

2018 Chevrolet Low Cab Forward

Important

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



6500XD Diesel Chassis Cab

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, 6500XD Diesel Chassis Cab

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LCF MEDIUM DUTY V.I.N. IDENTIFICATION

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
	J	A	L	E	5	J	1	2	0	H	7	9	0	0	7	5	0	
1-3	CODE		MANUFACTURER / ASSEMBLER															
	JAL		ISUZU MOTORS LTD, JAPAN															
	54D		SPARTAN MOTORS INC, USA															
4	CODE		GVWR RANGE		BRAKE SYSTEM													
	B		10001-14000		HYDRAULIC BRAKE													
	C		14001-16000		HYDRAULIC BRAKE													
	E		16001-19500		HYDRAULIC BRAKE													
	K		23501-26000		AIR BRAKE													
5	CODE		MAKE		DESCRIPTION													
	4		ISUZU		NPR / NPR-HD / NPR-XD													
	5		ISUZU		NQR/NRR													
	6		ISUZU		FTR													
6	CODE		CAB TYPE															
	W		Tilt Cab, BBC = 71 Inches															
	J		Non-Tilt Cab, BBC = 110 Inches															
	T		Stripped Chassis															
	S		Tilt Cab, BBC = 81 Inches															
7	CODE		AXLE DESCRIPTION															
	1		4X2, 2 AXLES, 1 DRIVING															
8	CODE		ENGINE DESCRIPTION															
	6		5.2L, L4 Diesel, Turbo Intercooler															
	7		3.0L, L4 Diesel, Turbo Intercooler															
	B		6.0L, V8 Gasoline															
	C		6.0L, V8 Gasoline (convertible to CNG / LPG)															
9	CHECK DIGIT																	
10	CODE		MODEL YEAR															
	F		2015															
	G		2016															
	H		2017															
	J		2018															
11	CODE		PLANT															
	7		FUJISAWA, JAPAN															
	S		CHARLOTTE, MICHIGAN															
12	CODE		DESCRIPTION															
	W		Stripped Chassis (DSL) 12,000 GVWR															
	M		Stripped Chassis (DSL) 13,000 GVWR															
	K		4500XD (DSL) 16,000 GVWR															
	D		4500HD (DSL) 14,500 GVWR															
	3		5500XD (DSL) 19,500 GVWR															
	F		3500HD (DSL) 13,000 GVWR															
	8		3500/4500 (GAS) 12,000 / 14,500 GVWR															
	9		5500HD (DSL) 17,950 GVWR															
	G		6500XD (DSL) 25,950 GVWR															
13-17	PLANT SEQUENTIAL NUMBER																	

2017 Reach: JALB4T170H7W09999
 2018 NQR Crew Cab: JALE5J160J7909999
 2018 NPR-HD Gas Standard Cab: 54DC4W1B0J5809999
 2018 FTR Wide Cab 54K65160J5G09999

2018 Chevrolet Low Cab Forward

PAGE	1.2
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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.

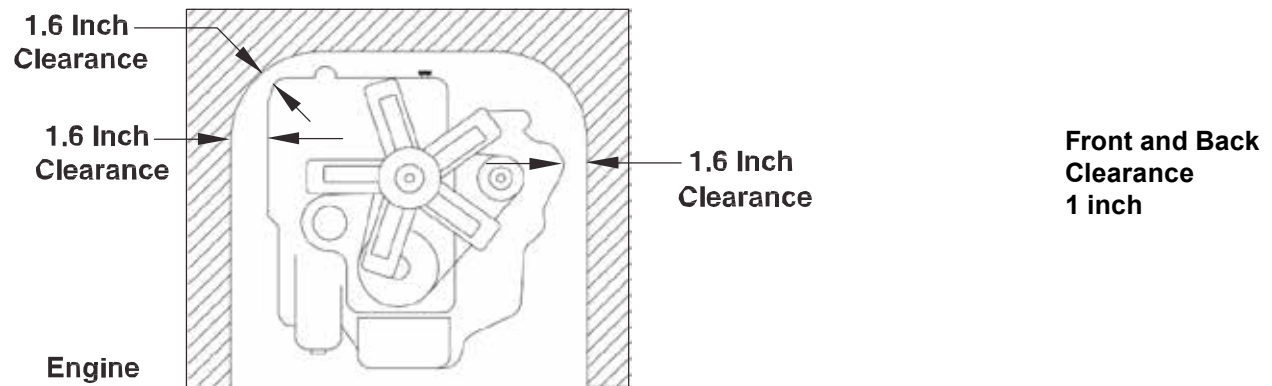


Figure 2.1.1

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.

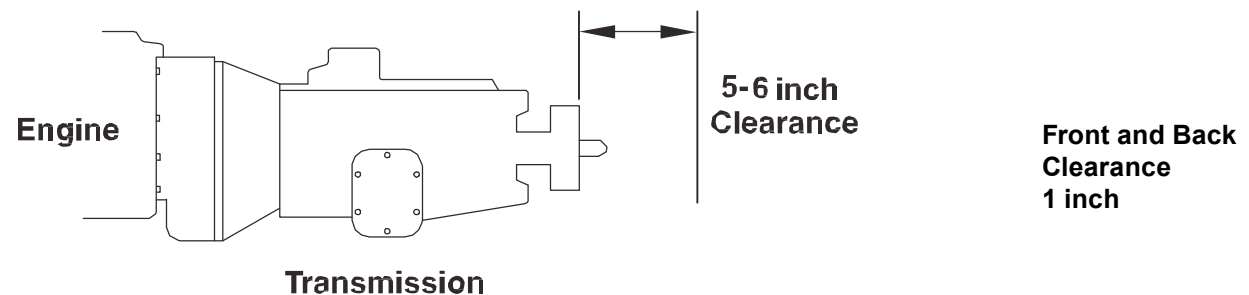
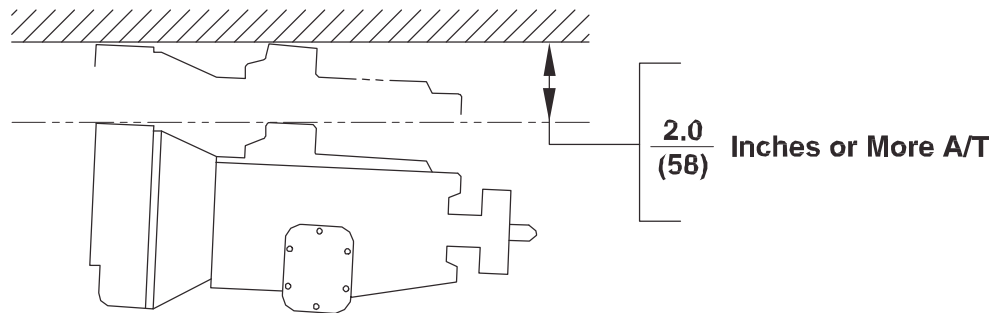


Figure 2.1.2

2018 Chevrolet Low Cab Forward

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.

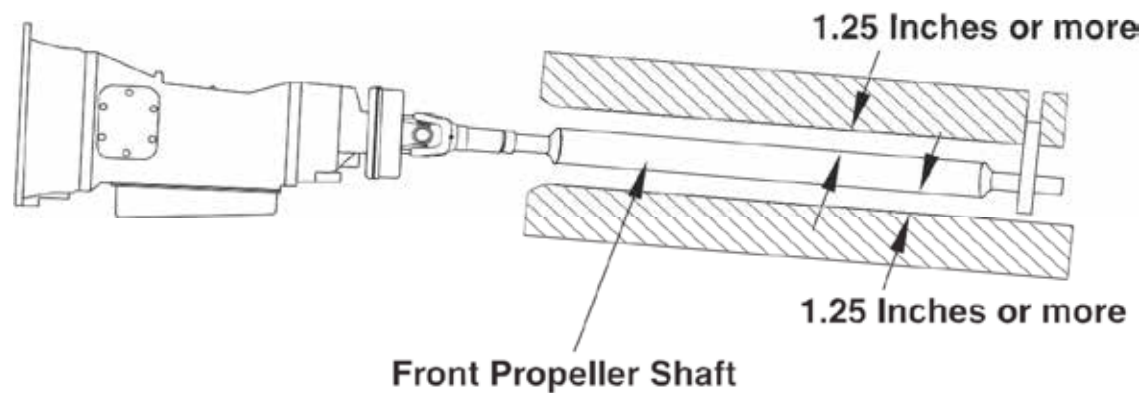


Figure 2.2.2

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.

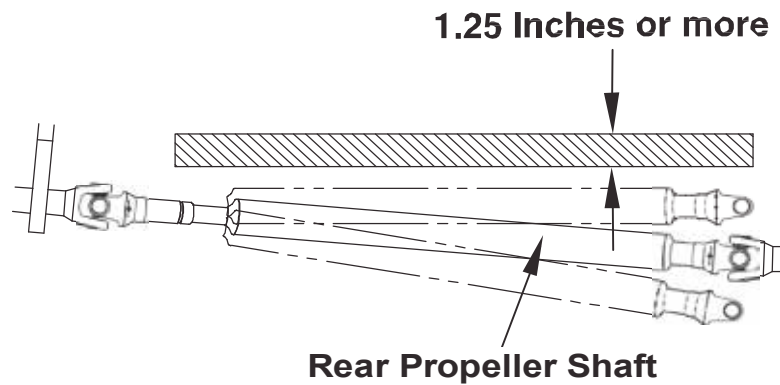


Figure 2.3.1

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.

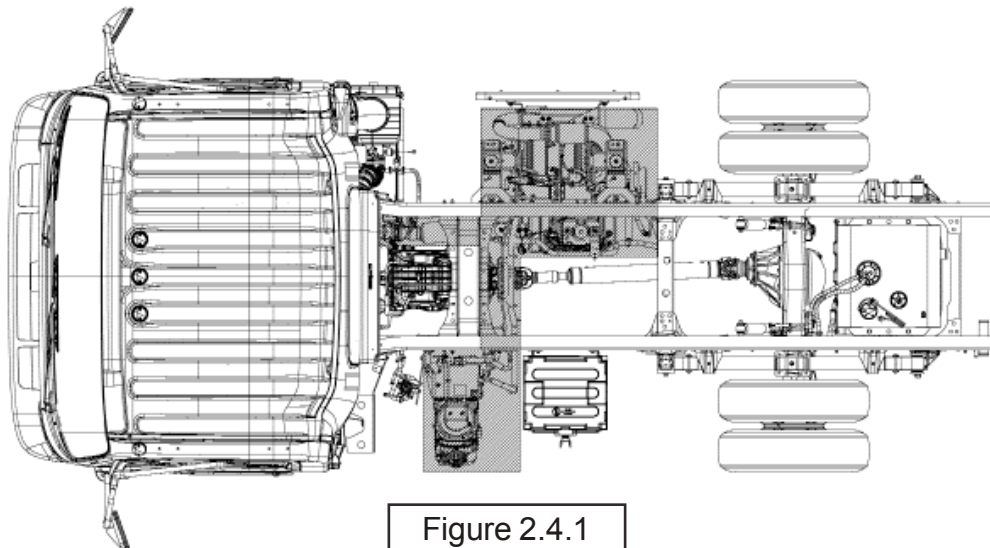


Figure 2.4.1

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.

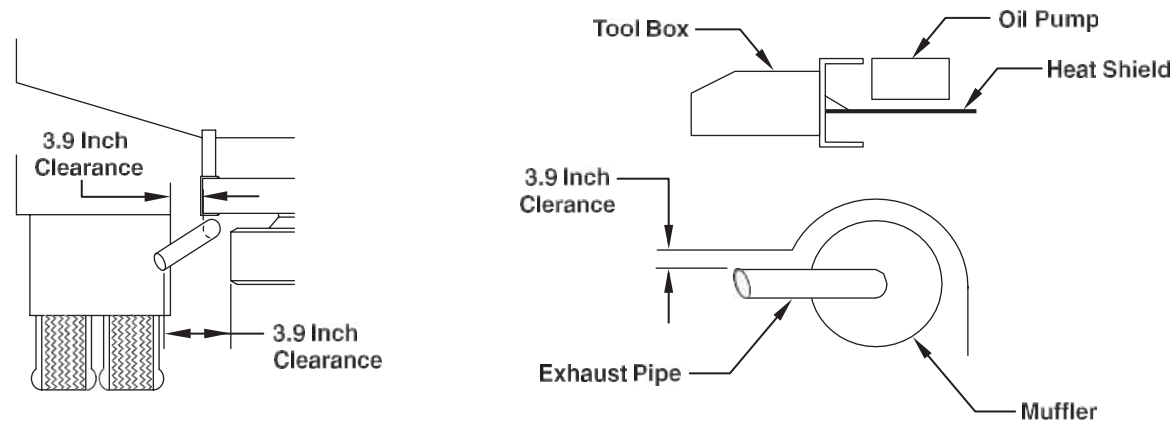


Figure 2.5.1

- 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

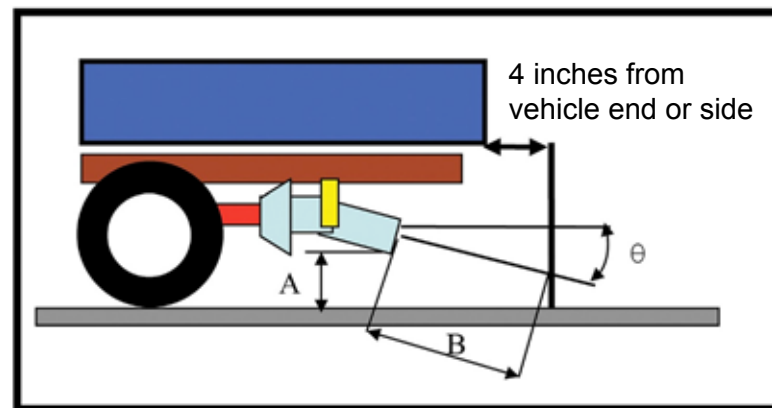
Clearances

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

2018 Chevrolet Low Cab Forward

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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.

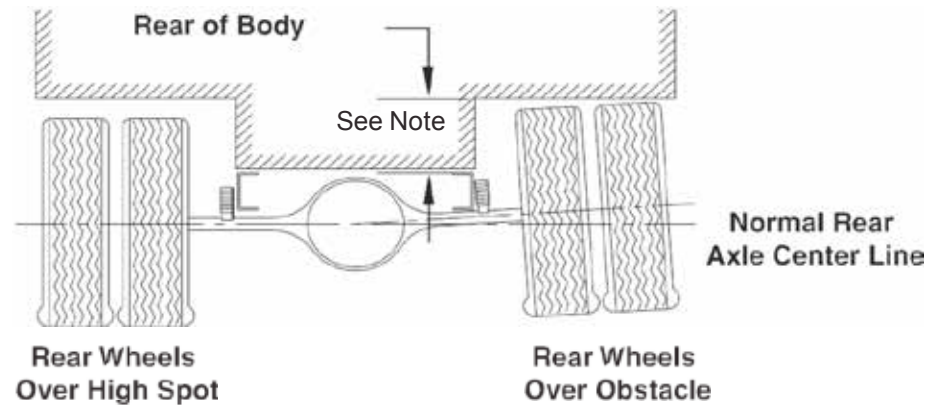


Figure 2.7.1

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

2018 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.

