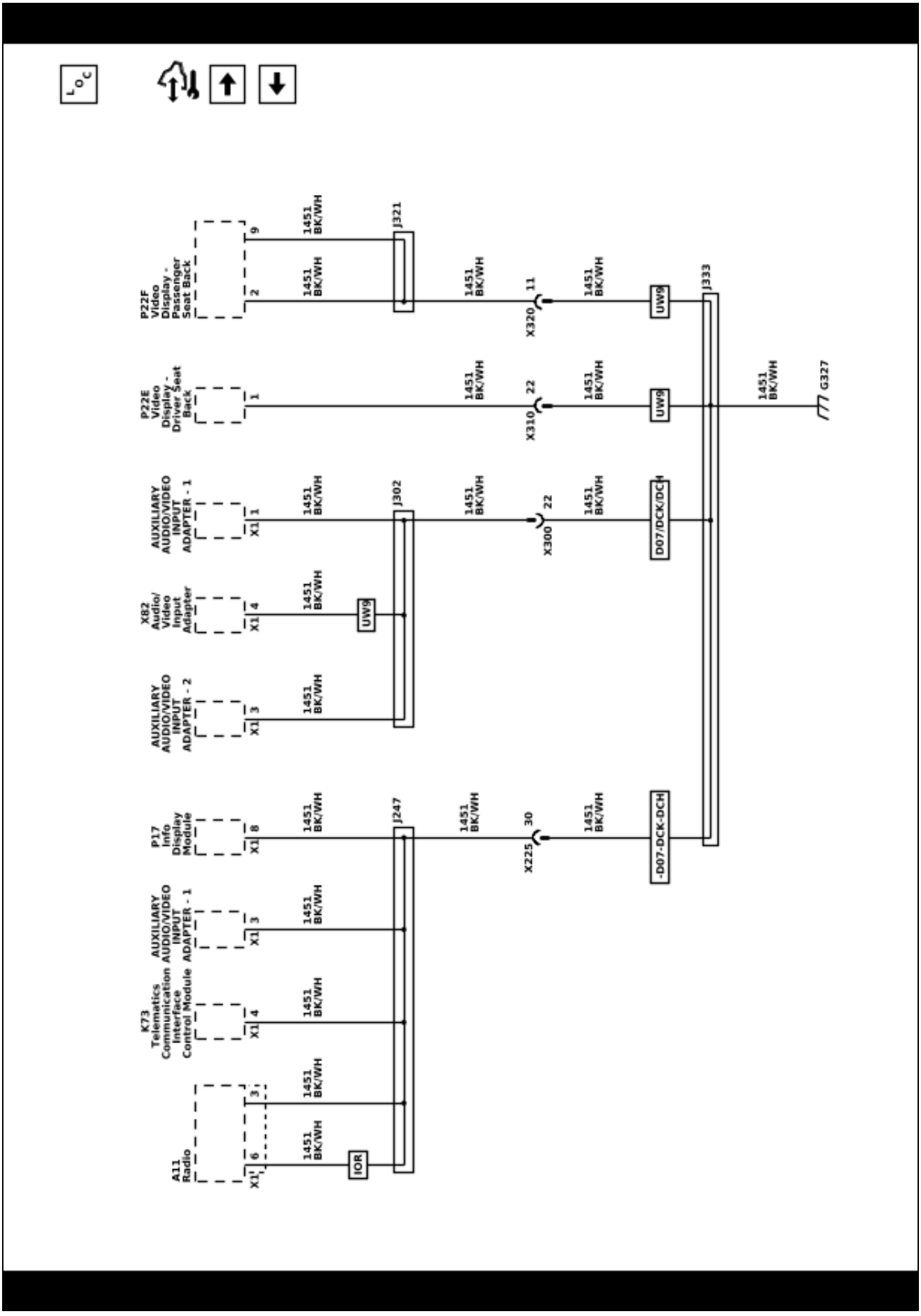
Ground Distribution Schematics (G325 (2 of 2))



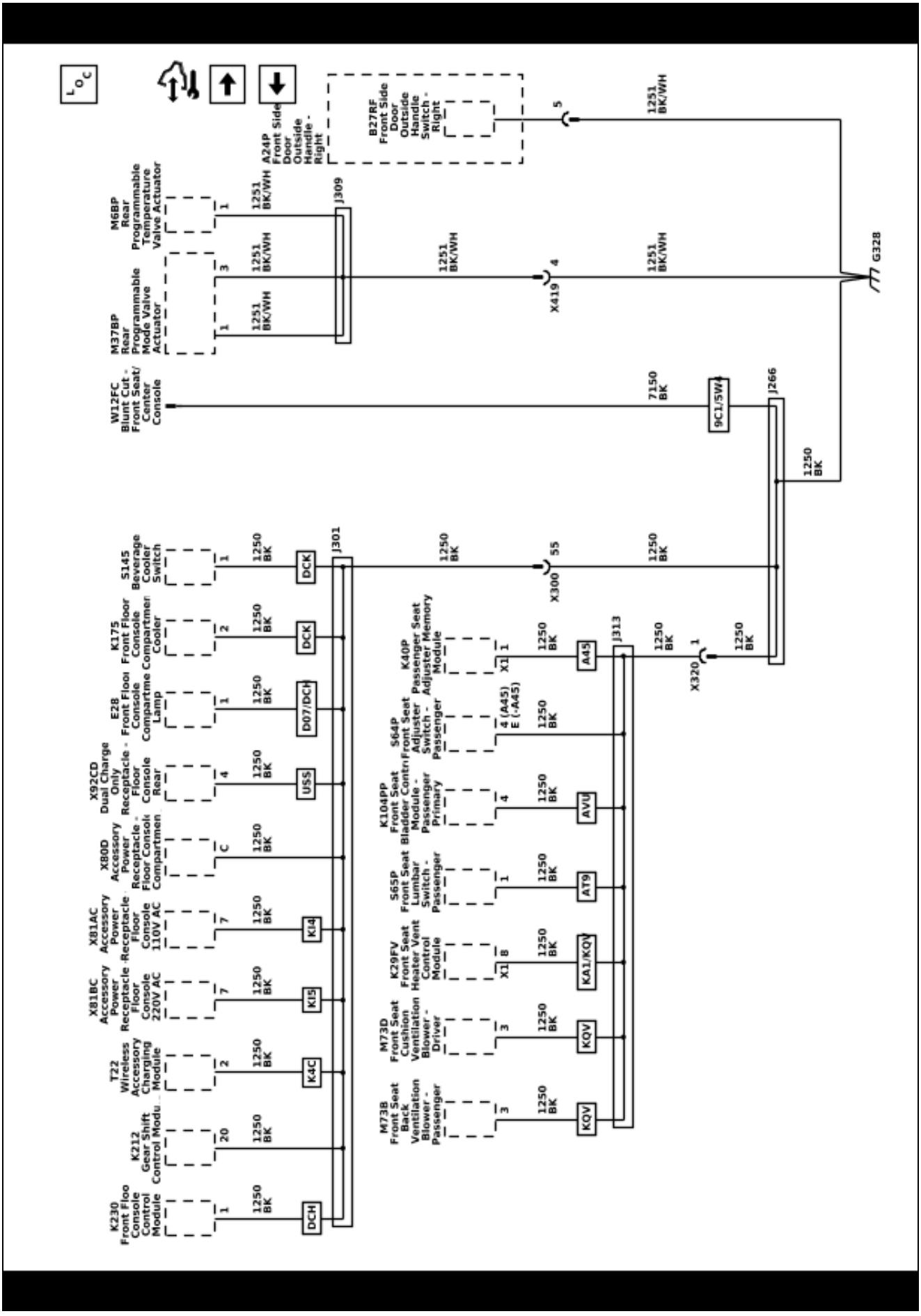
Ground Distribution Schematics (G326 and G406)



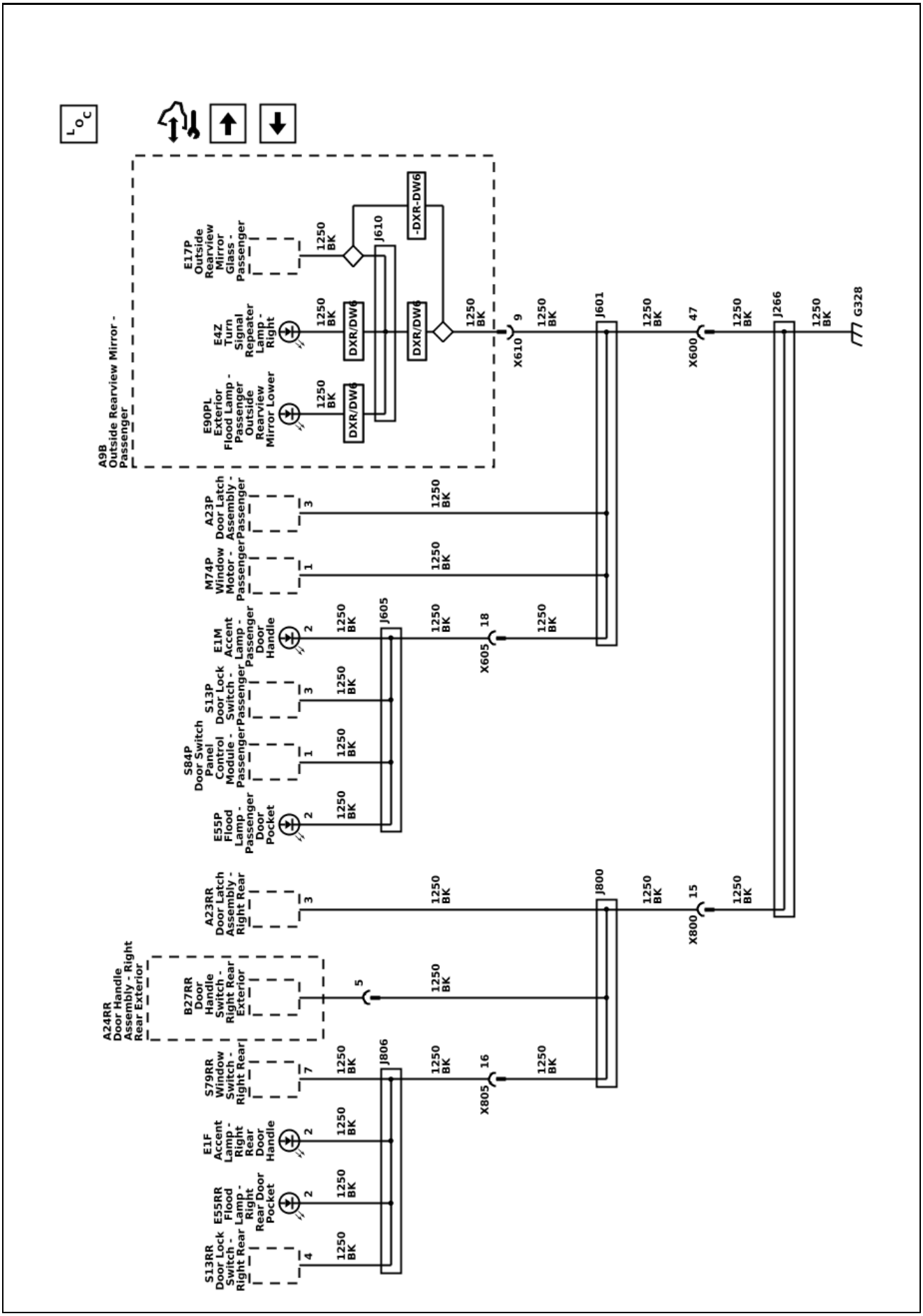
Ground Distribution Schematics (G327)



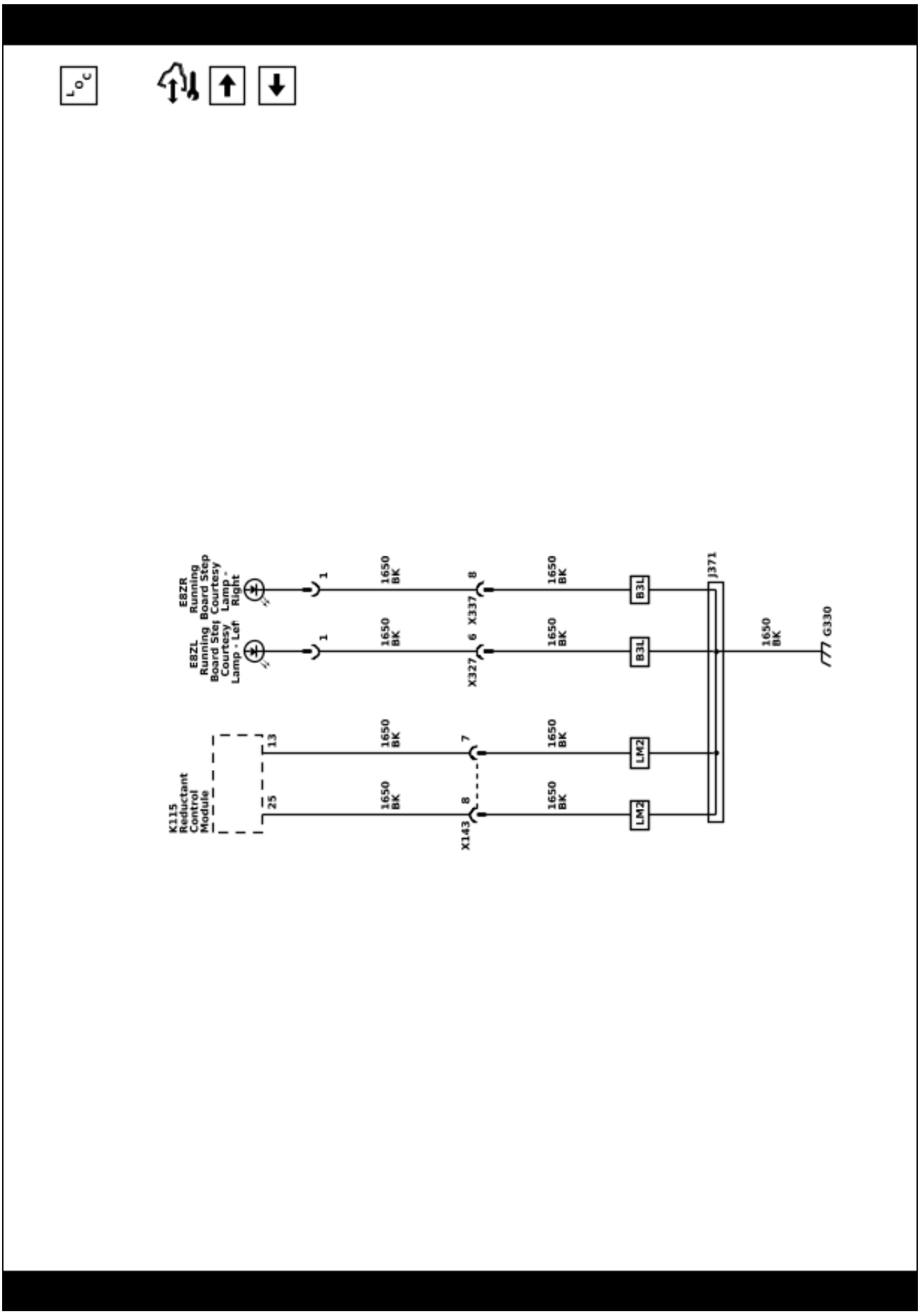
Ground Distribution Schematics (G328 (1 of 2))



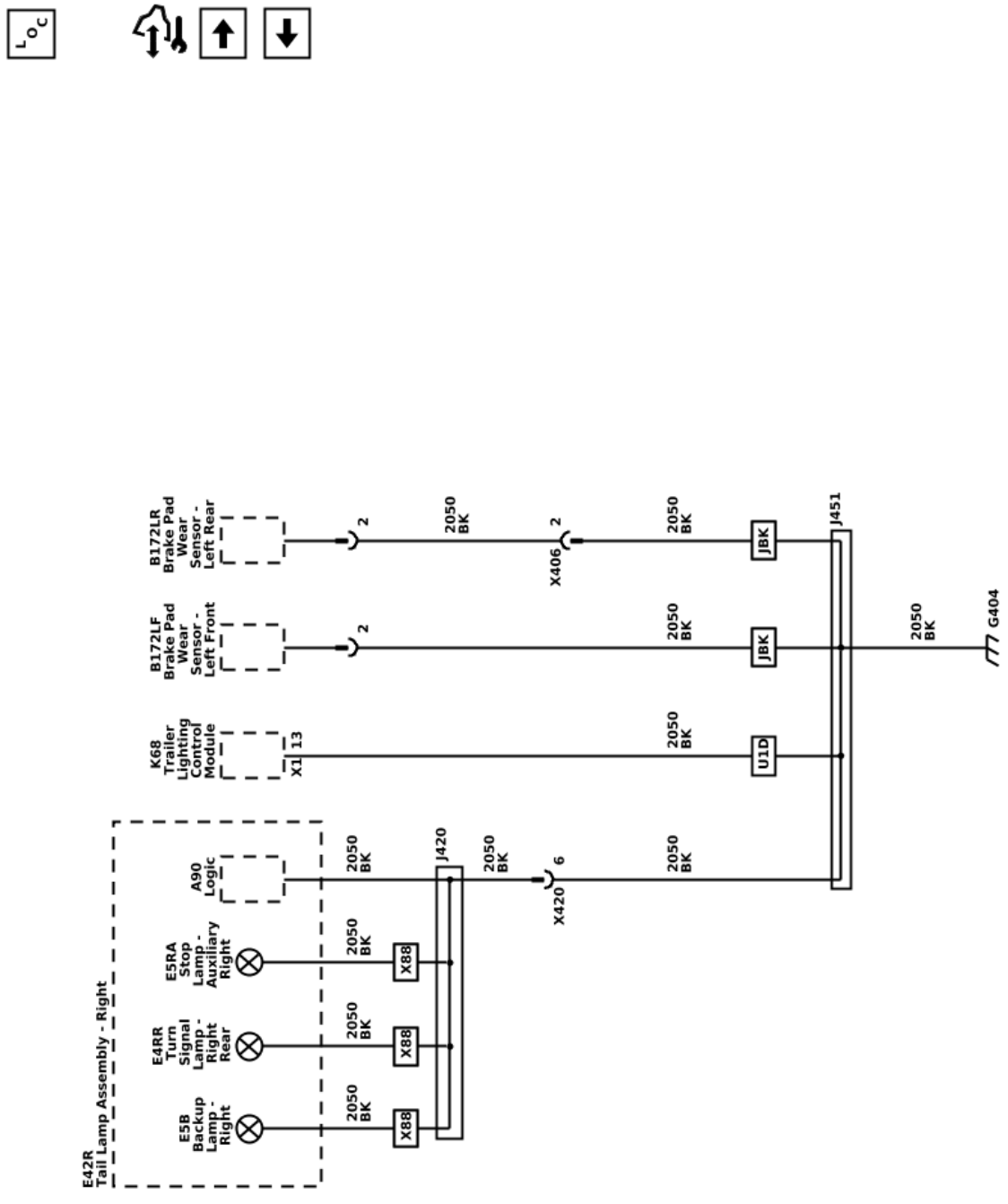
Ground Distribution Schematics (G328 (2 of 2))



Ground Distribution Schematics (G330 (B3L/LM2))

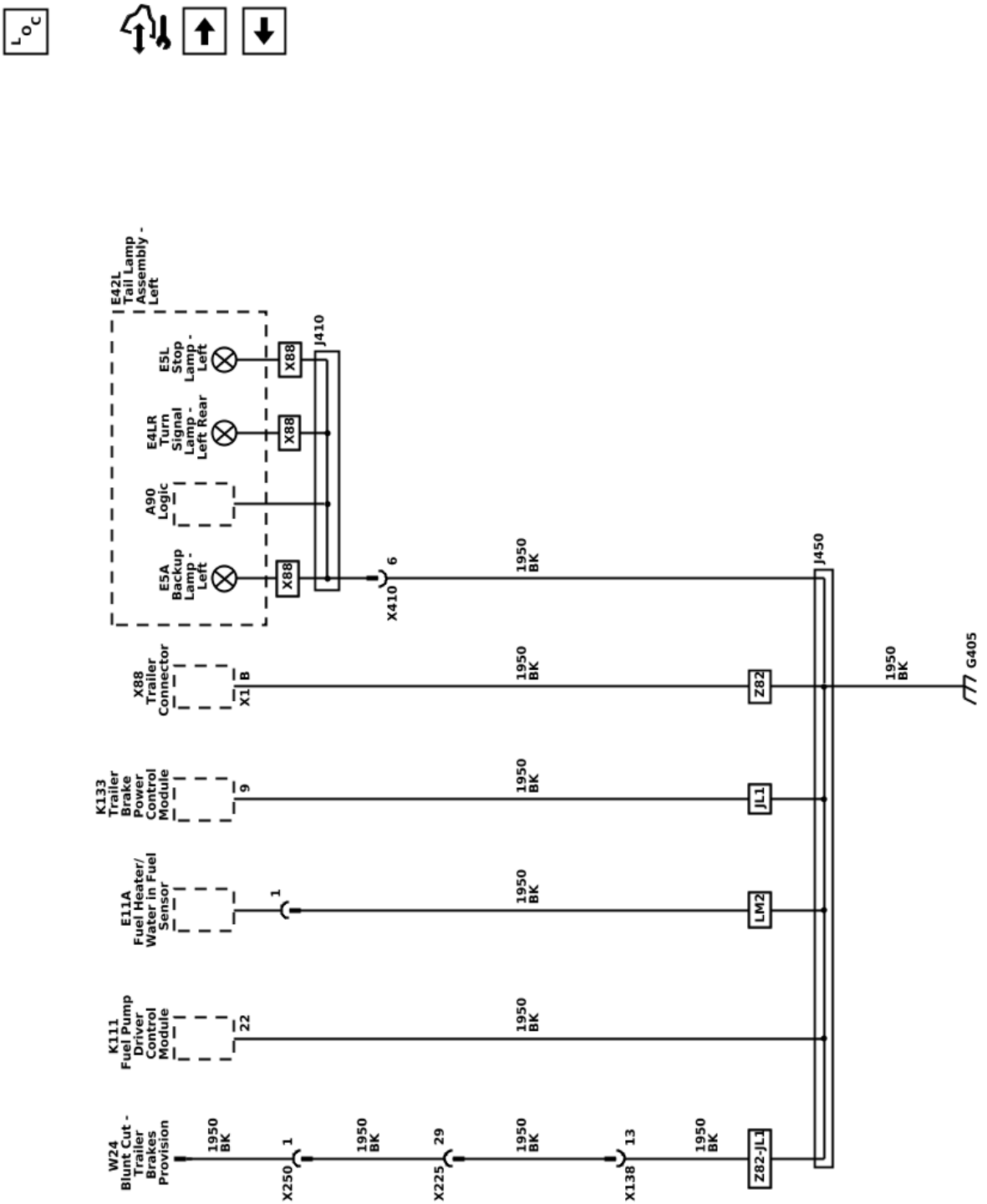


Ground Distribution Schematics (G404)



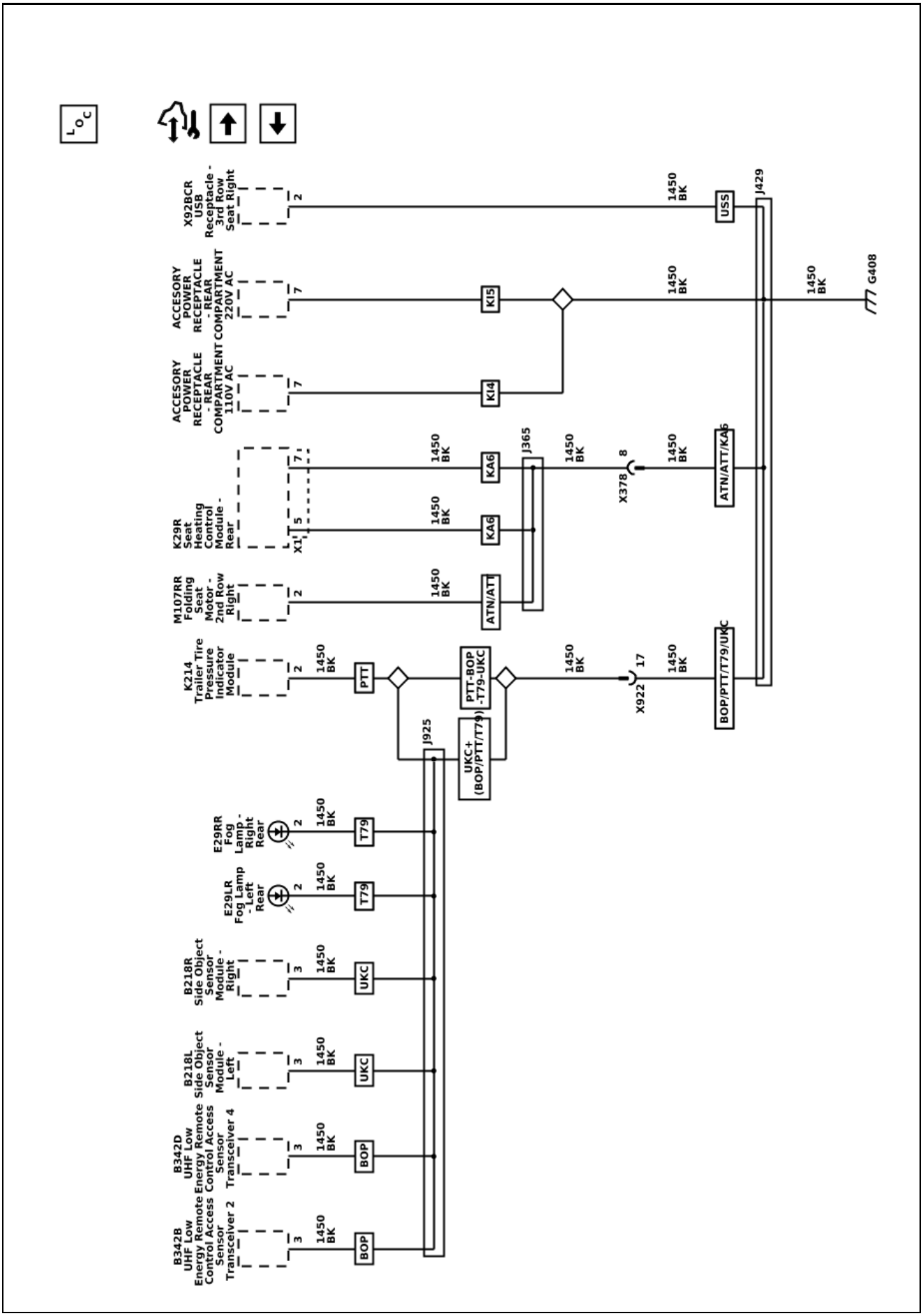
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Ground Distribution Schematics (G405)

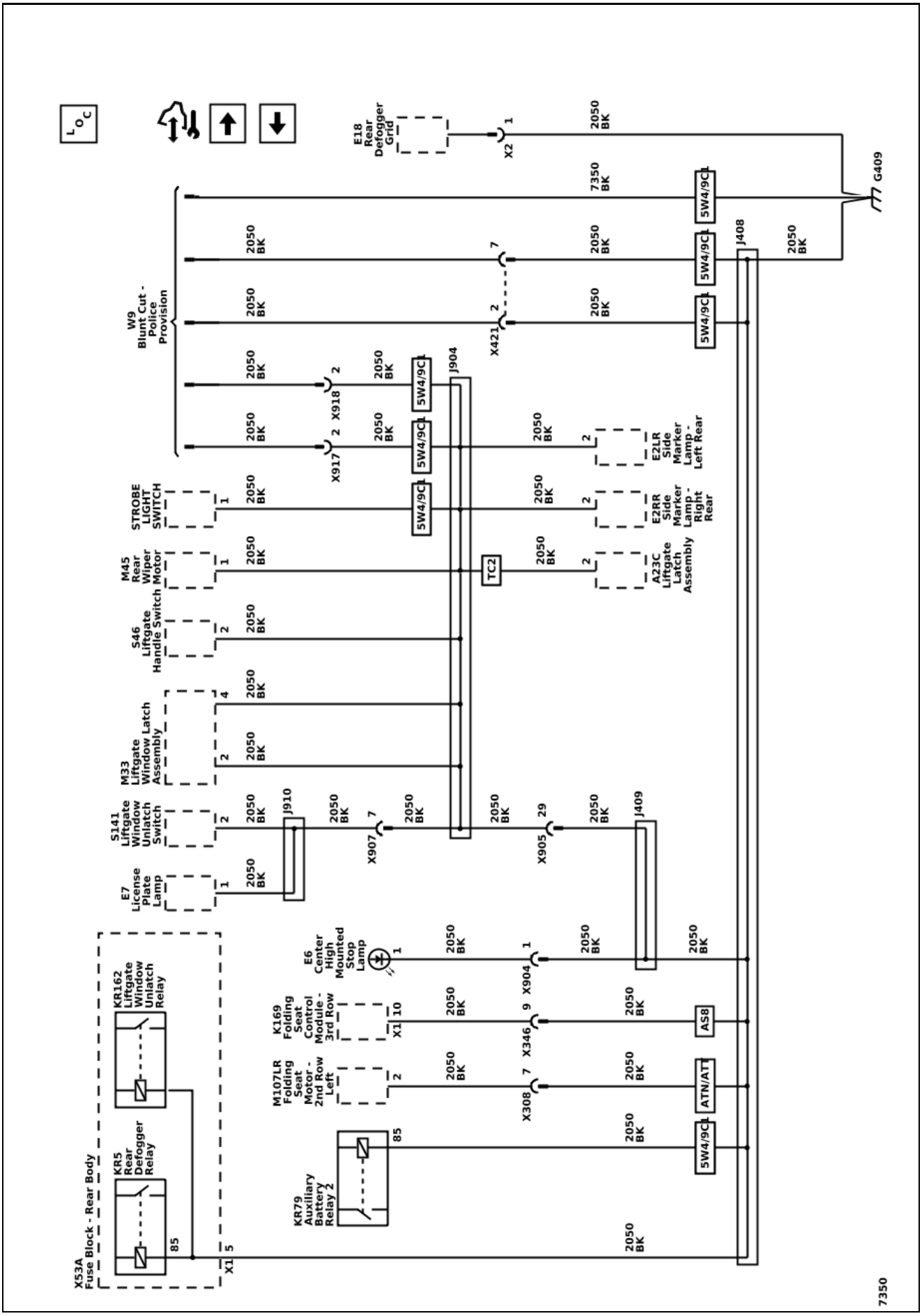


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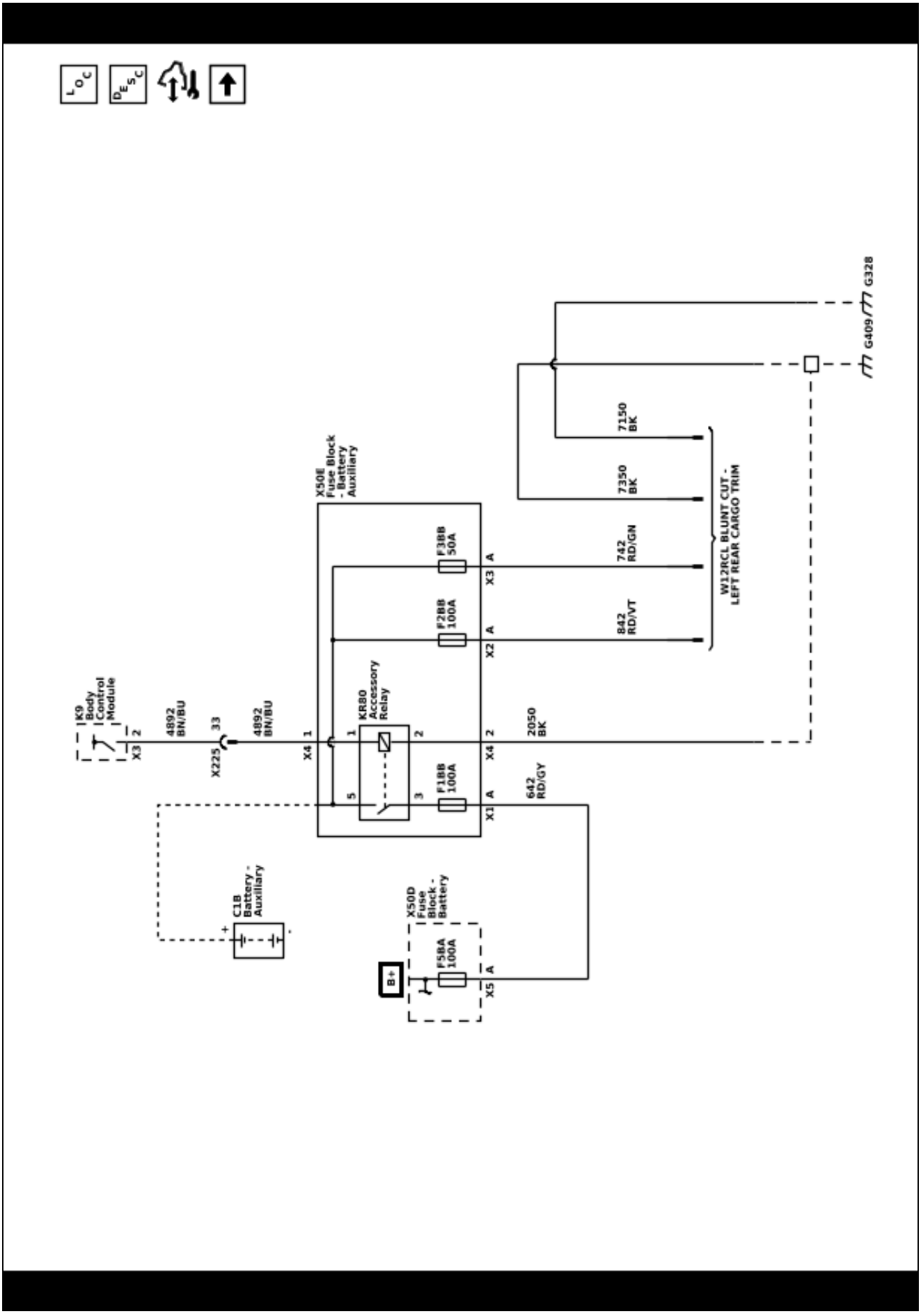
Ground Distribution Schematics (G408)



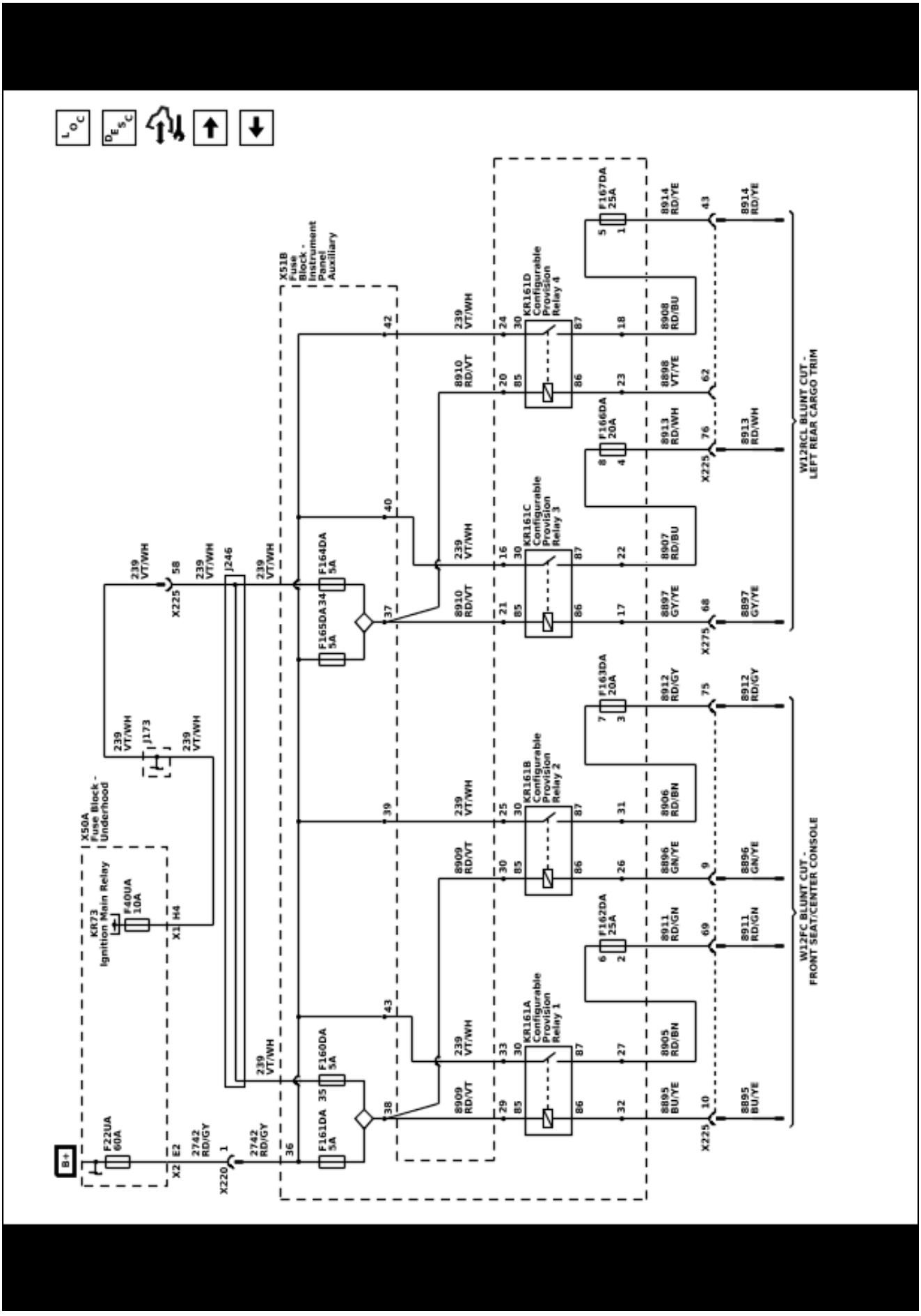
Ground Distribution Schematics (G409)



Upfitter Provision Schematics (X50EA Battery Distribution Fuse Block - Auxiliary)

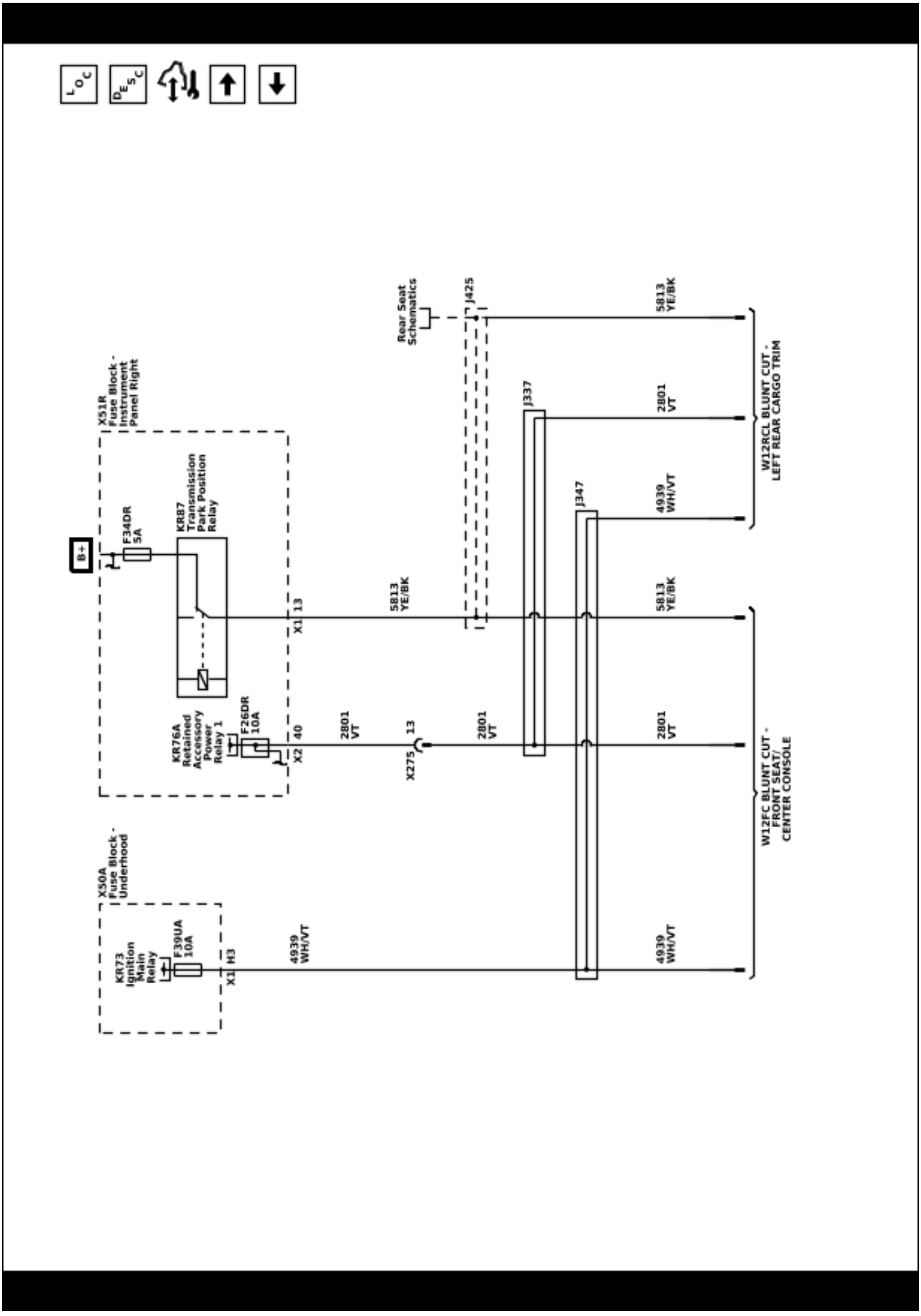


Upfitter Provision Schematics (X51AX Instrument Panel Wiring Harness Junction Block - Auxiliary)

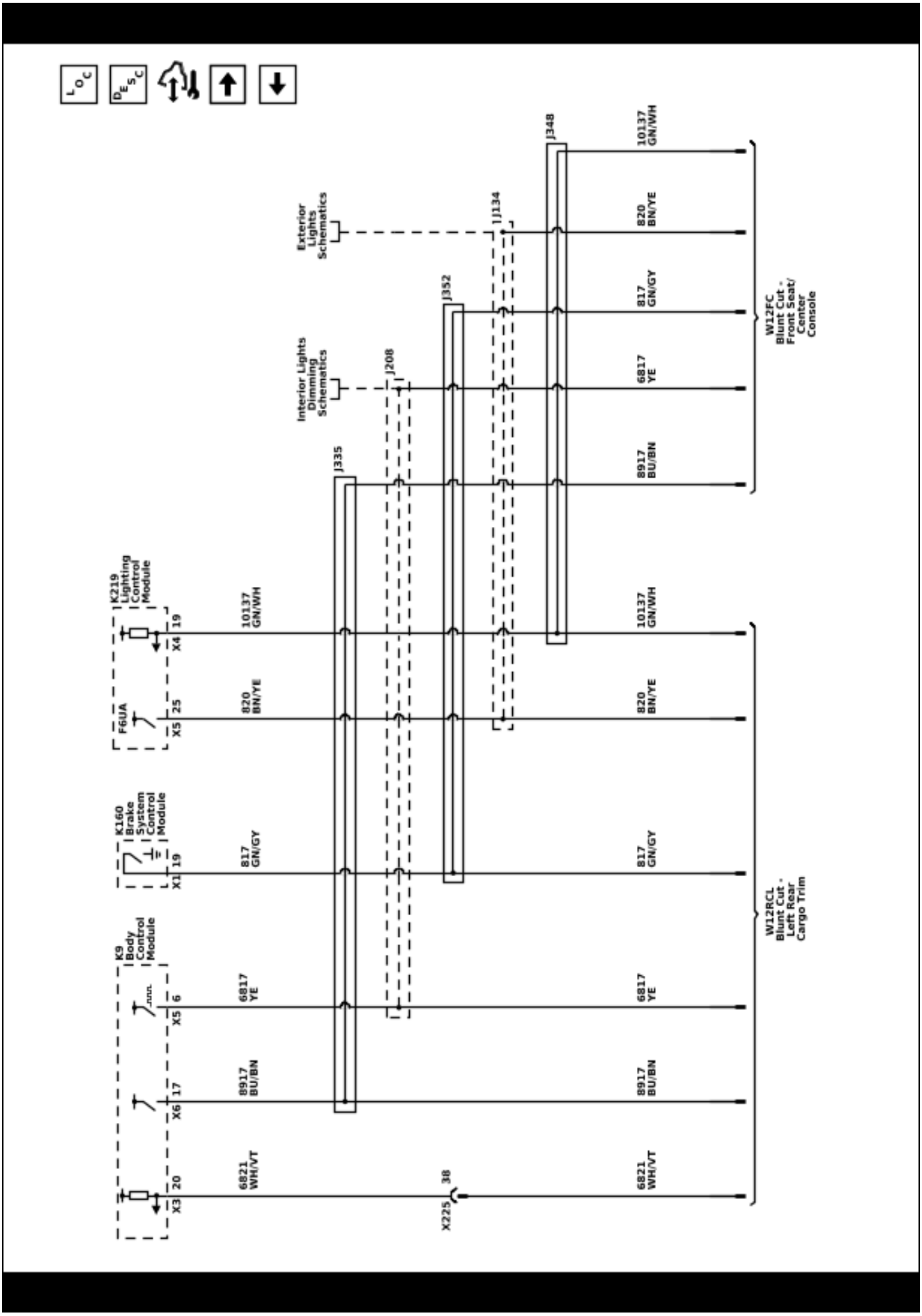


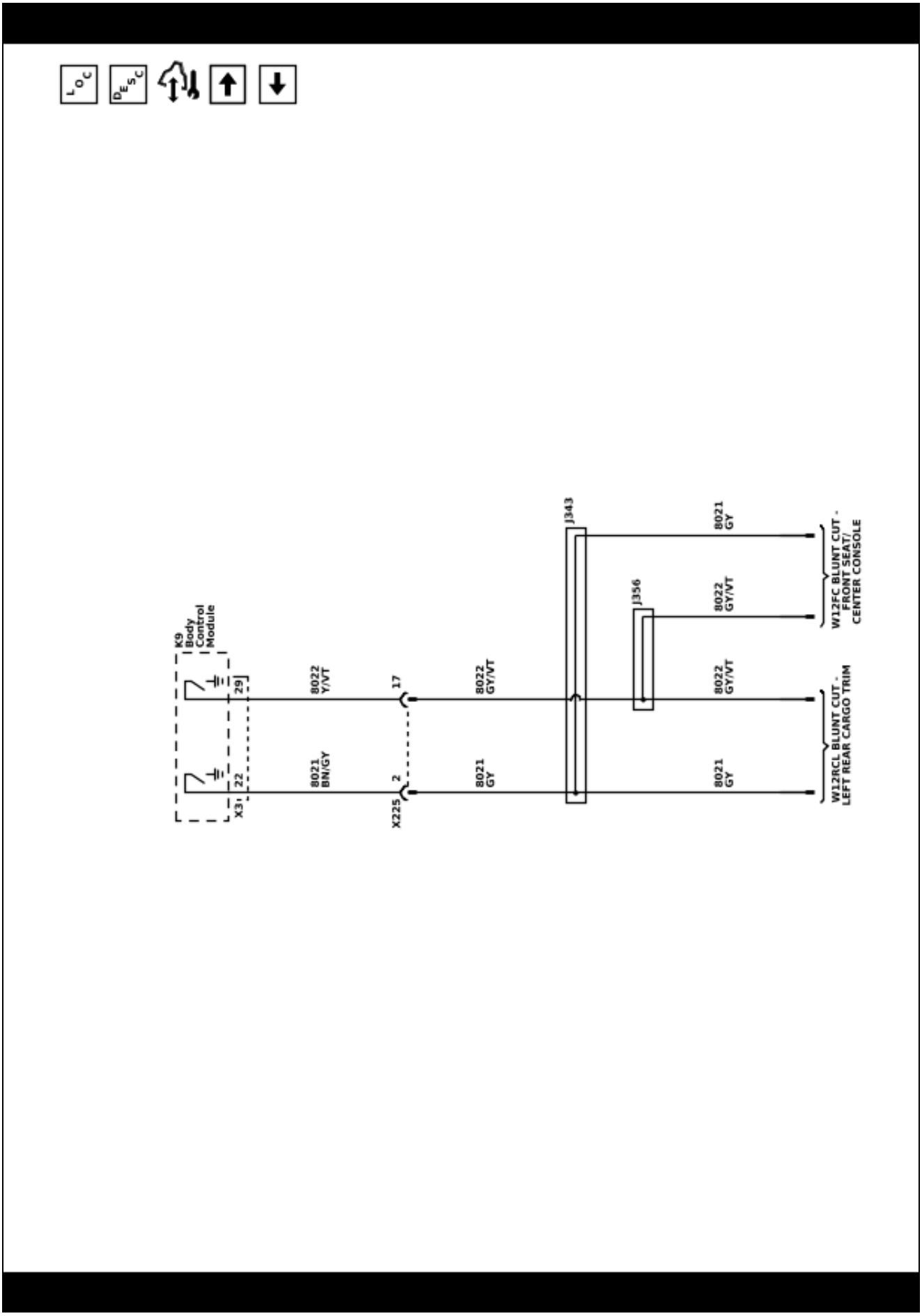
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Upfitter Provision Schematics (Vehicle Systems Signals (1 of 2))

