

2017 Chevrolet Low Cab Forward

Important

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In addition to the Standard In Rail Fuel tank RPO NLX (150 and 176 wb LH rail only)

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Roll-Over Valve Tubing

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Attention Body Builders! Chevrolet LCF Medium Duty Body Builder guides are now available for FREE!- go to: www.gmupfitter.com

Download the Body Builder Guide or sections for important information about up fitting your Chevrolet LCF Medium Duty Commercial truck. All printed material, specifications, and drawings contained in the Chevrolet LCF Medium Duty Body Builder Guide are based on the latest information available at the time of publication/posting. The manufacturer reserves the right to discontinue or change, at any time, without notice specifications, options, materials, equipment, design and models.

Information contained in the guide includes:

- FMVSS safety standard
- EPA requirements
- OE recommendations
- Cautions for successful application up fitting and Frame modification procedures

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INTRODUCTION

This guide has been provided as an aid to final stage manufacturers in determining conformity to the applicable Emission Control and Federal Motor Vehicle Safety Standards. Final stage manufacturers should maintain current knowledge of all Emission Regulations and Federal Motor Vehicle Safety Standards and be aware of their specific responsibility in regards to each standard.

Any manufacturer making material alterations to this incomplete vehicle during the process of manufacturing the complete vehicle should be constantly alert to all effects, direct or indirect, on other components, assemblies or systems caused by such alterations. No alterations should be made to the incomplete vehicle that directly or indirectly results in any either component, assembly or system being in nonconformance with applicable Emission Regulations or Federal Motor Vehicle Safety Standards.

General Motors will honor its warranty commitment (for the cab-chassis only), to the ultimate consumer, provided: (1) the final stage manufacturer has not made any alterations or modifications which do not conform to any applicable laws, regulations or standards, or adversely affect the operation of the cab-chassis; and (2) the final stage manufacturer complied with the instructions contained in this guide with respect to the completion of the vehicle. Otherwise, the warranty becomes the responsibility of the final stage manufacturer.

The final stage manufacturer is solely responsible for the final certification of the vehicle and for compliance with Emission Control and Federal Motor Vehicle Safety Standards. The information contained in this guide has been provided for the final stage manufacturer's information and guidance.

This guide contains information pertaining to the:

Gasoline Models: 3500 Regular Cab Gas, 4500 Regular Cab Gas, 3500 Crew Cab Gas, 4500 Crew Cab Gas

Diesel Models: 3500HD Regular Cab Diesel, 4500HD Regular Cab Diesel, 4500XD Regular Cab Diesel, 5500HD Regular Cab Diesel
5500XD Regular Cab Diesel

4500HD Crew Cab Diesel, 4500XD Crew Cab Diesel, 5500HD Crew Cab Diesel

2017 Chevrolet Low Cab Forward

CAUTIONARY NOTES:

Electrical Sensitivity and Battery Relocation Warning

The Low Cab Forward Trucks are sensitive to poor electrical integrity of the starting circuit when compared to previous year models. This is due to the ever increasing electrical demands from the base vehicle that includes the new emissions componentry as well as more sophisticated engines and transmissions. The control modules for these devices require healthy electrical circuits without significant voltage drops through the supply and return circuits.

A relocation or modification of batteries coupled with insufficient wire gauge, poor terminal crimps, weak conductivity to frame rails, terminal corrosion, or loose bolts, could contributed to a possible no start condition.

All Fluids and Lubricants Caution

Any fluids or lubricants added to the chassis during the final manufacturing process must meet GM's fluids and lubricants specifications. These fluids and lubricant specifications vary based on model year and chassis model code. A recommended fluids list based on model and model year can be found in the Vehicle Owner's Manual.

Low Speed Applications for LCF Series Chassis

Any low speed vehicle applications using the Aisin Transmission such as sweeper, highway striping and road side mowing airport service must adhere to the following guidelines in order to prevent the over heating of the automatic transmission fluid.

FACTORY RECOMMENDATION:

Select Range 1 for low speed operations under 11 mph, (18km/h). Select Range 2 for low speed operation under 22 mph, (36km/h).

Auxiliary Transmission Cooler Warning

Installation of Auxiliary automatic transmission fluid cooler will void warranty on transmission/engine.

Transmission Temperature Warning Lamp

Automatic transmission fluid temperature warning lamp illuminates over 140 Centigrade/284°Fahrenheit.

Fuel Tank Caution

Fuel fill kit must be installed on cab chassis if it will be driven for an extended distance. (Note: fuel tank kit provides venting for the fuel tank)

Tapping into Engine Cooling System

Do not connect any auxiliary heating devices to the chassis cooling system. The chassis cooling system is part of the vehicle emission system and is used to thaw DEF fluid and meet mandatory emission thaw times.

Brake Override Logic

The ECM logic has adopted Brake Override Logic that will reduce engine RPM to idle RPM when the brake and accelerator pedals are applied simultaneously. This ECM logic has been adopted to enhance the safe operation of the vehicle. The brake override logic disables the accelerator pedal input and protects against vehicle malfunction in cases where the accelerator pedal and brake pedal are operated simultaneously, or if unintended driver acceleration pedal operations are detected.

NO-START CONDITION – CLICKING OR BANGING FROM STARTER

LCF Trucks Equipped with 5.2L (4HK1) Diesel Engines

It is possible to experience a no-start condition accompanied by a clicking or banging-type noise from the starter. This condition presents itself when vehicle battery voltage is low. The insufficient voltage/current will cause an improper ground for the X-17 starter relay. As a result, the starter will not remain engaged to start the engine. This is not an indication of a defective starter, alternator or ECM.

The following is a list of common causes for low battery voltage. Inspect these items as possible causes for the described condition before further diagnosis.

1. Extreme low ambient temperatures (below 10°C / 50°F). The chemical reactions inside of batteries take place more slowly when the battery is cold. The vehicle systems therefore have less energy to work with when it tries to start the engine.
2. Vehicles stored for long periods without proper battery charging and maintenance.
3. Batteries that have been relocated further away from the starter than the original designed location.
4. Batteries or battery cables that have been replaced with improper gauge.
5. Corroded battery terminals and cables.
6. Vehicles that are started and stopped multiple times without allowing the charging system to replenish the batteries' charge.
7. Excessive use of electrical equipment such as electric lift gates.
8. Interior and exterior lighting left "On" without the engine running.

NOTE: Do not diagnose starters, alternators, ECMs or other no-start conditions prior to ensuring the battery is fully charged and none of the above common causes exist

INSTALLATION OF BODY AND SPECIAL EQUIPMENT

Clearances

Engine

At least 1.6 inches of clearance should be maintained around the engine. No obstacles should be added in front of the radiator or intercooler.

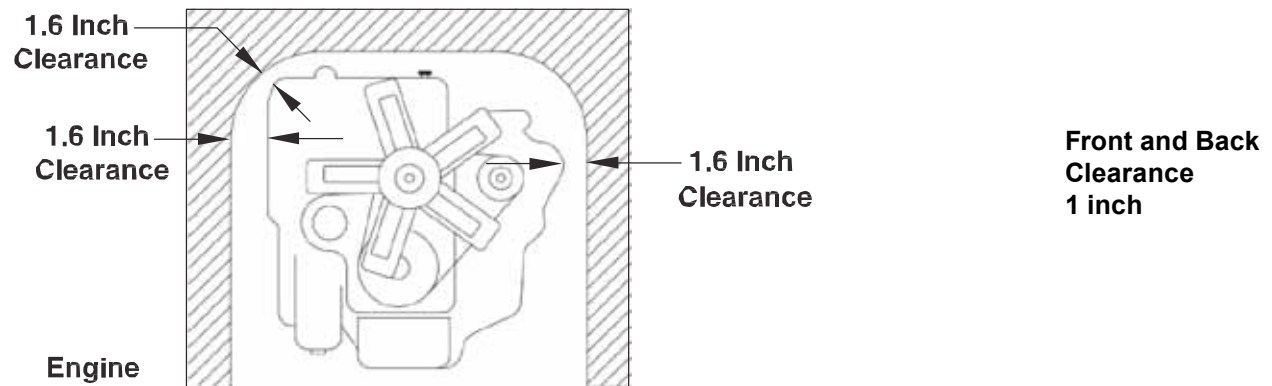


Figure 2.1.1

Transmission

The transmission is removed from the rear. Enough clearance must be provided to allow rearward movement of the transmission assembly. Clearance should be sufficient to allow 5 to 6 inches of unrestricted movement of the transmission assembly. In addition, provide at least 2 inches of clearance around the control lever on the side of the transmission to allow free movement without any binding.

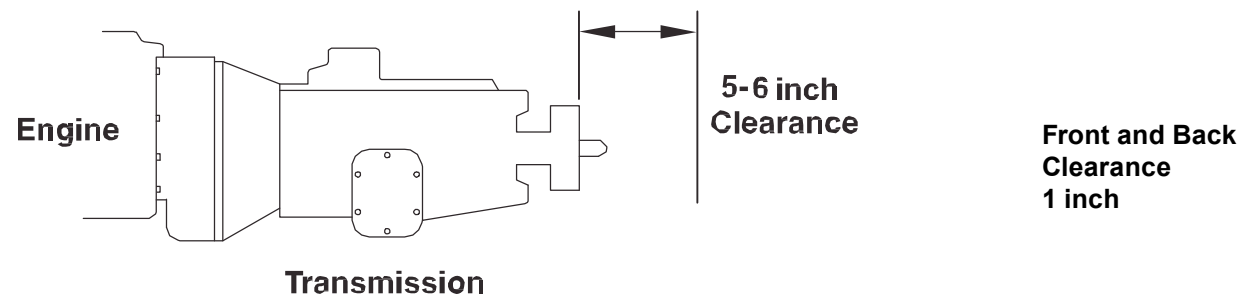
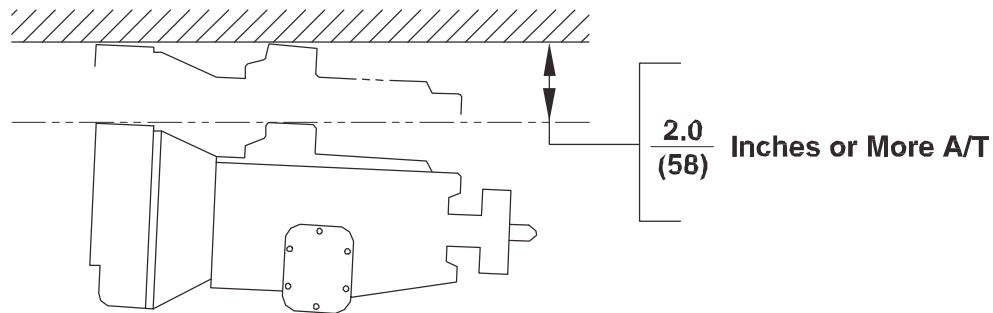


Figure 2.1.2

INSTALLATION OF BODY AND SPECIAL EQUIPMENT

Clearances

At least 2 inches of clearance should be maintained above the automatic transmission to allow for transmission removal.

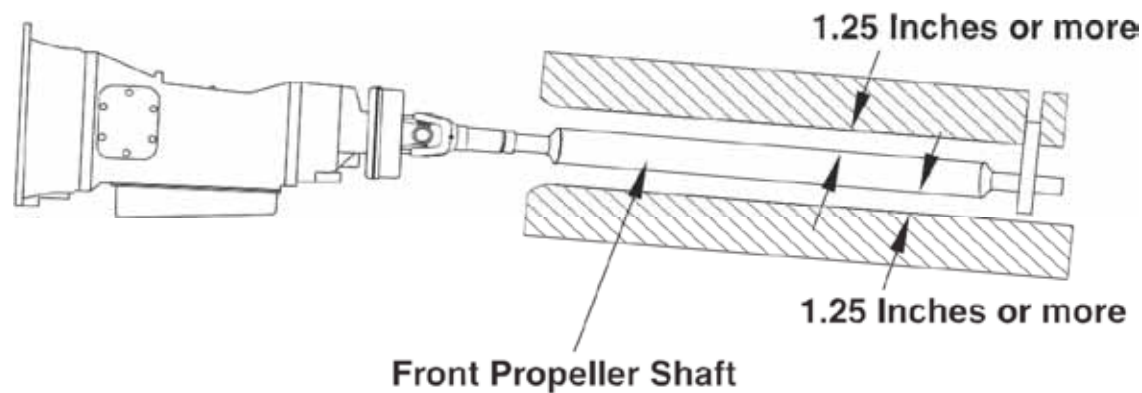


Transmlsslion

Figure 2.2.1

Front and Center Propeller Shafts

At least 1.25 inches of clearance should be maintained around front and center propeller shafts.



Front Propeller Shaft

Figure 2.2.2

INSTALLATION OF BODY AND SPECIAL EQUIPMENT

Clearances

Rear Propeller Shaft

With the rear springs at maximum deflection, at least 1.25 inches of clearance should be provided over the rear propeller shaft.

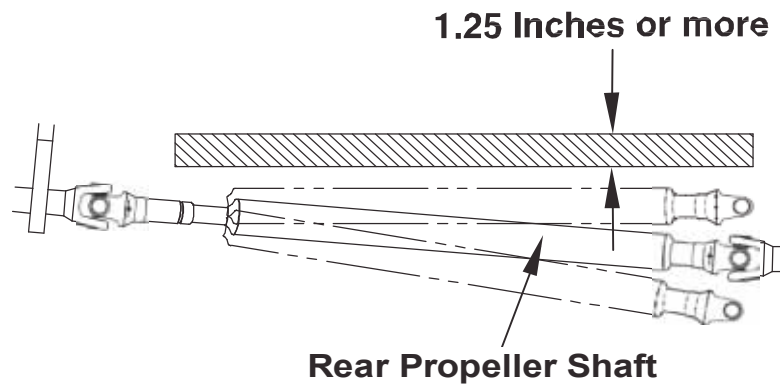


Figure 2.3.1

INSTALLATION OF BODY AND SPECIAL EQUIPMENT

Clearances

Exhaust System

The exhaust system has a crucial role in meeting 2010 EPA regulations. In order to maintain compliance with the 2010 EPA emissions levels the Diesel Particulate Filter (DPF) and SCR package must not be moved. The distance between the engine exhaust manifold down pipe and Diesel Particulate Filter (DPF) / Selective Catalytic Reduction Package (SCR) must be maintained and the pressure in the system must be sustained at a constant level. Due to increased temperatures in the exhaust system during the regeneration cycle and the heat stress caused by these temperatures, body builders should closely evaluate the placement of equipment and provide protection to these added components as needed.

Diesel Particulate Filter and Selective Catalytic Reduction (SCR) Restrictions

The DPF/SCR has exhaust pressure pipes and temperature sensors. Care must be taken when a body is installed so as to not damage pipe sensors.

The DPF/SCR should be free from impact or vibration during body installation. The DPF/SCR must have enough room for disassembly of the unit for service and cleaning.

The DPF/SCR switch in the cab should not be removed or disabled. No modification or relocation of the DPF/SCR unit, pressure pipes, and sensor is permitted.

No Modification Zones

The **DPF/SCR** unit **CAN NOT** be modified or moved .

The **DEF** tank and pump **CANNOT** be modified or removed. **DEF** lines and coolant lines **CANNOT** be modified or rerouted.

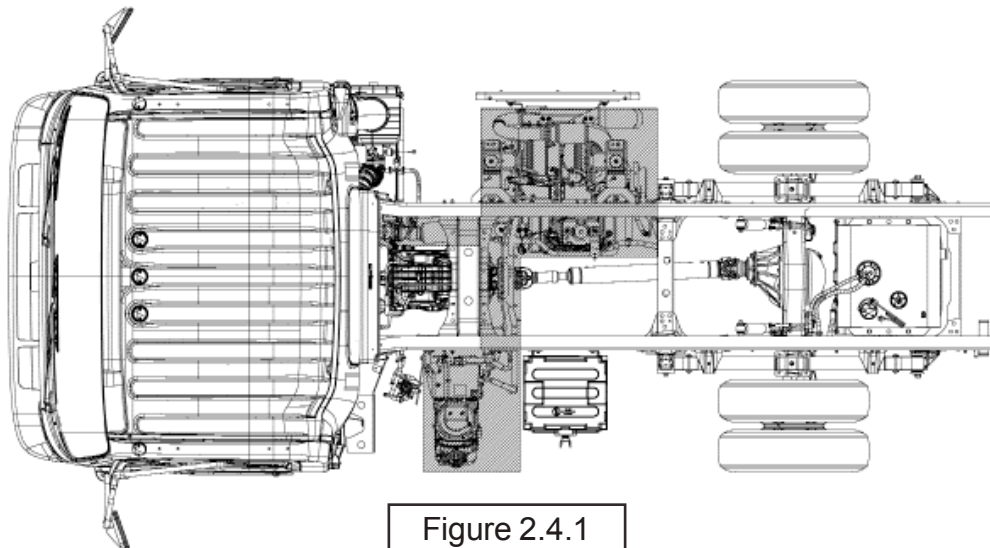


Figure 2.4.1

INSTALLATION OF BODY AND SPECIAL EQUIPMENT

Clearances

Exhaust Clearances

If flammable materials such as wood are used in the body, provide at least 3.9 inches of clearance between the body and any parts of the exhaust pipe, DPF/SCR Package. If it is impossible to maintain the minimum clearance, use a heat shield. Also use a heat shield if an oil pump or line is located above the exhaust pipe, muffler or catalytic converter.

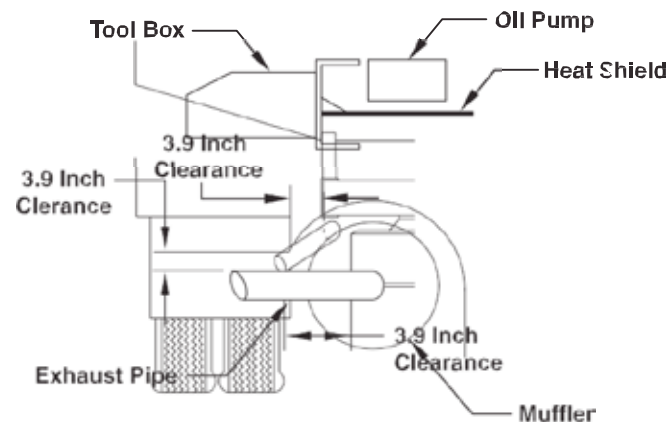


Figure 2.5.1

- 1) Clearances around SCR system components must be greater than 1.0 inch at all times to avoid potential contact between the body and the exhaust components. The 1.0 inch allows for thermal expansion and assembly tolerance of the exhaust system. It does not account for dynamic movement in the body due to road conditions and other loads. Body companies are instructed to adjust this 1.0 inch clearance as required to account for body displacement while driving. This guidance does not supersede guidance or exhaust clearances for temperature sensitive or flameable components.
- 2) Exhaust temperatures have not changed since the introduction of DPF in 2007.

INSTALLATION OF BODY AND SPECIAL EQUIPMENT

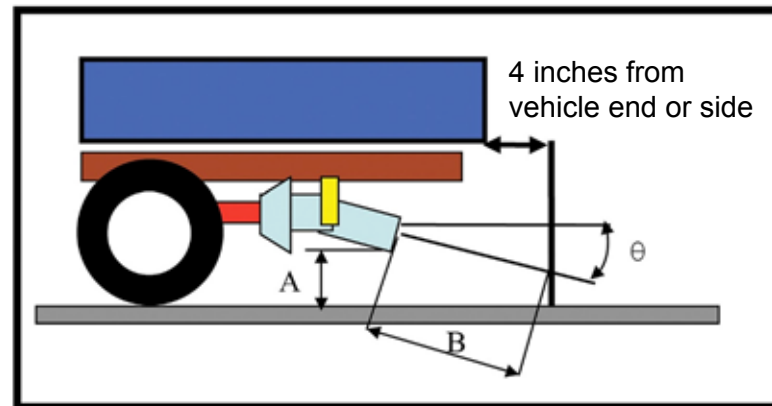
Clearances

Exhaust system surface temperatures During Manual Regeneration

LCF Diesel Modification Guideline (heat issue)

(EXHAUST PIPE HEAT)

During the DPF regeneration cycle, exhaust gas temperatures are hot. Therefore, care should be exercised in placement of the pipe's end location and angle. Do not locate any body parts around the exhaust pipe's end area.



| A | B | θ |
|--------------------|---------------------|---------------------|
| More than 8 inches | More than 18 inches | Less than 45 degree |

Figure 2.6.1

2017 Chevrolet Low Cab Forward

PAGE 2.7

INSTALLATION OF BODY AND SPECIAL EQUIPMENT

Clearances

Rear Wheel Axle

The design and installation of the body should allow sufficient clearance for full vertical movement of the rear wheels and axle when the vehicle travels over rough or unlevel surfaces.

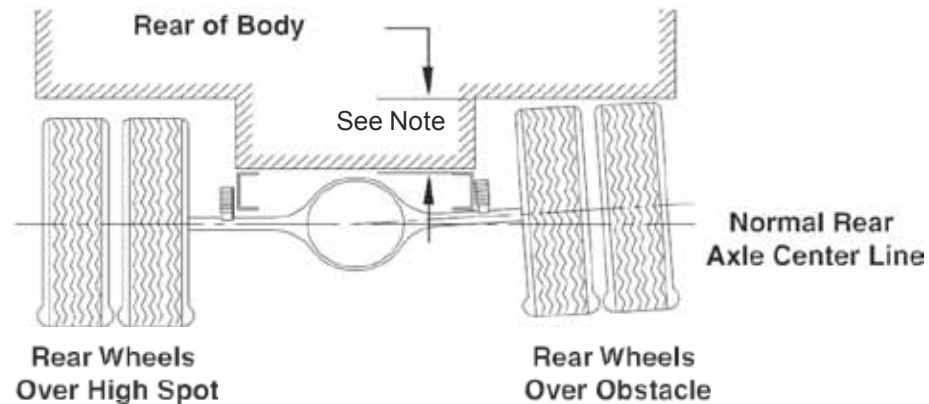


Figure 2.7.1

Note: For recommended clearances, please refer to the Rear Axle Chart in each model's respective section.

Other Clearances

The transmission control cable may be broken if it is bent by or interferes with the body and its fixtures. To prevent this, 1 inch of minimum clearance should be provided. When cable is detached from body mounting, be sure not to bend the cable.

Accessibility to the grease nipple on the rear spring bracket/shackle should be provided so that serviceability with a grease gun is not hampered.

| Parts | Minimum Clearance | Location |
|---------------------|-------------------|------------|
| Brake Hose | 6.7 in. | Axle Side |
| | 1.6 in. | Frame Side |
| Parking Brake Cable | 1.2 in. | — |
| Fuel Hose | 1.6 in. | — |
| Shock Absorber | 2.4 in. | Axle Side |
| | 1.2 in. | Frame Side |

Figure 2.7.2

2017 Chevrolet Low Cab Forward

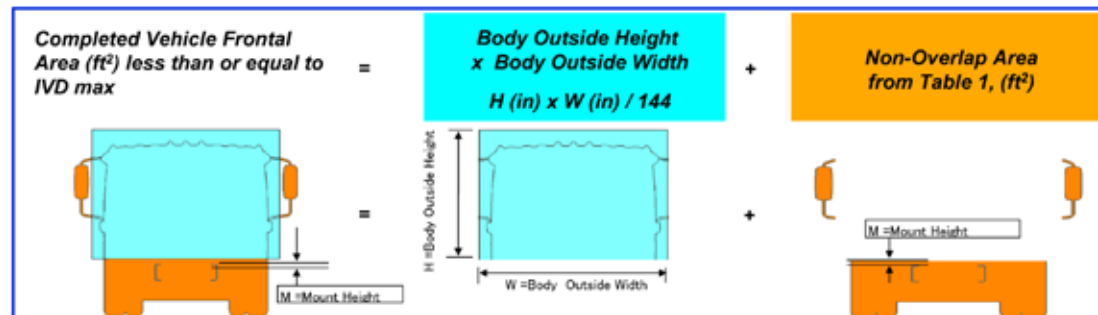
Body Installation

Chevrolet LCF 3500HD 2016 Model Year Diesel Completed Vehicle Frontal Area Calculation

The Chevrolet LCF 3500HD Diesel was certified for EPA Emissions Compliance by testing a Completed Vehicle.
The maximum frontal area of your Completed Vehicle must not exceed the certified size which was tested.
The Completed Vehicle Manufacturer is responsible for meeting Frontal Area requirements, (similar to responsibilities of Vertical CG, Weight Distribution, etc.)
The maximum curb weight of your Completed Vehicle must not exceed 12,051 lbs.

The frontal area is calculated in two parts:

- 1) Body Area (Outside Height x Outside Width)
 - 2) Cab/Chassis Non-Overlap Area (Based on Body Width and Mounting Height)
- Use Table 1 for manual frontal area calculation; or fill out Table 3 to automatically populate Calculators #1 - #2.



| TABLE 1 Cab/Chassis Non-Overlap Area, ft ² | | | | | | | | | | | | | | |
|--|---|------|------|------|------|------|------|------|------|------|------|------|------|------|
| W Body Width | M, Body Mounting Height (Between the bottom of Body and the Top of Frame Rail, in inches) | | | | | | | | | | | | | |
| | 2 | 2.5 | 3 | 3.5 | 4 | 4.25 | 4.5 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 |
| 84" | 16.7 | 17.0 | 17.3 | 17.6 | 17.8 | 18.0 | 18.2 | 18.4 | 18.7 | 19.0 | 19.3 | 19.5 | 19.8 | 20.1 |
| 90" | 16.6 | 17.0 | 17.2 | 17.5 | 17.8 | 18.0 | 18.1 | 18.3 | 18.6 | 18.9 | 19.2 | 19.4 | 19.8 | 20.0 |
| 96" | 16.4 | 16.7 | 16.9 | 17.3 | 17.5 | 17.6 | 17.8 | 18.0 | 18.4 | 18.6 | 18.9 | 19.2 | 19.5 | 19.7 |

Manual Calculation Example: 2016 Chevrolet LCF 3500HD Diesel, 90" Outside Width, 85.6" Outside Height (79" Inside Height), 4" Long Sills, 2.5" of mounting wood. Body mounting height is 6.5" (4" Long Sill + 2.5" Wood)

Body frontal area: $90 \times 85.6 / 144 = 53.5 \text{ ft}^2$
 Non-Overlap Area (from Table 1): 19.2 ft^2
 Total completed vehicle frontal area: $53.5 \text{ ft}^2 + 19.2 \text{ ft}^2 = 72.7 \text{ ft}^2$ (Below 2016 Limit)

Frontal Area Limits

The 2016 Model Year certifications have a frontal area limit of:

- Base Chassis Limit: 79.9 ft² (7.42 m²). No Isuzu Application Approval is Required.
- Base Chassis Limit with Air Deflector PN TBD See your GM Dealer: 84.8 ft² (7.88 m²). Confirmation/Spoiler Use Required for this optional frontal area. Your Isuzu dealer can obtain approval information from Isuzu Application Engineering.

| TABLE 2 Completed Frontal Area Limits by 3500HD Diesel Model Year 2016 | | | |
|---|---|--|----------------------|
| Model Year | Wheelbase | Max Frontal Area | Application Approval |
| 2016 | 109" / 132.5" / 150" / 176" (CK1 / CK2 / CK3 / CK4) | 79.9 ft ² = 7.42 m ² | Not required |
| 2016 With Air Deflector | 109" / 132.5" / 150" / 176" (CK1 / CK2 / CK3 / CK4) | 84.8 ft ² = 7.88 m ² | Required |

This frontal area calculator is a supplemental tool provided by Isuzu North America Corporation. Always consult the Incomplete Vehicle Document (IVD) for the completed vehicle requirements. A copy of the IVD is also available at gmupfitter.com, Chevrolet Low Cab Forward.

Figure 2.8.1

2017 Chevrolet Low Cab Forward

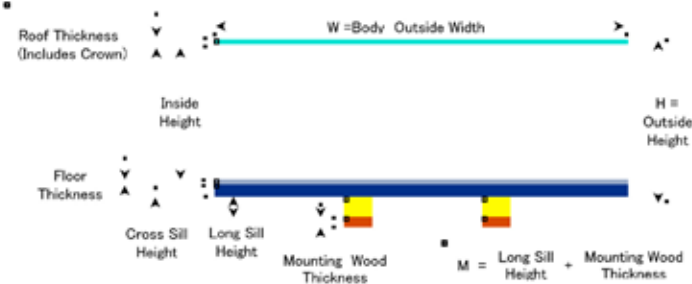
Body Installation

Table 3: Van Body Dimensional Values

Please fill in the BLUE cells to generate the Frontal Area results for Calculators #1 - #2.

 = User Defined Value
 = Calculated Value (Locked)

| | |
|------------------------------|-------|
| Roof Thickness, in | 2.5 |
| Floor Thickness, in | 1.125 |
| Cross Sill Height, in | 3 |
| Long Sill Height, in | 4 |
| Mounting Wood Thickness, in | 2.5 |
| Body Mounting Height (M), in | 6.50 |



Calculator 1: Completed Vehicle Frontal Area From Body Inside Height (Results based on Table 3 input)

| Body Outside Width W, in | Body Inside Height, in | Body Outside Height, in | Body Frontal Area, ft ² | Completed Vehicle Frontal Area, ft ² | Proposed Condition OK? | |
|--------------------------|------------------------|-------------------------|------------------------------------|---|----------------------------|-------------------------|
| | | | | | 2016 Without Air Deflector | 2016 With Air Deflector |
| 84 | 79 | 85.625 | 49.9 | 69.2 | OK | OK |
| 84 | 85 | 91.625 | 53.4 | 72.7 | OK | OK |
| 84 | 91 | 97.625 | 56.9 | 76.2 | OK | OK |
| 90 | 79 | 85.625 | 53.5 | 72.7 | OK | OK |
| 90 | 85 | 91.625 | 57.3 | 76.5 | OK | OK |
| 90 | 91 | 97.625 | 61.0 | 80.2 | - | OK |
| 96 | 79 | 85.625 | 57.1 | 76.0 | OK | OK |
| 96 | 85 | 91.625 | 61.1 | 80.0 | - | OK |
| 96 | 91 | 97.625 | 65.1 | 84.0 | - | OK |

Calculator 2: Completed Vehicle Frontal Area From Body Outside Height (Results based on Table 3 input)

| Body Outside Width W, in | Body Inside Height, in | Body Outside Height, in | Body Frontal Area, ft ² | Completed Vehicle Frontal Area, ft ² | Proposed Condition OK? | |
|--------------------------|------------------------|-------------------------|------------------------------------|---|----------------------------|-------------------------|
| | | | | | 2016 Without Air Deflector | 2016 With Air Deflector |
| 84 | 78.375 | 85 | 49.6 | 68.9 | OK | OK |
| 84 | 84.375 | 91 | 53.1 | 72.4 | OK | OK |
| 84 | 89.375 | 96 | 56.0 | 75.3 | OK | OK |
| 90 | 78.375 | 85 | 53.1 | 72.4 | OK | OK |
| 90 | 84.375 | 91 | 56.9 | 76.2 | OK | OK |
| 90 | 90.375 | 97 | 60.6 | 79.9 | OK | OK |
| 96 | 78.375 | 85 | 56.7 | 76.0 | OK | OK |
| 96 | 84.375 | 91 | 60.7 | 80.0 | - | OK |
| 96 | 90.375 | 97 | 64.7 | 84.0 | - | OK |

INAC Frontal Area Calculator
 Filename: "FrontalAreaCalculator for Chevy 3500HD 2016-04-19.xlsx"

Figure 2.9.1

2017 Chevrolet Low Cab Forward

Body Installation

Mirrors

The Chevrolet LCF series chassis will accommodate up to 96 inch wide bodies without modification to the mirror brackets.

The Chevrolet LCF 4500, 4500HD, 4500XD, 5500HD and 5500XD chassis will accommodate up to 96 inch wide bodies without modification to the mirror brackets. Bodies from 97 to 102 inches wide will require that the mirror brackets be modified. This Modification can be made at the port and the vehicle order/label will indicate a Regular Product Option of TBD indicating "Mirror Bracket for 102 wide body". The brackets can also be modified by the GM Chevrolet Dealer or the Body Company by installing mirror brackets ordered from General Motors Service.

Side Step Door Installation recommendations

Floor of body should be at least 10" above frame rail (2.5" wood + 4" long sill + 3" cross sill + 1.125" floor)

Forward end plate of step well area can interfere with SCR system

All body components should maintain a minimum 1.0" of clearance to exhaust components UNDER ALL (DYNAMIC) CONDITIONS. (Body company will need to add to this 1.0" clearance to account for flex or movement in the body)

Outer heat shield on SCR system can be removed prior to mounting body if required for clearance Care should be taken to adequately shield exhaust

Driver's side steps can also be accommodated, if door is located behind DEF tank Battery may have to be relocated, depending on door location

Access hatch for DEF tank fill may have to be added, depending on door location

DPF/SCR Heat shield Removal

The exhaust external heat shield does not impact vehicle emissions or emissions system durability. This shield can be removed or modified in order to facilitate body or equipment mounting, but the completed vehicle manufacturer should ensure that, when completed, the exhaust will be adequately shielded to prevent unintentional contact with hot exhaust components, and that heat transfer to body components is not so high as to present safety or durability risks.

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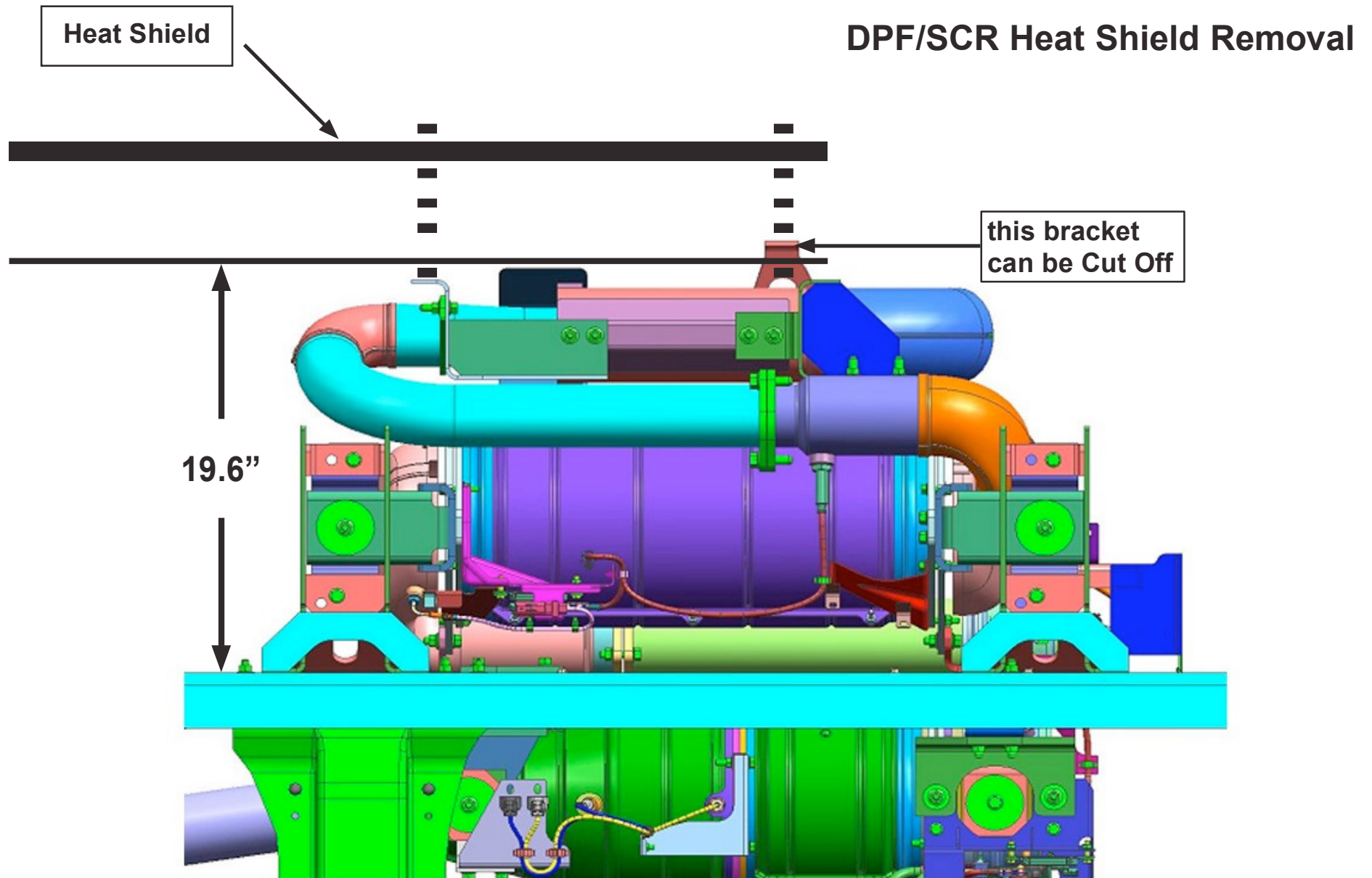


Figure 2.11.1

2017 Chevrolet Low Cab Forward

LCF 3500HD

Special Equipment on the Chassis

When installing special equipment on the chassis, extra consideration must be given to the weight and construction of the equipment to assure proper distribution of the load. Localization of the load should be prevented. All special equipment should be properly secured into position. We recommend the use of subframe members when installing special equipment.

Subframe Design and Mounting

The subframe assembly should be mounted as close to the cab as possible. It should be contoured to match the shape and dimensions of the chassis frame as closely as possible.

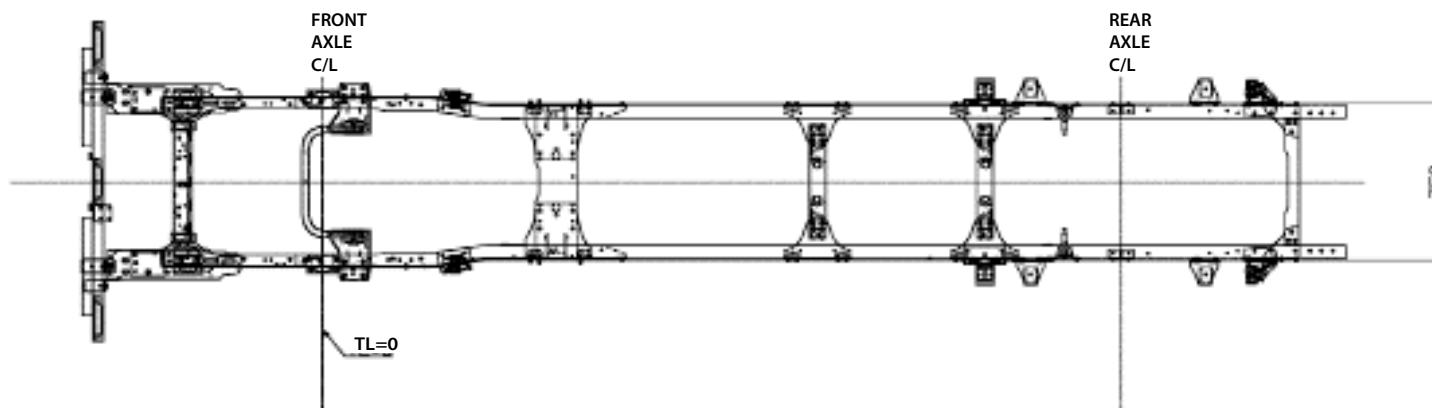


Figure 2.12.1

2017 Chevrolet Low Cab Forward

LCF 4500, 4500HD, 4500XD, 5500HD, 5500XD

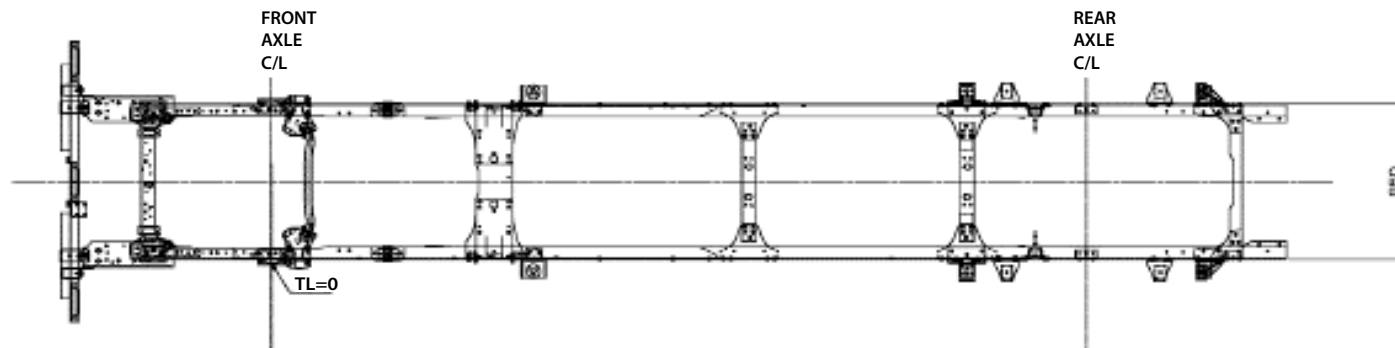


Figure 2.13.1

Subframe Contour

Contouring of the front end of the subframe members as shown in the three illustrations below will prevent stresses from being concentrated on certain areas of the chassis frame

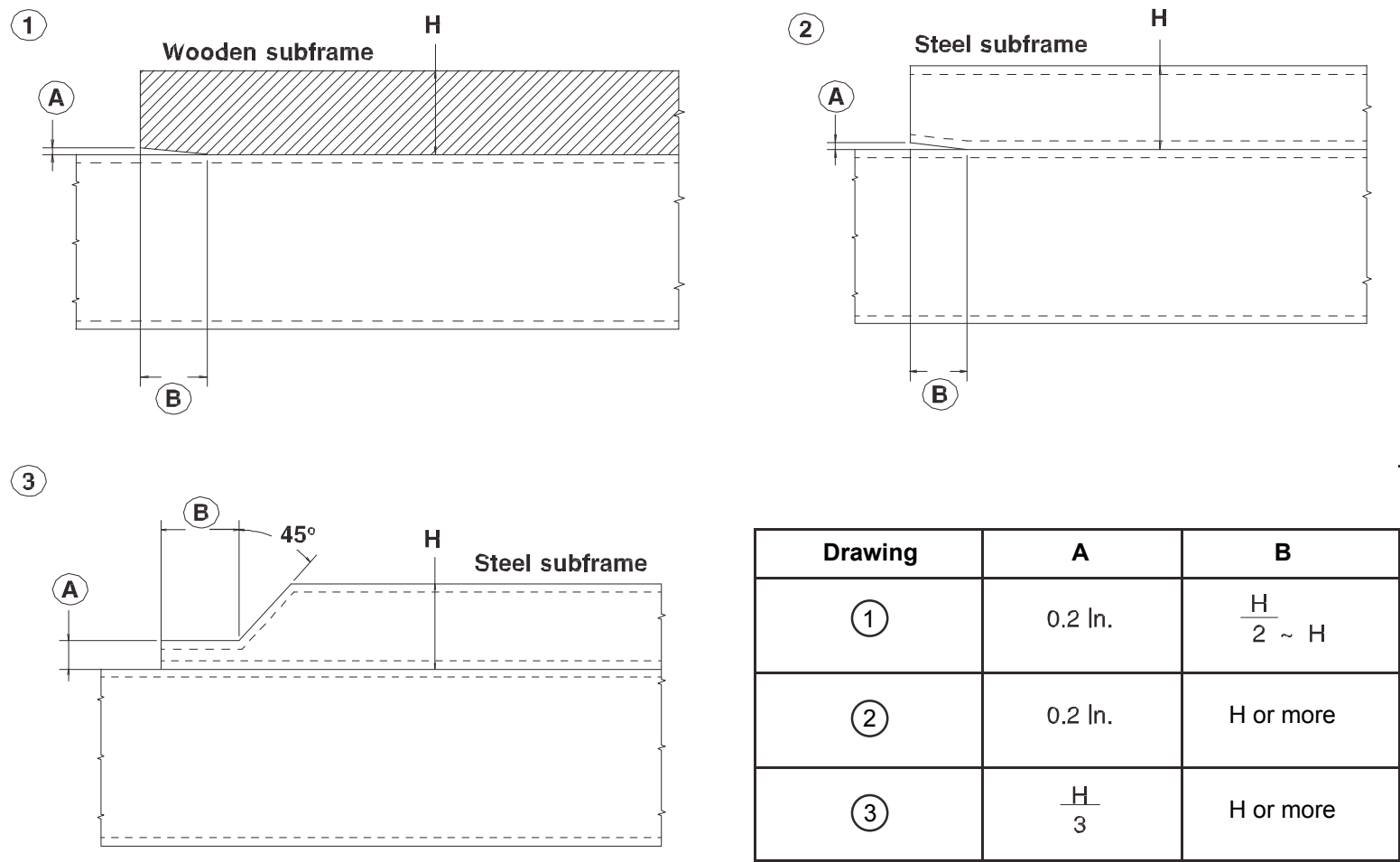


Figure 2.14.1

When using a steel subframe, do not close the end of the subframe.

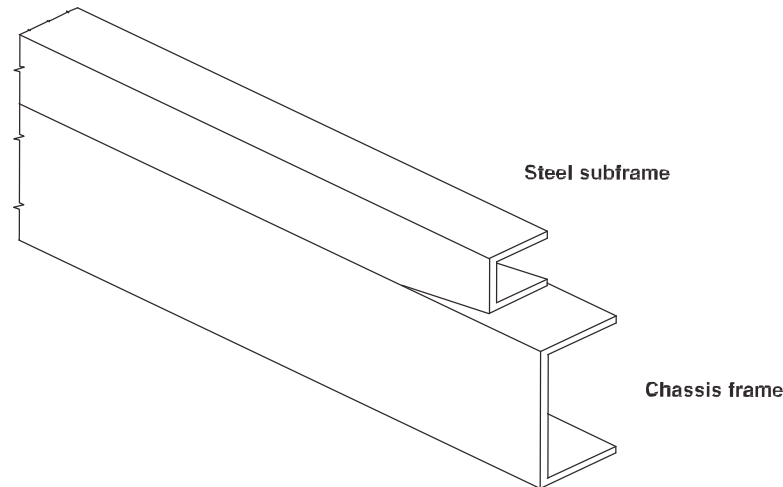


Figure 2.15.1

Prohibited Attachment Areas

Do not attach the subframe with a bolt or bracket to the chassis frame at the points indicated in the following illustrations.

1. At the front end of the subframe. The attaching bolt or bracket must be at least 2 inches behind the kick up point of the subframe.

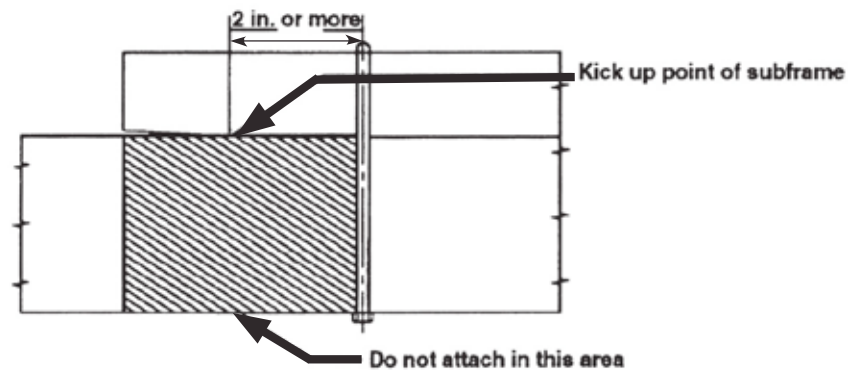


Figure 2.15.2

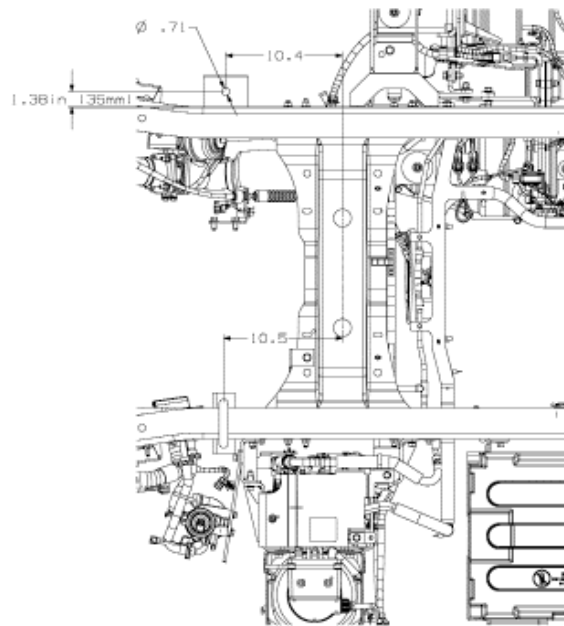
Prohibited Attachment Areas

2. Front U-bolt and Mounting Bracket, Mounting Locations Ahead of Transmission

Mandatory location due to after treatment device location and interior frame components. The chassis will be supplied with one steel crush block in cab for left hand forward body attaching location as illustrated in the drawings below and one body mounting bracket (painted yellow) attached to the right hand frame rail in the location shown in the drawings below. Body Builder will be required to design a mating bracket for attaching the body to the yellow painted chassis body mounting bracket (Ref page 2.16 for illustration of bolt clamping 2 brackets). No U bolt type attaching allowed.

3500HD

Forward



Ref Body mount kit

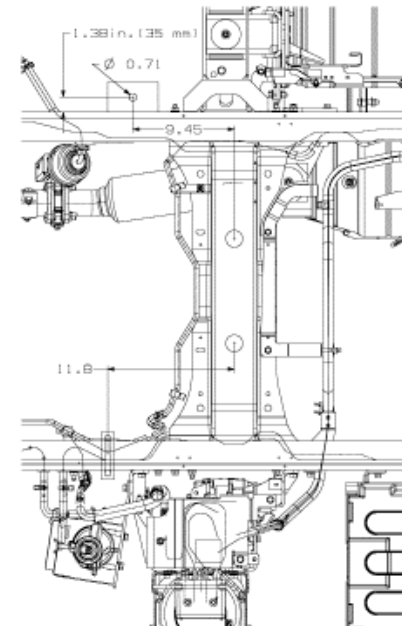
Crush Block and U-Bolt
(Left Hand -Rail)

Body Mounting Bracket
(Right Hand -Rail)

Figure 2.16.1

4500, 4500HD, 4500XD, 5500HD and 5500XD

Forward



Ref Body mount kit

Crush Block and U-Bolt
(Left Hand -Rail)

Body Mounting Bracket
(Right Hand -Rail)

Figure 2.16.2

Subframe Mounting

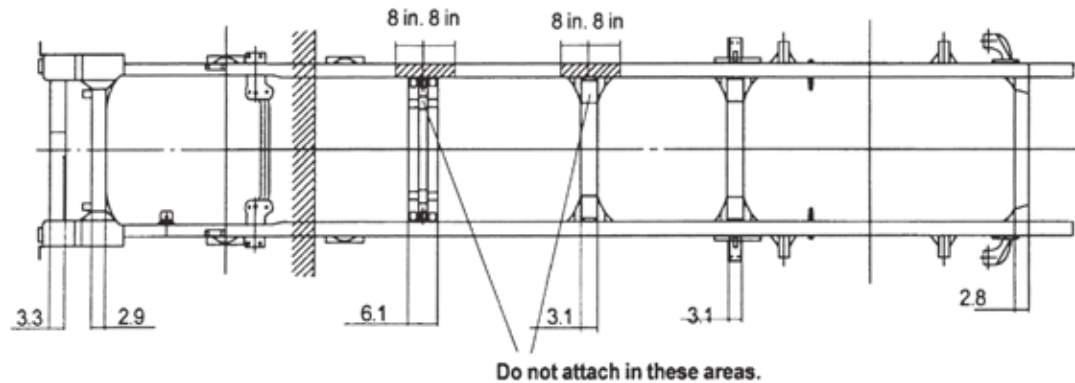
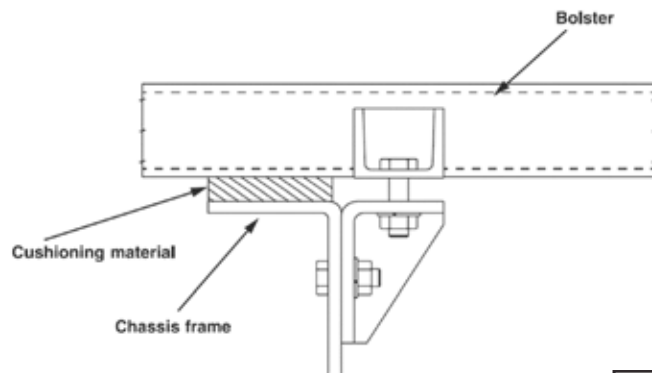


Figure 2.18.1

Within 8 inches of bends in the chassis frame or the attachment points of any crossmembers.

Bracket Installation

Mounting brackets should be clamped to the chassis frame using bolts. For proper positions in which to install the bolts, refer to the preceding section and the section "Modifications to the Chassis Frame." In addition to the illustrated bracket and U -bolts a shear plate may be required for adequately body mounting. The body company will be responsible for engineering their own mounting system.



The frame material is a heat treated, carbon manganese, low alloy steel with good weldability. The frame has a 80/40 mm modular hole spacing standard. This standard pattern will assist in body mounting.

Figure 2.18.2

MODULAR FRAME HOLE PATTERN

The frame material is a heat treated carbon manganese, and low alloy steel with good welding characteristics. The frame has an 80/40mm modular hole spacing standard. This standard pattern will assist with body mounting.

Depending on model, wheelbase and chassis specification some holes are in use and some holes are intentionally missing.
(Subject to change without notice).

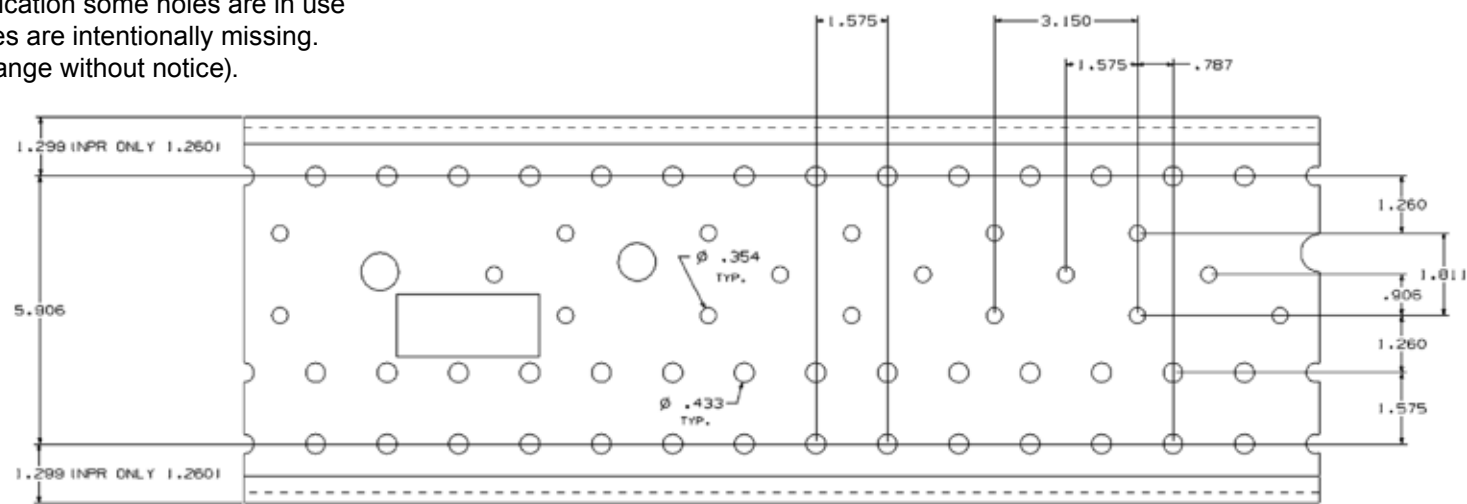
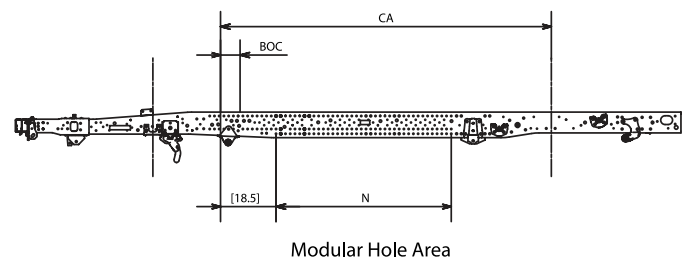


Figure 2.19.1



| WB (inches) 3500, 3500HD 4500, 4500HD 4500XD, 5500HD 5500XD | N (inches) |
|---|------------|
| 109 | 34.6 |
| 132.5 | 58.3 |
| 150 | 75.6 |
| 176 | 92.9 |

Note: Re-tighten all attaching parts that are loosened during body installation.

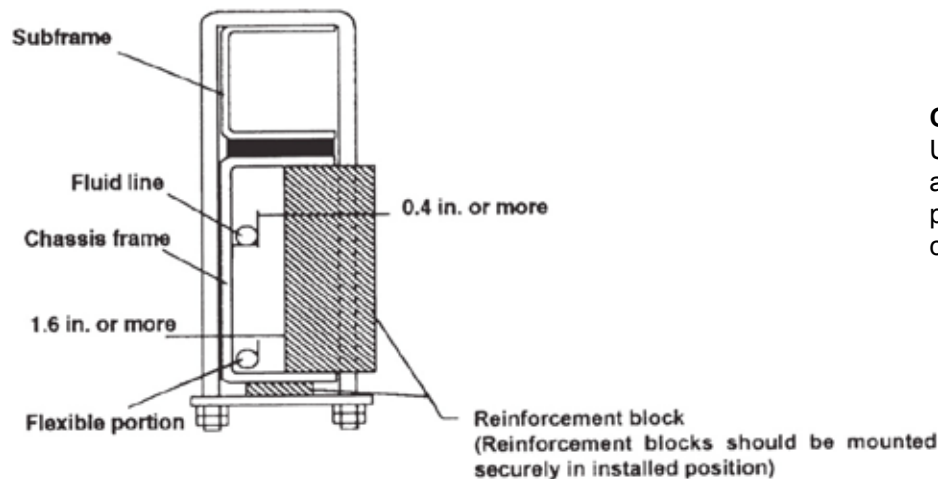
Note: Dimensions in inches

Figure 2.19.2

U-bolt Installation

When U-bolts are used to retain the subframe, reinforcement blocks must be installed in the frame members. This will prevent distortion of the frame flange as they are tightened. The drawing indicates the correct placement of reinforcement blocks. If you use wood blocks, be sure that there is sufficient clearance between them and any parts of the exhaust system. The use of J-bolts to retain the subframe is strictly prohibited.

If any fluid lines or electric cables are located near the reinforcement blocks, you must provide at least 0.4 inches of clearance between rigid or stationary portions, and at least 1.6 inches between moveable or flexible portions of the lines.



CAUTION:

U-Bolt placement is critical with new emission systems and controls. Extra care must be taken when placing bodies on chassis so as not to damage these components

Figure 2.20.1

For the installation positions of the U-bolts, refer to "Prohibited Attachment Areas."

Crew Cab Body / Frame Requirements

The Crew Cab 4500, 4500HD, 4500XD, and 5500HD will be available in two wheelbases, 150 and 176 inches. CA will be 88.5 and 114.5 inches.

On this model chassis, General Motors will require that the body installed on the chassis have an understructure manufactured with any of the following structural steel "C" channels:

4" x 1-5/8", 7.5 lb./ft.

5" x 1-3/4", 6, 7 or 9.0 lb./ft.

6" x 2", 8.2, 10.5 or 13 lb./ft.

Modification of the Frame

Modifications of the chassis frame should be held to an absolute minimum. Modification work should be performed according to the instructions in the following paragraphs.

When modification is complete, chassis frame members should be carefully inspected to eliminate the possibility of any safety-related defects.

NOTE: PLEASE REFER TO NOTES ON CHASSIS FRAME MODIFICATION WITH ANTILOCK BRAKES.

Working on Chassis frame

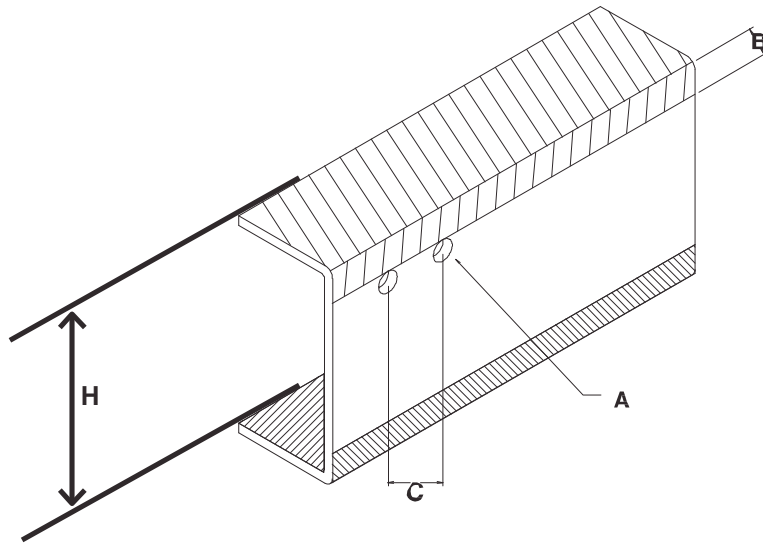
The chassis frame is designed and built with consideration for proper load distribution. Sufficient physical strength is provided when the load is evenly distributed. Installation of special equipment on the chassis frame can cause variations in load distribution. If even distribution of load is not kept in mind when the equipment is installed, localization of stresses on specific areas of the frame could cause cracking of the chassis frame members or other problems, even if the total weight of the equipment is within the design limit.

The chassis frame is designed as an integral unit. Therefore, we do not recommend cutting the chassis frame under any circumstances.

Drilling and Welding

IMPORTANT NOTE: For vehicles equipped with electronic engines and or electronic or hydra-matic transmissions, electric arc welding must be done with the negative battery cable disconnected.

1. Do not drill or weld in the shaded portions of the chassis frame members. Do not weld within 0.8 inches from the edges of any existing holes. (Ref. page 2.20)
2. Hold the length of any welding beads within 1.2-2.0 inches. Allow at least 1.6 inches between adjacent welding beads.
3. All holes must be drilled. Do not use a torch to make any holes.
4. All riveting must be done with cold rivets. Do not use hot rivets.
5. The flange of the chassis frame must not be cut under any circumstances.
6. The subframe must be attached to the chassis frame with bolts. Do not weld.
7. Repaint exposed metal after drilling.



Dimensions:

- A** - no more than 0.59 inches in diameter
- B** - must be more than $H/5$ for welding and $H/7$ for holes
- C** - must be more than 1.57 inches

H = Frame Height

Figure 2.22.1

Reinforcement of Chassis Frame

Reinforcements must be installed to prevent the considerable variation in the section modulus. They must be welded so as to avoid localized stresses.

The frame of the LCF is made of SAPH440 mild steel.

The drawing on the following page illustrates correct and incorrect methods of frame reinforcement.

Welding

1. Keep reinforcement plates and chassis frame free from moisture and water.
2. Avoid cooling with water after welding.
3. Use a suitable means to protect pipes, wires, rubber parts, leaf springs, etc. against heat and effect of sputtering.
4. Remove fuel tank assembly when welding portions near the fuel tank.
5. Remove coat of paint completely when welding painted areas. Repaint exposed metal after welding.

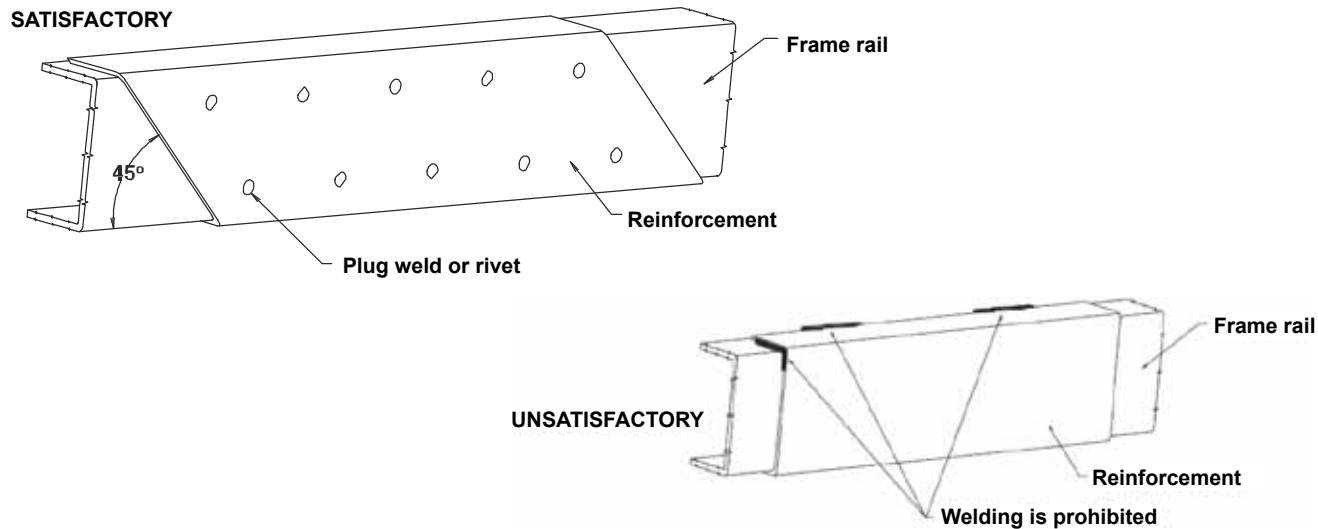


Figure 2.23.1

Fluid Lines

Do not disturb the layout of any brake lines or fuel lines unless absolutely necessary. When modification is needed, follow the instructions below carefully to ensure safety. Brake fluid lines must not be cut and spliced under any circumstances. We do not recommend the cutting or splicing of any fuel lines, but if it is absolutely necessary, be sure that the correct fitting and tools are used to form the joint, and then pressure test the joint. Steel lines are metric sizes.

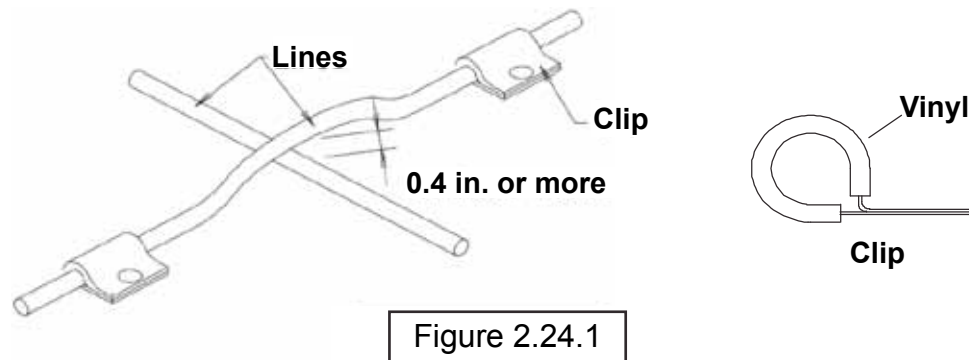
Preparation of Additional Lines

1. Where possible, use only genuine GM lines as supplied by authorized GM Chevrolet dealers.
2. Use the correct metric flaring and bending tools to form the lines.
3. Avoid repeated bending. Do not use heat for flaring and bending the lines. Before and after forming the new lines, examine them carefully for scratches, distortion, dents and the presence of any foreign matter.

Installation of Additional Lines

Install new lines away from adjacent parts and away from any sources of heat.

1. A minimum clearance of 0.4 inches must be maintained between lines. Where necessary, clip the lines into position in order to maintain this minimum clearance.
2. Minimize any crossing between lines. If a crossing is unavoidable, use the following procedure:
 - a. At least 0.4 inches of clearance should be maintained between lines at the crossing point.
 - b. If the 0.4 inches of clearance cannot be maintained, or if the lines are subject to vibration, clip them securely.
3. Plan the bends and clipping points of the lines to minimize vibration and the resulting fatigue.
4. Use rust-proofed clips and apply vinyl coating to the portions of the lines to be clipped.
5. Install new lines in positions where they are protected against water, dirt, grit, sand, rocks and other foreign matter that can come from above or below, or can be flung up by the wheels.



Electrical Wiring and Harnessing

To increase the reliability of the wiring, all frame harnesses are covered with corrugated vinyl tubing. The following instructions apply to extending or modifying these harnesses. See the Electrical Section for information on commonly used circuits in the 3500, 3500HD and 4500, 4500HD, 4500XD, 5500HD, and 5500XD.

Electrical Wiring and Harnessing

Wiring

1. Most wiring connections on Chevrolet LCF vehicles are made with terminals. We recommend the use of terminals when splicing cables and wires.
2. When splicing, use new wire of the same gauge, and do not make splices inside the corrugated tubing.
3. When making connections to the end of the harness, make sure the connections are electrically perfect. Use insulating tape as needed to prevent the entry of water, which results in short circuits and/or corrosion.
4. When making new circuits, or modifying circuits already installed, make the cables only just taut enough to remove any slack. Use clips or grommets where required to protect cables from heat or sharp edges. When cables must run near the exhaust system, see the instructions in the "Exhaust System" section.
5. Always use rustproof clips, and apply vinyl coating to that portion of the clips in direct contact with the harnesses. No scotch clips or connectors.
6. To minimize the vibration of the harness, clipping points should be set up according to the table.

| Harness Diameter | Clip Distance |
|-------------------|--------------------|
| less than 0.2 in. | less than 11.8 in. |
| 0.2 in. ~ 0.4 in. | approx. 15.7 in. |
| 0.4 in. ~ 0.8 in. | approx. 19.7 in. |

Figure 2.25.1

7. When changing the length of the battery cable, do not cut or splice the existing cable. Make up a new cable of the correct length and wire gauge for the load and distance, without splices.
8. When using connectors, use a socket (female) connector on the electrical source side and a plug (male) connector on the electrical load side to lower the possibility of a short circuit when disconnected.
9. When connecting cables to moving or vibrating parts such as the engine or transmission, be sure to maintain sufficient slack in the wiring to absorb the vibration. Follow the example of existing cables connected by General Motors. Keep flexible cables clear of other parts.
10. Do not use vinyl tape in the engine compartment. The heat will tend to make it peel off. Use plated steel clips coated with rubber or vinyl.
11. When locating auxiliary equipment or lines near the ECM caution should be used in order to protect the ECM from excessive vibration, heat or chemical reactions.

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Electrical Wiring and Harnessing

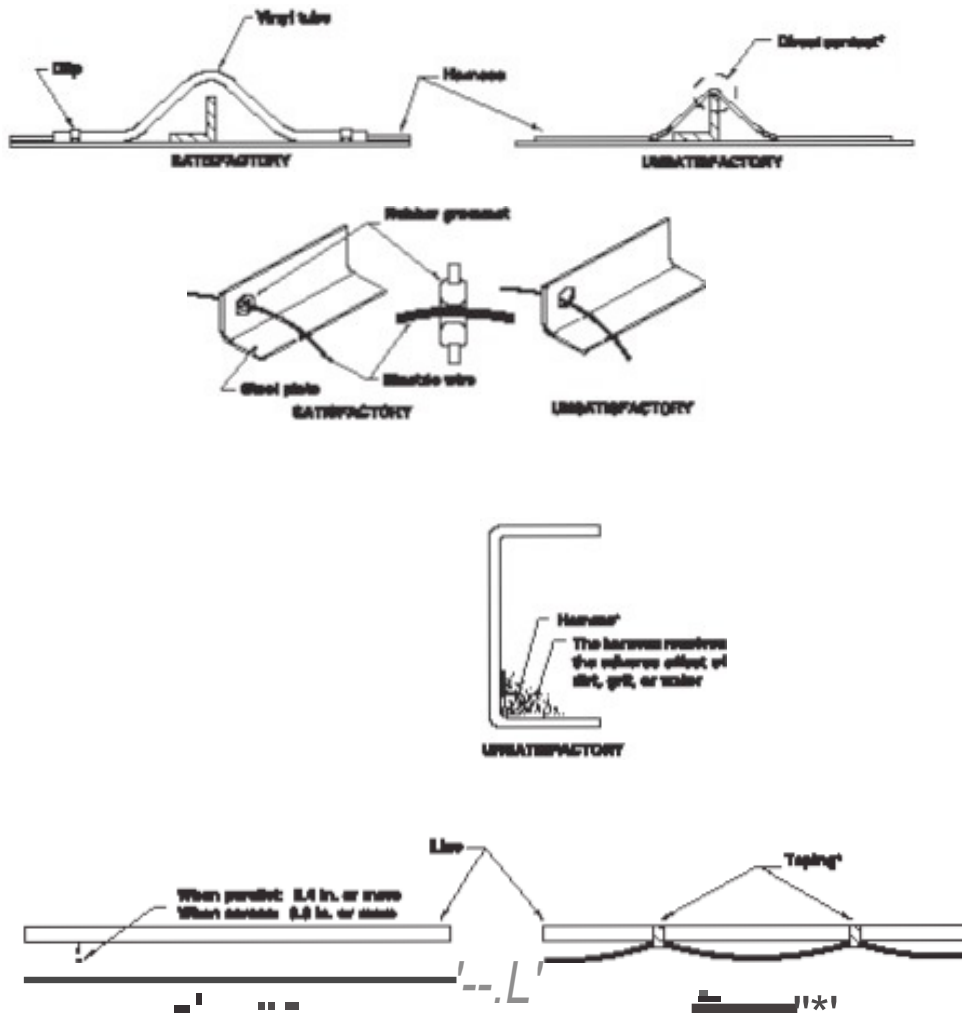


Figure 2.26.1

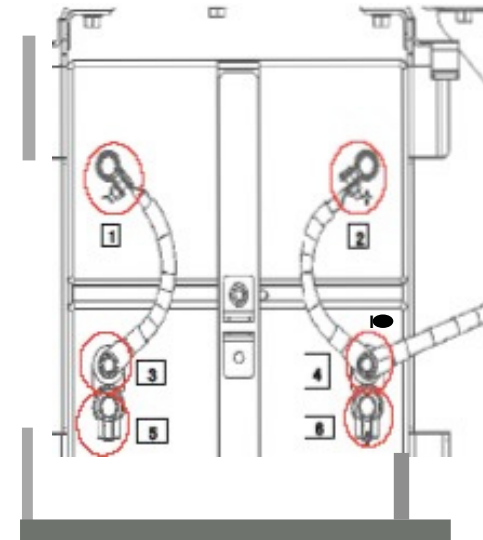


Figure 2.26.2

2017 Chevrolet Low Cab Forward

Electrical Wiring and Harnessing

Wire Color Code

The electrical circuits of the Chevrolet LCF Chassis Cab are connected with low-voltage stranded wire for automotive applications. The color coding standards are as follows for the Chevrolet LCF Chassis Cab:

| | | | |
|-----------|----------------------------------|-----------------|----------------------------------|
| (1) Black | B Starter circuits and grounds | (5) Yellow | Y Instrument circuit |
| (2) White | W Generator (alternator) circuit | (6) Brown | Br Accessory circuit |
| (3) Red | R Lighting circuit | (7) Light Green | Lg Other circuit |
| (4) Green | G Signal circuit | (8) Blue | L Windshield wiper motor circuit |

Maximum Allowable Current

| Harness Design Diameter (mm) | AWG Equivalent | No. of Wires/Wire Diameter (mm) | Cross Sectional Area (mm ²) | Maximum Allowable Current (Amps) |
|------------------------------|----------------|---------------------------------|---|----------------------------------|
| 100 | 00 | 217/0.80 | 109.1 | 363 |
| 85 | 0 | 169/0.80 | 84.96 | 305 |
| 60 | 1 | 127/0.80 | 63.84 | 248 |
| 50 | 1 | 108/0.80 | 54.29 | 223 |
| 40 | 1 | 85/0.80 | 42.73 | 191 |
| 30 | 2 | 70/0.80 | 35.19 | 171 |
| 20 | 4 | 41/0.80 | 20.61 | 123 |
| 15 | 6 | 84/0.45 | 13.36 | 93 |
| 8 | 8 | 50/0.45 | 7.952 | 68 |
| 5 | 8 | 65/0.32 | 5.228 | 51 |
| 3 | 12 | 41/0.32 | 3.297 | 39 |
| 2 | 14 | 26/0.32 | 2.091 | 29 |
| 1.25 | 16 | 16/0.32 | 1.287 | 21 |
| 0.85 | 18 | 11/0.32 | 0.8846 | 17 |
| 0.5 | 20 | 7/0.32 | 0.5629 | 13 |

Reference: The values given in the "maximum allowable current" column are based on the ambient temperature condition of 104°F with temperature increase of 104°F.

Figure 2.27.1

Electrical Wiring and Harnessing

Electrical System Modifications

Modifications/add-on wiring must be carefully reviewed to ensure compatibility with the base vehicle wiring by reviewing system schematics, wire routing paths, harness connections, etc. Due to the wide range of modifications that may be required for vocational needs, it is not feasible for the O.E.M. to take into account all potential revisions. For this reason, any person modifying existing vehicle wiring must assume responsibility that the revisions have not degraded the electrical system performance. Any add-on wiring needs to be properly fused and routed to prevent cut, pinch, and chafe problems, as well as avoid exposure to excessive heat. Care must be exercised that existing vehicle interfaces do not have their current load capabilities exceeded, and that the respective control devices are not overloaded. Added wire size should be at least as large as the wire to which it is attaching in order for fuse protection to be maintained.

A Packard electric wiring repair kit is available through Kent-Moore (P/N J38125-B) (Phone # 1-800-345-2233). This kit contains instructions, tools and components for making repairs to wiring harness components. This kit would also greatly assist in accomplishing necessary add-on wiring such as body marker lamps, so that system reliability/durability is maintained.

Electrical wiring components can be obtained through your authorized Chevrolet dealers. Packard Electric components are also available through Power and Signal (www.powerandsignal.com). Power and Signal may also be able to assist in making necessary wiring additions by providing custom wiring stubs or jumpers to your specifications.

Caution: Before servicing any electrical component, the ignition key must be in the LOCK position and all electrical loads must be OFF, unless instructed otherwise in GM service procedures. If a tool or equipment could easily come in contact with a live exposed electrical terminal, also disconnect the negative battery cable. Do not disconnect cable within 3 minutes after turning the ignition key to the Lock position. Failure to follow these precautions may cause personal injury and/or damage to the vehicle or its components.

Electrical Caution: Please see note in Section 1 Introduction on page 1.9 of on the subject of “NO-START CONDITION – CLICKING OR BANGING FROM STARTER 2012-2015MY Chevrolet LCF Equipped with 5.2L (4HK1) Diesel Engines”.

Exhaust System

Modification of the exhaust system should be avoided. If modifications are absolutely necessary, the following points should be maintained.

1. Maintain the clearance specified in the “Exhaust System” table between all parts of the exhaust system and any fuel lines, brake lines, brake hoses, electrical cables, etc. The exhaust outlet should not point toward any of these parts.

| | Clearance |
|------------------------------------|--|
| Brake lines | 2.4 in. or more. (If the combined section of a group of parallel brake lines is more than 7.8 in., a clearance of 7 in. or more should be provided.) |
| Flexible brake hoses | 7.8 in. or more. (The temperature of flexible brake hoses should not exceed 158°F. If the highest temperature is not measurable, a clearance of more than 15.7 in. should be maintained between the hoses and the exhaust system.) |
| Wiring harnesses and cables | 7.8 in. or more. (The temperature of flexible brake hoses should not exceed 158°F. If the highest temperature is not measurable, a clearance of more than 15.7 in. should be maintained between the hoses and the exhaust system.) |
| Steel fuel lines | 3.1 in. or more. |
| Rubber or vinyl fuel hoses | 5.9 in. or more. |

Exhaust System

2. If a tool box is installed, it should preferably be made from steel. If a wooden tool box is installed, at least 7.8 inches of clearance should be maintained between the tool box and any parts of the exhaust system.
3. If the exhaust system is modified, it is the responsibility of those making the modification to ensure that the noise level meets appropriate standards.
4. If the exhaust system is modified it is the responsibility of those making the modification to ensure that the emission levels meet appropriate standards.

Fuel System

Relocation of the fuel tank, or installation of additional fuel tanks, is not recommended. If modifications to the fuel system are unavoidable, follow these recommendations:

1. Maintain adequate clearance between the fuel tank and any other device or structure.
2. Do not connect any additional fuel hose.

Rear Lighting

Brackets installed are temporary. Please do not use these brackets for body installation.

Serviceability

No matter what other modifications or changes are made, access to components requiring daily preventive maintenance or other routine service must not be obstructed. This includes:

1. Inspection, filling and draining of engine oil and cooling water.
2. Inspection, filling and draining of transmission fluid.
3. Adjustment, removal and installation of the fan belts.
4. Inspection, filling and removal of the battery and battery cover.
5. Inspection and filling of brake fluid.
6. Inspection and bleeding of the brake system and servo unit.
7. Maintenance of clearance for tightening of check bolt on brake safety cylinder.
8. Operation of the spare tire carrier, including mounting and dismounting of the spare tire.
9. Adjustment, removal and installation of distributor and/or cover.

Wheelbase Alteration

With certain applications, it may become necessary to alter the wheelbase of the chassis. The next two sections provide the suggested guidelines for accomplishing either shortening or lengthening of the wheelbase.

Shortening/Lengthening the Wheelbase Without Altering the Frame

Since the frame is an integral part of the chassis, it is recommended that the frame not be cut if it is possible to avoid it. When shortening/lengthening the wheelbase on some models, it is possible to do so without cutting the frame. This is possible on models which have a straight frame rail. If the chassis does not have a straight frame rail, it may still be necessary to cut the frame. For instructions on shortening/lengthening these chassis, refer to the "Altering the Wheelbase by Altering the Frame" section of this book. Otherwise, the wheelbase may be shortened/lengthened by removing the rear suspension, drilling new suspension mounting holes at the appropriate spot in the frame, and sliding the rear suspension, suspension liner, and suspension crossmembers forward or aft. The suspension and suspension crossmembers' rivet holes left in the frame rail flange must be filled with GRADE 8 bolts and hardened steel washers at both the bolt head and nut, HUC bolts or GRADE 8 flanged bolts and hardened steel washers at the nut. When shortening/lengthening the wheelbase in this manner, the following guidelines must be adhered to:

1. All frame drilling must comply with the DRILLING AND WELDING section of this book.
2. All rivet holes left in the frame rail flange from the suspension and suspension crossmembers must be either filled with GRADE 8 bolts and hardened steel washers at both the bolt head and nut, HUC bolts or GRADE 8 flanged bolts and hardened steel washers at the nut.
3. The components required to be slid forward or aft are the suspension and suspension hangers, suspension crossmembers and suspension frame liner.

Altering the Wheelbase by Altering the Frame

Even on a straight frame rail, it may be desirable to cut the frame and lengthen or shorten the wheelbase rather than simply sliding the rear suspension back or forward. The following section offers some guidelines and suggestions for cutting and lengthening or shortening the frame.

Glossary of Terms – Chassis Wheelbase Alteration

CA – Length from back-of-cab to rear axle centerline in inches.

AL – Added length (in case of a lengthened wheelbase). Difference between WB (new) and WB (old).

SL – Shortened length (in case of shortened wheelbase). Difference between WB (old) and WB (new).

Wheelbase Alteration

1. Determine the added length (AL) or shortened length (SL) required to lengthen or shorten chassis. (For added wheelbase: New CA = CA + AL; For shortened wheelbase: New CA = CA – SL.)
2. Obtain the material to be used as the insert for the lengthened wheelbase in the correct length (AL). The insert must have the same cross sectional dimensions and yield strength as the original frame rail.
3. Divide the new CA by two (2). Measure (new CA)/2 from the center of the rear axle forward and mark this point on the chassis frame (see figure below).

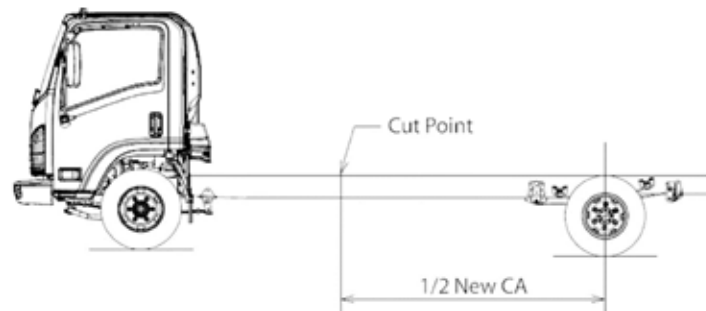


Figure 2.31.1

4. Cut the chassis frame at this point. If the wheelbase is to be lengthened, addition of the previously obtained insert (of length AL determined in step 1) will be made at this time. If the wheelbase is to be shortened, measure the distance (SL) forward of this cut and remove a length (SL) section from the chassis frame (see figure below). Insure that an adequate area on the frame remains for the required addition of the necessary reinforcements. These are the only suggested places for cutting the frame and reinforcements but may be changed upon the advice of GM Upfitters Engineering.

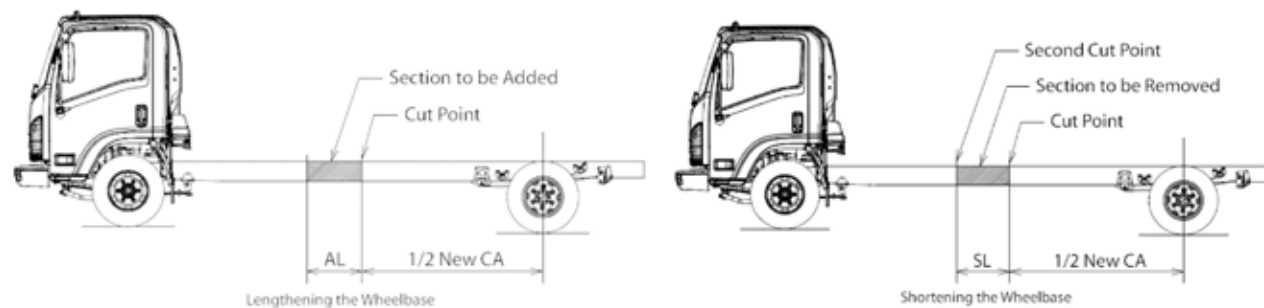


Figure 2.31.2

Wheelbase Alteration

5. When welding the insert (length AL for wheelbase lengthening) to the original frame rail, a continuous butt weld must be used at the splices. When shortening the wheelbase, weld the ends of the chassis frame together with a continuous butt weld over the junction of the frame ends. Weld can be both the inside and outside of the frame rails using welding techniques prescribed by established welding standards (ref. SAE J1147) and in accordance with this guide. An example of this weld is shown below.

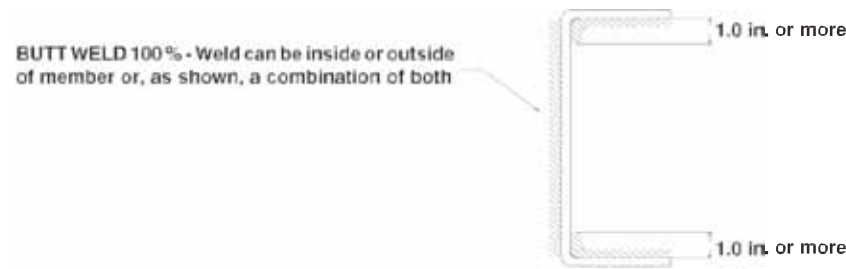
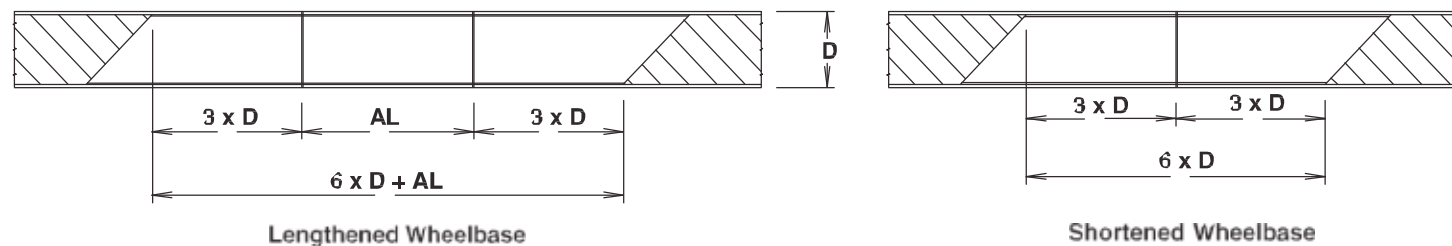


Figure 2.32.1

6. Determine the appropriate additional internal reinforcements which are required using this equation:

Reinforcement Length = $AL + 6 \times (\text{original frame rail web depth})$.

The figure below shows how this reinforcement is to be placed over the extended or shortened section of the frame rail.

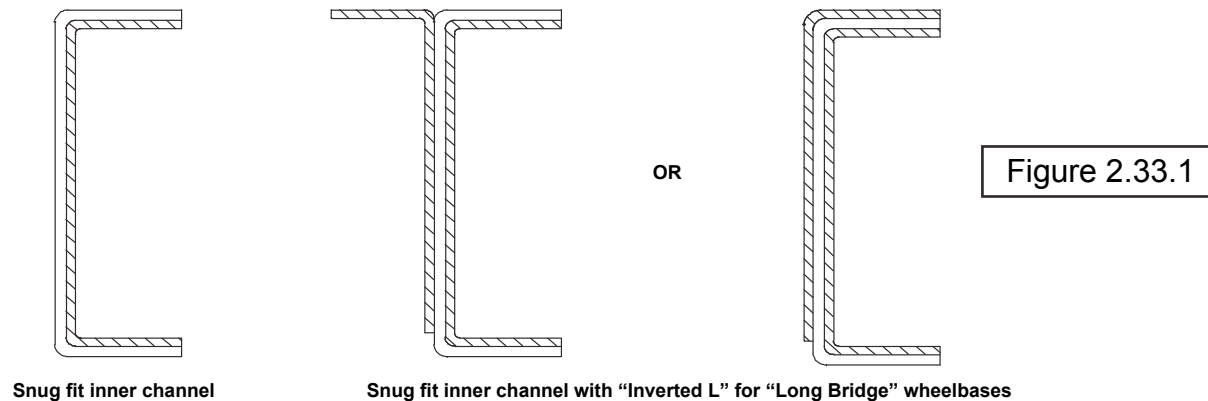


D = Original frame rail web depth

Figure 2.32.2

The suggested cross section of this reinforcement is a snug fit inner channel. If the new wheelbase exceeds the upper limit of the optional wheelbases of this model, i.e.; a “long bridge”, it may be necessary to use an “inverted L” reinforcement in addition to the snug fit channel reinforcement (see figures on next page). Application Engineering should be consulted for approval of such cases. It should be noted that these methods of reinforcements, and any other methods which may be used, require a 45° angled cut at both ends to avoid stress concentrations in the frame (note the figures under item 7).

Wheelbase Alteration



7. The reinforcements must be fastened securely to only the web of the original chassis frame rail. The reinforcement must be held rigidly in place using either HUC bolts, GRADE 8 bolts and hardened steel washers at both the bolt head and nut, or GRADE 8 flanged bolts and hardened steel washers at the nut. Below are some suggested bolt patterns. It should be noted that these bolt patterns must not align the bolts vertically, i.e.: the bolt pattern must be staggered.



Figure 2.33.2

8. Lengthening the frame will also require extending the brake lines, basic chassis electrical harness. It is recommended that the original brake lines be removed and replaced with brake lines of the same diameter as the original lines and of the appropriate length. The extended ABS brake lines must be supported back to the frame to prevent vibration. The electrical harness must be extended in accordance with the ELECTRICAL WIRING AND HARNESSING section of this book. GM offers an electrical extension harnesses for the LCF chassis when a wheelbase is lengthened. One wheelbase longer is the recommended maximum wheelbase extension (please refer to the drive line section and particular models for number of drivelines and their maximum lengths). The extension of a wheelbase will require electrical extension harnesses.

Diesel

2016-2017 CHAS WRG HARNESS ASM; QTY 1 (See your GM dealer for parts.)

2016-2017 CHAS RR WRG HARNCLIP; QTY 5 (See your GM dealer for parts.)

Gas

2016-2017 CHAS WRG HARNESS ASM; QTY 2 (See your GM dealer for parts.)

2016-2017 CHAS RR WRG HARNCLIP; QTY 12 (See your GM dealer for parts.)

9. The propeller shaft's overall length will also need to be lengthened or shortened. If the extension is within the limits of the optional wheelbases of the respective model, the exact propeller shaft lengths and angles are given on or about Page 12 of the respective sections of this book. If the modified wheelbase exceeds the optional wheelbases of the respective model, the following guidelines must be adhered to:

2017 Chevrolet Low Cab Forward

Wheelbase Alteration

a. Propeller Shaft Length

The maximum propeller shaft lengths (pin to pin) for the respective models are shown in the table below.

| ENGINE | GAS | | DIESEL | | | |
|--------------------------------------|------|------|--------|--------|---------------|--------|
| MODEL | 3500 | 4500 | 3500HD | 4500HD | 4500XD/5500HD | 5500XD |
| Propeller Shaft Diameter (in.) | 3.25 | 3.25 | 3.25 | 3.25 | 3.54 | 3.54 |
| Maximum Propeller Shaft Length (in.) | 50.7 | 50.7 | 50.7 | 50.7 | 52.9 | 52.9 |

Figure 2.34.1

b. Propeller Shaft Angles

The maximum propeller shaft angles, with respect to the previous shaft, are shown in the table below.

| ENGINE | GAS | | DIESEL | | | |
|-------------------------------|------|------|--------|--------|---------------|--------|
| MODEL | 3500 | 4500 | 3500HD | 4500HD | 4500XD/5500HD | 5500XD |
| Maximum Propeller Shaft Angle | 6.1° | 6.1° | 6.1° | 6.1° | 6.1° | 6.1° |

Figure 2.34.2

c. The propeller shaft angles must be designed such that the angles will cancel to avoid propeller shaft whip.

d. The propeller shaft yokes must be assembled such that the propeller shaft yokes are “in phase.”

10. Extending the frame will also require relocation and/or addition of crossmembers. If the extension is within the limits of the optional wheelbases of the respective model, the exact crossmember locations and dimensions are given in the respective model sections of this book. If the modified wheelbase exceeds the optional wheelbases of the respective model, the following guidelines must be adhered to:

a. The crossmember location will largely be determined by the propeller shaft lengths and where the center carrier bearing locations are for the propeller shaft assembly.

b. A crossmember must be located at the front and rear spring hangers of the rear suspension (refer to the appropriate section of this book to see where these suspension crossmembers are to be located).

c. The crossmember must be constructed such that it supports both the upper and lower flange on each frame rail (see drawing on next page). A crossmember such as the one on the next page may be constructed, or Chevrolet crossmembers may be obtained from your Chevrolet parts dealer.

Wheelbase Alteration

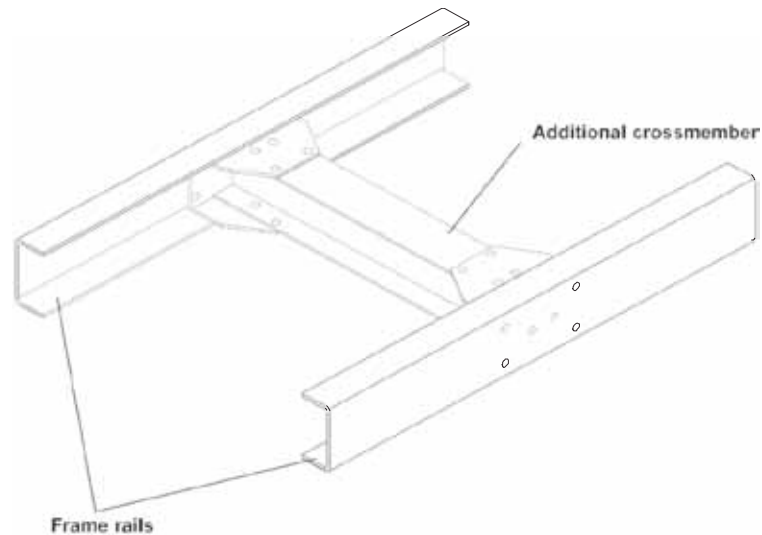


Figure 2.35.1

d. The maximum distance between crossmembers for the respective models is given in the table below.

| ENGINE | GAS | | DIESEL | | | |
|---|------|------|--------|--------|---------------|--------|
| MODEL | 3500 | 4500 | 3500HD | 4500HD | 4500XD/5500HD | 5500XD |
| Maximum Distance Between Crossmembers (in.) | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 |

Figure 2.35.2

e. The drilling for any additional holes in the frame rails must comply with the DRILLING AND WELDING section of this book.

11. All other aspects of lengthening or shortening the wheelbase must comply with the applicable section of this Body Builder's Guide. For special applications and longer than recommended body lengths, GM Upfitter Engineering must be consulted for approval.
12. Please contact GM Upfitter Engineering for guidelines on LCF CHASSIS frame modifications when the vehicle is equipped with an Antilock Brake System.

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BODY APPLICATION SUMMARY CHART

| ENGINEERING MODEL CODE | MODEL/GVWR | RPO CODE | WB | BOC | 10 ft. | 12 ft. | 14 ft. | 16 ft. | 18 ft. | 20 ft. | 22 ft. | 24 ft. |
|---------------------------|--|-------------|-------|-----|--------|-----------------|--------|-----------------|--------|--------|--------|--------|
| P 11003 | 3500 Gas 12,000 lbs | EB4 | 109 | 6.5 | X | X | | | | | | |
| P 12003 | | FNJ | 132.5 | 6.5 | | | X | | | | | |
| P 13003 | | FWH | 150 | 6.5 | | | | X | X | | | |
| P 14003 | | FNW | 176 | 6.5 | | | | | | X | | |
| P 31003 | 4500 Gas 14,500 lbs | EB4 | 109 | 6.5 | X | X | | | | | | |
| P 32003 | | FNJ | 132.5 | 6.5 | | | X | | | | | |
| P 33003 | | FWH | 150 | 6.5 | | | | X | X | | | |
| P 34003 | | FNW | 176 | 6.5 | | | | | X | X | | |
| P 13043/P 33043 | 3500/4500 CREW CAB GAS 12,000 & 14,500 lbs | FWH | 150 | 5 | | X ₂₀ | | | | | | |
| P 14043/P 34043 | | FNW | 176 | 5 | | | | X ₂₀ | | | | |
| T 21003 | 3500 HD 13,000 lbs | EB4 | 109 | 6.1 | | X | | | | | | |
| T 22003 | | FNJ | 132.5 | 6.1 | | | X | | | | | |
| T 23003 | | FWH | 150 | 6.1 | | | | X | X | | | |
| T 24003 | | FNW | 176 | 6.1 | | | | | | X | | |
| T 31003 | 4500 HD 14,500 lbs | EB4 | 109 | 7.7 | | X | | | | | | |
| T 32003 | | FNJ | 132.5 | 7.7 | | | X | X | | | | |
| T 33003 | | FWH | 150 | 7.7 | | | | X | X | | | |
| T 34003 | | FNW | 176 | 7.7 | | | | | | X | | |
| T 33043 | 4500 HD CREW CAB DIESEL 14,500 lbs | EE3 | 150 | 5.3 | | X ₂₀ | | | | | | |
| T 34043 | | FNR | 176 | 5.3 | | | | X ₂₀ | | | | |

Notes:

1. 16' Dovetail landscape (12' deck plus 4' dovetail).
2. 18' Dovetail landscape (14' deck plus 4' dovetail).

Important:

Body selection recommendations are based on water level weight distribution and no accessories, liftgate or refrigeration units. This table is intended for reference and does not preclude the necessity for an accurate weight distribution calculation.

2017 Chevrolet Low Cab Forward

| APPLICATION SUMMARY CHART | | | | | | | | | | | | |
|---------------------------|--|-------------|-------|-----|--------|------------------|--------|------------------|--------|--------|--------|--------|
| ENGINEERING MODEL CODE | MODEL/GVWR | RPO CODE | WB | BOC | 10 ft. | 12 ft. | 14 ft. | 16 ft. | 18 ft. | 20 ft. | 22 ft. | 24 ft. |
| T 41003 | 4500 XD 16,000 lbs | EB4 | 109 | 7.7 | X | X | | | | | | |
| T 42003 | | FNJ | 132.5 | 7.7 | | | X | | | | | |
| T 43003 | | FWH | 150 | 7.7 | | | | X | X | | | |
| T 44003 | | FNW | 176 | 7.7 | | | | | X | X | | |
| T 43043 | 4500 XD CREW CAB DIESEL 16,000 lbs | EE3 | 150 | 5.3 | | X ⁽¹⁾ | | | | | | |
| T 44043 | | FNR | 176 | 5.3 | | | | X ⁽²⁾ | | | | |
| T 51003 | 5500 HD 17,950 lbs | EB4 | 109 | 7.7 | X | X | | | | | | |
| T 52003 | | FNJ | 132.5 | 7.7 | | | X | | | | | |
| T 53003 | | FWH | 150 | 7.7 | | | | X | X | | | |
| T 54003 | | FNW | 176 | 7.7 | | | | | X | X | | |
| T 55003 | | EM2 | 200 | 7.7 | | | | | | | X | |
| T53043 | 5500 HD CREW CAB DIESEL 17,950 lbs | EE3 | 150 | 5.3 | | X ⁽¹⁾ | | | | | | |
| T54043 | | FNR | 176 | 5.3 | | | | X ⁽²⁾ | | | | |
| T 61003 | 5500 XD 19,500 lbs | EB4 | 109 | 7.7 | X | | | | | | | |
| T 62003 | | FNJ | 132.5 | 7.7 | | X | X | | | | | |
| T 63003 | | FWH | 150 | 7.7 | | | | X | | | | |
| T 64003 | | FNW | 176 | 7.7 | | | | | X | X | | |
| T 65003 | | EM2 | 200 | 7.7 | | | | | | | X | |
| T 66003 | | EL5 | 212 | 7.7 | | | | | | | | X |

Notes:

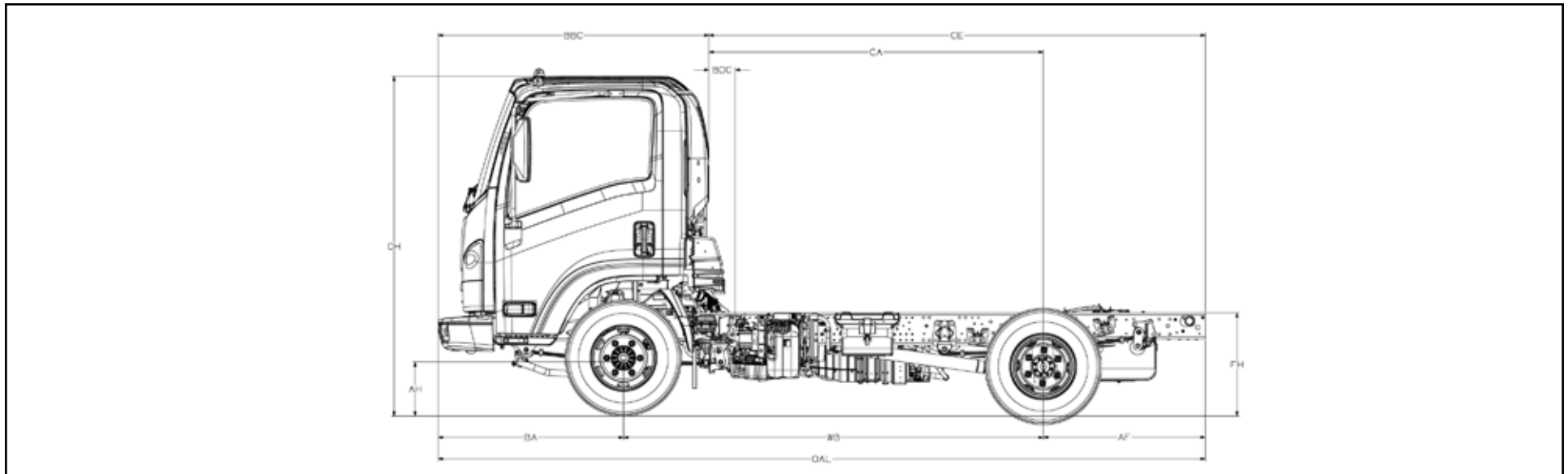
1. 16' Dovetail landscape (12' deck plus 4' dovetail).
2. 18' Dovetail landscape (14' deck plus 4' dovetail).

Important:

Body selection recommendations are based on water level weight distribution and no accessories, liftgate or refrigeration units. This table is intended for reference and does not preclude the necessity for an accurate weight distribution calculation.

2017 Chevrolet Low Cab Forward

3500, 4500, Gas



- Body & Payload Weight Distribution (% Front/% Rear)

| Model | GVWR | WB | CA | CE | OAL | BOC | 10 ft. | 12 ft. | 14 ft. | 16 ft. | 18 ft. | 20 ft. | 22 ft. | 24 ft. |
|-------------------------------|--------|-------|-------|-------|-------|-----|--------|--------|--------|--------|--------|--------|--------|--------|
| AUTOMATIC TRANSMISSION | | | | | | | | | | | | | | |
| 3500 GAS | 12,000 | 109 | 86.5 | 129.6 | 200.5 | 6.5 | 18/82 | 7/93 | | | | | | |
| 3500 GAS | 12,000 | 132.5 | 110 | 153.1 | 224 | 6.5 | | | 15/85 | | | | | |
| 3500 GAS | 12,000 | 150 | 127.5 | 170.6 | 241.5 | 6.5 | | | | 17/83 | 9/91 | | | |
| 3500 GAS | 12,000 | 176 | 153.5 | 196.6 | 267.5 | 6.5 | | | | | | 15/85 | | |

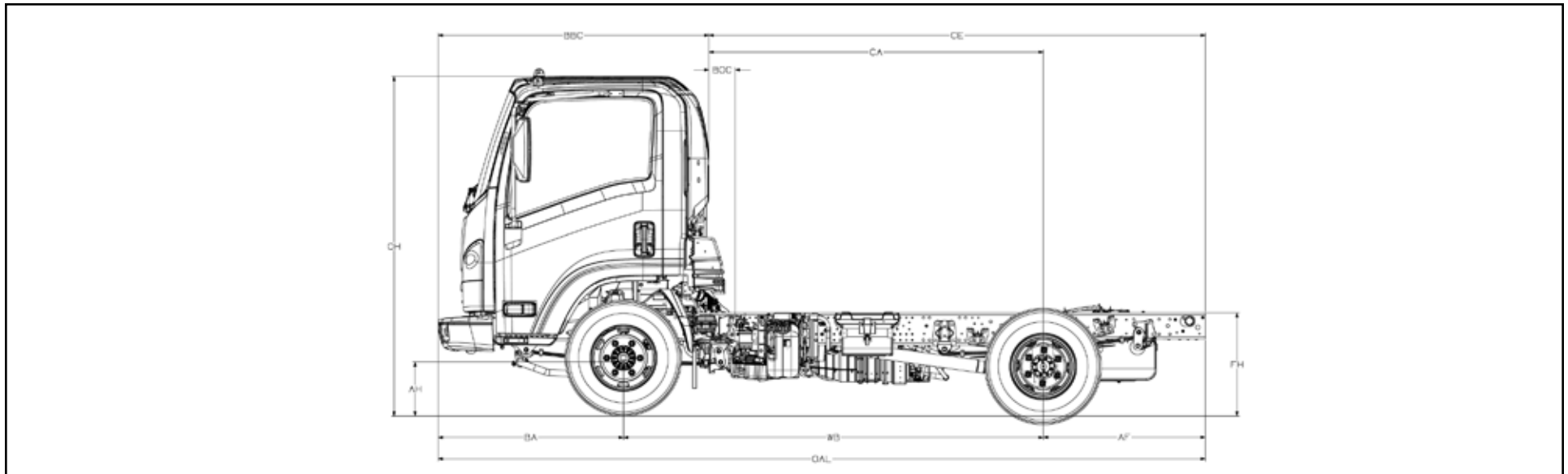
| Model | GVWR | WB | CA | CE | OAL | BOC | 10 ft. | 12 ft. | 14 ft. | 16 ft. | 18 ft. | 20 ft. | 22 ft. | 24 ft. |
|-------------------------------|--------|-------|-------|-------|-------|-----|--------|--------|--------|--------|--------|--------|--------|--------|
| AUTOMATIC TRANSMISSION | | | | | | | | | | | | | | |
| 4500 GAS | 14,500 | 109 | 86.5 | 129.6 | 200.5 | 6.5 | 18/82 | 7/93 | | | | | | |
| 4500 GAS | 14,500 | 132.5 | 110 | 153.1 | 224 | 6.5 | | | 15/85 | | | | | |
| 4500 GAS | 14,500 | 150 | 127.5 | 170.6 | 241.5 | 6.5 | | | | 17/83 | 9/91 | | | |
| 4500 GAS | 14,500 | 176 | 153.5 | 196.6 | 267.5 | 6.5 | | | | | | 15/85 | | |

IMPORTANT:

Weight distribution percentages listed do not include added accessories, liftgate or refrigeration units. Percentages based on water-level distribution of body and payload weight which is determined by subtracting chassis wet weight (including 200 lb. driver) from GVWR. These tables are intended for reference and do not preclude the necessity for an accurate weight distribution calculation.

2017 Chevrolet Low Cab Forward

3500HD Diesel



- Body & Payload Weight Distribution (% Front/% Rear)

AUTOMATIC TRANSMISSION

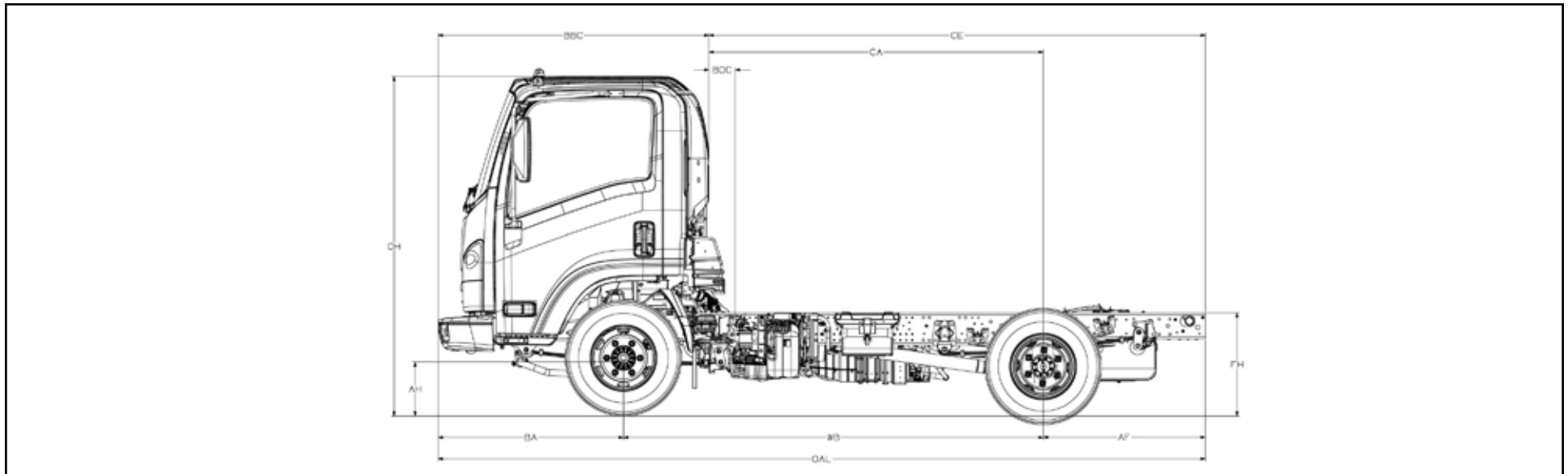
| MODEL | GVWR | WB | CA | CE | OAL | BOC | 10 | 12 | 14 | 16 | 18 | 20 | | |
|--------|--------|-------|-------|-------|-------|-----|-------|------|-------|-------|------|-------|--|--|
| 3500HD | 13,000 | 109 | 86.5 | 129.6 | 200.5 | 4.5 | 17/83 | 6/94 | | | | | | |
| 3500HD | 13,000 | 132.5 | 110 | 153.1 | 224.0 | 4.5 | | | 14/86 | | | | | |
| 3500HD | 13,000 | 150 | 127.5 | 170.6 | 241.5 | 4.5 | | | | 16/84 | 8/92 | | | |
| 3500HD | 13,000 | 176 | 153.5 | 196.6 | 267.5 | 4.5 | | | | | | 15/85 | | |

IMPORTANT:

Weight distribution percentages listed do not include added accessories, liftgate or refrigeration units. Percentages based on water-level distribution of body and payload weight which is determined by subtracting chassis wet weight (including 200 lb. driver) from GVWR. These tables are intended for reference and do not preclude the necessity for an accurate weight distribution calculation.

2017 Chevrolet Low Cab Forward

4500HD Diesel



- Body & Payload Weight Distribution (% Front/% Rear)

AUTOMATIC TRANSMISSION

| MODEL | GVWR | WB | CA | CE | OAL | BOC | 10 | 12 | 14 | 16 | 18 | | | |
|---------------|--------|-------|-------|-------|-------|------|----|------|-------|-------|------|-------|--|--|
| 4500HD DIESEL | 14,500 | 109 | 86.5 | 129.6 | 200.5 | 7.7 | | 6/94 | | | | | | |
| 4500HD DIESEL | 14,500 | 132.5 | 110 | 153.1 | 224.0 | 7.7 | | | 14/86 | | | | | |
| 4500HD DIESEL | 14,500 | 150 | 127.5 | 170.6 | 241.5 | 10.2 | | | | 14/86 | 6/94 | | | |
| 4500HD DIESEL | 14,500 | 176 | 153.5 | 196.6 | 267.5 | 10.2 | | | | | | 13/87 | | |

IMPORTANT:

Weight distribution percentages listed do not include added accessories, liftgate or refrigeration units. Percentages based on water-level distribution of body and payload weight which is determined by subtracting chassis wet weight (including 200 lb. driver) from GVWR. These tables are intended for reference and do not preclude the necessity for an accurate weight distribution calculation.

2017 Chevrolet Low Cab Forward

4500XD Diesel

AUTOMATIC TRANSMISSION

| MODEL | | GVWR | WB | CA | CE | OAL | BOC | 10 | 12 | 14 | 16 | 18 | 20 | 22 | |
|---------------|--|--------|-------|-------|-------|-------|-----|-------|------|-------|-------|-------|-------|----|--|
| 4500XD DIESEL | | 16,000 | 109 | 86.5 | 129.6 | 200.5 | 7.7 | 17/83 | 6/94 | | | | | | |
| 4500XD DIESEL | | 16,000 | 132.5 | 110.0 | 153.1 | 224.0 | 7.7 | | | 14/86 | | | | | |
| 4500XD DIESEL | | 16,000 | 150 | 127.5 | 170.6 | 241.5 | 7.7 | | | | 16/84 | 8/92 | | | |
| 4500XD DIESEL | | 16,000 | 176 | 153.5 | 196.6 | 267.5 | 7.7 | | | | | 22/78 | 15/85 | | |

5500HD Diesel

AUTOMATIC TRANSMISSION

| MODEL | | GVWR | WB | CA | CE | OAL | BOC | 10 | 12 | 14 | 16 | 18 | 20 | 22 | |
|---------------|--|--------|-------|-------|-------|-------|-----|-------|------|-------|-------|-------|-------|-------|--|
| 5500HD DIESEL | | 17,950 | 109 | 86.5 | 129.6 | 200.5 | 7.7 | 17/83 | 6/94 | | | | | | |
| 5500HD DIESEL | | 17,950 | 132.5 | 110.0 | 153.1 | 224.0 | 7.7 | | | 14/86 | | | | | |
| 5500HD DIESEL | | 17,950 | 150 | 127.5 | 170.6 | 241.5 | 7.7 | | | | 16/84 | 8/92 | | | |
| 5500HD DIESEL | | 17,950 | 176 | 153.5 | 196.6 | 267.5 | 7.7 | | | | | 22/78 | 15/85 | | |
| 5500HD DIESEL | | 17,950 | 200 | 177.5 | 220.6 | 291.5 | 7.7 | | | | | | | 19/81 | |

5500XD Diesel

AUTOMATIC TRANSMISSION

| MODEL | | GVWR | WB | CA | CE | OAL | BOC | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
|---------------|--|--------|-------|-------|-------|-------|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| 5500XD DIESEL | | 19,500 | 109 | 86.5 | 129.6 | 200.5 | 7.7 | 17/83 | 6/94 | | | | | | |
| 5500XD DIESEL | | 19,500 | 132.5 | 110.0 | 153.1 | 224.0 | 7.7 | | 23/77 | 14/86 | | | | | |
| 5500XD DIESEL | | 19,500 | 150 | 127.5 | 170.6 | 241.5 | 7.7 | | | | 16/84 | 8/92 | | | |
| 5500XD DIESEL | | 19,500 | 176 | 153.5 | 196.6 | 267.5 | 7.7 | | | | | 22/78 | 15/85 | | |
| 5500XD DIESEL | | 19,500 | 200 | 177.5 | 220.6 | 291.5 | 7.7 | | | | | | | 19/81 | |
| 5500XD DIESEL | | 19,500 | 212 | 189.5 | 232.6 | 303.5 | 7.7 | | | | | | | | 18/82 |

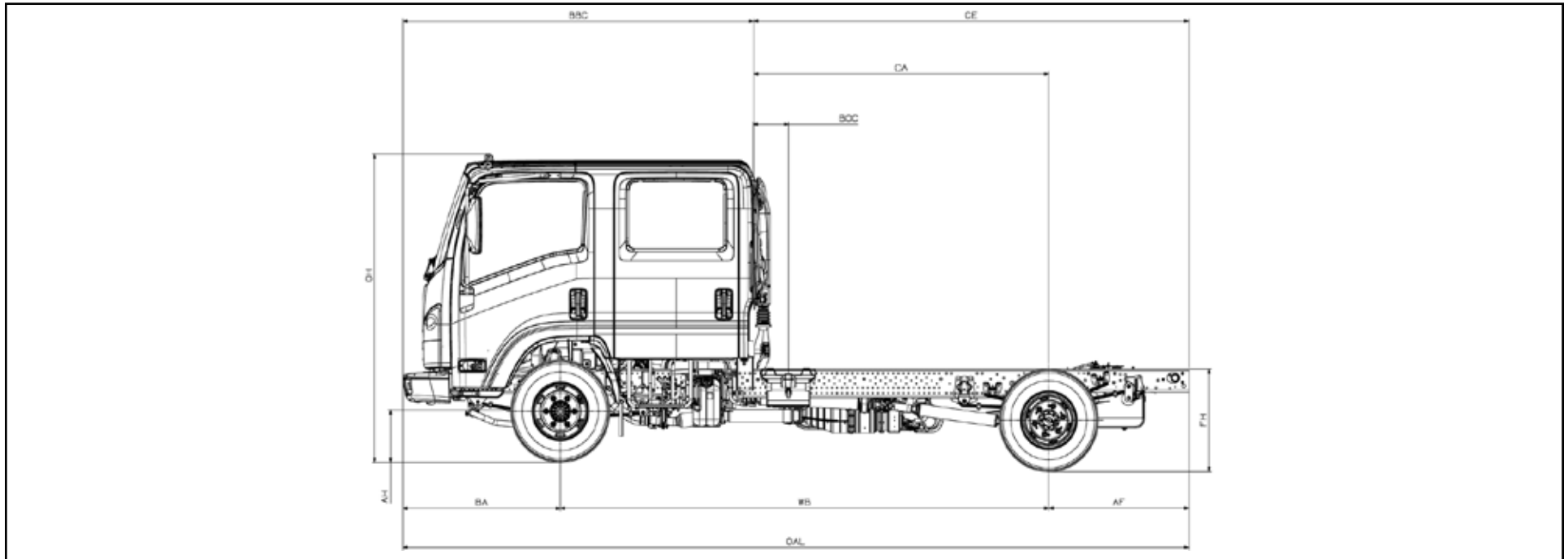
IMPORTANT:

Weight distribution percentages listed do not include added accessories, liftgate or refrigeration units. Percentages based on water-level distribution of body and payload weight which is determined by subtracting chassis wet weight (including 200 lb. driver) from GVWR. These tables are intended for reference and do not preclude the necessity for an accurate weight distribution calculation.

2017 Chevrolet Low Cab Forward

PAGE 3.7

3500/4500 Crew Cab Gas



- Gas Cab Body & Payload Weight Distribution (% Front/% Rear)

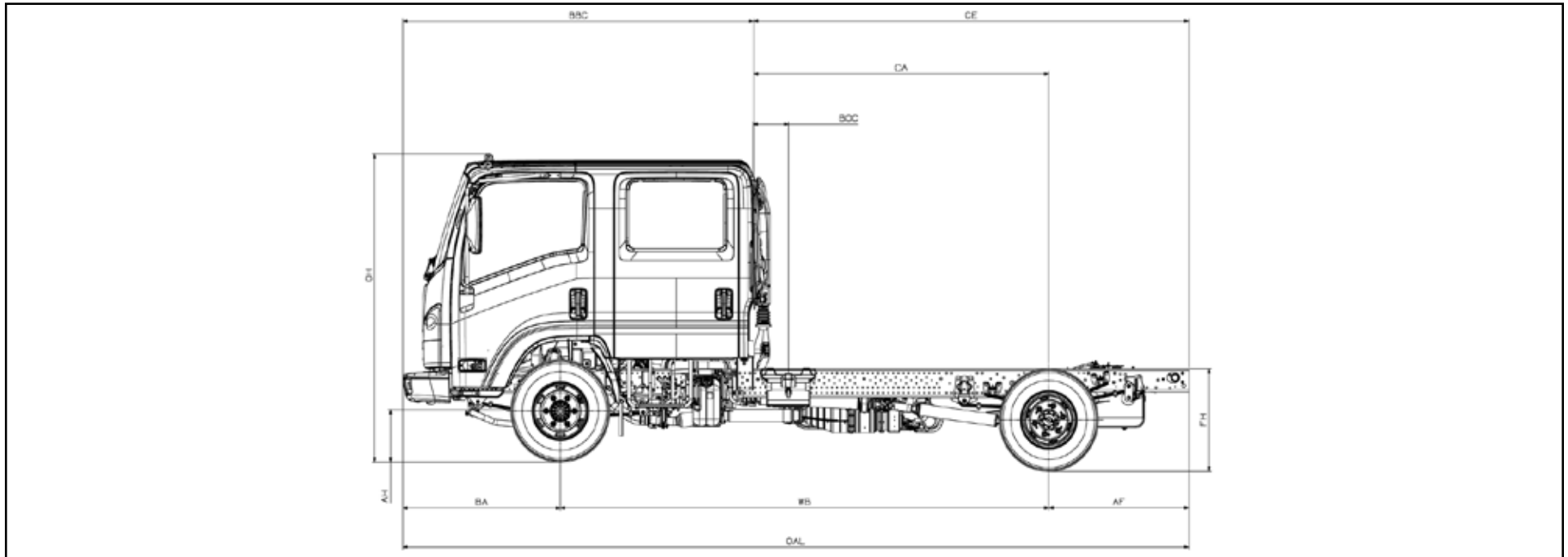
| Crew Cab Gas Engine | | | | | | | | | | |
|---------------------|--------|-----|-------|-----|-------|-----|-------|------|-------|------|
| MODEL | GVWR | WB | CA | CE | OAL | BOC | 10 | 12 | 14 | 16 |
| 3500 CREW CAB GAS | 12,000 | 150 | 88.9 | 132 | 241.5 | 4.0 | | 8/92 | | |
| 3500 CREW CAB GAS | 12,000 | 176 | 114.9 | 158 | 267.5 | 4.0 | | | 15/85 | |
| MODEL | GVWR | WB | CA | CE | OAL | BOC | 10 | 12 | 14 | 16 |
| 4500 CREW CAB GAS | 14,500 | 150 | 88.9 | 132 | 241.5 | 4.0 | 16/84 | 8/92 | | |
| 4500 CREW CAB GAS | 14,500 | 176 | 114.9 | 158 | 267.5 | 4.0 | | | 15/85 | 8/92 |

IMPORTANT:

Weight distribution percentages listed do not include added accessories, liftgate or refrigeration units. Percentages based on water-level distribution of body and payload weight which is determined by subtracting chassis wet weight (including 200 lb. driver) from GVWR. These tables are intended for reference and do not preclude the necessity for an accurate weight distribution calculation.

2017 Chevrolet Low Cab Forward

4500HD, 4500XD, 5500HD Crew Cab Diesel



- Diesel Crew Cab Body & Payload Weight Distribution (% Front/% Rear)

| Crew Cab Diesel Engine | | | | | | | | | | |
|------------------------|--------|-----|-------|-------|-------|-----|-------|------|-------|------|
| MODEL | GVWR | WB | CA | CE | OAL | BOC | 10 | 12 | 14 | 16 |
| 4500HD CREW CAB DSL | 14,500 | 150 | 88.5 | 131.6 | 241.5 | 5.3 | | | | |
| 4500HD CREW CAB DSL | 14,500 | 176 | 114.5 | 157.6 | 267.5 | 5.3 | | | 14/86 | 7/93 |
| MODEL | GVWR | WB | CA | CE | OAL | BOC | 10 | 12 | 14 | 16 |
| 4500XD CREW CAB DSL | 16,000 | 150 | 88.5 | 131.6 | 241.5 | 5.3 | | 7/93 | | |
| 4500XD CREW CAB DSL | 16,000 | 176 | 114.5 | 157.6 | 267.5 | 5.3 | | | 14/86 | 7/93 |
| MODEL | GVWR | WB | CA | CE | OAL | BOC | 10 | 12 | 14 | 16 |
| 5500HD CREW CAB DSL | 17,950 | 150 | 88.5 | 131.6 | 241.5 | 5.3 | 15/85 | 7/93 | | |
| 5500HD CREW CAB DSL | 17,950 | 176 | 114.5 | 157.6 | 267.5 | 5.3 | | | 14/86 | 7/93 |

IMPORTANT:

Weight distribution percentages listed do not include added accessories, liftgate or refrigeration units. Percentages based on water-level distribution of body and payload weight which is determined by subtracting chassis wet weight (including 200 lb. driver) from GVWR. These tables are intended for reference and do not preclude the necessity for an accurate weight distribution calculation.

2017 Chevrolet Low Cab Forward

MECHANICAL AND CAB SPECIFICATIONS

Engine Horsepower and Torque Chart

| ENGINE MODEL | VEHICLE MODEL | Net HP HP/RPM ¹ | Net Torque LBS-FT/RPM ¹ | Gross HP HP/RPM ¹ | Gross Torque LBS FT/RPM |
|------------------------|--------------------------------|-------------------------------|---------------------------------------|---------------------------------|----------------------------|
| AUTOMATIC TRANSMISSION | | | | | |
| GMPT - 6.0L - V8 | 3500, 4500 Gas | 293/4300 | 368/4000 | 297/4300 | 372/4000 |
| ISUZU 4JJ1-TC | 3500HD Diesel | 147/2700 | 277/1600-2800 | 150/2800 | 282/1600-2800 |
| ISUZU 4HK1-TC | 4500HD, 4500XD, 5500HD, 5500XD | 210/2500 | 441/1850 | 215/2500 | 452/1850 |

Figure 4.1.1

Governed 4JJ1-TC 3600rpm

NOTE:¹ Horsepower and Torque Ratings are measured under SAE J1349 standards.

The following table presents GVW ratings and corresponding GCW ratings for each model truck

GVW/GCW Ratings

| Truck Model | Transmission | GVWR(lbs.) | GCWR (lbs.) ¹ |
|---------------|--------------|------------|--------------------------|
| 3500 GAS | AUTOMATIC | 12,000 | 18,000 |
| 4500 GAS | AUTOMATIC | 14,500 | 20,500 |
| 3500HD DIESEL | AUTOMATIC | 13,000 | 19,000 |
| 4500HD DIESEL | AUTOMATIC | 14,500 | 20,500 |
| 4500XDDIESEL | AUTOMATIC | 16,000 | 22,000 |
| 5500HD DIESEL | AUTOMATIC | 17,950 | 23,950 |
| 5500XD DIESEL | AUTOMATIC | 19,500 | 25,500 |

Figure 4.1.2

¹ The Chevrolet Gas/Diesel engines are not approved for Hot Shot applications.

2017 Chevrolet Low Cab Forward

Rear Frame Height Chart

The following table provides the rear frame height for each model/GVWR with standard tires:

| Model | GVWR (lbs.) | Standard Tire | Frame HT (in.) FH Std. Tires |
|---------------|-------------|---------------|------------------------------|
| 3500 Gas | 12,000 | 215/85R-16E | 31.1 |
| 4500 Gas | 14,500 | 225/70R-19.5G | 33.0 |
| 3500HD Diesel | 13,000 | 215/85R-16E | 31.1 |
| 4500HD Diesel | 14,500 | 215/85R-16E | 31.1 |
| 4500XD Diesel | 16,000 | 225/70R-19.5F | 33.0 |
| 5500HD Diesel | 17,950 | 225/70R-19.5F | 33.0 |
| 5500XD Diesel | 19,500 | 225/70R-19.5F | 33.0 |

Figure 4.2.1

2017 Chevrolet Low Cab Forward

Paint Code Chart

EXTERIOR PAINT CODE INFORMATION

| GM Ordering Color Name Exterior | AKZO NOBEL CODE | DUPONT CODE | NEXA COLOR CODE | PPG CODE | SHERWIN WILLIAMS/ MARTIN SENOUR | SPIES HECKER CODE | STANDOX CODE | PANTONE (1) |
|------------------------------------|--------------------|----------------|--------------------|----------|--|----------------------|-----------------|-------------|
| White | FLNA40156 | 729 | 729 | 91508 | 729 | 729 | 729 | 7541C |
| Wheatland Yellow | FLNA10182 | 812 | 812 | 83931 | 812 | 812 | 812 | 137C |
| Dark Woodland Green | FLNA60181 | 807 | 807 | 48339 | 807 | 807 | 807 | 3308C |
| Cardinal Red | ISU736 | 736 | 736 | 75097 | 736 | 736 | 736 | 202C |
| Dark Blue | ISU695 | 695 | 695 | 909649 | 695 | 695 | 695 | 655C |
| Black | ISU508 | 508 | 508 | N/A | 508 | 508 | 508 | Black 6C |

(1) The Pantone colors listed are the closest Pantone color numbers to the OEM paint colors and are given for reference only

Figure 4.3.1

Low Cab Forward Towing Procedure

WHEN TOWING A VEHICLE: Proper equipment must be used to prevent damage to vehicles during any towing. State and local laws which apply to vehicles in tow must be followed. Vehicles should not be towed at speeds in excess of 55 MPH (88 km/h). Connect to the main structural parts of the vehicle. Do not attach to bumpers, tow hooks or brackets. Use only equipment designed for this purpose. Follow the instructions of the wrecker manufacturer. A safety chain system must be used. The procedures below must be followed when towing to prevent possible damage.

FRONT END TOWING (FRONT WHEELS OFF GROUND)

To prepare a disabled vehicle for front end towing with front wheels raised off the ground, the following steps are necessary:

- Block the rear wheels of the disabled vehicle.
- Disconnect the propeller shaft at the rear axle. Secure the propeller shaft to the frame or cross member.

CAUTION: WHEN TOWING, DISCONNECT THE DRIVESHAFT AT THE REAR AXLE TO ENSURE THE TRANSMISSION IS NOT DAMAGED.

If there is damage or suspected damage to the rear axle, remove the axle shafts.

Cover the hub openings to prevent the loss of lubricant or entry of dirt or foreign objects. Place a 10 cm (4 in) wood beam against the towing guide behind the bumper.

(If no 10 cm (4 in) is available, then remove the bumper.) Ensure towing chains do not come into contact with the horns or the bumper.

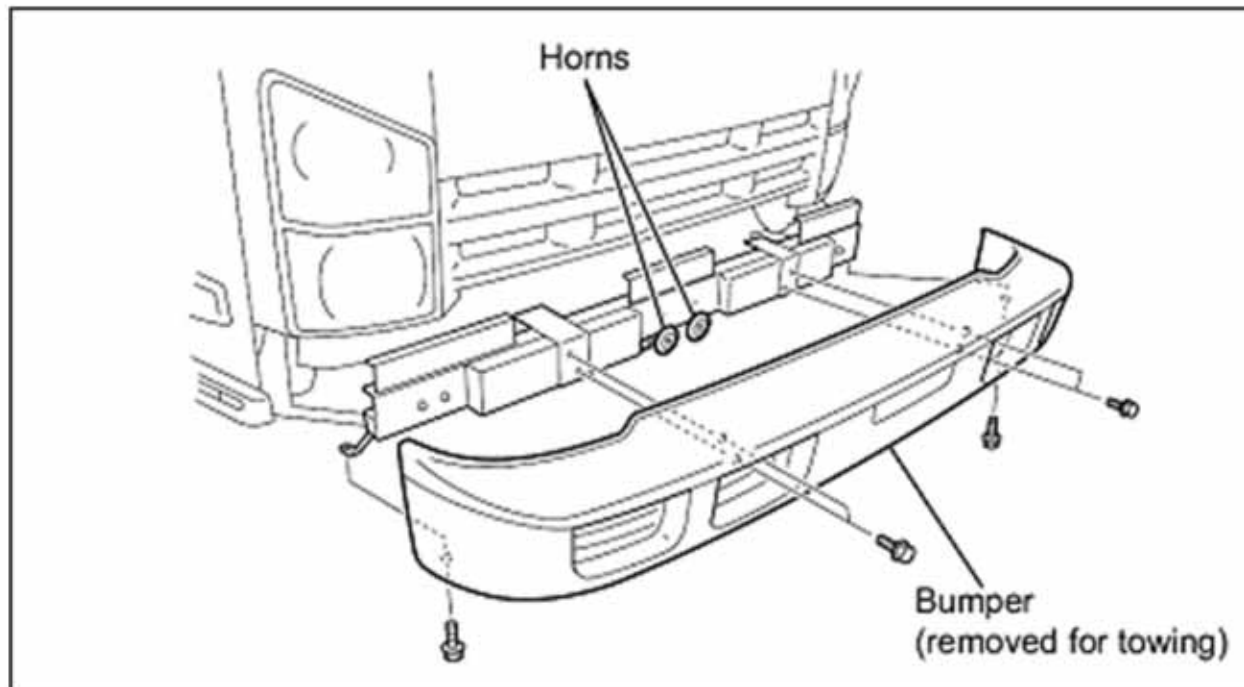


Figure 4.4.1

AFTER TOWING

After towing the vehicle, block the rear wheels and install axle shafts or driveshaft. Apply the parking brake before disconnecting from the towing vehicle.

FRONT END TOWING (ALL WHEELS ON THE GROUND)

Your vehicle may be towed on all wheels provided the steering is operable. Remember that power steering and brakes will not have power assist. There must be a tow bar installed between the tow vehicle and the disabled vehicle.

TOWING WITH ALL WHEELS ON THE GROUND

To prepare a disabled vehicle for front end towing with all wheels on the ground, the following steps are necessary:

- Block the wheels of the disabled vehicle.
- Disconnect the propeller shaft at the rear axle.
Secure the propeller shaft to the frame or crossmember.

CAUTION:

When towing, disconnect the driveshaft at the rear axle to ensure the transmission is not damaged. Provide wood blocking to prevent towing chains and bar from coming into contact with the bumper. If there is damage or suspected damage to the rear axle, remove the axle shafts. Cover the hub openings to prevent the loss of lubricant or entry of dirt or foreign objects.

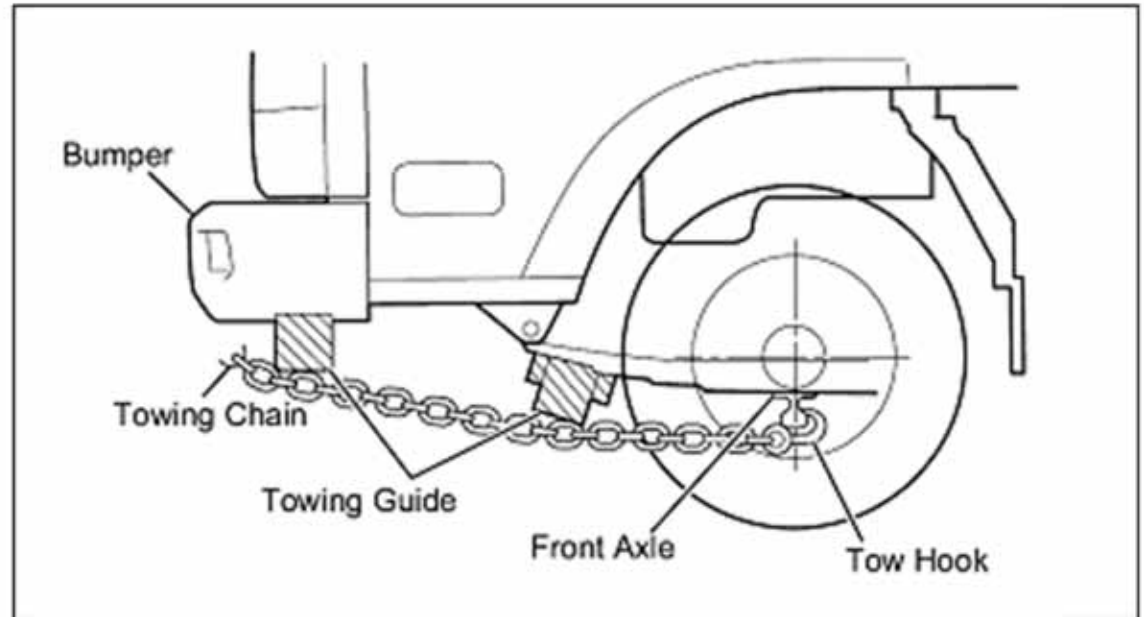


Figure 4.5.1

2017 Chevrolet Low Cab Forward

CAUTION:

When towing, disconnect the driveshaft at the rear axle to ensure the transmission is not damaged. Provide wood blocking to prevent towing chains and bar from coming into contact with the bumper. If there is damage or suspected damage to the rear axle, remove the axle shafts. Cover the hub openings to prevent the loss of lubricant or entry of dirt or foreign objects.

AFTER TOWING

After towing the vehicle, block the rear wheels and install axle shafts or propeller shaft. Apply the parking brake before disconnecting from the towing vehicle. Check and fill rear axle with oil, if required.

REAR END TOWING

When towing a vehicle with rear wheels raised, secure the steering wheel to maintain straight-ahead position. Make certain that the front axle is not loaded beyond the front axle gross axle weight rating (GAWR) as indicated on the vehicle's VIN and weight rating plate.

SPECIAL TOWING INSTRUCTIONS

1. All state and local laws regarding such items as warning signals, night illumination, speed, etc., must be followed.
2. Safety chains must be used.
3. No vehicle should ever be towed over 55 MPH (88 km/h).
4. Loose or protruding parts of damaged vehicles should be secured prior to moving.
5. A safety chain system completely independent of the primary lifting and towing attachment must be used.
6. Operators should refrain from going under a vehicle which is being lifted by the towing equipment unless the vehicle is adequately supported by safety stands.
7. No towing operation which for any reason jeopardizes the safety of the wrecker operator or any bystanders or other motorists should be attempted.

2017 Chevrolet Low Cab Forward

EIGHT DISTRIBUTION CONCEPTS

Weight Restrictions

The Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) of each Incomplete Vehicle are specified on the cover of its Incomplete Vehicle Document in conformance to the requirements of Part 568.4 of the Federal Motor Vehicle Safety Regulations. The final stage manufacturer is responsible under Part 567.5 to place the GVWR and the GAWR of each axle on the Final Vehicle Certification Label. The regulation states that the appropriate rating "shall not be less than the sum of the unloaded vehicle weight, rated cargo load, and 150 pounds times the vehicle's designated seating capacity."

Unloaded vehicle weight means the weight of a vehicle with maximum capacity of all fluids necessary for operation of the vehicle, but without cargo or occupants.

During completion of this vehicle, GVWR and GAWR may be affected in various ways, including but not limited to the following:

1. The installation of a body or equipment that exceeds the rated capacities of this Incomplete Vehicle.
2. The addition of designated seating positions which exceeds the rated capacities of this Incomplete Vehicle.
3. Alterations or substitution of any components such as axles, springs, tires, wheels, frame, steering and brake systems that may affect the rated capacities of this Incomplete Vehicle.

Use the following chart to assure compliance with the regulations. Chassis curb weight and GVW rating is located on Page 2 in each vehicle section. Always verify the results by weighing the completed vehicle on a certified scale.

| | | | |
|--|---|--|---|
| Curb Weight of Chassis (lbs.) | | | |
| | | | (From required vehicle section) |
| PLUS weight of added body components, accessories or other permanently attached components. | + | | |
| | | | (Body, liftgate, reefer, etc.) |
| PLUS total weight of passengers, air conditioning and all load or cargo. | + | | |
| | | | (Driver, passengers, accessories and load) |
| <hr/> | | | |
| EQUALS Gross Vehicle Weight (lbs.) (GVW) of completed vehicle. | = | | |
| | | | (Should equal GVWR from required vehicle section) |

Figure 5.1.1

Gross Axle Weight Rating

The Gross Vehicle Weight is further restricted by the Gross Axle Weight Rating (GAWR). The maximum GAWR for both front and rear axles is listed in each Vehicle Section. Weight distribution calculations must be performed to ensure GAWR is not exceeded. Always verify the results by weighing the completed vehicle on a certified scale.

NOTE: Although the Front Gross Axle Weight Rating (FGAWR) plus the Rear Gross Axle Weight Rating (RGAWR) may exceed the Gross Vehicle Weight Rating (GVWR), the total GVW may not exceed the respective maximum GVWR.

The variation in the GAWRs allow the second stage manufacturer some flexibility in the design of the weight distribution of the attached unit.

Weighing the Vehicle

Front and rear GAWRs and total GVWR should be verified by weighing a completed loaded vehicle. Weigh the front and rear of the vehicle separately and combine the weights for the total GVWR. All three weights must be less than the respective maximum shown in the vehicle sections.

Tire Inflation

Tire inflation must be compatible with GAWR and GVWR as specified on the cover of the Incomplete Vehicle Document for each vehicle.

Center of Gravity

The design of the truck body should be such that the center of gravity of the added load does not exceed the guidelines as listed in each Vehicle Section. If the body is mounted in such a way that the center of gravity height exceeds the maximum height of the center of gravity designated for each model, the directional stability at braking and roll stability at cornering will be adversely affected. A vertical and/or horizontal center of gravity calculation must be performed if a question in stability arises to ensure the designed maximum height of the center of gravity is not violated.

Weight Distribution

A truck as a commercial vehicle has but one purpose. That purpose is to haul some commodity from one place to another. A short distance or a long distance, the weight to be hauled, more than any other factor, determines the size of the truck. A small weight requires only a small truck; a large weight requires a large truck. A simple principle, but it can easily be misapplied. In any case, selecting the right size truck for the load to be hauled will ensure that the job will be done and that it will be able to be done with some degree of reliability and within the legal limitations of total gross weight and axle gross weights.

Not only must a truck be selected that will handle the total load, but the weight must also be properly distributed between the axles. This is of extreme importance from both a functional and economic aspect. If a truck consistently hauls less than its capacity, the owner is not realizing full return on his investment and his operating costs will be higher than they should be. If the truck is improperly loaded or overloaded, profits will be reduced due to increased maintenance costs and potential fines resulting from overloading beyond legal limitations. Careful consideration must be given to distribution of the load weight in order to determine how much of the total, including chassis, cab, body and payload, will be carried on the front axle and how much will be carried on the rear axle, on the trailer axles and the total. Moving a load a few inches forward or backward on the chassis can mean the difference between acceptable weight distribution for the truck or an application that will not do the job satisfactorily.

Every truck has a specific capacity and should be loaded so that the load distribution is kept within Gross Axle Weight Ratings (GAWR) and the truck's Gross Vehicle Weight Rating (GVWR) or Gross Combination Weight Rating (GCWR) for a tractor/trailer and the weight laws and regulations under which the truck will operate. Improper weight distribution will cause problems in many areas:

1. Excessive front end wear and failure
 - a. Tie-rod and kingpin wear
 - b. Front axle failure
 - c. Overloading of front suspension
 - d. Wheel bearing failure
2. Rapid tire wear
 - a. When the weight on a tire exceeds its rating capacity, accelerated wear will result and could result in tire failure.

Weight Distribution

3. Rough, erratic ride
 - a. If the center of the payload is directly over or slightly behind the rear axle, the lack of sufficient weight on the front axle will create a bobbing effect, very rough ride, and erratic steering. This condition will be magnified when the truck is going uphill.
4. Hard steering
 - a. When loads beyond the capacity of the front axle are imposed upon it, the steering mechanism is also overloaded and hard steering will result.
 - b. Excessive overloading could result in steering component damage or failure.
5. Unsafe operating and conditions
 - a. Poor traction on the steering axle effects the safety of the driver and equipment, particularly on wet, icy and slippery surfaces. Experience indicates that approximately 30% of the total weight at the ground on a truck or tractor should be on the front axle with a low cab forward vehicle.
 - b. When a truck is overloaded, a dangerous situation may exist because minimum speeds cannot always be maintained, directional control may not be precise and insufficient braking capacity can cause longer than normal braking distances.
6. High maintenance costs
 - a. Improper weight distribution and overloading cause excessive wear and premature failure of parts. Additional stresses imposed on the frame by the misapplication of wheelbases may be instrumental in causing the frame to crack or break.
7. Noncompliance with weight laws and regulations
 - a. When there is the possibility that axle loads will exceed existing weight laws and regulations, careful weight distribution is necessary to provide a correct balance between front and rear axle loads and total load within legal limitations.

In this way, maximum payloads may be carried without exceeding legal limits. If the body is too long for a wheelbase, the center of the body and payload is placed directly over the rear axle. This places all the payload on the rear axles, resulting in overloading the rear tires, rear axle springs and wheel bearings and potentially exceeding the rear axle legal weight limit. The front axle is then carrying no part of the payload and is easily lifted off the ground when going over rough terrain, creating a very rough ride and temporary loss of steering control. If the body is too short for the wheelbase used, frame stress may be increased and may result in excessive loads on the front axle. Excessive front axle loads increase wear on the kingpins and bushings, wheel bearings and steering gear. Excessive front axle loads also overstress the front axle, springs, tires and wheels. All of these contribute directly to higher maintenance costs and hard steering, both of which are undesirable.

Weight Distribution

Weight distribution analysis involves the application of basic mathematical principles to determine the proper positioning of the payload and body weight in relation to the wheelbase of the truck chassis.

It is much less expensive to work all of this out on paper, make mistakes on paper and correct them there than to set up the truck incorrectly and either have it fail to do the job or, much worse, fail completely.

It is important to become familiar with the dimensions of the truck, as these will be needed to perform the necessary calculations.