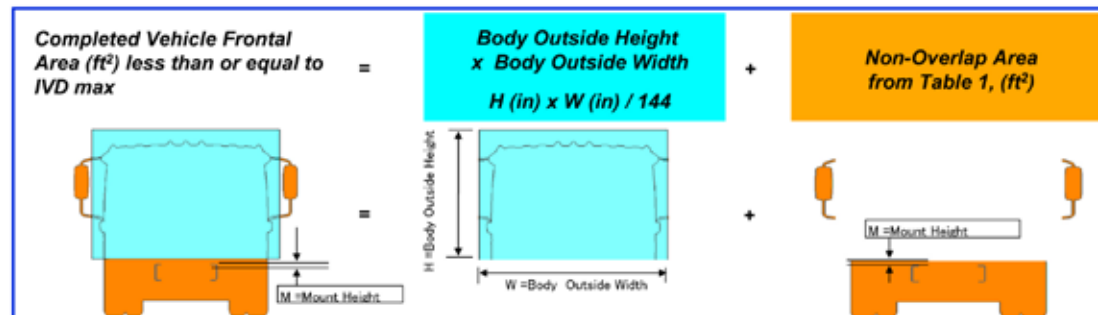


TABLE 1 Cab/Chassis Non-Overlap Area, ft ²														
W Body Width	M, Body Mounting Height (Between the bottom of Body and the Top of Frame Rail, in inches)													
	2	2.5	3	3.5	4	4.25	4.5	5	5.5	6	6.5	7	7.5	8
84"	16.7	17.0	17.3	17.6	17.8	18.0	18.2	18.4	18.7	19.0	19.3	19.5	19.8	20.1
90"	16.6	17.0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

2018 Chevrolet Low Cab Forward

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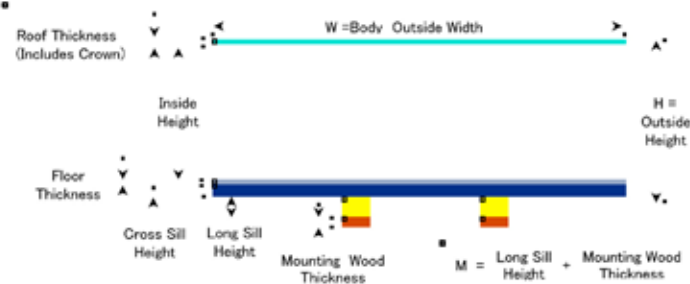
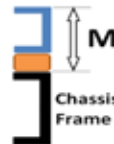
Body Installation

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

2018 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.

www.gmupfitter.com

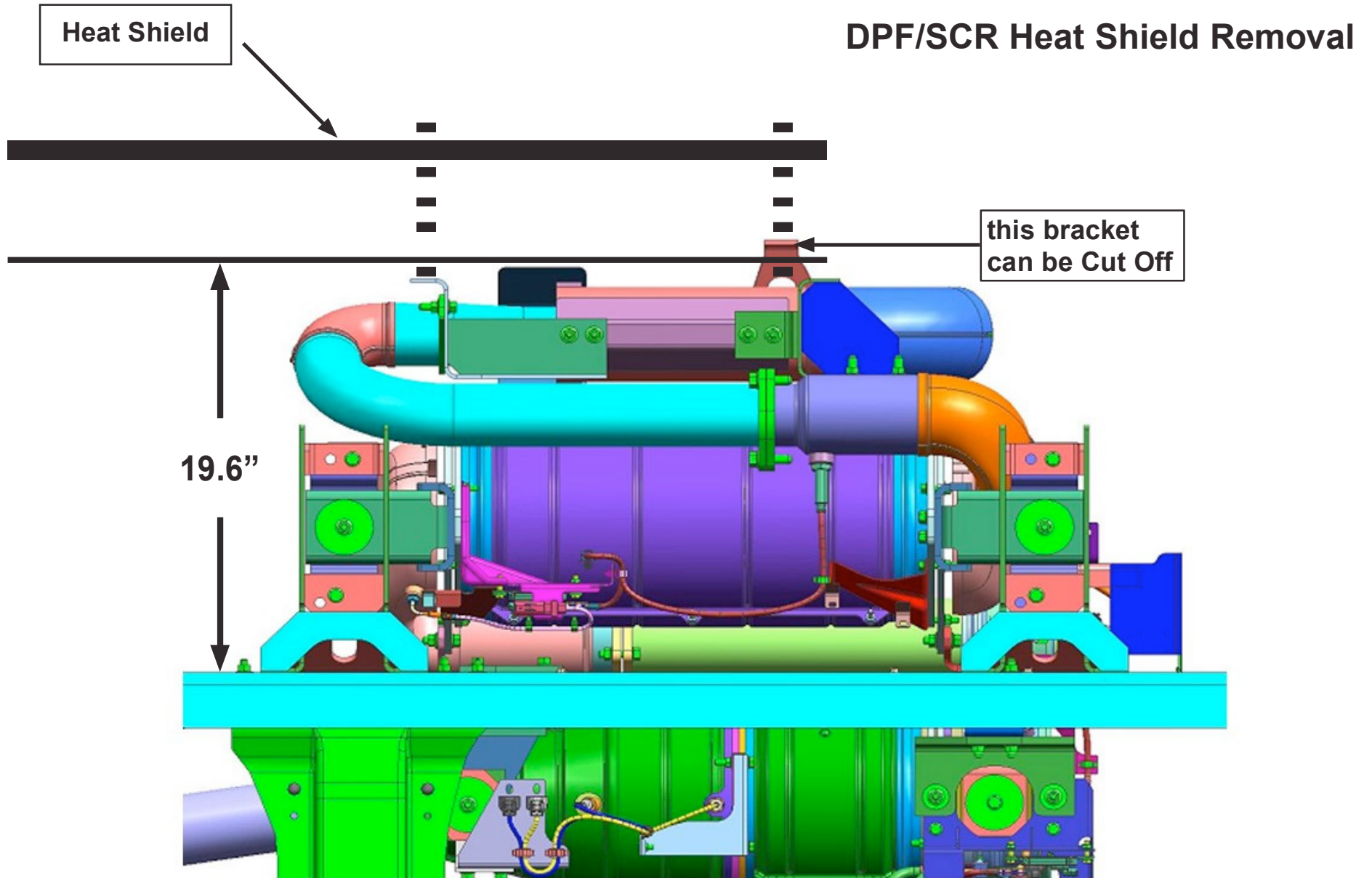


Figure 2.11.1

2018 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.

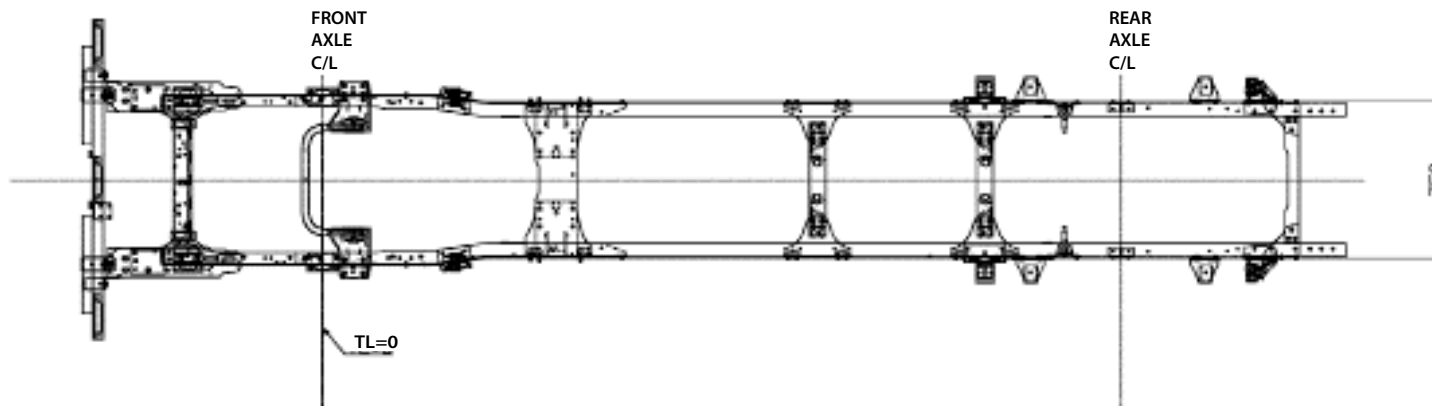


Figure 2.12.1

2018 Chevrolet Low Cab Forward

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

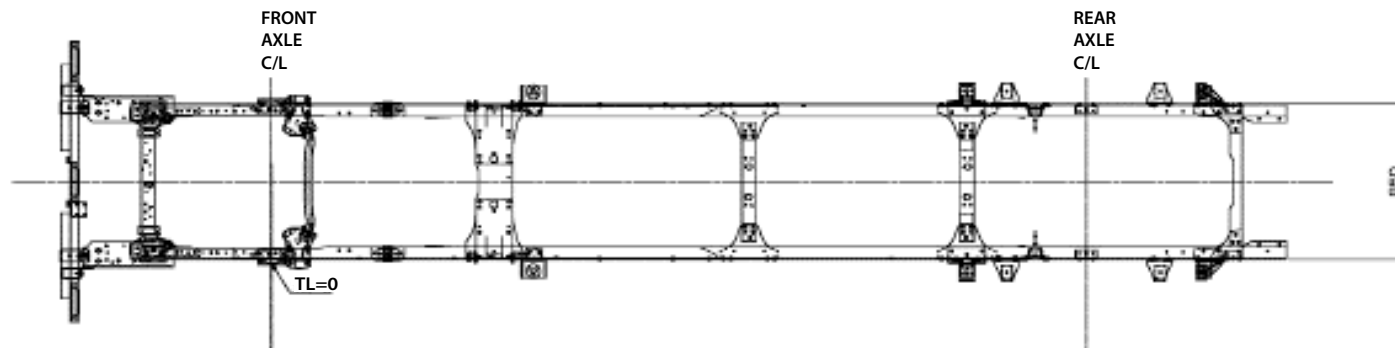
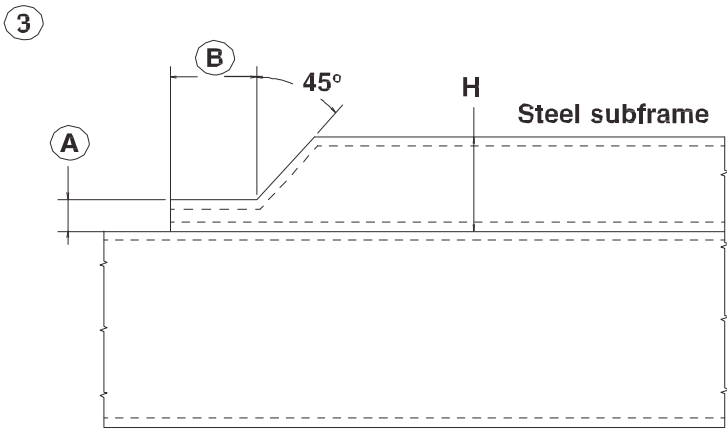
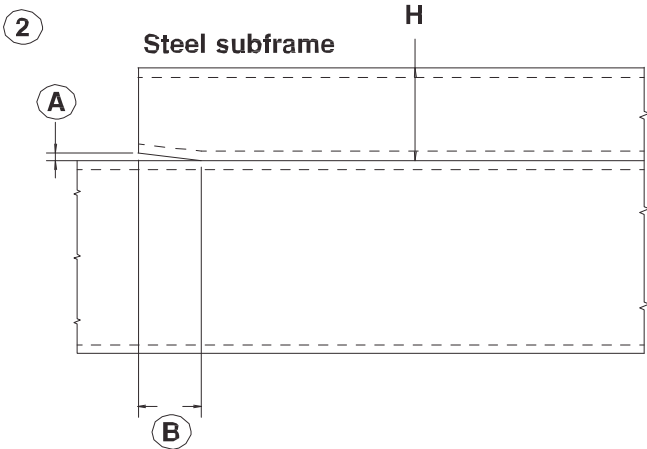
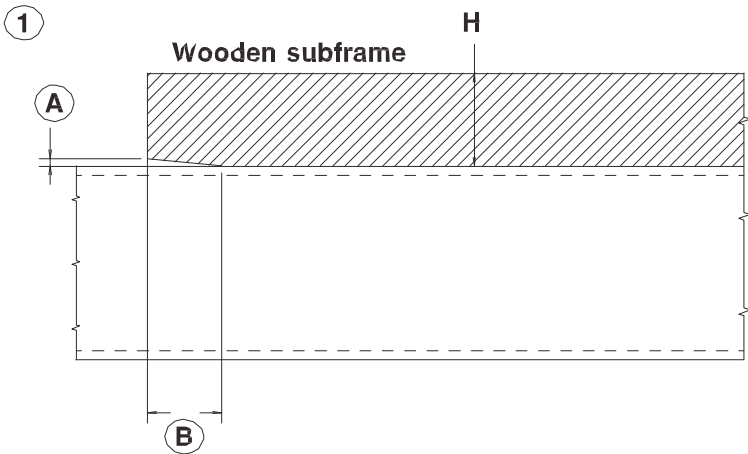


Figure 2.13.1

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



Drawing	A	B
①	0.2 ln.	$\frac{H}{2} \sim H$
②	0.2 ln.	H or more
③	$\frac{H}{3}$	H or more

Figure 2.14.1

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

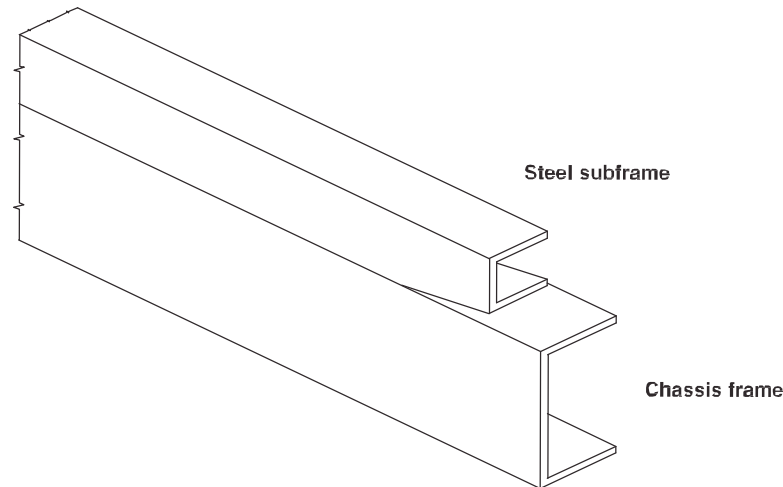


Figure 2.15.1

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.