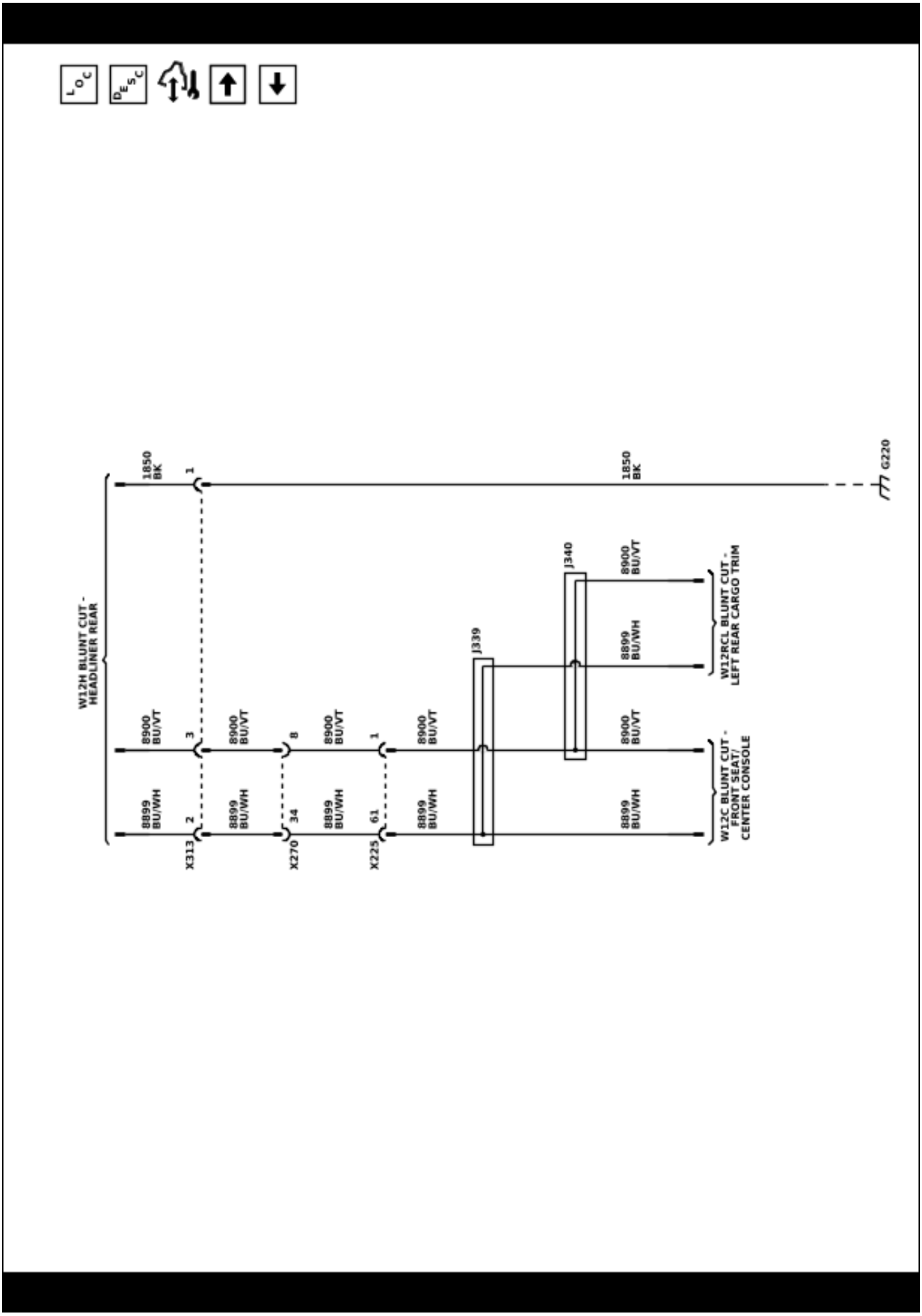


Upfitter Provision Schematics (Vehicle Systems Signals (2 of 2))

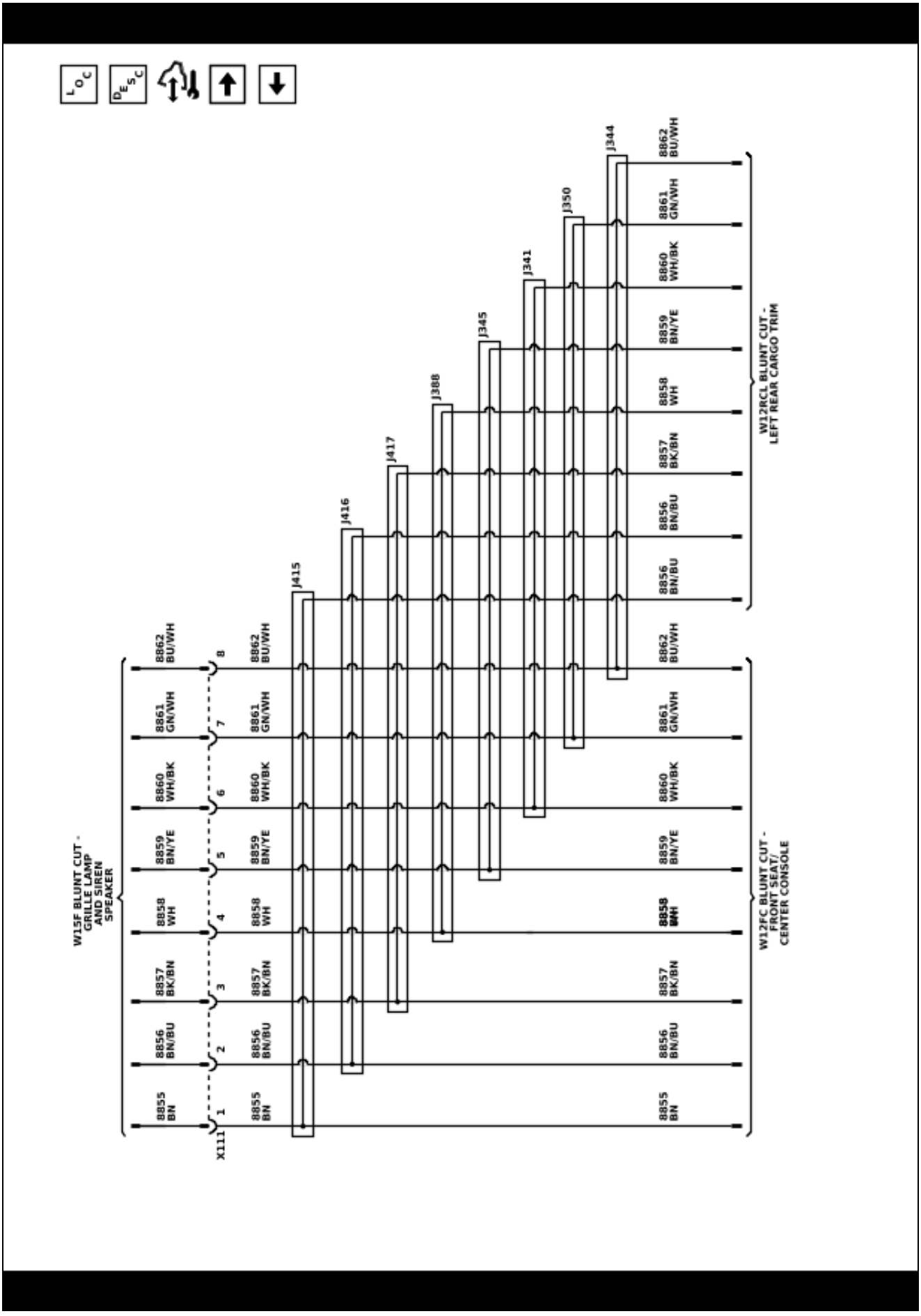



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K9
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Control
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BN/GY
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2
X225
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GY
J343
J356
8021
GY
8022
GY/VT
8022
GY/VT
8021
GY
W12FC BLUNT CUT -
FRONT SEAT/
CENTER CONSOLE
W12RCL BLUNT CUT -
LEFT REAR CARGO TRIM

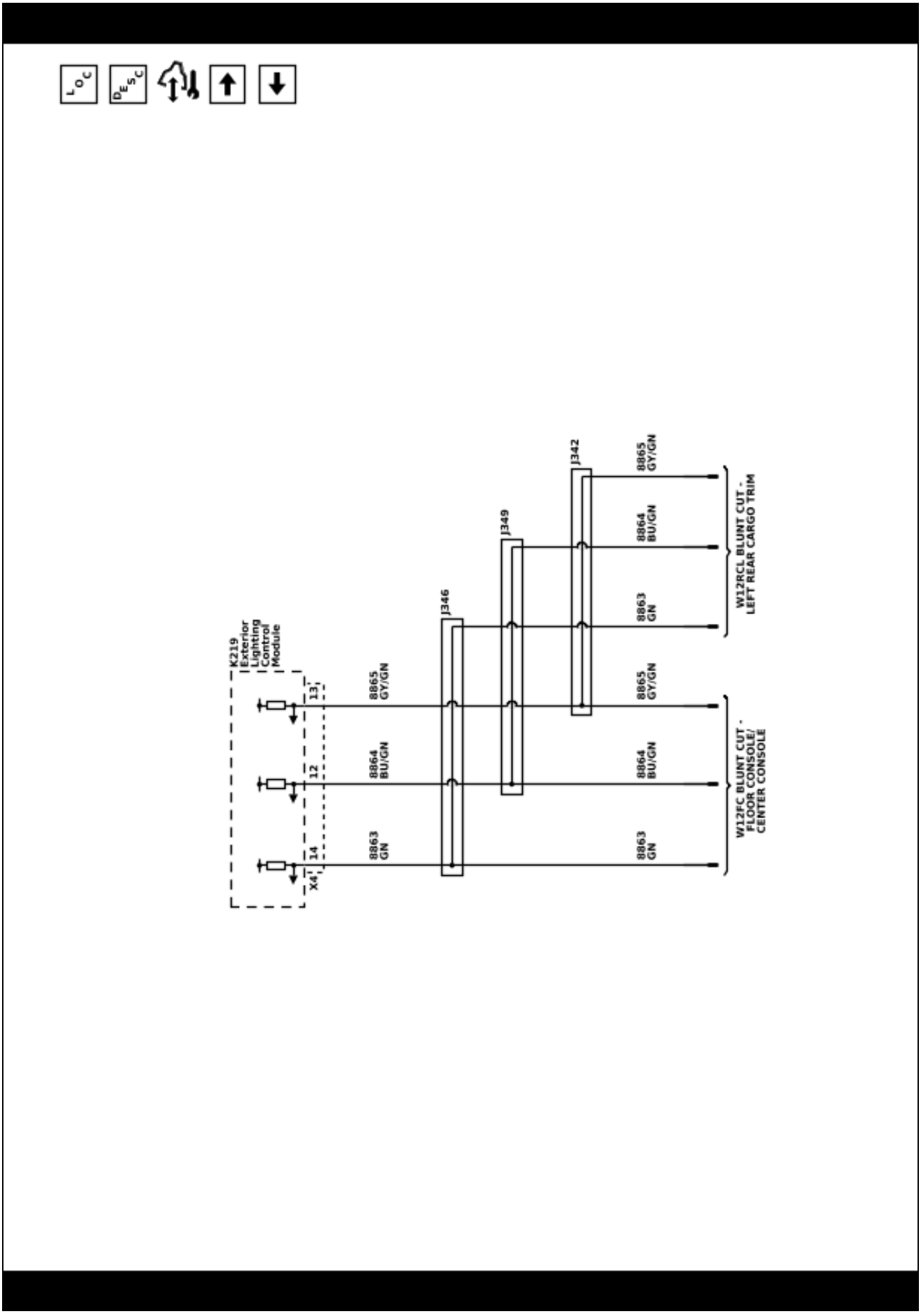
Upfitter Provision Schematics (Radio Microphone Provisions)



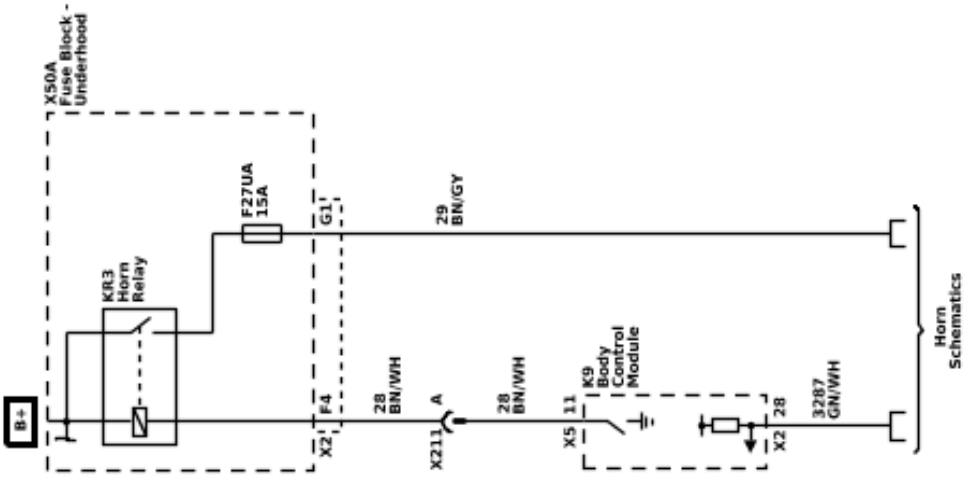
Upfitter Provision Schematics (Grille Lamp and Siren Speaker Provisions)



Upfitter Provision Schematics (Headlamps, Tail Lamps, and Flasher System Provisions (6J7))

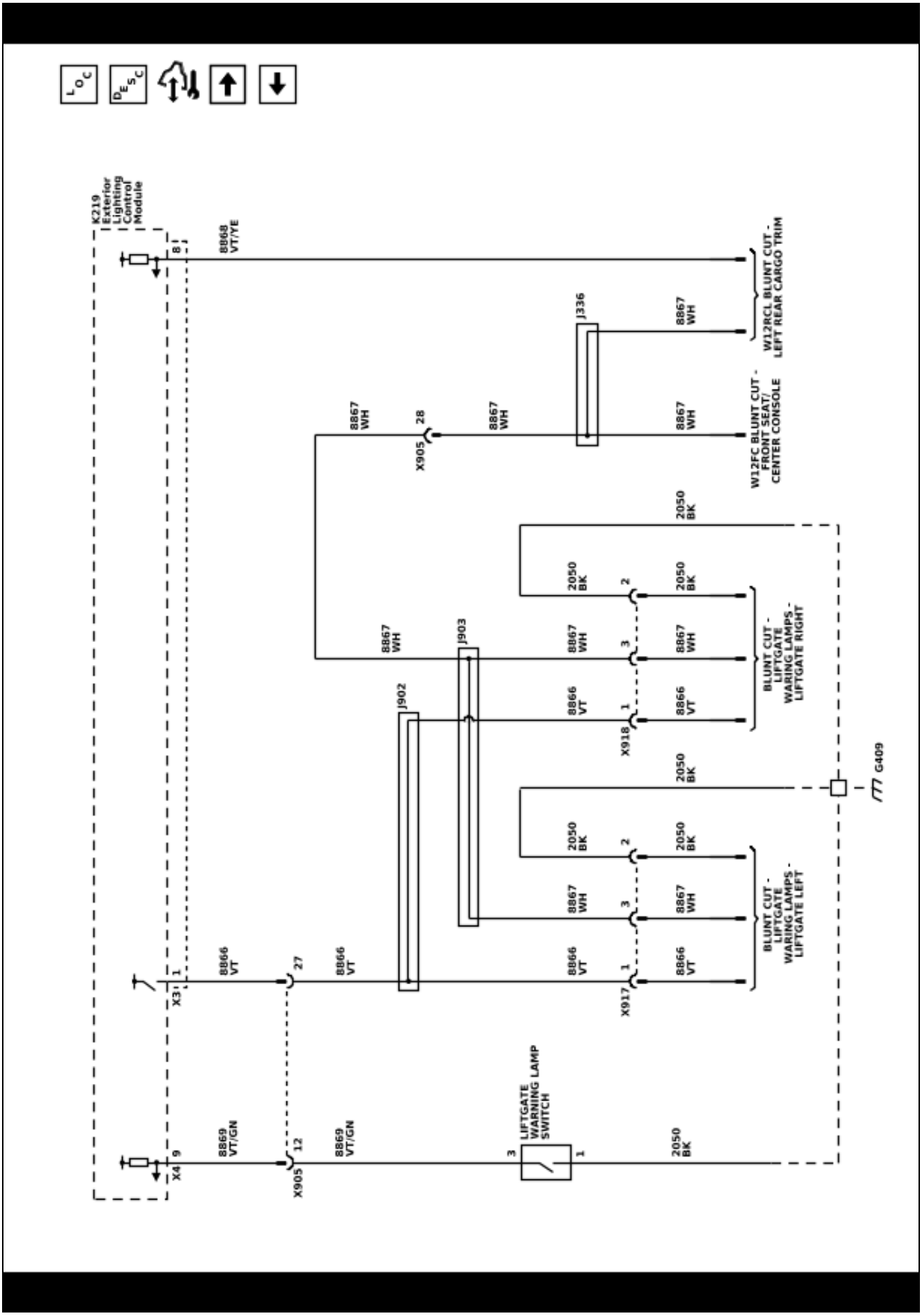


Upfitter Provision Schematics (Horn and Siren Control Provision)

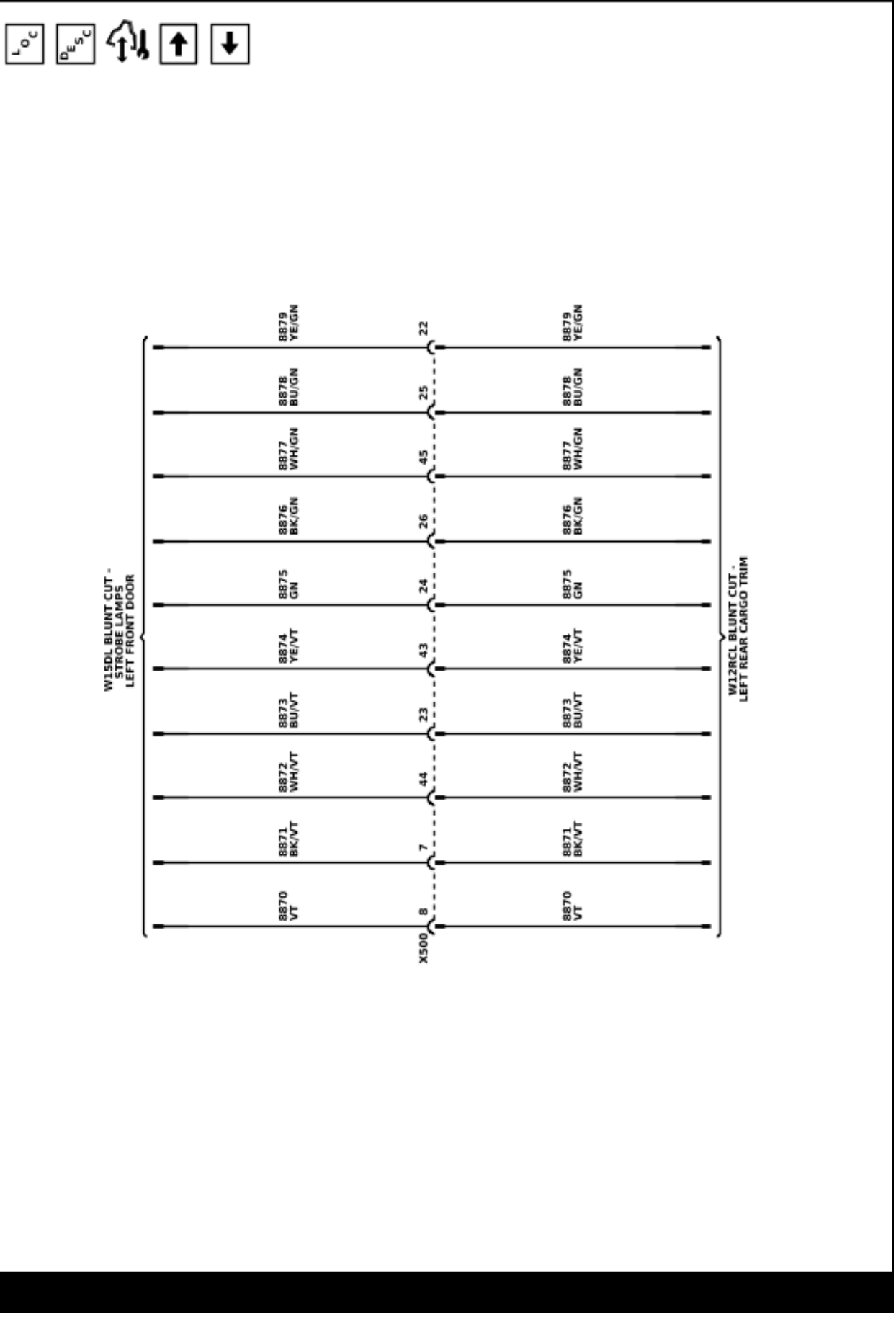


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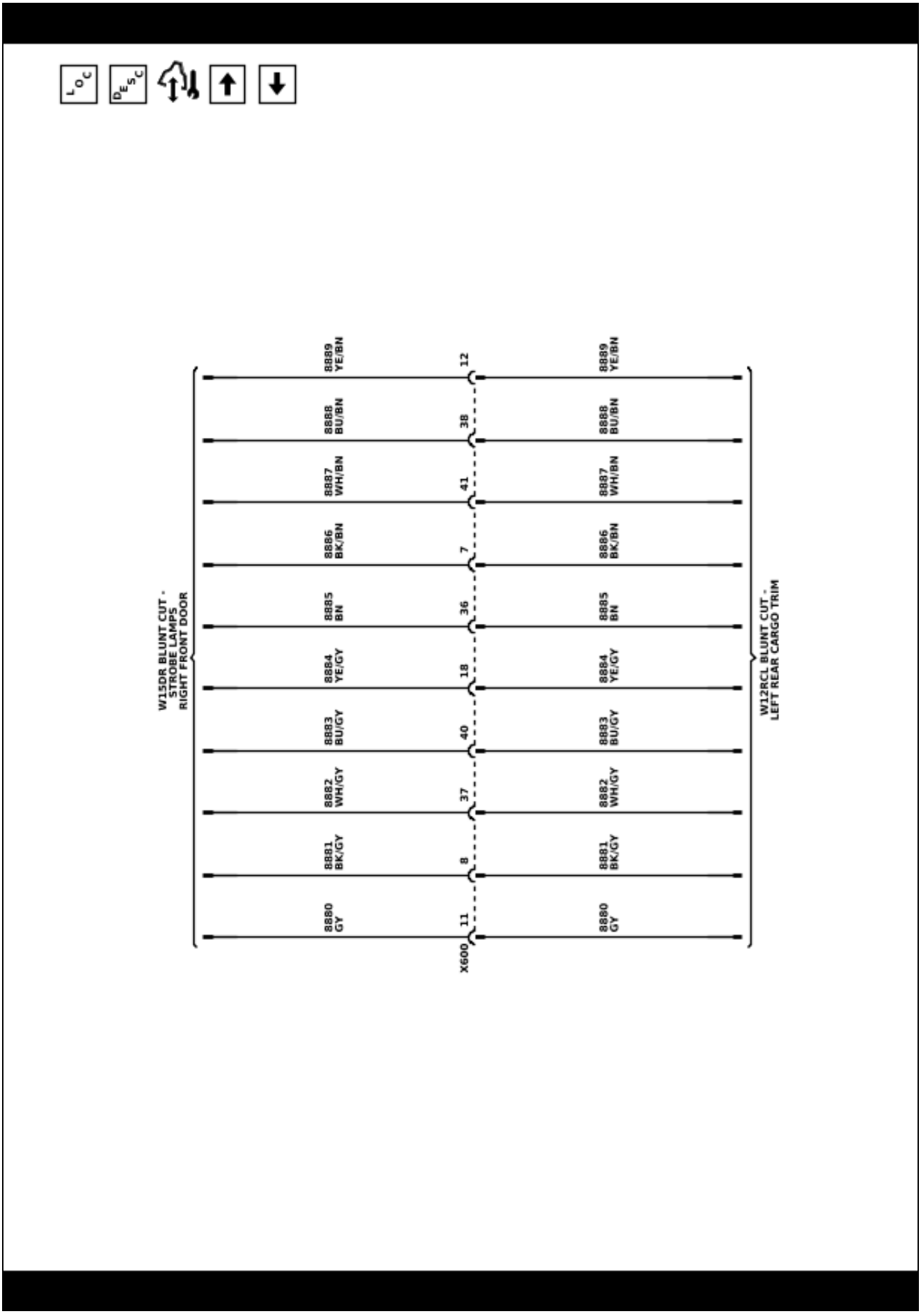
Upfitter Provision Schematics (Emergency Vehicle Warning Lamps)



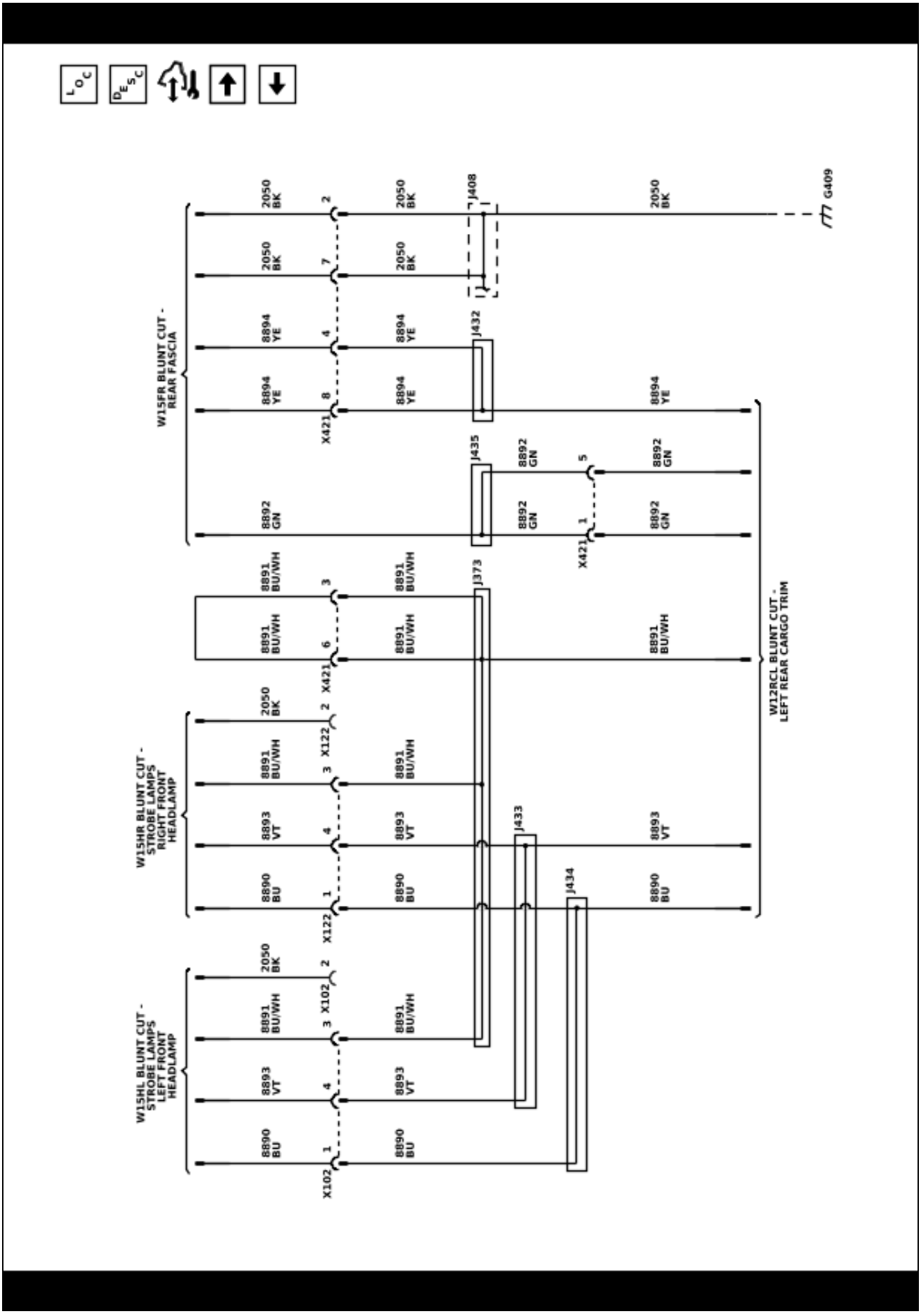
Upfitter Provision Schematics (Outside Rear View Mirror and Rear Window Strobe Provision - Left (T66))



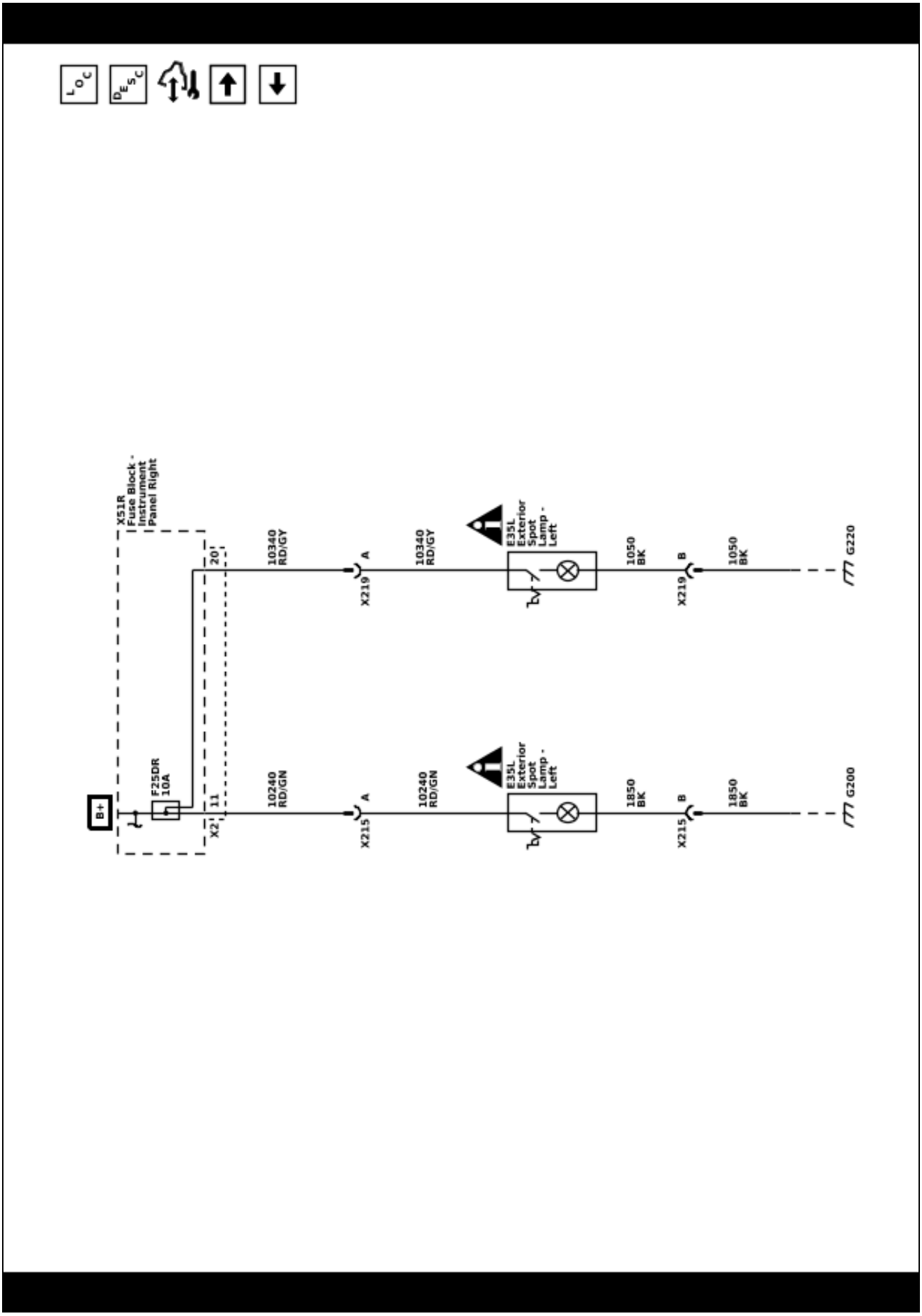
Upfitter Provision Schematics (Outside Rear View Mirror and Rear Window Strobe Provisions - Right (T66))



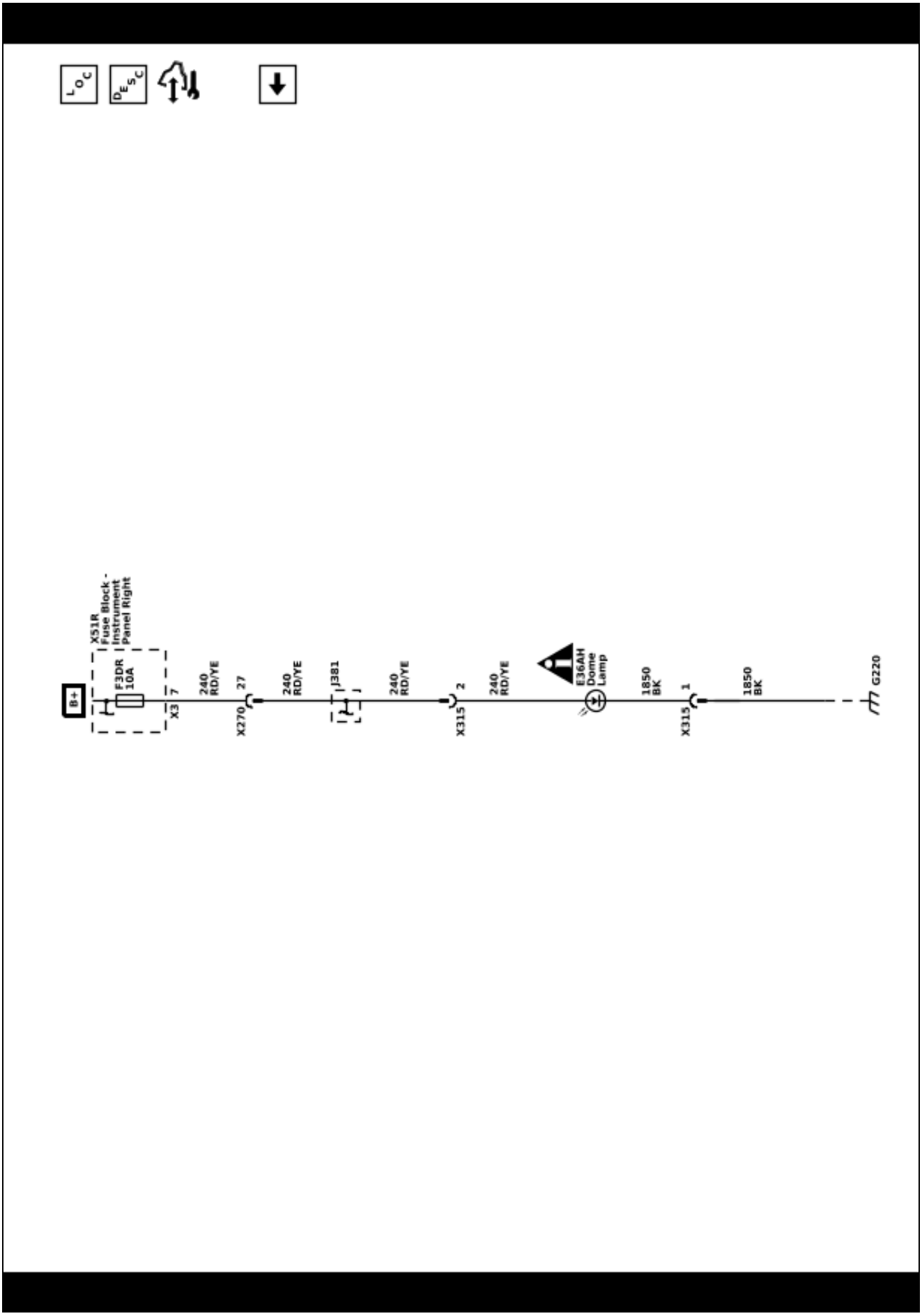
Upfitter Provision Schematics (Headlamp and Taillamp LED Strobe System Provisions)



Upfitter Provision Schematics (LED Spot Lamps)



Upfitter Provision Schematics (Emergency Vehicle Reading Lamps)



Component Locator

Master Electrical Component List

Code	Name	Option	Location	Locator View	Connector End View
A3L	Sunshade - Left	—	In the passenger compartment, at the front of the headliner, left side	—	—
A3R	Sunshade - Right	—	In the passenger compartment, at the front of the headliner, right side	—	—
A5	Driver Information Center	—	—	—	—
A7	Fuel Pump and Level Sensor Assembly	—	Under the vehicle, left side, in front of rear axle, mounted in the fuel tank	—	A7 Fuel Pump and Level Sensor Assembly
A9A	Outside Rearview Mirror - Driver	—	Outside the vehicle, at the front of the driver door	• Front of Vehicle Components (X88) • Front of Vehicle Components (Z88)	—
A9B	Outside Rearview Mirror - Passenger	—	Outside the vehicle, at the front of the passenger door	• Front of Vehicle Components (X88) • Front of Vehicle Components (Z88)	—
A10	Inside Rearview Mirror	—	In the passenger compartment, at the top center of the windshield	—	A10 Inside Rearview Mirror
A11	Radio	—	In the passenger compartment, right front, below passenger a-pillar, between the instrument panel and bulkhead	Instrument Panel Components - Right	• A11 Radio X1 • A11 Radio X2 • A11 Radio X3
A16	Transfer Case Motor	NP0/NQH	Under the vehicle, mounted to the rear of the transfer case	Transfer Case Components (NP0/NQH)	A16 Transfer Case Motor (NP0/NQH)
A22	Radio Controls	UIR	In the passenger compartment, at the center of the Instrument Panel, part of the Info Display Module	—	• A22 Radio Controls X2 (UQF) • A22 Radio Controls X3 • A22 Radio Controls X6
A23C	Liftgate Latch Assembly	—	—	—	• A23C Liftgate Latch Assembly (TB4) • A23C Liftgate Latch Assembly (TC2)
A23D	Door Latch Assembly - Driver	—	In the driver door, at the rear center	—	A23D Door Latch Assembly - Driver
A23LR	Door Latch Assembly - Left Rear	—	In the left rear door, at the rear center	—	A23LR Door Latch Assembly - Left Rear
A23P	Door Latch Assembly - Passenger	—	In the passenger door, at the rear center	—	A23P Door Latch Assembly - Passenger
A23RR	Door Latch Assembly - Right Rear	—	In the right rear door, at the rear center	—	A23RR Door Latch Assembly - Right Rear

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
A24D	Door Handle Assembly - Driver Exterior	—	Outside of the vehicle, at the rear of the driver door	—	A24D Door Handle Assembly - Driver Exterior
A24LR	Door Handle Assembly - Left Rear Exterior	—	Outside of the vehicle, at the rear of the left rear door	—	A24LR Door Handle Assembly - Left Rear Exterior
A24P	Door Handle Assembly - Passenger Exterior	—	Outside of the vehicle, at the rear of the passenger door	—	A24P Door Handle Assembly - Passenger Exterior
A24RR	Door Handle Assembly - Right Rear Exterior	—	Outside of the vehicle, at the rear of the right rear door	—	A24RR Door Handle Assembly - Right Rear Exterior
A26	HVAC Controls	IOR	In the passenger compartment, at the center of the instrument panel, beneath P17 Info Display Module	Instrument Panel Components - Right	A26 HVAC Controls
A34	HVAC Controls - Auxiliary	—	—	—	• A34 HVAC Controls - Auxiliary (BOP) • A34 HVAC Controls - Auxiliary (C69)
A38	Reductant Pump and Sensor Assembly	LM2	Under the vehicle, mounted to the outboard side of the frame, below the passenger side of the cab	—	—
A98	Front Overhead Console Assembly	—	In the passenger compartment, front center, mounted to headliner	—	A98 Front Overhead Console Assembly
A104	Brake Master Cylinder	—	In the engine compartment, left rear, bolted to the bulkhead	—	—
B1	A/C Refrigerant Pressure Sensor	—	—	—	B1 A/C Refrigerant Pressure Sensor
B5LF	Wheel Speed Sensor - Left Front	—	Outside the vehicle, part of the left front wheel hub assembly	—	B5LF Wheel Speed Sensor - Left Front
B5LR	Wheel Speed Sensor - Left Rear	—	Outside the vehicle, mounted to the outboard end of the left axle tube	—	B5LR Wheel Speed Sensor - Left Rear
B5RF	Wheel Speed Sensor - Right Front	—	Outside the vehicle, part of the right front wheel hub assembly	Engine Components - Right Front (L84/L87)	B5RF Wheel Speed Sensor - Right Front
B5RR	Wheel Speed Sensor - Right Rear	—	Outside the vehicle, mounted to the outboard end of the right axle tube	—	B5RR Wheel Speed Sensor - Right Rear
B7C	Air Temperature Sensor - Duct Lower Auxiliary	—	—	—	—
B7G	Air Temperature Sensor - Duct Upper Auxiliary	—	—	—	—
B9	Ambient Air Temperature Sensor	—	Outside of the vehicle, at the bottom of A9B Outside Rearview Mirror - Passenger	—	—
B10B	Ambient Light/ Sunload Sensor	—	In the passenger compartment, at the top middle of the instrument panel	Instrument Panel Components - Right	B10B Ambient Light/ Sunload Sensor

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
B13	Transmission Fluid Temperature Sensor	—	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
B14A	Transmission Output Shaft Speed Sensor	—	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
B14C	Transmission Input Shaft Speed Sensor	—	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
B14DA	Transmission Intermediate Speed Sensor 1	—	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
B14DB	Transmission Intermediate Speed Sensor 2	—	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
B20	Brake Fluid Level Switch	—	In the engine compartment, mounted in the brake fluid reservoir	—	*B20 Brake Fluid Level Switch*
B22	Brake Pedal Position Sensor	—	In the passenger compartment, in the driver side foot well, under the instrument panel	*Instrument Panel Components - Left*	*B22 Brake Pedal Position Sensor*
B23	Camshaft Position Sensor	—	• (L84/L87) In the engine compartment, front center, mounted to timing chain cover, above crankshaft harmonic balancer • (LM2) In the engine compartment, rear center, mounted to the right rear side of the engine block, above transmission bellhousing	—	• *B23 Camshaft Position Sensor (L84/L87)* • *B23 Camshaft Position Sensor (LM2)*
B24D	Mobile Telephone Microphone - Driver	—	—	—	*B24D Mobile Telephone Microphone - Driver*
B24P	Mobile Telephone Microphone - Passenger	—	—	—	*B24P Mobile Telephone Microphone - Passenger*
B26	Crankshaft Position Sensor	L84/L87	In the engine compartment, right rear, mounted to right rear side of engine block, behind M64 Starter Motor	—	*B26 Crankshaft Position Sensor*
B27D	Door Handle Switch - Driver Exterior	—	Outside of the vehicle, at the rear of the driver door, within A24D Door Handle Assembly - Driver Exterior	—	—
B27LR	Door Handle Switch - Left Rear Exterior	—	Outside of the vehicle, at the rear of the left rear door, within A24LR Door Handle Assembly - Left Rear Exterior	—	—
B27P	Door Handle Switch - Passenger Exterior	—	Outside of the vehicle, at the rear of the passenger door, within A24P Door Handle Assembly - Passenger Exterior	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
B27RR	Door Handle Switch - Right Rear Exterior	—	Outside of the vehicle, at the rear of the right rear door, within A24RR Door Handle Assembly - Right Rear Exterior	—	—
B34	Engine Coolant Temperature Sensor	L84/L87	In the engine compartment, front center, mounted to water pump	Engine Components - Left Front (L84/L87)	—
B34A	Engine Coolant Temperature Sensor 1	LM2	In the engine compartment, right rear, lower side of engine, above engine oil filter	—	B34A Engine Coolant Temperature Sensor 1 (LM2)
B34B	Engine Coolant Temperature Sensor 2	LM2	In the engine compartment, attached to the left front side of the engine block	—	B34B Engine Coolant Temperature Sensor 2 (LM2)
B34E	Engine Coolant Temperature Sensor 5	LM2	In the engine compartment, left rear, mounted to engine block, below intake manifold	—	B34E Engine Coolant Temperature Sensor 5 (LM2)
B35	Engine Oil Level Switch	L84/L87	In the engine compartment, mounted to the right side of the engine oil pan	—	B35 Engine Oil Level Switch (L84/L87)
B36	Engine Oil Temperature Sensor	—	In the engine compartment, left side, mounted to the engine oil filter housing	—	B36 Engine Oil Temperature Sensor (LM2)
B37B	Engine Oil Pressure Sensor	L84/L87	In the engine compartment, left side of engine, mounted above the engine oil filter	Engine Components - Left Front (L84/L87)	• B37B Engine Oil Pressure Sensor (L84/L87) • B37B Engine Oil Pressure Sensor (LM2)
B39	A/C Evaporator Temperature Sensor	—	In the passenger compartment, behind the instrument panel, mounted in the HVAC housing	—	—
B46	Fuel Level Sensor	—	Under the vehicle, inside the fuel tank, part of the fuel pump and level sensor assembly	—	—
B47	Fuel Pressure Sensor	—	Under the vehicle, left side, in front of rear axle, mounted to the top of the fuel tank	—	• B47 Fuel Pressure Sensor (L84/L87) • B47 Fuel Pressure Sensor (LM2)
B47B	Fuel Rail Pressure Sensor	LM2	In the engine compartment, at the top of the engine, mounted to the fuel rail	—	—
B52C	Heated Oxygen Sensor - Bank 1 Sensor 1	L84/L87	Under the vehicle, mounted in the bank 1 exhaust, upstream of the catalytic converter	Engine Components - Oxygen Sensors (L84/L87)	B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L84/L87)
B52D	Heated Oxygen Sensor - Bank 1 Sensor 2	L84/L87	Under the vehicle, mounted in the bank 1 exhaust, downstream of the catalytic converter	Engine Components - Oxygen Sensors (L84/L87)	B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L84/L87)
B52E	Heated Oxygen Sensor - Bank 2 Sensor 1	L84/L87	Under the vehicle, mounted in the bank 2 exhaust, upstream of the catalytic converter	Engine Components - Oxygen Sensors (L84/L87)	B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L84/L87)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
B52F	Heated Oxygen Sensor - Bank 2 Sensor 2	L84/L87	Under the vehicle, mounted in the bank 2 exhaust, downstream of the catalytic converter	Engine Components - Oxygen Sensors (L84/L87)	B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L84/L87)
B55	Engine Hood Switch	—	Outside the vehicle, at the front center of the hood, part of the hood latch assembly	—	B55 Engine Hood Switch
B59L	Front Impact Sensor - Left	—	In the engine compartment, left front, at the bottom of the radiator core support	—	B59L Front Impact Sensor - Left
B59R	Front Impact Sensor - Right	—	In the engine compartment, right front, at the bottom of the radiator core support	—	B59R Front Impact Sensor - Right
B61P	Seat Belt Tension Sensor - Passenger	—	In the passenger compartment, at the base of the B-pillar, part of the passenger seat belt retractor pretensioner	—	B61P Seat Belt Tension Sensor - Passenger
B63LF	Side Impact Sensor - Left Front	—	At the left front of the passenger compartment, mounted inside the left front door, at the bottom	—	B63LF Side Impact Sensor - Left Front
B63LR	Side Impact Sensor - Left Rear	—	At the left rear of the passenger compartment, mounted inside the left rear door, at the bottom	—	B63LR Side Impact Sensor - Left Rear
B63RF	Side Impact Sensor - Right Front	—	At the right front of the passenger compartment, mounted inside the right front door, at the bottom	—	B63RF Side Impact Sensor - Right Front
B63RR	Side Impact Sensor - Right Rear	—	At the right rear of the passenger compartment, mounted inside the right rear door, at the bottom	—	B63RR Side Impact Sensor - Right Rear
B65	Intake Manifold Pressure and Air Temperature Sensor	LM2	In the engine compartment, left side of engine, mounted to the intake manifold, near Q18A Fuel Pressure Regulator 1	—	B65 Intake Manifold Pressure and Air Temperature Sensor (LM2)
B68A	Knock Sensor 1	L84/L87	In the engine compartment, left side of engine, mounted to the rear of the engine block, below exhaust manifold	Engine Components - Left Front (L84/L87)	B68A Knock Sensor 1 (L84/L87)
B68B	Knock Sensor 2	L84/L87	In the engine compartment, right rear, mounted to right rear side of engine block, behind M64 Starter Motor	—	B68B Knock Sensor 2 (L84/L87)
B70	Liftgate Close Switch	—	—	—	B70 Liftgate Close Switch (TC2)
B71L	Liftgate Object Sensor - Left	—	—	—	B71L Liftgate Object Sensor - Left (TC2)
B71R	Liftgate Object Sensor - Right	—	—	—	B71R Liftgate Object Sensor - Right (TC2)
B74	Manifold Absolute Pressure Sensor	L84/L87	In the engine compartment, front center, mounted to intake manifold, to the left of Q38 Throttle Body	Engine Components - Left Front (L84/L87)	B74 Manifold Absolute Pressure Sensor (L84/L87)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
B75C	Multifunction Intake Air Sensor	—	Right front of the engine compartment, mounted in the air cleaner assembly	Engine Compartment Components - Top	• B75C Multifunction Intake Air Sensor (L84/L87) • B75C Multifunction Intake Air Sensor (LM2)
B77LF	Radio Volume Compensator Interior Noise Microphone - Left Front	—	—	—	—
B80	Park Brake Switch	—	In the passenger compartment, at the left lower side of the instrument panel	Instrument Panel Components - Left	B80 Park Brake Switch
B87	Rearview Camera	UVB/UVC/UV2/UVI	Outside the vehicle, at the top middle of the tailgate, mounted in the tailgate handle	—	—
B88CL	Seat Belt Switch - 3rd Row Left	—	—	—	—
B88CR	Seat Belt Switch - 3rd Row Right	—	—	—	—
B88D	Seat Belt Switch - Driver	—	In the passenger compartment, at the inboard side of the driver seat, part of the seat belt buckle	—	—
B88P	Seat Belt Switch - Passenger	—	In the passenger compartment, at the inboard side of the passenger seat, part of the seat belt buckle	—	—
B96	Cylinder Head Temperature Sensor	LM2	In the engine compartment, center, above the drive belt, near inline connector X160 Engine Harness to Fuel Injector Harness	—	B96 Cylinder Head Temperature Sensor (LM2)
B101	Immobilizer Antenna	—	—	—	B101 Immobilizer Antenna
B107	Accelerator Pedal Position Sensor	—	In the passenger compartment, in the driver side foot well, under the instrument panel	Instrument Panel Components - Left	B107 Accelerator Pedal Position Sensor
B110	Battery Sensor Module	KL9	In the engine compartment, right side, near C1 Battery negative cable	—	B110 Battery Sensor Module
B118B	Windshield Washer Fluid Level Switch	—	In the engine compartment, attached to the washer fluid reservoir, behind E13LA Headlamp Assembly - Left	—	B118B Windshield Washer Fluid Level Switch
B130AH	Exhaust Gas Recirculation Temperature Sensor 1 - High Pressure	LM2	In the engine compartment, right side, beneath M103 Turbocharger Vane Position Actuator	—	B130AH Exhaust Gas Recirculation Temperature Sensor 1 - High Pressure (LM2)
B130BH	Exhaust Gas Recirculation Temperature Sensor 2 - High Pressure	LM2	In the engine compartment, left rear side of engine	—	B130BH Exhaust Gas Recirculation Temperature Sensor 2 - High Pressure (LM2)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
B131A	Exhaust Temperature Sensor 1	LM2	In the engine compartment, right front, mounted in exhaust, in front of B154 Diesel Particulate Filter Exhaust Differential Pressure Sensor	—	—
B131B	Exhaust Temperature Sensor 2	LM2	In the engine compartment, right front, mounted in exhaust, near Q61 Reductant Injector	—	—
B131C	Exhaust Temperature Sensor 3	LM2	In the engine compartment, mounted in exhaust, near M64 Starter Motor	—	—
B136	Exhaust Particulate Matter Sensor	LM2	On the underbody, mounted to the inboard side of the right frame rail, forward of the right rear shock	—	*B136 Exhaust Particulate Matter Sensor (LM2)*
B137B	Power Steering Shaft Torque/Position Sensor	—	Under the vehicle, in the engine compartment, left front, behind the left side of the power steering rack.	—	—
B139	Transfer Case 2WD/4WD Actuator Position Sensor	NP0/NQH	Under the vehicle, mounted to the transfer case	—	—
B150	Fuel Tank Pressure Sensor	L84/L87	Under the vehicle, at the top of the fuel tank	—	*B150 Fuel Tank Pressure Sensor*
B152LF	Suspension Position Sensor - Left Front	Z45	Under the vehicle, at the left front corner of the frame	—	*B152LF Suspension Position Sensor - Left Front (F47)*
B152LR	Suspension Position Sensor - Left Rear	—	—	—	—
B152RF	Suspension Position Sensor - Right Front	Z45	Under the vehicle, at the right front corner of the frame	*Engine Components - Right Front (L84/L87)*	—
B152RR	Suspension Position Sensor - Right Rear	—	—	—	—
B153D	Seat Belt Buckle - Driver	—	In the passenger compartment, at the inboard side of the drive seat	—	—
B153P	Seat Belt Buckle - Passenger	—	In the passenger compartment, at the inboard side of the passenger seat	—	—
B154	Diesel Particulate Filter Exhaust Differential Pressure Sensor	LM2	In the engine compartment, right side, mounted in the exhaust, in front of M103 Turbocharger Vane Position Actuator	—	*B154 Diesel Particulate Filter Exhaust Differential Pressure Sensor (LM2)*
B159L	Glass Breakage Sensor - Left	—	—	—	*B159L Glass Breakage Sensor - Left (UTJ)*
B159R	Glass Breakage Sensor - Right	—	—	—	*B159R Glass Breakage Sensor - Right (UTJ)*
B161LF	Vertical Suspension Acceleration Sensor - Left Front	—	—	—	*B161LF Vertical Suspension Acceleration Sensor - Left Front (Z95)*