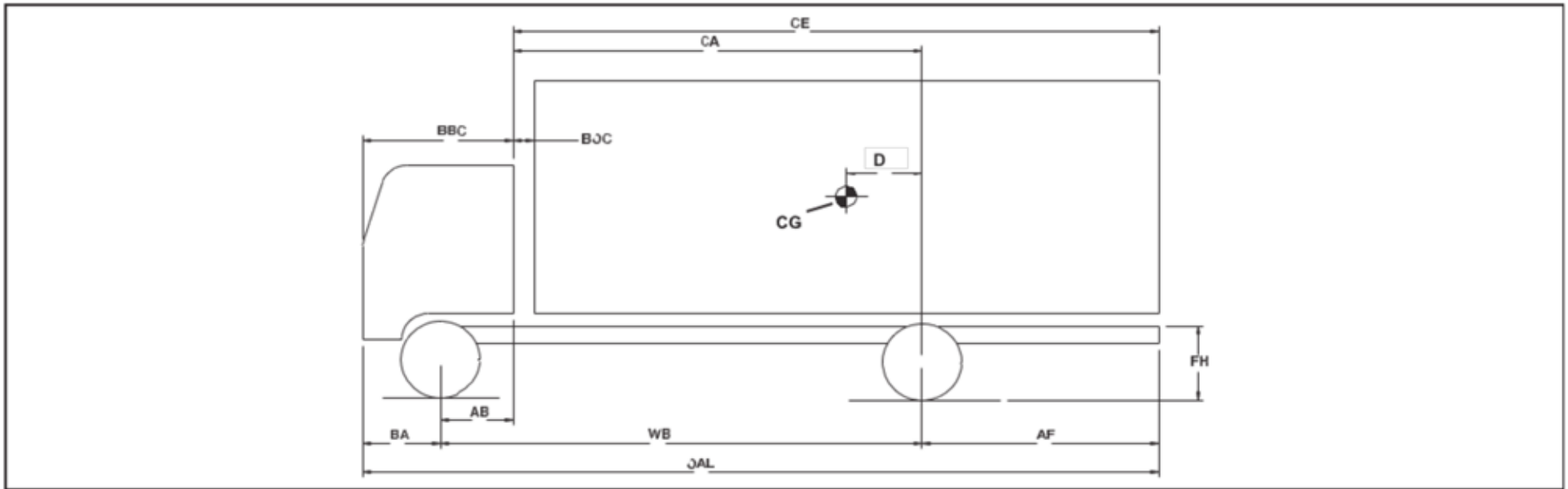


Figure 5.5.1

Glossary of Dimensions

BBC – Bumper to back of cab
BA – Bumper to axle
CA – Cab to axle
AB – Axle to back of cab
BOC – Back of cab clearance
CE – Cab to end of frame

CG – Center of gravity of body and payload
WB – Wheelbase
OAL – Overall length
AF – Axle to end of frame
FH – Frame height

Weight Distribution Formulas

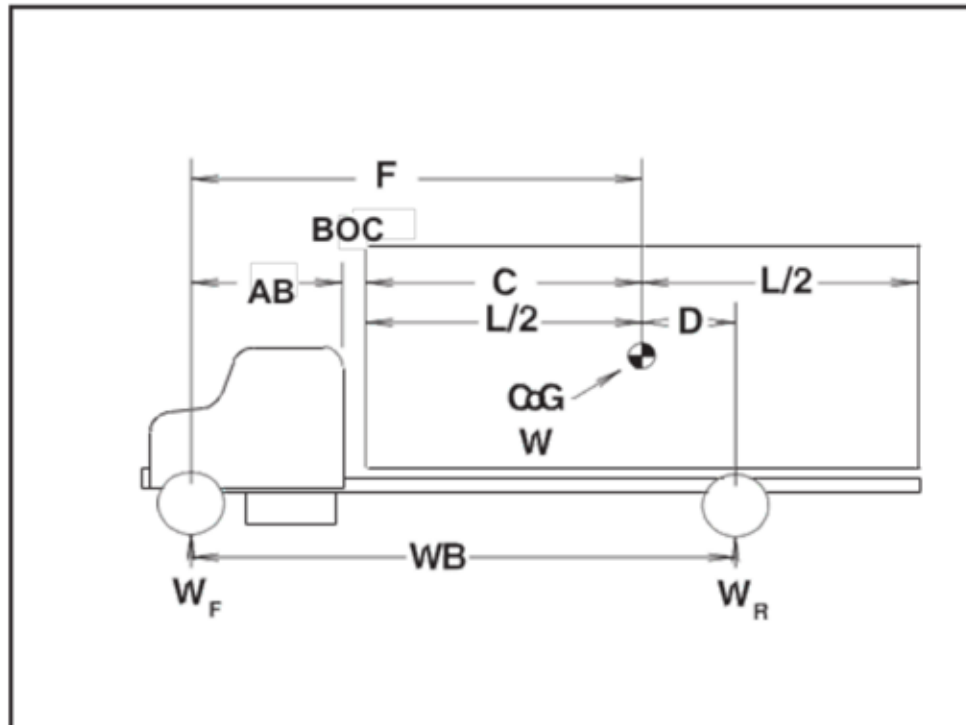


Figure 5.6.1

- AB** – Front axle to back of cab
- BOC** – Distance between cab and body or trailer
- C** – Front of body to C.G. or front of trailer to kingpin
- D** – Distance C.G. of body or fifth wheel is ahead of rear axle
- F** – (AB + BOC + C) or distance C.G. of weight of fifth wheel is behind front axle
- WB** – Wheelbase
- W** – Weight of body plus payload, or kingpin load
- WF** – Portion of W transferred to front axle
- WR** – Portion of W transferred to rear axle
- C** – Length of body divided by 2
- L/2** – Load location at half of body length
- L** – Distance over which the payload is spread within the Body

Weight Distribution Formulas

Basic Formulas

(a) $W \times D = W_f \times WB$

or

(c) $WB = (AB + BOC + C + D) = (F + D)$

(b) $W \times F = W_r \times WB$

(d) $W = W_f + W_r$

$$1. \quad W_f = \frac{W \times D}{WB}$$

$$5. \quad W_r = \frac{W \times F}{WB}$$

$$2. \quad D = \frac{W_f \times WB}{W}$$

$$6. \quad F = \frac{W_r \times WB}{W}$$

$$3. \quad WB = \frac{W \times D}{W_f}$$

$$7. \quad WB = \frac{W \times F}{W_r}$$

$$4. \quad W = \frac{W_f \times WB}{D}$$

$$8. \quad W = \frac{W_r \times WB}{F}$$

Weight Distribution Formulas in Words

To find:

- | | | | |
|----|---|---|---|
| 1. | Weight transferred to front axle | = | $\frac{(\text{Total weight}) \times (\text{Distance C.G. is ahead of the rear axle})}{(\text{Wheelbase})}$ |
| 2. | Distance C.G. must be placed ahead of rear axle | = | $\frac{(\text{Weight transferred to the front axle}) \times (\text{Wheelbase})}{(\text{Total weight})}$ |
| 3. | Wheelbase | = | $\frac{(\text{Total weight}) \times (\text{Distance C.G. is ahead of the rear axle})}{(\text{Weight to be transferred to the front axle})}$ |
| 4. | Total Weight | = | $\frac{(\text{Weight to be transferred to the front axle}) \times (\text{Wheelbase})}{(\text{Distance C.G. is ahead of the rear axle})}$ |

Weight Distribution Formulas

1. Weight transferred to rear axle = $\frac{(\text{Total weight}) \times (\text{Distance C.G. is behind the front axle})}{(\text{Wheelbase})}$
2. Distance C.G. must be placed behind the front axle = $\frac{(\text{Weight transferred to the rear axle}) \times (\text{Wheelbase})}{(\text{Total weight})}$
3. Wheelbase = $\frac{(\text{Total weight}) \times (\text{Distance C.G. is behind the front axle})}{(\text{Weight to be transferred to the rear axle})}$
4. Total Weight = $\frac{(\text{Weight to be transferred to the rear axle}) \times (\text{Wheelbase})}{(\text{Distance C.G. is behind the front axle})}$
9. Remember = Total weight must always equal weight transferred to the rear axle plus the weight transferred to the front axle

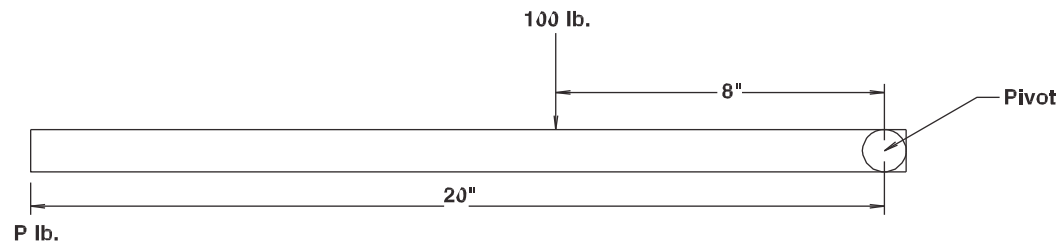


Figure 5.8.1

To find the value of "P", the leverages must be equal for balance.

Example: 100 lbs. x 8 in. = "P" x 20 in.

or "P" = $\frac{100 \text{ lbs.} \times 8 \text{ in.}}{20 \text{ in.}}$

Therefore: "P" = 40 lbs.

This same approach is used to determine axle loadings on a tractor or truck chassis. Assuming the rear axle serves as a pivot point, the front axle load can be determined by applying the lever principle.

2017 Chevrolet Low Cab Forward

Weight Distribution Formulas

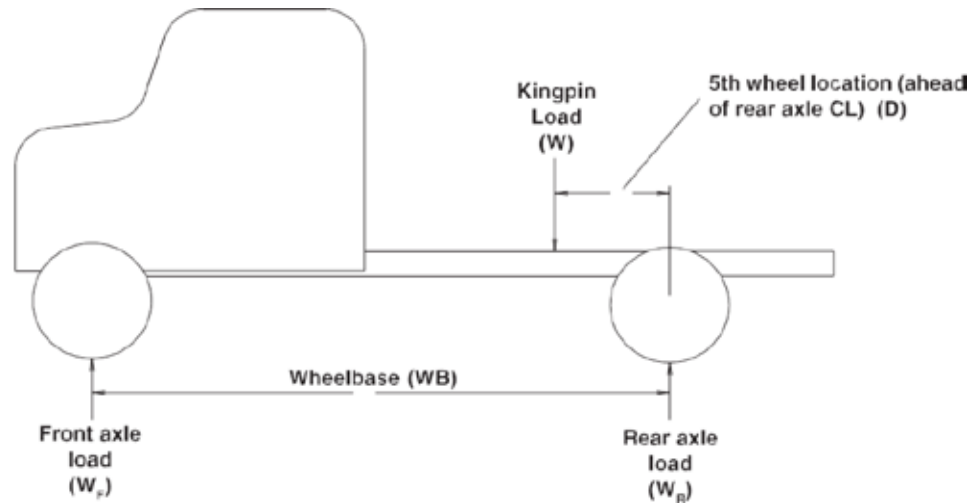


Figure 5.9.1

Front Axle Load: = $\frac{\text{Kingpin Load} \times \text{5th Wheel Location}}{\text{Wheelbase}}$

Rear Axle Load: = Kingpin Load – Front Axle Load

Example: (4) A tractor has a wheelbase of 150 inches. If the kingpin load is 20,000 lbs. and the fifth wheel location is 15 inches, find the total weight on the front and rear axles. The tare weight of the tractor is 7,000 lbs. on the front axle and 4,400 lbs. on the rear axle.

$$\begin{array}{l} \text{Front Axle Load} \\ 20,000 \times 15 \\ 150 \text{ WB} \end{array} = 2,000 \text{ lbs.}$$

$$\text{Rear Axle Load} = 2,000 + 7,000 \text{ lbs.} = 9,000 \text{ lbs.}$$

Therefore:

$$\text{Total Front Axle Weight} = 2,000 + 9,000 \text{ lbs.} = 11,000 \text{ lbs.}$$

$$\text{Total Rear Axle Weight} = 4,400 + 18,000 \text{ lbs.} = 22,400 \text{ lbs.}$$

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Weight Distribution Formulas

In calculating the weight distribution for a truck, the same lever principle is applied; however, there is one change in the initial consideration of the method of loading the truck body. Instead of the trailer kingpin location ahead of the rear axle centerline, we must determine the position of the center of gravity of the payload and body weight in relation to the rear axle centerline.

For our calculations, we assume that the payload is distributed in the truck body so that the load is supported evenly over the truck body floor (water-level distribution). The weight of the body itself is also considered to be evenly distributed along the truck frame. In this manner, we can add the payload and body weights together and calculate the distribution on the vehicle chassis as an evenly distributed load on the truck frame rails.

So that we can make the necessary calculation in a simple manner, the total body and payload weight is considered to act at the center of gravity which will be at the center of the body length.

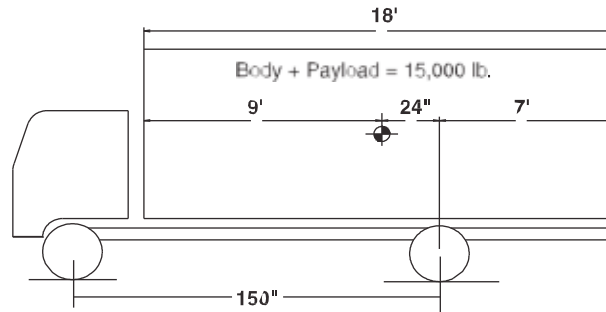


Figure 5.10.1

Example:

$$\text{Front Axle Load} = \frac{(\text{Body Weight} + \text{Payload}) \times \text{C of G location}}{\text{Wheelbase}}$$

$$\text{Rear Axle Load} = (\text{Body Weight} + \text{Payload}) - \text{Front Axle Load}$$

$$\begin{aligned} \text{Therefore, Front Axle Load} &= \\ \frac{15,000 \times 24}{150} &= 2,400 \text{ lbs.} \end{aligned}$$

$$\text{Rear Axle Load} = 15,000 - 2,400 = 12,600 \text{ lbs.}$$

2017 Chevrolet Low Cab Forward

Weight Distribution Formulas

If the truck tare weight without the body is 5,000 lbs. on the front axle and 2,400 lbs. on the rear axle, then

Total Front Axle Weight = 5,000 + 2,400 = 7,400 lbs. and

Total Rear Axle Weight = 2,400 + 12,600 = 15,000 lbs.

This same lever principle is applied in all calculations of weight distribution, whether we are dealing with concentrated loads as with a kingpin load acting on a fifth wheel or if it be with an evenly distributed load as with a truck body. The same approach is made in calculating an evenly distributed load on a trailer.

In the case of a tractor/trailer or a tractor with a set of double or triple trailers, each unit is handled as a separated unit and then combined to determine the total.

This simple example illustrates how the principles are applied. Using the formulas, find the weight distributed to each axle.

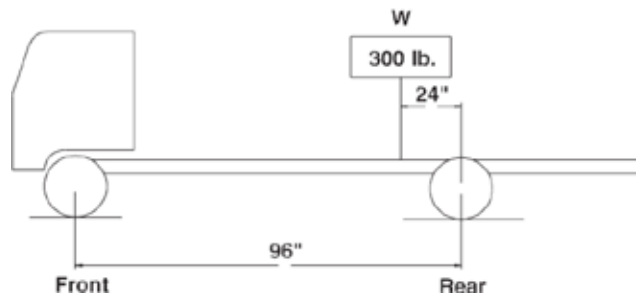


Figure 5.11.1

Front Weight

A. $W_f = \frac{W \times D}{WB}$

B. $\frac{300 \times 24}{96}$

C. = 75 lbs.

Rear Weight

A. $W - W_f$

B. $300 - 75$

C. = 225 lbs.

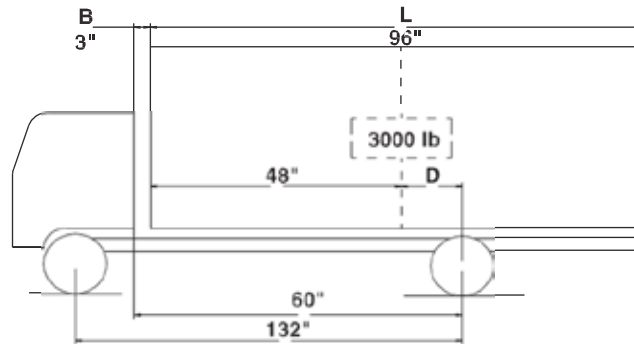
The body manufacturer can provide the body length and weight, or actual measurements of the body may be taken with a tape. Generally, (D) is unknown. This you must find logically, or with a tape measure.

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PAGE 5.12

Weight Distribution Formulas

Find (D) and then solve for W_f and W_r.



$$D = 60 - 3 - 48 = 9 \text{ in.}$$

Figure 5.12.1

$$W_f = 205$$

$$W_r = 2,795$$

Recommended Weight Distribution % of Gross Vehicle Weight by Axle

Conventional (2 Axle)

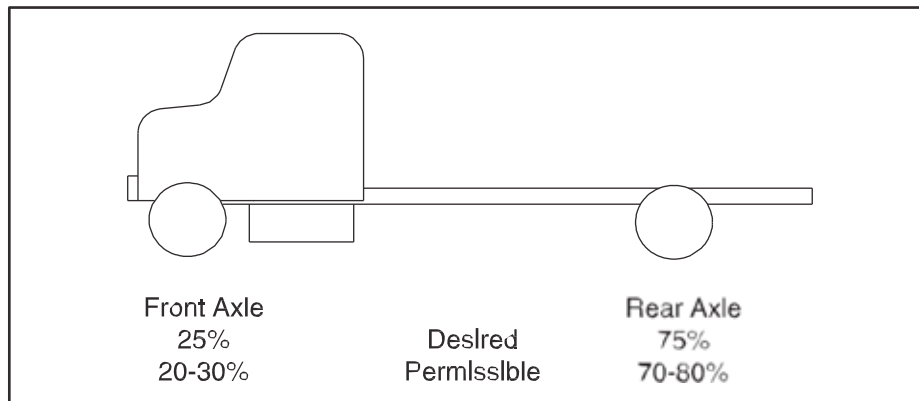


Figure 5.12.2

COE (2 Axle)

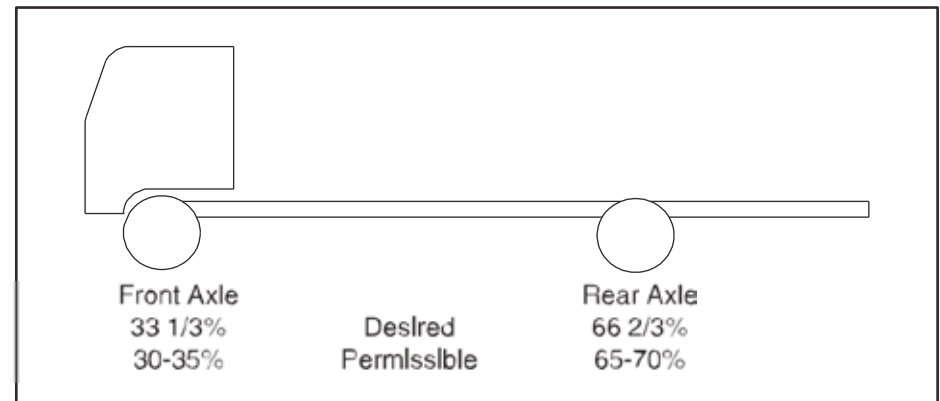


Figure 5.12.3

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Recommended Weight Distribution % of Gross Vehicle Weight by Axle

Conventional (3 Axle)

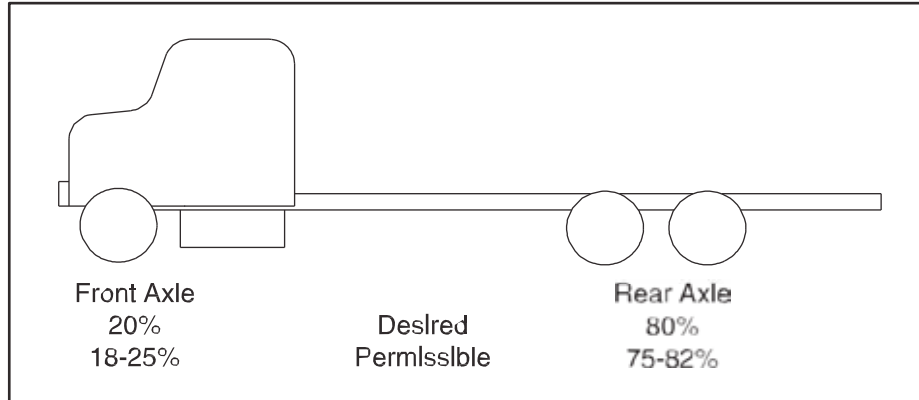


Figure 5.13.1

COE (3 Axle)

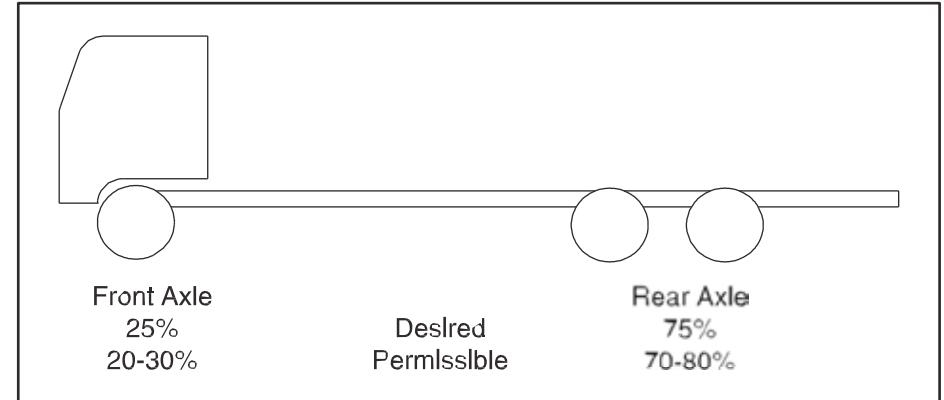
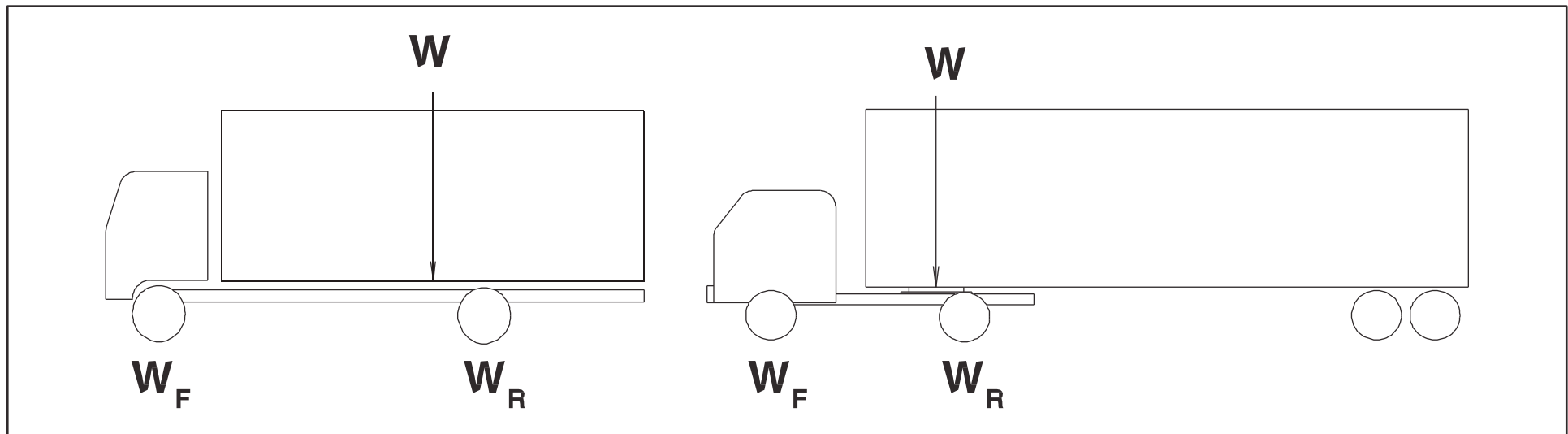


Figure 5.13.2

Calculating tractor/trailer weight distribution can be thought of in the same terms as calculating full trucks.



The weight at the center of the body and the load when applied is the same as the single point load of the kingpin on the fifth wheel.

Figure 5.13.3

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Trailer Weight

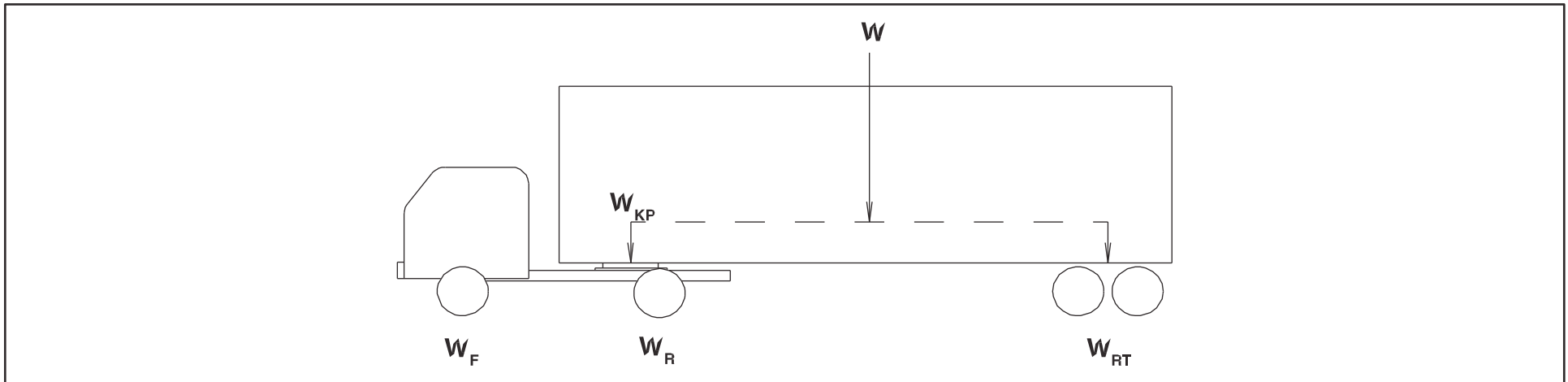


Figure 5.14.1

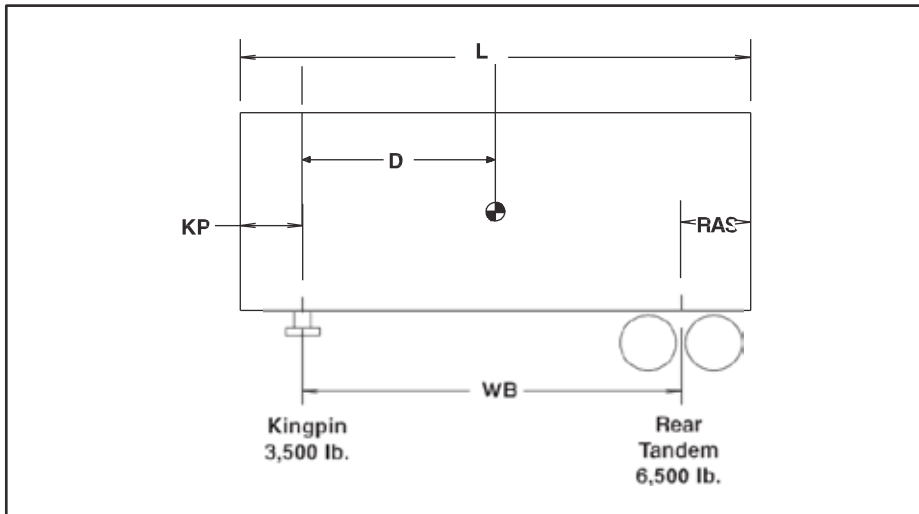


Figure 5.14.2

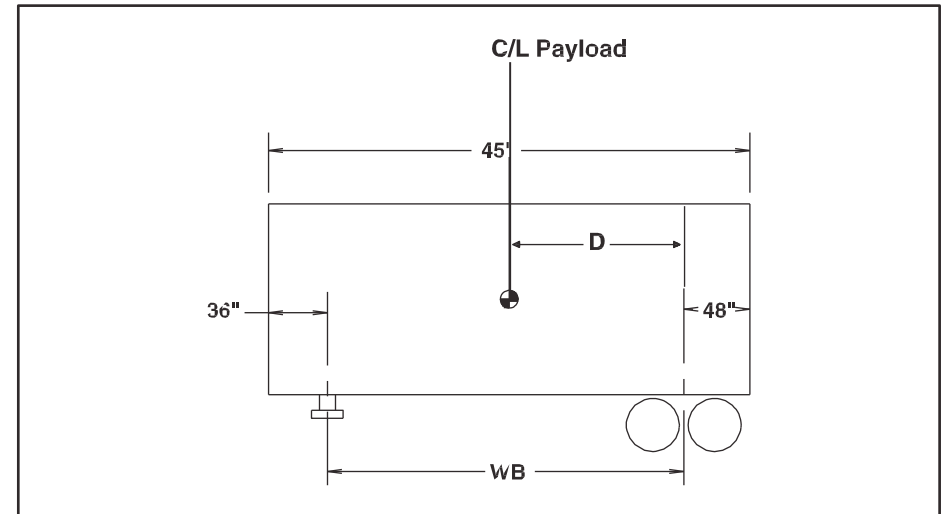


Figure 5.14.3

In the following example, a 50,000-pound payload at water-level loading. Calculate the payload (PL) weight transfer to kingpin and the rear axle.

NOTE: Apply the same principles used with truck chassis.

2017 Chevrolet Low Cab Forward

Trailer Weight

Payload at Kingpin

$$PL_{kp} = \frac{W \times D}{WB}$$

Calculate the “D” dimension.

$$OAL/2 - AF = D$$

$$45 \text{ feet}/2 - 48 \text{ inches} - 36 \text{ inches} = 186 \text{ inches}$$

$$PL_{kp} = \frac{50,000 \text{ lbs.} \times 186 \text{ in.}}{456 \text{ in.}} = 20,394 \text{ lbs.}$$

$$PL_{kp} = \underline{20,394 \text{ lbs.}}$$

Payload at Rear Tandem

$$PL_{rt} = W - PL_{kp}$$

$$PL_{rt} = 50,000 \text{ lbs.} - 20,394 \text{ lbs.} = 29,606 \text{ lbs.}$$

$$PL_{rt} = \underline{29,606 \text{ lbs.}}$$

Once the weight on the kingpin is determined, it can then be treated on the tractor the same as a weight on a straight truck.

Due to the variations in hauling and wheelbase requirements from one truck application to another, there is no one specific fifth wheel setting that will apply in all cases.

A “rule of thumb” which has proven satisfactory in many cases sets the fifth wheel one inch ahead of the rear axle for every 10 inches of wheelbase. In the case of tandem axles, the wheelbase is measured from the center line of the front axle to the midpoint between the tandem rear axles. The location of the fifth wheel fixes the load distribution between the front and rear axles. Too far forward and the front axle is overloaded. If too far back, the front axle may be too lightly loaded and cause an unsafe steering and braking control situation at the front axle.

Trailer Weight

A tractor on a hill with the fifth wheel set at the axle center line or too close to it will result in an unsafe handling situation by transferring too much weight to the rear axle and actually unloading the front axle

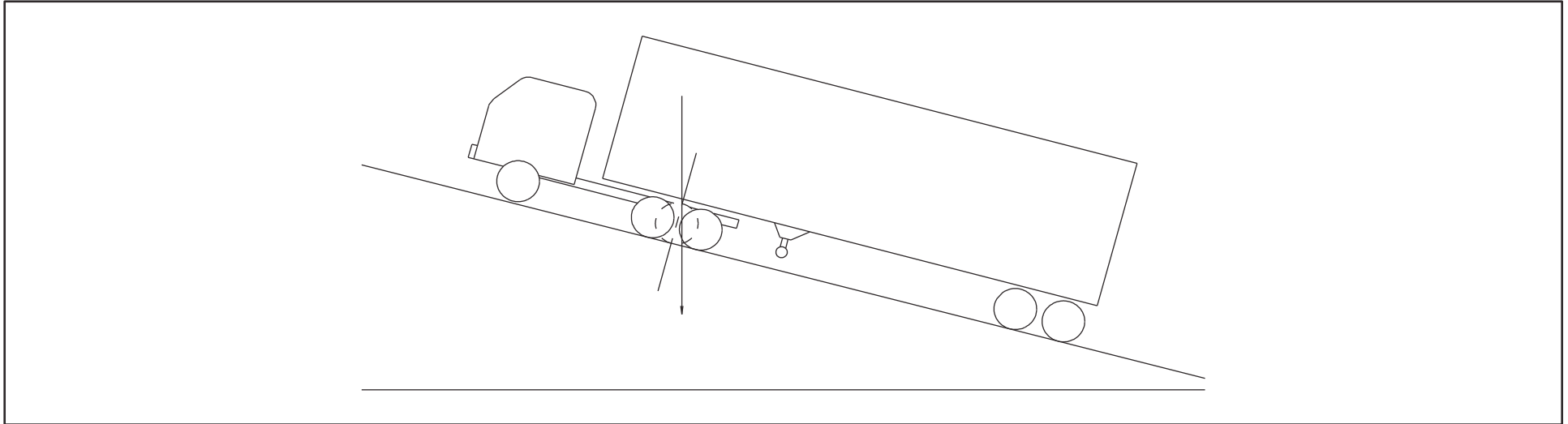


Figure 5.16.1

Performance Calculations

The following calculations have been included to help you determine the performance characteristics required by your customers and to select the appropriate model vehicle:

1. Speed Formula

This formula can be used to determine:

1. Top speed of the vehicle.
2. Speed in a given gear.
3. Final ratio required for a given speed.

$$\text{MPH @ Governed Speed} = \frac{(60) \times (\text{RPM})}{(\text{Rev/Mile}) \times (\text{Gear Ratio})}$$

2017 Chevrolet Low Cab Forward

Performance Calculations

Definitions in formula:

| | | |
|------------|---|--|
| RPM | = | Revolutions per minute of the engine at Governed Speed |
| Rev/Mile | = | Tire revolutions per mile |
| Gear Ratio | = | The product of the axle ratio times the transmission ratio |
| 60 | = | Time Constant |

Example: NPR 12,000 GVWR automatic transmission.

| | | |
|------------|---|--------------|
| RPM | = | 3,000 |
| Rev/Mile | = | 674 |
| Gear Ratio | = | .703 x 5.375 |

$$\text{MPH @ Governed Speed} = \frac{(60) \times (3,000)}{(674) \times (.703 \times 5.375)}$$

$$\text{MPH @ Governed Speed} = 70 \text{ MPH}$$

2. Grade Horsepower Formula

This formula can be used to determine horsepower required for a given grade and speed.

$$\text{Horsepower Req'd. for a given grade} = \frac{\text{GVWR} \times \text{Grade} \times \text{Speed}}{37,500 \times \text{Efficiency Factor}} + \text{AHP}$$

Definitions in formula:

| | | |
|-------------------|---|--|
| GVWR | = | Gross Vehicle Weight Rating |
| Grade | = | Grade anticipated in percent |
| Speed | = | Speed in miles per hour |
| 37,500 | = | Constant |
| Efficiency Factor | = | Factor for losses in drivetrain due to friction (use 0.9 for a 90% efficient driveline) |
| AHP Resistance | = | Horsepower required to overcome wind force |

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Performance Calculations

Example: NPR 11,050 GVWR automatic transmission with a van body.

| | | |
|-------------------|---|---|
| GVWR | = | 12,000 lbs. |
| Grade | = | 1 percent |
| Speed | = | 55 MPH |
| 37,500 | = | Constant |
| Efficiency Factor | = | 0.9 |
| AHP Resistance | = | 53.6 HP (see the following formula for calculation) |

$$\text{HP Required for Grade} = \frac{12,000 \times 1 \times 55}{37,500 \times 0.9} + 53.67$$

HP Required for Grade = 73.22

3. Air Resistance Horsepower Formula

This formula is used to determine the horsepower required to overcome air resistance at a given speed.

$$\text{Air Resistance Horsepower} = \frac{\text{FA} \times \text{Cd} \times (\text{MPH})^3}{156,000}$$

Definitions in formula:

| | | |
|---------|---|--|
| FA | = | Frontal area of vehicle in square feet |
| Cd | = | Aerodynamic Drag Coefficient |
| MPH | = | Speed of vehicle in miles per hour |
| 156,000 | = | Constant |

Frontal area is calculated by multiplying the height of the vehicle by the width of the vehicle and subtracting the open area under the vehicle from the total.

Aerodynamic Drag Coefficients (Source Material: Motor Truck Engineering Handbook):

| | |
|------|--|
| 0.70 | for most trucks, semitrailer combinations with tanks or van bodies |
| 0.77 | for double and triple trailers and flatbeds with loads |

Performance Calculations

Example: NPR 12,000 GVWR van body with 96" wide, 115" high (84" body height + 31" frame height).

$$FA = \frac{(96) \times (115)}{(12) \times (12)} - 3.2$$

$$FA = 73.47 \text{ ft.}^2$$

$$Cd = 0.70$$

$$\text{Speed} = 55 \text{ mph}$$

$$\text{Air Resistance HP} = \frac{73.47 \times 0.70 \times (55)^3}{156,000}$$

$$\text{Air Resistance HP} = 54.85$$

4. Engine Horsepower Formula

This formula can be used to derive the output at a given RPM and torque.

$$\text{Horsepower} = \frac{\text{Torque} \times \text{RPM}}{5,252}$$

Definitions in formula:

$$\text{Torque} = \text{Twisting output of engine given in lbs.-ft.}$$

$$\text{RPM} = \text{Revolutions per minute of engine}$$

$$5,252 = \text{Constant}$$

Example: NPR 12,000 GVWR automatic transmission.

$$\text{Torque} = 347 \text{ lbs.-ft.}$$

$$\text{RPM} = 2,000$$

$$132 \text{ HP} = \frac{(347) \times (2,000)}{5,252}$$

Performance Calculations

5. Gradeability Formula

This formula can be used to determine how large of a grade a vehicle can climb.

$$\text{Percent Grade} = \frac{1,200 \times (T) \times (E) \times (C) \times (R)}{\text{GVWR} \times r} - \text{RR}$$

Definitions in formula:

| | | |
|-------|---|--|
| 1,200 | = | Constant |
| T | = | Maximum Torque of Engine |
| E | = | Engine Efficiency (0.9) |
| C | = | Driveline Efficiency (0.9) |
| R | = | Transmission Ratio x Axle Ratio |
| RR | = | Rolling Resistance (see following chart) |
| GVWR | = | Gross Vehicle Weight Rating |
| r | = | Loaded radius of tire |

Example: NPR 12,000 GVWR automatic transmission on concrete highway.

| | | |
|------|---|-----------------------------|
| T | = | 347 lbs.-ft. |
| E | = | 0.9 |
| C | = | 0.9 |
| R | = | .703 x 5.375 (in overdrive) |
| RR | = | 1.0 |
| GVWR | = | 12,000 |
| r | = | 14.1 in. |

$$\text{Percent Grade} = \frac{1,200 \times (347) \times (0.9) \times (0.9) \times (.703) \times (5.375)}{12,000 \times 14.1} - 1.0$$

$$\text{Percent Grade} = 7.53 - 1$$

$$\text{Gradeability} = 6.53\%$$

2017 Chevrolet Low Cab Forward

Performance Calculations

| Road Rolling Resistance | | | |
|--|------------|-------------------|--------------|
| Road Rolling Resistance – Expressed in Percent Grade | | | |
| Road Surface | Grade Road | Surface | Grade |
| Concrete, excellent | 1.0 | Cobbles, ordinary | 5.5 |
| Concrete, good | 1.5 | Cobbles, poor | 8.5 |
| Concrete, poor | 2.0 | Snow, 2 inches | 2.5 |
| Asphalt, good | 1.25 | Snow, 4 inches | 3.75 |
| Asphalt, fair | 1.75 | Dirt, smooth | 2.5 |
| Asphalt, poor | 2.25 | Dirt, sandy | 3.75 |
| Macadam, good | 1.5 | Mud | 3.75 to 15.0 |
| Macadam, fair | 2.25 | Sand, level soft | 6.0 to 15.0 |
| Macadam, poor | 3.75 | Sand, dune | 16.0 to 30.0 |

Figure 5.21.1

6. Startability Formula

This formula is used to determine what type of a grade a vehicle can be started on.

$$\text{Startability} = \frac{(1,200) \times (\text{CET}) \times (\text{E}) \times (\text{C}) \times (\text{R})}{(\text{GVWR} \times r)} - 10\%$$

Definitions in formula:

- 1,200 = Constant
- CET = Clutch Engagement Torque
- E = 0.9
- C = 0.9
- R = Transmission x Axle Ratio
- 10% = Average break away resistance and static inertia constant
- GVWR = Gross Vehicle Weight Rating
- r = Loaded radius of tire

2017 Chevrolet Low Cab Forward

Performance Calculations

Example: 3500 LCF 12,000 GVWR manual transmission.

$$\begin{aligned}\text{CET} &= 260 \text{ lbs.-ft.} \\ R &= 6.02 \times 4.10 \\ \text{GVWR} &= 12,000 \text{ lbs.} \\ r &= 14.1 \text{ in.}\end{aligned}$$

$$\text{Startability} = \frac{(1,200) \times (260) \times (0.9) \times (0.9) \times (6.02 \times 4.10)}{(12,000 \times 14.1)} - 10\%$$

$$\text{Startability} = 26.86\%$$

7. Vertical Center of Gravity Formula

These formulas are used to estimate the vertical center of gravity of a completed vehicle in order to determine whether maximum allowable limits have been exceeded. This formula should be used when encountering high center of gravity loads.

$$\begin{aligned}7.1 W_v \times (V_v) &= M_v \\ 7.2 W_b \times (V_b) &= M_b \\ 7.3 W_p \times (V_p) &= M_p \\ 7.4 W_e \times (V_e) &= M_e\end{aligned}$$

$$7.5 \text{ VCg} = \frac{(M_v + M_b + M_p + M_e)}{(W_v + W_b + W_p + W_e)}$$

Definitions in formula:

$$\begin{aligned}\text{VCg} &= \text{The total average vertical center of gravity of the completed vehicle (vehicle, body, payload and equipment)} \\ W_v &= \text{Weight of vehicle} \\ W_b &= \text{Weight of body} \\ W_p &= \text{Weight of payload} \\ W_e &= \text{Weight of equipment}\end{aligned}$$

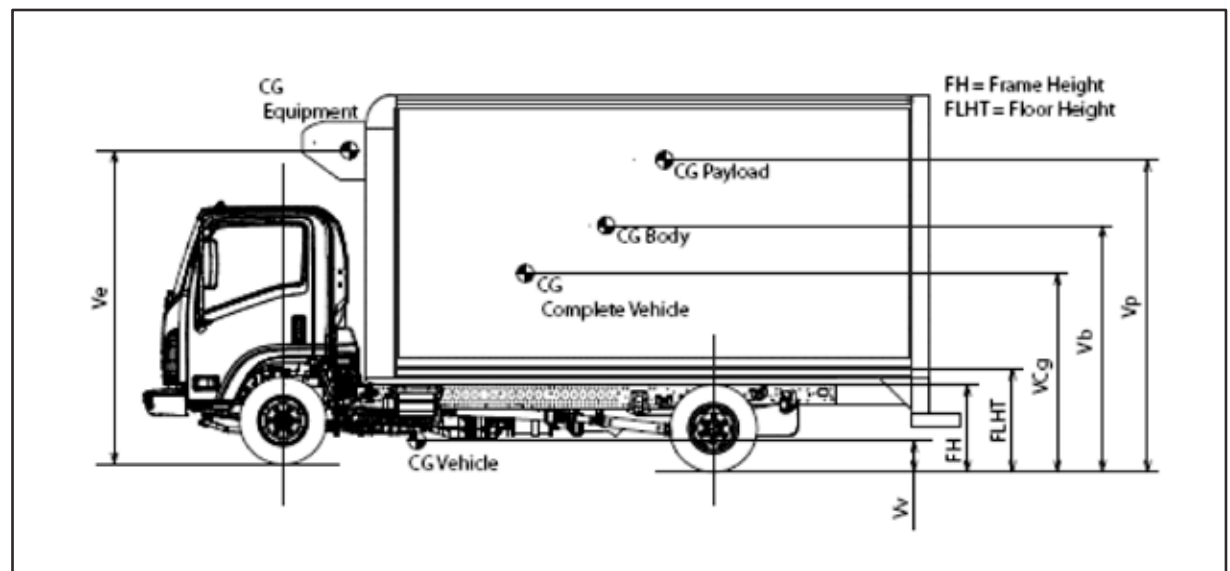


Figure 5.22.1

2017 Chevrolet Low Cab Forward

Performance Calculations

Definitions in formula (continued):

| | | |
|----|---|--|
| Vv | = | Distance from ground to center of gravity of the vehicle |
| Vb | = | Distance from ground to center of gravity of the body |
| Vp | = | Distance from ground to center of gravity of the payload |
| Ve | = | Distance from ground to center of gravity of the equipment |
| Mv | = | Moment of vehicle |
| Mb | = | Moment of body |
| Mp | = | Moment of payload |
| Me | = | Moment of equipment |

Example: 3500 12,000 GVWR automatic transmission, 132" WB, 14' body length, 84" high body, full payload of boxes stacked to a maximum height of 48" above the flooring.

| | | | |
|----|---|---------------------------------|--|
| Wv | = | 5,291 lbs. | (from vehicle specifications) |
| Wb | = | 2,100 lbs. | (from body manufacturer) |
| Wp | = | 4,609 lbs. | (GVWR – (Wv + Wb + We)) |
| Vv | = | 24.9 in. | (from Body Builder's Guide, 3500 Section) |
| Vb | = | 80 in. | (from body manufacturer) |
| Vp | = | 62 in. | (1/2 of payload height + frame height + height from frame to flooring) |
| Mv | = | 5,291 x 24.9 = 131,746 lbs.-in. | (from 7.1) |
| Mb | = | 2,100 x 80 = 168,000 lbs.-in. | (from 7.2) |
| Mp | = | 4,609 x 62 = 285,758 lbs.-in. | (from 7.3) |

We, Ve, Me = None in this example

$$VCg = \frac{(131,746 + 168,000 + 285,758)}{(5,291 + 2,100 + 4,609)}$$

$$VCg = \frac{(528,504)}{(12,000)} = 48.8 \text{ inches}$$

48.8 < 54.0 inches (54 inches is maximum allowable VCg per mfg. specifications from Body Builder's Guide, 3500 section)
Since maximum VCg for this truck is not exceeded, 48" stack height above flooring is acceptable.

Performance Calculations

8. Horizontal Center of Gravity Formula

These formulas are used to estimate the horizontal center of gravity of a completed vehicle in order to determine whether it exists between the centerlines of the front and rear axles. This formula should be used when a load and/or permanent equipment (liftgate, reefer unit, snowplow, etc.) is installed on either extreme along the completed vehicle's overall length.

$$8.1 W_v \times (H_v) = M_v$$

$$8.2 W_b \times (H_b) = M_b$$

$$8.3 W_p \times (H_p) = M_p$$

$$8.4 W_e \times (H_e) = M_e$$

$$8.5 HC_g = \frac{(M_v + M_b + M_p + M_e)}{(W_v + W_b + W_p + W_e)}$$

Definitions in formula:

| | | |
|-----------------|---|--|
| HC _g | = | The total average horizontal center of gravity of the completed vehicle (vehicle, body, payload and equipment) |
| W _v | = | Weight of vehicle |
| W _b | = | Weight of body |
| W _p | = | Weight of payload |
| W _e | = | Weight of equipment |
| H _v | = | Distance from front axle to center of gravity of the vehicle |
| H _b | = | Distance from front axle to center of gravity of the body |
| H _p | = | Distance from front axle to center of gravity of the payload |
| H _e | = | Distance from front axle to center of gravity of the equipment |
| M _v | = | Moment of vehicle |
| M _b | = | Moment of body |
| M _p | = | Moment of payload |
| M _e | = | Moment of equipment |

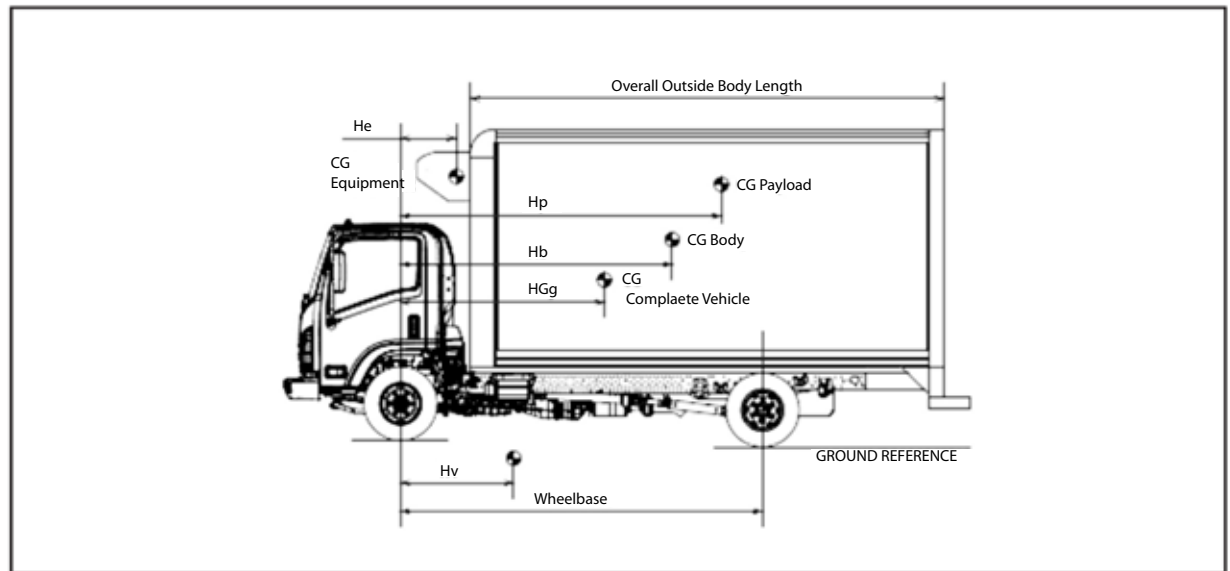


Figure 5.24.1

2017 Chevrolet Low Cab Forward

Performance Calculations

Example: 3500 Gas 12,000 GVWR automatic transmission, 132" WB, 14' body length, full payload of boxes stacked and distributed evenly throughout the flooring, 1,000 lb. reefer unit attached in front of body.

| | | | |
|-----|---|----------------------------------|---|
| Wv | = | 5,291 lbs. | (from vehicle specifications) |
| Wb | = | 2,100 lbs. | (from body manufacturer) |
| Wp | = | 3,609 lbs. | (GVWR – (Wv + Wb + We)) |
| We | = | 1,000 lbs. | (from equipment manufacturer) |
| Hv | = | 42.4 in. | (from Body Builder's Guide, 3500 Section) |
| Hb | = | 107.5 in. | (from body manufacturer) |
| Hp* | = | 107.5 in. | (1/2 of payload length + distance from front axle to front of body) |
| He | = | 17.5 in. | (from equipment manufacturer) |
| Mv | = | 5,291 x 42.4 = 224,338 lbs.-in. | (from 8.1) |
| Mb | = | 2,100 x 107.5 = 225,750 lbs.-in. | (from 8.2) |
| Mp | = | 3,609 x 107.5 = 387,967 lbs.-in. | (from 8.3) |
| Me | = | 1,000 x 17.5 = 17,500 lbs.-in. | (from 8.4) |

$$\text{HCg} = \frac{(224,338 + 225,750 + 387,967 + 17,500)}{(5,291 + 2,100 + 3,609 + 1,000)}$$

$$\text{HCg} = \frac{(855,555)}{(12,000)} = 71.3 \text{ inches}$$

71.3 < 132 inches (132 inches is the wheelbase dimension)

Since HCg for this truck is not greater than the WB or negative (–) (denotes HCg forward of front axle centerline), it exists between the centerlines of the front and rear axles.

NOTE: Hp and Hb dimensions are the same in this example because CG of body and payload happen to be at the same point.

2017 Chevrolet Low Cab Forward

Bridge Formula Weights

To calculate maximum acceptable axle weights for use on the Interstate Highway System, use the Department of Transportation link shown below.

http://ops.fhwa.dot.gov/freight/sw/brdgcalc/calc_page.htm

2017 Chevrolet Low Cab Forward

PAGE **6.1**

COMMODITY AND MATERIAL WEIGHTS

Approximate Weights of Commodities and Materials

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|-------------------------|--------------------------|------------------|-------------------|
| Acetone | — — — | 50 | 6.6 / gallon |
| Alcohol, Commercial | — — — | 51 | 6.8 / gallon |
| Proof spirits | — — — | 57 | 7.6 / gallon |
| Alfalfa seed | bushel | — — | 60 / bushel |
| Aluminum, Pure (cast) | — — — | 165 | 4,450 / cu. yard |
| Apples, Fresh | basket-bushel | — — | 48 / bushel |
| Western, box | 11.5" x 12" x 20" | — — | 50 / box |
| New England, box | 11.25" x 14.5" x 17.5" | — — | 56 / box |
| Standard barrel | 17" head, 28.5" stave | — — | 160 / barrel |
| Dried | bushel | — — | 24 / bushel |
| Apricots, Fresh | bushel | — — | 48 / bushel |
| Western, box | 5.5" x 12" x 20" | — — | 23 / box |
| Artichokes, Box | 10" x 11.5" x 22" | — — | 44 / box |
| Asbestos | — — — | 153 | 4,130 / cu. yard |
| Asparagus, crate, Loose | 11.5" high x 9.75" top | — — | 38 / crate |
| Bunches | 11" bottom x 19.38" long | — — | 31 / crate |
| Avocados, Box | 5.75" x 11.25" x 17.5" | — — | 16 / box |
| Bananas, Single stem | bunch | — — | 45-65 / bunch |
| Barley | bushel | — — | 48 / bushel |
| Barytes, Mineral | — — — | 280 | 7,560 / cu. yard |
| Basalt, Rock | — — — | 185 | 5,000 / cu. yard |
| Beans, dry, Lima | bushel | — — | 56 / bushel |
| White | bushel | — — | 60 / bushel |
| Castor | bushel | — — | 46 / bushel |
| Beans, fresh, Lima | bushel | — — | 39 / bushel |
| String | bushel | — — | 36 / bushel |
| | hamper, 5 peck | — — | 45 / hamper |

Figure 6.1.1

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|-------------------------------|--------------------------------|------------------|-------------------|
| Beef, Slack barrel | 21" x 30" stave (200 lbs. net) | — — | 254 / barrel |
| Beer, Wood barrel | .5 barrel (16 gal.) | — — | 205 / barrel |
| Wood barrel | .25 barrel (8 gal.) | — — | 105 / barrel |
| Steel barrel | .5 barrel (16 gal.) | — — | 190 / barrel |
| Steel barrel | .25 barrel (8 gal.) | — — | 95 / barrel |
| Dutchman | .13 barrel (4 gal.) | — — | 51 / barrel |
| Case carton,* Regular bottles | 17.25" x 11.5" x 9.88" | — — | 45 / case |
| 24, 12 oz. Steinie bottles | 18.38" x 12.13" x 7.38" | — — | 40 / case |
| Tin cans | 16.13" x 11" x 5.13" | — — | 28 / case |
| Wooden case,* Regular bottles | 21" x 13.5" x 10" | — — | 35 / case |
| 24, 12 oz. Steinie bottles | 22" x 13.75" x 7.5" | — — | 46 / case |
| Beets | bushel | — — | 50-60 / bushel |
| Small crate | 9.75" x 13.75" x 24" | — — | 50 / crate |
| Western crate | 14" x 19" x 24.5" | — — | 95 / crate |
| Berries, crate, 24 pint | 9.75" x 9.97" x 20" | — — | 25 / crate |
| 24 quart | 11.75" x 11.75" x 24" | — — | 48 / crate |
| 32 quart | 15.5" x 11.75" x 24" | — — | 63 / crate |
| Bluegrass seed | bushel | — — | 44 / bushel |
| Bluestone | — — — | 120 | 3,240 / cu. yard |
| Bone | — — — | 115 | 3,110 / cu. yard |
| Borax | — — — | 110 | 2,970 / cu. yard |
| Bran | bushel | — — | 20 / bushel |
| Brick, Soft | 2.25" x 4" x 8.25" | — — | 4,320 / thousand |
| Common | 2.25" x 4" x 8.25" | — — | 5,400 / thousand |
| Hard | 2.25" x 4.25" x 8.5" | — — | 6,480 / thousand |
| Pressed | 2.38" x 4" x 8.38" | — — | 7,500 / thousand |
| Paving | 2.25" x 4" x 8.5" | — — | 6,750 / thousand |
| Paving block | 3.5" x 4" x 8.5" | — — | 8,750 / thousand |
| Fire | 2.5" x 4.5" x 9" | — — | 7,000 / thousand |

* Note: Beer cases vary as to size and shape. Suggest checking with local source.

Figure 6.1.2

2017 Chevrolet Low Cab Forward

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|---------------------------------|--------------------------|------------------|--------------------|
| Broccoli, Bushel crate | 12.75" x 12.75" x 17" | — — | 30 / bushel |
| Brussels sprouts, Crate | 7.75" x 10.5" x 21.38" | — — | 26 / crate |
| Buckwheat | bushel | — — | 49 / bushel |
| Butter, tub, Small | 15" dia. x 5.75" | — — | 25 / tub |
| Standard | 15" dia. x 15" | — — | 70 / tub |
| Butter, case, 30 — 1-lb. bricks | 10.75" x 8.75" x 10.5" | — — | 32 / case |
| 9-lb. pail | pail | — — | 10 / pail |
| Cabbage | bushel | — — | 38 / bushel |
| Hamper | 1.5 bushel | — — | 58 / hamper |
| Crate | 12.75" x 18.5" x 19" | — — | 60 / crate |
| Western crate | 14" x 19" x 24.5" | — — | 85 / crate |
| Barrel crate | 12.75" x 18.75" x 37.38" | — — | 110 / crate |
| Calf, Live (average) | per head | — — | 140-160 / head |
| Cantaloupe, crate, Pony | 11.75" x 11.75" x 23.5" | — — | 58 / crate |
| Standard | 12.75" x 12.75" x 23.5" | — — | 68 / crate |
| Jumbo | 13.75" x 13.75" x 23.5" | — — | 78 / crate |
| Pony flat | 4.75" x 12.75" x 23.5" | — — | 26 / crate |
| Standard flat | 5.25" x 14.25" x 23.5" | — — | 28 / crate |
| Jumbo flat | 5.75" x 15.25" x 23.5" | — — | 32 / crate |
| Honeydew (Casaba) | 6.38" x 15.13" x 23.5" | — — | 35 / crate |
| Carbolic acid | — — — | 60 | 8.0 / gallon |
| Carrots, Topped | bushel | — — | 55 / bushel |
| With tops | bushel | — — | 40 / bushel |
| Crate | 11.75" x 14.13" x 24" | — — | 60 / crate |
| Castor oil | — — — | 61 | 8.1 / gallon |
| Cauliflower | bushel | — — | 30 / bushel |
| Crate | 9.38" x 19" x 24" | — — | 50 / crate |
| Cedar* (lumber) | — — — | 30 | 2,500 / M. Bd. ft. |
| Celery, Standard crate | 11.63" x 22" x 22.63" | — — | 70 / crate |
| Half crate | 10.75" x 13" x 20.38" | — — | 35 / crate |
| Northern crate | 16.5" x 21.25" x 22" | — — | 85 / crate |

*Kiln dried lumber averages 10% to 15% lighter, and green lumber 40% to 50% heavier, than air dried.

Figure 6.2.1

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|------------------------------------|-------------------------|------------------|--------------------|
| Cement, Block | 8" x 8" x 16" | — — | 42 / each |
| Block | 8" x 12" x 16" | — — | 58 / each |
| Portland | sack | — — | 94 / sack |
| Portland | barrel (4 sacks per) | — — | 376 / barrel |
| Chalk | — — — | 137 | 3,700 / cu. yard |
| Charcoal, Oak | — — — | 33 | 890 / cu. yard |
| Pine | — — — | 23 | 620 / cu. yard |
| Cheese, Small box | 15" dia. x 5.25" | — — | 25 / box |
| Medium box | 15" dia. x 7.5" | — — | 35 / box |
| Large box | 15" dia. x 15" | — — | 70 / box |
| Cherries, Unstemmed | bushel | — — | 56 / bushel |
| Stemmed | bushel | — — | 64 / bushel |
| Lug box | 5.63" x 11.88" x 19.75" | — — | 17 / box |
| Chestnut* (lumber) | — — — | 37 | 3,080 / M. Bd. ft. |
| Chestnuts | bushel | — — | 50 / bushel |
| Chickens, Live, broilers (20 avg.) | standard crate | — — | 58 / crate |
| Fowl (12 avg.) | standard crate | — — | 78 / crate |
| Standard crate, | empty 24" x 35" x 13" | — — | 18 / crate |
| Cinder blocks | 8" x 8" x 16" | — — | 35 / each |
| | 8" x 12" x 16" | — — | 45 / each |
| Cinders | — — — | 50 | 1,350 / cu. yard |
| Clay, Dry lumps | — — — | 85 | 2,300 / cu. yard |
| Wet lumps | — — — | 110 | 2,970 / cu. yard |
| Wet packed | — — — | 135 | 3,650 / cu. yard |
| Fire | — — — | 125 | 3,375 / cu. yard |
| Cork | — — — | 15 | 405 / cu. yard |
| Corn, Ear | bushel | — — | 35 / bushel |
| Shelled | bushel | — — | 56 / bushel |
| Sweet corn (green) | bushel | — — | 43 / bushel |
| Crate | 12.88" x 12.88" x 24" | — — | 60 / crate |
| Corn meal | bushel | — — | 44 / bushel |

Figure 6.2.2

2017 Chevrolet Low Cab Forward

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|----------------------|-------------------------|-----------------------|--------------------|
| Corn oil | — — — | 58 | 7.8 / gallon |
| Corn syrup | — — — | 86 | 11.5 / gallon |
| Cotton, | Gin bale | 30" x 48" x 54" | 515 / bale |
| | Standard bale | 24" x 28" x 56" | 515 / bale |
| | Comp. bale | 20" x 24" x 56" | 515 / bale |
| Cotton seed | bushel | — — | 32 / bushel |
| Cottonseed oil | — — — | 58 | 7.8 / gallon |
| Cottonwood* (lumber) | — — — | 37 | 3,080 / M. Bd. ft. |
| Cow, | Live-Feeder (average) | per head | 600 / head |
| | Butcher (average) | per head | 800 / head |
| | Butcher steer (average) | per head | 1100 / head |
| Cranberries, | 1/4 barrel box | 9.5" x 11" x 14" | 28 / box |
| | 1/2 barrel box | 12.25" x 14.75" x 22" | 60 / box |
| Cream | — — — | 64 | 8.5 / gallon |
| Creosote | — — — | 68 | 9.2 / gallon |
| Crude oil | — — — | 56 | 7.5 / gallon |
| Cucumbers | bushel | — — | 55 / bushel |
| | Crate | 9.75" x 13.75" x 24" | 75 / crate |
| | Case | 5" x 13.25" x 19" | 26 / case |
| Earth, | Loose, dry loam | — — — | 76 |
| | Packed | — — — | 95 |
| | Wet | — — — | 125 |
| Eggplant, | Hamper | bushel | 40 / bushel |
| | Crate | 14" x 11.75" x 24" | 54 / crate |
| Eggs, | 30 dozen crate | 12" x 12" x 26" | 55 / crate |
| Elm,* | Soft | — — — | 38 |
| | Rock | — — — | 45 |
| Fertilizer, | Commercial | burlap bag | 100-200 / bag |
| Fir,* | Douglas | — — — | 32 |
| | Eastern | — — — | 25 |

*Kiln dried lumber averages 10% to 15% lighter, and green lumber 40% to 50% heavier, than air dried.

Figure 6.3.1

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|--------------|--------------------|-------------------------|--------------------|
| Fish, fresh, | Barrel | 19" head, 29" stave | 300 / barrel |
| | 1/2 Barrel | 18.5" head, 23.5" stave | 160 / 1/2 barrel |
| Flour, | Barrel | 19.13" head, 30" stave | 215 / barrel |
| Fuel oil, | Furnace grade | — — — | 56 |
| | Diesel engine | — — — | 52 |
| Furniture, | Household | — — — | 7 |
| Garbage, | Dry, paper wrapped | — — — | 15-30 |
| | Wet | — — — | 50 |
| Gasoline | | — — — | 45 |
| Glass, | Common window | — — — | 162 / cu. foot |
| | Plate or crown | — — — | 161 / cu. foot |
| | 1/4" plate | — — — | 3.3 / sq. foot |
| Glue | | — — — | 80 |
| Glycerine | | — — — | 79 |
| Grapefruit, | Western box | 11.5" x 11.5" x 24" | 68 / box |
| | Southern box | 12.75" x 12.75" x 27" | 90 / box |
| Grapes, | Basket | bushel | 48 / box |
| | Lug box | 5.63" x 16.38" x 17.5" | 30 / box |
| | Western keg | 15.5" dia. x 14" | 45 / keg |
| | Basket | 12 quart | 18 / basket |
| Gravel, | Dry | — — — | 95 |
| | Wet | — — — | 125 |
| Greens | | bushel | 25 / bushel |
| Groceries, | Misc. assorted | — — — | 30 |
| Hay, | Bale | 26" x 30" x 46" | 210 / bale |
| | Bale | 17" x 22" x 43" | 115 / bale |
| | Bale | 14" x 16" x 43" | 85 / bale |
| Hog, | Live (average) | per head | 225-250 / head |
| Honey | | — — — | 90 |
| Horse, | Live (average) | per head | 1,200-1,500 / head |

Figure 6.3.2

2017 Chevrolet Low Cab Forward

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|-------------------|----------------------|--|-------------------|
| Horseradish roots | bushel | — — | 35 / bushel |
| Ice | — — — | 57 | 1,540 / cu. yard |
| Ice (mfg.), | Block | 11" x 22" x 32" | 250 / block |
| | Block | 14" x 14" x 40" | 255 / block |
| | Block | 11" x 22" x 56" | 440 / block |
| Ice Cream, | 2.5 gallon can, Full | 9" dia. x 11" | 18 / can |
| | Empty | — — — | 6 / can |
| | 5 gallon can, Full | 9" dia. x 21" | 35 / can |
| | Empty | — — — | 11 / can |
| Kale | bushel | — — | 25 / bushel |
| Kerosene | — — — | 50 | 6.6 / gallon |
| Lamb, | Live (average) | per head | 75-85 / head |
| Lard, | Barrel | 18" head, 30" stave | 425 / barrel |
| Lath, | Standard length 29" | Packed in bundles of 50 Average bundle, dia. 9" | 25 / bundle |
| Leather, | Dry | — — — | 55 |
| | Wet | — — — | 65 |
| Lemons, | Western box | 10" x 13" x 25" | 80 / box |
| | Southern box | 12.75" x 12.75" x 27" | 90 / box |
| Lentils | bushel | — — | 60 / bushel |
| Lettuce, | Hamper | bushel | 25 / bushel |
| | Hamper | 1.5 bushel | 38 / hamper |
| | Basket | 8.5" x 11.75" x 21.38" | 17 / basket |
| | Crate | 18.75" x 17.5" x 24.5" | 75 / crate |
| | 1/2 crate | 9.5" x 13.5" x 24.5" | 40 / 1/2 crate |
| Lime, | Hydrated | bushel | 30 / bushel |
| | Barrel (small) | 16.5" head, 27.5" stave | 62 |
| | Barrel (large) | | 62 |
| Limes, | Western box | 10" x 13" x 25" | 80 / box |
| | Southern box | 12.75" x 12.75" x 27" | 90 / box |

*Kiln dried lumber averages 10% to 15% lighter, and green lumber 40% to 50% heavier, than air dried.

Figure 6.4.1

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|---------------------------|-------------------------|------------------------|-------------------|
| Linseed oil | — — — | 59 | 7.9 / gallon |
| Lubricating oil | — — — | 52 | 7.0 / gallon |
| Malt, | Barley | bushel | 28 / bushel |
| | Rye | bushel | 32 / bushel |
| | Brewer's grain | bushel | 40 / bushel |
| Maple syrup | gallon | 82 | 11.0 / gallon |
| Maple,* | Hard (lumber) | — — — | 44 |
| | Soft | — — — | 34 |
| Meal-corn | bushel | — — | 44 / bushel |
| Milk, | Bulk | — — — | 64 |
| | 5 gallon can | 10.25" dia. x 19" | 62 / can |
| | 10 gallon can | 13" dia. x 23" | 115 / can |
| | Crate, 20.5 pt. bottles | 8.5" x 12.75" x 16.75" | 33 / crate |
| | 20 pt. bottles | 8.5" x 12.75" x 16.75" | 54 / crate |
| Millet | bushel | — — | 50 / bushel |
| Molasses | — — — | 90 | 12.0 / gallon |
| | Barrel | 20.25" head, 34" stave | 675 / barrel |
| Mortar, | Lime | — — — | 110 |
| Mud, | Flowing | — — — | 106 |
| | Packed | — — — | 125 |
| Muriatic acid, | 40% | — — — | 40 |
| Naptha, | Petroleum | — — — | 42 |
| Nitric acid, | 91% | — — — | 94 |
| Oak-red,* | Black | — — — | 42 |
| | White | — — — | 48 |
| Oats | bushel | — — | 32 / bushel |
| Okra, | Hamper | 1/2 bushel | 18 / hamper |
| | Hamper | bushel | 34 / bushel |
| Oleomargarine, (mfg.-tub) | 21" head, 34" stave | — — | 70 / tub |
| | Cases | — — — | 15-65 / case |

Figure 6.4.2

2017 Chevrolet Low Cab Forward

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|----------------------------|-------------------------|----------------------|-------------------|
| Olive oil | — — — | 58 | 7.7 / gallon |
| Onions, dry, Basket | bushel | — — | 55 / bushel |
| Bag | 17" x 32" | — — | 50 / bag |
| Crate | 20.5" x 11.5" x 10.5" | — — | 58 / crate |
| Green (with tops) | bushel | — — | 32 / bushel |
| Oranges, Western box | 11.5" x 11.5" x 24" | — — | 80 / box |
| Southern box | 12.75" x 12.75" x 27" | — — | 90 / box |
| Bushel box | 10.75" x 10.75" x 23.5" | — — | 65 / box |
| Oysters (shucked or meats) | | | |
| Crate with 5.1 gal. cans | 18" x 12" x 24" | (11.5 lbs. per gal.) | 67 / crate |
| With shells (bags) | bushel | — — | 75 / bushel |
| Paint, Lead and oil | — — — | 127 | 17 / gallon |
| Paper, Average solid | — — — | 58 | 1,565 / cu. yard |
| Newspaper rolls | 34.25" x 35" dia. | — — | 500 / roll |
| | 51.5" x 35" dia. | — — | 1,000 / roll |
| | 64.25" x 35" dia. | — — | 1,300 / roll |
| Paraffin | — — — | 56 | 1,510 / cu. yard |
| Parsley, Bushel crate | 12.75" x 12.75" x 17" | — — | 30 / crate |
| Parsnips | bushel | — — | 50 / bushel |
| Peaches, Basket | bushel | — — | 48 / bushel |
| 1/2 bushel | — — — | — — | 25 / basket |
| Crate | 10.5" x 11.25" x 24" | — — | 50 / crate |
| Western box | 5.5" x 12.25" x 19.75" | — — | 22 / box |
| Peanuts, Unshelled | bushel | — — | 22 / bushel |
| Bag | — — — | — — | 100 / bag |
| Peanut oil | — — — | 57 | 7.6 / gallon |
| Pears, Basket | bushel | — — | 50 / bushel |
| Western box | 9.63" x 12.13" x 19.75" | — — | 51 / box |
| Peas, Dry | bushel | — — | 60 / bushel |
| Fresh hamper | bushel | — — | 35 / hamper |
| Hamper | 40 quarts | — — | 45 / hamper |

*Kiln dried lumber averages 10% to 15% lighter, and green lumber 40% to 50% heavier, than air dried.

Figure 6.5.1

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|---------------------------------------|--------------------------|------------------|--------------------|
| Pecans, Large bag | — — — | — — | 100 / bag |
| Small bag | — — — | — — | 50 / bag |
| Peppers, Basket | bushel | — — | 25 / basket |
| Crate | 14.13" x 11.75" x 24" | — — | 45 / crate |
| Petroleum | — — — | 56 | 7.5 / gallon |
| Phosphate rock | — — — | 200 | 5,400 / cu. yard |
| Pine,* Long leaf | — — — | 44 | 3,670 / M. Bd. ft. |
| North Carolina | — — — | 36 | 3,000 / M. Bd. ft. |
| Oregon | — — — | 32 | 2,670 / M. Bd. ft. |
| Red | — — — | 30 | 2,500 / M. Bd. ft. |
| White | — — — | 26 | 2,170 / M. Bd. ft. |
| Yellow, long leaf | — — — | 44 | 3,670 / M. Bd. ft. |
| Short leaf | — — — | 38 | 3,170 / M. Bd. ft. |
| Pineapples, Crate | 11" x 12.5" x 36" | — — | 85 / crate |
| Pitch | — — — | 70 | 1,900 / cu. yard |
| Plums, Basket | bushel | — — | 56 / bushel |
| Western box | 5.63" x 16.38" x 17.5" | — — | 25 / box |
| Pomegranates, Box | 6.5" x 12" x 24.63" | — — | 30 / box |
| Popcorn, Ear | bushel | — — | 70 / bushel |
| Shelled | bushel | — — | 56 / bushel |
| Poplar* | — — — | 27 | 2,250 / M. Bd. ft. |
| Porcelain | — — — | 150 | 4,050 / cu. yard |
| Pork (dressed), Barrel (200 lbs. net) | 18" head, 29" stave | — — | 240 / barrel |
| Potatoes, Sweet | bushel | — — | 55 / bushel |
| White or Irish | bushel | — — | 60 / bushel |
| Bag | 1.67 bushel | — — | 102 / bag |
| Barrel | 17.13" head, 28.5" stave | — — | 185 / barrel |
| Prunes, Box | 5.63" x 16.38" x 19.75" | — — | 25 / box |
| Box | 5.63" x 11.88" x 19.75" | — — | 22 / box |
| Quinces | bushel | — — | 50 / bushel |

Figure 6.5.2

2017 Chevrolet Low Cab Forward

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|-------------------------|--|------------------|--------------------|
| Radishes, Basket | bushel | — — | 34 / bushel |
| Crate | 9.75" x 13.75" x 24" | — — | 40 / crate |
| Redwood* | — — — | 30 | 2,500 / M. Bd. ft. |
| Resin | — — — | 68 | 1,835 / cu. yard |
| Rhubarb (pie plant) | bushel | — — | 50 / bushel |
| Box | 5.25" x 11.5" x 22" | — — | 24 / box |
| Rice, | Unhulled bushel | — — | 43 / bushel |
| Rock, Crushed (average) | — — — | 100 | 2,700 / cu. yard |
| Romaine, Crate | 13.88" x 18.88" x 24.5" | — — | 64 / crate |
| Crate | 12.25" x 13" x 15.25" | — — | 27 / crate |
| Rubber goods | — — — | 94 | 2,540 / cu. yard |
| Rutabagas | bushel | — — | 56 / bushel |
| Rye | bushel | — — | 56 / bushel |
| Salt, rock, Solid | — — — | 136 | 3,670 / cu. yard |
| Coarse | — — — | 45 | 1,215 / cu. yard |
| Fine | — — — | 50 | 1,350 / cu. yard |
| Barrel (average) | — — — | — — | 280 / barrel |
| Sand, fine, Dry | — — — | 110 | 2,970 / cu. yard |
| Wet | — — — | 125 | 3,375 / cu. yard |
| Sand, coarse, Dry | — — — | 95 | 2,565 / cu. yard |
| Wet | — — — | 120 | 3,240 / cu. yard |
| Sand, Mixed | — — — | 115 | 3,100 / cu. yard |
| Sandstone, Solid | — — — | 147 | 3,970 / cu. yard |
| Crushed | — — — | 86 | 2,325 / cu. yard |
| Shale, Solid | — — — | 172 | 4,645 / cu. yard |
| Crushed | — — — | 92 | 2,485 / cu. yard |
| Sheep, Live (average) | per head | — — | 125-150 / head |
| Shingles, Bundle | Pkg. in bndls. of 200-250 Size (avg.) 24" x 20" x 10" | — — | 50 / bundle |
| Snow, Moist-packed | — — — | 50 | 1,350 / cu. yard |

*Kiln dried lumber averages 10% to 15% lighter, and green lumber 40% to 50% heavier, than air dried.

Figure 6.6.1

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|------------------------------------|-------------------------|------------------|--------------------|
| Soft drinks, Half depth bottle box | 12.25" x 18.75" x 8.5" | — — | 39 / box |
| 24-6 to 8 oz. bottles | | | |
| Full depth bottle box | | | |
| 12-24 to 32 oz. bottles | 13.38" x 18.5" x 12.25" | — — | 60 / box |
| Sorghum syrup | — — — | 86 | 11.5 / gallon |
| Soybeans | bushel | — — | 60 / bushel |
| Soybean oil | — — — | 58 | 7.7 / gallon |
| Spinach, Hamper | bushel | — — | 20 / bushel |
| Basket | bushel | — — | 27 / bushel |
| Spruce* | — — — | 28 | 2,330 / M. Bd. ft. |
| Squash | bushel | — — | 46 / bushel |
| Starch | — — — | 96 | 2,590 / cu. yard |
| Stone, Crushed, (average) | — — — | 100 | 2,700 / cu. yard |
| Rip-rap | — — — | 65 | 1,755 / cu. yard |
| Straw, Bale | 17" x 22" x 42" | — — | 110 / bale |
| Bale | 26" x 30" x 46" | — — | 180 / bale |
| Street sweepings | — — — | 32 | 865 / cu. yard |
| Sugar | — — — | 100 | 2,700 / cu. yard |
| Sugar, Bag | (100 lbs. net) | — — | 101 / bag |
| Barrel (22 lbs. empty) | 19.13" head, 30" stave | — — | 345 / barrel |
| Case | 24 – 5-lb. cartons | — — | 135 / case |
| Case | 60 – 2-lb. cartons | — — | 135 / case |
| Sugar cane syrup | — — — | 85 | 11.3 / gallon |
| Sulphur | — — — | 125 | 3,375 / cu. yard |
| Sulfuric acid, 87% | — — — | 112 | 15 / gallon |
| Sweet corn, Basket | bushel | — — | 45 / bushel |
| Crate | 13" x 13" x 24" | — — | 60 / crate |
| Sycamore* | — — — | 37 | 3,080 / M. Bd. ft. |
| Tallow | — — — | 60 | 1,620 / cu. yard |

Figure 6.6.2

2017 Chevrolet Low Cab Forward

| Product | Size of Container | Lbs. Per Cu. Ft. | No. of Lbs. / Per |
|--------------------------------|--------------------------|------------------|-------------------|
| Tanks, Acetylene, 102 cu. foot | empty | — — | 70 / tank |
| | filled | — — | 75 / tank |
| | 310 cu. foot | empty | 200 / tank |
| | filled | — — | 220 / tank |
| Tanks, Oxygen, 150 cu. foot | empty | — — | 80 / tank |
| | filled | — — | 92 / tank |
| | 300 cu. foot | empty | 133 / tank |
| | filled | — — | 153 / tank |
| Tar | — — — | 65 | 1755 / cu. yard |
| Tile, Solid | — — — | 115 | 3,100 / cu. yard |
| | Partition (construction) | 40 | 1,080 / cu. yard |
| Tomatoes, Basket | bushel | — — | 55 / bushel |
| Lug box | 7.25" x 14" x 17.5" | — — | 35 / box |
| Crate | 10.5" x 11.25" x 24" | — — | 48 / crate |
| Basket | 8.5" x 8.75" x 20" | — — | 18 / basket |
| Basket (paper) | 4.25" x 8.5" x 16.25" | — — | 9 / basket |
| Basket (wood) | 5.5" x 7.25" x 16.5" | — — | 10 / basket |
| Turpentine | — — — | 54 | 7.2 / gallon |
| Turnips, Basket | bushel | — — | 54 / bushel |
| Vetch seed | bushel | — — | 60 / bushel |
| Vinegar | — — — | 64 | 8.5 / gallon |
| Walnuts, Bulk | bushel | — — | 50 / bushel |
| | Bag | 2 bushel | 100 / bag |
| Water, Fresh | — — — | 63 | 8.4 / gallon |
| Wheat, Bulk | bushel | — — | 60 / bushel |
| | Bag | 1.5 bushel | 90 / bag |
| Wool, Pressed | — — — | 82 | 2,215 / cu. yard |

*Kiln dried lumber averages 10% to 15% lighter, and green lumber 40% to 50% heavier, than air dried.

Figure 6.7.1

2017 Chevrolet Low Cab Forward

3500,4500 GAS Specifications

| Model | 3500 Gas | 4500 Gas |
|--------------------|---|--|
| GVWR | 12,000 lbs. | 14,500 lbs. |
| WB | 109 in., 132.5 in., 150 in., 176 in. | |
| Engine | GMPT 8-cylinder, V Block 4-cycle, OHV, water-cooled, Sequential Port Fuel Injection | |
| Model/Displacement | GMPT-V8/365 CID (6.0 liters) | |
| HP (Gross) | 297 HP @ 4,300 RPM | |
| Torque (Gross) | 372 lbs.-ft. torque @ 4,000 RPM | |
| Equipment | Sequential Port Fuel Injection (SFI), mass air flow meter, powertrain control module (PCM), onboard diagnostics, oxygen sensors, catalytic convertor, map sensor, with external oil cooler, engine cruise control, High Idle Mode and Rear engine cover. | |
| Transmission | 6L90 Hydra-Matic 6-speed automatic w/lock-up converter and overdrive | |
| Steering | Integral power steering 18.8-20.9:1 ratio. Tilt and telescoping steering column. | |
| Front Axle | Reverse Elliot "I"-Beam rated at 6,830 lbs. | |
| Suspension | Semi-elliptical steel alloy tapered leaf springs with stabilizer bar and shock absorbers. | |
| GAWR | 4,860 lbs. | 6,630 lbs. |
| Rear Axle | Full-floating single speed with hypoid gearing rated at 11,020 lbs. | |
| Suspension | Semi-elliptical steel alloy multi-leaf springs and shock absorbers. | |
| GAWR | 8,840 lbs. | 11,020 lbs. |
| Wheels | 16 x 6.0 6-hole disc wheels, painted white. | 19.5 x 6.0 6-hole disc wheels, painted white. |
| Tires | 215/85R-16E (10 ply) LRR (Low Rolling Resistance) tubeless steel belted radials, all season, front and rear | 225/70R-19.5G (14 ply) LRR (Low Rolling Resistance) tubeless steel belted radials, all season, front and rear |
| Brakes | Dual-circuit, vacuum-assisted hydraulic service brakes with EBD (Electronic Brake Distribution System) for load proportioning of the brake system. Disc front and self-adjusting outboard mounted drum rear. The parking brake is mechanical, cable-actuated, internal expanding drum type, transmission mounted. Four-channel antilock brake system. | |
| Fuel Tank | 30-gallon rectangular steel fuel tank. Mounted between the frame rails with electric type fuel pump(mounted in tank). Through the rail fuel fill. | |
| Frame | Ladder type channel section straight frame rail 33.5 in. wide through the total length of the frame. Yield strength 44,000 psi section modulus 7.20 in. ³ , RBM 316,800 lbs.-ft./in. per rail. | |
| Cab | All-steel, low cab forward, BBC 70.9 in., 45° mechanical tilt with torsion assist. | |
| Equipment | TRICOT covered high back driver's seat with two occupant passenger seat. Dual cab-mounted exterior mirrors. With integral convex mirrors.Tilt and telescoping steering column. Tinted glass, air conditioning standard. | |
| Electrical | 12-volt, negative ground, maintenance-free battery located on frame, 750 CCA each, 145-amp alternator with integral regulator. | |
| Options | see page 7.3 for option | |

NOTE: These selected specifications are subject to change without notice.

2017 Chevrolet Low Cab Forward

Figure 7.2.1

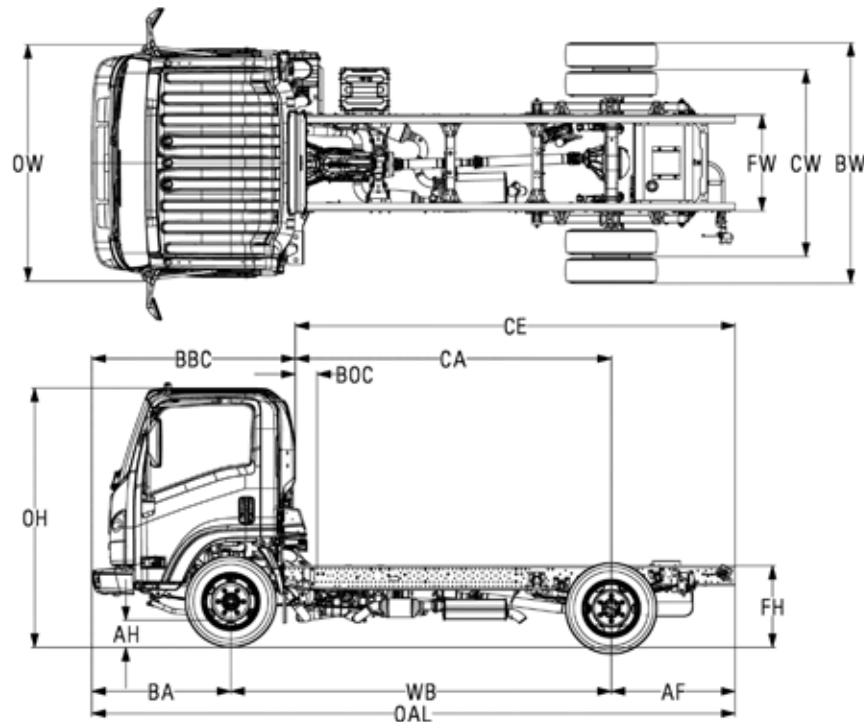


Figure 7.2.2

Variable Chassis Dimensions

| Unit | WB | CA* | CE* | OAL | AF |
|------|-------|-------|-------|-------|------|
| Inch | 109.0 | 86.5 | 129.6 | 200.5 | 43.1 |
| Inch | 132.5 | 110.0 | 153.1 | 224.0 | 43.1 |
| Inch | 150.0 | 127.5 | 170.6 | 241.5 | 43.1 |
| Inch | 176.0 | 153.5 | 196.6 | 267.5 | 43.1 |

*Effective CA & CE are CA or CE less BOC

Dimension Constants: 12,000 GVW

| | | | | | |
|-----|------|----|------|----|------|
| AH | 7.5 | BW | 84.1 | FH | 31.8 |
| AW | 65.6 | CW | 65.0 | | |
| BA | 48.4 | FW | 33.5 | | |
| BBC | 70.9 | OH | 90.0 | | |
| BOC | 6.5 | OW | 81.3 | | |

12,000-lb. GVWR Automatic Transmission Model Chassis Cab and Maximum Payload Weights

| Model | RPO | WB | Unit | Front | Rear | Total | Payload |
|---------|-----|-------|------|-------|------|-------|---------|
| P 11003 | EB4 | 109 | LB. | 3302 | 1720 | 5022 | 6978 |
| P 12003 | FNJ | 132.5 | LB. | 3370 | 1745 | 5115 | 6885 |
| P 13003 | FWH | 150 | LB. | 3410 | 1749 | 5159 | 6841 |
| P 14003 | FNW | 176 | LB. | 3449 | 1769 | 5218 | 6782 |

Dimension Constants; 14,500 GVW

| Code | Inches | Code | Inches |
|------|--------|------|--------|
| AH | 8.3 | BW | 84.1 |
| AW | 65.6 | CW | 65.0 |
| BA | 48.4 | FW | 33.5 |
| BBC | 70.9 | OH | 91.1 |
| BOC | 6.5 | OW | 81.3 |
| FH | 33.0 | | |

14,500-lb. GVWR Automatic Transmission Model Chassis Cab and Maximum Payload Weights

| Model | RPO | WB | Unit | Front | Rear | Total | Payload |
|---------|-----|-------|------|-------|------|-------|---------|
| P 31003 | EB4 | 109 | LB. | 3430 | 1896 | 5326 | 9174 |
| P 32003 | FNJ | 132.5 | LB. | 3497 | 1921 | 5418 | 9082 |
| P 33003 | FWH | 150 | LB. | 3538 | 1925 | 5463 | 9037 |
| P 34003 | FNW | 176 | LB. | 3627 | 1896 | 5523 | 8977 |

2017 Chevrolet Low Cab Forward

Vehicle Weight Limits:

GVWR

| | | |
|------------------|-------------|-------------|
| Designed Maximum | 12,000 lbs. | 14,500 lbs. |
| GAWR, Front | 4,860 lbs. | 6,630 lbs. |
| GAWR, Rear | 8,840 lbs. | 11,020 lbs. |

Technical Notes:

Chassis Curb Weight reflects standard equipment and fuel but no driver or payload.

Maximum Payload Weight is the allowed maximum for equipment, body, payload and driver and is calculated by subtracting chassis curb weight from the GVWR.

| RPO | DESCRIPTION STANDARD CAB | Weight (LBS) Front/Rear |
|-----|--|----------------------------|
| G7M | Air deflector roof mounted (not available in Crew Cab) | 64.0 / 0.0 |
| MTE | Fire extinguisher and triangle kit mounted in rear organizer (2) | 18.6 / 0.0 |
| KO5 | Engine Block Heater (120V 600W) | 1.0 / 0.0 |
| UL5 | Delete Standard Radio | -3.0 / 0.0 |
| UIZ | AM/FM/CD radio with Aux input/USB port and Bluetooth | 0.0 / 0.0 |
| DB6 | Heated dual remote control mirrors (15" head) | 2.0 / 0.0 |
| DB8 | Heated mirrors | 0.3 / 0.0 |
| TBD | Mirror Bracket for 102 "wide body | 1.0 / 0.0 |
| 9W8 | seat covers standard cab (4) | 5.8 / 0.0 |
| IX2 | Rear Body Dome Lamp Switch | 0.4 / 1.5 |
| UZF | Back up alarm | 0.0 / 1.5 |
| V22 | Chrome Grille | 1.0 / 0.0 |
| 9C2 | 65 mph top speed limit (max cruise speed 60mph) | 0.00 / 0.00 |
| A1G | Suspension Drivers Seat | |

(3) Standard model specifications with LSD (Limited Slip Differential)

High Idle Mode

Provides 1200 rpm engine speed when vehicle is in park or neutral with parking brake set. Activated by pressing main cruise switch and then turning and holding cruise set switch for 3 seconds. Cruise light will blink slowly in this mode.

2017 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

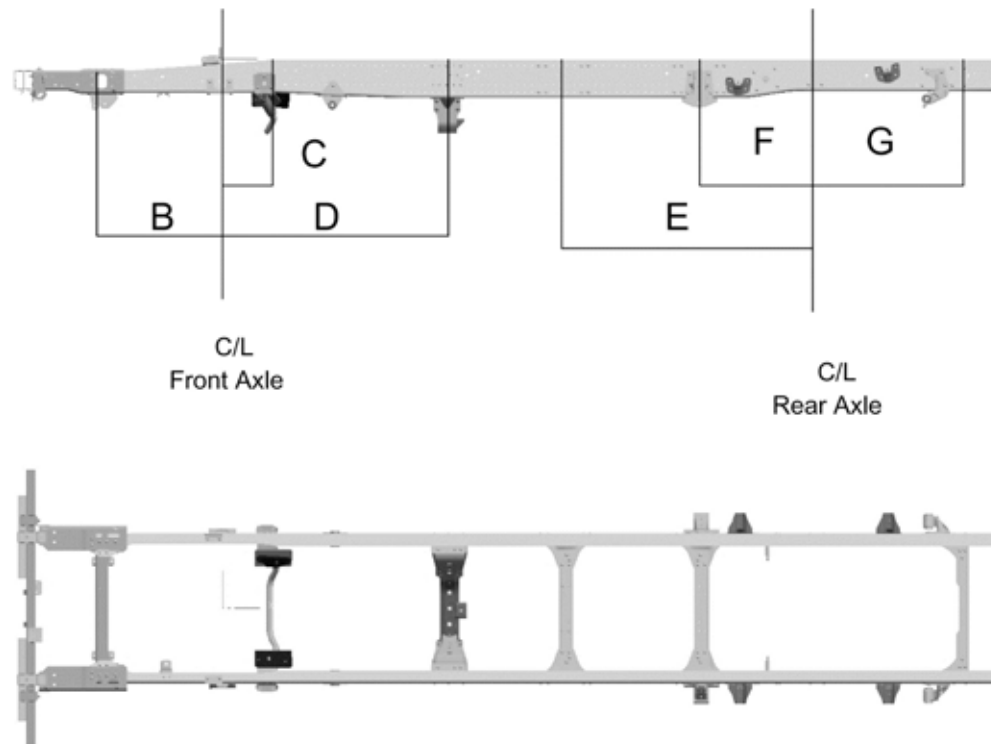


Figure 7.4.1

| Wheelbase | Frame Thick | Crossmember Type/Location | | | | | | |
|-----------|-------------|---------------------------|------|-----|---------|---------|---------|---------|
| | | | B | C | D | E | F | G |
| 109.0 | 0.24 | | 28.3 | 7.9 | AA 51.5 | — | CC 24.2 | DD 33.8 |
| 132.5 | 0.24 | | 28.3 | 7.9 | AA 51.5 | BB 57.5 | CC 24.2 | DD 33.8 |
| 150.0 | 0.24 | | 28.3 | 7.9 | AA 51.5 | BB 57.9 | CC 24.2 | DD 33.8 |
| 176.0 | 0.24 | | 28.3 | 7.9 | AA 51.5 | BB 74.4 | CC 24.2 | DD 33.8 |

A/T = Automatic Transmission

Figure 7.4.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Frame Chart

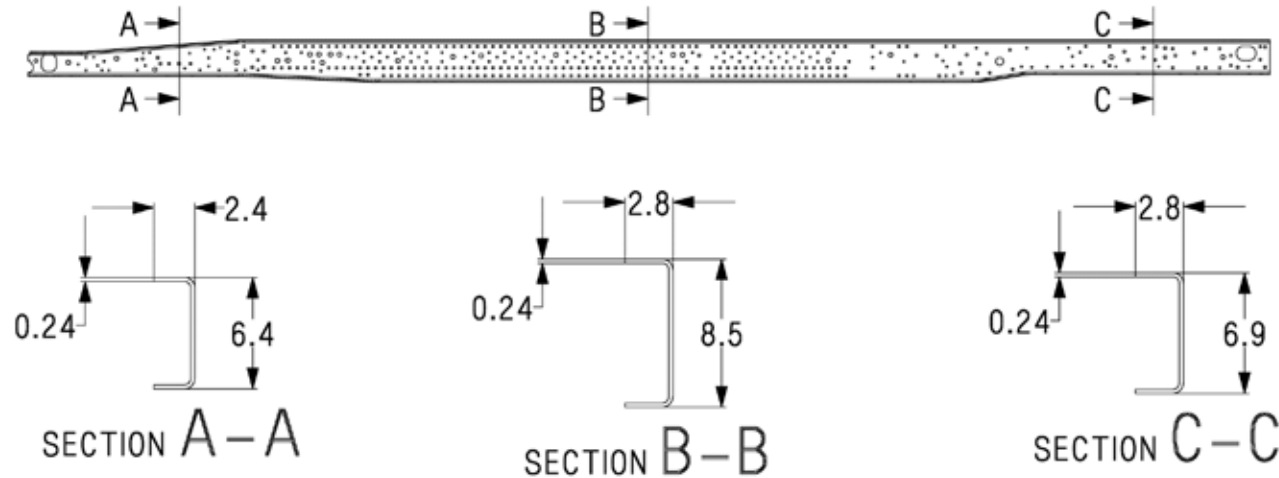


Figure 7.5.1

| Wheelbase | Frame FL | Frame Thickness |
|-----------|----------|-----------------|
| 109.0 | 182.5 | 0.24 |
| 132.5 | 206.1 | 0.24 |
| 150.0 | 223.8 | 0.24 |
| 176.0 | 249.8 | 0.24 |

Figure 7.5.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Frame Chart

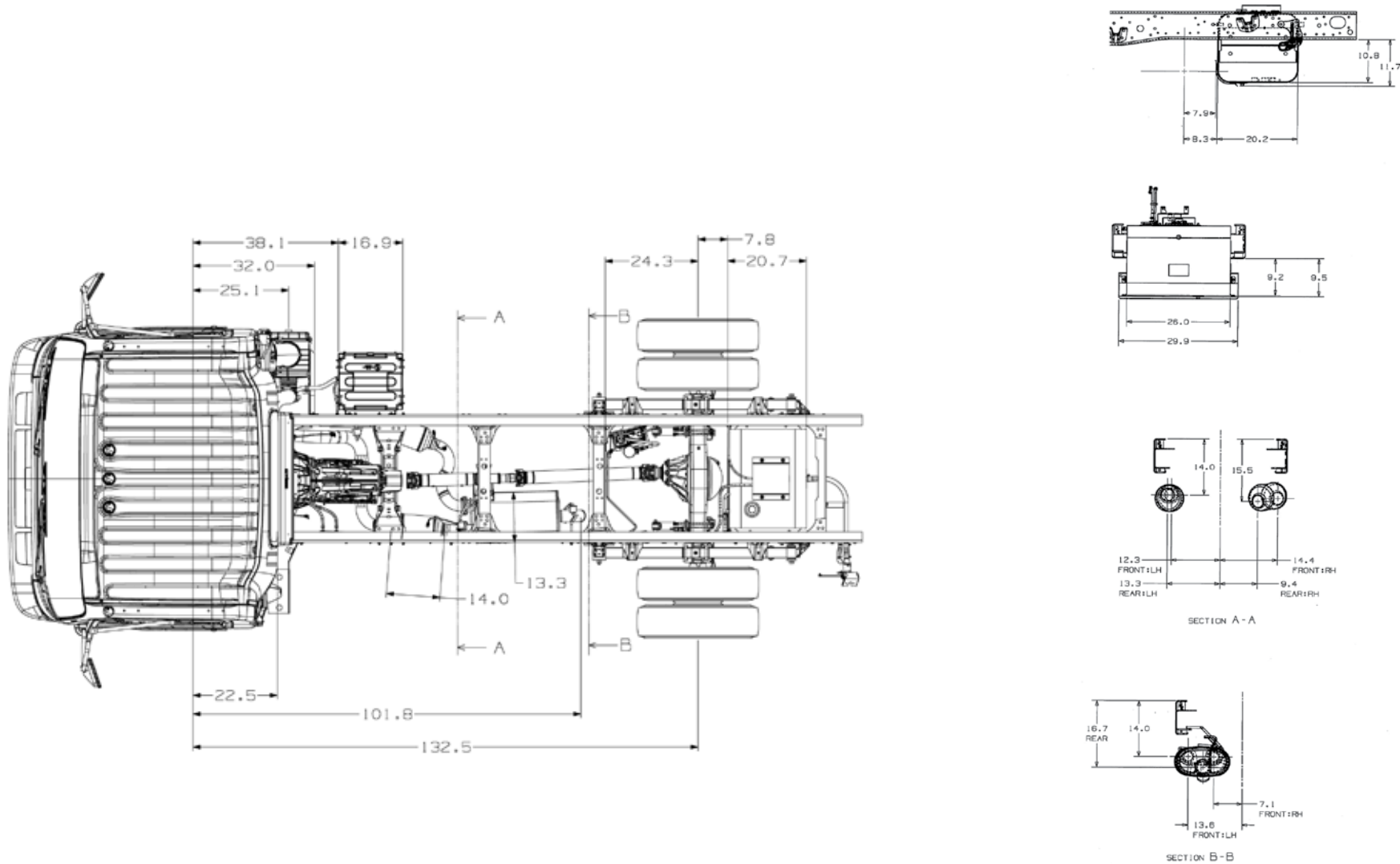


Figure 7.6.1

2017 Chevrolet Low Cab Forward

Chassis Dimensions

| Dimensions | | | |
|------------|-------|-------|-------|
| A | B | C | D |
| WB | CA | CE | OAL |
| 109.0 | 86.5 | 129.6 | 200.5 |
| 132.5 | 110.0 | 153.1 | 224.0 |
| 150.0 | 127.5 | 170.6 | 241.5 |
| 176.0 | 153.4 | 196.6 | 264.5 |

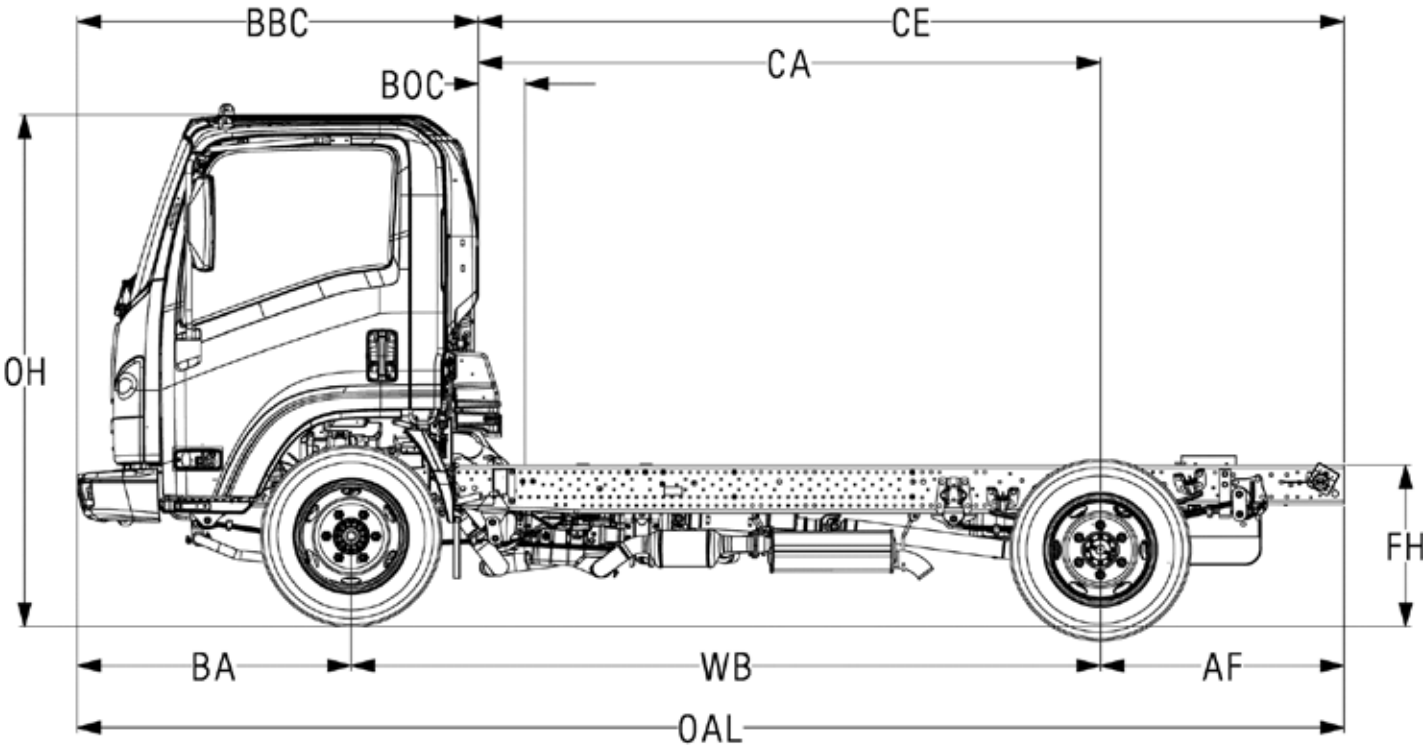


Figure 7.7.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

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Chassis Dimensions

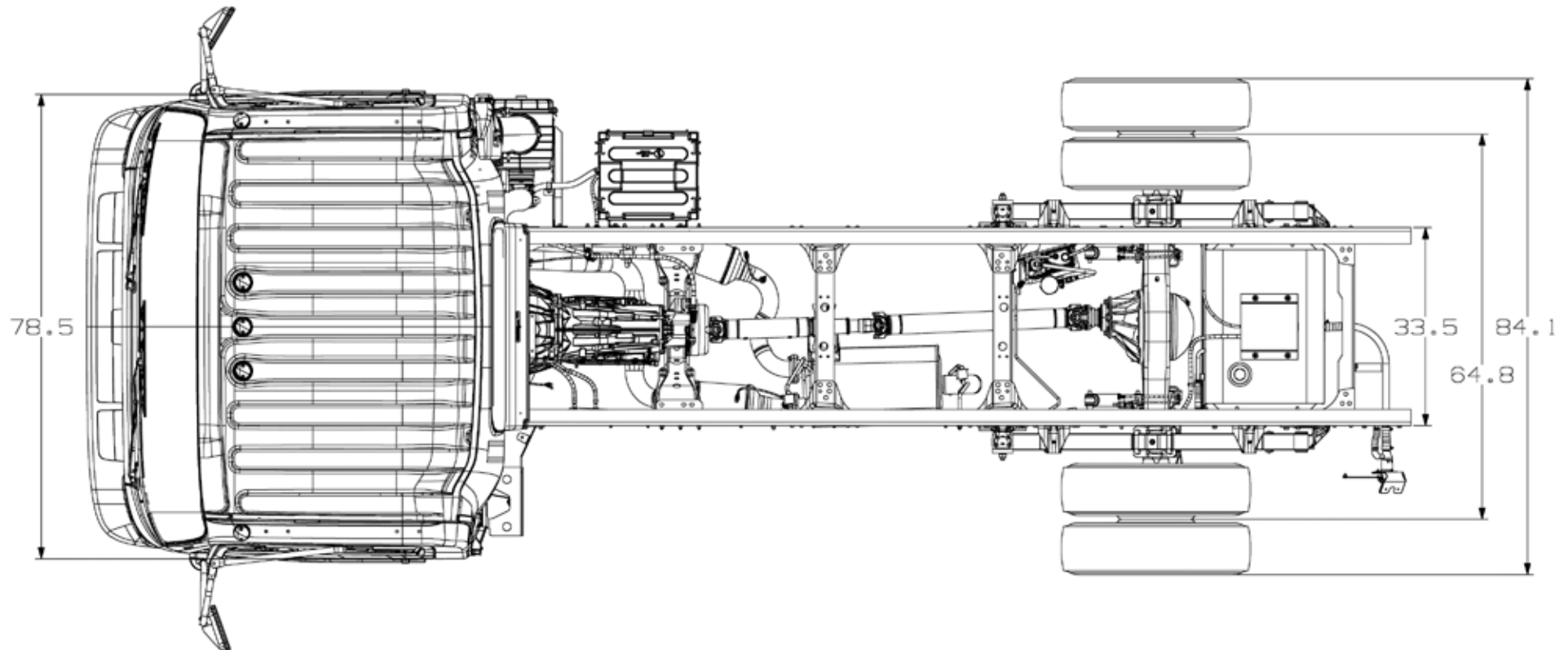


Figure 7.8.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

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Cab Tilt Illustration

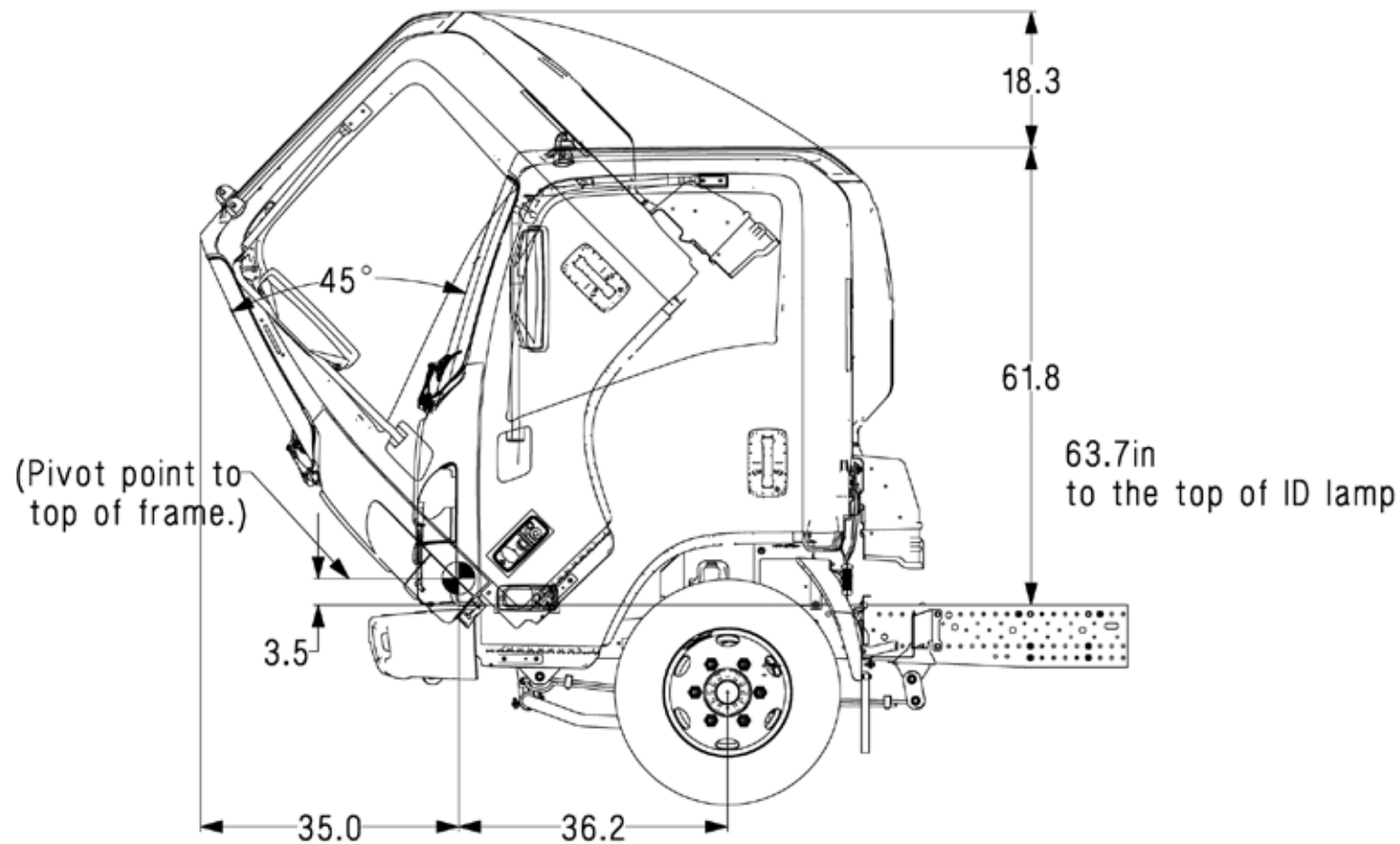


Figure 7.9.1

Dimensions in inches

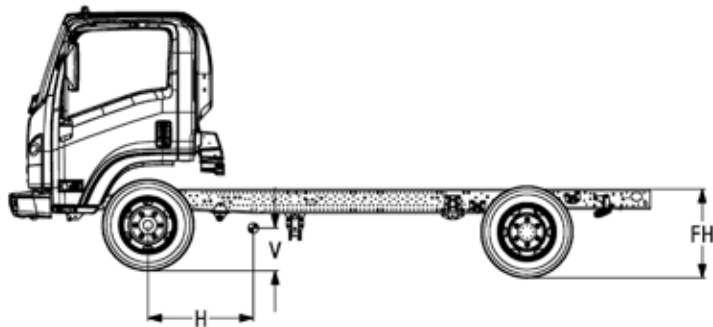
2017 Chevrolet Low Cab Forward

Center of Gravity

The center of gravity of the chassis cab.

| GVWR | WB | V | H Auto. Trans. |
|--------|-------|------|----------------|
| 12,000 | 109 | 23.8 | 37.5 |
| | 132.5 | 23.7 | 44.5 |
| | 150 | 23.6 | 49.7 |
| | 176 | 23.6 | 57.5 |
| 14,500 | 109 | 23.8 | 38.3 |
| | 132.5 | 23.7 | 45.3 |
| | 150 | 23.7 | 50.6 |
| | 176 | 23.6 | 58.4 |

Figure 7.10.1



The maximum vertical center of gravity must not be exceeded at maximum GVWR and rated front and rear GAWR. The center of gravity maximum is 63" (1600mm) above the ground. The horizontal center of gravity must be located between the front and rear axles.

Figure 7.10.2

Dimensions in inches

NOTE: The maximum dimensions for a body installed on the LCF Gas are 102 inches wide (outside) with 102" wide mirror brackets installed and 91 inches high (inside). Any larger body applications must be approved by GM Upfitter Engineering. Contact us on www.gmupfitter.com.

2017 Chevrolet Low Cab Forward

Front Axle Chart

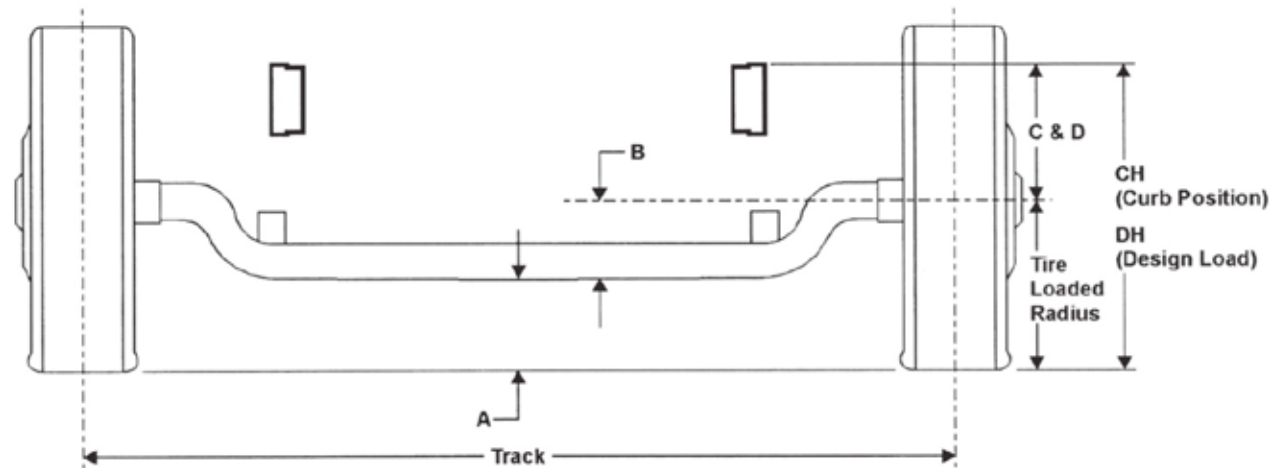


Figure 7.11.1

Formulas for calculating height dimensions:

- A = Tire Loaded Radius – B
- C = Centerline of Axle to Top of Frame Rail at Curb Position
- D = Centerline of Axle to Top of Frame Rail at Design Load
- CH = C + Tire Unloaded Radius
- DH = D + Tire Loaded Radius

| Tire | GVWR | GAWR | A | B | C | D | CH | DH | Track | Tire Radius | |
|--------------|-------------|------------|-----|-----|------|------|------|------|-------|-------------|-------|
| | | | | | | | | | | Unload | Load |
| 215/85R 16-E | 12,000 lbs. | 4,860 lbs. | 7.5 | 6.6 | 12.9 | 12.2 | 27.5 | 26.3 | 65.5 | 14.6 | 14.1 |
| 225/70R 19.5 | 14,500 lbs. | 6,630 lbs. | 8.3 | 6.6 | 13 | 11.5 | 29 | 26.4 | 65.5 | 16 | 14.93 |

Figure 7.11.2

Dimensions in inches

Rear Axle Chart

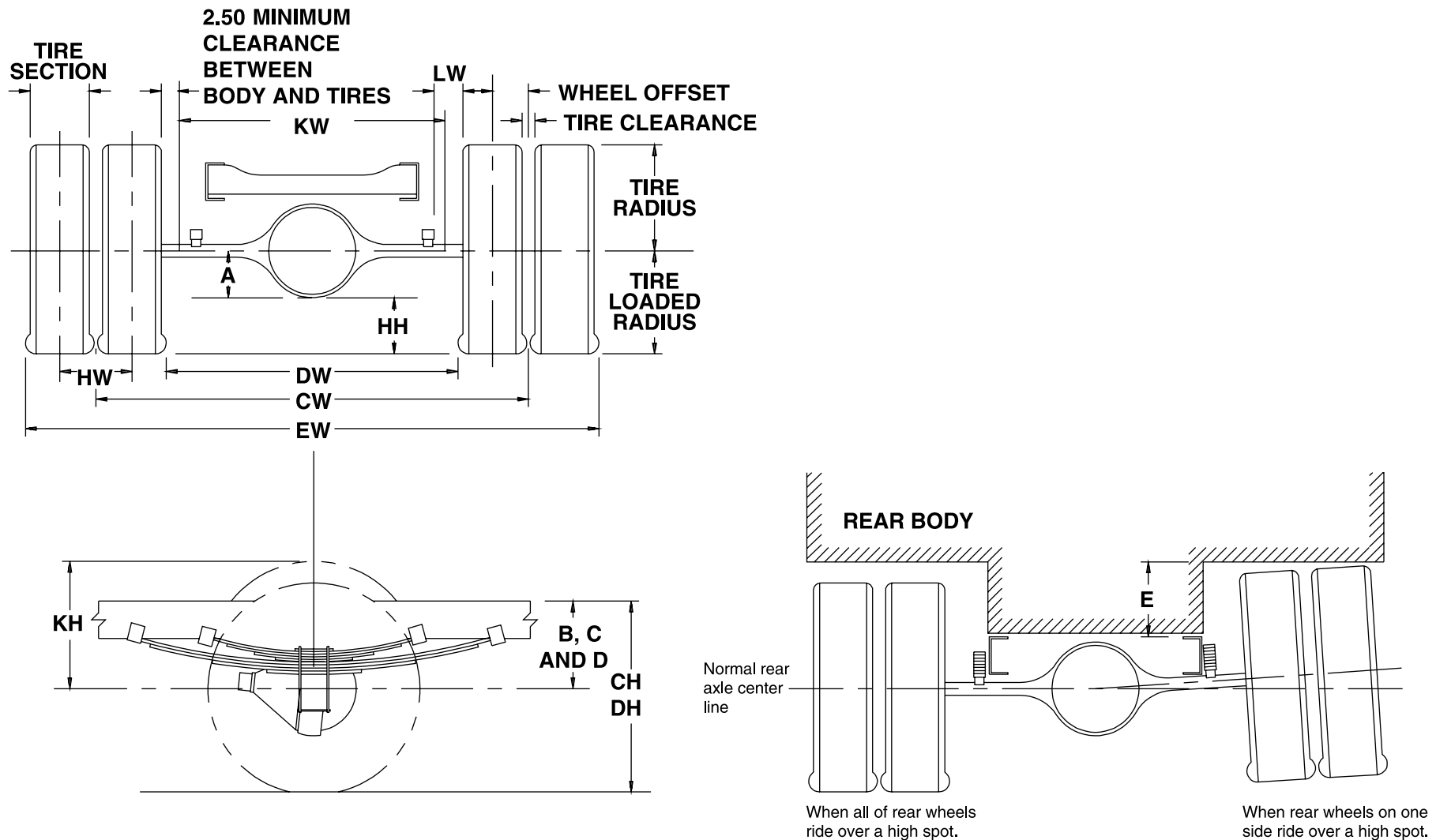


Figure 7.12.1

2017 Chevrolet Low Cab Forward

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| Definitions | | | |
|---|---|---------------------------|--|
| A | Centerline of axle to bottom of axle bowl. | DW | Minimum distance between the inner surfaces of the rear tires. |
| B | Centerline of axle to top of frame rail at metal-to-metal position. | | |
| C | Centerline of axle to top of frame rail at curb position. | EW | Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires. |
| D | Centerline of axle to top of frame rail at design load. | HH | Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line. |
| E | Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vertical centerline of the rear axle, when rear wheels on one side ride over a high spot. | HW | Dual Tire Spacing: Distance between the centerlines of the tires in a set of dual tires. |
| CH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position. | KH | Tire Bounce Clearance: Minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot. |
| DH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load. | CW | Track Dual Rear Wheel Vehicles: Distance between the centerlines of the dual wheels measured at the ground-line. |
| Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance | | See Tire Chart for Values | |

Figure 7.13.1

| Formulas for Calculating Rear Width and Height Dimensions | | | |
|---|--|----|---|
| CW | = Track | HH | = Tire loaded radius – A |
| CH | = Tire loaded radius + C | JH | = KH – B |
| DH | = Tire loaded radius + D | KH | = Tire radius + 3.00 inches |
| DW | = Track + 2 tire sections – tire clearance | KW | = DW – 5.00 inches |
| EW | = Track + 2 tire sections + tire clearance | LW | = 1.00-inch minimum clearance between tires and springs |

Figure 7.13.2

| Tire | GAWR | Track CW | A | B | C | D | E |
|----------------|-------------|----------|-----------|-----------|------|-----------|-----|
| 215/85R 16-E | 8,840 lbs. | 65.0 | 6.5(A/T) | 9.3(A/T) | 15.4 | 13.3/13.0 | 7.8 |
| 225/70R 19.5-F | 11,020 lbs. | 65.0 | 7.7 (A/T) | 9.3 (A/T) | 15.6 | 13.4 | 8.4 |

Figure 7.13.3

Dimensions in inches

2017 Chevrolet Low Cab Forward

Suspension Deflection Charts – 3500,4500 Gas

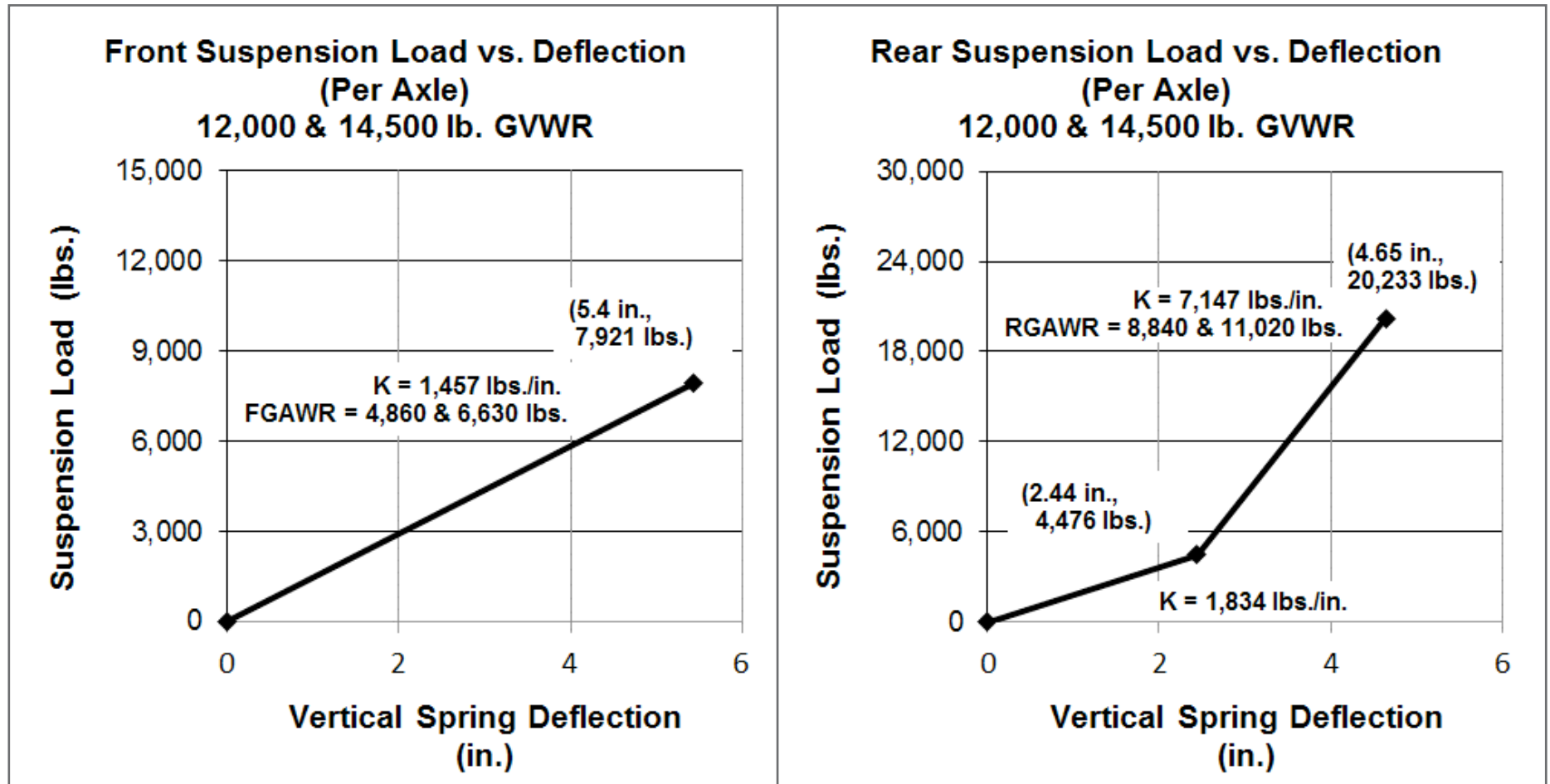


Figure 7.14.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

Tire and Disc Wheel Chart – 3500

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits | | GVWR(Lb.) |
|--------------|--|-----|-------|-----|--------------------------|--------|-----------|
| | Single | | Dual | | Front | Rear | |
| | Lb. | PSI | Lb. | PSI | 2 Single | 4 Dual | |
| 215/85R 16-E | 2,430 | 70 | 2,210 | 70 | 4,860 | 8,840 | 12,000 |

Figure 7.15.1

| Tire Size | GVWR (Lb.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|--------------|------------|-------------|-------|----------|------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 215/85R 16-E | 12,000 | 14.05 | 14.05 | 14.6 | 14.6 | 8.54 | 1.46 | 6.0 |

Figure 7.15.2

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|------------|------------|------------------|------------------------------|-----------------------------|-------------------------|--------------|----------------|----------------|----------|---------------|
| 16 X 6 K | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 325 ft-lb. (440 N•m) | 6.46 | 5.0 | 0.35 | 5° DC | Steel TOPY |

*O.D. Wrench Sizes

Figure 7.15.3

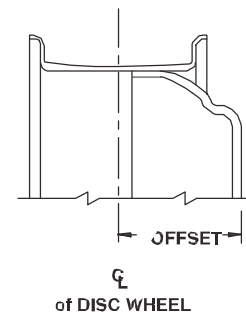
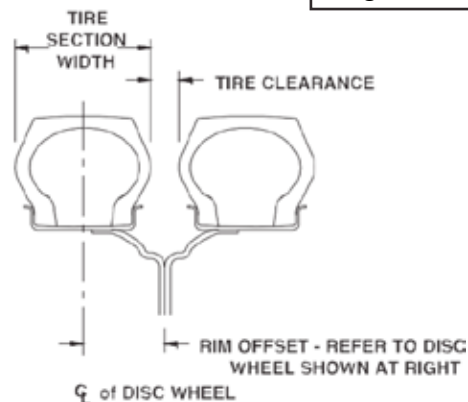


Figure 7.15.4

2017 Chevrolet Low Cab Forward

Tire and Disc Wheel Chart – 4500

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits | | GVWR(Lb.) |
|----------------|--|-----|-------|-----|--------------------------|--------|-----------|
| | Single | | Dual | | Front | Rear | |
| | Lb. | PSI | Lb. | PSI | 2 Single | 4 Dual | |
| 225/70R 19.5-G | 3,315 | 85 | 3,115 | 85 | 6,630 | 12,460 | 14,500 |

Figure 7.16.1

| Tire Size | GVWR (Lb.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|----------------|------------|-------------|-------|----------|-------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 225/70R 19.5-G | 14,500 | 15.24 | 15.28 | 16.10 | 16.10 | 8.9 | 1.1 | 6.0 |

Figure 7.16.2

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|----------------|------------|------------------|------------------------------|-----------------------------|-------------------------|--------------|----------------|----------------|----------|-------------------|
| 19.5 x 6.00 RW | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 325 ft-lb. (440 N•m) | 6.46 | 5.0 | 0.37 | 15° DC | Steel ACCURIED |

*O.D. Wrench Sizes

Figure 7.16.3

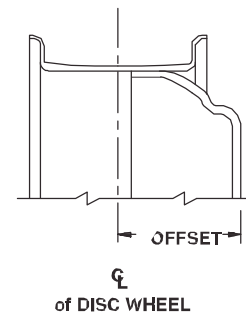
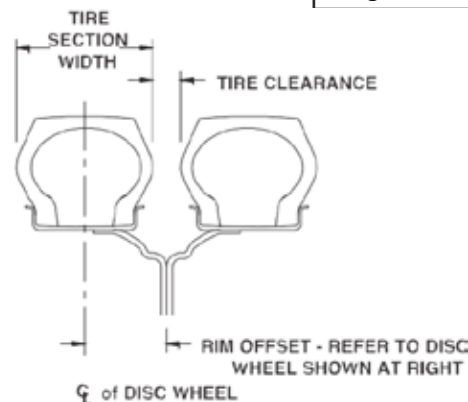


Figure 7.16.4

2017 Chevrolet Low Cab Forward

Propeller Shaft

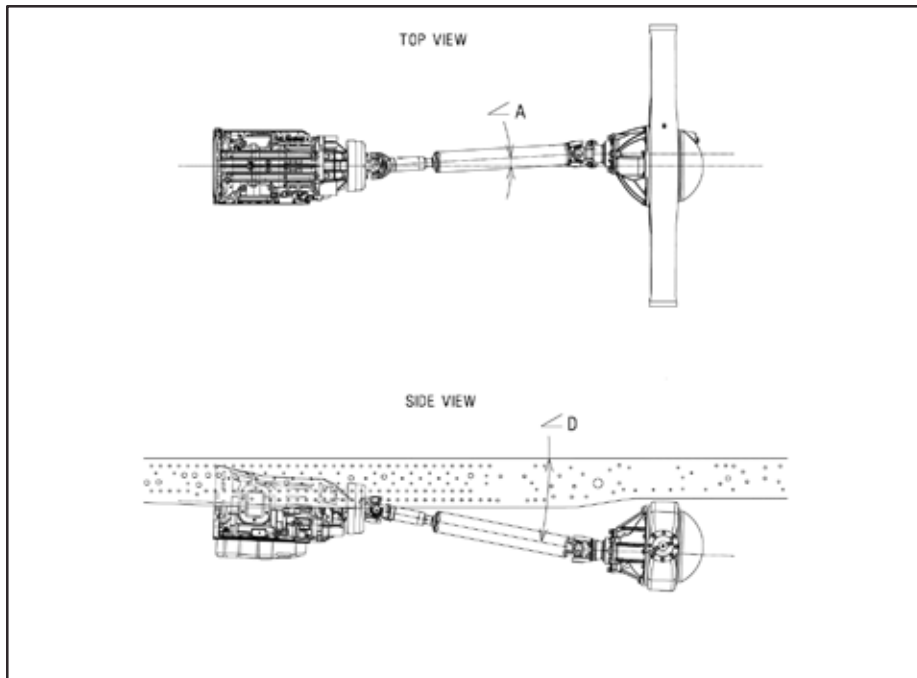


Figure 7.17.1

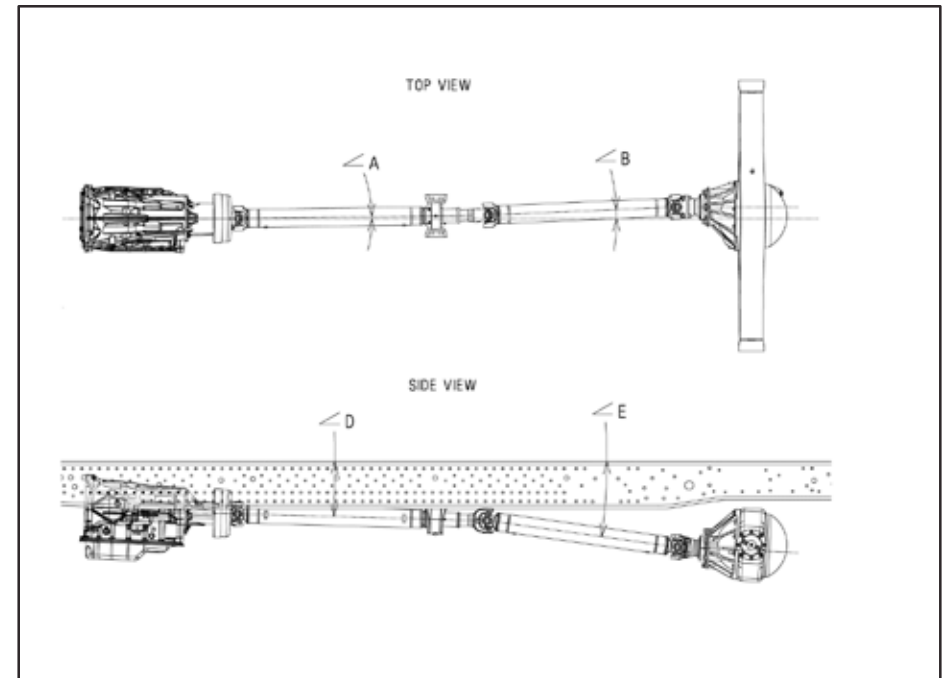


Figure 7.17.2

| Wheelbase (in.) | Top View | | Side View | | | |
|--------------------|----------|------|-----------|------|-------|-----------|
| | ∠A | ∠B | ∠D | ∠E | Trans | Rear Axle |
| 109 | 3.2° | - | 9.1° | - | 2.5° | 2.5° |
| 132.5 | 1.5° | 2.3° | 3.0° | 7.7° | 2.5° | 2.5° |
| 150 | 0.8° | 2.5° | 1.5° | 8.0° | 2.5° | 2.5° |
| 176 | 0.6° | 1.7° | 2.0° | 4.5° | 2.5° | 2.5° |

NOTE: 1. Angles provided in table are relative to the frame angle. Please take this into consideration for service measurements.
2. Driveline angles are based on the chassis curb weight which includes standard equipment, fuel but no driver, body or payload.

2017 Chevrolet Low Cab Forward

Propeller Shaft

| | | | | |
|-------------------------------|------------|--------------|------------|------------|
| Wheelbase | 109 | 132.5 | 150 | 176 |
| No. of Shafts | 1 | 2 | 2 | 2 |
| Trans. Type | A/T | A/T | A/T | A/T |
| Shaft #1 O.D. (Inches) | 3.25 | | | |
| Thickness (Inches) | 0.0906 | | | |
| L (Inches) | 37.55 | 18.15 | 35.47 | 46.1 |
| Type | A | B | B | B |
| Shaft #2 O.D. (Inches) | 3.25 | | | |
| Thickness (Inches) | 0.0906 | | | |
| L (Inches) | N/A | 33.78 | 34.17 | 49.52 |
| Type | N/A | C | C | C |

Figure 7.18.1

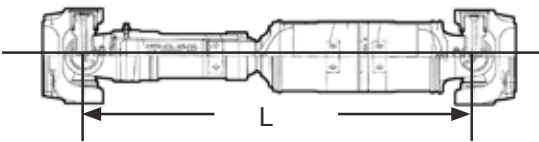
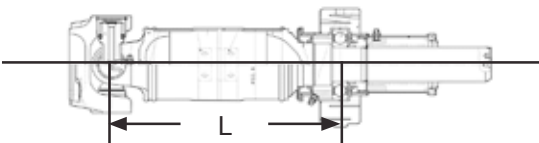
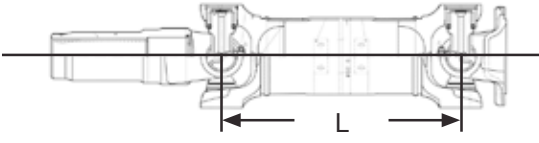
| Type | Description | Illustration |
|--------|--------------------------------|---|
| Type A | 1st shaft in 1-piece driveline |  |
| Type B | 1st shaft in 2-piece driveline |  |
| Type C | 2nd shaft in 2-piece driveline |  |

Figure 7.18.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Brake System Diagram, 12,000 GVW

Vacuum Over Hydraulic

Please refer to Introduction Section of book for antilock system cautions and wheelbase modification requirements.

Legend for 3500, 3500HD, 4500, 4500HD, 4500XD Brake System

- (1) Electronic Hydraulic Control Unit (EHCU)
- (2) Rear Wheel Cylinder
- (3) Vacuum Pump
- (4) Check Valve
- (5) Exhaust Brake Valve
- (6) Magnetic Valve
- (7) Check Valve (One-way Valve)
- (8) Vacuum Tank
- (9) 4-Way Connector
- (10) With Metering Valve
- (11) W/O Metering Valve
- (12) Brake Fluid Reservoir
- (13) Electric Vacuum Pump
- (14) Master Cylinder
- (15) Vacuum Booster (Servo Unit)
- (16) Front Wheel Cylinder

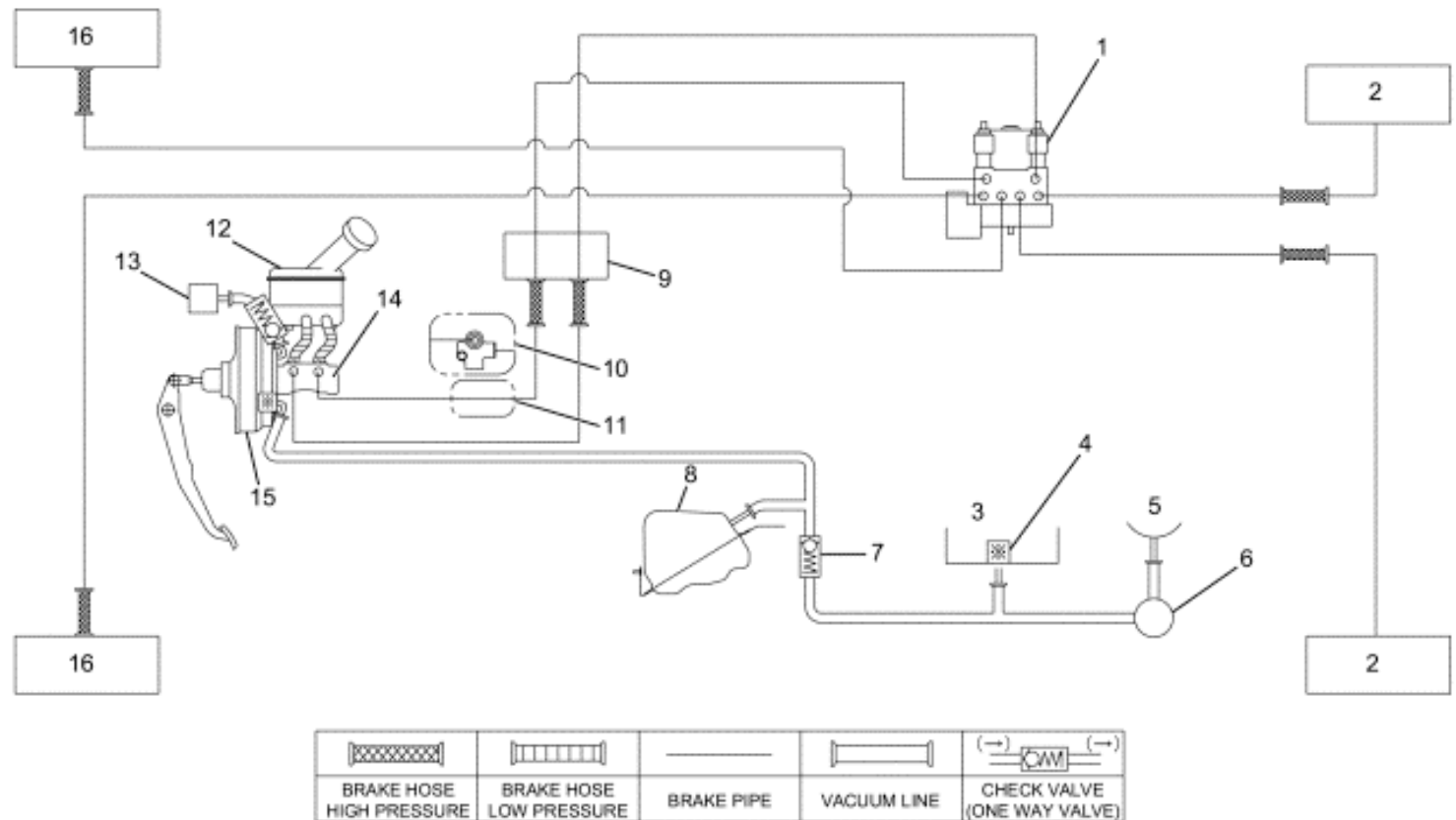


Figure 7.19.1

2017 Chevrolet Low Cab Forward

Brake System Diagram, 14,500 GVW

Vacuum Over Hydraulic

Please refer to Introduction Section of book for antilock system cautions and wheelbase modification requirements.

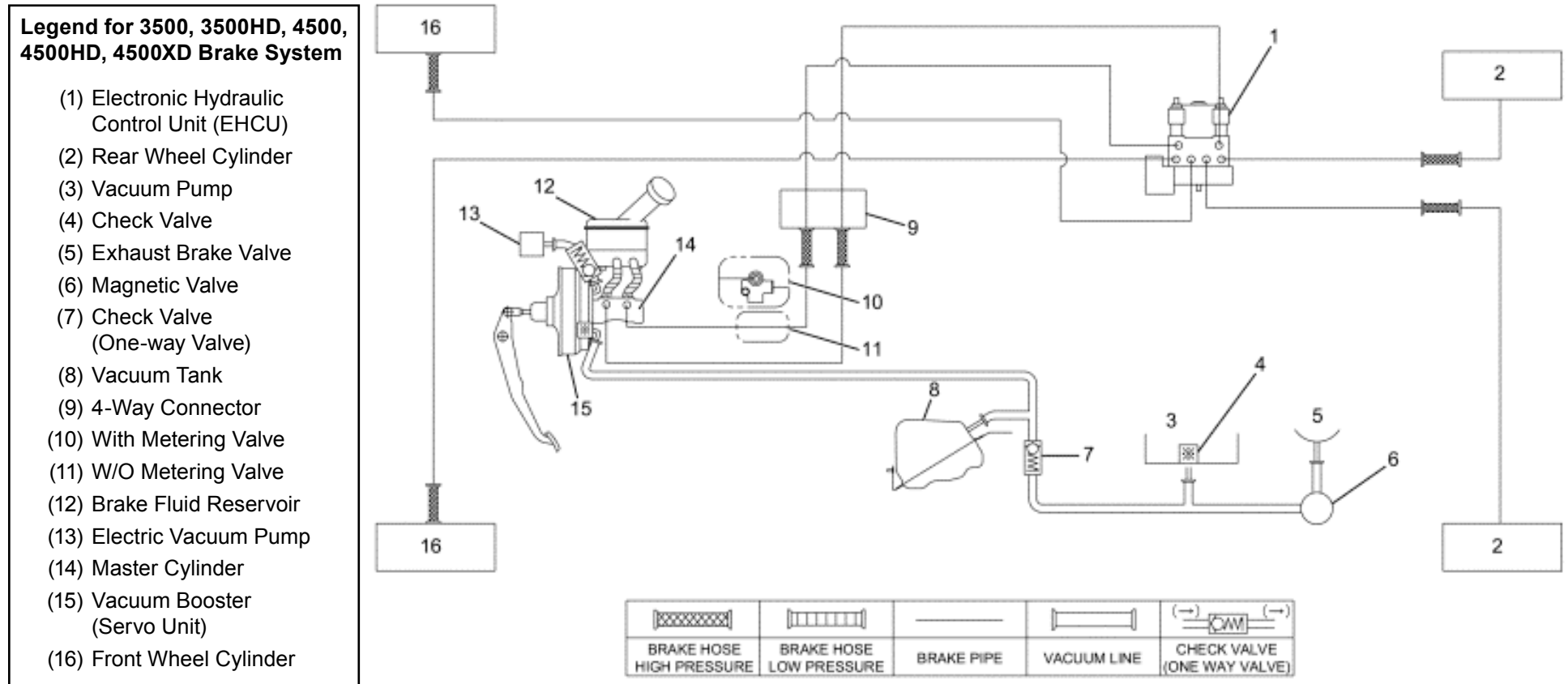


Figure 7.20.1

High Idle Mode

The high idle mode is the function that raises engine speed by operation of the driver when the vehicle is stationary. PIM performs the high idle mode control when the condition for operating is met. The PIM outputs the idle up command to the ECM and will blink the cruise control set indicator lamp during the high idle mode control.

Condition for Operating the High Idle Mode Control

The following conditions are met longer than 3 seconds:

- Engine is running.
- The selector lever is in “P” (Park) or “N” (Neutral) position.
- The accelerator pedal position is less than 25 percent.
- The brake switch is OFF.
- The cruise control main switch is ON.
- The cruise control set switch is ON.

Condition for Cancelling the High Idle Mode Control

Each of following conditions is met:

- Engine is stopped.
- The selector lever is in other than “P” (Park) or “N” (Neutral) position.
- The accelerator pedal position is 25 percent or more.
- The brake switch is ON.
- The cruise control main switch is OFF.
- The cruise control set switch is OFF.

2017 Chevrolet Low Cab Forward

Through the Rail Fuel Fill

Installation Instructions

1. Disconnect battery.
2. Remove the short filler hose and the short breather hose from the breather and fuel filler pipes and the filler neck bracket assembly.
3. Filler kit hoses are designed for the 102 inch wide body width. Modify the hoses as required to fit dimension "E" of the desired body width
4. Install flexible filler hose (item 2) to fuel filler pipe and filler neck bracket assembly using existing screw clamps.
5. Install flexible breather hose (item 3) to fuel breather pipe and filler neck bracket assembly using new clamps (item 4)
6. The filler neck must be mounted to allow the filler neck bracket to be parallel to the frame horizontal.
7. Filler neck (Dimension A) must be between 6.85 inches and 8.85 inches above frame.
8. Secure the filler plate to the bottom of the body and check for leaks.
9. Ensure that fill hose does not sag, creating an area where the fuel could pool in the fill hose.
10. Reconnect battery.

Fuel Type

Use regular unleaded gasoline rated at 87 octane or higher that meets specification ASTM D4814 in the U.S. Blended gasoline is suitable for use in the Chevrolet LCF 3500, 4500 Gas Chassis.

MTBE is "methyl tertiarybutylether." Fuel that is no more than 15%.

MTBE is fine for your vehicle.

Ethanol is ethyl or grain alcohol. Properly-blended fuel that is no more than 10% ethanol is fine for your vehicle.

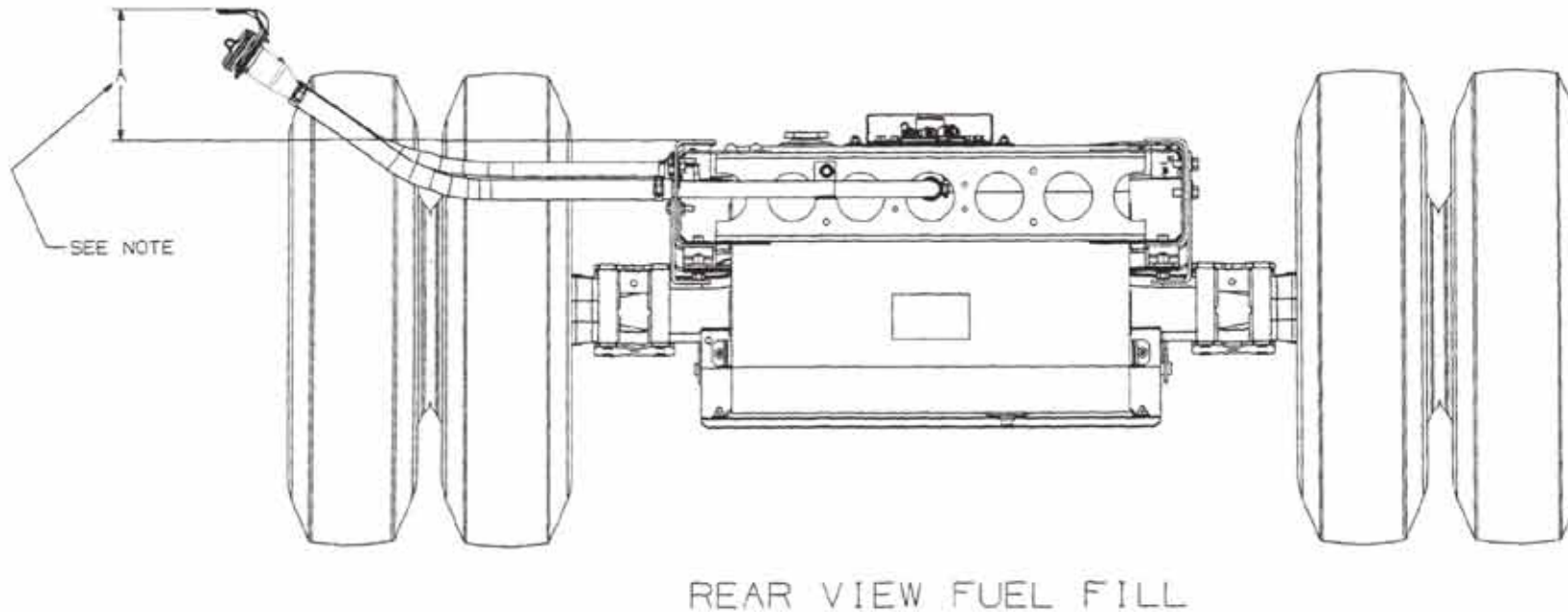
NOTICE: Fuel that is 15% Ethanol is not suitable for your vehicle. Fuel that is than 85% Ethanol is not suitable for your vehicle. Methanol is methyl or wood alcohol.