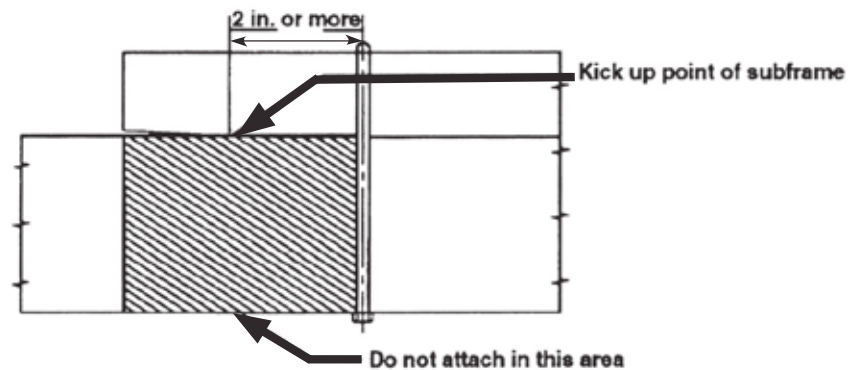


Figure 2.15.2

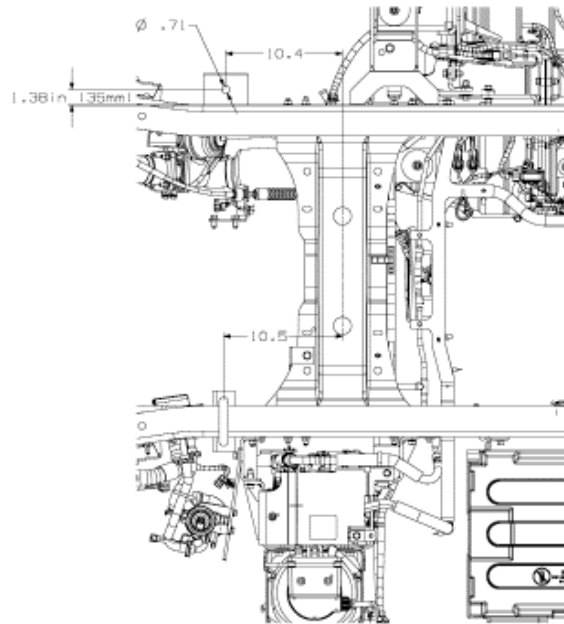
Prohibited Attachment Areas

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

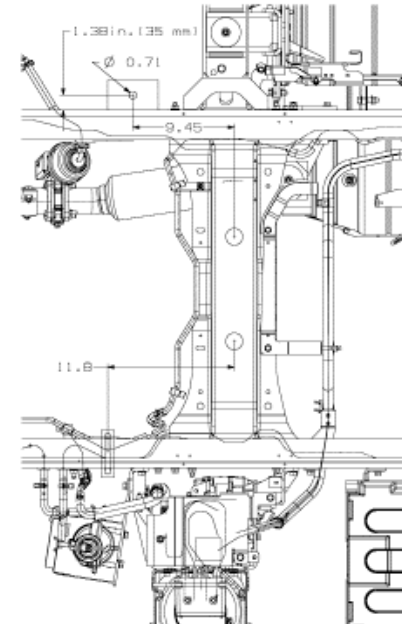
Crush Block and U-Bolt
(Left Hand -Rail)

Body Mounting Bracket
(Right Hand -Rail)

Figure 2.16.1

4500, 4500HD, 4500XD, 5500HD, 5500XD & 6500XD

Forward



Ref Body mount kit

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

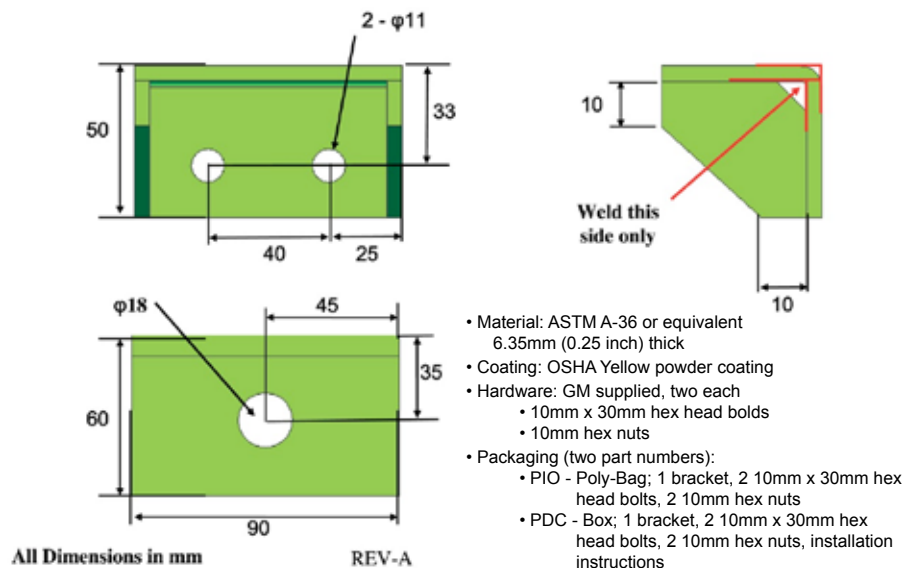
Body Mounting Bracket
(Right Hand -Rail)

Figure 2.16.2

U-Bolt Placement – 150" W/B Crew Cab

Front, RHS U-bolt on 150" Wheelbase Crew Cab interferes with after treatment system. General Motors will supply body mounting bracket on chassis to facilitate body mounting on the passenger side of the vehicle as Illustrated.

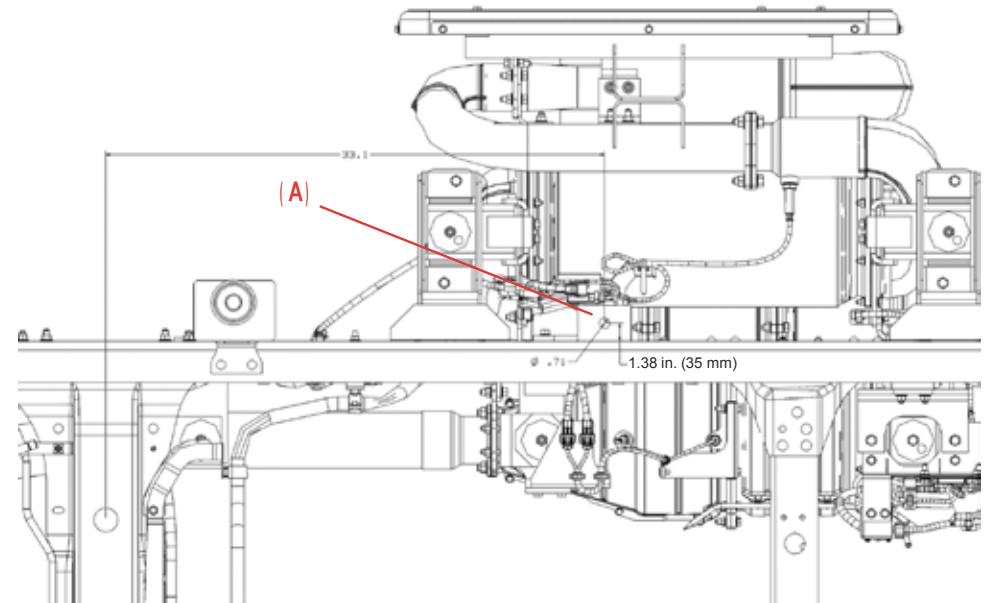
**CREW CAB 150" WB
Body Mounting Bracket (A) Dimensions**



Body Mounting Bracket will be painted "YELLOW" for easy identification

Figure 2.17.1

**CREW CAB 150" WB
Body Mounting Bracket (A) Location**



Ref. Body Mount Kit crew cab 150 wheelbase. See GM Dealer.

Figure 2.17.2

Subframe Mounting

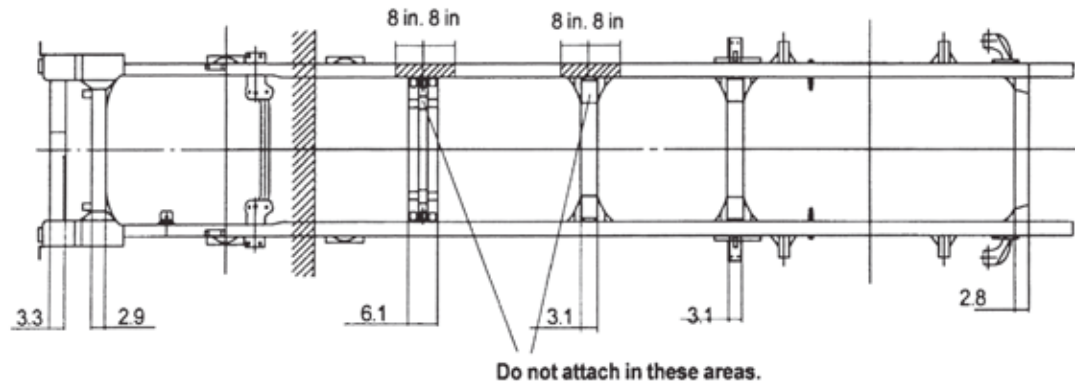
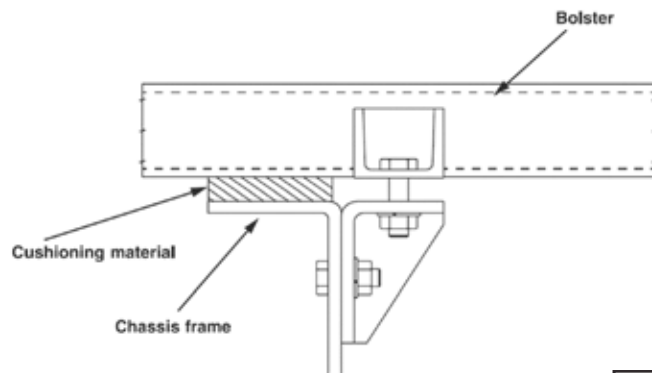


Figure 2.18.1

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).

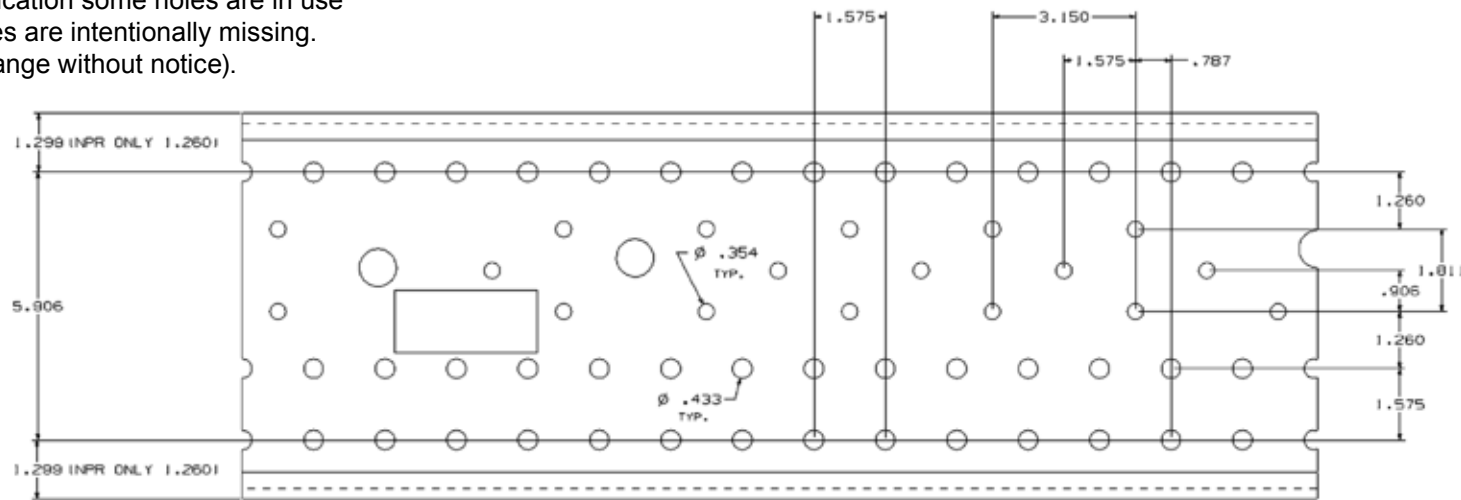
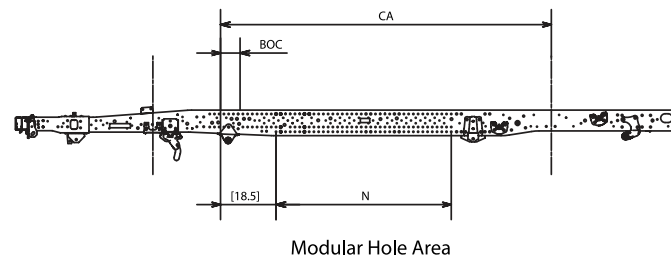


Figure 2.19.1



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.

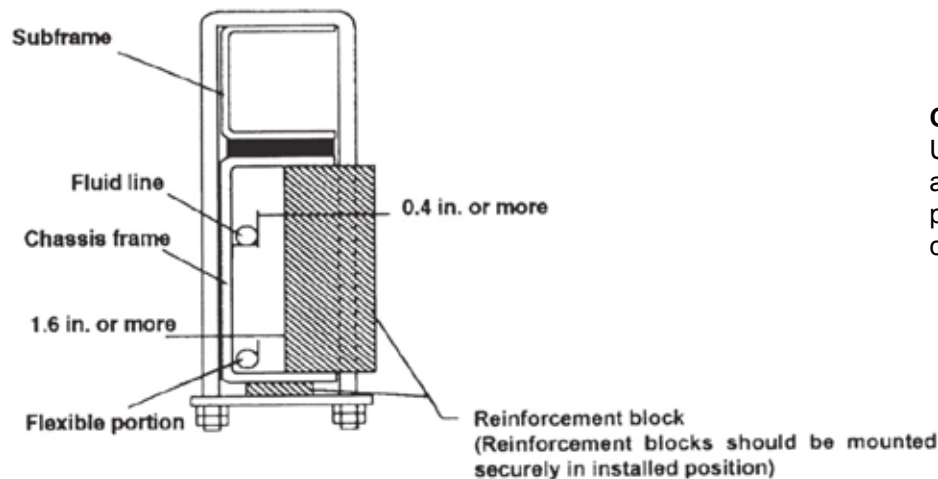
Note: Dimensions in inches

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

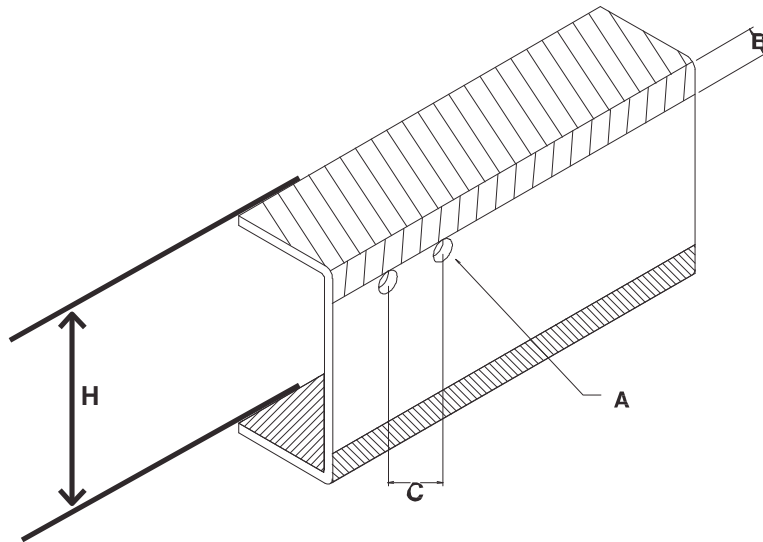
The chassis frame is designed and built with consideration for proper load distribution. Sufficient physical strength is provided when the load is evenly distributed. Installation of special equipment on the chassis frame can cause variations in load distribution. If even distribution of load is not 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.

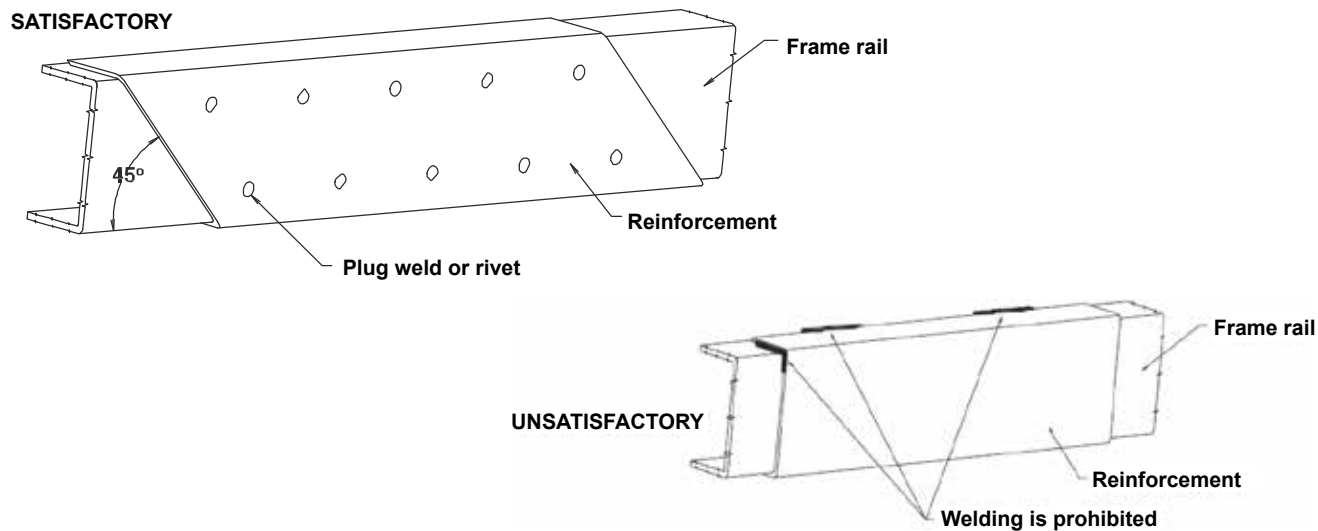


Figure 2.23.1

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.