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
B161RF	Vertical Suspension Acceleration Sensor - Right Front	—	—	Engine Components - Right Front (L84/L87)	B161RF Vertical Suspension Acceleration Sensor - Right Front (Z95)
B172LF	Brake Pad Wear Sensor - Left Front	—	Under the vehicle, at left front caliper	—	B172LF Brake Pad Wear Sensor - Left Front (JBK)
B172LR	Brake Pad Wear Sensor - Left Rear	—	Under the vehicle, at left rear caliper	—	B172LR Brake Pad Wear Sensor - Left Rear (JBK)
B174G	Frontview Camera - Grille	UVS	At the front of the vehicle, front center, near the grille	• Front Fascia Components • Front of Vehicle Components (X88)	—
B174W	Frontview Camera - Windshield	ASV	In the passenger compartment, at the top middle of the windshield	—	B174W Frontview Camera - Windshield (UEU/UHY/UGN)
B193A	Charge Air Cooler Inlet Temperature Sensor	LM2	In the engine compartment, mounted to the left side of the air charge cooler	—	B193A Charge Air Cooler Inlet Temperature Sensor (LM2)
B193B	Charge Air Cooler Outlet Temperature Sensor	LM2	In the engine compartment, mounted to the front of the air charge cooler	—	B193B Charge Air Cooler Outlet Temperature Sensor (LM2)
B194	Reductant Pressure Sensor	LM2	Under the vehicle, right side, forward of rear axle, within reductant tank, part of A38 Reductant Pump and Sensor Assembly	—	—
B195A	Nitrogen Oxides Sensor 1	LM2	In the engine compartment, attached to the exhaust pipe, on the top left rear side of the engine	—	B195A Nitrogen Oxides Sensor 1 (LM2)
B195B	Nitrogen Oxides Sensor 2	LM2	Under the vehicle, attached to the exhaust pipe, at the middle of the diesel particulate filter	—	B195B Nitrogen Oxides Sensor 2 (LM2)
B195C	Nitrogen Oxides Sensor 3	LM2	Under the vehicle, attached to the exhaust pipe	—	B195C Nitrogen Oxides Sensor 3 (LM2)
B200	Rain Sensor Module	—	—	—	—
B203	Radiator Coolant Temperature Sensor	LM2	In the engine compartment, right front, attached to the right side of the radiator	—	B203 Radiator Coolant Temperature Sensor (LM2)
B212	Reductant Sensor Module	LM2	Under the vehicle, right side, attached to DEF tank	—	—
B214	Reductant Temperature Sensor	LM2	Under the vehicle, right side, forward of rear axle, within reductant tank, part of A38 Reductant Pump and Sensor Assembly	—	—
B218L	Side Object Sensor Module - Left	UKC	Outside of the vehicle, left rear corner, mounted to the inside of the rear bumper	—	B218L Side Object Sensor Module - Left (UKC/UKV)
B218R	Side Object Sensor Module - Right	UKC	Outside of the vehicle, right rear corner, mounted to the inside of the rear bumper	—	B218R Side Object Sensor Module - Right (UKC/UKV)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
B225L	Sideview Camera - Left	UVI/UV2	Outside of vehicle, left side, within A9A Outside Rear-view Mirror - Driver	—	—
B225R	Sideview Camera - Right	UVI/UV2	Outside of vehicle, right side, within A9B Outside Rearview Mirror - Passen-ger	—	—
B233B	Radar Sensor Module - Long Range	—	—	—	*B233B Radar Sensor Module - Long Range (UGN/UVZ)*
B233R	Radar Sensor Module - Short Range Rear	—	—	—	—
B275A	Hands-Free Lift-gate Sensor - Upper	—	—	—	—
B275B	Hands-Free Lift-gate Sensor - Lower	—	—	—	—
B306A	Parking Assist Sensor - Front Left Outer	UD5	At the front of the vehicle, left side, mounted in the front bumper	*Front Fascia Compo-nents*	*B306A Parking Assist Sensor - Front Left Outer (UD5/UD7)*
B306B	Parking Assist Sensor - Front Left Middle	UD5	At the front of the vehicle, left of center, mounted in the front bumper	*Front Fascia Compo-nents*	*B306B Parking Assist Sensor - Front Left Middle (UD5/UD7)*
B306C	Parking Assist Sensor - Front Right Middle	UD5	At the front of the vehicle, right of center, mounted in the front bumper	*Front Fascia Compo-nents*	*B306C Parking As-sist Sensor - Front Right Middle (UD5/ UD7)*
B306D	Parking Assist Sensor - Front Right Outer	UD5	At the front of the vehicle, right side, mounted in the front bumper	*Front Fascia Compo-nents*	*B306D Parking As-sist Sensor - Front Right Outer (UD5/ UD7)*
B306E	Parking Assist Sensor - Rear Left Outer	UD5/UD7	At the rear of the vehicle, left side, mounted in the rear bumper	—	*B306E Parking Assist Sensor - Rear Left Outer (UD5/UD7)*
B306F	Parking Assist Sensor - Rear Left Middle	UD5/UD7	At the rear of the vehicle, left of center, mounted in the rear bumper	—	*B306F Parking Assist Sensor - Rear Left Middle (UD5/UD7)*
B306G	Parking Assist Sensor - Rear Right Middle	UD5/UD7	At the rear of the vehicle, right of middle, mounted in the rear bumper	—	*B306G Parking As-sist Sensor - Rear Right Middle (UD5/ UD7)*
B306H	Parking Assist Sensor - Rear Right Outer	UD5/UD7	At the rear of the vehicle, right side, in the rear bumper	—	*B306H Parking As-sist Sensor - Rear Right Outer (UD5/ UD7)*
B310	Fuel Pressure/ Temperature Sen-sor	L84/L87	In the engine compartment, rear center, under intake manifold, at the rear of the driver side fuel rail	*Engine Components - Top (L84/L87)*	*B310 Fuel Pressure/ Temperature Sensor (LM2)*
B316	Transmission Park Valve Posi-tion Switch	—	—	—	—
B321	Crankcase Pres-sure Sensor	LM2	In the engine compartment, rear center, mounted to the right rear side of the valve cover	—	*B321 Crankcase Pressure Sensor (LM2)*

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
B342A	UHF Low Energy Remote Control Access Sensor Transceiver 1	—	—	—	B342A UHF Low Energy Remote Control Access Sensor Transceiver 1 (BOP)
B342B	UHF Low Energy Remote Control Access Sensor Transceiver 2	—	—	—	B342B UHF Low Energy Remote Control Access Sensor Transceiver 2 (BOP)
B342C	UHF Low Energy Remote Control Access Sensor Transceiver 3	—	—	—	B342C UHF Low Energy Remote Control Access Sensor Transceiver 3 (BOP)
B342D	UHF Low Energy Remote Control Access Sensor Transceiver 4	—	—	—	B342D UHF Low Energy Remote Control Access Sensor Transceiver 4 (BOP)
B345R	Exhaust Pressure Differential Sensor - Exhaust Gas Recirculation	LM2	Mounted to the exhaust	—	B345R Exhaust Pressure Differential Sensor - Exhaust Gas Recirculation (LM2)
B352	Video Display Inside Rearview Mirror Camera	DRZ	Outside the vehicle, at the top center of the rear window bridge, within E6 Center High Mounted Stop Lamp	—	—
C1	Battery	—	In the engine compartment, right rear, under X50D Fuse Block - Battery	Engine Compartment Components - Top	—
C1B	Battery - Auxiliary	—	—	—	—
E1A	Accent Lamp - Driver Seat	—	In the passenger compartment, under the driver seat	—	—
E1B	Accent Lamp - Passenger Seat	—	In the passenger compartment, under the passenger seat	—	—
E1C	Accent Lamp - Driver Door Handle	—	In the passenger compartment, forward of center, left side, on the driver door, near the door handle	—	E1C Accent Lamp - Driver Door Handle
E1E	Accent Lamp - Left Rear Door Handle	—	In the passenger compartment, rearward of center, left side, on the left rear door, near the door handle	—	E1E Accent Lamp - Left Rear Door Handle
E1F	Accent Lamp - Right Rear Door Handle	—	In the passenger compartment, rearward of center, right side, on the right rear door, near the door handle	—	E1F Accent Lamp - Right Rear Door Handle
E1G	Accent Lamp - Left Instrument Panel	—	—	Instrument Panel Accent Lamps	E1G Accent Lamp - Left Instrument Panel
E1H	Accent Lamp - Right Instrument Panel	—	In the passenger compartment, forward of center, right side, on the passenger door, near the door handle	Instrument Panel Accent Lamps	E1H Accent Lamp - Right Instrument Panel
E1M	Accent Lamp - Passenger Door Handle	—	—	—	E1M Accent Lamp - Passenger Door Handle
E1Z	Accent Lamp - Middle Instrument Panel	—	—	Instrument Panel Accent Lamps	E1Z Accent Lamp - Middle Instrument Panel

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
E2LF	Side Marker Lamp - Left Front	—	At the left front of vehicle, within E13LA Headlamp Assembly - Left	• Front of Vehicle Components (X88) • Front of Vehicle Components (Z88)	E2LF Side Marker Lamp - Left Front
E2LR	Side Marker Lamp - Left Rear	—	At the left rear of vehicle, within E42L Tail Lamp Assembly - Left	—	E2LR Side Marker Lamp - Left Rear (Z88)
E2RF	Side Marker Lamp - Right Front	—	At the right front of vehicle, within E13RA Headlamp Assembly - Right	• Front of Vehicle Components (X88) • Front of Vehicle Components (Z88)	E2RF Side Marker Lamp - Right Front
E2RR	Side Marker Lamp - Right Rear	—	At the right rear of vehicle, within E42R Tail Lamp Assembly - Right	—	E2RR Side Marker Lamp - Right Rear (Z88)
E4E	Headlamp - Left High Beam	X88+Base	At the left front of vehicle, within E13LA Headlamp Assembly - Left	—	—
E4F	Headlamp - Right High Beam	X88+Base	At the right front of vehicle, within E13RA Headlamp Assembly - Right	—	—
E4LR	Turn Signal Lamp - Left Rear	—	At the left rear corner of the vehicle, inside the tail lamp assembly	—	—
E4RR	Turn Signal Lamp - Right Rear	—	At the right rear corner of the vehicle, inside the tail lamp assembly	—	—
E4Y	Turn Signal Repeater Lamp - Left	—	At the front of the Left front door, part of the Outside Rearview Mirror, part of the mirror glass	—	—
E4Z	Turn Signal Repeater Lamp - Right	—	At the front of the Right front door, part of the Outside Rearview Mirror, part of the mirror glass	—	—
E5A	Backup Lamp - Left	—	At the rear of vehicle, left rear corner, within E42L Tail lamp Assembly - Left	—	—
E5AM	Stop/Turn Signal Lamp - Left	—	At the rear of vehicle, left rear corner, within E42L Tail lamp Assembly - Left	—	—
E5AN	Stop/Turn Signal Lamp - Right	—	At the rear of vehicle, right rear corner, within E42R Tail lamp Assembly - Right	—	—
E5B	Backup Lamp - Right	—	At the rear of vehicle, right rear corner, within E42R Tail lamp Assembly - Right	—	—
E5E	Tail Lamp - Left	—	At the rear of vehicle, left rear corner, within E42L Tail lamp Assembly - Left	—	—
E5F	Tail Lamp - Right	—	At the rear of vehicle, right rear corner, within E42R Tail lamp Assembly - Right	—	—
E5L	Stop Lamp - Left	—	At the left rear corner of the vehicle, inside the tail lamp assembly	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
E5R	Stop Lamp - Right	—	At the right rear corner of the vehicle, inside the tail lamp assembly	—	—
E5RA	Stop Lamp - Auxiliary Right	—	—	—	—
E6	Center High Mounted Stop Lamp	—	Outside the vehicle, at the top center of the rear window bridge	—	—
E7	License Plate Lamp	ZW9	At the rear of the vehicle, mounted in the middle of the rear bumper	—	*E7 License Plate Lamp*
E8ZL	Running Board Step Courtesy Lamp - Left	BRS	Under the vehicle, along the left frame rail, under the driver door part of the power assist step	—	—
E8ZR	Running Board Step Courtesy Lamp - Right	BRS	Under the vehicle, along the right frame rail, under the passenger door part of the power assist step	—	—
E11A	Fuel Heater/Water in Fuel Sensor	LM2	Under the vehicle, mounted to the bracket above the spare tire	—	*E11A Fuel Heater/ Water in Fuel Sensor (LM2)*
E12A	Glow Plug 1	LM2	In the engine compartment, In the cylinder head at cylinder 1	—	*E12A Glow Plug 1 (LM2)*
E12B	Glow Plug 2	LM2	In the engine compartment, In the cylinder head at cylinder 2	—	*E12B Glow Plug 2 (LM2)*
E12C	Glow Plug 3	LM2	In the engine compartment, In the cylinder head at cylinder 3	—	*E12C Glow Plug 3 (LM2)*
E12D	Glow Plug 4	LM2	In the engine compartment, In the cylinder head at cylinder 4	—	*E12D Glow Plug 4 (LM2)*
E12E	Glow Plug 5	LM2	In the engine compartment, In the cylinder head at cylinder 5	—	*E12E Glow Plug 5 (LM2)*
E12F	Glow Plug 6	LM2	In the engine compartment, In the cylinder head at cylinder 6	—	*E12F Glow Plug 6 (LM2)*
E13L	Headlamp - Left	—	At the front of the vehicle, within E13LA Headlamp Assembly - Left	—	—
E13LA	Headlamp Assembly - Left	—	Outside the vehicle, at the left front corner	• *Front of Vehicle Components (X88)* • *Front of Vehicle Components (Z88)*	—
E13R	Headlamp - Right	—	At the front of vehicle, within E13RA Headlamp Assembly - Right	—	—
E13RA	Headlamp Assembly - Right	—	Outside the vehicle, at the right front corner	• *Front of Vehicle Components (X88)* • *Front of Vehicle Components (Z88)*	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
E14A	Seat Heating Element - Driver Back	KA1	In the passenger compartment, in the driver seat back	—	—
E14B	Seat Heating Element - Driver Cushion	KA1	In the passenger compartment, in the driver seat cushion	—	—
E14C	Seat Heating Element - Passenger Back	KA1	In the passenger compartment, in the passenger seat back	—	—
E14D	Seat Heating Element - Passenger Cushion	KA1	In the passenger compartment, in the passenger seat cushion	—	—
E14F	Seat Heating Element - Left Rear Cushion	KA6	In the passenger compartment, in the left rear seat cushion	—	—
E14H	Seat Heating Element - Right Rear Cushion	KA6	In the passenger compartment, in the right rear seat cushion	—	—
E15	Steering Wheel Heater	KI3	In the passenger compartment, part of the steering wheel	—	—
E17D	Outside Rearview Mirror Glass - Driver	DEZ/DLF/UKC	Outside the vehicle, at the front of the driver door, part of A9A Outside Rearview Mirror - Driver	—	—
E17P	Outside Rearview Mirror Glass - Passenger	DEZ/DLF/UKC	Outside the vehicle, at the front of the passenger door, part of A9B Outside Rearview Mirror - Passenger	—	—
E18	Rear Defogger Grid	—	At the rear of the passenger compartment, part of the rear window glass	—	• E18 Rear Defogger Grid X1 • E18 Rear Defogger Grid X2
E28	Center Console Compartment Lamp	D07	In the passenger compartment, between the front seats, inside the floor console storage bin	—	E28 Center Console Compartment Lamp
E29LF	Fog Lamp - Left Front	T3U	Outside the vehicle, at the left front corner, in the front bumper, below E13LA Headlight Assembly - Left	Front of Vehicle Components (Z88)	• E29LF Fog Lamp - Left Front (T40) • E29LF Fog Lamp - Left Front (T79)
E29LR	Fog Lamp - Left Rear	—	At the left rear corner of the vehicle, in the rear fascia	—	—
E29RF	Fog Lamp - Right Front	T3U	Outside the vehicle, at the right front corner, in the front bumper, below E13RA Headlamp Assembly - Right	Front of Vehicle Components (Z88)	E29RF Fog Lamp - Right Front (T40)
E29RR	Fog Lamp - Right Rear	—	At the right rear corner of the vehicle, in the rear fascia	—	E29RR Fog Lamp - Right Rear (T79)
E31L	Sunshade Mirror Lamp - Left	DH6	In the passenger compartment, at the left front of the headliner, part of A3L Sunshade - Left	—	E31L Sunshade Mirror Lamp - Left
E31R	Sunshade Mirror Lamp - Right	DH6	In the passenger compartment, at the right front of the headliner, part of A3R Sunshade - Right	—	E31R Sunshade Mirror Lamp - Right
E33	Cargo Lamp	—	—	—	E33 Cargo Lamp

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
E37B	Dome/Reading Lamps - 2nd Row	—	In the passenger compartment, near the center of the headliner	—	E37B Dome/Reading Lamps - 2nd Row (-C3U)
E37C	Dome/Reading Lamps - 3rd Row	—	In the passenger compartment, overhead, in the headliner behind the second row seating	—	E37C Dome/Reading Lamps - 3rd Row
E37LF	Dome/Reading Lamps - Left Front	—	—	—	—
E37RF	Dome/Reading Lamps - Right Front	—	—	—	—
E40	Electrical Auxiliary Heater	C32	In the passenger compartment, at the top of the HVAC box	—	—
E42L	Tail Lamp Assembly - Left	—	Outside the vehicle, at the left rear corner of the vehicle	—	E42L Tail Lamp Assembly - Left
E42R	Tail Lamp Assembly - Right	—	Outside the vehicle, at the right rear corner of the vehicle	—	E42R Tail Lamp Assembly - Right
E52	Reductant Line Heater	LM2	Under the vehicle, right side, forward of rear axle, attached to reductant line, near reductant tank	—	—
E53	Reductant Tank Heater	LM2	Under the vehicle, right side, forward of rear axle, within reductant tank, part of A38 Reductant Pump and Sensor Assembly	—	—
E55D	Flood Lamp - Driver Door Pocket	—	In the passenger compartment, front of center, left side, in the driver door trim, inside the arm rest	—	E55D Flood Lamp - Driver Door Pocket
E55LR	Flood Lamp - Left Rear Door Pocket	—	In the passenger compartment, rear of center, left side, in the left rear door trim, inside the arm rest	—	E55LR Flood Lamp - Left Rear Door Pocket
E55P	Flood Lamp - Passenger Door Pocket	—	In the passenger compartment, front of center, right side, in the passenger door trim, inside the arm rest	—	E55P Flood Lamp - Passenger Door Pocket
E55RR	Flood Lamp - Right Rear Door Pocket	—	In the passenger compartment, rear of center, right side, in the right rear door trim, inside the arm rest	—	E55RR Flood Lamp - Right Rear Door Pocket
E67L	Multifunction LED - Left Headlamp	—	At the front of the vehicle, left front, within left headlamp assembly	—	—
E67R	Multifunction LED - Right Headlamp	—	At the front of the vehicle, right front, within right headlamp assembly	—	—
E72	Hands-Free Liftgate Sensor Lamp	—	Rear of the vehicle, under the right side of the rear fascia.	—	E72 Hands-Free Liftgate Sensor Lamp (QT6)
E90DL	Exterior Flood Lamp - Driver Outside Rearview Mirror Lower	DEZ	Outside of the vehicle, at the bottom of A9A Outside Rearview Mirror - Driver	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
E90PL	Exterior Flood Lamp - Passenger Outside Rearview Mirror Lower	DEZ	Outside of the vehicle, at the bottom of A9B Outside Rearview Mirror - Passenger	—	—
F101	Passenger Instrument Panel Air Bag	—	In the passenger compartment, behind the instrument panel upper glove box	—	—
F105L	Roof Rail Air Bag - Left	—	In the passenger compartment, along the left side of the headliner	—	F105L Roof Rail Air Bag - Left
F105R	Roof Rail Air Bag - Right	—	In the passenger compartment, along the right side of the headliner	—	F105R Roof Rail Air Bag - Right
F106D	Seat Side Air Bag - Driver	—	In the passenger compartment, in the outboard side of the driver seat back	—	—
F106DA	Seat Side Air Bag - Driver Inboard	—	In the passenger compartment, on the right side of the left front seat back	—	—
F106P	Seat Side Air Bag - Passenger	—	In the passenger compartment, in the outboard side of the passenger seat back	—	—
F107	Steering Wheel Air Bag	—	In the passenger compartment, mounted to the middle of the steeing wheel	—	—
F109G	Seat Belt Buckle Pretensioner - 3rd Row Left	—	—	—	—
F109J	Seat Belt Buckle Pretensioner - 3rd Row Right	—	—	—	—
F112D	Seat Belt Retractor Pretensioner - Driver	—	In the passenger compartment, at the base of the driver side B-pillar	—	F112D Seat Belt Retractor Pretensioner - Driver
F112P	Seat Belt Retractor Pretensioner - Passenger	—	In the passenger compartment, at the base of the passenger side B-pillar	—	F112P Seat Belt Retractor Pretensioner - Passenger
F113D	Seat Belt Anchor Pretensioner - Driver	—	In the passenger compartment, mounted to the outboard driver seat track	—	F113D Seat Belt Anchor Pretensioner - Driver
F113P	Seat Belt Anchor Pretensioner - Passenger	—	In the passenger compartment, mounted to the outboard passenger seat track	—	F113P Seat Belt Anchor Pretensioner - Passenger
G1	A/C Compressor	—	In the engine compartment, left front, mounted to the left lower side of the engine	—	—
G3	Air Suspension Compressor	—	under the vehicle, at the left rear, behind left rear tire	—	G3 Air Suspension Compressor (F47)
G5	Transmission Fluid Pump - Electric/ Auxiliary	MQB	Under the vehicle, within T12 Automatic Transmission Assembly	—	—
G8	Coolant Pump - Auxiliary	—	—	Radiator Components (L84/L87)	• G8 Coolant Pump - Auxiliary (L84/ L87) • G8 Coolant Pump - Auxiliary (LM2)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
G10L	Cooling Fan Motor - Left	—	In the engine compartment, in the radiator shroud, left side	Radiator Components (L84/L87)	• G10L Cooling Fan Motor - Left (L84/L87) • G10L Cooling Fan Motor - Left (LM2)
G10LW	Cooling Fan Motor - Lower	LM2	In the engine compartment, in the radiator shroud, beneath the left and right cooling fan motors	—	G10LW Cooling Fan Motor - Lower (LM2)
G10R	Cooling Fan Motor - Right	—	In the engine compartment, in the radiator shroud, right side	Radiator Components (L84/L87)	• G10R Cooling Fan Motor - Right (L84/L87) • G10R Cooling Fan Motor - Right (LM2)
G12	Fuel Pump	—	Under the vehicle, within the fuel tank, part of A7 Fuel Pump and Level Sender Assembly	—	—
G13	Generator	—	In the engine compartment, left front, mounted to the left upper side of the engine	—	G13 Generator
G17	Heater Coolant Pump	—	In the engine compartment, front center, mounted to the front of the engine	—	—
G18	High Pressure Fuel Pump	—	• (L84/L87) In the engine compartment, rear center, beneath the rear of the intake manifold • (LM2) In the engine compartment, left rear, mounted near the left side of the transmission bellhousing	Engine Components - Top (L84/L87)	—
G24	Windshield Washer Pump	—	In the engine compartment, attached to the washer fluid reservoir, behind E13LA Headlamp Assembly - Left	—	G24 Windshield Washer Pump
G31D	Seat Lumbar/Bolster Pump - Driver	—	In the passenger compartment, inside driver seat cushion	—	—
G31P	Seat Lumbar/Bolster Pump - Passenger	—	In the passenger compartment, inside passenger seat cushion	—	—
G33	Reductant Pump	LM2	Under the vehicle, right side, forward of rear axle, within reductant tank, part of A38 Reductant Pump and Sensor Assembly	—	—
K3	Air Suspension Control Module	—	—	—	K3 Air Suspension Control Module (F47)
K4	Assist Step Control Module	—	Underneath the vehicle, along the outside of the left frame rail, near the driver door	—	• K4 Assist Step Control Module X1 (B3L) • K4 Assist Step Control Module X2 (B3L) • K4 Assist Step Control Module X3 (B3L)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
K8A	Blower Motor Control Module - Auxiliary	—	In the rear compartment, right side, behind the rear quarter interior trim	—	—
K9	Body Control Module	—	In the passenger compartment, behind the driver side of the instrument panel, outboard of the steering column	*Instrument Panel Components - Left*	• *K9 Body Control Module X1* • *K9 Body Control Module X2* • *K9 Body Control Module X3* • *K9 Body Control Module X4* • *K9 Body Control Module X5* • *K9 Body Control Module X6* • *K9 Body Control Module X7* • *K9 Body Control Module X8*
K19	Suspension Control Module	—	Under the vehicle, mounted to the bracket above the spare tire	—	*K19 Suspension Control Module (Z95)*
K20	Engine Control Module	—	In the engine compartment, left front, behind E13LA Headlamp Assembly - Left	*Engine Compartment Components - Top*	• *K20 Engine Control Module X1 (L84/L87)* • *K20 Engine Control Module X1 (LM2)* • *K20 Engine Control Module X2 (L84/L87)* • *K20 Engine Control Module X2 (LM2)* • *K20 Engine Control Module X3 (L84/L87)*
K26	Headlamp Control Module	—	—	—	—
K29F	Seat Heating Control Module - Front	KQV/KA1	In the passenger compartment, right front, under the front of the passenger seat	—	—
K29R	Seat Heating Control Module - Rear	KA6	In the passenger compartment, rear center, underneath the front of the rear seat cushion	—	—
K32	Steering Wheel Heating Control Module	KI3	In the passenger compartment, in the steering wheel, behind the driver air bag	—	—
K33	HVAC Control Module	—	In the passenger compartment, left front, between the instrument panel and bulkhead	—	—
K36	Inflatable Restraint Sensing and Diagnostic Module	—	In the passenger compartment, bolted to the floor between the front seats or under console if equipped	—	• *K36 Inflatable Restraint Sensing and Diagnostic Module X1* • *K36 Inflatable Restraint Sensing and Diagnostic Module X2*

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
K38	Chassis Control Module	—	—	—	K38 Chassis Control Module
K40	Seat Memory Control Module	A45	In the passenger compartment, under the driver seat	—	—
K40D	Seat Memory Control Module - Driver	—	In the passenger compartment, left side, under the driver seat cushion	—	—
K40P	Seat Memory Control Module - Passenger	—	In the passenger compartment, right side, under the passenger seat cushion	—	—
K43	Power Steering Control Module	—	Under the vehicle, part of the steering gear assembly	—	—
K47	Rear Differential Clutch Control Module	—	—	—	• K47 Rear Differential Clutch Control Module X1 (G96) • K47 Rear Differential Clutch Control Module X2 (G96)
K56	Serial Data Gateway Module	—	In the passenger compartment, left front, between the instrument panel and bulkhead	Instrument Panel Components - Left	• K56 Serial Data Gateway Module X1 • K56 Serial Data Gateway Module X2 • K56 Serial Data Gateway Module X3
K60	Steering Column Lock Module	BTM	In the passenger compartment, left front, mounted on top of the steering column, underneath instrument panel	Steering Column Components	K60 Steering Column Lock Module
K61	Sunroof Control Module	—	—	—	—
K68	Trailer Lighting Control Module	U1D	Under the rear of the vehicle, near spare tire	—	K68 Trailer Lighting Control Module (U1D)
K69	Transfer Case Control Module	NP0/NQH	In the engine compartment, left rear, left of K160 Brake System Control Module	Engine Compartment Components - Top	K69 Transfer Case Control Module (NP0/NQH)
K71	Transmission Control Module	—	• (MQB/MQE) In the engine compartment, left front, behind left corner of the radiator • (MYC) In the engine compartment, inside the T12 Automatic Transmission Assembly, part of the control solenoid valve	Engine Compartment Components - Top	K71 Transmission Control Module
K73	Telematics Communication Interface Control Module	UE1	In the passenger compartment, left front, between the instrument panel and bulkhead	Instrument Panel Components - Left	K73 Telematics Communication Interface Control Module (UE1)
K77	Remote Control Door Lock Receiver	—	In the passenger compartment, right rear corner, below headliner	—	K77 Remote Control Door Lock Receiver (ATH)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
K84	Keyless Entry Control Module	BTM	In the passenger compartment, left front, between the instrument panel and bulkhead	—	—
K85	Passenger Presence Module	—	In the passenger compartment, in the passenger seat cushion	—	—
K99	Steering Column Position Control Module	—	In the passenger compartment, forward, left side, mounted to the bottom of the steering column	Steering Column Components	K99 Steering Column Position Control Module (N38)
K111	Fuel Pump Driver Control Module	—	Under the vehicle, mounted to the bracket above the spare tire	—	K111 Fuel Pump Driver Control Module
K115	Reductant Control Module	LM2	Under the vehicle, mounted to the outboard side of the frame, below the passenger side of the cab	—	K115 Reductant Control Module (LM2)
K124	Active Safety Control Module	—	In the rear compartment, left side, underneath rear quarter glass window, behind trim	—	—
K133	Trailer Brake Power Control Module	JL1	Under the vehicle, mounted to the bracket above the spare tire	—	K133 Trailer Brake Power Control Module (JL1)
K134D	Seat Bolster Memory Control Module - Driver	—	In the passenger compartment, inside driver seat cushion	—	—
K134P	Seat Bolster Memory Control Module - Passenger	—	In the passenger compartment, inside passenger seat cushion	—	—
K157	Video Processing Control Module	UVI/UV2	In the passenger compartment, right rear, mounted behind the rear seat, below the rear window	—	K157 Video Processing Control Module (UV2)
K160	Brake System Control Module	—	In the engine compartment, left rear corner, near brake master cylinder	—	K160 Brake System Control Module
K169	Folding Seat Control Module - 3rd Row	—	In the passenger compartment, in the 3rd row seat, left side, inside seat back in the lower left corner	—	—
K171	Hands-Free Liftgate Sensor Control Module	—	At the rear of the vehicle, center, mounted to the underside of the rear bumper	—	K171 Hands-Free Liftgate Sensor Control Module (QT8)
K175	Center Console Compartment Cooler Control Module	—	In the passenger compartment, center, inside center console at the floor	—	K175 Center Console Compartment Cooler Control Module (DCK)
K182	Parking Assist Control Module	UD5/UD7	In the passenger compartment, mounted to the driver side of the rear wall	—	• K182 Parking Assist Control Module X1 (UD5/UD7) • K182 Parking Assist Control Module X2 (UD5/UD7) • K182 Parking Assist Control Module X3 (UD5/UD7)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
K183	UHF Short Range Low Energy Remote Control Access Transceiver	—	—	—	K183 UHF Short Range Low Energy Remote Control Access Transceiver (BOP)
K194	Rear Gate Module	TC2	In the rear compartment, left side of the tailgate, behind the trim.	—	• K194 Rear Gate Module X1 (TC2) • K194 Rear Gate Module X2 (TC2) • K194 Rear Gate Module X4 (TC2)
K212	Electronic Transmission Shift Control Pushbutton Circuit Board	—	—	Instrument Panel Components - Right	K212 Electronic Transmission Shift Control Pushbutton Circuit Board
K214	Trailer Tire Pressure Indicator Module	PTT	At the rear of the vehicle, mounted to the center of the rear bumper, near X88 Trailer Connector	—	K214 Trailer Tire Pressure Indicator Module (PTT)
K219	Exterior Lighting Control Module	—	—	Instrument Panel Components - Left	• K219 Exterior Lighting Control Module X1 • K219 Exterior Lighting Control Module X2 • K219 Exterior Lighting Control Module X3 • K219 Exterior Lighting Control Module X4 • K219 Exterior Lighting Control Module X5
M4	Air Inlet Door Actuator	—	In the passenger compartment, behind the instrument panel glove box	—	—
M6	Air Temperature Door Actuator	—	—	—	—
M6B	Air Temperature Door Actuator - Auxiliary	—	In the rear compartment, under the right rear quarter window, forward of the rear blower under trim.	—	—
M8	Blower Motor	—	In the passenger compartment, under the right side of the instrument panel, above the hush panel	Instrument Panel Components - Right	M8 Blower Motor
M8B	Blower Motor - Auxiliary	—	In the passenger compartment, behind the passenger side of the instrument panel	—	—
M10	Charge Air Cooler Coolant Pump	LM2	In the engine compartment, left front, attached to bracket near the front of the left lower control arm	—	M10 Charge Air Cooler Coolant Pump (LM2)
M17	Liftgate Motor Assembly	—	—	—	—
M26	Front Axle Engagement Actuator	NP0/NQH	Under the vehicle, mounted to the front axle	—	M26 Front Axle Engagement Actuator (NP0/NQH)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
M27	Fuel Fill Door Unlatch Actuator	—	Underside of the vehicle, near the back, left side, under rear quarter glass window, in rear quarter panel	—	—
M33	Liftgate Window Latch Assembly	—	—	—	—
M37	Mode Door Actuator	—	In the passenger compartment, right front, within instrument panel, attached to HVAC assembly	—	—
M37B	Mode Door Actuator - Auxiliary	—	In the passenger compartment, forward, internal to the instrument panel	—	—
M38	Power Steering Motor	—	Under the vehicle, part of the steering gear assembly	—	—
M45	Rear Wiper Motor	—	At rear of vehicle, in the liftgate	—	M45 Rear Wiper Motor
M50D	Seat Front Vertical Motor - Driver	—	In the passenger compartment, under the driver seat	—	—
M50P	Seat Front Vertical Motor - Passenger	—	In the passenger compartment, under the passenger seat	—	—
M51D	Seat Horizontal Motor - Driver	—	In the passenger compartment, under the driver seat	—	—
M51P	Seat Horizontal Motor - Passenger	—	In the passenger compartment, under the passenger seat	—	—
M53D	Seat Lumbar Support Motor - Driver	—	—	—	—
M53P	Seat Lumbar Support Motor - Passenger	—	—	—	—
M55D	Seat Rear Vertical Motor - Driver	—	In the passenger compartment, under the driver seat	—	—
M55P	Seat Rear Vertical Motor - Passenger	—	In the passenger compartment, under the passenger seat	—	—
M56D	Seat Recline Motor - Driver	—	In the passenger compartment, in the driver seat back	—	—
M56P	Seat Recline Motor - Passenger	—	In the passenger compartment, in the passenger seat back	—	—
M64	Starter Motor	—	In the engine compartment, left rear, mounted to rear of engine block	—	• M64 Starter Motor X1 (L84/L87) • M64 Starter Motor X1 (LM2)
M65	Steering Column Telescope Motor	—	In the passenger compartment, forward, left of center, on the steering column	—	—
M68	Steering Column Tilt Motor	—	In the passenger compartment, forward, left of center, on the steering column	—	—
M73A	Seat Blower Motor - Driver Back	KQV	In the passenger compartment, in the driver seat back	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
M73B	Seat Blower Motor - Passenger Back	KQV	In the passenger compartment, in the passenger seat cback	—	—
M73C	Seat Blower Motor - Driver Cushion	KQV	In the passenger compartment, in the driver seat cushion	—	—
M73D	Seat Blower Motor - Passenger Cushion	KQV	In the passenger compartment, in the passenger seat cushion	—	—
M74D	Window Motor - Driver	—	In the passenger compartment, in the driver door	—	*M74D Window Motor - Driver*
M74LR	Window Motor - Left Rear	—	In the passenger compartment, in the left rear door	—	*M74LR Window Motor - Left Rear*
M74P	Window Motor - Passenger	—	In the passenger compartment, in the passenger door	—	*M74P Window Motor - Passenger*
M74RR	Window Motor - Right Rear	—	In the passenger compartment, in the right rear door	—	*M74RR Window Motor - Right Rear*
M75	Windshield Wiper Motor	—	Outside the vehicle, at the left rear of the engine compartment, below the left lower corner of the windshield	—	*M75 Windshield Wiper Motor*
M77D	Outside Rearview Mirror Motor - Driver	—	Outside the vehicle, at the front of the driver door, within the A9A Outside Rearview Mirror - Driver	—	—
M77P	Outside Rearview Mirror Motor - Passenger	—	Outside the vehicle, at the front of the passenger door, within the A9B Outside Rearview Mirror - Passenger	—	—
M78D	Outside Rearview Mirror Folding Motor - Driver	A45	Outside the vehicle, at the front of the driver door, within the A9A Outside Rearview Mirror - Driver	—	—
M78P	Outside Rearview Mirror Folding Motor - Passenger	A45	Outside the vehicle, at the front of the passenger door, within the A9B Outside Rearview Mirror - Passenger	—	—
M81	Sunroof Sunshade Motor	—	—	—	—
M95L	Assist Step - Left	BRS	Under the vehicle, along the left frame rail, under the driver door	—	—
M95R	Assist Step - Right	BRS	Under the vehicle, along the right frame rail, under the passenger door	—	—
M96A	Active Grille Air Shutter 1 Actuator	VTI/WMI	At the front of the vehicle, center, attached to the inside of the front grille	—	—
M96B	Active Grille Air Shutter 2 Actuator	WMI	At the front of the vehicle, center, attached to the inside of the front grille	—	—
M101L	Seat Belt Retractor Motor Module - Left	—	In the passenger compartment, left side, at the base of the B-Pillar, part of the seat belt retractor	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
M101R	Seat Belt Retractor Motor Module - Right	—	In the passenger compartment, right side, at the base of the B-Pillar, part of the seat belt retractor	—	—
M103	Turbocharger Vane Position Actuator	LM2	In the engine compartment, right side, mounted to turbocharger	—	*M103 Turbocharger Vane Position Actuator*
M104L	Park Brake Actuator - Left	—	Under the vehicle, left rear, attached to the left rear brake caliper	—	*M104L Park Brake Actuator - Left*
M104R	Park Brake Actuator - Right	—	Under the vehicle, right rear, attached to the right rear brake caliper	—	*M104R Park Brake Actuator - Right*
M106	Exhaust Flow Control Valve Actuator	LM2	In the engine compartment, right rear, mounted to the exhaust, near the lower right side of the transmission bellhousing	—	*M106 Exhaust Flow Control Valve Actuator (LM2)*
M107LR	Folding Seat Motor - 2nd Row Left	—	In the passenger compartment, left side, under 2nd row seat cushion	—	—
M107RR	Folding Seat Motor - 2nd Row Right	—	In the passenger compartment, right side, under 2nd row seat cushion	—	—
M108LR	Folding Seat Motor - 3rd Row Left	—	In the passenger compartment, left side, at the bottom of the 3rd row seat back	—	—
M108RR	Folding Seat Motor - 3rd Row Right	—	In the passenger compartment, right side, at the bottom of the 3rd row seat back	—	—
M109LR	Folding Seat Back Unlatch Motor - 3rd Row Left	—	In the passenger compartment, left side, at the middle of the 3rd row seat back	—	—
M109RR	Folding Seat Back Unlatch Motor - 3rd Row Right	—	In the passenger compartment, right side, at the middle of the 3rd row seat back	—	—
M123	Transmission Park Valve Lock Solenoid Actuator	—	—	—	—
P12	Horn	—	In the engine compartment, right front, at the bottom of the radiator core support	—	*P12 Horn*
P16	Instrument Cluster	—	In the passenger compartment, in the driver side of the instrument panel	*Instrument Panel Components - Left*	*P16 Instrument Cluster*
P17	Info Display Module	—	In the passenger compartment, at the center of the instrument panel	*Instrument Panel Components - Right*	*P17 Info Display Module*
P19AC	Speaker - Subwoofer	UQA	In the passenger compartment, under the instrument panel, at the front of the center console	—	—
P19AG	Speaker - Left Front Door	—	In the passenger compartment, in the driver door	—	*P19AG Speaker - Left Front Door*
P19AH	Speaker - Right Front Door	—	In the passenger compartment, in the passenger door	—	*P19AH Speaker - Right Front Door*

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
P19AL	Speaker - Left Rear Door	—	In the passenger compartment, in the left rear door	—	P19AL Speaker - Left Rear Door
P19AM	Speaker - Right Rear Door	—	In the passenger compartment, in the right rear door	—	• P19AM Speaker - Right Rear Door (UQA/UQF/UQS) • P19AM Speaker - Right Rear Door (UQP)
P19AN	Speaker - Left Rear Trim Panel	—	In the rear compartment, at the back, left side at the top of the D-Pillar	—	• P19AN Speaker - Left Rear Trim Panel (UQA) • P19AN Speaker - Left Rear Trim Panel (UQP) • P19AN Speaker - Left Rear Trim Panel (UQS)
P19AP	Speaker - Right Rear Trim Panel	—	—	—	• P19AP Speaker - Right Rear Trim Panel (UQA) • P19AP Speaker - Right Rear Trim Panel (UQP) • P19AP Speaker - Right Rear Trim Panel (UQS)
P19B	Speaker - Center Instrument Panel	—	—	Instrument Panel Components - Right	P19B Speaker - Center Instrument Panel (UQH/UQP/UQS)
P19J	Speaker - Left Instrument Panel	—	In the passenger compartment, in the top of the left side of the instrument panel	Instrument Panel Components - Left	P19J Speaker - Left Instrument Panel (UQF)
P19M	Speaker - Left Rear Tweeter	—	—	—	—
P19W	Speaker - Right Instrument Panel	—	In the passenger compartment, in the top of the right side of the instrument panel	Instrument Panel Components - Right	P19W Speaker - Right Instrument Panel (UQF)
P19Z	Speaker - Right Rear Tweeter	—	—	—	—
P22E	Video Display - Driver Seat Back	—	—	—	—
P22F	Video Display - Passenger Seat Back	—	—	—	—
P25	Power Sounder Content Theft Deterrent Alarm Module	—	—	—	P25 Power Sounder Content Theft Deterrent Alarm Module (UTJ)
P27	Mobile Telephone Speaker	—	—	—	P27 Mobile Telephone Speaker
P29	Head-Up Display	UV6	In the passenger compartment, at the left side of the instrument panel, near the windshield	—	P29 Head-Up Display X1 (UV6)
P34D	Side Object Detection Indicator - Driver	UKC	Outside of the vehicle, left side, part of E17D Outside Rearview Mirror Glass - Driver, within A9A Outside Rearview Mirror - Driver	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
P34P	Side Object Detection Indicator - Passenger	UKC	Outside of the vehicle, left side, part of E17P Outside Rearview Mirror Glass - Passenger, within A9B Outside Rearview Mirror - Passenger	—	—
P43	Collision Alert Indicators	(UHX/UEU)-UV6	In the passenger compartment, in the top of the instrument panel, near the windshield, in front of the driver	*Instrument Panel Components - Left*	*P43 Collision Alert Indicators (UEU-UV6)*
P45LR	Seat Haptic Movement Motor - Driver Left Rear	HS1	In the passenger compartment, in the left side of the driver seat cushion	—	—
P45RR	Seat Haptic Movement Motor - Driver Right Rear	HS1	In the passenger compartment, in the right side of the driver seat cushion	—	—
Q2	A/C Compressor Clutch	—	In the engine compartment, left front, part of G1 A/C Compressor	—	*Q2 A/C Compressor Clutch X2*
Q4	Vehicle Level Control Solenoid Valve	—	—	—	—
Q5	Brake Pressure Modulator	—	In the engine compartment, left rear, part of K160 Brake System Control Module	—	—
Q6	Camshaft Position Actuator Solenoid Valve	L84/L87	In the engine compartment, front center, mounted to timing chain cover, above crankshaft harmonic balancer	—	*Q6 Camshaft Position Actuator Solenoid Valve (L84/L87)*
Q12	Evaporative Emission Purge Solenoid Valve	L84/L87	In the engine compartment, front center, mounted to intake manifold, to the left of Q38 Throttle Body	*Engine Components - Left Front (L84/L87)*	*Q12 Evaporative Emission Purge Solenoid Valve (L84/L87)*
Q13	Evaporative Emission Vent Solenoid Valve	—	On the underbody, at the top left side of the fuel tank	—	*Q13 Evaporative Emission Vent Solenoid Valve (L84/L87)*
Q14A	Exhaust Gas Recirculation Valve 1	LM2	In the engine compartment, right rear, mounted to the exhaust, near the top right side of the engine	—	*Q14A Exhaust Gas Recirculation Valve 1 (LM2)*
Q14B	Exhaust Gas Recirculation Valve 2	LM2	In the engine compartment, right rear lower, in the exhaust between the turbocharger and nitrogen oxides catalytic converter	—	*Q14B Exhaust Gas Recirculation Valve 2 (LM2)*
Q17A	Fuel Injector 1	—	• (L84/L87) In the engine compartment, underneath intake manifold, next to cylinder 1 intake port on the cylinder head • (LM2) In the engine compartment, center, mounted to valve cover above cylinder 1	*Engine Components - Top (L84/L87)*	*Q17A Fuel Injector 1 (LM2)*