NOTICE: Fuel that is more than 5% methanol is bad for your vehicle. And even at 5% or less, there must be "co-solvents" and corrosion preventives in this fuel to help avoid damage to the fuel system from methanol.

2017 Chevrolet Low Cab Forward

PAGE 7.23

Rear View Fuel Fill



Dimension A = 6.85-8.85 inches (174-216 mm)

Figure 7.23.1

2017 Chevrolet Low Cab Forward

PAGE 7.24

Top View Fuel Fill

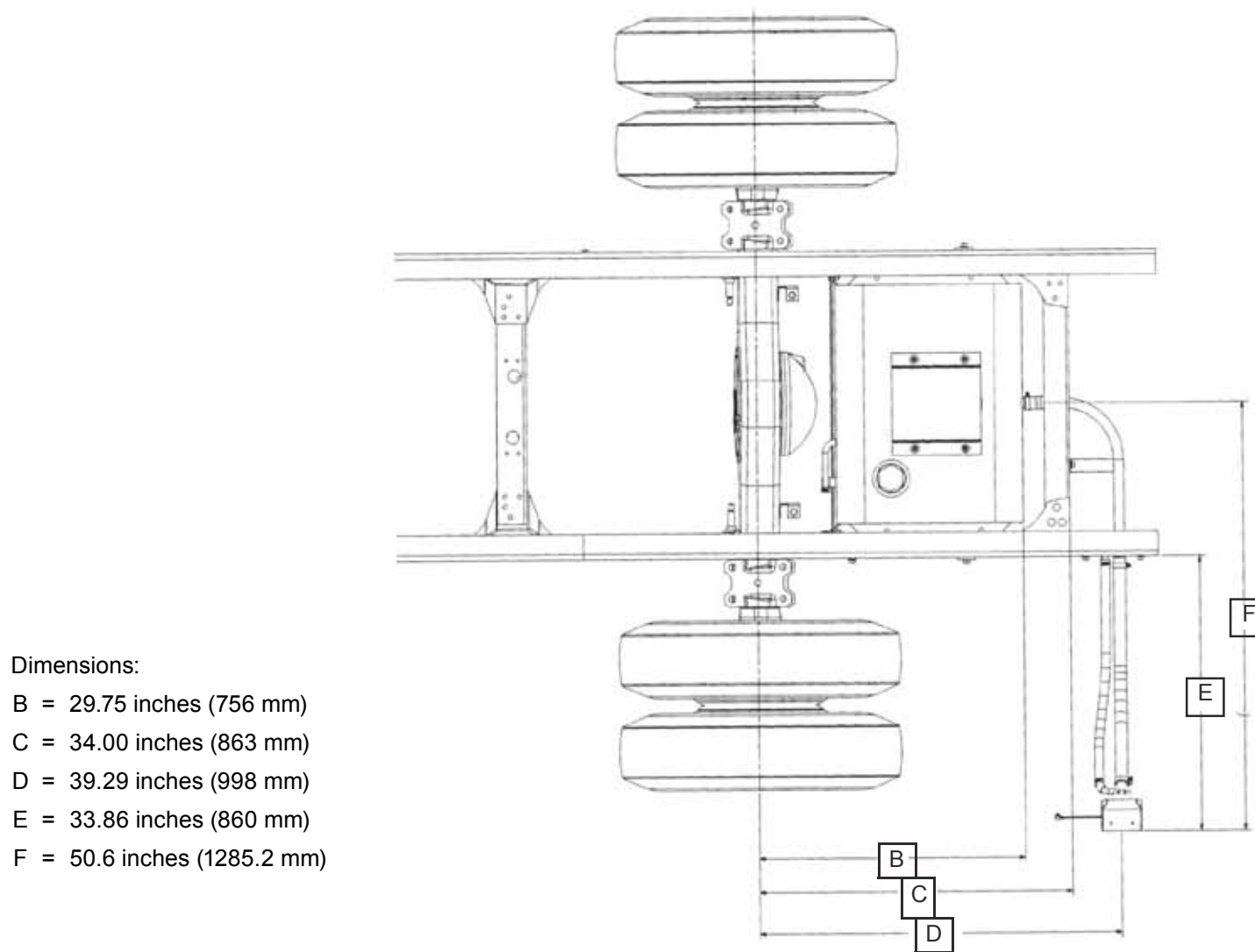


Figure 7.24.1

2017 Chevrolet Low Cab Forward

PAGE 7.25

Through the Rail Fuel Fill Frame Hole

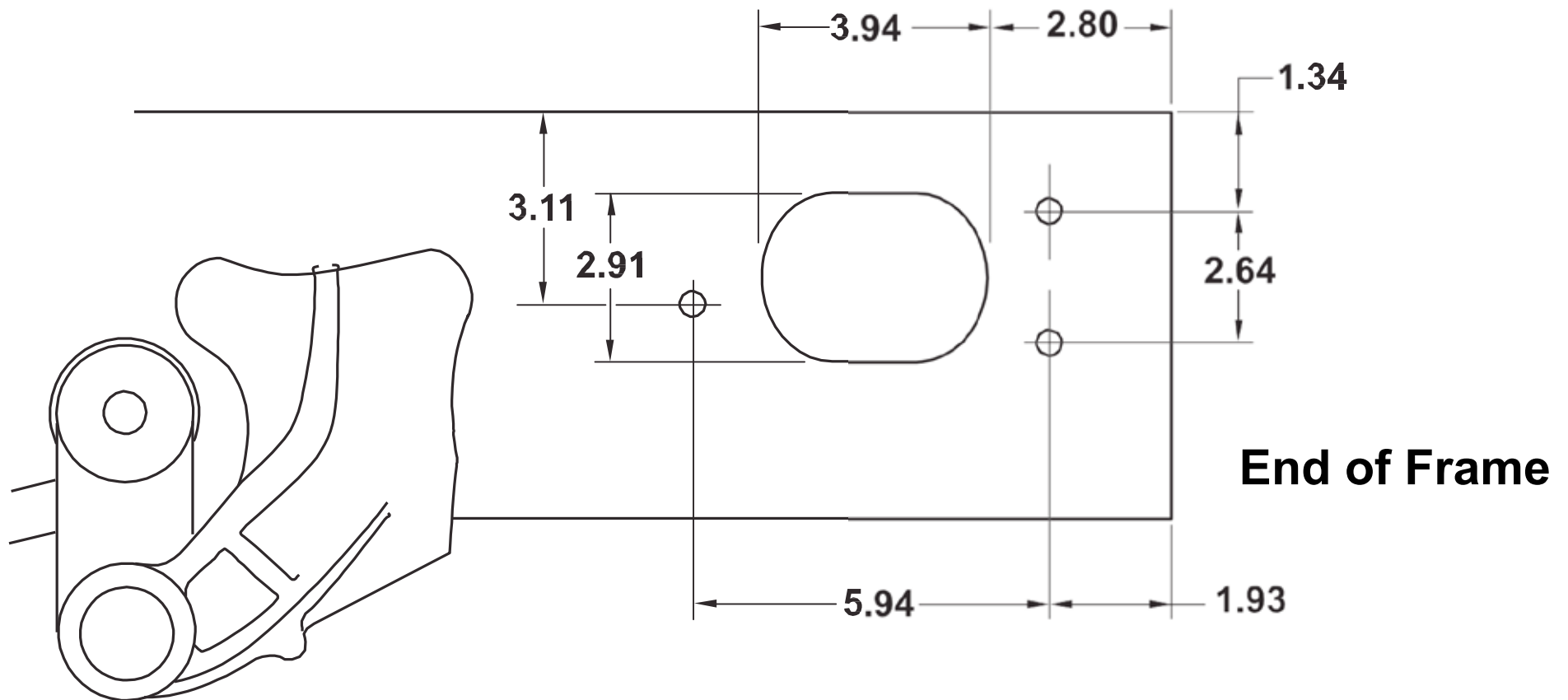


Figure 7.25.1

Dimensions in inches

Fuel Fill Parts Illustration

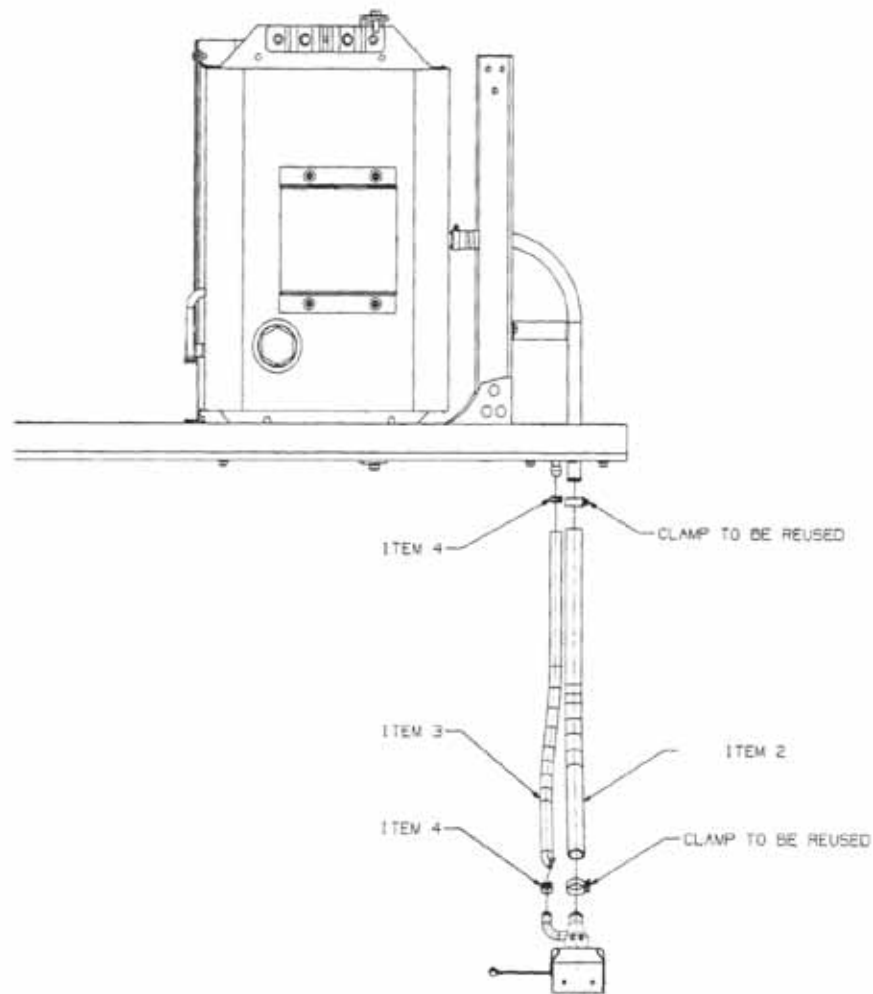


Figure 7.26.1

2017 Chevrolet Low Cab Forward

Fuel Fill Parts List

| Number | Description | Part Number – GM | Quantity |
|--------|--------------------|------------------|----------|
| 1 | | | |
| 2 | Hose, Fuel Filler | 97378537 | 1 |
| 3 | Hose, Breather | 97378536 | 1 |
| 4 | Clamp, Rubber Hose | 15699825 | 2 |

Figure 7.27.1

2017 Chevrolet Low Cab Forward

3500, 4500 Crew Cab Gas Specifications

| Model | 3500 GAS | 4500 GAS |
|--------------------|--|--|
| GVWR | 12,000 lb | 14,500 lbs. |
| WB | 150 in, 176 in. | |
| Engine | GMPT 8-cylinder, V Block 4-cycle, OHV, water cooled, Sequential Port Fuel Injection | |
| Model/Displacement | GMPT-V8/365 CID (6.0 liters) | |
| HP (Gross) | 297 HP @ 4300 rpm | |
| Torque (Gross) | 372 lb-ft torque @ 4000 rpm | |
| Equipment | Sequential Port Fuel Injection (SFI), mass air flow meter, powertrain control module (PCM), onboard diagnostics, oxygen sensors, catalytic convertor, map sensor, with external oil cooler, engine cruise control and High Idle Mode. | |
| Transmission | 6L90 Hydra-Matic 6-speed automatic with lock-up converter and overdrive. No PTO opening | |
| Steering | Integral power steering 18.8-20.9:1 ratio. Tilt and telescoping steering column. | |
| Front Axle | Reverse Elliot "I"-Beam rated at 6,380 lbs. | |
| Suspension | Semi-elliptical steel alloy tapered leaf springs with stabilizer bar and shock absorbers. | |
| GAWR | 4,860 lbs. | 6,630 lbs. |
| Rear Axle | Full-floating single speed with hypoid gearing rated at 11,020 lb. | |
| Suspension | Semi-elliptical steel alloy multi-leaf springs and shock absorbers. | |
| GAWR | 8,840 lbs. | 11,020 lbs. |
| Wheels | 16 x 6.0 | 6-hole disc wheels, painted white. 19.5 x 6.0 |
| Tires | 215/85R-16E (10 ply) LRR (Low Rolling Resistance) tubeless steel belted radial, all season, front and rear | 215/85R-16E (10 ply) LRR (Low Rolling Resistance) tubeless steel belted radial, all season, front and rear |
| Brakes | Dual circuit vacuum assisted hydraulic service brakes with EBD (Electronic Brake Distribution) system for load proportioning of the brake system front disc and self-adjust outboard mounted drum rear. The parking brake is a mechanical, cable actuated, internal expanding drum type, transmission mounted. 4 channel anti-lock brake system. | |
| Fuel Tank | 30 gal. rectangular steel fuel tank. Mounted between the frame rails with electric type fuel pump (mounted in tank). Through the rail fuel fill. | |
| Frame | Ladder type channel section straight frame rail 33.5 inches wide through the total length of the frame. Yield strength 44,000 psi, section modulus 7.20 in ³ , RBM 316,800. | |
| Cab | All-steel, low cab forward BBC 109.9 in. All-steel, low cab forward 7 passenger, BBC 109.9 in. | |
| Equipment | TRICOT cloth covered high back driver's seat with two-occupant passenger seat. Four passenger rear bench seat. Dual cab mounted exterior mirrors with integral convex mirror. | |
| Electrical | Tilt and telescoping steering column. Power windows and door locks, front floor mats, tinted glass. 12-volt, negative ground, dual maintenance free batteries, 750 CCA each, 145-Amp alternator with integral regulator. | |
| Options | see page 8.3 for options | |

NOTE: These selected specifications are subject to change without notice.

2017 Chevrolet Low Cab Forward

Figure 8.2.1

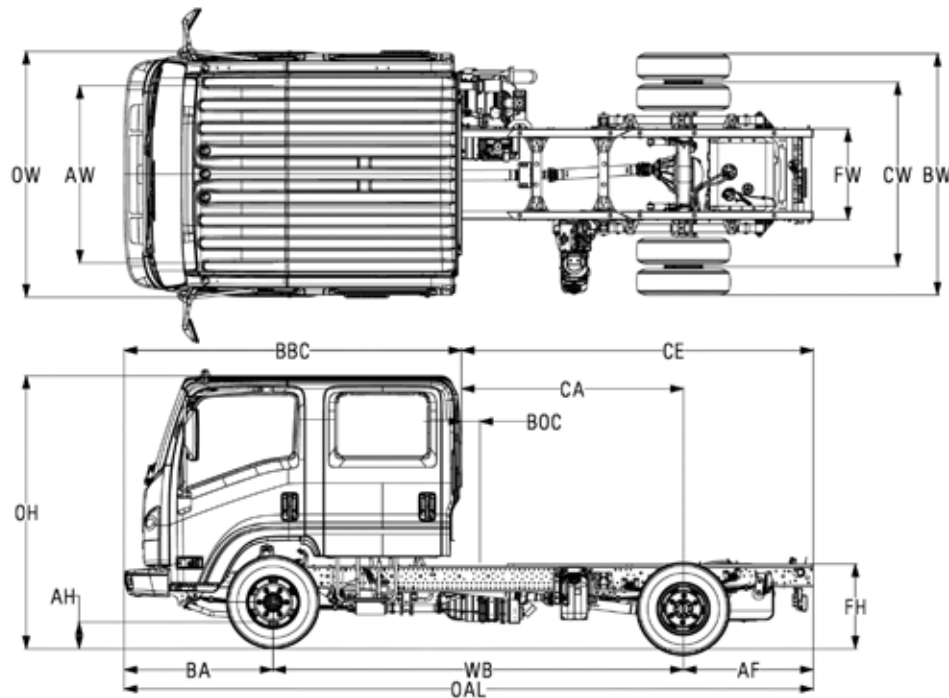


Figure 8.2.2

3500 Crew Cab Variable Chassis Dimensions

| Unit | WB | CA* | CE* | OAL | AF |
|------|-------|-------|-------|-------|------|
| Inch | 150.0 | 88.5 | 131.6 | 241.5 | 43.1 |
| Inch | 176.0 | 114.5 | 157.6 | 267.5 | 43.1 |

*Effective CA & CE are CA or CE less BOC

3500 Crew Cab Dimension Constants

| Code | Inches | Code | Inches |
|------|--------|------|--------|
| AH | 7.5 | BW | 84.1 |
| AW | 65.6 | CW | 65.0 |
| BA | 48.4 | FW | 33.5 |
| BBC | 109.9 | OH | 90.0 |
| BOC | 5.0 | OW | 81.3 |
| FH | 31.8 | | |

3500 Crew Cab In-Frame Tank

12,000-lb Automatic Transmission Model Chassis Cab and Maximum Payload Weights

| Model | WB | RPO | Unit | Front | Rear | Total | Payload |
|--------|-----|-----|------|-------|------|-------|---------|
| P13043 | 150 | FWH | Lbs. | 3781 | 1911 | 5692 | 6308 |
| P14043 | 176 | FNW | Lbs. | 3838 | 1916 | 5754 | 6246 |

4500 Crew Cab Variable Chassis Dimensions

| Unit | WB | CA* | CE* | OAL | AF |
|------|-------|-------|-------|-------|------|
| Inch | 150.0 | 88.5 | 131.6 | 241.5 | 43.1 |
| Inch | 176.0 | 114.5 | 157.6 | 267.5 | 43.1 |

*Effective CA & CE are CA or CE less BOC

4500 Crew Cab Dimension Constants

| Code | Inches | Code | Inches |
|------|--------|------|--------|
| AH | 8.3 | BW | 84.1 |
| AW | 65.6 | CW | 65.0 |
| BA | 48.4 | FW | 33.5 |
| BBC | 109.9 | OH | 91.1 |
| BOC | 5.0 | OW | 81.3 |
| FH | 33.0 | | |

4500 Crew Cab In-Frame Tank

14,500-lb. GVWR Automatic Transmission Model Model Chassis Cab and Maximum Payload Weights

| Model | WB | RPO | Unit | Front | Rear | Total | Payload |
|--------|-----|-----|------|-------|------|-------|---------|
| P33043 | 150 | FWH | Lbs. | 3909 | 2088 | 5997 | 8503 |
| P34043 | 176 | FNW | Lbs. | 3966 | 2092 | 6058 | 8442 |

2017 Chevrolet Low Cab Forward

Vehicle Weight Limits:

| | 3500 | 4500 |
|-----------------------|-------------|-------------|
| GVRW Designed Maximum | 12,000 lbs. | 14,500 lbs. |
| GAWR, Front | 4,860 lbs. | 6,630 lbs. |
| GAWR, Rear | 8,840 lbs. | 11,020 lbs. |

Technical Notes:

Chassis Curb Weight includes standard equipment and fuel. Does not include driver, passenger, payload, body or special equipment.

Maximum Payload Weight is the allowed maximum for equipment, body, payload, driver and passengers and is calculated by subtracting chassis curb weight from the GVWR.

| Weights for Options | | |
|---------------------|--|----------------------|
| | | 3500 Gas |
| RPO (1) | Option Description | Front / Rear Lbs. |
| 9C2 | 65 mph top speed limit (max cruise speed 60mph) | 0/0 |
| KO5 | Block Heater (cord) | 1 / 0 |
| UIZ | AM/FM/CD Radio with Ax input/USB port and Bluetooth | 0 / 0 |
| DB6 | Heated dual remote control mirrors (15" head) | 3 / 0 |
| MTE | Fire Extinguisher and Triangle Kit mounted in rear organizer | 19 / 0 |
| KPK | Engine Oil Pan Heater (120v 300w) | 2 / 0 |
| DB8 | Heated Mirrors | 1 / 0 |
| TBD | Mirror Bracket for 102" wide body | 1 / 0 |
| 9W8 | Seat covers crew cab | 9 / 2 |
| IX2 | Rear Body Dome Lamp Switch (6) | 1 / 0 |
| UL5 | Delete Standard AM/FM/CD Radio | —3/0 |
| UZF | Back up alarm | 0 / 2 |
| V22 | Chrome Grille | 1 / 0 |

(1) RPO is Regular Production Option that is stocked in Port inventory.

(2) LSD factory installed Limited Slip Differential

| Weights for Options | | |
|---------------------|--|----------------------|
| | | 4500 Gas |
| RPO (1) | Option Description | Front / Rear Lbs. |
| 9C2 | 65 mph top speed limit (max cruise speed 60mph) | 0/0 |
| KO5 | Block Heater (cord) | 1 / 0 |
| UIZ | AM/FM/CD Radio with Ax input/USB port and Bluetooth | 0 / 0 |
| DB6 | Heated dual remote control mirrors (15" head) | 3 / 0 |
| MTE | Fire Extinguisher and Triangle Kit mounted in rear organizer | 19 / 0 |
| KPK | Engine Oil Pan Heater (120v 300w) | 2 / 0 |
| DB8 | Heated Mirrors | 1 / 0 |
| TBD | Mirror Bracket for 102" wide body | 1 / 0 |
| 9W8 | Seat covers crew cab | 9 / 2 |
| IX2 | Rear Body Dome Lamp Switch (6) | 1 / 0 |
| UL5 | Delete Standard AM/FM/CD Radio | —3/0 |
| UZF | Back up alarm | 0 / 2 |
| V22 | Chrome Grille | 1 / 0 |

(1) RPO is Regular Production Option that is stocked in Port inventory.

(2) LSD factory installed Limited Slip Differential

2017 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

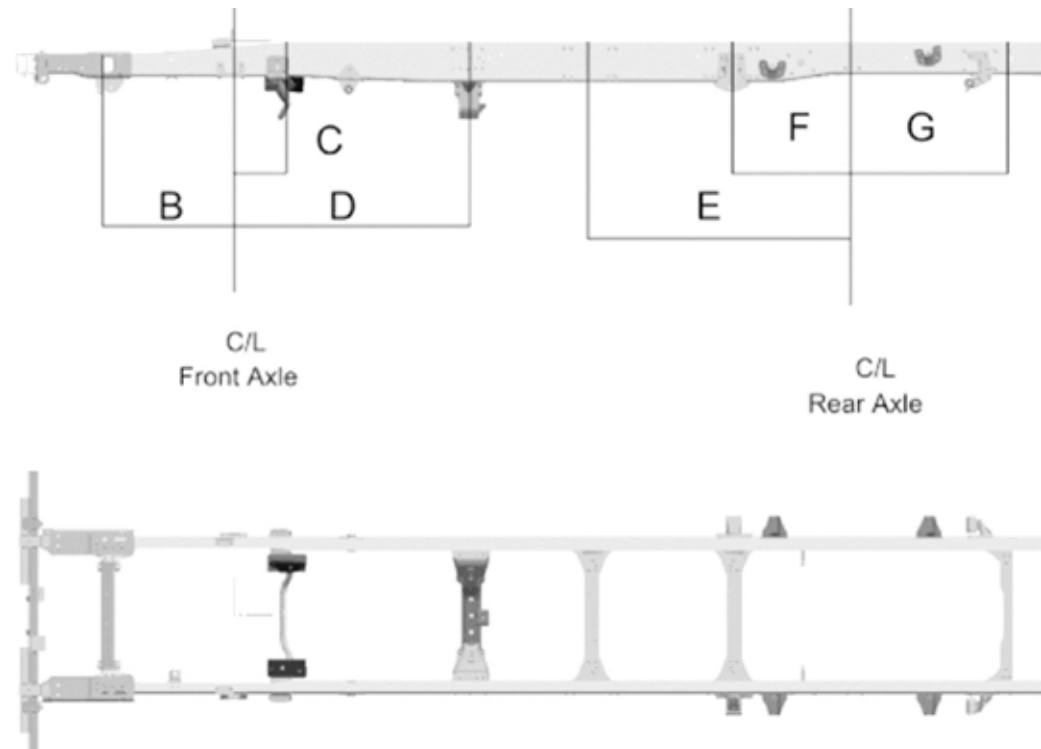


Figure 8.4.1

| Wheelbase | Frame Thick | Crossmember Type/Location | | | | | |
|-----------|-------------|---------------------------|-------|---------|---------|---------|---------|
| | | B | C-A/T | D-A/T | E | F | G |
| 150.0 | 0.24 | 28.3 | 7.9 | AA 51.5 | BB 57.9 | CC 24.2 | DD 33.8 |
| 176.0 | 0.24 | 28.3 | 7.9 | AA 51.5 | BB 74.4 | CC 24.2 | DD 33.8 |

A/T = Automatic Transmission

Figure 8.4.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Frame Chart

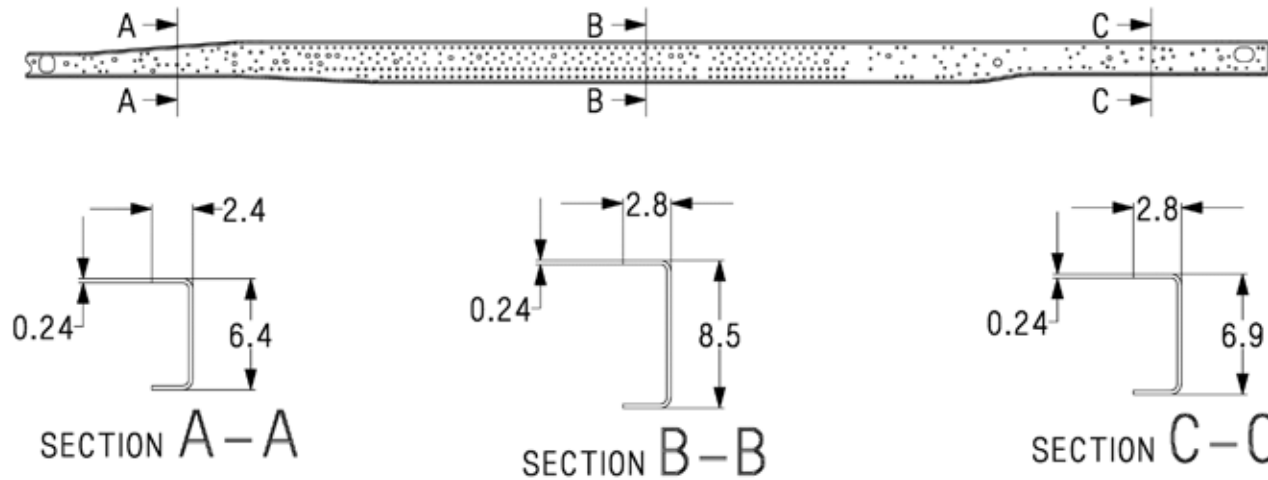


Figure 8.5.1

| Wheelbase | Frame FL | Frame Thickness |
|-----------|----------|-----------------|
| 150.0 | 223.8 | 0.24 |
| 176.0 | 249.8 | 0.24 |

Figure 8.5.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Auxiliary Views 176"

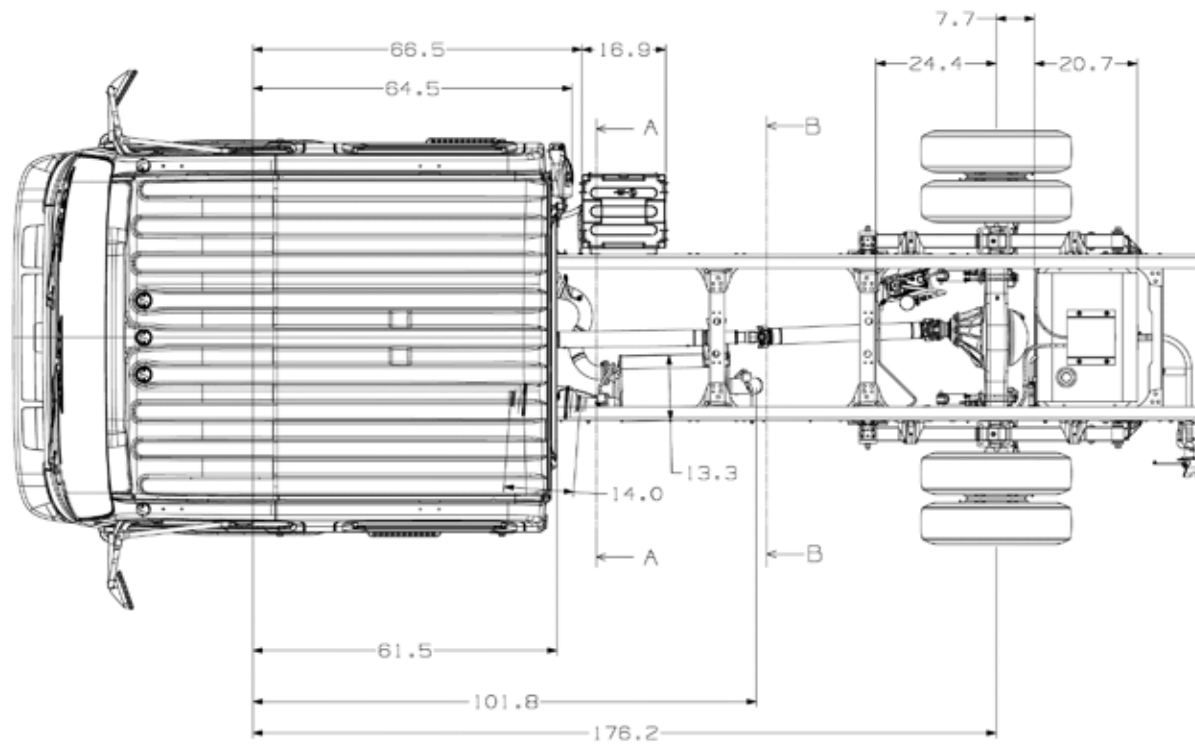
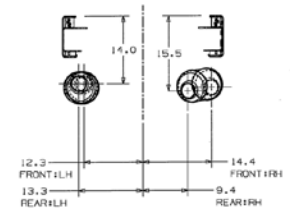
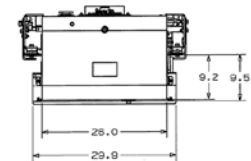
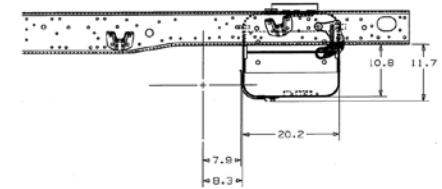
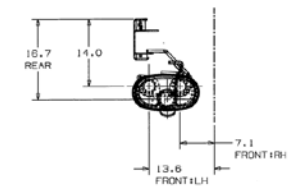


Figure 8.6.1



SECTION A-A



SECTION B-B

Dimensions in inches

2017 Chevrolet Low Cab Forward

Chassis Dimensions

| Dimensions | | | |
|------------|-------|-------|-------|
| A | B | C | D |
| WB | CA | CE | OAL |
| 150.0 | 88.5 | 131.6 | 241.5 |
| 176.0 | 114.5 | 157.6 | 267.5 |

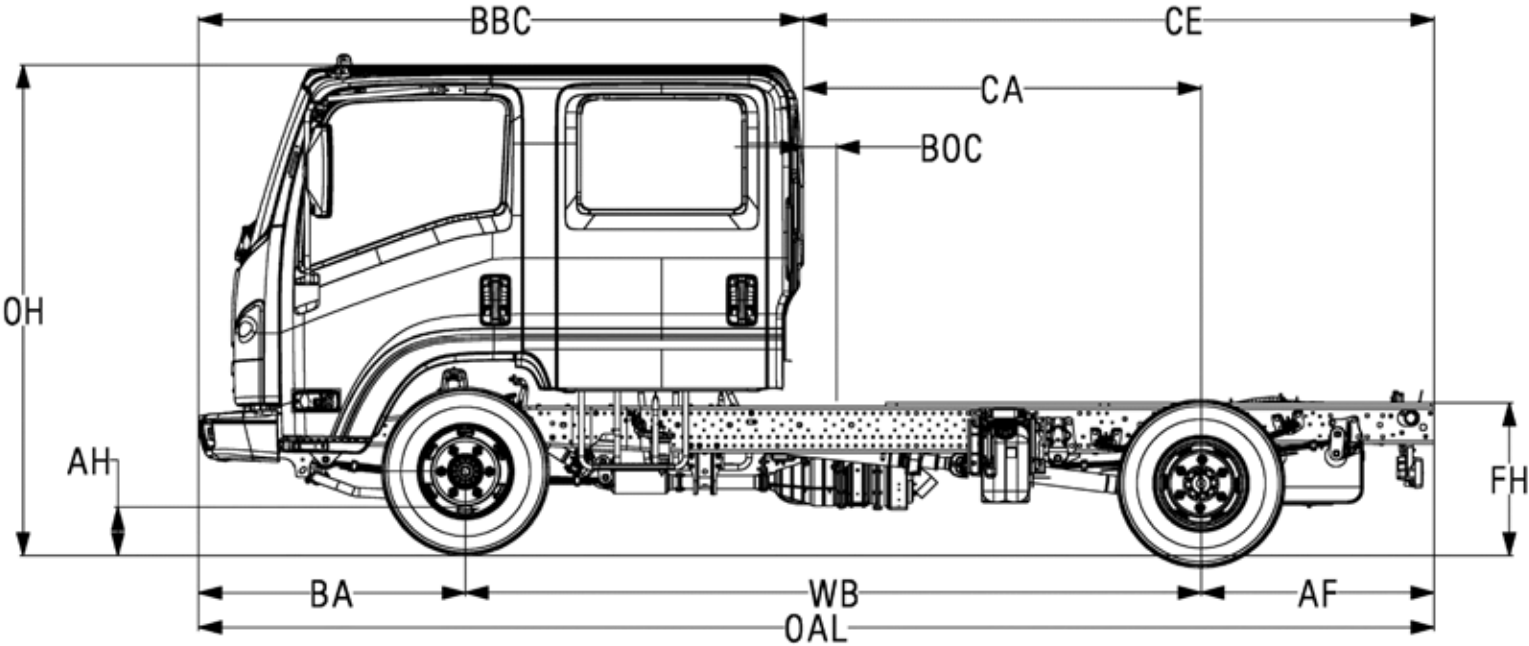


Figure 8.7.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

PAGE 8.8

Chassis Dimensions

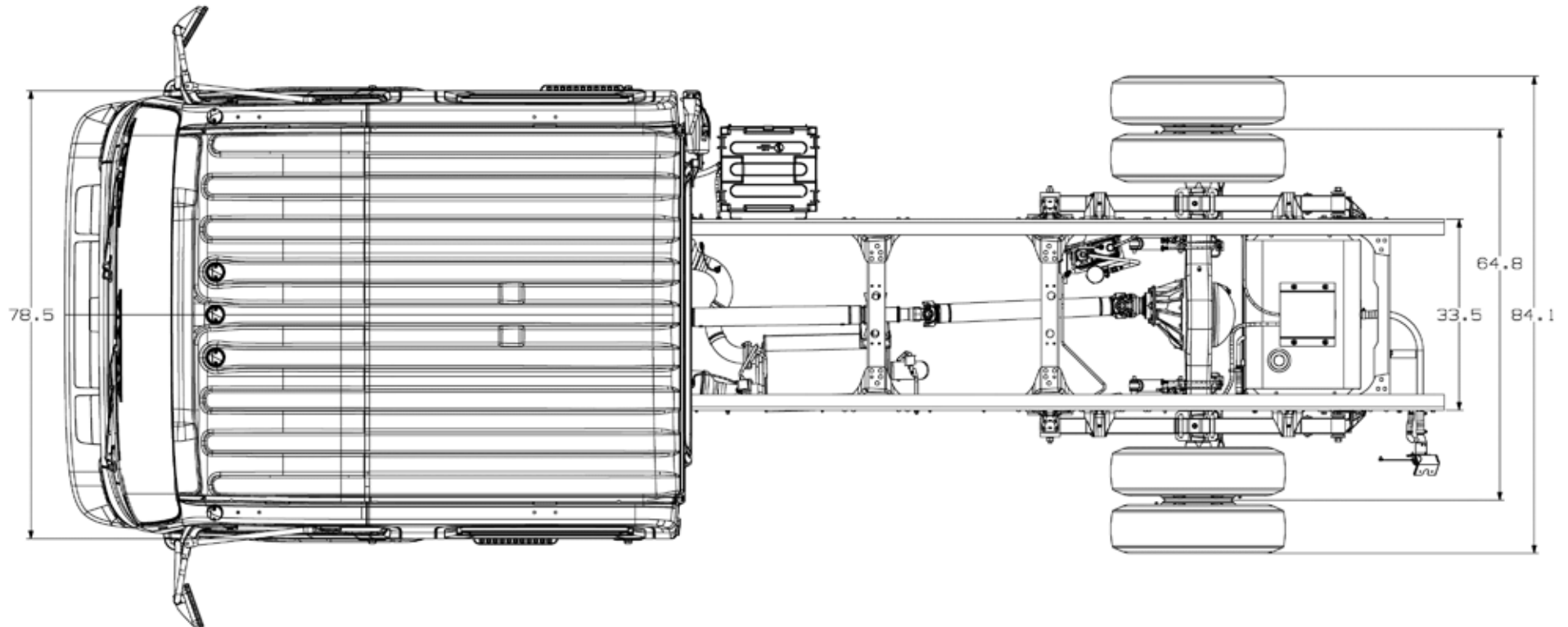


Figure 8.8.1

Dimensions in inches

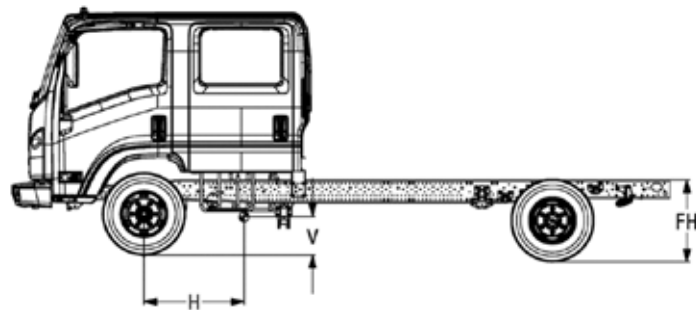
2017 Chevrolet Low Cab Forward

Center of Gravity

3500 GAS CREW CAB

| GVWR | WB | V | H Auto. Trans. IN FRAME TANK |
|--------|-----|------|---------------------------------|
| | | | |
| 12,000 | 150 | 25.9 | 50.9 |
| | 176 | 28.8 | 58.7 |

Figure 8.9.1



V = Vertical Center of Gravity
H = Horizontal Center of Gravity

The maximum vertical center of gravity must not be exceeded at maximum GVWR and rated front and rear GAWR. The center of gravity maximum is 63" (1600mm) above the ground. The horizontal center of gravity must be located between the front and rear axles.

NOTE: The maximum dimensions for a body installed on the LCF Gas are 102 inches wide (outside) with 102" wide mirror brackets installed and 91 inches high (inside). Any larger body applications must be approved by GM Upfitter Engineering. Contact us on www.gmupfitter.com.

Figure 8.9.2

Dimensions in inches

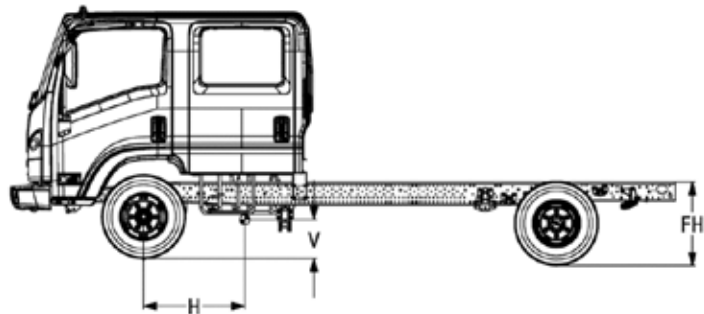
2017 Chevrolet Low Cab Forward

Center of Gravity

4500 GAS CREW CAB

| GVWR | WB | V | H Auto. Trans. IN FRAME TANK |
|--------|-----|------|---------------------------------|
| | | | |
| 14,500 | 150 | 26.9 | 53.4 |
| | 176 | 26.9 | 61.8 |

Figure 8.10.1



V = Vertical Center of Gravity
H = Horizontal Center of Gravity

The maximum vertical center of gravity must not be exceeded at maximum GVWR and rated front and rear GAWR. The center of gravity maximum is 63" (1600mm) above the ground. The horizontal center of gravity must be located between the front and rear axles.

NOTE: The maximum dimensions for a body installed on the LCF Gas are 102 inches wide (outside) with 102" wide mirror brackets installed and 91 inches high (inside). Any larger body applications must be approved by GM Upfitter Engineering. Contact us on www.gmupfitter.com.

Figure 8.10.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Front Axle Chart 3500

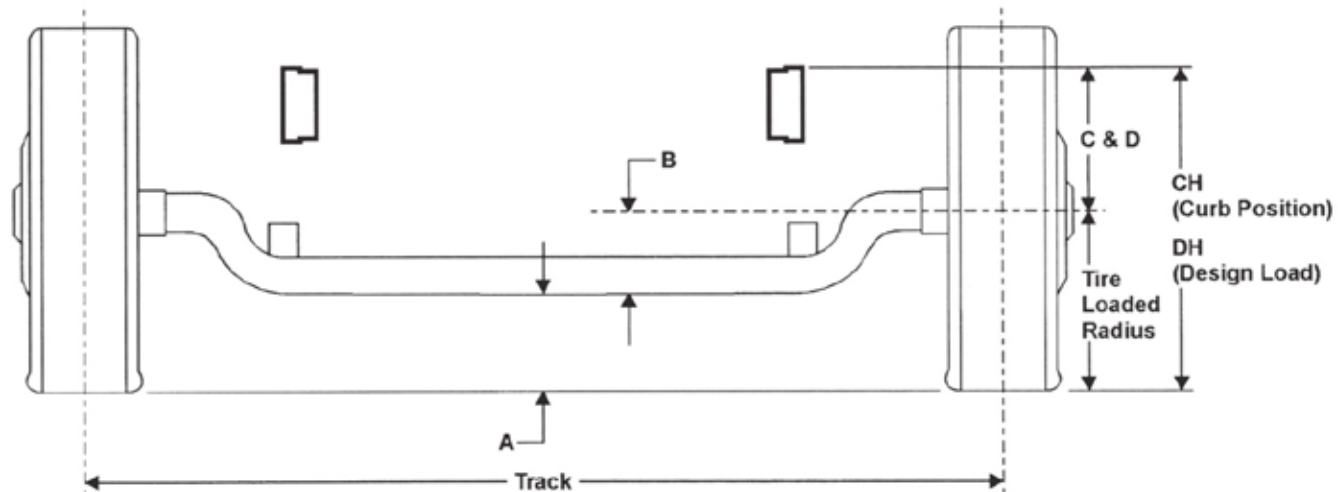


Figure 8.11.1

Formulas for calculating height dimensions:

- A = Tire Loaded Radius – B
- C = Centerline of Axle to Top of Frame Rail at Curb Position
- D = Centerline of Axle to Top of Frame Rail at Design Load
- CH = C + Tire Unloaded Radius
- DH = D + Tire Loaded Radius

| Tire | GVWR | GAWR | A | B | C | D | CH | DH | Track | Tire Radius | |
|--------------|-------------|------------|-----|-----|------|------|------|------|-------|-------------|------|
| | | | | | | | | | | Unload | Load |
| 215/85R 16-E | 12,000 lbs. | 4,860 lbs. | 7.5 | 6.6 | 12.9 | 12.2 | 27.5 | 26.3 | 65.5 | 14.6 | 14.1 |

Figure 8.11.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Front Axle Chart 4500

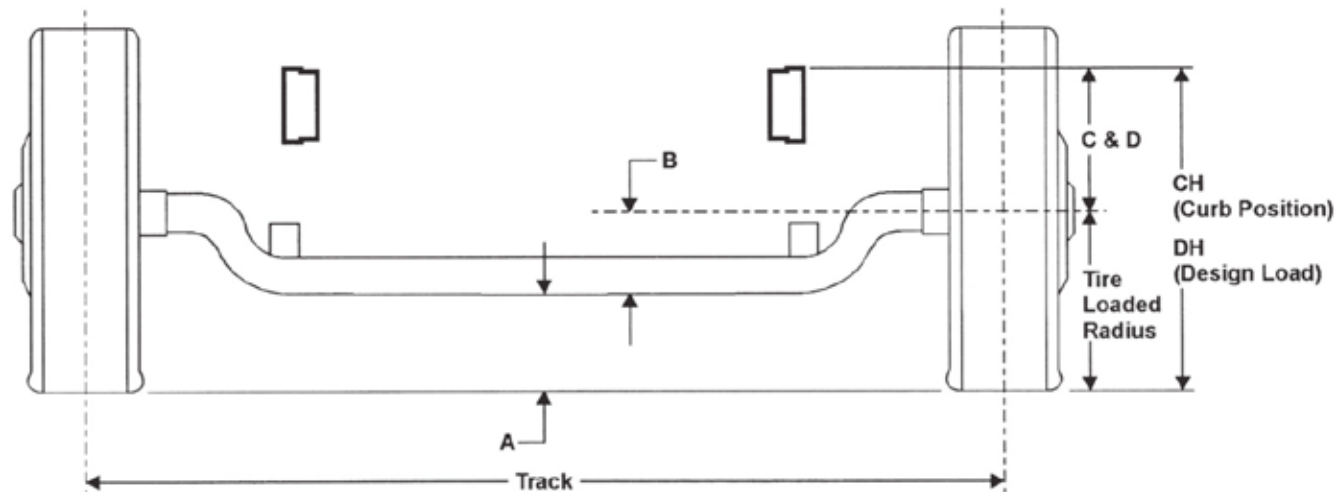


Figure 8.12.1

Formulas for calculating height dimensions:

- A = Tire Loaded Radius – B
- C = Centerline of Axle to Top of Frame Rail at Curb Position
- D = Centerline of Axle to Top of Frame Rail at Design Load
- CH = C + Tire Unloaded Radius
- DH = D + Tire Loaded Radius

| Tire | GVWR | GAWR | A | B | C | D | CH | DH | Track | Tire Radius | |
|--------------|-------------|------------|-----|-----|------|------|------|------|-------|-------------|-------|
| | | | | | | | | | | Unload | Load |
| 225/70R 19.5 | 14,500 lbs. | 6,630 lbs. | 8.3 | 6.6 | 13.0 | 11.5 | 29.0 | 26.4 | 65.5 | 16.0 | 14.93 |

Figure 8.12.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Rear Axle Chart 3500

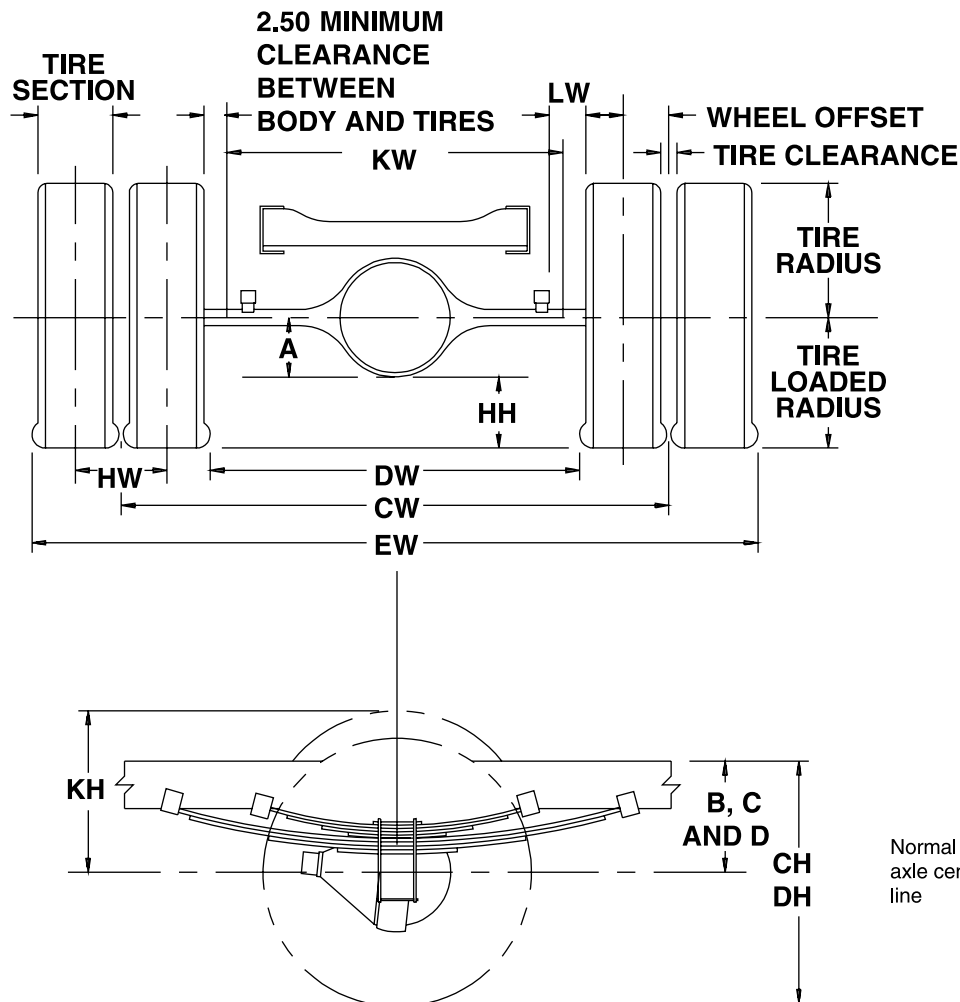
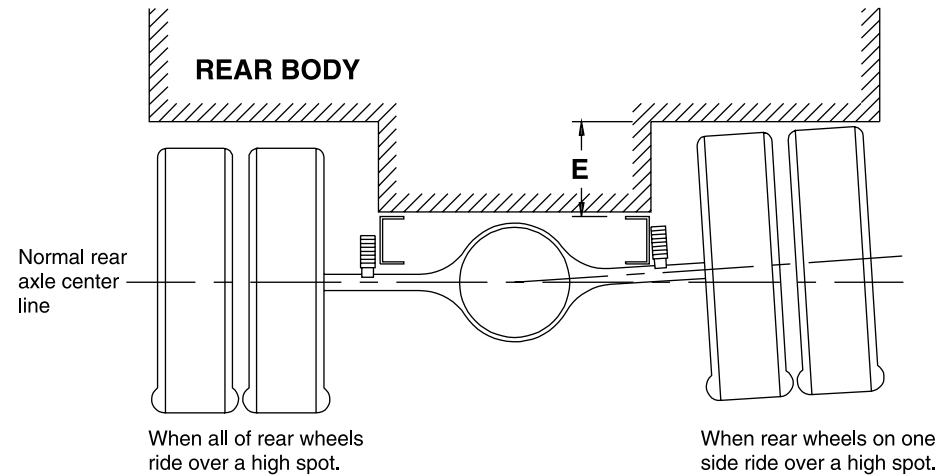


Figure 8.13.1



Dimensions in inches

2017 Chevrolet Low Cab Forward

| Definitions | | | |
|---|---|-----------------------|--|
| A | Centerline of axle to bottom of axle bowl. | DH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load. |
| B | Centerline of axle to top of frame rail at metal-to-metal position. | DW | Minimum distance between the inner surfaces of the rear tires. |
| C | Centerline of axle to top of frame rail at curb position. | EW | Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires. |
| D | Centerline of axle to top of frame rail at design load. | HH | Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line. |
| E | Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vehicle centerline of the rear axle, when rear wheels on one side ride over a high spot. | HW | Dual Tire Spacing: Distance between the centerlines of the minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot. |
| CH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position. | CW | Track Dual Rear Wheel Vehicle: Distance between the centerlines of the dual wheels measured at the ground-line. |
| Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance | | See Chart for values. | |

Figure 8.14.1

| Formulas for Calculating Rear Width and Height Dimensions | | | |
|---|--|----|---|
| CW | = Track | HH | = Tire loaded radius – A |
| CH | = Tire loaded radius + C | JH | = KH – B |
| DH | = Tire loaded radius + D | KH | = Tire radius + 3.00 inches |
| DW | = Track + 2 tire sections – tire clearance | KW | = DW – 5.00 inches |
| EW | = Track + 2 tire sections + tire clearance | LW | = 1.00-inch minimum clearance between tires and springs |

Figure 8.14.2

NOTE: Track and overall width may vary with optional equipment.

| Tire | GAWR | Track CW | A | B | C | D | E |
|--------------|------------|----------|-----|-----|------|------|-----|
| 215/85R 16-E | 8,840 lbs. | 65.0 | 6.5 | 9.3 | 15.4 | 13.0 | 7.8 |

Figure 8.14.3

Dimensions in inches

2017 Chevrolet Low Cab Forward

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Rear Axle Chart 4500

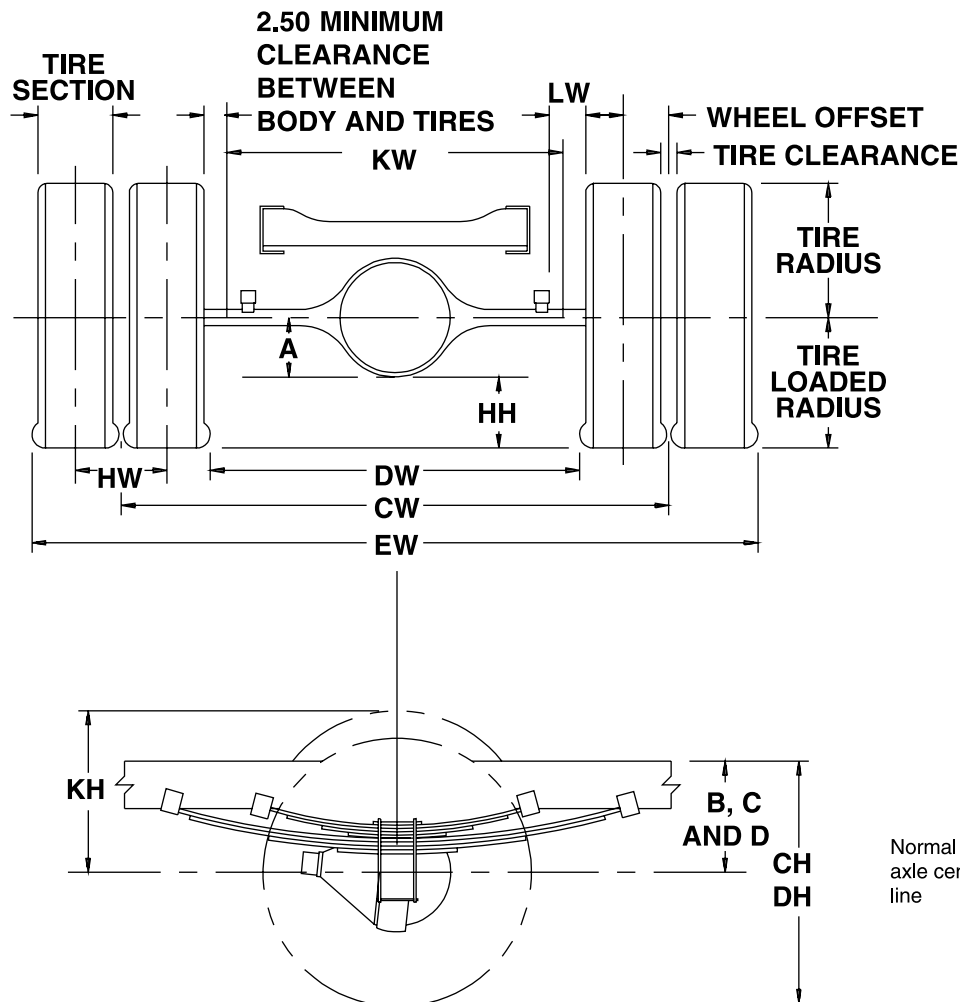
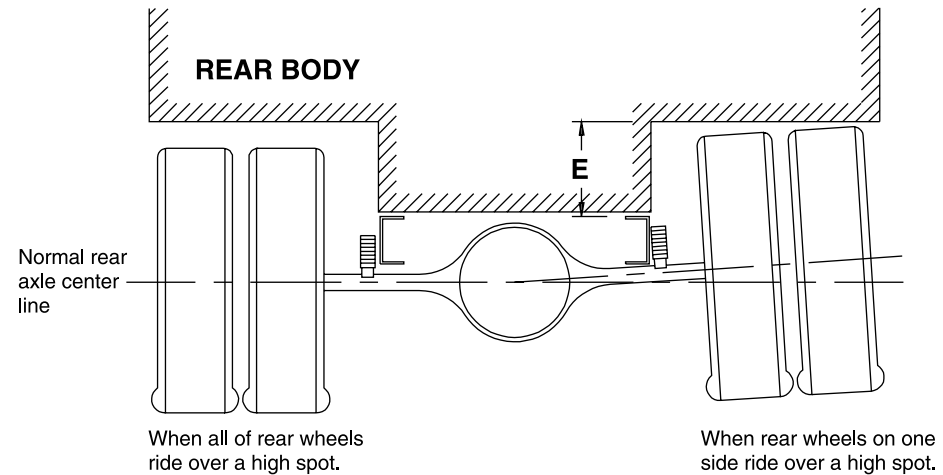


Figure 8.15.1



Dimensions in inches

2017 Chevrolet Low Cab Forward

| Definitions | | | |
|---|---|-----------------------|--|
| A | Centerline of axle to bottom of axle bowl. | DH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load. |
| B | Centerline of axle to top of frame rail at metal-to-metal position. | DW | Minimum distance between the inner surfaces of the rear tires. |
| C | Centerline of axle to top of frame rail at curb position. | EW | Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires. |
| D | Centerline of axle to top of frame rail at design load. | HH | Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line. |
| E | Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vehicle centerline of the rear axle, when rear wheels on one side ride over a high spot. | HW | Dual Tire Spacing: Distance between the centerlines of the minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot. |
| CH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position. | CW | Track Dual Rear Wheel Vehicle: Distance between the centerlines of the dual wheels measured at the ground-line. |
| Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance | | See Chart for values. | |

Figure 8.16.1

| Formulas for Calculating Rear Width and Height Dimensions | | | |
|---|--|----|---|
| CW | = Track | HH | = Tire loaded radius – A |
| CH | = Tire loaded radius + C | JH | = KH – B |
| DH | = Tire loaded radius + D | KH | = Tire radius + 3.00 inches |
| DW | = Track + 2 tire sections – tire clearance | KW | = DW – 5.00 inches |
| EW | = Track + 2 tire sections + tire clearance | LW | = 1.00-inch minimum clearance between tires and springs |

Figure 8.16.2

NOTE: Track and overall width may vary with optional equipment.

| Tire | GAWR | Track CW | A | B | C | D | E |
|----------------|-------------|----------|-----|-----|------|------|-----|
| 225/70R 19.5 G | 11,020 lbs. | 65.0 | 7.7 | 9.3 | 15.6 | 13.4 | 8.4 |

Figure 8.16.3

Dimensions in inches

2017 Chevrolet Low Cab Forward

Suspension Deflection Charts – 3500, 4500

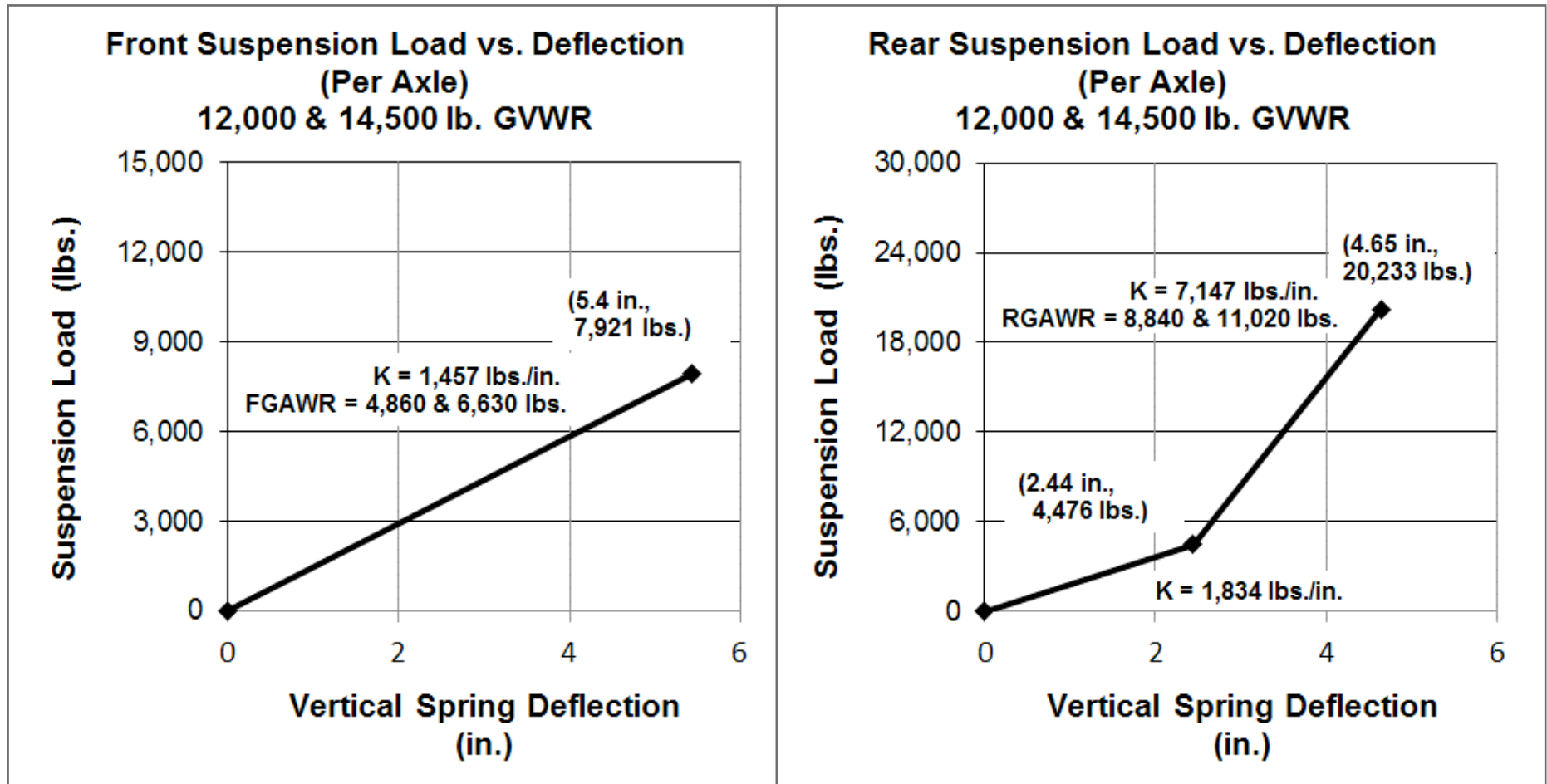


Figure 8.17.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

Tire and Disc Wheel Chart – 3500

Tire

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits | | GVWR(Lb.) |
|-------------|--|-----|-------|-----|--------------------------|--------|-----------|
| | Single | | Dual | | Front | Rear | |
| | Lb. | PSI | Lb. | PSI | 2 Single | 4 Dual | |
| 215/85R 16E | 2,430 | 70 | 2,210 | 70 | 4,860 | 8,840 | 12,000 |

Figure 8.18.1

| Tire Size | GVWR (Lb.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|-------------|------------|-------------|-------|----------|------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 215/85R 16E | 12,000 | 14.05 | 14.05 | 14.6 | 14.6 | 8.54 | 1.46 | 6.0 |

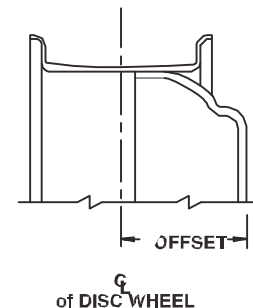
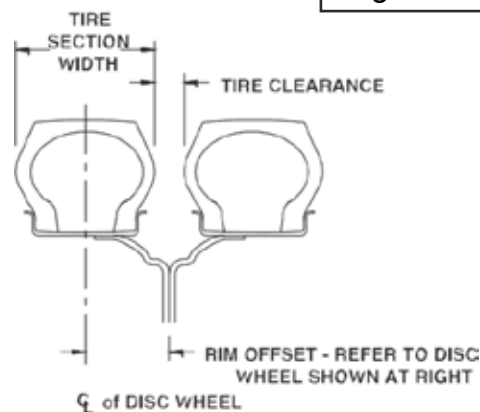
Figure 8.18.2

Disc Wheel

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|------------|------------|------------------|------------------------------|-----------------------------|-------------------------|--------------|----------------|----------------|----------|---------------|
| 16.6 x 6 K | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 325 ft-lb. (440 N•m) | 6.46 | 5.0 | 0.35 | 5° DC | Steel TOPY |

*O.D. Wrench Sizes

Figure 8.18.3



Dimensions in inches

Figure 8.18.4

2017 Chevrolet Low Cab Forward

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Tire and Disc Wheel Chart – 4500

Tire

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits | | GVWR(Lb.) |
|----------------|--|-----|-------|-----|--------------------------|--------|-----------|
| | Single | | Dual | | Front | Rear | |
| | Lb. | PSI | Lb. | PSI | 2 Single | 4 Dual | |
| 225/70R 19.5 G | 3,315 | 85 | 3,115 | 85 | 6,630 | 12,460 | 14,500 |

Figure 8.19.1

| Tire Size | GVWR (Lb.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|----------------|------------|-------------|-------|----------|-------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 225/70R 19.5 G | 14,500 | 15.24 | 15.28 | 16.10 | 15.10 | 8.9 | 1.1 | 6.0 |

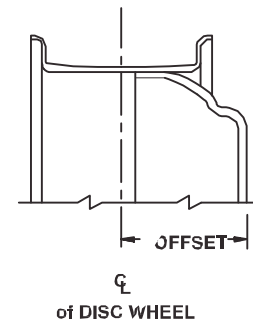
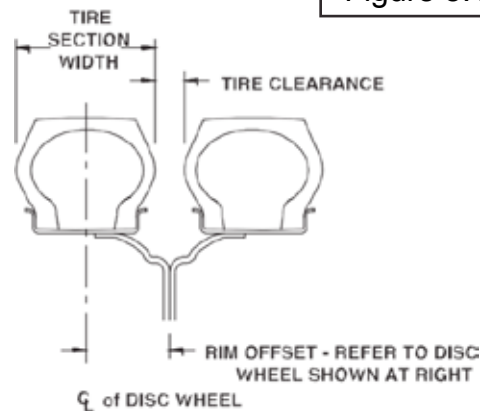
Figure 8.19.2

Disc Wheel

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|-------------|------------|------------------|------------------------------|-----------------------------|-------------------------|--------------|----------------|----------------|----------|---------------|
| 19.5 x 6.00 | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 325 ft-lb. (440 N•m) | 6.46 | 5.0 | 0.37 | 15° DC | Steel TOPY |

*O.D. Wrench Sizes

Figure 8.19.3



Dimensions in inches

Figure 8.19.4

2017 Chevrolet Low Cab Forward

3500, 4500 Crew Cab Propeller Shaft

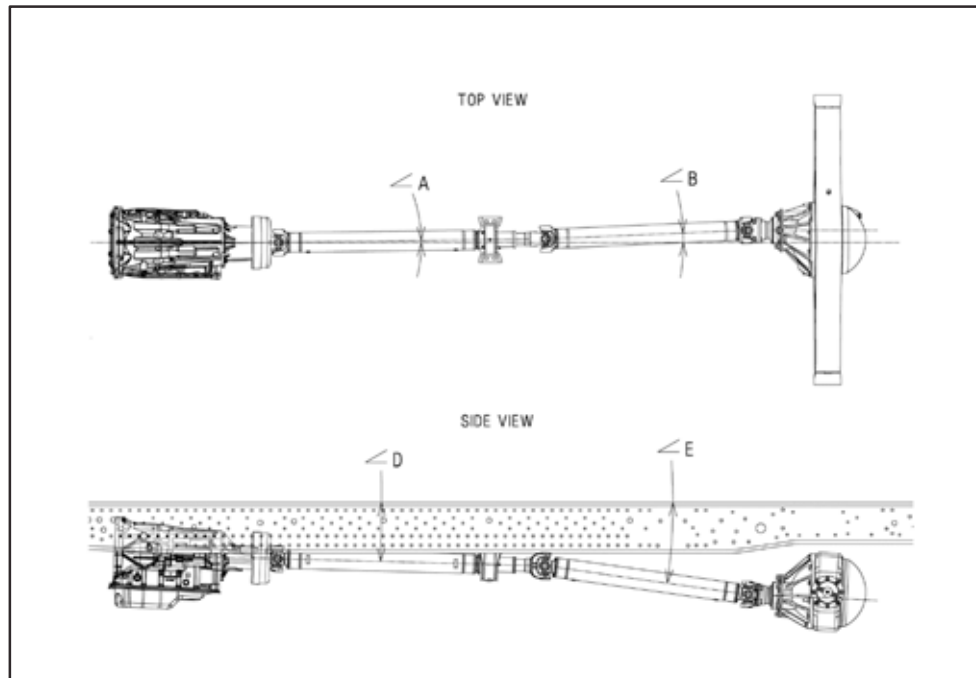


Figure 8.20.1

| Wheelbase (in.) | Top View | | Side View | | | |
|--------------------|----------|------|-----------|------|-------|-----------|
| | ∠A | ∠B | ∠D | ∠E | Trans | Rear Axle |
| 150 | 0.8° | 2.5° | 1.5° | 8.0° | 2.5° | 2.5° |
| 176 | 0.6° | 1.7° | 2.0° | 4.5° | 2.5° | 2.5° |

NOTE: 1. Angles provided in table are relative to the frame angle. Please take this into consideration for service measurements.
2. Driveline angles are based on the chassis curb weight which includes standard equipments, fuel but no driver, body, or payload.

2017 Chevrolet Low Cab Forward

3500, 4500 Crew Cab Propeller Shaft

| | | |
|------------------------|--------|--------|
| Wheelbase | 150 | 176 |
| No. of Shafts | 2 | 2 |
| Trans. Type | A/T | A/T |
| Shaft #1 O.D. (Inches) | 3.25 | 3.25 |
| Thickness (Inches) | 0.0906 | 0.0906 |
| L (Inches) | 35.47 | 46.1 |
| Type | B | B |
| Shaft #2 O.D. (Inches) | 3.25 | 3.25 |
| Thickness (Inches) | 0.0906 | 0.0906 |
| L (Inches) | 34.17 | 49.52 |
| Type | C | C |

Figure 8.21.1

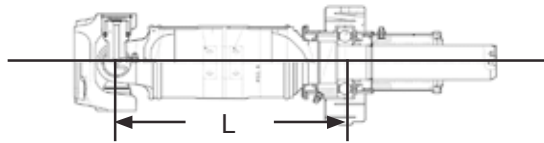
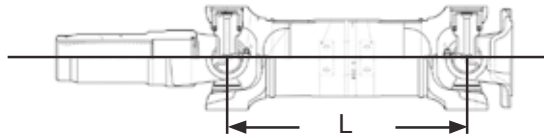
| Type | Description | Illustration |
|--------|--------------------------------|---|
| Type B | 1st shaft in 2-piece driveline |  |
| Type C | 2nd shaft in 2-piece driveline |  |

Figure 8.21.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Brake System Diagram 12,000 GVW

Vacuum Over Hydraulic

Please refer to introduction section of book for antilock system cautions and wheelbase modification requirements.

Legend for 3500, 3500HD, 4500, 4500HD, 4500XD Brake System

- (1) Electronic Hydraulic Control Unit (EHCU)
- (2) Rear Wheel Cylinder
- (3) Vacuum Pump
- (4) Check Valve
- (5) Exhaust Brake Valve
- (6) Magnetic Valve
- (7) Check Valve (One-way Valve)
- (8) Vacuum Tank
- (9) 4-Way Connector
- (10) With Metering Valve
- (11) W/O Metering Valve
- (12) Brake Fluid Reservoir
- (13) Electric Vacuum Pump
- (14) Master Cylinder
- (15) Vacuum Booster (Servo Unit)
- (16) Front Wheel Cylinder

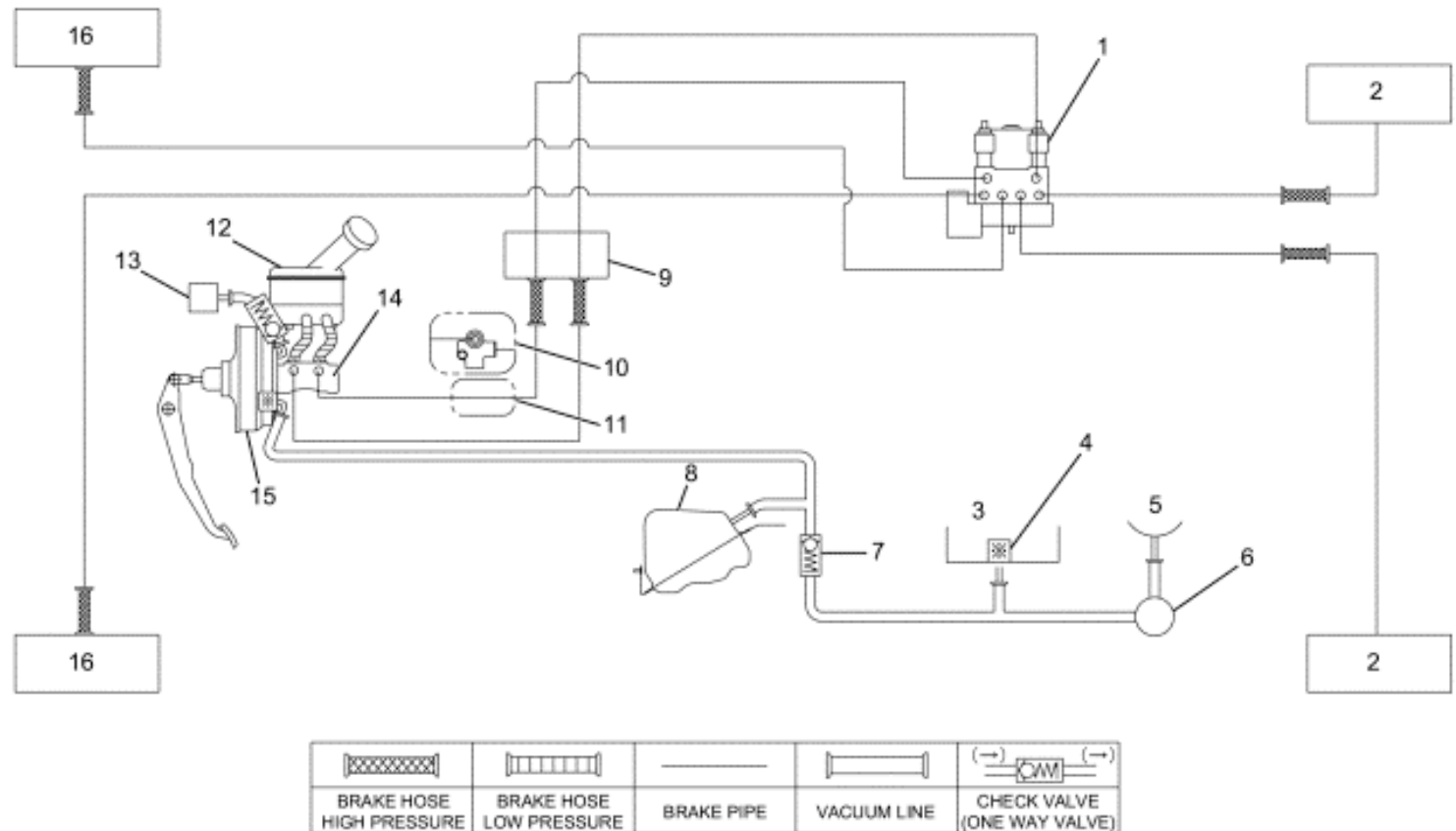


Figure 8.22.1

2017 Chevrolet Low Cab Forward

Brake System Diagram 14,500 GVW

Vacuum Over Hydraulic

Please refer to introduction section of book for antilock system cautions and wheelbase modification requirements.

Legend for 3500, 3500HD, 4500, 4500HD, 4500XD Brake System

- (1) Electronic Hydraulic Control Unit (EHCU)
- (2) Rear Wheel Cylinder
- (3) Vacuum Pump
- (4) Check Valve
- (5) Exhaust Brake Valve
- (6) Magnetic Valve
- (7) Check Valve (One-way Valve)
- (8) Vacuum Tank
- (9) 4-Way Connector
- (10) With Metering Valve
- (11) W/O Metering Valve
- (12) Brake Fluid Reservoir
- (13) Electric Vacuum Pump
- (14) Master Cylinder
- (15) Vacuum Booster (Servo Unit)
- (16) Front Wheel Cylinder

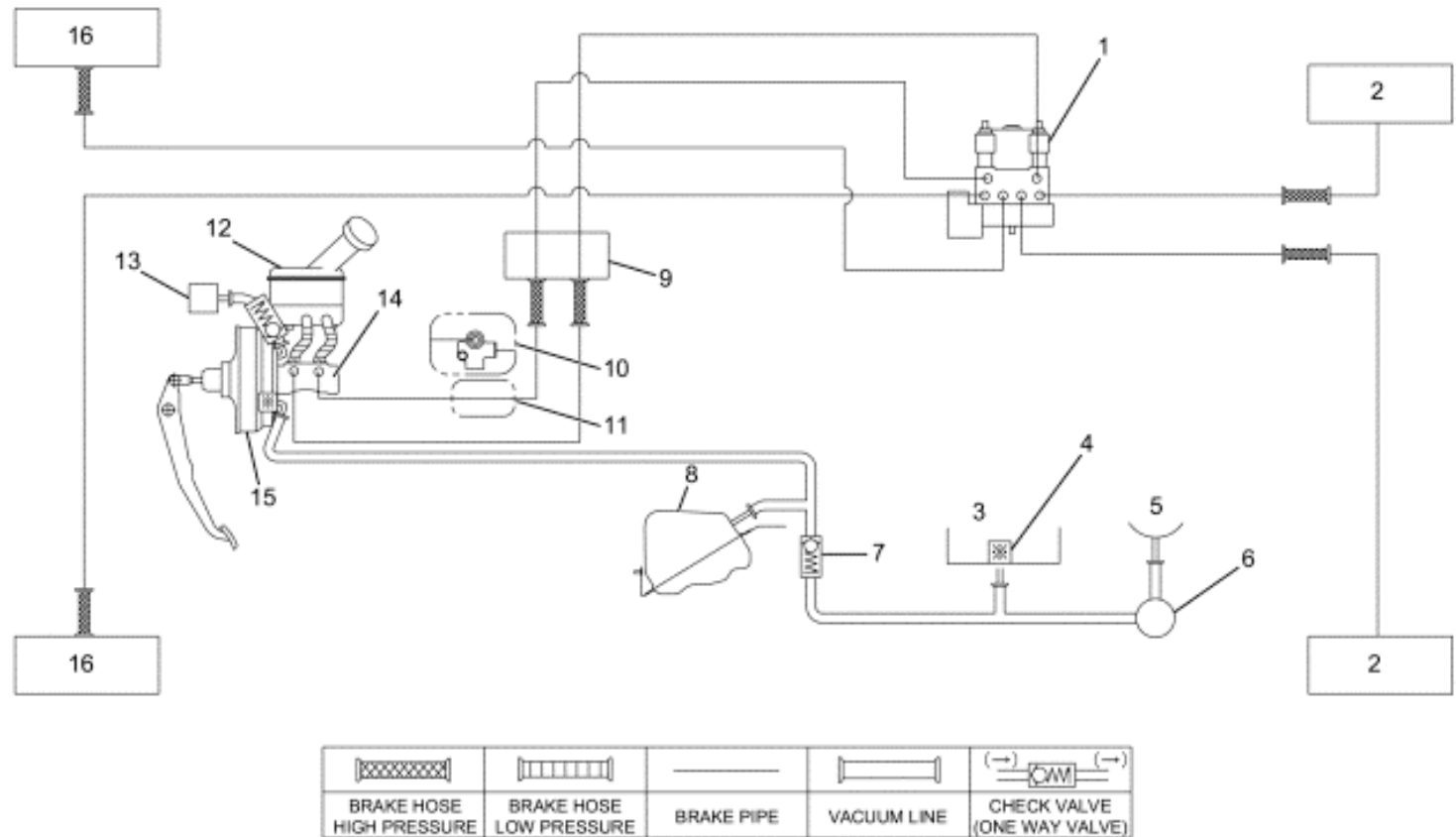


Figure 8.23.1

High Idle Mode

The high idle mode is the function that raises engine speed by operation of the driver when the vehicle is stationary. PIM performs the high idle mode control when the condition for operating is met. The PIM outputs the idle up command to the ECM and will blink the cruise control set indicator lamp during the high idle mode control.

Condition for Operating the High Idle Mode Control

The following conditions are met longer than 3 seconds:

- Engine is running.
- The selector lever is in “P” (Park) or “N” (Neutral) position.
- The accelerator pedal position is less than 25 percent.
- The brake switch is OFF.
- The cruise control main switch is ON.
- The cruise control set switch is ON.

Condition for Cancelling the High Idle Mode Control

Each of following conditions is met:

- Engine is stopped.
- The selector lever is in other than “P” (Park) or “N” (Neutral) position.
- The accelerator pedal position is 25 percent or more.
- The brake switch is ON.
- The cruise control main switch is OFF.
- The cruise control set switch is OFF.

2017 Chevrolet Low Cab Forward

Through the Rail Fuel Fill

Installation Instructions

1. Disconnect battery.
2. Remove the short filler hose and the short breather hose from the breather and fuel filler pipes and the filler neck bracket assembly.
3. Filler kit hoses are designed for the 102 inch wide body width. Modify the hoses as required to fit dimension "E" of the desired body width
4. Install flexible filler hose (item 2) to fuel filler pipe and filler neck bracket assembly using existing screw clamps.
5. Install flexible breather hose (item 3) to fuel breather pipe and filler neck bracket assembly using new clamps (item 4)
6. The filler neck must be mounted to allow the filler neck bracket to be parallel to the frame horizontal.
7. Filler neck (Dimension A) must be between 6.85 inches and 8.85 inches above frame.
8. Secure the filler plate to the bottom of the body and check for leaks.
9. Ensure that fill hose does not sag, creating an area where the fuel could pool in the fill hose.
10. Reconnect battery.

Fuel Type

Use regular unleaded gasoline rated at 87 octane or higher that meets specification ASTM D4814 in the U.S. Blended gasoline is suitable for use in the Chevrolet LCF 3500, 4500 Gas Chassis.

MTBE is "methyl tertiarybutylether." Fuel that is no more than 15%.

MTBE is fine for your vehicle.

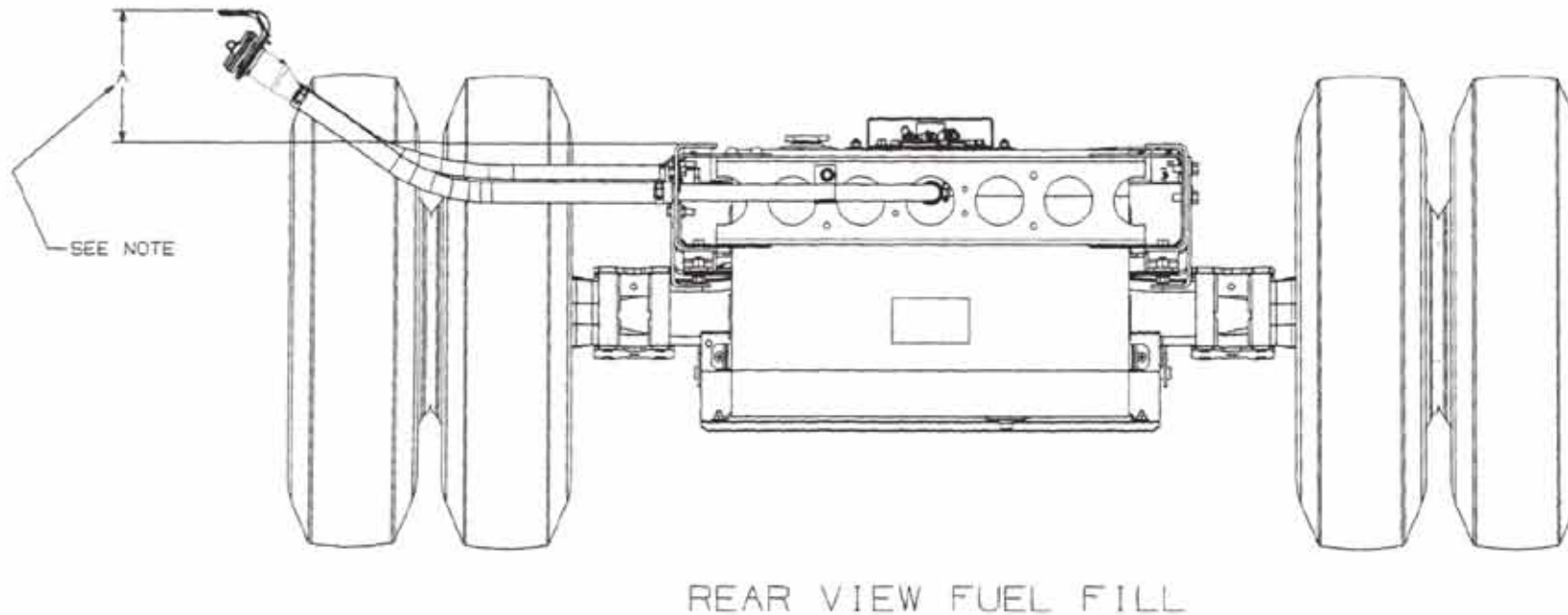
Ethanol is ethyl or grain alcohol. Properly-blended fuel that is no more than 10% ethanol is fine for your vehicle.

NOTICE: Fuel that is 15% Ethanol is not suitable for your vehicle. Fuel that is than 85% Ethanol is not suitable for your vehicle. Methanol is methyl or wood alcohol.

NOTICE: Fuel that is more than 5% methanol is bad for your vehicle. And even at 5% or less, there must be "co-solvents" and corrosion preventives in this fuel to help avoid damage to the fuel system from methanol.

2017 Chevrolet Low Cab Forward

Rear View Fuel Fill



Dimension A = 6.85-8.85 inches (174-216 mm)

Figure 8.26.1

2017 Chevrolet Low Cab Forward

PAGE 8.27

Top View Fuel Fill

Dimensions:

B = 29.75 inches (756 mm)

C = 34.00 inches (863 mm)

D = 39.29 inches (998 mm)

E = 33.86 inches (860 mm)

F = 59.60 inches (1,514 mm)

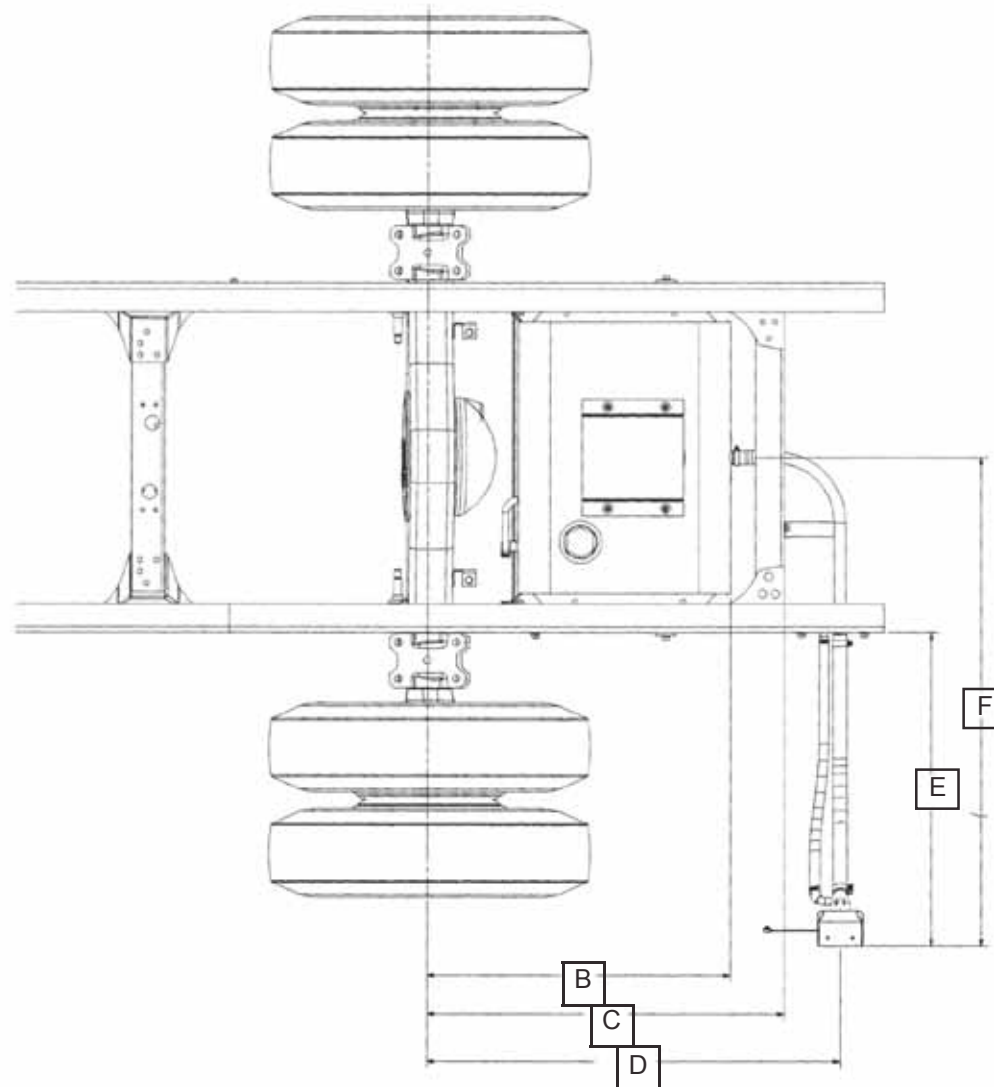


Figure 8.27.1

2017 Chevrolet Low Cab Forward

Through the Rail Fuel Fill Frame Hole

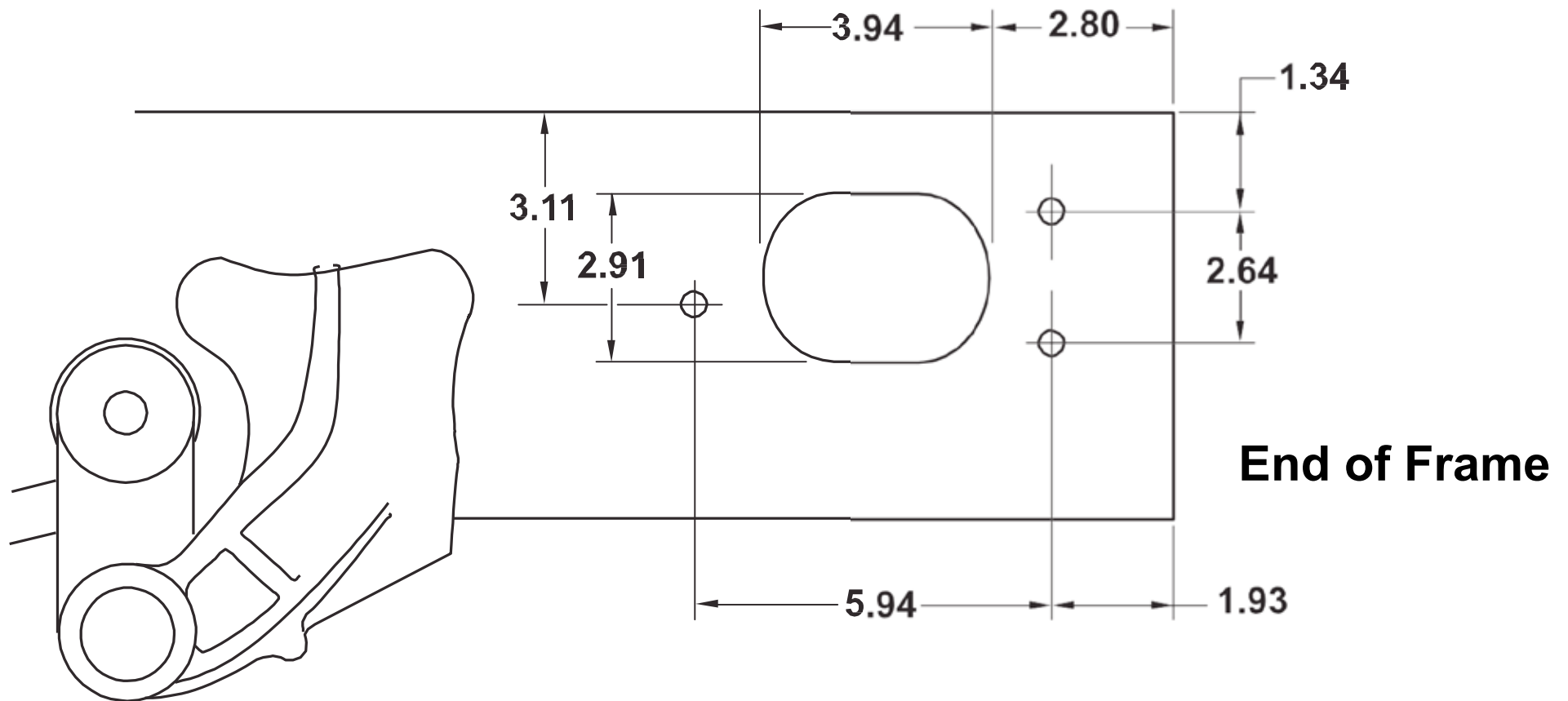


Figure 8.28.1

Dimensions in inches

Fuel Fill Parts Illustration

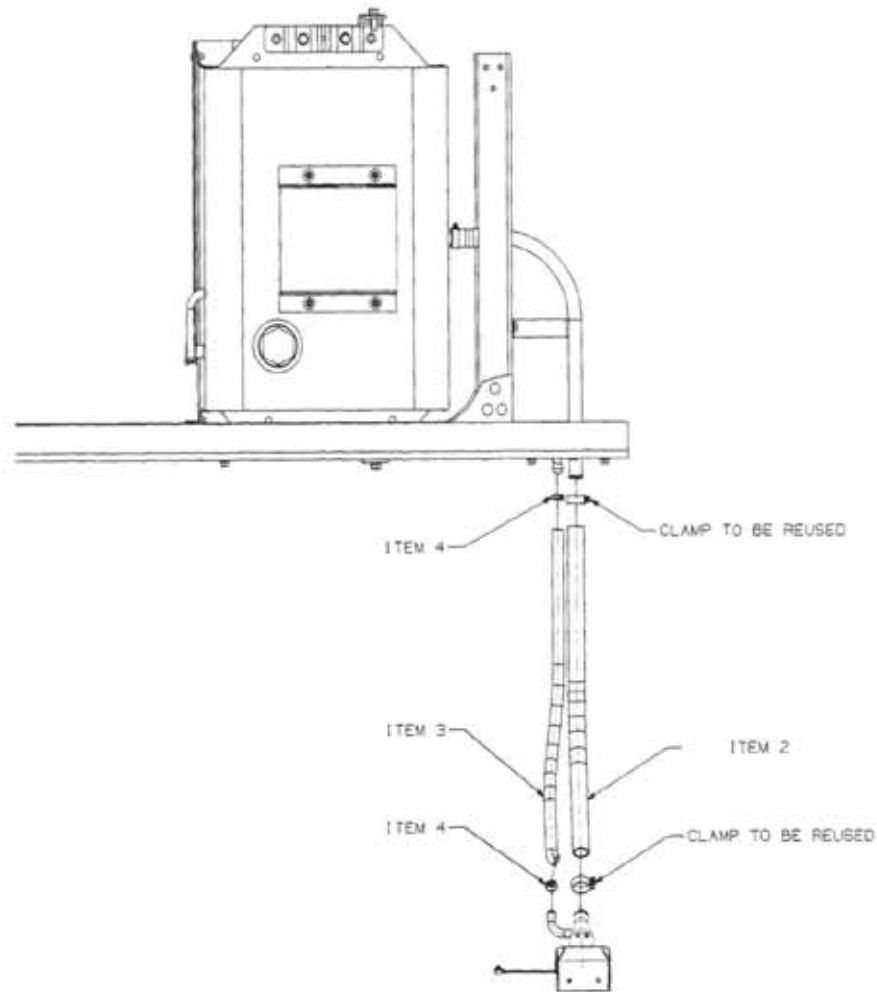


Figure 8.29.1

2017 Chevrolet Low Cab Forward

Fuel Fill Parts List

| Number | Description | Part Number – GM | Quantity |
|--------|--------------------|------------------|----------|
| | | PARTS | |
| 2 | Hose, Fuel Filler | 97378537 | 1 |
| 3 | Hose, Breather | 97378536 | 1 |
| 4 | Clamp, Rubber Hose | 15699825 | 2 |

Figure 8.30.1

2017 Chevrolet Low Cab Forward

3500HD Diesel Specifications

| | |
|---------------------------|--|
| MODEL | 3500HD Diesel |
| GVWR | 13,000 lbs. |
| WB | 109 in, 132.5 in, 150 in. 176 in. |
| ENGINE | Isuzu 4-cylinder, in-line 4-cycle, turbocharged, intercooled, direct injection diesel. |
| Model/Displacement | 4JJ1-TC/183 CID (3.0 liters) |
| HP (Gross) | 150 HP @ 2800 RPM w/ Automatic Transmission |
| Torque(Gross) | 282 lb./ft. torque @ 1600-2800 RPM |
| Equipment | Dry element air cleaner with vertical intake; 431 square inch radiator; 10 blade 17.7 inch diameter fan with viscous drive. Cold weather starting device and an oil cooler. Engine oil level check switch and light. Engine warning system with audible warning for low oil pressure, and high coolant temperature, and engine horsepower derate protection system based on coolant temperature. Engine cruise control function. |
| TRANSMISSION | Aisin A460 6 speed automatic transmission with fifth and sixth gear overdrive with lock up in 2nd, 3rd, 4th, 5th and 6th. PTO capability with automatic torque converter lockup in stationary PTO mode. |
| STEERING | Integral power steering 18.8-20.9:1 ratio. Tilt and telescoping steering column. |
| FRONT AXLE | Reverse Elliot I" -Beam rated at 6,830 lbs. |
| Suspension | Semi-elliptical steel alloy tapered leaf springs with stabilizer bar and shock absorbers. |
| GAWR | 5,360 lbs. |
| REAR AXLE | Full floating single speed with hypoid gearing rated at 11,020 lbs. |
| Suspension | Semi-elliptical steel alloy multi-leaf springs and shock absorbers. |
| GAWR | 9,880 lbs. |
| WHEELS | 16x6.0-K 6 hole disc wheels, painted white. |
| TIRES | 215/85R-16E (10 pr) LRR (Low Rolling Resistance) tubeless steel belted radials, all season front and rear. |
| BRAKES | Dual circuit vacuum assisted hydraulic service brakes with EBD (Electronic Brake Distribution) system for load proportioning of the brake system front disc and self-ad just outboard mounted drum rear. The parking brake is a mechanical, cable actuated, internal expanding drum type, transmission mounted. The exhaust brake is standard and is vacuum operated. 4 channel anti-lock brake system. |
| FUEL TANK | 30 gal. rectangular steel fuel tank mounted in frame rail behind rear axle. Fuel water separator with indicator light on instrument cluster. |
| FRAME | Ladder type channel section straight frame rail 33.5 in wide through the total length of the frame. Yield strength 44,000 psi, section modulus 7.20 in3. RBM 316,800. |
| CAB | All steel low cab forward, BBC 70.7 in, 45° mechanical tilt with torsion assist. |
| Equipment | TRICOT breathable cloth covered high back driver's seat with two occupant passenger seat. Dual cab mounted exterior mirrors with integral convex mirror, AM/FM CD stereo radio. Tilt and telescoping steering column. Power windows and door locks, floor mats, tinted glass. |
| ELECTRICAL | 12 Volt, negative ground, dual maintenance free batteries, 750 CCA each, 140 Amp alternator with integral regulator. |
| OPTIONS | See following page for options. |

NOTE: These selected specifications are subject to change without notice.

2017 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

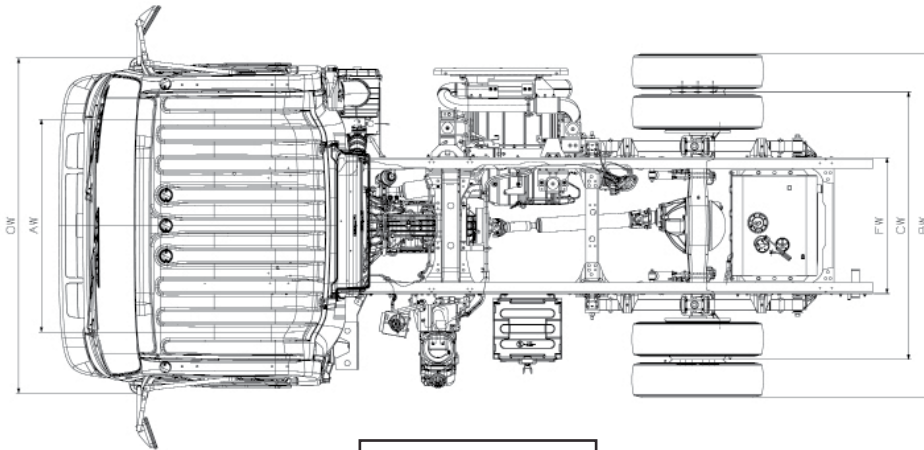


Figure 9.2.1

Dimension Constants:

| Code | Inches | Code | Inches |
|------|--------|------|--------|
| AH | 7.5 | BW | 83.3 |
| AW | 65.6 | CW | 65.0 |
| BA | 48.3 | FW | 33.5 |
| BBC | 70.7 | OH | 90.8 |
| BOC | 6.1 | OW | 81.3 |
| FH | 31.1 | | |

Variable Chassis Dimensions:

| Unit | WB | CA* | CE* | OAL | AF |
|------|-------|-------|-------|-------|------|
| Inch | 109.0 | 86.5 | 129.6 | 200.5 | 43.1 |
| Inch | 132.5 | 110.0 | 153.1 | 224.0 | 43.1 |
| Inch | 150.0 | 127.5 | 170.6 | 241.5 | 43.1 |
| Inch | 176.0 | 153.5 | 196.6 | 267.5 | 43.1 |

*Effective CA & CE are CA or CE less BOC

In-Frame Tank

13,000 lb. GVWR Automatic Transmission Model

Chassis Curb and Maximum Payload Weights

| Model | WB | RPO | Unit | Front | Rear | Total | Payload |
|--------|----------|-----|------|-------|------|-------|---------|
| T21003 | 109.0 in | EB4 | lb. | 3516 | 1877 | 5393 | 7607 |
| T22003 | 132.5 in | FNJ | lb. | 3603 | 1870 | 5473 | 7527 |
| T23003 | 150.0 in | FWH | lb. | 3621 | 1888 | 5509 | 7491 |
| T24003 | 176.0 in | FNW | lb. | 3646 | 1919 | 5565 | 7435 |

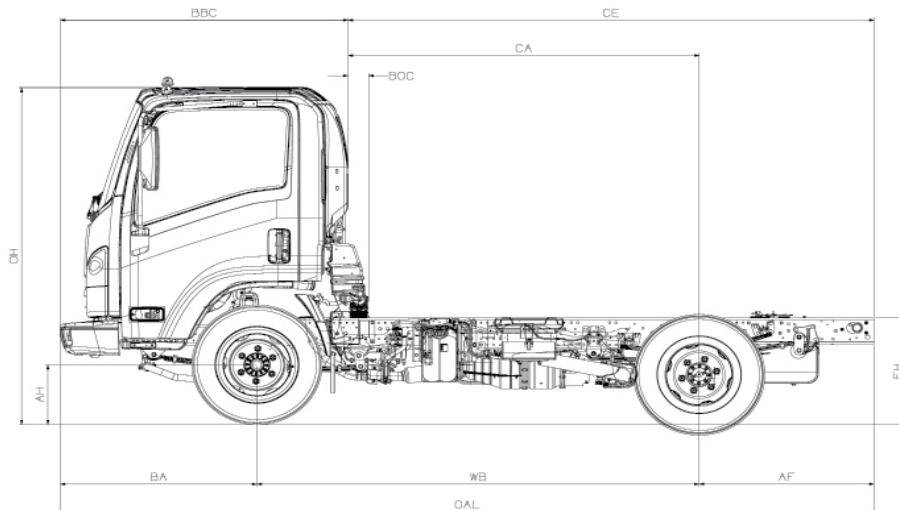


Figure 9.2.2

2017 Chevrolet Low Cab Forward

Vehicle Weight Limits:

| | |
|-----------------------|-------------|
| GVWR Designed Maximum | 13,000 lbs. |
| GAWR, Front | 5,360 lbs. |
| GAWR, Rear | 9,880 lbs. |
| Max Curb Weight | 12,051 lbs. |

Technical Notes:

Chassis Curb Weight reflects standard equipment and fuel but no driver or payload.

Maximum Payload Weight is the allowed maximum for equipment, body, payload and driver and is calculated by subtracting chassis curb weight from the GVWR.

| Weights for Options | | |
|---------------------|--|----------------------|
| RPO (1) | Option Description | Front / Rear Lbs. |
| 9D2 | Speed Limited to 58 MPH | 0 / 0 |
| 9C2 | Speed Limited to 65 MPH | 0 / 0 |
| 9E2 | Speed Limited to 68 MPH | 0 / 0 |
| AT9 | Keyless entry | 3 / 0 |
| 9B9 | Speed Limited to 70 MPH | 0 / 0 |
| AIG | Suspension seat | 18 / 0 |
| KPG | Locking DEF tank cap | 0 / 0 |
| VIZ | AM/FM/CD Radio with Ax input/USB port and Bluetooth | 0 / 0 |
| I9A | Engine Idle Shutdown (Timer set at 5 minutes for engine shutdown) | 0 / 0 |
| DB9 | Heated dual remote control mirrors (15" head) | 3 / 0 |
| GTM | Air Deflector roof mounted (not available in Crew Cab) | 64 / 0 |
| MTE | Fire Extinguisher and Triangle Kit mounted in rear organizer | 19 / 0 |
| KPR | Engine Oil Pan Heater (120v 300w) | 2 / 0 |
| NLX | 33 Gallon Additional Diesel Fuel Tank mounted on LH side 150, 176 wb, std. cab | (7) |
| PTO | PTO Enable Switch and Engine Idle Up Switch recommended for PTO and Idle applications only (2) | 1 / 0 |
| DB8 | Heated Mirrors | 1 / 0 |
| TBD | Mirror Bracket for 102" wide body | 1 / 0 |
| 9WB | Seat Covers Standard Cab (9) | 6 / 0 |
| IX2 | Rear Body Dome Lamp Switch (6) | 1 / 0 |
| UL5 | Delete Standard AM/FM/CD Radio | --3/0 |
| KQJ | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| UZF | Back up alarm | 0 / 2 |
| V22 | Chrome Grille | 1 / 0 |

2017 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

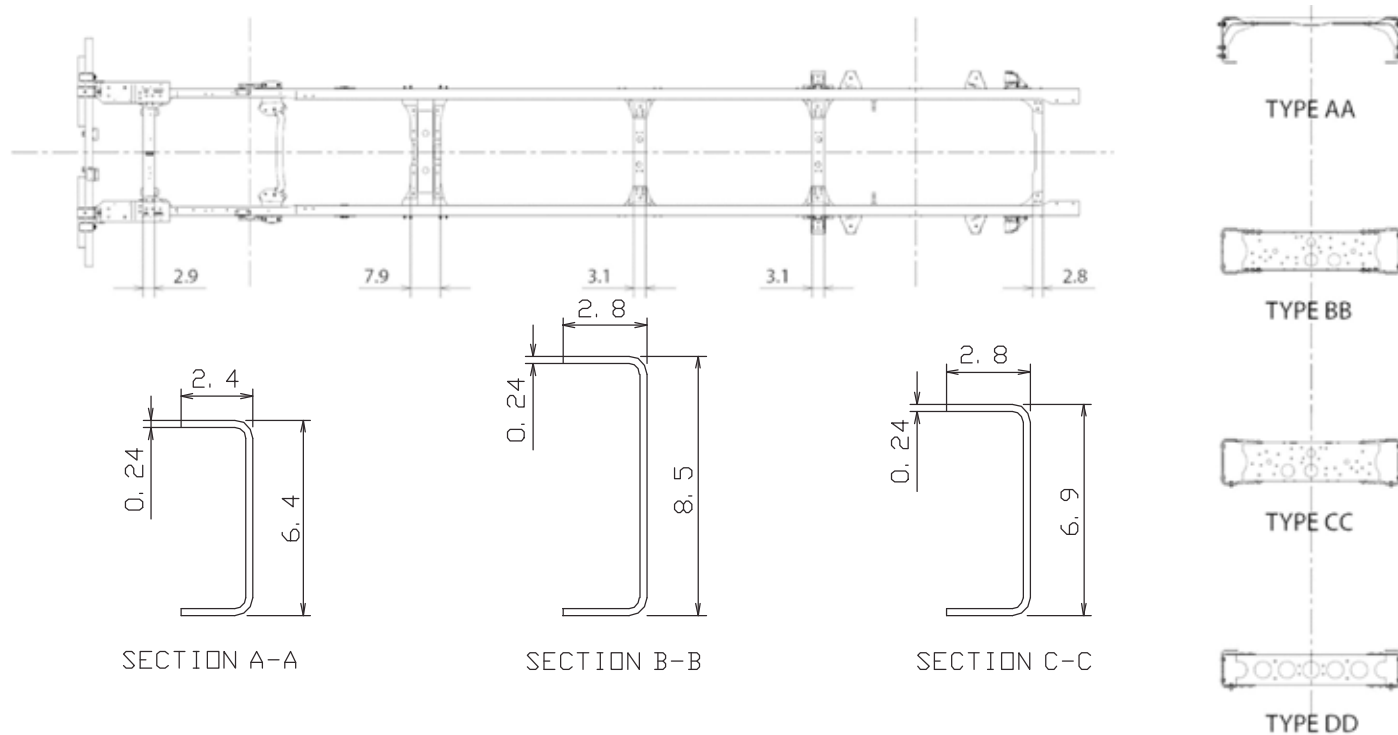


Figure 9.4.1

| Wheelbase | Frame Thickness | Crossmember Type/Location | | | | | | | | | |
|-----------|-----------------|---------------------------|-----|----|------|----|------|----|------|----|------|
| | | B | C | D | | E | | F | | G | |
| 109 | 0.24 | 28.3 | 8.2 | AA | 44.3 | - | | CC | 24.2 | DD | 33.8 |
| 132.5 | 0.24 | 28.3 | 8.2 | AA | 44.3 | BB | 57.5 | CC | 24.2 | DD | 33.8 |
| 150 | 0.24 | 28.3 | 8.2 | AA | 44.3 | BB | 57.9 | CC | 24.2 | DD | 33.8 |
| 176 | 0.24 | 28.3 | 8.2 | AA | 44.3 | BB | 74.4 | CC | 24.2 | DD | 33.8 |

Figure 9.4.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Frame Chart

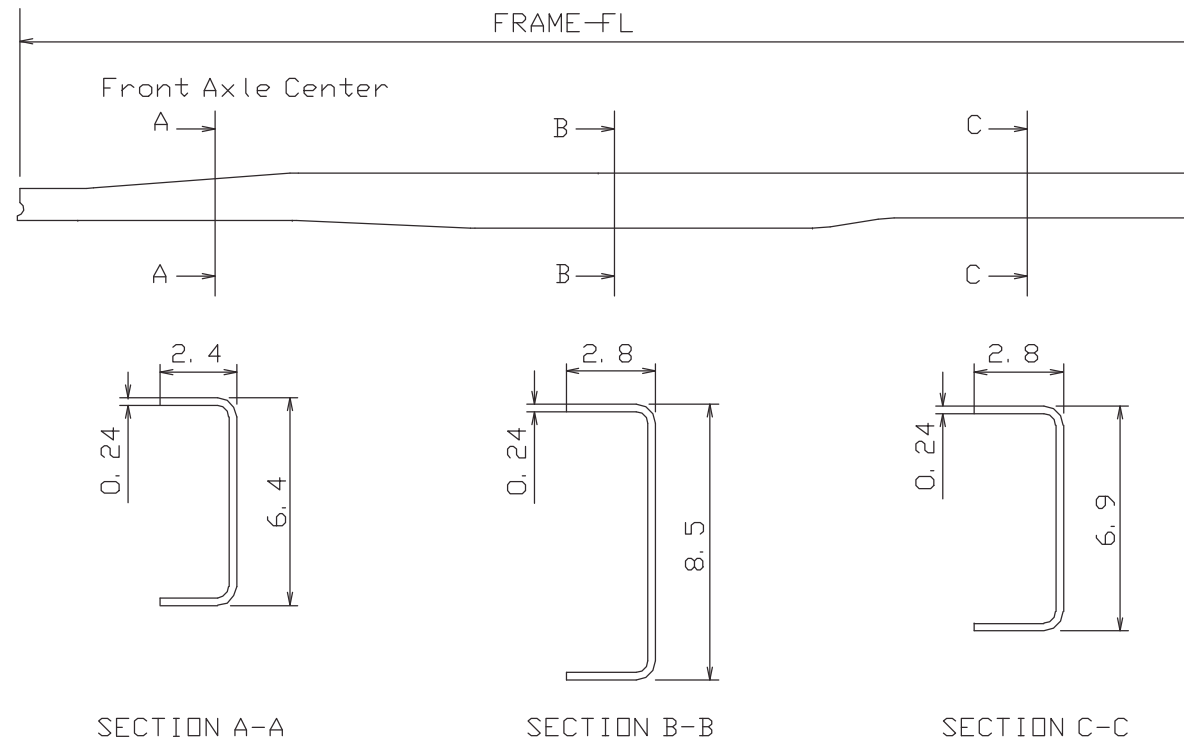


Figure 9.5.1

| Wheelbase | Frame FL | Frame Thickness |
|-----------|----------|-----------------|
| 109.0 | 182.5 | 0.24 |
| 132.5 | 206.1 | 0.24 |
| 150.0 | 223.8 | 0.24 |
| 176.0 | 249.8 | 0.24 |

Figure 9.5.2

2017 Chevrolet Low Cab Forward

3500HD Diesel Standard Cab - Top View

| WB | A | B |
|-------|------|------|
| 109 | 43.4 | 78.0 |
| 132.5 | 49.7 | 84.3 |
| 150 | 43.4 | 78.0 |
| 176 | 43.4 | 78.0 |

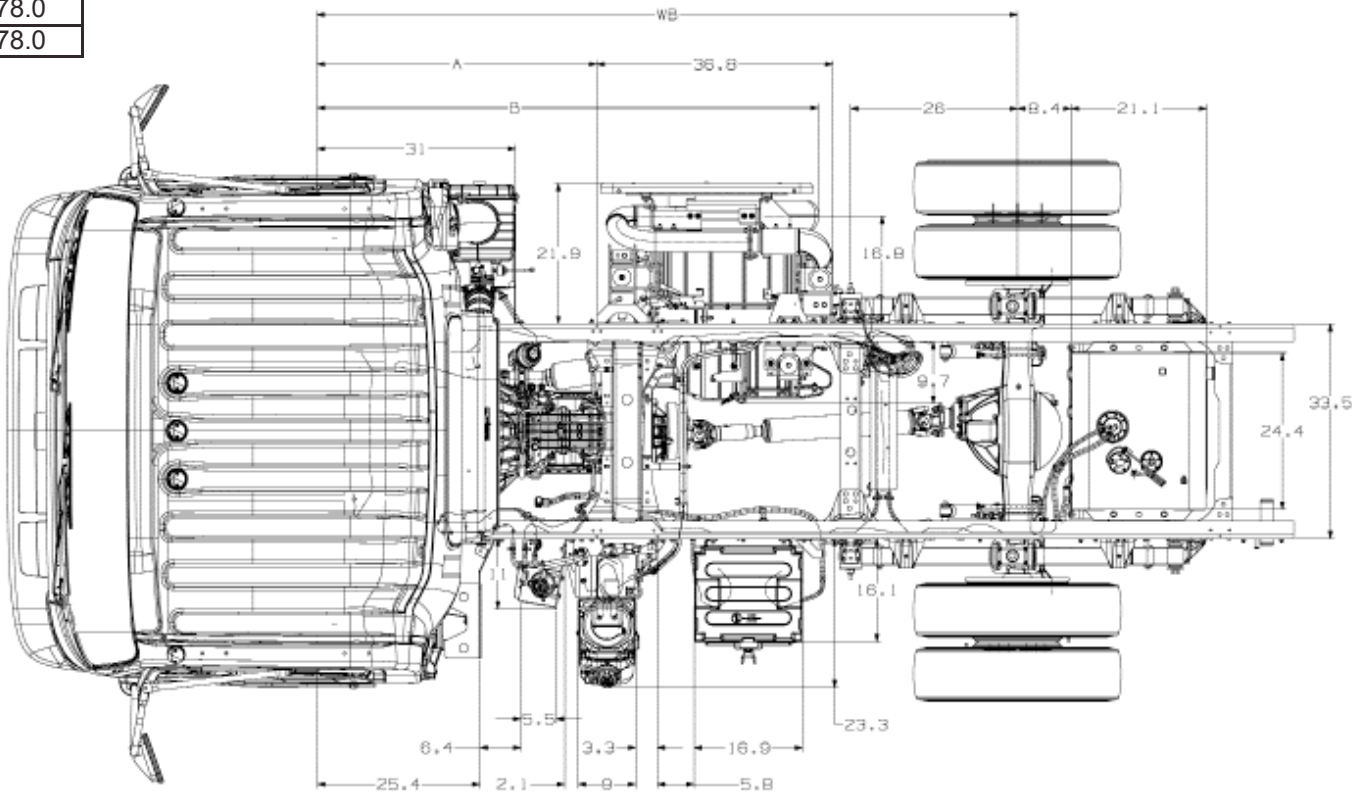


Figure 9.6.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

3500HD Diesel Standard Cab - Left Side View

| WB | A |
|-------|------|
| 109 | 80.7 |
| 132.5 | 87.0 |
| 150 | 80.7 |
| 176 | 80.7 |

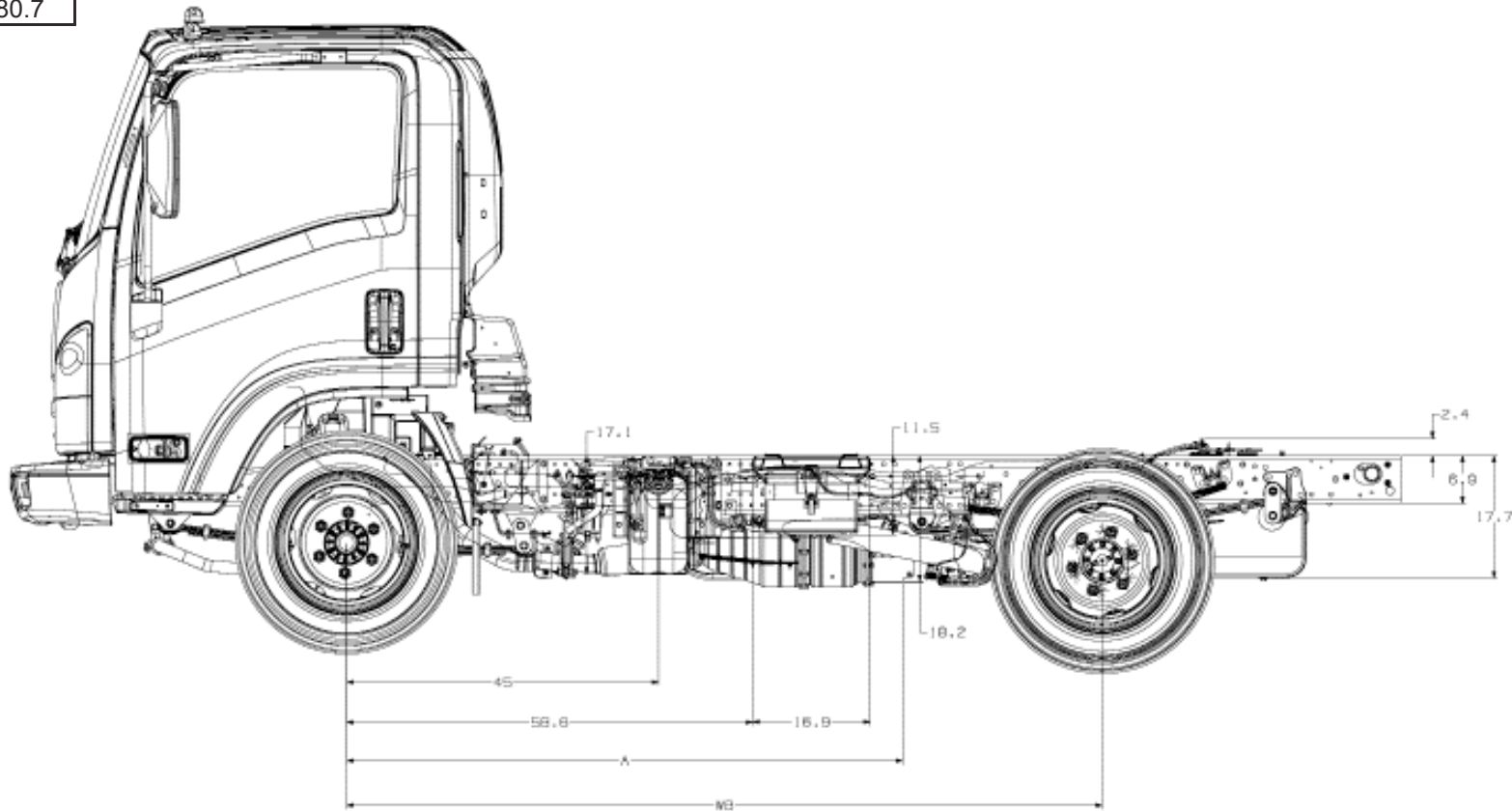


Figure 9.7.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

3500HD Diesel Standard Cab - Right Side View

| WB | A |
|-------|------|
| 109 | 44.0 |
| 132.5 | 50.3 |
| 150 | 44.0 |
| 176 | 44.0 |

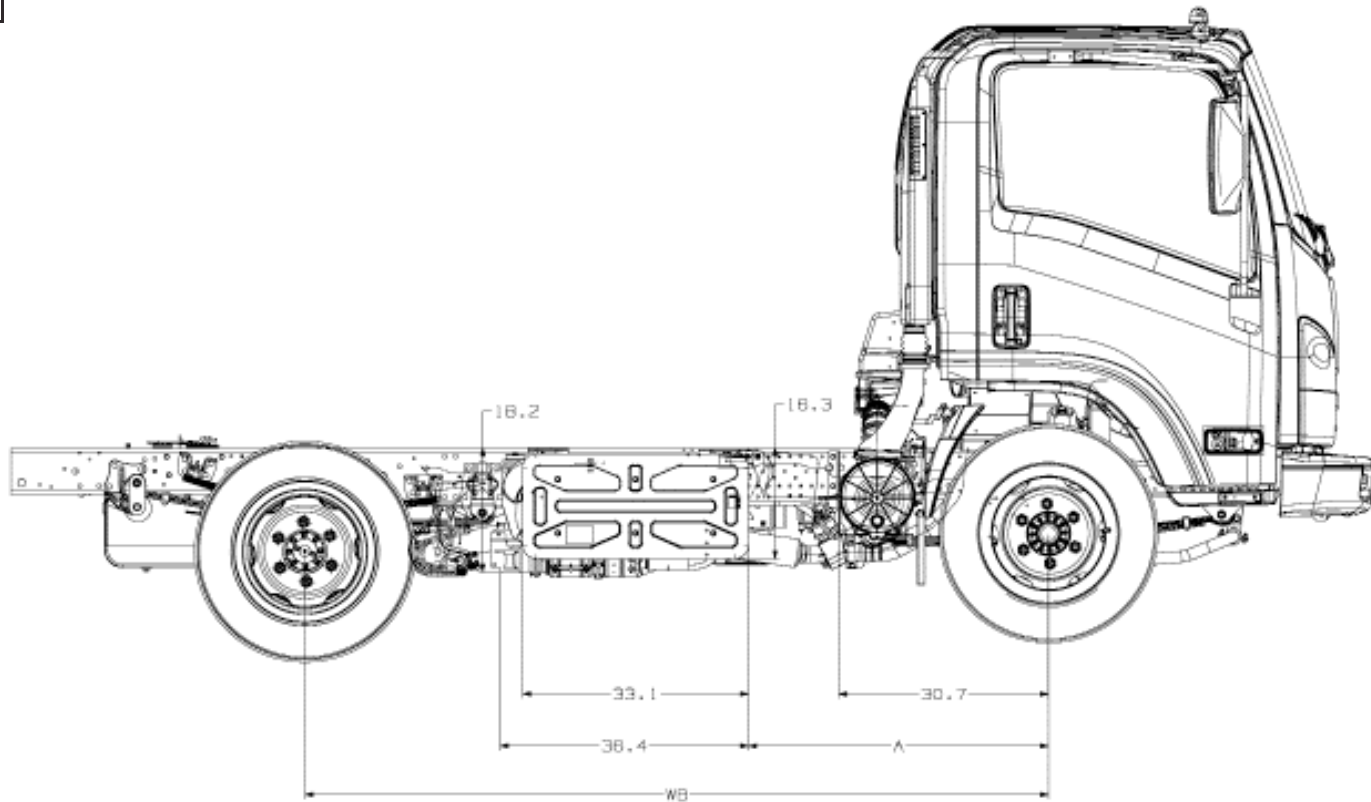


Figure 9.8.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

PAGE 9.9

SCR / DPF 4JJ1-TC

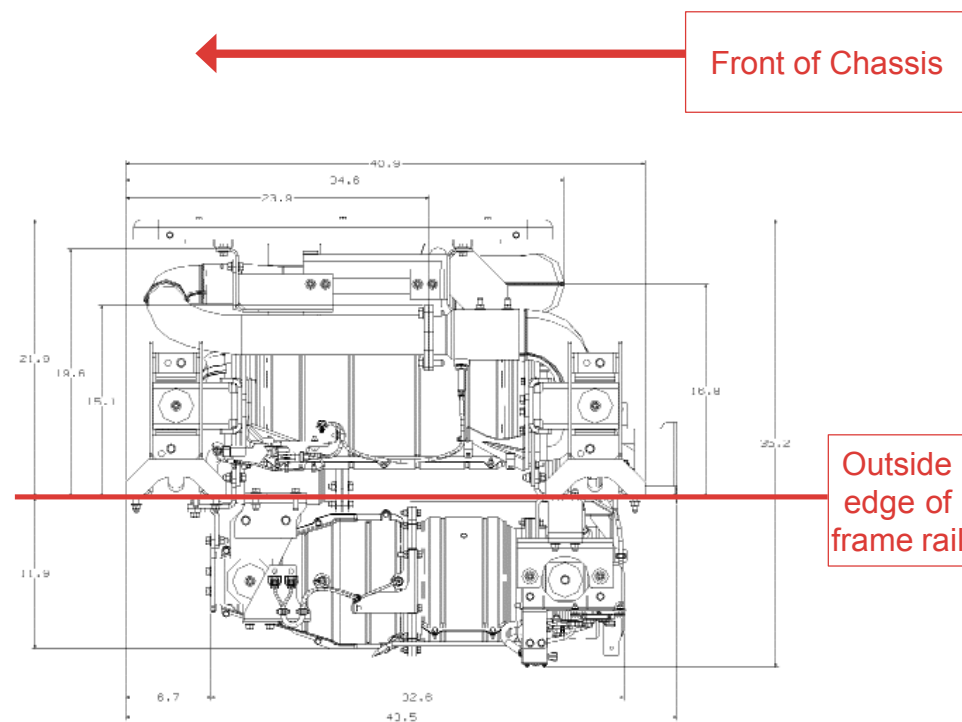


Figure 9.9.1

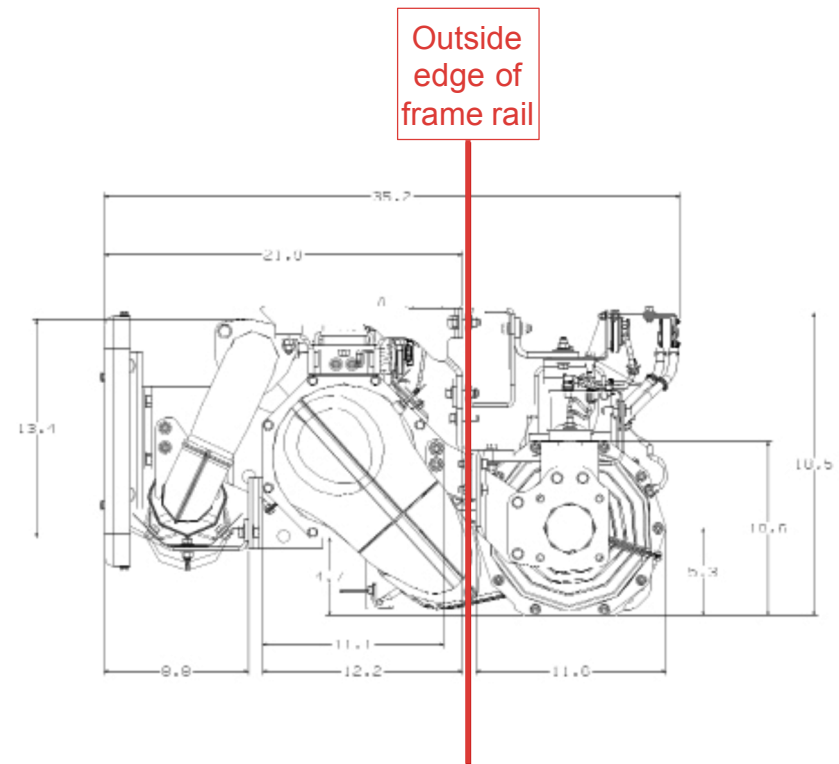


Figure 9.9.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

| | |
|------|------|
| PAGE | 9.10 |
|------|------|

Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX
Side View 150 Wheelbase

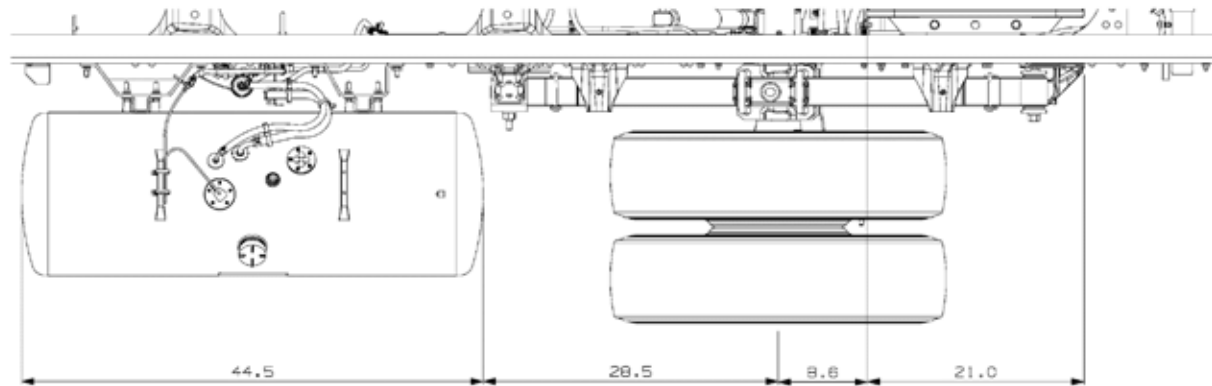


Figure 9.10.1

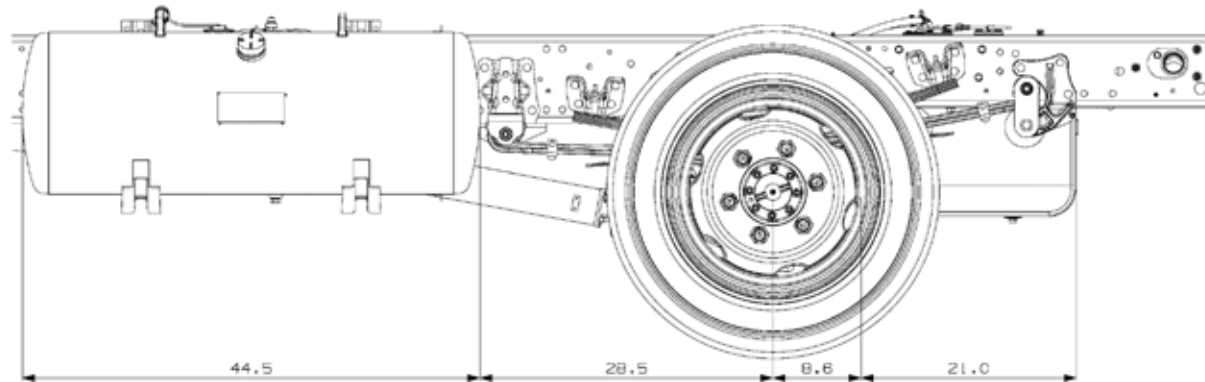


Figure 9.10.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX
Side View 176 Wheelbase

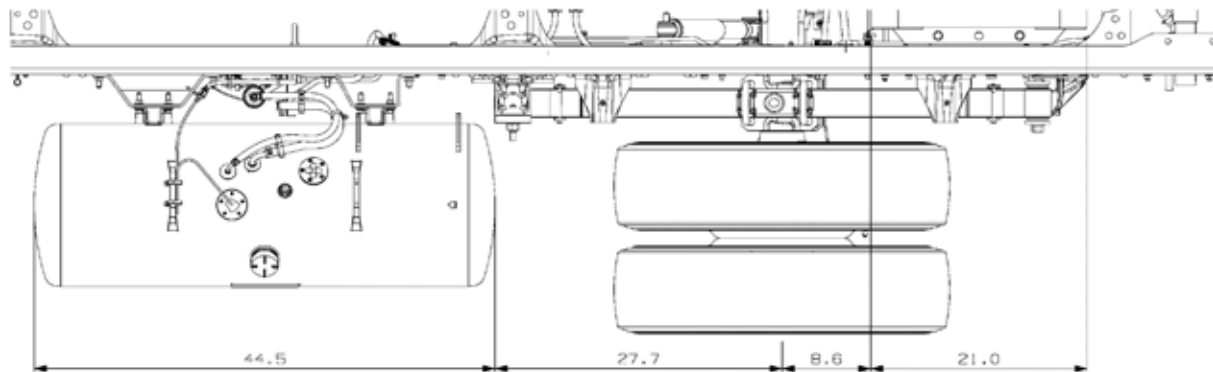


Figure 9.11.1

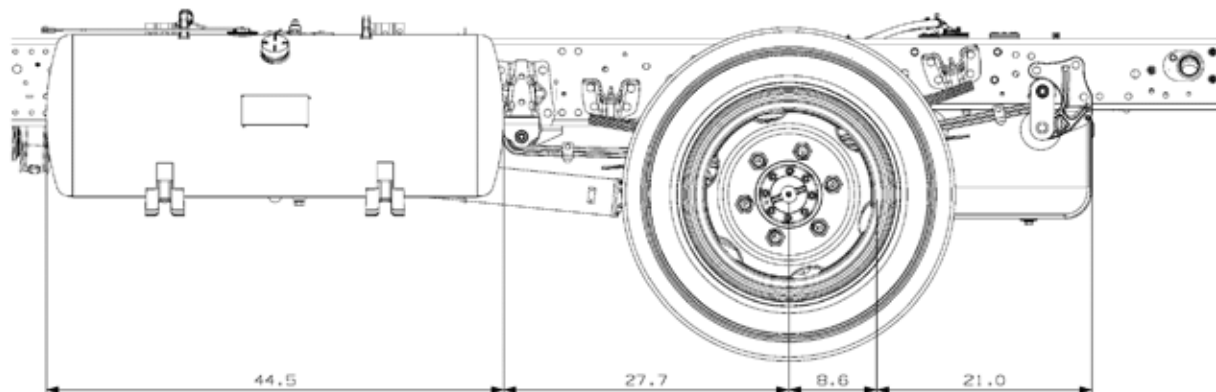


Figure 9.11.2

Dimensions in inches

PAGE 9.12

[illegible]

Dimensions in inches

2017 Chevrolet Low Cab Forward

Cab Tilt

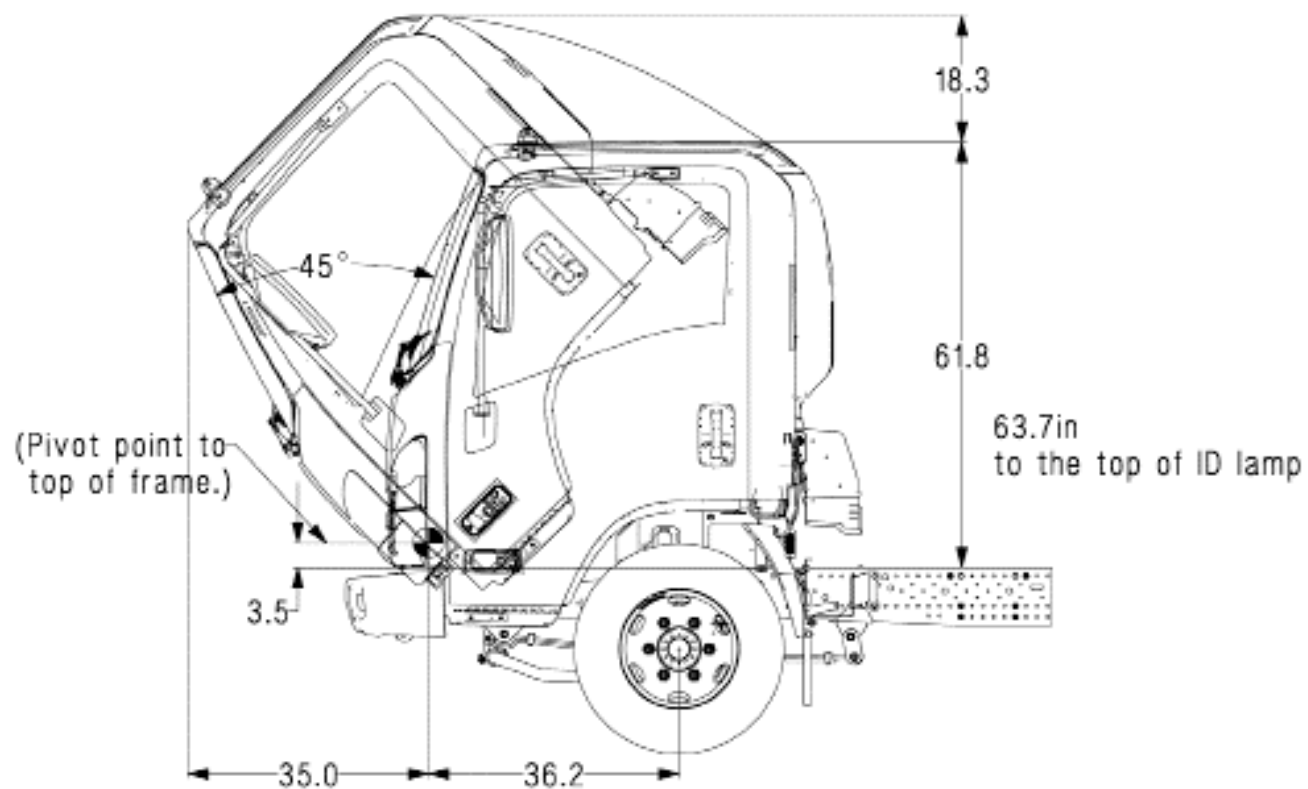


Figure 9.14.1

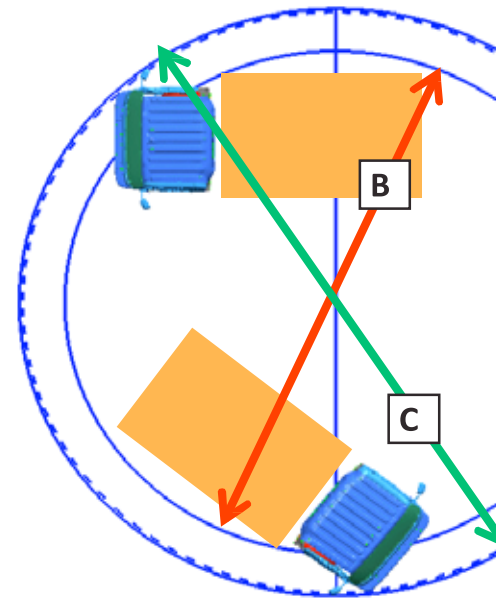
Dimensions in inches

TURNING DIAMETERS

The 3500HD Diesel steering also features a 49.5 inside wheel cut angle. This, coupled with the integral power steering, makes the 3500HD Diesel an extremely maneuverable truck.

B=Minimum turning diameter
curb to curb

C=Minimum turning diameter
wall to wall



| WB | B curb to curb | C (ft. wall to wall (ft.)) |
|-------|-------------------|-------------------------------|
| 109.0 | 31.5 | 37.1 |
| 132.0 | 38.7 | 44.0 |
| 150.0 | 42.7 | 48.9 |
| 176.0 | 51.2 | 56.4 |

2017 Chevrolet Low Cab Forward

Center of Gravity

| Horizontal and Vertical CG of Chassis | | | |
|---------------------------------------|------|---------------|-----------|
| WB | V | H | H |
| | | in frame tank | side tank |
| 110 | 22.2 | 36.2 | N/A |
| 132.5 | 22.1 | 42.7 | N/A |
| 150 | 22.0 | 47.7 | N/A |
| 176 | 22.0 | 55.0 | 50.3 |

Figure 9.16.1

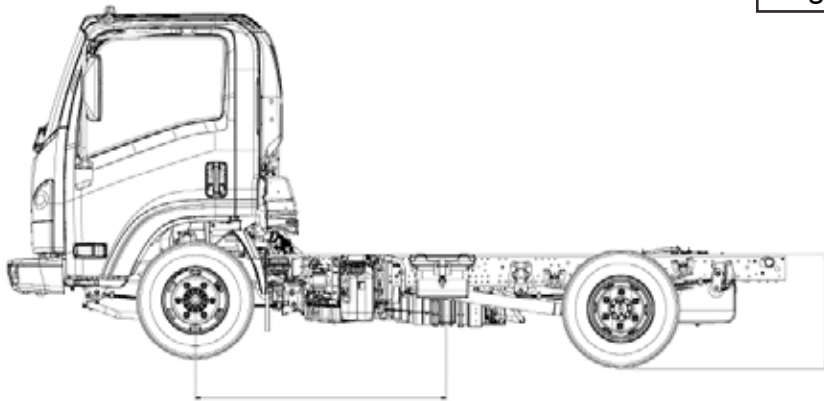


Figure 9.16.2

The maximum vertical center of gravity specified below must not be exceeded at maximum GVWR and rated front and rear GAWR. The Center of Gravity (CG) maximum is 63" (1600 mm) above the ground. (LCF Cab Chassis and LCF Stripped Chassis)

NOTE: The Final Manufacturer must ensure that the combined vertical center of gravity of the chassis, body, and available payload at full GVW does not exceed the maximum vertical center of gravity outlined in the Chevrolet LCF Incomplete Vehicle Document and the GM Body Builders Guide.

The maximum dimensions for a body installed on the LCF chassis are 102 inches wide (outside*) by 91 inches high (inside). Any larger body applications must be approved by GM Upfitter Engineering. Contact us at GMUpfitter.com.