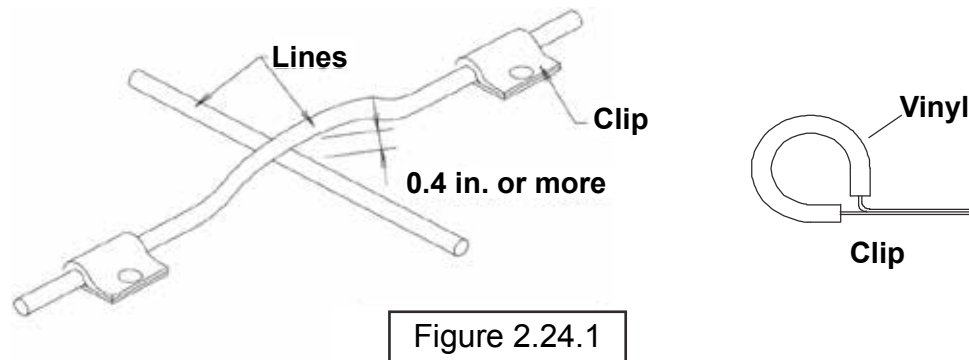
Preparation of Additional Lines

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.

2018 Chevrolet Low Cab Forward

Electrical Wiring and Harnessing

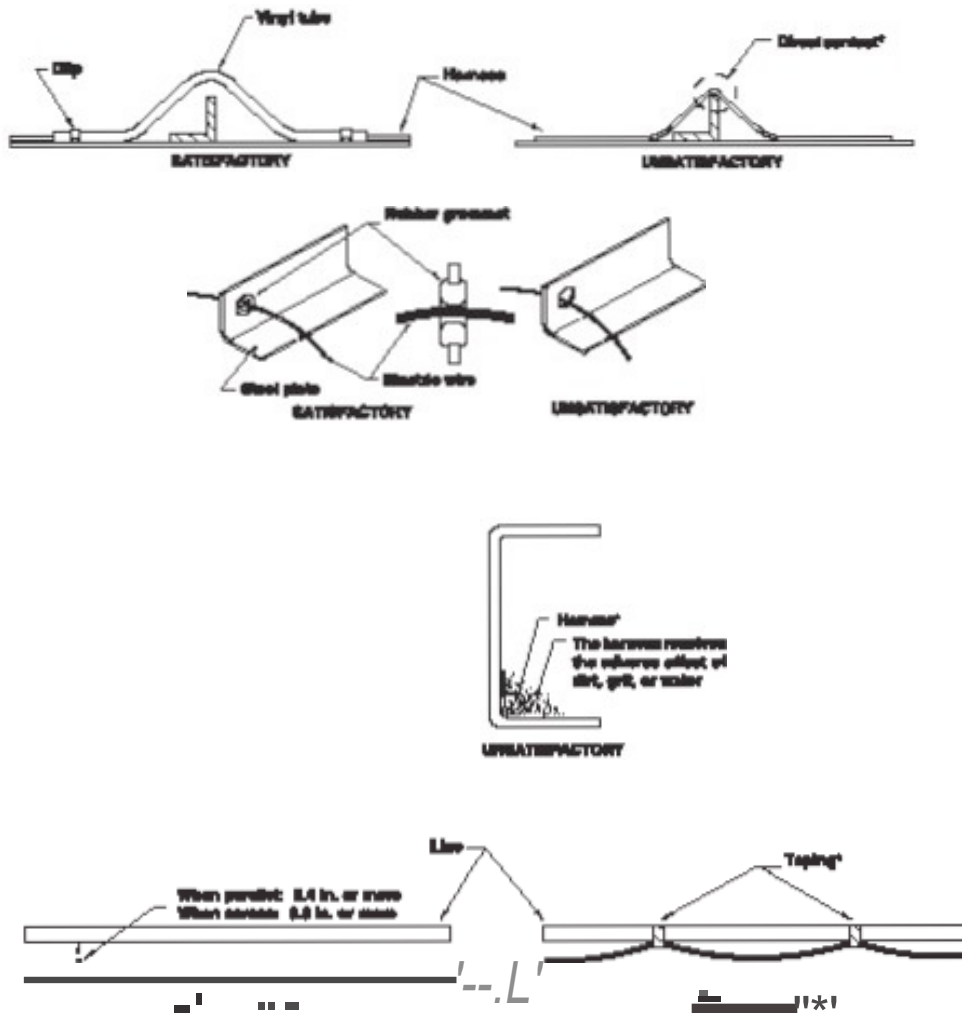


Figure 2.26.1

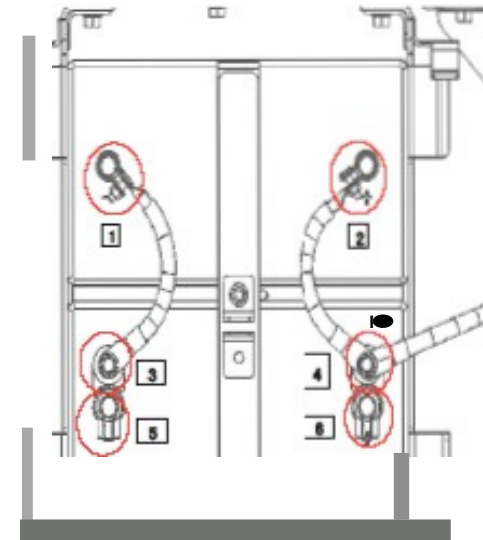


Figure 2.26.2

2018 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

2018 Chevrolet Low Cab Forward

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).

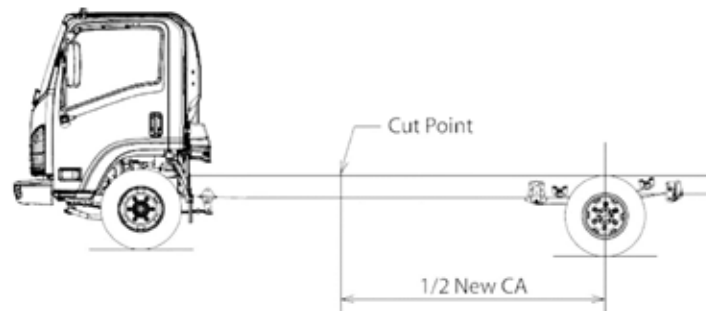


Figure 2.31.1

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.

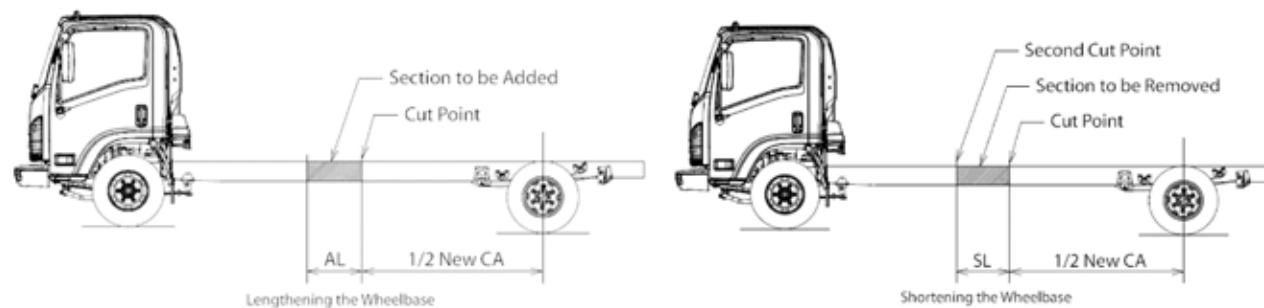


Figure 2.31.2

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.

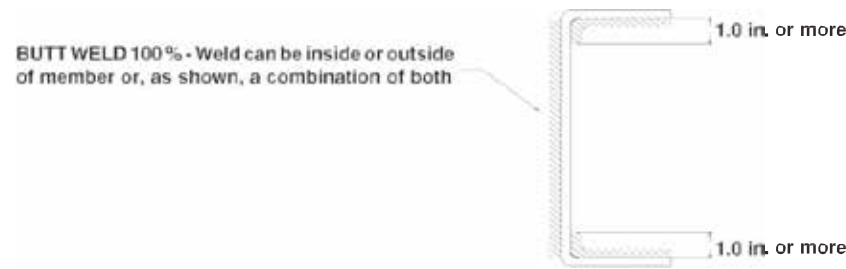
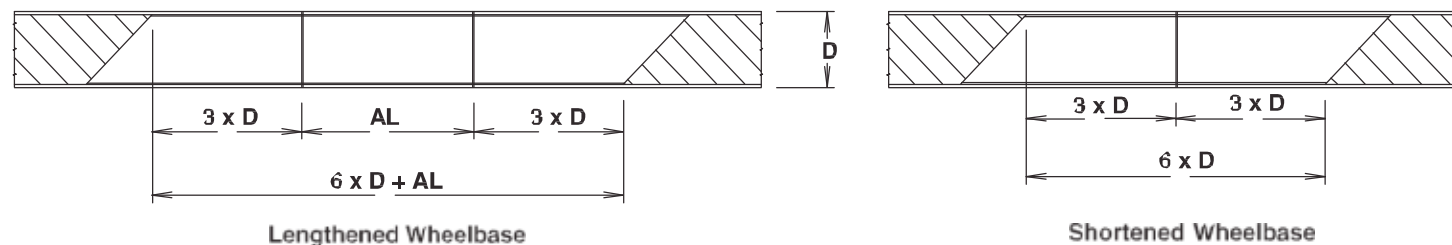


Figure 2.32.1

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.

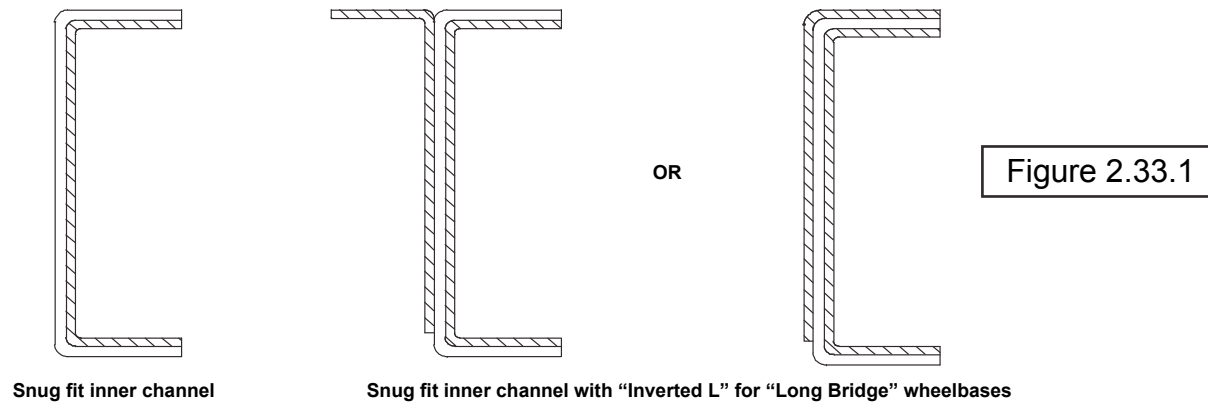


D = Original frame rail web depth

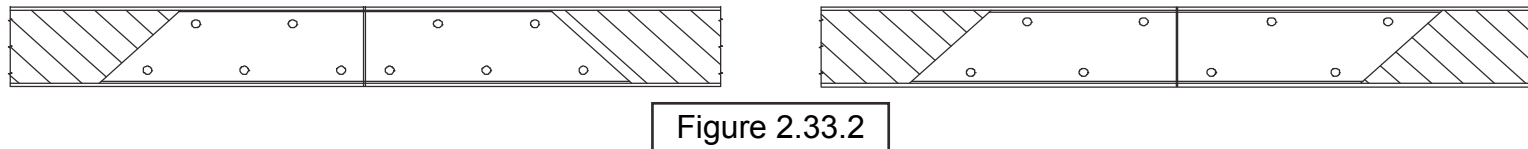
Figure 2.32.2

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.



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:

2018 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

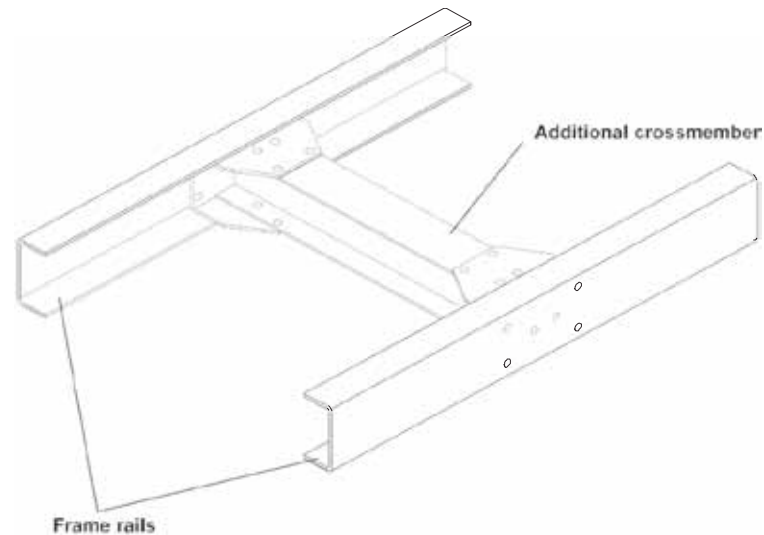


Figure 2.35.1

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							
P 32003		FNJ	132.5	6.5			X					
P 33003		FWH	150	6.5				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 ₍₂₎						
P 14043/P 34043		FNW	176	5				X ₍₂₎				
T 21003	3500 HD 13,000 lbs	EB4	109	6.1	X	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					
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 ₍₁₎						
T 34043		FNR	176	5.3				X ₍₂₎				

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.

2018 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.

2018 Chevrolet Low Cab Forward

INSTALLATION OF BODY AND SPECIAL EQUIPMENT 6500XD 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.

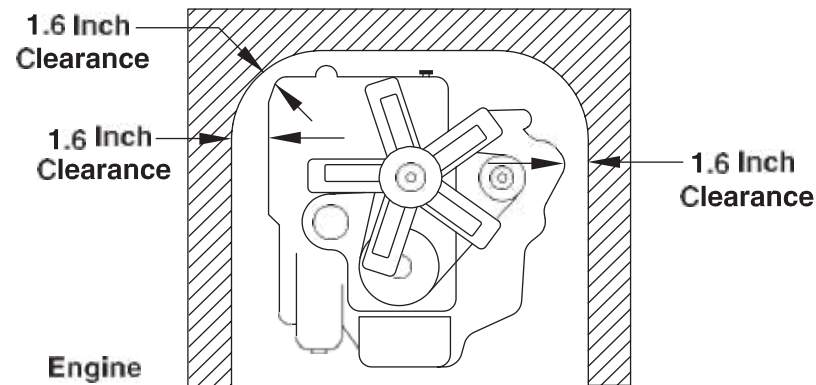


Figure 3.2.1

**Front and Back
Clearance
1 inch**

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.