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
Q17B	Fuel Injector 2	—	• (L84/L87) In the engine compartment, underneath intake manifold, next to cylinder 2 intake port on the cylinder head • (LM2) In the engine compartment, center, mounted to valve cover above cylinder 2	Engine Components - Top (L84/L87)	Q17B Fuel Injector 2 (LM2)
Q17C	Fuel Injector 3	—	• (L84/L87) In the engine compartment, underneath intake manifold, next to cylinder 3 intake port on the cylinder head • (LM2) In the engine compartment, center, mounted to valve cover above cylinder 3	Engine Components - Top (L84/L87)	Q17C Fuel Injector 3 (LM2)
Q17D	Fuel Injector 4	—	• (L84/L87) In the engine compartment, underneath intake manifold, next to cylinder 4 intake port on the cylinder head • (LM2) In the engine compartment, center, mounted to valve cover above cylinder 4	Engine Components - Top (L84/L87)	Q17D Fuel Injector 4 (LM2)
Q17E	Fuel Injector 5	—	• (L84/L87) In the engine compartment, underneath intake manifold, next to cylinder 5 intake port on the cylinder head • (LM2) In the engine compartment, center, mounted to valve cover above cylinder 5	Engine Components - Top (L84/L87)	Q17E Fuel Injector 5 (LM2)
Q17F	Fuel Injector 6	—	• (L84/L87) In the engine compartment, underneath intake manifold, next to cylinder 6 intake port on the cylinder head • (LM2) In the engine compartment, center, mounted to valve cover above cylinder 6	Engine Components - Top (L84/L87)	Q17F Fuel Injector 6 (LM2)
Q17G	Fuel Injector 7	L84/L87	In the engine compartment, underneath intake manifold, next to cylinder 7 intake port on the cylinder head	Engine Components - Top (L84/L87)	—
Q17H	Fuel Injector 8	L84/L87	In the engine compartment, underneath intake manifold, next to cylinder 8 intake port on the cylinder head	Engine Components - Top (L84/L87)	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
Q18A	Fuel Pressure Regulator 1	LM2	In the engine compartment, left rear side of engine, below Q18C Fuel Pressure Regulator 3, attached to G18 High Pressure Fuel Pump	—	Q18A Fuel Pressure Regulator 1 (LM2)
Q18B	Fuel Pressure Regulator 2	LM2	In the engine compartment, left side of engine, mounted to the left rear side of the valve cover	—	Q18B Fuel Pressure Regulator 2 (LM2)
Q18C	Fuel Pressure Regulator 3	LM2	In the engine compartment, left rear side of engine, above Q18A Fuel Pressure Regulator 1, attached to G18 High Pressure Fuel Pump	—	Q18C Fuel Pressure Regulator 3 (LM2)
Q22	Intake Manifold Tuning Solenoid Valve	LM2	In the engine compartment, front center, attached to the front of the intake manifold	—	Q22 Intake Manifold Tuning Solenoid Valve (LM2)
Q37LF	Shock Absorber Actuator - Left Front	Z45	Under the vehicle, left front, part of the left front shock absorber	—	Q37LF Shock Absorber Actuator - Left Front (Z95)
Q37LR	Shock Absorber Actuator - Left Rear	Z45	Under the vehicle, left rear, part of the left rear shock absorber	—	Q37LR Shock Absorber Actuator - Left Rear (Z95)
Q37RF	Shock Absorber Actuator - Right Front	Z45	Under the vehicle, right front, part of the right front shock absorber	—	Q37RF Shock Absorber Actuator - Right Front (Z95)
Q37RR	Shock Absorber Actuator - Right Rear	Z45	Under the vehicle, right rear, part of the right rear shock absorber	—	Q37RR Shock Absorber Actuator - Right Rear (Z95)
Q38	Throttle Body	—	• (L84/L87) In the engine compartment, at the front of the engine, mounted to the intake manifold inlet • (LM2) In the engine compartment, left front, to the left of the valve cover	Engine Components - Left Front (L84/L87)	• Q38 Throttle Body (L84/L87) • Q38 Throttle Body (LM2)
Q44	Engine Oil Pressure Control Solenoid Valve	—	In the engine compartment, at the front of the engine, behind the front cover	—	—
Q46	A/C Compressor Solenoid Valve	—	In the engine compartment, left front, part of G1 A/C Compressor	—	Q46 A/C Compressor Solenoid Valve X1
Q61	Reductant Injector	LM2	In the engine compartment, right front, mounted to the exhaust, in front of diesel particulate filter	—	Q61 Reductant Injector (LM2)
Q74	Engine Coolant Bypass Valve	LM2	In the engine compartment, left rear, attached to the bottom rear of Q97 Engine Coolant Flow Control Valve	—	Q74 Engine Coolant Bypass Valve (LM2)
Q77A	Transmission Control Solenoid Valve 1	MQB/MQE	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
Q77B	Transmission Control Solenoid Valve 2	MQB/MQE	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
Q77C	Transmission Control Solenoid Valve 3	MQB/MQE	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
Q77D	Transmission Control Solenoid Valve 4	MQB/MQE	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
Q77E	Transmission Control Solenoid Valve 5	MQB/MQE	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
Q77F	Transmission Control Solenoid Valve 6	MQB/MQE	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
Q77G	Transmission Control Solenoid Valve 7	MQB/MQE	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
Q77H	Transmission Control Solenoid Valve 8	MQB/MQE	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
Q77J	Transmission Control Solenoid Valve 9	MQB/MQE	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
Q80L	Engine Mount Solenoid Valve - Left	LM2	In the engine compartment, front center, mounted to left side of the upper oil pan	—	*Q80L Engine Mount Solenoid Valve - Left (LM2)*
Q80R	Engine Mount Solenoid Valve - Right	LM2	In the engine compartment, front center, mounted to right side of the upper oil pan	—	*Q80R Engine Mount Solenoid Valve - Right (LM2)*
Q83AA	Valve Lifter Oil Solenoid Valve - Cylinder 1	L84/L87	In the engine compartment, mounted to the engine, beneath the engine block valley cover, next to cylinder 1	—	—
Q83AB	Valve Lifter Oil Solenoid Valve - Cylinder 2	L84/L87	In the engine compartment, mounted to the engine, beneath the engine block valley cover, next to cylinder 2	—	—
Q83AC	Valve Lifter Oil Solenoid Valve - Cylinder 3	L84/L87	In the engine compartment, mounted to the engine, beneath the engine block valley cover, next to cylinder 3	—	—
Q83AD	Valve Lifter Oil Solenoid Valve - Cylinder 4	L84/L87	In the engine compartment, mounted to the engine, beneath the engine block valley cover, next to cylinder 4	—	—
Q83AE	Valve Lifter Oil Solenoid Valve - Cylinder 5	L84/L87	In the engine compartment, mounted to the engine, beneath the engine block valley cover, next to cylinder 5	—	—
Q83AF	Valve Lifter Oil Solenoid Valve - Cylinder 6	L84/L87	In the engine compartment, mounted to the engine, beneath the engine block valley cover, next to cylinder 6	—	—
Q83AG	Valve Lifter Oil Solenoid Valve - Cylinder 7	L84/L87	In the engine compartment, mounted to the engine, beneath the engine block valley cover, next to cylinder 7	—	—
Q83AH	Valve Lifter Oil Solenoid Valve - Cylinder 8	L84/L87	In the engine compartment, mounted to the engine, beneath the engine block valley cover, next to cylinder 8	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
Q97	Engine Coolant Flow Control Valve	—	In the engine compartment, left, attached to the front of Q97 Engine Coolant Flow Control Valve	—	—
Q97B	Engine Coolant Flow Control Valve - Block	LM2	In the engine compartment, left front, attached the front of Q97 Engine Coolant Flow Control Valve, at the top	—	—
Q97M	Engine Coolant Flow Control Valve - Main	LM2	In the engine compartment, left front, attached to the front of Q97 Engine Coolant Flow Control Valve, behind the G13 Generator	—	*Q97M Engine Coolant Flow Control Valve - Main (LM2)*
S2	Transmission Manual Shift Switch	—	In the passenger compartment, part of the transmission shift lever	—	—
S13D	Door Lock Switch - Driver	—	In the passenger compartment, in the driver door handle trim panel	—	*S13D Door Lock Switch - Driver*
S13LR	Door Lock Switch - Left Rear	—	—	—	*S13LR Door Lock Switch - Left Rear*
S13P	Door Lock Switch - Passenger	—	In the passenger compartment, in the passenger door handle trim panel	—	*S13P Door Lock Switch - Passenger*
S13RR	Door Lock Switch - Right Rear	—	—	—	*S13RR Door Lock Switch - Right Rear*
S26	Hazard Warning Switch	—	—	*Instrument Panel Components - Right*	*S26 Hazard Warning Switch*
S27	Head-Up Display Switch	UV6	In the passenger compartment, left front, left of the steering column, in the instrument panel	*Instrument Panel Components - Left*	*S27 Head-Up Display Switch (UV6)*
S30	Headlamp Switch	—	In the passenger compartment, left of the steering column, in the instrument panel	*Instrument Panel Components - Left*	*S30 Headlamp Switch*
S33	Horn Switch	—	In the passenger compartment, in the center of the steering wheel, behind the driver side air bag	—	—
S38	Ignition Mode Switch	BTM	In the passenger compartment, right of the steering column, in the instrument panel	*Instrument Panel Components - Right*	*S38 Ignition Mode Switch*
S46	Liftgate Handle Switch	—	—	—	—
S46B	Liftgate Unlatch Switch	—	—	—	—
S47D	Seat Memory Switch - Driver	—	In the passenger compartment, on the driver door panel above the driver door switch assembly	—	*S47D Seat Memory Switch - Driver (A45/AUN)*
S48C	Multifunction Switch 1 - Instrument Panel	—	—	*Instrument Panel Components - Left*	*S48C Multifunction Switch 1 - Instrument Panel*
S51	Telematics Button Assembly	UE1	In the passenger compartment, part of the inside rearview mirror	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
S64D	Seat Adjuster Switch - Driver	—	In the passenger compartment, mounted to the outboard side of the driver seat cushion	—	—
S64P	Seat Adjuster Switch - Passenger	—	In the passenger compartment, mounted to the outboard side of the passenger seat cushion	—	—
S65D	Seat Lumbar Support Switch - Driver	A2X	In the passenger compartment, mounted to the outboard side of the driver seat cushion	—	—
S65P	Seat Lumbar Support Switch - Passenger	A7K	In the passenger compartment, mounted to the outboard side of the passenger seat cushion	—	—
S70E	Steering Wheel Controls Switch - Radio Presets	—	In the passenger compartment, on the left rear side of the steering wheel	*Steering Wheel Components*	—
S70F	Steering Wheel Controls Switch - Radio Volume	—	In the passenger compartment, on the right rear side of the steering wheel	*Steering Wheel Components*	—
S70L	Steering Wheel Controls Switch - Left	—	In the passenger compartment, on the left side of the steering wheel	*Steering Wheel Components*	—
S70R	Steering Wheel Controls Switch - Right	—	In the passenger compartment, on the right side of the steering wheel	*Steering Wheel Components*	—
S71	Steering Column Tilt and Telescope Switch	—	—	*Instrument Panel Components - Left*	*S71 Steering Column Tilt and Telescope Switch (N38)*
S76	Trailer Brake Control Switch	—	In the passenger compartment, center of the instrument panel, below S48C Multifunction Switch 1 - Instrument Panel	*Instrument Panel Components - Left*	*S76 Trailer Brake Control Switch (JL1)*
S78	Turn Signal/Multifunction Switch	—	In the passenger compartment, on the left side of the steering column	*Instrument Panel Components - Left*	*S78 Turn Signal/Multifunction Switch*
S79LR	Window Switch - Left Rear	—	In the passenger compartment, at the center of the left rear door, on the door trim panel	—	*S79LR Window Switch - Left Rear*
S79RR	Window Switch - Right Rear	—	In the passenger compartment, on the right rear door trim panel, center of the door	—	*S79RR Window Switch - Right Rear*
S84D	Door Switch Panel Control Module - Driver	—	—	—	—
S84P	Door Switch Panel Control Module - Passenger	—	—	—	—
S126	Drive Mode Select Switch	URC	In the passenger compartment, left front, left side of the instrument panel, above S30 Headlamp Switch	*Instrument Panel Components - Left*	*S126 Drive Mode Select Switch*
S141	Liftgate Window Unlatch Switch	—	—	—	*S141 Liftgate Window Unlatch Switch*

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
S143L	Folding Seat Control Switch - 2nd Row Left	—	—	—	S143L Folding Seat Control Switch - 2nd Row Left (ATN/ATT)
S143R	Folding Seat Control Switch - 2nd Row Right	—	—	—	S143R Folding Seat Control Switch - 2nd Row Right (ATN/ATT)
S144A	Folding Seat Control Switch - Rear Compartment 2nd Row	—	—	—	S144A Folding Seat Control Switch - Rear Compartment 2nd Row (ATN/ATT)
S144B	Folding Seat Control Switch - Rear Compartment 3rd Row	—	—	—	—
S145	Center Console Compartment Cooler Switch	—	—	—	S145 Center Console Compartment Cooler Switch (DCK)
S146	Window/Outside Rearview Mirror Switch - Driver	—	In the passenger compartment, left front, attached to driver door trim	—	—
T1	Accessory DC/AC Power Inverter Module	KI4/KI5	In the passenger compartment, rear center, mounted to the rear wall	—	• T1 Accessory DC/AC Power Inverter Module X1 (KI4/KI5) • T1 Accessory DC/AC Power Inverter Module X2 (KI4/KI5)
T3	Audio Amplifier	UQA	In the rear passenger compartment, mounted behind the rear seat, below the rear window	—	• T3 Audio Amplifier X1 (UQA/UQF/UQS/UQP) • T3 Audio Amplifier X2 (UQA/UQF/UQS/UQP) • T3 Audio Amplifier X3 (UQA/UQF/UQS/UQP) • T3 Audio Amplifier X4 (UQA/UQF/UQS/UQP)
T4G	Cellular Phone, Navigation, and Digital Radio Antenna	—	Outside the vehicle, at the front left of the roof	—	—
T4S	Wireless Communication Antenna - Bluetooth	—	Outside the vehicle, at the rear of the right front fender	—	—
T4T	Wireless Communication Antenna - WLAN	IOS/IOT	In the passenger compartment, front center, within instrument panel, in front of the instrument panel compartment tray	Instrument Panel Components - Right	—
T8A	Ignition Coil 1	L84/L87	In the engine compartment, at the top of the engine, above cylinder 1	Engine Components - Left Front (L84/L87)	T8A Ignition Coil 1 (L84/L87)
T8B	Ignition Coil 2	L84/L87	In the engine compartment, at the top of the engine, above cylinder 2	—	T8B Ignition Coil 2 (L84/L87)
T8C	Ignition Coil 3	L84/L87	In the engine compartment, at the top of the engine, above cylinder 3	Engine Components - Left Front (L84/L87)	T8C Ignition Coil 3 (L84/L87)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
T8D	Ignition Coil 4	L84/L87	In the engine compartment, at the top of the engine, above cylinder 4	—	T8D Ignition Coil 4 (L84/L87)
T8E	Ignition Coil 5	L84/L87	In the engine compartment, at the top of the engine, above cylinder 5	Engine Components - Left Front (L84/L87)	T8E Ignition Coil 5 (L84/L87)
T8F	Ignition Coil 6	L84/L87	In the engine compartment, at the top of the engine, above cylinder 6	—	T8F Ignition Coil 6 (L84/L87)
T8G	Ignition Coil 7	L84/L87	In the engine compartment, at the top of the engine, above cylinder 7	Engine Components - Left Front (L84/L87)	T8G Ignition Coil 7 (L84/L87)
T8H	Ignition Coil 8	L84/L87	In the engine compartment, at the top of the engine, above cylinder 8	—	T8H Ignition Coil 8 (L84/L87)
T10F	Keyless Entry Antenna - Rear Window	—	—	—	—
T10G	Keyless Entry Antenna - Rear Fascia	—	—	—	T10G Keyless Entry Antenna - Rear Fascia
T10J	Keyless Entry Antenna - Center Console Front	—	In the passenger compartment, front center, beneath floor console or center seat.	—	• T10J Keyless Entry Antenna - Center Console Front (5W4/9C1/AZ3) • T10J Keyless Entry Antenna - Center Console Front (D07/DCH/DCK)
T10L	Keyless Entry Antenna - Left Body	—	—	—	T10L Keyless Entry Antenna - Left Body
T10R	Keyless Entry Antenna - Right Body	—	—	—	T10R Keyless Entry Antenna - Right Body
T12	Automatic Transmission Assembly	—	Under the vehicle, mounted to the rear of the engine	—	T12 Automatic Transmission Assembly
T19	Power Supply Transformer	KL9	In the passenger compartment, right front, between the instrument panel and bulkhead	—	T19 Power Supply Transformer
T22	Mobile Device Wireless Charger Module	K4C	In the passenger compartment, forward of center, in the floor console bin lid.	—	T22 Mobile Device Wireless Charger Module (K4C)
W4	Blunt Cut - Off-Road Grille Lamp Provision	—	—	—	—
W9	Blunt Cut - Police Provision	—	—	—	—
W24	Blunt Cut - Trailer Brakes Provision	Z82-JL1	In the passenger compartment, under left side of the instrument panel	—	—
X50A	Fuse Block - Underhood	—	In the engine compartment, right front, in front of C1 Battery	Engine Compartment Components - Top	Electrical Center Identification Views on page 6-30
X50B	Fuse Block - Underhood Auxiliary	LM2	In the engine compartment	—	Electrical Center Identification Views on page 6-30

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
X50D	Fuse Block - Battery	—	In the engine compartment, right front, on top of C1 Battery	Engine Compartment Components - Top	Electrical Center Identification Views on page 6-30
X50E	Fuse Block - Battery Auxiliary	—	—	—	Electrical Center Identification Views on page 6-30
X51R	Fuse Block - Instrument Panel Right	—	In the passenger compartment, right side of the instrument panel, behind side trim panel	—	Electrical Center Identification Views on page 6-30
X53A	Fuse Block - Rear Body	—	—	—	Electrical Center Identification Views on page 6-30
X63A	Junction Block - Rear Body	—	—	—	Electrical Center Identification Views on page 6-30
X80G	Accessory Power Receptacle - Instrument Panel	—	In the passenger compartment, front center, in the instrument panel, beneath A26 HVAC Controls	Instrument Panel Components - Left	X80G Accessory Power Receptacle - Instrument Panel (KC5)
X80H	Accessory Power Receptacle - Center Console	—	—	—	X80H Accessory Power Receptacle - Center Console (D07/DCH/DCK)
X81	Accessory Power Receptacle - 110V AC	KI4	In the passenger compartment, front center, attached to instrument panel, right of X80G Accessory Power Receptacle - Instrument Panel	—	—
X81B	Accessory Power Receptacle - 220V AC	KI5	In the passenger compartment, front center, attached to instrument panel, right of X80G Accessory Power Receptacle - Instrument Panel	—	—
X82	Audio/Video Input Adapter	—	In the passenger compartment, at the rear of the floor center console	—	X82 Audio/Video Input Adapter (UW9)
X84	Data Link Connector	—	In the passenger compartment, at the bottom of the driver side of the instrument panel	—	X84 Data Link Connector
X85	Steering Wheel Air Bag Coil	—	In the passenger compartment, behind the steering wheel	• Steering Column Components • Steering Wheel Components	X85 Steering Wheel Air Bag Coil
X88	Trailer Connector	—	On the vehicle exterior, at the rear of the vehicle, left of the license plate	—	X88 Trailer Connector X1
X92BCL	USB Receptacle - 3rd Row Seat Left	—	—	—	—
X92BCR	USB Receptacle - 3rd Row Seat Right	—	—	—	—
X92C	USB Receptacle - Center Console Rear	D07/AZ3	In the passenger compartment, center, on the rear of the floor console	—	—
X92D	USB Receptacle - Center Console	—	—	—	X92D USB Receptacle - Center Console

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
X102	Body Harness to Left Police Provisional Harness	—	—	—	X102 Body Harness to Left Police Provisional Harness (5W4/9C1)
X108	Front Fascia Harness to Body Harness	—	—	• Front Fascia Harness Routing (X88) • Front Fascia Harness Routing (Z88)	X108 Front Fascia Harness to Body Harness
X110	Body Harness to Left Headlamp Harness	—	In the engine compartment, at the rear of the left headlamp assembly	—	X110 Body Harness to Left Headlamp Harness
X111	Axle Harness to Engine Harness	NP0/NQH	Under the vehicle, near the front axle	—	X111 Body Harness to Off-Road Grille Lamp Provisional Harness (5W4/9C1)
X114	Engine Harness to Active Grille Air Shutter Harness	—	—	Engine Harness Routing - Left Front (L84/L87)	• X114 Engine Harness to Active Grille Air Shutter Harness (VTI +(L84/L87)) • X114 Engine Harness to Active Grille Air Shutter Harness (VTI +LM2)
X115	Engine Harness to Body Harness	—	In the front of the engine compartment, near the upper left of the radiator support	Engine Harness Routing - Left Front (L84/L87)	• X115 Engine Harness to Body Harness (L84/L87) • X115 Engine Harness to Body Harness (LM2)
X116	Front Axle Harness to Engine Harness	—	—	—	X116 Front Axle Harness to Engine Harness (NP0/NQH)
X120	Body Harness to Right Headlamp Harness	—	In the engine compartment, at the rear of the right headlamp assembly	—	X120 Body Harness to Right Headlamp Harness
X122	Body Harness to Right Police Provisional Harness	—	—	—	X122 Body Harness to Right Police Provisional Harness (5W4/9C1)
X126	Engine Harness to Chassis Harness	—	—	• Chassis Harness Routing - Front • Engine Harness Routing - Left Front (L84/L87)	X126 Engine Harness to Chassis Harness
X138	Body Harness to Chassis Harness	—	In the rear of the engine compartment, near the rear of the under hood fuse block	Chassis Harness Routing - Front	X138 Body Harness to Chassis Harness
X140	Chassis Harness to Body Harness	—	In the engine compartment, left side	Chassis Harness Routing - Front	X140 Chassis Harness to Body Harness
X143	DEF Jumper Harness to Chassis Harness	LM2	At the right rear of the engine compartment, near the frame	Chassis Harness Routing - Rear	X143 Chassis Harness to Chassis Harness (LM2)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
X153	Engine Harness to Coolant Temperature Jumper Harness	LM2	In the engine compartment, near coolant temperature sensor	—	X153 Engine Harness to Engine Coolant Temperature Jumper Harness (LM2)
X154	Engine Harness to Camshaft Position Sensor Jumper Harness	L84/L87	In the engine compartment, near the fuel rail	Engine Harness Routing - Left Rear (L84/L87)	X154 Engine Harness to Camshaft Position Sensor Jumper Harness (L84/L87)
X155	Engine Harness to Active Fuel Management Solenoid Jumper Harness	L84/L87	In the engine compartment, at the intake manifold	Engine Harness Routing - Left Rear (L84/L87)	X155 Engine Harness to Active Fuel Management Solenoid Jumper Harness (L84/L87)
X156	Engine Harness to Active Fuel Management Solenoid Jumper Harness	L84/L87	In the engine compartment, at the intake manifold	Engine Harness Routing - Left Rear (L84/L87)	X156 Engine Harness to Active Fuel Management Solenoid Jumper Harness (L84/L87)
X157	Active Fuel Management Solenoid Jumper Harness to Active Fuel Management Solenoid Harness	L84/L87	In the engine compartment, at the intake manifold	—	—
X158	Camshaft Position Sensor Jumper Harness to Engine Oil Control Solenoid Jumper Harness (L82/L84/L87/LV3)| Engine Harness to Engine Oil Pressure Control Solenoid Valve Jumper Harness (L3B/LM2)	—	At the left front of the engine compartment	—	• X158 Camshaft Position Sensor Jumper Harness to Engine Harness (L84/L87) • X158 Engine Harness to Engine Oil Pressure Control Solenoid Valve Jumper Harness (LM2)
X160	Engine Harness to Bank 1 Fuel Rail Harness (L82/L84/L87/LV3)| Engine Harness to Fuel Injector Harness (LM2)| Engine Harness to Fuel Rail Harness (L3B)	—	• (L84/L87) In the engine compartment, rear of the engine near the top center • (LM2) In the engine compartment, rear of the engine near the top center •	Engine Harness Routing - Left Rear (L84/L87)	• X160 Engine Harness to Bank 1 Fuel Rail Harness (L84/L87) • X160 Engine Harness to Fuel Injector Harness (LM2)
X161	Engine Harness to Bank 2 Fuel Rail Harness	L84/L87	In the engine compartment, rear of the engine near the top right	Engine Harness Routing - Left Rear (L84/L87)	X161 Engine Harness to Bank 2 Fuel Rail Harness (L84/L87)
X165	Engine Harness to Engine Coolant Flow Control Valve Jumper Harness	—	—	—	X165 Engine Harness to Engine Coolant Flow Control Valve Jumper Harness (LM2)
X172	Engine Harness to Glow Plug Jumper Harness	LM2	In the engine compartment, left front, above the G13 Generator	—	X172 Engine Harness to Glow Plug Jumper Harness (LM2)

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
X176	Transmission Case Harness to Transmission Control Harness	—	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
X177	Transmission Case Harness to Speed Sensor Assembly Harness (MQE)| Transmission Range Control Harness to Transmission Control Harness (MQB)	MQB/MQE	Under the vehicle, inside the T12 Automatic Transmission Assembly	—	—
X182	Chassis Harness to Power Steering Harness	—	In the engine compartment, left front, above steering gear	*Chassis Harness Routing - Front*	*X182 Chassis Harness to Power Steering Harness*
X183	Power Steering Harness to Power Steering Jumper Harness	—	In the engine compartment, near cylinder 3 fuel injector	—	—
X211	Instrument Panel Harness to Body Harness	—	In the passenger compartment, at the top right of the instrument panel, under the defroster duct trim	—	*X211 Body Harness to Body Harness*
X215	Police Provisional Harness to Instrument Panel Harness	—	—	—	*X215 Police Provisional Harness to Instrument Panel Harness (5W4/9C1)*
X219	Police Provisional Harness to Instrument Panel Harness	—	—	—	*X219 Police Provisional Harness to Instrument Panel Harness (5W4/9C1)*
X220	Instrument Panel Harness to Body Harness	—	—	—	*X220 Instrument Panel Harness to Body Harness (5W4/9C1)*
X225	Instrument Panel Harness to Body Harness	—	In the passenger compartment, behind the lower left side of the instrument panel	—	*X225 Instrument Panel Harness to Body Harness*
X250	Auxiliary Heater Jumper Harness to Body Harness	C32	In the passenger compartment, right front, at the bottom of the A-pillar, behind passenger kick panel	—	*X250 Trailer Harness to Instrument Panel Harness*
X254	Instrument Panel Harness to Passenger Instrument Panel Air Bag Jumper Harness	—	—	—	*X254 Instrument Panel Harness to Passenger Instrument Panel Air Bag Jumper Harness*
X255	USB Receptacle Jumper Harness to Floor Console Harness	D07+(IOS/IOT)	In the passenger compartment, center, underneath the front of the floor console	—	—
X256	Headliner Harness to Instrument Panel Harness	—	In the passenger compartment, right front, at the bottom of the A-pillar, behind passenger kick panel	—	• *X256 Instrument Panel Harness to Floor Console Harness (D07/DCK)* • *X256 Instrument Panel Harness to Floor Console Harness (DCH)*

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
X257	Instrument Panel Harness to HVAC Harness	—	—	—	X257 Instrument Panel Harness to HVAC Harness
X258	Instrument Panel Harness to Instrument Panel Harness	—	—	—	X258 Instrument Panel Harness to Instrument Panel Harness
X270	Headliner Harness to Instrument Panel Harness	—	—	—	X270 Headliner Harness to Instrument Panel Harness
X275	Instrument Panel Harness to Body Harness	—	In the passenger compartment, behind the lower right side of the instrument panel	—	X275 Instrument Panel Harness to Body Harness
X276	Rear Cargo Lamp Jumper Harness to Body Harness	—	—	—	X276 Rear Cargo Lamp Jumper Harness to Body Harness
X300	Floor Console Harness to Body Harness	—	—	—	X300 Floor Console Harness to Body Harness
X308	Body Harness to Left Second Row Seat Harness	—	—	—	X308 Body Harness to Left Second Row Seat Harness
X310	Driver Seat Harness to Body Harness	—	In the passenger compartment, under the passenger seat	—	X310 Driver Seat Harness to Body Harness
X313	Headliner Harness to Microphone Provisional Harness	—	—	—	X313 Headliner Harness to Microphone Provisional Harness (5W4/9C1)
X315	Headliner Harness to Microphone Provisional Harness	—	—	—	X315 Headliner Harness to Microphone Provisional Harness (5W4/9C1)
X318	Sunroof Jumper Harness to Headliner Harness	CF5	In the passenger compartment, in the headliner, between near the A-pillar	—	X318 Rain Sensor Jumper Harness to Headliner Harness
X320	Passenger Seat Harness to Body Harness	—	In the passenger compartment, under the passenger seat	—	X320 Body Harness to Body Harness
X324	Sunroof Harness to Headliner Harness	—	—	—	X324 Sunroof Harness to Headliner Harness (C3U)
X327	Left Assist Step Harness to Chassis Harness	—	—	—	X327 Left Assist Step Harness to Chassis Harness (B3L)
X337	Left Assist Step Harness to Chassis Harness	—	—	Chassis Harness Routing - Front	X337 Left Assist Step Harness to Chassis Harness (B3L)
X346	Body Harness to Body Harness	—	—	—	X346 Body Harness to Body Harness (AS8)
X348	Body Harness to Floor Console Harness	D07	In the passenger compartment, center, underneath the rear of the floor console	—	—
X350	Chassis Harness to Fuel Tank Harness	—	Under the vehicle, at the top of the fuel tank, near the fuel pump and level sensor assembly	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
X378	Body Harness to Right 2nd Row Seat Harness	—	—	—	X378 Body Harness to Right 2nd Row Seat Harness
X403	Chassis Harness to Chassis Rear Extension Harness	—	—	Chassis Harness Routing - Rear	X403 Chassis Harness to Chassis Rear Extension Harness (Z95)
X406	Chassis Harness to Chassis Rear Extension Harness	—	—	Chassis Harness Routing - Rear	X406 Chassis Harness to Chassis Rear Extension Harness
X407	Fuel Door Jumper Harness to Chassis Harness	—	—	Chassis Harness Routing - Rear	X407 Fuel Door Jumper Harness to Chassis Harness
X410	Tail Lamp - Left Harness to Chassis Harness	—	At the rear of the vehicle, left corner, underneath, on left frame rail	—	—
X413	Chassis Harness to Chassis Rear Extension Harness	—	—	Chassis Harness Routing - Rear	X413 Chassis Harness to Chassis Rear Extension Harness (Z95)
X418	Right Assist Step Jumper Harness to Chassis Harness	BRS	Underneath the vehicle, along the outside of the right frame rail, beneath left rear door	—	X418 Body Harness to HVAC Harness (C69)
X419	Body Harness to Power Inverter Module Jumper Harness	—	—	—	X419 Body Harness to Power Inverter Module Jumper Harness
X420	Tail Lamp - Right Harness to Chassis Harness	—	At the rear of the vehicle, right corner, underneath, on right frame rail	—	—
X421	Body Harness to Police Strobe Light Provisional Harness	—	—	—	X421 Body Harness to Police Strobe Light Provisional Harness (5W4/9C1)
X430	Body Harness to Body Harness	—	—	—	X430 Body Harness to Body Harness
X500	Driver Door Harness to Body Harness	—	In the passenger compartment, behind the left side of the instrument panel	—	X500 Driver Door Harness to Body Harness
X505	Driver Door Harness to Driver Door Trim Harness	—	In the driver door, behind the driver door panel	—	X505 Driver Door Harness to Driver Door Trim Harness
X510	Driver Door Harness to Outside Rearview Mirror - Driver Harness	—	In the driver door, behind the driver door panel, near the A-pillar	—	X510 Driver Door Harness to Driver Outside Rearview Mirror Harness
X600	Passenger Door Harness to Body Harness	—	In the passenger compartment, behind the right side of the instrument panel	—	X600 Passenger Door Harness to Body Harness
X605	Passenger Door Harness to Passenger Door Trim Harness	—	In the passenger door, behind the passenger door panel	—	X605 Passenger Door Harness to Passenger Door Trim Harness
X610	Passenger Door Harness to Passenger Outside Rearview Mirror Harness	—	In the passenger door, behind the passenger door panel, near the A-pillar	—	X610 Passenger Door Harness to Passenger Outside Rearview Mirror Harness