* With 102 inches wide mirror brackets installed in place of standard mirror brackets

Dimensions in inches

2017 Chevrolet Low Cab Forward

Front Axle Chart

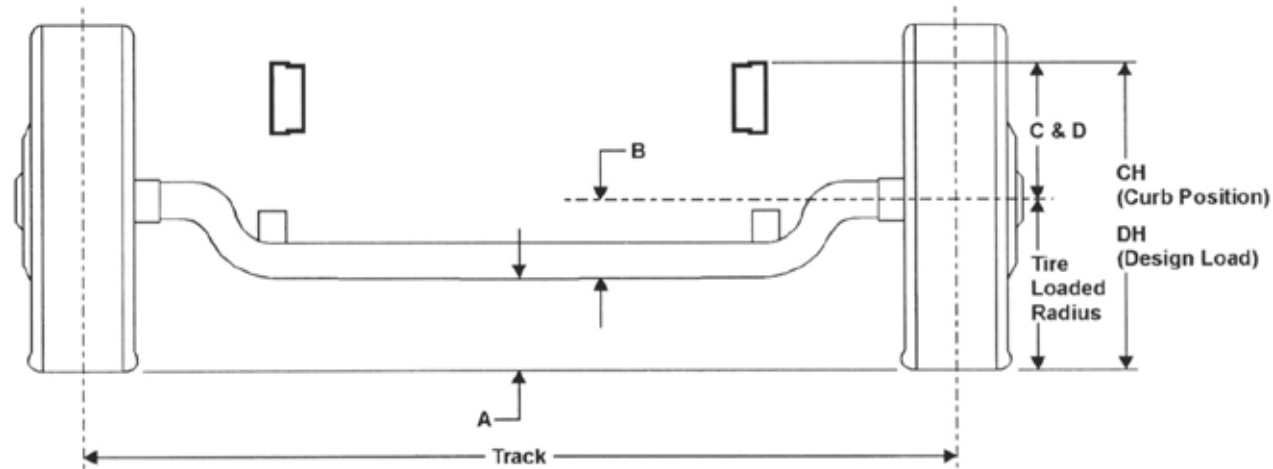


Figure 9.17.1

Formulas for calculating height dimensions:

- A = Tire Loaded Radius – B
- C = Centerline of Axle to Top of Frame Rail at Curb Position
- D = Centerline of Axle to Top of Frame Rail at Design Load
- CH = C + Tire Unloaded Radius
- DH = D + Tire Loaded Radius

| Tire | GVWR | GAWR | A | B | C | D | CH | DH | Track | Tire Radius | |
|--------------|-------------|------------|-----|-----|------|------|------|------|-------|-------------|------|
| | | | | | | | | | | Unload | Load |
| 215/85R 16-E | 13,000 lbs. | 5,360 lbs. | 7.5 | 6.6 | 12.8 | 11.7 | 27.4 | 25.8 | 65.5 | 14.6 | 14.1 |

Figure 9.17.2

Dimensions in inches

Rear Axle Chart

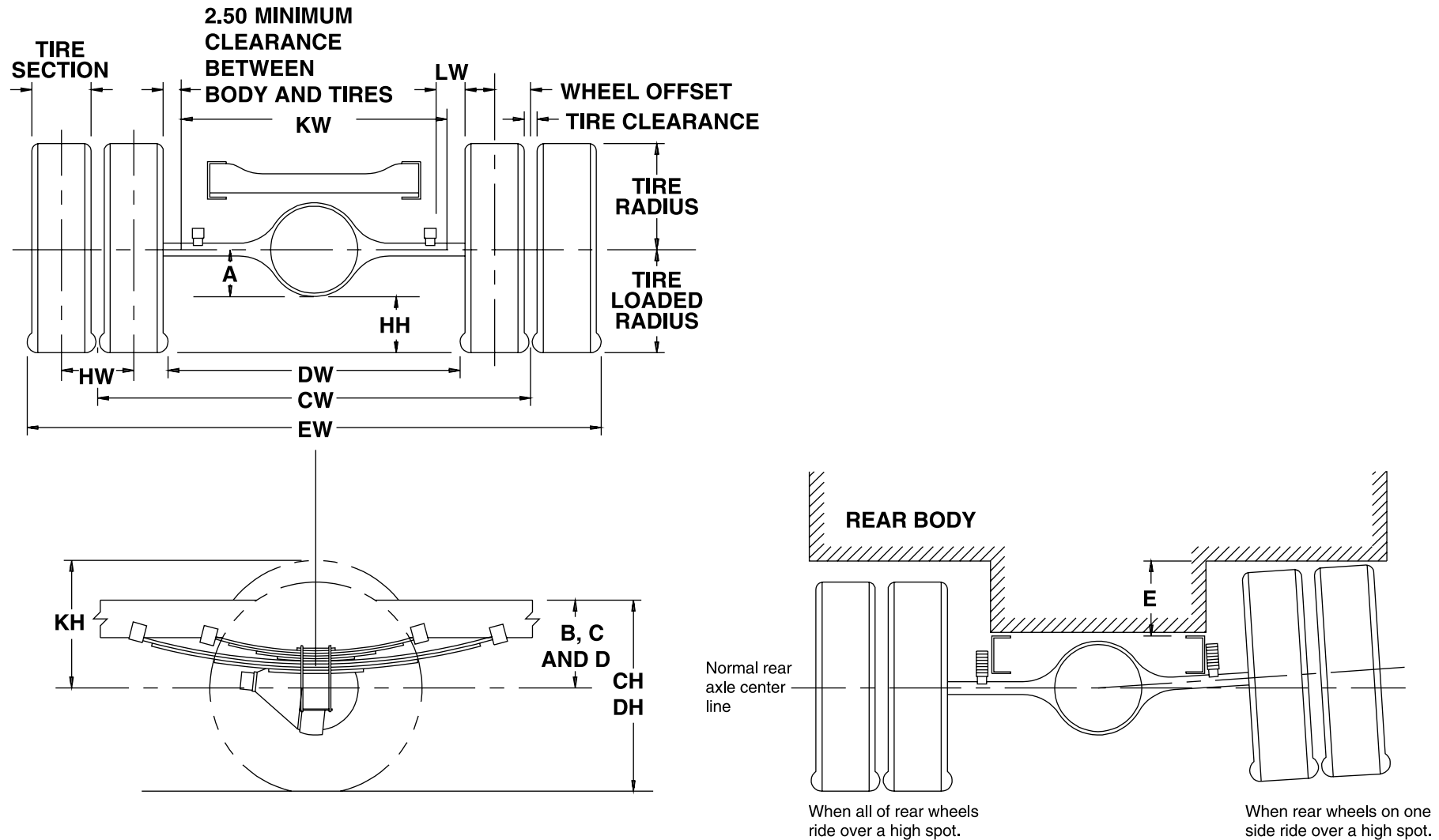


Figure 9.18.1

2017 Chevrolet Low Cab Forward

| Definitions | | | |
|---|--|----|--|
| A | Centerline of axle to bottom of axle bowl. | DW | Minimum distance between the inner surfaces of the rear tires. |
| B | Centerline of axle to top of frame rail at metal-to-metal position. | EW | Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires. |
| C | Centerline of axle to top of frame rail at curb position. | | |
| D | Centerline of axle to top of frame rail at design load. | HH | Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line. |
| E | Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vertical centerline of the rear axle, when rear wheels on one side ride over a high spot. | HW | Dual Tire Spacing: Distance between the centerlines of the minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot. |
| CH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position. | CW | Track Dual Rear Wheel Vehicles: Distance between the centerlines of the dual wheels measured at the ground-line. |
| DH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load. | | |
| Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance | | | See Tire Chart for Values |

Figure 9.19.1

| Formulas for Calculating Rear Width and Height Dimensions | | | |
|---|--|----|---|
| CW | = Track | HH | = Tire loaded radius – A |
| CH | = Tire loaded radius + C | JH | = KH – B |
| DH | = Tire loaded radius + D | KH | = Tire radius + 3.00 inches |
| DW | = Track + 2 tire sections – tire clearance | KW | = DW – 5.00 inches |
| EW | = Track + 2 tire sections + tire clearance | LW | = 1.00-inch minimum clearance between tires and springs |

NOTE: Track and overall width may vary with optional equipment.

Figure 9.19.2

| Tire | GAWR | Track CW | A | B | C | D | E |
|--------------|------------|----------|-----|-----|------|------|-----|
| 215/85R 16-E | 9,880 lbs. | 65.0 | 6.5 | 9.3 | 15.4 | 13.0 | 7.8 |

Figure 9.19.3

2017 Chevrolet Low Cab Forward

3500HD Suspension Deflection Charts

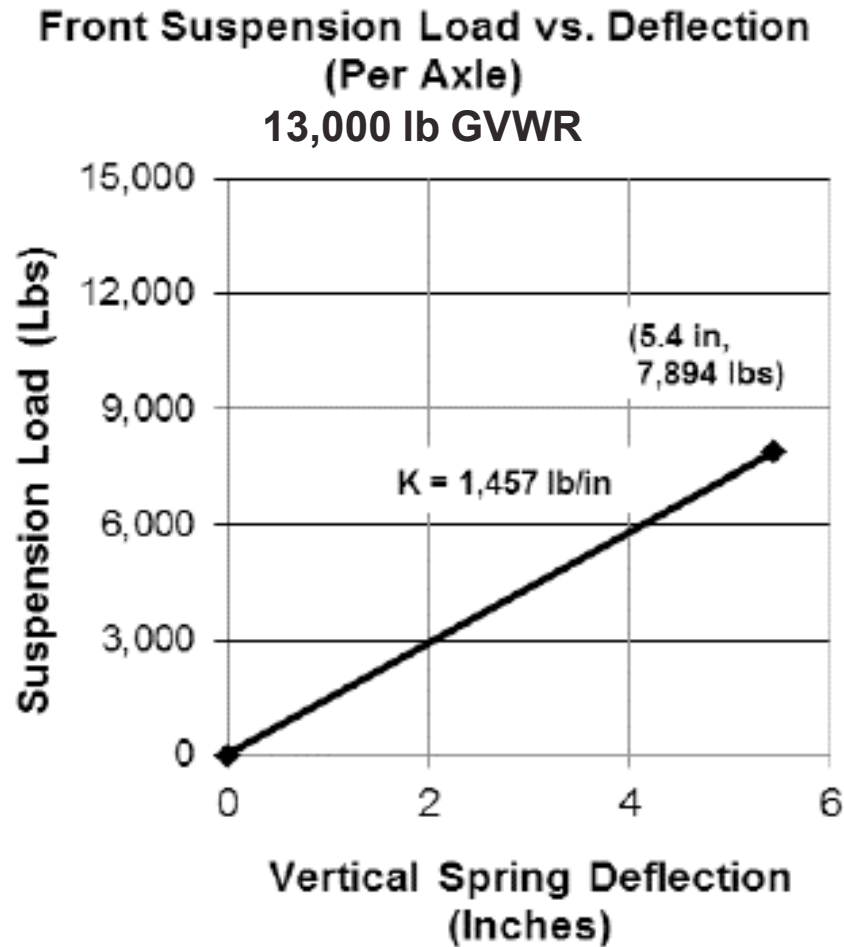


Figure 9.20.1

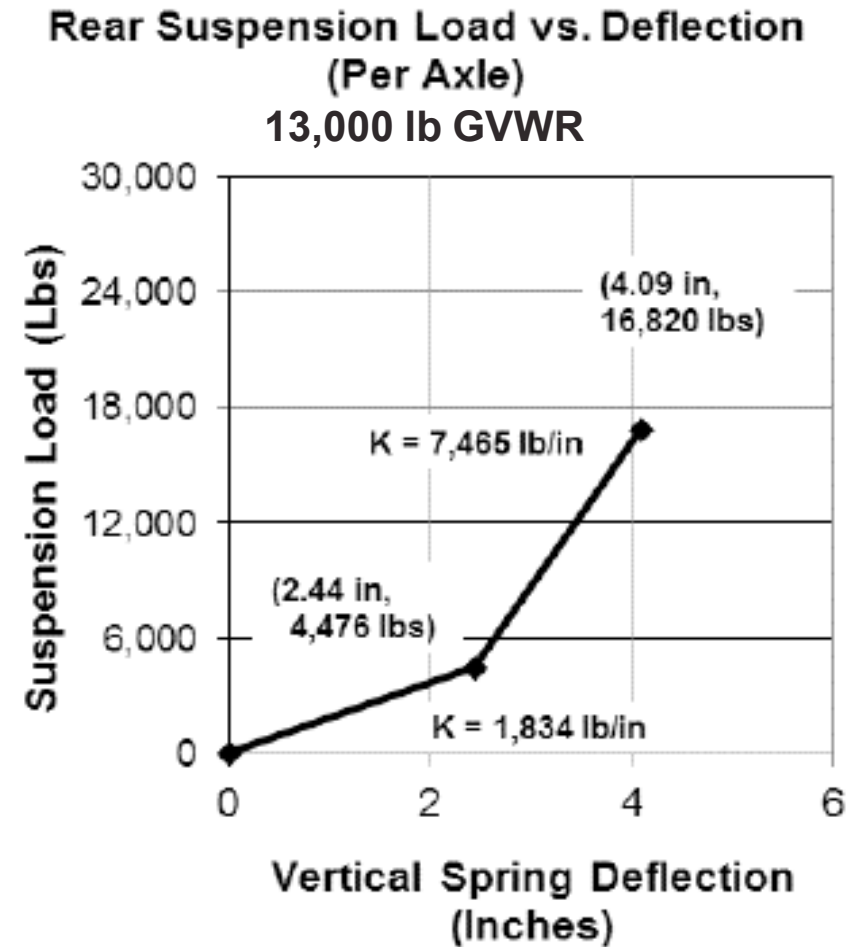


Figure 9.20.2

2017 Chevrolet Low Cab Forward

Tire and Disc Wheel Chart – 3500HD

Tire

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits (lbs.) | | GVWR (Lbs.) |
|-------------|--|-----|-------|-----|---------------------------------|--------|-------------|
| | Single | | Dual | | Front | Rear | |
| | Lbs. | PSI | Lbs. | PSI | 2 Single | 4 Dual | |
| 215/85R-16E | 3,315 | 85 | 3,115 | 85 | 6,630 | 12,460 | 13,000 |

Figure 9.21.1

| Tire Size | GVWR (Lbs.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|--------------|-------------|-------------|------|----------|------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 215/85R 16-E | 13,000 | 14.1 | 14.1 | 14.6 | 14.6 | 8.2 | 1.8 | 6.0 |

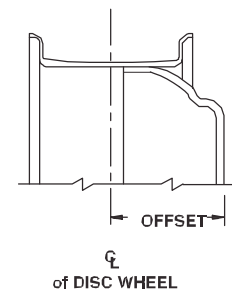
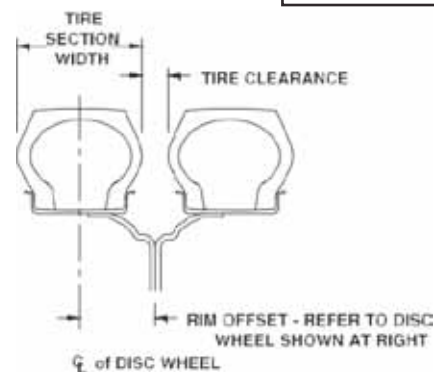
Figure 9.21.2

Disc Wheel

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|------------|------------|------------------|------------------------------|-----------------------------|-------------------------|--------------|----------------|----------------|----------|---------------|
| 16 x 6 K | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 325 ft-lb. (440 N•m) | 6.46 | 5.0 | 0.37 | 5° DC | Steel TOPY |

*O.D. Wrench Sizes

Figure 9.21.3

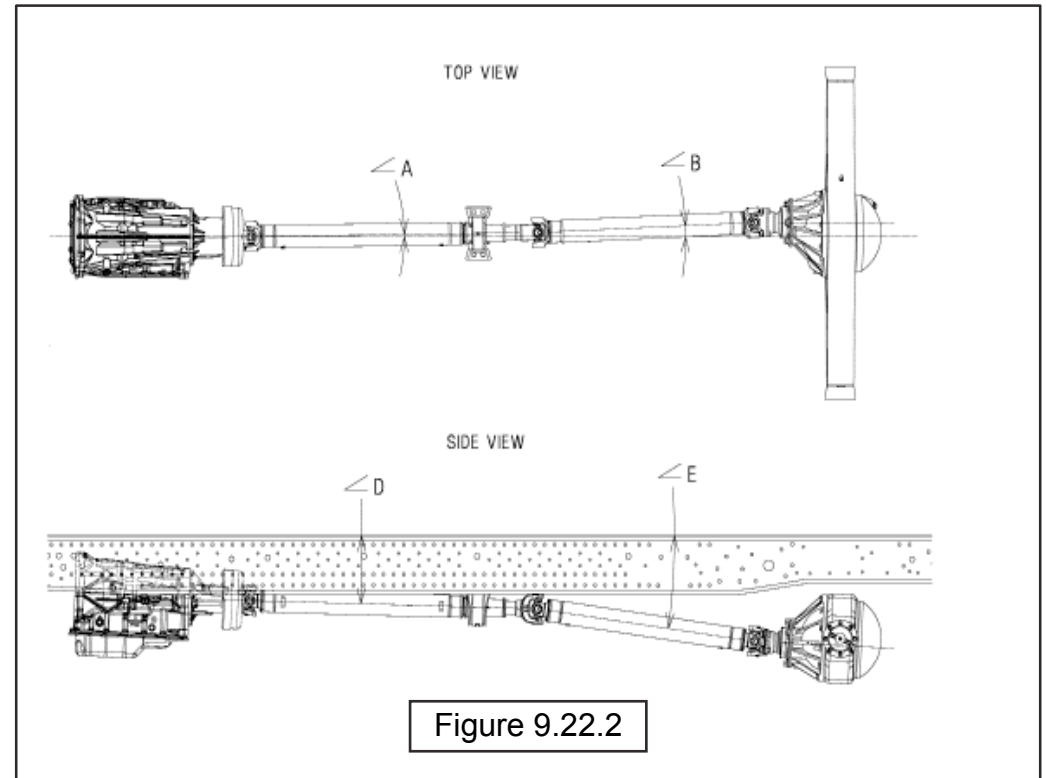
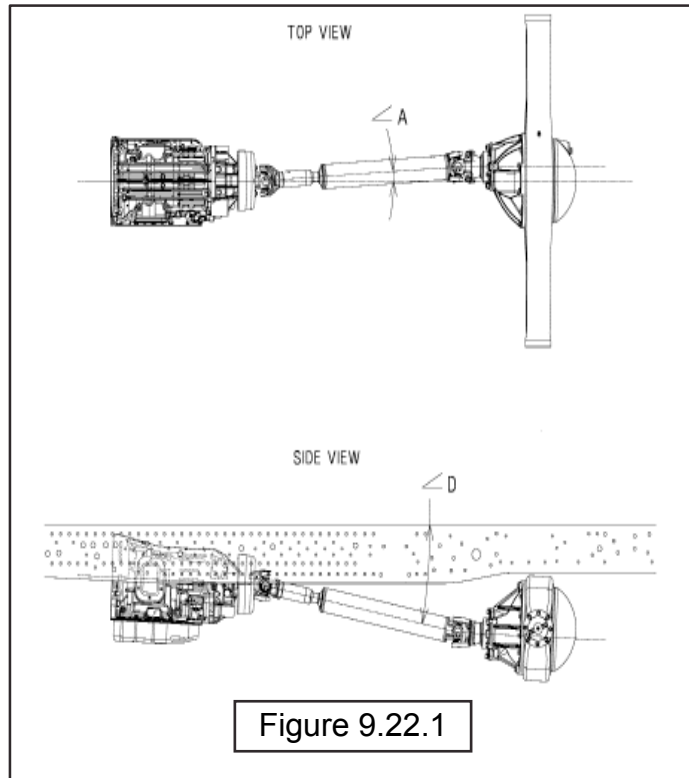


Dimensions in inches

Figure 9.21.4

2017 Chevrolet Low Cab Forward

Propeller Shaft



| WheelBase (in.) | Top View | | Side View | | | |
|--------------------|----------|------|-----------|------|-------|-----------|
| | ∠A | ∠B | ∠D | ∠E | Trans | Rear Axle |
| 109 | 2.5° | - | 10.6° | - | 2.5° | 2.5° |
| 132.5 | 0° | 2.7° | 5.3° | 7.4° | 2.5° | 2.5° |
| 150.0 | 0° | 2.7° | 2.6° | 8.0° | 2.5° | 2.5° |
| 176 | 0° | 1.8° | 2.1° | 5.4° | 2.5° | 2.5° |

Notes: 1. Angles provided in table are relative to the frame angle. Please take this into consideration for service measurements.
2. Driveline angles are based on the chassis curb weight which includes standard equipment, fuel but no driver, body, or payload.

2017 Chevrolet Low Cab Forward

Propeller Shaft

| | | | | |
|----------------------|-------------|--------------|-------------|-------------|
| Wheelbase | 109 | 132.5 | 150 | 176 |
| No. of Shafts | 1 | 2 | 2 | 2 |
| Trans. Type | 6A/T | 6A/T | 6A/T | 6A/T |
| | | | | |
| Shaft #1 O.D. | 3.25" | 3.25" | 3.25" | 3.25" |
| Thickness | 0.0906" | 0.0906" | 0.0906" | 0.0906" |
| Length | 36.69" | 16.97" | 34.29" | 43.47" |
| Type | A | B | B | B |
| | | | | |
| Shaft #2 O.D. | N/A | 3.25" | 3.25" | 3.25" |
| Thickness | N/A | 0.0906" | 0.0906" | 0.0906" |
| Length | N/A | 33.78" | 34.17" | 50.71" |
| Type | N/A | C | C | C |

Figure 9.23.1

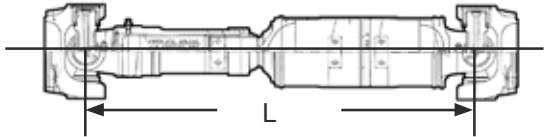
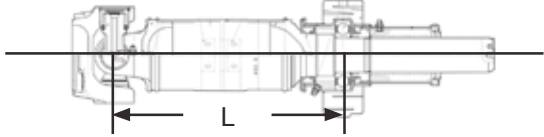
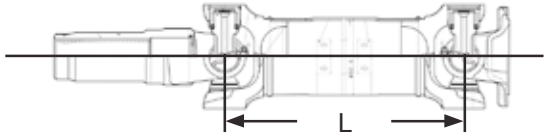
| Type | Description | Illustration |
|--------|--------------------------------|---|
| Type A | 1st shaft in 1-piece driveline |  |
| Type B | 1st shaft in 2-piece driveline |  |
| Type C | 2nd shaft in 2-piece driveline |  |

Figure 9.23.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Brake System Diagram 13,000 GVW

Vacuum Over Hydraulic

Please refer to Introduction Section of book for antilock system cautions and wheelbase modification requirements.

Legend for 3500, 3500HD, 4500, 4500HD, 4500XD Brake System

- (1) Electronic Hydraulic Control Unit (EHCU)
- (2) Rear Wheel Cylinder
- (3) Vacuum Pump
- (4) Check Valve
- (5) Exhaust Brake Valve
- (6) Magnetic Valve
- (7) Check Valve (One-way Valve)
- (8) Vacuum Tank
- (9) 4-Way Connector
- (10) With Metering Valve
- (11) W/O Metering Valve
- (12) Brake Fluid Reservoir
- (13) Electric Vacuum Pump
- (14) Master Cylinder
- (15) Vacuum Booster (Servo Unit)
- (16) Front Wheel Cylinder

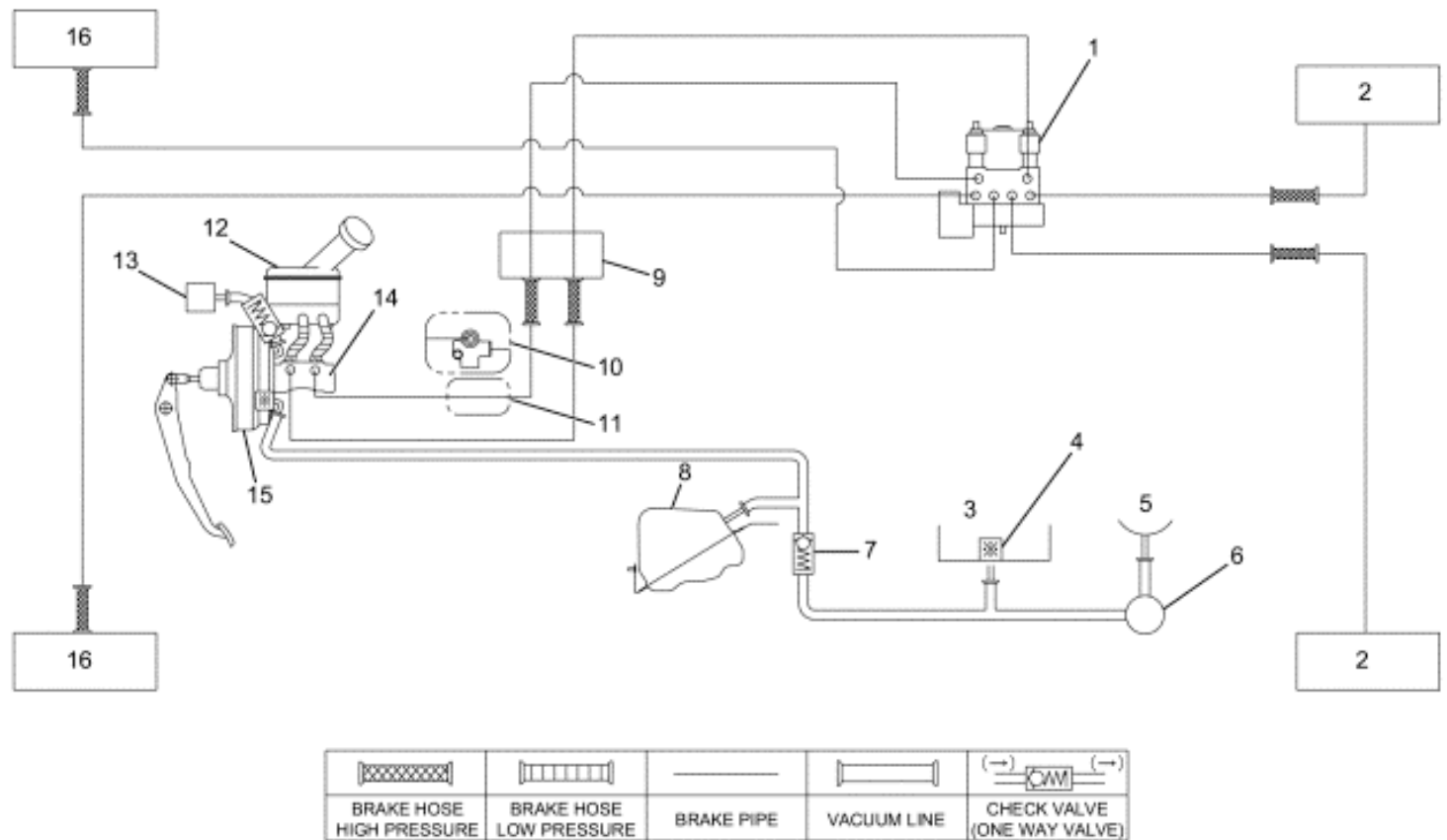


Figure 9.24.1

2017 Chevrolet Low Cab Forward

PTO Location, Drive Gear and Opening Information

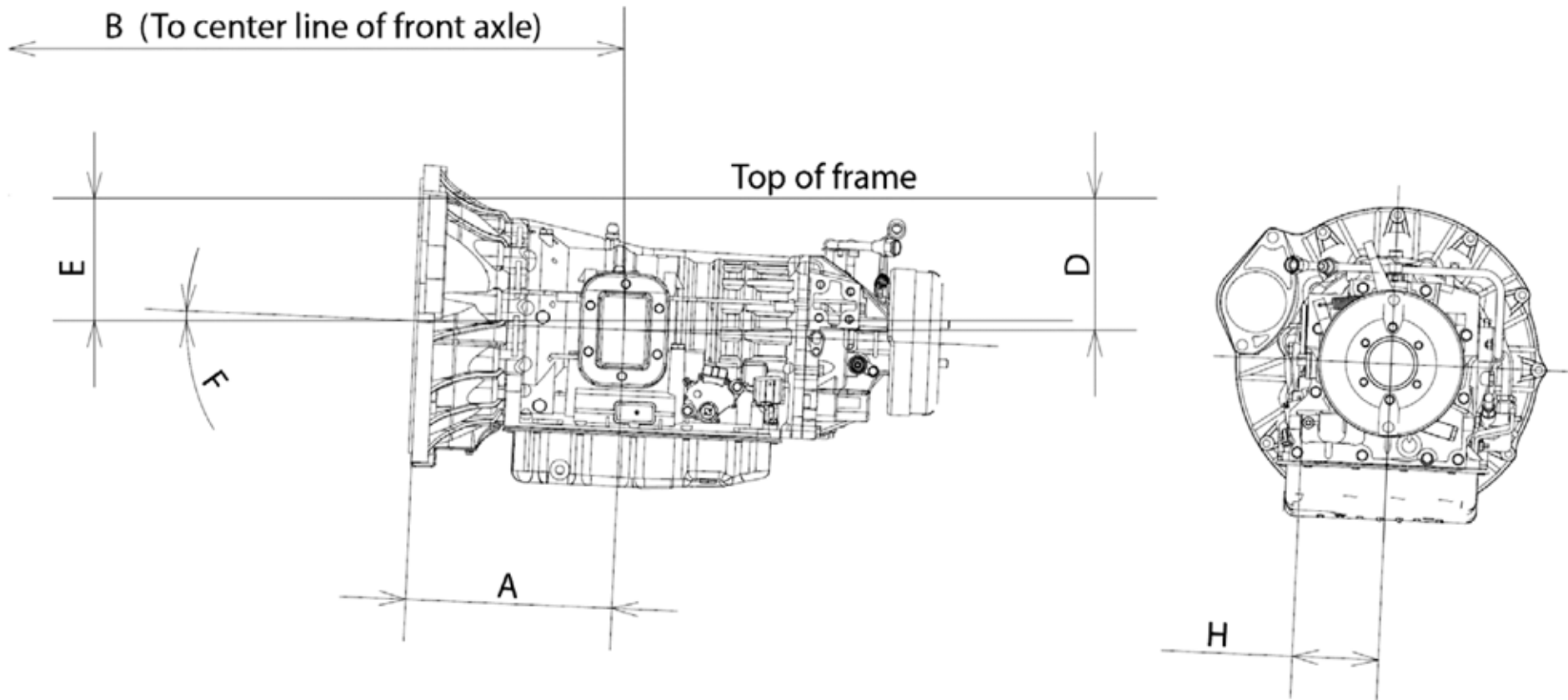


Figure 9.25.1

| Trans. | Opening Location | Bolt Pattern | A | B | C | D | E | F | H | PTO Drive Gear Location | Ratio of PTO Drv. Gear Spd. to Eng. Spd. | No. of Teeth | Pitch | Helix Angle | Max. Output Torque |
|-----------|------------------|--------------|-------|-------|---|------|------|------|------|-------------------------|--|--------------|-------|-------------|--------------------------|
| Aisin 460 | Left | (Dr2) | 12.35 | 36.89 | 0 | 7.85 | 7.31 | 2.5° | 5.16 | PTO Gear | 1:1 with turbine | 69 | N/A | 0 | 108 lbs.-ft. @ 1,700 RPM |

Figure 9.25.2

Aisin A460 Automatic Torque Converter Lock Up Function

The lock up function will cancel if the transmission shift lever is moved from the park or neutral positions which will remove the transmission from the stationary mode.



2017 Chevrolet Low Cab Forward

In-Frame Diesel Fuel Fill

Installation Instructions

1. Disconnect battery.
2. Loosen hose from the tie downs. Remove caps from plate on rail.
3. Install hoses onto the plate.
4. Extend hose out from the driver side of the rail to body rail.
5. The filler neck must be mounted to allow the fill plate bracket to be parallel to the frame horizontal.
6. Cover with protector wrap and secure with tie wraps.
7. Filler hose is set for 102 inches outside width body.
8. Filler neck (dimension A) must be between 6.85 inches and 8.5 inches above frame.
9. Secure the filler plate to the bottom of the body and check for leaks.
10. Ensure that fill hose does not sag, creating an area where the fuel could pool in the fill hose.
11. Reconnect battery.

2017 Chevrolet Low Cab Forward

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Rear View Fuel Fill

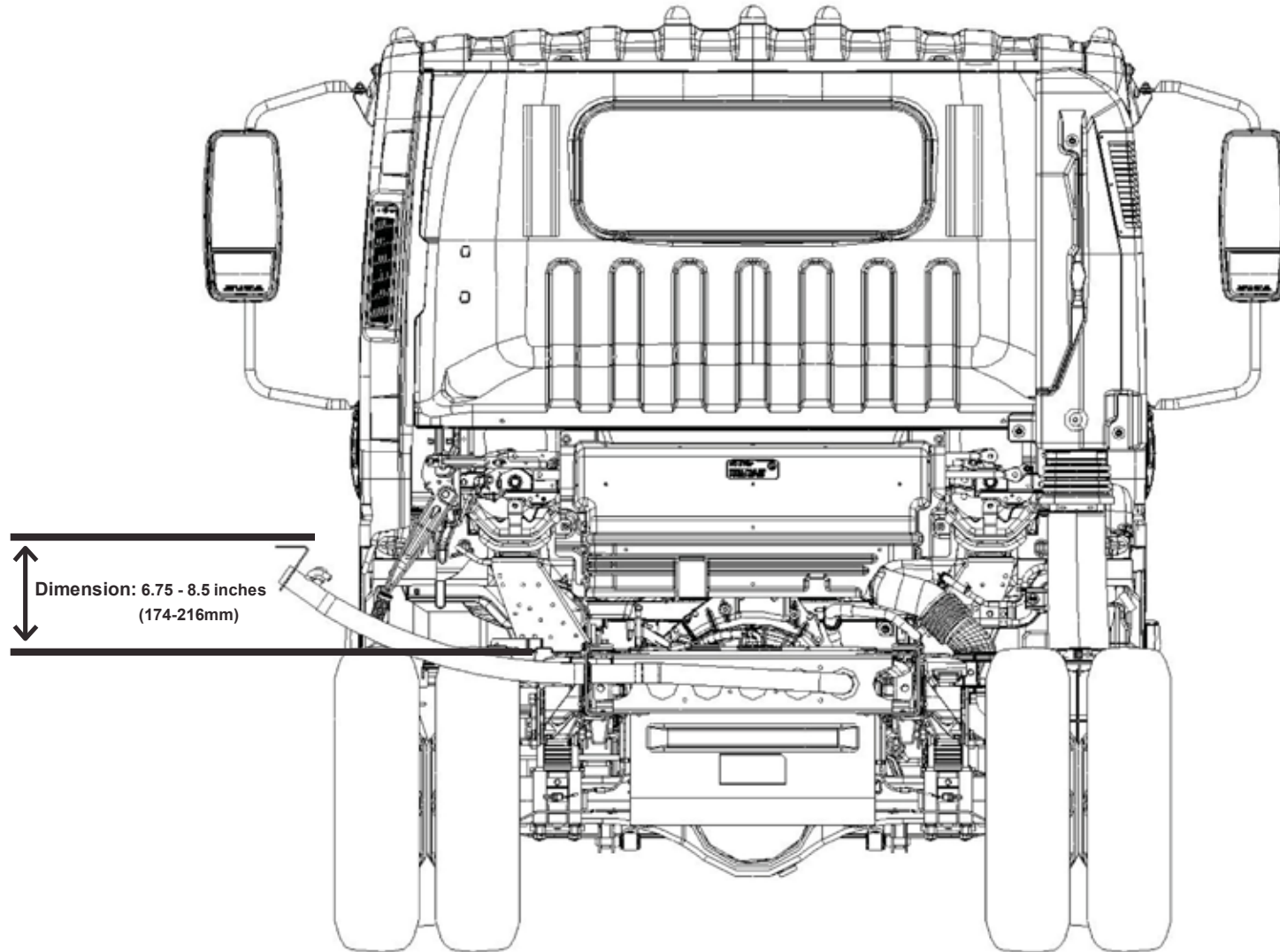


Figure 9.28.1

2017 Chevrolet Low Cab Forward

Top View Fuel Fill

Dimensions:

B = 29.75 inches (756 mm)

C = 34.00 inches (863 mm)

D = 39.29 inches (998 mm)

E = 33.86 inches (860 mm)

F = 59.60 inches (1,514 mm)

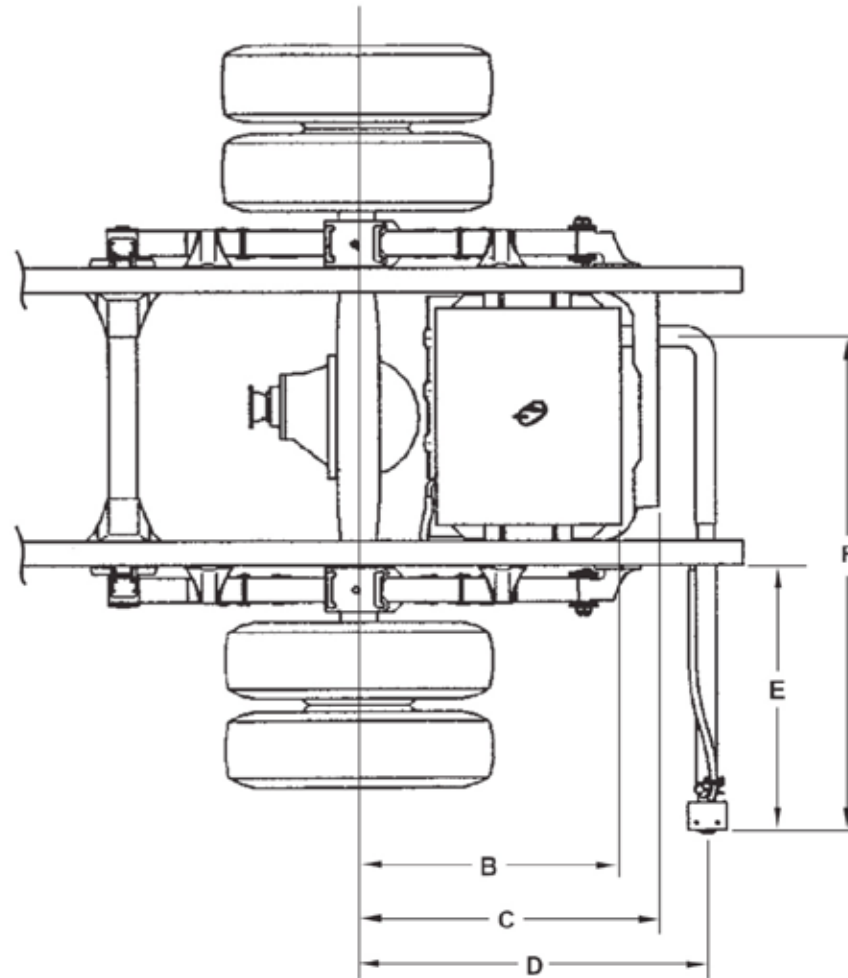


Figure 9.29.1

2017 Chevrolet Low Cab Forward

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

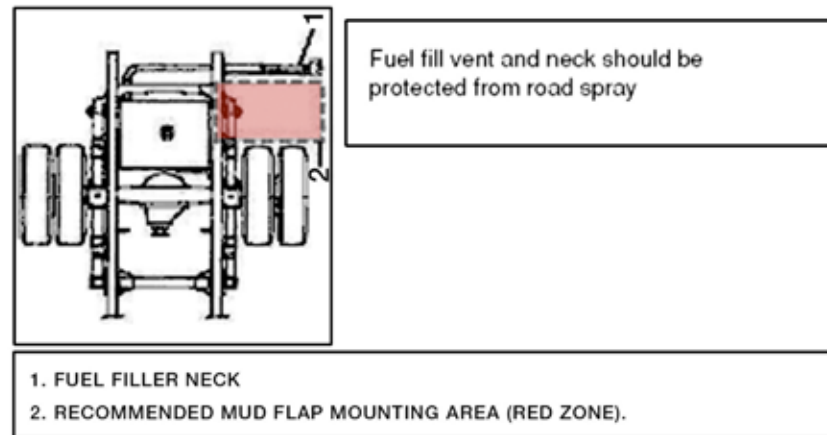
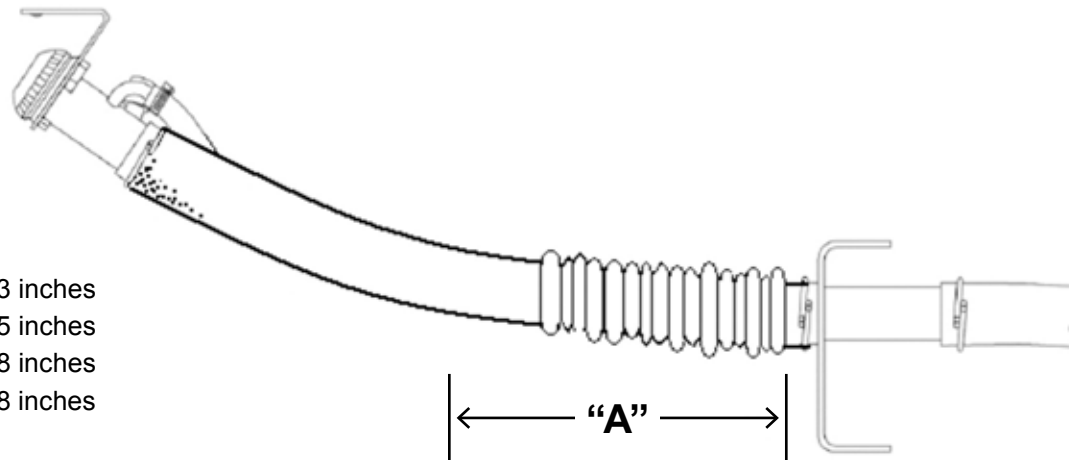


Figure 9.30.1

“A” Dimensions:

96 inch wide body remove 3 inches
90 inch wide body remove 5 inches
86 inch wide body remove 8 inches
80 inch wide body remove 8 inches



NOTE: Shorten hose by “A Dimension” based on chart at left.

Figure 9.30.2

2017 Chevrolet Low Cab Forward

Ultra Low Sulfur Diesel Label

Per EPA Title 40, Part 86, 86:007—35(c),
The decal illustrated below must be installed on the vehicle.
The decal is included in the fuel fill parts box.



INSTRUCTIONS FOR DECAL PLACEMENT:

1. The decal must be placed as close as possible to the fuel inlet and be clearly visible.
 2. The decal should be placed above or to the side of the fuel cap to avoid corrosion by possible contact with fuel.
 3. The decal may be placed on aerodynamic fairings, bodies, etc. as long as the decal is clearly visible and in close proximity to the fuel inlet.
 4. For installed bodies that have a fuel door, the decal should be placed above or to the side of the fuel door.
- Thoroughly clean the area of all grease, dirt, etc. before application of the decal. Apply the decal at room temperature, 65° to 75° F.

Figure 9.31.1

2017 Chevrolet Low Cab Forward

Through the Rail Fuel Fill Frame Hole

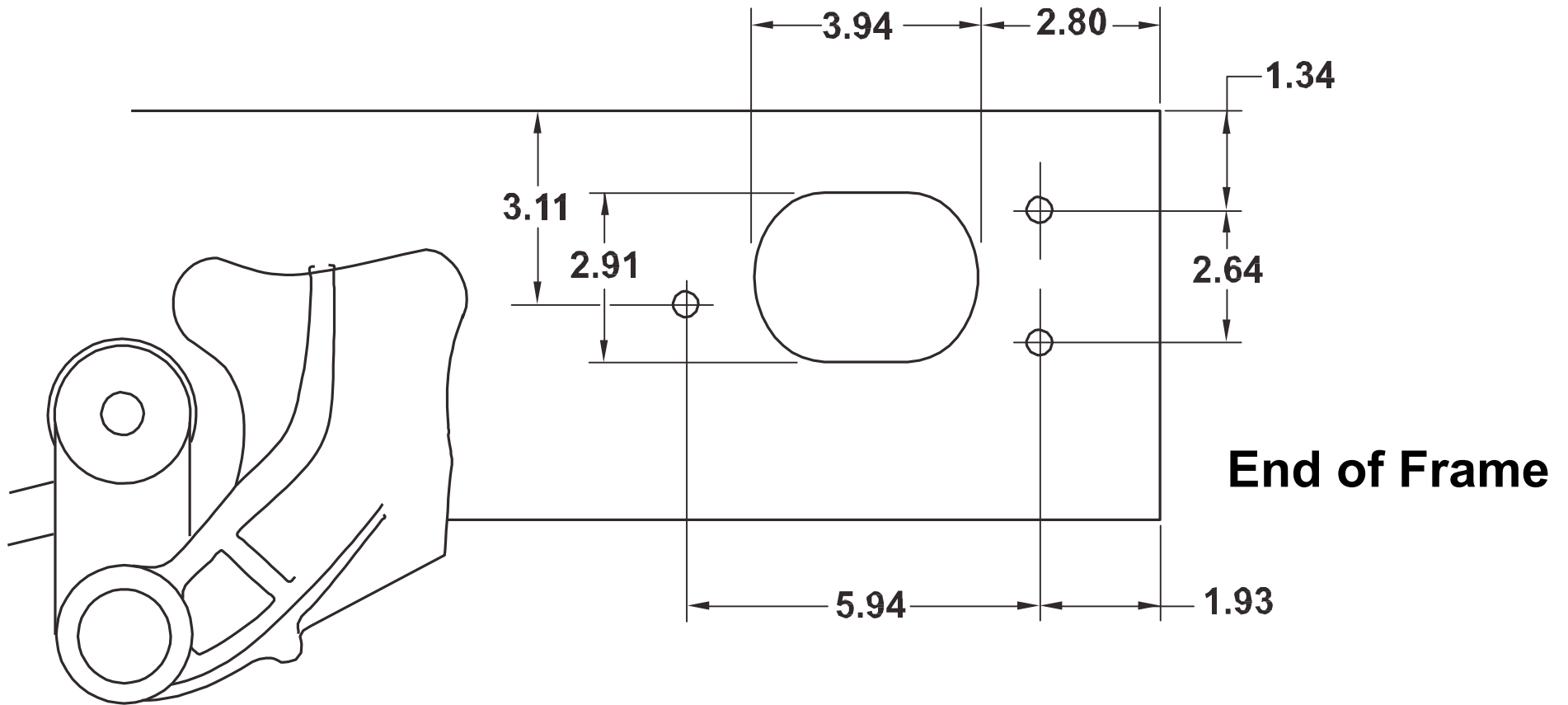


Figure 9.32.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

3500HD Diesel Fuel Filler Kit Instructions

Please review these instructions prior to installation of the fuel filler kit.

Parts Kit: There is a parts kit for the Chevrolet LCF diesel products. Fuel filler kit shown below is used for 13,000 lb GVWR chassis (3500HD). Parts detail is shown in **Figure 9.33.2**. Parts photos are shown in **Figure 9.33.1**.

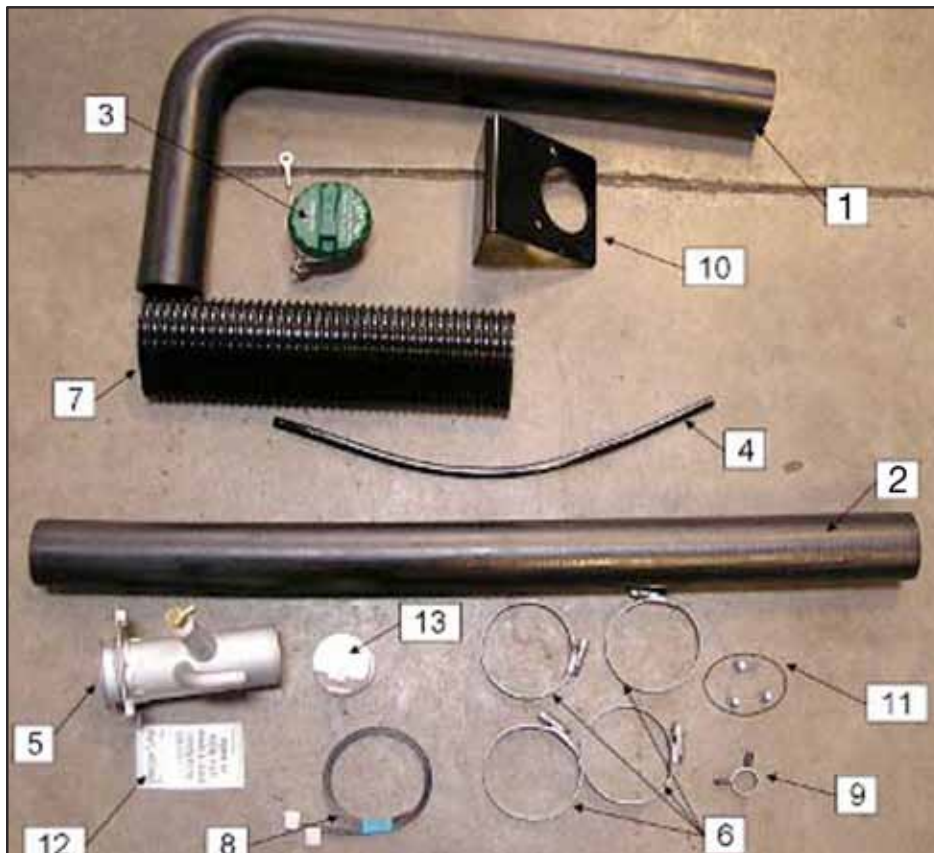


Figure 9.33.1

| FUEL FILLER KIT, PART LISTING | | | |
|-------------------------------|-------------------------|--------|-----|
| ITEM # | PART NAME | PART # | QTY |
| 1 | HOSE:FUEL FILLER NECK | ** | 1 |
| 2 | HOSE:FUEL FILLER | ** | 1 |
| 3 | CAP: FILLER | ** | 1 |
| 4 | HOSE: ROLL-OVER VALVE | ** | 1 |
| 5 | NECK ASM: FUEL FILLER | ** | 1 |
| 6 | CLIP: JOINT | ** | 4 |
| 7 | PROTECTOR: FILLER HOSE | ** | 1 |
| 8 | CLIP: BAND, HOSE FIXING | ** | 2 |
| 9 | CLIP: RUBBER, HOSE | ** | 1 |
| 10 | BRACKET: FILLER NECK | ** | 1 |
| 11 | SCREW: FILLER NECK | ** | 3 |
| 12 | CAUTION PLATE | ** | 1 |
| 13 | SHUTTER: FUEL TANK | ** | 1 |

** See Dealer for all part numbers.

Figure 9.33.2

2017 Chevrolet Low Cab Forward

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Installation Instructions and Considerations

The fuel tank shutter valve (13) is meant to improve fuel splash-back performance of the fuel system. This valve (13) is located on the inlet (outboard side) of the fuel filler neck bulkhead assemble that is bolted to the left hand frame rail as shown in **Figure 9.34.1**. This plastic valve snaps into place in the inlet of the frame mounted fuel pipe. The valve should be installed so that the plastic clip is at the top of the valve, so that the flap door opens up, as shown in **Figure 9.34.2**.



Figure 9.34.1



Figure 9.34.2

Up

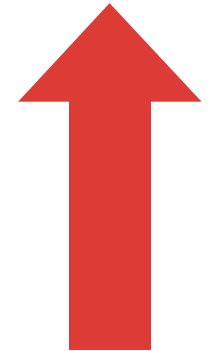
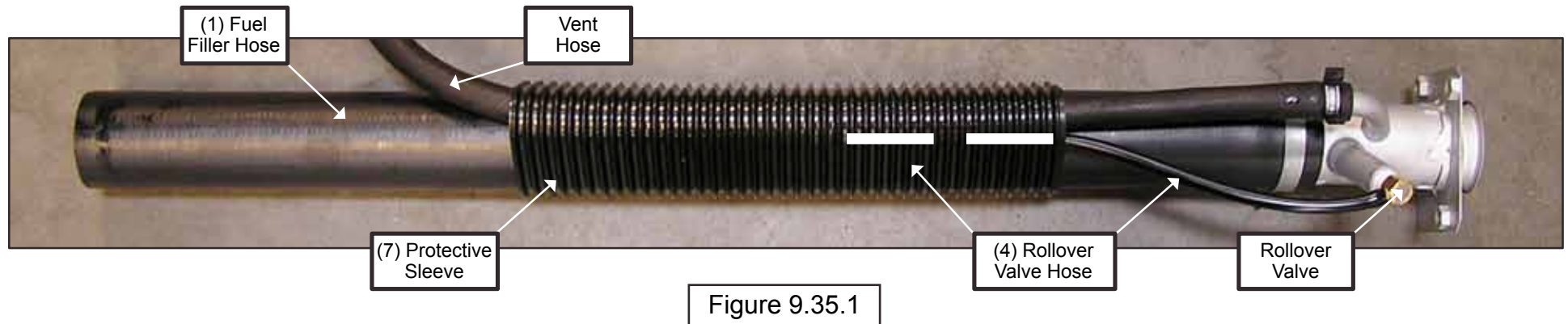


Figure 9.34.3

The fuel filler hose should be installed flush against the tank.
The clamp should be installed between 1/16" and 3/8" from the tank.
This is shown in **Figure 9.34.3** to the right.

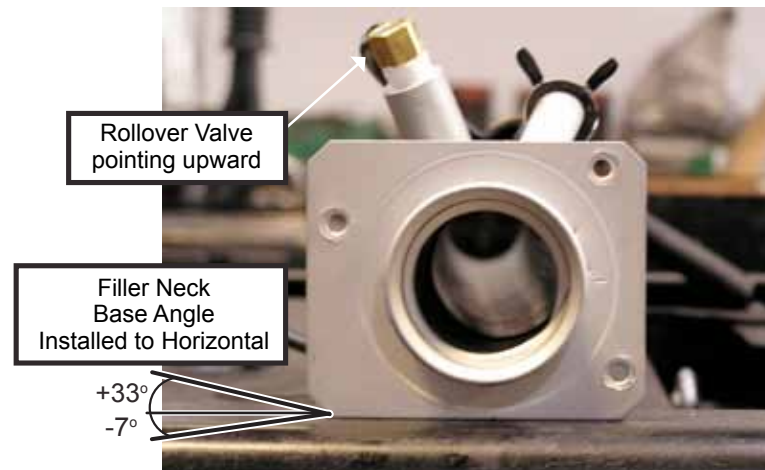
Roll-Over Valve Tubing

The roll-over valve has a hose attachment that will make this valve less sensitive to water intrusion. In order for the valve to work properly, it is critical that the hose be installed to the rollover valve. The proper assembly of the outer hose is shown in **Figure 9.35.1**.



Filler Neck Installation

The fuel filler neck (5) must be installed with the proper orientation on the body. The neck should be installed with the roll-over valve pointing upward, with the bottom edge of the neck oriented parallel to the ground, plus 33 to minus 7 degrees. See **Figure 9.35.2** for the proper orientation.



2017 Chevrolet Low Cab Forward

4500HD Diesel Specifications

| | |
|---------------------------|---|
| MODEL | 4500HD Diesel |
| GVWR | 14,500 lbs. |
| WB | 109 in, 132.5 in, 150 in. 176 in. |
| ENGINE | Isuzu 4-cylinder, in-line 4-cycle, turbocharged, intercooled, direct injection diesel. |
| Model/Displacement | 4HK1-TC/317 CID (5.19 liters) |
| HP (Gross) | 14,500 GVWR 215 HP @ 2500 RPM w Automatic Transmission |
| Torque(Gross) | 14,500 GVWR 452 lb/ft torque @ 1850 RPM w/ Automatic Trans |
| Equipment | Dry element air cleaner with vertical intake; 2 rows 564 in ² . radiator; 7 blade 20.1in diameter fan with viscous drive. Cold weather starting device and an oil cooler. Engine oil level check. Engine warning system with audible warning for low oil pressure, high coolant temperature, and low coolant level. Engine cruise control function. Rear engine cover. |
| TRANSMISSION | Aisin A465 6 speed automatic transmission with fifth and sixth gear overdrive with lock up in 2nd, 3rd, 4th, 5th and 6th. PTO capability with automatic torque converter lockup in stationary PTO mode. |
| STEERING | Integral power steering 18.8-20.9:1 ratio. Tilt and telescoping steering column. |
| FRONT AXLE | Reverse Elliot I" -Beam rated at 6,830 lbs. |
| Suspension | Semi-elliptical steel alloy tapered leaf springs with stabilizer bar and shock absorbers. |
| GAWR | 5,360 lbs. |
| REAR AXLE | Full floating single speed with hypoid gearing rated at 11,020 lbs. |
| Suspension | Semi-elliptical steel alloy multi-leaf springs and shock absorbers. |
| GAWR | 9,880 lbs. |
| WHEELS | 16x6.0-K 6 hole disc wheels, painted white. |
| TIRES | 215/85R-16E (10 pr) LRR (Low Rolling Resistance) tubeless steel belted radials, all season front and rear. |
| BRAKES | Dual circuit vacuum assisted hydraulic service brakes with EBD (Electronic Brake Distribution) system for load proportioning of the brake system front disc and self-ad just outboard mounted drum rear. The parking brake is a mechanical, cable actuated, internal expanding drum type, transmission mounted. The exhaust brake is standard and is vacuum operated. 4 channel anti-lock brake system. |
| FUEL TANK | 30 gal. rectangular steel fuel tank mounted in frame rail behind rear axle. Fuel water separator with indicator light on instrument cluster. |
| FRAME | Ladder type channel section straight frame rail 33.5 in wide through the total length of the frame. Yield strength 44,000 psi, section modulus 7.20 in3. RBM 316,800. |
| CAB | All steel low cab forward, BBC 70.7 in, 45° mechanical tilt with torsion assist. |
| Equipment | TRICOT breathable cloth covered high back driver's seat with two occupant passenger seat. Dual cab mounted exterior mirrors with integral convex mirror, AM/FM CD stereo radio. Tilt and telescoping steering column. Power windows and door locks, floor mats, tinted glass. |
| ELECTRICAL | 12 Volt, negative ground, dual maintenance free batteries, 750 CCA each, 140 Amp alternator with integral regulator. |
| OPTIONS | See last page for options |

NOTE: These selected specifications are subject to change without notice.

2017 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

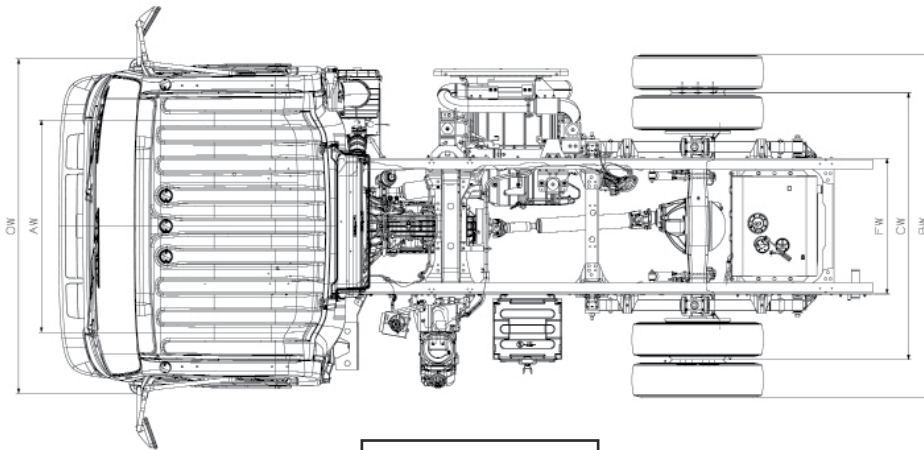


Figure 10.2.1

Dimension Constants:

| Code | Inches | Code | Inches |
|------|----------|------|--------|
| AH | 7.5 | BW | 83.3 |
| AW | 65.6 | CW | 65.0 |
| BA | 48.3 | FW | 33.5 |
| BBC | 70.7 | OH | 90.8 |
| BOC | 7.7/10.2 | OW | 81.3 |
| FH | 31.1 | | |

* BOC 7.7 in. w/ 109.0 and 132.5 wb
BOC 10.2 in. w/ 150.0 and 176.0 wb

Variable Chassis Dimensions:

| Unit | WB | CA* | CE* | OAL | AF |
|------|-------|-------|-------|-------|------|
| Inch | 109.0 | 86.5 | 129.6 | 200.5 | 43.1 |
| Inch | 132.5 | 110.0 | 153.1 | 224.0 | 43.1 |
| Inch | 150.0 | 127.5 | 170.6 | 241.5 | 43.1 |
| Inch | 176.0 | 153.5 | 196.6 | 267.5 | 43.1 |

* Effective CA & CE are CA or CE less BOC

Vertical Exhaust Option Dimensions:

Variable Chassis Dimensions:

| Unit | WB | EFF CA* | EFF CE* | OAL | AF |
|------|-------|---------|---------|-------|------|
| Inch | 109.0 | 62.5 | 105.6 | 200.5 | 43.1 |
| Inch | 132.5 | 86.0 | 153.1 | 224.0 | 43.1 |
| Inch | 150.0 | 103.5 | 146.6 | 241.5 | 43.1 |
| Inch | 176.0 | 129.5 | 172.6 | 267.5 | 43.1 |

* Effective CA & CE listed are standard CA or CE less vertical exhaust BOC of 24 inches.

Vertical Exhaust BOC = 24 inches

In-Frame Tank

14,500 lb. GVWR Automatic Transmission Model

Chassis Curb and Maximum Payload Weights

| Model | WB | RPO | Unit | Front | Rear | Total | Payload |
|--------|-----------|-----|------|-------|------|-------|---------|
| T31003 | 109.0 in. | EB4 | lb. | 3907 | 2057 | 5964 | 8536 |
| T32003 | 132.5 in. | FNJ | lb. | 3999 | 2054 | 6053 | 8447 |
| T33003 | 150.0 in. | FWH | lb. | 4061 | 2034 | 6095 | 8405 |
| T34003 | 176.0 in. | FNW | lb. | 4123 | 2027 | 6150 | 8350 |

Side Mounted Tank (Aux. Tank)

14,500 lb. GVWR Automatic Transmission Model

Chassis Curb and Maximum Payload Weights

| Model | WB | RPO | Unit | Front | Rear | Total | Payload |
|--------|-----------|-----|------|-------|------|-------|---------|
| T34003 | 176.0 in. | FNW | lb. | 4258 | 1903 | 6161 | 8339 |

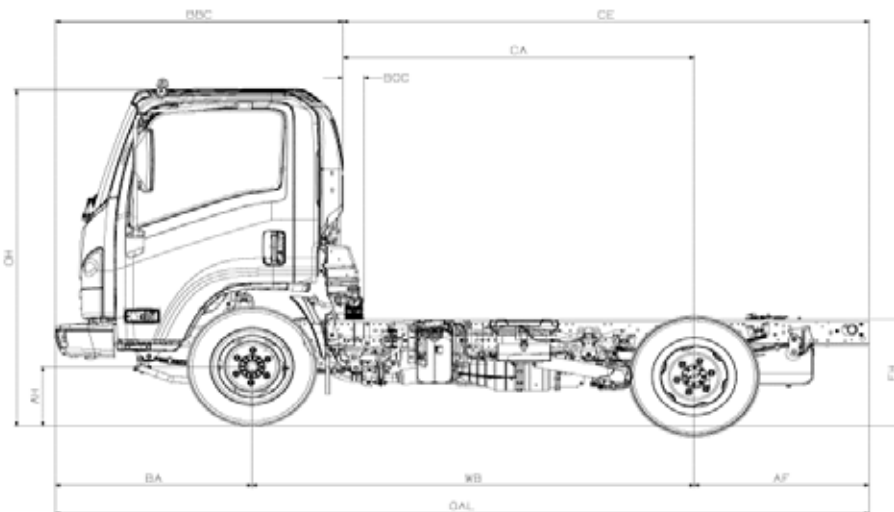


Figure 10.2.2

2017 Chevrolet Low Cab Forward

Vehicle Weight Limits:

GVWR Designed Maximum 14,500 lbs.

GAWR, Front 5,360 lbs.

GAWR, Rear 9,880 lbs.

Technical Notes:

Chassis Curb Weight reflects standard equipment and fuel but no driver or payload.

Maximum Payload Weight is the allowed maximum for equipment, body, payload and driver and is calculated by subtracting chassis curb weight from the GVWR.

| Weights for Options | | |
|---------------------|--|----------------------|
| RPO (1) | Option Description | Front / Rear Lbs. |
| NPV | Cross rail horizontal DPF/SCR with vertical exhaust (8) | 100 / 100 |
| 9D2 | Speed Limited to 58 MPH | 0 / 0 |
| 9C2 | Speed Limited to 65 MPH | 0 / 0 |
| 9E2 | Speed Limited to 68 MPH | 0 / 0 |
| ATG | Keyless entry | 3 / 0 |
| 9B9 | Speed Limited to 70 MPH | 0 / 0 |
| AJG | Suspension seat | 18 / 0 |
| KO5 | Block Heater (cord) | 1 / 0 |
| KPG | Locking DEF tank cap | 0 / 0 |
| UIZ | AM/FM/CD Radio with Ax input/USB port and Bluetooth | 0 / 0 |
| KQJ | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| DB6 | Heated dual remote control mirrors (15" head) | 3 / 0 |
| G7M | Air Deflector roof mounted (not available in Crew Cab) | 64 / 0 |
| MTE | Fire Extinguisher and Triangle Kit mounted in rear organizer | 19 / 0 |
| KPK | Engine Oil Pan Heater (120v 300w) | 2 / 0 |
| KPJ | Engine emergency shutdown system HWT, LWL, LOP (4) | 0 / 0 |
| NLX | 33 Gallon Additional Diesel Fuel Tank mounted on LH side 150, 176 wb, std. cab | (7) |
| PTO | PTO Enable Switch and Engine Idle Up Switch recommended for PTO and Idle applications only (2) | 1 / 0 |
| DB8 | Heated Mirrors | 1 / 0 |
| TBD | Mirror Bracket for 102" wide body | 1 / 0 |
| 9W8 | Seat Covers Standard Cab (9) | 6 / 0 |
| IX2 | Rear Body Dome Lamp Switch (6) | 1 / 0 |
| UL5 | Delete Standard AM/FM/CD Radio | --3/0 |
| KQN | Engine Idle Shutdown (Timer set at 5 minutes for engine shutdown) | 0 / 0 |
| UZF | Back up alarm | 0 / 2 |
| V22 | Chrome Grille | 1 / 0 |

2017 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

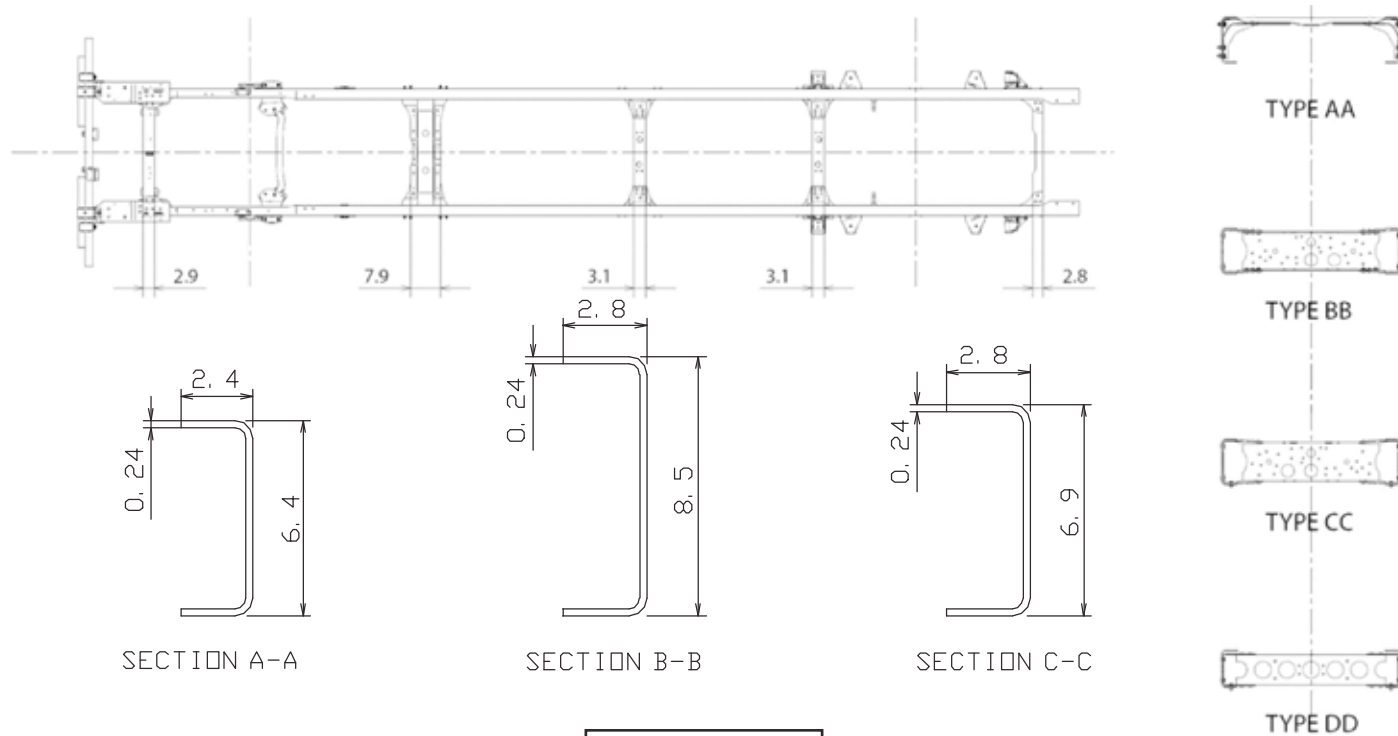


Figure 10.4.1

| Wheelbase | Frame Thickness | Crossmember Type/Location | | | | | | | | | |
|-----------|-----------------|---------------------------|-----|----|------|----|------|----|------|----|------|
| | | B | C | D | | E | | F | | G | |
| 109 | 0.24 | 28.3 | 8.2 | AA | 46.5 | - | | CC | 24.2 | DD | 33.8 |
| 132.5 | 0.24 | 28.3 | 8.2 | AA | 46.5 | BB | 57.5 | CC | 24.2 | DD | 33.8 |
| 150 | 0.24 | 28.3 | 8.2 | AA | 46.5 | BB | 57.9 | CC | 24.2 | DD | 33.8 |
| 176 | 0.24 | 28.3 | 8.2 | AA | 46.5 | BB | 74.4 | CC | 24.2 | DD | 33.8 |

Figure 10.4.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Frame Chart

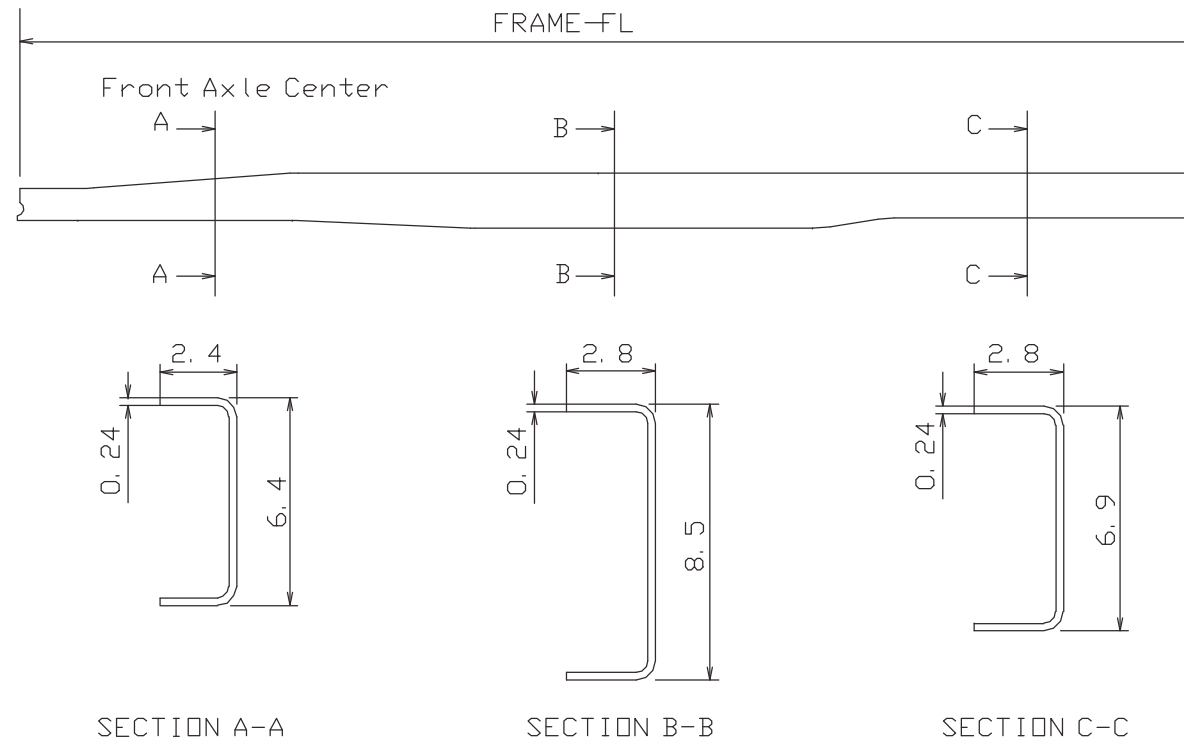


Figure 10.5.1

| Wheelbase | Frame FL | Frame Thickness |
|-----------|----------|-----------------|
| 109.0 | 182.5 | 0.24 |
| 132.5 | 206.1 | 0.24 |
| 150.0 | 223.8 | 0.24 |
| 176.0 | 249.8 | 0.24 |

Figure 10.5.2

2017 Chevrolet Low Cab Forward

4500HD Diesel Standard Cab - Top View

| WB | A | B |
|-------|------|------|
| 109 | 43.4 | 78.0 |
| 132.5 | 49.7 | 84.3 |
| 150 | 43.4 | 78.0 |
| 176 | 43.4 | 78.0 |

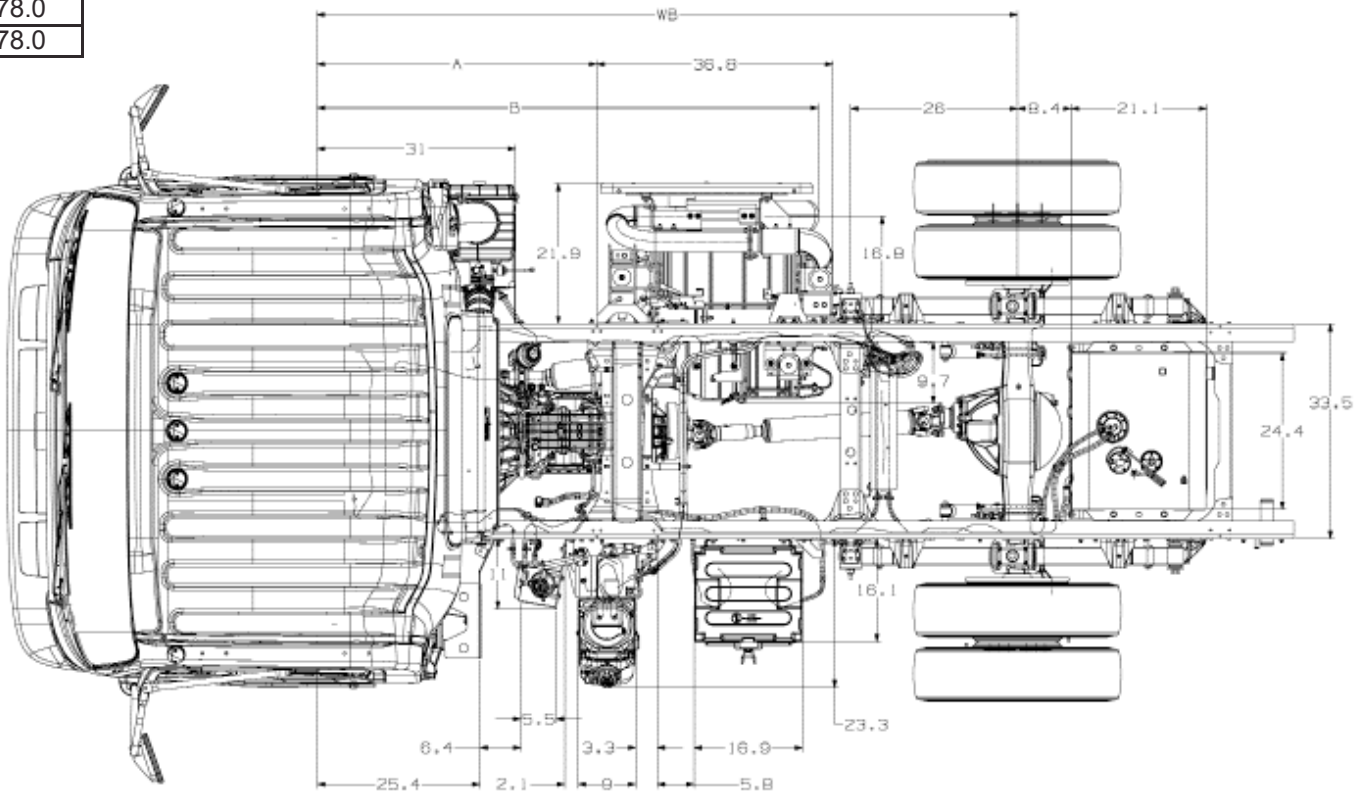


Figure 10.6.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

4500HD Diesel Standard Cab - Left Side View

| WB | A |
|-------|------|
| 109 | 80.7 |
| 132.5 | 87.0 |
| 150 | 80.7 |
| 176 | 80.7 |

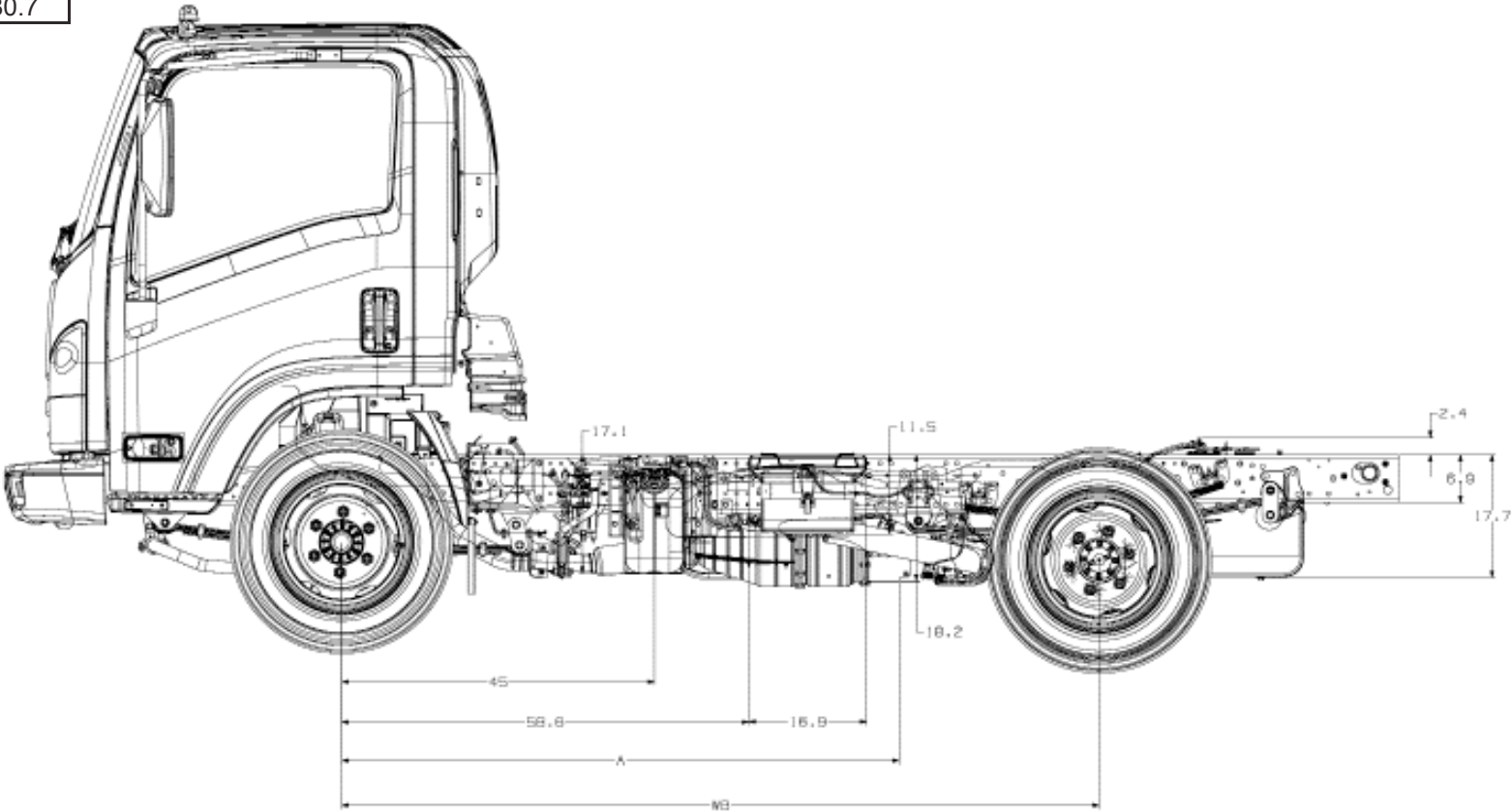


Figure 10.7.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

4500HD Diesel Standard Cab - Right Side View

| WB | A |
|-------|------|
| 109 | 44.0 |
| 132.5 | 50.3 |
| 150 | 44.0 |
| 176 | 44.0 |

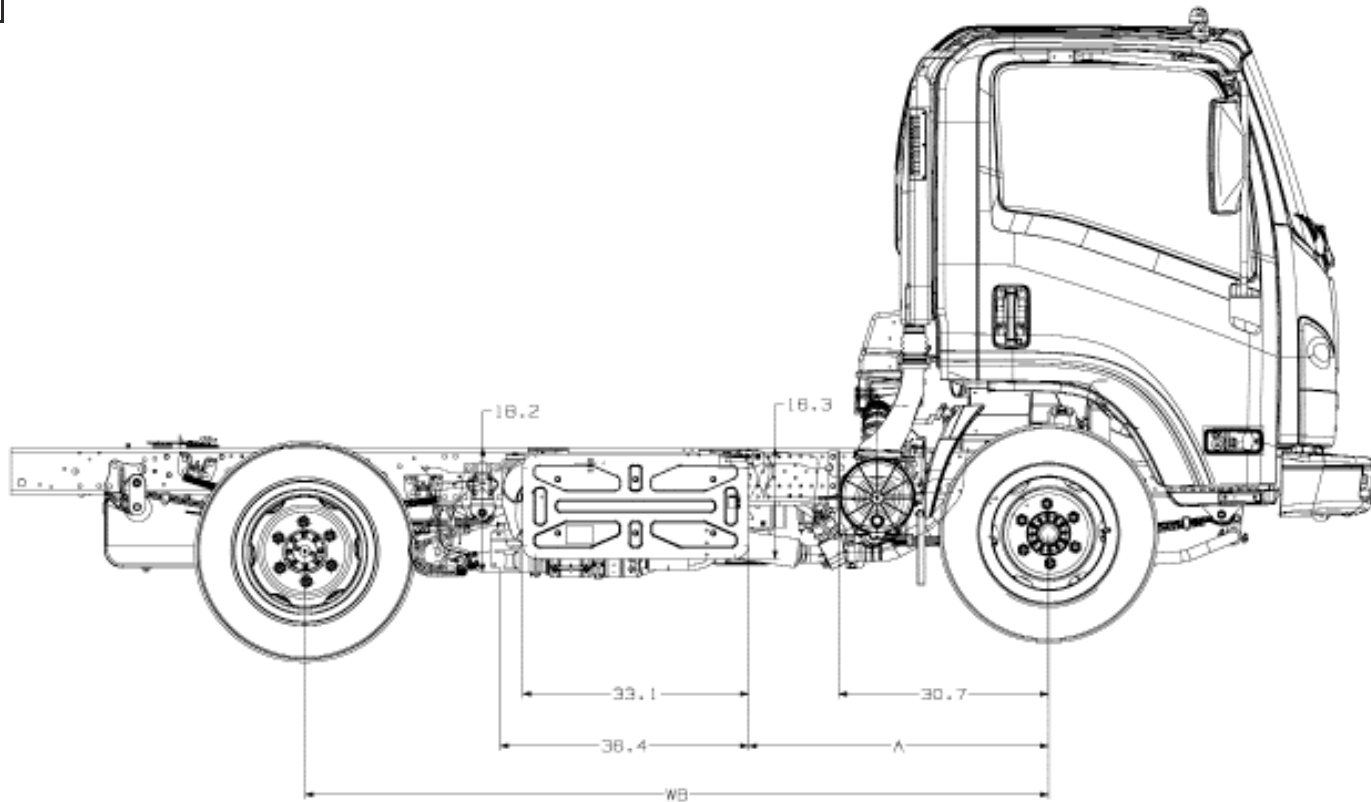


Figure 10.8.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

PAGE 10.9

SCR / DPF 4HK1-TC

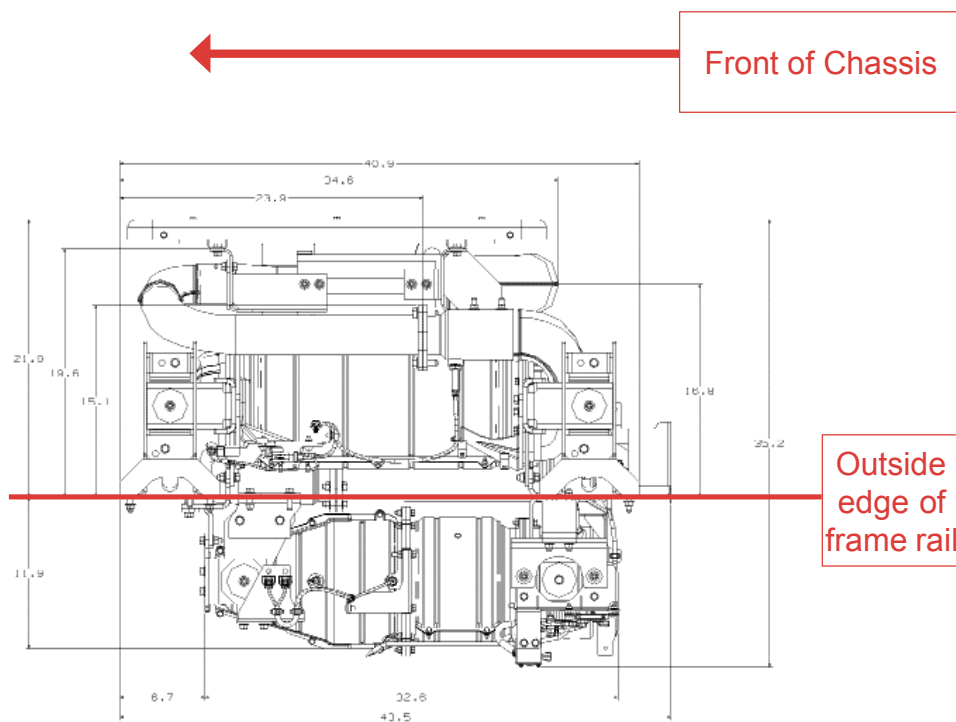


Figure 10.9.1

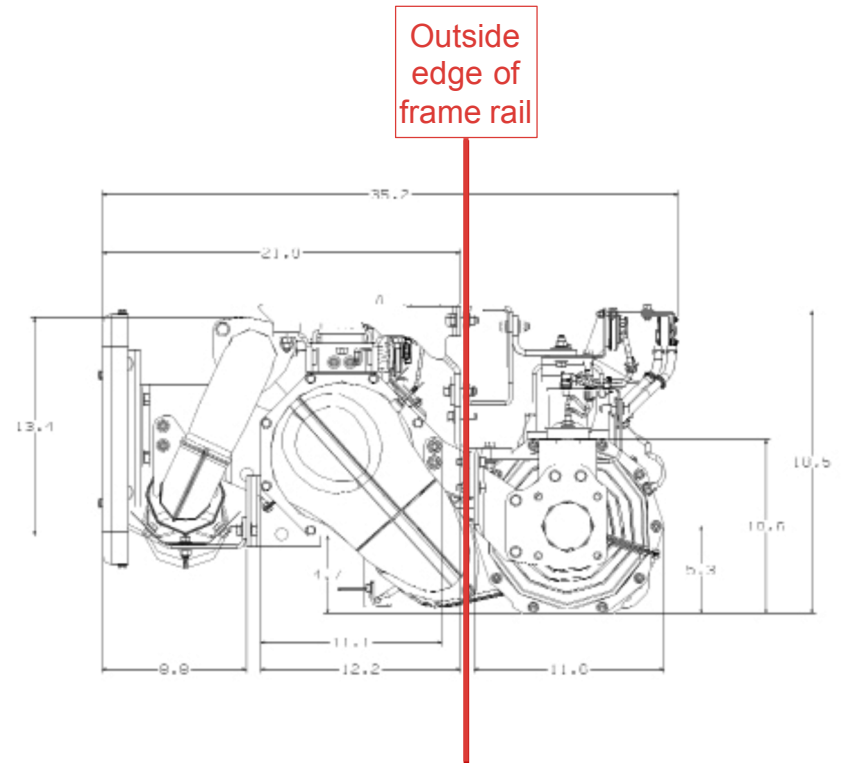


Figure 10.9.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

PAGE 10.10

Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX
Side View 150 Wheelbase

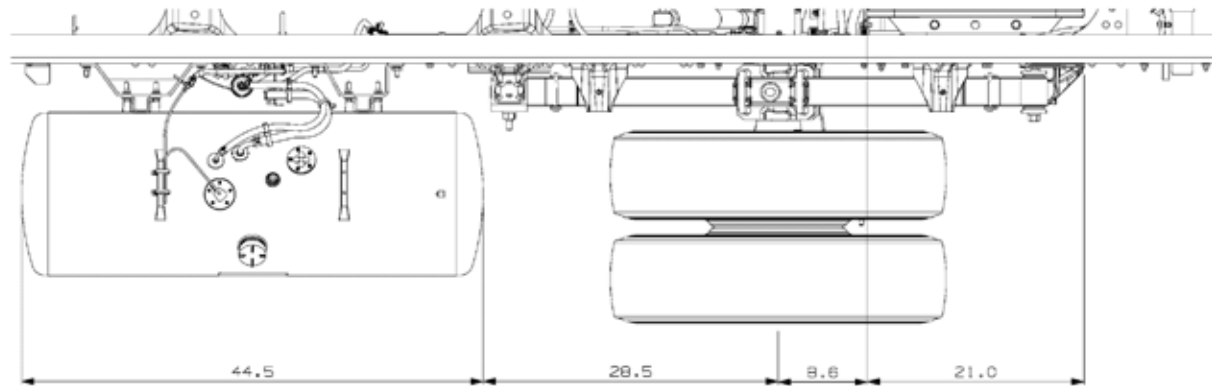


Figure 10.10.1

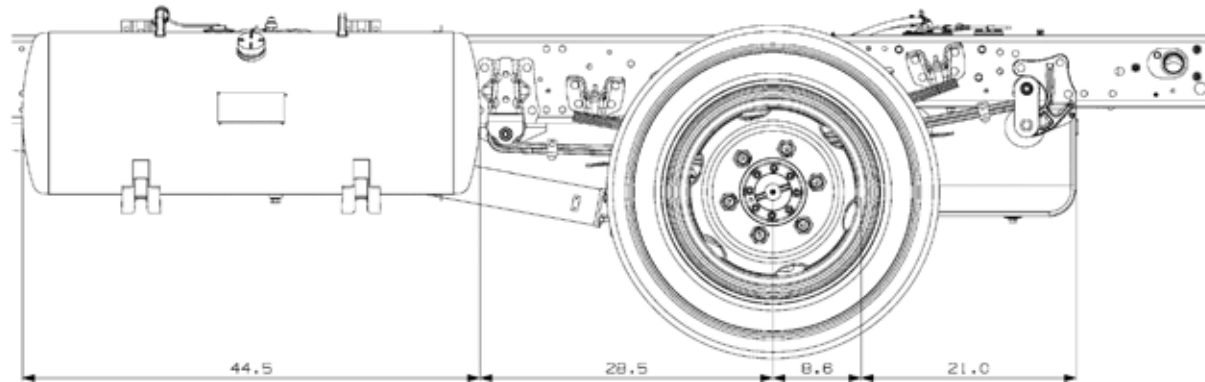


Figure 10.10.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

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Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX
Side View 176 Wheelbase

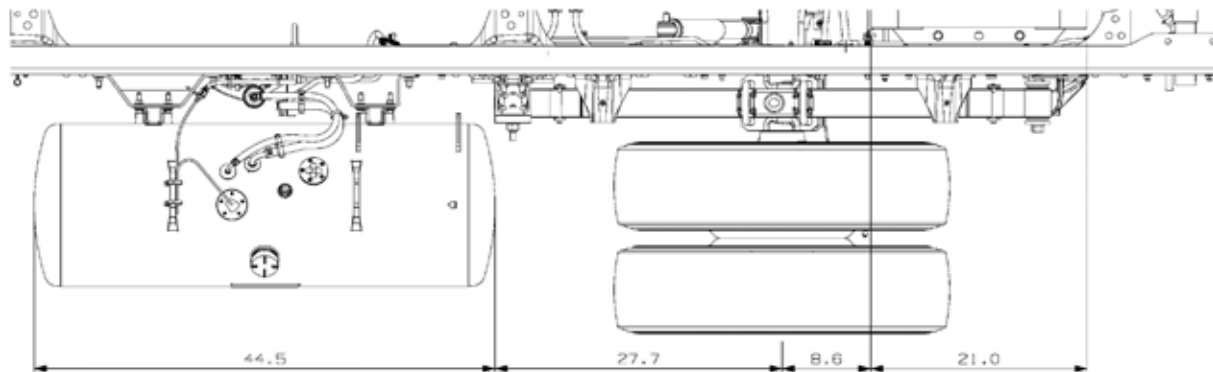


Figure 10.11.1

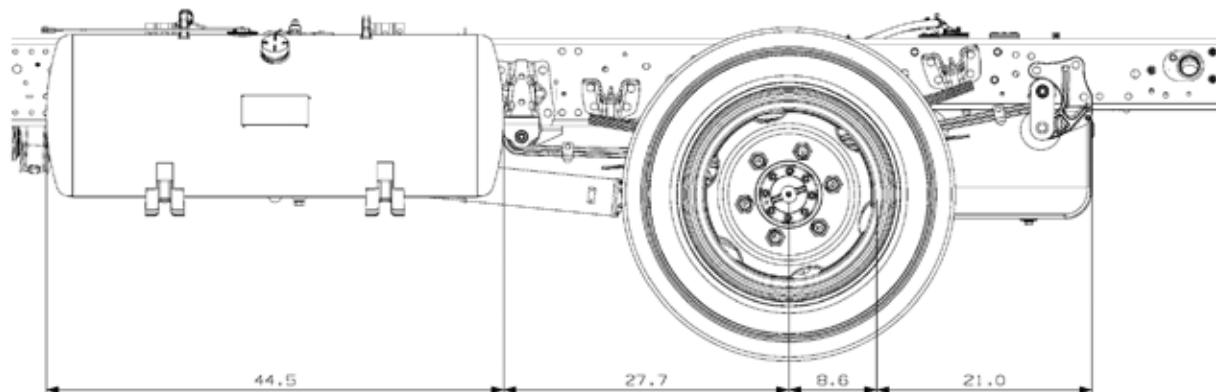


Figure 10.11.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

| | |
|------|-------|
| PAGE | 10.12 |
|------|-------|

Option Side Fuel Tank in place of the Standard In Rail Fuel Tank on

T34003 ONLY

Side View 176 Wheelbase

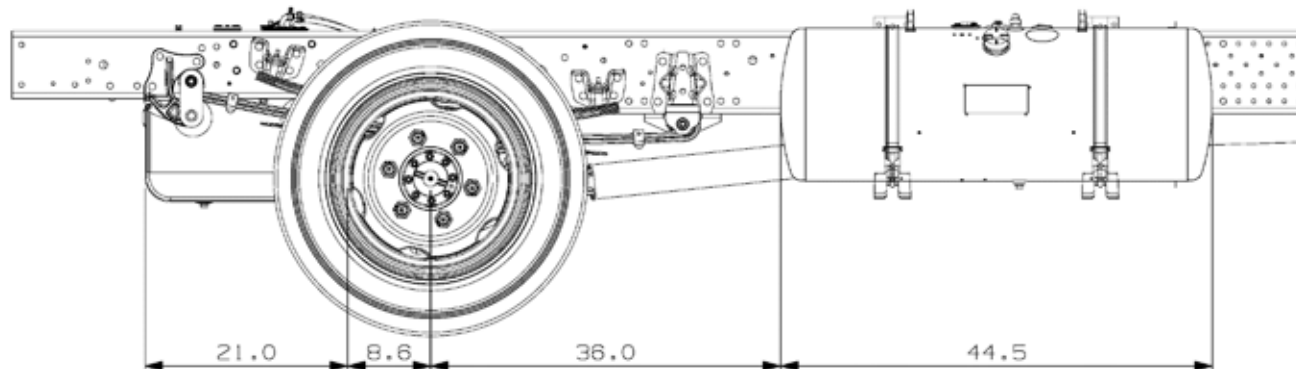


Figure 10.12.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

| | |
|------|-------|
| PAGE | 10.13 |
|------|-------|

Optional Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX
(150 and 176 WB, LH rail only)

Optional Side Fuel Tank replacing standard In Rail Fuel Tank
(176 WB only, RH rail only)

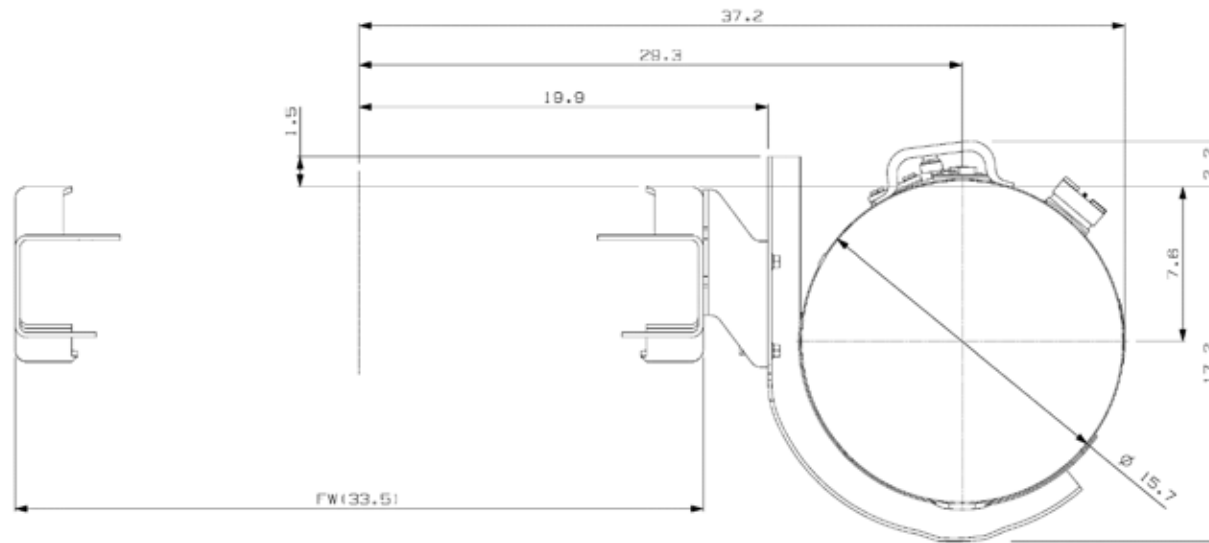


Figure 10.13.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

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Cab Tilt

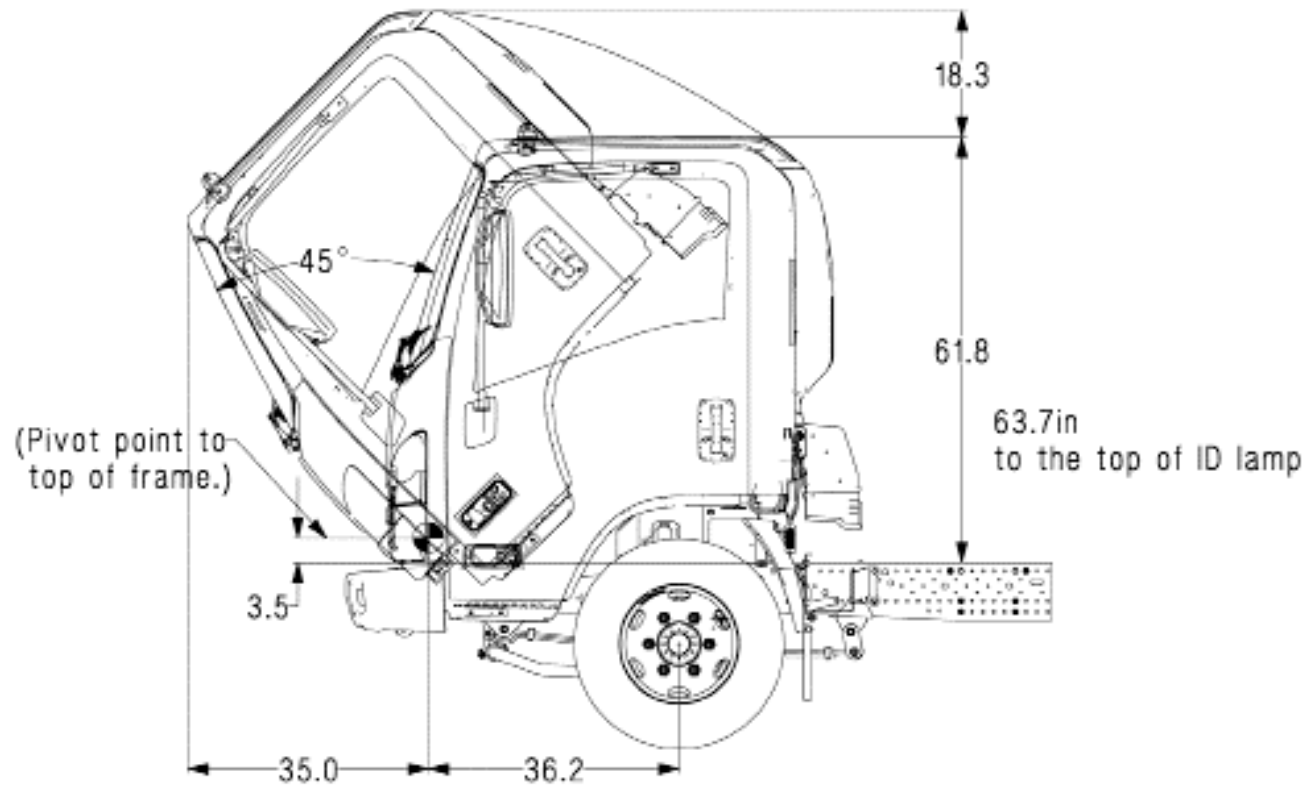


Figure 10.14.1

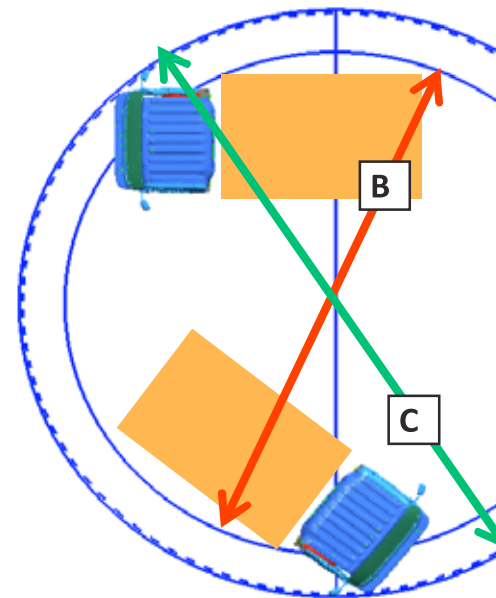
Dimensions in inches

TURNING DIAMETERS

The LCF Diesel steering also features a 49.5 inside wheel cut angle. This, coupled with the integral power steering, makes the LCF Diesel an extremely maneuverable truck.

B=Minimum turning diameter
curb to curb

C=Minimum turning diameter
wall to wall



LCF Diesel Turning Circle Diagram

Figure 10.15.1

| WB | B curb to curb | C (ft. wall to wall (ft.)) |
|-------|-------------------|-------------------------------|
| 109.0 | 31.5 | 37.1 |
| 132.0 | 38.7 | 44.0 |
| 150.0 | 42.7 | 48.9 |
| 176.0 | 51.2 | 56.4 |

2017 Chevrolet Low Cab Forward

Center of Gravity

| Horizontal and Vertical CG of Chassis | | | |
|---------------------------------------|------|---------------|-----------|
| WB | V | H | H |
| | | in frame tank | side tank |
| 110 | 22.2 | 36.2 | N/A |
| 132.5 | 22.1 | 42.7 | N/A |
| 150 | 22.0 | 47.7 | N/A |
| 176 | 22.0 | 55.0 | 50.3 |

Figure 10.16.1

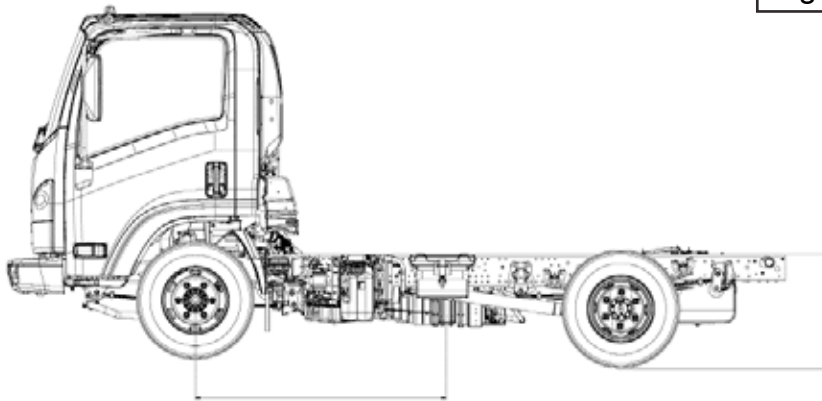


Figure 10.16.2

The maximum vertical center of gravity specified below must not be exceeded at maximum GVWR and rated front and rear GAWR. The Center of Gravity (CG) maximum is 63" (1600 mm) above the ground. (LCF Cab Chassis and LCF Stripped Chassis)

NOTE: The Final Manufacturer must ensure that the combined vertical center of gravity of the chassis, body, and available payload at full GVW does not exceed the maximum vertical center of gravity outlined in the Chevrolet LCF Incomplete Vehicle Document and the GM Body Builders Guide.

The maximum dimensions for a body installed on the LCF chassis are 102 inches wide (outside*) by 91 inches high (inside). Any larger body applications must be approved by GM Upfitter Engineering. Contact us on GMUpfitter.com.

* With 102 inches wide mirror brackets installed in place of standard mirror brackets

Dimensions in inches

2017 Chevrolet Low Cab Forward

Front Axle Chart

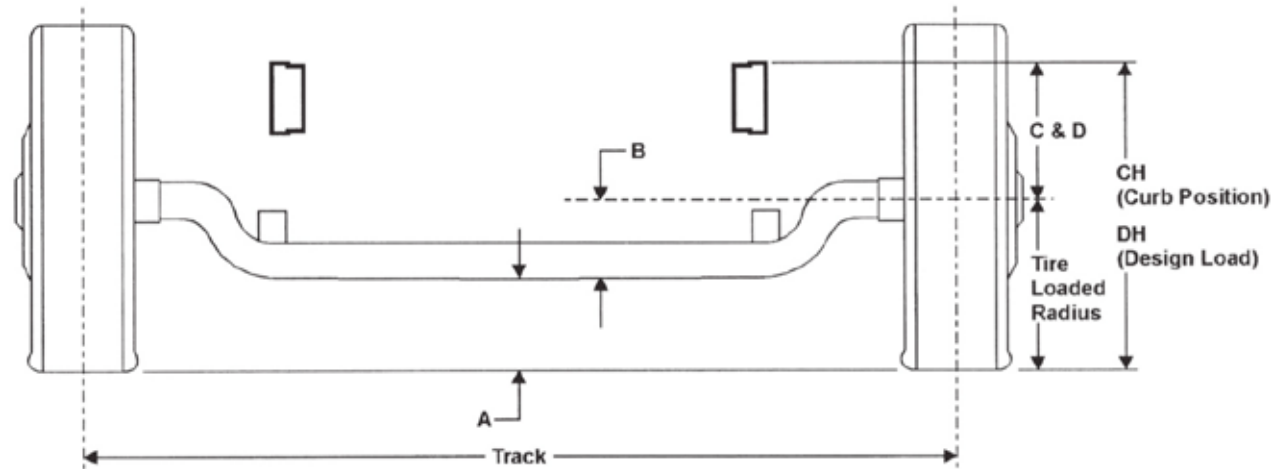


Figure 10.17.1

Formulas for calculating height dimensions:

- A = Tire Loaded Radius – B
- C = Centerline of Axle to Top of Frame Rail at Curb Position
- D = Centerline of Axle to Top of Frame Rail at Design Load
- CH = C + Tire Unloaded Radius
- DH = D + Tire Loaded Radius

| Tire | GVWR | GAWR | A | B | C | D | CH | DH | Track | Tire Radius | |
|--------------|-------------|------------|-----|-----|------|------|------|------|-------|-------------|------|
| | | | | | | | | | | Unload | Load |
| 215/85R 16-E | 14,500 lbs. | 5,360 lbs. | 7.5 | 6.6 | 12.8 | 11.7 | 27.4 | 25.8 | 65.5 | 14.6 | 14.1 |

Figure 10.17.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

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Rear Axle Chart

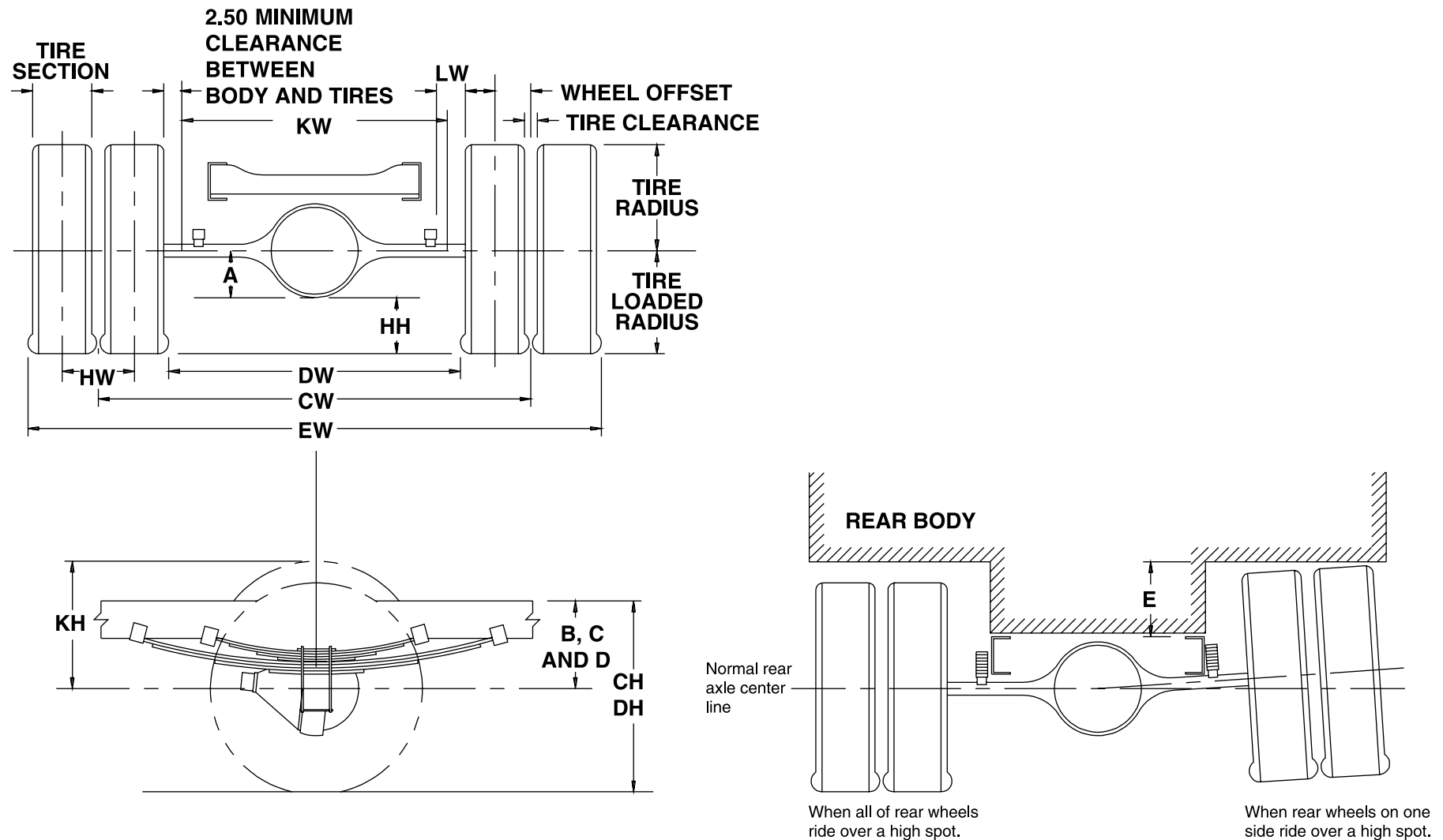


Figure 10.18.1

2017 Chevrolet Low Cab Forward

| Definitions | | | |
|---|--|----|--|
| A | Centerline of axle to bottom of axle bowl. | DW | Minimum distance between the inner surfaces of the rear tires. |
| B | Centerline of axle to top of frame rail at metal-to-metal position. | EW | Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires. |
| C | Centerline of axle to top of frame rail at curb position. | | |
| D | Centerline of axle to top of frame rail at design load. | HH | Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line. |
| E | Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vertical centerline of the rear axle, when rear wheels on one side ride over a high spot. | HW | Dual Tire Spacing: Distance between the centerlines of the minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot. |
| CH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position. | CW | Track Dual Rear Wheel Vehicles: Distance between the centerlines of the dual wheels measured at the ground-line. |
| DH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load. | | |
| Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance | | | See Tire Chart for Values |

Figure 10.19.1

| Formulas for Calculating Rear Width and Height Dimensions | | | |
|---|--|----|---|
| CW | = Track | HH | = Tire loaded radius – A |
| CH | = Tire loaded radius + C | JH | = KH – B |
| DH | = Tire loaded radius + D | KH | = Tire radius + 3.00 inches |
| DW | = Track + 2 tire sections – tire clearance | KW | = DW – 5.00 inches |
| EW | = Track + 2 tire sections + tire clearance | LW | = 1.00-inch minimum clearance between tires and springs |

NOTE: Track and overall width may vary with optional equipment.

Figure 10.19.2

| Tire | GAWR | Track CW | A | B | C | D | E |
|--------------|------------|----------|-----|-----|------|------|-----|
| 215/85R 16-E | 9,880 lbs. | 65.0 | 6.5 | 9.3 | 15.4 | 13.0 | 7.8 |

Figure 10.19.3

Dimensions in inches

2017 Chevrolet Low Cab Forward

4500HD Suspension Deflection Charts

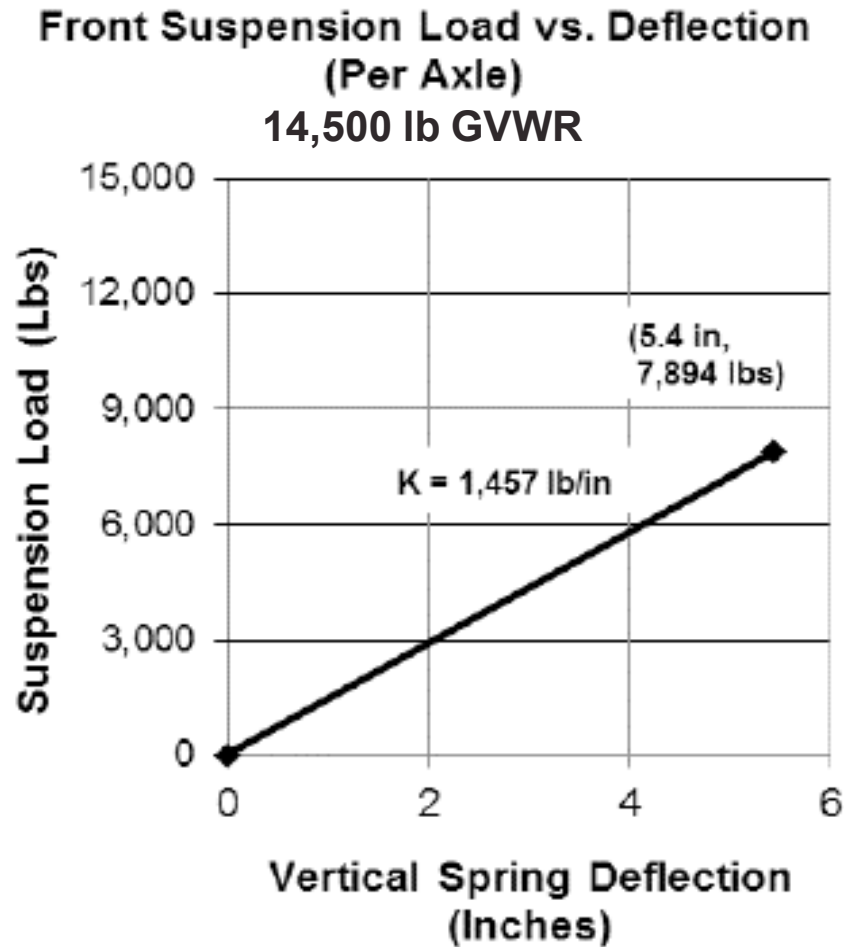


Figure 10.20.1

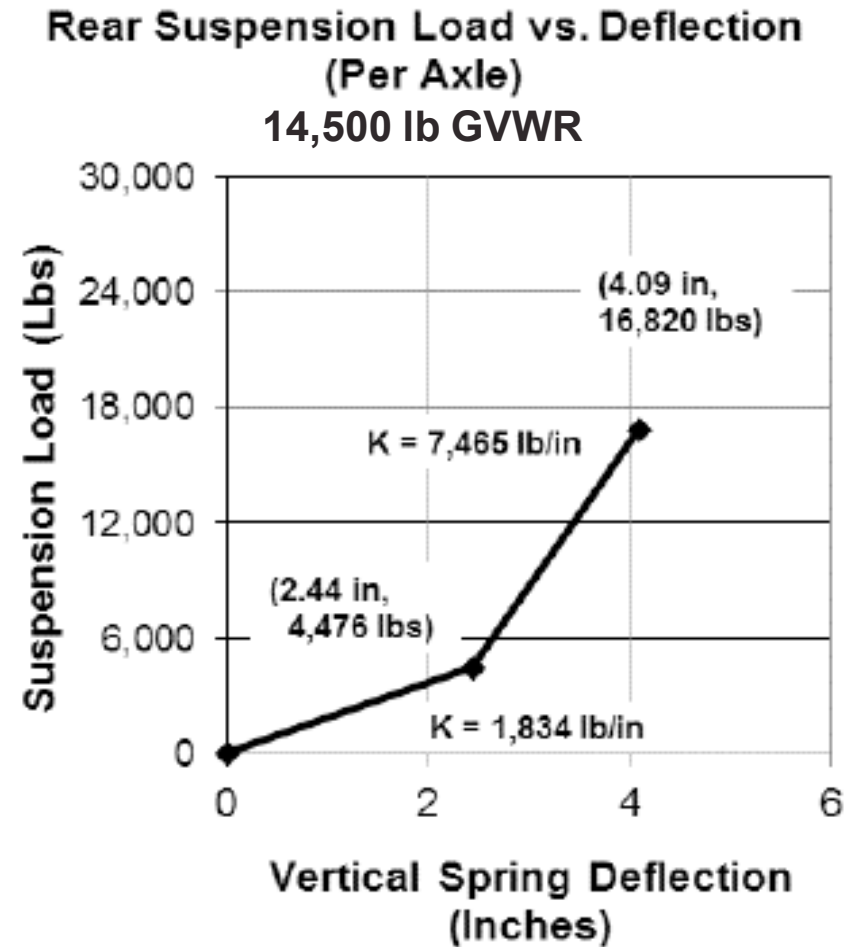


Figure 10.20.2

2017 Chevrolet Low Cab Forward

PAGE **10.21**

Tire and Disc Wheel Chart – 4500HD

Tire

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits (lbs.) | | GVWR (Lbs.) |
|-------------|--|-----|-------|-----|---------------------------------|--------|-------------|
| | Single | | Dual | | Front | Rear | |
| | Lbs. | PSI | Lbs. | PSI | 2 Single | 4 Dual | |
| 215/85R-16E | 3,315 | 85 | 3,115 | 85 | 6,630 | 12,460 | 14,500 |

Figure 10.21.1

| Tire Size | GVWR (Lbs.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|--------------|-------------|-------------|------|----------|------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 215/85R 16-E | 14,500 | 14.1 | 14.1 | 14.6 | 14.6 | 8.2 | 1.8 | 6.0 |

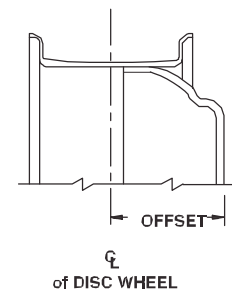
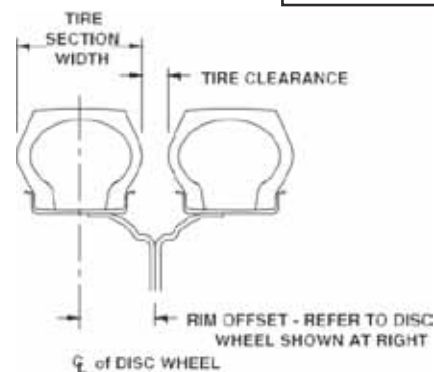
Figure 10.21.2

Disc Wheel

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|------------|------------|------------------|------------------------------|-----------------------------|-------------------------|--------------|----------------|----------------|----------|---------------|
| 16 x 6 K | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 325 ft-lb. (440 N•m) | 6.46 | 5.0 | 0.37 | 5° DC | Steel TOPY |

*O.D. Wrench Sizes

Figure 10.21.3

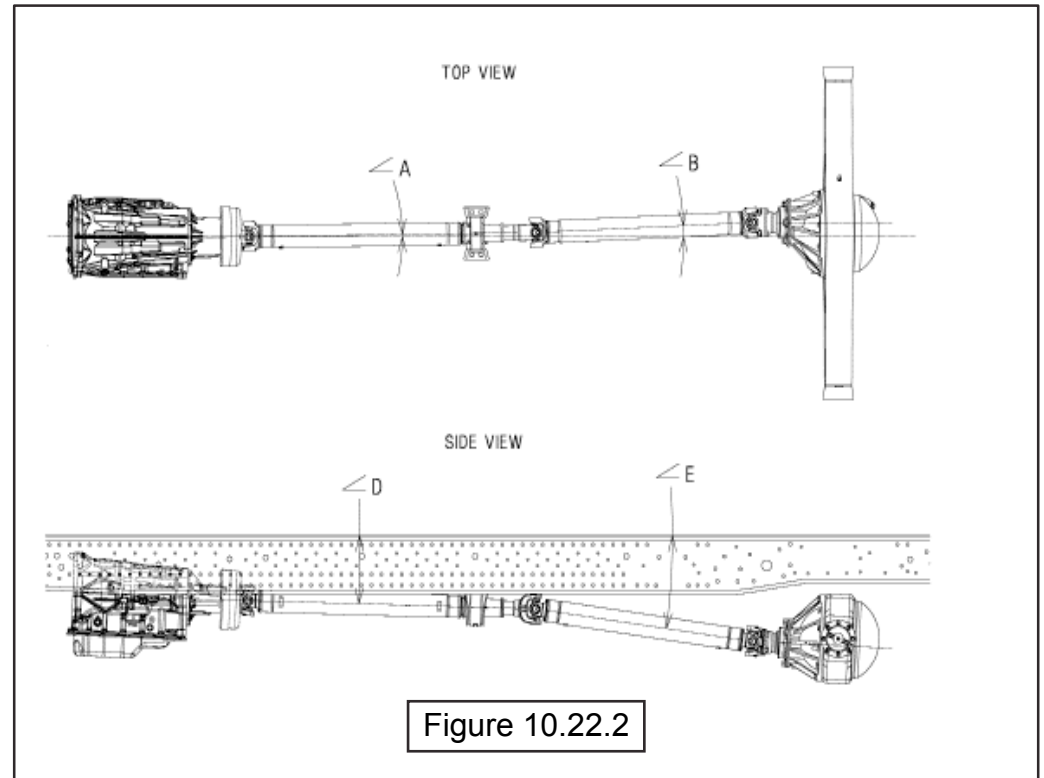
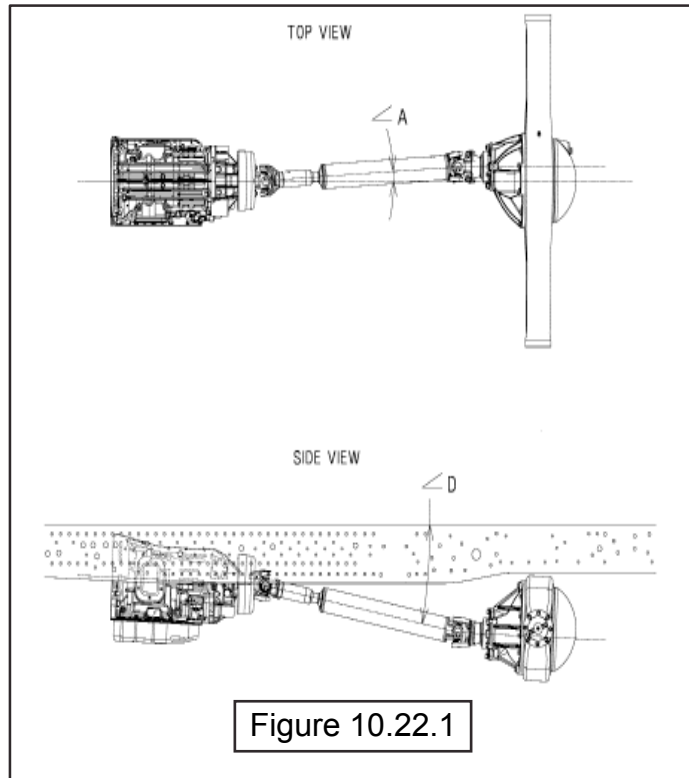


Dimensions in inches

Figure 10.21.4

2017 Chevrolet Low Cab Forward

Propeller Shaft



| WheelBase (in.) | Top View | | Side View | | | |
|--------------------|----------|------|-----------|------|-------|-----------|
| | ∠A | ∠B | ∠D | ∠E | Trans | Rear Axle |
| 109 | 2.5° | - | 10.6° | - | 2.5° | 2.5° |
| 132.5 | 0° | 2.7° | 5.3° | 7.4° | 2.5° | 2.5° |
| 150.0 | 0° | 2.7° | 2.6° | 8.0° | 2.5° | 2.5° |
| 176 | 0° | 1.8° | 2.1° | 5.4° | 2.5° | 2.5° |

Notes: 1. Angles provided in table are relative to the frame angle. Please take this into consideration for service measurements.
2. Driveline angles are based on the chassis curb weight which includes standard equipment, fuel but no driver, body, or payload.

2017 Chevrolet Low Cab Forward

PAGE **10.23**

Propeller Shaft

| | | | | |
|----------------------|-------------|--------------|-------------|-------------|
| Wheelbase | 109 | 132.5 | 150 | 176 |
| No. of Shafts | 1 | 2 | 2 | 2 |
| Trans. Type | 6A/T | 6A/T | 6A/T | 6A/T |
| | | | | |
| Shaft #1 O.D. | 3.25" | 3.25" | 3.25" | 3.25" |
| Thickness | 0.0906" | 0.0906" | 0.0906" | 0.0906" |
| Length | 36.69" | 16.97" | 34.29" | 43.47" |
| Type | A | B | B | B |
| | | | | |
| Shaft #2 O.D. | N/A | 3.25" | 3.25" | 3.25" |
| Thickness | N/A | 0.0906" | 0.0906" | 0.0906" |
| Length | N/A | 33.78" | 34.17" | 50.71" |
| Type | N/A | C | C | C |

Figure 10.23.1

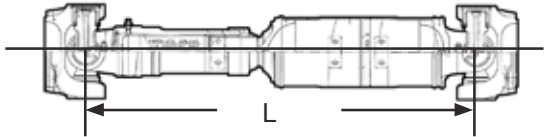
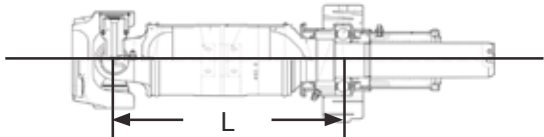
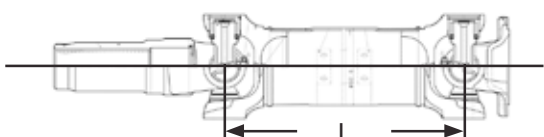
| Type | Description | Illustration |
|--------|--------------------------------|---|
| Type A | 1st shaft in 1-piece driveline |  |
| Type B | 1st shaft in 2-piece driveline |  |
| Type C | 2nd shaft in 2-piece driveline |  |

Figure 10.23.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Brake System Diagram 14,500 GVW

Vacuum Over Hydraulic

Please refer to Introduction Section of book for antilock system cautions and wheelbase modification requirements.

Legend for 3500, 3500HD, 4500, 4500HD, 4500XD Brake System

- (1) Electronic Hydraulic Control Unit (EHCU)
- (2) Rear Wheel Cylinder
- (3) Vacuum Pump
- (4) Check Valve
- (5) Exhaust Brake Valve
- (6) Magnetic Valve
- (7) Check Valve (One-way Valve)
- (8) Vacuum Tank
- (9) 4-Way Connector
- (10) With Metering Valve
- (11) W/O Metering Valve
- (12) Brake Fluid Reservoir
- (13) Electric Vacuum Pump
- (14) Master Cylinder
- (15) Vacuum Booster (Servo Unit)
- (16) Front Wheel Cylinder

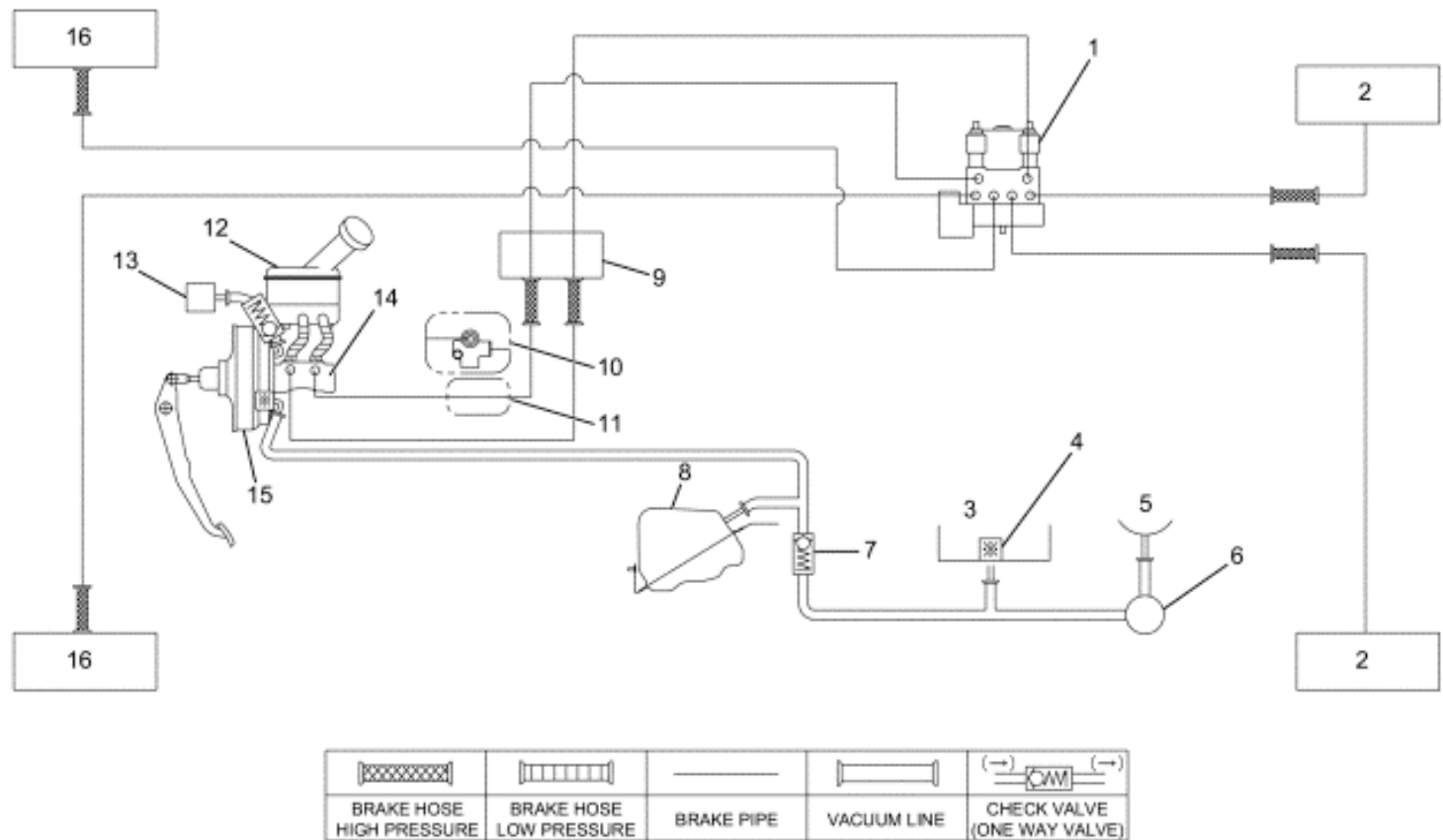


Figure 10.24.1

2017 Chevrolet Low Cab Forward

PTO Location, Drive Gear and Opening Information

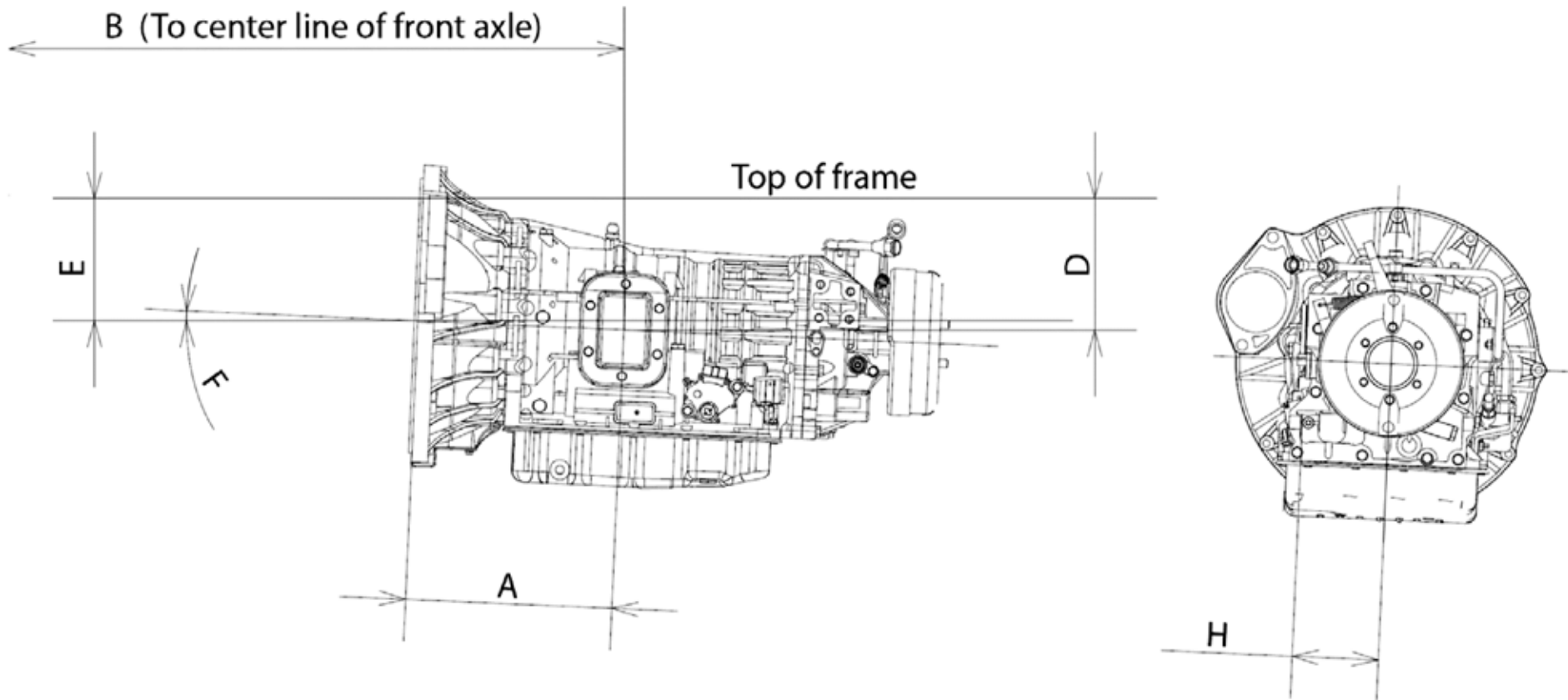


Figure 10.25.1

| Trans. | Opening Location | Bolt Pattern | A | B | C | D | E | F | H | PTO Drive Gear Location | Ratio of PTO Drv. Gear Spd. to Eng. Spd. | No. of Teeth | Pitch | Helix Angle | Max. Output Torque |
|-----------|------------------|--------------|-------|-------|---|------|------|------|------|-------------------------|--|--------------|-------|-------------|--------------------------|
| Aisin 465 | Left | (Dr2) | 12.35 | 36.89 | 0 | 7.85 | 7.31 | 2.5° | 5.16 | PTO Gear | 1:1 with turbine | 69 | N/A | 0 | 134 lbs.-ft. @ 1,700 RPM |

Figure 10.25.2

Revision: 06/14/2016

2017 Chevrolet Low Cab Forward

In-Frame Diesel Fuel Fill

Installation Instructions

1. Disconnect battery.
2. Loosen hose from the tie downs. Remove caps from plate on rail.
3. Install hoses onto the plate.
4. Extend hose out from the driver side of the rail to body rail.
5. The filler neck must be mounted to allow the fill plate bracket to be parallel to the frame horizontal.
6. Cover with protector wrap and secure with tie wraps.
7. Filler hose is set for 102 inches outside width body.
8. Filler neck (dimension A) must be between 6.85 inches and 8.5 inches above frame.
9. Secure the filler plate to the bottom of the body and check for leaks.
10. Ensure that fill hose does not sag, creating an area where the fuel could pool in the fill hose.
11. Reconnect battery.

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Rear View Fuel Fill

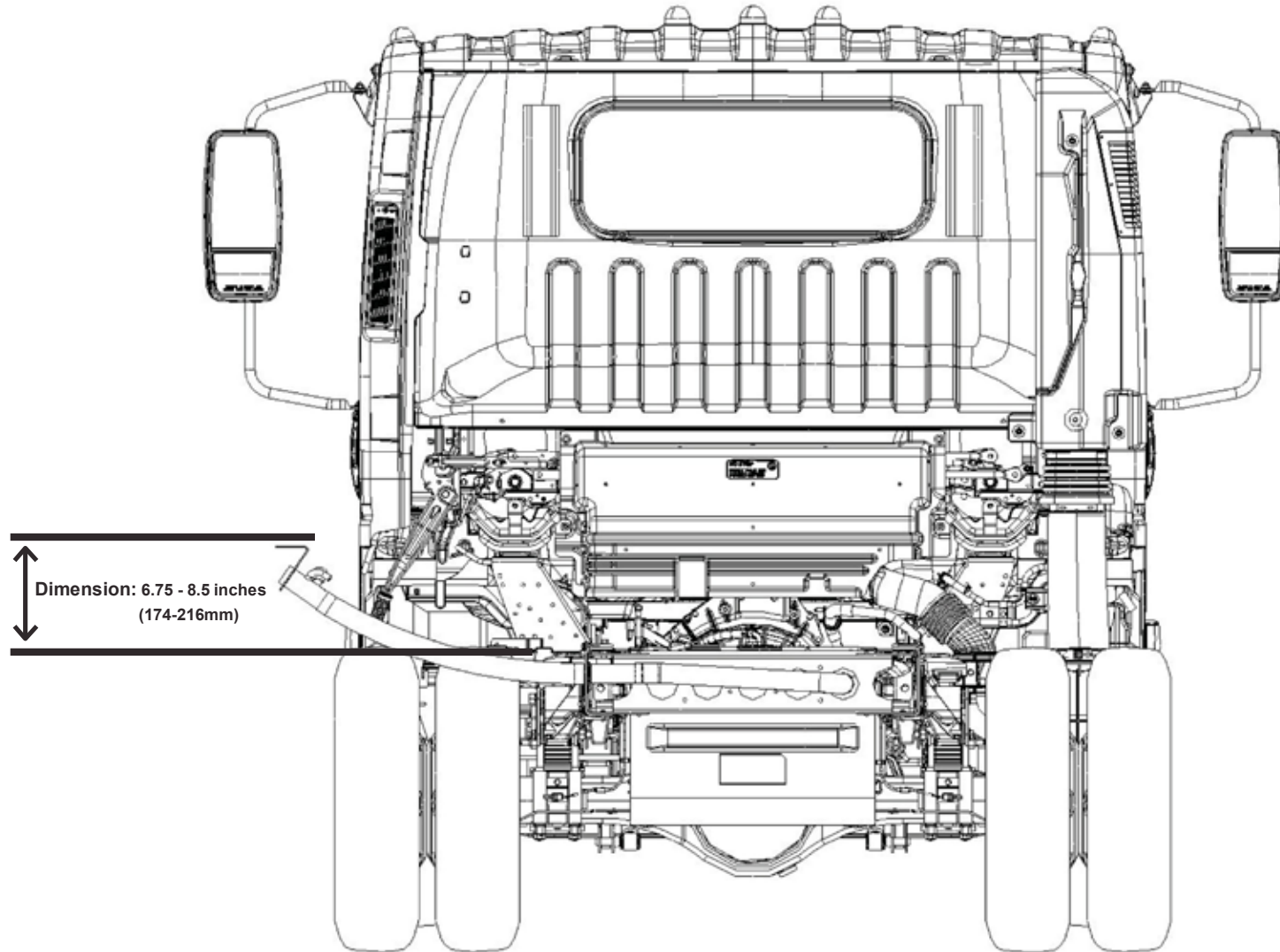


Figure 10.28.1

2017 Chevrolet Low Cab Forward

| | |
|------|-------|
| PAGE | 10.29 |
|------|-------|

Top View Fuel Fill

Dimensions:

B = 29.75 inches (756 mm)

C = 34.00 inches (863 mm)

D = 39.29 inches (998 mm)

E = 33.86 inches (860 mm)

F = 59.60 inches (1,514 mm)

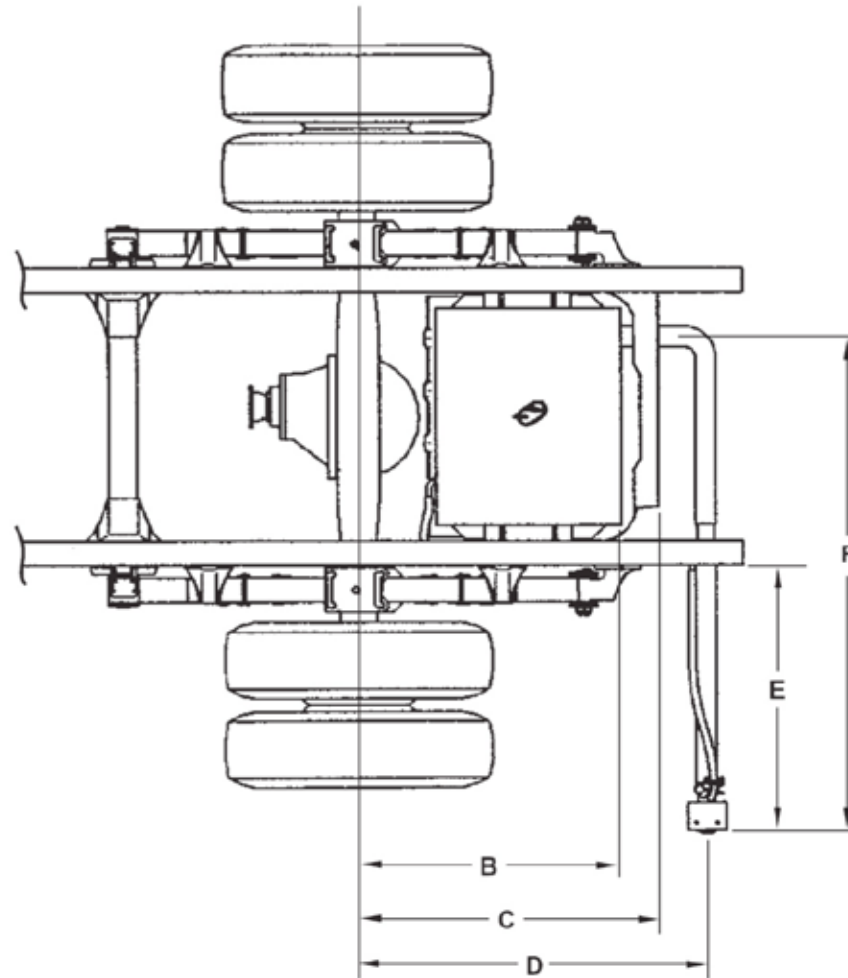


Figure 10.29.1

2017 Chevrolet Low Cab Forward

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

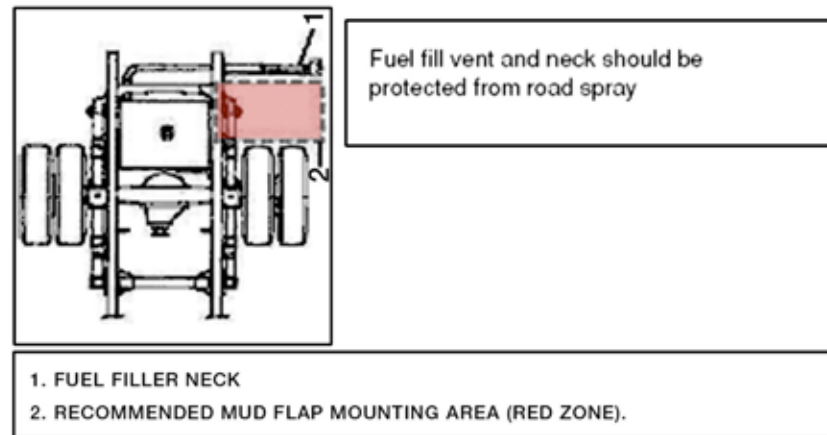
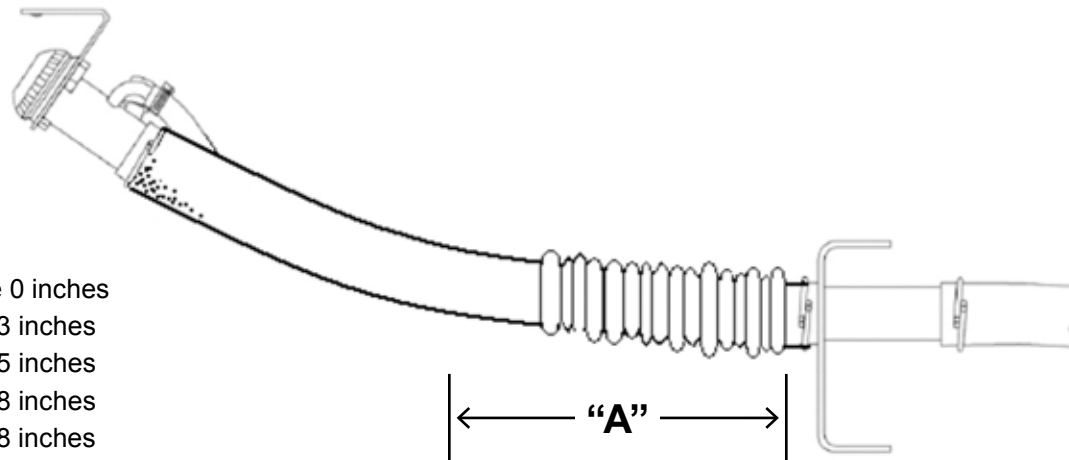


Figure 10.30.1

“A” Dimensions:

102 inch wide body remove 0 inches
96 inch wide body remove 3 inches
90 inch wide body remove 5 inches
86 inch wide body remove 8 inches
80 inch wide body remove 8 inches



NOTE: Shorten hose by “A Dimension” based on chart at left.

Figure 10.30.2

2017 Chevrolet Low Cab Forward

Ultra Low Sulfur Diesel Label

Per EPA Title 40, Part 86, 86:007—35(c),
The decal illustrated below must be installed on the vehicle.
The decal is included in the fuel fill parts box.



INSTRUCTIONS FOR DECAL PLACEMENT:

1. The decal must be placed as close as possible to the fuel inlet and be clearly visible.
 2. The decal should be placed above or to the side of the fuel cap to avoid corrosion by possible contact with fuel.
 3. The decal may be placed on aerodynamic fairings, bodies, etc. as long as the decal is clearly visible and in close proximity to the fuel inlet.
 4. For installed bodies that have a fuel door, the decal should be placed above or to the side of the fuel door.
- Thoroughly clean the area of all grease, dirt, etc. before application of the decal. Apply the decal at room temperature, 65° to 75° F.