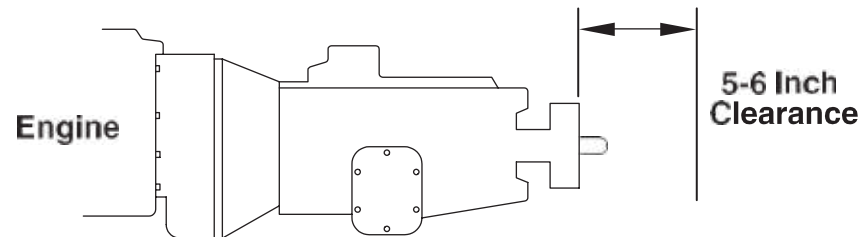


Figure 3.2.2

**Front and Back
Clearance
1 inch**

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

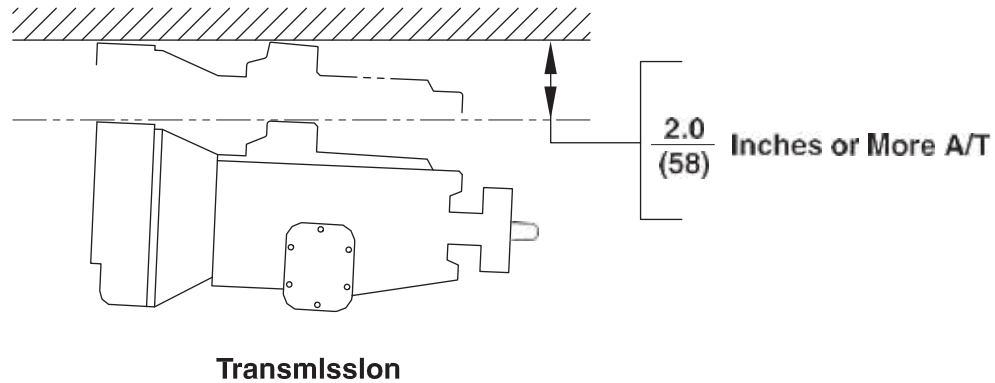


Figure 3.3.1

Front and Center Propeller Shafts

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

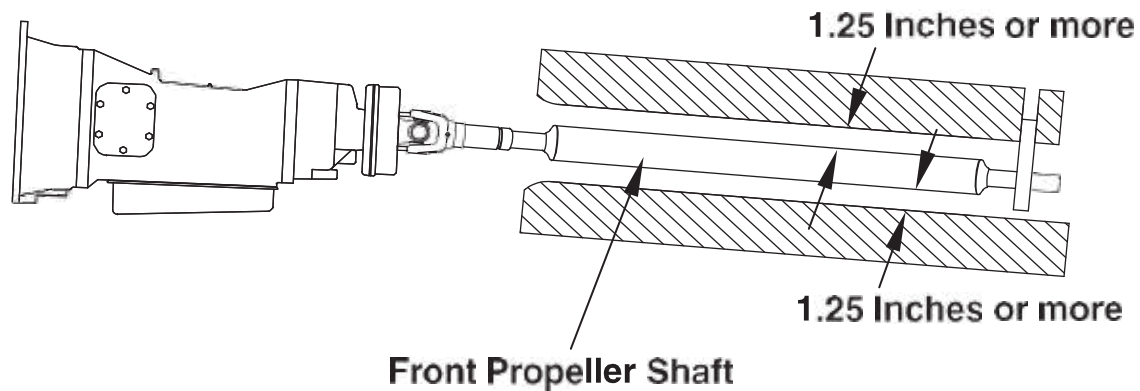


Figure 3.3.2

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.

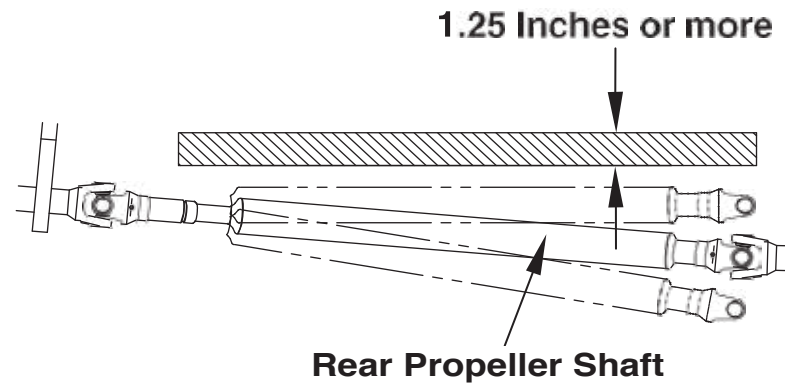


Figure 3.4.1

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.

6500XD No Modification Zones

The DPF/SCR unit **CANNOT** be modified or moved .

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

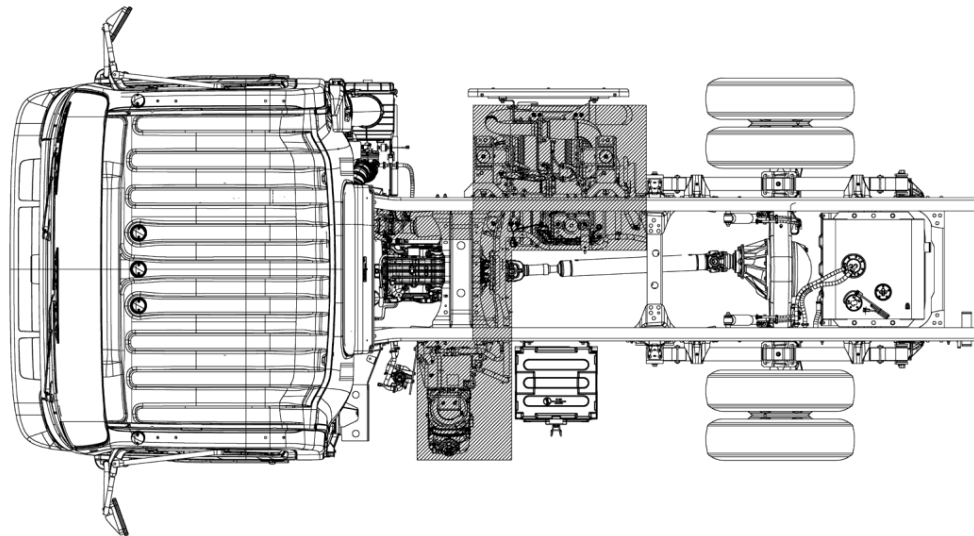


Figure 3.5.1

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.

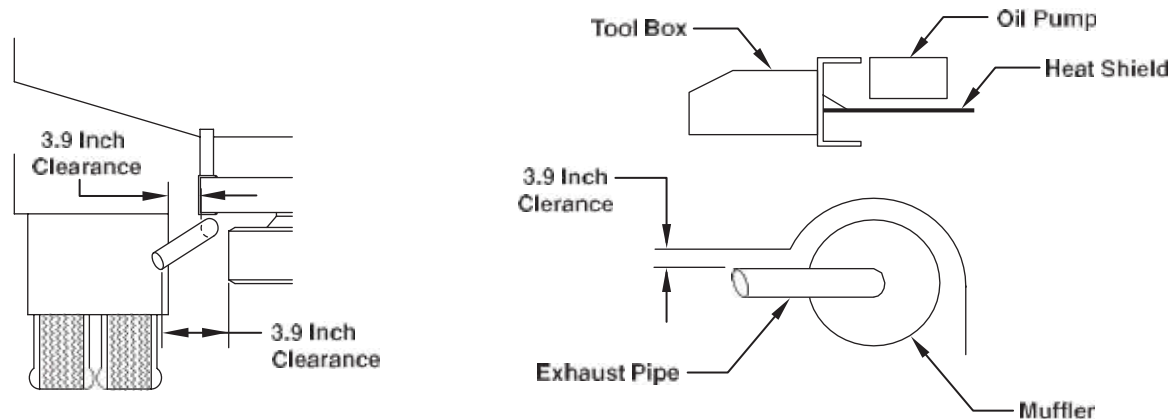


Figure 3.6.1

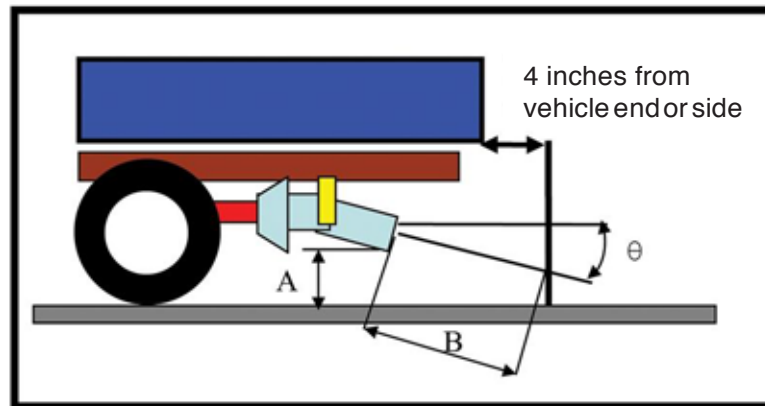
- 1) Clearances around SCR system components must be greater than 1.0 inch at all times to avoid potential contact between the body and the exhaust components. The 1.0 inch allows for thermal expansion and assembly tolerance of the exhaust system. It does not account for dynamic movement in the body 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 flammable components.
- 2) Exhaust temperatures have not changed since the introduction of DPF in 2007.

Exhaust system surface temperatures During Manual Regeneration

6500XD 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 deg

Figure 3.7.1

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 unlevelled surfaces.

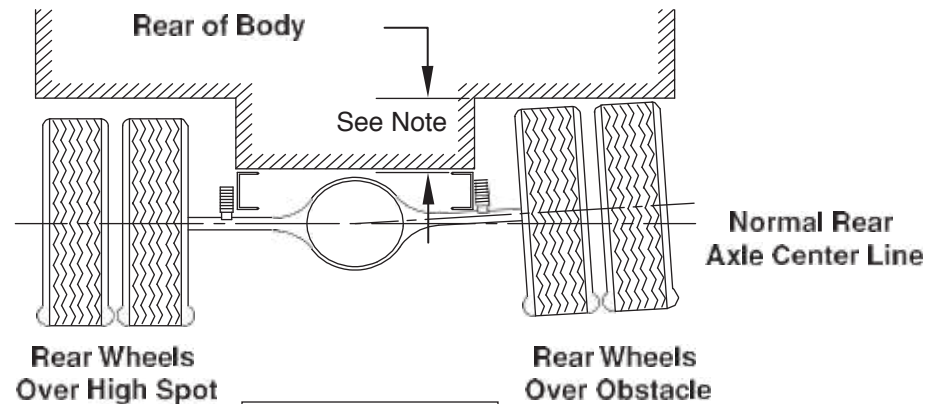


Figure 3.7.1

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 3.7.2

Body Installation

Mirrors

The LCF 6500XD chassis will accommodate up to 96 inch wide bodies without modification to the mirror brackets.

The LCF 6500XD 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 XWL indicating "Mirror Bracket for 102 wide body". The brackets can also be modified by the Chevrolet Dealer or the Body Company by installing mirror brackets ordered from GM Service Parts.

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

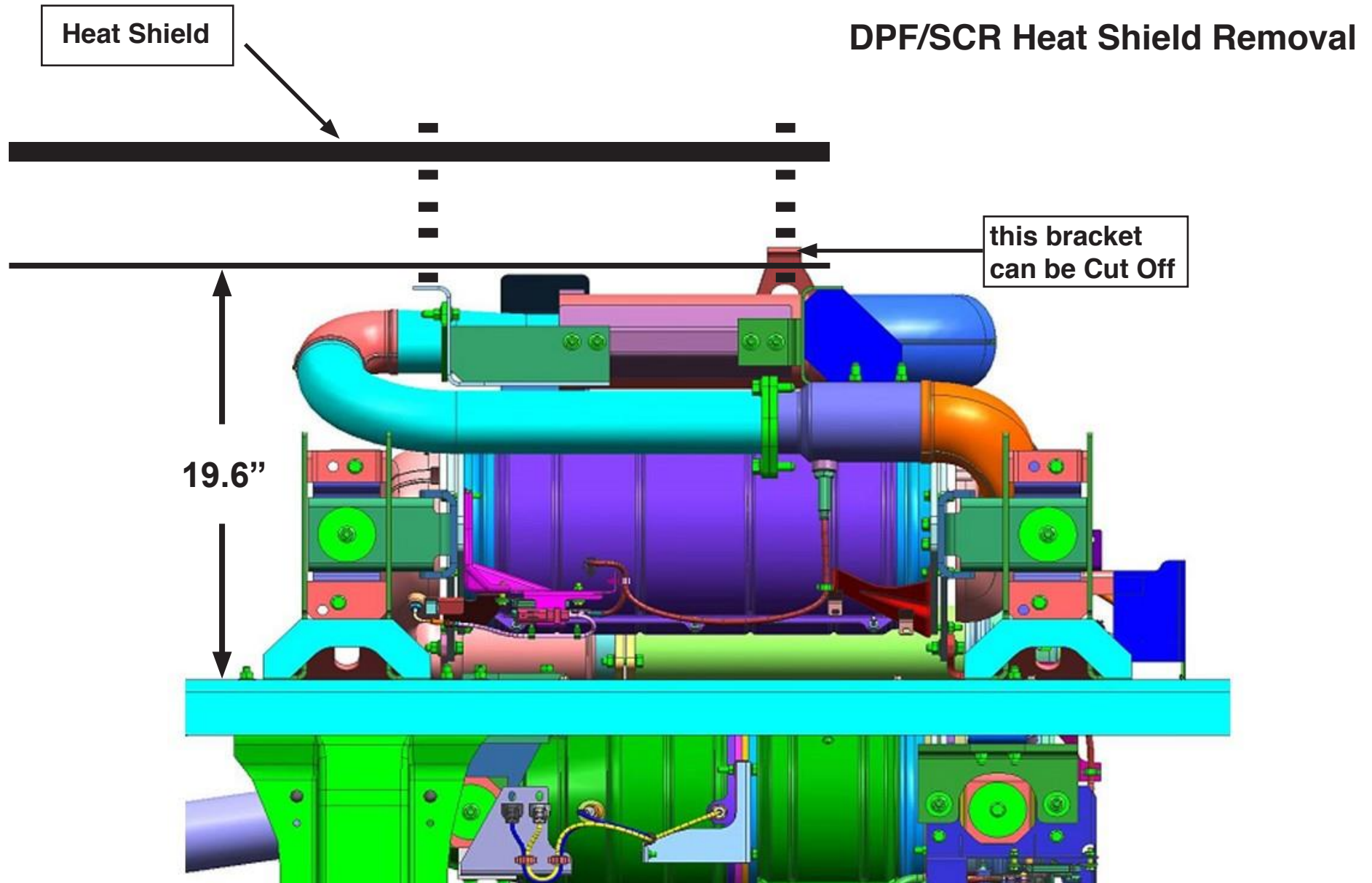
Access hatch for DEF tank fill may have to be added, depending on door location

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. Detailed information on removal of the heat shield can be found in the GM service manual.

2018 Chevrolet Low Cab Forward

Body Installation



6500XD

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 sub frame members when installing special equipment. Sub frame Design and Mounting The sub frame 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.