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
X700	Left Rear Door Harness to Body Harness	—	In the passenger compartment, behind the left B-pillar, near the middle	—	X700 Left Rear Door Harness to Body Harness
X705	Left Rear Door Harness to Left Rear Door Trim Harness	—	—	—	X705 Left Rear Door Harness to Left Rear Door Trim Harness
X706	Left Rear Door Harness to Left Rear Door Trim Harness	—	—	—	X706 Left Rear Door Harness to Left Rear Door Trim Harness
X800	Right Rear Door Harness to Body Harness	—	In the passenger compartment, behind the right B-pillar, near the middle	—	X800 Right Rear Door Harness to Body Harness
X805	Right Rear Door Harness to Right Rear Door Trim Harness	—	—	—	X805 Right Rear Door Harness to Right Rear Door Trim Harness
X806	Right Rear Door Harness to Right Rear Door Trim Harness	—	—	—	X806 Right Rear Door Harness to Right Rear Door Trim Harness
X904	Chassis Harness to Rear Chassis Extension Harness	—	• (Z45) Under the vehicle, rear center, above the rear differential • (-Z45) Under the vehicle, rear center, above the rear differential	—	X904 Center High Mounted Stop Lamp Jumper Harness to Body Harness
X905	Liftgate Harness to Body Harness	—	—	—	X905 Liftgate Harness to Body Harness
X907	Liftgate Extension Harness to Liftgate Harness	—	—	—	X907 Liftgate Extension Harness to Liftgate Harness
X909	Endgate Harness to Chassis Harness	UV2/UVB/UVI	Under the vehicle, rear, left of the spare tire	—	—
X917	Liftgate Harness to Left Strobe Light Blunt Harness	—	—	—	X917 Liftgate Harness to Left Strobe Light Blunt Harness
X918	Liftgate Harness to Right Strobe Light Blunt Cut Harness	—	—	—	X918 Liftgate Harness to Right Strobe Light Blunt Cut Harness
X922	Body Harness to Rear Fascia Harness	—	—	—	X922 Body Harness to Rear Fascia Harness
G104	Body Harness	—	—	—	—
G110	Body Harness	—	In the engine compartment, left side, attached to body	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
G117	Engine Harness	—	• (L84/L87) In the engine compartment, attached to the left side of the engine block, below the exhaust manifold • (LM2) In the engine compartment, right rear, attached to the right rear side of the engine block, above engine oil filter housing	—	—
G120	Body Harness	—	In the engine compartment, right side, right of C1 Battery	—	—
G125	Power Steering Jumper Harness	—	—	—	—
G130	Negative Battery Cable Harness	—	In the engine compartment, right rear corner	—	—
G131	Frame Ground Strap	—	Under the vehicle, right front wheel well, behind inner fender, rearward of upper control arm	—	—
G132	Engine Ground Strap	—	Under the vehicle, right front wheel well, behind inner fender, rearward of lower control arm	—	—
G133	Frame Ground Strap	—	Under the vehicle, right front wheel well, behind inner fender, rearward of upper control arm	—	—
G134	Engine Ground Strap	—	Under the vehicle, right front wheel well, behind inner fender, rearward of lower control arm	—	—
G175	Engine Harness	—	—	—	—
G178	Engine Harness	—	—	—	—
G179	Engine Harness	—	—	—	—
G200	Instrument Panel Harness	—	In the passenger compartment, left front, below A-pillar, behind driver side kick panel	—	—
G220	Instrument Panel Harness	—	In the passenger compartment, right front, below A-pillar, behind passenger side kick panel	—	—
G300	Body Harness	—	In the passenger compartment, left side, at the bottom of the B-pillar	—	—
G312	Body Harness	—	In the passenger compartment, right side, beneath the passenger seat	—	—
G405	Chassis Harness	—	Under the rear of the vehicle, in front of the tow hitch, mounted to the center of the frame	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J100	Front Fascia	BOP	At the front of the vehicle, front center, in front of the radiator core support, attached to front fascia, between breakout to B306A Parking Assist Sensor - Front Left Outer and B306B Parking Assist Sensor - Front Left Middle and breakout to B174G Front-view Camera - Grille	—	—
J101	Front Fascia	BOP	At the front of the vehicle, front center, in front of the radiator core support, attached to front fascia, between breakout to B306A Parking Assist Sensor - Front Left Outer and B306B Parking Assist Sensor - Front Left Middle and breakout to B174G Front-view Camera - Grille	—	—
J102	Front Fascia	UD5	At the front of the vehicle, front center, in front of the radiator core support, attached to front fascia, between breakout to B306A Parking Assist Sensor - Front Left Outer and B306B Parking Assist Sensor - Front Left Middle and breakout to B174G Front-view Camera - Grille	• *Front Fascia Harness Routing (X88)* • *Front Fascia Harness Routing (Z88)*	—
J103	Front Fascia	UD5	At the front of the vehicle, front center, in front of the radiator core support, attached to front fascia, between breakout to B306A Parking Assist Sensor - Front Left Outer and B306B Parking Assist Sensor - Front Left Middle and breakout to B174G Front-view Camera - Grille	• *Front Fascia Harness Routing (X88)* • *Front Fascia Harness Routing (Z88)*	—
J104	Front Fascia	BOP	At the front of the vehicle, front center, in front of the radiator core support, attached to front fascia, between breakout to B306A Parking Assist Sensor - Front Left Outer and B306B Parking Assist Sensor - Front Left Middle and breakout to B174G Front-view Camera - Grille	*Front Fascia Harness Routing (X88)*	—
J105	Front Fascia	T40	At the front of the vehicle, front center, in front of the radiator core support, attached to front fascia, between breakout to B306A Parking Assist Sensor - Front Left Outer and B306B Parking Assist Sensor - Front Left Middle and breakout to B174G Front-view Camera - Grille	*Front Fascia Harness Routing (Z88)*	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J106	Front Fascia	T40	At the front of the vehicle, front center, in front of the radiator core support, attached to front fascia, between breakout to B306A Parking Assist Sensor - Front Left Outer and B306B Parking Assist Sensor - Front Left Middle and breakout to B174G Frontview Camera - Grille	*Front Fascia Harness Routing (Z88)*	—
J107	Active Grille Air Shutter Harness	WMI	At the front of the vehicle, front center, within Active Grille Air Shutter Harness	—	—
J109	Active Grille Air Shutter Harness	VTI	At the front of the vehicle, front center, within Active Grille Air Shutter Harness	—	—
J131	Body Harness	—	In the engine compartment, left front, between breakout to ground G104 and ground G110	—	—
J132	Body Harness	—	• (-5W4-9C1) In the engine compartment, left rear, approximately 4 cm from breakout to K160 Brake System Control Module, towards the rear of the vehicle • (5W4/9C1) In the engine compartment, left rear, approximately 5 cm from breakout to M75 Windshield Wiper Motor and B20 Brake Fluid Level Switch	—	—
J133	Body Harness	—	In the engine compartment, left rear, approximately 12 cm from breakout to K160 Brake System Control Module, towards the rear of the vehicle	—	—
J134	Body Harness	—	In the engine compartment, left rear, approximately 19 cm from breakout to K160 Brake System Control Module, towards the rear of the vehicle	—	—
J150	Engine Harness	L84/L87	In the center of the engine compartment, approximately 10 cm from breakout to ground G117, towards the rear of the vehicle	*Engine Harness Routing - Left Rear (L84/L87)*	—
J151	Engine Harness	L84/L87	In the center of the engine compartment, in breakout to B68A Knock Sensor 1 and B37B Engine Oil Pressure Sensor	*Engine Harness Routing - Left Rear (L84/L87)*	—
J152	Engine Harness	L84/L87	In the engine compartment, near breakout to B74 Manifold Absolute Pressure Sensor, in harness channel	*Engine Harness Routing - Left Front (L84/L87)*	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J153	Engine Harness	—	• (L84/L87) In the engine compartment, near breakout to B74 Manifold Absolute Pressure Sensor, in harness channel • (LM2) In the engine compartment, right front, approximately 25 cm from breakout to B34J Engine Coolant Temperature Sensor 7	*Engine Harness Routing - Left Front (L84/L87)*	—
J154	Engine Harness	—	• (L84/L87) In the engine compartment, near breakout to B74 Manifold Absolute Pressure Sensor, in harness channel • (LM2) In the engine compartment, left front, approximately 9 cm from breakout to B1 A/C Refrigerant Pressure Sensor	*Engine Harness Routing - Left Front (L84/L87)*	—
J155	Engine Harness	L84/L87	In the engine compartment, near breakout to B74 Manifold Absolute Pressure Sensor, in harness channel	*Engine Harness Routing - Left Front (L84/L87)*	—
J156	Engine Harness	L84/L87	In the engine compartment, near breakout to B74 Manifold Absolute Pressure Sensor, in harness channel	*Engine Harness Routing - Left Front (L84/L87)*	—
J157	Engine Harness	L84/L87	In the engine compartment, near breakout to B74 Manifold Absolute Pressure Sensor, in harness channel	*Engine Harness Routing - Left Front (L84/L87)*	—
J158	Engine Harness	—	• (L84/L87) In the engine compartment, front center, between breakout to Q38 Throttle Body and breakout to T8A Ignition Coil 1 • (LM2) In the engine compartment, left front, approximately 12 cm from breakout to B1 A/C Refrigerant Pressure Sensor	—	—
J159	Engine Harness	—	• (L84/L87) In the engine compartment, front center, between breakout to Q38 Throttle Body and breakout to T8A Ignition Coil 1 • (LM2) In the engine compartment, right front, approximately 15 cm from breakout to B34J Engine Coolant Temperature Sensor 7	*Engine Harness Routing - Left Front (L84/L87)*	—
J161	Engine Harness	L84/L87	In the engine compartment, front center, between breakout to Q38 Throttle Body and breakout to T8A Ignition Coil 1	*Engine Harness Routing - Left Front (L84/L87)*	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J162	Engine Harness	—	• (L84/L87) In the engine compartment, front center, between breakout to Q38 Throttle Body and breakout to T8A Ignition Coil 1 • (LM2) In the engine compartment, front center, approximately 5 cm from breakout towards B195A Nitrogen Oxides Sensor 1, Q38 Throttle Body, and B193A Charge Air Coooler Inlet Temperature Sensor	*Engine Harness Routing - Left Front (L84/L87)*	—
J163	Engine Harness	L84/L87	In the engine compartment, front right, between breakout to G13 Generator and breakout to G10R Cooling Fan Motor - Right	*Engine Harness Routing - Left Front (L84/L87)*	—
J164	Engine Harness	L84/L87	In the engine compartment, rear of the engine, near the top, approximately 6 cm from breakout to ground G175	—	—
J165	Engine Harness	L84/L87	In the engine compartment, rear of the engine, near the top, between breakout to ground G179 and cable channel	*Engine Harness Routing - Left Rear (L84/L87)*	—
J166	Engine Harness	L84/L87	In the engine compartment rear center, in harness channel, approximately 8 cm from breakout towards even bank 2 ignition coils	*Engine Harness Routing - Left Rear (L84/L87)*	—
J167	Engine Harness	L84/L87	In the engine compartment rear center, in harness channel, in breakout towards bank 2 ignition coils	*Engine Harness Routing - Left Rear (L84/L87)*	—
J168	Engine Harness	—	• (L84/L87) In the engine compartment, rear center, approximately 10 cm from breakout to inline connectors X160 and X161 • (LM2) In the engine compartment, left front, approximately 5 cm from breakout to B1 A/C Refrigerant Pressure Sensor	*Engine Harness Routing - Left Rear (L84/L87)*	—
J169	Engine Harness	LM2	In the engine compartment, front, approximately 5 cm from breakout to inline connector X172	—	—
J170	Engine Harness	LM2	In the engine compartment, left rear, in harness channel, attached to the left rear side of the engine	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J171	Body Harness	—	In the engine compartment, right front, approximately 4 cm from breakout to P12 Horn, towards the rear of the vehicle	—	—
J172	Body Harness	—	• (SWB-5W4-9C1) In the passenger compartment, left middle, approximately 5 cm from breakout to ground G325, towards the rear of the vehicle • (5W4/9C1/LWB) In the passenger compartment, left rear, between breakout to ground G325 and breakout to F113D Seat Belt Anchor Pretensioner - Driver	—	—
J173	Body Harness	—	In the engine compartment, right front, between breakout to X50A Fuse Block - Underhood X1 and breakout to X50A Fuse Block - Underhood X2	—	—
J174	Body Harness	—	• (SWB-5W4-9C1) In the passenger compartment, left middle, approximately 10 cm from breakout to ground G325, towards the rear of the vehicle • (5W4/9C1/LWB) In the passenger compartment, left rear, between breakout to ground G325 and breakout to F113D Seat Belt Anchor Pretensioner - Driver	—	—
J175	Body Harness	—	In the engine compartment, right rear, between breakout to X50D Fuse Block - Battery and body harness grommet at the bulkhead	—	—
J176	Chassis Harness	—	• (SWB) In the engine compartment, right front, in harness channel, approximately 7 cm from breakout to X50A Fuse Block - Underhood X4, towards the rear of the vehicle • (LWB) Under the vehicle, right side, approximately 5 cm from breakout towards B195C Nitrogen Oxides Sensor 3/B195B Nitrogen Oxides Sensor 2/ B136 Exhaust Particulate Matter Sensor, towards the front of the vehicle	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J177	Body Harness	—	In the engine compartment, right rear, between breakout to X50D Fuse Block - Battery and body harness grommet at the bulkhead	—	—
J180	Engine Harness	LM2	In the engine compartment, left rear, in harness channel, attached to the left rear side of the engine	—	—
J181	Engine Harness	LM2	In the engine compartment, left rear, in harness channel, attached to the left rear side of the engine	—	—
J182	Engine Harness	LM2	In the engine compartment, left rear, approximately 9 cm from breakout to Q18B Fuel Pressure Regulator 2, in harness channel	—	—
J183	Engine Harness	LM2	In the engine compartment, left rear, approximately 9 cm from breakout to Q18B Fuel Pressure Regulator 2, in harness channel	—	—
J184	Engine Harness	LM2	In the engine compartment, left rear, approximately 14 cm from breakout to Q18B Fuel Pressure Regulator 2, in harness channel	—	—
J185	Engine Harness	LM2	In the engine compartment, front center, in left side of harness channel at the front of the engine	—	—
J186	Engine Harness	LM2	In the engine compartment, front center, in breakout towards B195A Nitrogen Oxides Sensor 1, Q38 Throttle Body, and B193A Charge Air Coooler Inlet Temperature Sensor	—	—
J187	Engine Harness	LM2	In the engine compartment, right front, approximately 5 cm from breakout to B34J Engine Coolant Temperature Sensor 7	—	—
J188	Engine Harness	LM2	In the engine compartment, front, approximately7 cm from breakout to inline connector X172, in cable channel	—	—
J189	Engine Harness	LM2	In the engine compartment, front, approximately 11 cm from breakout to inline connector X172, in cable channel	—	—
J190	Transmission Control Harness	MQC	Under the vehicle, center, within T12 Automatic Transmission Assembly	—	—
J191	Transmission Control Harness	MQC	Under the vehicle, center, within T12 Automatic Transmission Assembly	—	—
J192	Transmission Case Harness	MQC	Under the vehicle, center, within T12 Automatic Transmission Assembly	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J193	Transmission Range Control Harness	MQC	Under the vehicle, center, within T12 Automatic Transmission Assembly	—	—
J194	Transmission Case Harness	MQC	Under the vehicle, center, within T12 Automatic Transmission Assembly	—	—
J195	Transmission Case Harness	MQC	Under the vehicle, center, within T12 Automatic Transmission Assembly	—	—
J196	Transmission Case Harness	MQC	Under the vehicle, center, within T12 Automatic Transmission Assembly	—	—
J200	Body Harness	—	In the passenger compartment, right middle, approximately 10 cm from breakout to F113P Seat Belt Anchor Prentesioner - Passenger, towards the rear of othe vehicle	—	—
J201	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 4 cm from breakout to B107 Accelerator Pedal Position Sensor, towards the right side of the vehicle	—	—
J202	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 14 cm from breakout to B107 Accelerator Pedal Position Sensor, towards the right side of the vehicle	—	—
J203	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 19 cm from breakout to B107 Accelerator Pedal Position Sensor, towards the right side of the vehicle	—	—
J204	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 24 cm from breakout to B107 Accelerator Pedal Position Sensor, towards the right side of the vehicle	—	—
J205	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 30 cm from breakout to B107 Accelerator Pedal Position Sensor, towards the right side of the vehicle	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J206	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 4 cm from breakout to the bulkhead grommet, towards the left side of the vehicle	—	—
J207	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 8 cm from breakout to the bulkhead grommet, towards the left side of the vehicle	—	—
J208	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 16 cm from breakout to the bulkhead grommet, towards the left side of the vehicle	—	—
J209	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 20 cm from breakout to the bulkhead grommet, towards the left side of the vehicle	—	—
J210	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 12 cm from breakout to B22 Brake Pedal Position Sensor, towards the left side of the vehicle	—	—
J211	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 4 cm from breakout to K9 Body Control Module, towards the front of the vehicle	—	—
J212	Body Harness	—	In the passenger compartment, left front, within instrument panel, approximately 5 cm from breakout to K9 Body Control Module, towards the rear of the vehicle	—	—
J215	Steering Wheel Harness	—	In the passenger compartment, left front, within steering wheel	—	—
J216	Steering Wheel Harness	UK3	In the passenger compartment, left front, within steering wheel	—	—
J217	Steering Wheel Harness	—	In the passenger compartment, left front, within steering wheel	—	—
J220	HVAC Harness	—	In the passenger compartment, right front, within instrument panel, in HVAC harness	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J221	HVAC Harness	—	In the passenger compartment, right front, within instrument panel, in HVAC harness	—	—
J222	HVAC Harness	—	In the passenger compartment, right front, within instrument panel, in HVAC harness	—	—
J231	Instrument Panel Harness	—	• (-GFW) In the passenger compartment, left front, within instrument panel, approximately 14 cm from breakout to X84 Data Link Connector and K9 Body Control Module • (GFW) In the passenger compartment, left front, within instrument panel, approximately 10 cm from breakout to P16 Instrument Cluster	—	—
J233	Instrument Panel Harness	—	In the passenger compartment, left front, within instrument panel, in breakout to X84 Data Link Connector and K9 Body Control Module	—	—
J234	Instrument Panel Harness	—	• (5W4/9C1) In the passenger compartment, left front, within instrument panel, approximately 5 cm from breakout to X84 Data Link Connector and K9 Body Control Module • (-5W4-9C1) In the passenger compartment, left front, within instrument panel, in breakout to X84 Data Link Connector and K9 Body Control Module	—	—
J235	Instrument Panel Harness	—	In the passenger compartment, left front, within instrument panel, approximately 15 cm from breakout to P16 Instrument Cluster	—	—
J236	Instrument Panel Harness	—	In the passenger compartment, left front, within instrument panel, approximately 14 cm from breakout to P16 Instrument Cluster	—	—
J237	Instrument Panel Harness	—	In the passenger compartment, left front, within instrument panel, approximately 11 cm from breakout to P16 Instrument Cluster	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J238	Instrument Panel Harness	—	In the passenger compartment, left front, within instrument panel, approximately 9 cm from breakout to P16 Instrument Cluster	—	—
J239	Instrument Panel Harness	—	In the passenger compartment, left front, within instrument panel, approximately 10 cm from breakout to P16 Instrument Cluster, towards the right side of the vehicle	—	—
J240	Instrument Panel Harness	—	In the passenger compartment, left front, within instrument panel, approximately 13 cm from breakout to P16 Instrument Cluster, towards the right side of the vehicle	—	—
J241	Instrument Panel Harness	—	In the passenger compartment, front center, within instrument panel, between breakout to S38 Ignition Mode Switch and breakout to E1G Accent Lamp - Left Instrument Panel	—	—
J242	Instrument Panel Harness	—	• (5W4/9C1) In the passenger compartment, left front, between breakout to K60 Steering Column Lock Module and breakout to B10B Ambient Light/Sunload Sensor • (-5W4-9C1-GFW) In the passenger compartment, left front, within instrument panel, approximately 13 cm from breakout to K60 Steering Column Lock Module • (GFW) In the passenger compartment, center, within instrument panel, in breakout to B10B Ambient Light/Sunload Sensor	—	—
J243	Instrument Panel Harness	—	In the passenger compartment, front center, within instrument panel, in breakout to inline connector X270	—	—
J244	Instrument Panel Harness	—	In the passenger compartment, front center, within instrument panel, approximately 12 cm from breakout to T4T Wireless Communication Antenna - WLAN	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J245	Instrument Panel Harness	—	In the passenger compartment, front center, within instrument panel, approximately 5 cm from breakout to S26 Hazard Warning Switch	—	—
J246	Instrument Panel Harness	—	• (5W4/9C1/GFW) In the passenger compartment, left front, between breakout to K60 Steering Column Lock Module and breakout to B10B Ambient Light/Sunload Sensor • (5W4-9C1-GFW) In the passenger compartment, front center, within instrument panel, between breakout to S38 Ignition Mode Switch and breakout to E1G Accent Lamp - Left Instrument Panel	—	—
J247	Instrument Panel Harness	—	In the passenger compartment, front center, within instrument panel, between breakout to X51R Fuse Block - Instrument Panel - Right X3 and breakout to inline connectors X256 and X255	—	—
J248	Instrument Panel Harness	—	In the passenger compartment, front right, within instrument panel, between breakout to B10B Ambient Light/Sunload Sensor and breakout to inline connector X270	—	—
J249	Instrument Panel Harness	—	In the passenger compartment, front right, within instrument panel, between breakout to B10B Ambient Light/Sunload Sensor and breakout to inline connector X270	—	—
J250	Instrument Panel Harness	—	• (-GFW) In the passenger compartment, front right, within instrument panel, between breakout to X51R Fuse Block - Instrument Panel Right X2 and breakout to inline connector X270 • (GFW) In the passenger compartment, right of center, within instrument panel, between breakout to P19W Speaker - Right Instrument Panel and breakout to inline connector X270	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J251	Instrument Panel Harness	—	In the passenger compartment, front right, within instrument panel, between breakout to X51R Fuse Block - Instrument Panel Right X2 and breakout to inline connector X270	—	—
J252	Instrument Panel Harness	—	In the passenger compartment, front right, within instrument panel, between breakout to X51R Fuse Block - Instrument Panel Right X2 and breakout to inline connector X270	—	—
J253	Instrument Panel Harness	—	• (-GFW) In the passenger compartment, front right, within instrument panel, between breakout to X51R Fuse Block - Instrument Panel Right X2 and breakout to inline connector X270 • (GFW) In the passenger compartment, front right, within instrument panel, between breakout to B10B Ambient Light/Sunload Sensor and breakout to inline connector X270	—	—
J254	Instrument Panel Harness	—	In the passenger compartment, front right, within instrument panel, in breakout towards S126 Driver Mode Select Switch, S76 Trailer Brake Control Switch, B30 Headlamp Switch, B80 Park Brake Switch, S27 Head-Up Display Switch, and S48C Multifunction Switch 1 - Instrument Panel	—	—
J261	Body Harness	—	In the passenger compartment, right front, within instrument panel, approximately 18 cm from breakout to grommet in bulkhead	—	—
J262	Body Harness	—	• (SWB-5W4-9C1) In the passenger compartment, right front, within instrument panel, approximately 29 cm from breakout to grommet in bulkhead • (LWB) In the passenger compartment, right front, within instrument panel, approximately 36 cm from breakout to grommet in bulkhead	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J263	Body Harness	—	• (SWB-5W4-9C1) In the passenger compartment, right front, within instrument panel, approximately 36 cm from breakout to grommet in bulkhead • (5W4/9C1/LWB) In the passenger compartment, right front, within instrument panel, approximately 29 cm from breakout to grommet in bulkhead	—	—
J264	Body Harness	—	• (GMC SWB) In the passenger compartment, right front, within instrument panel, approximately 51 cm from breakout to grommet in bulkhead • (SWB-5W4-9C1) In the passenger compartment, right center, in harness channel near right B-pillar, approximately 5 cm from breakout towards the passenger seat, towards the rear of the vehicle • (LWB) In the passenger compartment, right side, approximately 13 cm from breakout to ground G328, towards the front of the vehicle	—	—
J265	Body Harness	—	In the passenger compartment, right front, within instrument panel, approximately 57 cm from breakout to grommet in bulkhead	—	—
J266	Body Harness	—	In the passenger compartment, right front, within instrument panel, approximately 6 cm from breakout to X51R Fuse Block - Instrument Panel Right X1, towards the rear of the vehicle	—	—
J267	Body Harness	—	In the passenger compartment, right front, approximately 19 cm from breakout to X51R Fuse Block - Instrument Panel Right	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J268	Body Harness	—	• (SWB-5W4-9C1) In the passenger compartment, right front, within instrument panel, approximately 3 cm from breakout to inline connector X218, towards the rear of the vehicle • (LWB) In the passenger compartment, right front, approximately 19 cm from breakout to X51R Fuse Block - Instrument Panel Right	—	—
J300	Floor Console	—	• (DCH) In the passenger compartment, front center, beneath floor console, approximately 5 cm from breakout to inline connector X300 • (D07) In the passenger compartment, front center, beneath floor console, approximately 18 cm from breakout to inline connector X300 • (DCK) In the passenger compartment, front center, beneath floor console, between breakout towards S15 Center Console Compartment Cooler Switch and Auxiliary Audio Input 2 and breakout to inline connectors X255 and X256	—	—
J301	Floor Console	—	• (DCH) In the passenger compartment, front center, beneath floor console, approximately 18 cm from breakout to Sliding Floor Console Module • (D07) In the passenger compartment, front center, beneath floor console, approximately 20 cm from breakout to inline connector X300 • (DCK) In the passenger compartment, front center, beneath floor console, approximately 20 cm from breakout to inline connector X300	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J302	Floor Console	—	• (DCH) In the passenger compartment, front center, beneath floor console, approximately 14 cm from breakout to B101 Immobilizer Antenna • (D07) In the passenger compartment, front center, beneath floor console, approximately 5 cm from breakout to auxiliary audio input 2 • (DCK) In the passenger compartment, front center, beneath floor console, approximately 14 cm from breakout to inline connector X301	—	—
J303	Floor Console	D07	• (D07) In the passenger compartment, front center, beneath floor console, approximately 29 cm from breakout to inline connector X300 • (DCK) In the passenger compartment, front center, beneath floor console, approximately 30 cm from breakout to inline connector X301	—	—
J304	Floor Console	D07	In the passenger compartment, front center, beneath floor console, approximately 48 cm from breakout to inline connector X300	—	—
J305	Floor Console	—	• (D07) In the passenger compartment, front center, beneath floor console, approximately 50 cm from breakout to inline connector X300 • (DCK) In the passenger compartment, front center, beneath floor console, between breakout towards S15 Center Console Compartment Cooler Switch and Auxiliary Audio Input 2 and breakout to inline connectors X255 and X256	—	—
J306	Auxiliary HVAC Harness	—	In the passenger compartment, front center, beneath floor console, within Auxiliary HVAC harness	—	—
J307	Auxiliary HVAC Harness	—	In the passenger compartment, front center, beneath floor console, within Auxiliary HVAC harness	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J308	Auxiliary HVAC Harness	—	In the passenger compartment, front center, beneath floor console, within Auxiliary HVAC harness	—	—
J309	Auxiliary HVAC Harness	—	In the passenger compartment, front center, beneath floor console, within Auxiliary HVAC harness	—	—
J310	Driver Seat Harness	A45/AUN	In the passenger compartment, left front, within driver seat	—	—
J311	Driver Seat Harness	A45/AVU	In the passenger compartment, left front, within driver seat	—	—
J312	Driver Seat Harness	AVK	In the passenger compartment, left front, within driver seat	—	—
J313	Driver Seat Harness	—	In the passenger compartment, left front, within driver seat	—	—
J314	Driver Seat Harness	—	In the passenger compartment, left front, within driver seat	—	—
J320	Passenger Seat Harness	UW9	In the passenger compartment, right front, within passenger seat	—	—
J321	Passenger Seat Harness	UW9	In the passenger compartment, right front, within passenger seat	—	—
J329	Body Harness	LWB	In the passenger compartment, left middle, in harness channel near left B-pillar, in breakout towards inline connector X310	—	—
J331	Body Harness	—	In the passenger compartment, front center, beneath floor console, approximately 10 cm from breakout to ground G326, towards the right side of the vehicle	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J332	Body Harness	—	• (SWB) In the passenger compartment, front center, beneath floor console, left of breakout to K36 Inflatable Restraint Sensing and Diagnostic Module • (SWB-5W4-9C1) In the passenger compartment, right center, in harness channel near right B-pillar, approximately 10 cm from breakout towards the passenger seat, towards the rear of the vehicle • (LWB) In the passenger compartment, right side, approximately 8 cm from breakout to ground G328, towards the front of the vehicle	—	—
J334	Body Harness	—	In the passenger compartment, front center, beneath floor console, left of breakout to K36 Inflatable Restraint Sensing and Diagnostic Module X1	—	—
J335	Body Harness	—	• (SWB-5W4-9C1) In the passenger compartment, left middle, in harness channel near B-pillar, between breakout to ground G325 and breakout to inline connector X310 • (LWB) In the luggage compartment, left front, approximately 10 cm from breakout to T3 Audio Amplifier, ground G325 • (5W4/9C1) In the passenger compartment, left rear, approximately 54 cm from breakout to F112D Seat Belt Retractor Pretensioner - Driver	—	—
J336	Body Harness	5W4/9C1	In the passenger compartment, front center, beneath floor console, approximately 26 cm from breakout to ground G326, towards the right side of the vehicle	—	—
J337	Body Harness	5W4/9C1	In the passenger compartment, front center, beneath floor console, between breakout to K36 Inflatable Restrating Sensing and Diagnostic Module connector X2 and breakout to provisional blunt cut wires	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J338	Body Harness	5W4/9C1	In the passenger compartment, left front, in harness channel near left B-pillar, between breakout towards driver seat and breakout to ground G325	—	—
J339	Body Harness	5W4/9C1	In the passenger compartment, left front, in harness channel near left B-pillar, between breakout towards driver seat and breakout to ground G325	—	—
J340	Body Harness	5W4/9C1	In the passenger compartment, left front, in harness channel near left B-pillar, between breakout towards driver seat and breakout to ground G325	—	—
J341	Body Harness	5W4/9C1	In the passenger compartment, left rear, between breakout to ground G325 and breakout to F113D Seat Belt Anchor Pretensioner - Driver	—	—
J342	Body Harness	5W4/9C1	In the passenger compartment, left rear, between breakout to ground G325 and breakout to F113D Seat Belt Anchor Pretensioner - Driver	—	—
J343	Body Harness	5W4/9C1	In the passenger compartment, left rear, between breakout to ground G325 and breakout to F113D Seat Belt Anchor Pretensioner - Driver	—	—
J344	Body Harness	5W4/9C1	In the passenger compartment, left rear, approximately 3 cm from breakout to F113D Seat Belt Anchor Pretensioner - Driver, towards the rear of the vehicle	—	—
J345	Body Harness	5W4/9C1	In the passenger compartment, left rear, approximately 7 cm from breakout to F113D Seat Belt Anchor Pretensioner - Driver, towards the rear of the vehicle	—	—
J346	Body Harness	5W4/9C1	In the passenger compartment, left rear, approximately 10 cm from breakout to F113D Seat Belt Anchor Pretensioner - Driver, towards the rear of the vehicle	—	—
J347	Body Harness	5W4/9C1	In the passenger compartment, left rear, approximately 4 cm from breakout to F112D Seat Belt Retractor Pretensioner - Driver, towards the rear of the vehicle	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J348	Body Harness	5W4/9C1	In the passenger compartment, left rear, approximately 7 cm from breakout to F112D Seat Belt Retractor Pretensioner - Driver, towards the rear of the vehicle	—	—
J349	Body Harness	5W4/9C1	In the passenger compartment, left rear, approximately 10 cm from breakout to F112D Seat Belt Retractor Pretensioner - Driver, towards the rear of the vehicle	—	—
J350	Body Harness	5W4/9C1	In the passenger compartment, left rear, approximately 14 cm from breakout to F112D Seat Belt Retractor Pretensioner - Driver, towards the rear of the vehicle	—	—
J351	Body Harness	—	In the passenger compartment, left side, approximately 10 cm from breakout to inline connector X320	—	—
J352	Body Harness	5W4/9C1	In the passenger compartment, left rear, approximately 17 cm from breakout to F112D Seat Belt Retractor Pretensioner - Driver, towards the rear of the vehicle	—	—
J357	Body Harness	—	• (SWB) In the passenger compartment, front center, beneath floor console, approximately 5 cm from breakout to Speaker - Subwoofer Front • (LWB) In the passenger compartment, right front, approximately 9 cm from breakout to inline connector X300, towards the right side of the vehicle	—	—
J358	Body Harness	—	• (SWB-5W4-9C1) In the passenger compartment, front center, beneath floor console, approximately 5 cm from breakout to Speaker - Subwoofer Front • (LWB) In the passenger compartment, right front, approximately 16 cm from breakout to inline connector X300, towards the right side of the vehicle	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J359	Body Harness	—	In the passenger compartment, left middle, in harness channel near B-pillar, approximately 5 cm from breakout to inline connector X310, towards the rear of the vehicle	—	—
J360	Body Harness	-5W4-9C1	In the passenger compartment, left middle, approximately 10 cm from breakout to F112D Seat Belt Retractor Prentensioner - Driver, towards the rear of the vehicle	—	—
J361	Body Harness	—	• (SWB) In the passenger compartment, front center, approximately 10 cm from breakout to inline connector X300 • (LWB) In the passenger compartment, center, between passenger seat and floor console, between breakout to inline connector X301 and breakout to inline connector X320 • (5W4/9C1) In the passenger compartment, front center, approximately 5 cm from breakout to inline connector X300	—	—
J362	Body Harness	UW9	In the passenger compartment, right front, approximately 4 cm from breakout to G327, towards the front of the vehicle	—	—
J365	Right 2nd Row Seat Harness	ATN/ATT/KA6	In the passenger compartment, right center, within Right 2nd Row Seat	—	—
J370	Chassis Harness	—	• (LWB) Underneath the vehicle, right side, between breakout to ground G330 and breakout to inline connector X337 • (SWB) Underneath the vehicle, right middle, less than 12 cm from breakout to inline connector X337, towards rear of the vehicle	*Chassis Harness Routing - Front*	—
J371	Chassis Harness	—	Underneath the vehicle, right side, between breakout to ground G330 and breakout to inline connector X337	*Chassis Harness Routing - Front*	—
J372	Chassis Harness	—	Under the vehicle, right side, between breakout to B5RF Wheel Speed Sensor - Right Front and breakout to ground G330	*Chassis Harness Routing - Front*	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J373	Chassis Harness	LM2	Underneath the vehicle, right middle, approximately 22 cm from breakout to K4 Assist Step Control Module, towards the front of the vehicle	—	—
J374	Chassis Harness	LM2	Underneath the vehicle, right middle, approximately 17 cm from breakout to K4 Assist Step Control Module, towards the front of the vehicle	—	—
J380	Headliner Harness	—	• (C3U) In the passenger compartment, right front, behind passenger A-pillar trim, approximately 15 cm above harness channel • (-C3U) In the passenger compartment, left front, above headliner, between breakout to A10 Inside Rearview Mirror and breakout to E31L Sunshade Mirror Lamp - Left	—	—
J381	Headliner Harness	—	In the passenger compartment, front center, above headliner, between breakout to A98 Front Overhead Console and breakout to E31R Sunshade Mirror Lamp - Right	—	—
J382	Headliner Harness	C3U	In the passenger compartment, front center, above headliner, between breakout to A98 Front Overhead Console and breakout to E31R Sunshade Mirror Lamp - Right	—	—
J383	Headliner Harness	—	• (C3U) In the passenger compartment, front center, above headliner, approximately 6 cm from breakout to A10 Inside Rearview Mirror • In the passenger compartment, right front, behind passenger A-pillar trim, near the right front corner of the headliner (-C3U)	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J400	Body Harness	—	• (SWB-5W4-9C1) In the luggage compartment, left front, approximately 21 cm from the breakout to S143L Folding Seat Control Switch - 2nd Row Left, towards the rear of the vehicle • (LWB) In the luggage compartment, left side, approximately 4 cm from breakout to K38 Chassis Control Module • (5W4/9C1) In the luggage compartment, left rear, approximately 8 cm from breakout to X63A Junction Block - Rear Body	—	—
J401	Body Harness	—	In the passenger compartment, left middle, approximately 5 cm from breakout to F112D Seat Belt Retractor Prentensioner - Driver, towards the rear of the vehicle	—	—
J402	Body Harness	—	• (SWB) In the luggage compartment, left side, in breakout of harness going towards T3 Audio amplifier and/or K157 Video Processing Control Module • (LWB) In the luggage compartment, left side, approximately 68 cm from breakout to T3 Audio Amplifier, towards the rear of the vehicle	—	—
J403	Body Harness	—	• (SWB-5W4-9C1) In the luggage compartment, left side, approximately 8 cm from breakout to K77 Remote Control Door Lock Receiver, towards the rear of the vehicle • (LWB) In the luggage compartment, right front, approximately 10 cm from breakout to X92BCR USB Receptacle - 3rd Row Seat Right, towards the rear of the vehicle	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J404	Body Harness	—	• (SWB-5W4-9C1) In the luggage compartment, left side, approximately 12 cm from breakout to K77 Remote Control Door Lock Receiver, towards the rear of the vehicle • (LWB) In the luggage compartment, left side, approximately 82 cm from breakout to T3 Audio Amplifier, towards the rear of the vehicle	—	—
J405	Body Harness	—	• (SWB-5W4-9C1) In the luggage compartment, left side, approximately 4 cm from breakout to USB Receptacle - 3rd Row Left, towards the rear of the vehicle • (LWB) In the luggage compartment, left front, approximately 23 cm from breakout to T3 Audio Amplifier, towards the rear of the vehicle	—	—
J407	Body Harness	—	• (SWB) In the luggage compartment, left rear, in breakout to X53A Fuse Block - Rear body • (LWB) In the luggage compartment, right front, approximately 47 cm from breakout to X92BCR USB Receptacle - 3rd Row Seat Right, towards the front of the vehicle	—	—
J408	Body Harness	—	In the luggage compartment, left rear, approximately 6 cm from breakout to F105L Roof Rail Air Bag - Left , towards the front of the vehicle	—	—
J409	Body Harness	—	In the luggage compartment, left rear, approximately 45 cm from breakout to F105L Roof Rail Air Bag - Left , towards the rear of the vehicle	—	—
J415	Body Harness	5W4/9C1	In the luggage compartment, left rear, approximately 9 cm from breakout to K77 Remote Control Door Lock Receiver, towards the rear of the vehicle	—	—
J416	Body Harness	5W4/9C1	In the luggage compartment, left rear, approximately 13 cm from breakout to K77 Remote Control Door Lock Receiver, towards the rear of the vehicle	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J417	Body Harness	5W4/9C1	In the luggage compartment, left rear, approximately 4 cm from breakout to USB Receptacle - 3rd Row Left, towards the rear of the vehicle	—	—
J425	Body Harness	—	• (SWB-5W4-9C1) In the luggage compartment, right front, approximately 44 cm from breakout to X92BCR USB Receptacle - 3rd Row Seat Right, towards the front of the vehicle • (LWB) In the luggage compartment, right front, approximately 12 cm from breakout to S143R Folding Seat Control Switch - 2nd Row, towards the rear of the vehicle	—	—
J426	Body Harness	-5W4-9C1	In the luggage compartment, right front, approximately 35 cm from breakout to X92BCR USB Receptacle - 3rd Row Seat Right, towards the front of the vehicle	—	—
J427	Body Harness	—	• (SWB-5W4-9C1) In the luggage compartment, right front, approximately 23 cm from breakout to X92BCR USB Receptacle - 3rd Row Seat Right, towards the front of the vehicle • (LWB) In the luggage compartment, right front, approximately 22 cm from breakout to S143R Folding Seat Control Switch - 2nd Row, towards the rear of the vehicle	—	—
J428	Body Harness	—	In the passenger compartment, right middle, approximately 5 cm from breakout to F113P Seat Belt Anchor Prentesioner - Passenger, towards the rear of othe vehicle	—	—
J429	Body Harness	—	In the luggage compartment, right front, approximately 11 cm from breakout to X92BCR USB Receptacle - 3rd Row Seat Right, towards the rear of the vehicle	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J430	Body Harness	—	• (SWB) In the luggage compartment, right front, approximately 14 cm from breakout to X92BCR USB Receptacle - 3rd Row Seat Right, towards the rear of the vehicle • (LWB) In the luggage compartment, right front, approximately 26 cm from breakout to X92BCR USB Receptacle - 3rd Row Seat Right, towards the rear of the vehicle	—	—
J431	Body Harness	—	• (SWB-5W4-9C1) In the luggage compartment, right rear, approximately 19 cm from breakout to inline connector X419, towards the rear of the vehicle • (LWB) In the luggage compartment, right rear, approximately 21 cm from breakout to B159R Glass Breakage Sensor - Right	—	—
J432	Body Harness	5W4/9C1	In the luggage compartment, right front, approximately 70 cm from breakout to B63RR Side Impact Sensor - Right Rear, towards the rear of the vehicle	—	—
J433	Body Harness	5W4/9C1	In the luggage compartment, right front, approximately 80 cm from breakout to B63RR Side Impact Sensor - Right Rear, towards the rear of the vehicle	—	—
J434	Body Harness	5W4/9C1	In the luggage compartment, right front, approximately 90 cm from breakout to B63RR Side Impact Sensor - Right Rear, towards the rear of the vehicle	—	—
J435	Body Harness	5W4/9C1	In the luggage compartment, right front, approximately 100 cm from breakout to B63RR Side Impact Sensor - Right Rear, towards the rear of the vehicle	—	—
J440	Row 3 Seat Harness	AS8	In passenger compartment, rear, beneath 3rd row seat cushion	—	—
J441	Row 3 Seat Harness	AS8	In passenger compartment, rear, beneath 3rd row seat cushion	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J450	Chassis Harness	—	Under the vehicle, right rear, approximately 5 cm from breakout to ground G404	—	—
J451	Chassis Harness	—	Under the vehicle, rear middle, approximately 41 cm from harness channel breakout at the right rear side of the vehicle, towards the left side of the vehicle	*Chassis Harness Routing - Rear*	—
J452	Chassis Harness	—	Under the vehicle, right rear, approximately 23 cm from breakout to E42R Tail Lamp Assembly - Right	*Chassis Harness Routing - Rear*	—
J453	Chassis Harness	—	Under the vehicle, right rear, approximately 23 cm from breakout to E42R Tail Lamp Assembly - Right	—	—
J454	Chassis Harness	—	Under the vehicle, right rear, approximately 19 cm from breakout to E42R Tail Lamp Assembly - Right	*Chassis Harness Routing - Rear*	—
J500	Driver Door Harness	—	Left side of the vehicle, within driver door, in harness channel at the front of the door	—	—
J501	Driver Door Harness	—	Left side of the vehicle, within driver door, approximately 11 cm from breakout to M74D Window Motor - Driver	—	—
J505	Driver Door Trim Harness	—	left side of the vehicle, within driver door, approximately 5 cm from breakout to inline connector X500, towards the rear of the vehicle	—	—
J506	Driver Door Trim Harness	—	Left side of the vehicle, within driver door, approximately 7 cm from breakout to S47D Seat Memory Switch - Driver, towards the rear of the vehicle	—	—
J507	Driver Door Trim Harness	—	Left side of the vehicle, within driver door, approximately 8 cm from breakout to S47D Seat Memory Switch - Driver, towards the rear of the vehicle	—	—
J510	Driver Outside Rearview Mirror Harness	—	Left side of the vehicle, within driver outside rearview mirror, within driver outside rearview mirror harness	—	—
J600	Passenger Door Harness	—	Right side of the vehicle, within passenger door, front of door, in breakout to inline connector X600	—	—
J601	Passenger Door Harness	—	Right side of the vehicle, within passenger door, approximately 11 cm from breakout to P19AH Speaker - Right Front Door	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J605	Passenger Door Trim Harness	—	Right side of the vehicle, within the passenger door, approximately 5 cm from breakout to inline connector X605	—	—
J606	Passenger Door Trim Harness	—	Right side of the vehicle, within the passenger door, in breakout to S79P Window Switch - Passenger	—	—
J610	Passenger Outside Rearview Mirror Harness	—	Right side of the vehicle, within passenger outside rearview mirror, within passenger outside rearview mirror harness	—	—
J700	Left Rear Door Harness	—	• Left side of the vehicle, within left rear door, approximately 10 cm from breakout to inline connector X700 (SWB) • Left side of the vehicle, within left rear door, between breakout to M74LR Window Motor - Left Rear and breakout A23LR Door Latch Assembly - Left Rear (LWB)	—	—
J701	Left Rear Door Harness	—	• Left side of the vehicle, within left rear door, approximately 10 cm from breakout to P19AL Speaker - Left Rear Door (SWB) • Left side of the vehicle, within left rear door, in breakout to A23LR Door Latch Assembly - Left Rear (LWB)	—	—
J702	Left Rear Door Harness	—	• Left side of the vehicle, within left rear door, approximately 14 cm from breakout to M74LR Window Motor - Left Rear (SWB) • Left side of the vehicle, within left rear door, approximately 10 cm from breakout to inline connector X700 (LWB)	—	—
J705	Left Rear Door Trim Harness	—	Left side of the vehicle, within left rear door, in breakout to E55LR Flood Lamp - Left Rear Door Pocket	—	—
J706	Left Rear Door Trim Harness	—	Left side of the vehicle, within left rear door, in breakout to E55LR Flood Lamp - Left Rear Door Pocket	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J800	Right Rear Door Harness	—	• Right side of the vehicle, within right rear door, approximately 10 cm from breakout to inline connector X800, in harness channel (LWB) • Right side of the vehicle, within right rear door, approximately 10 cm from breakout to P19AM Speaker - Right Rear Door (SWB)	—	—
J801	Right Rear Door Harness	—	• Right side of the vehicle, within right rear door, approximately 15 cm from breakout to M74RR Window Motor - Right Rear (LWB) • Right side of the vehicle, within right rear door, approximately 10 cm from breakout to inline connector X800, in harness channel (SWB)	—	—
J802	Right Rear Door Harness	—	• Right side of the vehicle, within right rear door, approximately 14 cm from breakout to A24RR Door Handle Assembly - Right Rear Exterior (LWB) • Right side of the vehicle, within right rear door, approximately 14 cm from breakout to M74RR Window Motor - Right Rear (SWB)	—	—
J805	Right Rear Door Trim Harness	—	Right side of the vehicle, within right rear door, approximately 8 cm from breakout to S79RR Window Switch - Right Rear	—	—
J806	Right Rear Door Trim Harness	—	Right side of the vehicle, within right rear door, approximately 9 cm from breakout to S79RR Window Switch - Right Rear	—	—
J901	Liftgate Harness	—	At the rear of the vehicle, within the liftgate, left upper, approximately 16 cm from breakout to E18 Rear Defogger Grid X2	—	—
J902	Liftgate Harness	—	At the rear of the vehicle, within the liftgate, left upper, approximately 23 cm from breakout to E18 Rear Defogger Grid X2	—	—
J903	Liftgate Harness	—	At the rear of the vehicle, within the liftgate, left upper, approximately 43 cm from breakout to E18 Rear Defogger Grid X2	—	—

Master Electrical Component List (cont'd)

Code	Name	Option	Location	Locator View	Connector End View
J904	Liftgate Harness	—	At the rear of the vehicle, within the liftgate, left upper, approximately 11 cm from breakout to E18 Rear Defogger Grid X2	—	—
J910	Liftgate Extension Harness	—	At the rear of the vehicle, within the liftgate, in breakout to S141 Liftgate Window Unlatch Switch	—	—
J925	Rear Fascia Harness	—	At the rear of the vehicle, attached to the inside of the rear fascia, right side, between breakout to B306H Parking Assist Sensor - Rear Right Outer and breakout to B306G Parking Assist Sensor - Rear Right Middle	—	—
J926	Rear Fascia Harness	—	At the rear of the vehicle, attached to the inside of the rear fascia, right side, between breakout to B306H Parking Assist Sensor - Rear Right Outer and breakout to B306G Parking Assist Sensor - Rear Right Middle	—	—
J927	Rear Fascia Harness	—	At the rear of the vehicle, attached to the inside of the rear fascia, right side, between breakout to B306H Parking Assist Sensor - Rear Right Outer and breakout to B306G Parking Assist Sensor - Rear Right Middle	—	—
J928	Rear Fascia Harness	—	At the rear of the vehicle, attached to the inside of the rear fascia, center, between breakout to B306G Parking Assist Sensor - Rear Right Middle and breakout to B306F Parking Assist Sensor - Rear Left Middle	—	—
J931	Rear Fascia Harness	—	At the rear of the vehicle, attached to the inside of the rear fascia, right side, between breakout to B306F Parking Assist Sensor - Rear Left Middle and breakout to B306E Parking Assist Sensor - Rear Left Outer	—	—
J932	Rear Fascia Harness	—	At the rear of the vehicle, attached to the inside of the rear fascia, right side, between breakout to B306F Parking Assist Sensor - Rear Left Middle and breakout to B306E Parking Assist Sensor - Rear Left Outer	—	—

Description and Operation

Power Mode Description and Operation

Serial Data Power Mode Master

The K9 Body Control Module (BCM) is the Power Mode Master (PMM) and the K56 Serial Data Gateway Module (CGM) is the Back-Up Power Mode Master (BPMM).

The Power Mode Master uses various vehicle status conditions and inputs to determine the desired vehicle power mode state. The Power Mode (Off, Accessory, Run, Propulsion, Start) is communicated to other modules via Serial Data and other electrical signals in order to provide the proper feature operation for the appropriate power mode.

If the Power Mode Master cannot control or determine the correct Power Mode, the Backup Power Mode Master (BPMM) will take over and become the vehicle Power Mode Master and place the vehicle into the proper Power Mode by communicating with other modules via Serial Data to provide the proper electrical signals to provide the proper feature operation for the appropriate power mode.

S38 On/Off Vehicle Switch

There are 5 power modes to convey driver intent:

- OFF – A low power mode that allows maximum stand time until next start
- ACCY – Allows use of certain features that require operator authorization (Power windows for example). Propulsion is specifically disallowed.
- RUN – All features enabled except propulsion (motive force)
- PROPULSION – All features enabled
- START - This will transition to PROPULSION, including turning off non-essential loads to provide additional power for starting.

Power Mode States

Customer Action	Expected Vehicle Power Mode	S38 Vehicle On/Off Switch BCM Scan Tool Parameter	S38 Vehicle On/Off Switch Voltages
Vehicle OFF, S38 On/Off Vehicle Switch not pressed, Transmitter in Range	Vehicle Off Mode	Inactive	1.4 – 3.0 V (Switch Pressed) 3.35 – 4.26 V (Switch Released) 4.5 — 5.0 V (Switch Disconnected)
Vehicle OFF, S38 On/Off Vehicle Switch not pressed, Transmitter out of Range/Away from vehicle	Vehicle Off Mode	Inactive	
Vehicle in any Power Mode EXCEPT OFF, then Press the S38 On/Off Vehicle Switch Foot On or Off the Brake Pedal, Transmitter in Vehicle	Vehicle Off Mode	Active (pushed) / Inactive (not pushed)	
Vehicle in Propulsion Mode, momentarily Press and release the S38 On/Off Vehicle Switch Foot On or Off the Brake Pedal, Transmitter out of Range/ Away from vehicle	Run Mode, With DIC Message No Remote Detected Press Brake to Restart	Active (pushed) Inactive (not pushed)	
Vehicle Off Power Mode, then Press the S38 On/ Off Vehicle Switch for less than 5 s with foot Off the Brake Pedal; Transmitter in Vehicle	Vehicle Accessory Mode	Active (pushed) / Inactive (not pushed)	
Vehicle Off Power Mode, then S38 On/Off Vehicle Switch with foot On the Brake Pedal; Transmitter in Vehicle	Vehicle Start/ Propulsion Mode (vehicle cranks then engine running) power mode timeout is enabled	Active (pushed) / Inactive (not pushed)	
Vehicle OFF Power Mode, then Press and Hold the S38 On/Off Vehicle Switch for 5 s with foot Off the Brake Pedal; Transmitter in Vehicle	Vehicle Run Mode (Ignition ON without the engine running)	Active (pushed) / Inactive (not pushed)	
Vehicle OFF Power Mode, then Press and Hold the S38 On/Off Vehicle Switch for 5 s with foot Off the Brake Pedal; Transmitter in Vehicle	Vehicle Start/ Propulsion Mode (vehicle cranks then engine running) power mode timeout is disabled	Active (pushed) / Inactive (not pushed)	
Vehicle Propulsion Mode with vehicle speed detected above 4 km/h (2.5 MPH) press and hold S38 On/Off Vehicle Switch for 2 s or press and release it 2 times within 5 S.	Vehicle will transition from Propulsion Mode to Run Mode (Ignition On Engine Off).	Active (pushed) / Inactive (not pushed)	
NOTE: If the transmitter is not moved for more than 1 hour it will become inactive.			

Service Mode

Service Mode is the Run Power Mode with power mode timeout disabled. This can only be done with the Service Tool.

Automatic Power Mode Timeouts

Note: If the Transmitter/Fob remains stationary and is not moved for one hour, it will go to sleep and may create a fob not in range condition.

This system is designed to prevent batteries from going dead in the event the ignition is left on while unattended, it is also designed to shut the vehicle off if left running unattended. After a Power Mode timeout, the Power Mode Master is responsible for shutting down the engine or transitioning the vehicle into the low parasitic sleep state “OFF” Power Mode. This Power Mode timeout strategy uses Vehicle Speed, Vehicle Power Mode, Parked Status and other Vehicle Conditions to make the timeout determination.

Accessory Power Mode

The Accessory Power Mode will timeout after approximately 5 minutes. The timer will Start once the system has determined it is in the Accessory Power Mode status. After the timer expires the Power Mode will change to the OFF Power Mode.

Run Power Mode

if the conditions listed below are met the Run Power Mode will timeout after approximately 40 minutes if the transmitter is in range, or 20 minutes if the transmitter is out of range. The timer will Start once the system has determined it is in the Run Power Mode status and all of the following conditions are met. After the timer expires the Power mode will change to OFF Power Mode.

- Vehicle in Run Mode (Vehicle powered up S38 On/Off Vehicle Switch Green indicator on Engine Off)
- Propulsion is Inactive
- Vehicle in Park.
- Vehicle Speed is 0 KM/MPH.
- Fast Idle is Inactive (If Equipped).
- PTO Remote Start Status is inactive (If Equipped).
- Particulate Filter Cleaning Status is Inactive (if Equipped)

If any of the above conditions are not met and/or if there is a change in the Brake Pedal or Clutch Pedal status, the Run Mode timeout timer will be disabled, and the timer will restart after all of the conditions are met again.

Propulsion Power Mode

If the following conditions listed below are met the Propulsion Power Mode will timeout after approximately 30 minutes if the transmitter is in range, or 15 minutes if the transmitter is out of range. The timer will Start once the system has determined it is in the Propulsion Power Mode status and all of the following conditions are met. After he timer expires the Power mode will change to the OFF Power Mode.

- Vehicle in Propulsion Mode (Engine Running or Propulsion Active).
- Vehicle in Park.
- Vehicle Speed is 0 KM/MPH.
- Fast Idle is Inactive (If Equipped).
- PTO Remote Start Status is inactive (If Equipped).
- Particulate Filter Cleaning Status is Inactive (if Equipped)

If any of the above conditions are not met and/or if there is a change in the Brake Pedal or Clutch Pedal status, the Propulsion Mode timeout timer will be disabled, and the timer will restart after all of the conditions are met again.

Relay Controlled Power Mode

The BCM uses discrete push button switch inputs, transmitter in range status, current power mode state, and brake pedal position state to distinguish the correct power mode (Off, Accessory Mode, Run Mode, Start/Propulsion Mode). The BCM, after determining the desired power mode, will activate the appropriate relays for that power mode.

The retained accessory power relay remains on for a timed period after the Ignition Mode is OFF. Refer to *Retained Accessory Power Description and Operation on page 6-687* for more information on the retained accessory power function.

Push Button Start

The ignition mode switch has 2 LEDs that indicate the vehicle power mode Amber for Accessory Mode and Green for Run or Start/Propulsion Modes. When the vehicle is in the OFF mode, both LED’s will be OFF. Momentarily pressing the S38 On/Off Vehicle Switch button once, brake pedal not applied, the vehicle will enter into the Accessory Mode and the Amber LED will illuminate. The Accessory Mode will timeout after approximately 5 min to help reduce battery drain. With the ignition OFF, brake pedal not pressed, then pressing and holding the S38 On/Off Vehicle Switch for 5 s will place the vehicle in Run Mode (Ignition ON without the engine running). The vehicle will stay powered up for approximately 40 minutes if the transmitter is in range, or 20 minutes if the transmitter is out of range, and the Green LED will illuminate.

With the ignition OFF brake pedal pressed, then press and release the iS38 On/Off Vehicle Switch, the vehicle will enter Start/Propulsion Mode and the Green LED will illuminate, the engine will crank and the engine will be running. The Propulsion Mode will timeout after approximately 30 minutes if the transmitter is in range, or 15 minutes if the transmitter is out of range. The timer will stop when the vehicle is shifted out of PARK or the brake pedal is pressed and released, the timer will reset after the vehicle is placed back in PARK with the engine running.

Both LED’s have the voltage supplied from the body control module (BCM). The ignition mode switch sends the ignition mode switch status to the passive entry passive start module (PEPS) and to the BCM. The PEPS module sends a redundant signal to the BCM with the ignition mode switch status.

Transport Mode

Transport Mode is designed to reduce the parasitic load of some modules during shipping and/or during vehicle storage. Some features may be disabled or have reduced functionality while Transport Mode is ON.

Transport Mode is enabled and disabled by Turning the hazard flashers ON, apply and hold the brake pedal, then press and hold the ignition mode switch for greater than 15 s. For vehicles equipped with a DIC a message Transport Mode On when it is enabled and Transport Mode Off when it is disabled will be displayed for a predetermined amount of time. For vehicles equipped without a DIC, the battery indicator light will constantly flash on the Instrument Cluster when Transport Mode is enabled.

Battery Saver Mode

There are 7 different Battery Saver Modes. Battery Saver Modes 1 to 3 occur in Accessory and Run Power Modes (vehicle on engine off) if the battery voltage drops below approximately 11.5 V. Battery Saver Modes 4 to 7 occur in the Off Power Mode only. Battery Saver Modes 4 to 7 may set DTC's.

- Battery Saver Mode 1: DIC message "Battery Low, Start Vehicle", 4 chimes
- Battery Saver Mode 2: DIC message "Battery Low, Start Vehicle", Load Shed Level 3 is activated
- Battery Saver Mode 3: DIC message "Battery Low, Start Vehicle", Radio/Infotainment shut off, Load Shed Level 3 active
- Battery Saver Mode 4: Battery Saver Mode Ignition Off – Parasitic Current draw of 100 mA or greater
- Battery Saver Mode 5: Battery Saver Mode Ignition Off – Parasitic Current draw of 1 A or greater
- Battery Saver Mode 6: Battery Saver Mode Ignition Off – Battery Voltage less than 12.0 V
- Battery Saver Mode 7: Battery Saver Mode Ignition Off – Battery Voltage less than 11.6 V

Load Shedding

Prior to Load shedding Idle Boost will occur, the idle speeds will be increased by 25 to 300 RPM to help maintain a normal battery voltage. Idle Boost may be noticeable to the driver. If the battery voltage continues to drop below a normal state then load shedding will go active and it will start to reduce electric loads for components that will not impact the safe operation of vehicle. At load shed levels 2 and 3 a DIC message will be displayed "Reducing Features To Save Battery". When load shedding is active the customer may begin to notice features starting to have reduced functions or may become inoperative. Examples of affected loads are radio, HVAC blower(s) front and rear (if equipped), heated/ventilated seats, heated mirrors, rear defogger and other devices with heavy electrical draws. Idle Boost and load shed levels can be observed with the scan tool.

Idle Boost 1

Idle is increased by 25-100 RPM and generally is not noticeable to most drivers.

Idle Boost 2

Idle is increased by 50–200 RPM and generally is not noticeable to most drivers.

Idle Boost 3

Idle is increased by 100–300 RPM and may be noticeable to most drivers.

Load Shed Level 1

Reduces load current by 25%.

Load Shed Level 2

Reduces load current by 50%.

Load Shed Level 3

Electric loads for components that will not impact the safe operation of vehicle will be turned Off.

BCM Awake/Sleep States

The BCM is able to control or perform all of the BCM functions in the awake state. The BCM enters the sleep state when active control or normal monitoring of system functions has stopped and a time limit has passed. The BCM must detect certain wake-up inputs before entering the awake state. The BCM monitors for these inputs during the sleep state.

The BCM will enter the awake state if any of the following wake-up inputs are detected:

- Activity on the serial data line
- Detection of a battery reconnect
- Any door open signal
- Headlamps ON
- Ignition ON
- Park lamps ON
- Keyless entry or remote start message

The BCM will enter a sleep state when all of the following conditions exist:

- Ignition OFF, transmitter is out of range
- No activity exists on the serial data line.
- No outputs are commanded.
- No delay timers are actively counting.
- No wake-up inputs are present.

If all these conditions are met, the BCM will enter a low power or sleep condition.

Retained Accessory Power Description and Operation

Retained Accessory Power

The Retained Accessory Power (RAP) & Interruptible RAP (IRAP) Circuits are controlled by the K9 Body Control Module (BCM). The BCM is the Power Mode Master, it utilizes various Vehicle inputs to determine the Vehicle Power Mode and sends this information via Serial Data and providing associated electrical signals to the entire vehicle for proper feature operation.

The BCM monitors the vehicles power modes, and door ajar/open switch status to determine whether the retained accessory power should be initiated and remain active or be terminated. The RAP output is optional based on the vehicles option contents. When utilized, the RAP Output control can be used to control a RAP Relay, it may provide direct power, or s serial data message to vehicle devices/modules from the BCM.

Retained Accessory Power Relay Coil Control Circuit (If Equipped)

The BCM keeps the device or relay (if equipped) energized during all power modes, except Off-Awake and Crank. The device(s) remain active for approximately 10 min after the Vehicle is placed into the OFF Power Mode, provided none of the doors are opened.

Retained accessory power will end when one of the following conditions are met:

- The BCM receives an input from any door ajar switch indicating the opening of the door after the OFF Power Mode is achieved.

  Note: If the BCM is receives a door open/ajar active signal when the vehicle is placed into the OFF Power Mode, the retained accessory power will not initiate.

- The BCM internal timer for the retained accessory power expires after approximately 10 min.

Systems powered by the retained accessory power control circuit during the retained accessory power mode are as follows:

Note: The vehicle may not be equipped with all components as listed below.

- 12 V Accessory Power Receptacle
- Cigarette Lighter Receptacle
- Window Switches
- Sunroof Control Module (If Equipped)
- Sunroof Switch (If Equipped)
- Mobile Device Wireless Charger Module
- Mobile Telephone Control Module (If Equipped)
- Traffic Data Receiver (If Equipped)
- Transmission Shift Lever Position Indicator (w/ floor mounted console gear shift)

Serial Data Controlled Retained Accessory Power

Retained accessory power systems controlled by serial data are as follows:

Radio

Radio retained accessory power activation/termination is the same as relay operation with one exception; the only door that will turn the radio off during retained accessory power is the driver door open/ajar switch. The USB Ports will function the same as the radio.