Figure 10.31.1

2017 Chevrolet Low Cab Forward

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Through the Rail Fuel Fill Frame Hole

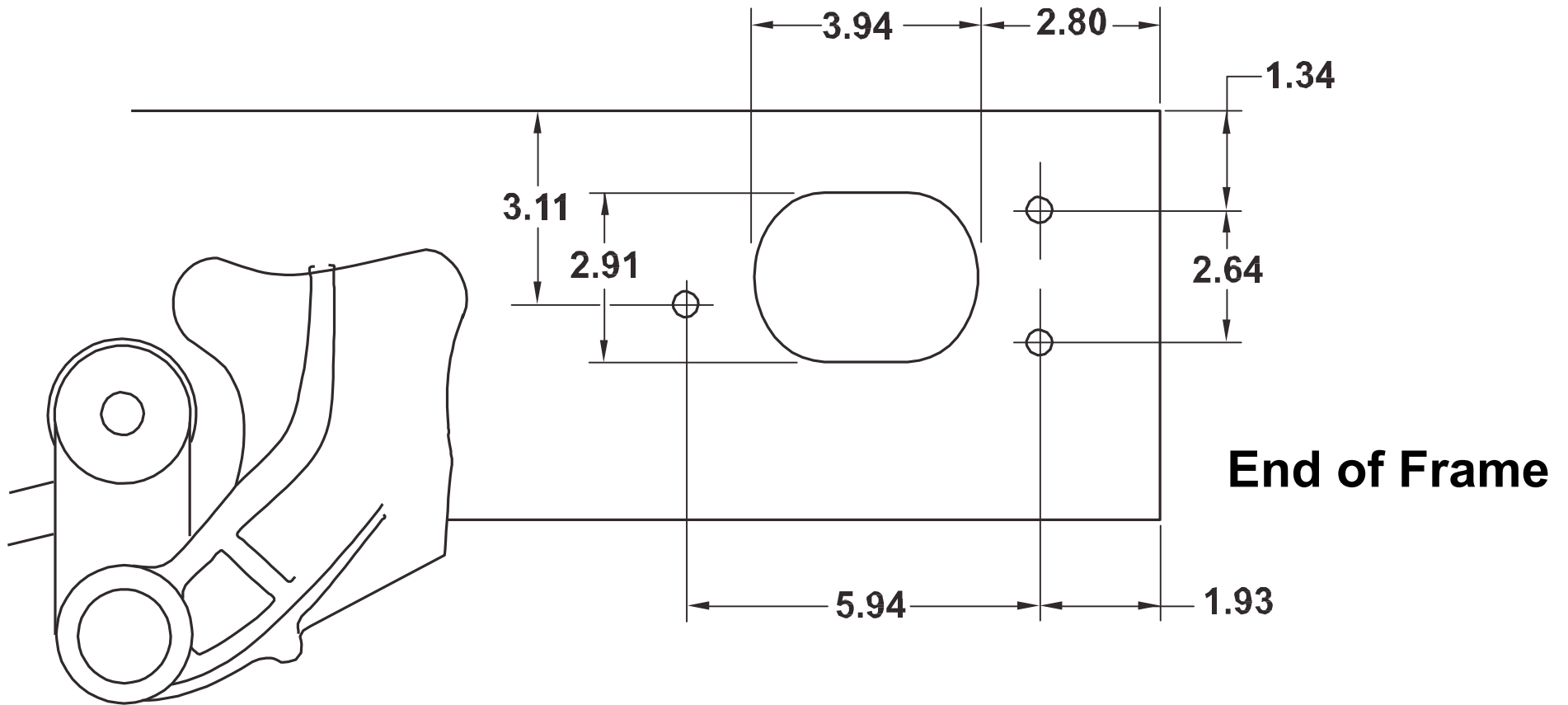


Figure 10.32.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

4500HD Diesel Fuel Filler Kit Instructions

Please review these instructions prior to installation of the fuel filler kit.

Parts Kit: There is a parts kit for the Chevrolet LCF diesel product. Fuel filler kit shown below is used for 14,500 lb and higher GVWR chassis (3500HD, 4500HD, 4500XD, 5500HD, 5500XD). Parts list is shown in **Figure 10.33.2**. Parts photos are shown in **Figure 10.33.1**.

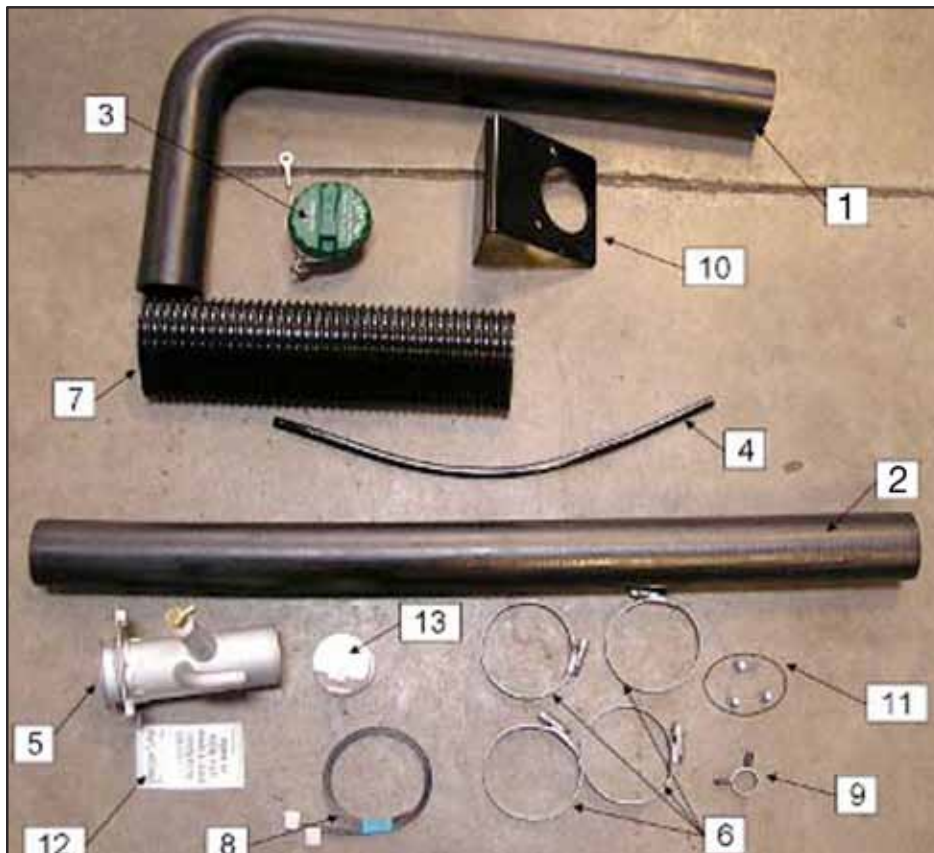


Figure 10.33.1

| FUEL FILLER KIT | | | |
|-----------------|-------------------------|--------|-----|
| ITEM # | PART NAME | PART # | QTY |
| 1 | HOSE:FUEL FILLER NECK | ** | 1 |
| 2 | HOSE:FUEL FILLER | ** | 1 |
| 3 | CAP: FILLER | ** | 1 |
| 4 | HOSE: ROLL-OVER VALVE | ** | 1 |
| 5 | NECK ASM: FUEL FILLER | ** | 1 |
| 6 | CLIP: JOINT | ** | 4 |
| 7 | PROTECTOR: FILLER HOSE | ** | 1 |
| 8 | CLIP: BAND, HOSE FIXING | ** | 2 |
| 9 | CLIP: RUBBER, HOSE | ** | 1 |
| 10 | BRACKET: FILLER NECK | ** | 1 |
| 11 | SCREW: FILLER NECK | ** | 3 |
| 12 | CAUTION PLATE | ** | 1 |
| 13 | SHUTTER: FUEL TANK | ** | 1 |

** See Dealer for all part numbers.

Figure 10.33.2

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Installation Instructions and Considerations

The fuel tank shutter valve (13) is meant to improve fuel splash-back performance of the fuel system. This valve (13) is located on the inlet (outboard side) of the fuel filler neck bulkhead assemble that is bolted to the left hand frame rail as shown in **Figure 10.34.1**. This plastic valve snaps into place in the inlet of the frame mounted fuel pipe. The valve should be installed so that the plastic clip is at the top of the valve, so that the flap door opens up, as shown in **Figure 10.34.2**.



Figure 10.34.1

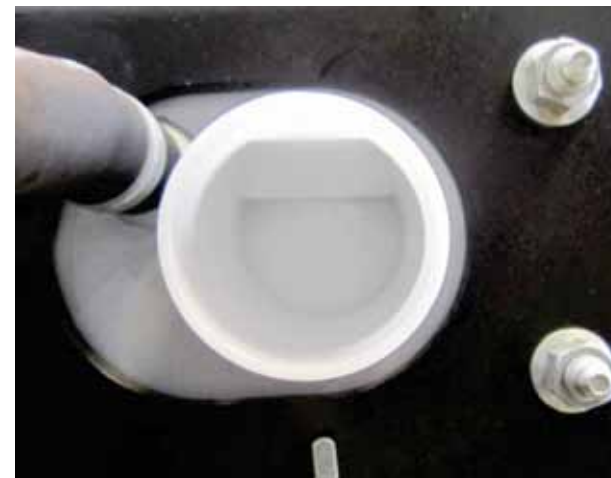
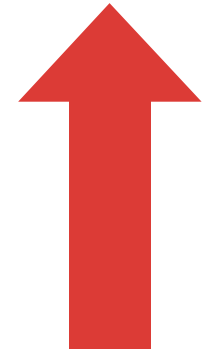


Figure 10.34.2

Up



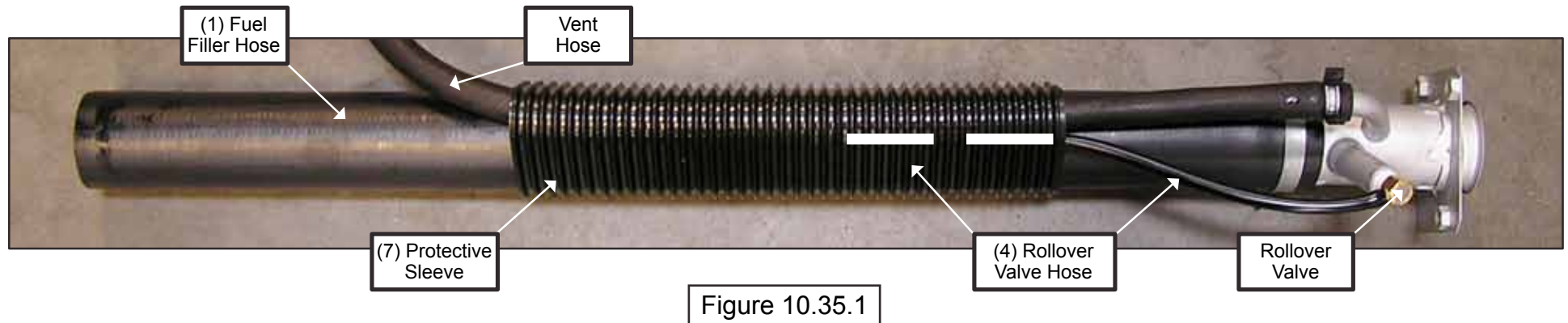
The fuel filler hose should be installed flush against the tank. The clamp should be installed between 1/16" and 3/8" from the tank. This is shown in **Figure 10.34.3** to the right.



Figure 10.34.3

Roll-Over Valve Tubing

The roll-over valve has a hose attachment that will make this valve less sensitive to water intrusion. In order for the valve to work properly, it is critical that the hose be installed to the rollover valve. The proper assembly of the outer hose is shown in **Figure 10.35.1**.



Filler Neck Installation

The fuel filler neck (5) must be installed with the proper orientation on the body. The neck should be installed with the roll-over valve pointing upward, with the bottom edge of the neck oriented parallel to the ground, plus 33 to minus 7 degrees. See **Figure 10.35.2** for the proper orientation.

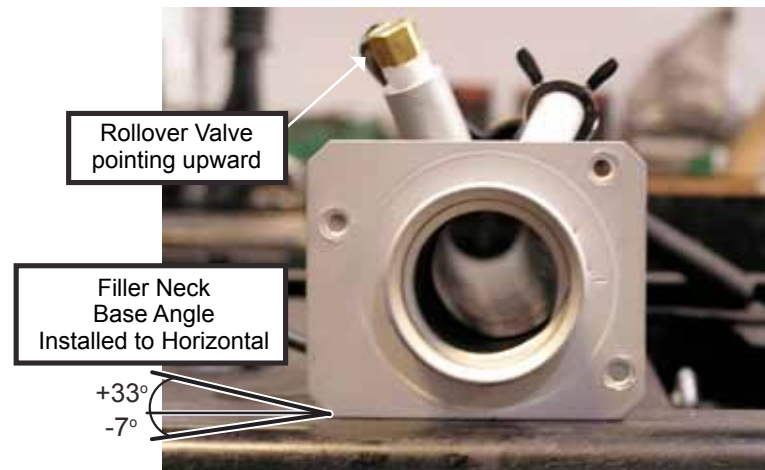


Figure 10.35.2

2017 Chevrolet Low Cab Forward

4500XD Diesel Specifications

| | |
|--|---|
| MODEL | 4500XD Diesel |
| GVWR | 16,000 lbs. |
| WB | 109 in, 132.5 in, 150 in. 176 in. |
| ENGINE | Isuzu 4-cylinder, in-line 4-cycle, turbocharged, intercooled, direct injection diesel. |
| Model/Displacement | 4HK1-TC/317 CID (5.19 liters) |
| HP (Gross) | 215 HP @ 2500 RPM w/ Automatic Transmission |
| Torque(Gross) | 452 lb/ft torque @ 1850 RPM w/ Automatic Transmission |
| Equipment | Dry element air cleaner with vertical intake; 2 rows 564 in ² . radiator; 7 blade 20.1in diameter fan with viscous drive. Cold weather starting device and an oil cooler. Engine oil level check. Engine warning system with audible warning for low oil pressure, high coolant temperature, and low coolant level. Engine cruise control function. Rear engine cover. |
| TRANSMISSION | Aisin A465 6 speed automatic transmission with fifth and sixth gear overdrive with lock up in 2nd, 3rd, 4th, 5th and 6th. PTO capability with automatic torque converter lockup in stationary PTO mode. |
| STEERING | Integral power steering 18.8-20.9:1 ratio. Tilt and telescoping steering column. |
| FRONT AXLE | Reverse Elliot I" -Beam rated at 6,830 lbs. |
| Suspension | Semi-elliptical steel alloy tapered leaf springs with stabilizer bar and shock absorbers. |
| GAWR | 6,630 lbs. |
| REAR AXLE | Full floating single speed with hypoid gearing rated at 11,020 lbs. |
| Suspension | Semi-elliptical steel alloy multi-leaf springs and shock absorbers. |
| GAWR | 11,020 lbs. |
| WHEELS | 19.5x6.0-K 6 hole disc wheels, painted white |
| TIRES | 225/70R-19.5 F (12 pr) LRR (Low Rolling Resistance) tubeless steel belted radials, all season, front and rear. |
| BRAKES | Dual circuit vacuum assisted hydraulic service brakes with EBD (Electronic Brake Distribution) system for load proportioning of the brake system front disc and self-ad just outboard mounted drum rear. The parking brake is a mechanical, cable actuated, internal expanding drum type, transmission mounted. The exhaust brake is standard and is vacuum operated. 4 channel anti-lock brake system. |
| FUEL TANK | 30 gal. rectangular steel fuel tank mounted in frame rail behind rear axle. Fuel water separator with indicator light on instrument cluster. |
| FRAME | Ladder type channel section straight frame rail 33.5 in wide through the total length of the frame. Yield strength 44,000 psi, section modulus 7.20 in ³ . RBM 316,800. |
| CAB | All steel low cab forward, BBC 70.7 in, 45° mechanical tilt with torsion assist. |
| Equipment | TRICOT breathable cloth covered high back driver's seat with two occupant passenger seat. Dual cab mounted exterior mirrors with integral convex mirror. Tilt and telescoping steering column. Power windows and door locks, floor mats, tinted glass. |
| ELECTRICAL | 12 Volt, negative ground, dual maintenance free batteries, 750 CCA each, 140 Amp alternator with integral regulator. |
| OPTIONS | See last page for options |
| NOTE: These selected specifications are subject to change without notice. | |

2017 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

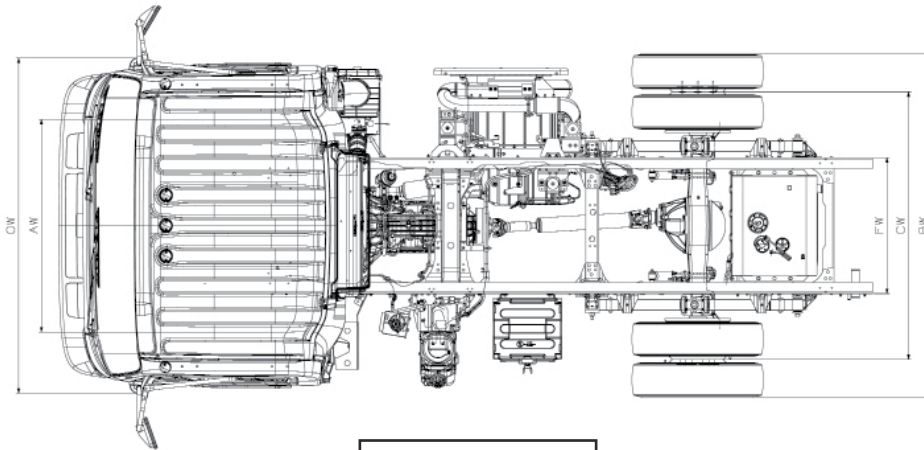


Figure 11.2.1

In-Frame Tank

16000 lb. GVWR Automatic Transmission Model

Chassis Curb and Maximum Payload Weights

| Model | WB | RPO | Unit | Front | Rear | Total | Payload |
|--------|----------|-----|------|-------|------|-------|---------|
| T41003 | 109.0 in | EB4 | lb. | 4103 | 2290 | 6393 | 9607 |
| T42003 | 132.5 in | FNJ | lb. | 4194 | 2288 | 6482 | 9518 |
| T43003 | 150.0 in | FWH | lb. | 4256 | 2267 | 6523 | 9477 |
| T44003 | 176.0 in | FNW | lb. | 4296 | 2283 | 6579 | 9421 |

Side Mounted Tank

16,000 lb. GVWR Automatic Transmission Model

Chassis Curb and Maximum Payload Weights

| Model | WB | RPO | Unit | Front | Rear | Total | Payload |
|--------|----------|-----|------|-------|------|-------|---------|
| T44003 | 176.0 in | FNW | lb. | 4430 | 2160 | 6590 | 9410 |

Vertical Exhaust Option Dimensions:

Variable Chassis Dimensions:

| Unit | WB | EFF CA* | EFF CE* | OAL | AF |
|------|-------|---------|---------|-------|------|
| Inch | 109.0 | 62.5 | 105.6 | 200.5 | 43.1 |
| Inch | 132.5 | 86.0 | 153.1 | 224.0 | 43.1 |
| Inch | 150.0 | 103.5 | 146.6 | 241.5 | 43.1 |
| Inch | 176.0 | 129.5 | 172.6 | 267.5 | 43.1 |

* Effective CA & CE listed are standard CA or CE less vertical exhaust BOC of 24 inches.

Vertical Exhaust BOC = 24 inches

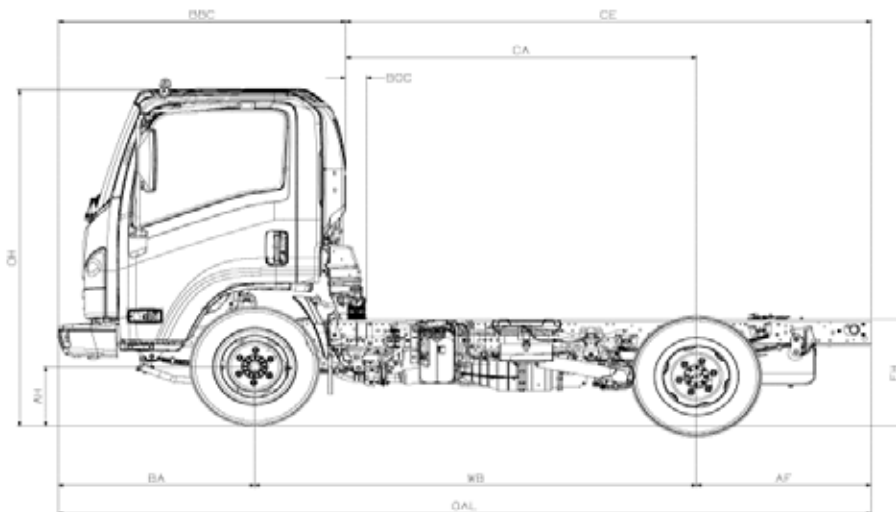


Figure 11.2.2

Variable Chassis Dimensions:

| Unit | WB | CA* | CE* | OAL | AF |
|------|-------|-------|-------|-------|------|
| Inch | 109.0 | 86.5 | 129.6 | 200.5 | 43.1 |
| Inch | 132.5 | 110.0 | 153.1 | 224.0 | 43.1 |
| Inch | 150.0 | 127.5 | 170.6 | 241.5 | 43.1 |
| Inch | 176.0 | 153.5 | 196.6 | 267.5 | 43.1 |

* Effective CA & CE are CA & CE less BOC

Dimension Constants:

| Code | Inches | Code | Inches |
|------|--------|------|--------|
| AH | 7.5 | BW | 833 |
| AW | 65.6 | CW | 65 |
| BA | 48.4 | FW | 33.5 |
| BBC | 70.7 | OH | 92.4 |
| BOC | 7.7 | OW | 81.3 |
| FH | 33.0 | | |

2017 Chevrolet Low Cab Forward

Vehicle Weight Limits:

| | |
|-----------------------|-------------|
| GVWR Designed Maximum | 16,000 lbs. |
| GAWR, Front | 6,660 lbs. |
| GAWR, Rear | 11,020 lbs. |

Technical Notes:

Chassis Curb Weight reflects standard equipment and fuel but no driver or payload.

Maximum Payload Weight is the allowed maximum for equipment, body, payload and driver and is calculated by subtracting chassis curb weight from the GVWR.

| Weights for Options | | |
|---------------------|--|---|
| RPO (1) | Option Description | Front / Rear Lbs. |
| NPV | Cross rail horizontal DPF/SCR with vertical exhaust (8) | 100 / 100 |
| 9D2 | Speed Limited to 58 MPH | 0 / 0 |
| 9C2 | Speed Limited to 65 MPH | 0 / 0 |
| 9E2 | Speed Limited to 68 MPH | 0 / 0 |
| ATG | Keyless entry | 3 / 0 |
| 9B9 | Speed Limited to 70 MPH | 0 / 0 |
| AJG | Suspension seat | 18 / 0 |
| KO5 | Block Heater (cord) | 1 / 0 |
| KPG | Locking DEF tank cap | 0 / 0 |
| UIZ | AM/FM/CD Radio with Ax input/USB port and Bluetooth | 0 / 0 |
| KQJ | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| DB6 | Heated dual remote control mirrors (15" head) | 3 / 0 |
| G7M | Air Deflector roof mounted (not available in Crew Cab) | 64 / 0 |
| MTE | Fire Extinguisher and Triangle Kit mounted in rear organizer | 19 / 0 |
| KPK | Engine Oil Pan Heater (120v 300w) | 2 / 0 |
| KPJ | Engine emergency shutdown system HWT, LWL, LOP (4) | 0 / 0 |
| NLX | 33 Gallon Additional Diesel Fuel Tank mounted on LH side 150, 176 wb, std. cab | (7) |
| PTO | PTO Enable Switch and Engine Idle Up Switch recommended for PTO and Idle applications only (2) | 1 / 0 |
| DB8 | Heated Mirrors | 1 / 0 |
| TBD | Mirror Bracket for 102" wide body | 1 / 0 |
| 9W8 | Seat Covers Standard Cab (9) | 6 / 0 |
| IX2 | Rear Body Dome Lamp Switch (6) | 1 / 0 |
| UL5 | Delete Standard AM/FM/CD Radio | ---3/0 |
| KQN | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| UZF | Back up alarm | 0 / 2 |
| V22 | Chrome Grille | 1 / 0 |
| | | |
| SEO (1) | Option Description | Front / Rear Lbs. |
| 00 | Standard model specifications | w/o power windows and power door locks |
| 04 | Standard model specifications with power windows and power door locks | Standard chassis weight includes these features |
| 54 | In rail fuel tank with power windows, power door locks and air conditioning | 80 / 0 |
| 64 | In rail fuel tank with power windows, power door locks, air conditioning and LSD (3) | 80 / 15 |
| 74 | Side mounted fuel tank w/power windows, power door locks and air conditioning (5) | 215 / ---124 |
| 84 | Side mounted fuel tank w/power windows, power door locks, air conditioning and LSD (3) (5) | 215 / ---109 |

2017 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

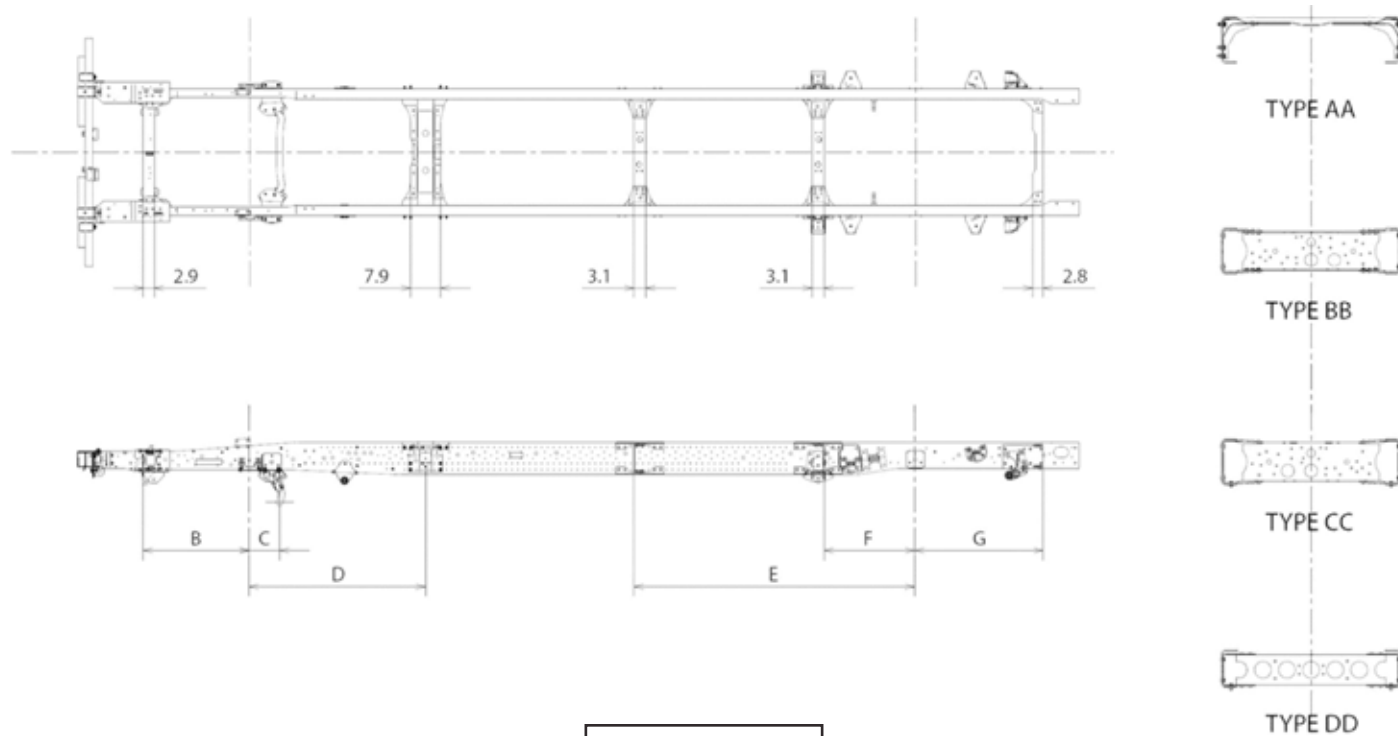


Figure 11.4.1

| Wheelbase | Frame Thickness | Crossmember Type/Location | | | | | | | | | |
|-----------|-----------------|---------------------------|-----|----|------|----|------|----|------|----|------|
| | | B | C | D | | E | | F | | G | |
| 109 | 0.24 | 28.3 | 8.2 | AA | 46.5 | - | | CC | 24.2 | DD | 33.8 |
| 132.5 | 0.24 | 28.3 | 8.2 | AA | 46.5 | BB | 57.5 | CC | 24.2 | DD | 33.8 |
| 150 | 0.24 | 28.3 | 8.2 | AA | 46.5 | BB | 57.9 | CC | 24.2 | DD | 33.8 |
| 176 | 0.24 | 28.3 | 8.2 | AA | 46.5 | BB | 74.4 | CC | 24.2 | DD | 33.8 |

Figure 11.4.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Frame Chart

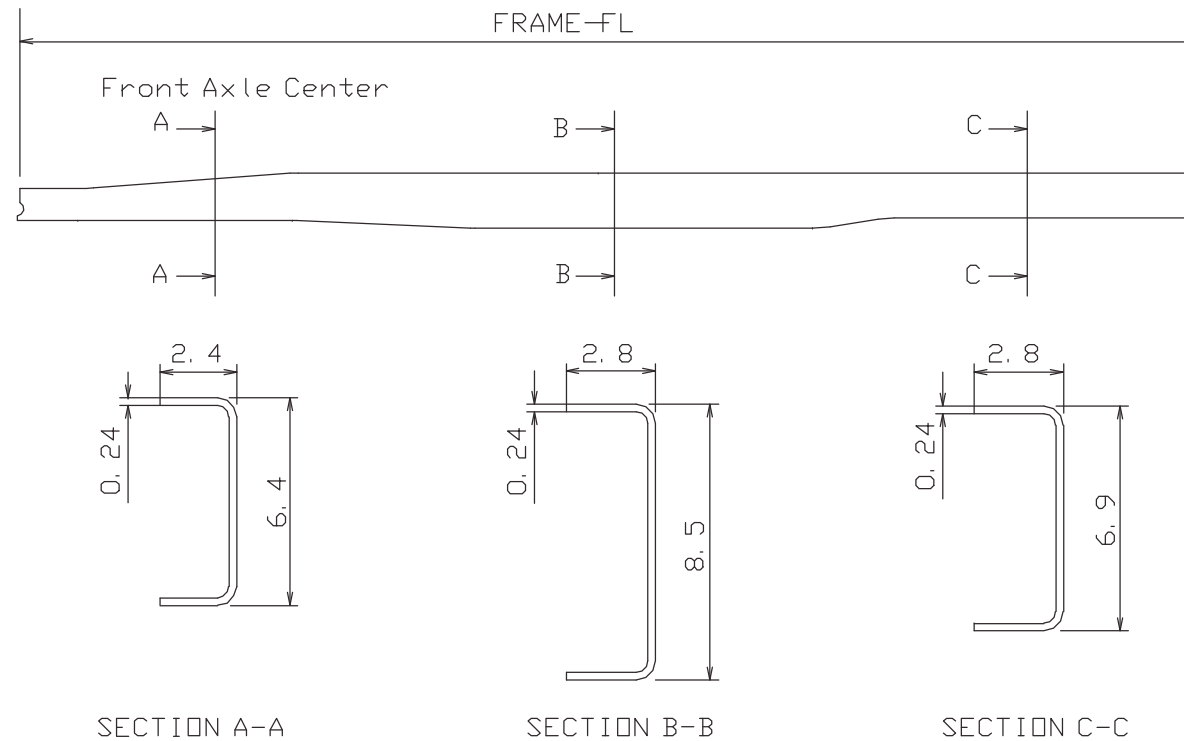


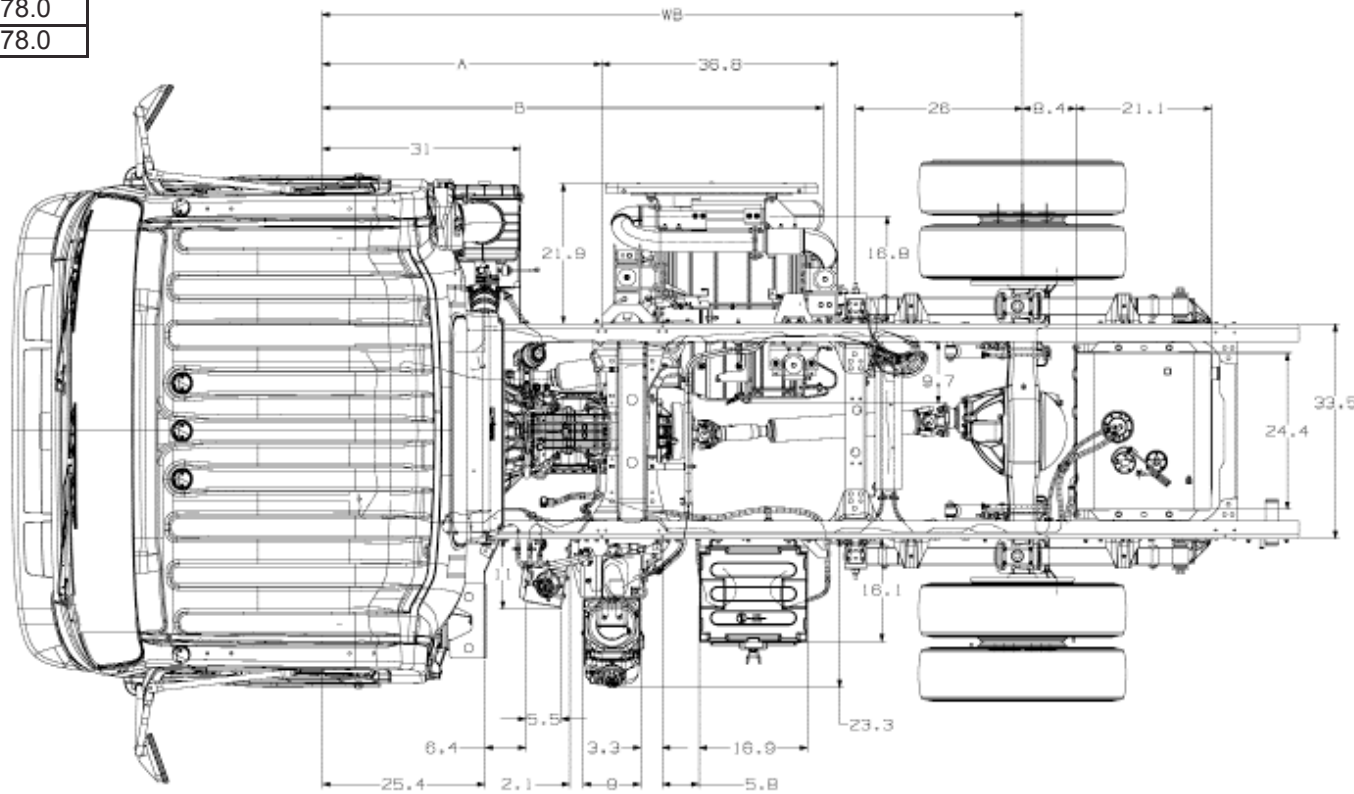
Figure 11.5.1

| Wheelbase | Frame FL | Frame Thickness |
|-----------|----------|-----------------|
| 109.0 | 182.5 | 0.24 |
| 132.5 | 206.1 | 0.24 |
| 150.0 | 223.8 | 0.24 |
| 176.0 | 249.8 | 0.24 |

Figure 11.5.2

PAGE **11.6**

| WB | A | B |
|-------|------|------|
| 109 | 43.4 | 78.0 |
| 132.5 | 49.7 | 84.3 |
| 150 | 43.4 | 78.0 |
| 176 | 43.4 | 78.0 |



Dimensions in inches

2017 Chevrolet Low Cab Forward

4500XD Diesel Standard Cab - Left Side View

| WB | A |
|-------|------|
| 109 | 80.7 |
| 132.5 | 87.0 |
| 150 | 80.7 |
| 176 | 80.7 |

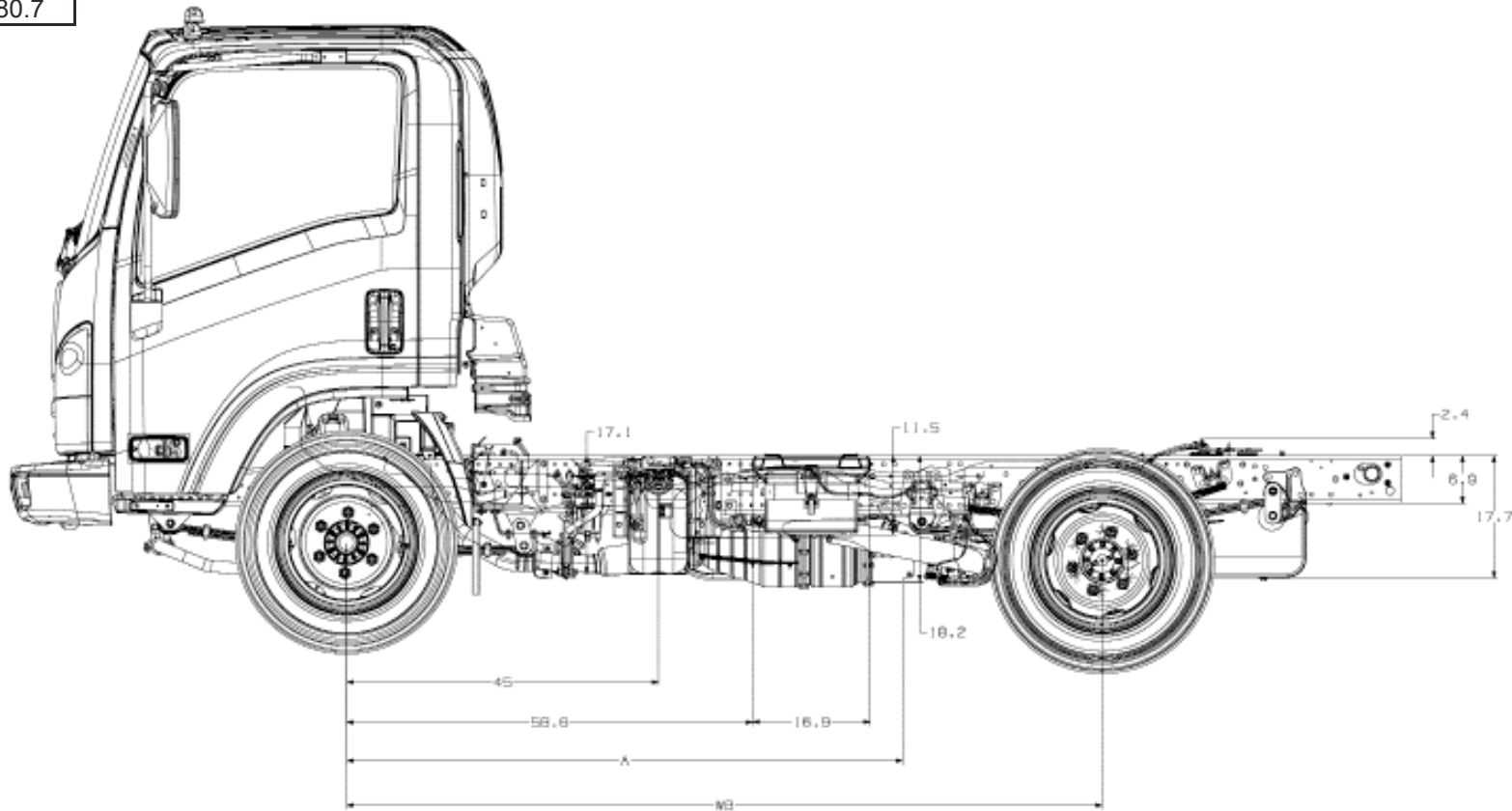


Figure 11.7.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

4500XD Diesel Standard Cab - Right Side View

| WB | A |
|-------|------|
| 109 | 44.0 |
| 132.5 | 50.3 |
| 150 | 44.0 |
| 176 | 44.0 |

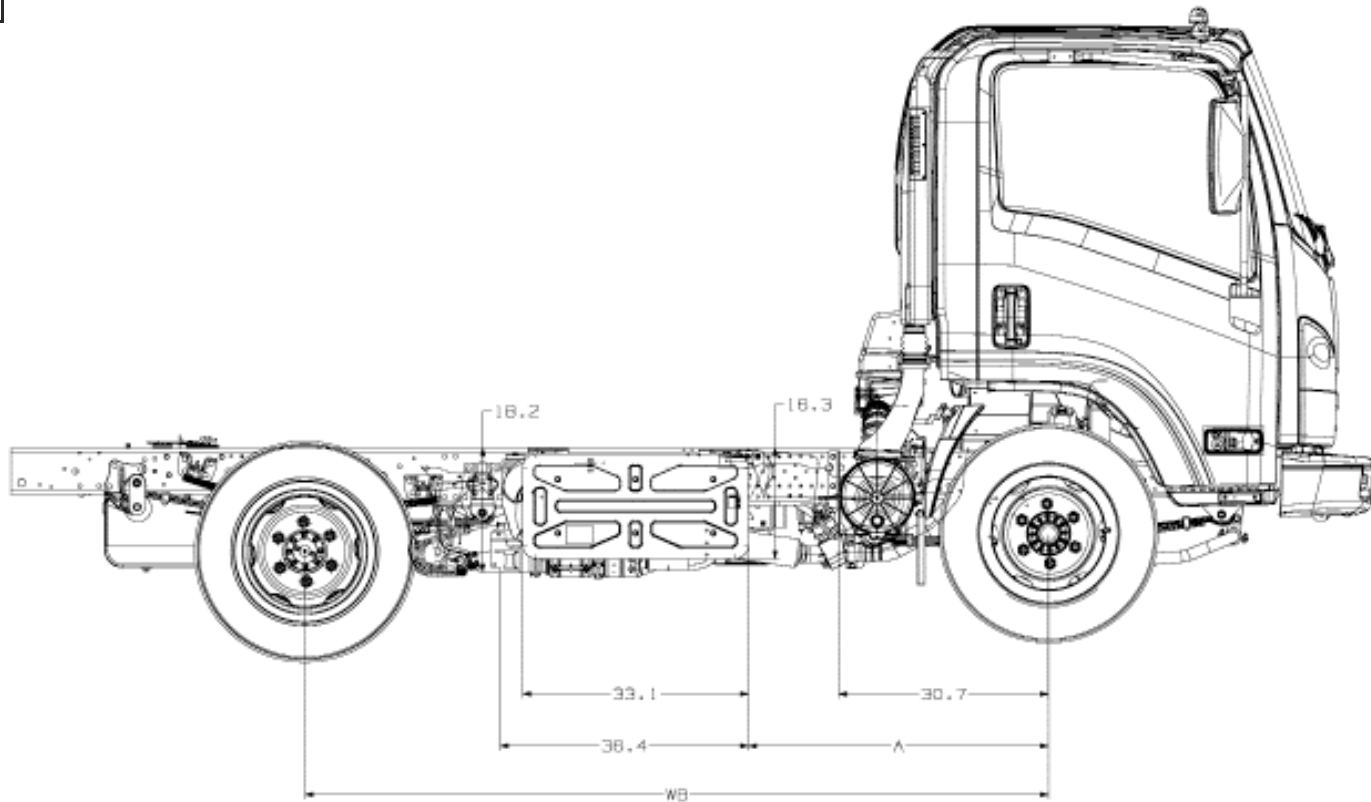


Figure 11.8.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

PAGE 11.9

SCR / DPF 4HK1-TC

Front of Chassis

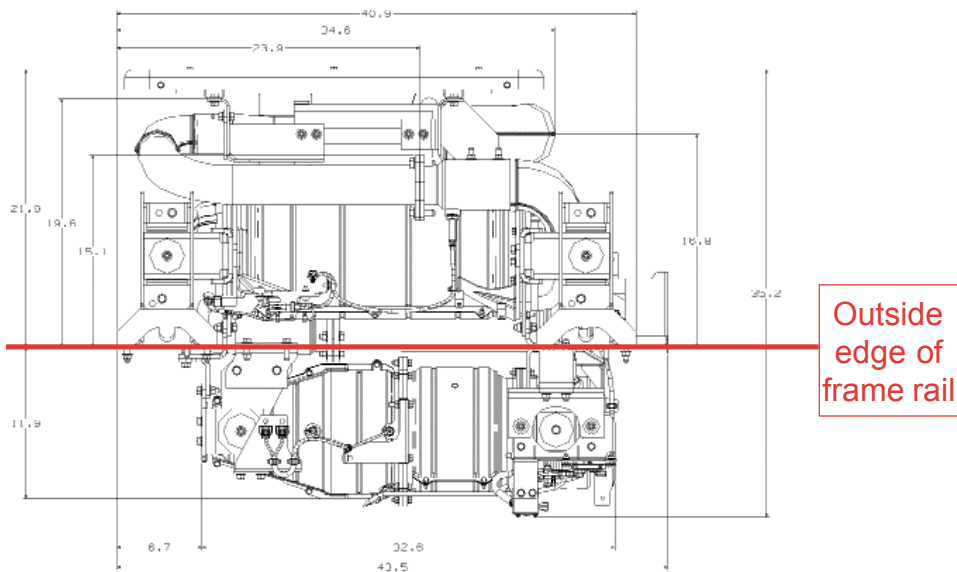


Figure 11.9.1

Outside edge of frame rail

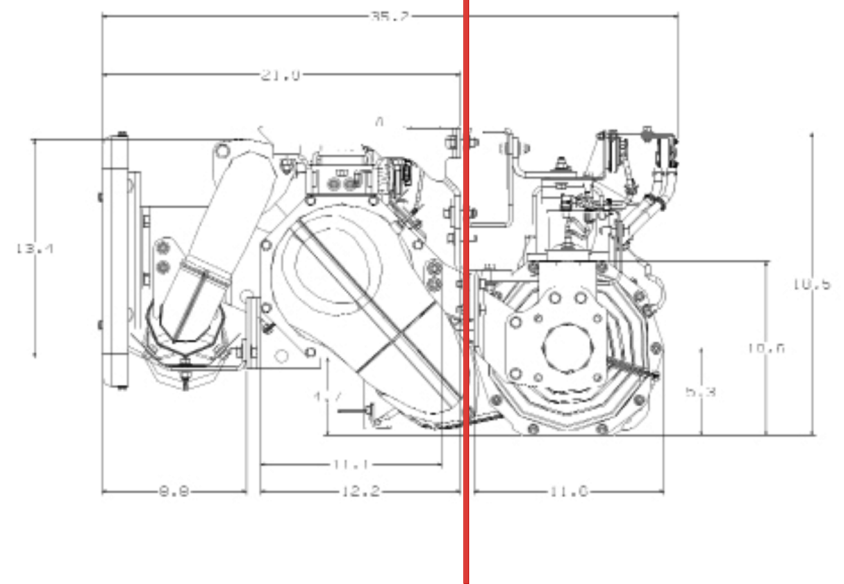


Figure 11.9.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

| | |
|------|-------|
| PAGE | 11.10 |
|------|-------|

Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX
Side View 150 Wheelbase

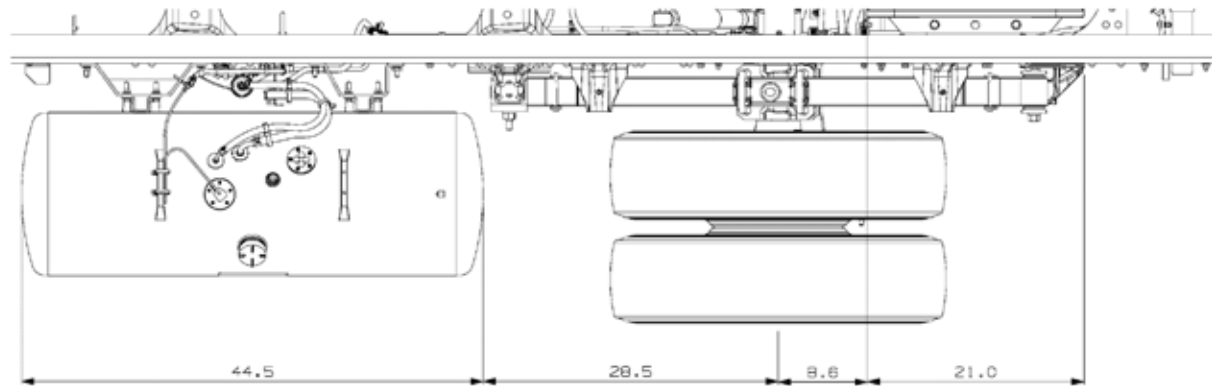


Figure 11.10.1

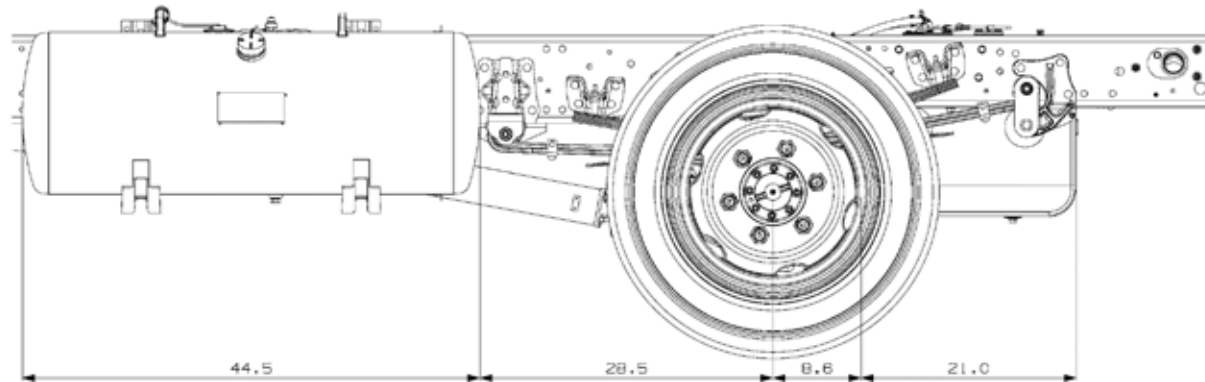


Figure 11.10.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

| | |
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| PAGE | 11.11 |
|------|-------|

Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX
Side View 176 Wheelbase

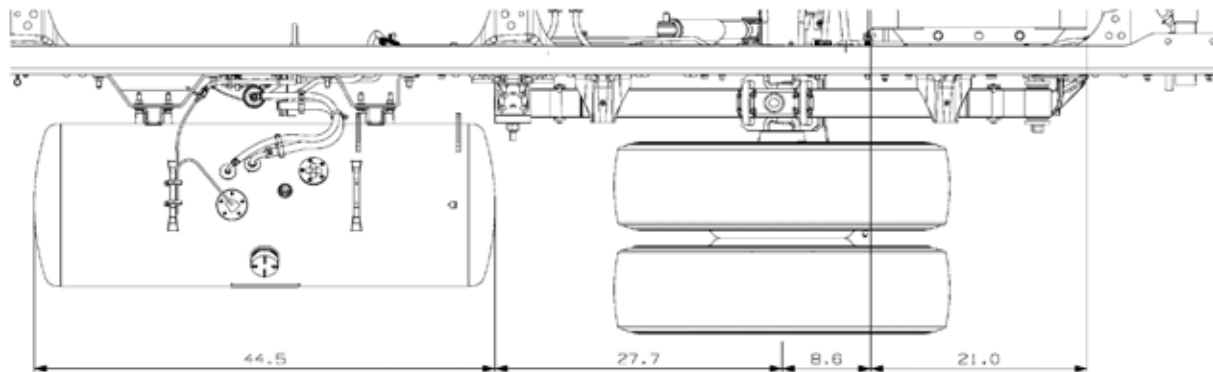


Figure 11.11.1

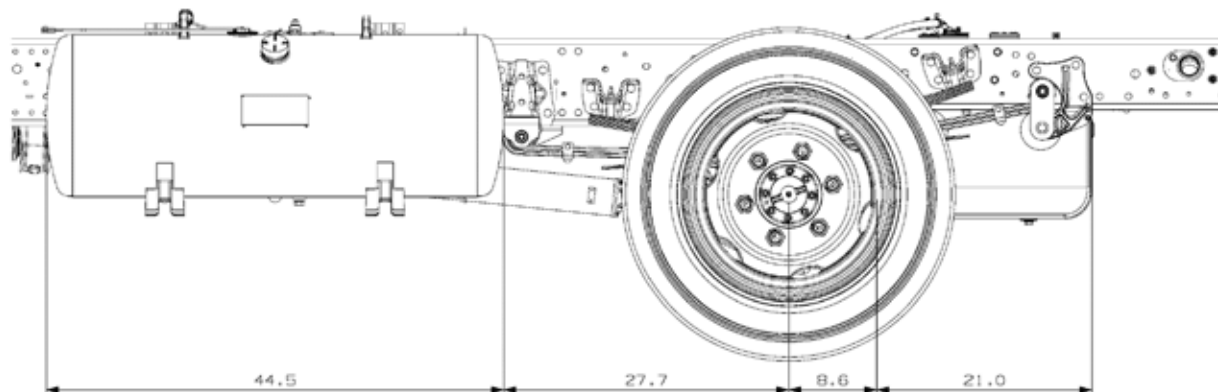


Figure 11.11.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

| | |
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| PAGE | 11.12 |
|------|-------|

Option Side Fuel Tank in place of the Standard In Rail Fuel Tank

T44003 ONLY

Side View 176 Wheelbase

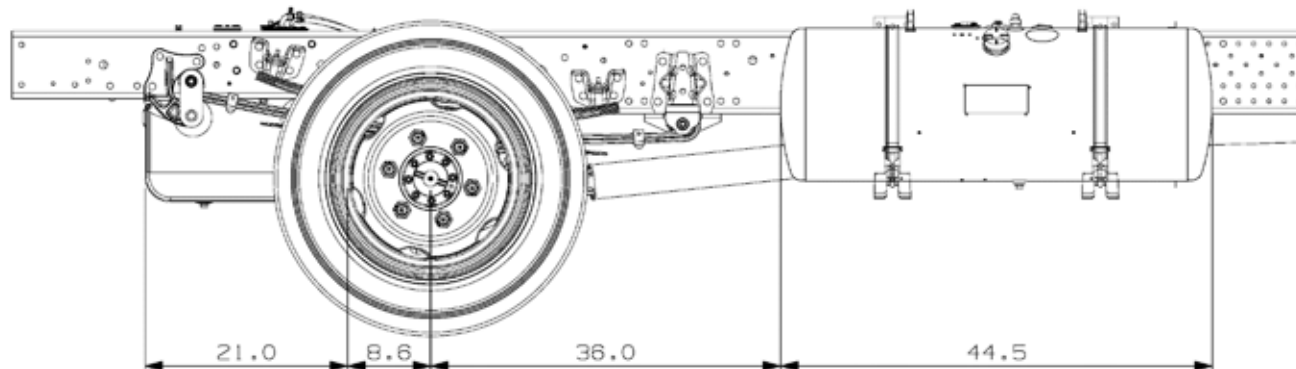


Figure 11.12.1

Dimensions in inches

PAGE **11.13**

Optional Side Fuel Tank replacing standard In Rail Fuel Tank
(176 WB only, RH rail only)

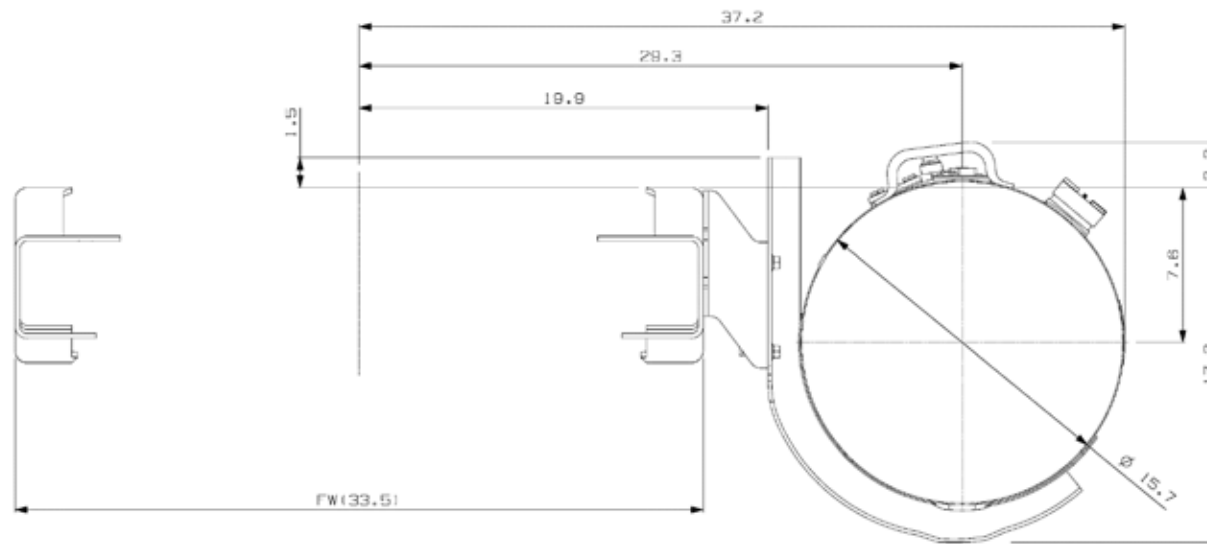


Figure 11.13.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

Cab Tilt

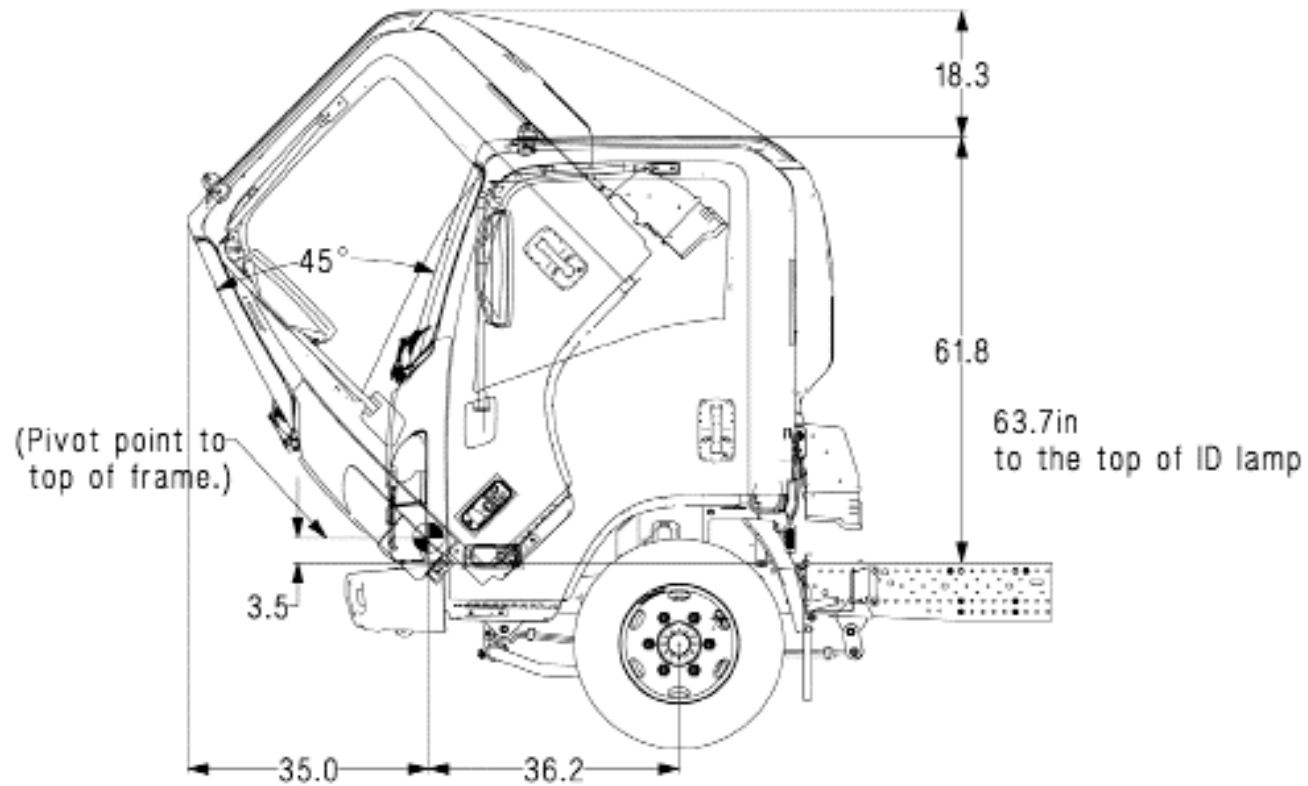


Figure 11.14.1

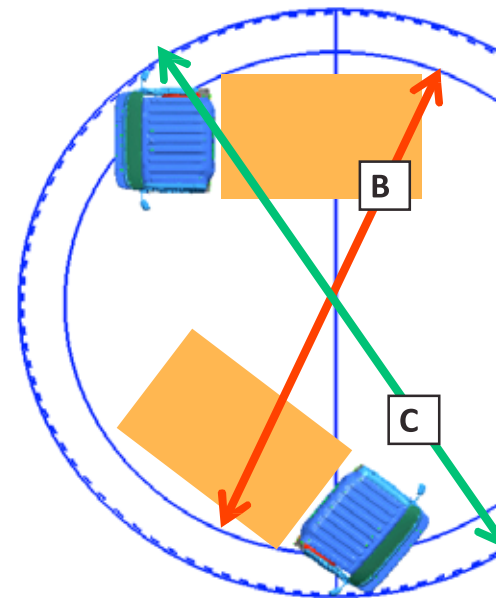
Dimensions in inches

TURNING DIAMETERS

The LCF Diesel steering also features a 49.5 inside wheel cut angle. This, coupled with the integral power steering, makes the LCF Diesel an extremely maneuverable truck.

B=Minimum turning diameter
curb to curb

C=Minimum turning diameter
wall to wall



LCF Diesel Turning Circle Diagram

Figure 11.15.1

| WB | B curb to curb | C (ft. wall to wall (ft.)) |
|-------|-------------------|-------------------------------|
| 109.0 | 32.8 | 38.7 |
| 132.0 | 40.0 | 44.9 |
| 150.0 | 45.3 | 50.2 |
| 176.0 | 52.5 | 58.1 |

2017 Chevrolet Low Cab Forward

Center of Gravity

| Horizontal and Vertical CG of Chassis | | | |
|---------------------------------------|------|---------------|-----------|
| WB | V | H | H |
| | | in frame tank | side tank |
| 110 | 23.5 | 38.4 | N/A |
| 132.5 | 23.3 | 44.9 | N/A |
| 150 | 23.3 | 49.9 | N/A |
| 176 | 23.3 | 57.2 | 52.5 |

Figure 11.16.1

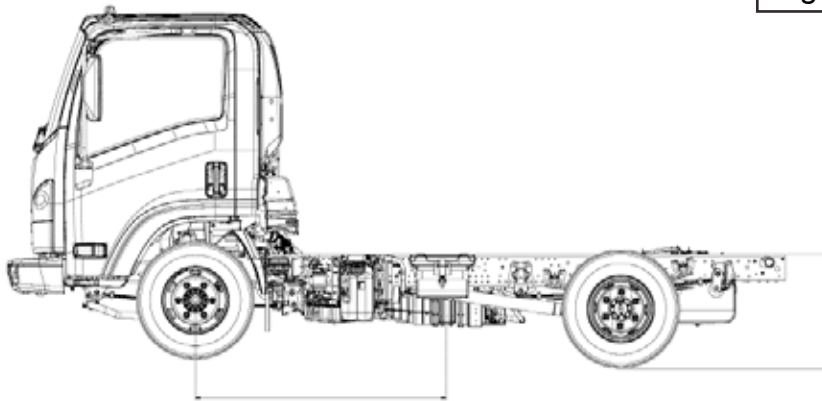


Figure 11.16.2

The maximum vertical center of gravity specified below must not be exceeded at maximum GVWR and rated front and rear GAWR. The Center of Gravity (CG) maximum is 63" (1600 mm) above the ground. (LCF Cab Chassis and LCF Stripped Chassis)

NOTE: The Final Manufacturer must ensure that the combined vertical center of gravity of the chassis, body, and available payload at full GVW does not exceed the maximum vertical center of gravity outlined in the Chevrolet LCF Incomplete Vehicle Document and the GM Body Builders Guide.

The maximum dimensions for a body installed on the LCF chassis are 102 inches wide (outside*) by 91 inches high (inside). Any larger body applications must be approved by GM Upfitter Engineering. Contact us at GMUpfitter.com.

* With 102 inches wide mirror brackets installed in place of standard mirror brackets

Dimensions in inches

2017 Chevrolet Low Cab Forward

Front Axle Chart

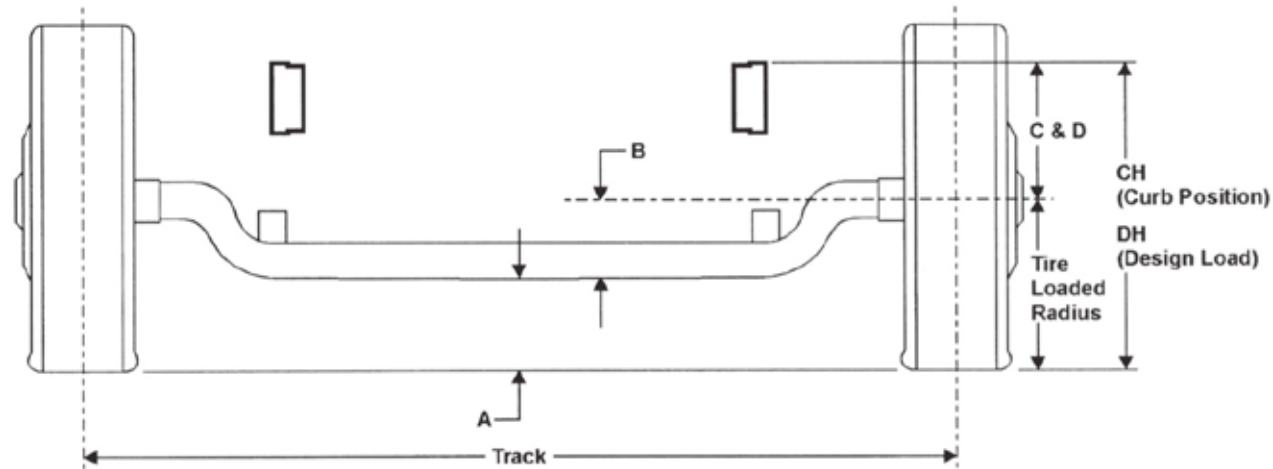


Figure 11.17.1

Formulas for calculating height dimensions:

- A = Tire Loaded Radius – B
- C = Centerline of Axle to Top of Frame Rail at Curb Position
- D = Centerline of Axle to Top of Frame Rail at Design Load
- CH = C + Tire Unloaded Radius
- DH = D + Tire Loaded Radius

| Tire | GVWR | GAWR | A | B | C | D | CH | DH | Track | Tire Radius | |
|---------------|-------------|------------|-----|-----|----|------|----|------|-------|-------------|-------|
| | | | | | | | | | | Unload | Load |
| 225/70R 19.5F | 16,000 lbs. | 6,630 lbs. | 8.3 | 6.6 | 13 | 11.5 | 29 | 26.4 | 65.5 | 16 | 14.93 |

Figure 11.17.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

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Rear Axle Chart

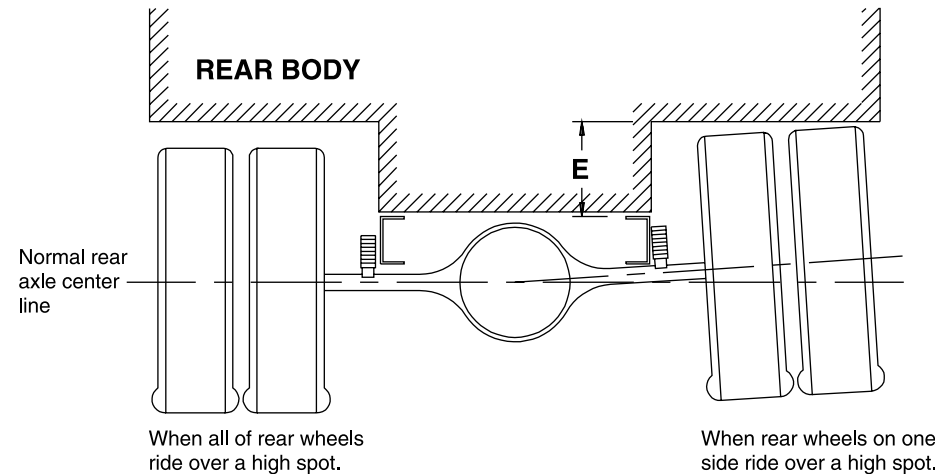
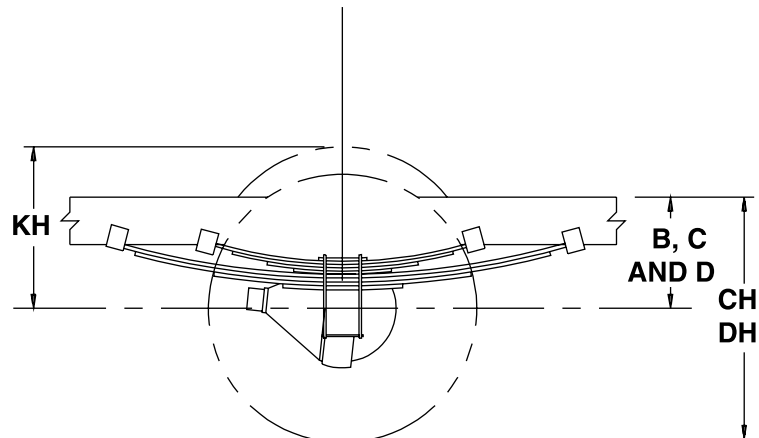
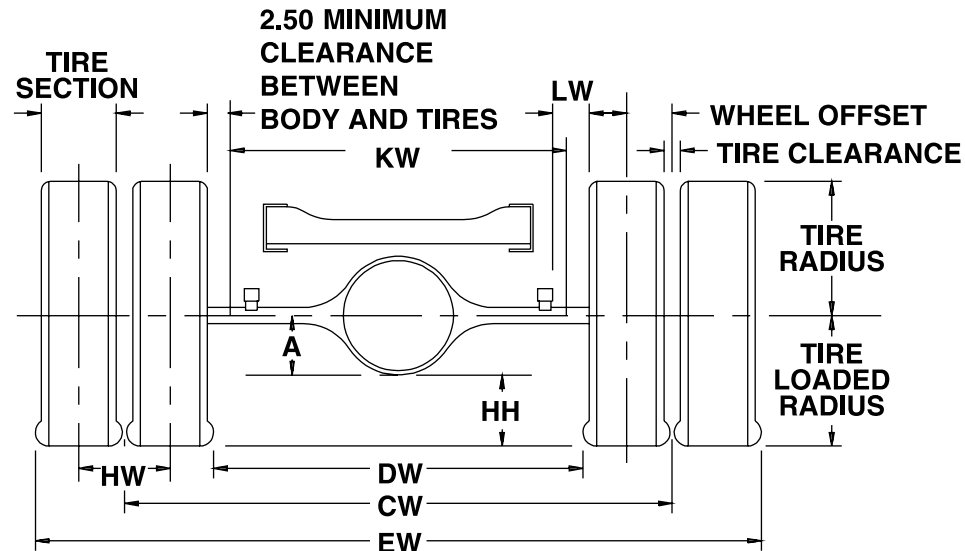


Figure 11.18.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

| Definitions | | | |
|---|---|-----------------------|--|
| A | Centerline of axle to bottom of axle bowl. | DH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load. |
| B | Centerline of axle to top of frame rail at metal-to-metal position. | DW | Minimum distance between the inner surfaces of the rear tires. |
| C | Centerline of axle to top of frame rail at curb position. | EW | Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires. |
| D | Centerline of axle to top of frame rail at design load. | HH | Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line. |
| E | Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vehicle centerline of the rear axle, when rear wheels on one side ride over a high spot. | HW | Dual Tire Spacing: Distance between the centerlines of the minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot. |
| CH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position. | CW | Track Dual Rear Wheel Vehicle: Distance between the centerlines of the dual wheels measured at the ground-line. |
| Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance | | See Chart for values. | |

Figure 11.19.1

| Formulas for Calculating Rear Width and Height Dimensions | | | |
|---|--|----|---|
| CW | = Track | HH | = Tire loaded radius – A |
| CH | = Tire loaded radius + C | JH | = KH – B |
| DH | = Tire loaded radius + D | KH | = Tire radius + 3.00 inches |
| DW | = Track + 2 tire sections – tire clearance | KW | = DW – 5.00 inches |
| EW | = Track + 2 tire sections + tire clearance | LW | = 1.00-inch minimum clearance between tires and springs |

NOTE: Track and overall width may vary with optional equipment.

Figure 11.19.2

| Tire | GAWR | Track CW | A | B | C | D | E |
|---------------|-------------|----------|-----|-----|------|------|-----|
| 225/70R 19.5F | 11,020 lbs. | 65.0 | 7.7 | 9.3 | 15.3 | 13.4 | 8.4 |

Figure 11.19.3

Dimensions in inches

2017 Chevrolet Low Cab Forward

Tire and Disc Wheel Chart – 4500XD

Tire

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits (lbs.) | | GVWR (Lbs.) |
|---------------|--|-----|-------|-----|---------------------------------|--------|-------------|
| | Single | | Dual | | Front | Rear | |
| | Lbs. | PSI | Lbs. | PSI | 2 Single | 4 Dual | |
| 225/70R 19.5F | 3,315 | 85 | 3,115 | 90 | 6,900 | 12,980 | 16,000 |

Figure 11.20.1

| Tire Size | GVWR (Lbs.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|---------------|-------------|-------------|-------|----------|------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 225/70R 19.5F | 16,000 | 14.93 | 14.98 | 16 | 16 | 8.7 | 1.3 | 6.0 |

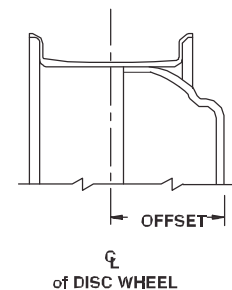
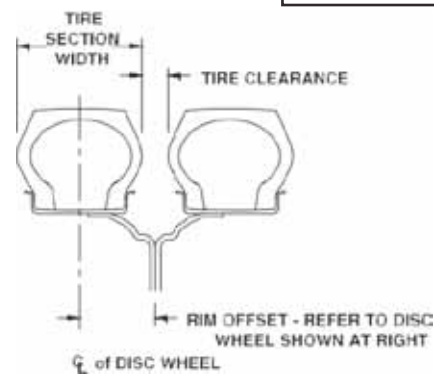
Figure 11.20.2

Disc Wheel

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|-------------|------------|------------------|------------------------|-----------------------|------------------------|--------------|----------------|----------------|----------|---------------|
| 19.5 x 6.00 | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 325 ft.-lb. (440 N•m) | 6.46 | 5.0 | 0.35 | 15° DC | Steel TOPY |

*O.D. Wrench Sizes

Figure 11.20.3



Dimensions in inches

Figure 11.20.4

2017 Chevrolet Low Cab Forward

4500XD Suspension Deflection Charts

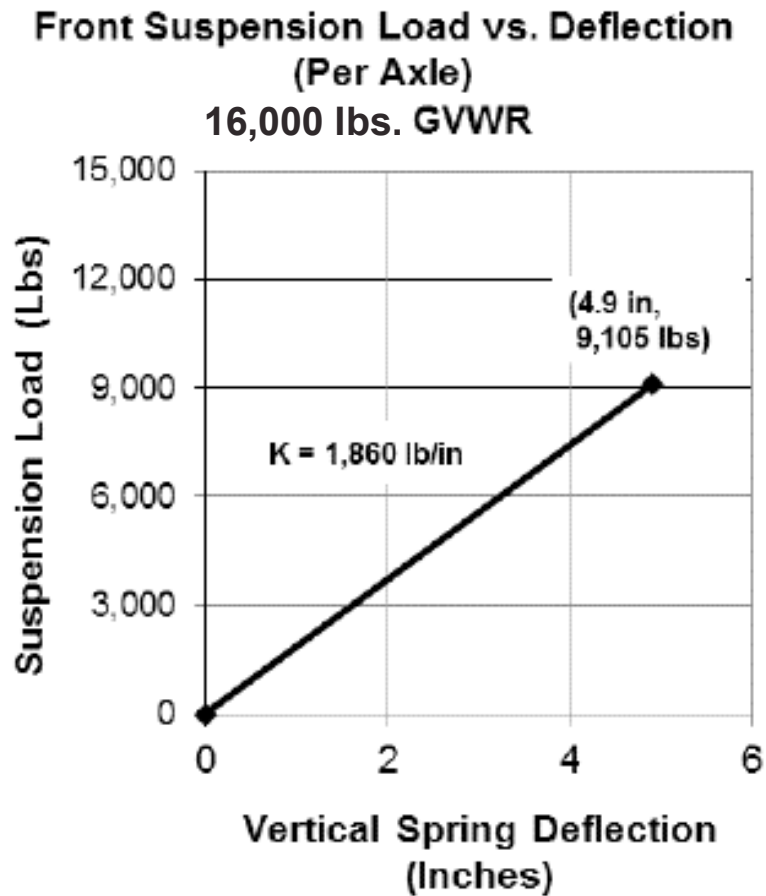


Figure 11.21.1

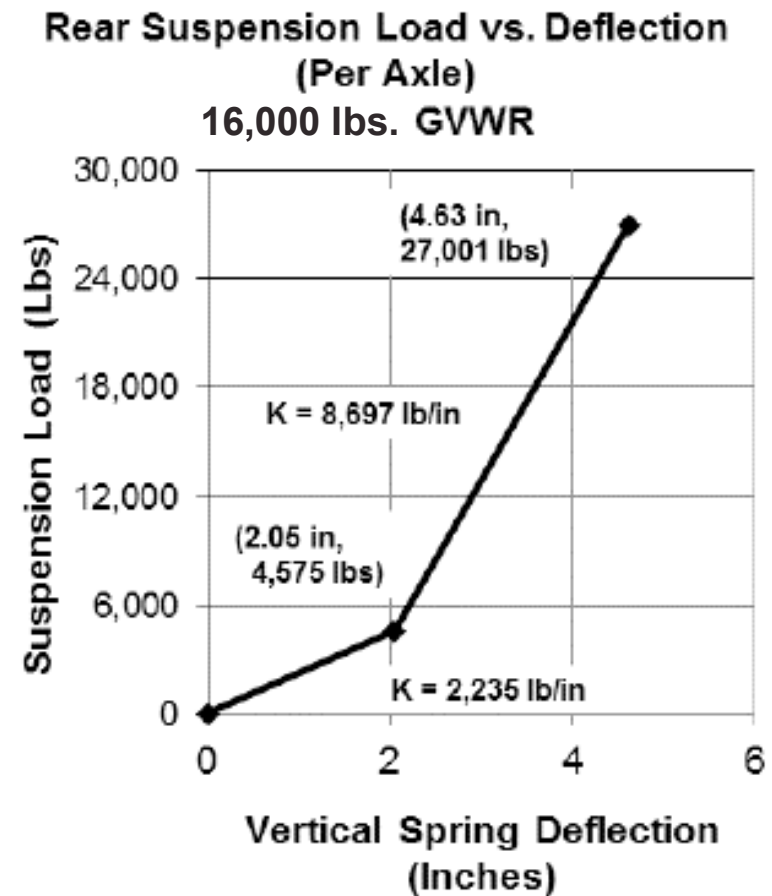
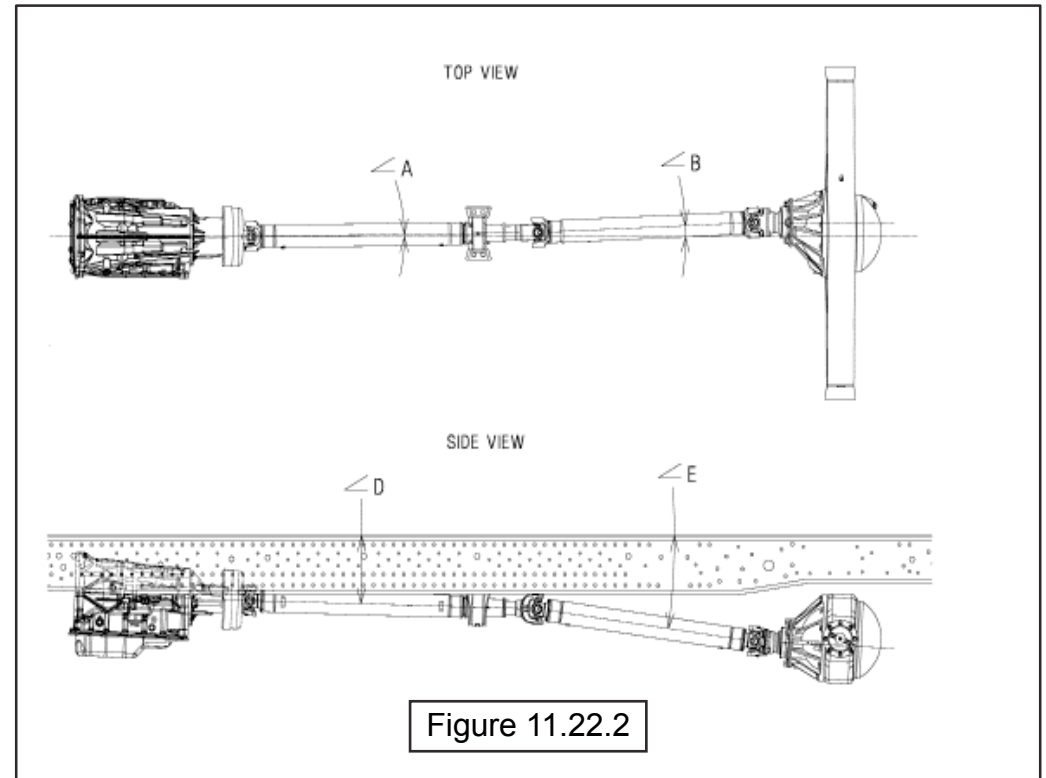
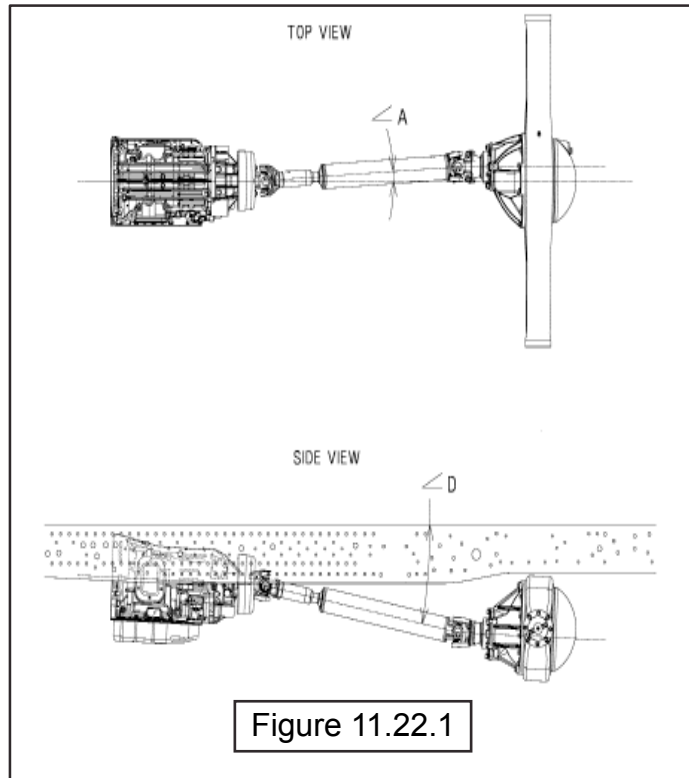


Figure 11.21.2

2017 Chevrolet Low Cab Forward

Propeller Shaft



| WheelBase (in.) | Top View | | Side View | | | |
|--------------------|----------|------|-----------|------|-------|-----------|
| | ∠A | ∠B | ∠D | ∠E | Trans | Rear Axle |
| 109 | 3.4° | - | 11.3° | - | 2.5° | 2.7° |
| 132.5 | 0° | 3.3° | 5.3° | 7.7° | 2.5° | 2.7° |
| 150 | 0° | 3.2° | 2.6° | 8.0° | 2.5° | 2.7° |
| 176 | 0° | 2.2° | 2.1° | 5.6° | 2.5° | 2.7° |

Figure 11.22.3

Notes: 1. Angles provided in table are relative to the frame angle. Please take this into consideration for service measurements.
2. Driveline angles are based on the chassis curb weight which includes standard equipment, fuel but no driver, body, or payload.

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Propeller Shaft

| Trans. Type | 6 Automatic. Transmission | | | |
|---------------|---------------------------|-------|-------|-------|
| Wheelbase | 109 | 132.5 | 150 | 176 |
| No. of Shafts | 1 | 2 | 2 | 2 |
| Shaft #1 O.D. | 3.54 | 3.54 | 3.54 | 3.54 |
| Thickness | 0.126 | 0.126 | 0.126 | 0.126 |
| Length | 35.7 | 22.91 | 40.24 | 49.69 |
| Type | A | B | B | B |
| Shaft #2 O.D. | N/A | 3.54 | 3.54 | 3.54 |
| Thickness | N/A | 0.126 | 0.126 | 0.126 |
| Length | N/A | 36.16 | 36.53 | 52.93 |
| Type | N/A | C | C | C |
| Shaft #3 O.D. | N/A | N/A | N/A | N/A |
| Thickness | N/A | N/A | N/A | N/A |
| Length | N/A | N/A | N/A | N/A |
| Type | N/A | N/A | N/A | N/A |

Figure 11.23.1

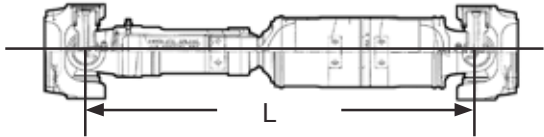
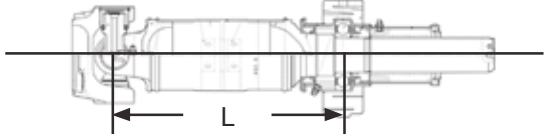
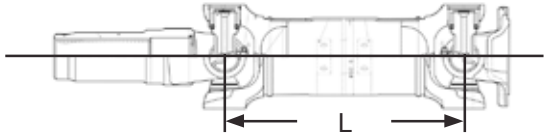
| Type | Description | Illustration |
|--------|--------------------------------|---|
| Type A | 1st shaft in 1-piece driveline |  |
| Type B | 1st shaft in 2-piece driveline |  |
| Type C | 2nd shaft in 2-piece driveline |  |

Figure 11.23.2

Dimensions in inches

2017 Chevrolet Low Cab Forward

Brake System Diagram 16,000 GVW

Vacuum Over Hydraulic

Please refer to Introduction Section of book for antilock system cautions and wheelbase modification requirements.

Legend for 3500, 3500HD, 4500, 4500HD, 4500XD Brake System

- (1) Electronic Hydraulic Control Unit (EHCU)
- (2) Rear Wheel Cylinder
- (3) Vacuum Pump
- (4) Check Valve
- (5) Exhaust Brake Valve
- (6) Magnetic Valve
- (7) Check Valve (One-way Valve)
- (8) Vacuum Tank
- (9) 4-Way Connector
- (10) With Metering Valve
- (11) W/O Metering Valve
- (12) Brake Fluid Reservoir
- (13) Electric Vacuum Pump
- (14) Master Cylinder
- (15) Vacuum Booster (Servo Unit)
- (16) Front Wheel Cylinder

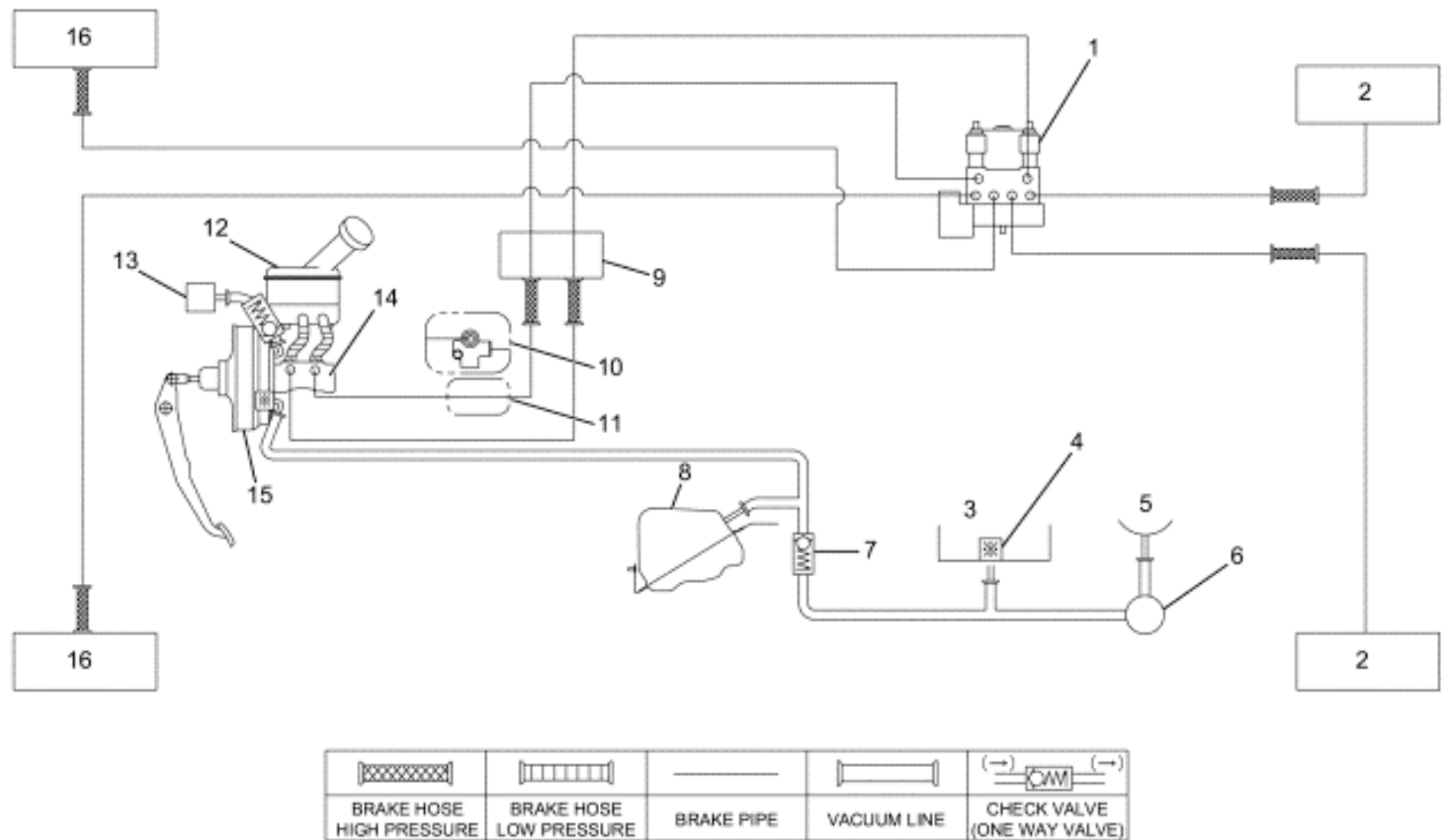


Figure 11.24.1

LNWC5AMF000201

2017 Chevrolet Low Cab Forward

PTO Location, Drive Gear and Opening Information

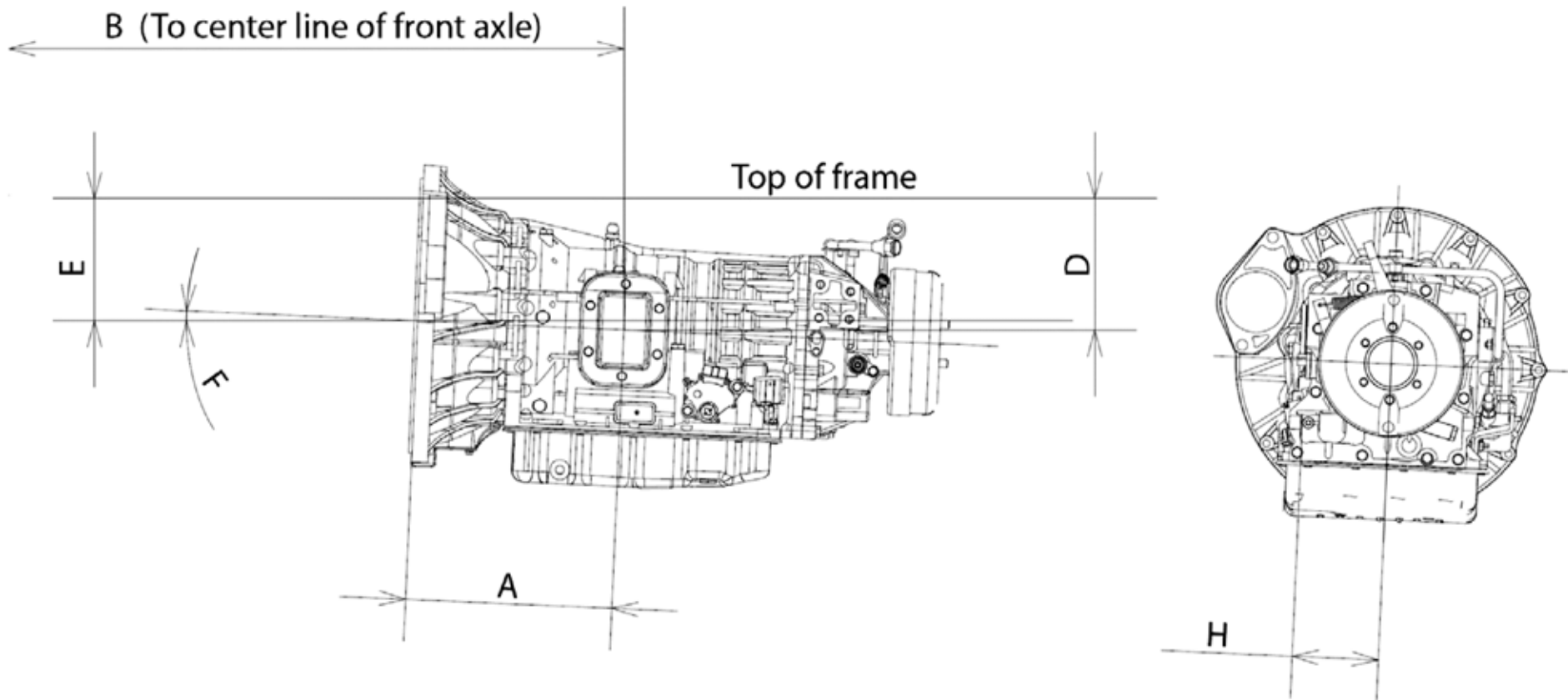


Figure 11.25.1

| Trans. | Opening Location | Bolt Pattern | A | B | C | D | E | F | H | PTO Drive Gear Location | Ratio of PTO Drv. Gear Spd. to Eng. Spd. | No. of Teeth | Pitch | Helix Angle | Max. Output Torque |
|-----------|------------------|--------------|-------|-------|---|------|------|------|------|-------------------------|--|--------------|-------|-------------|--------------------------|
| Aisin 465 | Left | (Dr2) | 12.35 | 36.89 | 0 | 7.85 | 7.31 | 2.5° | 5.16 | PTO Gear | 1:1 with turbine | 69 | N/A | 0 | 134 lbs.-ft. @ 1,700 RPM |

Figure 11.25.2

Revision: 06/14/2016

2017 Chevrolet Low Cab Forward

In-Frame Diesel Fuel Fill

Installation Instructions

1. Disconnect battery.
2. Loosen hose from the tie downs. Remove caps from plate on rail.
3. Install hoses onto the plate.
4. Extend hose out from the driver side of the rail to body rail.
5. The filler neck must be mounted to allow the fill plate bracket to be parallel to the frame horizontal.
6. Cover with protector wrap and secure with tie wraps.
7. Filler hose is set for 102 inches outside width body.
8. Filler neck (dimension A) must be between 6.85 inches and 8.5 inches above frame.
9. Secure the filler plate to the bottom of the body and check for leaks.
10. Ensure that fill hose does not sag, creating an area where the fuel could pool in the fill hose.
11. Reconnect battery.

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Rear View Fuel Fill

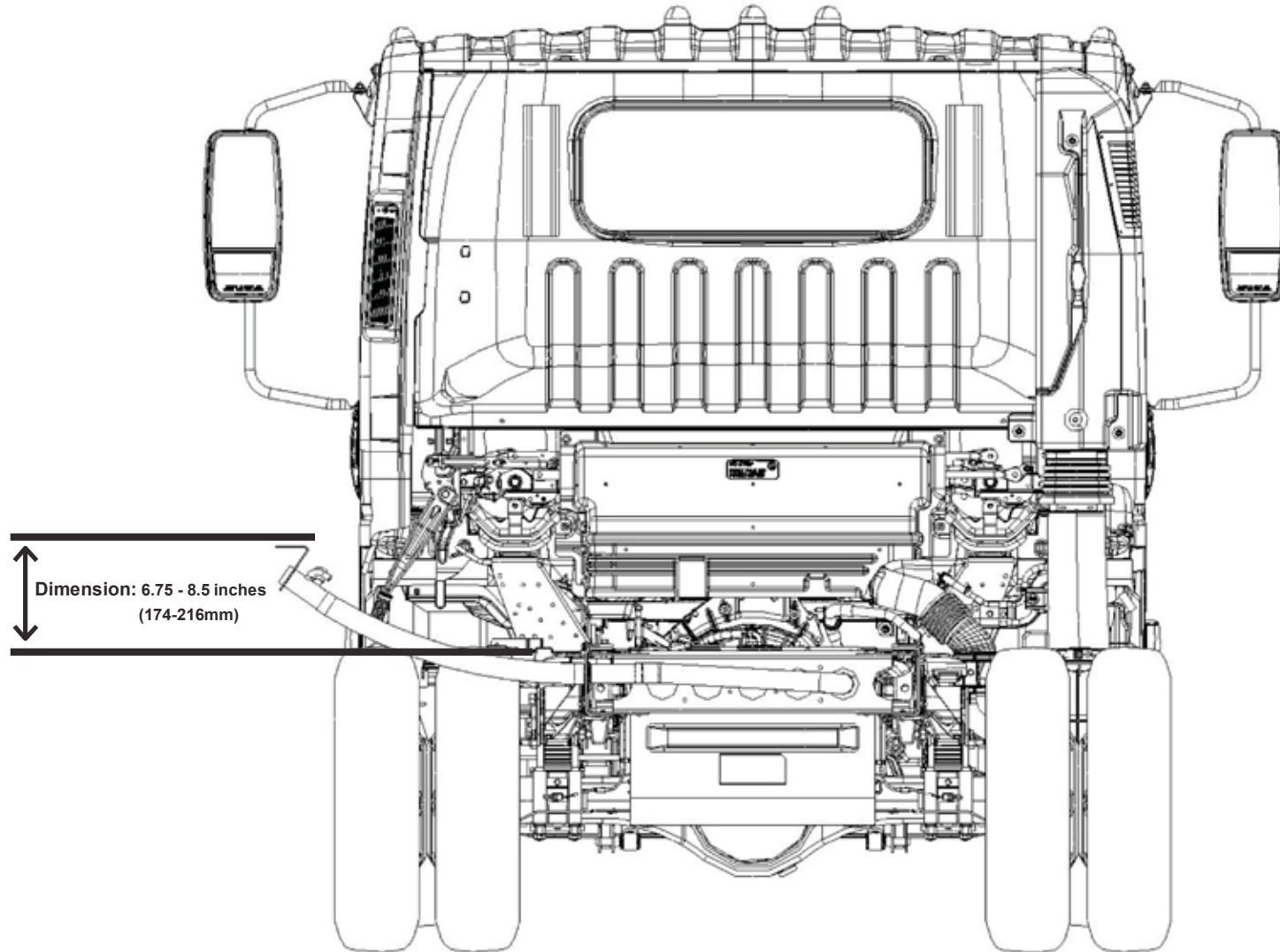


Figure 11.28.1

2017 Chevrolet Low Cab Forward

| | |
|------|-------|
| PAGE | 11.29 |
|------|-------|

Top View Fuel Fill

Dimensions:

B = 29.75 inches (756 mm)

C = 34.00 inches (863 mm)

D = 39.29 inches (998 mm)

E = 33.86 inches (860 mm)

F = 59.60 inches (1,514 mm)

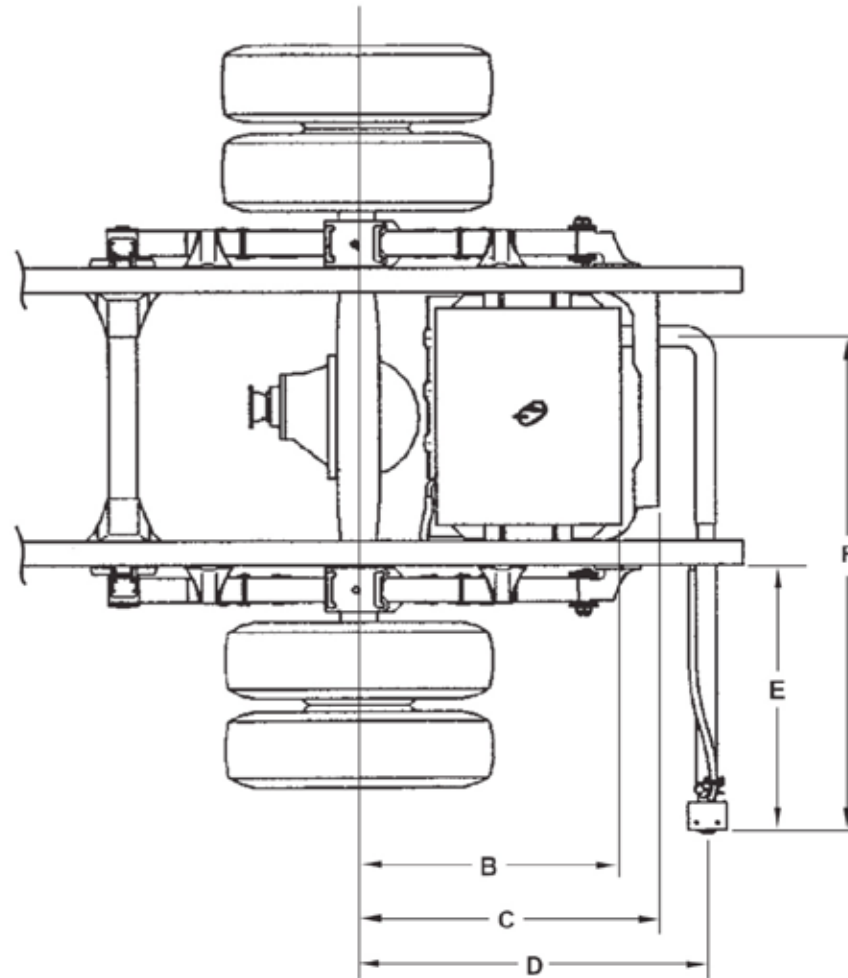


Figure 11.29.1

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

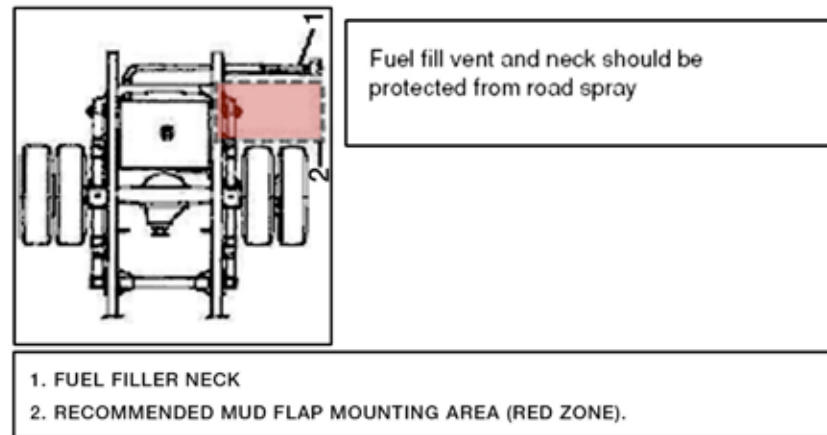
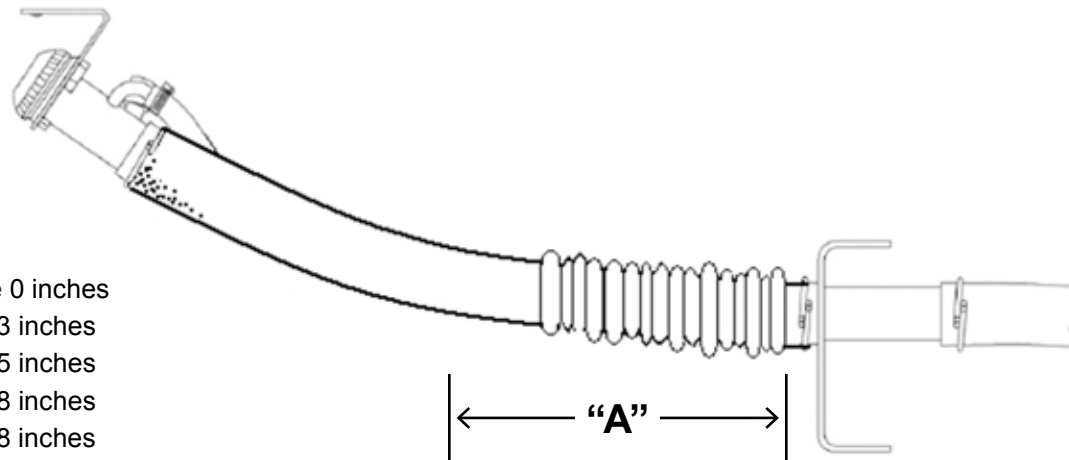


Figure 11.30.1

“A” Dimensions:

102 inch wide body remove 0 inches
96 inch wide body remove 3 inches
90 inch wide body remove 5 inches
86 inch wide body remove 8 inches
80 inch wide body remove 8 inches



NOTE: Shorten hose by “A Dimension” based on chart at left.

Figure 11.30.2

2017 Chevrolet Low Cab Forward

Ultra Low Sulfur Diesel Label

Per EPA Title 40, Part 86, 86:007—35(c),
The decal illustrated below must be installed on the vehicle.
The decal is included in the fuel fill parts box.



INSTRUCTIONS FOR DECAL PLACEMENT:

1. The decal must be placed as close as possible to the fuel inlet and be clearly visible.
 2. The decal should be placed above or to the side of the fuel cap to avoid corrosion by possible contact with fuel.
 3. The decal may be placed on aerodynamic fairings, bodies, etc. as long as the decal is clearly visible and in close proximity to the fuel inlet.
 4. For installed bodies that have a fuel door, the decal should be placed above or to the side of the fuel door.
- Thoroughly clean the area of all grease, dirt, etc. before application of the decal. Apply the decal at room temperature, 65° to 75° F.

Figure 11.31.1

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Through the Rail Fuel Fill Frame Hole

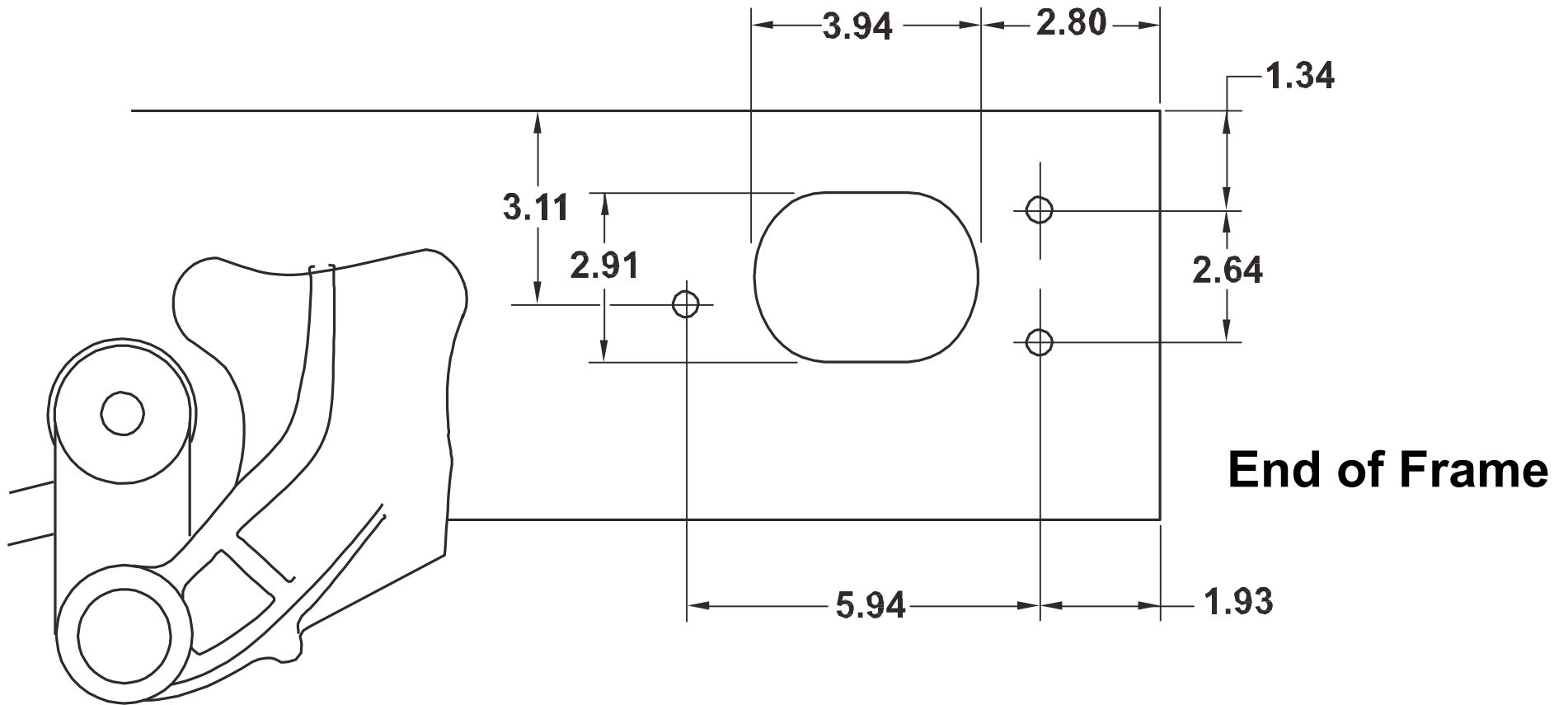


Figure 11.32.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

4500XD Diesel Fuel Filler Kit Instructions

Please review these instructions prior to installation of the fuel filler kit.

Parts Kit: There is a parts kit for the Chevrolet LCF diesel products. Fuel filler kit shown below is used for 14,500 lb and higher GVWR chassis (3500HD, 4500HD, 4500XD, 5500HD, 5500XD). Parts list is shown in **Figure 33.33.2**. Parts photos are shown in **Figure 11.33.1**.

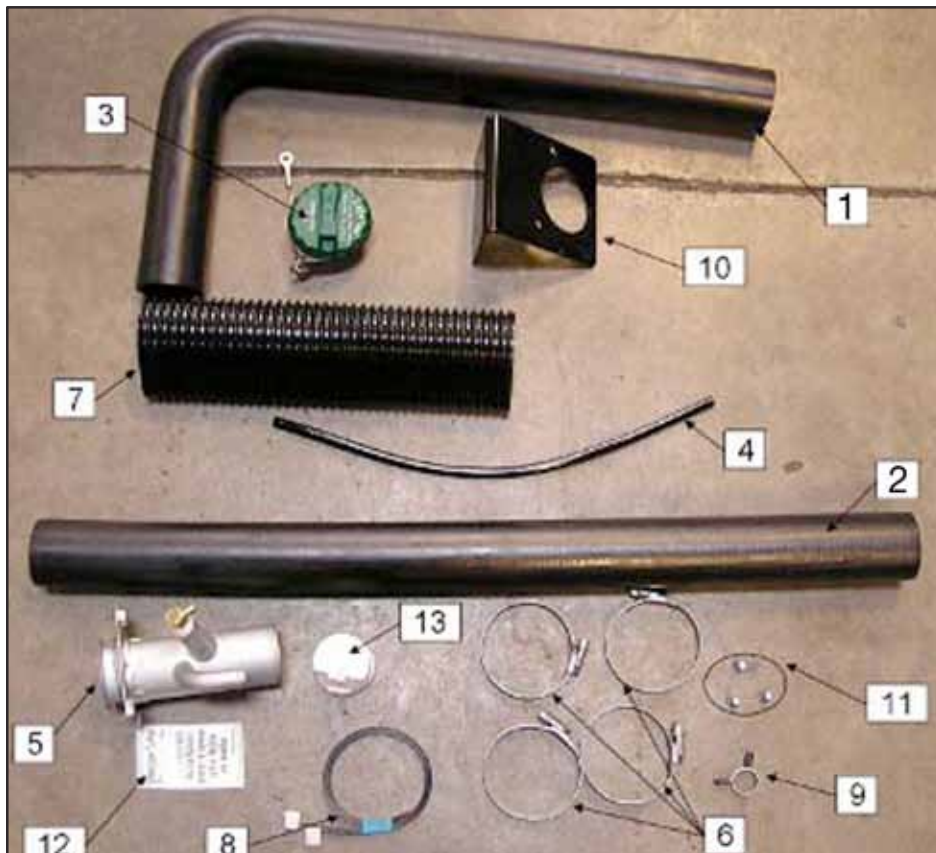


Figure 11.33.1

| FUEL FILLER KIT | | | |
|-----------------|-------------------------|--------|-----|
| ITEM # | PART NAME | PART # | QTY |
| 1 | HOSE:FUEL FILLER NECK | ** | 1 |
| 2 | HOSE:FUEL FILLER | ** | 1 |
| 3 | CAP: FILLER | ** | 1 |
| 4 | HOSE: ROLL-OVER VALVE | ** | 1 |
| 5 | NECK ASM: FUEL FILLER | ** | 1 |
| 6 | CLIP: JOINT | ** | 4 |
| 7 | PROTECTOR: FILLER HOSE | ** | 1 |
| 8 | CLIP: BAND, HOSE FIXING | ** | 2 |
| 9 | CLIP: RUBBER, HOSE | ** | 1 |
| 10 | BRACKET: FILLER NECK | ** | 1 |
| 11 | SCREW: FILLER NECK | ** | 3 |
| 12 | CAUTION PLATE | ** | 1 |
| 13 | SHUTTER: FUEL TANK | ** | 1 |

** See Dealer for all part numbers.

Figure 11.33.2

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Installation Instructions and Considerations

The fuel tank shutter valve (13) is meant to improve fuel splash-back performance of the fuel system. This valve (13) is located on the inlet (outboard side) of the fuel filler neck bulkhead assemble that is bolted to the left hand frame rail as shown in **Figure 11.34.1**. This plastic valve snaps into place in the inlet of the frame mounted fuel pipe. The valve should be installed so that the plastic clip is at the top of the valve, so that the flap door opens up, as shown in **Figure 11.34.2**.



Figure 11.34.1

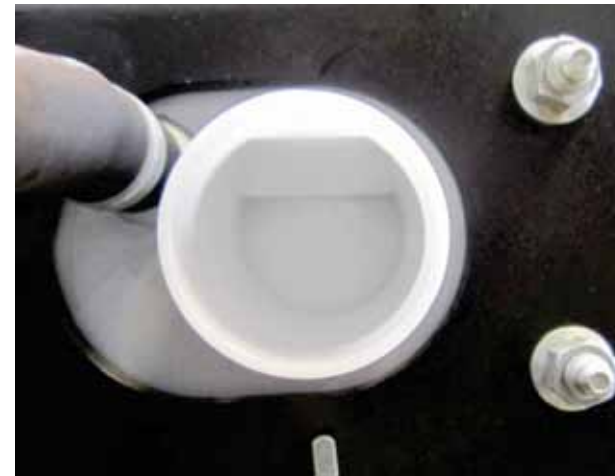


Figure 11.34.2



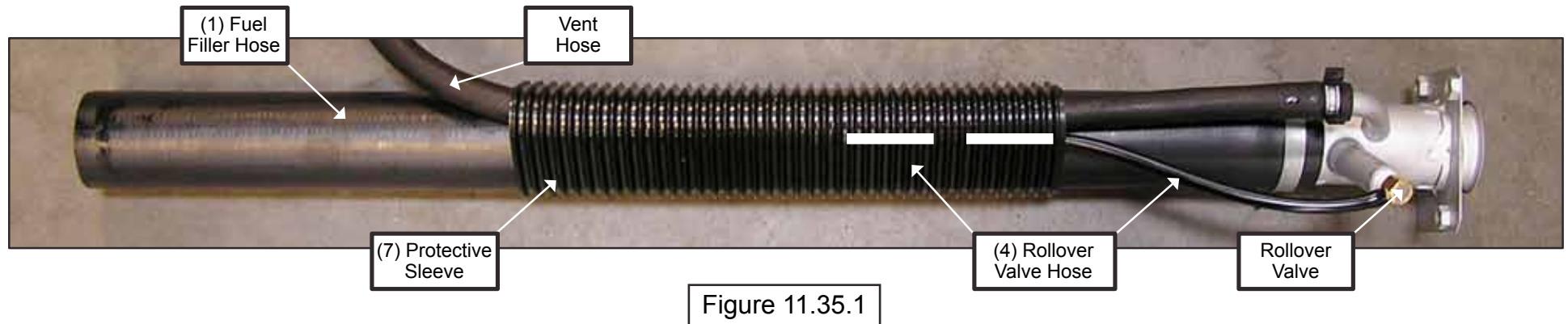
The fuel filler hose should be installed flush against the tank. The clamp should be installed between 1/16" and 3/8" from the tank. This is shown in **Figure 11.34.3** to the right.



Figure 11.34.3

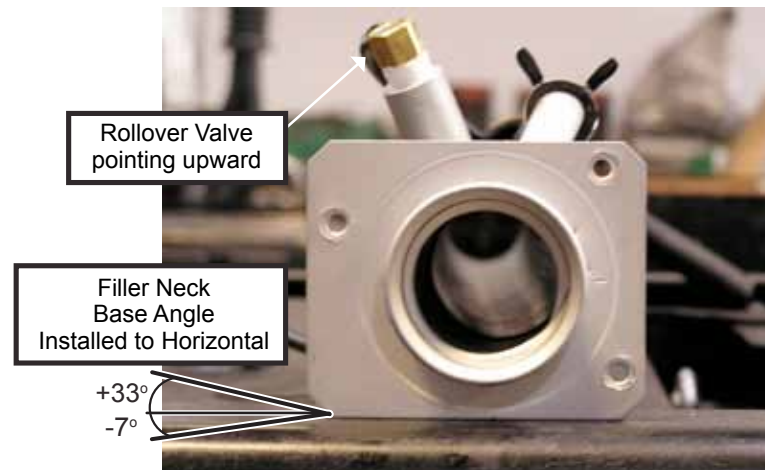
Roll-Over Valve Tubing

The roll-over valve has a hose attachment that will make this valve less sensitive to water intrusion. In order for the valve to work properly, it is critical that the hose be installed to the rollover valve. The proper assembly of the outer hose is shown in **Figure 11.35.1**.



Filler Neck Installation

The fuel filler neck (5) must be installed with the proper orientation on the body. The neck should be installed with the roll-over valve pointing upward, with the bottom edge of the neck oriented parallel to the ground, plus 33 to minus 7 degrees. See **Figure 11.35.2** for the proper orientation.



2017 Chevrolet Low Cab Forward

5500HD Diesel Specifications

| Model | 5500HD |
|--|--|
| GVWR | 17,950 lbs. |
| WB | 109 in., 132.5 in., 150 in., 176 in., 200 in.* |
| Engine | Isuzu 4-cylinder, in-line 4-cycle, turbocharged, intercooled, direct injection diesel. |
| Model/Displacement | 4HK1-TC/317 CID (5.19 liters) |
| HP (Gross) | 215HP/2500 RPM w/Automatic Transmission |
| Torque (Gross) | 452 lb ft torque/1850 RPM w/ Automatic Transmission |
| Equipment | Dry element air cleaner with vertical intake; 2 rows 564 square in ² radiator; 7 blade 20.1 in diameter fan with viscous drive. Cold weather starting device and an oil cooler. Engine oil level check. Engine warning system with audible warning for low oil pressure, high coolant temperature, and low coolant level. Engine cruise control function. Rear engine cover. |
| Transmission | Aisin A465 6 speed automatic transmission with fifth and sixth gear overdrive with lock up in 2nd, 3rd, 4th, 5th and 6th, PTO capability with automatic torque converter lockup in stationary PTO mode. |
| Steering | Integral power steering 18.8-20.9:1 ratio. Tilt and telescoping steering column. |
| Front Axle | Reverse Elliot 1" -Beam rated at 6,830 lbs. |
| Suspension | Semi-elliptical steel alloy tapered leaf springs with stabilizer bar and shock absorbers. |
| GAWR | 6,830 lbs. |
| Rear Axle | Full floating single speed with hypoid gearing rated at 14,550 lbs. |
| Suspension | Semi-elliptical steel alloy multi-leaf springs and shock absorbers. |
| GAWR | 12,980 lbs. |
| Wheels | 19.5x6.0-K 6 hole disc wheels, painted white. |
| Tires | 225/70R-19.5E (12 pr) LRR (Low Rolling Resistance) tubeless steel belted radials, all season tread front and rear. |
| Brakes | Dual circuit power assisted hydraulic service brakes with EBD (Electronic Brake Distribution) system for load proportioning of the brake system front disc and self-adjust outboard mounted drum rear. The parking brake is mechanical, cable actuated, internal expanding drum type, transmission mounted. The exhaust brake is standard and is vacuum operated. 4 channel antilock brake system. |
| Fuel Tank | 30 gal. rectangular steel fuel tank mounted in frame rail behind rear axle. Fuel water separator with indicator light. |
| Frame | Ladder type channel section straight frame rail 33.5 in wide through the total length of the frame. Yield strength 44,000 psi. section modulus 7.20 in ³ . RBM 316,800. |
| Cab | All steel low cab forward, BBC 70.9 in, 45o mechanical tilt with torsion assist. |
| Equipment | TRICOT breathable cloth covered high back driver's seat with two occupant passenger seat. Dual cab mounted exterior mirrors with integral convex mirror. Tilt and telescoping steering column. Power windows and door locks, floor mats, tinted glass. |
| Electrical | 12 Volt, negative ground, dual maintenance free batteries, 750 CCA each, 140 Amp alternator with integral regulator. |
| Options | See last page for options |
| NOTE: These selected specifications are subject to change without notice. | |

2017 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

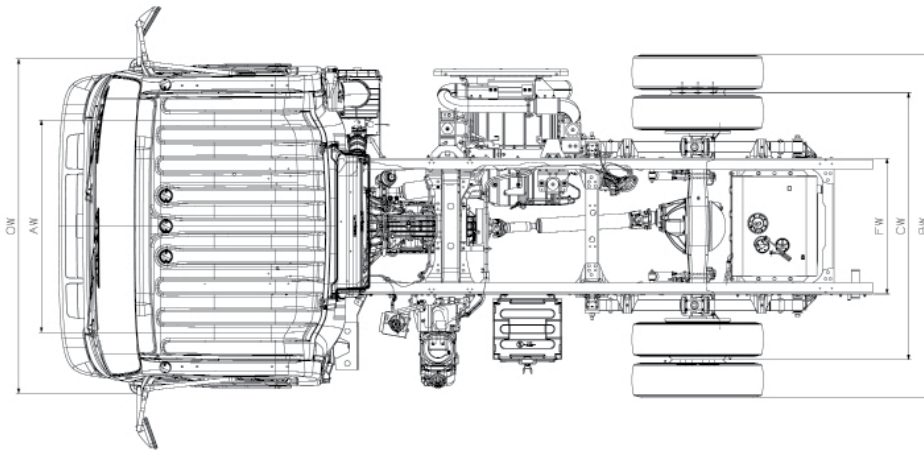


Figure 12.2.1

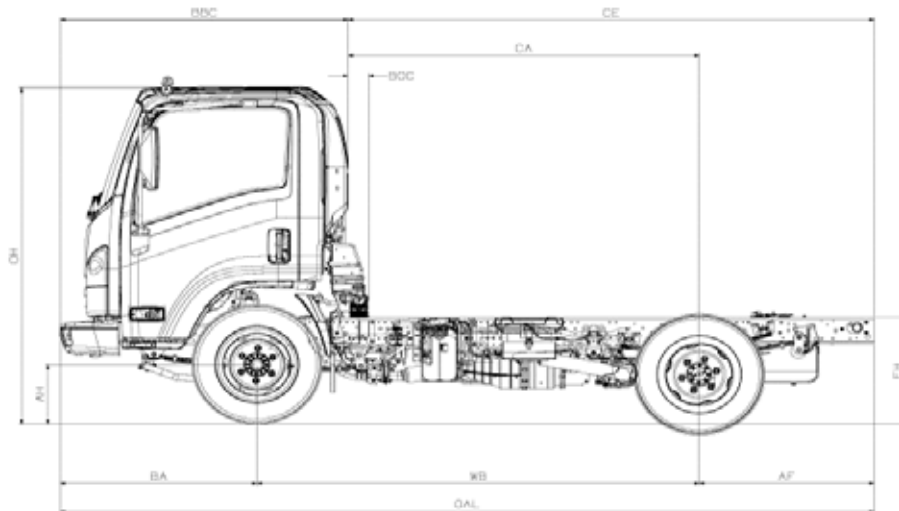


Figure 12.2.2

In-Frame Tank

17,950 lb. GVWR Automatic Transmission Model

Chassis Curb and Maximum Payload Weights

| Model | RPO | WB | Unit | Front | Rear | Total | Payload |
|--------|-----|----------|------|-------|------|-------|---------|
| T51003 | EB4 | 109.0 in | lb. | 4132 | 2357 | 6489 | 11461 |
| T52003 | FNJ | 132.5 in | lb. | 4221 | 2361 | 6582 | 11368 |
| T53003 | FWH | 150.0 in | lb. | 4286 | 2342 | 6628 | 11322 |
| T54003 | FNW | 176.0 in | lb. | 4324 | 2362 | 6686 | 11264 |
| T55003 | EM2 | 200.0 in | lb. | 4487 | 2524 | 7011 | 10939 |

Side Mounted Tank

17,950 lb. GVWR Automatic Transmission Model

Chassis Curb and Maximum Payload Weights

| Model | RPO | WB | Unit | Front | Rear | Total | Payload |
|--------|-----|----------|------|-------|------|-------|---------|
| T54003 | FNW | 176.0 in | lb. | 4458 | 2238 | 6696 | 11254 |

Vertical Exhaust Option Dimensions:

Variable Chassis Dimensions:

| Unit | WB | EFF CA* | EFF CE* | OAL | AF |
|------|-------|---------|---------|-------|------|
| Inch | 109.0 | 62.5 | 105.6 | 200.5 | 43.1 |
| Inch | 132.5 | 86.0 | 153.1 | 224.0 | 43.1 |
| Inch | 150.0 | 103.5 | 146.6 | 241.5 | 43.1 |
| Inch | 176.0 | 129.5 | 172.6 | 267.5 | 43.1 |

* Effective CA & CE listed are standard CA or CE less vertical exhaust BOC of 24 inches.

Vertical Exhaust BOC = 24 inches

Variable Chassis Dimensions:

| Unit | WB | CA* | CE* | OAL | AF |
|------|-------|-------|-------|-------|------|
| Inch | 109.0 | 86.5 | 129.6 | 200.5 | 43.1 |
| Inch | 132.5 | 110.0 | 153.1 | 224.0 | 43.1 |
| Inch | 150.0 | 127.5 | 170.6 | 241.5 | 43.1 |
| Inch | 176.0 | 153.5 | 196.6 | 267.5 | 43.1 |
| Inch | 200.0 | 177.5 | 220.6 | 291.5 | 43.1 |

* Effective CA & CE are CA & CE less BOC

Dimension Constants:

| Code | Inches | Code | Inches |
|------|--------|------|--------|
| AH | 7.5 | BW | 83.3 |
| AW | 65.6 | CW | 65 |
| BA | 48.4 | FW | 33.5 |
| BBC | 70.7 | OH | 92.4 |
| BOC | 7.7 | OW | 81.3 |
| FH | 33.0 | | |

2017 Chevrolet Low Cab Forward

Vehicle Weight Limits

Vehicle Weight Limits:

GVWR Designed Maximum 17,950 lbs.

GAWR, Front 6,830 lbs.

GAWR, Rear 12,980 lbs.

Technical Notes:

Chassis Curb Weight reflects standard equipment and fuel but no driver or payload.