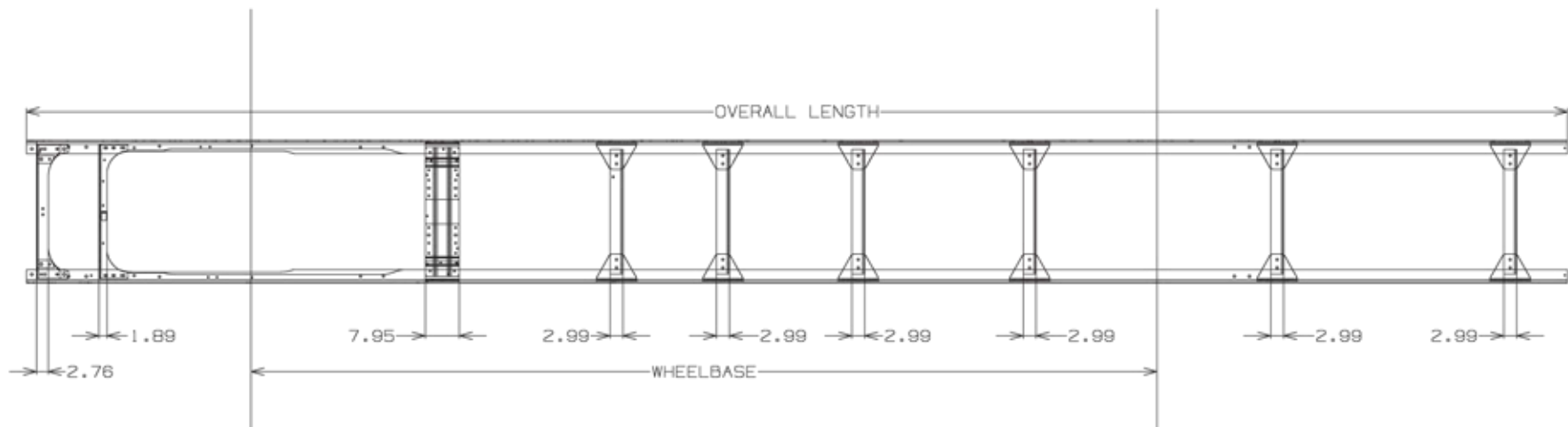


Figure 3.11.1

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.

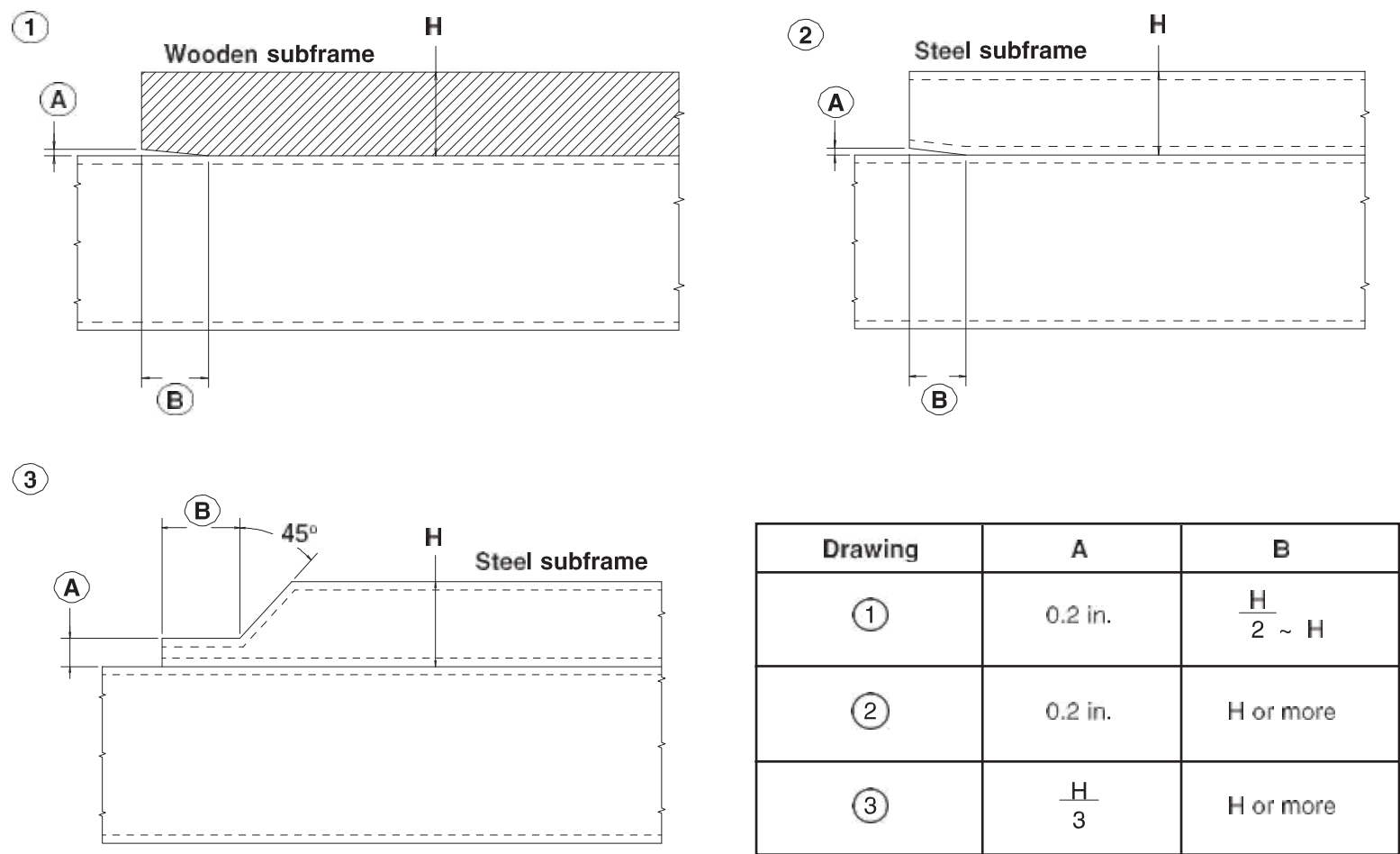


Figure 3.12.1

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

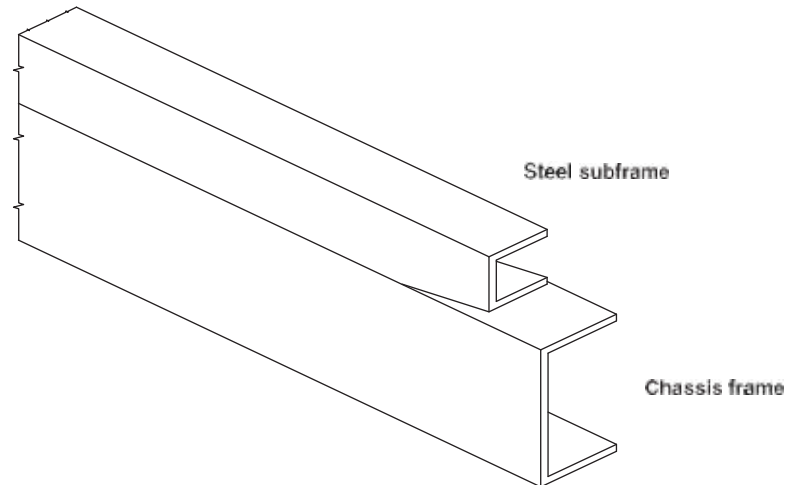


Figure 3.13.1

Prohibited Attachment Areas

Do not attach the sub frame 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.

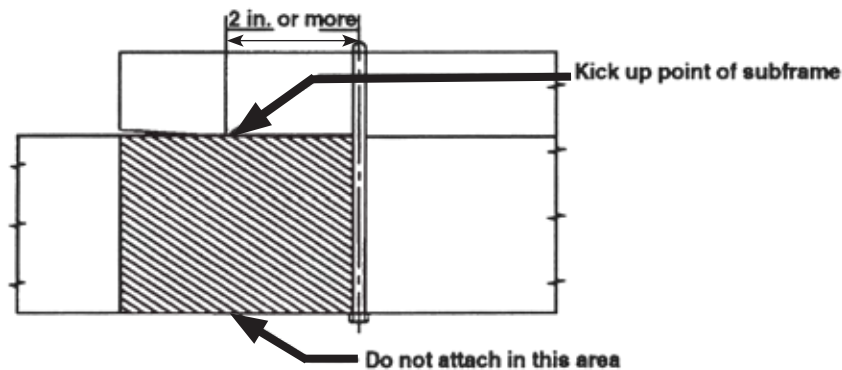


Figure 3.13.2

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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.

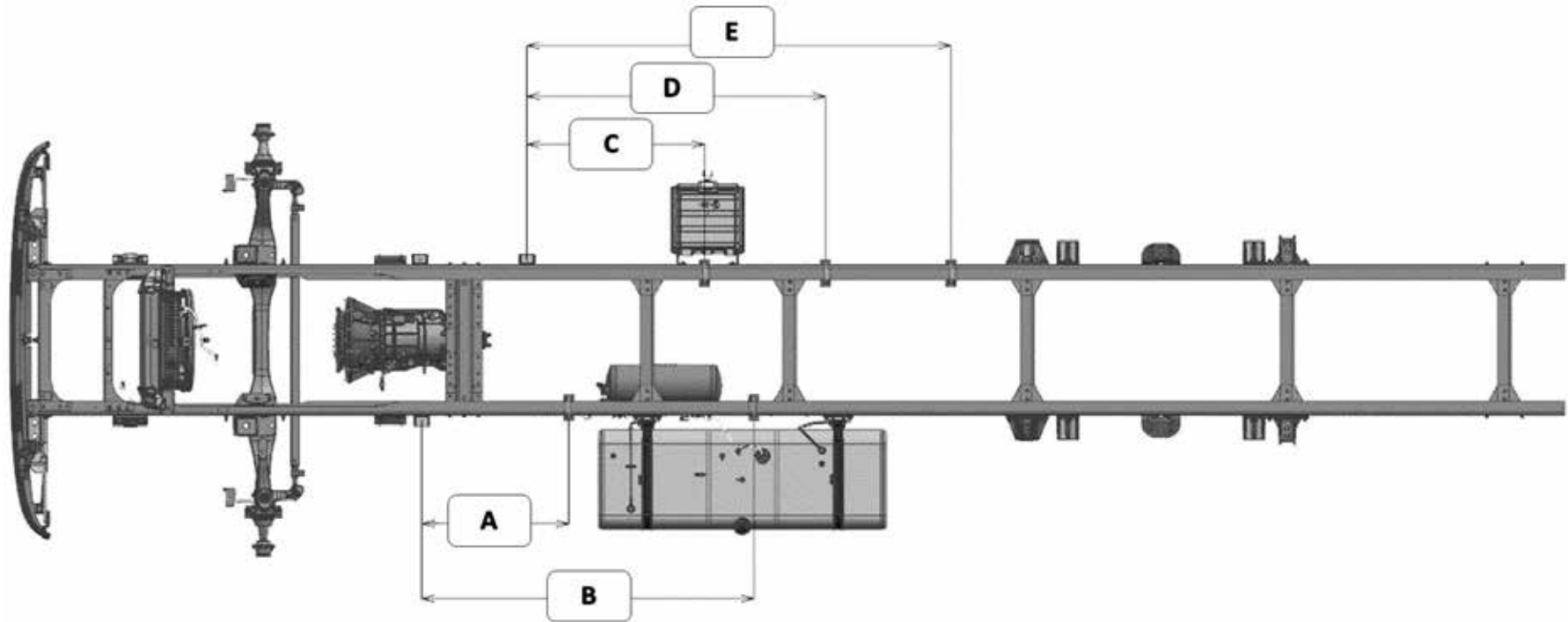
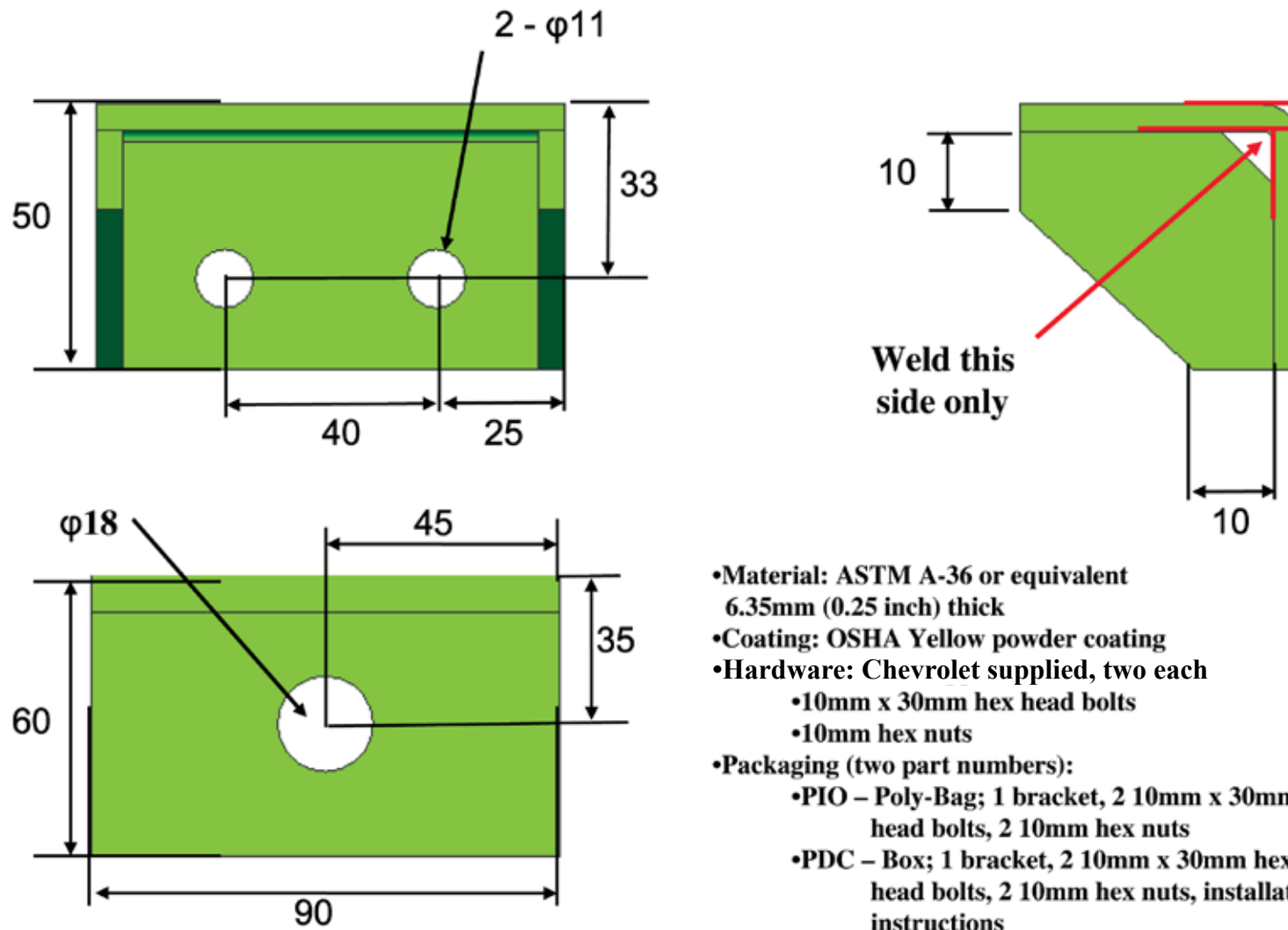


Figure 3.14.1

WHEELBASE (in)	U---Bolt Crush Block Locations (in)				
	A	B	C	D	E
152.0	32.8	79.0	39.6	N/A	N/A
170.0	32.8	N/A	39.6	64.6	N/A
188.0	32.8	68.9	39.6	59.6	82.5
200.0	32.8	74.0	39.6	66.5	94.5
212.0	32.8	82.7	39.6	73.0	106.5
224.0	32.8	82.7	39.6	85.0	118.5
236.0	32.8	82.7	39.6	82.3	130.5
248.0	32.8	82.7	39.6	94.3	142.5

2018 Chevrolet Low Cab Forward

Body Mounting Bracket Specifications



All Dimensions in mm

REV-A

Figure 3.15.1

Subframe Mounting

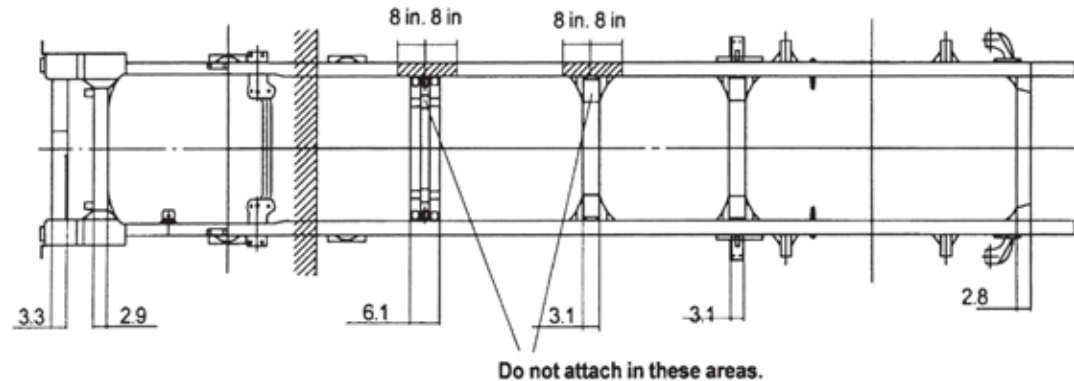


Figure 3.16.1

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.