Vehicle Communication Interface Module (VCIM) (Onstar®) (If Equipped)

VCIM RAP activation/termination is the same as radio operation with 1 exception; if there is an active call and the vehicle is placed in the OFF Power Mode, the VCIM will remain in RAP mode, and keep the radio in RAP mode until the call is terminated.

Interruptible Retained Accessory Power

The Power Mode Master (PMM) Controls components as needed If Equipped with a RAP relay the BCM controls the retained accessory power with an exception; interruptible retained accessory power is deactivated during transmitter authentication. The PMM will deactivate components that may cause radio frequency (RF) interference when the ignition mode switch is pressed which may result in “NO REMOTE DETECTED” displayed on the information center.

Section 7

Safety and Security

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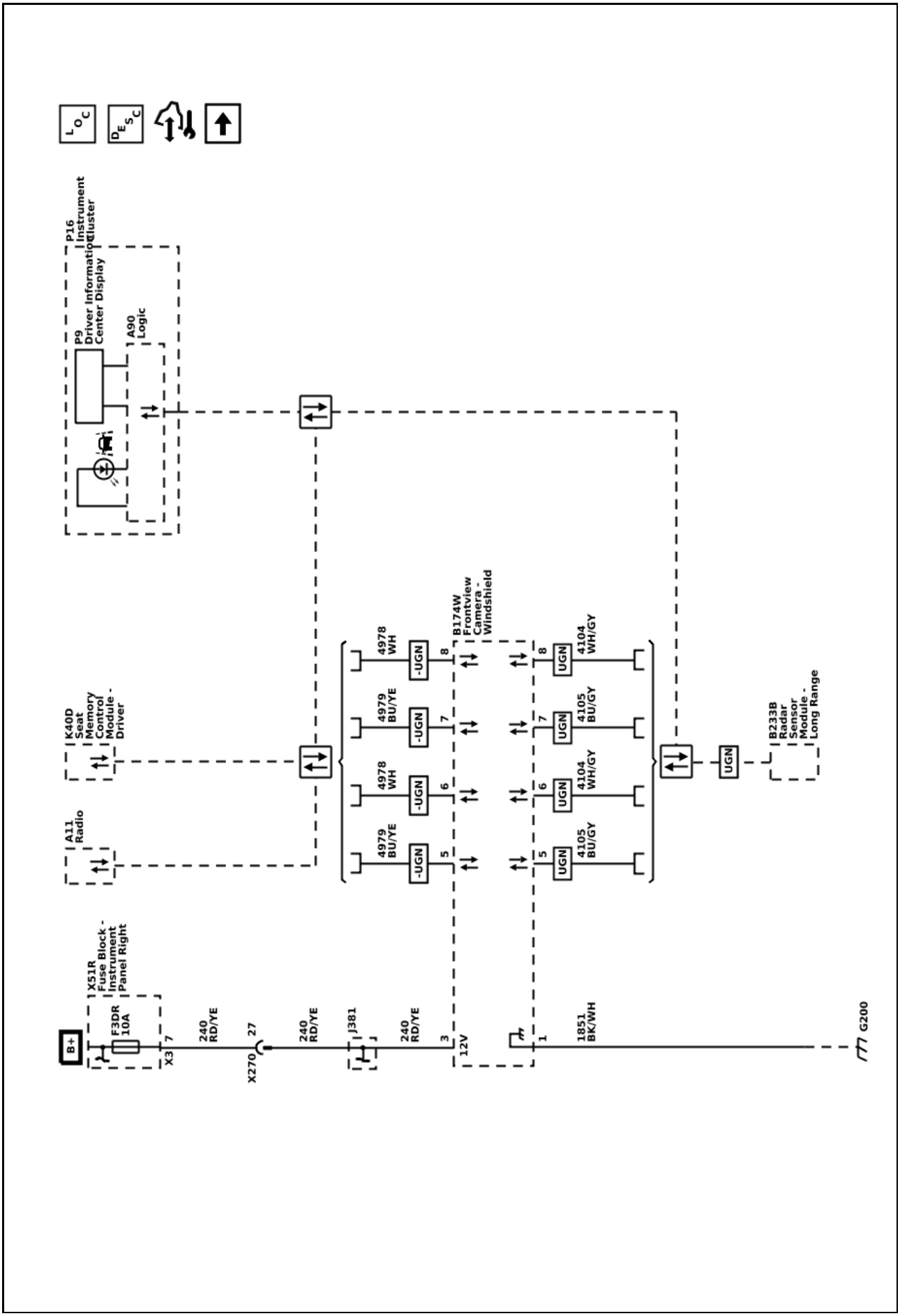
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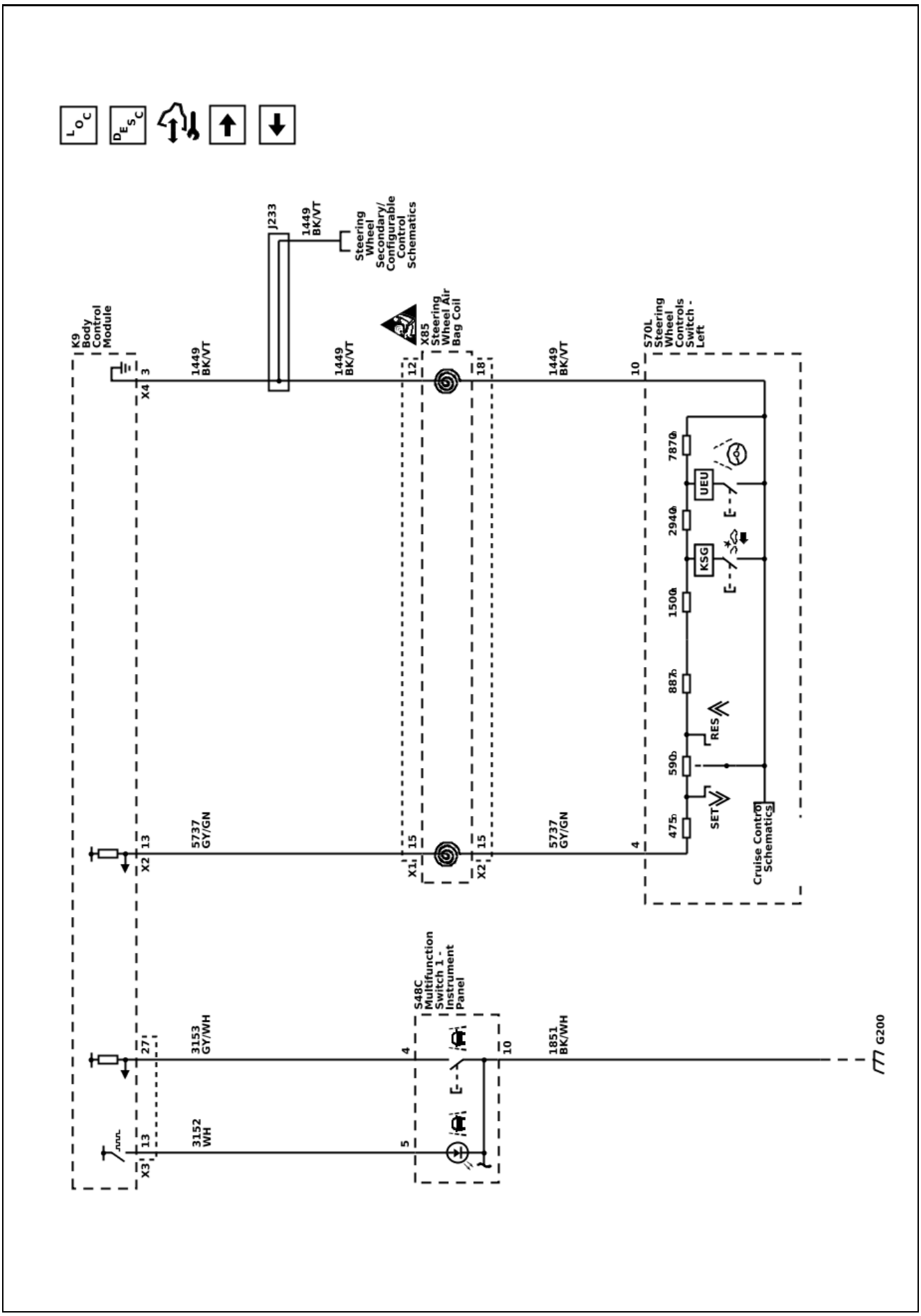
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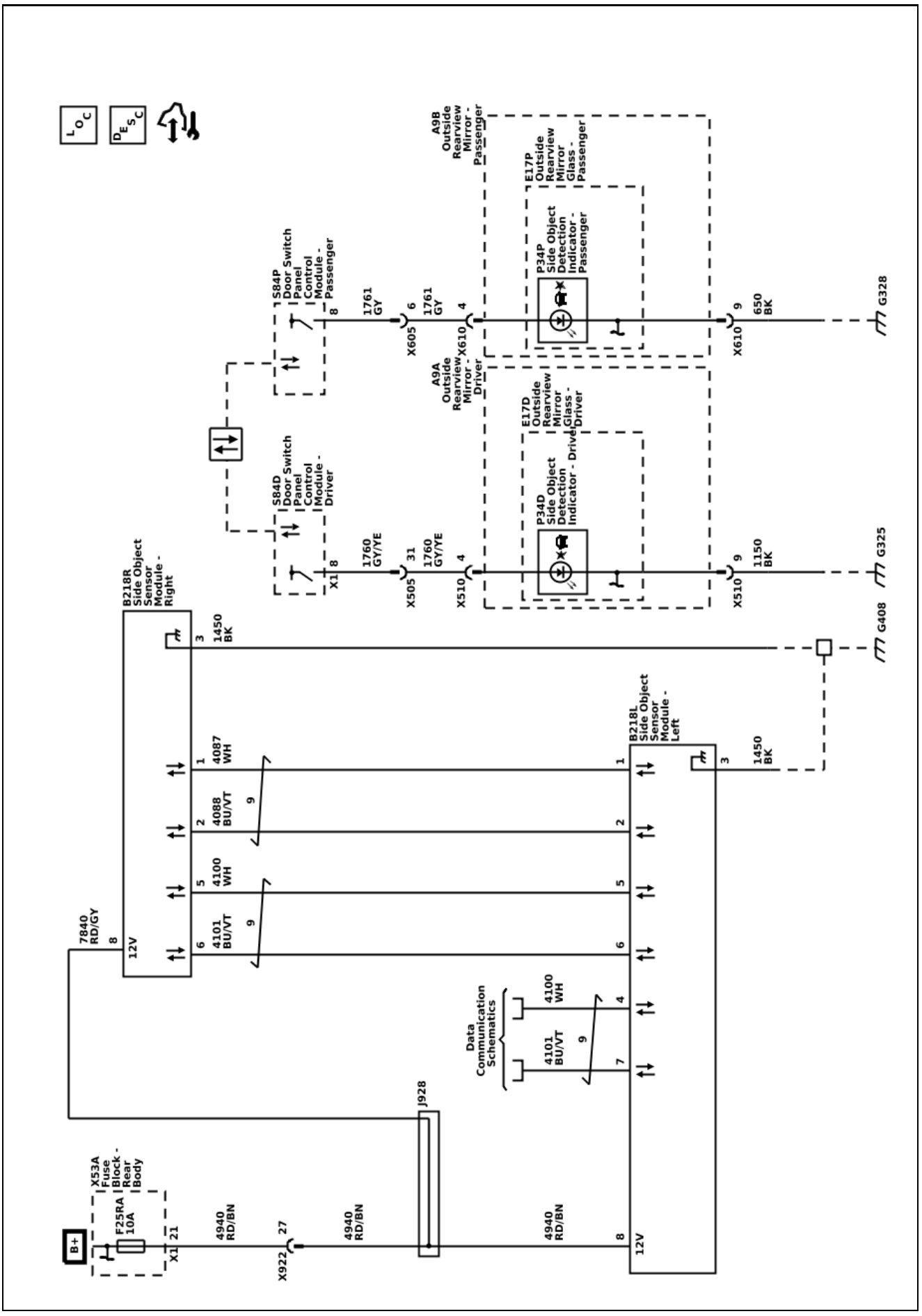
Driver Assistance Systems Schematics (Lane Keep Assist and Forward Collision - Module Power, Ground, and Serial Data (UEU))



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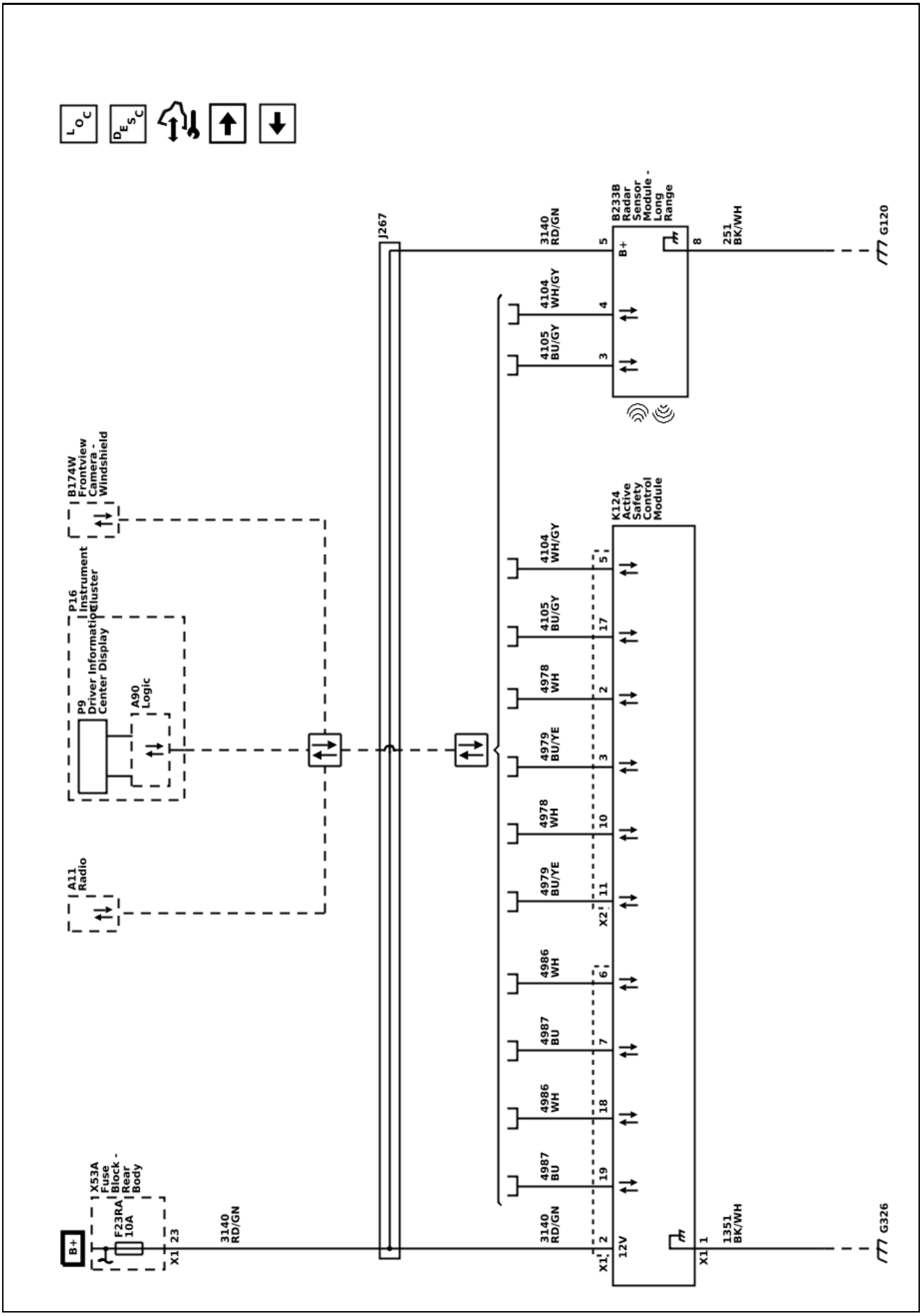


Driver Assistance Systems Schematics (Rear Cross Traffic Alert (UFG) and Side Object Detection (UKC))

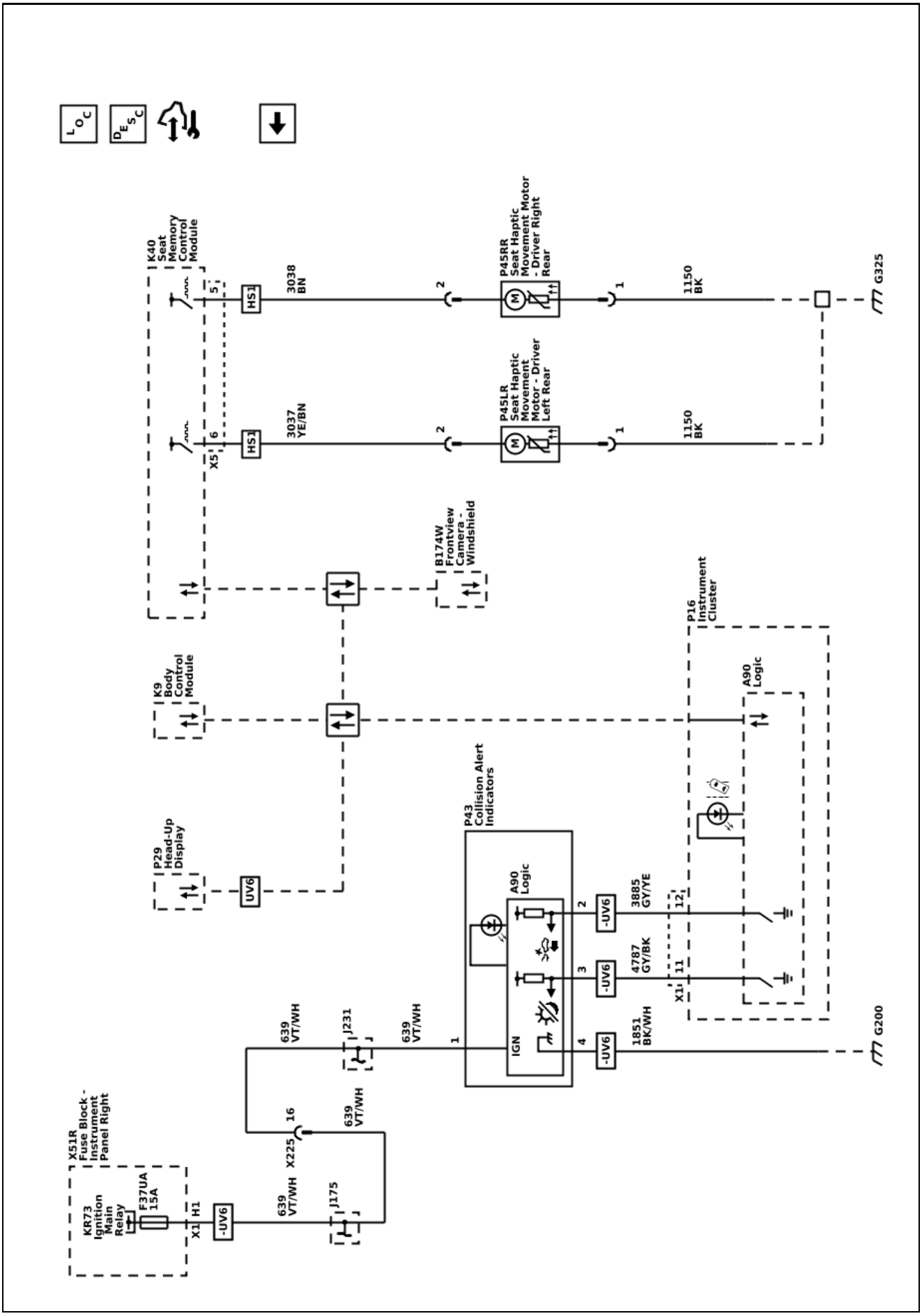


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Driver Assistance Systems Schematics (Collision Avoidance - Module and Long Range Radar (UGN))



Driver Assistance Systems Schematics (Collision Alert Indicators)



Description and Operation

Active Safety System Description and Operation (with UGN)

The active safety system is a comprehensive feature set designed to help a driver avoid collisions or reduce crash damage while driving, backing, and parking. The K124 Image Processing Module is the primary controller for the active safety system. The active safety control module communicates on multiple serial data busses to share information with various control modules throughout the vehicle. The K124 Image Processing Module uses various sensors and control modules to monitor the vehicle surroundings and take deliberate action to avoid collisions or reduce crash damage. The active safety system tightly integrates the forward collision alert, adaptive cruise control, parking assist, and active emergency braking systems into a single cohesive system.

The K124 Active Safety Control Module communicates via serial data on the object detection bus with the B174W Frontview Camera - Windshield and B233B Radar Sensor Module - Long Range to create a virtual fusion image of the area in front of the vehicle. The K124 Active Safety Control Module observes an actual visual image of the area directly ahead of the vehicle, within 60 m (197 ft), with the B174W Frontview Camera - Windshield. The B233B Radar Sensor Module - Long Range is used to measure the distance to objects that are up to 200 m (656 ft) in front the vehicle. Within 60 m (197 ft) of the vehicle, all of these inputs are combined to create a fusion image of the area in front of the vehicle. At up to 200 m (656 ft), the B233B Radar Sensor Module - Long Range will detect and begin tracking objects immediately in front of the vehicle. Within 60 m (197 ft), the B174W Frontview Camera - Windshield will confirm objects that have been detected by the B233B Radar Sensor Module - Long Range.

The fusion image created by the K124 Image Processing Module is used to detect collision risks and take action based on the immediacy of the risk. The a collision risk exists, the K124 Image Processing Module will alert the driver using the forward collision alert system. This will provide the driver with a visual and audible or haptic alert that a collision risk has been detected. If the driver does not take action to reduce the risk of collision, such as changing lanes or applying the brakes, the intelligent brake assist system will pre-fill the brake hydraulic system to reduce system response time and increase pressure when quickly applying the brakes. If a collision risk is imminent, the K124 Image Processing Module will enter automatic collision preparation, which will automatically apply the brakes in an effort to mitigate the collision or reduce collision damage.

The K124 Image Processing Module communicates with the steering angle sensor (part of the K43 Power Steering Control Module) and the multi-axis acceleration sensor (part of the K36 Restraints Control Module) on CAN 1. These sensors are used to determine the intended vehicle path. Using the steering data and vehicle acceleration data, the K124 Image Processing Module will determine where the vehicle will be traveling and focus attention on objects in this path. An example would be a driver quickly changing lanes to avoid a collision. This would mitigate the collision risk in the previous lane and the K124 Image Processing Module would quickly transition to tracking objects for any collision risk in the new lane based on intended vehicle path. The K124 Image Processing Module also communicates with the K160 Brake System Control Module to instigate the braking functions of intelligent brake assist and automatic collision preparation.

The Active Safety System analyzes data from the various control modules and sensors listed below:

- K124 Image Processing Module
- B174W Front View Camera - Windshield
- B233B Forward Range Radar Sensor - Long Range
- K182 Parking Assist Control Module
- K160 Brake System Control Module

Component Description

K124 Image Processing Module

The K124 Image Processing Module analyzes data from various modules, sensors, and switches to provide enhanced safety features. In addition to providing alerts, the K124 Image Processing Module will provide driver assistance through integrated brake assist, automatic collision preparation, rear emergency braking, and adaptive cruise control. Inputs and outputs can either be connected directly to the K124 Image Processing Module or communicate though serial data. The K124 Image Processing Module communicates on CAN 1, CAN 2, and CAN 8.

Forward collision alert, lane departure warning, and park assist alerts can be user selected to either a haptic signal utilizing the driver's haptic signal motor seat or using beeps through the audio system. This setting can be found in the vehicle personalization menus. See the owner's manual for more detailed information on vehicle personalization.

If there is a DTC set in any of the modules that the K124 Image Processing Module uses as inputs, it will send a "Service Driver Assist" to the instrument cluster to alert the driver of a problem with the system. No other specific details are given unless the driver attempts to activate a specific system. For example if the driver attempts to turn on lane departure warning, the instrument cluster will display "Lane Departure Unavailable" and the indictor will flash and then go out. A scan tool must be used to read the DTCs that are causing the malfunction to help find the problem. Some of the inputs to the K124 Image Processing Module can affect forward facing features, rear facing features, or all features. Systems to check to determine which area to focus are rear park assist for rear features, and lane departure warning and adaptive cruise control for front features. If none of the active safety system features are operative, there may be an issue with another module on the vehicle not providing the proper data to the K124 Image Processing Module. If all K124 Image Processing Module features are inoperative, check the Adaptive Cruise Control Disable History Data, Lane Keep Assist Disable History Data, and Front Impact Mitigation Disable History Data in the scan tool for the reason for the malfunction. Definitions

of parameters and suggestions on what to look for can be found in K124 Image Processing Module: Scan Tool Information .

- K124 Image Processing Module inputs:
  - B174W Front View Camera - Windshield
  - B233B Forward Range Radar Sensor - Long Range
  - K182 Parking Assist Control Module
  - Multi-axis acceleration sensor
  - Steering wheel angle sensor
  - Wheel speed sensors
  - Forward collision alert switch
  - Lane departure warning switch
  - Parking assist switch
- K124 Image Processing Module outputs:
  - K9 Body Control Module
  - K160 Brake System Control Module
  - K20 Engine Control Module
  - P16 Instrument Panel Cluster Control Module
  - P29 Head-Up Display
  - K40D Driver Seat Adjuster Memory Module
  - Lane keep assist switch indicator
  - Parking assist switch indicator
  - Infotainment system

B174W Front View Camera - Windshield

The B174W Front View Camera - Windshield is located behind the windshield, looking out at the road ahead and detects lane markings and objects directly ahead, within a distance of approximately 60 meters (197 ft). The B174W Front View Camera - Windshield is used for lane keep assist and forward collision alert systems. The B174W Front View Camera - Windshield communicates with the K124 Image Processing Module on CAN 8.

Using information from the B174W Front View Camera - Windshield, the K124 Image Processing Module will provide forward collision alert and lane keep assist to the driver when appropriate. The alerts and warnings can be user-selected to be audible through the audio system or haptic using the active safety seat.

B233B Forward Range Radar Sensor - Long Range

The B233B Forward Range Radar Sensor - Long Range is located behind the front grille emblem and is used in the 30–200 m (98–656 ft) range. The B233B Forward Range Radar Sensor - Long Range communicates with the K124 Image Processing Module on CAN 8. In addition to the wiring harness ground, the module is grounded through the mounting bracket.

K182 Parking Assist Control Module

The K182 Parking Assist Control Module uses ultrasonic object sensors located in the fascias to provide distance measurements to nearby objects. The K182 Parking Assist Control Module communicates with the K124 Image Processing Module on CAN 1.

K160 Brake System Control Module

The K160 Brake System Control Module performs the braking activities of the active safety system. When requested by the K124 Image Processing Module, the K160 Brake System Control Module will prepare or apply the brakes as necessary in response to an imminent collision.

Active Safety System Operation

Forward Collision Alert

The forward collision alert system is a convenience feature of the K124 Image Processing Module, B174W Front View Camera - Windshield, and B233B Forward Range Radar Sensor - Long Range that issues a warning to the driver when a potential collision risk exists. When the system detects a vehicle in the path ahead, the green vehicle ahead indicator is illuminated on the P16 Instrument Panel Cluster Control Module. If the vehicle ahead is being followed too closely, the vehicle ahead indicator will be amber. When approaching another vehicle too rapidly, the P43 Forward Collision Alert Display (without UV6) or collision alert symbol in the P29 Head-Up Display (with UV6) will flash. An audible alert sound will simultaneously sound or the safety alert seat will provide haptic feedback. The visual alert cannot be changed, but the driver can select between audible or haptic alerts in the vehicle personalization menus. Refer to the vehicle owner manual for more detailed information on vehicle personalization.

Forward collision alert does not provide a warning to help avoid a crash unless it detects a vehicle. Forward collision alert may not detect a vehicle ahead if the B174W Front View Camera - Windshield is blocked by dirt, snow, or ice, or if the windshield is damaged. It may also not detect a vehicle on winding or hilly roads, or in conditions that can limit visibility such as fog, rain, or snow, or if the headlamps or windshield are not cleaned or in proper condition. Keep the windshield, headlamps, and B174W Front View Camera - Windshield area clean and in good repair.

Forward collision alert may provide unnecessary alerts for turning vehicles, vehicles in other lanes, objects that are not vehicles, or shadows. These alerts are normal operation and the vehicle does not need service.

Automatic Emergency Braking

Automatic emergency braking system uses the K124 Image Processing Module, B174W Front View Camera - Windshield, and B233B Forward Range Radar Sensor - Long Range to determine if an imminent collision risk exists. If the brakes have not been applied, the system will automatically apply the brakes in an effort to mitigate the collision or reduce collision damage. The system has a detection range of approximately 60 m (197 ft) and will only function when a vehicle is detected, as indicated by the green vehicle ahead indicator is illuminated on the instrument cluster.

Automatic emergency braking is not a substitute for normal vehicle braking and should not be relied on to brake the vehicle. Automatic emergency braking may not detect a vehicle ahead if the B174W Front View Camera - Windshield is blocked by dirt, snow, or ice, or if the windshield is damaged. It may also not detect a vehicle on winding or hilly roads, or in conditions that

can limit visibility such as fog, rain, or snow, or if the headlamps or windshield are not cleaned or in proper condition. Keep the windshield, headlamps, and B174W Front View Camera - Windshield area clean and in good repair.

Front Pedestrian Braking

Front pedestrian braking system uses the K124 Image Processing Module, B174W Front View Camera - Windshield, and B233B Forward Range Radar Sensor - Long Range to determine if an imminent collision risk exists with a nearby pedestrian. If the brakes have not been applied, the system will automatically apply the brakes in an effort to avoid or reduce the harm caused by front-end crashes with nearby pedestrians. The system has a detection range of approximately 40 m (131 ft) and will only function when a pedestrian is detected, as indicated by the amber pedestrian detected indicator illuminated on the instrument cluster.

Front pedestrian braking is not a substitute for normal vehicle braking and should not be relied on to brake the vehicle. Front pedestrian braking may not detect a pedestrian if the B174W Front View Camera - Windshield is blocked by dirt, snow, or ice, or if the windshield is damaged. It may also not detect a pedestrian on winding or hilly roads, or in conditions that can limit visibility such as fog, rain, or snow, or if the headlamps or windshield are not cleaned or in proper condition. Keep the windshield, headlamps, and B174W Front View Camera - Windshield area clean and in good repair.

Backing Warning

The backing warning system utilized the K124 Image Processing Module and the K182 Parking Assist Control Module to warn of rear objects when backing up at speeds greater than 8 km/h (5 mph). Utilizing the ultrasonic rear object sensors, the K182 Parking Assist Control Module can only detect object at seeps up to 8 km/h (5 mph). By utilizing the K124 Image Processing Module and B233CR Short Range Radar Sensor - Rear Middle, along with the K182 Parking Assist Control Module and the rear object sensors, object can be detected at speeds greater than 8 km/h (5 mph).

While reversing at speeds greater than 8 km/h (5 mph), the backing warning system will alert the driver with an audible alert or through haptic feedback from the safety alert seat when an object is first detected. If the system detects a potential collision risk, a series of audible beeps or haptic feedback pulses will be provided, as well as a quick pulse of the brakes.

Reverse Automatic Braking

The rear automatic braking system is designed to help avoid or reduce the harm caused by backing crashes. If the system detects the vehicle is backing too fast to avoid a collision, it may automatically brake hard to a stop.

Utilizing the K124 Image Processing Module and the K182 Parking Assist Control Module, rear automatic braking attempts to avoid imminent collision by automatically braking the vehicle when traveling in reverse. In conjunction with the backing warning system, if the driver does not respond to the audible and haptic alerts while reversing, the system will automatically brake the vehicle to a stop.

Rear automatic braking also prevents the vehicle from backing into an object if the vehicle is stopped and shifted to R. If the system detects an object immediately behind the vehicle while attempting to reverse from a stop, the brakes will be applied.

Pressing the brake pedal after the vehicle comes to a stop will release the rear automatic braking. It may be necessary to release the electronic parking brake. When it is safe to do so, pressing the accelerator pedal firmly at any time will override the rear automatic braking. If rear automatic braking is active and there is no object behind the vehicle, make sure there is no snow, ice, or debris on the rear object sensors.

Lane Keep Assist

The lane keep assist system is a convenience feature that utilizes the B174W Front View Camera - Windshield and K124 Image Processing Module to determine if the vehicle has unintentionally crossed a lane marking and issue a warning. The B174W Front View Camera - Windshield is located behind the windshield, looking out at the road ahead and detecting any lane markings. When the vehicle unintentionally leaves a detected lane, visual and audible or haptic alerts are given to the driver. The visual alert cannot be changed, but the driver can select between audible or haptic alerts in the vehicle personalization menus.

Refer to *Lane Keep Assist Description and Operation on page 7-18* for more information about the Lane Keep Assist function.

Adaptive Cruise Control Description and Operation (with UGN)

The adaptive cruise control system is an enhanced cruise control system with the ability to sense and react to forward traffic. Compared to the common cruise control system found on many vehicles, the main functional enhancement of the adaptive cruise control system is the ability to detect the presence of a vehicle in the path of the adaptive cruise control vehicle. Adaptive cruise control retains the existing cruise control feature that controls the vehicle speed to the driver selected speed. However, adaptive cruise control allows a driver to set and maintain a following distance to the preceding nearest vehicle in the path ahead. The K124 Image Processing Module controller calculates a follow speed limit to ensure an acceptable distance is maintained to the preceding vehicle in front, should one be present. The adaptive cruise control system automatically adjusts the speed when the vehicle comes up behind a slower travelling vehicle in front. The system applies limited automatic braking and throttle control without driver input when necessary to maintain the set following distance. The preceding vehicle's speed and acceleration along with the active cruise control vehicle speed and acceleration and the distance between the two vehicles are factors used by the K124 Image Processing Module controller to determine the follow speed limit. The vehicle speeds up to the original driver selected set speed when the pathway becomes clear without driver input.

The adaptive cruise control functionality depends on various modules on the vehicle to function and each module performs a function that is critical to the proper operation of the adaptive cruise control system. Adaptive cruise control will not operate if any

components fail. Communication between modules is via serial data. The following is a functional description of the K124 Image Processing Module and the other associated components:

- K124 Image Processing Module
- B233B Forward Radar Sensor Module - Long Range
- K9 Body Control Module
- K20 Engine Control Module
- K160 Brake System Control Module
- K71 Transmission Control Module
- P16 Instrument Panel Cluster Control Module
- Cruise Control Switch
- Gap Switch

K124 Image Processing Module

The K124 Image Processing Module analyzes data from various modules, sensors, and switches to provide enhanced safety features. In addition to enhanced safety features, the K124 Image Processing Module provides the adaptive cruise control system functionality. The K124 Image Processing Module analyzes data from the B233B Forward Radar Sensor Module - Long Range to identify and classify objects in the road environment. The system scans the road environment to detect targets within its specified field of view. The K124 Image Processing Module then sends throttle and/or brake commands to the K20 Engine Control Module and K160 Brake System Control Module via serial data in order to control the vehicle acceleration/deceleration based on the data from the modules. The K20 Engine Control Module and K160 Brake System Control Module provide throttle control and automatic braking needed for proper cruise speed adjustment. The following is a list of the K124 Image Processing Module functions pertaining to the adaptive cruise control functionality:

- The K124 Image Processing Module processes the road environment to get data concerning any vehicle ahead of the adaptive cruise control vehicle. Detection, parameter estimation, tracking, object classification and diagnostics are the primary functions. When an object is detected, the controller calculates the object range, range rate, acceleration and azimuth angle parameters.
- The K124 Image Processing Module performs adaptive cruise control state processing automatically – distance control or speed control. The adaptive cruise control operates in two possible states – cruise or follow. The normal operating state is cruise, whereby the vehicle speed is controlled to match the driver selected set speed. When a preceding forward target is identified, the adaptive cruise control system will automatically transition into the follow speed state to provide proper lane spacing behind the target vehicle in front. The preceding vehicle's speed and acceleration, with the adaptive cruise control vehicle speed, acceleration and distance between the two vehicles will be used to determine the adaptive cruise control follow speed limit. The adaptive cruise control follow speed limit will ensure that an acceptable distance is maintained to the preceding vehicle.
- The K124 Image Processing Module determines the follow speed limit for throttle control by the K20 Engine Control Module .
- The K124 Image Processing Module arbitrates the adaptive cruise control system brake and throttle control between the K160 Brake System Control Module and the K20 Engine Control Module .
- The K124 Image Processing Module requests brake light activation during automatic braking.
- The K124 Image Processing Module provides operational feedback to the vehicle driver. The K124 Image Processing Module sends signals for telltales and messages to be displayed on the P16 Instrument Panel Cluster Control Module or driver information center.

B233B Forward Radar Sensor Module - Long Range

The B233B Forward Radar Sensor Module - Long Range is located behind the front fascia and is used in the 30–200 m (98–656 ft) range. The B233B Forward Radar Sensor Module - Long Range communicates with the K124 Image Processing Module via serial data on CAN 8. In addition to the wiring harness ground, the module is grounded through the mounting bracket.

K9 Body Control Module

The following are the adaptive cruise control system functions provided by the K9 Body Control Module:

- The K9 Body Control Module reads all cruise control switches and the gap switch. The K124 Image Processing Module monitors a variety of user operated switches from the K9 Body Control Module switch status information sent via CAN.
- The K9 Body Control Module illuminates the brake light based on a CAN message from the K124 Image Processing Module during automatic braking.
- The K9 Body Control Module measures the brake pedal position and sends brake pedal travel status via CAN to the K20 Engine Control Module . The K20 Engine Control Module disengages the adaptive cruise control system when the brake is applied by the driver pressing the brake pedal.

K20 Engine Control Module

The following are the adaptive cruise control system functions performed by the K20 Engine Control Module:

- The K20 Engine Control Module provides the electronic throttle control to the adaptive cruise control System. The K20 Engine Control Module is also responsible for determining when a driver is overriding the adaptive cruise control throttle position by pressing the accelerator pedal.
- The K20 Engine Control Module processes the cruise control switch requests received via CAN from the K9 Body Control Module. Engaging and disengaging the adaptive cruise control system are functions performed by the K20 Engine Control Module .

- The K20 Engine Control Module determines the driver selected vehicle speed. Unless the adaptive cruise control module requests a lower vehicle speed, the K20 Engine Control Module will control the vehicle speed to the driver selected set speed.
- The K20 Engine Control Module allows automatic braking without disengaging the adaptive cruise control.

K160 Brake System Control Module

The following are the adaptive cruise control System functions performed by the K160 Brake System Control Module:

- The K160 Brake System Control Module controls the operation of the Antilock Brake System.
- The K160 Brake System Control Module provides automatic braking for the adaptive cruise control system. The K124 Image Processing Module will request vehicle deceleration via high speed GMLAN serial data circuit.
- The K160 Brake System Control Module determines when the driver–applied brake pressure is active. The K160 Brake System Control Module will communicate this status via CAN to the K9 Body Control Module.
- The K160 Brake System Control Module releases vehicle automatic braking when there is a throttle override by the driver pressing the accelerator.
- The K160 Brake System Control Module predicts brake temperatures. Due to automatic braking, the brake system may overheat. When the brakes are overheated, the K160 Brake System Control Module requests the adaptive cruise control System to be temporarily shut down by the K20 Engine Control Module until the brakes cool to a normal operating temperature.

K71 Transmission Control Module

The K71 Transmission Control Module provides a down shift to protect the brakes. When the K71 Transmission Control Module detects some driver braking activity or adaptive cruise control automatic braking activity, the K71 Transmission Control Module down shifts the vehicle transmission to increase engine braking. This helps reduce braking activity, extend brake pad life and reduce brake system overheating.

P16 Instrument Panel Cluster Control Module

The driver information center is a part of the P16 Instrument Panel Cluster Control Module and displays the adaptive cruise control system warning messages. The K124 Image Processing Module requests messages to be displayed on the driver information center by sending a CAN request to the P16 Instrument Panel Cluster Control Module requesting the display of the warning message. When the message is acknowledged by the driver and the cause of the message resolved, the driver information center turns the message off. The adaptive cruise control system will not operate if the driver information center fails.

Cruise Control Switch

The cruise control switch, functionally is a common feature that is shared between the adaptive cruise control system and the regular cruise control system. The adaptive cruise control system will not operate if any cruise switch fails. The cruise control switch comprises the following cruise control function switches:

- On/Off switch
- Set/decrease switch
- Resume/increase switch

The cruise control function switches are arranged in a resistive ladder design whereby each switch function is set up with different resistance values. The K9 Body Control Module through the cruise control switch signal circuit detects a predetermined voltage value when any cruise control switch function is activated. The associated cruise control function signal detected by the K9 Body Control Module is then sent to the K20 Engine Control Module as a CAN message. The K20 Engine Control Module on receiving the message provides the cruise control function requested by the K9 Body Control Module. The K20 Engine Control Module is responsible for recognizing and responding to cruise control switch requests sent by the K9 Body Control Module. The cruise control function switches are used by the K20 Engine Control Module to communicate to the K124 Image Processing Module the driver selected vehicle speed. The driver selected vehicle speed is communicated through GMLAN serial data circuit to the K124 Image Processing Module and the K9 Body Control Module. The adaptive cruise control system engages and adjusts vehicle speeds based on the activation of the following cruise control function switches:

Cruise Control On/Off Switch

The K9 Body Control Module monitors the switch signal circuit in order to determine when the On/Off switch is disabled or activated. The K9 Body Control Module detects a predetermined voltage value on the switch signal circuit. The On/Off switch state is then relayed to the K20 Engine Control Module via CAN. The K20 Engine Control Module sends the On/Off switch input status to the K124 Image Processing Module . When the On/Off switch is turned ON, the adaptive cruise control system enters either a standby enabled or a standby disabled mode. The standby enabled mode indicates that every condition required for the adaptive cruise control system to function has been met, but the adaptive cruise control is not engaged. When the adaptive cruise control is in the standby disabled mode, the conditions necessary for the adaptive cruise control system to function has not been met. When the On/Off switch is turned OFF, the adaptive cruise control will enter the disabled mode. The adaptive cruise control will not activate in the disabled mode.

Cruise Control Set/Decrease Switch

The adaptive cruise control system is engaged when the adaptive cruise control On/Off switch is turned ON and the set/decrease switch is momentarily pressed and released . When the set/decrease switch is pressed, the selected vehicle speed is set to the current vehicle speed by the K20 Engine Control Module . The

vehicle speed must be at or greater than 40 km/h (25 MPH). The selected vehicle speed is displayed by the driver information center. While in the engaged state, the selected vehicle speed and the following distance can be adjusted. Pressing and holding the set/decrease switch, when the adaptive cruise control system is engaged, will decrease the selected vehicle speed without deactivating the adaptive cruise control. Momentarily pressing and releasing the set/decrease switch, when the adaptive cruise control is engaged, decreased the selected vehicle speed by 1.6 km/h (1 MPH) for each time that the set/decrease switch is pressed.

Cruise Control Resume/Increase Switch

The resume/increase switch is used in order to increase the selected vehicle speed when adaptive cruise control is active. The amount selected vehicle speed can be increased from the resume/increase switch depends on how long the switch is pressed. The presence of a slower moving vehicle in the path of the adaptive cruise control vehicle will limit the extent to which the selected vehicle speed can be achieved. If there is no preceding vehicle in front, limiting the adaptive cruise control vehicle acceleration, then the vehicle speed that is attained is the new selected vehicle speed. The current selected vehicle speed is displayed by the driver information center. Acceleration is terminated when the resume/increase switch is released. Momentarily pressing and releasing the resume/increase switch will allow the selected vehicle to accelerate in at 1.6 km/h (1 MPH) increments for each time that the resume/increase switch is momentarily pressed.

Gap Switch

The gap switch allows the driver to determine how closely the adaptive cruise control vehicle follows a target vehicle while adaptive cruise control is engaged. When the adaptive cruise control vehicle speed is being limited due to a slower travelling vehicle, the adaptive cruise control vehicle speed is automatically controlled to the follow speed limit. The gap switch has 3 following distance selections that range from 1–2 s. The gap switch following distance between the adaptive cruise control vehicle and the target vehicle is expressed in time as opposed to actual distance. The distance maintained for a selected gap will vary based on vehicle speed. The faster the vehicle speed, the further back you will follow. The gap setting can only be adjusted when the adaptive cruise control system is engaged. The gap switch is hard-wired to the K9 Body Control Module. Based on voltage variations, the K9 Body Control Module is able to read the gap switch selection and communicates the switch status via CAN to the K124 Image Processing Module . The gap switch is a momentary switch.

The initial push of the gap switch recalls the current setting and activates the display. Subsequent pushes of the gap switch will change the gap setting.

Driver Information Messages

Adaptive Cruise Control Temporarily Unavailable

The K124 Image Processing Module will send this message if the adaptive cruise control has been disengage or disabled. There are many reasons that can cause this, some will also set DTCs. Check vehicle for DTCs and also check the adaptive cruise control enable and disengage scan tool data. Definitions of parameters can be found in K124 Image Processing Module scan tool information.

Service Driver Assist System

This message can be set by either the K124 Image Processing Module if there is a problem with the driver assist system or by the memory seat module if there is a problem with the haptic seat circuits. Check vehicle for DTCs.

Service Adaptive Cruise Control and Service Front Camera

The message is set if the K124 Image Processing Module is not communicating to the P16 Instrument Cluster . Check vehicle for DTCs.

Set Speed

The adaptive cruise control vehicle set speed is displayed at all times in the driver information center when adaptive cruise control is engaged. The K124 Image Processing Module set speed display request is sent to the P16 Instrument Cluster via the GMLAN serial data circuit.

Follow Distance

The driver information center displays the driver selected following distance when adaptive cruise control is engaged and the gap switch is active. The current follow distance setting is displayed in the driver information center for a few seconds after the gap switch is pressed to increase or decrease the following distance. The K124 Image Processing Module follow distance display request is sent to the P16 Instrument Cluster via the GMLAN serial data circuit.

Vehicle Ahead Indicator

The vehicle ahead indicator is displayed in the P16 Instrument Cluster hen the radar identifies an in-path vehicle. The vehicle ahead indicator is a warning to the driver that a vehicle is ahead. The indicator also serves as a feedback to the driver that the radar is functioning properly. The K124 Image Processing Module commands the display of the vehicle ahead indicator via a GMLAN serial data message to the P16 Instrument Cluster . The vehicle ahead indicator only displays with the adaptive cruise control active and may sometimes display for stationary road objects.

Adaptive Cruise Control Operation

Adaptive cruise control uses the K124 Image Processing Module and B233B Forward Radar Sensor Module - Long Range, which looks directly ahead to monitor vehicles that a driver is following. Adaptive cruise control helps drivers follow a vehicle ahead at the following gap they select — Far, Medium or Near — while they steer. This reduces the driver’s need to frequently brake and accelerate.

If the system does not detect a vehicle ahead, adaptive cruise control will resort to traditional cruise control operation. When the system detects a vehicle ahead in the driving lane, the vehicle ahead icon will appear in green on the P16 Instrument Panel Cluster Control Module. When the vehicle detected ahead is within the

selected following gap setting, adaptive cruise control can automatically slow the vehicle down and adjust vehicle speed to follow the vehicle ahead at the selected following gap. Like regular cruise control, adaptive cruise control uses ON/OFF, CANCEL, SET and RESUME buttons on the steering wheel.

Getting started:

- To turn adaptive cruise control on, the driver should press the cruise control ON/OFF button.
- When the system is turned on, the driver information center in the P16 Instrument Panel Cluster Control Module will show a white adaptive cruise control icon.
- To choose a cruise speed, the driver should press the SET button while driving at the desired speed. The white adaptive cruise control icon will change to green, indicating that adaptive cruise control is engaged.
- The adaptive cruise control gap switch on the steering wheel lets drivers select a Far, Medium or Near following gap between their vehicle and the vehicle ahead. Both adaptive cruise control i and forward collision alert are set at the same setting.

Adaptive cruise control can follow a vehicle ahead to a stop. When the vehicle ahead starts moving again, the driver should check that it is safe to proceed, then continue to automatically follow the vehicle ahead by pressing the accelerator or resume button. If the driver doesn't respond soon after the stop, the vehicle ahead icon will flash. In addition, an audible notification will sound, or if equipped, the safety alert seat will pulse to remind the driver to check traffic ahead before proceeding.

If the adaptive cruise control is controlling speed and detects that the vehicle is approaching a vehicle ahead too quickly and adaptive cruise control cannot apply sufficient braking, such as when vehicles ahead suddenly slow or stop, drivers will receive a forward collision alert to warn them to quickly take action. This alert includes a red flashing visual alert, an audible notification, or, if equipped, the safety alert seat will pulse.