Maximum Payload Weight is the allowed maximum for equipment, body, payload and driver and is calculated by subtracting chassis curb weight from the GVWR.

| Weights for Options | | |
|---------------------|--|----------------------|
| RPO (1) | Option Description | Front / Rear Lbs. |
| NPV | Cross rail horizontal DPF/SCR with vertical exhaust (8) | 100 / 100 |
| 9D2 | Speed Limited to 58 MPH | 0 / 0 |
| 9C2 | Speed Limited to 65 MPH | 0 / 0 |
| 9E2 | Speed Limited to 68 MPH | 0 / 0 |
| ATG | Keyless entry | 3 / 0 |
| 9B9 | Speed Limited to 70 MPH | 0 / 0 |
| AJG | Suspension seat | 18 / 0 |
| K05 | Block Heater (cord) | 1 / 0 |
| KPG | Locking DEF tank cap | 0 / 0 |
| UIZ | AM/FM/CD Radio with Ax input/USB port and Bluetooth | 0 / 0 |
| KQN | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| DB6 | Heated dual remote control mirrors (15" head) | 3 / 0 |
| G7M | Air Deflector roof mounted (not available in Crew Cab) | 64 / 0 |
| MTE | Fire Extinguisher and Triangle Kit mounted in rear organizer | 19 / 0 |
| KPK | Engine Oil Pan Heater (120v 300w) | 2 / 0 |
| KPJ | Engine emergency shutdown system HWT, LWL, LOP (4) | 0 / 0 |
| NLX | 33 Gallon Additional Diesel Fuel Tank mounted on LH side 150, 176 wb, std. cab | (7) |
| PTO | PTO Enable Switch and Engine Idle Up Switch recommended for PTO and Idle applications only (2) | 1 / 0 |
| DB8 | Heated Mirrors | 1 / 0 |
| TBD | Mirror Bracket for 102" wide body | 1 / 0 |
| 9W8 | Seat Covers Standard Cab (9) | 6 / 0 |
| IX2 | Rear Body Dome Lamp Switch (6) | 1 / 0 |
| UL5 | Delete Standard AM/FM/CD Radio | ---3/0 |
| KQN | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| UZF | Back up alarm | 0 / 2 |
| V22 | Chrome Grille | 1 / 0 |

2017 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

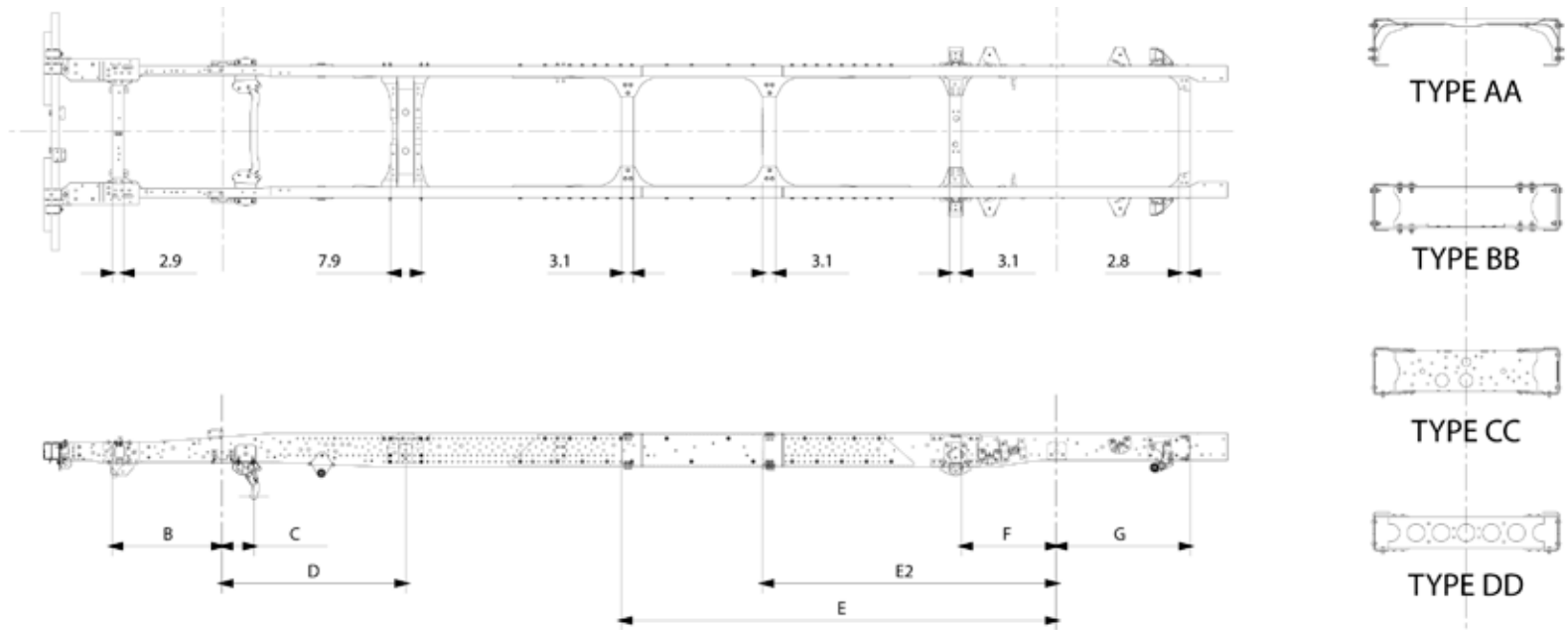


Figure 12.4.1

| Wheelbase | Frame Thickness | Crossmember Type/Location | | | | | | | | | |
|-----------|-----------------|---------------------------|-----|----|------|----|------|---------|----|------|---------|
| | | B | C | D | | E | | E2 | F | | G |
| 109 | 0.24 | 28.3 | 7.9 | AA | 46.5 | - | | - | CC | 24.2 | DD 33.8 |
| 132.5 | 0.24 | 28.3 | 7.9 | AA | 46.5 | BB | 57.5 | - | CC | 24.2 | DD 33.8 |
| 150 | 0.24 | 28.3 | 7.9 | AA | 46.5 | BB | 57.9 | - | CC | 24.2 | DD 33.8 |
| 176 | 0.24 | 28.3 | 7.9 | AA | 46.5 | BB | 74.4 | - | CC | 24.2 | DD 33.8 |
| 200 | 0.24 | 28.3 | 7.9 | AA | 46.5 | BB | 98.4 | BB 74.4 | CC | 24.2 | DD 33.8 |

Figure 12.4.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Frame Chart

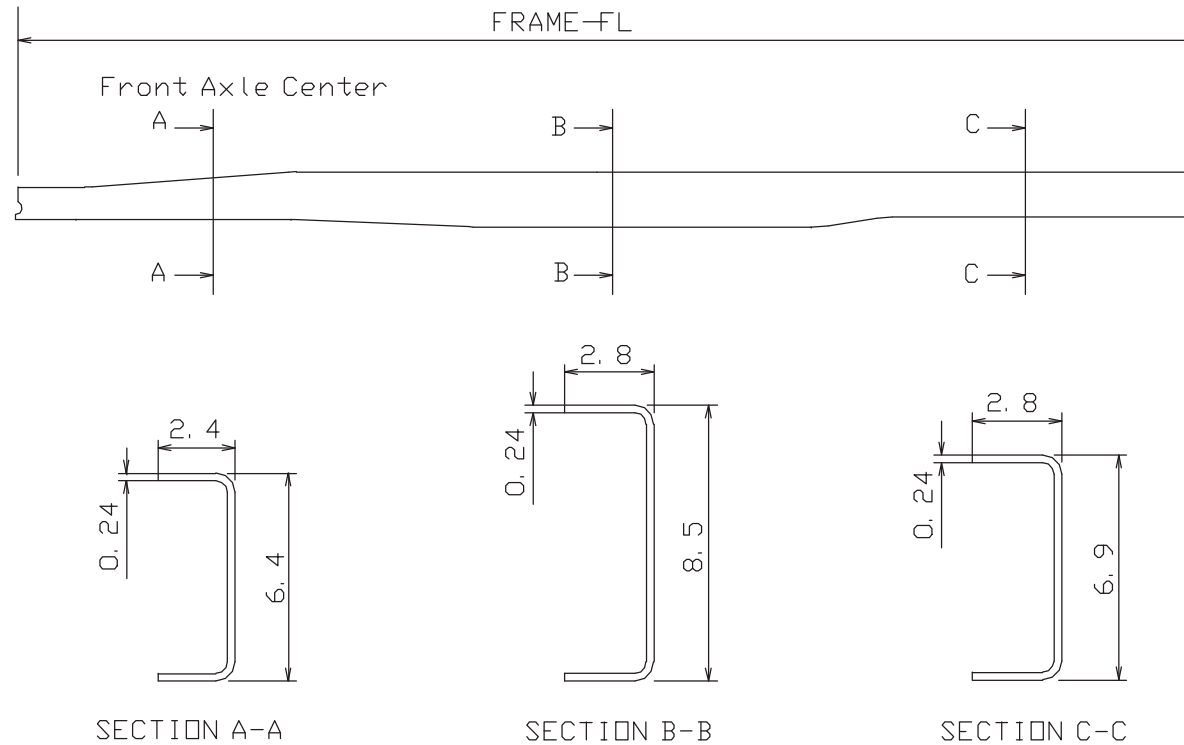


Figure 12.5.1

| Wheelbase | Frame FL | Frame Thickness |
|-----------|----------|-----------------|
| 109.0 | 182.5 | 0.24 |
| 132.5 | 206.1 | 0.24 |
| 150.0 | 223.8 | 0.24 |
| 176.0 | 249.8 | 0.24 |
| 200.0 | 273.8 | 0.24 |

Figure 12.5.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

5500HD Diesel Standard Cab Top View

| WB | A | B |
|-------|------|------|
| 109 | 43.4 | 78.0 |
| 132.5 | 49.7 | 84.3 |
| 150 | 43.4 | 78.0 |
| 176 | 43.4 | 78.0 |
| 200 | 43.4 | 78.0 |

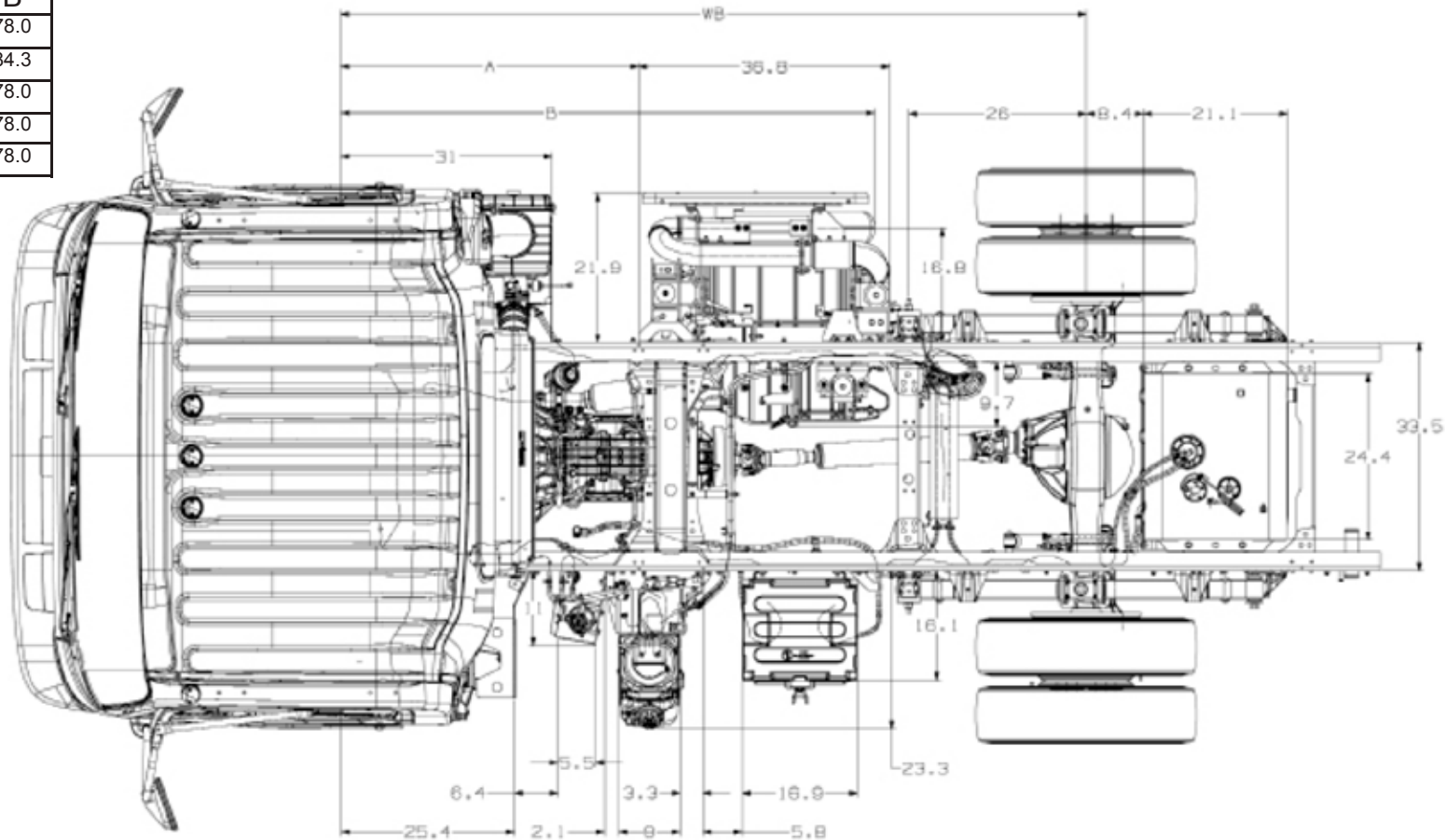


Figure 12.6.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

5500HD Diesel Standard Cab -Left Side View

| WB | A |
|-------|------|
| 109 | 80.7 |
| 132.5 | 87.0 |
| 150 | 80.7 |
| 176 | 80.7 |
| 200 | 80.7 |

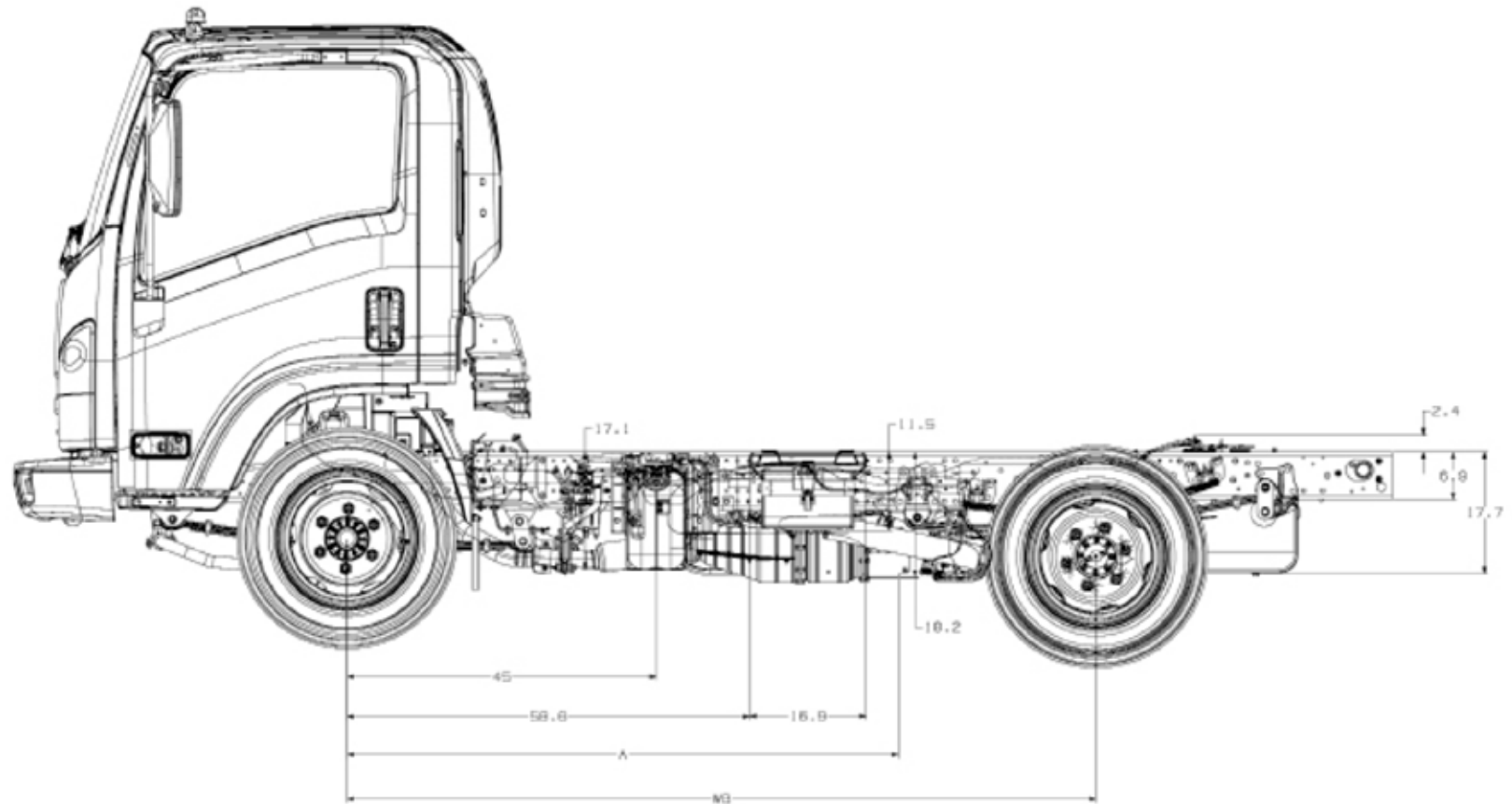


Figure 12.7.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

5500HD Diesel Standard Cab Right Side View

| WB | A |
|-------|------|
| 109 | 44.0 |
| 132.5 | 50.3 |
| 150 | 44.0 |
| 176 | 44.0 |
| 200 | 44.0 |

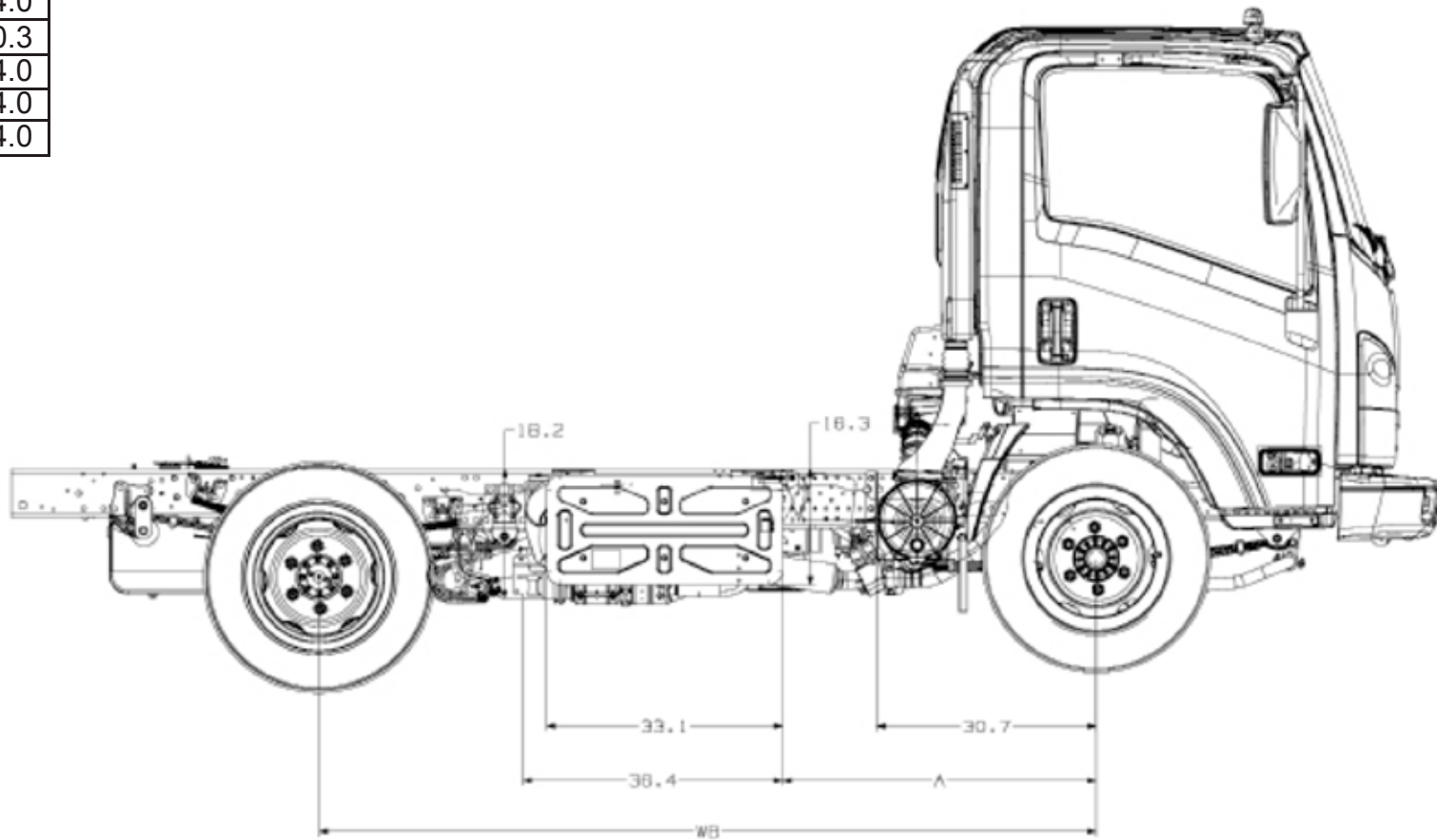


Figure 12.8.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

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SCR / DPF 4HK1-TC

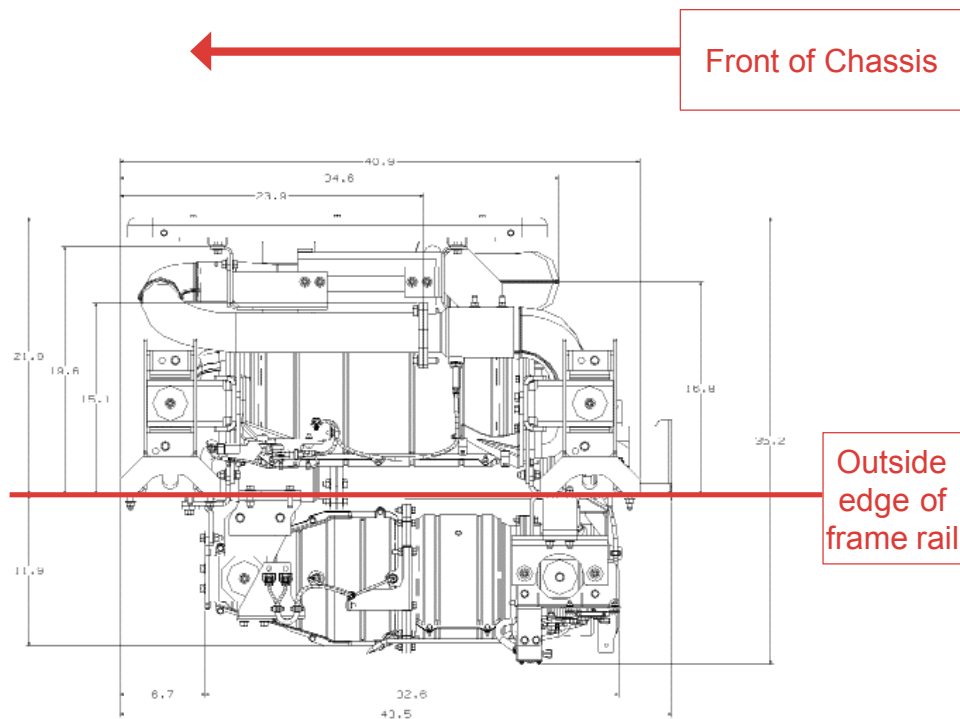


Figure 12.9.1

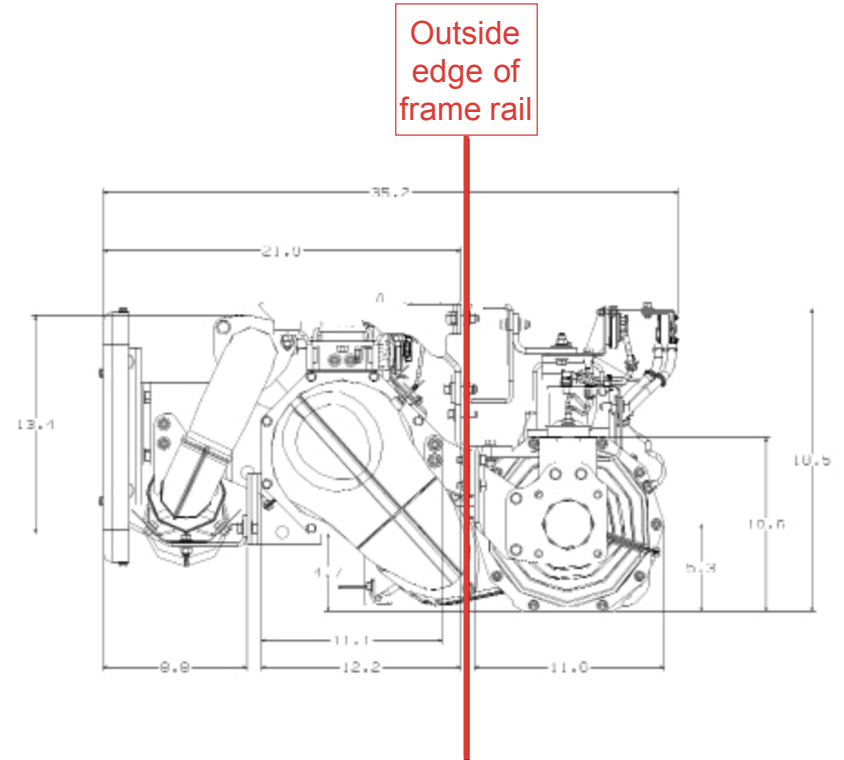


Figure 12.9.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

PAGE 12.10

Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX
Side View 150 Wheelbase

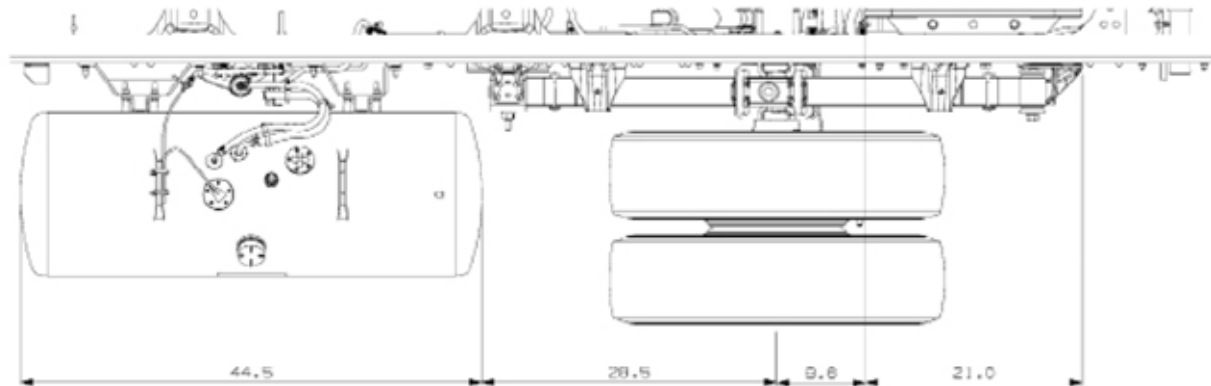


Figure 12.10.1

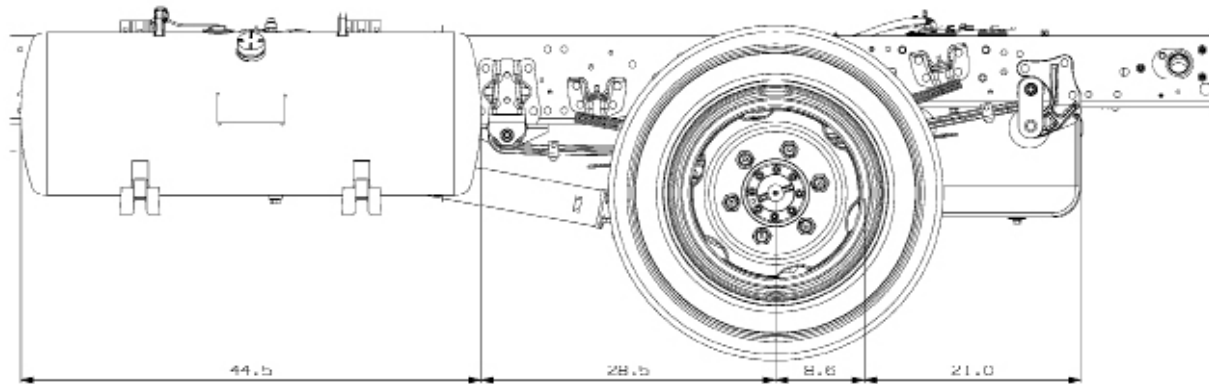


Figure 12.10.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

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Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX

Side View 176 Wheelbase

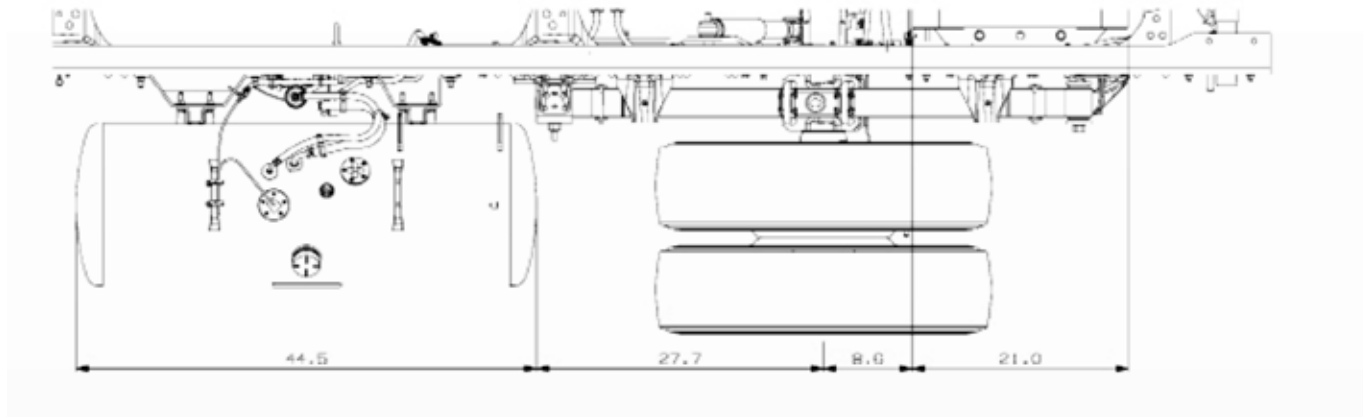


Figure 12.11.1

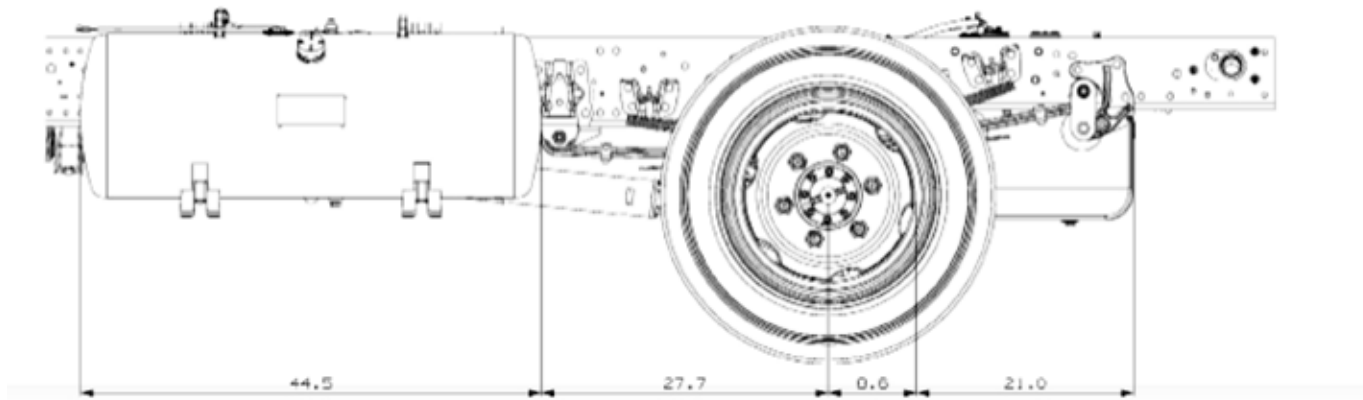


Figure 12.11.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

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Option Side Fuel Tank in place of the Standard In Rail Fuel Tank

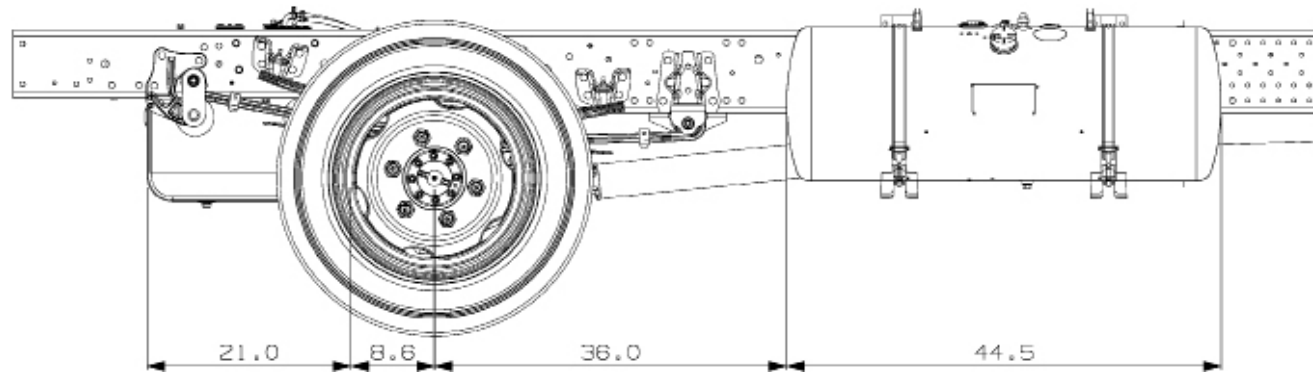


Figure 12.12.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

| | |
|------|-------|
| PAGE | 12.13 |
|------|-------|

Optional Side Fuel Tank in addition to the Standard In Rail Fuel tank RPO NLX
(150 and 176 wb LH rail only)

Optional Side Fuel Tank replacing standard In Rail Fuel tank (176 wb only RH rail only)

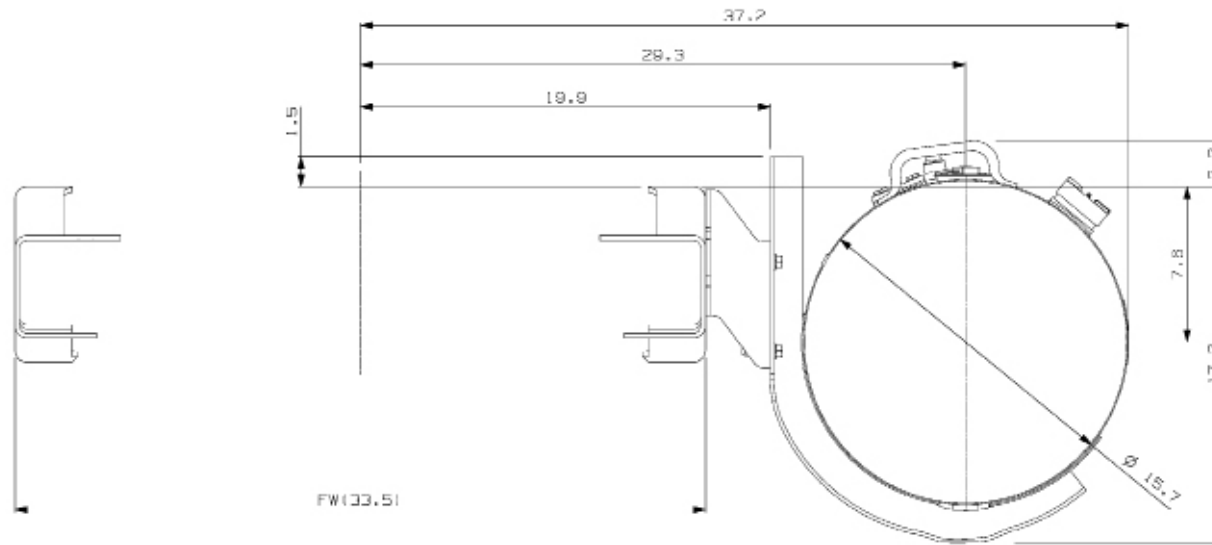


Figure 12.13.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

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Cab Tilt

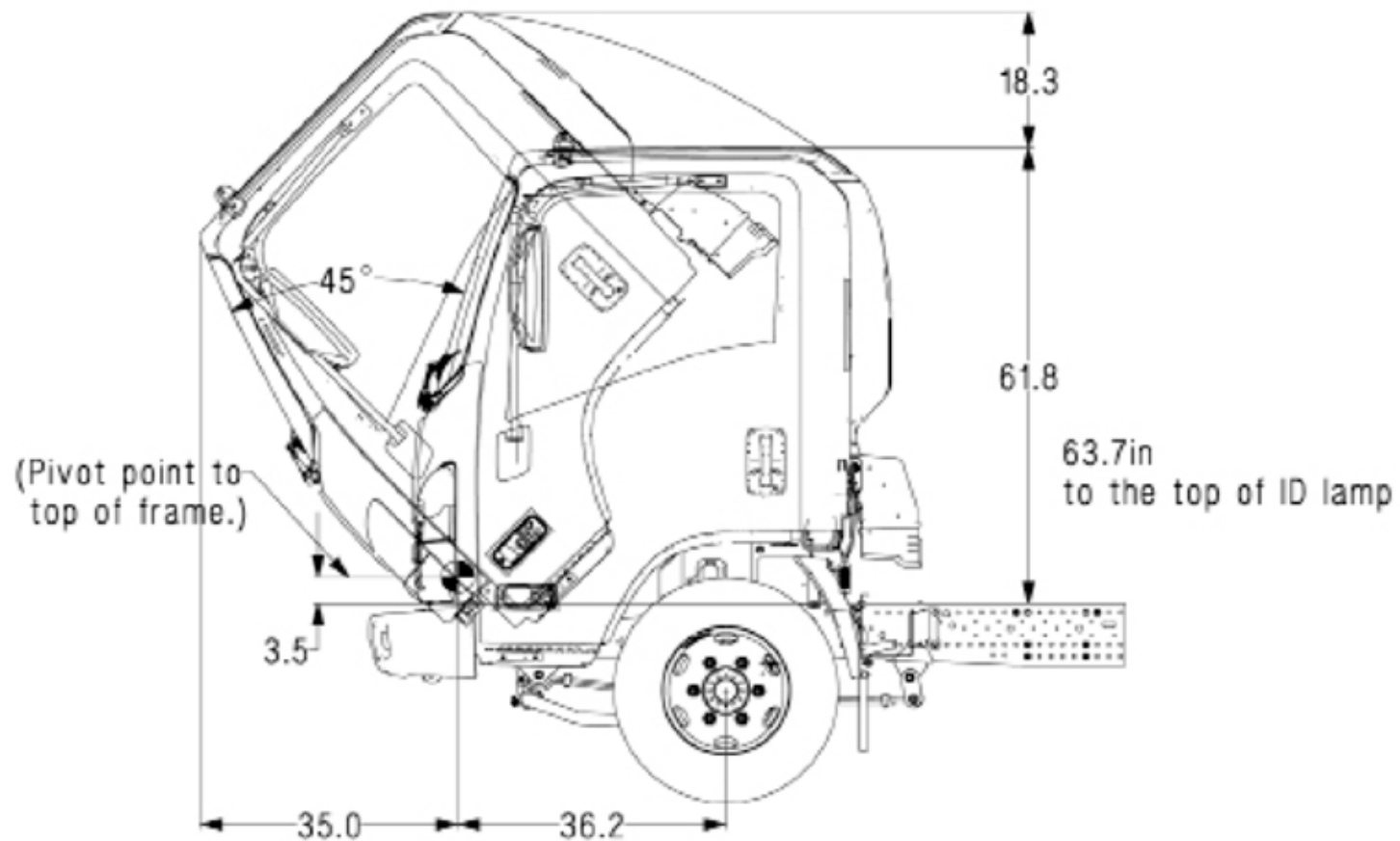


Figure 12.14.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Turning Diameters

TURNING DIAMETERS

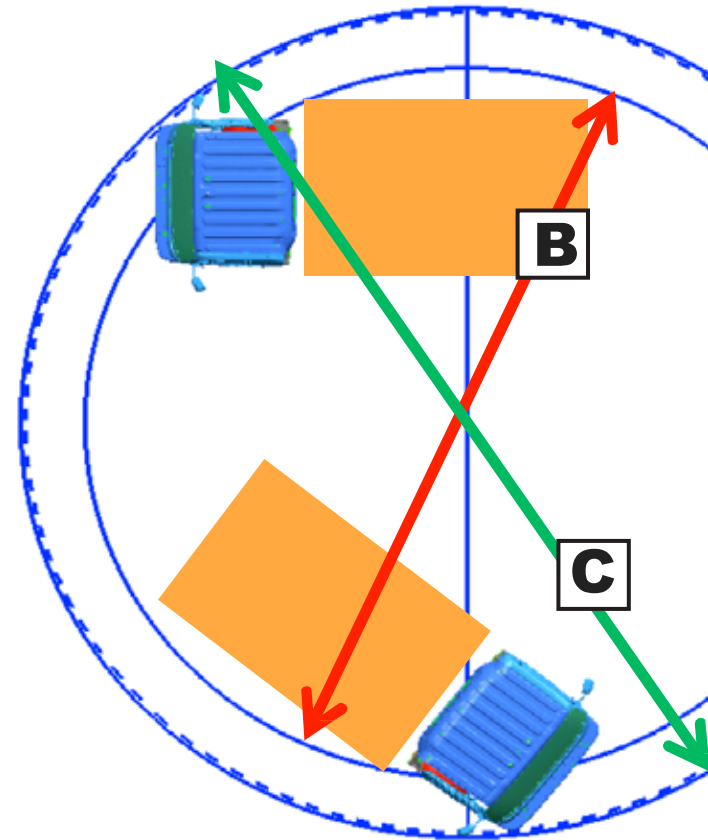
The LCF Series Diesel steering also features a 46.50 inside wheel cut angle. This, coupled with the integral power steering, makes the LCF Series Diesel an extremely maneuverable truck.

B=MINIMUM TURNING DIAMETER CURB TO CURB

C=MINIMUM TURNING DIAMETER WALL TO WALL

Turning Diameters (design value)

| WB | B curb to curb | C (ft. wall to wall (ft.)) |
|-------|-------------------|-------------------------------|
| 109.0 | 32.8 | 38.7 |
| 132.0 | 40.0 | 44.9 |
| 150.0 | 45.3 | 50.2 |
| 176.0 | 52.5 | 58.1 |
| 200.0 | 61.0 | 67.2 |
| 212.0 | 66.0 | 73.0 |



2017 Chevrolet Low Cab Forward

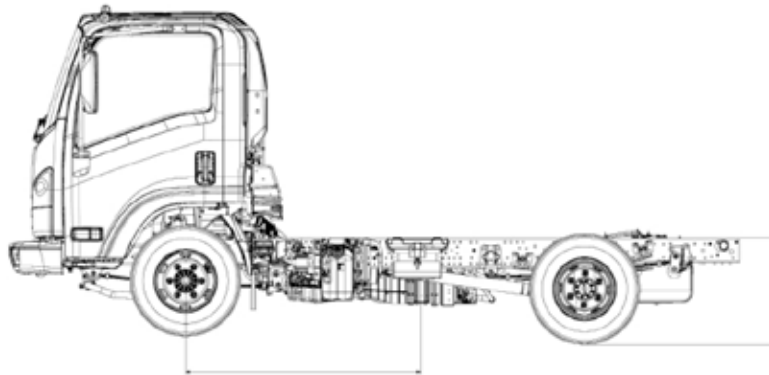
Center of Gravity

| Horizontal and Vertical CG of Chassis | | | |
|---------------------------------------|------|---------------|-----------|
| WB | V | H | H |
| | | in frame tank | side tank |
| 109 | 23.5 | 38.4 | N/A |
| 132.5 | 23.3 | 44.9 | N/A |
| 150 | 23.3 | 49.9 | N/A |
| 176 | 23.3 | 57.2 | 52.5 |
| 200 | 23.3 | 64.5 | N/A |

Center of Gravity

The center of gravity of the chassis cab.

Figure 12.16.1



The maximum vertical center of gravity specified below must not be exceeded at maximum GVWR and rated front and rear GAWR. The Center of Gravity (CG) maximum is 63" (1600 mm) above the ground. (LCF Cab Chassis and LCF Stripped Chassis).

Figure 12.16.2

NOTE: The Final Manufacturer must ensure that the combined vertical center of gravity of the chassis, body, and available payload at full GVW does not exceed the maximum vertical center of gravity outlined in the Chevrolet LCF Incomplete Vehicle Document and the GM Body Builders Guide.

The maximum dimensions for a body installed on the N Series chassis are 102 inches wide (outside*) by 91 inches high (inside). Any larger body applications must be approved by GM Upfitter Engineering. Contact us on gmupfitters.com.

* With 102 inches wide mirror brackets installed in place of standard mirror brackets

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Front Axle Chart

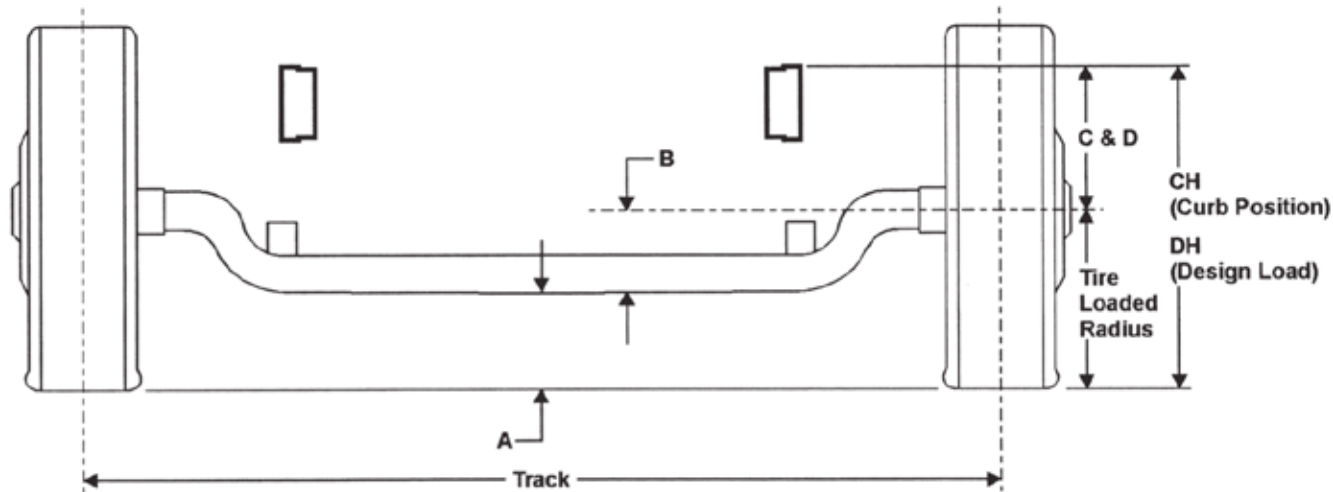


Figure 12.17.1

Formulas for calculating height dimensions:

- A = Tire Loaded Radius – B
- C = Centerline of Axle to Top of Frame Rail at Curb Position
- D = Centerline of Axle to Top of Frame Rail at Design Load
- CH = C + Tire Unloaded Radius
- DH = D + Tire Loaded Radius

| Tire | GVWR | GAWR | A | B | C | D | CH | DH | Track | Tire Radius | |
|---------------|-------------|------------|-----|-----|----|------|----|------|-------|-------------|-------|
| | | | | | | | | | | Unload | Load |
| 225/70R 19.5F | 17,950 lbs. | 6,830 lbs. | 8.3 | 6.6 | 13 | 11.5 | 29 | 26.4 | 65.5 | 16 | 14.93 |

Figure 12.17.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

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Rear Axle Chart

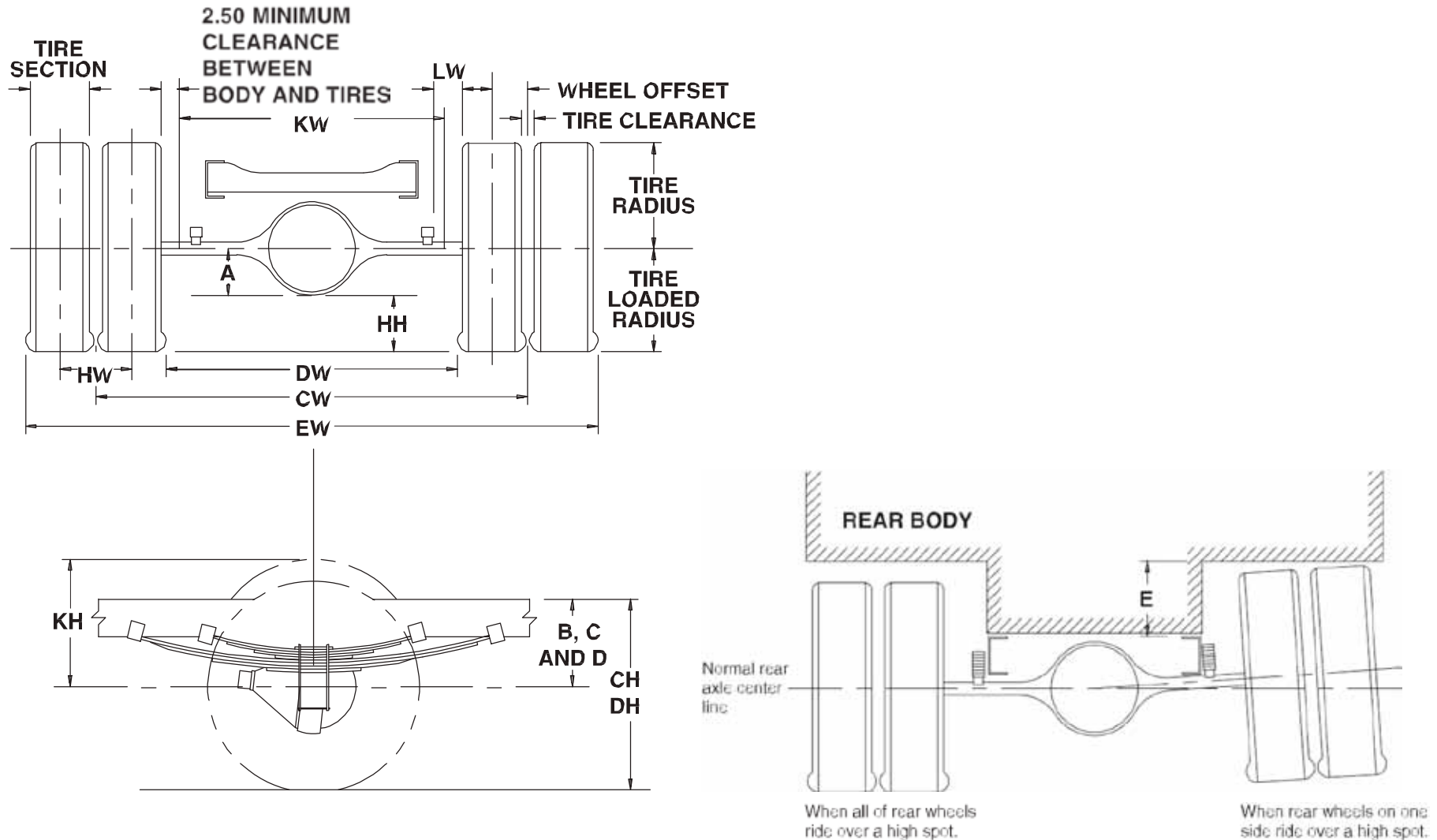


Figure 12.18.1

2017 Chevrolet Low Cab Forward

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Definitions

| | | | |
|---|---|----|--|
| A | Centerline of axle to bottom of axle bowl. | DH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load. |
| B | Centerline of axle to top of frame rail at metal-to-metal position. | DW | Minimum distance between the inner surfaces of the rear tires. |
| C | Centerline of axle to top of frame rail at curb position. | EW | Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires. |
| D | Centerline of axle to top of frame rail at design load. | HH | Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line. |
| E | Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vehicle centerline of the rear axle, when rear wheels on one side ride over a high spot. | HW | Dual Tire Spacing: Distance between the centerlines of the minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot. |
| CH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position. | CW | Track Dual Rear Wheel Vehicle: Distance between the centerlines of the dual wheels measured at the ground-line. |
| Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance | | | See Chart for values. |

Figure 12.19.1

| Formulas for Calculating Rear Width and Height Dimensions | | | |
|---|--|----|---|
| CW | = Track | HH | = Tire loaded radius – A |
| CH | = Tire loaded radius + C | JH | = KH – B |
| DH | = Tire loaded radius + D | KH | = Tire radius + 3.00 inches |
| DW | = Track + 2 tire sections – tire clearance | KW | = DW – 5.00 inches |
| EW | = Track + 2 tire sections + tire clearance | LW | = 1.00-inch minimum clearance between tires and springs |

Figure 12.19.2

NOTE: Track and overall width may vary with optional equipment.

| Tire | GAWR | Track CW | A | B | C | D | E |
|---------------|-------------|----------|-----|-----|------|------|-----|
| 225/70R 19.5F | 12,980 lbs. | 65.0 | 7.7 | 9.3 | 15.3 | 13.4 | 8.4 |

Figure 12.19.3

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

5500HD Suspension Deflection Charts

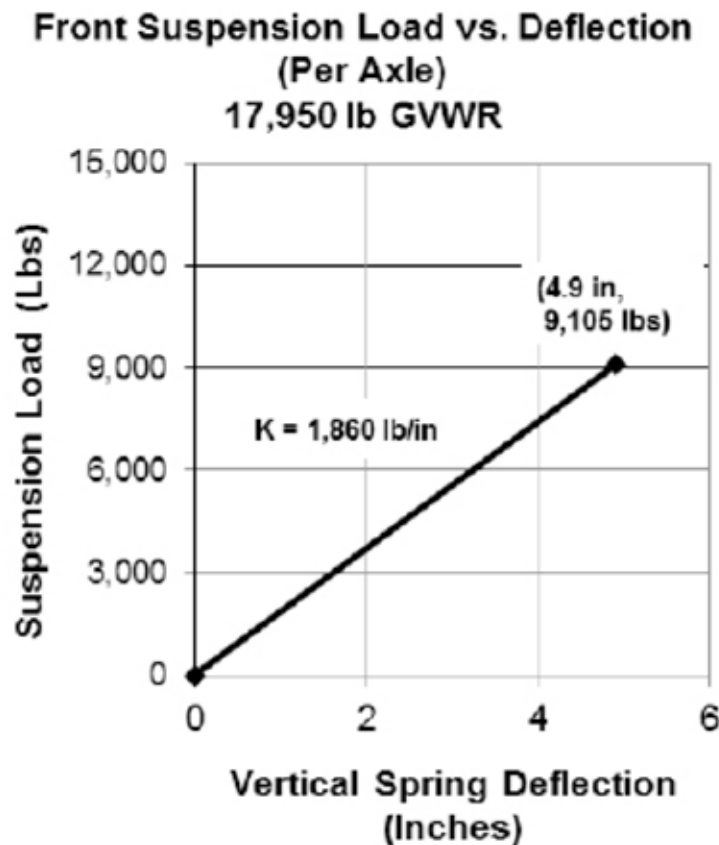


Figure 12.20.1

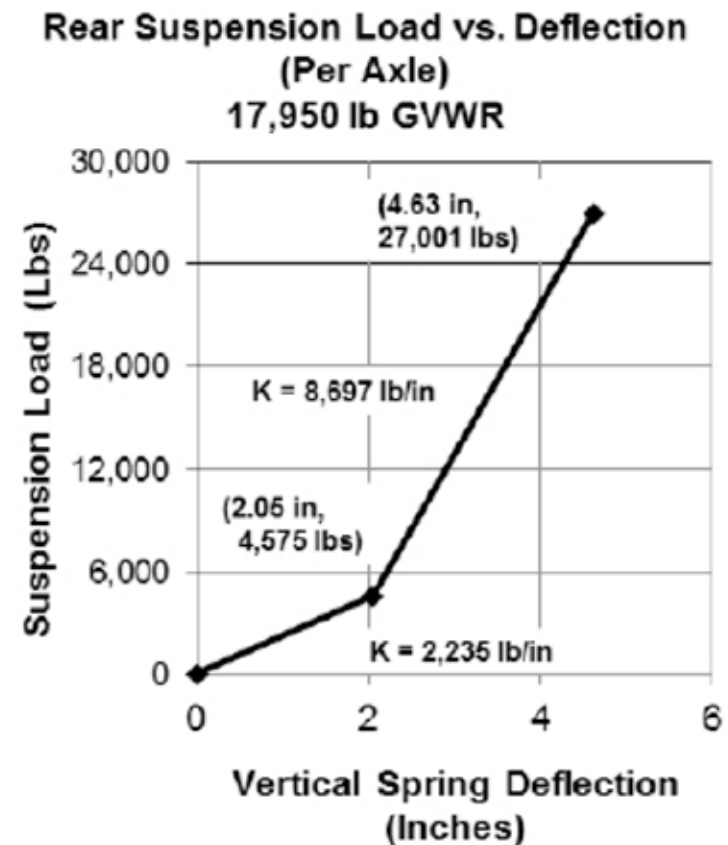


Figure 12.20.2

2017 Chevrolet Low Cab Forward

Tire and Disc Wheel Chart

Tire

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits (lbs.) | | GVWR (Lbs.) |
|---------------|--|-----|-------|-----|---------------------------------|--------|-------------|
| | Single | | Dual | | Front | Rear | |
| | Lbs. | PSI | Lbs. | PSI | 2 Single | 4 Dual | |
| 225/70R 19.5F | 3,450 | 90 | 3,245 | 90 | 7,280 | 13,660 | 17,950 |

Figure 12.21.1

| Tire Size | GVWR (Lbs.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|---------------|-------------|-------------|-------|----------|-------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 225/70R 19.5F | 17,950 | 14.91 | 14.96 | 16.00 | 16.00 | 8.7 | 1.3 | 6.0 |

Figure 12.21.2

Disc Wheel

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|---------------|------------|------------------|------------------------------|-----------------------------|--------------------------|--------------|----------------|----------------|----------|---------------|
| 19.5 x 6.00 K | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 325 ft.-lb. (440 N•m) | 6.46 | 5.0 | 0.35 | 5° DC | Steel TOPY |

*O.D. Wrench Sizes

Figure 12.21.3

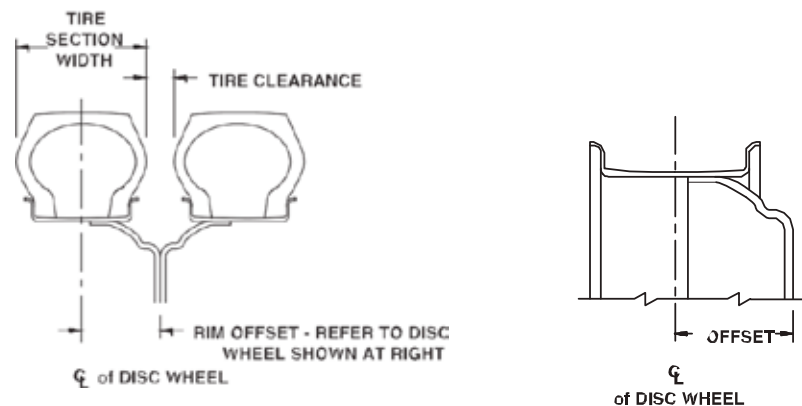


Figure 12.21.4

Note: Dimensions in inches

Revision: 06/14/2016

2017 Chevrolet Low Cab Forward

Propeller Shaft 5500HD

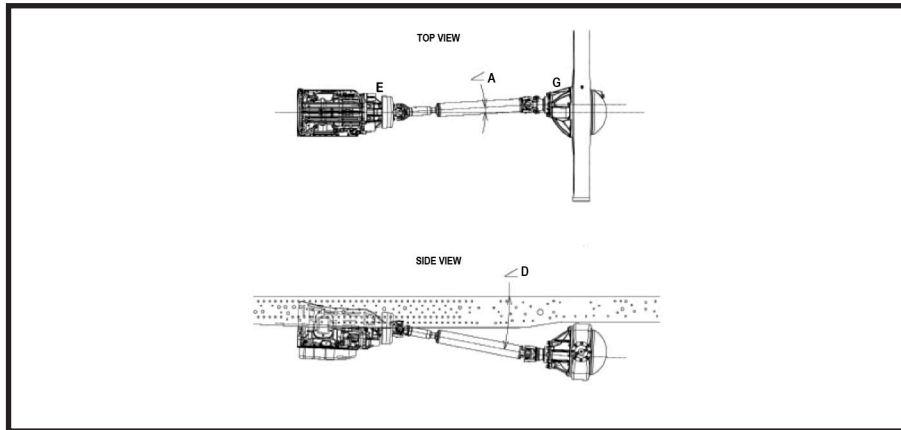


Figure 12.22.1

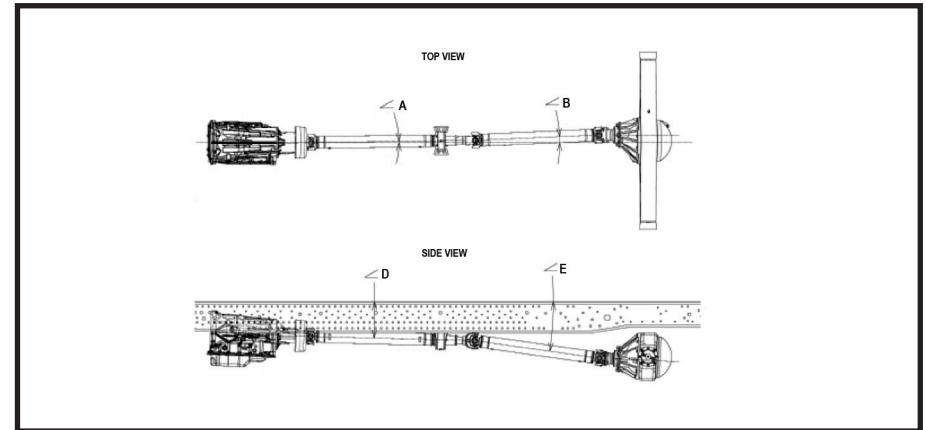


Figure 12.22.2

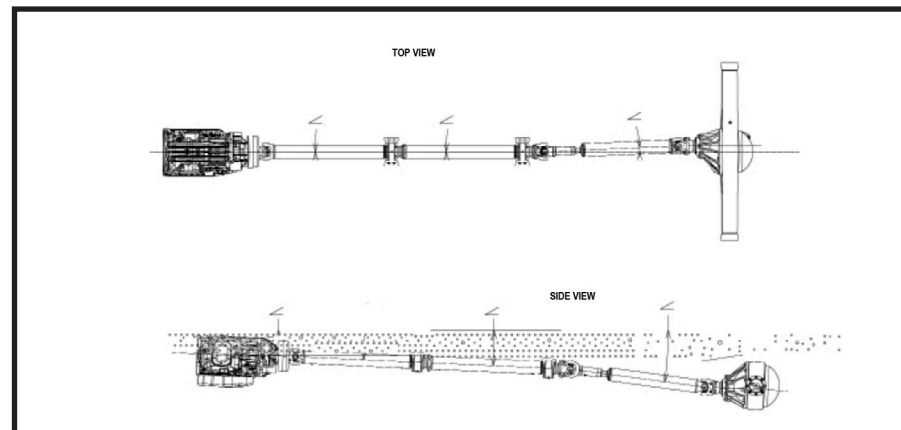


Figure 12.22.3

| Wheelbase (in.) | Top View | | | Side View | | | | |
|--------------------|----------|------|------|-----------|------|------|-------|-----------|
| | ∠A | ∠B | ∠C | ∠D | ∠E | ∠F | Trans | Rear Axle |
| 109 | 3.4° | - | - | 11.3° | - | - | 2.5° | 2.7° |
| 132.5 | 0° | 3.3° | - | 5.3° | 7.7° | - | 2.5° | 2.7° |
| 150 | 0° | 3.2° | - | 2.6° | 8.0° | - | 2.5° | 2.7° |
| 176 | 0° | 2.2° | - | 2.1° | 5.6° | - | 2.5° | 2.7° |
| 200 | 0° | 0° | 2.2° | 2.1° | 0.0° | 5.6° | 2.5° | 2.7° |

Notes: 1. Angles provided in table are relative to the frame angle. Please take this into consideration for service measurements.

2. Driveline angles are based on the chassis curb weight which includes standard equipment, fuel but no driver, body, or payload.

2017 Chevrolet Low Cab Forward

Automatic Transmission

| Trans. Type | 6 Automatic. Transmission | | | | |
|---------------|---------------------------|-------|-------|-------|-------|
| Wheelbase | 109 | 132.5 | 150 | 176 | 200 |
| No. of Shafts | 1 | 2 | 2 | 2 | 3 |
| Shaft #1 O.D. | 3.54 | 3.54 | 3.54 | 3.54 | 3.54 |
| Thickness | 0.126 | 0.126 | 0.126 | 0.126 | 0.126 |
| Length | 35.7 | 22.91 | 40.24 | 49.69 | 49.69 |
| Type | A | B | B | B | B |
| Shaft #2 O.D. | N/A | 3.54 | 3.54 | 3.54 | 3.54 |
| Thickness | N/A | 0.126 | 0.126 | 0.126 | 0.126 |
| Length | N/A | 36.16 | 36.53 | 52.93 | 24.00 |
| Type | N/A | C | C | C | B |
| Shaft #3 O.D. | N/A | N/A | N/A | N/A | 3.54 |
| Thickness | N/A | N/A | N/A | N/A | 0.126 |
| Length | N/A | N/A | N/A | N/A | 52.93 |
| Type | N/A | N/A | N/A | N/A | C |

Figure 12.23.1

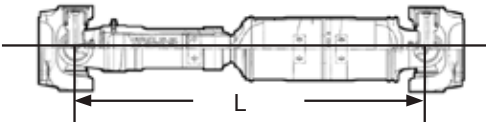
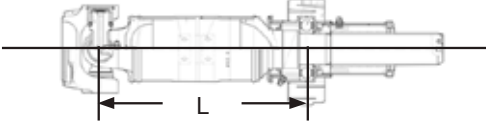
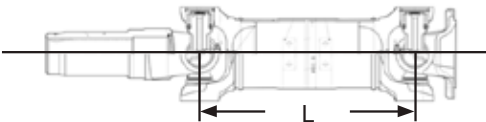
| Type | Description | Illustration |
|--------|--------------------------------|---|
| Type A | 1st shaft in 1-piece driveline |  |
| Type B | 1st shaft in 2-piece driveline |  |
| Type C | 2nd shaft in 2-piece driveline |  |

Figure 12.23.2

Note: Dimensions in inches

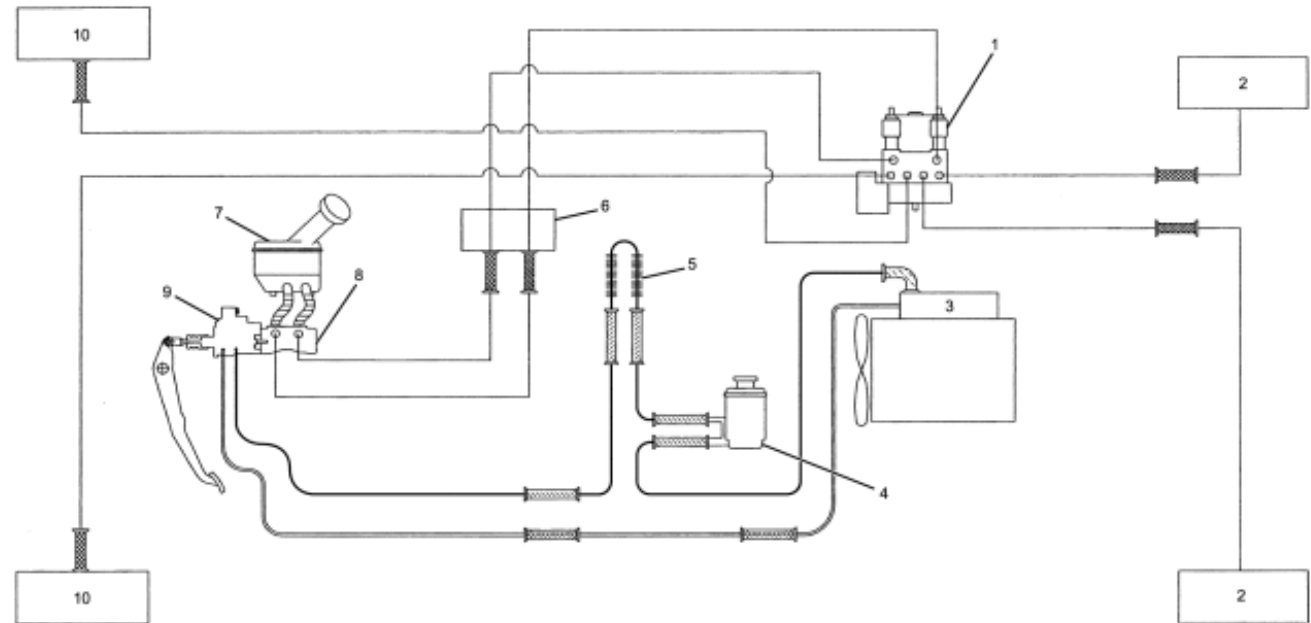
2017 Chevrolet Low Cab Forward

Brake System Diagram, Hydraulic Brake Booster

Please refer to Introduction Section of book for antilock system cautions and wheelbase modification requirements.

Legend for 5000HD, 5500XD Brake System

- (1) Electronic Hydraulic Control Unit (EHCU)
- (2) Rear Wheel Cylinder
- (3) Hydraulic Booster Oil Pump
- (4) Hydraulic Booster Reservoir
- (5) Cooler Pipe
- (6) Pipe Connector
- (7) Brake Fluid Reservoir
- (8) Master Cylinder
- (9) Hydraulic Booster Unit
- (10) Front Wheel Cylinder










| | | | | | | |
|---|--|---|---|---|---|---|
|  |  |  |  |  |  |  |
| BRAKE HOSE HIGH PRESSURE | BRAKE HOSE LOW PRESSURE | BRAKE PIPE | HYDRAULIC HOSE (SUPPLY) | HYDRAULIC HOSE (RETURN/SUCTION) | HYDRAULIC PIPE (SUPPLY) | HYDRAULIC PIPE (RETURN/SUCTION) |

Figure 12.24.1

2017 Chevrolet Low Cab Forward

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PTO Location, Drive Gear and Opening Information

AUTOMATIC TRANSMISSION

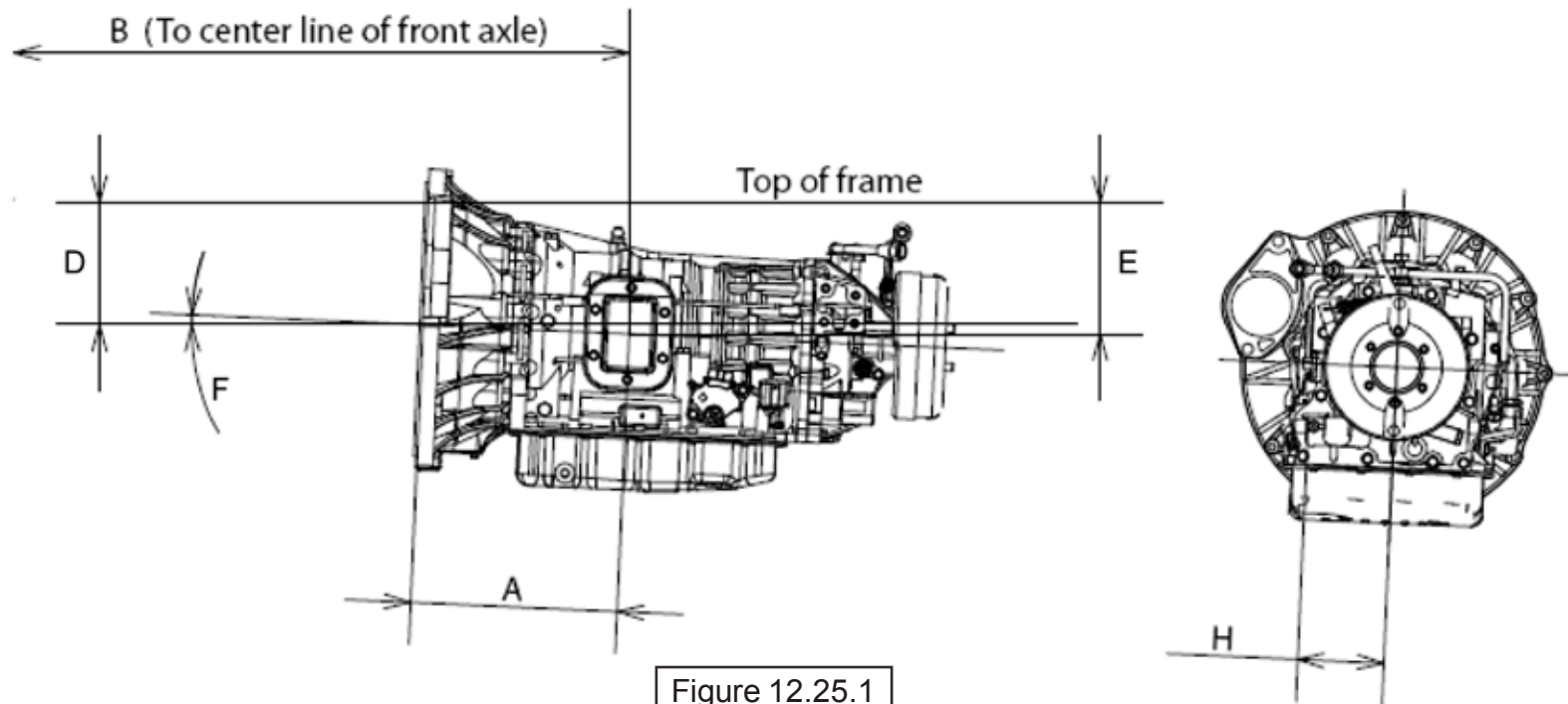


Figure 12.25.1

| Trans. | Opening Location | Bolt Pattern | A | B | C | D | E | F | H | PTO Drive Gear Location | Ratio of PTO Drv. Gear Spd. to Eng. Spd. | No. of Teeth | Pitch | Helix Angle | Max. Output Torque |
|----------------------|------------------|--------------|-------|-------|---|------|------|------|------|-------------------------|--|--------------|-------|-------------|--------------------------|
| Aisin ⁽¹⁾ | Left | (Dr2) | 12.35 | 36.89 | 0 | 7.85 | 7.31 | 2.5° | 5.16 | PTO Gear | 1:1 with turbine | 69 | N/A | 0° | 134 lbs.-ft. @ 1,700 RPM |

Figure 12.25.2

Note: Dimensions in inches

Diesel Fuel Fill

Installation Instructions

1. Disconnect battery.
2. Loosen hose from the tie downs. Remove caps from plate on rail.
3. Install hoses onto the plate.
4. Extend hose out from the driver side of the rail to body rail.
5. The filler neck must be mounted to allow the fill plate bracket to be parallel to the frame horizontal.
6. Cover with protector wrap and secure with tie wraps.
7. Filler hose is set for 102 inches outside width body.
8. Filler neck (dimension A) must be between 6.85 inches and 8.5 inches above frame.
9. Secure the filler plate to the bottom of the body and check for leaks.
10. Ensure that fill hose does not sag, creating an area where the fuel could pool in the fill hose.
11. Reconnect battery.

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Rear View Fuel Fill

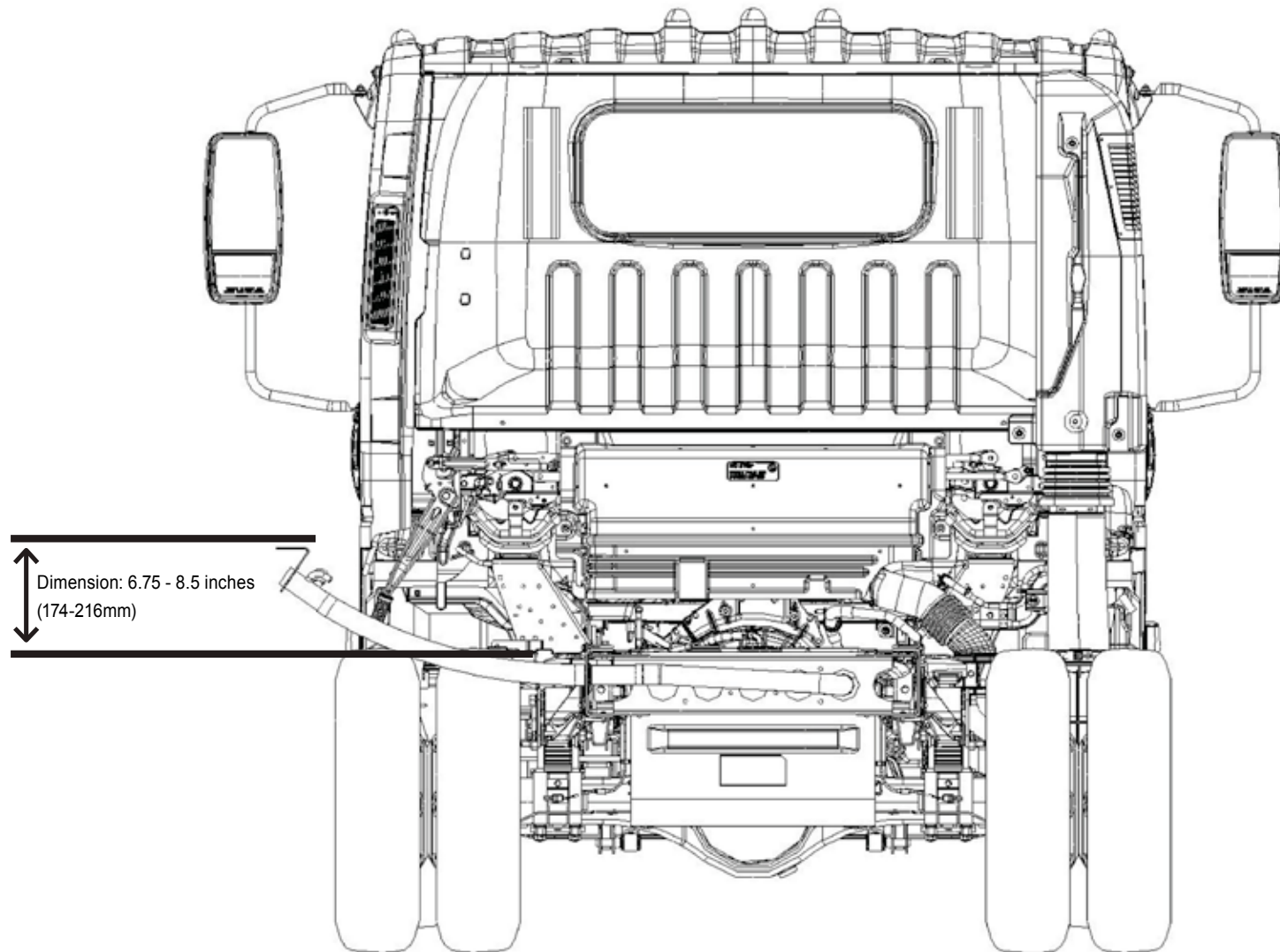
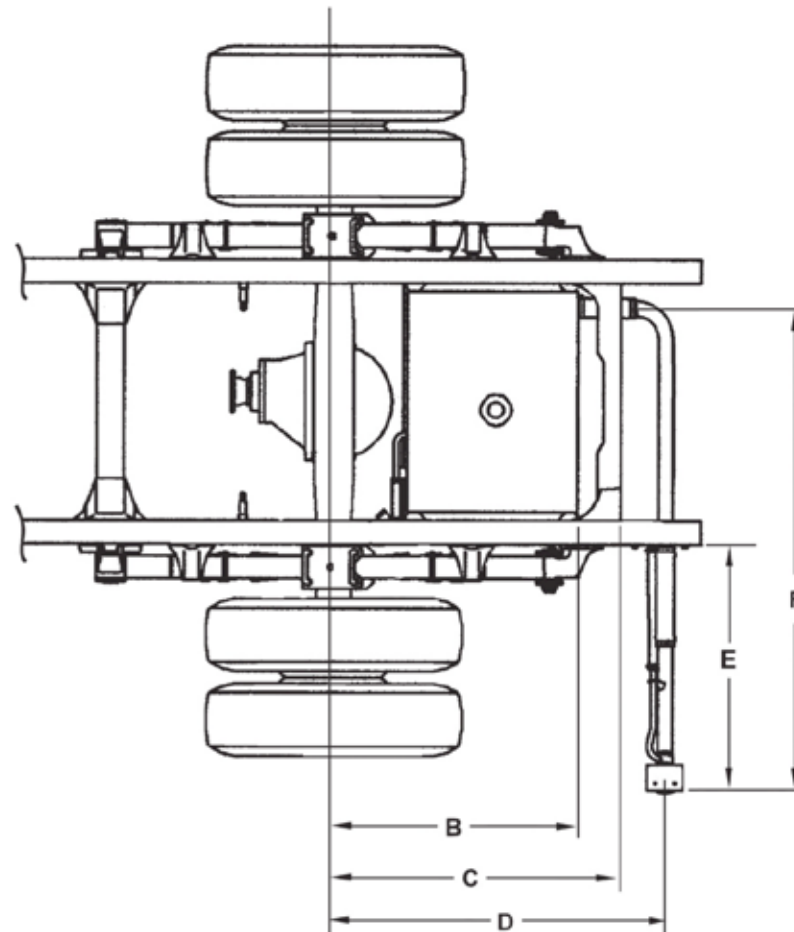


Figure 12.28.1

2017 Chevrolet Low Cab Forward

| | |
|------|-------|
| PAGE | 12.29 |
|------|-------|

Top View Fuel Fill



Dimensions:

B = 29.75 inches (756 mm)
C = 34.00 inches (863 mm)
D = 39.29 inches (998 mm)
E = 33.86 inches (860 mm)
F = 59.60 inches (1,514mm)

Figure 12.29.1

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

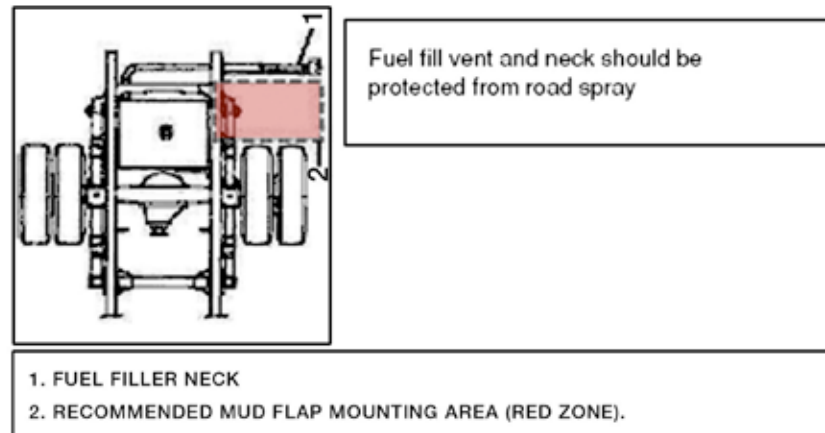
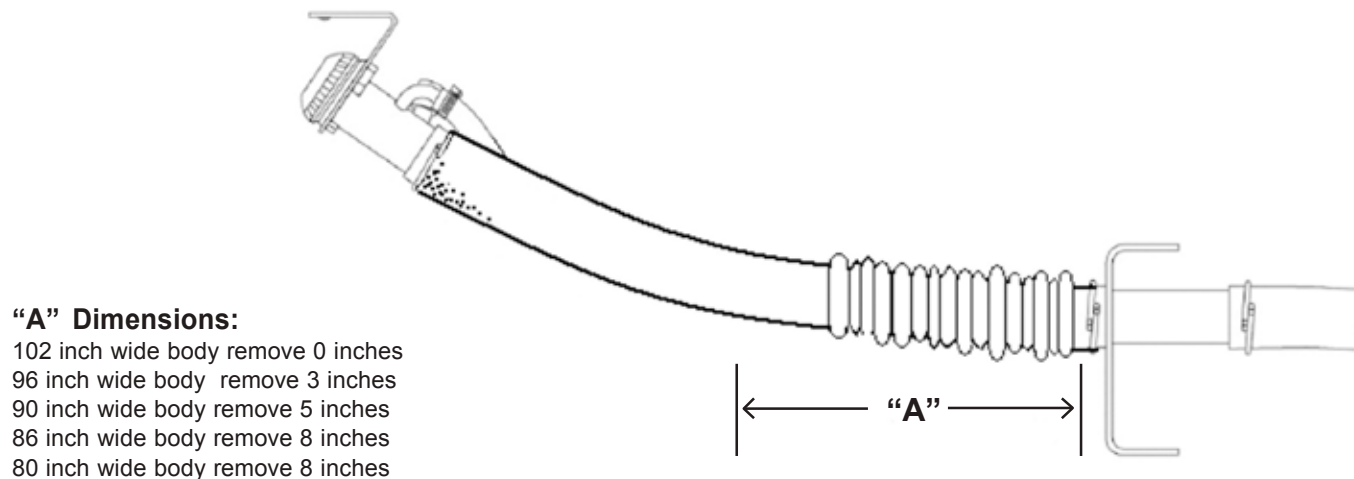


Figure 12.30.1



NOTE: Shorten hose by "A Dimension" based on chart at left.

Figure 12.30.2

2017 Chevrolet Low Cab Forward

Ultra Low Sulfur Diesel Label

Per EPA Title 40, Part 86, 86:007—35(c),
The decal illustrated below must be installed on the vehicle.
The decal is included in the fuel fill parts box.



INSTRUCTIONS FOR DECAL PLACEMENT:

1. The decal must be placed as close as possible to the fuel inlet and be clearly visible.
 2. The decal should be placed above or to the side of the fuel cap to avoid corrosion by possible contact with fuel.
 3. The decal may be placed on aerodynamic fairings, bodies, etc. as long as the decal is clearly visible and in close proximity to the fuel inlet.
 4. For installed bodies that have a fuel door, the decal should be placed above or to the side of the fuel door.
- Thoroughly clean the area of all grease, dirt, etc. before application of the decal. Apply the decal at room temperature, 65° to 75° F.

Figure 12.31.1

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Through the Rail Fuel Fill Frame Hole

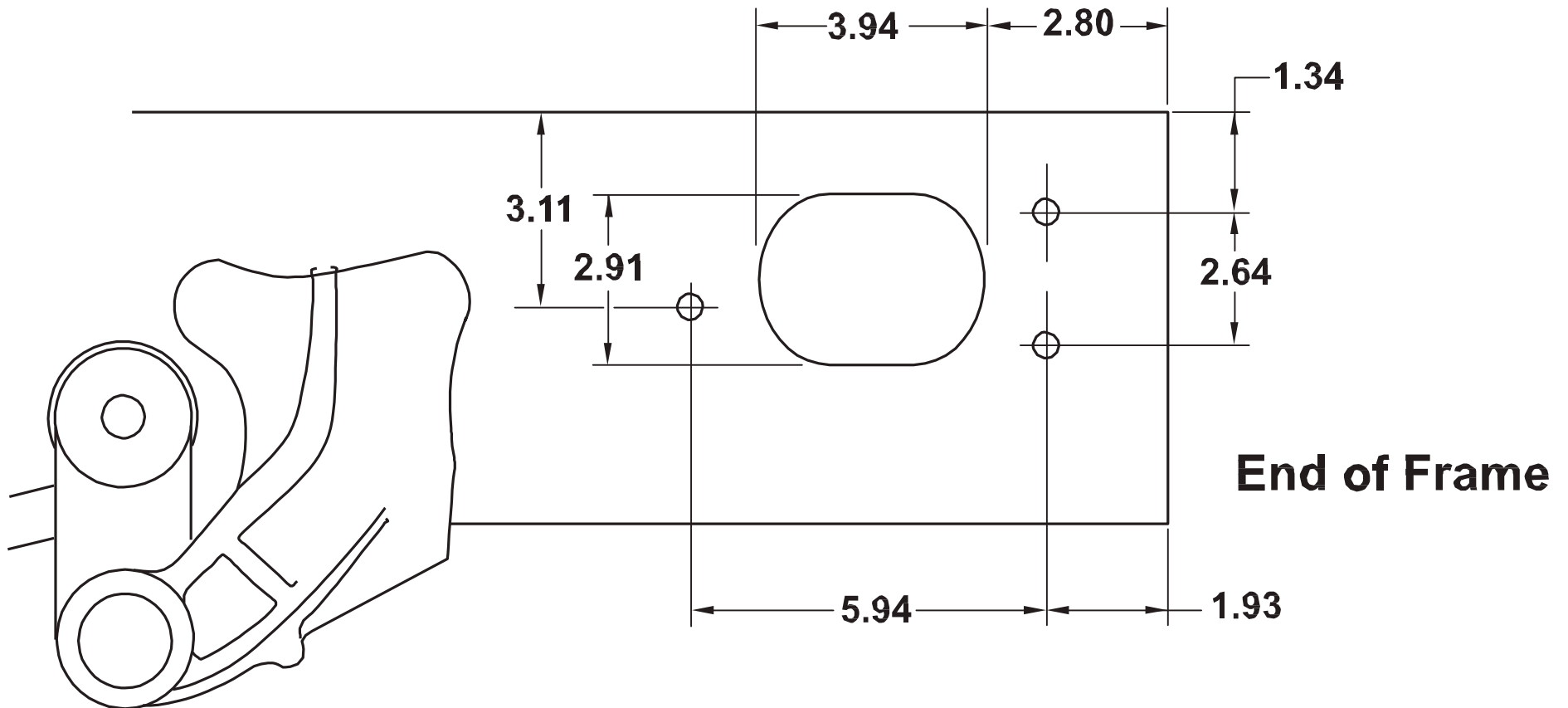


Figure 12.32.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

5500HD-Diesel Fuel Filler Kit Instructions

Please review these instructions prior to installation of the fuel filler kit.

PARTS KIT: This a kit for the Chevrolet LCF diesel products. Fuel filler kit shown below is used for 14,500 lb and higher GVWR chassis 3500HD, 4500HD, 4500XD, 5500HD, 5500XD. Parts list is shown in **FIGURE 12.31.2**. Parts photos are shown in **FIGURE 12.31.1**.

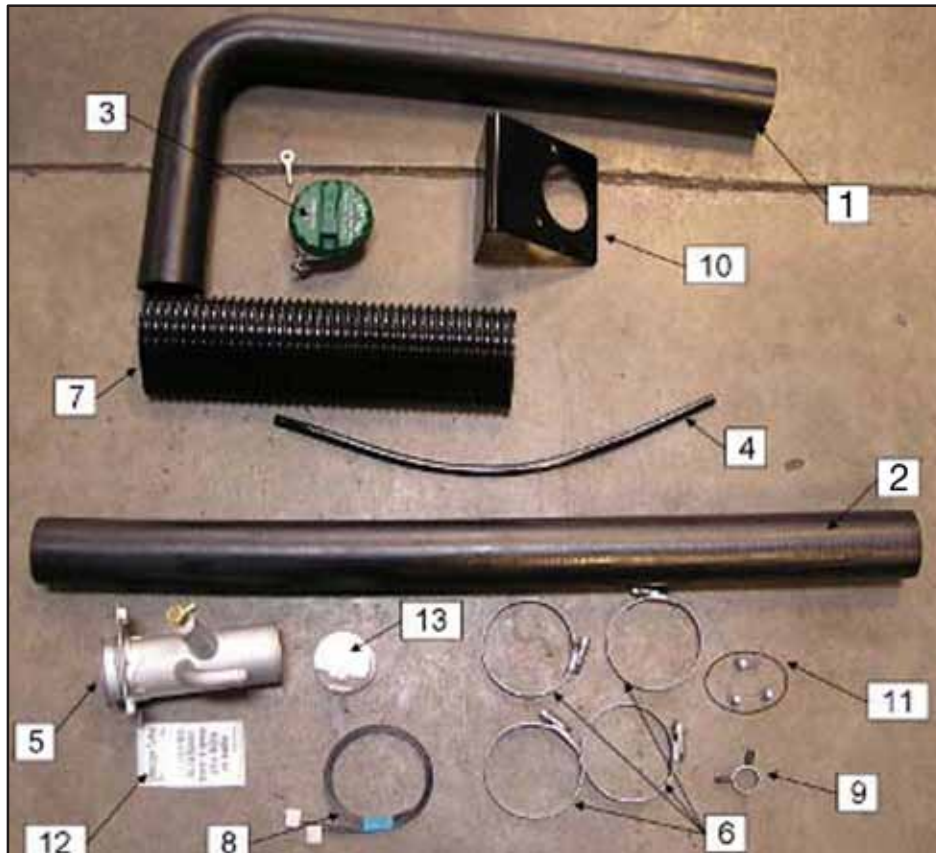


Figure 12.33.1

| FUEL FILLER KIT | | | |
|-----------------|-------------------------|------------|-----|
| ITEM # | PART NAME | PART # | QTY |
| 1 | HOSE: FUEL FILLER NECK | See Dealer | 1 |
| 2 | HOSE: FUEL FILLER | See Dealer | 1 |
| 3 | CAP: FILLER | See Dealer | 1 |
| 4 | HOSE: ROLL-OVER VALVE | See Dealer | 1 |
| 5 | NECK ASM: FUEL FILLER | See Dealer | 1 |
| 6 | CLIP: JOINT | See Dealer | 4 |
| 7 | PROTECTOR: FILLER HOSE | See Dealer | 1 |
| 8 | CLIP: BAND, HOSE FIXING | See Dealer | 2 |
| 9 | CLIP: RUBBER, HOSE | See Dealer | 1 |
| 10 | BRACKET: FILLER NECK | See Dealer | 1 |
| 11 | SCREW: FILLER NECK | See Dealer | 3 |
| 12 | CAUTION PLATE | See Dealer | 1 |
| 13 | SHUTTER: FUEL TANK | See Dealer | 1 |

Figure 12.33.2

Installation Instructions and Considerations:

The fuel tank shutter valve (13) was a new component for 2011 model year. This component is meant to improve fuel splash-back performance of the fuel system. This valve (13) is on the inlet (outboard side) of the fuel filler neck bulkhead assembly that is bolted to the left hand frame rail as shown in **FIGURE 12.34.1**. This plastic valve snaps into place in the inlet of the frame mounted fuel pipe. The valve should be installed so that the plastic clip is at the top of the valve, so that the flap door opens up, as shown in **FIGURES 12.34.2**.



Figure 12.34.1

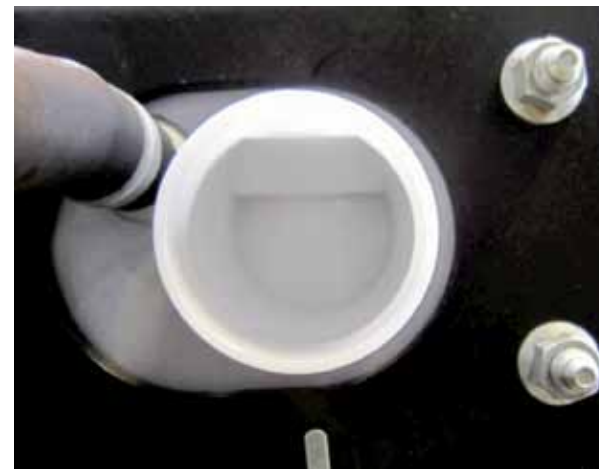


Figure 12.34.2



The fuel filler hose should be installed flush against the tank. The clamp should be installed between 1/16" and 3/8" from the tank. This is shown in **FIGURE 12.34.3** below.

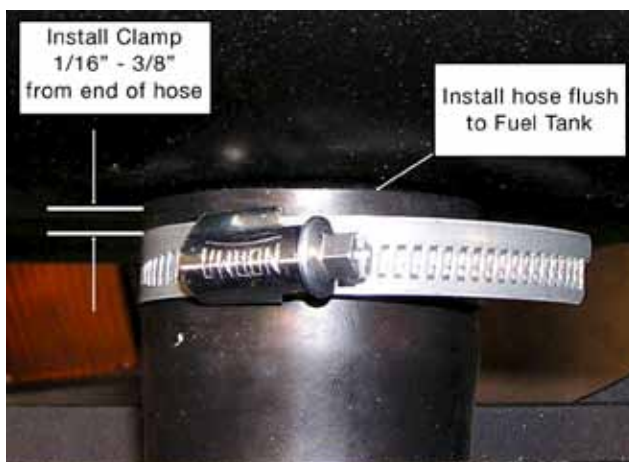


Figure 12.34.3

Roll-Over Valve Tubing

The roll-over valve has a hose attachment that will make this valve less sensitive to water intrusion. In order for the valve to work properly, it is critical that the hose be installed to the rollover valve. The proper assembly of the outer hose is shown in **Figure 12.35.1**.

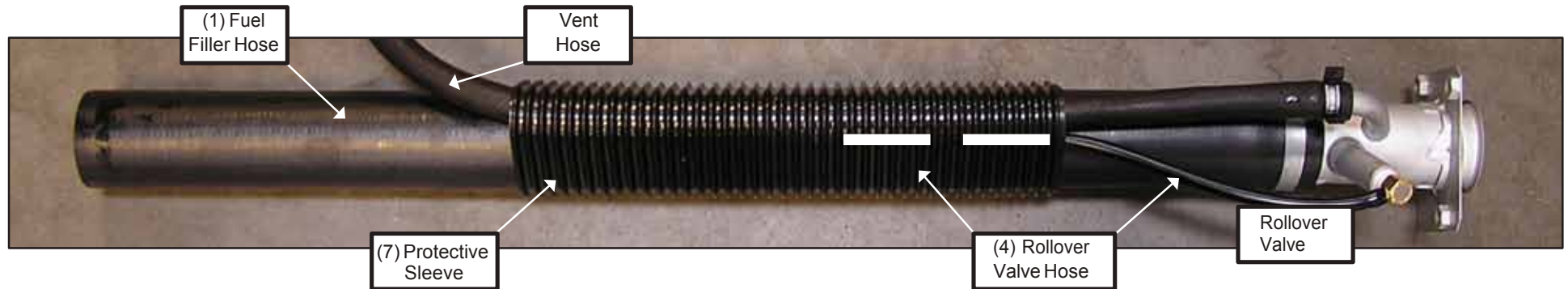


Figure 12.35.1

Filler Neck Installation:

The fuel filler neck (5) must be installed with the proper orientation on the body. The neck should be installed with the roll-over valve pointing upward, with the bottom edge of the neck oriented parallel to the ground, plus 33 to minus 7 degrees. See **Figure 12.35.2** for the proper orientation.

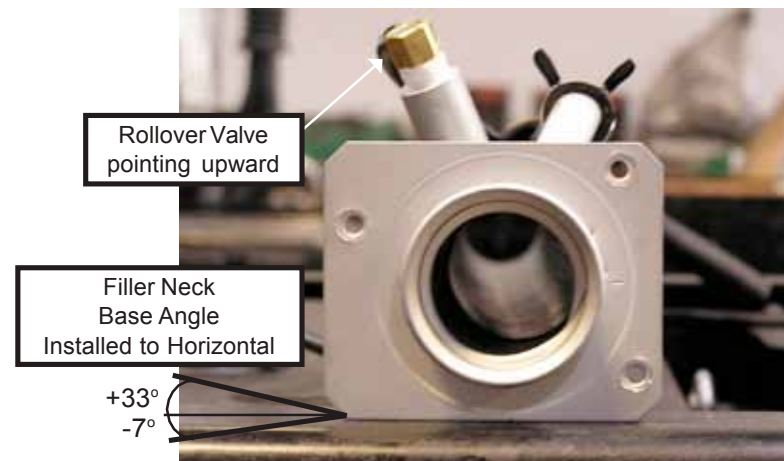


Figure 15.35.2

2017 Chevrolet Low Cab Forward

4500XD Diesel Specifications

| Model | 4500XD Diesel Crew Cab |
|--------------------|--|
| GVWR | 16,000 lbs. |
| WB | 150 in, 176 in. |
| Engine | Isuzu 4-cylinder, in-line 4-cycle, turbocharged, intercooled, direct injection diesel. |
| Model/Displacement | 4HK1-TC/317 CID (5.19 liters) |
| HP (Gross) | 215 HP @ 2,500 rpm |
| Torque (Gross) | 452 lb-ft torque @ 1,850 rpm |
| Equipment | Dry element air cleaner with vertical intake; 2 rows 564 square in ² . radiator; 7 blade 20.1 in diameter fan with viscous drive. Cold weather starting device and an oil cooler. Engine oil level check. Engine warning system with audible warning for low oil pressure, high coolant temperature, and low coolant level. Engine cruise control function. |
| Transmission | Aisin A465 6 speed automatic transmission with fifth and sixth gear overdrive with lock up in 2nd, 3rd, 4th, 5th and 6th, PTO capability automatic torque converter lockup in stationary PTO mode. |
| Steering | Integral power steering 18.8-20.9:1 ratio. Tilt and telescoping steering column. |
| Front Axle | Reverse Elliot "I"-Beam rated at 6,830 lbs. |
| Suspension | Semi-elliptical steel alloy tapered leaf springs with stabilizer bar and shock absorbers. |
| GAWR | 6,630 lbs. |
| Rear Axle | Full-floating single speed with hypoid gearing rated at 11,020 lb. |
| Suspension | Semi-elliptical steel alloy multi-leaf springs and shock absorbers. |
| GAWR | 11,020 lbs. |
| Wheels | 19.5 x 6.0-K 6-hole disc wheels, painted white. |
| Tires | 225/70R-19.5F (12 ply) LRR (Low Rolling Resistance) tubeless steel-belted radials, all-season front and rear |
| Brakes | Dual circuit vacuum assisted hydraulic service brakes with EBD (Electronic Brake Distribution) system for load proportioning of the brake system front disc and self-adjust outboard mounted drum rear. The parking brake is a mechanical, cable actuated, internal expanding drum type, transmission mounted. The exhaust brake is standard and is vacuum operated. 4 channel anti-lock brake system. |
| Fuel Tank | 30 gal. rectangular steel fuel tank mounted in frame rail behind rear axle. Fuel water separator with indicator light. |
| Frame | Ladder type channel section straight frame rail 33.5 inches wide through the total length of the frame. Yield strength 44,000 psi, section modulus 11.89 in., RBM 523,160. |
| Cab | All-steel 7 passenger low cab forward BBC 109.9 in. |
| Equipment | Tricot breathable cloth covered high back driver's seat with two occupant passenger seat. Four passenger rear bench seat. Dual cab mounted exterior mirrors with integral convex mirror. Tilt and telescoping steering column. Power windows and door locks, front floor mats, tinted glass. |
| Electrical | 12 Volt, negative ground, dual maintenance free batteries, 750 CCA each, 140 Amp alternator with integral regulator. |
| Options | See last page for options. |

NOTE: These selected specifications are subject to change without notice.

2017 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

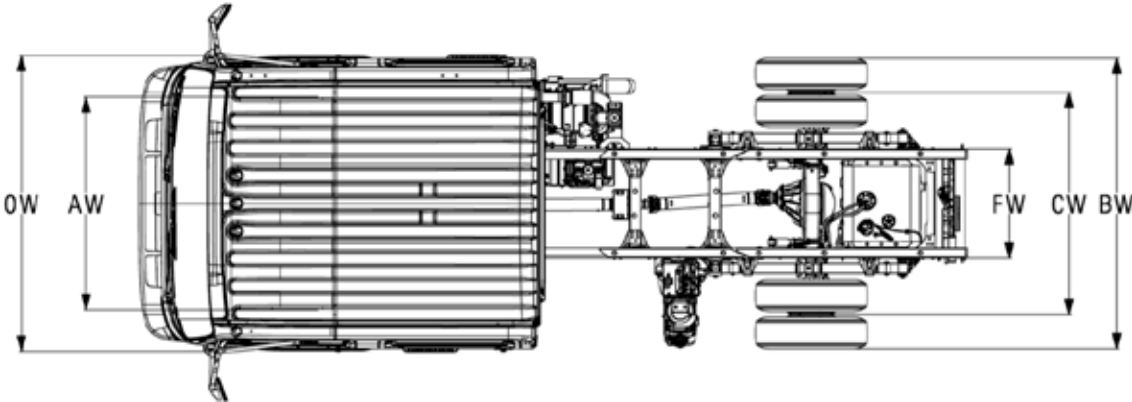


Figure 13.2.2

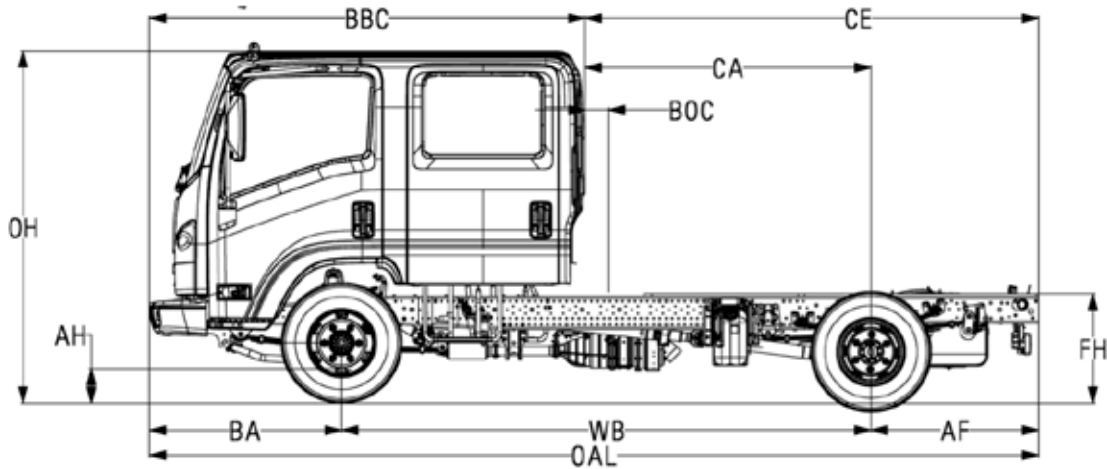


Figure 13.2.2

4500XD Variable Chassis Dimensions:

| Unit | WB | CA* | CE* | OAL | AF |
|------|-----|-------|-------|-------|------|
| Inch | 150 | 88.5 | 131.6 | 241.5 | 43.1 |
| Inch | 176 | 114.5 | 157.6 | 267.5 | 43.1 |

* Effective CA & CE are CA or CE less BOC.

4500XD Dimension Constants:

| Code | Inches | Code | Inches |
|------|--------|------|--------|
| AH | 7.5 | BW | 83.3 |
| AW | 65.6 | CW | 65 |
| BA | 48.3 | FW | 33.5 |
| BBC | 109.9 | OH | 92.4 |
| BOC | 5.3 | OW | 81.3 |
| FH | 33.0 | | |

4500XD In-Frame Tank

16,000 lb. GVWR Automatic Transmission Model

Chassis Cab and Maximum Payload Weights

| Model | RPO | WB | Unit | Front | Rear | Total | Payload |
|--------|-----|--------|------|-------|------|-------|---------|
| T43043 | EE3 | 150 in | lb. | 4610 | 2485 | 7095 | 8905 |
| T44043 | FNR | 176 in | lb. | 4683 | 2477 | 7160 | 8840 |

2017 Chevrolet Low Cab Forward

Vehicle Weight Limits

Vehicle Weight Limits: 4500XD

GVWR Designed Maximum 16,000 lbs.

GAWR, Front 6,630 lbs.

GAWR, Rear 11,020 lbs.

Technical Notes:

Chassis Curb Weight includes standard equipment and fuel. Does not include driver, passenger, payload, body or special equipment.

Maximum Payload Weight is the allowed maximum for equipment, body, payload, driver and passengers and is calculated by subtracting chassis curb weight from the GVWR.

| Weights for Options | | |
|---------------------|--|----------------------|
| RPO (1) | Option Description | Front / Rear Lbs. |
| 9D2 | Speed Limited to 58 MPH | 0 / 0 |
| 9C2 | Speed Limited to 65 MPH | 0 / 0 |
| 9E2 | Speed Limited to 68 MPH | 0 / 0 |
| ATG | Keyless entry | 3 / 0 |
| 9B9 | Speed Limited to 70 MPH | 0 / 0 |
| K05 | Block Heater (cord) | 1 / 0 |
| KPG | Locking DEF tank cap | 0 / 0 |
| UIZ | AM/FM/CD Radio with Ax input/USB port and Bluetooth | 0 / 0 |
| KQ3 | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| BD6 | Heated dual remote control mirrors (15" head) | 3 / 0 |
| MTE | Fire Extinguisher and Triangle Kit mounted in rear organizer | 19 / 0 |
| KPK | Engine Oil Pan Heater (120v 300w) | 2 / 0 |
| KPJ | Engine emergency shutdown system HWT, LWL, LOP (4) | 0 / 0 |
| PTO | PTO Enable Switch and Engine Idle Up Switch recommended for PTO and Idle applications only (2) | 1 / 0 |
| DB8 | Heated Mirrors | 1 / 0 |
| TBD | Mirror Bracket for 102" wide body | 1 / 0 |
| 9W8 | Seat covers crew cab | 9 / 2 |
| IX2 | Rear Body Dome Lamp Switch (6) | 1 / 0 |
| UL5 | Delete Standard AM/FM/CD Radio | ---3/0 |
| KGN | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| UZF | Back up alarm | 0 / 2 |
| V22 | Chrome Grille | 1 / 0 |

2017 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

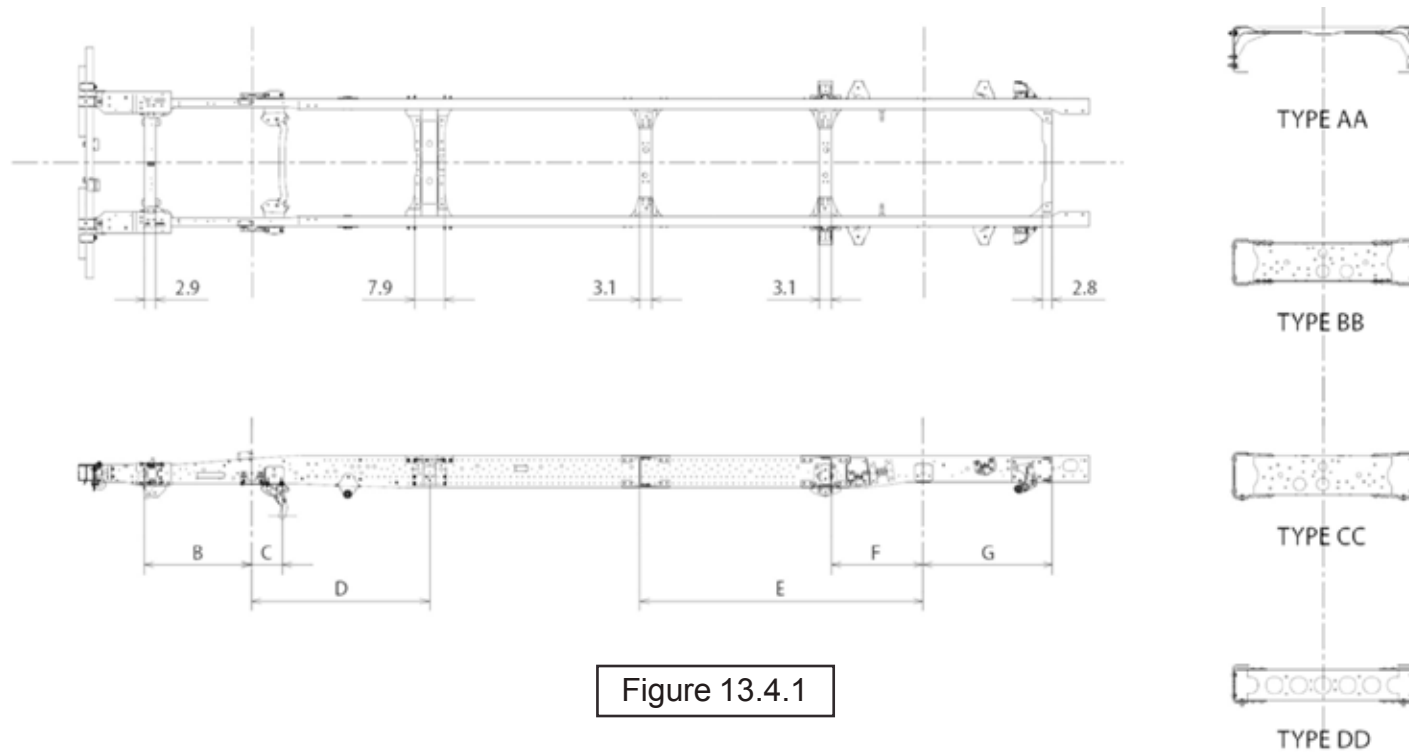


Figure 13.4.1

| Wheelbase | Frame Thick | Crossmember Type/Location | | | | | |
|-----------|-------------|---------------------------|-----|----------|---------|---------|---------|
| | | B | C | D | E | F | G |
| 150.0 | 0.24 | 28.3 | 7.9 | AA 46..5 | BB 57.9 | CC 24.2 | DD 33.8 |
| 176.0 | 0.24 | 28.3 | 7.9 | AA 46.5 | BB 74.4 | CC 24.2 | DD 33.8 |

Figure 13.4.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Frame Chart

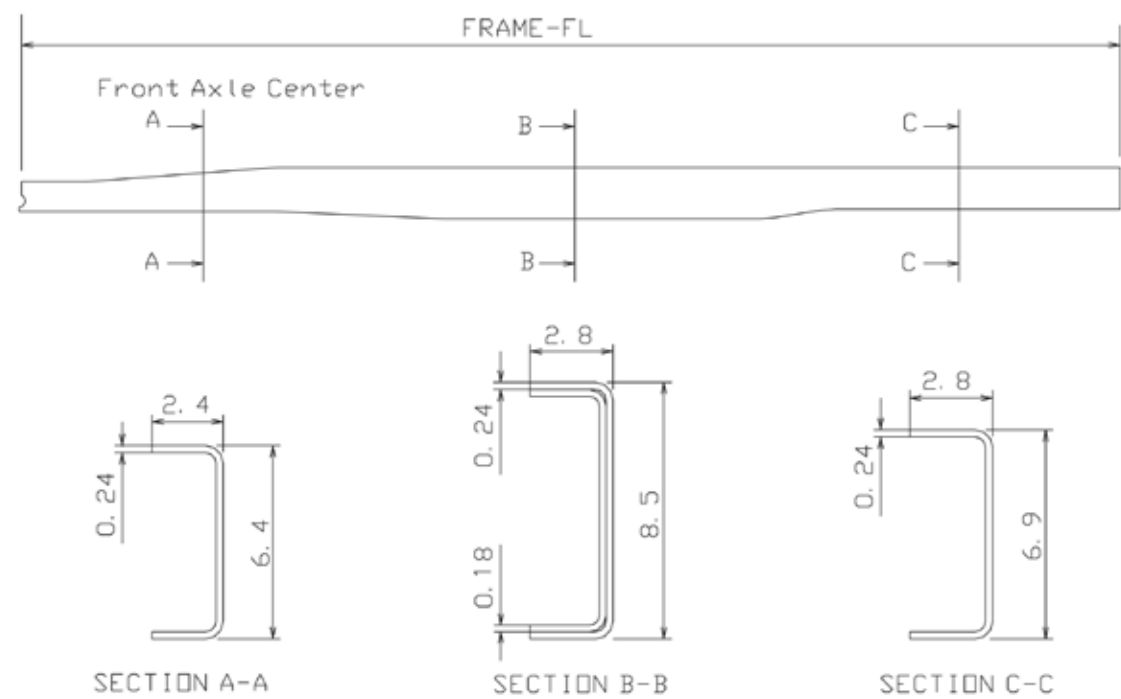


Figure 13.5.1

| Wheelbase | Frame FL | Frame Thickness |
|-----------|----------|-----------------|
| 150.0 | 223.8 | 0.24 + 0.18 |
| 176.0 | 249.8 | 0.24 + 0.18 |

Figure 13.5.2

Note: Dimensions in inches

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4500XD Diesel Standard Cab Top View

| Wb | A | B |
|-----|------|-------|
| 150 | 67.0 | 101.6 |
| 176 | 76.5 | 111.1 |

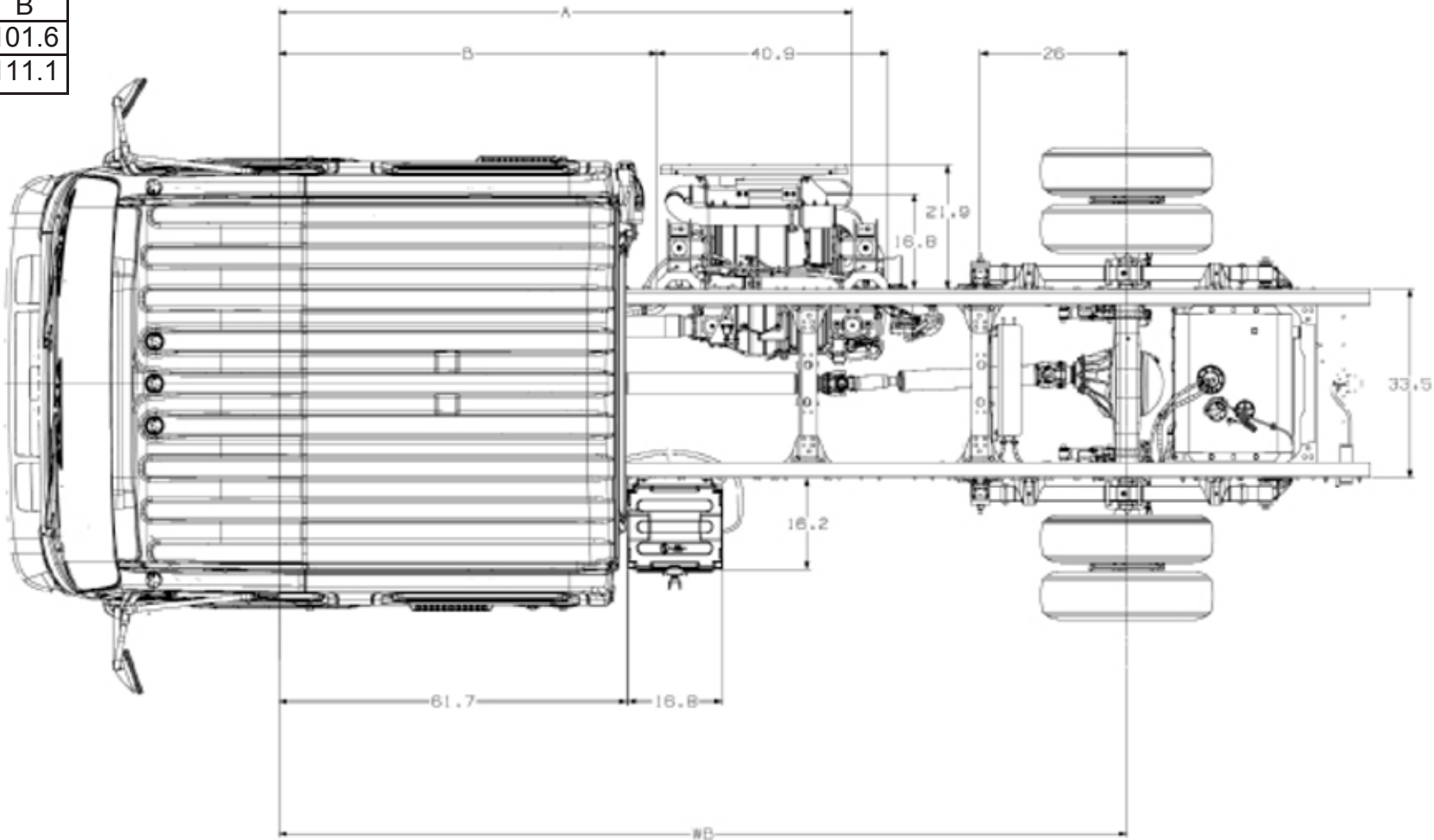


Figure 13.6.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

4500XD Diesel Standard Cab Left Side View

| WB | A |
|-----|-------|
| 150 | 104.3 |
| 176 | 113.8 |

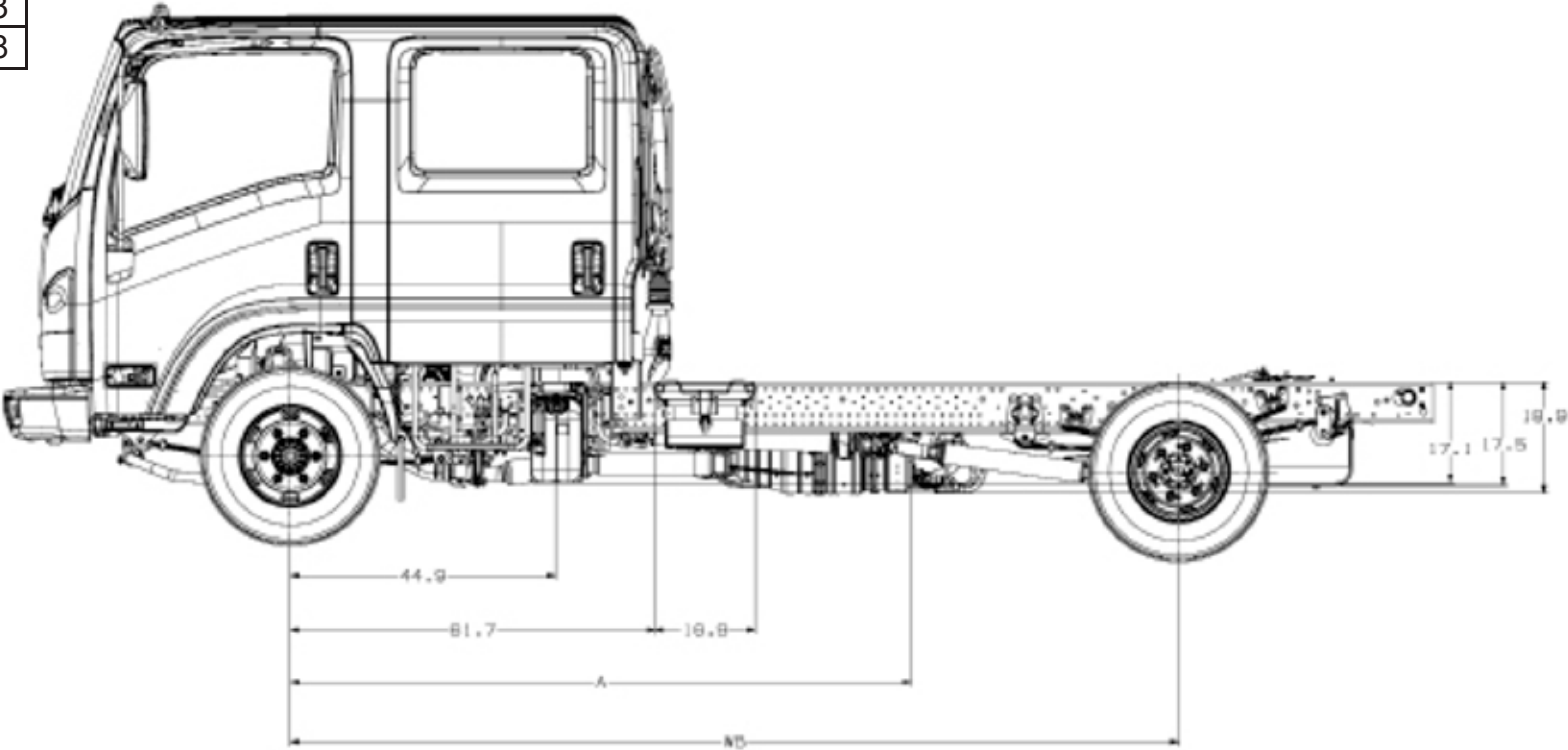


Figure 13.7.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

4500XD Diesel Standard Cab Right Side View

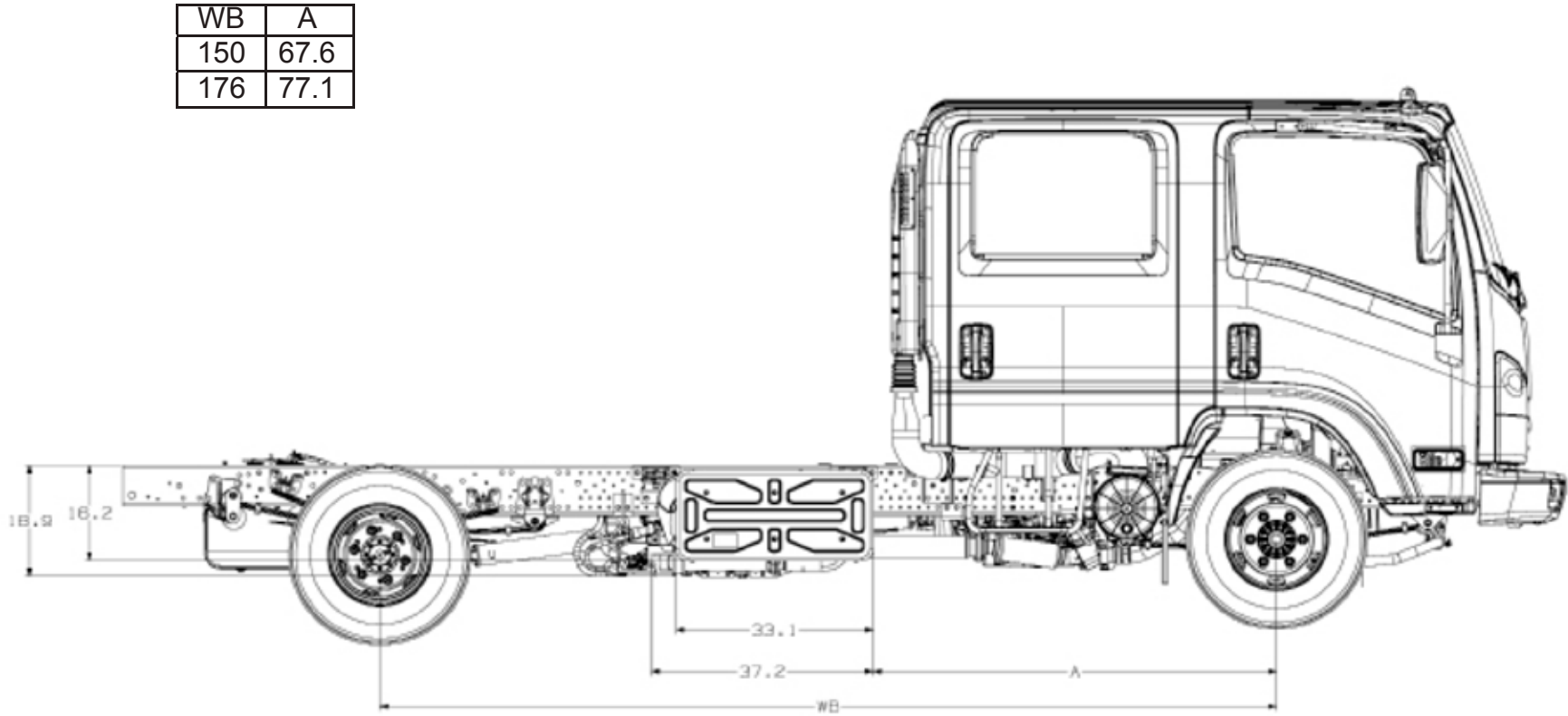


Figure 13.8.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

SCR / DPF 4HK1-TC

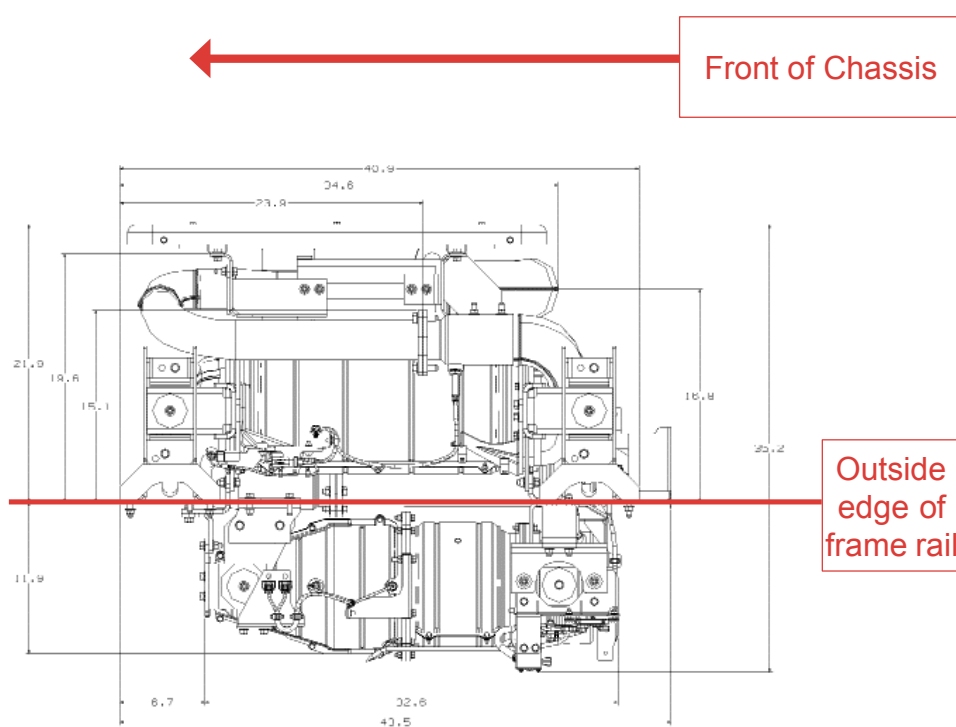


Figure 13.9.1

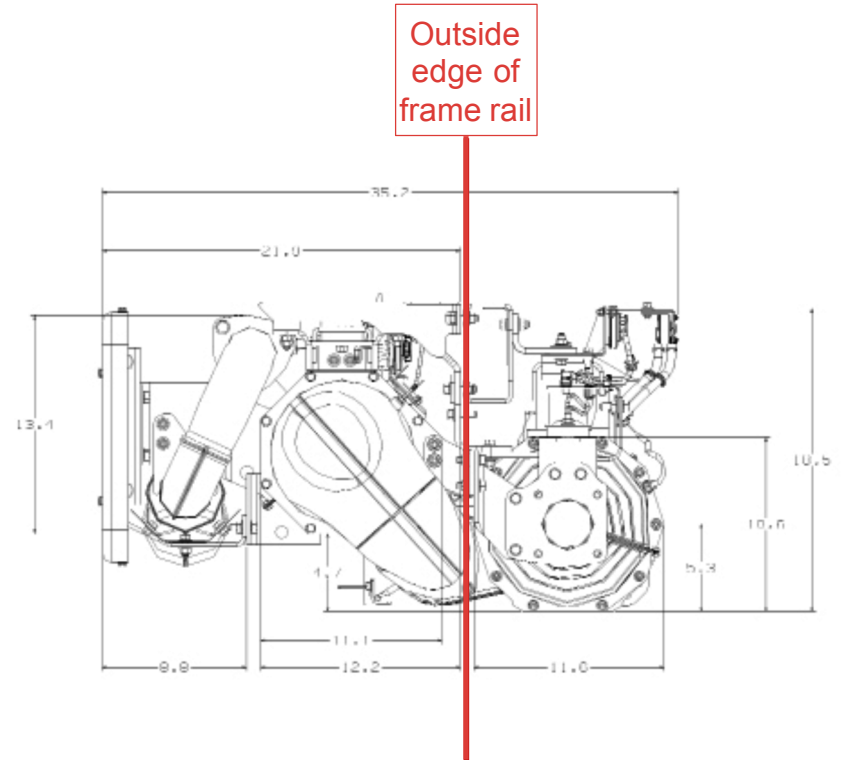


Figure 13.9.2

Note: Dimensions in inches

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Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX

Side View 176 Wheelbase

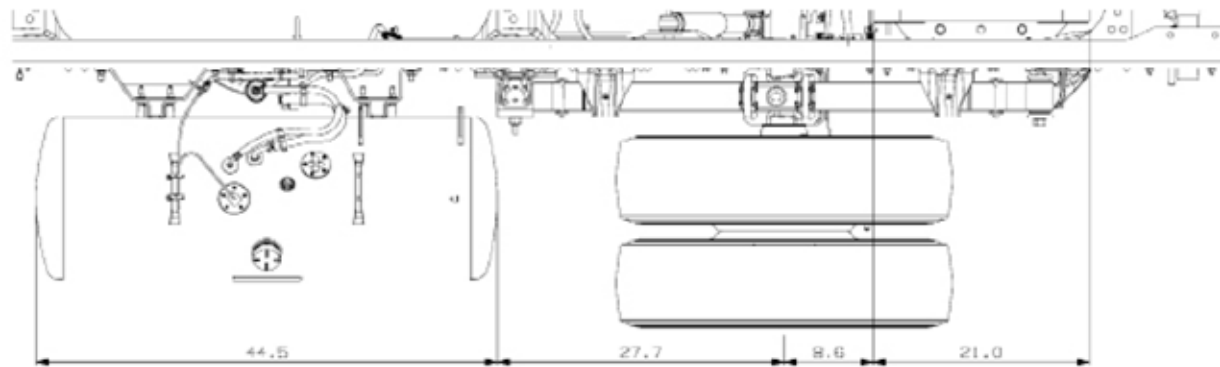


Figure 13.10.1

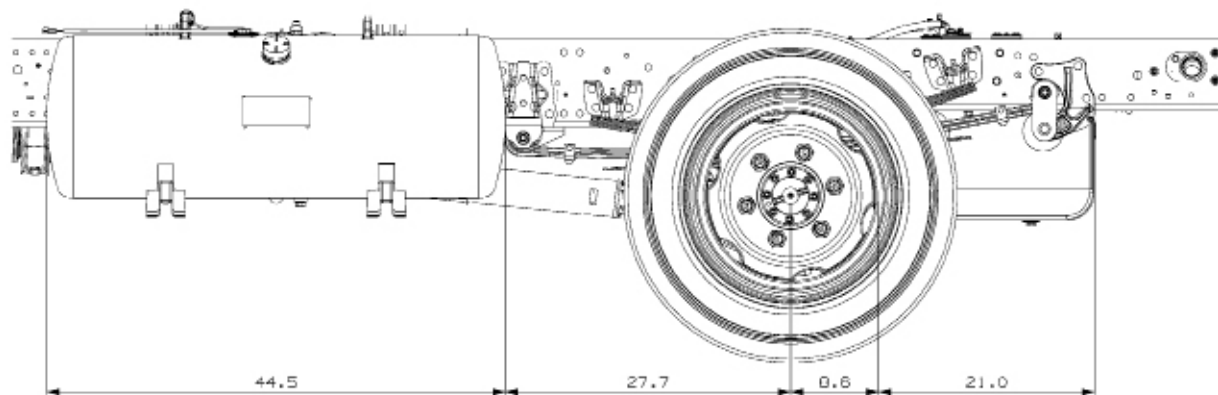


Figure 13.10.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

CENTER OF GRAVITY

Horizontal and Vertical CG of Chassis

| 4500XD | | |
|--------|------|------|
| WB | V | H |
| 150 | 25.3 | 50.9 |
| 176 | 25.3 | 58.8 |

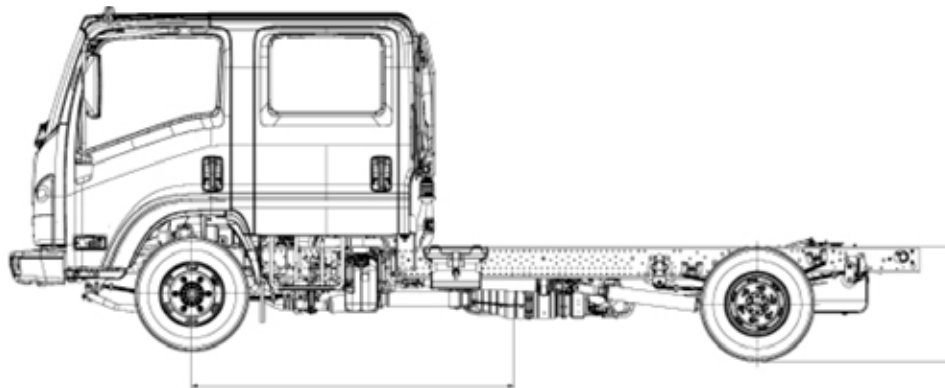


Figure 13.11.1

The center of gravity of the completed vehicle with a full load should not exceed 63 inches above ground level for the 16,000 lbs. GVWR, and must be located horizontally between the centerlines of the front and rear axles.

NOTE: The Final Manufacturer must ensure that the combined vertical center of gravity of the chassis, body, and available payload at full GVW does not exceed the maximum vertical center of gravity outlined in the Chevrolet LCF Incomplete Vehicle Document and the GM Body Builders Guide.

The maximum dimensions for a body installed on the LCF chassis are 102 inches wide (outside*) by 91 inches high (inside). Any larger body applications must be approved by GM Upfitter Engineering. Contact us on gmupfitter.com.

*With 102 inches wide mirror brackets installed in place of standard mirror brackets

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

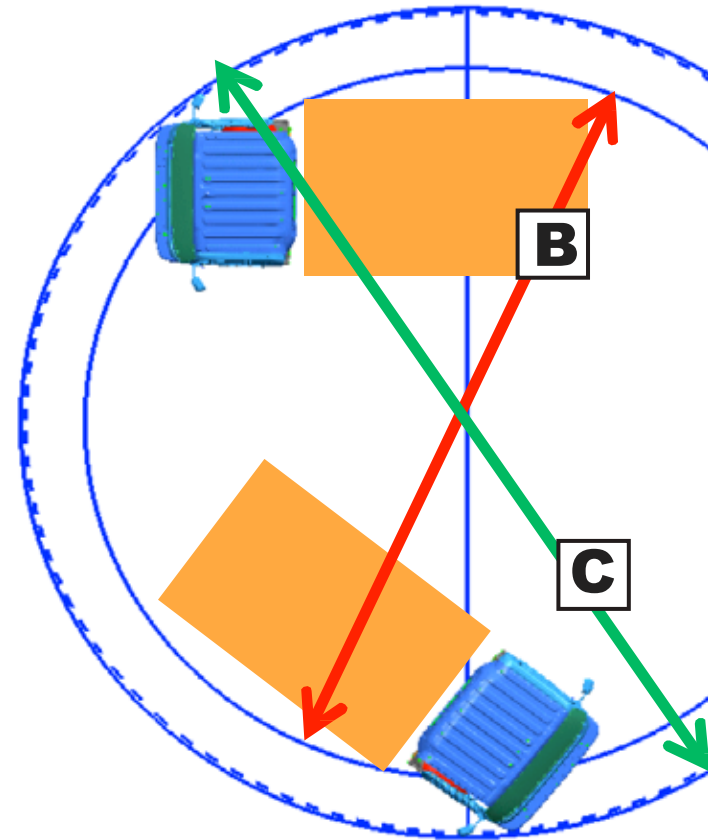
Turning Diameters

TURNING DIAMETERS

The LCF Series Diesel steering also features a 46.50 inside wheel cut angle. This, coupled with the integral power steering, makes the LCF Series Diesel an extremely maneuverable truck.

B=MINIMUM TURNING DIAMETER CURB TO CURB

C=MINIMUM TURNING DIAMETER WALL TO WALL



| 4500XD WB | B CURB TO CURB | C (FT. WALL TO WALL (FT.)) |
|--------------|-------------------|-------------------------------|
| 150.0 | 45.3 | 50.2 |
| 176.0 | 52.5 | 58.1 |

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Front Axle Chart 4500XD

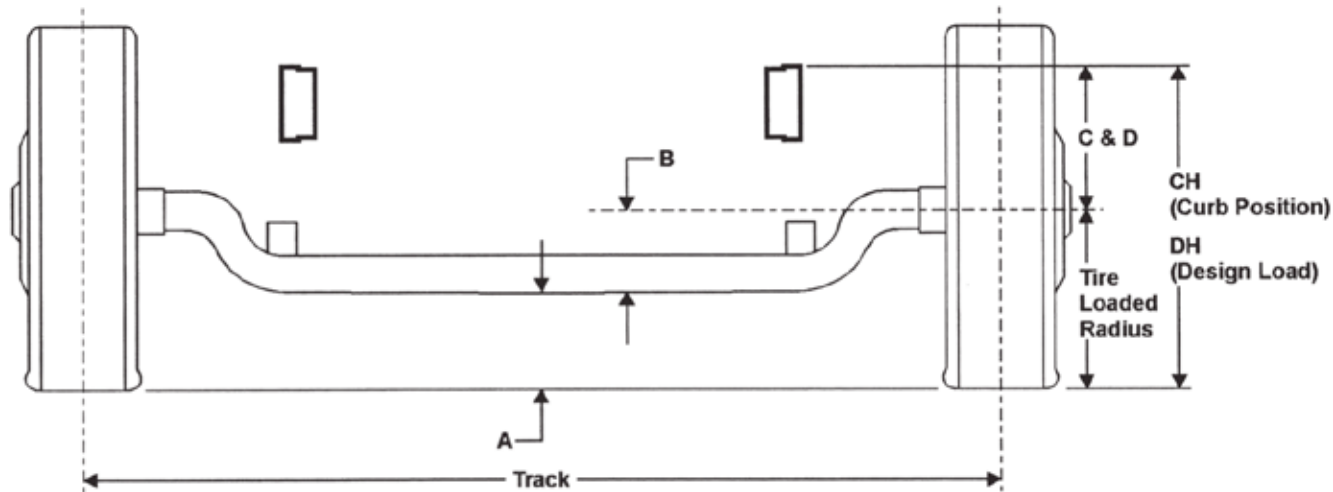


Figure 13.13.1

Formulas for calculating height dimensions:

- A = Tire Loaded Radius – B
- C = Centerline of Axle to Top of Frame Rail at Curb Position
- D = Centerline of Axle to Top of Frame Rail at Design Load
- CH = C + Tire Unloaded Radius
- DH = D + Tire Loaded Radius

| Tire | GVWR | GAWR | A | B | C | D | CH | DH | Track | Tire Radius | |
|---------------|-------------|------------|-----|-----|------|------|------|------|-------|-------------|-------|
| | | | | | | | | | | Unload | Load |
| 225/70R 19.5F | 16,000 lbs. | 6,630 lbs. | 8.6 | 6.6 | 12.3 | 11.5 | 28.4 | 26.7 | 65.5 | 16.1 | 15.24 |

Figure 13.13.2

Note: Dimensions in inches

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Rear Axle Chart 4500XD

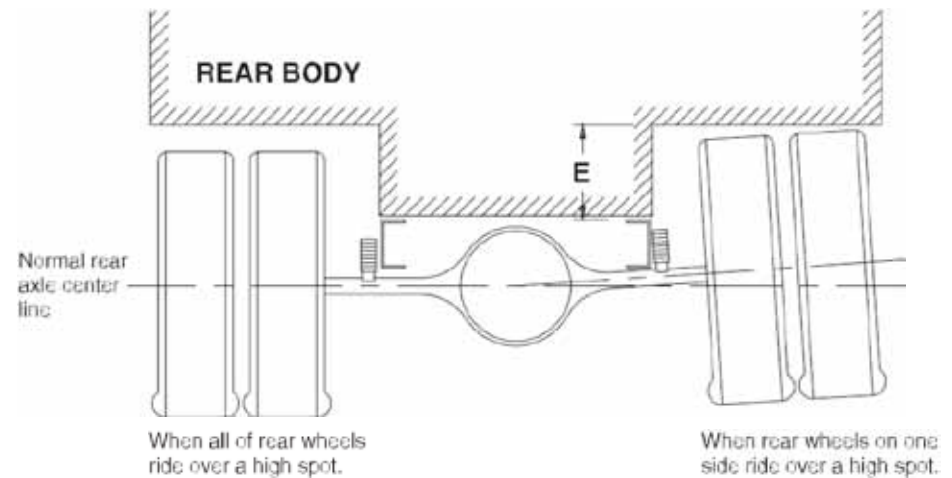
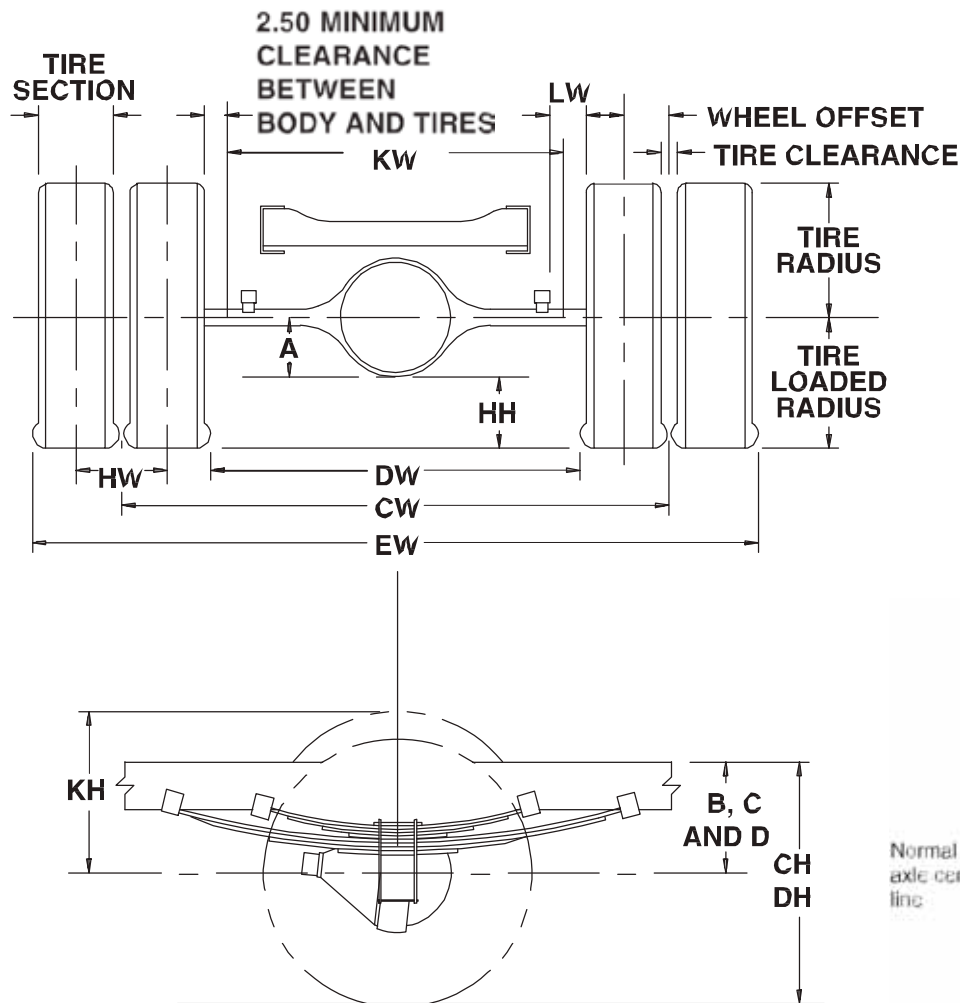


Figure 13.14.1

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Definitions

| | | | |
|---|---|----|--|
| A | Centerline of axle to bottom of axle bowl. | DH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load. |
| B | Centerline of axle to top of frame rail at metal-to-metal position. | DW | Minimum distance between the inner surfaces of the rear tires. |
| C | Centerline of axle to top of frame rail at curb position. | EW | Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires. |
| D | Centerline of axle to top of frame rail at design load. | HH | Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line. |
| E | Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vehicle centerline of the rear axle, when rear wheels on one side ride over a high spot. | HW | Dual Tire Spacing: Distance between the centerlines of the minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot. |
| CH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position. | CW | Track Dual Rear Wheel Vehicle: Distance between the centerlines of the dual wheels measured at the ground-line. |
| Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance | | | See Chart for values. |

Figure 13.15.1

| Formulas for Calculating Rear Width and Height Dimensions | | | |
|---|--|----|---|
| CW | = Track | HH | = Tire loaded radius – A |
| CH | = Tire loaded radius + C | JH | = KH – B |
| DH | = Tire loaded radius + D | KH | = Tire radius + 3.00 inches |
| DW | = Track + 2 tire sections – tire clearance | KW | = DW – 5.00 inches |
| EW | = Track + 2 tire sections + tire clearance | LW | = 1.00-inch minimum clearance between tires and springs |

Figure 13.15.2

NOTE: Track and overall width may vary with optional equipment.

| Tire | GAWR | Track CW | A | B | C | D | E |
|---------------|-------------|----------|-----|-----|------|------|-----|
| 225/70R-19.5F | 11,020 lbs. | 65.0 | 7.7 | 9.3 | 15.5 | 13.4 | 8.4 |

Figure 13.15.3

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

4500XD Suspension Deflection Charts

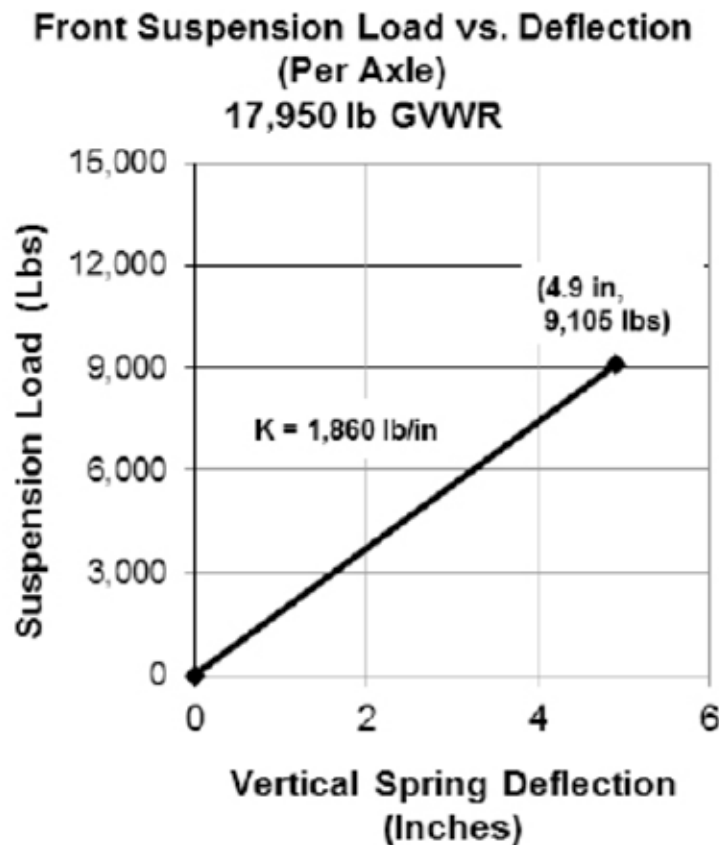


Figure 13.16.1

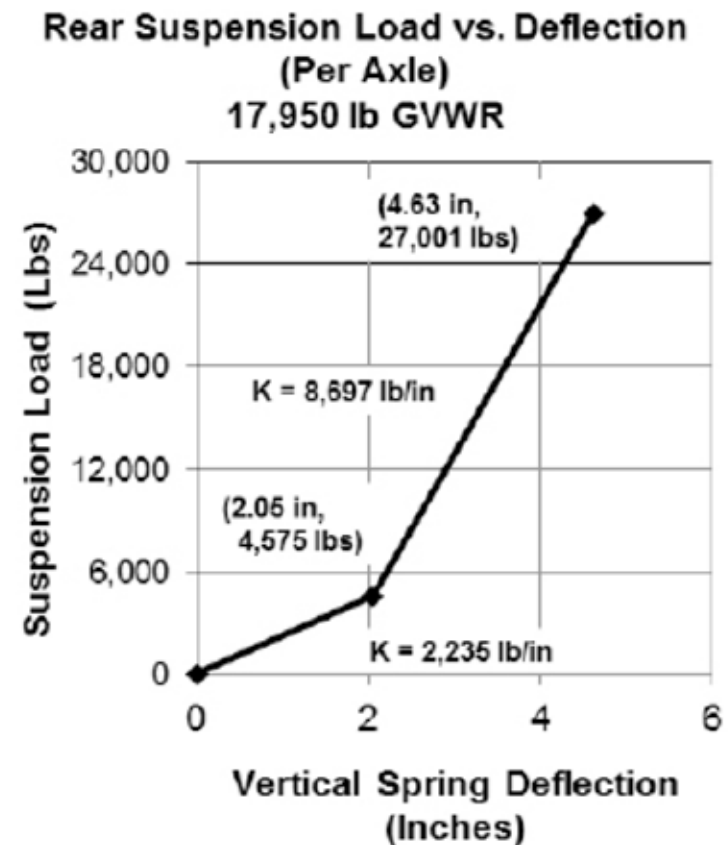


Figure 13.16.2

2017 Chevrolet Low Cab Forward

Tire and Disc Wheel Chart 4500XD

Tire

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits (lbs.) | | GVWR (Lbs.) |
|---------------|--|-----|-------|-----|---------------------------------|--------|-------------|
| | Single | | Dual | | Front | Rear | |
| | Lbs. | PSI | Lbs. | PSI | 2 Single | 4 Dual | |
| 225/70R 19.5F | 3,315 | 85 | 3,115 | 85 | 6,630 | 12,460 | 16,000 |

Figure 13.17.1

| Tire Size | GVWR (Lbs.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|---------------|-------------|-------------|-------|----------|------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 225/70R 19.5F | 16,000 | 14.93 | 14.98 | 16 | 16 | 8.7 | 1.3 | 6.0 |

Figure 13.17.2

Disc Wheel

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|-------------|------------|------------------|------------------------------|-----------------------------|--------------------------|--------------|----------------|----------------|----------|---------------|
| 19.5 x 6.00 | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 325 ft.-lb. (440 N•m) | 6.46 | 5.0 | 0.35 | 15° DC | Steel TOPY |

*O.D. Wrench Sizes

Figure 13.17.3

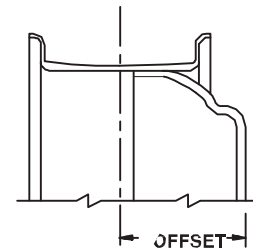
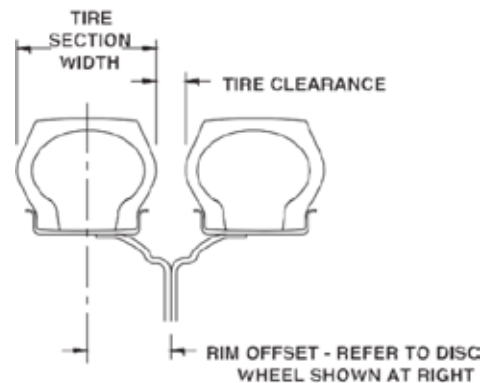


Figure 13.17.4

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Propeller Shaft 4500XD

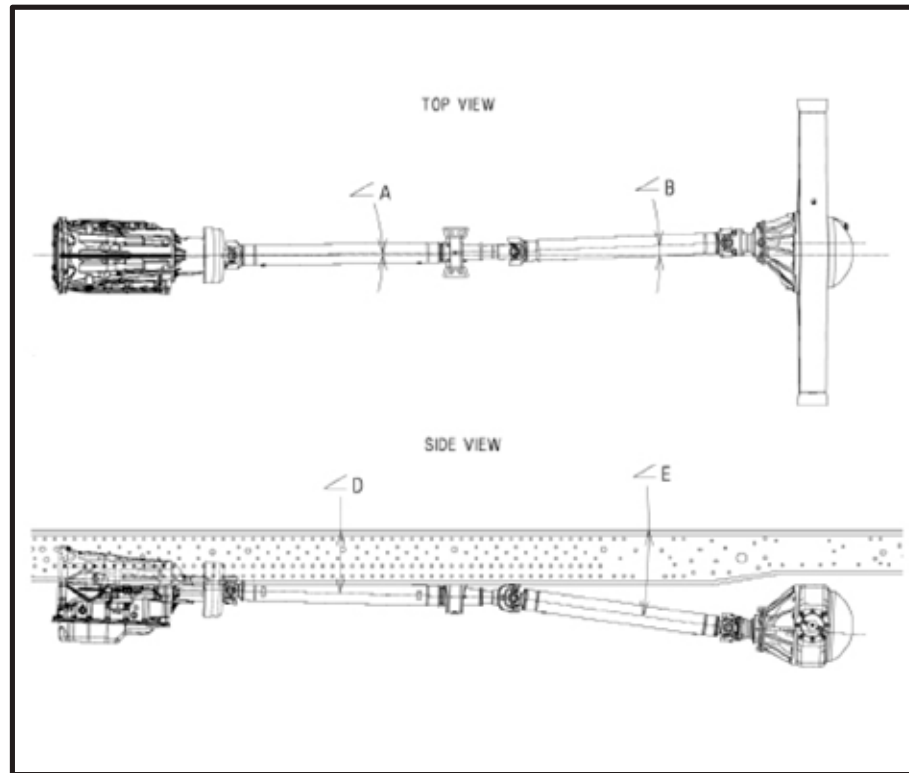


Figure 13.18.1

| WheelBase (in.) | Top View | | Side View | | | |
|--------------------|------------|------------|------------|------------|-------|-----------|
| | $\angle A$ | $\angle B$ | $\angle D$ | $\angle E$ | Trans | Rear Axle |
| 150 | 0° | 2.7° | 2.6° | 8.0° | 2.5° | 2.5° |
| 176 | 0° | 1.8° | 2.1° | 5.4° | 2.5° | 2.5° |

Figure 13.18.2

- NOTES**
1. Angles privuded in table are relative to the frame angle. Please take this into consideration for service measurements.
 2. Driveline angles are based on the chassis curb weight which includes standard equipment, fuel but no driver, body, or payload.

2017 Chevrolet Low Cab Forward

Automatic Transmission

| 4500XD | | |
|---------------|---------------------------|-------|
| Trans. Type | 6 Automatic. Transmission | |
| Wheelbase | 150 | 176 |
| No. of Shafts | 2 | 2 |
| Shaft #1 O.D. | 3.54 | 3.54 |
| Thickness | 0.126 | 0.126 |
| Length | 40.24 | 49.69 |
| Type | B | B |
| Shaft #2 O.D. | 3.54 | 3.54 |
| Thickness | 0.126 | 0.126 |
| Length | 36.53 | 52.93 |
| Type | C | C |

Figure 13.19.1

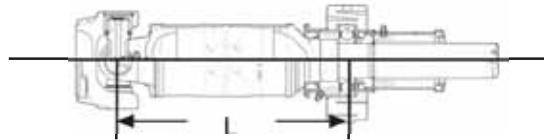
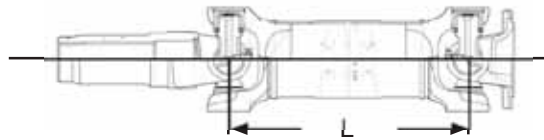
| Type | Description | Illustration |
|--------|--------------------------------|---|
| Type B | 1st shaft in 2-piece driveline |  |
| Type C | 2nd shaft in 2-piece driveline |  |

Figure 13.19.2

Note: Dimensions in inches

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Brake System Diagram, 16,000 GVW

Vacuum Over Hydraulic

Please refer to introduction section of book for antilock system cautions and wheelbase modification requirements.

Legend for 3500, 3500HD, 4500, 4500HD, 4500XD Brake System

- (1) Electronic Hydraulic Control Unit (EHCU)
- (2) Rear Wheel Cylinder
- (3) Vacuum Pump
- (4) Check Valve
- (5) Exhaust Brake Valve
- (6) Magnetic Valve
- (7) Check Valve (One-way Valve)
- (8) Vacuum Tank
- (9) 4-Way Connector
- (10) With Metering Valve
- (11) W/O Metering Valve
- (12) Brake Fluid Reservoir
- (13) Electric Vacuum Pump
- (14) Master Cylinder
- (15) Vacuum Booster (Servo Unit)
- (16) Front Wheel Cylinder

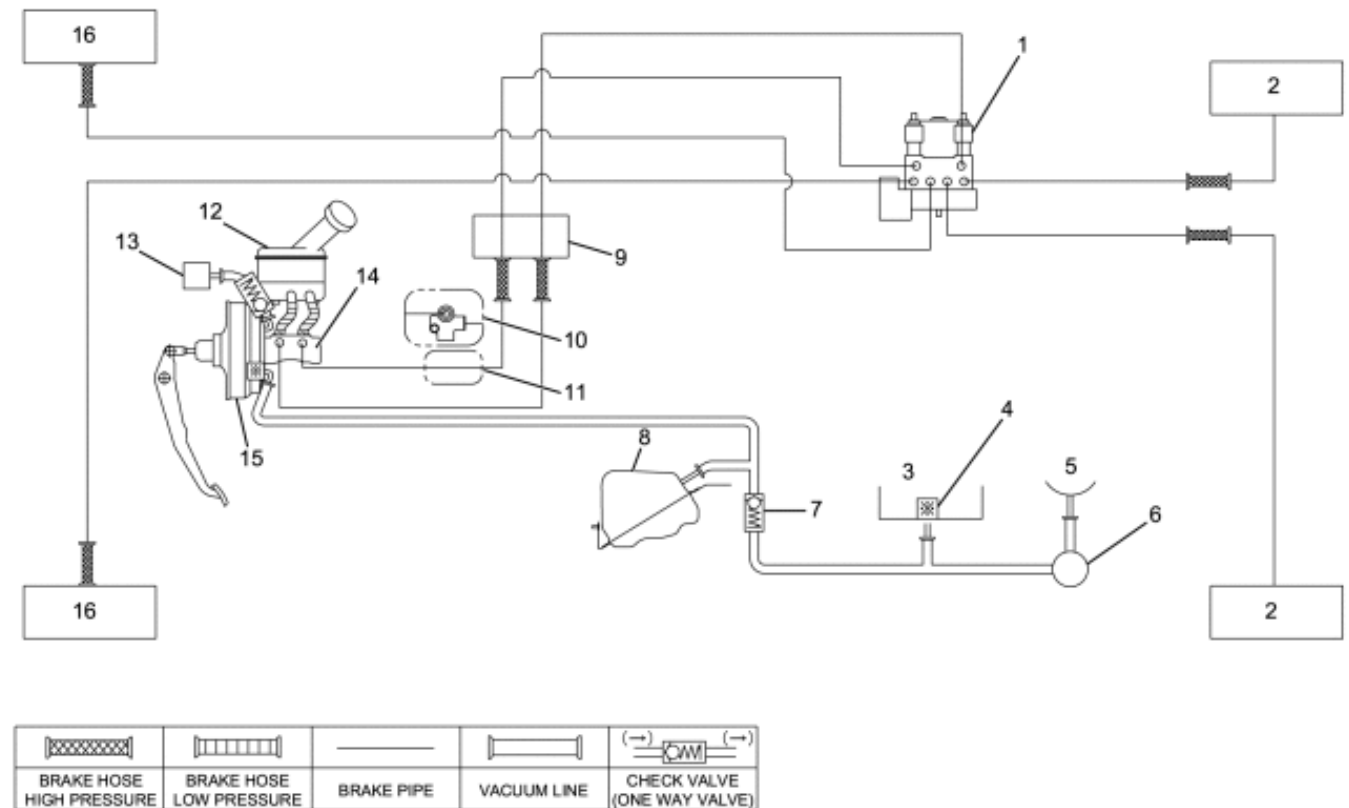


Figure 13.20.1

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PTO Location, Drive Gear and Opening Information

AUTOMATIC TRANSMISSION

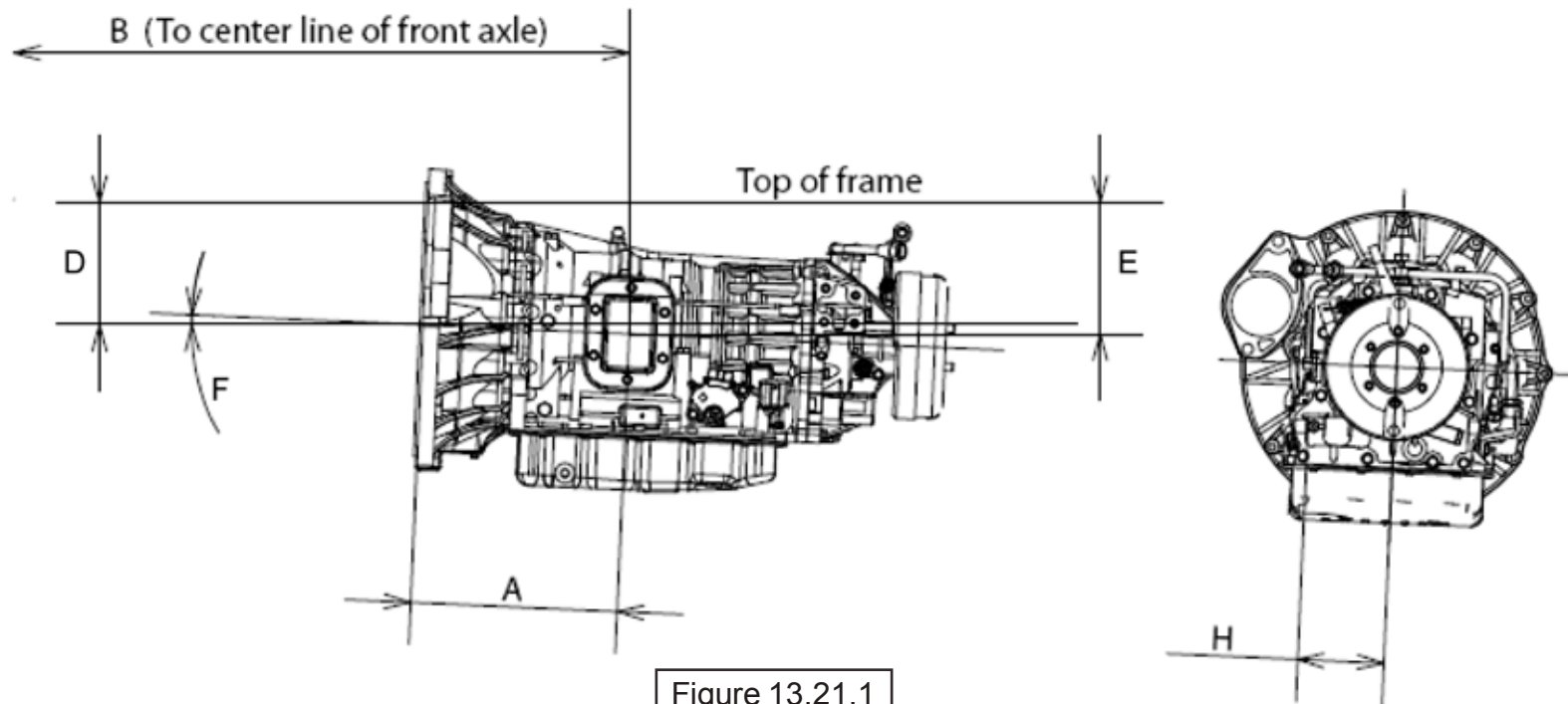


Figure 13.21.1

| Trans. | Opening Location | Bolt Pattern | A | B | C | D | E | F | H | PTO Drive Gear Location | Ratio of PTO Drv. Gear Spd. to Eng. Spd. | No. of Teeth | Pitch | Helix Angle | Max. Output Torque |
|----------------------|------------------|--------------|-------|-------|---|------|------|------|------|-------------------------|--|--------------|-------|-------------|--------------------------|
| Aisin ⁽¹⁾ | Left | (Dr2) | 12.35 | 36.89 | 0 | 7.85 | 7.31 | 2.5° | 5.16 | PTO Gear | 1:1 with turbine | 69 | N/A | 0° | 134 lbs.-ft. @ 1,700 RPM |

Figure 13.21.2

Note: Dimensions in inches

Diesel Fuel Fill

Installation Instructions

1. Disconnect battery.
2. Loosen hose from the tie downs. Remove caps from plate on rail.
3. Install hoses onto the plate.
4. Extend hose out from the driver side of the rail to body rail.
5. The filler neck must be mounted to allow the fill plate bracket to be parallel to the frame horizontal.
6. Cover with protector wrap and secure with tie wraps.
7. Filler hose is set for 102 inches outside width body.
8. Filler neck (dimension A) must be between 6.85 inches and 8.5 inches above frame.
9. Secure the filler plate to the bottom of the body and check for leaks.
10. Ensure that fill hose does not sag, creating an area where the fuel could pool in the fill hose.
11. Reconnect battery.