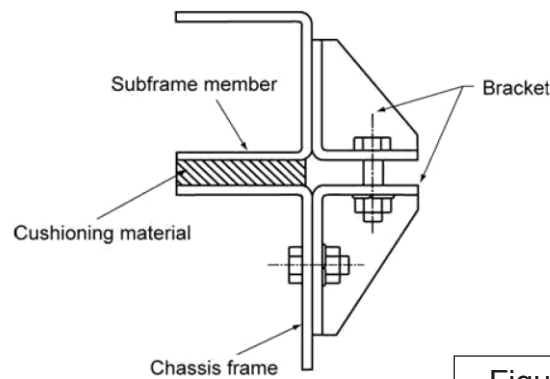


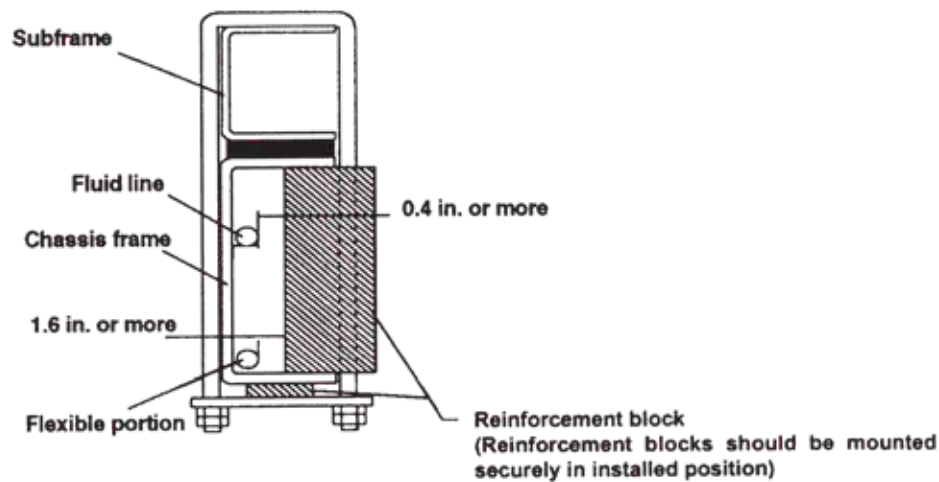
Figure 3.16.2

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.

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 3.17.1

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

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

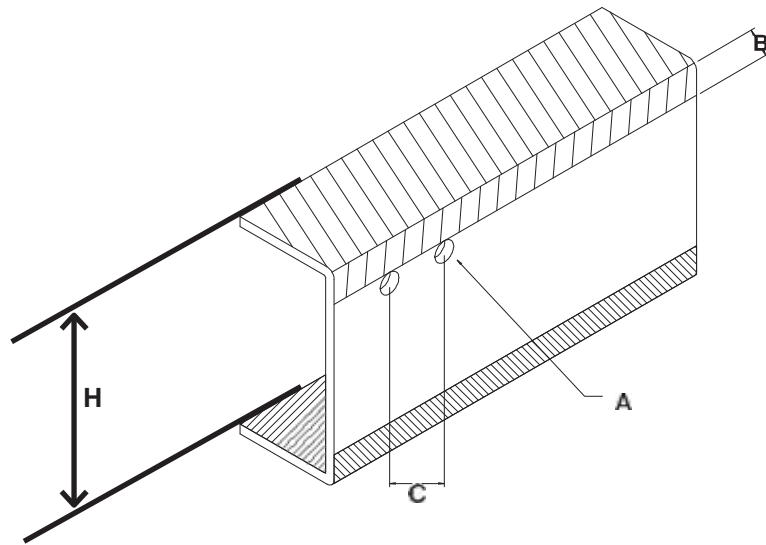
The chassis frame is designed and built with consideration for proper load distribution. Sufficient physical strength is provided when the load is evenly distributed. Installation of special equipment on the chassis frame can cause variations in load distribution. If even distribution of load is not 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 3.19.1

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 6500XD 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.

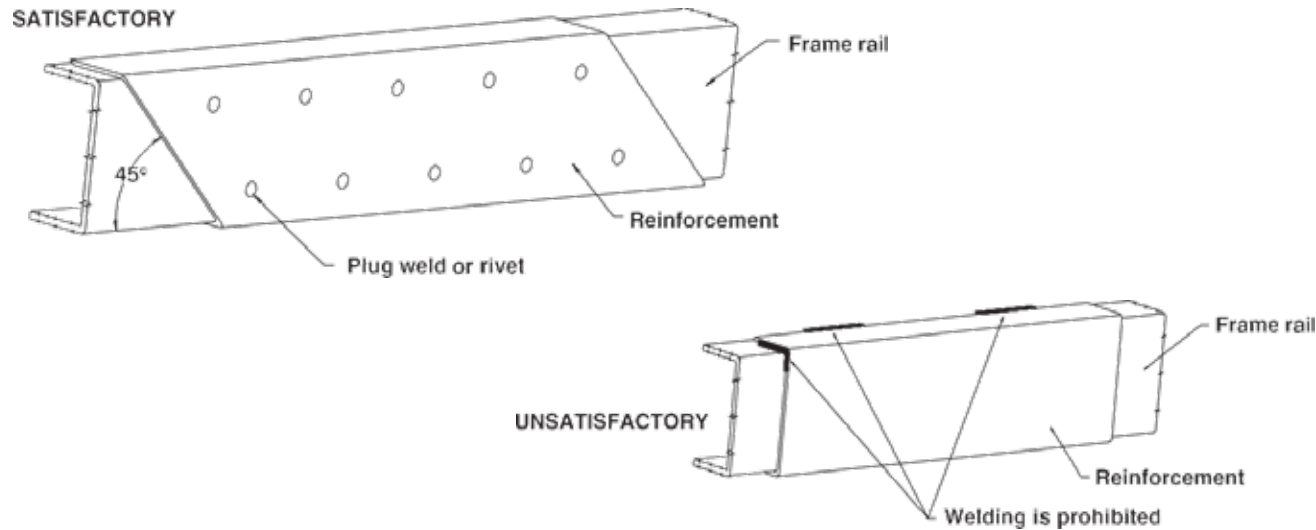


Figure 3.20.1

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 Chevrolet lines as supplied by authorized 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.

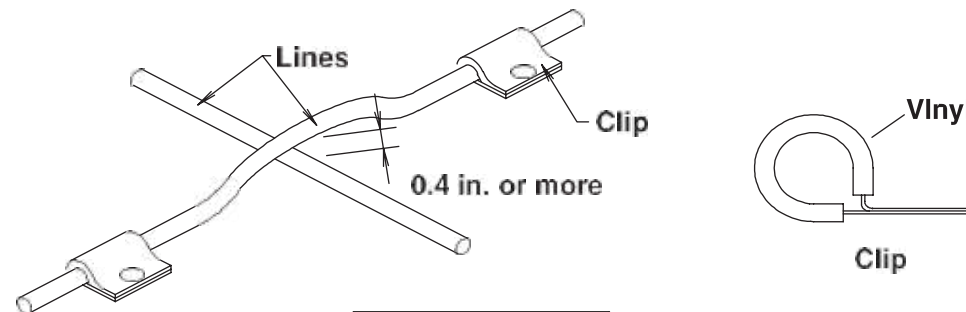


Figure 3.21.1

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 Chevrolet LCF trucks.

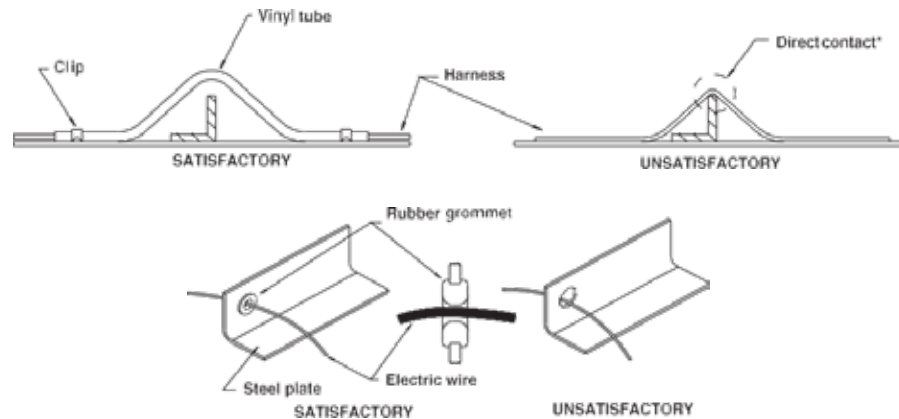
Wiring

1. Most wiring connections on 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 3.22.1

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 Chevrolet LCF. 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.



* Cables should not be in contact with sharp edges or pierced holes.



* Harnesses should not be installed on inside lower face of the chassis frame.

* Harnesses should not be taped to fuel lines or other lines. A sufficient clearance should be maintained between harness and pipe lines.

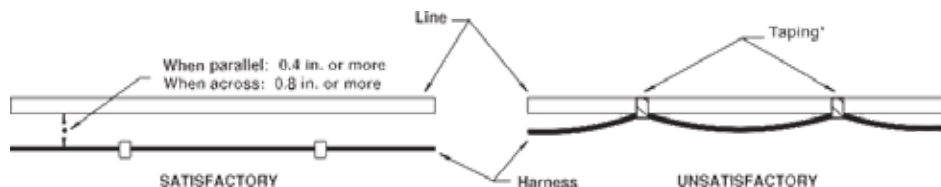


Figure 3.23.1

2018 Chevrolet Low Cab Forward

Wire Color Code

The electrical circuits of the 6500XD Chassis Cab are connected with low-voltage stranded wire for automotive applications. The color coding standards are as follows for the 6500XD 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 3.24.1

2018 Chevrolet Low Cab Forward

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 Chevrolet 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.

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.

Figure 3.25.1

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. Maintenance of clearance for tightening of check bolt on brake safety cylinder.
6. Operation of the spare tire carrier, including mounting and dismounting of the spare tire.

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).

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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).

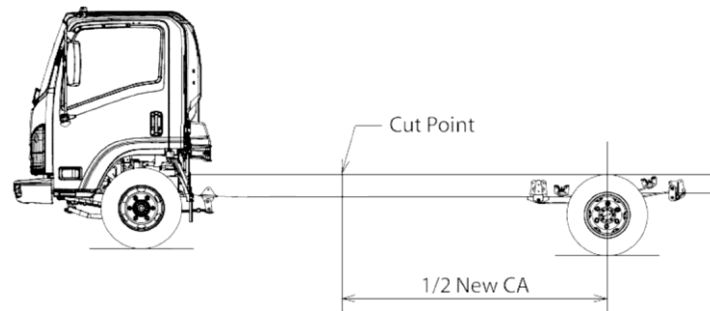


Figure 3.28.1

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.

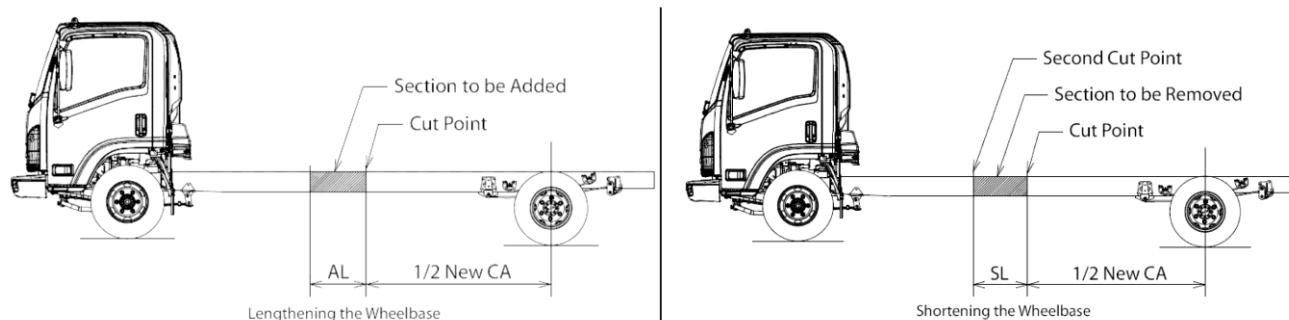


Figure 3.28.2

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.

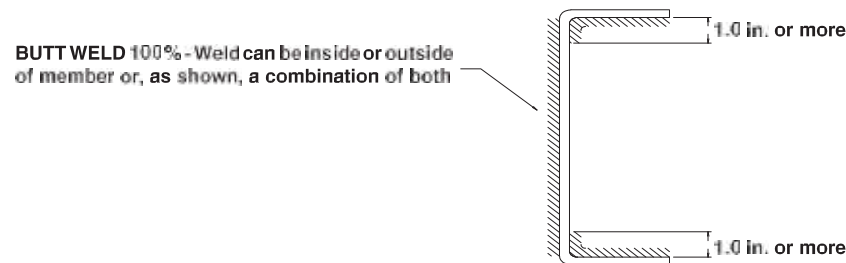


Figure 3.29.1

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

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

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

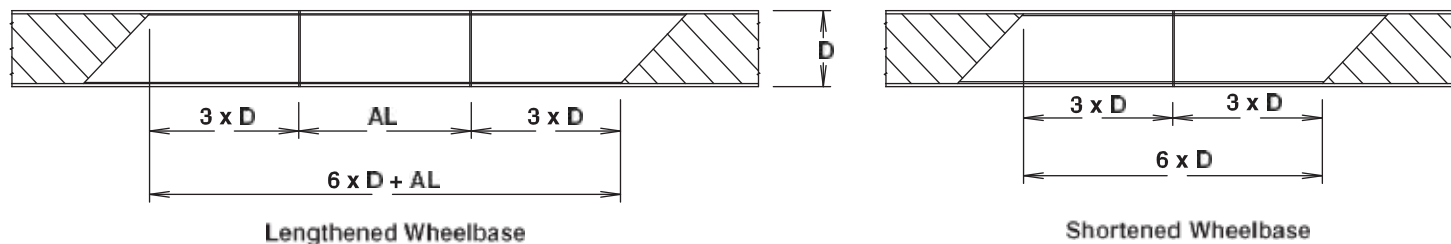


Figure 3.29.2

D = Original frame rail web depth

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).