If the driver uses the accelerator pedal while adaptive cruise control is active, a driver information center warning message will indicate that automatic braking will not occur. In some vehicles, instead of the message, the green adaptive cruise control icon will change to blue.

Switching between cruise control modes (if available):

- The driver should press and hold the cruise control CANCEL button.
- The driver will see either the adaptive cruise control icon or the regular cruise control icon on the driver information center. This icon indicates which cruise control mode has been selected.
- Drivers should check which cruise control icon is displayed before setting their cruise control speed.

The driver can end adaptive cruise control by doing any of the following:

- Stepping lightly on the brake pedal
- Pressing the cruise control CANCEL button
- Pressing the cruise control ON/OFF button

Adaptive Cruise Control Operational Checks

Safety Considerations

- The system can only apply limited braking. The driver's complete attention is always required while driving
- The system may not react to parked, stopped or slow-moving vehicles; the driver should always be ready to take action and apply the brakes
- Driver should not use adaptive cruise control on winding or hilly roads, on freeway exit or entrance ramps or when trailering. In these driving conditions, the system may not detect the vehicle ahead
- The system cannot detect traffic lights or traffic signs, so the driver needs to safely brake accordingly whenever approaching an intersection with a traffic light or stop sign
- If no vehicle ahead is detected, adaptive cruise control will work like regular cruise control
- When using adaptive cruise control, the driver should keep in mind that the system is designed to follow detected vehicles ahead at a longer distance when traveling at higher speeds than at lower speeds
- To avoid using adaptive cruise control by accident, advise customers to keep the cruise control button off when they don't need it. They should press the ON/OFF button and verify that the adaptive cruise control icon is not lit

Adaptive cruise control may have difficulty detecting the following objects:

- Vehicles in front of the driver's vehicle that have a rear aspect that is low, small or irregular
- A truck or trailer that has no cargo in the cargo bed
- Vehicles with cargo extending from the back end
- Non-standard shaped vehicles, such as vehicle transport, vehicles with a sidecar or horse carriages
- Vehicles that are low to the road surface
- Objects that are close to the front of the driver's vehicle

Weather conditions can affect adaptive cruise control:

- If the vehicle's interior temperature is extremely high, the P16 Instrument Panel Cluster Control Module may indicate that adaptive cruise control is temporarily unavailable. This can be caused by extreme hot weather conditions. Adaptive cruise control will return to normal operation once the ambient is cooler
- Conditions that are associated with low visibility, such as rain, snow or road spray, may limit the performance of adaptive cruise control.

Forward Collision Alert Description and Operation (with UGN)

On vehicles equipped with RPO UGN, forward collision alert is an integrated of the active safety system. Refer to *Active Safety System Description and Operation (with UGN) on page 7-9*.

Forward Collision Alert Description and Operation (without UGN)

Forward Collision Alert (UEU)

The forward collision alert system is a convenience feature of the B174W Front View Camera - Windshield that can warn drivers of a possible front-end collision situation with a vehicle they are following. The B174W Front View Camera - Windshield is located behind the windshield, looking out at the road ahead and detecting vehicles directly ahead. When a vehicle is detected ahead, a green icon is displayed. This indicator will turn amber if the driver is following too closely. If the system detects that the driver is seconds away from a possible front-end collision, it sends an alert. The P43 Forward Collision Alert Display, which includes a series of red collision alert LEDs, will flash. An audible alert sound will simultaneously sound. If the vehicle is equipped with safety alert seat (HS1), both sides of the seat will pulse. The forward collision alert system can be set to "far," "medium," or "near" timing using the forward collision alert switch and can be turned off using this control or through the vehicle personalization.

Forward collision alert does not provide a warning to help avoid a crash unless it detects a vehicle. Forward collision alert may not detect a vehicle ahead if the B174W Front View Camera - Windshield is blocked by dirt, snow, or ice, or if the windshield is damaged. It may also not detect a vehicle on winding or hilly roads, or in conditions that can limit visibility such as fog, rain, or snow, or if the headlamps or windshield are not cleaned or in proper condition. Keep the windshield, headlamps, and B174W Front View Camera - Windshield area clean and in good repair.

Forward collision alert may provide unnecessary alerts for turning vehicles, vehicles in other lanes, objects that are not vehicles, or shadows. These alerts are normal operation and the vehicle does not need service.

Forward Automatic Braking (UHY)

Forward automatic braking detects vehicles ahead in your path that are traveling in the same direction and may help reduce crash severity or avoid the crash altogether by applying the brakes automatically or enhancing the driver's braking in some emergency front-end collision situations . It can provide braking assist, such as brake system pre-fill, or automatically brake the vehicle if an imminent collision is determined. This can help avoid or lessen the severity of crashes when driving in a forward gear. Depending on the situation, the vehicle may automatically brake moderately or hard. Forward automatic braking can only occur if a vehicle is detected. When a vehicle is detected ahead, a green icon is displayed. The forward automatic braking system works when driving in a forward gear between 8 km/h (5 mph) and 60 km/h (37 mph). It can detect vehicles up to approximately 60 m (197 ft) away.

If the system detects that the driver is seconds away from a possible front-end collision with the vehicle it is following, it will first send an alert. If the driver doesn't respond quickly or the situation happens suddenly, forward automatic braking enhances the driver's braking or automatically applies the brakes. Drivers can override automatic braking at any time by pressing the accelerator or by braking. If the system slows a vehicle to a complete stop, the electronic parking brake will apply. The electronic parking brake can be release in typical fashion by pressing the electronic parking brake switch.

Through vehicle personalization, the forward automatic braking can be been set to the ALERT setting or turned completely off. This setting disables most automatic braking functions. The driver information center will display FORWARD COLLISION SYSTEM REDUCED or AUTOMATIC COLLISION PREP REDUCED. This is normal operation when the forward automatic braking or forward collision alert system is set to OFF or ALERT. This message is not present when the forward automatic braking or forward collision alert system are set to ALERT and BRAKE.

Forward Collision Alert/Forward Automatic Braking Components

- B174W Front View Camera - Windshield
- P16 Instrument Panel Cluster Control Module
- P43 Forward Collision Alert Display (without UV6)
- P29 Head-Up Display (with UV6)
- Forward Collision Alert Switch
- Infotainment System
- Safety Alert Seat (with HS1)

B174W Front View Camera - Windshield

The B174W Front View Camera - Windshield detects vehicles in front of the vehicle. The B174W Front View Camera - Windshield communicates with the P16 Instrument Cluster via serial data to illuminate the appropriate amber or green vehicle ahead indicator or P43 Forward Collision Alert Display. The B174W Front View Camera - Windshield also communicates via serial data with the infotainment system to request audible alerts.

P16 Instrument Panel Cluster Control Module

The P16 Instrument Panel Cluster Control Module communicates via serial data with the B174W Front View Camera - Windshield and will illuminate the amber or green vehicle ahead indicator as requested by the B174W Front View Camera - Windshield. The P16 Instrument Panel Cluster Control Module also controls the P43 Forward Collision Alert Display.

P43 Forward Collision Alert Display (without UV6)

The P43 Forward Collision Alert Display are a series of red LEDs that will flash when approaching another vehicle too rapidly. The P43 Forward Collision Alert Display are located in the upper instrument panel area and reflect off the windshield when illuminated.

The P43 Forward Collision Alert Display receive power and ground and are discretely controlled by the P16 Instrument Cluster through a pair of low control circuits. When requested by the B174W Front View Camera - Windshield, the P16 Instrument Cluster will pulse the low control circuits, flashing the LEDs as a visual alert that another vehicle is being approached too rapidly.

P29 Head-Up Display (with UV6)

The P16 Instrument Cluster controls the P29 Head-Up Display via serial data. The P16 Instrument Cluster will command the P29 Head-Up Display to flash the collision alert indicator as a visual alert when approaching another vehicle too rapidly as requested by the B174W Front View Camera - Windshield.

Forward Collision Alert Switch

The forward collision alert switch provides an input to the B174W Front View Camera - Windshield to select the alert timing sensitivity when approaching another vehicle too rapidly. The forward collision alert switch is part of the S70L Cruise Control Switch and provides inputs to the K9 Body Control Module, which then communicates with the B174W Front View Camera - Windshield via serial data.

The K9 Body Control Module applies voltage and monitors a low signal voltage from the normally open switch. When the switch is pressed, the signal circuit is pulled low through a specific series of resistors, indicating that the system has been requested to change the alert timing sensitivity. The first button press will show the current alert timing setting on the driver information center. With every subsequent button press, the alert timing sensitivity is changed.

Infotainment System

The infotainment system controls the audible alerts for the forward collision alert system. If the vehicle is approaching another vehicle too rapidly, the B174W Front View Camera - Windshield will command the infotainment system issue an audible alert to the driver.

Safety Alert Seat (with HS1)

The K9 Body Control Module (without A45) or K40D Driver Seat Adjuster Memory Module (with A45) controls the haptic alert provided by the seats. If the vehicle is approaching another vehicle too quickly, the B174W Front View Camera - Windshield will command the control module to pulse both sides of the seat.

Forward Collision Alert and Forward Automatic Braking Operational Checks

If the forward collision alert system is off, inoperative, or not functioning, check the following:

- Verify there are no active driver information center messages and that no DTCs are set.
- Verify that the system is enabled through vehicle personalization. Vehicle personalization allows the system to be set to “Off,” “Beeps,” ”Alert,” “Safety Alert Seat,” or “Alert & Brake”.
- Attempt to replicate the customer concern. While driving, if the vehicle-ahead telltale display illuminates green when following a vehicle above 8 km/h (5 mph) , forward collision alert is operating properly.

If the driver is receiving false forward collision alerts, check the following:

- Verify the B174W Front View Camera - Windshield is not blocked by dirt, snow, or ice, and the windshield is not damaged.
- The system may be identifying vehicles farther ahead than the customer is expecting. Forward collision alert detects vehicles within a distance of approximately 60 m (197 ft) and operates at speeds above 8 km/h (5 mph).
- Forward collision alert may provide unnecessary alerts to turning vehicles, vehicles in other lanes, objects that are not vehicles, or shadows. These alerts are normal operation and the vehicle does not need service.

If forward collision alert beeps, but the seat does not vibrate, check the following:

- Verify the vehicle is equipped with safety alert seat (RPO HS1).
- Verify there are no active driver information center messages and that no DTCs are set.
- Verify that the system is enabled through vehicle personalization: It may be set to “Beeps” or “Alert Only” instead of “Safety Alert Seat” or “Alert & Brake”.

If FORWARD COLLISION SYSTEM REDUCED or AUTOMATIC COLLISION PRE REDUCED is displayed on the driver information center, check the following:

- Verify that the system is enabled through vehicle personalization: It may be set to “Alert Only” instead of ”Off” or Alert & Brake”.

If SERVICE FRONT CAMERA is displayed on the driver information center, check the following:

- Verify there are no active driver information center messages and that no DTCs are set.
- If the message is only displayed upon startup, check the following:
  – Verify the B174W Front View Camera - Windshield is not blocked by dirt, snow, or ice, and the windshield is not damaged.
  – Verify the vehicle is not parked closed to a wall or the B174W Front View Camera - Windshield is not in an over-temperature condition, such as sitting for long periods in high ambient temperatures and direct sun.
- If the message is displayed beyond startup, check the following:
  – Verify there are no active driver information center messages and that no DTCs are set.

If FRONT CAMERA IS BLOCKED is displayed on the driver information center, check the following:

- Check for any other driver information center service messages.
- Verify the B174W Front View Camera - Windshield is not blocked by dirt, snow, or ice, and the windshield is not damaged.

If SERVICE DRIVER ASSIST is displayed on the driver information center, check the following:

- Check for any other driver information center service messages.
- Verify there are no active driver information center messages and that no DTCs are set.

Lane Keep Assist Description and Operation

The lane keep assist system is a convenience feature that utilizes the B174W Front View Camera - Windshield maintain the vehicle location between identified lane markings. The B174W Front View Camera - Windshield is located behind the windshield, looking out at the road ahead and detecting any lane markings. If the vehicle begins to approach an identified lane marking, automatic correction will be applied by the electric power steering to move the vehicle back toward the center the lane. An integrated function of lane keep assist is lane departure warning. When the vehicle unintentionally leaves a detected lane, visual and audible or haptic (if equipped) alerts are given to the driver. The visual alert cannot be changed, but the driver can select between audible or haptic alerts in the vehicle personalization menus.

Lane Keep Assist System Components

The lane keep assist system is made up of the following components:

- B174W Front View Camera - Windshield
- P16 Instrument Panel Cluster Control Module
- Multi-axis acceleration sensor (part of the K36 Restraints Control Module)
- Steering wheel angle sensor (part of the K43 Power Steering Control Module)
- K43 Power Steering Control Module
- Lane keep assist switch
- Infotainment system
- Safety alert seat (with HS1)

B174W Front View Camera - Windshield

The B174W Front View Camera - Windshield detects visual queues such as lane markings. When it is determined that the vehicle is approach an identified lane marking, automatic correction will be applied by the electric power steering to move the vehicle back toward the center the lane. Using the multi-axis acceleration sensor and steering wheel angle sensor, the B174W Front View Camera - Windshield determines the vehicles path and compares this to it’s own intended path based on lane markings. The B174W Front View Camera - Windshield will then request the K43 Power Steering Control Module to perform the appropriate steering correction. The B174W Front View Camera - Windshield receives an input from the lane keep assist switch and controls the lane keep assist switch indicator output.

P16 Instrument Panel Cluster Control Module

The P16 Instrument Panel Cluster Control Module contains green and amber lane keep assist indicators. These indicate to the driver the current status of the lane keep assist system and are controlled via serial data by the B174W Front View Camera - Windshield. When the vehicle speed is above 56 km/h (35 MPH) and the system has detected the required lane markings and is ready to assist, the green indicator will be illuminated on the P16 Instrument Panel Cluster Control Module. If the vehicle has unintentionally left the lane, the amber indicator will flash.

Multi-axis Acceleration Sensor

The steering intervention is based on the forward looking sensor outputs, such as lateral offset of the vehicle, relative yaw angle and time to line crossing. Over that, other vehicle dynamics signals are needed, e.g. velocity, steering angle, yaw rate for the purpose of a driver suppression. The multi-axis acceleration sensor measures vehicle dynamics signals such as velocity and yaw rate for the purpose of determining the vehicles path. The multi-axis acceleration sensor is an integrated part of the K36 Restraints Control Module.

Steering Wheel Angle Sensor

The steering intervention is based on the forward looking sensor outputs, such as lateral offset of the vehicle, relative yaw angle and time to line crossing. Over that, other vehicle dynamics signals are needed, e.g. velocity, steering angle, yaw rate for the purpose of a driver suppression. The steering wheel angle sensor measures vehicle dynamics signals such as steering angle for the purpose of determining the vehicles path. The steering wheel angle sensor is an integrated part of the steering gear and K43 Power Steering Control Module.

K43 Power Steering Control Module

The K43 Power Steering Control Module uses a torque sensor to detect driver inputs and relays that information to the B174W Front View Camera - Windshield. The electric power steering is used to maintain lane centering.

Lane Keep Assist Switch

The lane keep assist switch provides an input to the B174W Front View Camera - Windshield to turn the lane keep assist system on and off. The B174W Front View Camera - Windshield provides a signal voltage to the normally open momentary switch. When the switch is pressed, the signal circuit is pulled to ground, indicating to the B174W Front View Camera - Windshield that the system has been requested to turn ON or OFF. The lane keep assist switch also contains the lane keep assist switch indicator, which is controlled by the B174W Front View Camera - Windshield to indicate the ON and OFF status of the lane keep assist system. When the system has been enabled by the lane keep assist switch, the B174W Front View Camera - Windshield applies ground to the switch indicator and illuminates the LED. The location of the lane keep assist switch can vary with different vehicles. For the exact location please refer to the vehicle owner's manual.

Infotainment system

The radio controls the audible alert for the lane keep assist. If the vehicle has unintentionally left the lane, the radio will command three beeps as an audible alert to the driver.

Safety Alert Seat (with HS1)

The K9 Body Control Module (without A45) or K40D Driver Seat Adjuster Memory Module (with A45) controls the haptic alert provided by the seats. If the vehicle has unintentionally left the lane and the K43 Power Steering Control Module determines the corrective action requires an above threshold amount of effort, three pulses to the left or right side of the seat will be commanded, depending on the lane departure direction.

Lane Keep Assist Operation

Lane keep assist with lane departure warning provides gentle steering wheel input and alerts to help prevent drivers from unintentionally drifting out of their intended lane.

There is two stages of warning/intervention for the driver: The first stage is the steering push back, if the lane keep assist system detects that the vehicle will cross the lane marking despite it is intervening, a second stage warning shall be issued. The second stage warning is a chime or a haptic alert through the safety alert seat (if equipped). If a haptic seat vibration is used as stage 2 warning, the vibration will occur on the side of the seat, where the lane departure occurred.

System operation can be described by the following modes:

- Off State: The system has been turned off by the driver using the lane keep assist switch. The lane keep assist indicator will not be illuminated.
- Not Ready To Assist: The system is enabled and the lane keep assist indicator is illuminated, but not ready to assist when any of the following conditions is true:
  - Vehicle speed is less than 37 MPH (60 km/h) . The system is designed to function at speeds greater than 37 MPH (60 km/h).
  - The system cannot detect lane markings. This may be because there are no lane markings, as on a country road or that the lane markings cannot be determined due to snow, rain, or other driving conditions.
  - The windshield area in front of the camera or the camera lens is blocked by fog, dirt, damage to the windshield or other elements that may prevent the camera from detecting lane markings.
- Ready To Assist: The system is enabled and ready to warn of the unintentional lane crossing. The system is ready to assist when the green lane keep assist indicator is illuminated on the P16 Instrument Cluster.

Lane Crossing Alerts

- When one of the following conditions are met, the system will not give alerts:
  - The correct turn signal is activated. An activated turn signal is interpreted as an intentional lane crossing.
  - The operator makes an intentional steering maneuver.
  - The operator makes an intentional accelerating maneuver.
  - The operator makes an intentional braking maneuver.
- Lane crossing alert consists of the following:
  - The amber lane keep assist indicator will flash.
  - "push-back" steering torque input (or nudge) from electric power steering to help prevent a lane departure
  - Three chimes are activated through the radio or three pulses to the left or right side of the active safety seat (if equipped).

Safety Alert Seat Description and Operation

The safety alert seat uses pulsing driver seat vibrations to intuitively communicate the direction of a possible crash threat. Two P45 Front Seat Lane Departure Warning Actuators are utilized to create the vibration and are located on the left and right sides of the seat cushion. Utilizing two motors allows the vibration to be localized to the left or right side of the seat, depending on the side of the vehicle generating the alert, or to vibrate both simultaneously.

Note: The following systems may not be available on all vehicles.

The following systems utilize the safety alert seat:

- Lane Departure Warning and Lane Keep Assist – Utilizes left or right-side pulses to alert drivers if they unintentionally drift out of their lane
- Rear Cross Traffic Alert – Utilizes left or right-side pulses to the direction of an approaching vehicle
- Forward Collision Alert – Simultaneously pulses on both sides to warn drivers of a possible collision with the vehicle that they're following
- Front Pedestrian Braking – Simultaneously pulses on both sides to warn drivers of a possible collision with a pedestrian
- Front Parking Assist, Rear Parking Assist, and Backing Warning (part of the Rear Automatic Braking system) – Simultaneously pulses on both sides to warn drivers of a possible low-speed collision

Safety Alert Seat Components

The active safety seat utilizes the following components:

- K9 Body Control Module (without A45)
- K40D Driver Seat Adjuster Memory Module (with A45)
- P45LR Front Seat Lane Departure Warning Actuator - Left Rear
- P45RR Front Seat Lane Departure Warning Actuator - Right Rear

K9 Body Control Module (without A45)

The K9 Body Control Module receives serial data messages from other modules and provides voltage to control the P45 Front Seat Lane Departure Warning Actuators. The K9 Body Control Module will pulse the left, right, or both P45 Front Seat Lane Departure Warning Actuators with the number of pulses requested over serial data. The K9 Body Control Module monitors the control circuits for open, short to ground, and short to voltage conditions and will set DTCs if a circuit fault is detected.

K40D Driver Seat Adjuster Memory Module (with A45)

The K40D Driver Seat Adjuster Memory Module receives serial data messages from other modules and provides voltage to control the P45 Front Seat Lane Departure Warning Actuators. The K40D Driver Seat Adjuster Memory Module will pulse the left, right, or both P45 Front Seat Lane Departure Warning Actuators with the number of pulses requested over serial data. The K40D Driver Seat Adjuster Memory Module monitors the control circuits for open, short to ground, and short to voltage conditions and will set DTCs if a circuit fault is detected.

P45 Front Seat Lane Departure Warning Actuator

The P45 Front Seat Lane Departure Warning Actuator is DC motor located in the driver's seat bottom cushion. Two P45 Front Seat Lane Departure Warning Actuators are used in the seat bottom cushion, positioned on the left and right side. An offset weight is attached to the motor. When activated, the spinning offset weight creates a vibration felt by the driver through the seat cushion.

Each P45 Front Seat Lane Departure Warning Actuator receives a constant chassis ground. The motor is controlled by the K9 Body Control Module (without A45) or K40D Driver Seat Adjuster Memory Module (with A45) by providing voltage through a dedicated control circuit. When an alert is required, the control module will apply voltage, activating the P45 Front Seat Lane Departure Warning Actuator

Side Blind Zone Alert Description and Operation

The side blind zone alert system detects and reports "objects of interest" on either side of the vehicle, within a specified "blind spot" zone. The system is designed to alert the driver, with a visual display placed on the side view mirror, to the presence of objects of interest that may not be visible in the inside rearview mirror and outside rear view mirrors. Although this system is intended to help drivers avoid lane change collisions, it does not replace driver vision and therefore should be considered a lane change aid. Even with the side blind zone alert system, the driver must check carefully for objects outside of the reporting zone (e.g., a fast approaching vehicle) before changing lanes. In the event that the system senses a malfunction through its diagnostic routines, the system will be disabled and the driver will be visually notified.

When the system detects a vehicle in the side blind zone while driving forward, an amber warning symbol will light up in the appropriate outside mirror. This indicates that it may be unsafe to change lanes. If the driver then activates the turn signal, the amber warning symbol starts flashing as an extra warning not to change lanes.

Side blind zone alert is active when the vehicle is out of park, or the parking brake is off on manual transmission vehicles, and at speeds up to approximately 140 km/h (87 MPH). If a vehicle is detected in the blind zone, the warning symbols will illuminate on the appropriate side. When the vehicle is started, both outside mirror indicators will briefly illuminate to indicate that the system is operating. The warning symbols will vary brightness based on the ambient light conditions.

Side Blind Zone Alert Components

- B218L Side Obstacle Detection Control Module - Left
- B218R Side Obstacle Detection Control Module - Right
- K9 Body Control Module
- S79D Front Side Door Window Control Switch - Driver
- S79P Front Side Door Window Switch - Passenger
- A9A Outside Rearview Mirror – Driver
- A9B Outside Rearview Mirror – Passenger
- Safety Alert Seat (HS1)

B218 Side Obstacle Detection Control Module

The B218L Side Obstacle Detection Control Module - Left and B218R Side Obstacle Detection Control Module - Right are located on each side of the vehicle behind the rear fascia and are not directly visible from outside the vehicle. The B218 Side Obstacle Detection

Control Modules use radar to determine the presence of objects nearby. Both B218 Side Obstacle Detection Control Modules communicates with the vehicle via serial data. The B218L Side Obstacle Detection Control Module - Left and B218R Side Obstacle Detection Control Module - Right also communicate with one another on a private CAN serial data bus. When an object is detected in the side blind zone, the B218L Side Obstacle Detection Control Module - Left and B218R Side Obstacle Detection Control Module - Right will send a CAN message to the K9 Body Control Module to illuminate the appropriate side blind zone alert indicator.

K9 Body Control Module

The B218L Side Obstacle Detection Control Module - Left and the B218R Side Obstacle Detection Control Module - Right will send a CAN message to the K9 Body Control Module when requesting the driver or passenger indicator be illuminated. The K9 Body Control Module then sends a LIN message to the S79D Front Side Door Window Control Switch - Driver or S79P Front Side Door Window Switch - Passenger with the indicator request.

S79 Front Side Door Window Control Switch

The B218L Side Obstacle Detection Control Module – Left and the B218R Side Obstacle Detection Control Module – Right will send a CAN message to the K9 Body Control Module when requesting the driver or passenger indicator be illuminated. The K9 Body Control Module then sends a LIN message to the S79D Front Side Door Window Control Switch - Driver or S79P Front Side Door Window Switch - Passenger with the indicator request. The S79D Front Side Door Window Control Switch - Driver or S79P Front Side Door Window Switch - Passenger will apply voltage to the indicator control circuit to illuminate the appropriate indicator.

A9 Outside Rearview Mirror

The A9A Outside Rearview Mirror – Driver and A9B Outside Rearview Mirror – Passenger each contain an icon that is backlit with high intensity, amber-colored LED's located on the mirror surface. The display brightness adapts to day/night conditions. The P43D Side Object Detection Indicator – Driver and P43P Side Object Detection Indicator – Passenger in the appropriate A9 Outside Rearview Mirror is illuminated if the specific B218 Side Obstacle Detection Control Module detects a vehicle in the side blind zone to inform the driver that there is a vehicle driving in the blind spot zone.

Safety Alert Seat (HS1)

The K40 Seat Memory Control Module (with A45) or K9 Body Control Module (without A45) controls the P45 Front Seat Lane Departure Warning Actuators. The P45 Front Seat Lane Departure Warning Actuators provide haptic alert to the driver. If an object is detected, the system will command pulses to the P45LR Seat Haptic Movement Motor – Driver Left Rear or P45RR Seat Haptic Movement Motor – Driver Right Rear, depending on the location of the object, as an alert to the driver.

Side Blind Zone Alert Operation

When the vehicle is started, both A9 Outside Rearview Mirror indicators will briefly illuminate to indicate that the system is operating. The system is designed to detect objects of interest as small as a 125cc motorcycle with rider. The detection zone starts at the outside rearview mirror and extends out to 3.5 m (11 ft) at the back corner of the vehicle and 3 m (10 ft) behind the vehicle at a height of 0.5 m (1.5 ft) and 2.0 m (6 ft) above the ground. The system may illuminate an indicator due to guardrails, signs, trees, shrubs, and other non-moving objects. This is normal system operation; the vehicle does not need service.

When the system detects a vehicle in the side blind zone or lane change alert area while driving forward, independent if passing a vehicle or being passed, an amber warning symbol will illuminate in the appropriate A9 Outside Rearview Mirror. This indicates that it may be unsafe to change lanes. If the driver then activates the turn signal, the amber warning symbol starts flashing as an extra warning not to change lanes.

Foul weather may affect the operation of the side blind zone and lane change alert systems. Occasional missed alerts can occur under normal circumstances and will increase in wet conditions. The number of missed alerts will increase with increased rainfall or road spray. Heavy rainfall, as well as mud, dirt, snow, ice, or slush build-up on the rear fascia, can completely disable the system.

If the vehicle is towing a trailer or has an object such as a bicycle rack attached to the rear of the vehicle, the side blind zone and lane change alert systems may not function properly and the indicators may illuminate intermittently or remain illuminated all the time.

Lane Change Alert Operation

An integrated function of the side blind zone alert system is lane change alert. Lane change alert supplements the side blind zone alert system by detecting approaching vehicles on either side of the vehicle that may not yet be in the side blind zone alert area. The detection zone for lane change alert starts at the outside rearview mirror and extends out to 3.5 m (11 ft) at the back corner of the vehicle and up to 70 m (230 ft) behind the vehicle at a height between 0.5 m (1.5 ft) and 2.0 m (6 ft) above the ground. The system determines when the indicator will illuminate based on the rate of closure, or approach speed, of an approaching vehicle. As the rate of closure become faster, the indicator will illuminate sooner.

Rear Cross Traffic Alert Operation

Rear cross traffic alert displays a red warning triangle with a left or right pointing arrow on the infotainment display to warn of traffic coming from the left or right. This system detects objects coming from up to 20 m (65 ft) from the left or right side of the vehicle. When an object is detected, either three beeps sound from the left or right or three safety alert seat pulses occur on the left or right side, depending on the direction of the detected vehicle.

Driver Information Center Messages

SIDE BLIND ZONE ALERT OFF or LANE CHANGE ALERT OFF

This message indicates that the system has been disabled through the driver information center. Refer to the vehicle owner's manual for instructions on how to set personalization options on the driver information center.

SERVICE SIDE DETECTION SYSTEM

This message indicates that the system requires service. When the message is displayed, the indicators will remain illuminated at all times, notifying the driver that the side blind zone system should not be relied upon when changing lanes. Since the sensors are also used for rear cross traffic alert, this feature will also be inoperative.

SIDE DETECTION SYSTEM UNAVAILABLE

This message indicates that the system has been temporarily disabled because the sensor is blocked or can otherwise not accurately detect vehicles or objects. Such instances may be mud, dirt, snow, ice, or slush build-up on the rear fascia, heavy rainfall, excessive road spray, fascia damage or stickers. An over or under-voltage condition or over-temperaure will also cause the message to display.

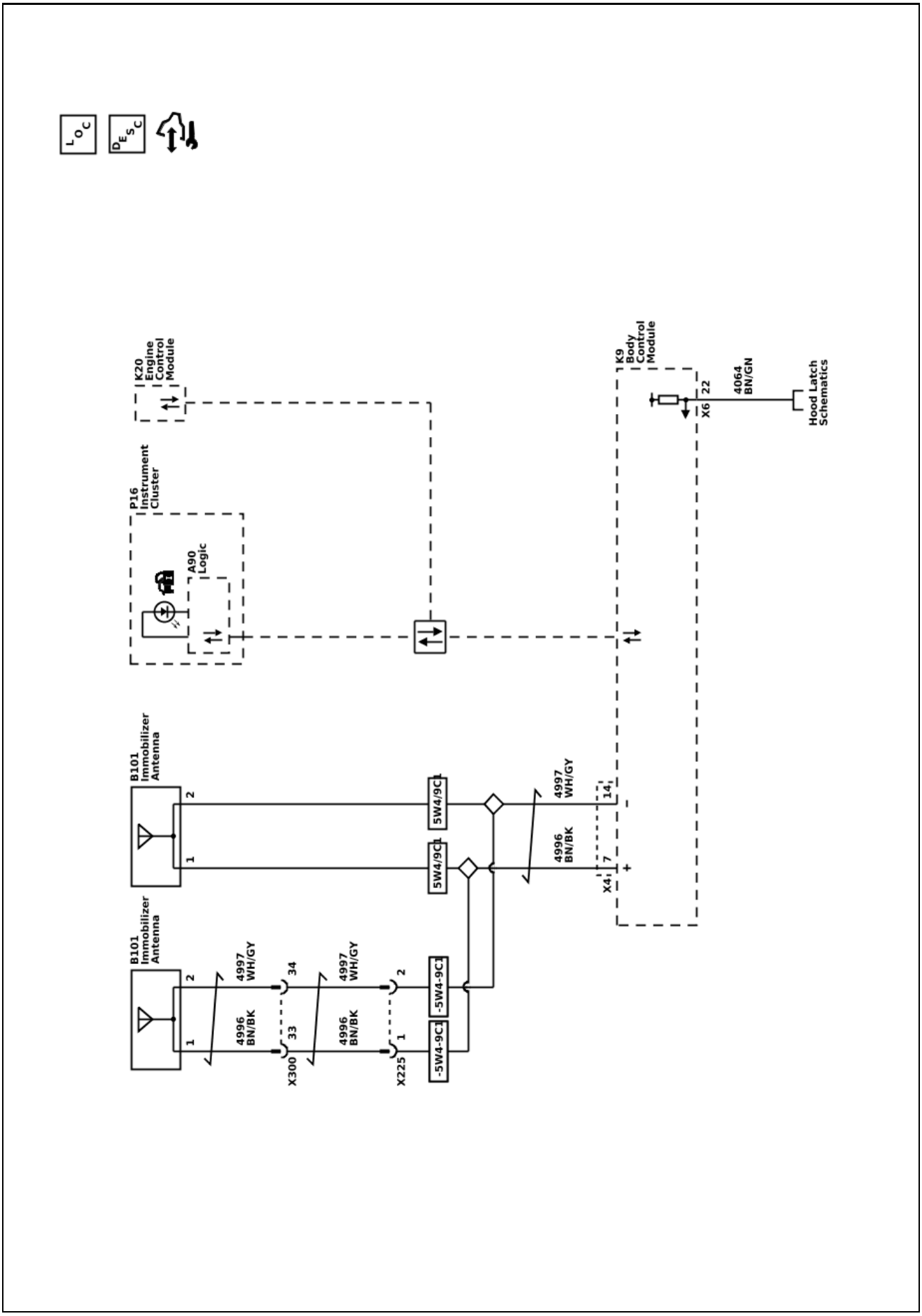
The rear cross traffic alert system will read the GPS latitude and longitude on the serial data bus and calculate if the vehicle is within a Radio Astronomy zone. These zones are located in Europe and Japan and require the sensors to be turned off. The "Side Detection System Unavailable" message will be displayed to the driver when this occurs.

The system is continuously fine tuning the radar alignment. If the B218 Side Obstacle Detection Control Module is removed or significantly disturbed, such as removing the rear fascia or sensor bracket, an initial alignment is automatically performed by the system to enable system operation. However, the SIDE DETECTION SYSTEM UNAVAILABLE may remain for several hours of driving as the system fine tunes the radar alignment to ensure satisfactory alert performance.

Immobilizer

Schematic and Routing Diagrams

Immobilizer Schematics (Immobilizer)



Repair Instructions

Immobilizer System Component Programming

This procedure will learn the immobilizer function. If the battery voltage is low, charge the battery before proceeding with the learn. If the body control module (BCM) or engine control module (ECM) have been replaced, they must be programmed before performing this learn procedure.

Depending on the immobilizer function being learned or the component replaced, different learn functions are required to be performed. These learn functions are as follows:

Immobilizer System Component Programming

Function name on SPS tool:	Function description:	When the function should be used:	Notes:
Body Control Module IMMO Function with Existing Transponder or Remote Key	The BCM will relearn the immobilizer passwords and data while reusing the existing vehicle keys	The BCM has been replaced and the existing vehicle keys are being reused or a diagnostic has instructed to perform the learn	—
Body Control Module IMMO Function with New Transponder or Remote Key	The BCM will relearn the immobilizer passwords and data while using new vehicle keys	The BCM has been replaced and new vehicle keys are being reused	—
Engine Control Module IMMO Learn	The ECM will relearn the immobilizer passwords and data	The ECM has been replaced or a diagnostic has instructed to perform the learn	—
Engine Control Module and Body Control Module IMMO Learn	The ECM and BCM will learn new immobilizer passwords and data	Both the ECM and BCM have been replaced (this selection will REQUIRE new vehicle keys be used)	Because both the ECM and BCM have been replaced and are learning new immobilizer passwords and data, all vehicle keys must also be replaced
Program Transponder or Remote Key (Add)	A new vehicle key will learn the immobilizer passwords and data	A new vehicle key is being added (does not affect other vehicle keys)	This function may not be available in all sales regions
Program Transponder or Remote Key (Delete)	All existing vehicle keys will be invalidated and any desired keys are relearned	All vehicle keys are desired to be invalidated and certain keys relearned or a diagnostic has instructed to perform the learn	This procedure may be used if a customer has had their keys lost or stolen and wishes to invalidate the keys, making them unable to start the vehicle

1. Connect a scan tool to the vehicle and access SPS.
2. Turn ON the ignition, with the engine OFF.
3. Ensure that all power consuming devices are turned OFF on the vehicle.
4. Select SPS application and follow the on-screen instructions.
5. Select Reprogram ECU.
6. Select IMMO Immobilizer Learn.
7. Select the appropriate programming function based on the component that was replaced or is being programmed. Refer to the table at the top of this document for assistance in choosing the correct programming function.

Note:

- At multiple times during the learn procedure, SPS will instruct you to turn the ignition to the run position. Make sure the vehicle is actually in the run mode before continuing on the SPS terminal. If the igniting is not in the run mode, the learn procedure will fail. To verify the vehicle is in Run mode, verify the green LED is illuminated on the ignition mode switch.
- The key pocket is located inside the center console at the rear. Place the key into the slot for the key pocket.

8. Follow the on-screen instructions.
9. When the SPS procedure has completed, press and hold the ignition mode switch for 15 seconds.
10. With a scan tool, clear any DTCs.

Unable to Complete Programming

When attempting to program immobilizer components, various conditions may prevent the programming operation from completing. These conditions may be caused by normal system operation, a system malfunction, or an external influence. Common symptoms of a incomplete programming is receiving an error message during the attempt or having the SPS application become unresponsive.

- DTCs are set in the body control module (BCM)

  The immobilizer system is a function of the BCM software. If immobilizer DTCs are set in the BCM, such as DTC B2955, a fault has been identified in the immobilizer system. If this is not corrected before attempting to program components, the programming may not complete. Correct all immobilizer DTCs before attempting to program any immobilizer components.
- The key has been programmed to another vehicle or is not the correct type for the vehicle

  A key can only be programmed to a single vehicle. Once a key is programming to a vehicle, it is paired for the life of the key. The key can be learned to the same vehicle again and again, but it is not able to be programmed to a different vehicle.

  Many vehicle are available with both a base keyless entry system and an optional passive entry system. These keys typically look identical but cannot be substituted for one another. To verify the key is correct, compare the part number that is etched on the key to the part number identified in the parts catalog. The key should be correct for the system installed in the vehicle.
- The theft deterrent module is not properly secured or the key is not properly positioned in the pocket/slot.

  A theft deterrent module that is not fully seated or is otherwise not properly secured may prevent a coupling between the transponder located in the key and the theft deterrent module. Being out of place by as little as 1 mm may prevent programming from completing. Make sure the theft deterrent module is properly installed and fully seated in it's clip.

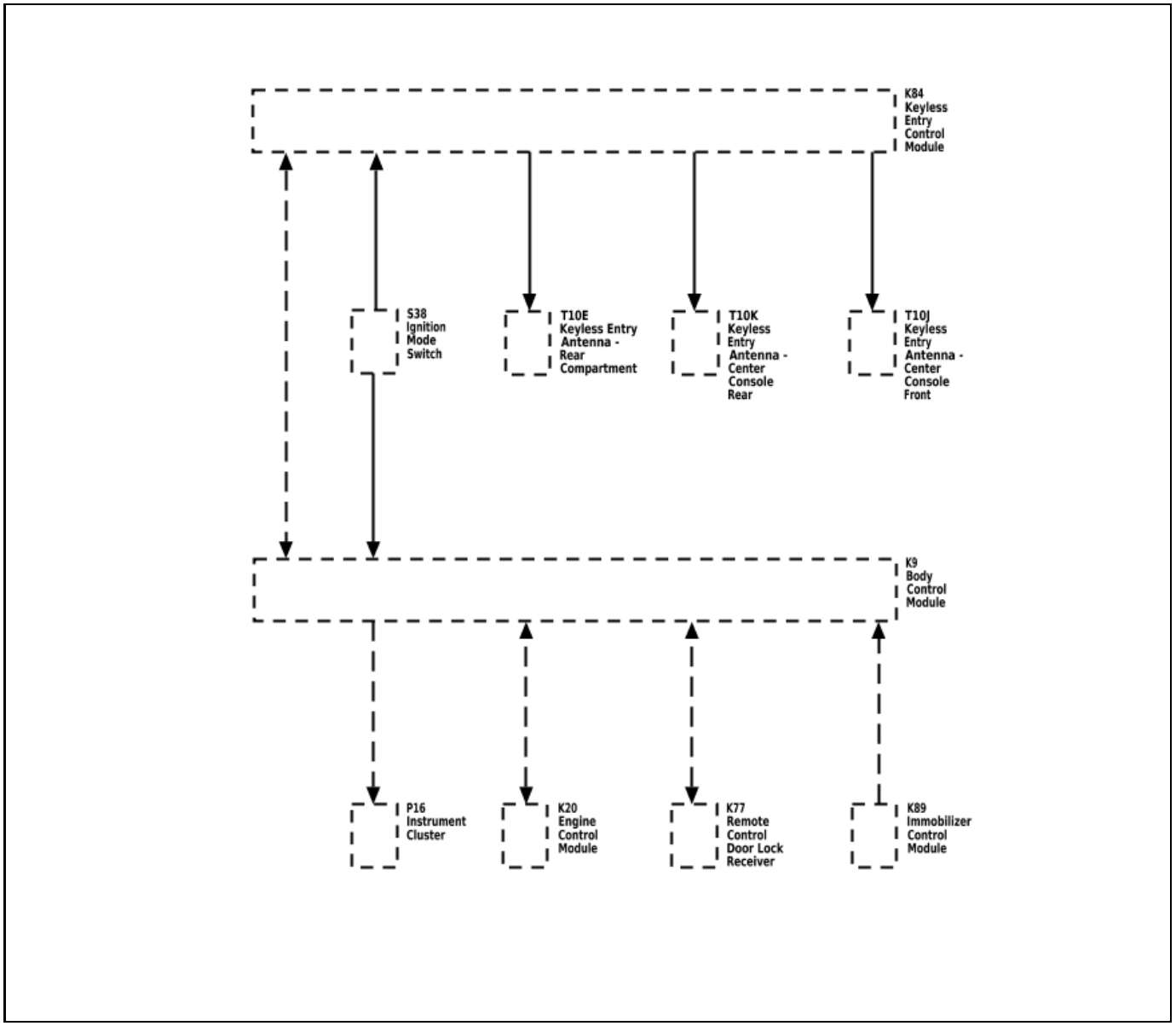
  The key shank must be fully extended so that the entire key shank fits into the programming slot.

  To determine if the theft deterrent module is properly secured, remove the battery from the key and place the key into the pocket/slot. Attempt to change the vehicle mode by pressing the vehicle ON/OFF switch. The vehicle should change modes. If the NO REMOTE DETECTED message is displayed on the DIC, the theft deterrent module may not be properly secured.
- External interference is interrupting the programming operation

  External RF interference and EMI may interrupt the low frequency coupling between the key and theft deterrent module. This interference may come from many different locations. Devices plugged into the vehicle power outlets such as cell phone chargers, laptop computers, GPS devices, etc. may cause interference. Vehicle location may also cause interference. Locations near airports and military installations may causer interference. Remove all customer installed devices and, if necessary, move the vehicle if interference is suspected.

Description and Operation

Immobilizer Description and Operation



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The immobilizer system functions are provided by the Remote Control Door Lock Receiver, the Steering Column Lock Module, the Body Control Module (BCM), and the Engine Control Module (ECM), as well as any control modules which store and report the environment identifier. The Body Control Module uses low frequency antennas in three different locations on the vehicle to determine the location of the transmitter. Multiple transmitting antennas are used to ensure complete coverage of the vehicle interior and rear compartment. These antennas transmit to the keyless entry transmitter.

When the vehicle Stop/Start switch is pressed, the low frequency antennas emit a challenge to the keyless entry transmitter. The transmitter receives this challenge and emits it's response as an RF message. The transmitter transmits a signal that contains its unique value, which is received by the BCM through the Remote Control Door Lock Receiver. The BCM then compares this value to a value stored in memory. The BCM also monitors various control modules to determine if the stored environment identifiers match.

If the correct transponder is detected, the electric steering column is unlocked, and there is no start disable from OnStar the BCM will send the prerelease allowed message via serial data to the ECM. The vehicle will be allowed up to 3 seconds run time. If the theft check is incorrect, the environment identifier check fails, the incorrect transponder is detected, the electric steering column is locked, or there is a start disable from OnStar, the BCM will send a negative response and the ECM will not start the vehicle or will immediately shut off the vehicle if prerelease allowed the vehicle to start.

If RF communication is interrupted, a "No Remote Detected" message will be displayed on the DIC. In these cases, the transmitter can be placed in the transmitter pocket. The immobilizer coil antenna is located in the immediate vicinity of the transmitter pocket. Placing the transmitter in the pocket/slot will create a low powered coupling between the transmitter and immobilizer coil antenna, allowing communications to occur and enabling vehicle starting.

The components of the immobilizer system are as follows:

- BCM
- ECM
- Remote Control Door Lock Receiver
- Immobilizer coil antenna
- Low frequency antenna
- Ignition key/Keyless entry transmitter
- Security indicator
- Various control modules which store and report the environment identifier

Body Control Module (BCM)

The immobilizer system is an integral part of the BCM and is controlled internally within the BCM. The BCM can learn up to 8 keys (transponder values). The BCM uses low frequency antennas in three different locations on the vehicle to determine the location of the transmitter. Multiple antennas are used to ensure complete coverage of the vehicle interior and rear compartment. The BCM monitors the ignition mode switch. When the ignition mode is changed, the BCM will command, or “ping”, the low frequency antenna.

The BCM uses the following inputs:

- Environment identifier exchange with various modules
- Encrypted code from the vehicle key, received by the immobilizer coil antenna if the keyless entry transmitter signal isn’t detected as indicated by the “No Remote Detected” message
- Encrypted code from the vehicle key, received by the Remote Control Door Lock Receiver

The BCM uses the following outputs:

- Prerelease Allowed signal communication with ECM
- Challenge/Response with ECM

When a transponder value is received by the BCM, the BCM will compare this value to the learned key code stored in memory. The BCM then performs one of the following functions:

- If the encrypted code value matches the values stored in the BCM memory, the BCM will send the Prerelease Allowed signal to the ECM via serial data.
- If the encrypted code unique value does not match the value stored in the BCM, the BCM will send the start disable message to the ECM via serial data.
- If the BCM is unable to receive the vehicle key encrypted code value, the BCM will not send any messages to the ECM.

Engine Control Module (ECM)

The ECM receives the BCM Prerelease Allowed signal and simultaneously the ECM sends a challenge to the BCM via the serial data circuit upon seeing the vehicle transition from OFF to any other power mode. Both the ECM and BCM perform a calculation on this challenge. If the calculated response from the BCM equals the calculation performed by the ECM, the ECM will allow vehicle starting.

Low Frequency Antenna

When commanded, or “pinged”, the low frequency antenna broadcast a challenge to the keyless entry transmitter. Because of the low power of the antenna, this challenge is only broadcast in an approximate three meter range of the antenna. Multiple antenna are used to ensure complete coverage of the vehicle interior and rear compartment.

Remote Control Door Lock Receiver

When the keyless entry transmitter is challenged by a low frequency antenna, it responds by emitting a response as an RF message. The transmitter transmits a signal that contains its unique value, which is received by the Remote Control Door Lock Receiver. The Remote Control Door Lock Receiver relays this information to the BCM via a discreet serial data circuit.

Keyless Entry Transmitter

Each keyless entry transmitter contains a transponder with a unique encrypted value. The transponder's encrypted value is fixed and unable to be changed. The immobilizer system uses the keyless entry transmitter transponder value to determine if a valid keyless entry transmitter is being used to start the vehicle.