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Rear View Fuel Fill

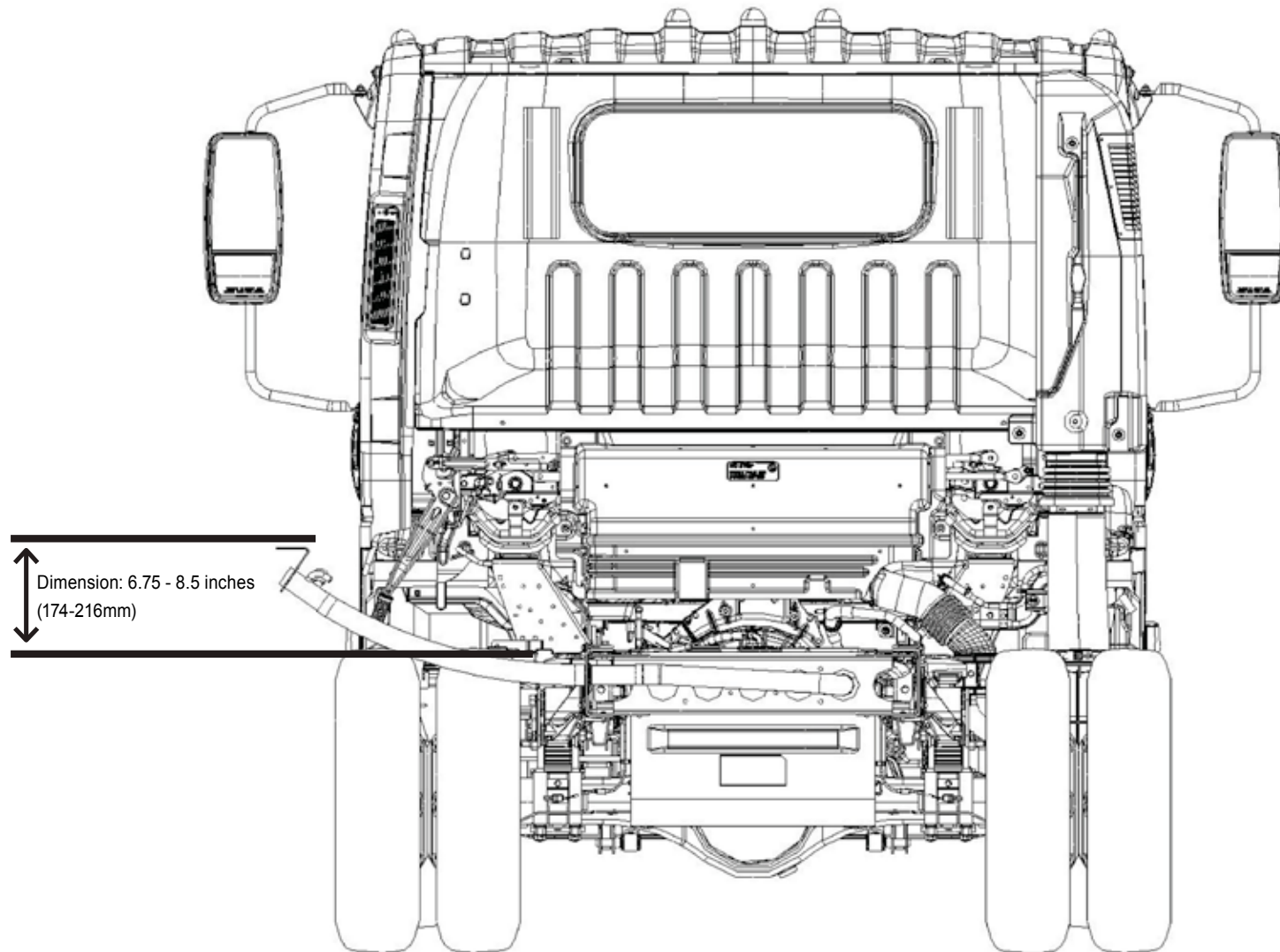
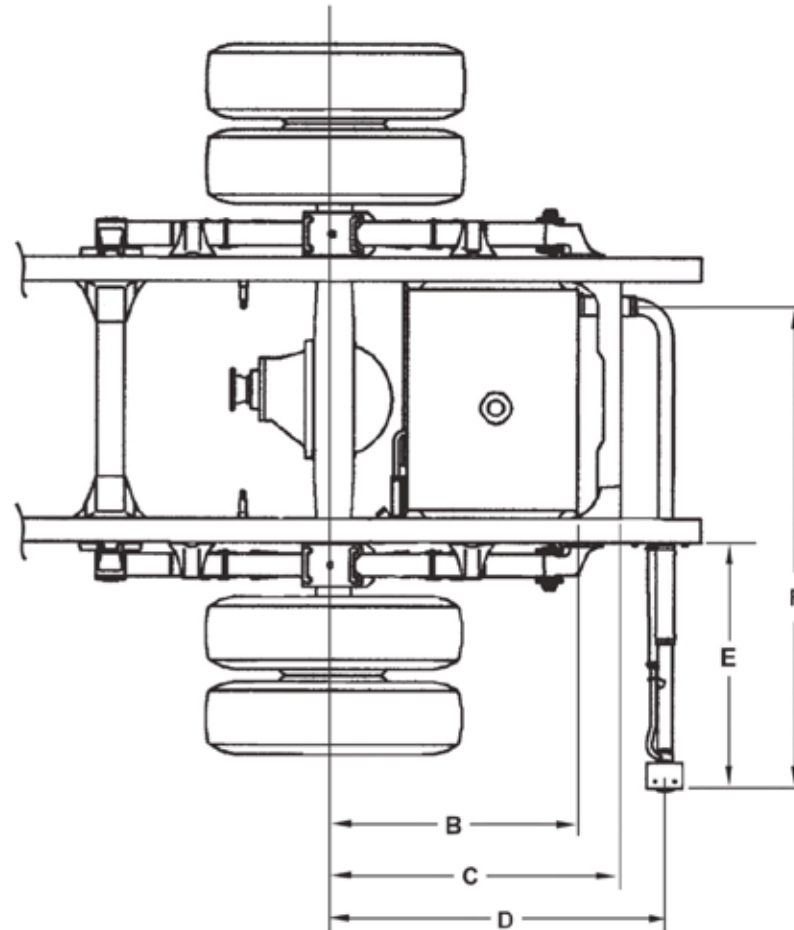


Figure 13.24.1

2017 Chevrolet Low Cab Forward

Top View Fuel Fill



Dimensions:

B = 29.75 inches (756 mm)
C = 34.00 inches (863 mm)
D = 39.29 inches (998 mm)
E = 33.86 inches (860 mm)
F = 59.60 inches (1,514mm)

Figure 13.25.1

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

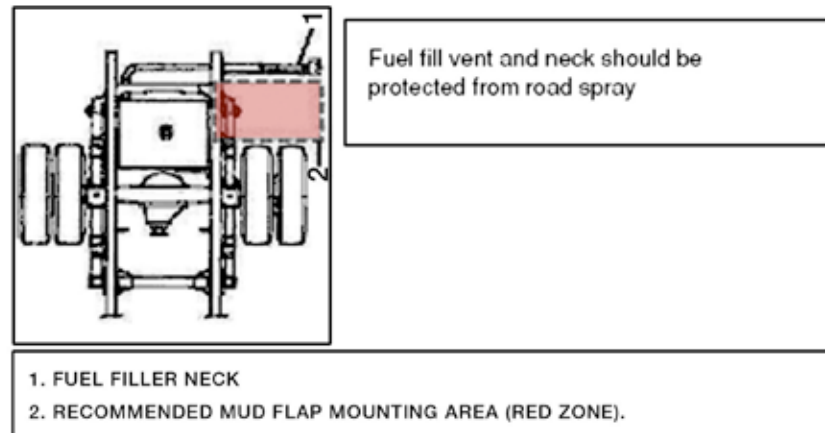
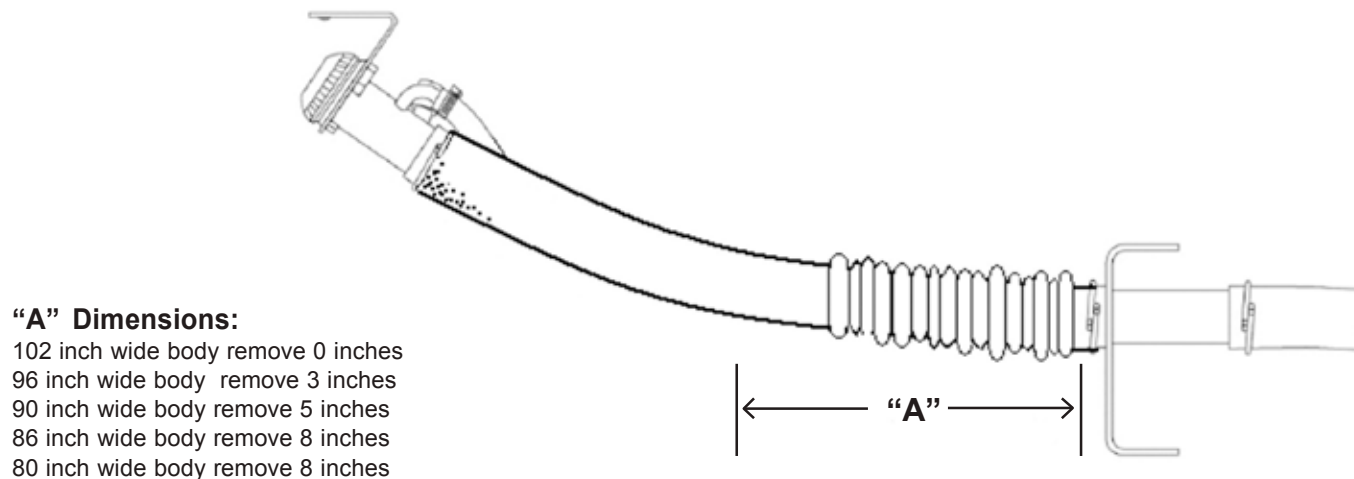


Figure 13.26.1



NOTE: Shorten hose by "A Dimension" based on chart at left.

Figure 13.26.2

2017 Chevrolet Low Cab Forward

Ultra Low Sulfur Diesel Label

Per EPA Title 40, Part 86, 86:007—35(c),
The decal illustrated below must be installed on the vehicle.
The decal is included in the fuel fill parts box.



INSTRUCTIONS FOR DECAL PLACEMENT:

1. The decal must be placed as close as possible to the fuel inlet and be clearly visible.
 2. The decal should be placed above or to the side of the fuel cap to avoid corrosion by possible contact with fuel.
 3. The decal may be placed on aerodynamic fairings, bodies, etc. as long as the decal is clearly visible and in close proximity to the fuel inlet.
 4. For installed bodies that have a fuel door, the decal should be placed above or to the side of the fuel door.
- Thoroughly clean the area of all grease, dirt, etc. before application of the decal. Apply the decal at room temperature, 65° to 75° F.

Figure 13.27.1

2017 Chevrolet Low Cab Forward

Through the Rail Fuel Fill Frame Hole

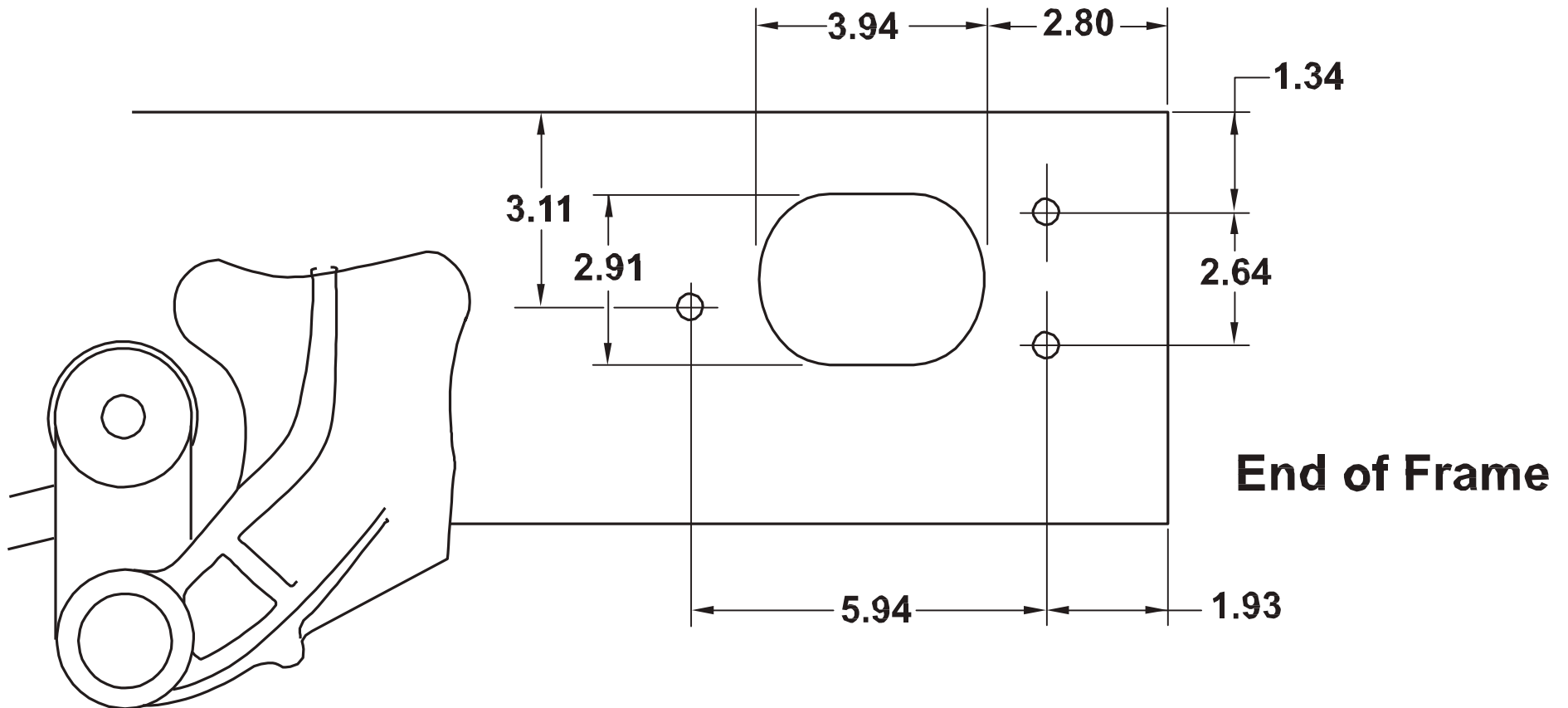


Figure 13.28.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

4500XD-Diesel Fuel Filler Kit Instructions

Please review these instructions prior to installation of the fuel filler kit.

PARTS KIT: This a kit for the Chevrolet LCF diesel products. Fuel filler kit shown below is used for 14,500 lb and higher GVWR chassis 3500HD, 4500HD, 4500XD, 5500HD, 5500XD. Parts list is shown in **FIGURE 13.29.2**. Parts photos are shown in **FIGURE 13.29.1**.

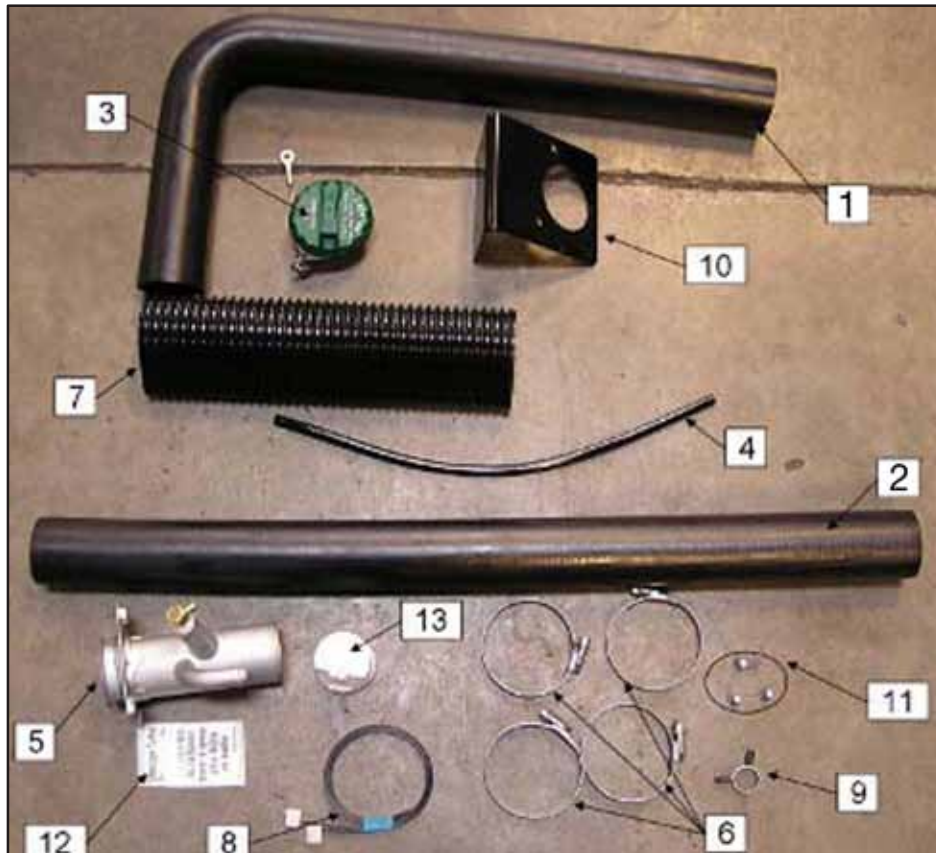


Figure 13.29.1

| FUEL FILLER KIT | | | |
|-----------------|-------------------------|------------|-----|
| ITEM # | PART NAME | PART # | QTY |
| 1 | HOSE: FUEL FILLER NECK | See Dealer | 1 |
| 2 | HOSE: FUEL FILLER | See Dealer | 1 |
| 3 | CAP: FILLER | See Dealer | 1 |
| 4 | HOSE: ROLL-OVER VALVE | See Dealer | 1 |
| 5 | NECK ASM: FUEL FILLER | See Dealer | 1 |
| 6 | CLIP: JOINT | See Dealer | 4 |
| 7 | PROTECTOR: FILLER HOSE | See Dealer | 1 |
| 8 | CLIP: BAND, HOSE FIXING | See Dealer | 2 |
| 9 | CLIP: RUBBER, HOSE | See Dealer | 1 |
| 10 | BRACKET: FILLER NECK | See Dealer | 1 |
| 11 | SCREW: FILLER NECK | See Dealer | 3 |
| 12 | CAUTION PLATE | See Dealer | 1 |
| 13 | SHUTTER: FUEL TANK | See Dealer | 1 |

Figure 13.29.2

Installation Instructions and Considerations:

The fuel tank shutter valve (13) is meant to improve fuel splash-back performance of the fuel system. This valve (13) is on the inlet (outboard side) of the fuel filler neck bulkhead assemble that is bolted to the left hand frame rail as shown in **Figure 13.30.1**. This valve snaps into place in the inlet of the frame mounted fuel pipe. The valve should be installed so that the plastic clip is at the top of the valve, so that the flap door opens up, as shown in **Figures 13.30.2**.



Figure 13.30.1

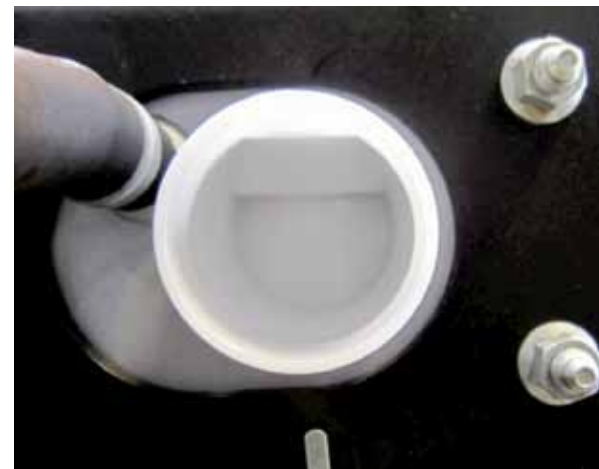


Figure 13.30.2

UP



The fuel filler hose should be installed flush against the tank. The clamp should be installed between 1/16" and 3/8" from the tank. This is shown in **Figure 13.30.3** below.

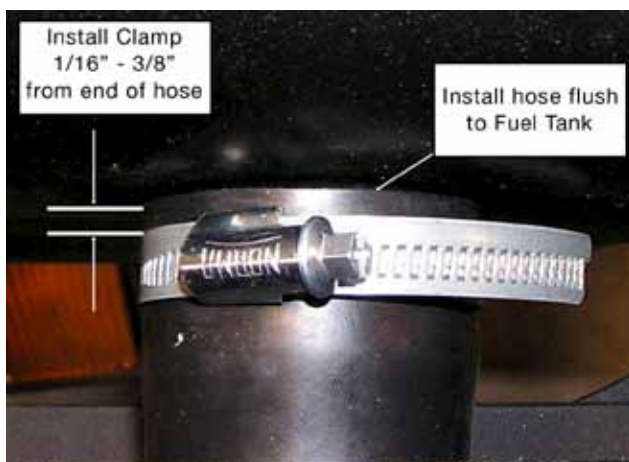


Figure 13.30.3

Roll-Over Valve Tubing

The roll-over valve has a hose attachment that will make this valve less sensitive to water intrusion. In order for the valve to work properly, it is critical that the hose be installed to the rollover valve. The proper assembly of the outer hose is shown in **Figure 13.31.1**.

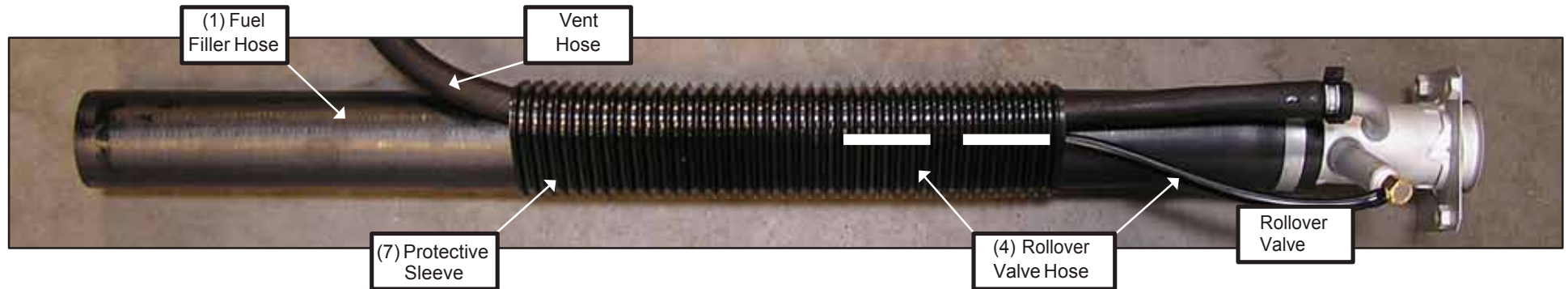


Figure 13.31.1

Filler Neck Installation:

The fuel filler neck (5) must be installed with the proper orientation on the body. The neck should be installed with the roll-over valve pointing upward, with the bottom edge of the neck oriented parallel to the ground, plus 33 to minus 7 degrees. See **FIGURE 13.31.2** for the proper orientation.

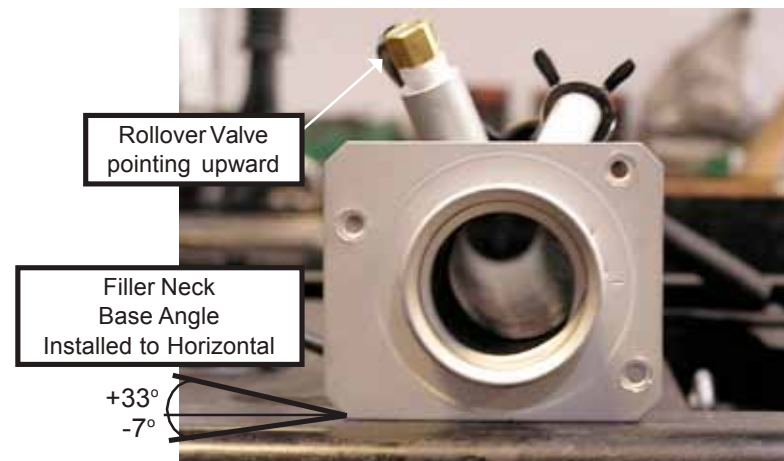


Figure 13.31.2

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PAGE **14.1**

4500HD, 5500HD Crew Cab Diesel Specifications

| Model | 4500HD Diesel Crew Cab | 5500HD Diesel Crew Cab |
|--------------------|---|--|
| GVWR | 14,500 lbs. | 17,950 lbs. |
| WB | 150 in, 176 in. | |
| Engine | Isuzu 4-cylinder, in-line 4-cycle, turbocharged, intercooled, direct injection diesel. | |
| Model/Displacement | 4HK1-TC/317 CID (5.19 liters) | |
| HP (Gross) | 215 HP @ 2,500 rpm | |
| Torque (Gross) | 452 lb-ft torque @ 1,850 rpm | |
| Equipment | Dry element air cleaner with vertical intake; 2 rows 564 square in ² . radiator; 7 blade 20.1 in diameter fan with viscous drive. Cold weather starting device and an oil cooler. Engine oil level check. Engine warning system with audible warning for low oil pressure, high coolant temperature, and low coolant level. Engine cruise control function. | |
| Transmission | Aisin A465 6 speed automatic transmission with fifth and sixth gear overdrive with lock up in 2nd, 3rd, 4th, 5th and 6th, PTO capability automatic torque converter lockup in stationary PTO mode. | |
| Steering | Integral power steering 18.8-20.9:1 ratio. Tilt and telescoping steering column. | |
| Front Axle | Reverse Elliot "I"-Beam rated at 6,830 lbs. | |
| Suspension | Semi-elliptical steel alloy tapered leaf springs with stabilizer bar and shock absorbers. | |
| GAWR | 5,360 lbs. | 6,830 lbs. |
| Rear Axle | Full-floating single speed with hypoid gearing rated at 14,550 lb. | |
| Suspension | Semi-elliptical steel alloy multi-leaf springs and shock absorbers. | |
| GAWR | 9,880 lbs. | 12,980 lbs. |
| Wheels | 16 x 6.0-K | 19.5 x 6.0-K |
| Tires | 215/85R 16-E (10 pr)(LRR) Low Rolling Resistancetubeless steel-belted radials, all-season front and rear. 225/70R-19.5E (12 ply) | |
| Brakes | Dual circuit vacuum assisted hydraulic service brakes with EBD (Electronic Brake Distribution) system for load proportioning of the brake system front disc and self-adjust outboard mounted drum rear. The parking brake is a mechanical, cable actuated, internal expanding drum type, transmission mounted. The exhaust brake is standard and is vacuum operated. 4 channel anti-lock brake system | Dual circuit vacuum assisted hydraulic service brakes with EBD (Electronic Brake Distribution) system for load proportioning of Brakes the brake system front disc and self-adjust outboard mounted drum rear. The parking brake is a mechanical, cable actuated, internal expanding drum type, transmission mounted. The exhaust brake is standard and is vacuum operated. 4 channel anti-lock brake system |
| Fuel Tank | 30 gal. rectangular steel fuel tank mounted in frame rail behind rear axle. Fuel water separator with indicator light. | |
| Frame | Ladder type channel section straight frame rail 33.5 inches wide through the total length of the frame. Yield strength 44,000 psi, section modulus 11.89 in., RBM 523,160. | |
| Cab | All-steel 7 passenger low cab forward BBC 109.9 in. | |
| Equipment | Tricot breathable cloth covered high back driver's seat with two occupant passenger seat. Four passenger rear bench seat. Dual cab mounted exterior mirrors with integral convex mirror. Tilt and telescoping steering column. Power windows and door locks, front floor mats, tinted glass. | |
| Electrical | 12 Volt, negative ground, dual maintenance free batteries, 750 CCA each, 140 Amp alternator with integral regulator. | |

NOTE: These selected specifications are subject to change without notice.

2017 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

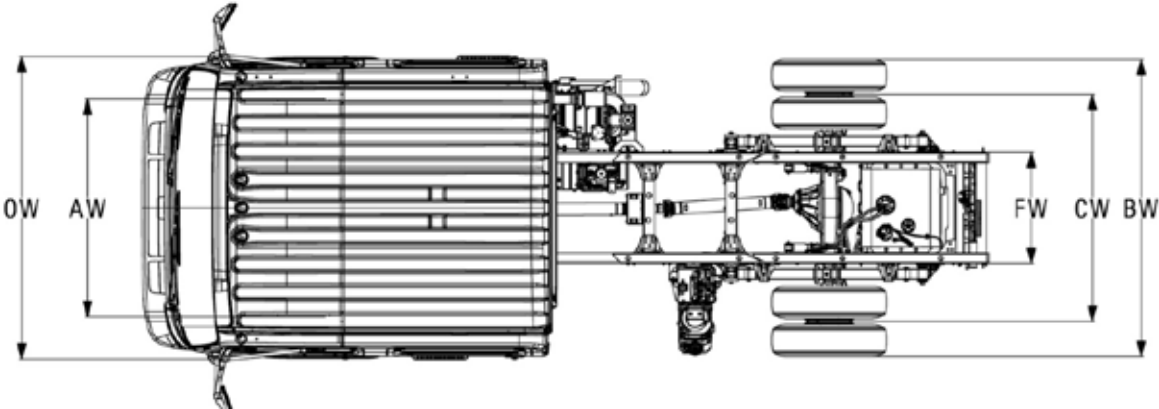


Figure 14.2.1

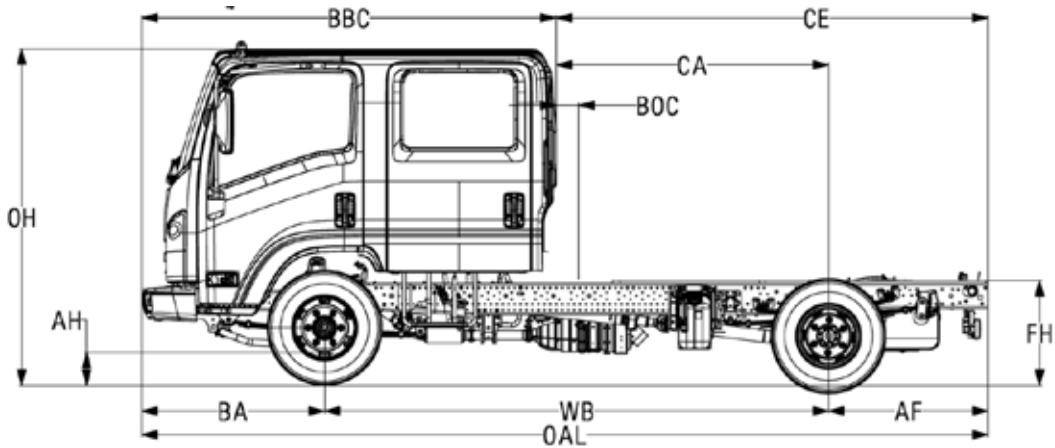


Figure 14.2.2

4500HD Variable Chassis Dimensions:

| Unit | WB | CA* | CE* | OAL | AF |
|------|-----|-------|-------|-------|------|
| Inch | 150 | 88.5 | 131.6 | 241.5 | 43.1 |
| Inch | 176 | 114.5 | 157.6 | 267.5 | 43.1 |

* Effective CA & CE are CA or CE less BOC.

4500HD Dimension Constants:

| Code | Inches | Code | Inches |
|------|--------|------|--------|
| AH | 7.5 | BW | 83.3 |
| AW | 65.6 | CW | 65 |
| BA | 48.3 | FW | 33.5 |
| BBC | 109.9 | OH | 90.8 |
| BOC | 5.3 | OW | 81.3 |
| FH | 31.1 | | |

4500HD In-Frame Tank

14,500 lb. GVWR Automatic Transmission Model

Chassis Cab and Maximum Payload Weights

| Model | RPO | WB | Unit | Front | Rear | Total | Payload |
|--------|-----|----------|------|-------|------|-------|---------|
| T33043 | EE3 | 150.0 in | lb. | 4415 | 2253 | 6668 | 7832 |
| T34043 | FNR | 176.0 in | lb. | 4491 | 2243 | 6734 | 7766 |

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Vehicle Weights, Dimensions and Ratings

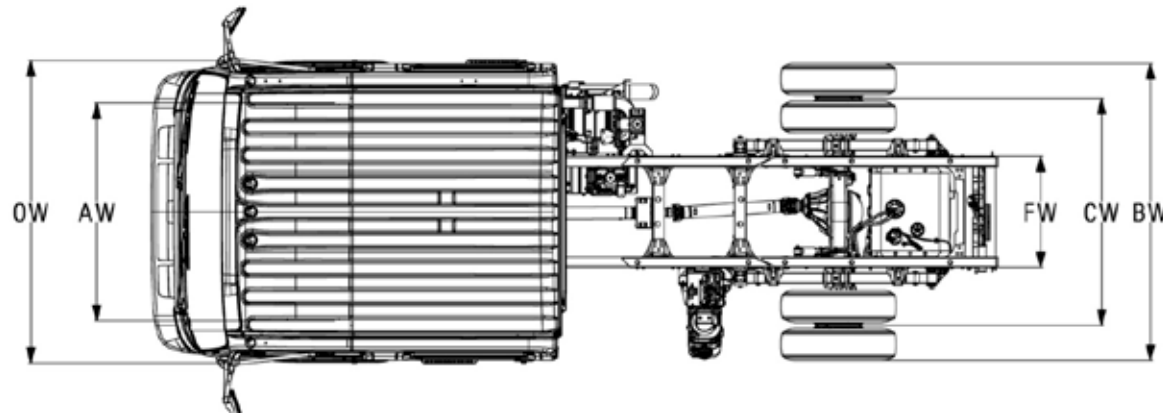


Figure 14.3.1

5500HD Variable Chassis Dimensions:

| Unit | WB | CA* | CE* | OAL | AF |
|------|-----|-------|-------|-------|------|
| Inch | 150 | 88.5 | 131.6 | 241.5 | 43.1 |
| Inch | 176 | 114.5 | 157.6 | 267.5 | 43.1 |

* Effective CA & CE are CA or CE less BOC.

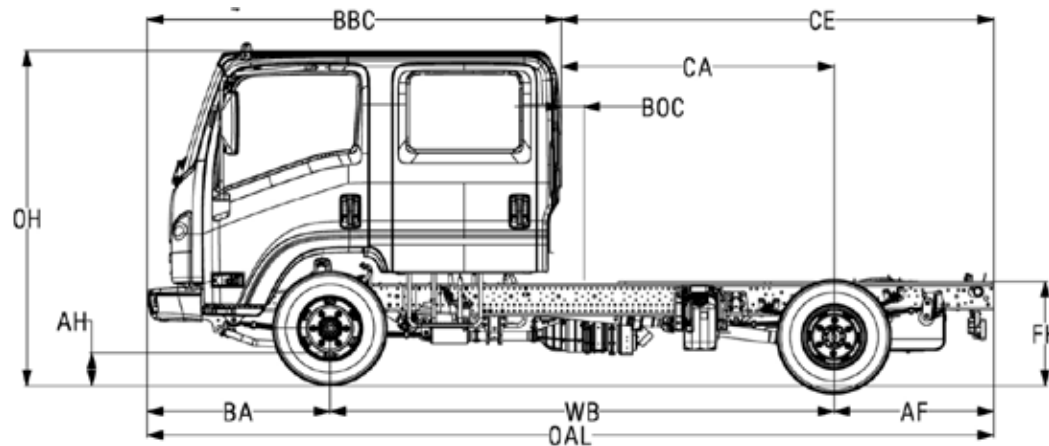


Figure 14.3.2

5500HD Dimension Constants:

| Code | Inches | Code | Inches |
|------|--------|------|--------|
| AH | 7.5 | BW | 83.3 |
| AW | 65.6 | CW | 65 |
| BA | 48.3 | FW | 33.5 |
| BBC | 109.9 | OH | 92.4 |
| BOC | 5.3 | OW | 81.3 |
| FH | 33.0 | | |

5500HD In-Frame Tank

17,950 lb. GVWR Automatic Transmission Model

Chassis Cab and Maximum Payload Weights

| Model | RPO | WB | Unit | Front | Rear | Total | Payload |
|--------|-----|--------|------|-------|------|-------|---------|
| T53043 | EE3 | 150 in | lb. | 4640 | 2562 | 7202 | 10748 |
| T54043 | FNR | 176 in | lb. | 4714 | 2556 | 7270 | 10680 |

2017 Chevrolet Low Cab Forward

Vehicle Weight Limits

Vehicle Weight Limits: 4500HD

| | |
|-----------------------|-------------|
| GVWR Designed Maximum | 14,500 lbs. |
| GAWR, Front | 5,360 lbs. |
| GAWR, Rear | 9,880 lbs. |

5500HD

| | |
|-----------------------|-------------|
| GVWR Designed Maximum | 17,950 lbs. |
| GAWR, Front | 6,380 lbs. |
| GAWR, Rear | 12,980 lbs. |

Technical Notes:

Chassis Curb Weight includes standard equipment and fuel. Does not include driver, passenger, payload, body or special equipment.

Maximum Payload Weight is the allowed maximum for equipment, body, payload, driver and passengers and is calculated by subtracting chassis curb weight from the GVWR.

| Weights for Options | | |
|---------------------|--|----------------------|
| RPO (1) | Option Description | Front / Rear Lbs. |
| 9D2 | Speed Limited to 58 MPH | 0 / 0 |
| 9C2 | Speed Limited to 65 MPH | 0 / 0 |
| 9E2 | Speed Limited to 68 MPH | 0 / 0 |
| ATG | Keyless entry | 3 / 0 |
| 9B9 | Speed Limited to 70 MPH | 0 / 0 |
| K05 | Block Heater (cord) | 1 / 0 |
| KPG | Locking DEF tank cap | 0 / 0 |
| UIZ | AM/FM/CD Radio with Ax input/USB port and Bluetooth | 0 / 0 |
| KQN | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| DB6 | Heated dual remote control mirrors (15" head) | 3 / 0 |
| MTE | Fire Extinguisher and Triangle Kit mounted in rear organizer | 19 / 0 |
| KPK | Engine Oil Pan Heater (120v 300w) | 2 / 0 |
| KPJ | Engine emergency shutdown system HWT, LWL, LOP (4) | 0 / 0 |
| PTO | PTO Enable Switch and Engine Idle Up Switch recommended for PTO and Idle applications only (2) | 1 / 0 |
| DB8 | Heated Mirrors | 1 / 0 |
| TBD | Mirror Bracket for 102" wide body | 1 / 0 |
| 9W8 | Seat covers crew cab | 9 / 2 |
| IX2 | Rear Body Dome Lamp Switch (6) | 1 / 0 |
| UL5 | Delete Standard AM/FM/CD Radio | --3 / 0 |
| KQJ | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| UZF | Back up alarm | 0 / 2 |
| V22 | Chrome Grille | 1 / 0 |

| Weights for Options | | |
|---------------------|--|----------------------|
| RPO (1) | Option Description | Front / Rear Lbs. |
| 9D2 | Speed Limited to 58 MPH | 0 / 0 |
| 9C2 | Speed Limited to 65 MPH | 0 / 0 |
| 9E2 | Speed Limited to 68 MPH | 0 / 0 |
| ATG | Keyless entry | 3 / 0 |
| 9B9 | Speed Limited to 70 MPH | 0 / 0 |
| K05 | Block Heater (cord) | 1 / 0 |
| KPG | Locking DEF tank cap | 0 / 0 |
| UIZ | AM/FM/CD Radio with Ax input/USB port and Bluetooth | 0 / 0 |
| KQN | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| DB6 | Heated dual remote control mirrors (15" head) | 3 / 0 |
| MTE | Fire Extinguisher and Triangle Kit mounted in rear organizer | 19 / 0 |
| KPK | Engine Oil Pan Heater (120v 300w) | 2 / 0 |
| KPJ | Engine emergency shutdown system HWT, LWL, LOP (4) | 0 / 0 |
| PTO | PTO Enable Switch and Engine Idle Up Switch recommended for PTO and Idle applications only (2) | 1 / 0 |
| DB8 | Heated Mirrors | 1 / 0 |
| TBD | Mirror Bracket for 102" wide body | 1 / 0 |
| 9W8 | Seat covers crew cab | 9 / 2 |
| IX2 | Rear Body Dome Lamp Switch (6) | 1 / 0 |
| UL5 | Delete Standard AM/FM/CD Radio | --3 / 0 |
| KQJ | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| UZF | Back up alarm | 0 / 2 |
| V22 | Chrome Grille | 1 / 0 |

2017 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

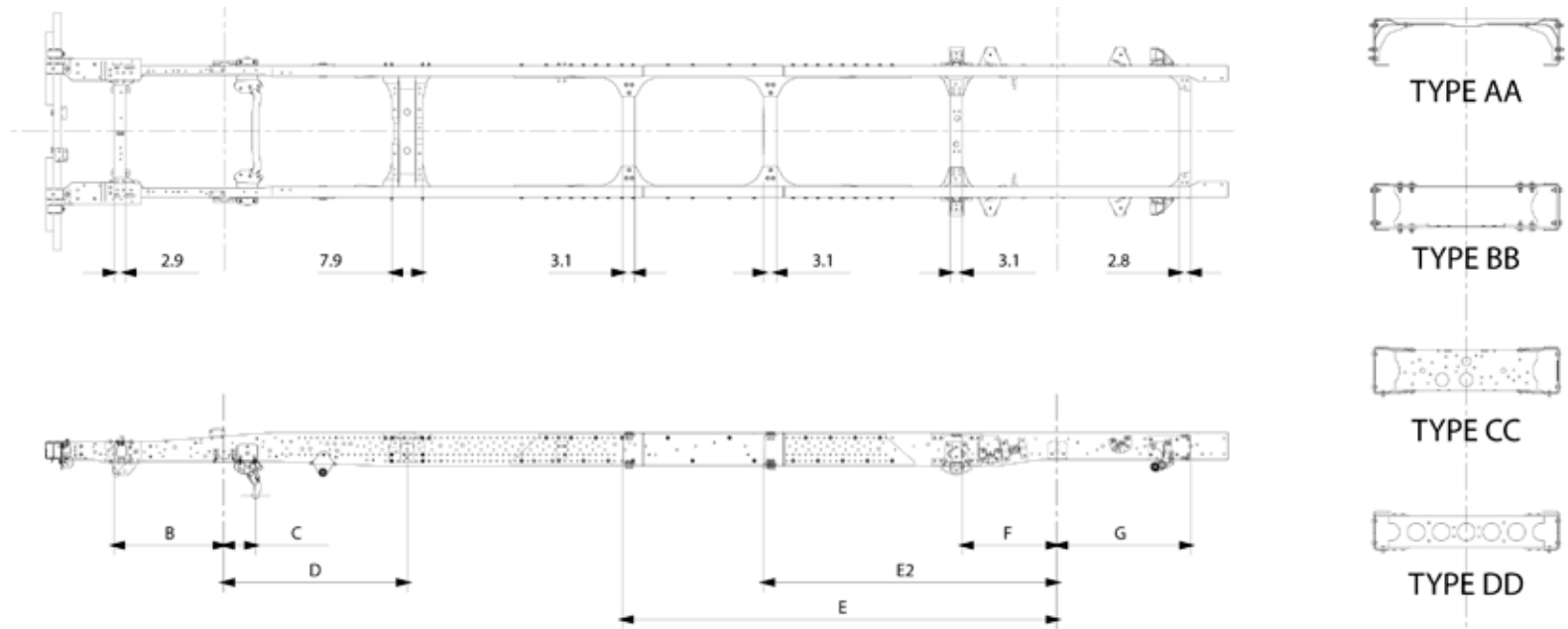


Figure 14.5.1

| Wheelbase | Frame Thick | Crossmember Type/Location | | | | | |
|-----------|-------------|---------------------------|-----|---------|---------|---------|---------|
| | | B | C | D | E | F | G |
| 150.0 | 0.24 | 28.3 | 7.9 | AA 46.5 | BB 57.9 | CC 24.2 | DD 33.8 |
| 176.0 | 0.24 | 28.3 | 7.9 | AA 46.5 | BB 74.4 | CC 24.2 | DD 33.8 |

Figure 14.5.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Frame Chart

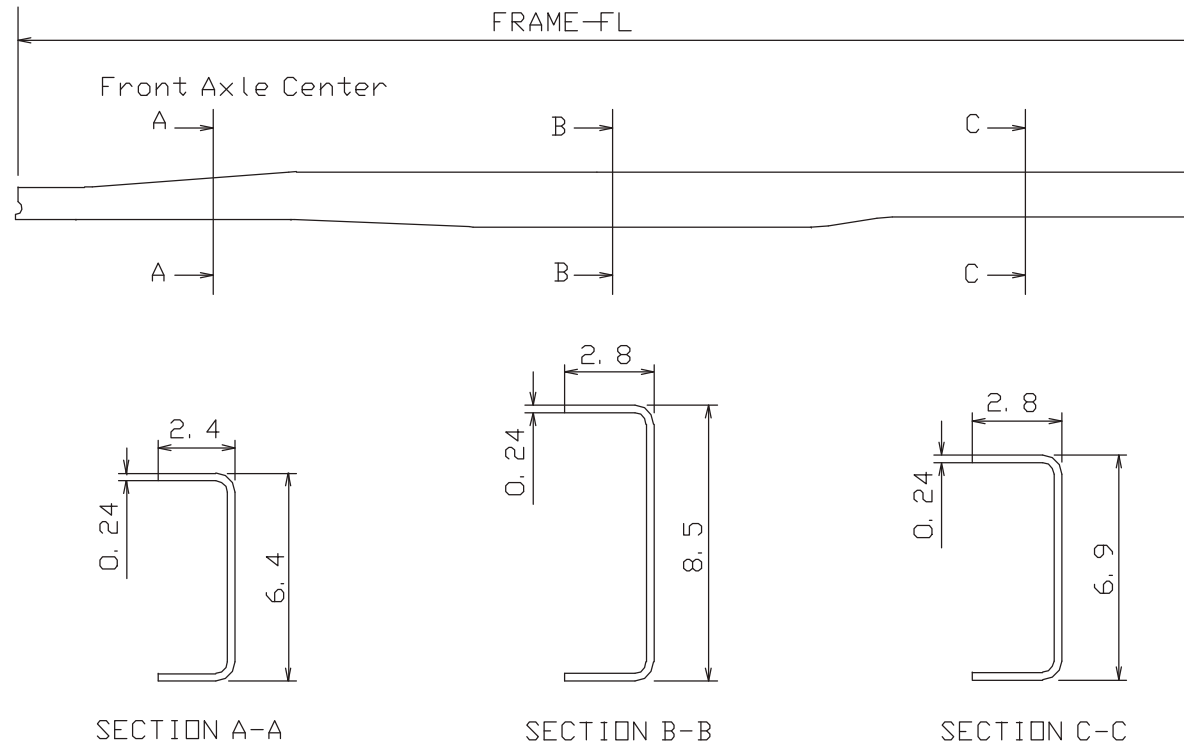


Figure 14.6.1

| Wheelbase | Frame FL | Frame Thickness |
|-----------|----------|-----------------|
| 150.0 | 223.8 | 0.24 + 0.18 |
| 176.0 | 249.8 | 0.24 + 0.18 |

Figure 14.6.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

4500HD, 5500HD Diesel Standard Crew Cab Top View

| Wb | A | B |
|-----|------|-------|
| 150 | 67.0 | 101.6 |
| 176 | 76.5 | 111.1 |

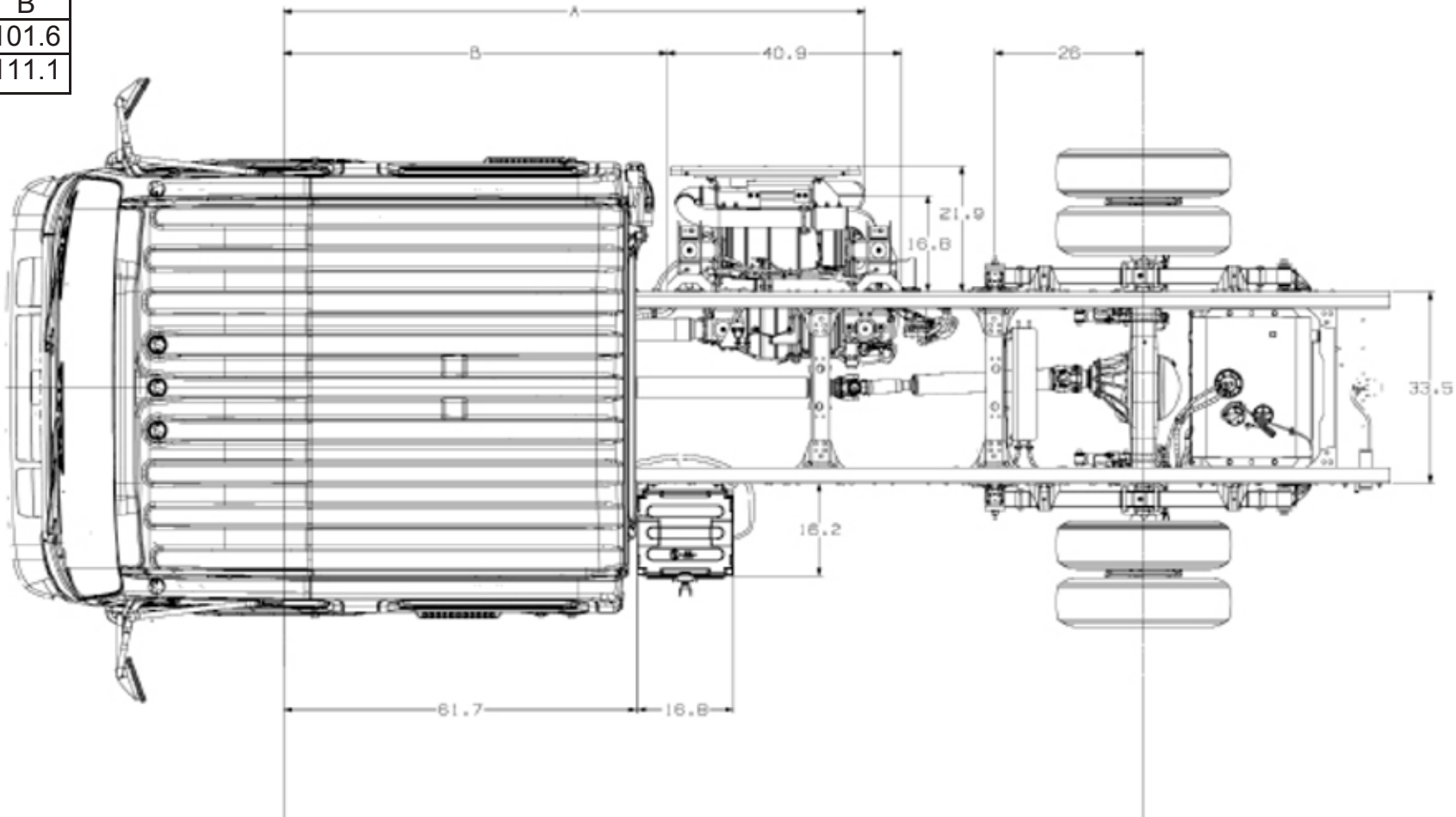


Figure 14.7.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

4500HD, 5500HD Diesel Standard Crew Cab Left Side View

| WB | A |
|-----|-------|
| 150 | 104.3 |
| 176 | 113.8 |

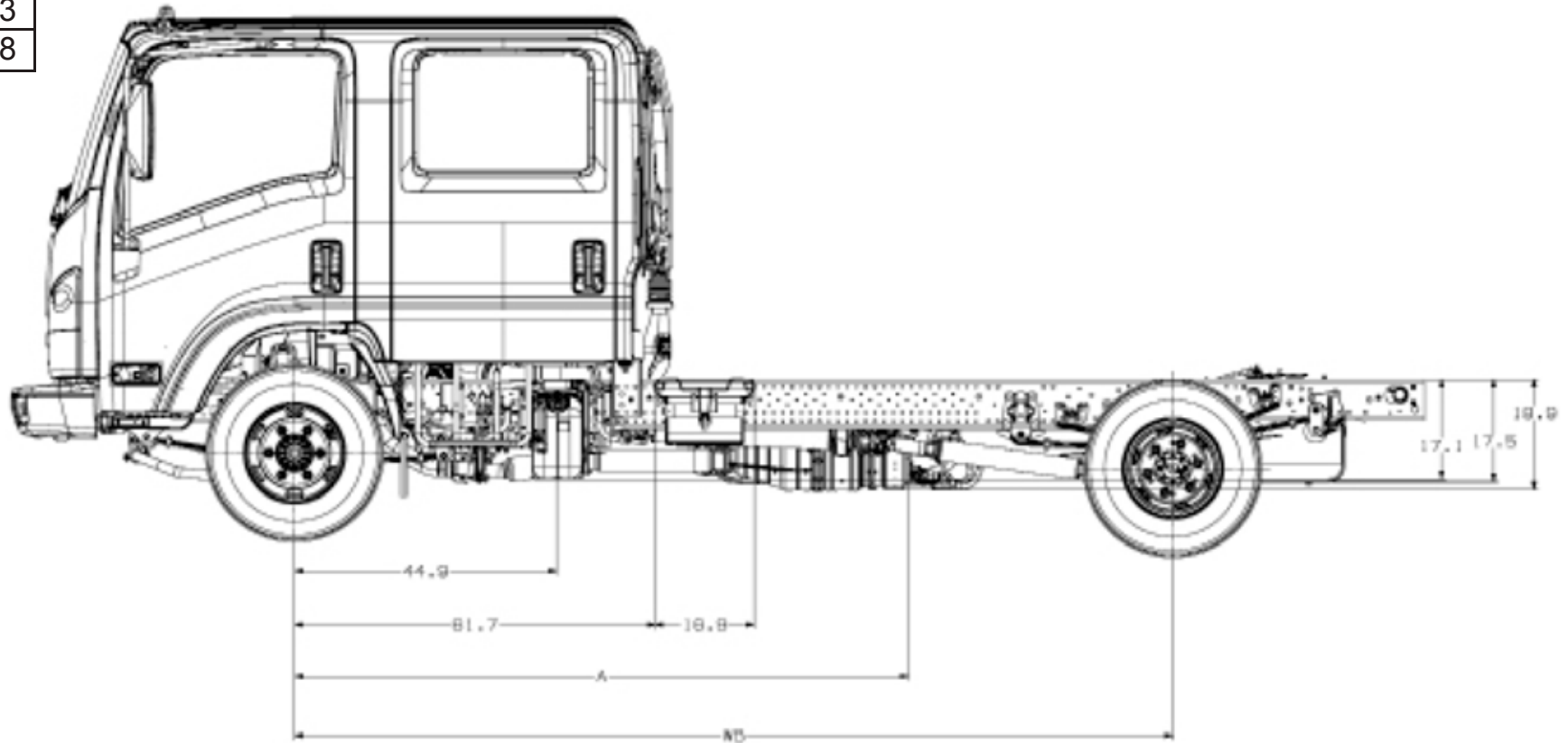


Figure 14.8.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

4500HD, 5500HD Diesel Standard Cab Right Side View

| WB | A |
|-----|------|
| 150 | 67.6 |
| 176 | 77.1 |

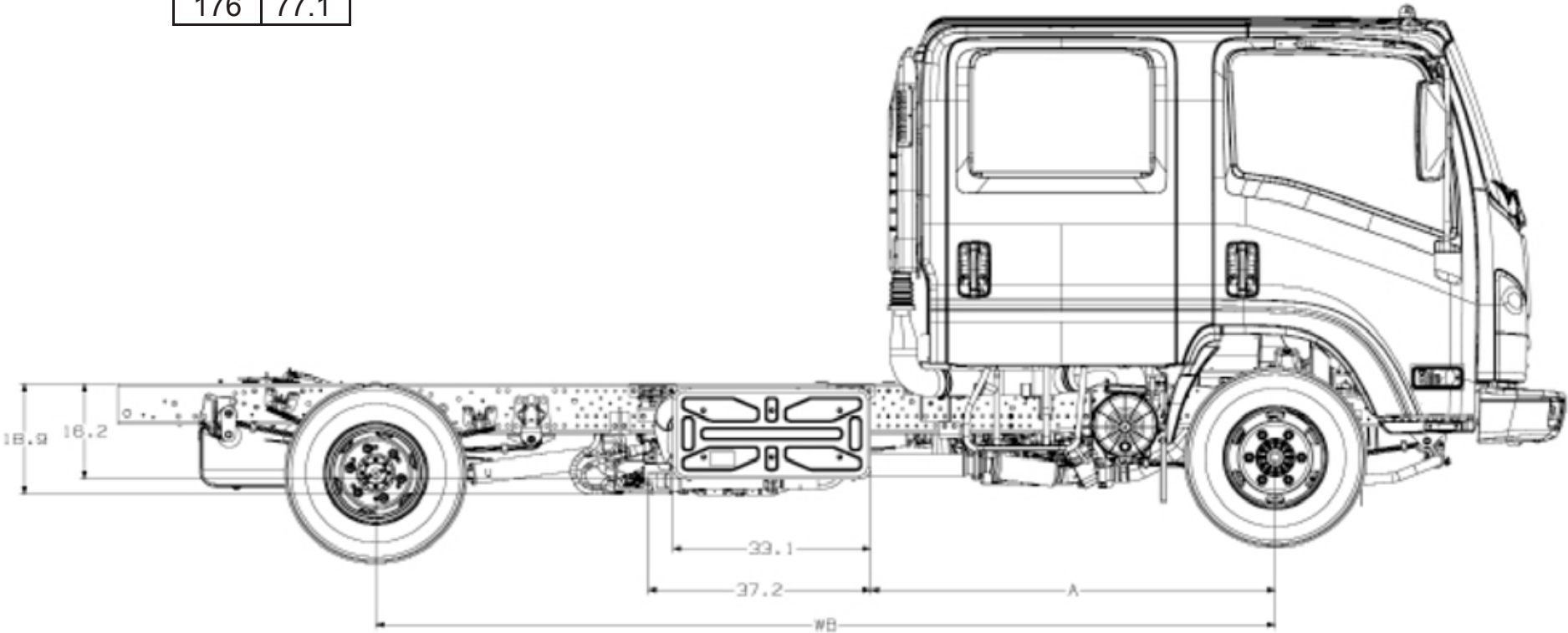


Figure 14.9.1

Note: Dimensions in inches

PAGE **14.10**



Front of chassis

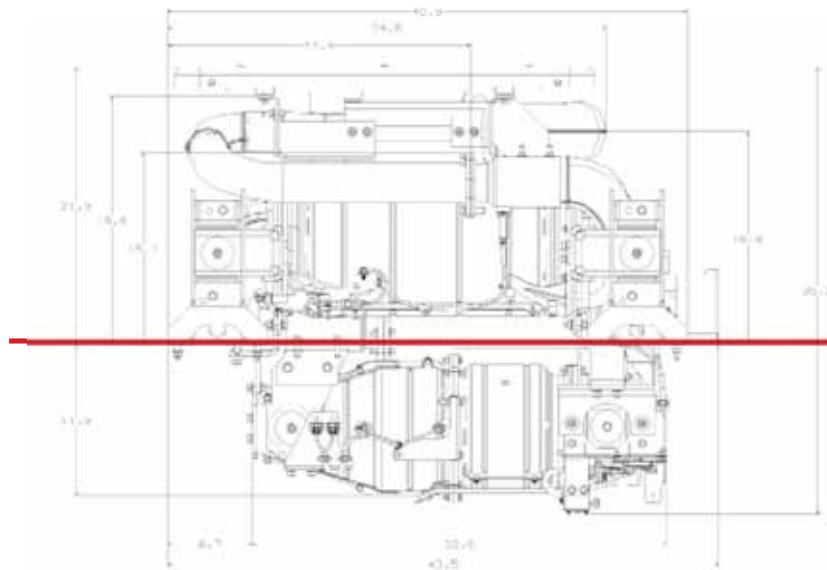


Figure 14.10.1

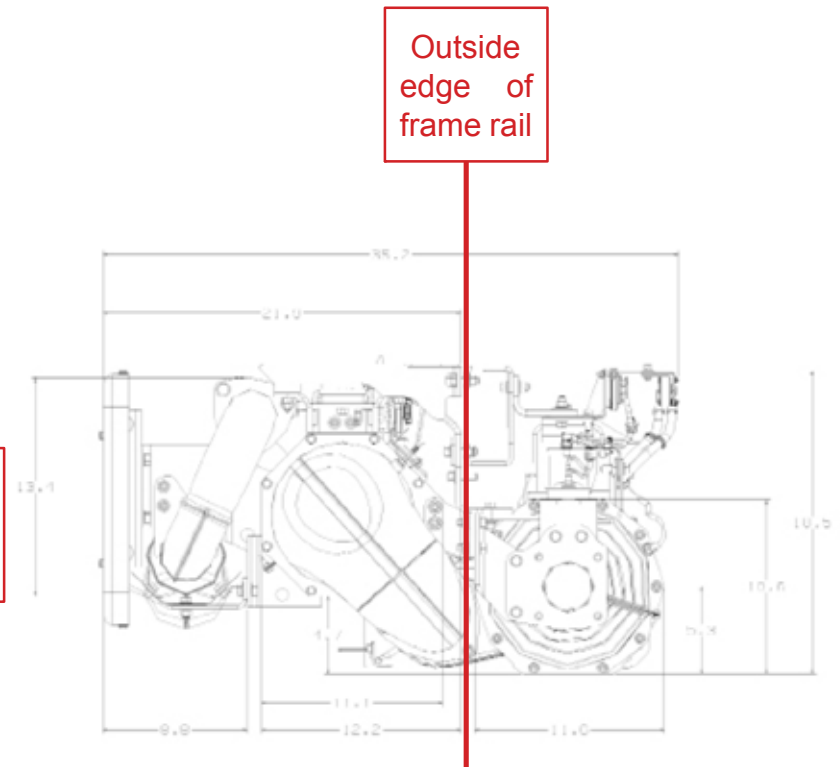


Figure 14.10.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

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Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX

Side View 176 Wheelbase

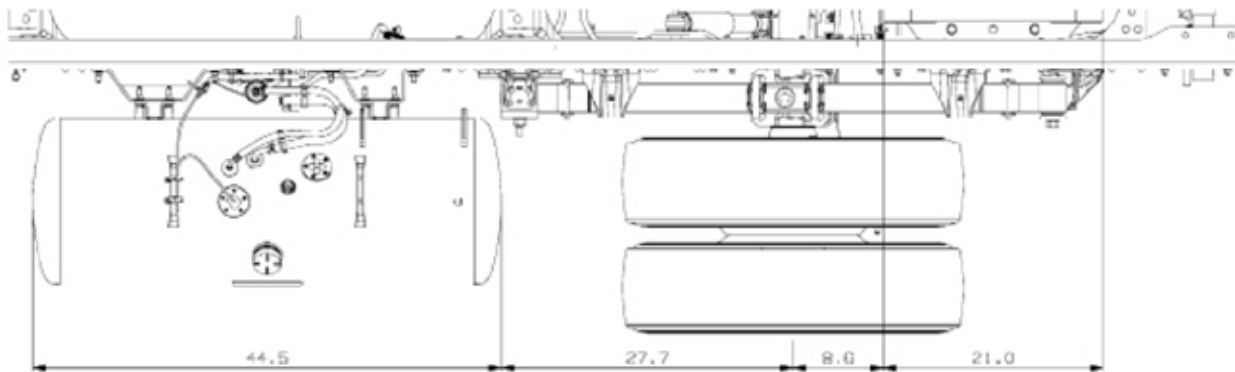


Figure 14.11.1

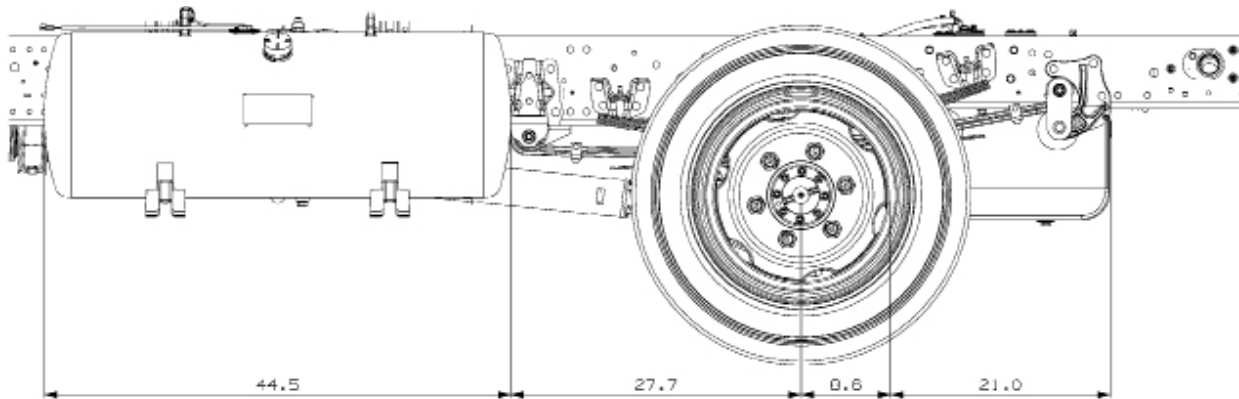


Figure 14.11.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Center of Gravity

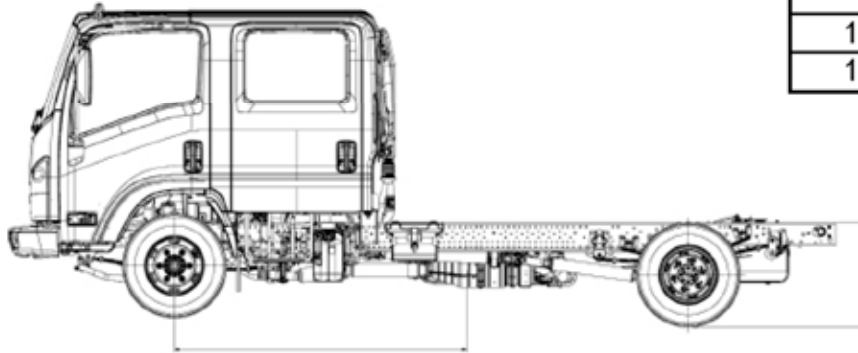


Figure 14.12.1

| Horizontal and Vertical CG of Chassis | | | | | |
|---------------------------------------|------|------|--------|------|------|
| 4500HD | | | 5500HD | | |
| WB | V | H | WB | V | H |
| 150 | 24.3 | 48.3 | 150 | 25.3 | 50.9 |
| 176 | 24.2 | 55.7 | 176 | 25.3 | 58.8 |

The center of gravity of the completed vehicle with a full load should not exceed 63 inches above ground level for the 14,500 lbs. and 17,950 lbs. GVWR, and must be located horizontally between the centerlines of the front and rear axles.

NOTE: The Final Manufacturer must ensure that the combined vertical center of gravity of the chassis, body, and available payload at full GVW does not exceed the maximum vertical center of gravity outlined in the Chevrolet LCF Incomplete Vehicle Document and the GM Upfitter site.

The maximum dimensions for a body installed on the LCF Series chassis are 102 inches wide (outside*) by 91 inches high (inside). Any larger body applications must be approved by GM Upfitter Engineering. Contact us on gmupfitter.com.

* With 102 inches wide mirror brackets installed in place of standard mirror brackets

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Turning Diameters

TURNING DIAMETERS

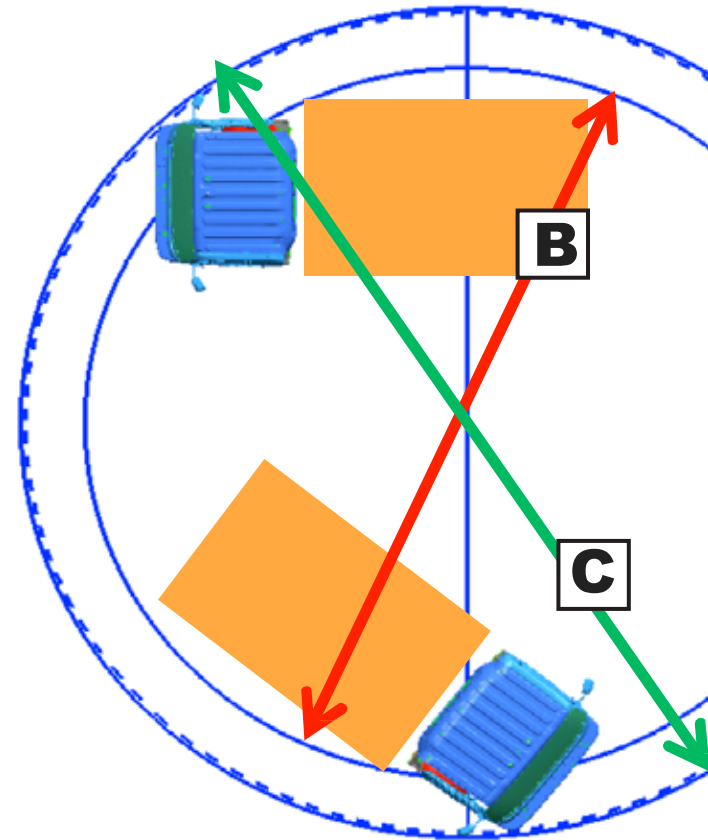
The LCF Series Diesel steering also features a 46.50 inside wheel cut angle. This, coupled with the integral power steering, makes the LCF Series Diesel an extremely maneuverable truck.

B=MINIMUM TURNING DIAMETER CURB TO CURB

C=MINIMUM TURNING DIAMETER WALL TO WALL

Turning Diameters (design value)

| WB | B curb to curb | C (ft. wall to wall (ft.)) |
|-------|-------------------|-------------------------------|
| 109.0 | 32.8 | 38.7 |
| 132.0 | 40.0 | 44.9 |
| 150.0 | 45.3 | 50.2 |
| 176.0 | 52.5 | 58.1 |
| 200.0 | 61.0 | 67.2 |
| 212.0 | 66.0 | 73.0 |



2017 Chevrolet Low Cab Forward

Front Axle Chart 4500HD

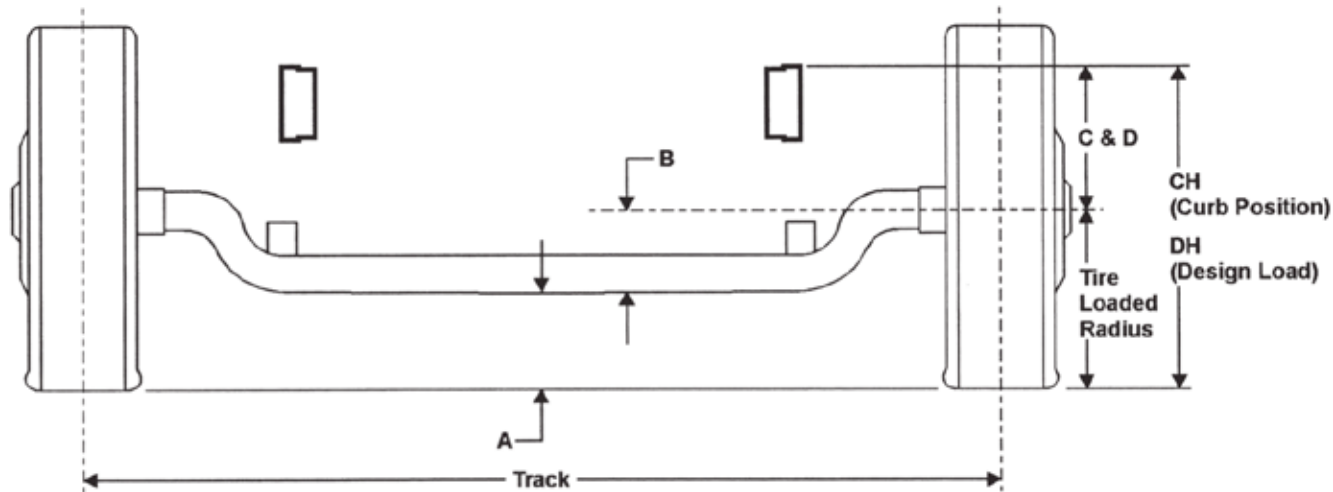


Figure 14.14.1

Formulas for calculating height dimensions:

- A = Tire Loaded Radius – B
- C = Centerline of Axle to Top of Frame Rail at Curb Position
- D = Centerline of Axle to Top of Frame Rail at Design Load
- CH = C + Tire Unloaded Radius
- DH = D + Tire Loaded Radius

| Tire | GVWR | GAWR | A | B | C | D | CH | DH | Track | Tire Radius | |
|-------------|-------------|------------|-----|-----|------|------|------|------|-------|-------------|------|
| | | | | | | | | | | Unload | Load |
| 215/85R 16E | 14,500 lbs. | 5,360 lbs. | 7.5 | 6.6 | 11.9 | 11.7 | 26.5 | 25.8 | 65.5 | 14.6 | 14.1 |

Figure 14.14.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Front Axle Chart 5500HD

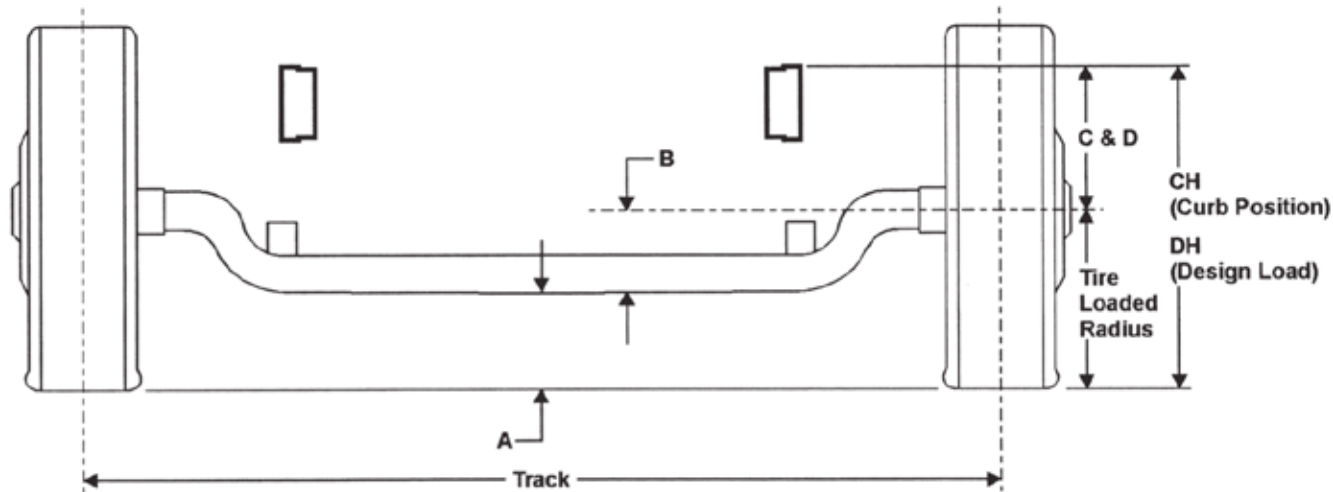


Figure 14.15.1

Formulas for calculating height dimensions:

- A = Tire Loaded Radius – B
- C = Centerline of Axle to Top of Frame Rail at Curb Position
- D = Centerline of Axle to Top of Frame Rail at Design Load
- CH = C + Tire Unloaded Radius
- DH = D + Tire Loaded Radius

| Tire | GVWR | GAWR | A | B | C | D | CH | DH | Track | Tire Radius | |
|---------------|-------------|------------|-----|-----|------|------|------|------|-------|-------------|-------|
| | | | | | | | | | | Unload | Load |
| 225/70R 19.5F | 17,950 lbs. | 6,830 lbs. | 8.6 | 6.6 | 12.3 | 11.5 | 28.4 | 26.7 | 65.5 | 16.1 | 15.24 |

Figure 14.15.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

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Rear Axle Chart 4500HD

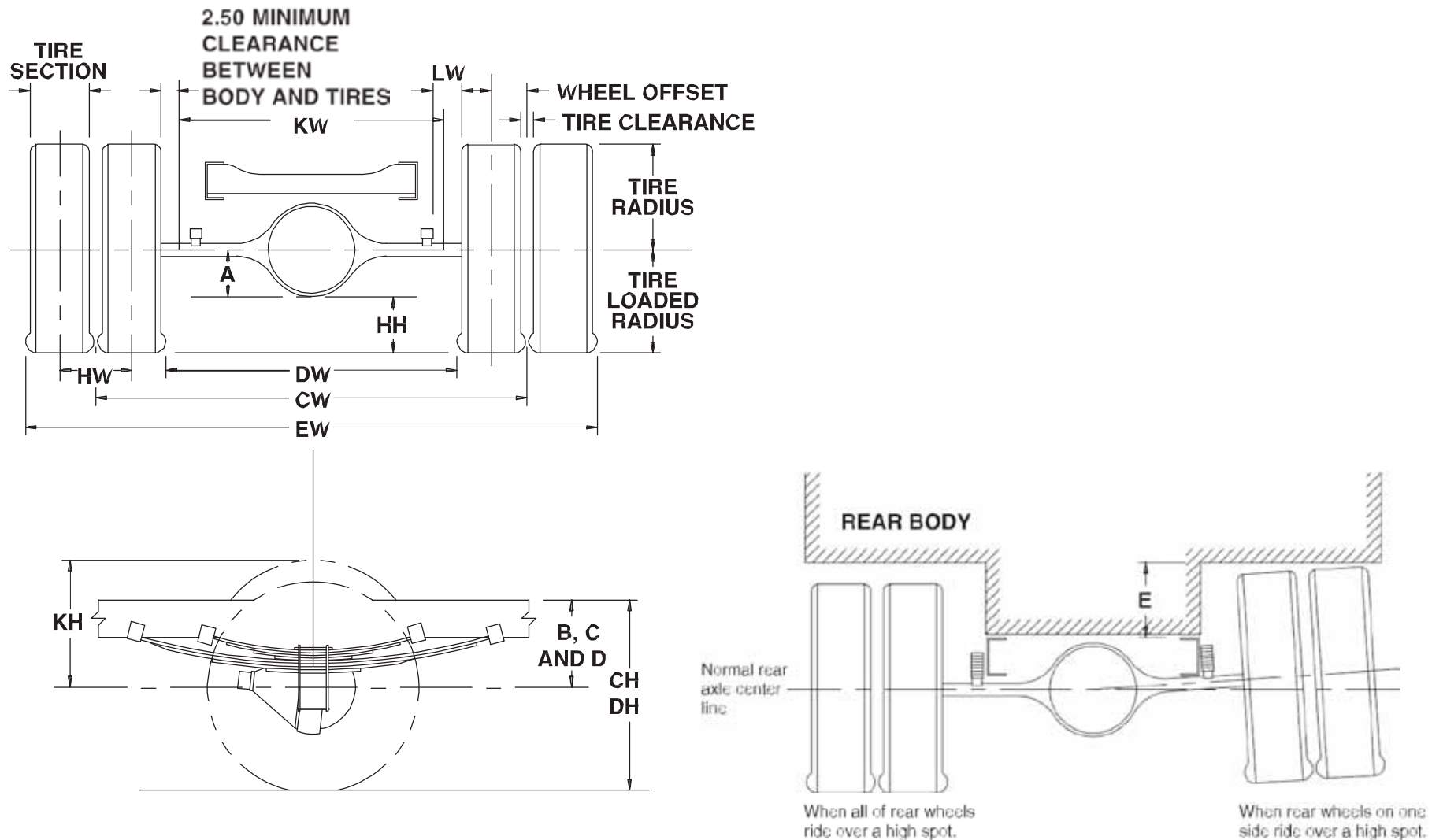


Figure 14.16.1

2017 Chevrolet Low Cab Forward

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Definitions

| | | | |
|---|---|----|--|
| A | Centerline of axle to bottom of axle bowl. | DH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load. |
| B | Centerline of axle to top of frame rail at metal-to-metal position. | DW | Minimum distance between the inner surfaces of the rear tires. |
| C | Centerline of axle to top of frame rail at curb position. | EW | Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires. |
| D | Centerline of axle to top of frame rail at design load. | HH | Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line. |
| E | Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vehicle centerline of the rear axle, when rear wheels on one side ride over a high spot. | HW | Dual Tire Spacing: Distance between the centerlines of the minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot. |
| CH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position. | CW | Track Dual Rear Wheel Vehicle: Distance between the centerlines of the dual wheels measured at the ground-line. |
| Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance | | | See Chart for values. |

Figure 14.17.1

| Formulas for Calculating Rear Width and Height Dimensions | | | |
|---|--|----|---|
| CW | = Track | HH | = Tire loaded radius – A |
| CH | = Tire loaded radius + C | JH | = KH – B |
| DH | = Tire loaded radius + D | KH | = Tire radius + 3.00 inches |
| DW | = Track + 2 tire sections – tire clearance | KW | = DW – 5.00 inches |
| EW | = Track + 2 tire sections + tire clearance | LW | = 1.00-inch minimum clearance between tires and springs |

Figure 14.17.2

NOTE: Track and overall width may vary with optional equipment.

| Tire | GAWR | Track CW | A | B | C | D | E |
|-------------|------------|----------|-----|-----|------|------|-----|
| 215/85R-16E | 9,880 lbs. | 65.0 | 6.5 | 9.3 | 15.3 | 13.0 | 7.8 |

Figure 14.17.3

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Rear Axle Chart 5500HD

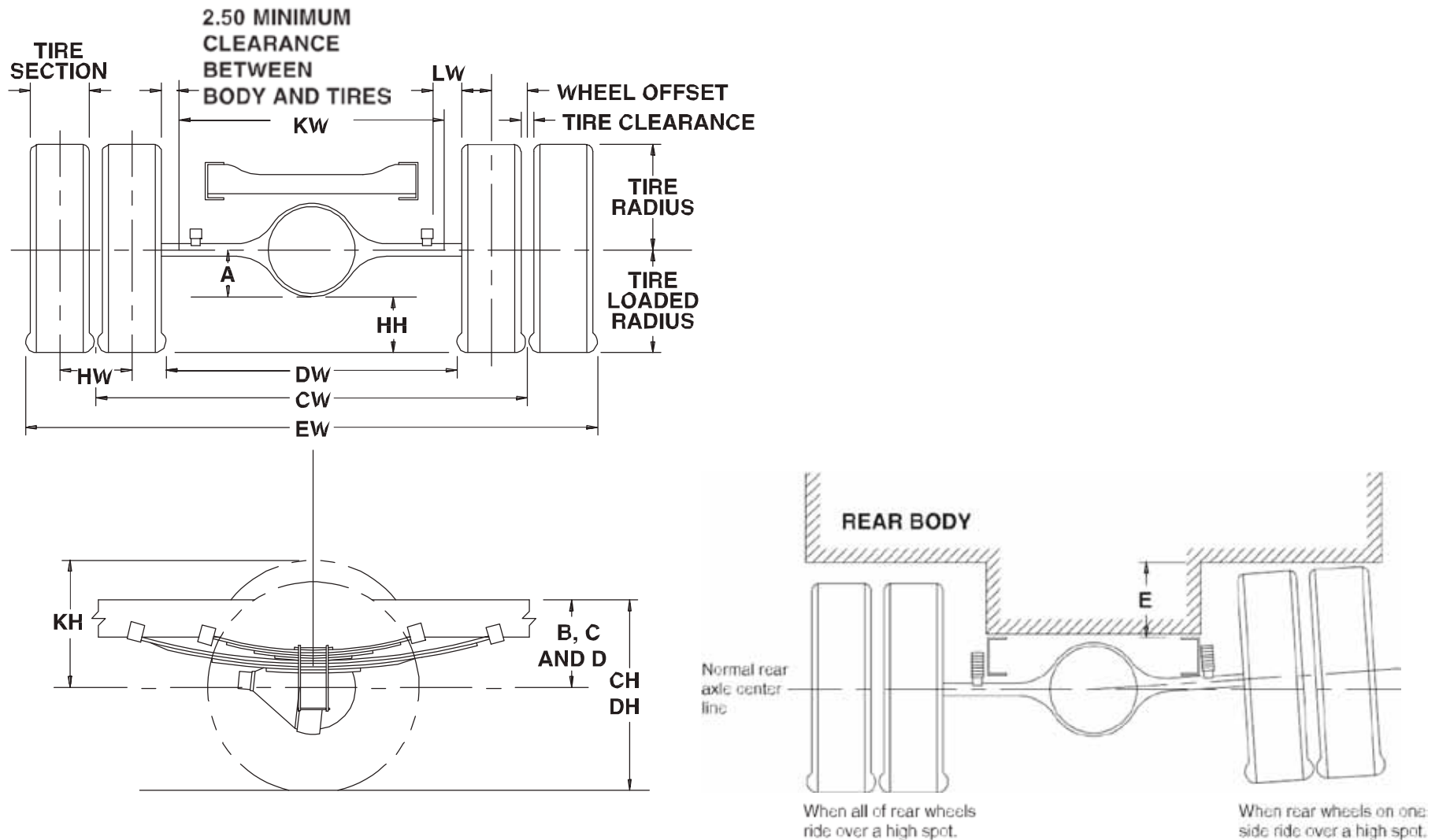


Figure 14.18.1

2017 Chevrolet Low Cab Forward

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Definitions

| | | | |
|---|---|----|--|
| A | Centerline of axle to bottom of axle bowl. | DH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load. |
| B | Centerline of axle to top of frame rail at metal-to-metal position. | DW | Minimum distance between the inner surfaces of the rear tires. |
| C | Centerline of axle to top of frame rail at curb position. | EW | Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires. |
| D | Centerline of axle to top of frame rail at design load. | HH | Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line. |
| E | Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vehicle centerline of the rear axle, when rear wheels on one side ride over a high spot. | HW | Dual Tire Spacing: Distance between the centerlines of the minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot. |
| CH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position. | CW | Track Dual Rear Wheel Vehicle: Distance between the centerlines of the dual wheels measured at the ground-line. |
| Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance | | | See Chart for values. |

Figure 14.19.1

| Formulas for Calculating Rear Width and Height Dimensions | | | |
|---|--|----|---|
| CW | = Track | HH | = Tire loaded radius – A |
| CH | = Tire loaded radius + C | JH | = KH – B |
| DH | = Tire loaded radius + D | KH | = Tire radius + 3.00 inches |
| DW | = Track + 2 tire sections – tire clearance | KW | = DW – 5.00 inches |
| EW | = Track + 2 tire sections + tire clearance | LW | = 1.00-inch minimum clearance between tires and springs |

Figure 14.19.2

NOTE: Track and overall width may vary with optional equipment.

| Tire | GAWR | Track CW | A | B | C | D | E |
|---------------|-------------|----------|-----|-----|------|------|-----|
| 225/70R-19.5F | 12,980 lbs. | 65.0 | 7.7 | 9.3 | 15.5 | 13.4 | 8.4 |

Figure 14.19.3

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

4500HD Suspension Deflection Charts

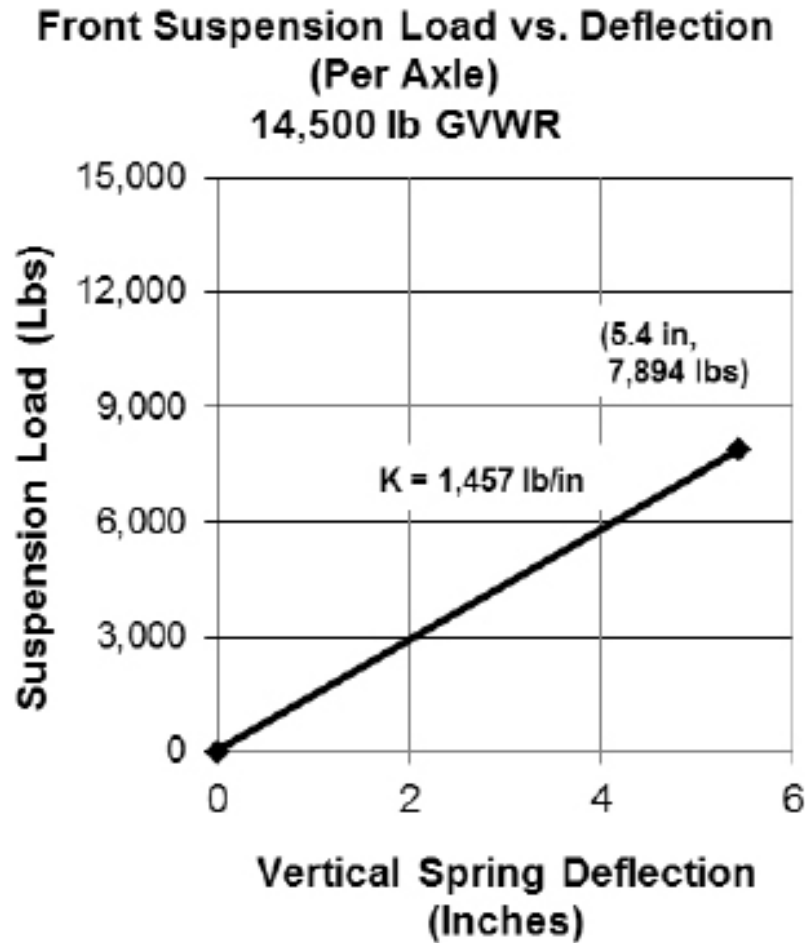


Figure 14.20.1

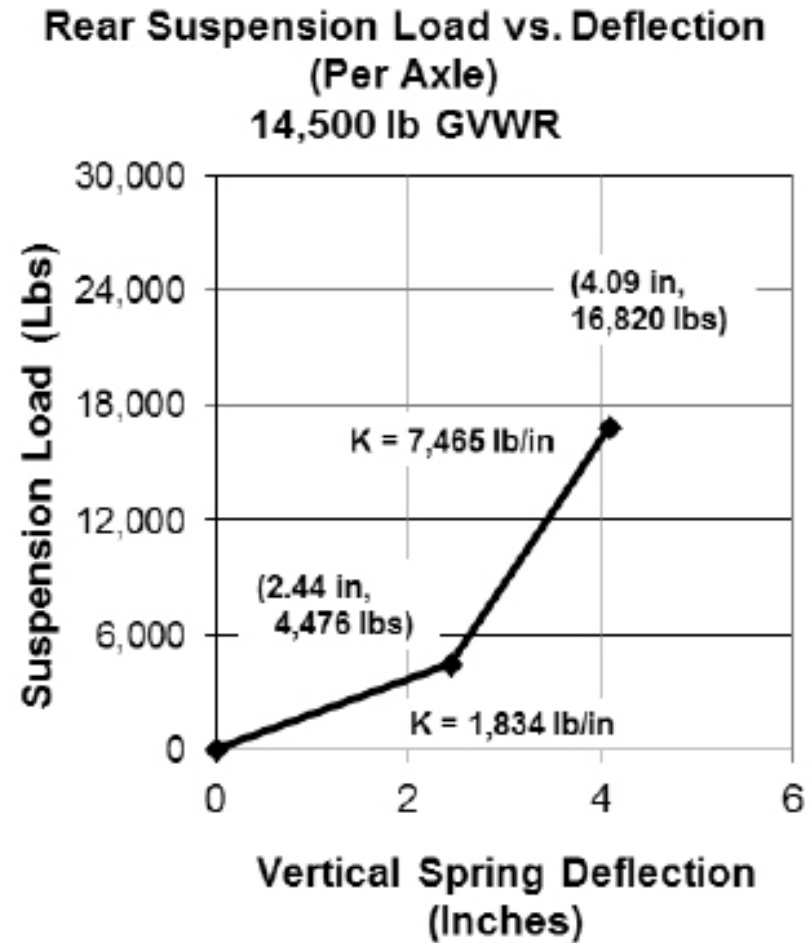


Figure 14.20.2

2017 Chevrolet Low Cab Forward

5500HD Suspension Deflection Charts

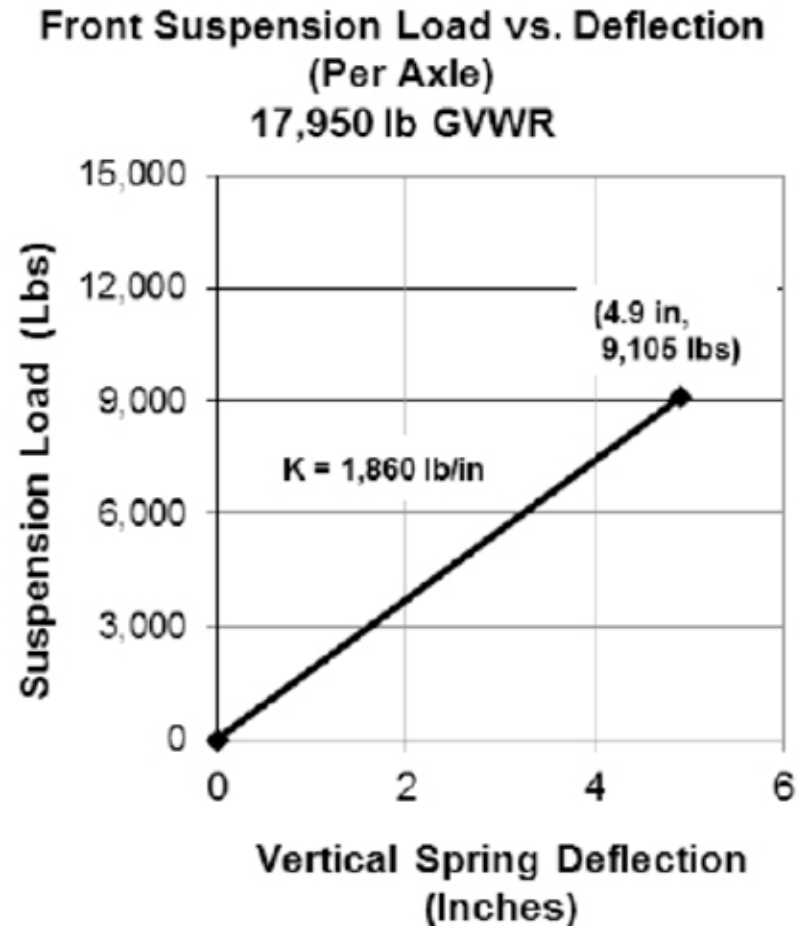


Figure 14.21.1

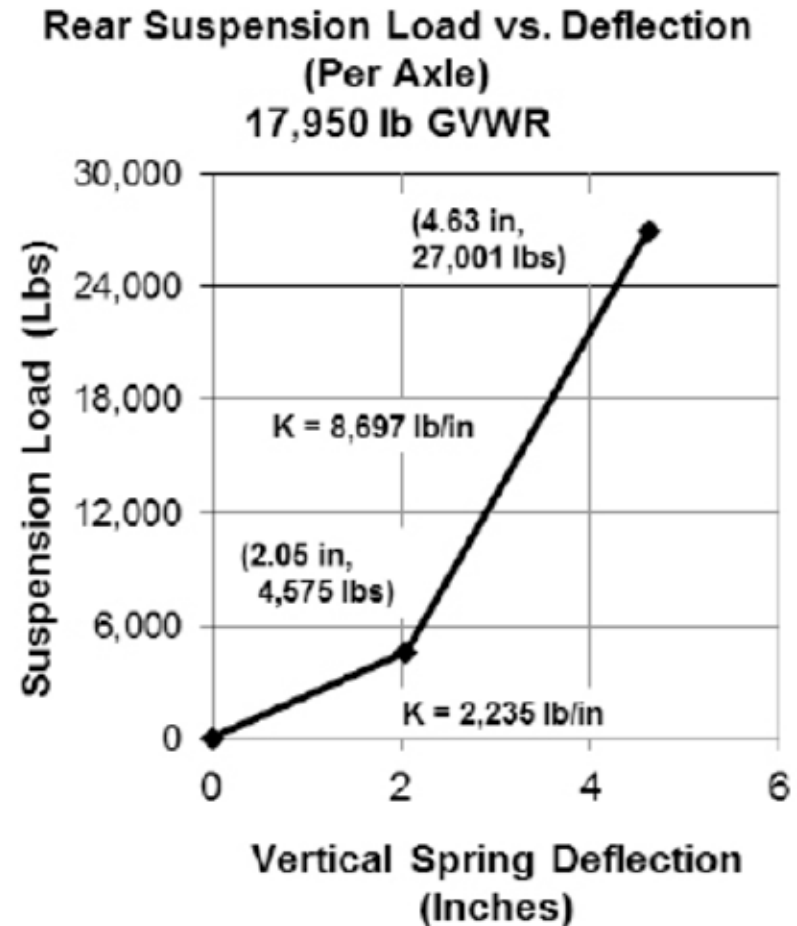


Figure 14.21.2

2017 Chevrolet Low Cab Forward

Tire and Disc Wheel Chart 4500HD

Tire

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits (lbs.) | | GVWR (Lbs.) |
|-------------|--|-----|-------|-----|---------------------------------|--------|-------------|
| | Single | | Dual | | Front | Rear | |
| | Lbs. | PSI | Lbs. | PSI | 2 Single | 4 Dual | |
| 215/85R 16E | 2,680 | 80 | 2,470 | 80 | 5,360 | 9,880 | 14,500 |

Figure 14.22.1

| Tire Size | GVWR (Lbs.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|-------------|-------------|-------------|------|----------|------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 215/85R 16E | 14,500 | 14.1 | 14.1 | 14.6 | 14.6 | 8.2 | 18 | 6.0 |

Figure 14.22.2

Disc Wheel

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|------------|------------|------------------|------------------------------|-----------------------------|--------------------------|--------------|----------------|----------------|----------|---------------|
| 16.6 x 6 K | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 289 ft.-lb. (392 N•m) | 6.46 | 5.0 | 0.39 | 5° DC | Steel TOPY |

*O.D. Wrench Sizes

Figure 14.22.3

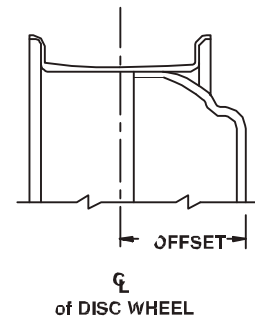
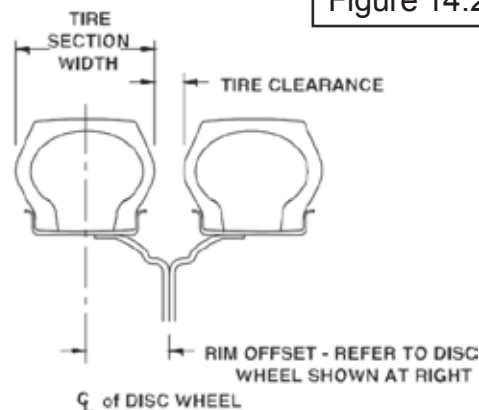


Figure 14.22.4

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

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Tire and Disc Wheel Chart 5500HD

Tire

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits (lbs.) | | GVWR (Lbs.) |
|---------------|--|-----|-------|-----|---------------------------------|--------|-------------|
| | Single | | Dual | | Front | Rear | |
| | Lbs. | PSI | Lbs. | PSI | 2 Single | 4 Dual | |
| 225/70R 19.5F | 3,450 | 90 | 3,245 | 90 | 6,900 | 12,980 | 17,950 |

Figure 14.23.1

| Tire Size | GVWR (Lbs.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|---------------|-------------|-------------|-------|----------|------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 225/70R 19.5F | 17,950 | 14.93 | 14.98 | 16 | 16 | 8.7 | 1.3 | 6.0 |

Figure 14.23.2

Disc Wheel

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|------------|------------|------------------|------------------------------|-----------------------------|--------------------------|--------------|----------------|----------------|----------|---------------|
| 19.5x 6.00 | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 325 ft.-lb. (440 N•m) | 6.46 | 5.0 | 0.35 | 15° DC | Steel TOPY |

*O.D. Wrench Sizes

Figure 14.23.3

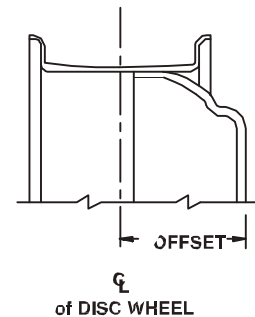
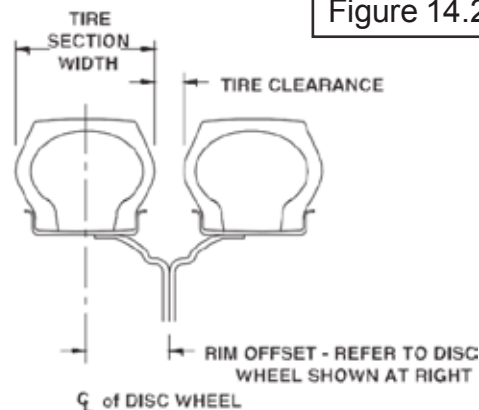


Figure 14.23.4

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Propeller Shaft 4500HD, 5500HD

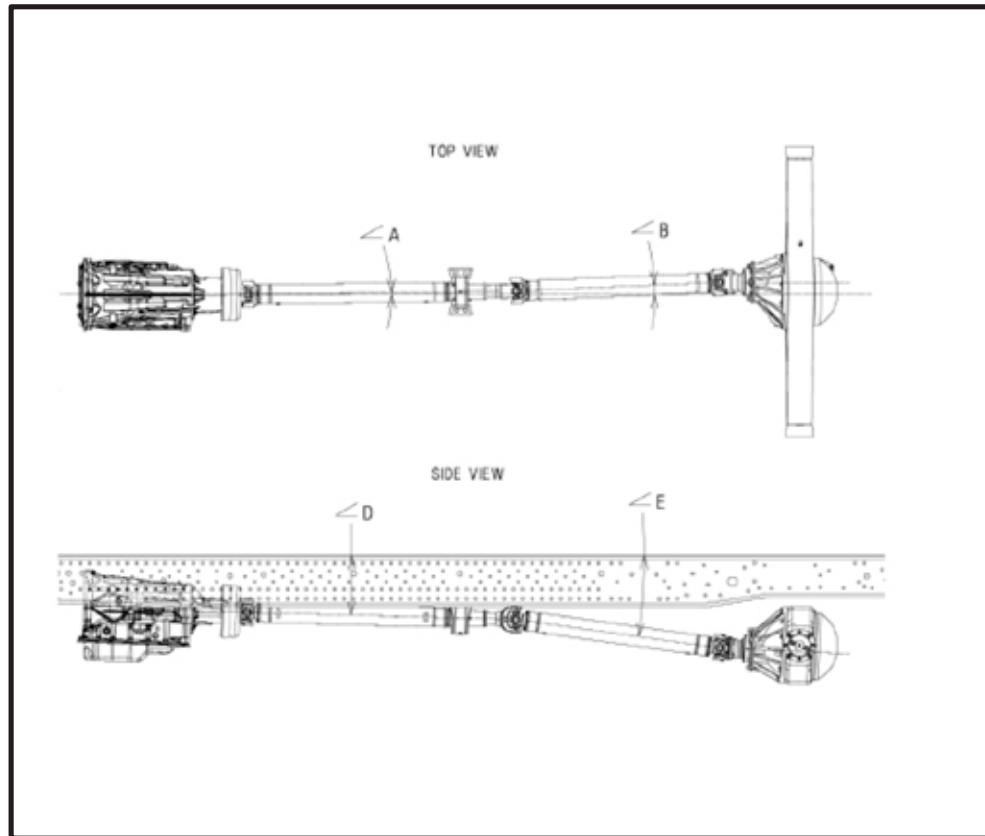


Figure 14.24.1

4500HD

| WheelBase (in.) | Top View | | Side View | | | |
|--------------------|----------|------|-----------|------|--------|-----------|
| | ∠A | ∠B | ∠D | ∠E | Trans. | Rear Axle |
| 150 | 0° | 2.7° | 2.6° | 8.0° | 2.5° | 2.5° |
| 176 | 0° | 1.8° | 2.1° | 5.4° | 2.5° | 2.5° |

Figure 14.24.2

5500HD

| WheelBase (in.) | Top View | | Side View | | | |
|--------------------|----------|------|-----------|------|--------|-----------|
| | ∠A | ∠B | ∠D | ∠E | Trans. | Rear Axle |
| 150 | 0° | 3.2° | 2.6° | 8.0° | 2.5° | 2.7° |
| 176 | 0° | 2.2° | 2.1° | 5.6° | 2.5° | 2.7° |

Figure 14.24.3

Note: 1. Angles provided in table are relative to the frame angle. Please take this into consideration for service measurements.
2. Driveline angles are based on the chassis curb weight which includes standard fuel but no driver, body, or payload

2017 Chevrolet Low Cab Forward

Automatic Transmission

| 4500HD | | |
|---------------|--------------------------|---------|
| Trans. Type | 6 Automatic Transmission | |
| Wheel base | 150 | 176 |
| No. of Shafts | 2 | 2 |
| Shaft #1 O.D. | 3.25" | 3.25" |
| Thickness | 0.0906" | 0.0906" |
| Length | 34.25" | 43.74" |
| Type | B | B |
| Shaft #2 O.D. | 3.25" | 3.25" |
| Thickness | 0.0906" | 0.0906" |
| Length | 34.17" | 50.71" |
| Type | C | C |

Figure 14.25.1

| 5500HD | | |
|---------------|---------------------------|-------|
| Trans. Type | 6 Automatic. Transmission | |
| Wheelbase | 150 | 176 |
| No. of Shafts | 2 | 2 |
| Shaft #1 O.D. | 3.54 | 3.54 |
| Thickness | 0.126 | 0.126 |
| Length | 40.24 | 49.69 |
| Type | B | B |
| Shaft #2 O.D. | 3.54 | 3.54 |
| Thickness | 0.126 | 0.126 |
| Length | 36.53 | 52.93 |
| Type | C | C |

Figure 14.25.2

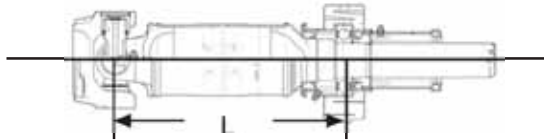
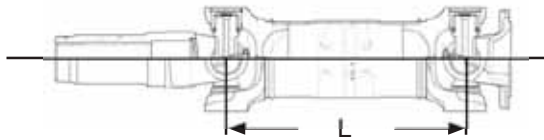
| Type | Description | Illustration |
|--------|--------------------------------|---|
| Type B | 1st shaft in 2-piece driveline |  |
| Type C | 2nd shaft in 2-piece driveline |  |

Figure 14.25.3

2017 Chevrolet Low Cab Forward

Brake System Diagram 14,500 GVW

Vacuum Over Hydraulic

Please refer to introduction section of book for antilock system cautions and wheelbase modification requirements.

Legend for 3500, 3500HD, 4500, 4500HD, 4500XD

- (1) Electronic Hydraulic Control Unit (EHCU)
- (2) Rear Wheel Cylinder
- (3) Vacuum Pump
- (4) Check Valve
- (5) Exhaust Brake Valve
- (6) Magnetic Valve
- (7) Check Valve (One-way Valve)
- (8) Vacuum Tank
- (9) 4-Way Connector
- (10) With Metering Valve
- (11) W/O Metering Valve
- (12) Brake Fluid Reservoir
- (13) Electric Vacuum Pump
- (14) Master Cylinder
- (15) Vacuum Booster (Servo Unit)
- (16) Front Wheel Cylinder

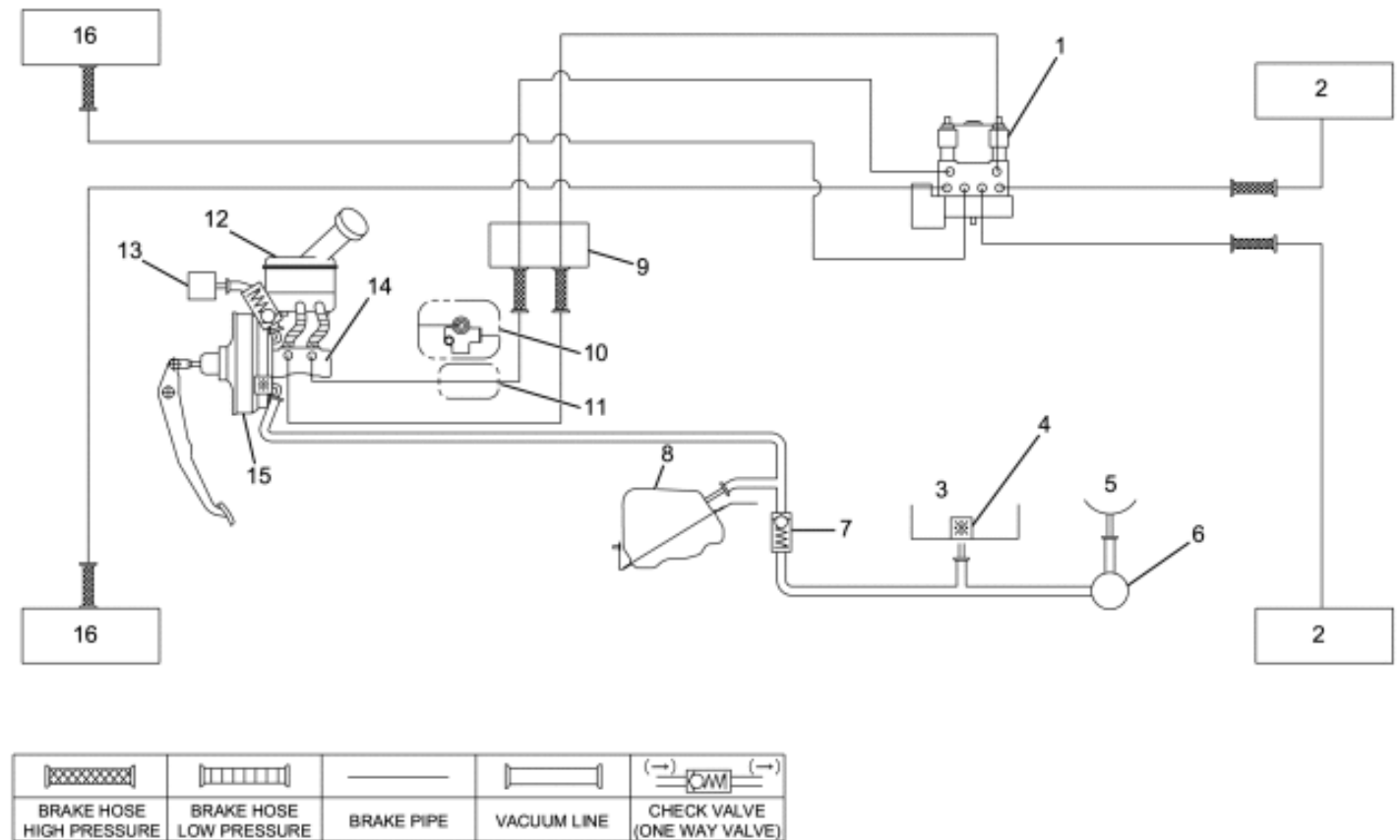


Figure 14.26.1

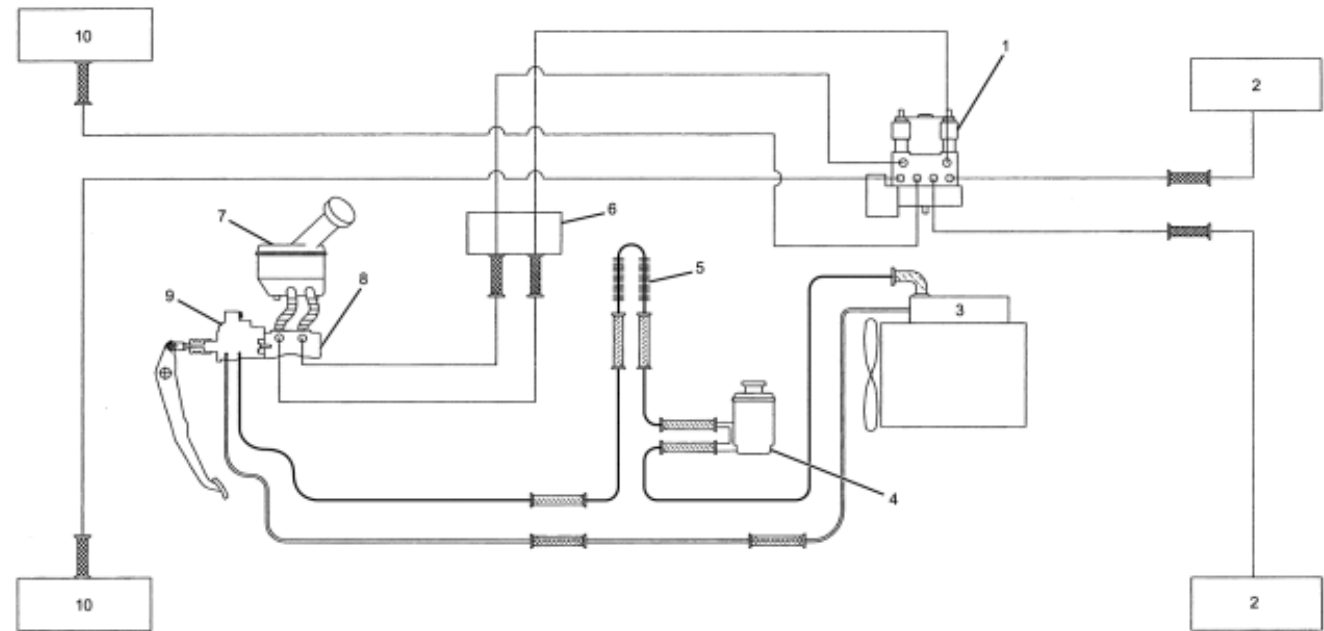
Brake System Diagram 17,950 GVW

Full Hydraulic

Please refer to introduction section of book for antilock system cautions and wheelbase modification requirements.

Legend for 5500HD, 5500XD Brake System

- (1) Electronic Hydraulic Control Unit (EHCU)
- (2) Rear Wheel Cylinder
- (3) Hydraulic Booster Oil Pump
- (4) Hydraulic Booster Reservoir
- (5) Cooler Pipe
- (6) Pipe Connector
- (7) Brake Fluid Reservoir
- (8) Master Cylinder
- (9) Hydraulic Booster Unit
- (10) Front Wheel Cylinder



| | | | | | | |
|-----------------------------|----------------------------|------------|----------------------------|------------------------------------|----------------------------|------------------------------------|
| | | | | | | |
| BRAKE HOSE HIGH PRESSURE | BRAKE HOSE LOW PRESSURE | BRAKE PIPE | HYDRAULIC HOSE (SUPPLY) | HYDRAULIC HOSE (RETURN/SUCTION) | HYDRAULIC PIPE (SUPPLY) | HYDRAULIC PIPE (RETURN/SUCTION) |

Figure 14.27.1

2017 Chevrolet Low Cab Forward

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PTO Location, Drive Gear and Opening Information

AUTOMATIC TRANSMISSION

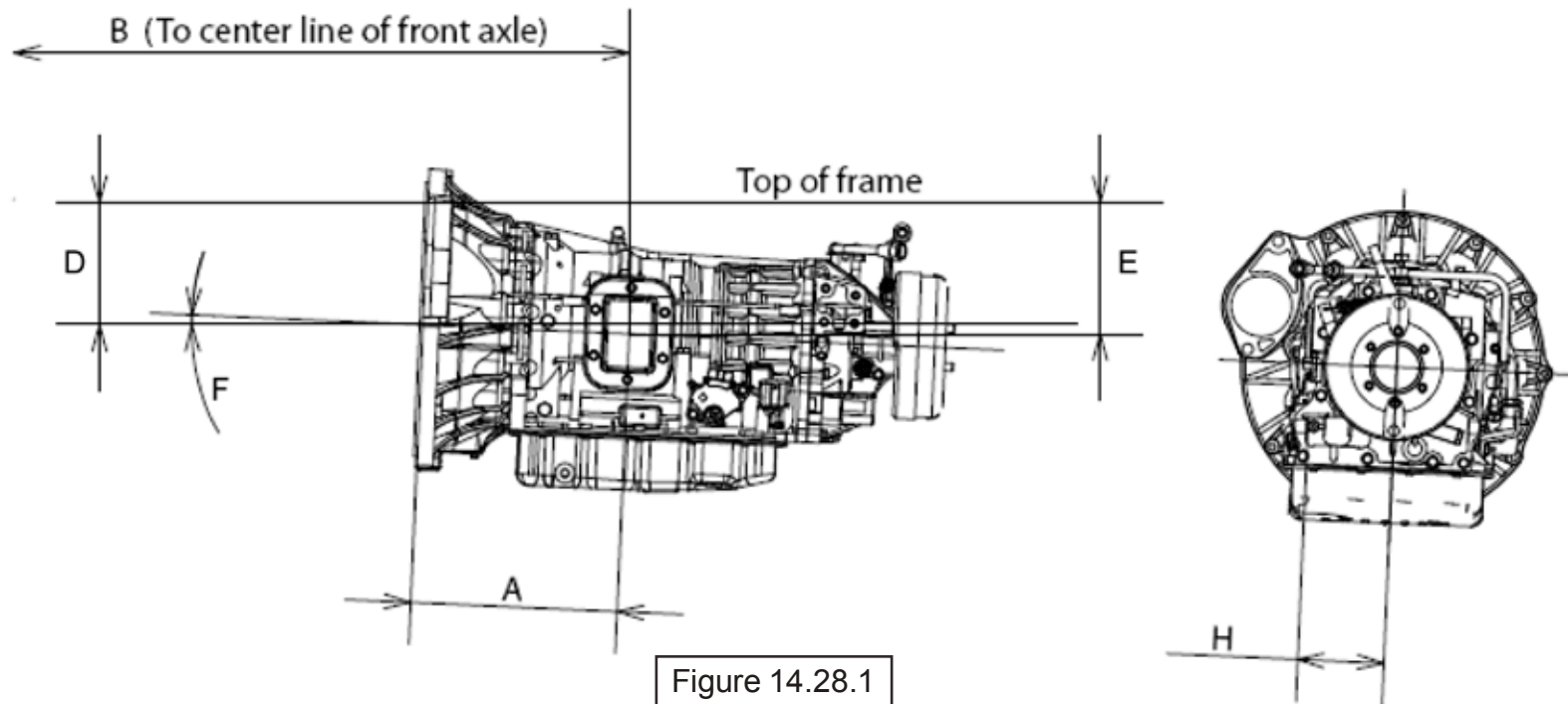


Figure 14.28.1

| Trans. | Opening Location | Bolt Pattern | A | B | C | D | E | F | H | PTO Drive Gear Location | Ratio of PTO Drv. Gear Spd. to Eng. Spd. | No. of Teeth | Pitch | Helix Angle | Max. Output Torque |
|----------------------|------------------|--------------|-------|-------|---|------|------|------|------|-------------------------|--|--------------|-------|-------------|--------------------------|
| Aisin ⁽¹⁾ | Left | (Dr2) | 12.35 | 36.89 | 0 | 7.85 | 7.31 | 2.5° | 5.16 | PTO Gear | 1:1 with turbine | 69 | N/A | 0° | 134 lbs.-ft. @ 1,700 RPM |

Figure 14.28.2

Note: Dimensions in inches

Revision: 06/14/2016

Diesel Fuel Fill

Installation Instructions

1. Disconnect battery.
2. Loosen hose from the tie downs. Remove caps from plate on rail.
3. Install hoses onto the plate.
4. Extend hose out from the driver side of the rail to body rail.
5. The filler neck must be mounted to allow the fill plate bracket to be parallel to the frame horizontal.
6. Cover with protector wrap and secure with tie wraps.
7. Filler hose is set for 102 inches outside width body.
8. Filler neck (dimension A) must be between 6.85 inches and 8.5 inches above frame.
9. Secure the filler plate to the bottom of the body and check for leaks.
10. Ensure that fill hose does not sag, creating an area where the fuel could pool in the fill hose.
11. Reconnect battery.

2017 Chevrolet Low Cab Forward

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Rear View Fuel Fill

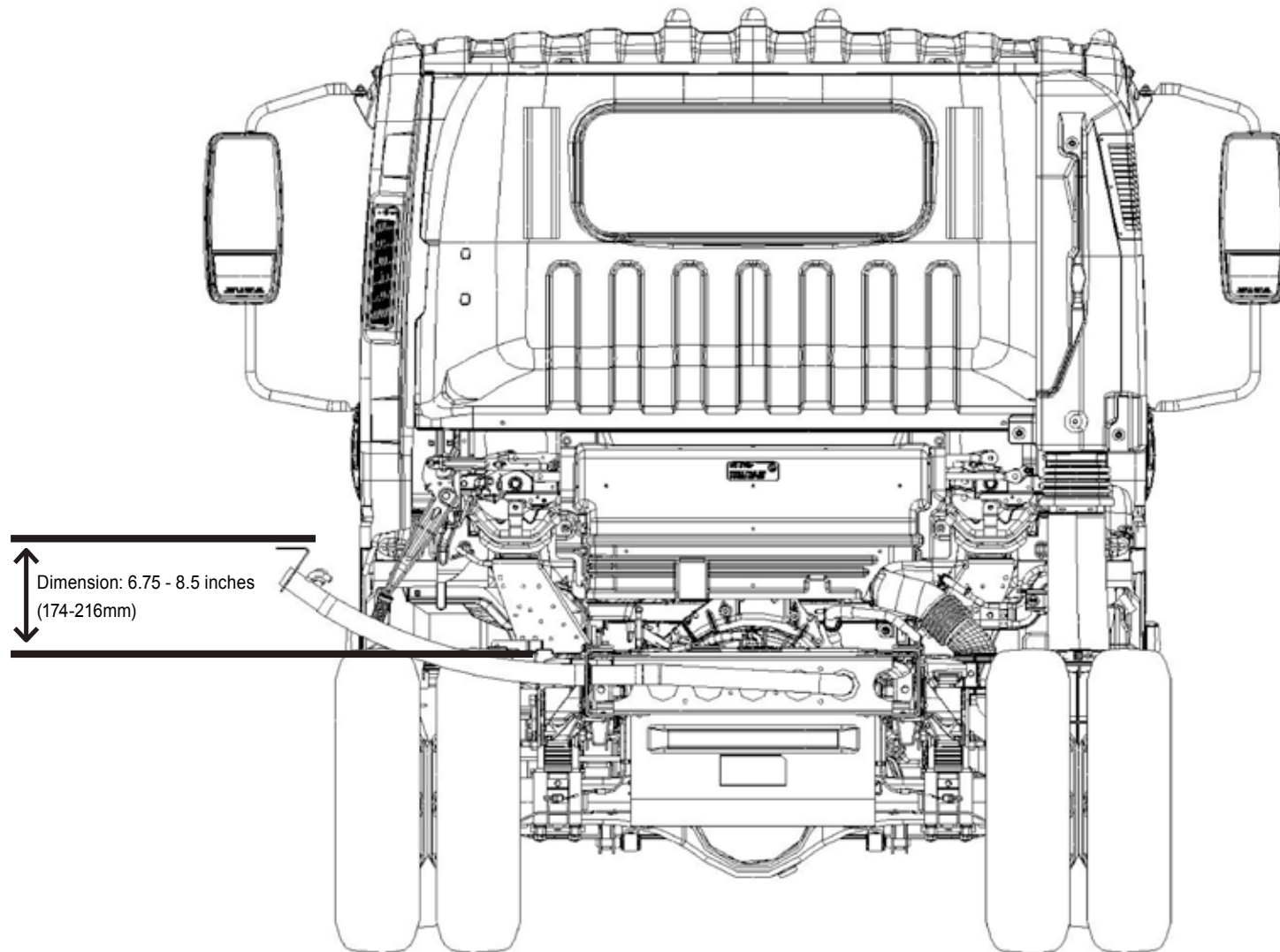
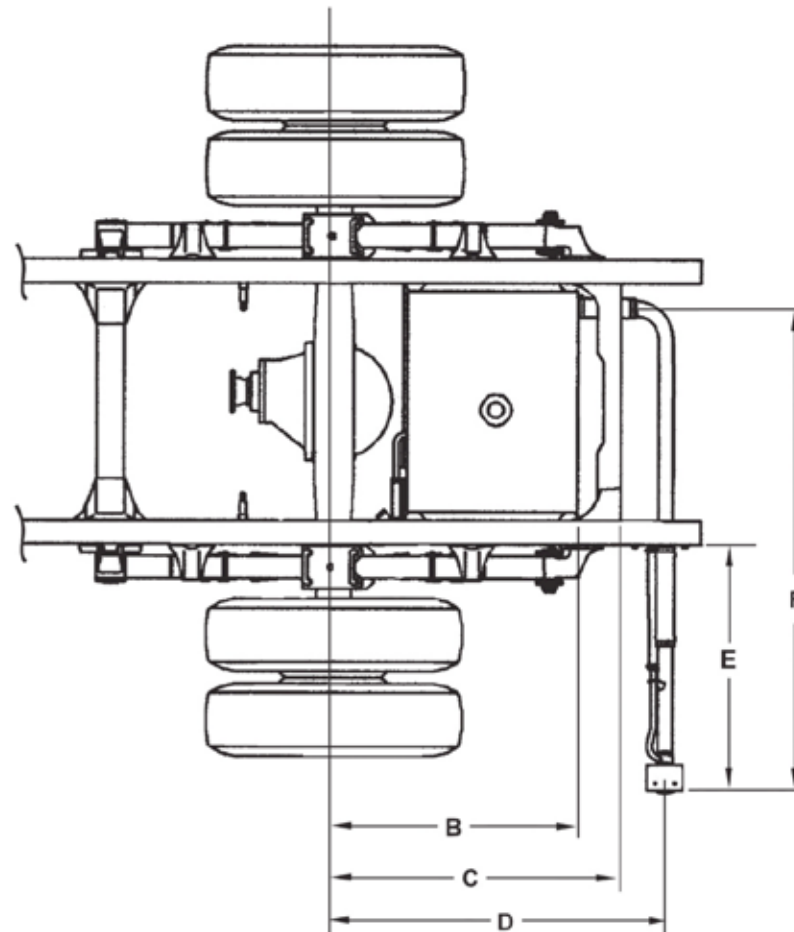


Figure 14.31.1

2017 Chevrolet Low Cab Forward

| | |
|------|-------|
| PAGE | 14.32 |
|------|-------|

Top View Fuel Fill



Dimensions:

B = 29.75 inches (756 mm)
C = 34.00 inches (863 mm)
D = 39.29 inches (998 mm)
E = 33.86 inches (860 mm)
F = 59.60 inches (1,514mm)

Figure 14.32.1

2017 Chevrolet Low Cab Forward

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

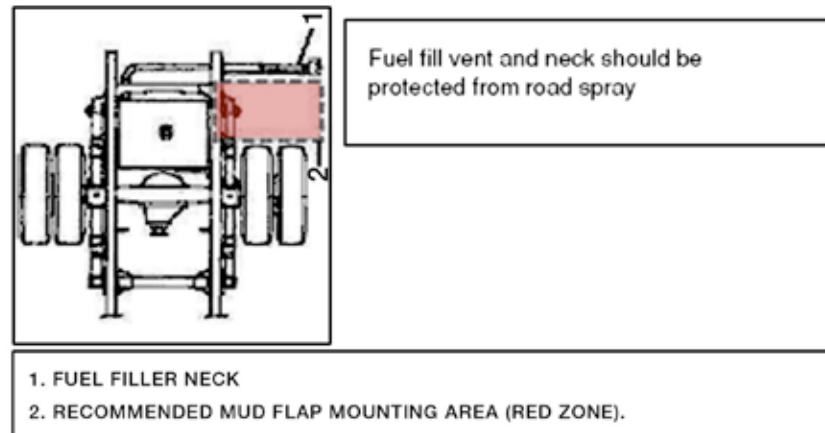
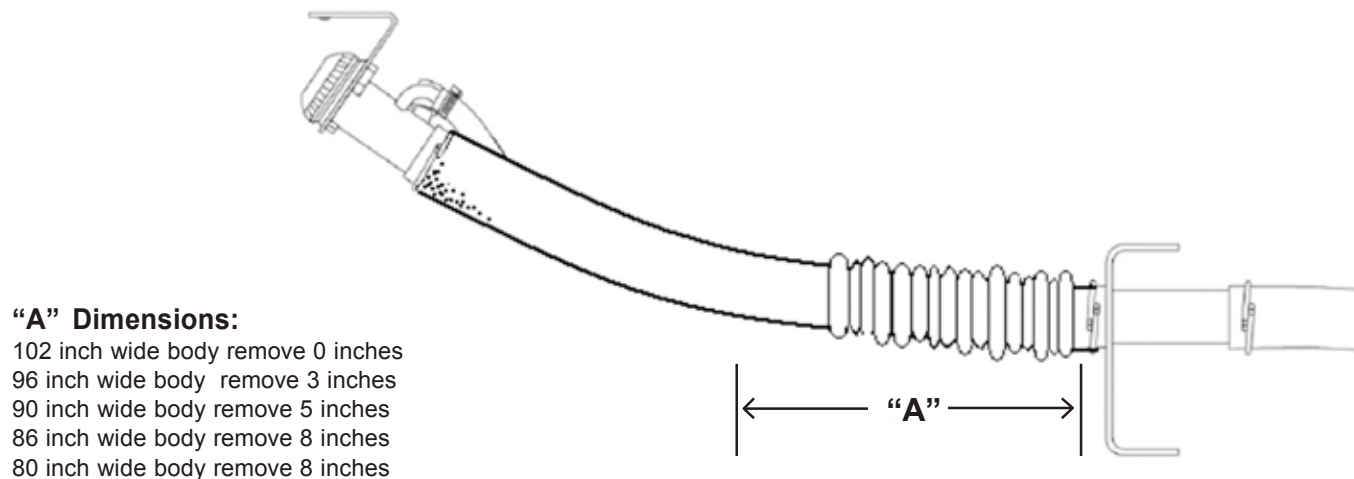


Figure 14.33.1



NOTE: Shorten hose by "A Dimension" based on chart at left.

Figure 14.33.2

2017 Chevrolet Low Cab Forward

Ultra Low Sulfur Diesel Label

Per EPA Title 40, Part 86, 86:007—35(c),
The decal illustrated below must be installed on the vehicle.
The decal is included in the fuel fill parts box.



INSTRUCTIONS FOR DECAL PLACEMENT:

1. The decal must be placed as close as possible to the fuel inlet and be clearly visible.
 2. The decal should be placed above or to the side of the fuel cap to avoid corrosion by possible contact with fuel.
 3. The decal may be placed on aerodynamic fairings, bodies, etc. as long as the decal is clearly visible and in close proximity to the fuel inlet.
 4. For installed bodies that have a fuel door, the decal should be placed above or to the side of the fuel door.
- Thoroughly clean the area of all grease, dirt, etc. before application of the decal. Apply the decal at room temperature, 65° to 75° F.

Figure 14.34.1

2017 Chevrolet Low Cab Forward

Through the Rail Fuel Fill Frame Hole

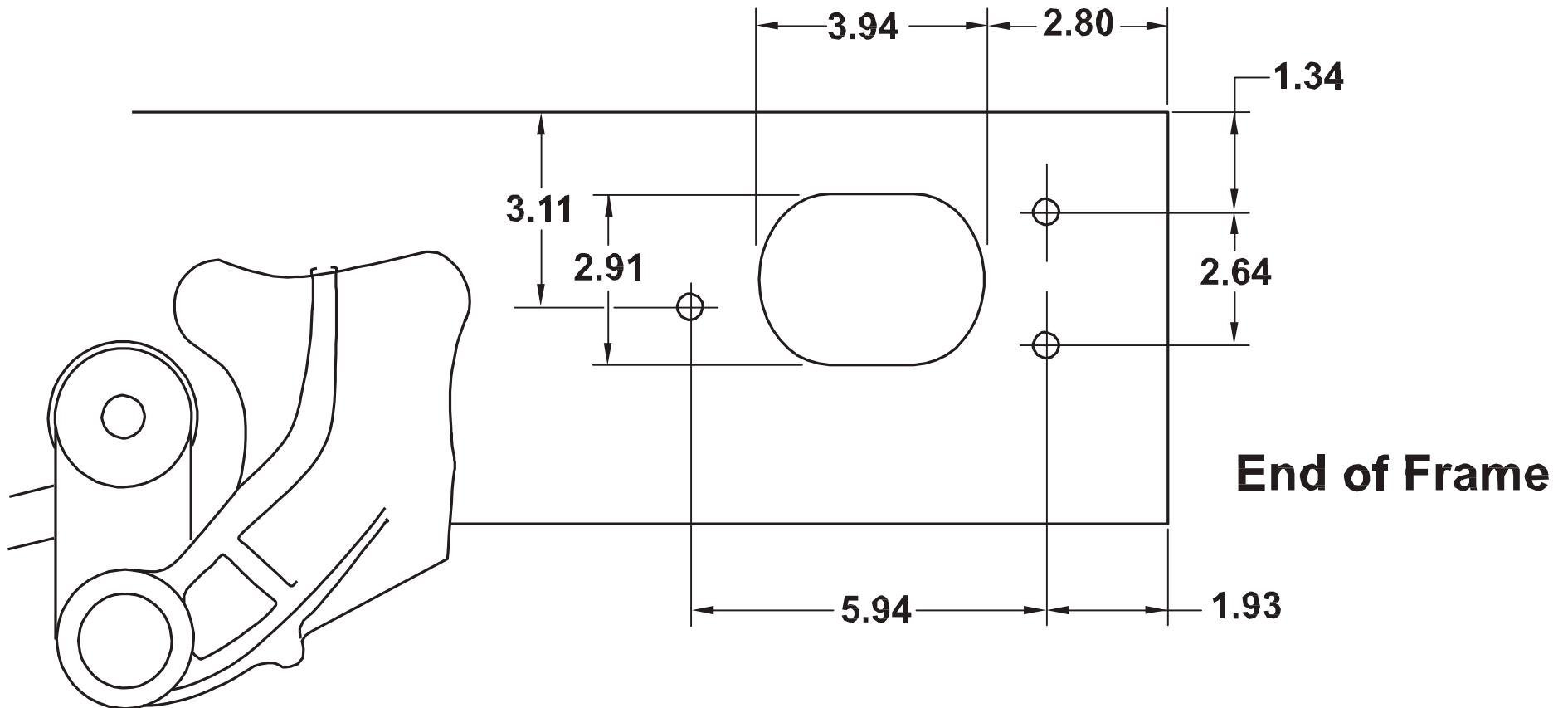


Figure 14.35.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

LCF-Diesel Fuel Filler Kit Instructions

Please review these instructions prior to installation of the fuel filler kit.

PARTS KIT: Fuel filler kit shown below is used for 14,500 lb and higher GVWR chassis 4500HD, 4500XD, 5500HD, 5500XD. Parts list is shown in **Figure 14.36.2**. Parts photos are shown in **Figure 14.36.1**.

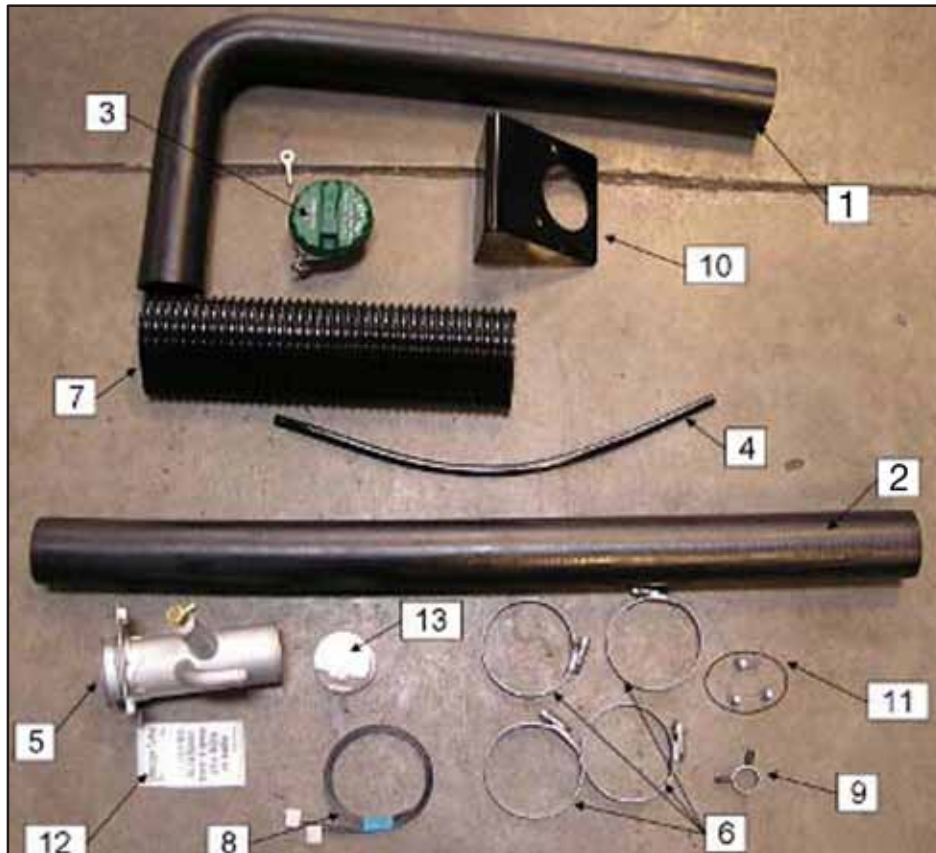


Figure 14.36.1

| FUEL FILLER KIT | | | |
|-----------------|-------------------------|------------|-----|
| ITEM # | PART NAME | PART # | QTY |
| 1 | HOSE: FUEL FILLER NECK | See Dealer | 1 |
| 2 | HOSE: FUEL FILLER | See Dealer | 1 |
| 3 | CAP: FILLER | See Dealer | 1 |
| 4 | HOSE: ROLL-OVER VALVE | See Dealer | 1 |
| 5 | NECK ASM: FUEL FILLER | See Dealer | 1 |
| 6 | CLIP: JOINT | See Dealer | 4 |
| 7 | PROTECTOR: FILLER HOSE | See Dealer | 1 |
| 8 | CLIP: BAND, HOSE FIXING | See Dealer | 2 |
| 9 | CLIP: RUBBER, HOSE | See Dealer | 1 |
| 10 | BRACKET: FILLER NECK | See Dealer | 1 |
| 11 | SCREW: FILLER NECK | See Dealer | 3 |
| 12 | CAUTION PLATE | See Dealer | 1 |
| 13 | SHUTTER: FUEL TANK | See Dealer | 1 |

Figure 14.36.2

Installation Instructions and Considerations:

The fuel tank shutter valve (13) was a new component for 2011 model year. This component is meant to improve fuel splash-back performance of the fuel system. This valve (13) is on the inlet (outboard side) of the fuel filler neck bulkhead assembly that is bolted to the left hand frame rail as shown in **Figure 14.37.1**. This plastic valve snaps into place in the inlet of the frame mounted fuel pipe. The valve should be installed so that the plastic clip is at the top of the valve, so that the flap door opens up, as shown in **Figures 14.37.2**.



Figure 14.37.1

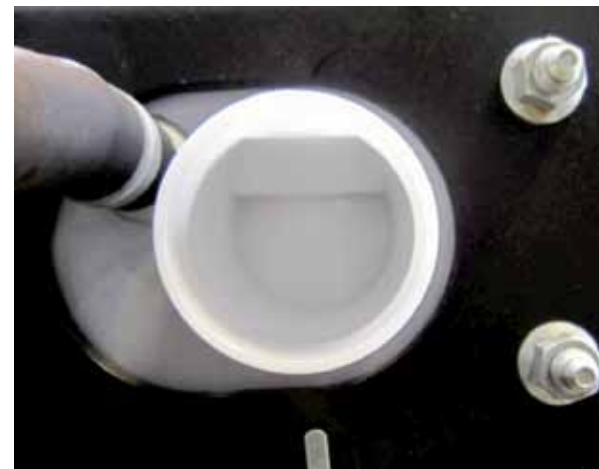


Figure 14.37.2



The fuel filler hose should be installed flush against the tank. The clamp should be installed between 1/16" and 3/8" from the tank. This is shown in **Figure 14.37.3** below.

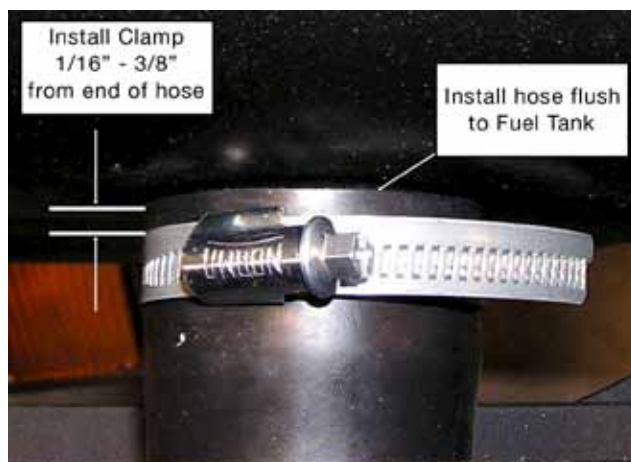


Figure 14.37.3

Roll-Over Valve Tubing

The roll-over valve has a hose attachment that will make this valve less sensitive to water intrusion. In order for the valve to work properly, it is critical that the hose be installed to the rollover valve. The proper assembly of the outer hose is shown in **FIGURE 14.38.1**.

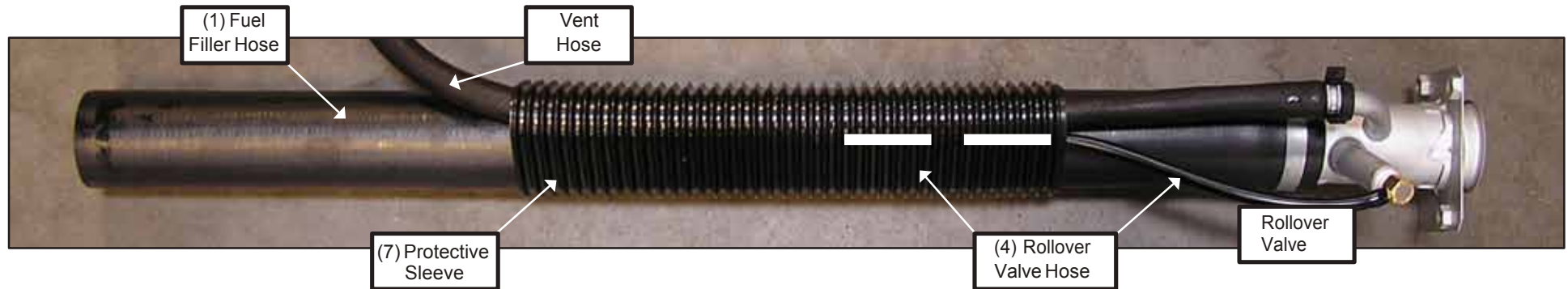


Figure 14.38.1

Filler Neck Installation:

The fuel filler neck (5) must be installed with the proper orientation on the body. The neck should be installed with the roll-over valve pointing upward, with the bottom edge of the neck oriented parallel to the ground, plus 33 to minus 7 degrees. See **FIGURE 14.38.2** for the proper orientation.

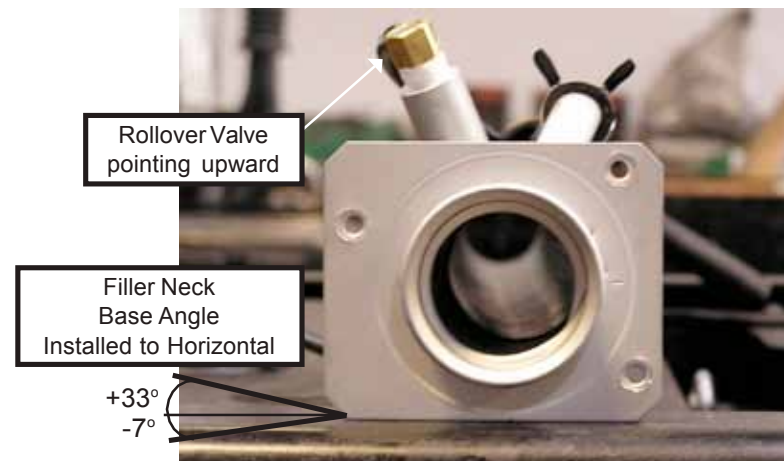


Figure 14.38.2

2017 Chevrolet Low Cab Forward

5500XD Diesel Specification

| Model | 5500XD |
|--------------------|---|
| GVWR | 19,500 lbs. |
| WB | 109 in., 132.5 in., 150 in., 176 in., 200 in., 212 in |
| Engine | Isuzu 4-cylinder, in-line 4-cycle, turbocharged, intercooled, direct injection diesel. |
| Model/Displacement | 4HK1-TC/317 CID (5.19 liters) |
| HP (Gross) | 215 HP/2500 RPM w auto transmission |
| Torque (Gross) | 452 lb ft torque/1850 RPM w auto transmission |
| Equipment | Dry element air cleaner with vertical intake; 2 rows 564 square in. radiator; 7 blade 20.1in diameter fan with viscous drive. Cold weather starting device and an oil cooler. Engine oil level check switch and light. Engine warning system with audible warning for low oil pressure, high coolant temperature, and low coolant level. Engine cruise control function. Rear engine cover. |
| Transmission | Aisin A465 6 speed automatic transmission with fifth and sixth gear overdrive with lock up in 2nd, 3rd, 4th, 5th and 6th, PTO capability. |
| Steering | Integral power steering 18.8-20.9:1 ratio. Tilt and telescoping steering column. |
| Front Axle | Reverse Elliot "I" -Beam rated at 7,275 lbs. |
| Suspension | Semi-elliptical steel alloy tapered leaf springs with stabilizer bar and shock absorbers. |
| GAWR | 7,275 lbs. |
| Rear Axle | Full floating single speed with hypoid gearing rated at 14,550 lbs. |
| Suspension | Semi-elliptical steel alloy multi-leaf springs and shock absorbers. |
| GAWR | 13,660 lbs. |
| Wheels | 19.5x6.0-K 6 hole disc wheels, painted white. |
| Tires | 225/70R-19.5E (12 pr) LRR (Low Rolling Resistance) tubeless steel belted radials, all season tread front and rear. |
| Brakes | Dual circuit power assisted hydraulic service brakes with EBD (Electronic Brake Distribution) system for load proportioning of the brake system front disc and self-adjust outboard mounted drum rear. The parking brake is mechanical, cable actuated, internal expanding drum type, transmission mounted. The exhaust brake is standard and is vacuum operated. 4 channel anti-lock brake system. |
| Fuel Tank | 30 gal. rectangular steel fuel tank mounted in frame rail behind rear axle. Fuel water separator with dash mounted indicator light. |
| Frame | Ladder type channel section straight frame rail 33.5 in wide through the total length of the frame. Yield strength 44,000 psi, section modulus 7.20 in ³ . RBM 316,800. |
| Cab | All steel low cab forward, BBC 70.9 in, 45° mechanical tilt with torsion assist. |
| Equipment | TRICOT breathable cloth covered high back driver's seat with two occupant passenger seat. Dual cab mounted exterior mirrors with integral convex mirror. Tilt and telescoping steering column. Power windows and door locks, floor mats, tinted glass, AM/FM CD stereo radio. |
| Electrical | 12 Volt, negative ground, dual Delco maintenance free batteries, 750 CCA each, 140 Amp alternator with integral regulator. |
| Options | See last page for options. |

NOTE: These selected specifications are subject to change without notice.