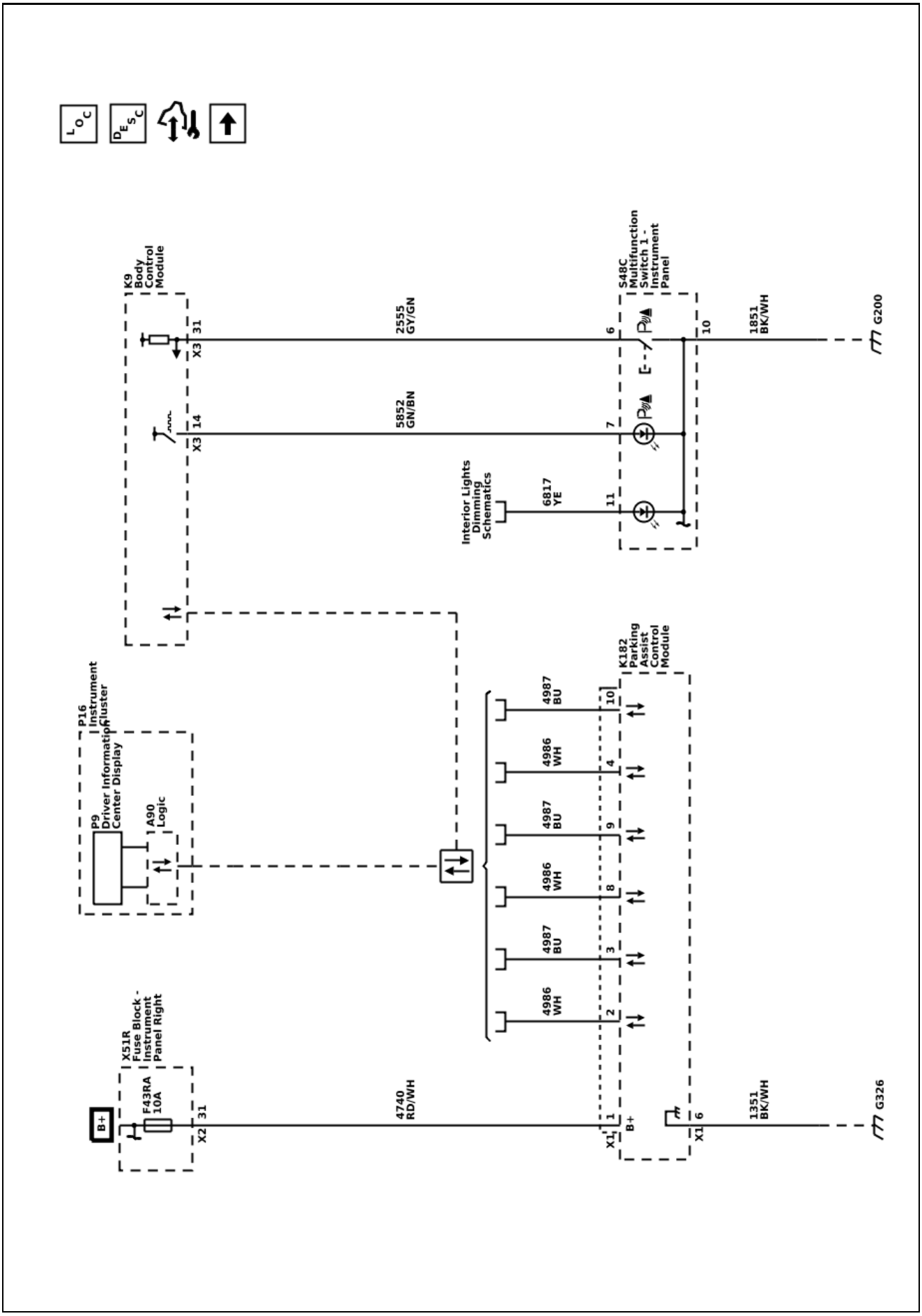
Security Indicator

The BCM will command the Instrument Cluster to illuminate the security indicator when the vehicle is ON to indicate a fault has occurred within the immobilizer system.

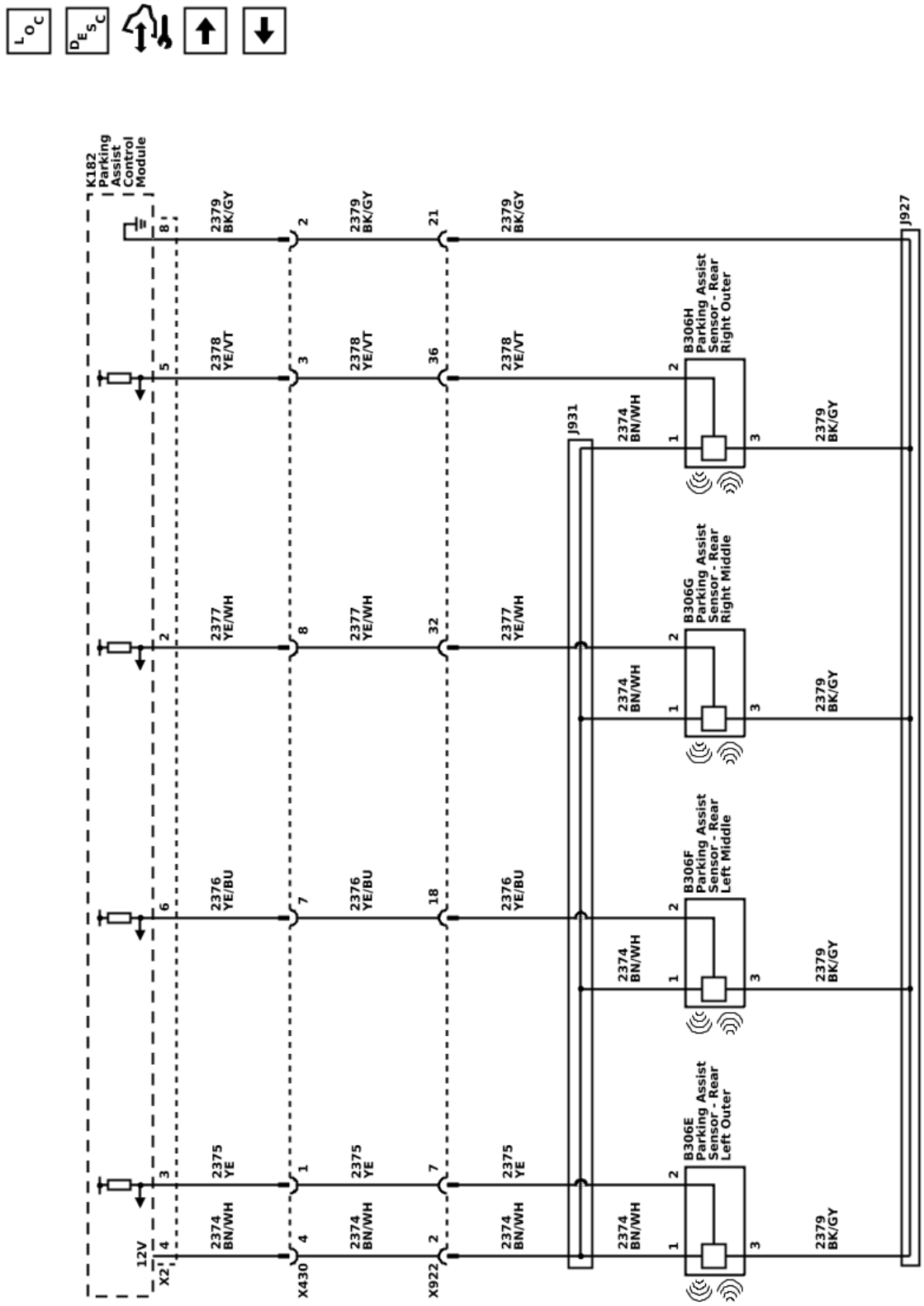
Parking Assistance Systems

Schematic and Routing Diagrams

Parking Assistance Systems Schematics (Park Assist - Power, Ground, and Serial Data (UD5/UD7))

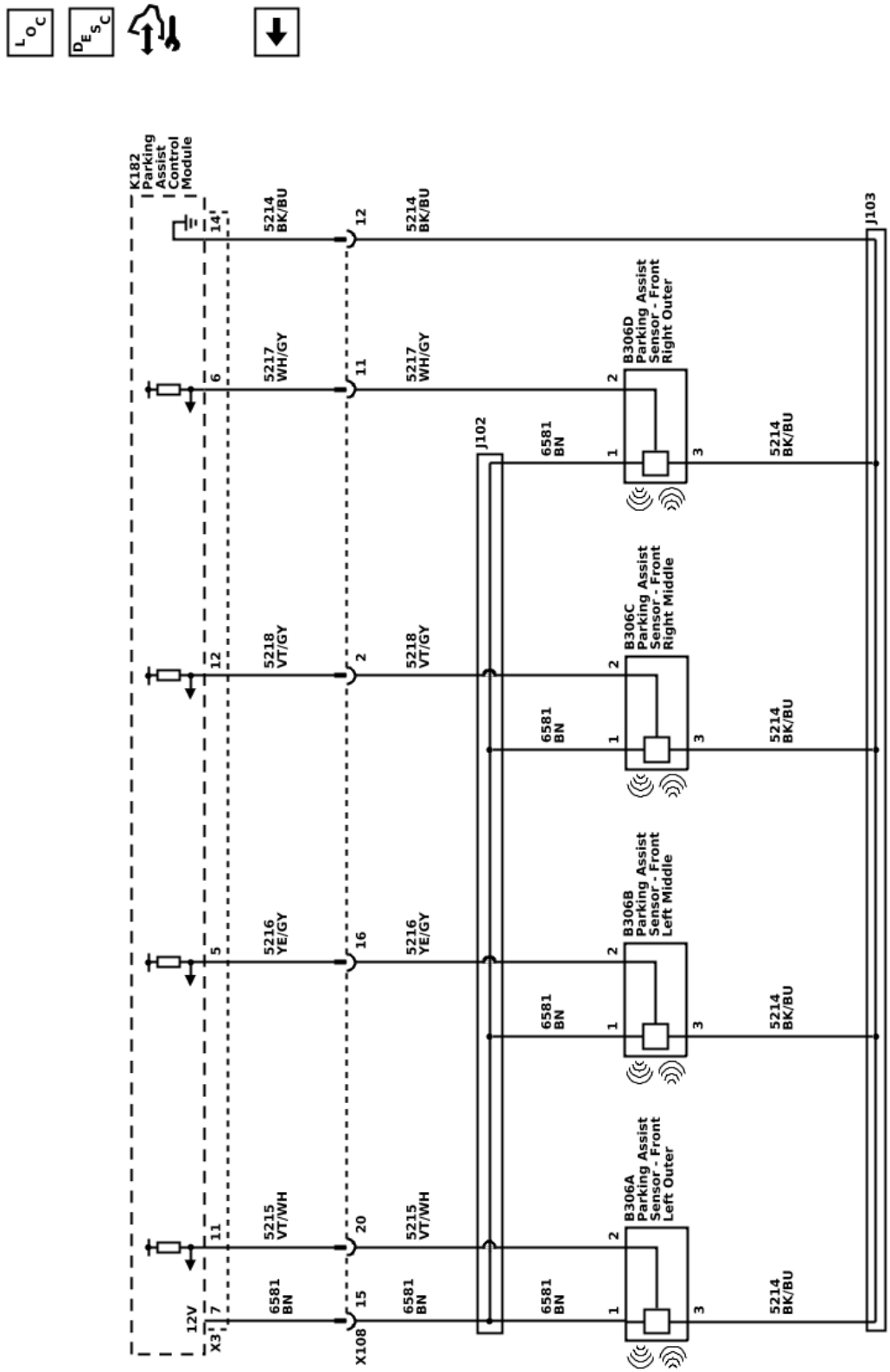


Parking Assistance Systems Schematics (Park Assist - Rear Sensors (UD5/UD7))



5371210

Parking Assistance Systems Schematics (Park Assist - Front Sensors (UD5))



5371211

Description and Operation

Parking Assist Description and Operation (UD5)

The parking assist system can help drivers avoid certain objects in their path during low-speed parking. The distance and location of the object is determined by four object sensors located in the rear fascia. The parking assist system may not detect all children, pedestrians, bicyclists, animals or objects below the bumper. Drivers should remember to always check the area around the vehicle before shifting into REVERSE. The parking assist system will not stop or slow down a vehicle. It does not engage a vehicle's throttle or braking. No safety system can take the place of an alert and engaged driver.

The parking assist system is made up of the following components:

- K182 Parking Assist Control Module
- B306 Parking Assist Alarm Sensors
- Infotainment system

K182 Parking Assist Control Module

The K182 Parking Assist Control Module provides a reference voltage and a low reference to the B306 Parking Assist Alarm Sensors. The K182 Parking Assist Control Module receives individual signals from each of the four B306 Parking Assist Alarm Sensors and determines the location and distance of an object based on these inputs. When an object is detected, the K182 Parking Assist Control Module will send a serial data message to the infotainment system requesting an audible alert.

B306 Parking Assist Alarm Sensors

The B306 Parking Assist Alarm Sensors are located in the rear fascia of the vehicle. The sensors are used to determine the distance between an object and the bumper. Each sensor emits an ultrasonic frequency which is reflected off any object located behind the vehicle. These reflections are received by the sensors. The time difference between the emission of the frequency and when the reflection is received is known as sensor echo time; it is used to determine the distance to the object. The sensors report this information to the K182 Parking Assist Control Module.

Infotainment System

The infotainment system controls the audible alert for the parking assist system. If the an object is detected the infotainment system will command beeps as an audible alert to the driver.

Rear Parking Assist Operation

The rear parking assist system uses four B306 Parking Assist Alarm Sensors located on the rear fascia and functions when the transmission is in REVERSE. When a driver is backing up at a low speed, up to about 11 km/h (7 mph), the B306 Parking Assist Alarm Sensors may detect objects up to 1.8 m (6 ft) behind the vehicle. When an object is within the measuring range of the B306 Parking Assist Alarm Sensors, the ultrasonic pulse is reflected and is received by the sending or a neighboring sensor. The sensor converts this signal into a voltage signal and sends this signal to the K182 Parking Assist Control Module. The K182 Parking Assist Control Module evaluates the received sensor signals.

When an object is within 0.6 m (2 ft) of the rear bumper, 5 repeating low-pitched beeps are played from the rear speakers, followed by a continuous tone. If the vehicle is equipped with the Safety Alert Seat (HS1), it will pulse 5 times on both sides.

Some vehicles may have a park assist display on the P16 Instrument Panel Cluster Module with bars that show "distance to object," driving direction, and object location information for the parking assist system. As the vehicle gets closer to the detected object, distance-to-object information and caution triangles may be displayed that changes from yellow to amber to red.

The parking assist system can be turned on and off using the parking assist switch.

The K182 Parking Assist Control Module carries out a self test and monitors the sensors for electrical and mechanical faults. Monitored is the power supply of each sensor and the sensor signals. Mud, ice and snow may cause obstruction of the function of the sensors. The K182 Parking Assist Control Module also determines if the correct type of sensor is installed. If any of these tests fails, a DTC with corresponding symptom is set and the parking assist system is deactivated.

Parking Assist System Messages

SERVICE PARKING ASSIST or SERVICE DRIVER ASSIST

The driver information center displays SERVICE PARKING ASSIST or SERVICE DRIVER ASSIST when the K182 Parking Assist Control Module detects a malfunction in the parking assist system and the system is disabled.

PARK ASSIST OFF

The PARK ASSIST OFF message is displayed in the driver information center when the parking assist system is disabled due to conditions that disable or inhibit the system. The K182 Parking Assist Control Module requests the driver information center display PARK ASSIST OFF when it detects such a condition.

Parking Assist System Operational Checks

The scan tool Parking Assist Disable History 1–8 data can be used to diagnose a malfunction within the parking assist system or an intermittent concern. The following is a brief description of potential causes which may aid in diagnosis. For each potential issue, perform an appropriate inspect of the component or system and refer to the specific service information subsection related to that system for further diagnosis:

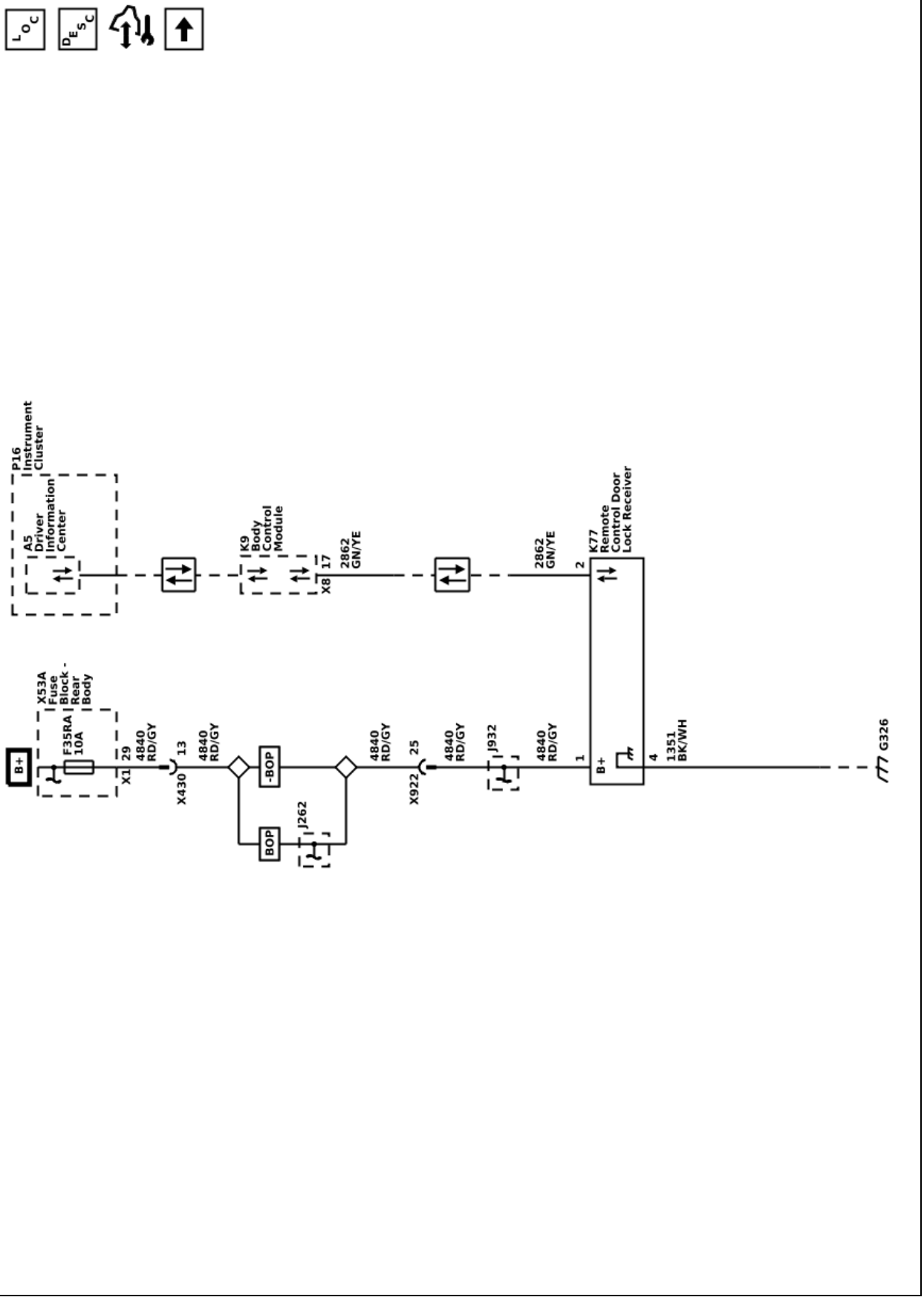
- Disable by Switch – The parking assist system has been disabled through the parking assist switch.
- Disabled by Customization Menu – The parking assist system has been disabled through the vehicle personalization menu.

- Vehicle Speed Too High – The vehicle is travelling too fast in reverse at speeds of greater than 8 km/h (5 mph).
- Vehicle Speed Invalid – The vehicle is unable to determine the vehicle speed.
- Steering Angle Signal Invalid – The vehicle is unable to determine the steering angle.
- Front Attached Object Detected – An object has been determined to be attached to the front of the vehicle. Common items such as a brush guards, light bars, and license plates may cause this concern. Additionally, damage to the front of the vehicle or a misaligned sensor may cause this concern. If the vehicle is damaged in a manner that causes the sensor to detect the bumper itself, the parking assist control module will interpret this as an attached object and disable the system. Carefully inspect the bumper, bumper mounting surface, and sensor retainers before continuing with normal diagnosis. After the detected cause has been addressed the vehicle must be driven at speed greater than 40 km/h (25 MPH).
- Rear Attached Object Detected – An object has been determined to be attached to the rear of the vehicle. Common items such as a hitch receiver, trailer, or a bicycle rack may cause this concern. Additionally, damage to the rear of the vehicle or a misaligned sensor may cause this concern. If the vehicle is damaged in a manner that causes the sensor to detect the bumper itself, the parking assist control module will interpret this as an attached object and disable the system. Carefully inspect the bumper, bumper mounting surface, and sensor retainers before continuing with normal diagnosis. After the detected cause has been addressed the vehicle must be driven at speed greater than 40 km/h (25 MPH).
- Front And Rear Attached Object Detected – An object has been determined to be attached to the front and rear of vehicle.
- Parking Assist Alarm Sensor Blocked – One of the following conditions may be present:
  - One or more of the sensors may be blocked by snow, mud, ice, or other debris. This might happen after going through a car wash in cold weather.
  - Silicone insulator surrounding sensor maybe missing, cut, or twisted.
  - Improperly installed sensor, sensor maybe be crooked due to a tight wire harness.
  - One or more of the sensors may be scratched or the paint maybe chipped.
  - Excessive paint thickness on a sensor may cause an excessive sensor ring time. When replacing or refinishing a sensor, do not apply an excessive amount of paint or clear coat.
- Haptic Seat Malfunction – A fault exists with the safety alert seat. Check for DTCs.
- Chime Malfunction – A fault exists with the vehicle chime. Check for DTCs.
- Parking Assist Switch Malfunction – A fault exists with the parking assist switch. Check for DTCs.
- Invalid Gear – The vehicle has determine a plausibility fault exists with the transmission range.
- Incorrect Power Mode – The vehicle is in an incorrect power mode for parking assist operation.

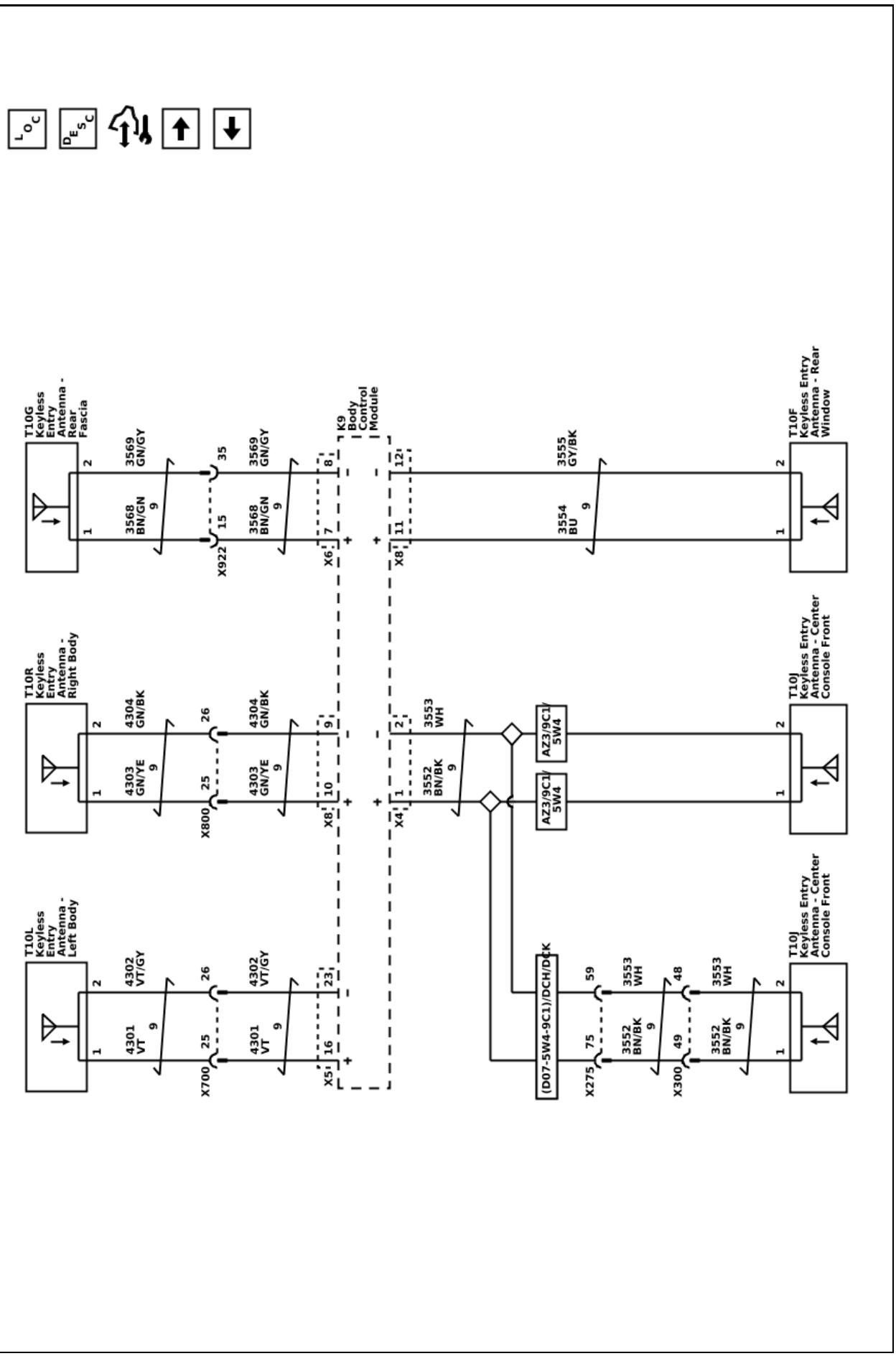
Remote Functions

Schematic and Routing Diagrams

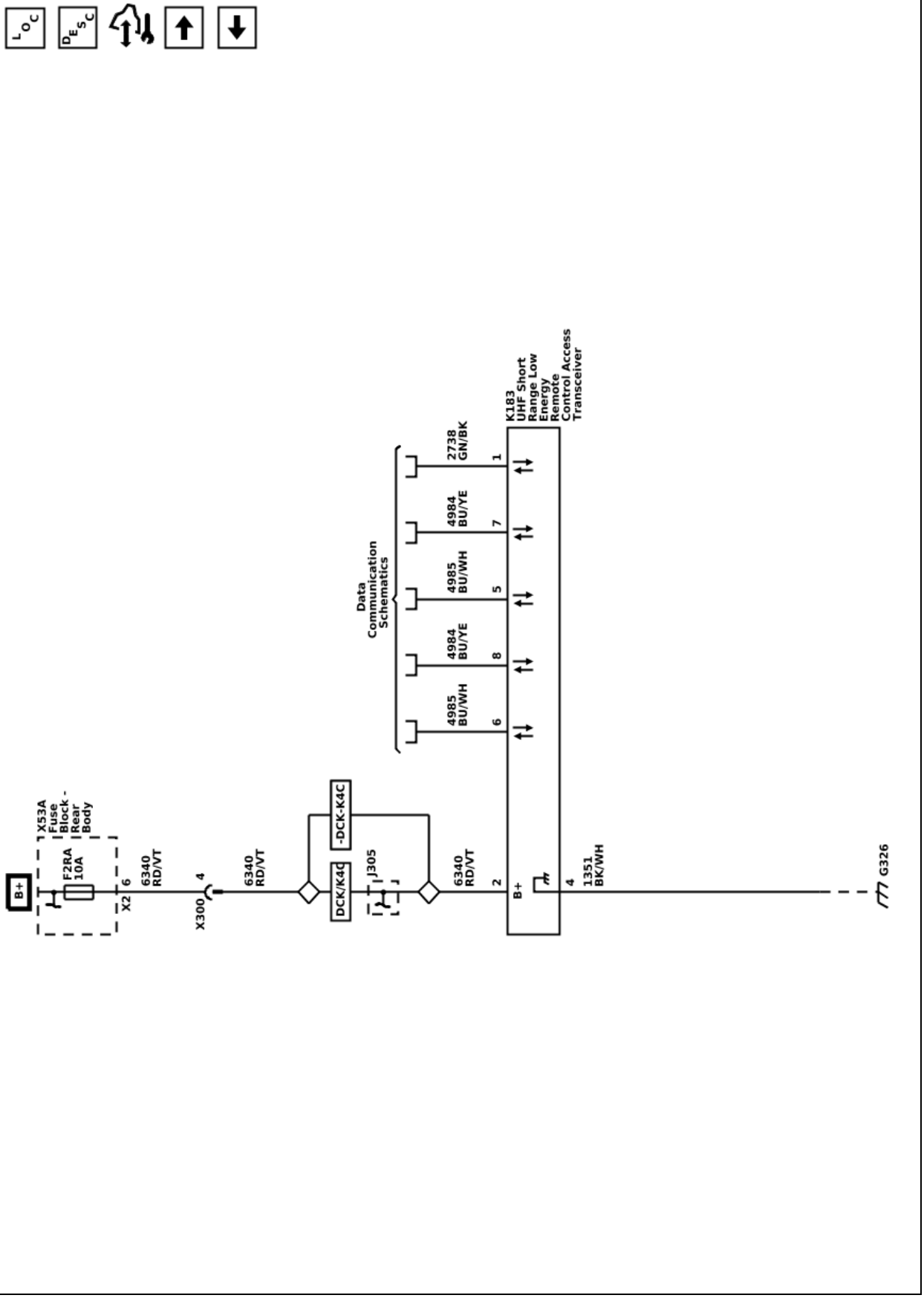
Remote Function Schematics (Keyless Entry - Active)



Remote Function Schematics (Keyless Entry - Passive and Keyless Start)

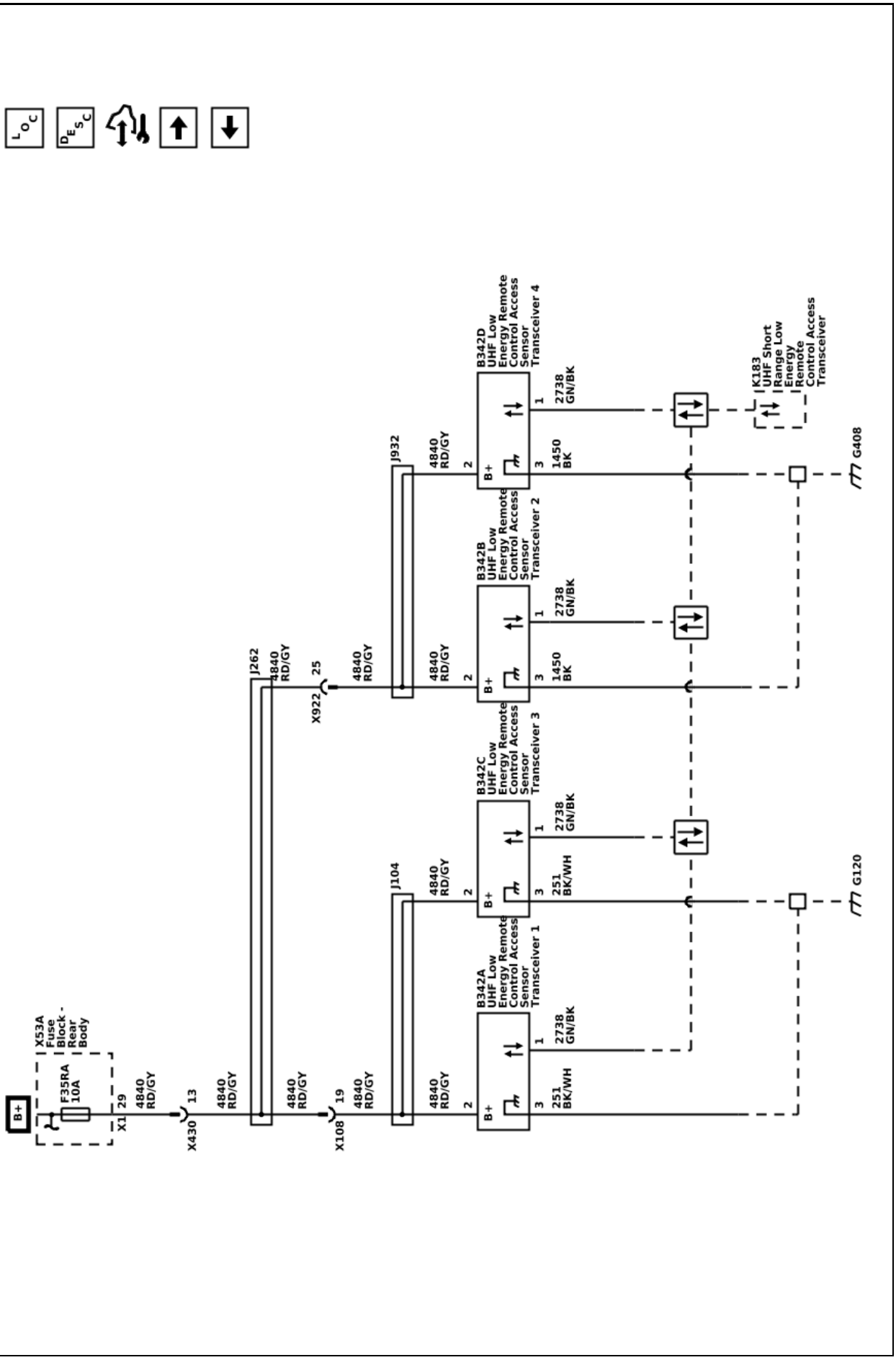


Remote Function Schematics (Keyless Entry - Virtual Key Module (BOP))

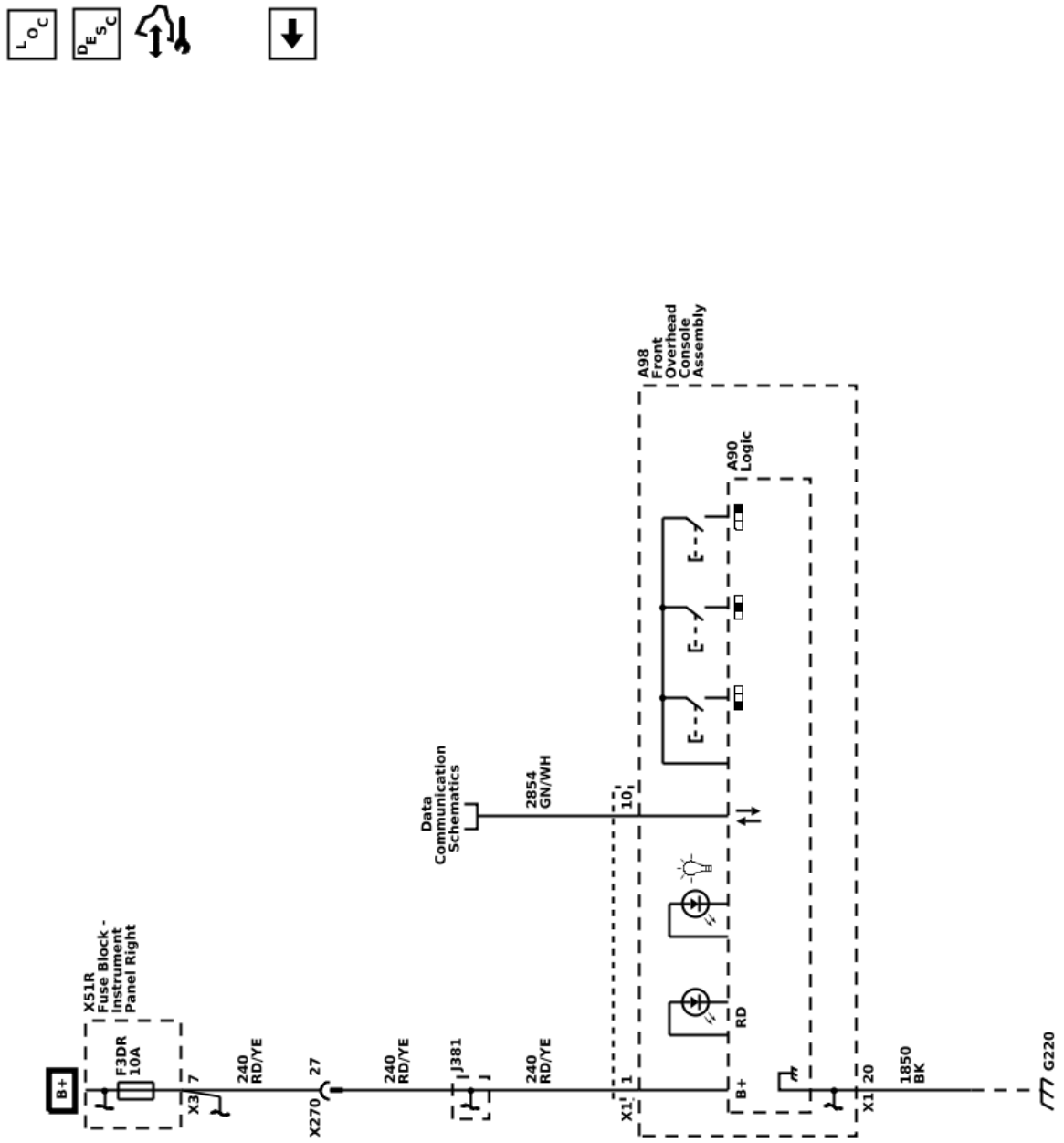


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Remote Function Schematics (Keyless Entry - Virtual Key Sensors (BOP))



Remote Function Schematics (Garage Door Opener (UG1))



5371284

Description and Operation

Garage Door Opener Description and Operation

The garage door opener is fixed and rolling code capable. Rolling code is a system that allows the code that the customers receiver receives from the garage door opener to change every time the garage door opener is used within operating range of the receiver. Rolling code programming requires the customer to push a learn/program button on the garage door opener receiver at their home. This button is usually located on the receiver unit under a cover (light cover) on one end of the unit. The customer must follow the garage door opener manufacturers instructions to program/learn the receiver to accept the Universal Home Remote System as an authorized opener for their unit . When the receiver and the garage door opener are initially programmed together, a code is established and a new code is created for every new transmission. The software in the receiver recognizes the garage door opener and accepts the new code.

The garage door opener is compatible with most, but not all types and brands of transmitters.

The garage door opener is a transmitter operating between 288–434 MHz. The power and range of the transmitter is limited to comply with laws governing the generation of radio frequency interference. The transmitter is programmed by the user to accept the signal generated by the user's transmitters.

The garage door opener has 3 buttons that may be programmed for individual transmitter/receiver combinations to control up to 3 garage door openers, security gates, lighting systems, etc. Each button represents a transmitter code section of the transmitter, which operates separately from any other button, and may be considered a separate transmitter. Operation consists of simply pressing a button to activate the corresponding transmitter.

Note: Do not use the garage door opener (GDO) with any garage door opener that does not have the stop and reverse safety feature. This includes any garage door opener model manufactured before April 1, 1982.

Keyless Entry System Description and Operation

Keyless Entry System Description and Operation – Active

The keyless entry system is a vehicle entry device. The keyless entry system is used in conjunction with the door locks to unlock the vehicle. Keyless entry will lock/unlock a door or open the rear compartment lid when a corresponding button on the keyless entry transmitter is pressed. This is accomplished by the transmitter sending a radio frequency to the remote control door lock receiver that has a direct link to the body control module (BCM). The BCM interprets the signal and activates the requested function or requests the appropriate ECU to activate the function via a serial data message. A low transmitter battery or radio frequency interference from aftermarket devices, such as 2-way radios, power inverters, computers, etc., may cause a system malfunction. High radio frequency traffic areas, such as gas stations that use pay-at-the-pump radio frequency transponders, may also cause interference that could lead to a malfunction. Keyless entry allows you to operate the following features:

- Door lock/unlock
- Rear compartment lid release
- Illuminated entry lamps
- Panic alarm/vehicle locator
- Remote vehicle start
- Passive keyless entry able/disable
- Automatic window express down, if equipped
- Automatic window express up, if equipped
- Automatic power mirror folding/unfolding, if equipped

Keyless Entry System Description and Operation – Passive

Passive keyless entry allows entry to a locked vehicle without pressing any buttons on the keyless entry transmitter. The passive entry system uses low frequency antennas in several different areas on the vehicle to determine the location of the transmitter. When passively opening a locked door or the rear compartment, you must have a programmed transmitter with you in your pocket, purse, or briefcase within a one meter range.

When an exterior door handle button is pressed or the rear compartment touch pad is pressed, the body control module activates the low frequency antenna which sends out a challenge to the keyless entry transmitter. Because of the low frequency, communication range is limited. The antenna will emit the challenge in a one meter range. The transmitter must be within this range to receive the challenge. The transmitter receives this challenge and emits it's response as an RF message, which is received by the remote control door lock receiver. If the response is correct, entry into the vehicle will be allowed.

As a customer convenience feature, the keyless entry system will notify the driver if the transmitter has been left in the vehicle after exiting by chirping the vehicle horn three times and displaying a message on the DIC. This may be turned off using vehicle personalization. Also, if the transmitter is left in the vehicle after the central door lock switch has been used to lock the vehicle, the driver door will remain unlocked after exiting the vehicle. This is intended to prevent locking the transmitter in the vehicle and being unable to access it.

Keyless Entry System Description and Operation – Keyless Start

The keyless start portion of the keyless entry system allows vehicle starting, having only the transmitter as your key. The keyless start system uses low frequency antennas in three different locations on the vehicle to determine the location of the transmitter. Multiple antenna are used to ensure complete coverage of the vehicle interior and rear compartment. When using the keyless start system, a programmed transmitter must be in the vehicle's interior, in the driver's pocket, purse, or briefcase.

When the ignition mode switch is pressed, the low frequency antennas emit a challenge to the keyless entry transmitter. The transmitter receives this challenge and emits it's response as an RF message, which is received by the remote control door lock receiver. If the response is correct, vehicle starting will be allowed. If RF communication is interrupted, a “No Remote Detected” message will be displayed on the DIC. In these cases, the transmitter can be placed in the transmitter pocket located in the center console. The immobilizer antenna coil is located directly beneath the transmitter pocket. Placing the transmitter in the pocket will create a low powered coupling between the transmitter and immobilizer antenna, allowing communications to occur and enabling vehicle starting. If the key has been idle the DIC may display “Key In Sleep Mode, Move Key, Then Start”. In this case move the vehicle key to start the vehicle.

The keyless entry system has the following components:

- Keyless entry integrated key/transmitter
- Driver and passenger side antennas
- Driver and passenger door handle switches (part of the door handle assembly)
- Rear fascia antenna
- Immobilizer antenna coil (front console antenna function)
- Rear console antenna
- Trunk antenna (rear compartment)
- Body control module (BCM)
- Remote control door lock receiver

Keyless Entry Transmitters

By operating any of the exterior door handle buttons or the start/stop switch, a nearby transmitter is challenged by a keyless entry antenna. The transmitter will send an RF response to the remote control door lock receiver, which communicates with the BCM. The BCM will interpret this communication and either allow or deny vehicle entry or starting.

Side Antennas

The keyless entry side antennas are used to transmit low frequency communications to the keyless entry transmitters.

The keyless entry side antennas are located in the driver and passenger body sides. The antennas are controlled by the body control module. When the exterior door handle button is pressed, the respective antenna will send out a challenge to the keyless entry transmitter, which begins the passive entry communications.

Rear Fascia Antenna

The rear fascia antenna is used to transmit low frequency communication to the keyless entry transmitters for entry to rear compartment.

The rear fascia antenna is located behind the rear fascia. The antenna is controlled by the body control module. When the rear compartment touch pad is pressed, the antenna sends out a challenge to the keyless entry transmitter, which begins the passive entry communications.

Immobilizer Coil Antenna

This antenna is located in the front of the center console.

The Immobilizer antenna coil is used for vehicle starting functions and for learning vehicle keys. When the ignition mode switch is pressed, the antenna is energized or "pinged". This emits a low frequency challenge signal that is received by the keyless entry transmitter. The transmitter will then reply to this challenge with a response and, if correct, vehicle starting will occur. If the transmitter battery is dead, weak, or the RF signal is being interrupted, the transmitter may be placed in the pocket to create a low powered coupling between the transmitter and immobilizer coil antenna, allowing communications to occur and enabling vehicle starting.

Rear Console Antenna

This antenna is located in the rear of the center console.

The rear console antenna is used for vehicle starting functions. When the ignition mode switch is pressed, the antenna is energized or "pinged". This emits a low frequency challenge signal that is received by the keyless entry transmitter. The transmitter will then reply to this challenge with a response and, if correct, vehicle starting will occur.

Rear Compartment Antenna

This antenna is located near the center of the rear compartment area.

The rear compartment antenna is used for vehicle starting functions. When the ignition mode switch is pressed, the antenna is energized or "pinged". This emits a low frequency challenge signal that is received by the keyless entry transmitter. The transmitter will then reply to this challenge with a response and, if correct, vehicle starting will occur.

OnStar® Remote Link

A vehicle operator may have the ability to perform some of the keyless entry functions using applications on personal devices such as smart phones. Refer to OnStar Description and Operation.

Body Control Module (BCM)

The BCM is a multi-function module that performs the following functions:

- Receive and authenticate active transmitter and keyless start/entry signals from the remote control door lock receiver
- Determines the function requested by the transmitter signal
- Performs the function requested by the transmitter signal
- Activating vehicle antennas for passive keyless entry functions
- Activating vehicle antennas for keyless start functions
- Backup control for the ECM accessory wakeup and the run/crank relay
- If equipped, controls the electronic steering column lock

- Receiver of the exterior door handle switch inputs and door open switch (not the door ajar switch)
- Ignition mode switch monitoring

Unlock Driver Door Only – Active

Momentarily press the transmitter UNLOCK button in order to perform the following functions:

- Unlock only the driver door or all doors, if enabled through personalization
- Illuminate the interior lamps for a determined length of time, or until the ignition is turned ON
- Flash the exterior lights, if enabled through personalization
- Disarm the Content Theft Deterrent (CTD) system
- Deactivate the CTD system when in the alarm mode

Unlock All Doors – Second Operation – Active

Momentarily press the transmitter UNLOCK button a second time, within 5 seconds of the first press, to perform the following function:

Unlock the remaining doors

Unlock Driver Door Only – Passive

If enabled through personalization, approach the driver door with a valid keyless entry transmitter and press the door handle button to perform the following functions:

- Unlock and open only the driver door
- Disarm the CTD system, if equipped
- Deactivate the CTD system when in the alarm mode

Unlock All Doors – Passive

Approach any non driver door (front or rear) or, if enabled through personalization, the driver door with a valid keyless entry transmitter and press the door handle button to perform the following functions:

- Unlock all vehicle doors
- Disarm the CTD system, if equipped
- Deactivate the CTD system when in the alarm mode

Lock All Doors – Active

Press the transmitter LOCK button to perform the following functions:

- Lock all vehicle doors
- Immediately turn off the interior lamps
- Flash the exterior lights, if enabled through personalization
- Chirp the horn, if enabled through personalization
- Arm the CTD system

Lock All Doors – Passive

Exit the vehicle (with ignition off) with the keyless entry transmitter to automatically perform the following functions, if equipped.

- Lock all vehicle doors after a delay
- Flash the exterior lights, if enabled through personalization
- Chirp horn, if enabled through personalization
- Arm the CTD system

When all doors are closed, they can also be locked from the exterior by operating a front door handle button or touch pad while having a valid transmitter within range. Vehicles equipped with a rear door button can also lock all doors from the rear doors.

Rear Compartment Lid Release – Active

If the vehicle transaxle is in PARK or NEUTRAL, a double press of the transmitter rear compartment release button will open the rear compartment lid.

Rear Compartment Lid Release – Passive

Approach the rear of a locked vehicle with a valid keyless entry transmitter. Press the rear compartment lid release touch pad. The rear compartment lid will open.

Vehicle Locator/Panic Alarm/Active

A single press of the panic button performs the following functions. Some functions may be dependent on personalization settings:

- Pulses the horn three times
- Flashes the exterior lamps three times

A press and hold of the panic button performs the following functions:

- Pulses the horn and flashes the parking lamps for 30 second or until the following conditions occur:
  - The panic button is pressed
  - The ignition switch is turned to the RUN position with a valid key

Remote Vehicle Start/Active

The remote vehicle start function allows engine starting while not in the vehicle. It also allows the vehicle HVAC system and other vehicle systems to enable, providing a comfortable vehicle upon entry. The remote vehicle start sequence begins by pressing and releasing the remote vehicle start button on the keyless entry transmitter twice. The turn signal lamps will illuminate to indicate the vehicle has received the remote start request. Each time a remote vehicle start is performed, the vehicle doors are locked, however they may then be unlocked/locked with the transmitter at any time. Once activated, the engine is allowed to run for 15 minutes. The remote start operation can be repeated as many times as desired up to a total run time of 30 minutes. The remote vehicle start event may be cancelled at any time by pressing only the remote vehicle start button on the transmitter or by entering the vehicle and turning ON the hazard lamps.

Hood Ajar Switch/Active

The hood switch provides status of the hood to the BCM for remote vehicle start purposes. The switch is integrated into the hood latch assembly. The hood ajar switch provides 2 separate inputs to the BCM. These separate inputs allow the BCM to actively monitor for a hood ajar switch fault.

Remote Vehicle Start Circuit Description/Active

The BCM receives a signal from the keyless entry transmitter indicating a remote vehicle start request. The BCM and ECM use the following inputs to verify the system is ready to enable a remote vehicle start event:

- Vehicle is not in valet mode
- Vehicle is in park
- Keyless entry transmitter is not in the vehicle
- The hood is closed
- The hazard switch is OFF
- Vehicle power mode is OFF
- The malfunction indicator lamp (MIL) is not commanded ON by the ECM
- Remote start timer does not equal 0 (the 30 minute maximum time has not been used)

When the BCM determines all conditions meet those required for a remote vehicle start event, a message is sent via serial data to the ECM. While the ECM is in remote vehicle start mode it will cut fuel to the engine if any of the following monitored conditions occur:

- Vehicle speed is greater than 0
- Transmission is not in P
- Excessive engine coolant temperature
- Low oil pressure
- Engine crank time is greater than 30 seconds
- Excessive engine speed
- Accelerator pedal position too high
- Immobilizer system indicates a theft attempt

If any conditions prevent a remote start or cause a remote start operation to be cancelled there is a record of the cause in the scan tool.

Keyless Entry Personalization

Vehicle lock/unlock functions and remote vehicle start settings may be personalized for the vehicle. This includes the capability of turning the passive entry system completely off. For functional descriptions and programming instructions, refer to the vehicle owners manual.

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