2017 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

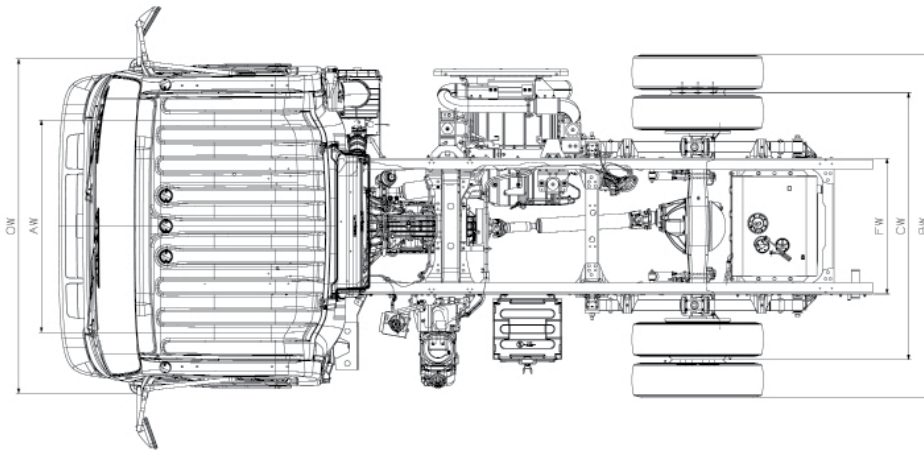


Figure 15.2.1

In-Frame Tank

19,500 lb. GVWR Automatic Transmission Model

Chassis Curb and Maximum Payload Weights

| Eng. Model | RPO | WB | Unit | Front | Rear | Total | Payload |
|------------|-----|----------|------|-------|------|-------|---------|
| T61003 | EB4 | 109.0 in | lb. | 4145 | 2480 | 6625 | 12875 |
| T62003 | FNJ | 132.5 in | lb. | 4237 | 2484 | 6721 | 12779 |
| T63003 | FWH | 150.0 in | lb. | 4299 | 2466 | 6765 | 12735 |
| T64003 | FNR | 176.0 in | lb. | 4361 | 2463 | 6824 | 12676 |
| T65003 | EMZ | 200.0 in | lb. | 4524 | 2662 | 7186 | 12314 |
| T66003 | EL5 | 212.0 in | lb. | 4534 | 2672 | 7206 | 12294 |

Side Mounted Tank

19,500 lb. GVWR Automatic Transmission Model

Chassis Curb and Maximum Payload Weights

| Model | WB | Unit | Front | Rear | Total | Payload |
|-------|----------|------|-------|------|-------|---------|
| NU4 | 176.0 in | lb. | 4496 | 2340 | 6836 | 12664 |

Vertical Exhaust Option Dimensions:

Variable Chassis Dimensions:

| Unit | WB | EFF CA* | EFF CE* | OAL | AF |
|------|-------|---------|---------|-------|------|
| Inch | 109.0 | 62.5 | 105.6 | 200.5 | 43.1 |
| Inch | 132.5 | 86.0 | 153.1 | 224.0 | 43.1 |
| Inch | 150.0 | 103.5 | 146.6 | 241.5 | 43.1 |
| Inch | 176.0 | 129.5 | 172.6 | 267.5 | 43.1 |

* Effective CA & CE listed are standard CA or CE less vertical exhaust BOC of 24 inches.

Vertical Exhaust BOC = 24 inches

Variable Chassis Dimensions:

| Unit | WB | CA* | CE* | OAL | AF |
|------|-------|-------|-------|-------|------|
| Inch | 109.0 | 86.5 | 129.6 | 200.5 | 43.1 |
| Inch | 132.5 | 110.0 | 153.1 | 224.0 | 43.1 |
| Inch | 150.0 | 127.5 | 170.6 | 241.5 | 43.1 |
| Inch | 176.0 | 153.5 | 196.6 | 267.5 | 43.1 |
| Inch | 200.0 | 177.5 | 220.6 | 291.5 | 43.1 |
| Inch | 212.0 | 189.5 | 232.6 | 303.5 | 43.1 |

* Effective CA & CE are CA or CE less BOC.

Dimension Constants:

| Code | Inches | Code | Inches |
|------|--------|------|--------|
| AH | 7.5 | BW | 83.3 |
| AW | 65.6 | CW | 65 |
| BA | 48.3 | FW | 33.5 |
| BBC | 70.7 | OH | 92.4 |
| BOC | 7.7 | OW | 81.3 |
| FH | 33.0 | | |

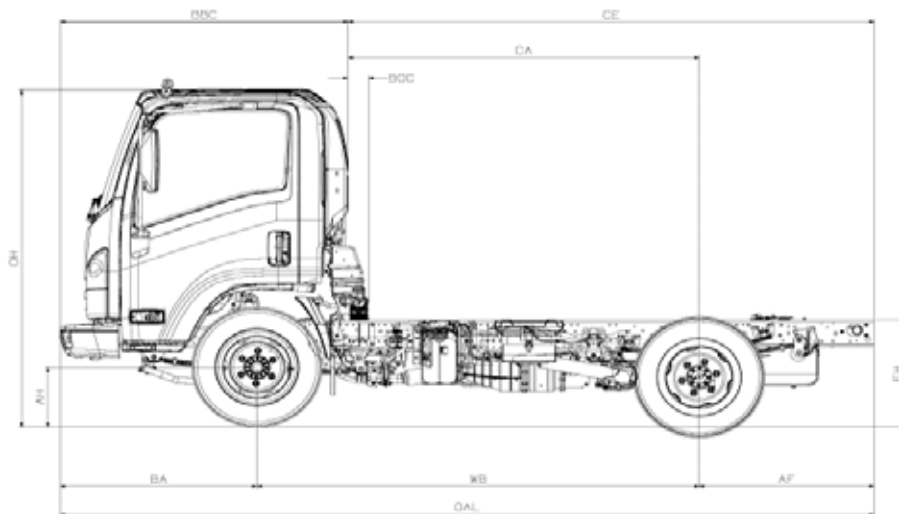


Figure 15.2.2

2017 Chevrolet Low Cab Forward

Truck Weight Limits

Truck Weight Limits:

GVWR Designed Maximum 19,500 lbs.

GAWR, Front 7,275 lbs.

GAWR, Rear 13,660 lbs.

Technical Notes:

Chassis Curb Weight reflects standard equipment and fuel, but no driver or payload.

Maximum Payload Weight is the allowed maximum for equipment, body, payload and driver and is calculated by subtracting chassis curb weight from the GVWR

| Weights for Options | | |
|---------------------|--|----------------------|
| RPO (1) | Option Description | Front / Rear Lbs. |
| NPV | Cross rail horizontal DPF/SCR with vertical exhaust (8) | 100 / 100 |
| 9D2 | Speed Limited to 58 MPH | 0 / 0 |
| 9C2 | Speed Limited to 65 MPH | 0 / 0 |
| 9E2 | Speed Limited to 68 MPH | 0 / 0 |
| AIG | Keyless entry | 3 / 0 |
| 9B9 | Speed Limited to 70 MPH | 0 / 0 |
| 15K | Suspension seat | 18 / 0 |
| K05 | Block Heater (cord) | 1 / 0 |
| KPG | Locking DEF tank cap | 0 / 0 |
| UIZ | AM/FM/CD Radio with Ax input/USB port and Bluetooth | 0 / 0 |
| KQN | Engine Idle Shutdown (Timer set at 5 minutes for engine shutdown) | 0 / 0 |
| DB6 | Heated dual remote control mirrors (15" head) | 3 / 0 |
| IF4 | Air Deflector roof mounted (not available in Crew Cab) | 64 / 0 |
| MTE | Fire Extinguisher and Triangle Kit mounted in rear organizer | 19 / 0 |
| KPK | Engine Oil Pan Heater (120v 300w) | 2 / 0 |
| KPJ | Engine emergency shutdown system HWT, LWL, LOP (4) | 0 / 0 |
| NLX | 33 Gallon Additional Diesel Fuel Tank mounted on LH side 150, 176 wb, std. cab | (7) |
| PTO | PTO Enable Switch and Engine Idle Up Switch recommended for PTO and Idle applications only (2) | 1 / 0 |
| DB8 | Heated Mirrors | 1 / 0 |
| TBD | Mirror Bracket for 102" wide body | 1 / 0 |
| 9W8 | Seat Covers Standard Cab (9) | 6 / 0 |
| IX2 | Rear Body Dome Lamp Switch (6) | 1 / 0 |
| UL5 | Delete Standard AM/FM/CD Radio | --3/0 |
| KQJ | Engine Idle Shutdown (Timer set at 3 minutes for engine shutdown) | 0 / 0 |
| UZF | Back up alarm | 0 / 2 |
| V22 | Chrome Grille | 1 / 0 |

2017 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

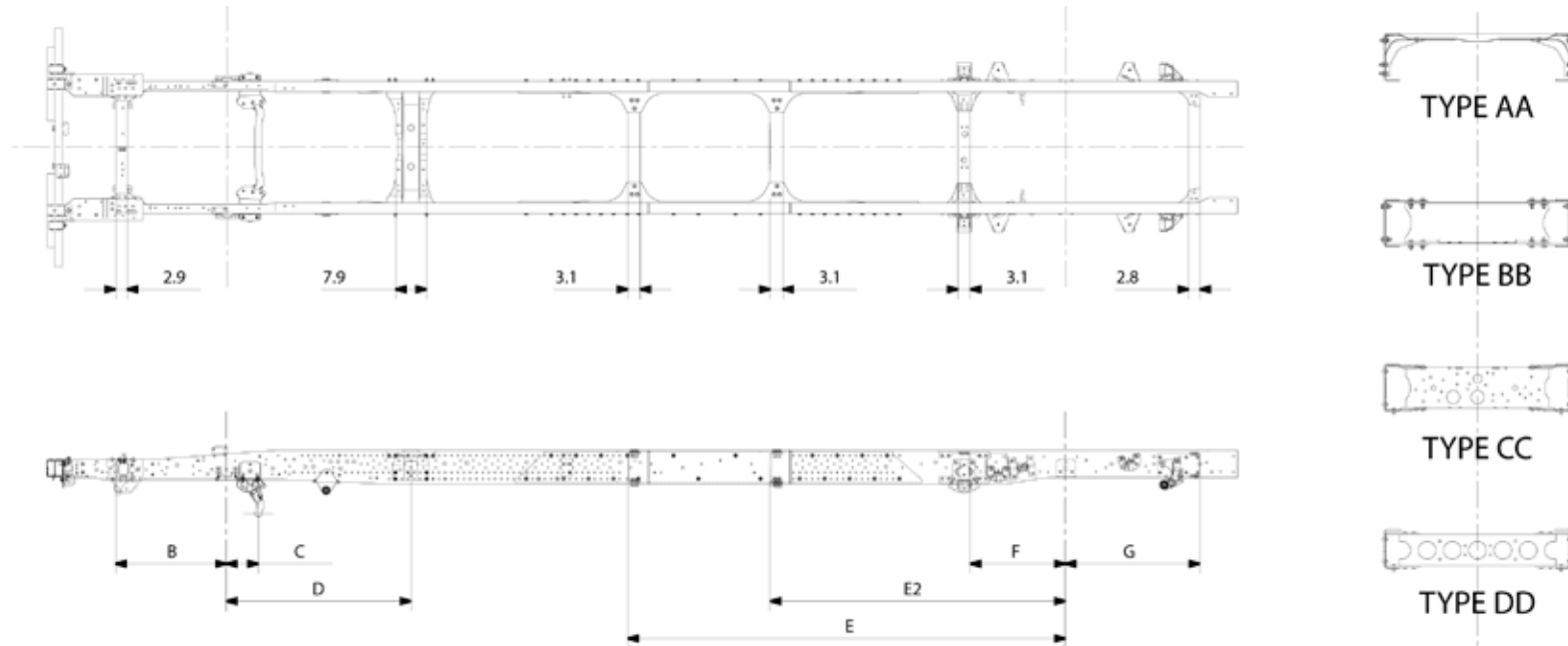


Figure 15.4.1

| Wheelbase | Frame Thickness | Crossmember Type/Location | | | | | | | | | | | |
|-----------|-----------------|---------------------------|-----|----|------|----|-------|----|------|----|------|----|------|
| | | B | C | D | | E | | E2 | | F | | G | |
| 109 | 0.24 | 28.3 | 7.9 | AA | 46.5 | - | | - | | CC | 24.2 | DD | 33.8 |
| 132.5 | 0.24 | 28.3 | 7.9 | AA | 46.5 | BB | 57.5 | - | | CC | 24.2 | DD | 33.8 |
| 150 | 0.24 | 28.3 | 7.9 | AA | 46.5 | BB | 57.9 | - | | CC | 24.2 | DD | 33.8 |
| 176 | 0.24 | 28.3 | 7.9 | AA | 46.5 | BB | 74.4 | - | | CC | 24.2 | DD | 33.8 |
| 200 | 0.24 | 28.3 | 7.9 | AA | 46.5 | BB | 98.4 | BB | 74.4 | CC | 24.2 | DD | 33.8 |
| 212 | 0.24 | 28.3 | 7.9 | AA | 46.5 | BB | 110.4 | BB | 74.4 | CC | 24.2 | DD | 33.8 |

Figure 15.4.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Frame Chart

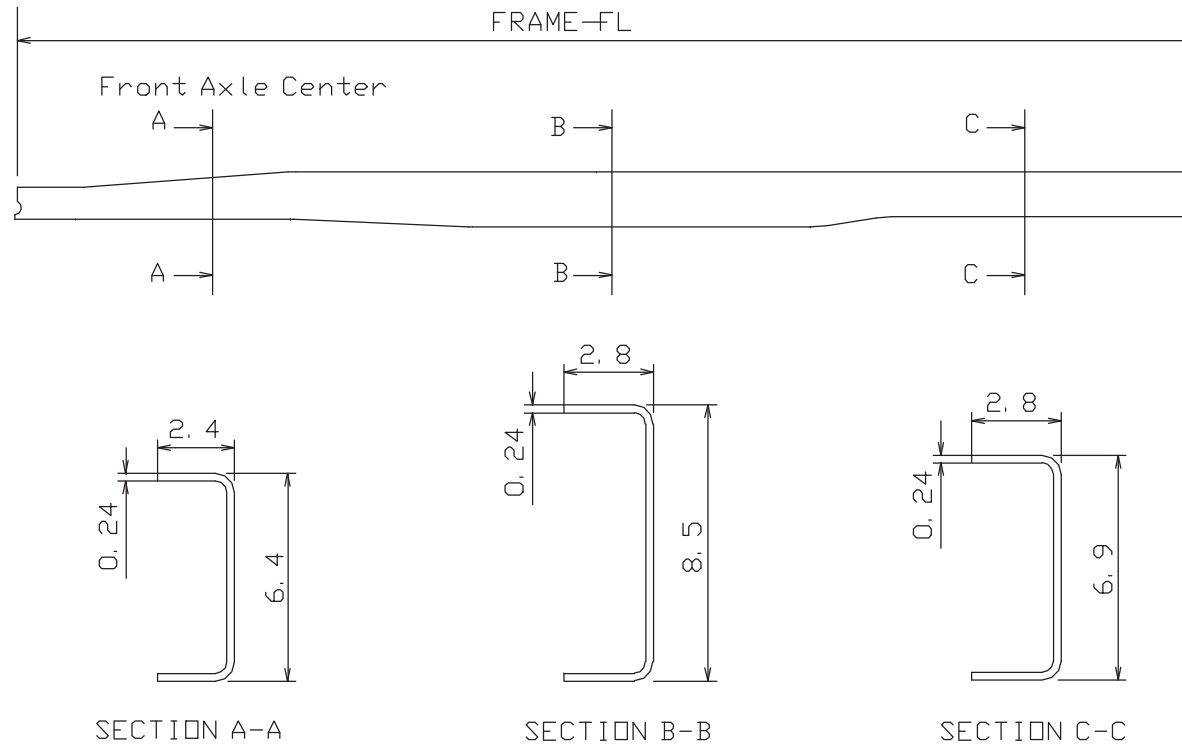


Figure 15.5.1

| Wheelbase | Frame FL | Frame Thickness |
|-----------|----------|-----------------|
| 109.0 | 182.5 | 0.24 |
| 132.5 | 206.1 | 0.24 |
| 150.0 | 223.8 | 0.24 |
| 176.0 | 249.8 | 0.24 |
| 200.0 | 273.8 | 0.24 |
| 212.0 | 285.8 | 0.24 |

Figure 15.5.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

5500XD Diesel Standard Cab - Top View

| WB | A | B |
|-------|------|------|
| 109 | 43.4 | 78.0 |
| 132.5 | 49.7 | 84.3 |
| 150 | 43.4 | 78.0 |
| 176 | 43.4 | 78.0 |
| 200 | 43.4 | 78.0 |
| 212 | 43.4 | 78.0 |

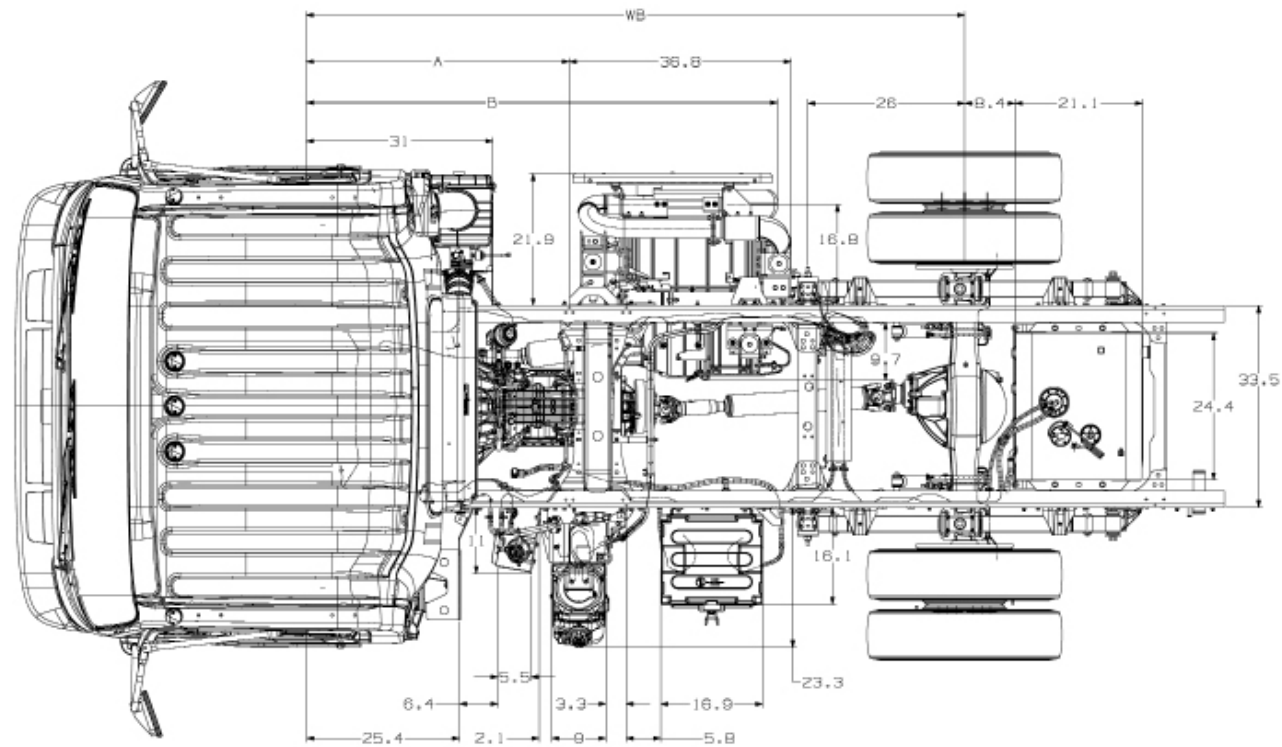


Figure 15.6.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

5500XD Diesel Standard Cab - Left Side View

| WB | A |
|-------|------|
| 109 | 80.7 |
| 132.5 | 87.0 |
| 150 | 80.7 |
| 176 | 80.7 |
| 200 | 80.7 |
| 212 | 80.7 |

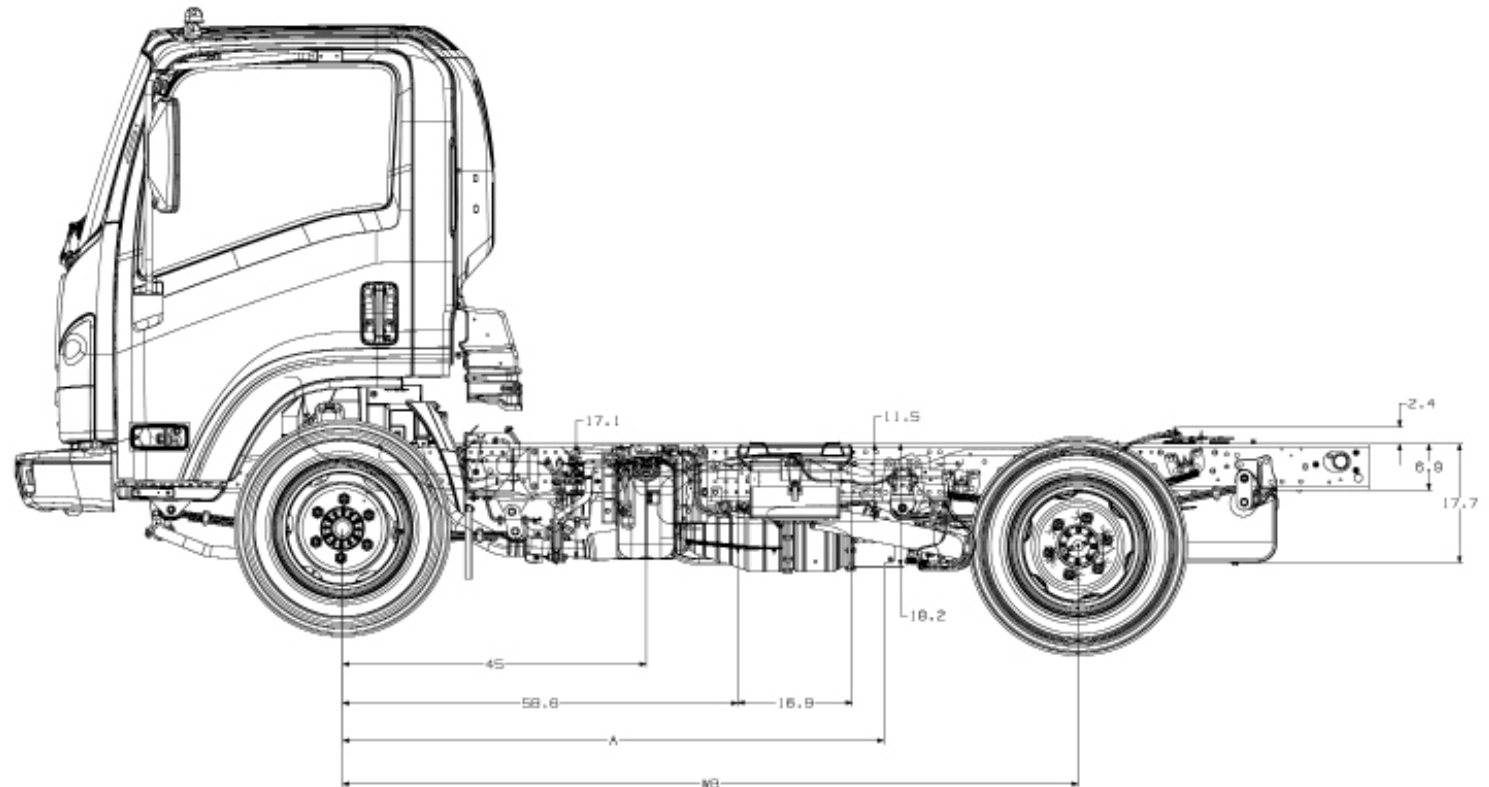


Figure 15.7.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

5500XD Diesel Standard Cab - Right Side View

| WB | A |
|-------|------|
| 109 | 44.0 |
| 132.5 | 50.3 |
| 150 | 44.0 |
| 176 | 44.0 |
| 200 | 44.0 |
| 212 | 44.0 |

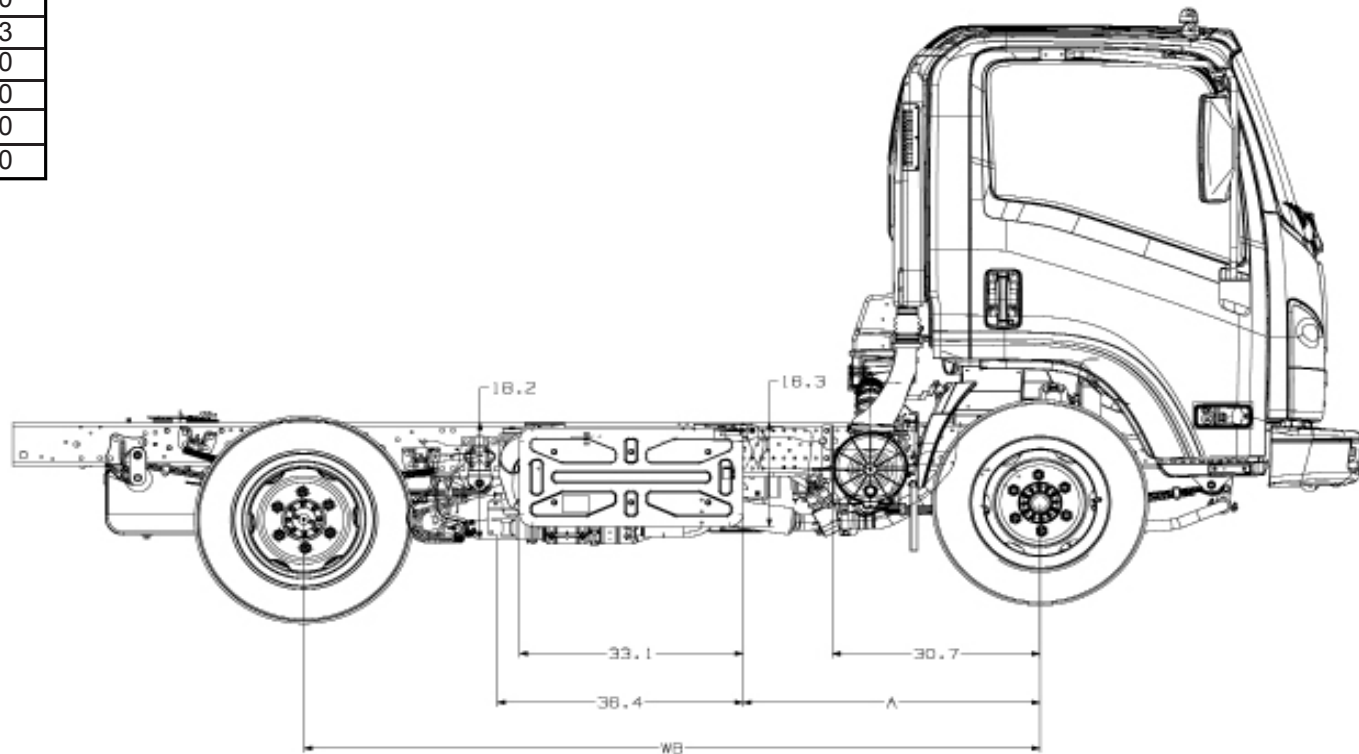


Figure 15.8.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

PAGE 15.9

SCR / DPF 4HK1-TC

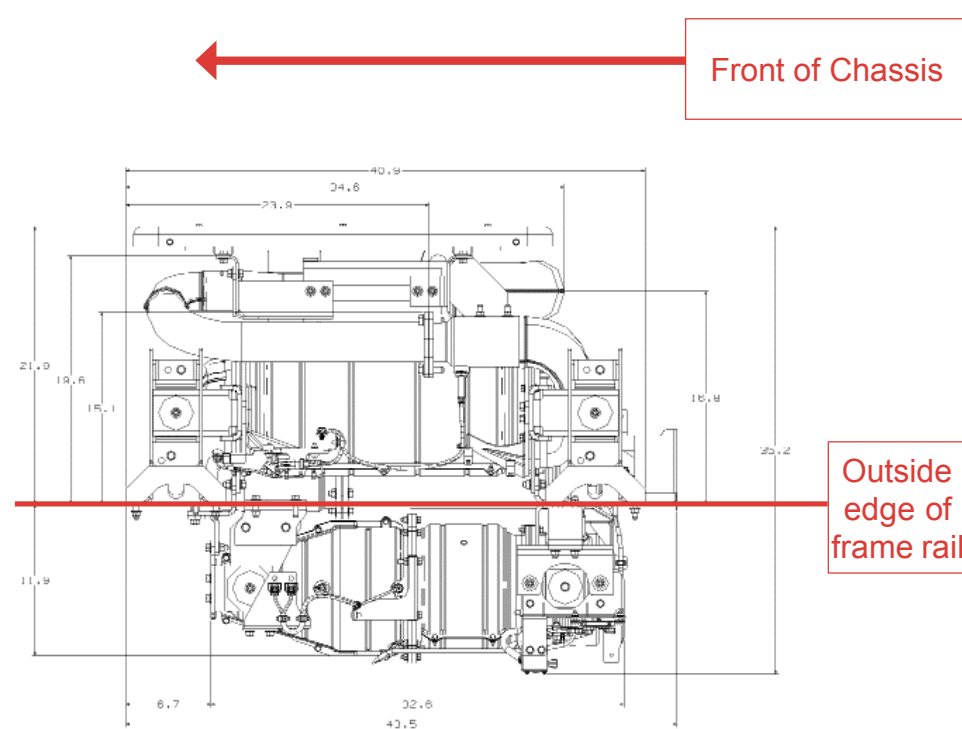


Figure 15.9.1

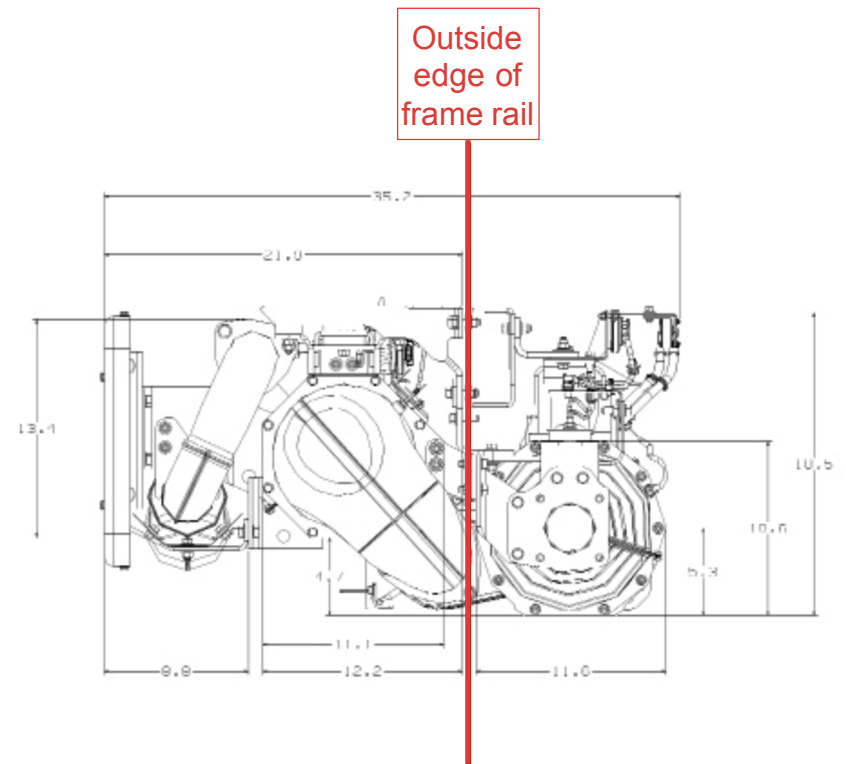


Figure 15.9.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

PAGE 15.10

Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX

Side View 150 Wheelbase

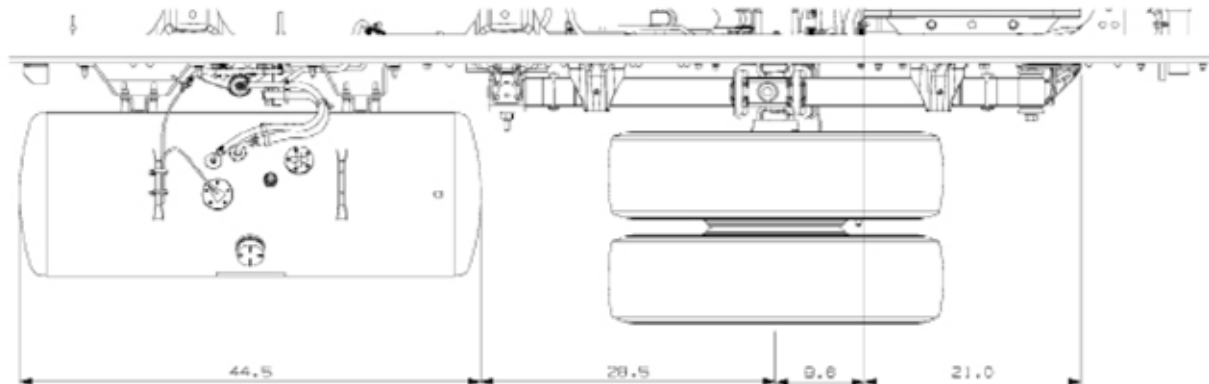


Figure 15.10.1

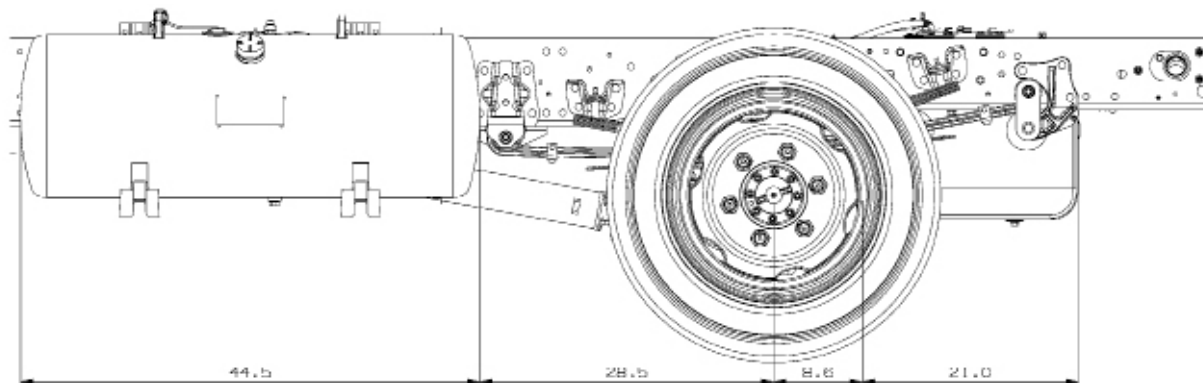


Figure 15.10.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

PAGE 15.11

Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX

Side View 176 Wheelbase

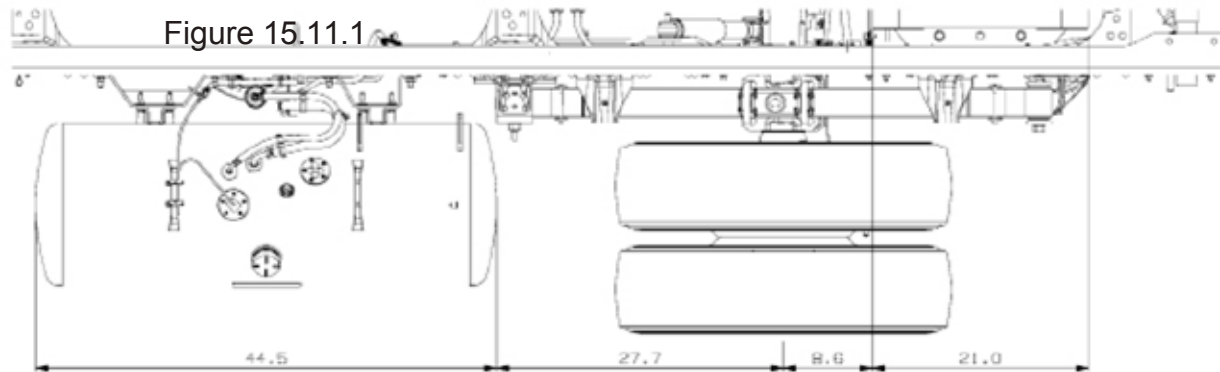


Figure 15.11.1

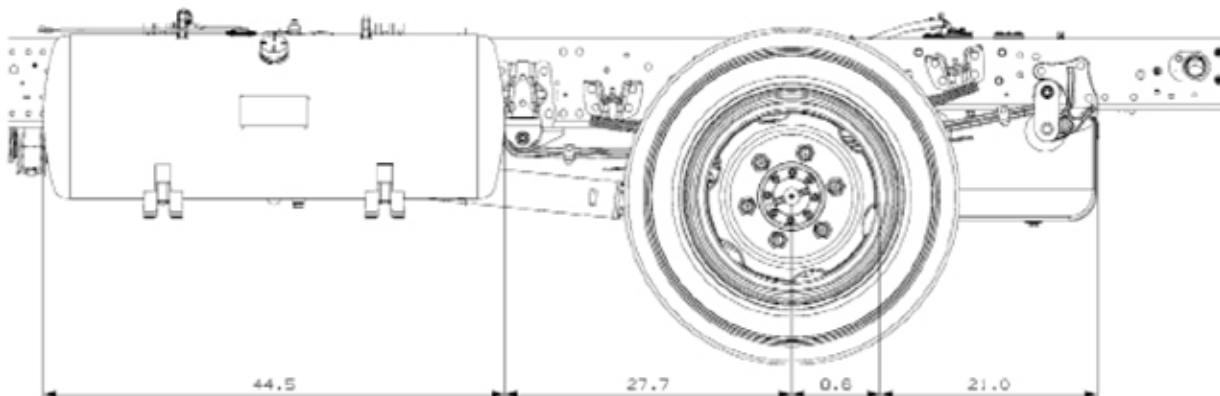


Figure 15.11.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

| | |
|------|-------|
| PAGE | 15.12 |
|------|-------|

Option Side Fuel Tank in place of the Standard In Rail Fuel Tank on RPO NL7

Side View 176 Wheelbase

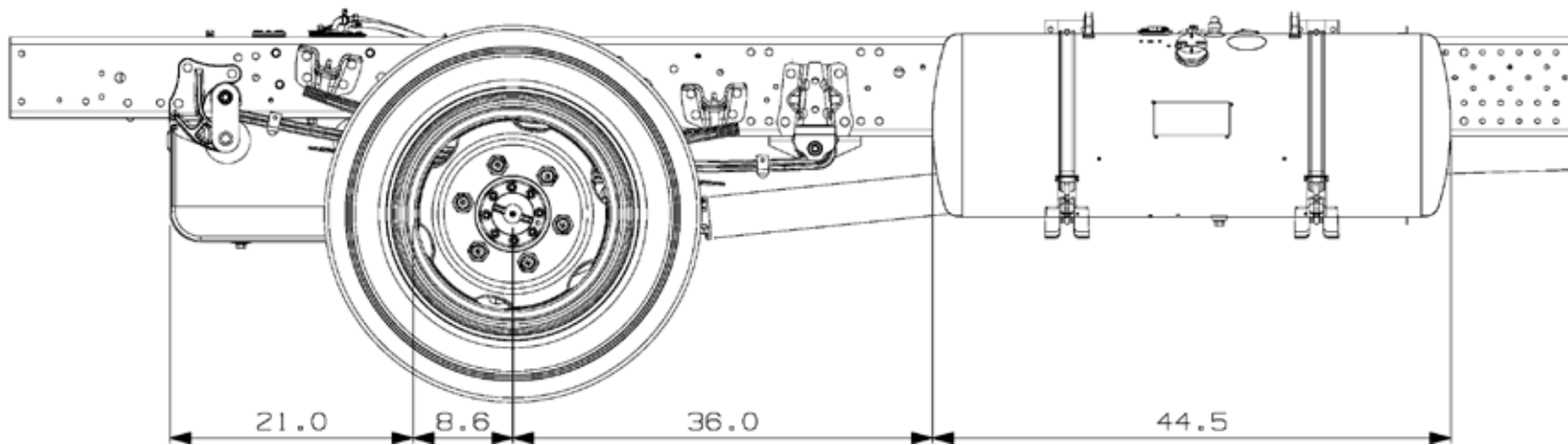


Figure 15.12.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

| | |
|------|-------|
| PAGE | 15.13 |
|------|-------|

Optional Side Fuel Tank in addition to the Standard In Rail Fuel tank RPO NLX
(150 and 176 wb LH rail only).

Optional Side Fuel Tank replacing standard In Rail Fuel tank RPO NL7
(176 wb only RH rail only)

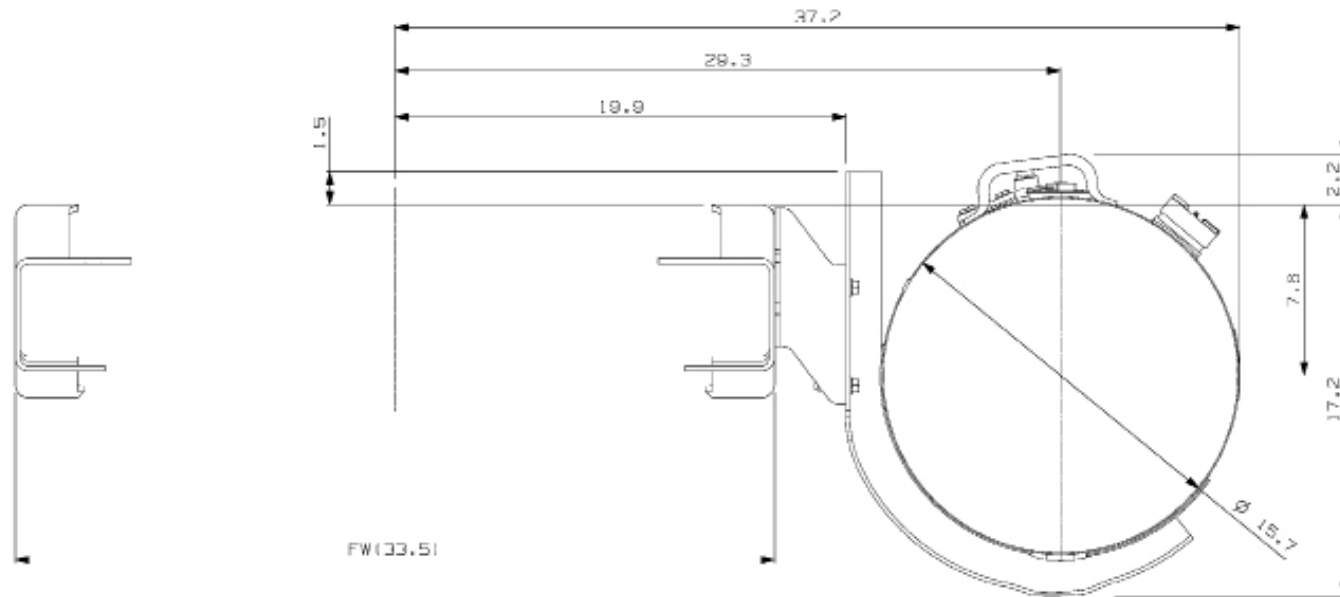


Figure 15.13.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Cab Tilt

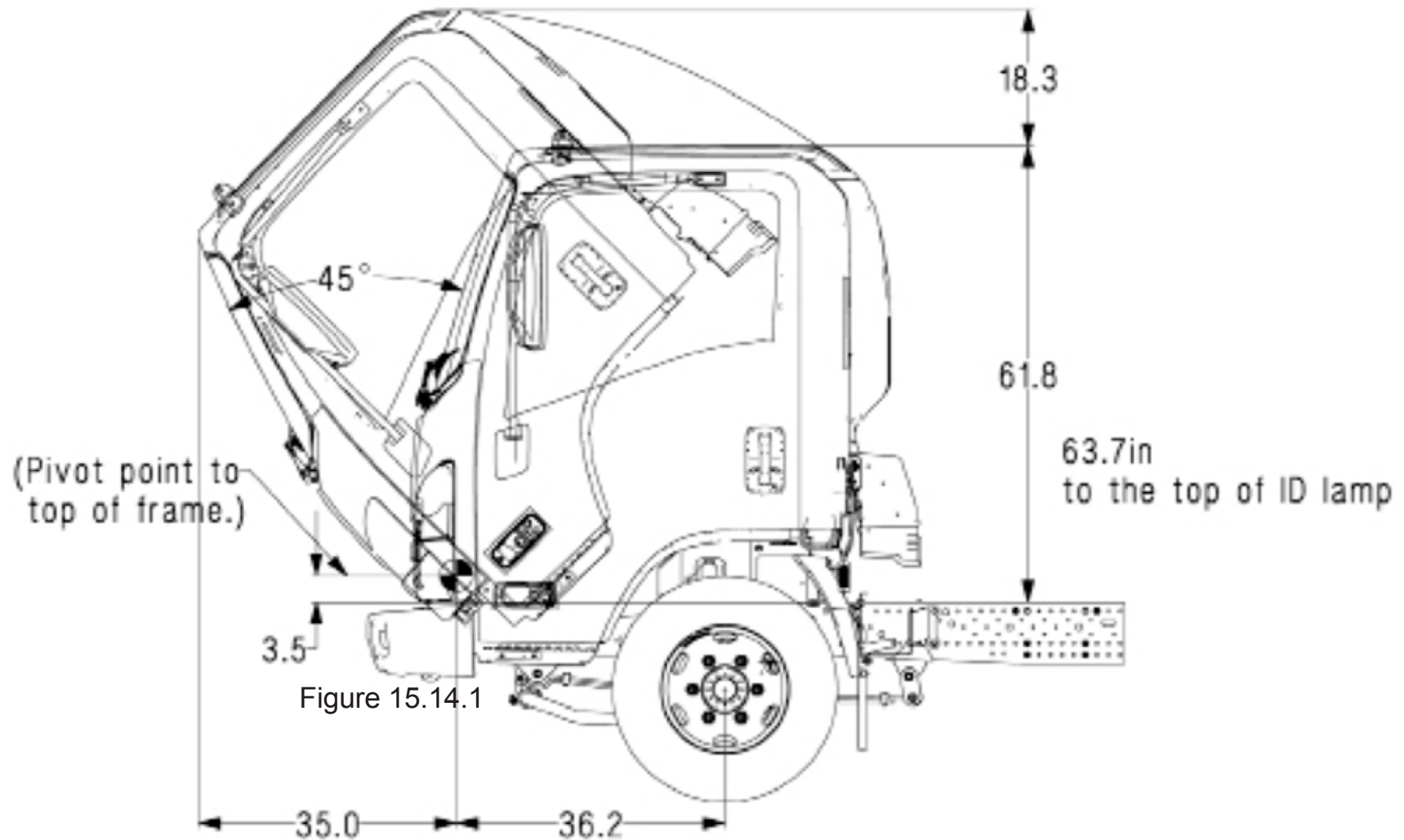


Figure 15.14.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Turning Diameters

TURNING DIAMETERS

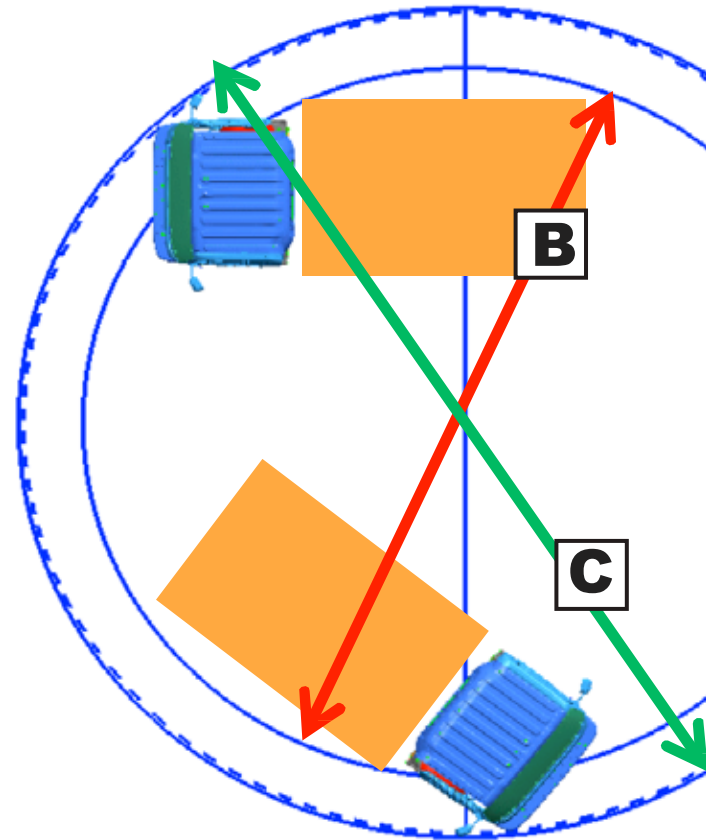
The LCF Series Diesel steering also features a 46.50 inside wheel cut angle. This, coupled with the integral power steering, makes the LCF Series Diesel an extremely maneuverable truck.

B=MINIMUM TURNING DIAMETER CURB TO CURB

C=MINIMUM TURNING DIAMETER WALL TO WALL

Turning Diameters (design value)

| WB | B curb to curb | C (ft. wall to wall (ft.)) |
|-------|-------------------|-------------------------------|
| 109.0 | 32.8 | 38.7 |
| 132.0 | 40.0 | 44.9 |
| 150.0 | 45.3 | 50.2 |
| 176.0 | 52.5 | 58.1 |
| 200.0 | 61.0 | 67.2 |
| 212.0 | 66.0 | 73.0 |



2017 Chevrolet Low Cab Forward

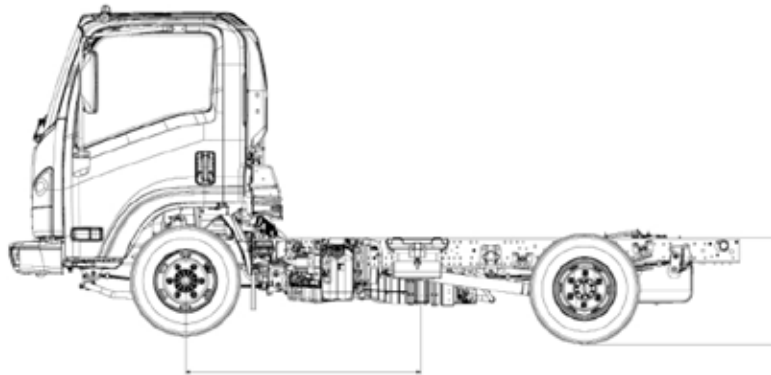
Center of Gravity

| Horizontal and Vertical CG of Chassis | | | |
|---------------------------------------|------|---------------|-----------|
| WB | V | H | H |
| | | in frame tank | side tank |
| 110 | 23.4 | 38 | N/A |
| 132.5 | 23.3 | 44.6 | N/A |
| 150 | 23.4 | 49.5 | N/A |
| 176 | 23.4 | 61.4 | 56.7 |
| 200 | 23.4 | 73.3 | N/A |
| 212 | 23.2 | 85.2 | N/A |

Center of Gravity

The center of gravity of the chassis cab.

Figure 15.16.1



The maximum vertical center of gravity specified below must not be exceeded at maximum GVWR and rated front and rear GAWR. The Center of Gravity (CG) maximum is 63" (1600 mm) above the ground.(LCF Cab Chassis and LCF Stripped Chassis).

Figure 15.16.2

NOTE: The Final Manufacturer must ensure that the combined vertical center of gravity of the chassis, body, and available payload at full GVW does not exceed the maximum vertical center of gravity outlined in the Chevrolet LCF Incomplete Vehicle Document and the GM Body Builders Guide.

The maximum dimensions for a body installed on the N Series chassis are 102 inches wide (outside*) by 91 inches high (inside). Any larger body applications must be approved by GM Upfitters Engineering. Contact us on gmupfitter.com.

Note: Dimensions in inches

* With 102 inches wide mirror brackets installed in place of standard mirror brackets

2017 Chevrolet Low Cab Forward

Front Axle Chart

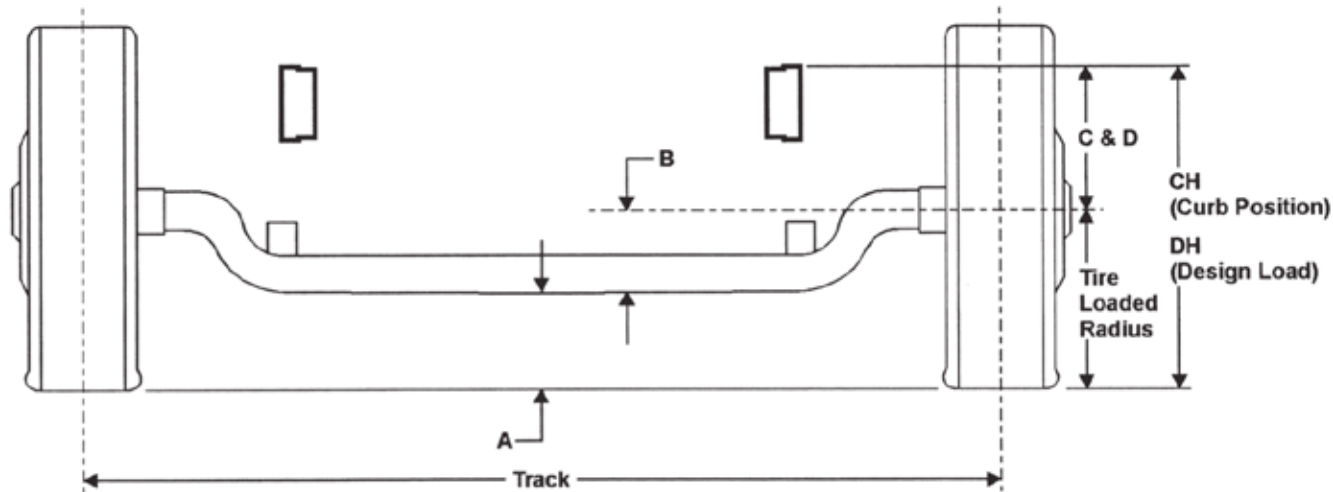


Figure 15.17.1

Formulas for calculating height dimensions:

- A = Tire Loaded Radius – B
- C = Centerline of Axle to Top of Frame Rail at Curb Position
- D = Centerline of Axle to Top of Frame Rail at Design Load
- CH = C + Tire Unloaded Radius
- DH = D + Tire Loaded Radius

| Tire | GVWR | GAWR | A | B | C | D | CH | DH | Track | Tire Radius | |
|---------------|-------------|------------|-----|-----|------|------|------|------|-------|-------------|-------|
| | | | | | | | | | | Unload | Load |
| 225/70R 19.5F | 19,500 lbs. | 7,275 lbs. | 8.3 | 6.6 | 12.3 | 11.5 | 28.3 | 26.4 | 65.5 | 16 | 14.91 |

Figure 15.17.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

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Rear Axle Chart

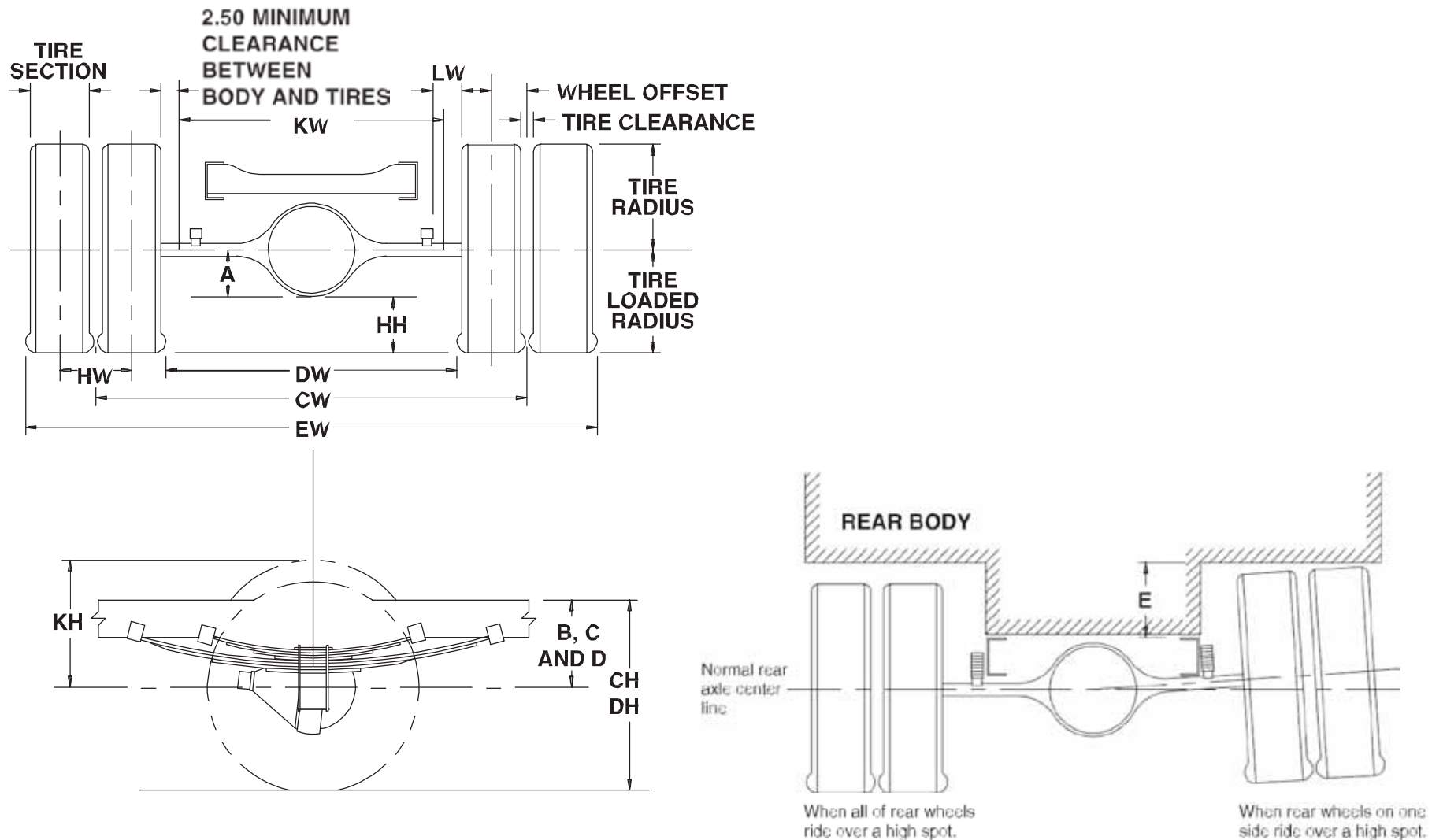


Figure 15.18.1

2017 Chevrolet Low Cab Forward

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Definitions

| Definitions | | | |
|---|---|----------------------------|--|
| A | Centerline of axle to bottom of axle bowl. | DH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at design load. |
| B | Centerline of axle to top of frame rail at metal-to-metal position. | DW | Minimum distance between the inner surfaces of the rear tires. |
| C | Centerline of axle to top of frame rail at curb position. | EW | Maximum Rear Width: Overall width of the vehicle measured at the outermost surface of the rear tires. |
| D | Centerline of axle to top of frame rail at design load. | HH | Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line. |
| E | Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vehicle centerline of the rear axle, when rear wheels on one side ride over a high spot. | HW | Dual Tire Spacing: Distance between the centerlines of the tires in a set of dual tires. |
| | | KW | Tire Bounce Clearance: Minimum distance required for tire bounce as measured from the centerline of the rear axle and the top of the rear tire when one wheel rides over a high spot. |
| CH | Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the centerline of the rear axle at curb position. | CW | Track Dual Rear Wheel Vehicle: Distance between the centerlines of the dual wheels measured at the ground-line. |
| Tire Section, Tire Radius, Tire Loaded Radius, Tire Clearance | | See Tire Chart for values. | |

Figure 15.19.1

| Formulas for Calculating Rear Width and Height Dimensions | | | |
|---|--|--|--|
| CW = Track | HH = Tire loaded radius – A | | |
| CH = Tire loaded radius + C | JH = KH – B | | |
| DH = Tire loaded radius + D | KH = Tire radius + 3.00 inches | | |
| DW = Track + 2 tire sections – tire clearance | KW = DW – 5.00 inches | | |
| EW = Track + 2 tire sections + tire clearance | LW = 1.00-inch minimum clearance between tires and springs | | |

NOTE: Track and overall width may vary with optional equipment.

Figure 15.19.2

| Tire | GAWR | Track CW | A | B | C | D | E |
|---------------|-------------|----------|-----|-----|------|------|-----|
| 225/70R 19.5F | 13,660 lbs. | 65.0 | 7.7 | 9.3 | 15.6 | 13.4 | 8.4 |

Figure 15.19.2

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

5500XD Suspension Deflection Charts

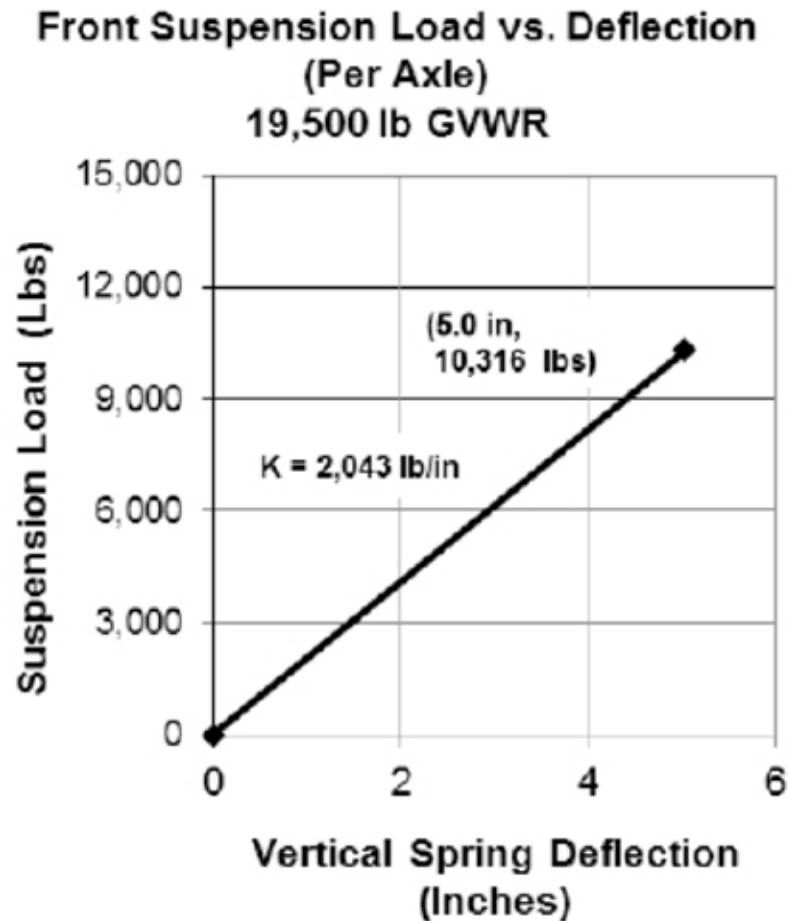


Figure 15.20.1

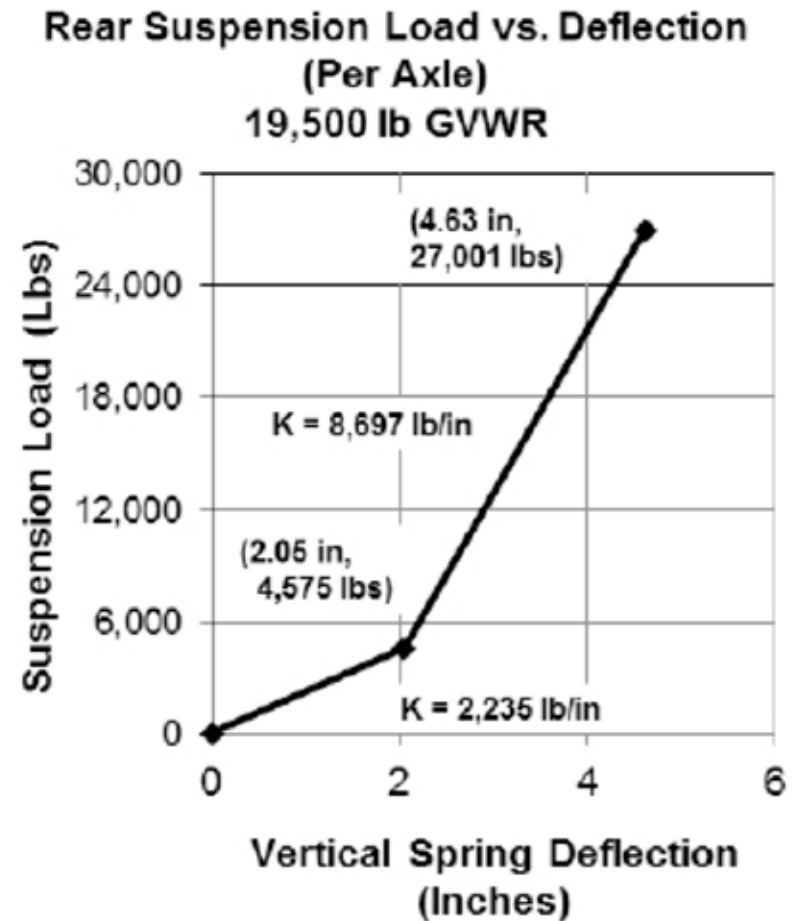


Figure 15.20.2

2017 Chevrolet Low Cab Forward

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Tire and Disc Wheel Chart

Tire

| Tire Size | Tire Load Limit and Cold Inflation Pressures | | | | Maximum Tire Load Limits (Lbs.) | | GVWR (Lbs.) |
|---------------|--|-----|-------|-----|---------------------------------|--------|-------------|
| | Single | | Dual | | Front | Rear | |
| | Lbs. | PSI | Lbs. | PSI | 2 Single | 4 Dual | |
| 225/70R 19.5F | 3,640 | 95 | 3,415 | 95 | 7,280 | 13,660 | 19,500 |

Figure 15.21.1

| Tire Size | GVWR (Lbs.) | Tire Radius | | | | Tire Section Width | Tire Clearance | Design Rim Width |
|---------------|-------------|-------------|-------|----------|-------|--------------------|----------------|------------------|
| | | Loaded | | Unloaded | | | | |
| | | Front | Rear | Front | Rear | | | |
| 225/70R 19.5F | 19,500 | 14.91 | 14.96 | 16.00 | 16.00 | 8.7 | 1.3 | 6.0 |

Figure 15.21.2

Disc Wheel

| Wheel Size | Bolt Holes | Bolt Circle Dia. | Ft./Rr. Nut Size* | Rear Stud Size* | Nut/Stud Torque Specs. | Inner Circle | Outside Offset | Disc Thickness | Rim Type | Material Mfg. |
|---------------|------------|------------------|------------------------------|-----------------------------|--------------------------|--------------|----------------|----------------|----------|---------------|
| 19.5 x 6.00 K | 6 JIS | 8.75 | 1.6142 (41 mm) BUD HEX | 0.8268 (21 mm) SQUARE | 325 ft.-lb. (440 N•m) | 6.46 | 5.0 | 0.35 | 15° DC | Steel TOPY |

*O.D. Wrench Sizes

Figure 15.21.3

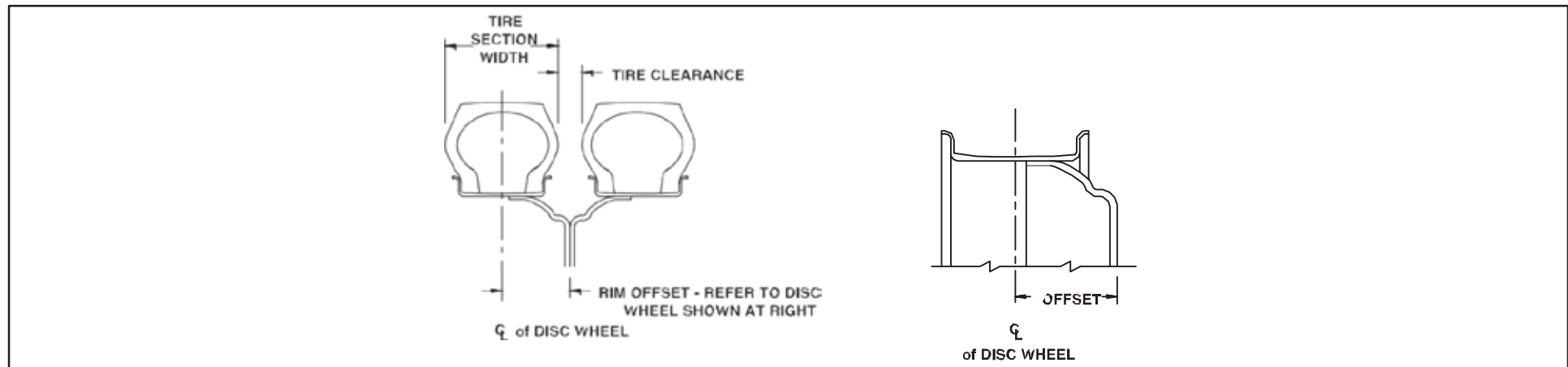
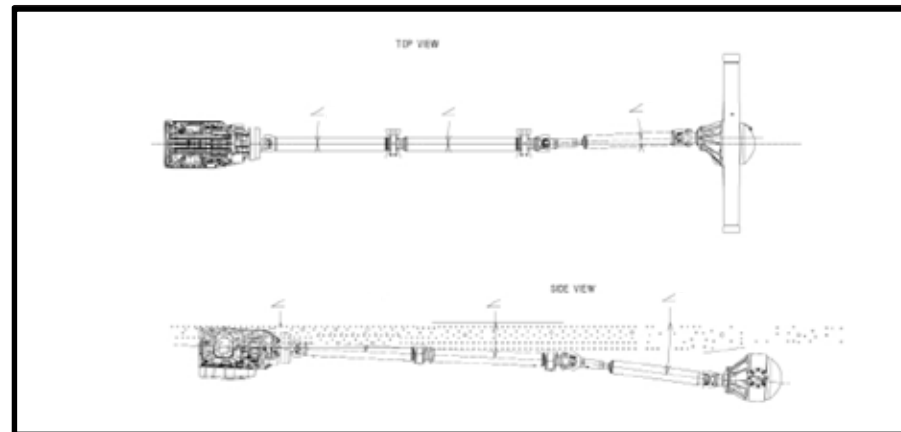
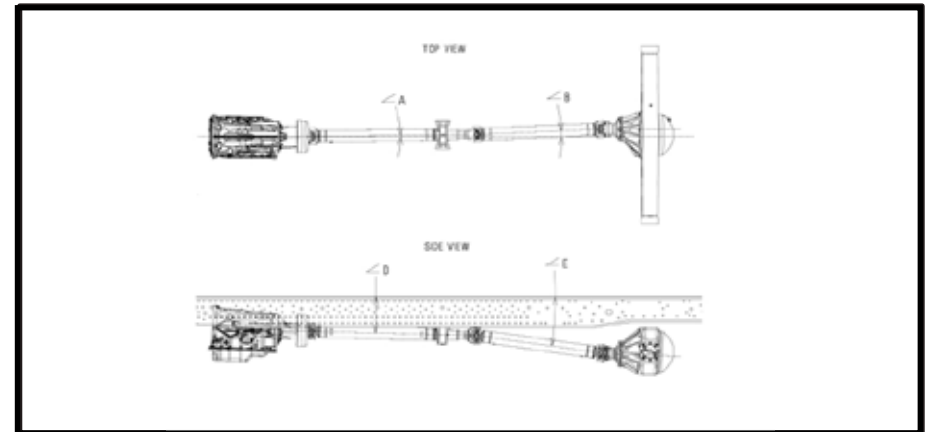
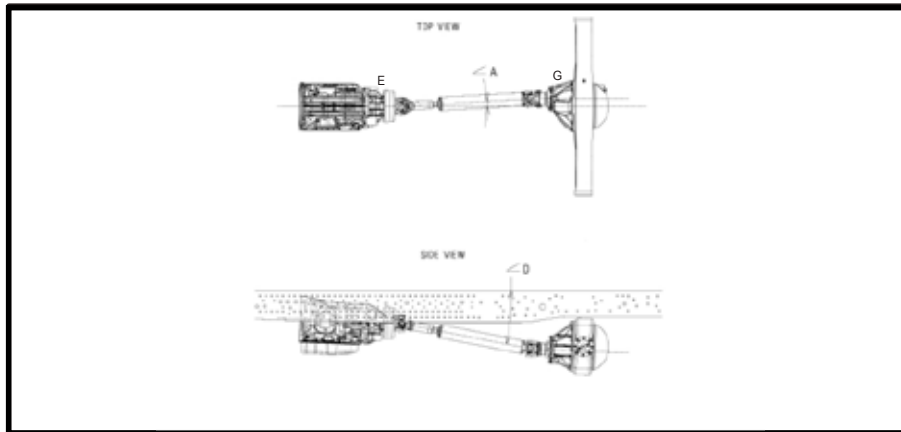


Figure 15.21.4

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

Propeller Shaft 5500XD



| Wheel Base (in.) | Top View | | | Side View | | | | Trans. | Rear Axle |
|---------------------|----------|------|------|-----------|------|------|--|--------|-----------|
| | ∠A | ∠B | ∠C | ∠D | ∠E | ∠F | | | |
| 109 | 3.4° | - | - | 11.4° | - | - | | 2.5° | 2.5° |
| 132.5 | 0° | 3.3° | - | 5.3° | 7.8° | - | | 2.5° | 2.5° |
| 150 | 0° | 3.2° | - | 2.6° | 8.1° | - | | 2.5° | 2.5° |
| 176 | 0° | 2.2° | - | 2.1° | 5.6° | - | | 2.5° | 2.5° |
| 200 | 0° | 0° | 2.2° | 2.1° | 0.0° | 5.6° | | 2.5° | 2.5° |
| 212 | 0° | 0° | 2.2° | 2.1° | 0.0° | 5.6° | | 2.5° | 2.5° |

Note: 1. Angles provided in table are relative to the frame angle. Please take this into consideration for service measurements.

2. Driveline angles are based on the chassis curb weight which includes standard fuel but no driver, body, or payload.

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Automatic Transmission

| Trans. Type | 6 Automatic. Transmission | | | | | |
|---------------|---------------------------|-------|-------|-------|-------|-------|
| Wheelbase | 109 | 132.5 | 150 | 176 | 200 | 212 |
| No. of Shafts | 1 | 2 | 2 | 2 | 2 | 2 |
| Shaft #1 O.D. | 3.54 | 3.54 | 3.54 | 3.54 | 3.54 | 3.54 |
| Thickness | 0.126 | 0.126 | 0.126 | 0.126 | 0.126 | 0.126 |
| Length | 37.00 | 22.91 | 40.24 | 49.69 | 49.69 | 49.69 |
| Type | A | B | B | B | B | B |
| Shaft #2 O.D. | N/A | 3.54 | 3.54 | 3.54 | 3.54 | 3.54 |
| Thickness | N/A | 0.126 | 0.126 | 0.126 | 0.126 | 0.126 |
| Length | N/A | 36.13 | 36.50 | 52.90 | 24.00 | 36.00 |
| Type | N/A | C | C | C | B | B |
| Shaft #3 O.D. | N/A | N/A | N/A | N/A | 3.54 | 3.54 |
| Thickness | N/A | N/A | N/A | N/A | 0.126 | 0.126 |
| Length | N/A | N/A | N/A | N/A | 52.90 | 52.90 |
| Type | N/A | N/A | N/A | N/A | C | C |

Figure 15.23.1

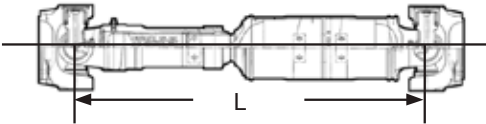
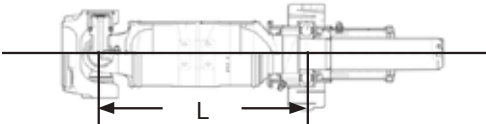
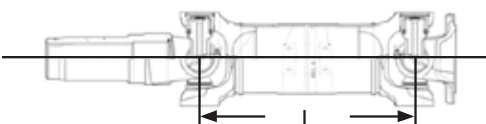
| Type | Description | Illustration |
|--------|--------------------------------|---|
| Type A | 1st shaft in 1-piece driveline |  |
| Type B | 1st shaft in 2-piece driveline |  |
| Type C | 2nd shaft in 2-piece driveline |  |

Figure 15.23.2

Note: Dimensions in inches

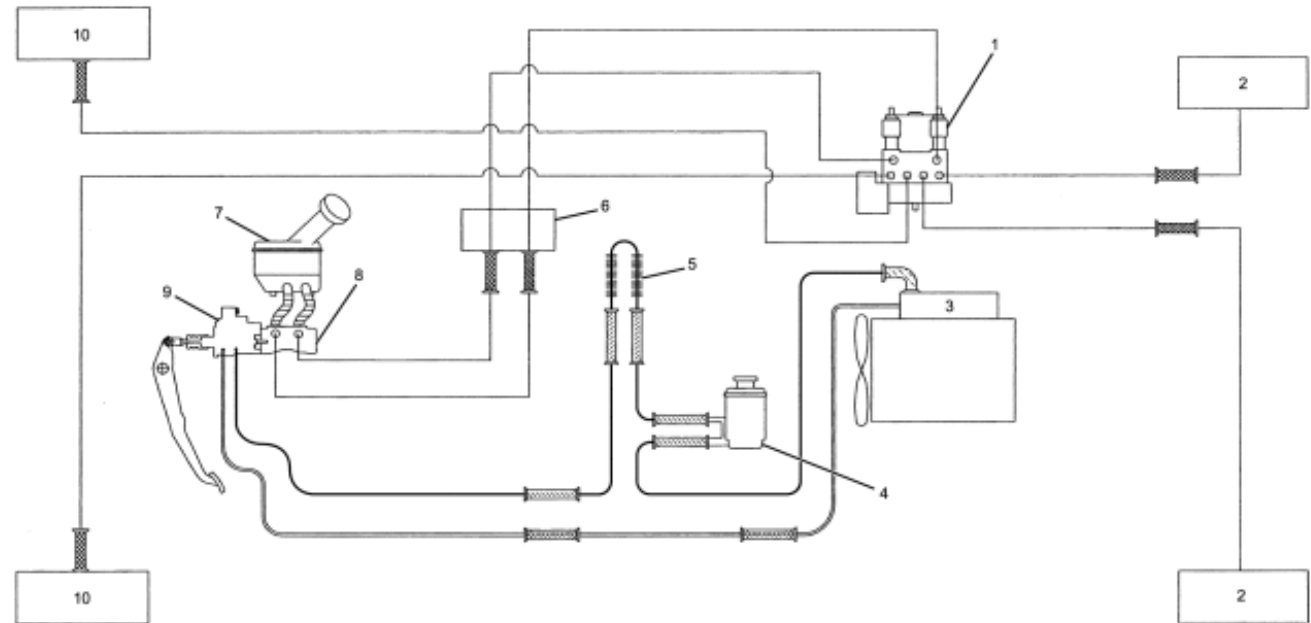
2017 Chevrolet Low Cab Forward

Brake System Diagram, Hydraulic Brake Booster

Please refer to Introduction Section of book for antilock system cautions and wheelbase modification requirements.

Legend for 5000HD, 5500XD Brake System

- (1) Electronic Hydraulic Control Unit (EHCU)
- (2) Rear Wheel Cylinder
- (3) Hydraulic Booster Oil Pump
- (4) Hydraulic Booster Reservoir
- (5) Cooler Pipe
- (6) Pipe Connector
- (7) Brake Fluid Reservoir
- (8) Master Cylinder
- (9) Hydraulic Booster Unit
- (10) Front Wheel Cylinder










| | | | | | | |
|---|--|---|---|---|---|---|
|  |  |  |  |  |  |  |
| BRAKE HOSE HIGH PRESSURE | BRAKE HOSE LOW PRESSURE | BRAKE PIPE | HYDRAULIC HOSE (SUPPLY) | HYDRAULIC HOSE (RETURN/SUCTION) | HYDRAULIC PIPE (SUPPLY) | HYDRAULIC PIPE (RETURN/SUCTION) |

Figure 15.24.1

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PTO Location, Drive Gear and Opening Information

AUTOMATIC TRANSMISSION

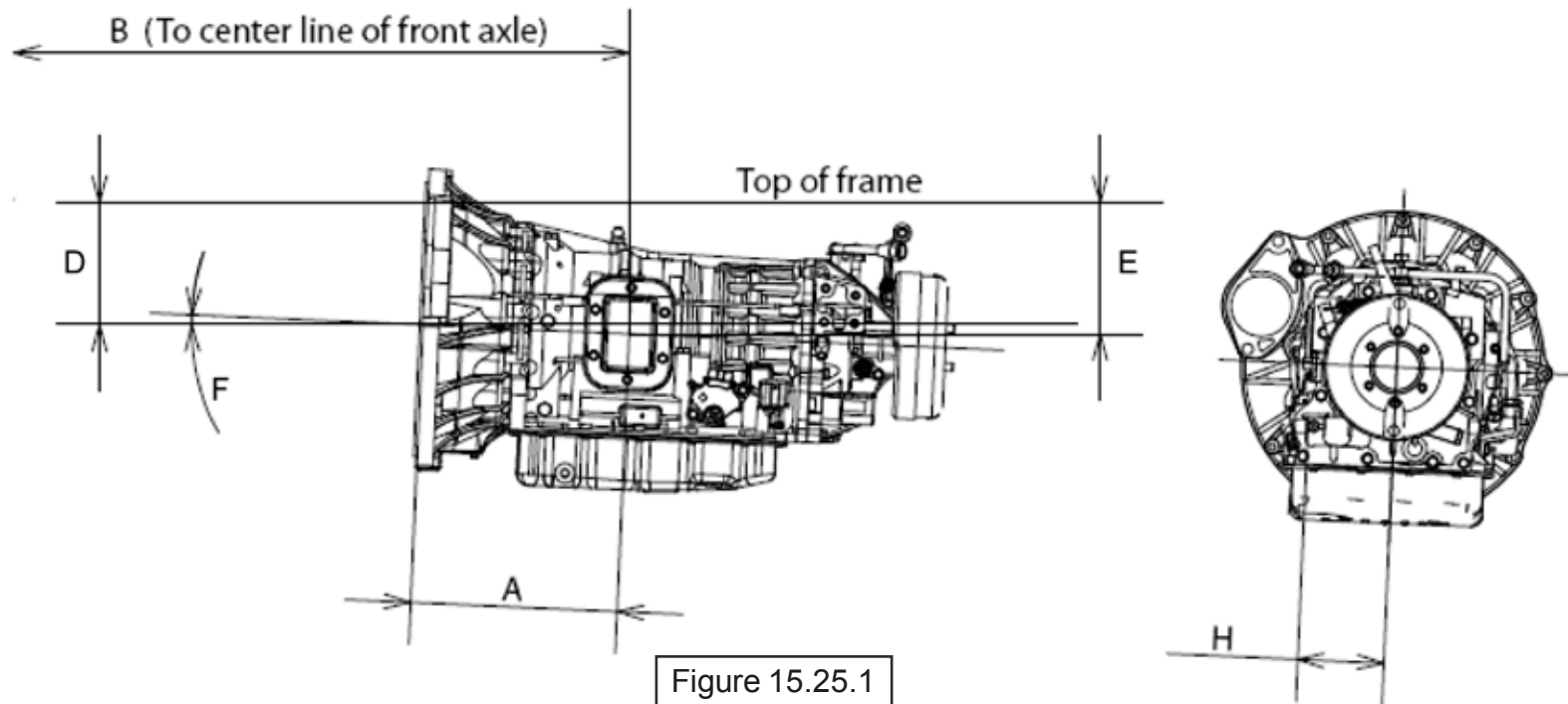


Figure 15.25.1

| Trans. | Opening Location | Bolt Pattern | A | B | C | D | E | F | H | PTO Drive Gear Location | Ratio of PTO Drv. Gear Spd. to Eng. Spd. | No. of Teeth | Pitch | Helix Angle | Max. Output Torque |
|----------------------|------------------|--------------|-------|-------|---|------|------|------|------|-------------------------|--|--------------|-------|-------------|--------------------------|
| Aisin ⁽¹⁾ | Left | (Dr2) | 12.35 | 36.89 | 0 | 7.85 | 7.31 | 2.5° | 5.16 | PTO Gear | 1:1 with turbine | 69 | N/A | 0° | 134 lbs.-ft. @ 1,700 RPM |

Figure 15.25.2

Note: Dimensions in inches

Diesel Fuel Fill

Installation Instructions

1. Disconnect battery.
2. Loosen hose from the tie downs. Remove caps from plate on rail.
3. Install hoses onto the plate.
4. Extend hose out from the driver side of the rail to body rail.
5. The filler neck must be mounted to allow the fill plate bracket to be parallel to the frame horizontal.
6. Cover with protector wrap and secure with tie wraps.
7. Filler hose is set for 102 inches outside width body.
8. Filler neck (dimension A) must be between 6.85 inches and 8.5 inches above frame.
9. Secure the filler plate to the bottom of the body and check for leaks.
10. Ensure that fill hose does not sag, creating an area where the fuel could pool in the fill hose.
11. Reconnect battery.

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Rear View Fuel Fill

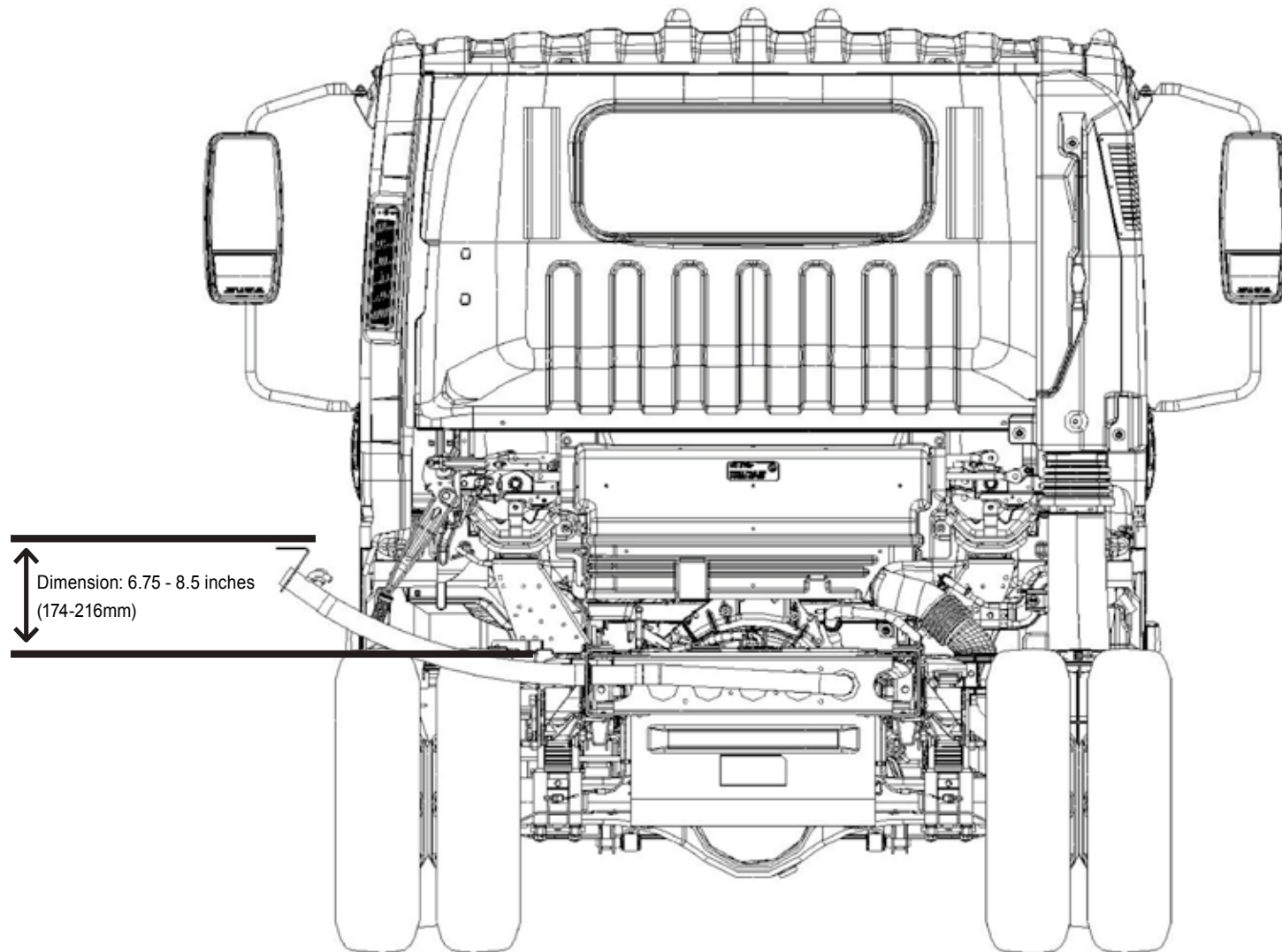
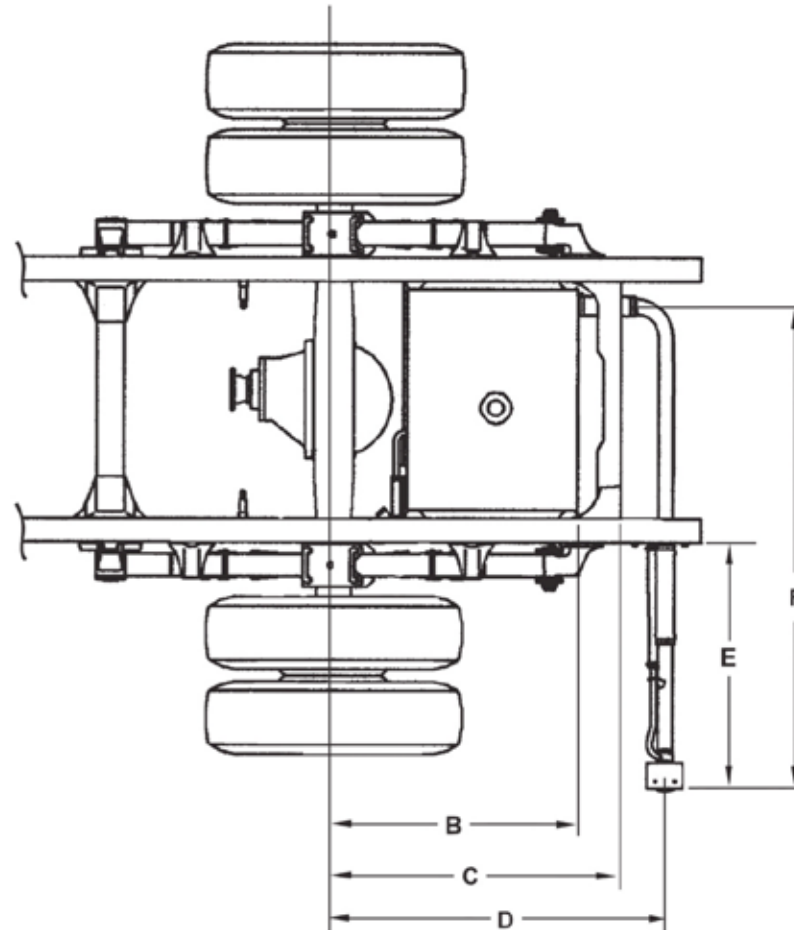


Figure 15.28.1

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Top View Fuel Fill



Dimensions:

B = 29.75 inches (756 mm)
C = 34.00 inches (863 mm)
D = 39.29 inches (998 mm)
E = 33.86 inches (860 mm)
F = 59.60 inches (1,514mm)

Figure 15.29.1

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

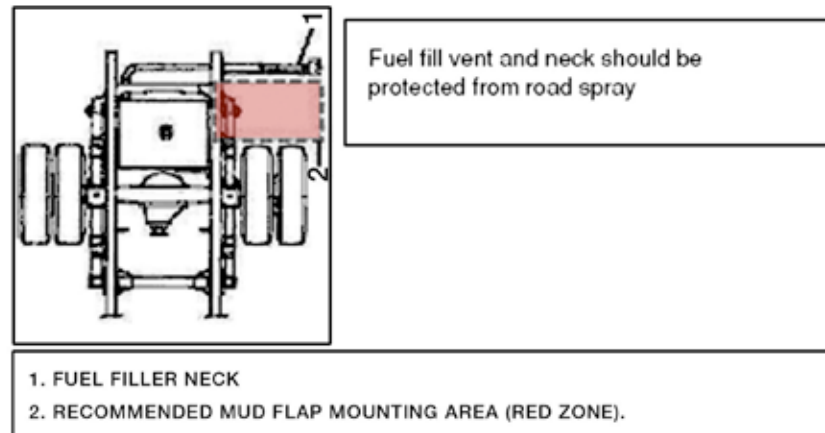
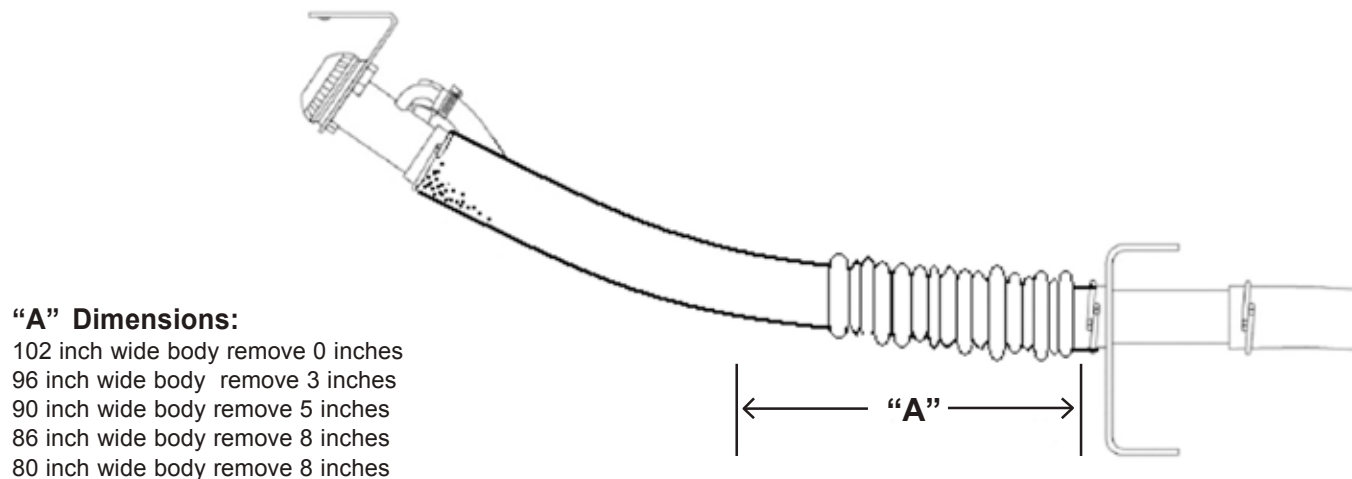


Figure 15.30.1



NOTE: Shorten hose by "A Dimension" based on chart at left.

Figure 15.30.2

2017 Chevrolet Low Cab Forward

Ultra Low Sulfur Diesel Label

**Per EPA Title 40, Part 86, 86:007—35(c),
The decal illustrated below must be installed on the vehicle.
The decal is included in the fuel fill parts box.**



INSTRUCTIONS FOR DECAL PLACEMENT:

1. The decal must be placed as close as possible to the fuel inlet and be clearly visible.
 2. The decal should be placed above or to the side of the fuel cap to avoid corrosion by possible contact with fuel.
 3. The decal may be placed on aerodynamic fairings, bodies, etc. as long as the decal is clearly visible and in close proximity to the fuel inlet.
 4. For installed bodies that have a fuel door, the decal should be placed above or to the side of the fuel door.
- Thoroughly clean the area of all grease, dirt, etc. before application of the decal. Apply the decal at room temperature, 65° to 75° F.

Figure 15.31.1

2017 Chevrolet Low Cab Forward

Through the Rail Fuel Fill Frame Hole

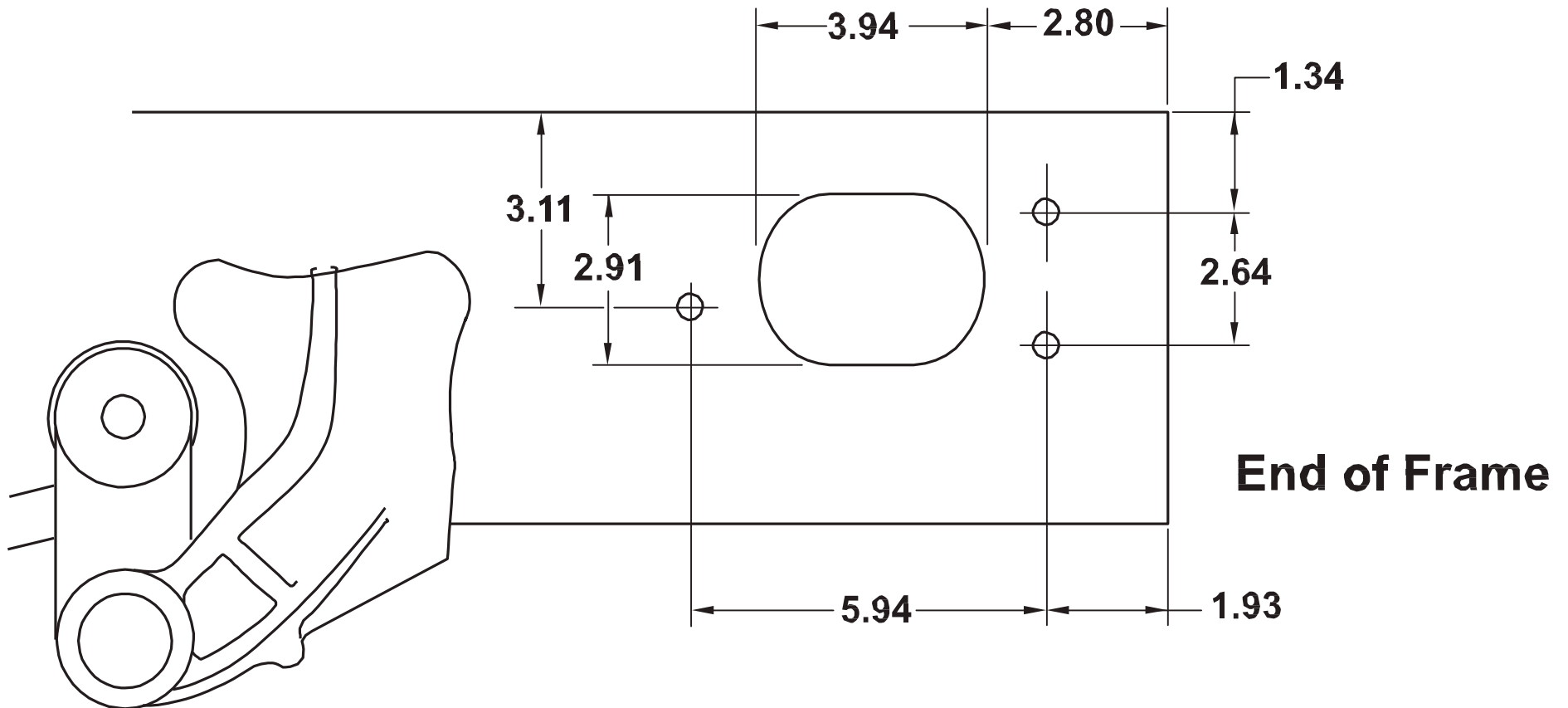


Figure 15.32.1

Note: Dimensions in inches

2017 Chevrolet Low Cab Forward

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LCF-Diesel Fuel Filler Kit Instructions

Please review these instructions prior to installation of the fuel filler kit.

PARTS KIT: Fuel filler kit shown below is used for 14,500 lb and higher GVWR chassis 4500HD, 4500XD, 5500HD, 5500XD. Parts list is shown in **FIGURE 15.32.2**. Parts photos are shown in **FIGURE 15.32.1**.

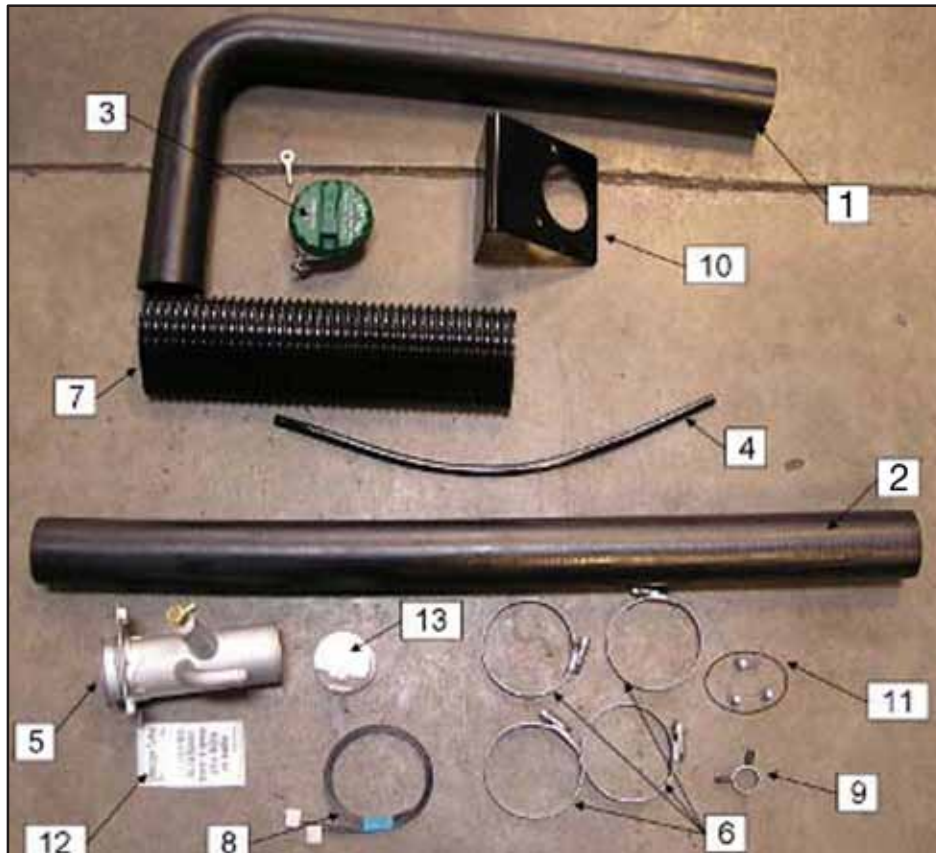


Figure 15.33.1

| FUEL FILLER KIT | | | |
|-----------------|-------------------------|------------|-----|
| ITEM # | PART NAME | PART # | QTY |
| 1 | HOSE: FUEL FILLER NECK | See Dealer | 1 |
| 2 | HOSE: FUEL FILLER | See Dealer | 1 |
| 3 | CAP: FILLER | See Dealer | 1 |
| 4 | HOSE: ROLL-OVER VALVE | See Dealer | 1 |
| 5 | NECK ASM: FUEL FILLER | See Dealer | 1 |
| 6 | CLIP: JOINT | See Dealer | 4 |
| 7 | PROTECTOR: FILLER HOSE | See Dealer | 1 |
| 8 | CLIP: BAND, HOSE FIXING | See Dealer | 2 |
| 9 | CLIP: RUBBER, HOSE | See Dealer | 1 |
| 10 | BRACKET: FILLER NECK | See Dealer | 1 |
| 11 | SCREW: FILLER NECK | See Dealer | 3 |
| 12 | CAUTION PLATE | See Dealer | 1 |
| 13 | SHUTTER: FUEL TANK | See Dealer | 1 |

Figure 15.33.2

Installation Instructions and Considerations:

The fuel tank shutter valve (13) is meant to improve fuel splash-back performance of the fuel system. This valve (13) is relocated on the fuel tank inlet to the inlet (outboard side) of the fuel filler neck bulkhead assemble that is bolted to the left hand frame rail as shown in **FIGURE 15.34.1**. This plastic valve snaps into place in the inlet of the frame mounted fuel pipe. The valve should be installed so that the plastic clip is at the top of the valve, so that the flap door opens up, as shown in **FIGURE 15.34.2**.



Figure 15.34.1

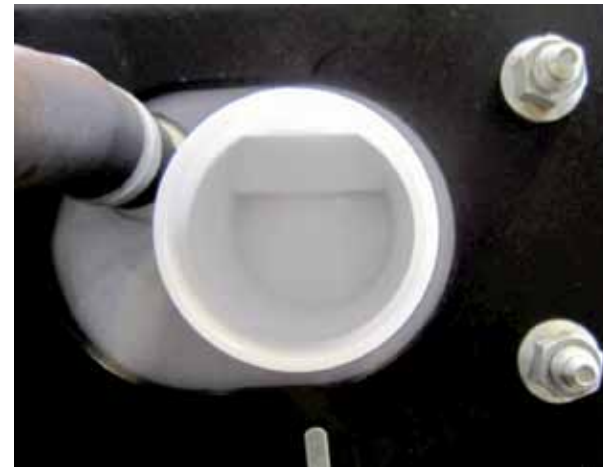


Figure 15.34.2



The fuel filler hose should be installed flush against the tank. The clamp should be installed between 1/16" and 3/8" from the tank. This is shown in **FIGURE 15.34.3** below.

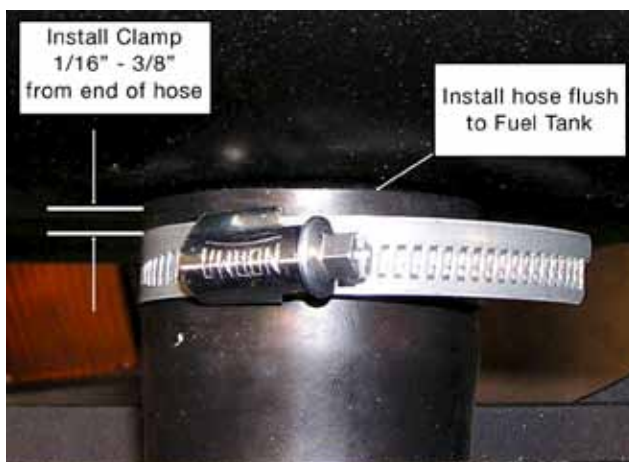


Figure 15.34.3

Roll-Over Valve Tubing

The roll-over valve has a hose attachment that will make this valve less sensitive to water intrusion. In order for the valve to work properly, it is critical that the hose be installed to the rollover valve. The proper assembly of the outer hose is shown in **FIGURE 15.35.1**.

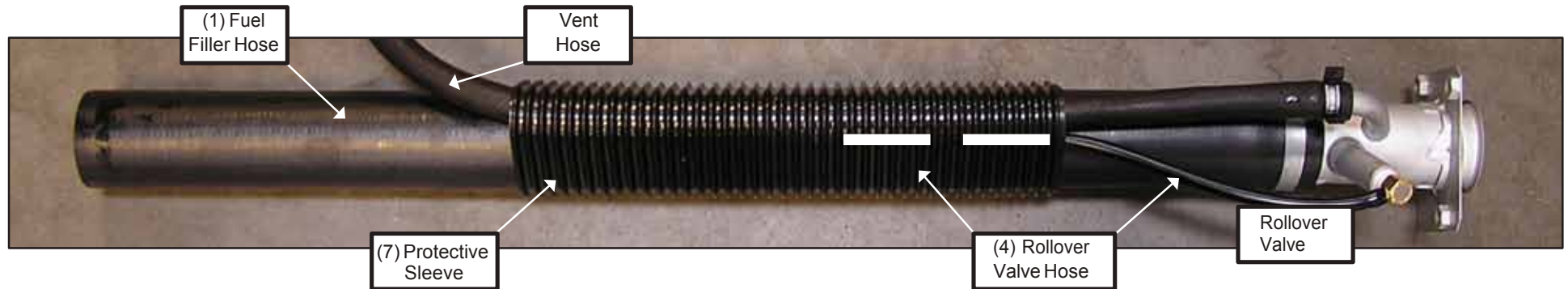


Figure 15.35.1

Filler Neck Installation:

The fuel filler neck (5) must be installed with the proper orientation on the body. The neck should be installed with the roll-over valve pointing upward, with the bottom edge of the neck oriented parallel to the ground, plus 33 to minus 7 degrees. See **FIGURE 15.35.2** for the proper orientation.

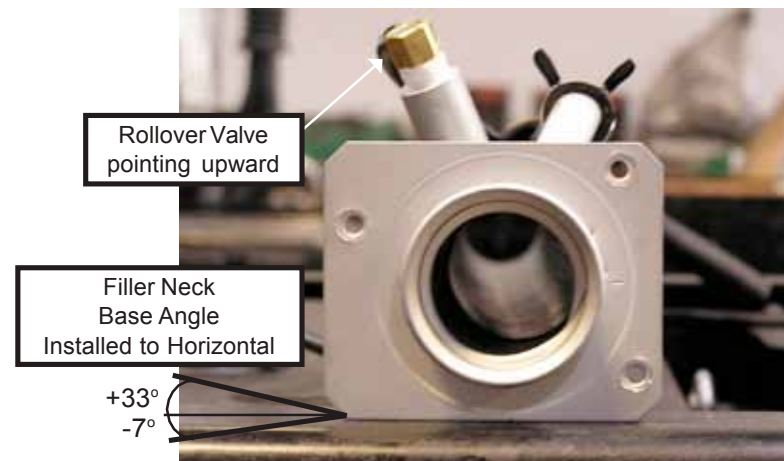
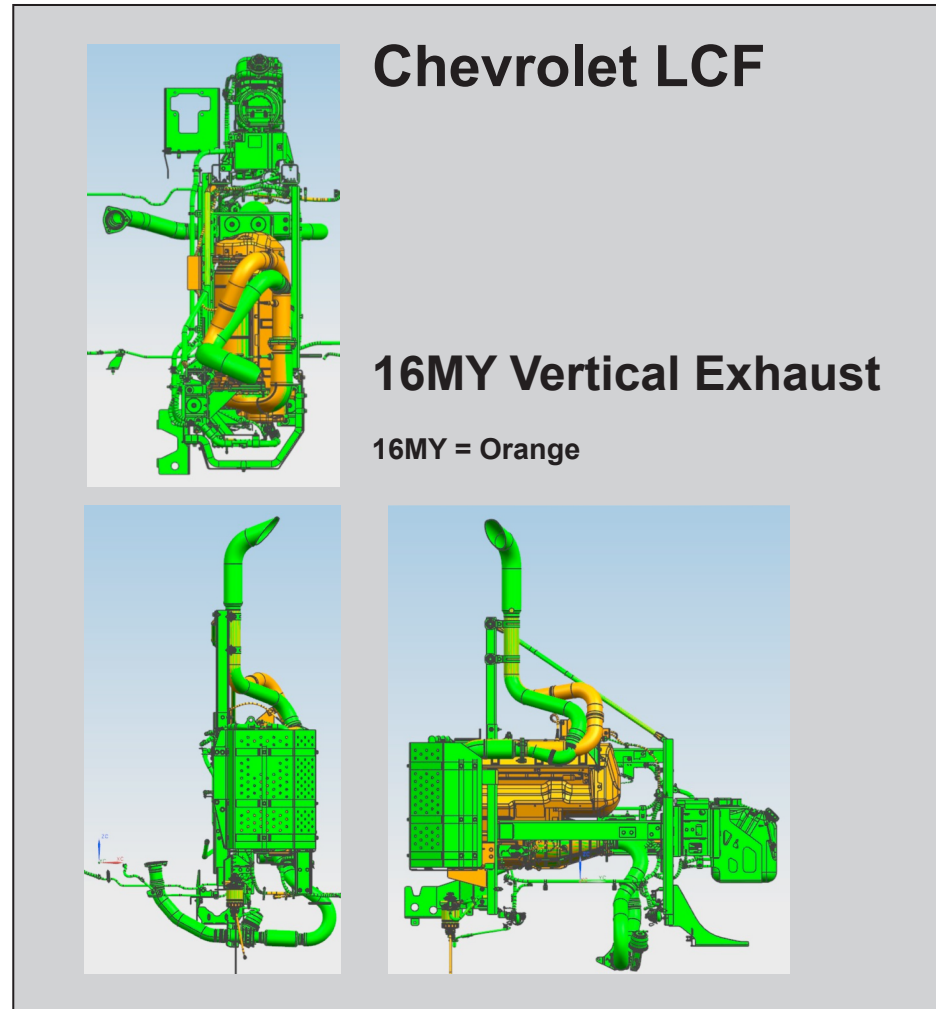


Figure 15.35.2

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Vertical Exhaust LCF Diesel Only



- Available on 4500HD, 4500XD, 5500HD, 5500XD
- Vertical exhaust is available on 109, 132.5, 150, 176, 200, and 212 inch wheelbases
- Option Code NPV
- Not available with 6.0L Gas Engine
- Available as a port installed option only
- Available with Automatic transmission only
- Available with in rail fuel tank only
- Available with single cab only

PAGE
17.1

Technical drawing of a vehicle body in side profile. The drawing includes the following dimensions in inches:

- Overall width: 58.7
- Width at front: 43.8
- Width at rear: 12.2
- Front overhang: 37.8
- Rear overhang: 2.9
- Front wheel offset: 8.9
- Wheelbase: 32.8
- Rear wheel offset: 4.6
- Overall height: 63.7
- Height to roofline: 55.3
- Height to top of roof: 34.2
- Height to top of rear window: 23.8
- Height to top of rear door: 34.5
- Height to top of rear bumper: 48.5
- Height to bottom of rear bumper: 9.3
- Front wheel offset: 16.3
- Wheelbase: 27.3
- Rear wheel offset: 2.4
- Overall length: 52.7
- Rear overhang: 6.3

Dimensions in inches

2017 Chevrolet Low Cab Forward

PAGE 17.2

Single Cab – Front View

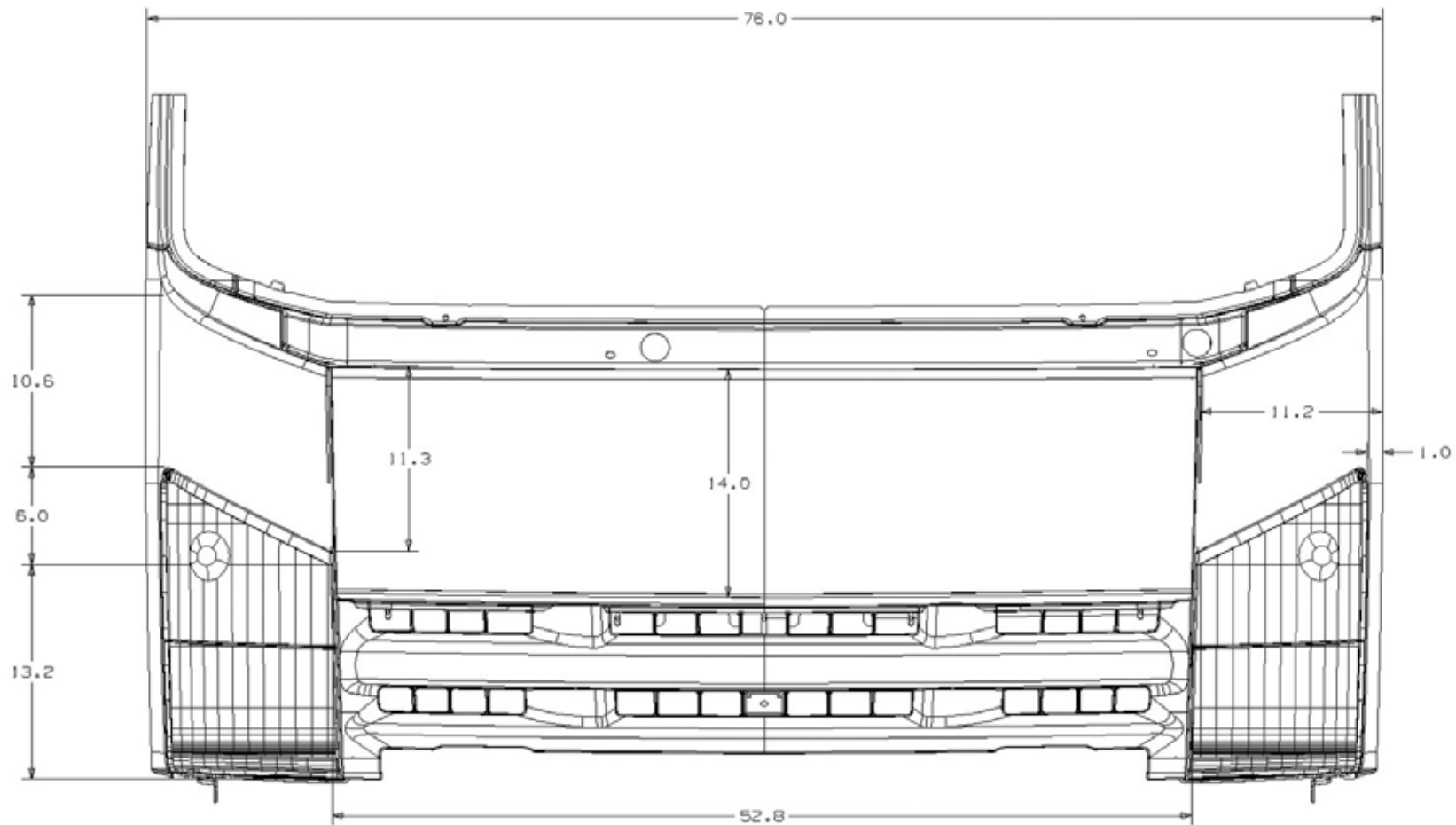


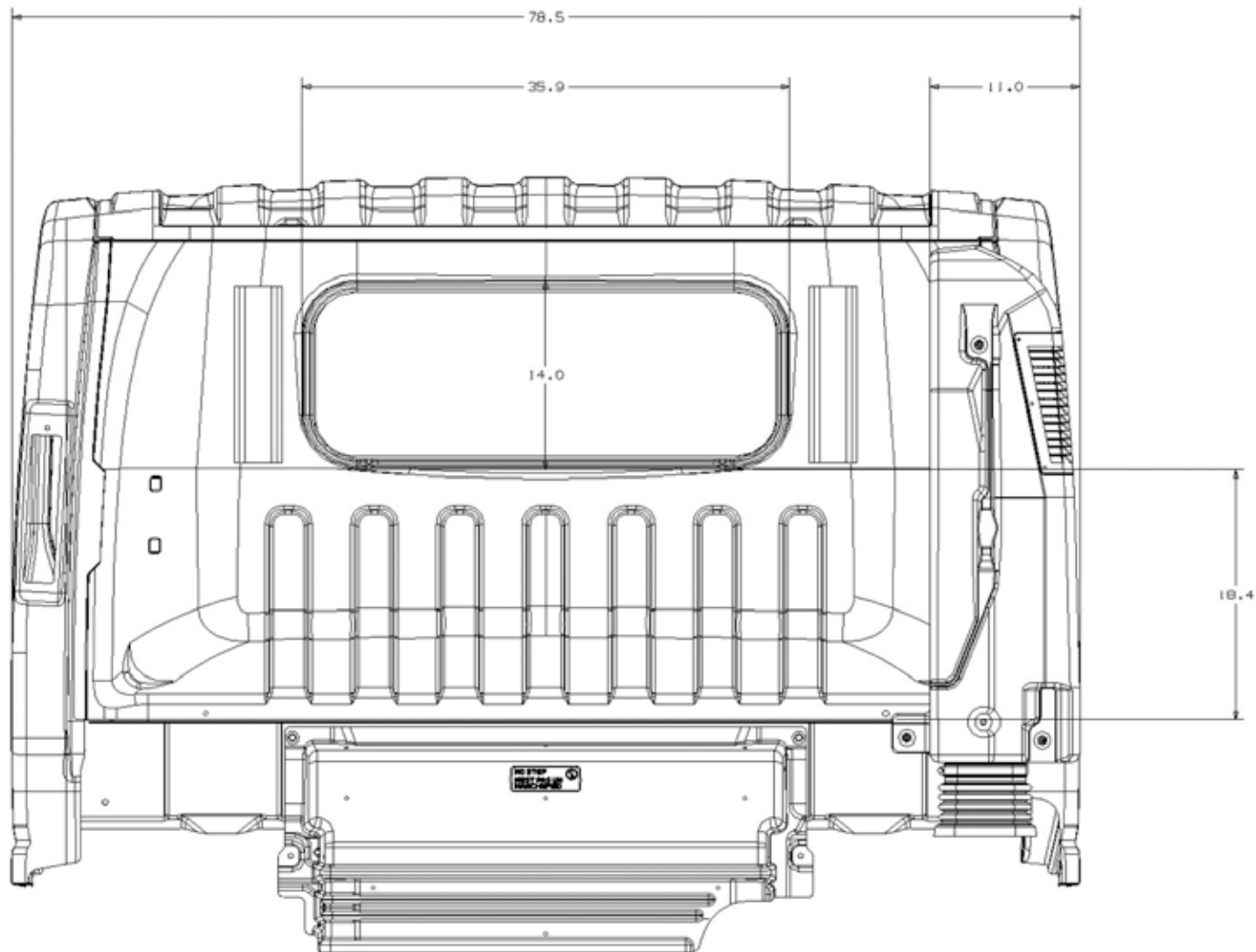
Figure 17.2.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

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Single Cab – Rear View



Note:
Top of window to top of roof 7.64 inches
Top of window to cab top of roof lights 9.64 inches

Figure 17.3.1

Dimensions in inches

PAGE **17.4**

Technical drawing of a truck cab showing side and front views with dimensions in inches.

Side View Dimensions:

- Overall width: 63.7
- Front overhang: 5.0
- Front fender height: 48.5
- Front fender width: 34.2
- Front fender depth: 23.8
- Front fender to door bottom: 37.8
- Door width: 2.9
- Door height: 34.5
- Door to rear fender: 3.5
- Rear fender width: 31.1
- Rear fender height: 23.6
- Rear fender to rear bumper: 34.4
- Rear bumper height: 9.4
- Overall height: 55.1

Front View Dimensions:

- Overall width: 58.7
- Front fender to door bottom: 8.9
- Door width: 16.3
- Door to rear fender: 32.8
- Rear fender to rear bumper: 27.3
- Overall width: 52.7
- Front fender to door bottom: 4.6
- Door width: 2.4
- Door to rear fender: 30.8
- Rear fender to rear bumper: 5.6
- Overall width: 48.9
- Overall width: 51.3

Dimensions in inches

2017 Chevrolet Low Cab Forward

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Crew Cab – Front View

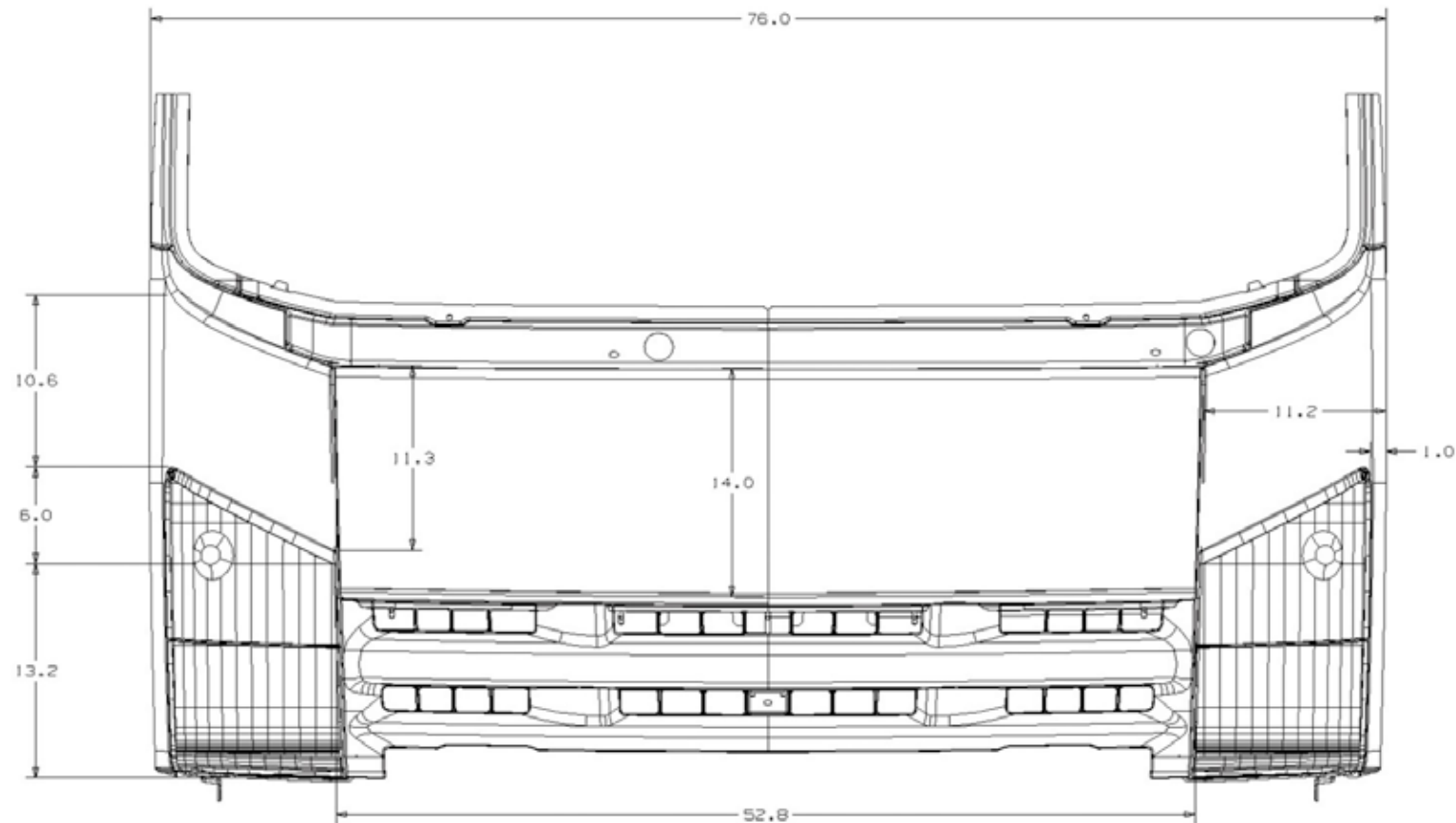


Figure 17.5.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

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Crew Cab – Rear View

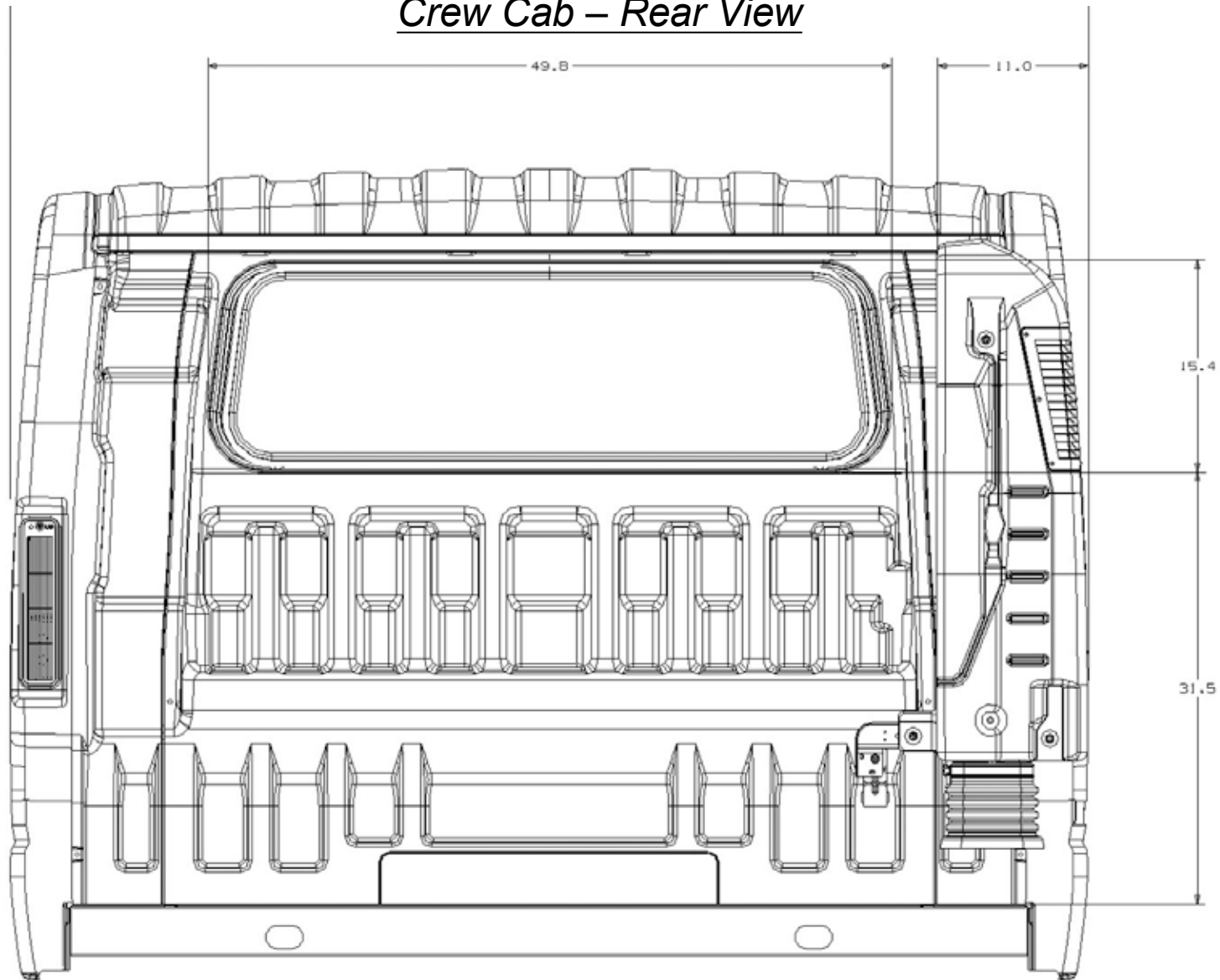


Figure 17.6.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

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Single Cab - Front and Side View (Air Shield on Single Cab only)

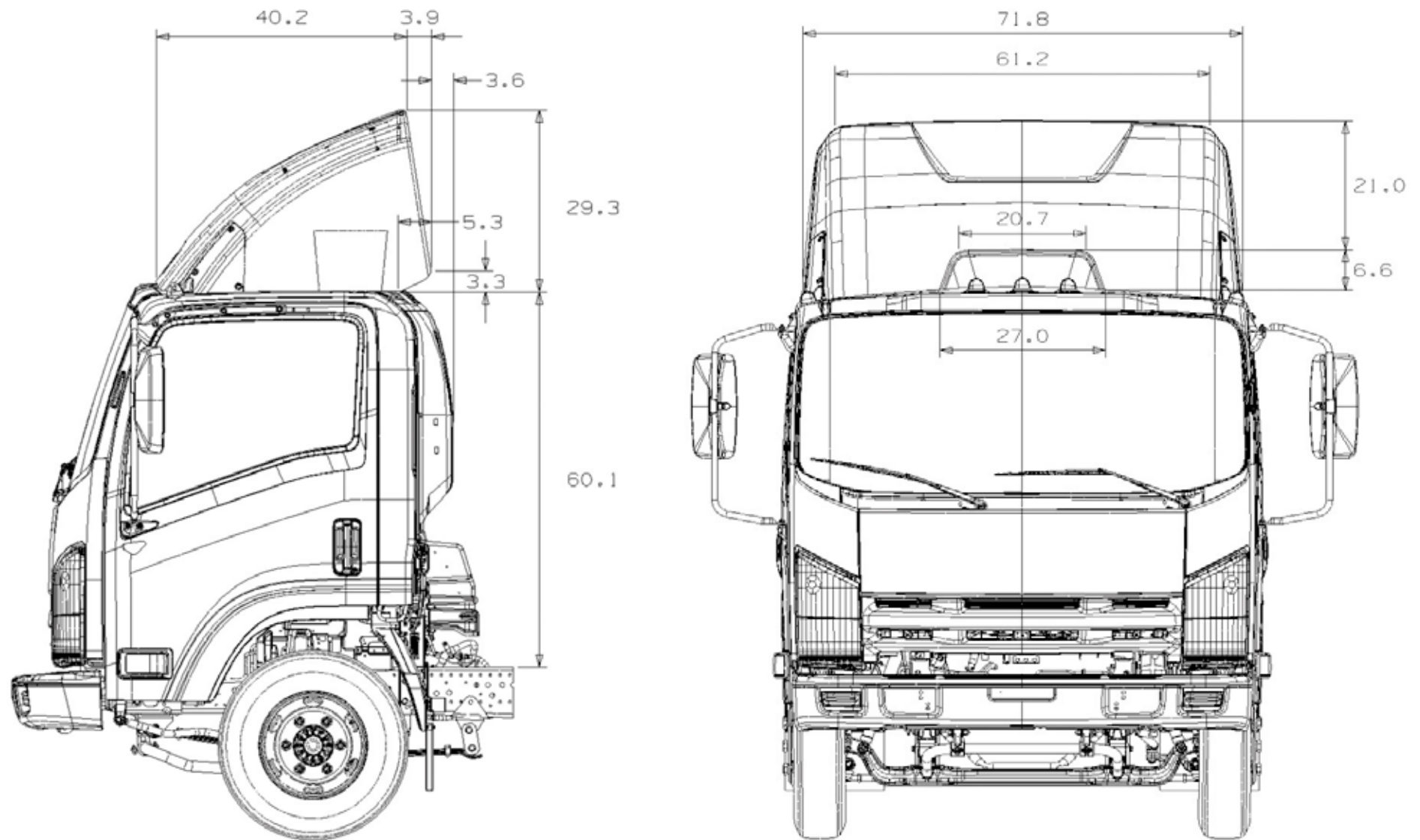


Figure 17.7.1

Dimensions in inches

2017 Chevrolet Low Cab Forward

LCF DIESELSERIES – UNDERSTANDING DPF REGENERATION; MODES OF REGENERATION QUICK REFERENCE GUIDE

2016-2017MY CHEVROLET LCF DIESELS EQUIPPED WITH DIESEL PARTICULATE FILTER (DPF)

Understanding SCR (Selective Catalyst Reduction)

INTRODUCTION TO SELECTIVE CATALYST REDUCTION (SCR) AND DIESEL EXHAUST FLUID (DEF)

INFORMATION

The Selective Catalyst Reduction (SCR) system reduces nitrogen oxide (NOx) emissions emitted from a diesel engine. The SCR system reduces NOx by adding (injecting) Diesel Exhaust Fluid (DEF) into the exhaust system and inducing a reaction converting NOx into water vapor and nitrogen. This reaction takes place without any driver involvement. In addition, as long as the DEF tank is regularly filled with good quality DEF and at a satisfactory level above empty, the driver may never notice the SCR system.

It is the driver's responsibility to keep a good supply of quality DEF in the DEF tank for the proper operation of the SCR system. The SCR system will continuously monitor itself and the NOx reduction performance for any condition that will reduce or stop this emission reduction. The information provided in the remainder of this bulletin will outline the SCR system functions, common characteristics of the SCR system, DEF quality requirements and indicator and warning lights should the SCR system detect an incorrect fluid or if the DEF level in the DEF tank becomes too low.

- SCR System Operation
- Adding DEF
- DEF Low Level Warning System
- DEF Quality and Storage
- DEF Safety
- Locating DEF

Understanding SCR (Selective Catalyst Reduction)

SCR SYSTEM OPERATION AND THE DRIVER

The SCR system requires good quality DEF for proper operation. The system is equipped with various sensors to detect the proper fluid is added to the DEF tank. The driver's only responsibility is to add good quality DEF to the DEF tank as necessary. The DEF level gauge on the instrument cluster shows the amount of DEF remaining. In addition the Multi Information Display (MID) will provide additional notice to encourage the driver to add DEF. In order to keep the SCR system operational and emissions compliant a warning system will activate when the DEF level becomes too low (see DEF Low Level Warning System). After starting the engine the SCR control module will pressurize the system and based on various sensor inputs begin to reduce NOx emissions. No driver action is necessary for the SCR system to function. After the engine is turned "OFF" the SCR control module will reduce system pressure and recover all DEF in the system piping back to the DEF tank. This action is taken as cold weather protection.

Note: Drivers may notice a buzzing noise from the driver side of the vehicle near the DEF tank a few moments after turning "OFF" the engine. This is a function of the SCR system and should be considered normal.

During cold weather seasons DEF may freeze in the DEF tank. Once the engine is started, engine coolant circulates through the DEF tank to thaw it when frozen and prevent it from freezing while the engine is running. The vehicle can be driven normally when DEF is frozen in the DEF tank.

ADDING DEF

Under normal conditions DEF can be added simply by removing the DEF tank fill cap and pouring in DEF. A few points to be aware of when transferring DEF from its original container to the DEF tank are:

1. Be sure the outside of the container is clean from any debris
2. If using a funnel or pump to transfer DEF, be sure to use equipment exclusively for DEF made from polyethylene resin or stainless steel.
3. Do not overfill the DEF tank

Take care not to spill DEF. When DEF dries it will leave a crystalline residue. This condition is normal. Wash, with water, or wipe away the residue to prevent it from entering the DEF tank. If DEF is spilled on the body or frame, it may cause the metal to rust, so wipe it off and then rinse it away with water.

Note: For cold weather climates (ambient temperatures below -11°C/12°F)

GM does not recommend parking the vehicle for long periods with the refill diesel exhaust fluid (DEF) warning light on in cold weather. The DEF low level warning system may not reset when DEF is added. Take the following actions to avoid this condition in cold weather.

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ADDING DEF - continued

1. Refill the DEF as soon as possible after parked vehicle.
2. Turn the engine control switch to the “ON” position from the “LOCK” position.
3. Wait for the warning buzzers and warning lights to turn off.
4. If the buzzer does not stop, return the engine control switch back to the “LOCK” position and add more DEF, and then start over the step (2) above.
5. Turn the engine control switch to the “LOCK” position. Turn the engine control switch to the “ON” position from the “LOCK” position.
6. Wait for the warning buzzers and warning lights to turn off.
7. If the buzzer does not stop, return the control switch back to the “LOCK” position and add more DEF, and then start over the step (2) above.
8. Turn the engine control switch to the “LOCK” position.

DEF LOW LEVEL WARNING SYSTEM

To avoid running out of DEF the SCR system will turn on warning and indicator lights and reduce engine power in progressive stages to encourage adding DEF. The following is a summary of the diesel exhaust fluid (DEF) low level warning lights, indicator lights and engine power reductions.

Continuing to drive for too long after these lights come on will eventually result in a severe vehicle speed limitation. These warning and indicator lights will go out automatically and engine power will be restored to normal after the SCR system detects that the DEF tank is refilled with DEF.

Stage 1: When the remaining level of DEF becomes excessively low the DEF gauge will change color from green to amber. In addition, warning and indicator lights will come on as shown in the table and engine power will be reduced so the vehicle speed will not exceed 55 MPH (89 km/h).

Stage 2: If driving is continued without adding DEF (approximately 200 miles (320 km)) the DEF gauge, warning and indicator lights will begin blinking. Again, engine power will be reduced so the vehicle speed will not exceed 35 MPH (56 km/h).

Stage 3: If driving is continued until the DEF tank is empty, the DEF gauge will change color from amber to red and the warning and indicator lights will begin to blink faster. Engine power will still be reduced so the vehicle speed will not exceed 35 MPH (56 km/h). The vehicle speed will be limited to 5 MPH (8 km/h) either when the vehicle is stopped after driving further on (approximately 35 miles (56 km)) or when the engine is restarted.

Stage 4: The DEF gauge is red, the indicator light is blinking and the buzzer is beeping continuously indicates the vehicle speed is limited to 5 MPH (8 km/h).

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DEF QUALITY AND STORAGE

Diesel Exhaust Fluid is a urea-based chemical reactant designed specifically for use in SCR systems to reduce NOx emissions. The raw materials used to produce DEF include natural gas, coal or other petroleum products. DEF is prepared by combining high purity urea with deionized water to create a 32.5% solution. DEF and similar urea-based products are widely used today for a variety of agricultural and industrial needs. Isuzu DEF is API certified and meets ISO22241 specifications for purity and composition, while being:

- Non-toxic and non-polluting
- Non-flammable
- Stable and colorless
- Non-hazardous

DEF should be stored in an indoor place with good ventilation avoiding direct sunlight, if possible. Be sure containers are sealed properly to avoid contamination and evaporation. To maximize shelf life, ideal storage temperature is below 30°C/86°F and above -11°C/12°F to prevent freezing. If frozen DEF can be thawed and used without any concerns.

DEF SAFETY

Though it should be harmless for physical contact, there may be a rare case to induce inflammation depending on the body constitution, so make sure to take following actions.

- In the event that the fluid does come into contact with your skin, wash it off with water. Although it is rare, a person with sensitive skin may suffer from irritation. If you come into contact with DEF, flush the affected area with soap and/or water. If irritation or redness develops or persists, seek medical attention.
- If it is accidentally swallowed, drink 1- 2 glasses of water or milk and seek immediate medical attention.
- If it does come into contact with the eyes, immediately rinse it off with a large amount of water for at least 15 minutes, and then seek medical attention.

Customer Assistance in locating DEF is available from all authorized GM dealers. In addition, the U.S. Department of Energy has created an on-line DEF locator that can be accessed at <http://www.afdc.energy.gov/afdc/locator/def/> . The American Petroleum Institute (API) also maintains a list of API-certified distributors of DEF on their web page at <http://www.apidef.org/searchresults.asp> .

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PREPARATION OF VEHICLES FOR STORAGE BEYOND 30 DAYS

In the event vehicles are to be stored for extended periods beyond 30 days, the following additional maintenance items are suggested:

NOTE: When vehicles are stored outside, particularly along coastal areas, paint and bright metal deterioration will be more rapid due to prevailing salt water atmosphere and high humidity. For this reason, it may be necessary to wash the vehicle and wax the chrome and stainless steel metal parts at least once a month.

NOTE: To prevent the possibility of a build-up of mildew, open the doors to air the vehicle out at least once a month depending upon climatic condition. If there is condensation, wipe the condensation dry with a clean cloth and air out the vehicle.

A. "Block out" mechanical clutches by holding the clutch pedal partially depressed (approximately 1/2 way) with wooden blocks or bracing. This will prevent clutch plates from rusting to the flywheel and clutch pressure plate.

B. Remove the windshield wiper arms and blades and store in the vehicle.

In addition, the following procedures are to be carried out at 30-day intervals and instituted after the first 30 days of vehicle storage.

- 1) Check the battery water levels and specific gravity. If voltage is under 12.20 volts, recharge the battery.
- 2) Connect the battery ground cable, and start the engine. Operate the engine at fast idle until normal operating temperature is reached (be sure there is sufficient fuel in tank - each vehicle is supplied with approximately 1.5 gallons of fuel. Do not let the tank run dry. While engine is warming up, perform Steps 3-7 below.
- 3) Shift the transmission lever to all positions while the engine is running.
- 4) Move the vehicle for a distance of at least 30 feet to lubricate the wheel bearings.

NOTE: The vehicle should be re-parked so that a different area of the tires is in contact with the ground to reduce the possibility of tire damage.

- 5) Turn the steering wheel lock-to-lock, while the vehicle is moving slowly.
- 6) Apply and release the service and parking brakes several times. (Do not apply the parking brake when the vehicle is moving)
- 7) Stop the engine.
- 8) Disconnect the battery ground cable.
- 9) Drain the brake air reservoirs (if appropriate) and close the drain cocks.

VEHICLES STORED BEYOND ONE YEAR

In the event vehicles are to be stored for extended periods beyond one year, the following additional maintenance is required:

- 1) Drain and refill Diesel Exhaust Fluid (DEF)

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Limited Slip Differential Fluid

Should it become necessary to add fluid to the rear axle of a chassis equipped with a limited slip differential please consult the Chevrolet Low Cab Forward Owners Manual for the appropriate selection of lubricants to be used.

Axle Housing Stamp

| Ratio | Stand Axle | LSD Axle |
|-------|---------------|-------------|
| 4.300 | SO | HO |
| 4.555 | C9 | D9 |
| 4.777 | S9 | H9 |
| 5.125 | C8 | D8 |
| 5.375 | S8 | H8 |
| 5.571 | A7 | B7 |
| 5.857 | C7 | D7 |

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Paint Code Chart

EXTERIOR PAINT CODE INFORMATION

| GM Ordering Color Name Exterior | AKZO NOBEL CODE | DUPONT CODE | NEXA COLOR CODE | PPG CODE | SHERWIN WILLIAMS/ MARTIN SENOUR | SPIES HECKER CODE | STANDOX CODE | PANTONE (1) |
|------------------------------------|--------------------|----------------|--------------------|----------|--|----------------------|-----------------|-------------|
| White | FLNA40156 | 729 | 729 | 91508 | 729 | 729 | 729 | 7541C |
| Wheatland Yellow | FLNA10182 | 812 | 812 | 83931 | 812 | 812 | 812 | 137C |
| Dark Woodland Green | FLNA60181 | 807 | 807 | 48339 | 807 | 807 | 807 | 3308C |
| Cardinal Red | ISU736 | 736 | 736 | 75097 | 736 | 736 | 736 | 202C |
| Dark Blue | ISU695 | 695 | 695 | 909649 | 695 | 695 | 695 | 655C |
| Black | ISU508 | 508 | 508 | N/A | 508 | 508 | 508 | Black 6C |

(1) The Pantone colors listed are the closest Pantone color numbers to the OEM paint colors and are given for reference only

Figure 19.1.1