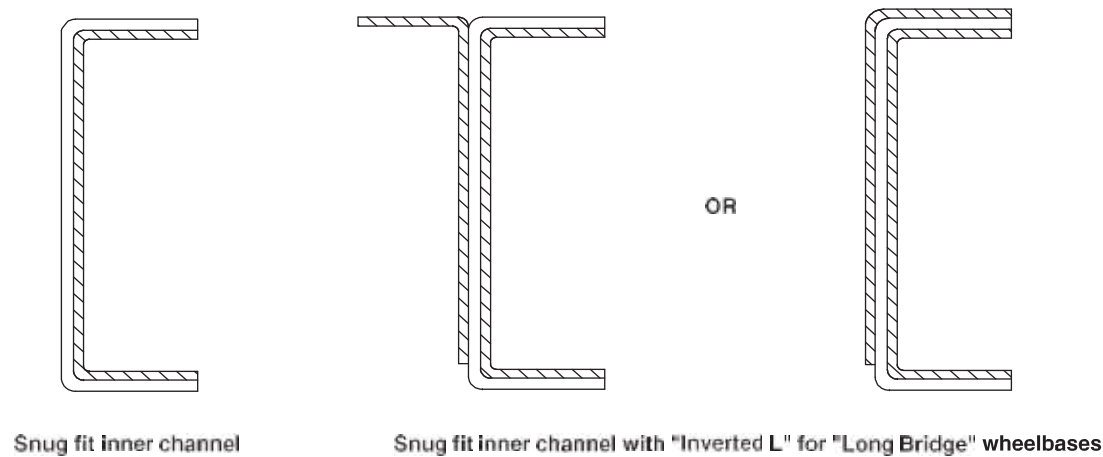


Figure 3.30.1

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.

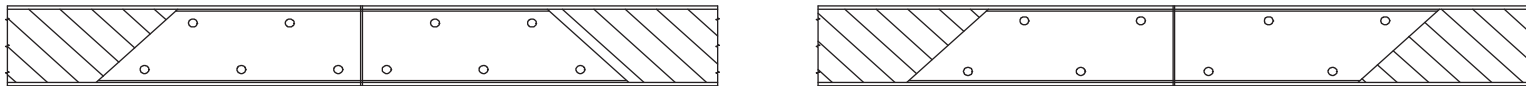


Figure 3.30.2

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.
9. The propeller shafts' 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:

a. Propeller Shaft Length

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

ENGINE	DIESEL
Model	6500XD
Propeller Shaft Diameter (in.)	4.0
Maximum Propeller Shaft Length (in.)	67.9

Figure 3.31.1

b. Propeller Shaft Angles

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

ENGINE	DIESEL
Model	6500XD
Maximum Propeller Shaft Angle	3.4°

Figure3.31.2

- 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:
- 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.
 - 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).
 - 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 LCF crossmembers may be obtained from your Chevrolet parts dealer.

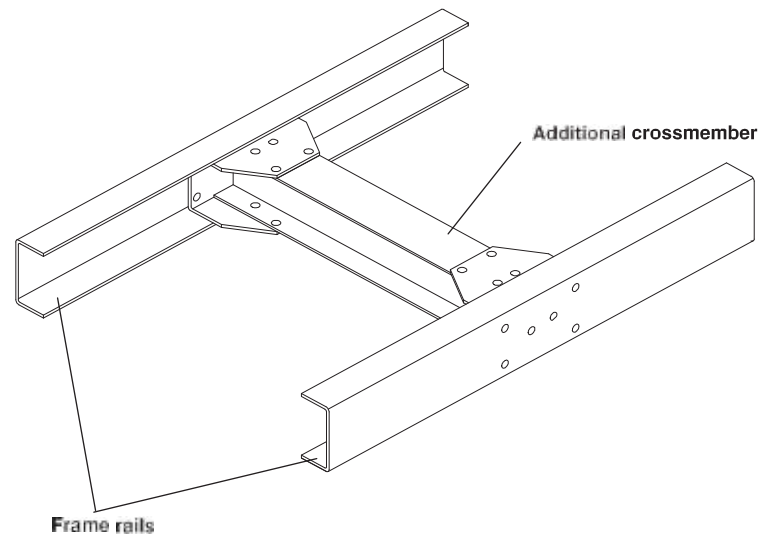


Figure 3.32.1

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

ENGINE	DIESEL
Model	6500XD
Maximum Distance Between Crossmemebers (in.)	35.7

Figure 3.32.2

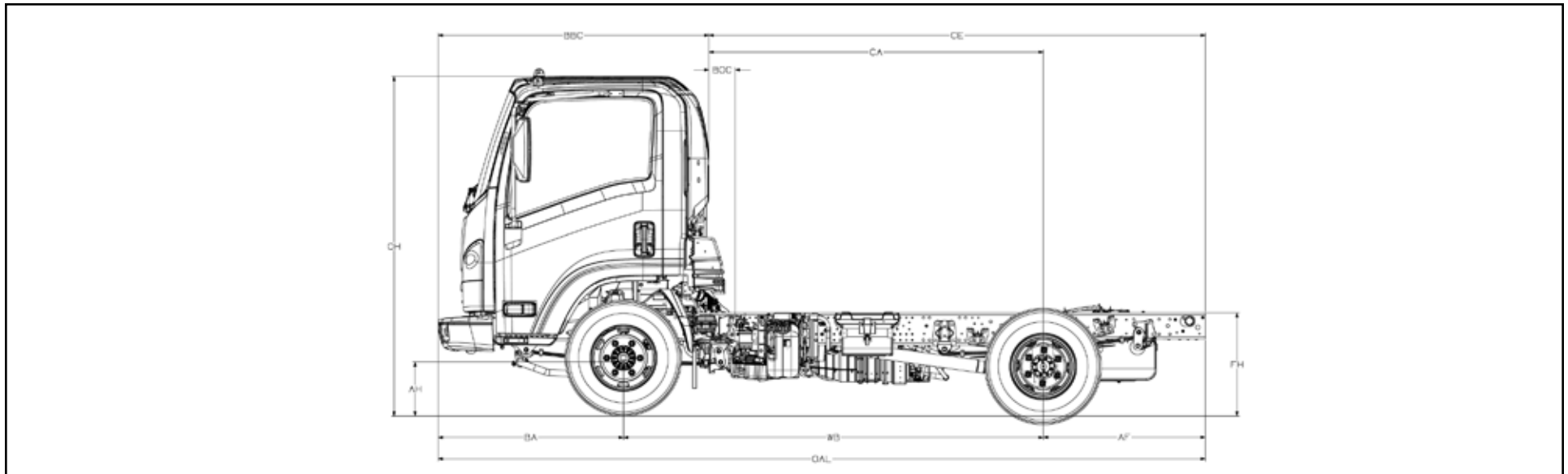
e. The drilling for any additional holes in the frame rails must comply with the DRILLING AND WELDING section of this book.

11. All other aspects of lengthening or shortening the wheelbase must comply with the applicable section of this Body Builder's Guide.

12. Please contact applications engineering for guidelines on 6500XD CHASSIS frame modifications when the vehicle is equipped with an Antilock Brake System.

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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		

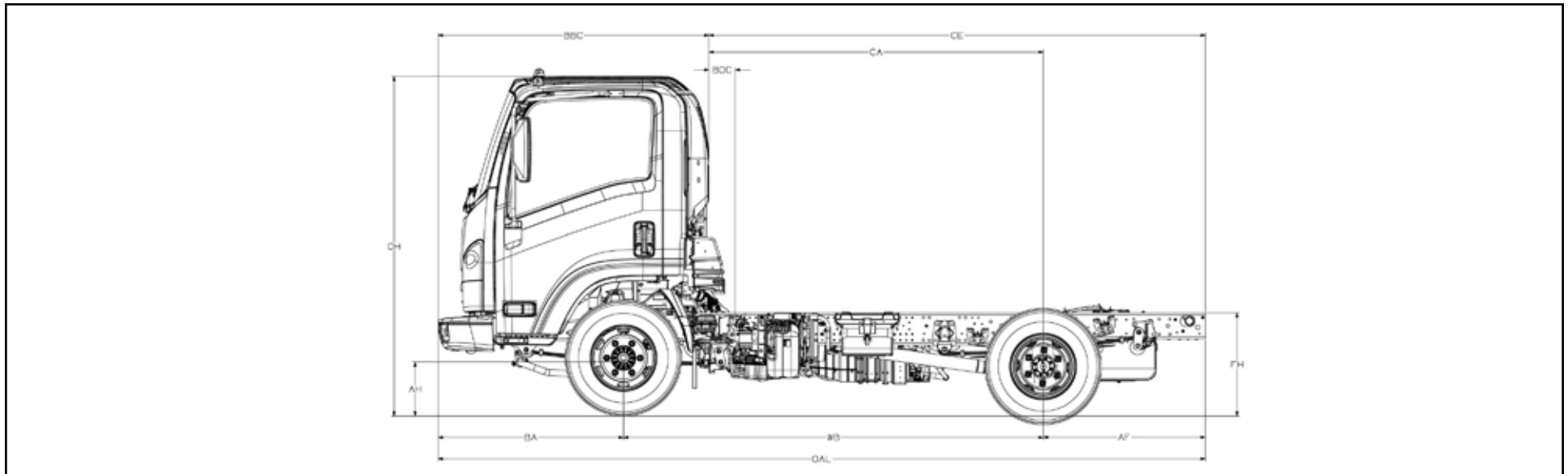
Model	GVWR	WB	CA	CE	OAL	BOC	10 ft.	12 ft.	14 ft.	16 ft.	18 ft.	20 ft.	22 ft.	24 ft.
AUTOMATIC TRANSMISSION														
4500 GAS	14,500	109	86.5	129.6	200.5	6.5	18/82	7/93						
4500 GAS	14,500	132.5	110	153.1	224	6.5			15/85					
4500 GAS	14,500	150	127.5	170.6	241.5	6.5				17/83	9/91			
4500 GAS	14,500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

2018 Chevrolet Low Cab Forward

3500HD Diesel



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

AUTOMATIC TRANSMISSION

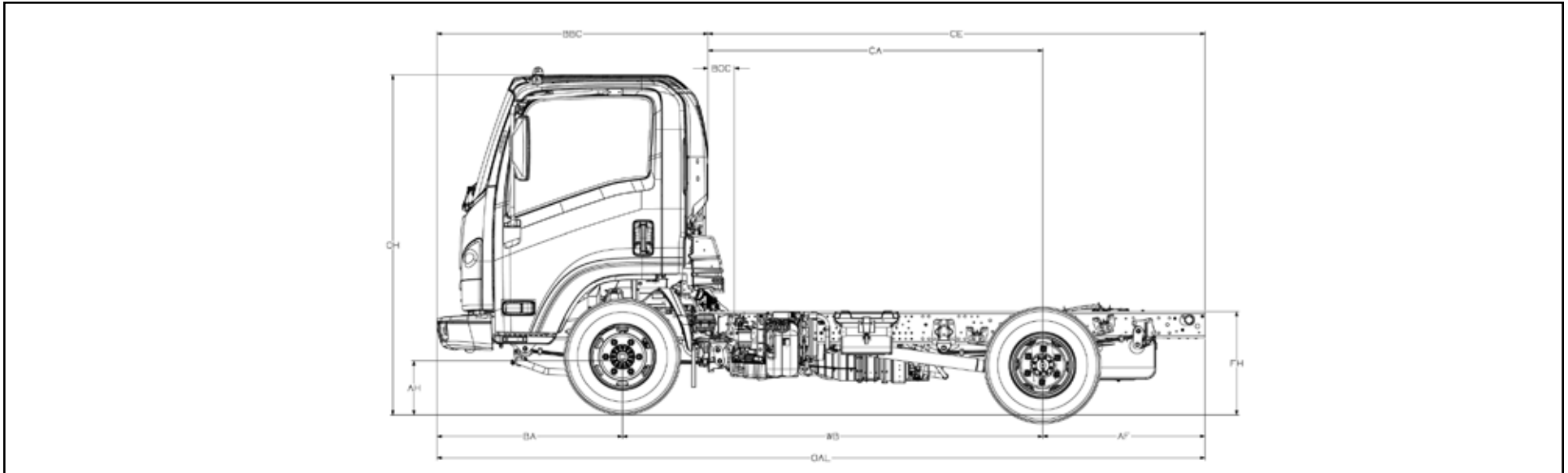
MODEL	GVWR	WB	CA	CE	OAL	BOC	10	12	14	16	18	20		
3500HD Diesel	13,000	109	86.5	129.6	200.5	4.5	17/83	6/94						
3500HD Diesel	13,000	132.5	110	153.1	224.0	4.5			14/86					
3500HD Diesel	13,000	150	127.5	170.6	241.5	4.5				16/84	8/92			
3500HD Diesel	13,000	176	153.5	196.6	267.5	4.5						15/85		

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.

2018 Chevrolet Low Cab Forward

4500



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

AUTOMATIC TRANSMISSION

MODEL	GVWR	WB	CA	CE	OAL	BOC	10	12	14	16	18			
4500	14,500	109	86.5	129.6	200.5	7.7		6/94						
4500	14,500	132.5	110	153.1	224.0	7.7			14/86					
4500	14,500	150	127.5	170.6	241.5	10.2				14/86	6/94			
4500	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.

2018 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

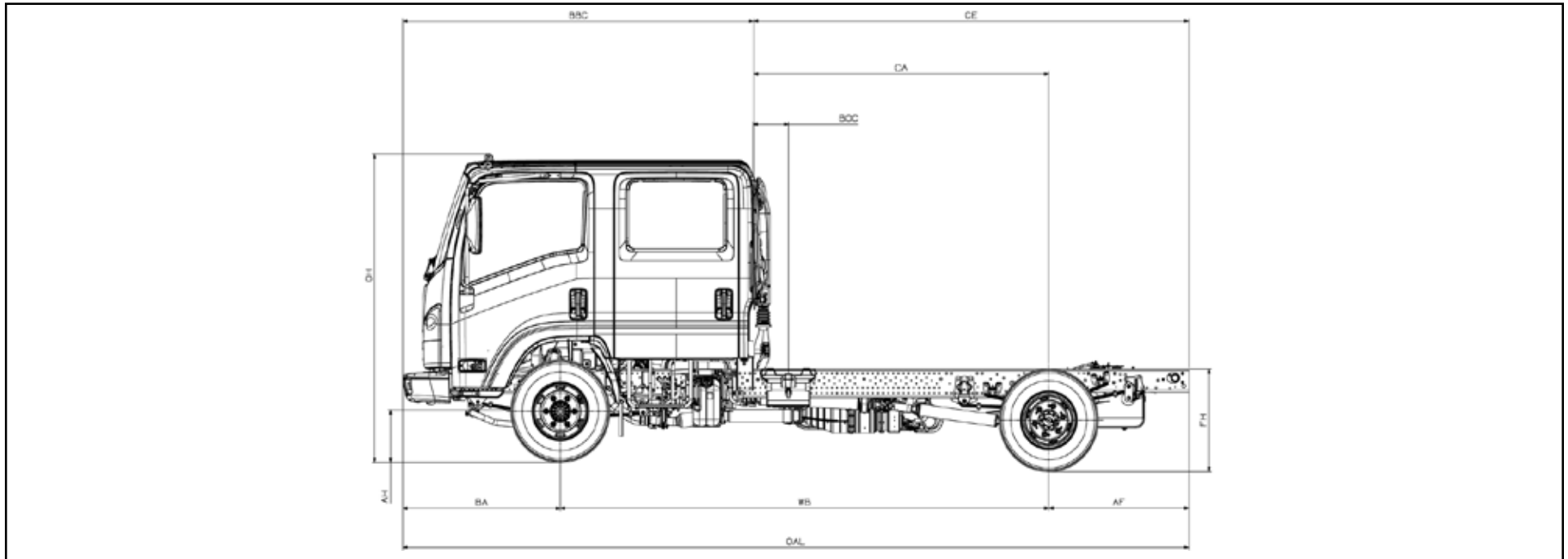
MODEL		GVWR	WB	CA	CE	OAL	BOC	10	12	14	16	18	20	22	24
5500XD DIESEL		19,500	109	86.5	129.6	200.5	7.7	17/83	6/94						
5500XD DIESEL		19,500	132.5	110.0	153.1	224.0	7.7		23/77	14/86					
5500XD DIESEL		19,500	150	127.5	170.6	241.5	7.7				16/84	8/92			
5500XD DIESEL		19,500	176	153.5	196.6	267.5	7.7					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.

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3500/4500 Crew Cab Gas



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

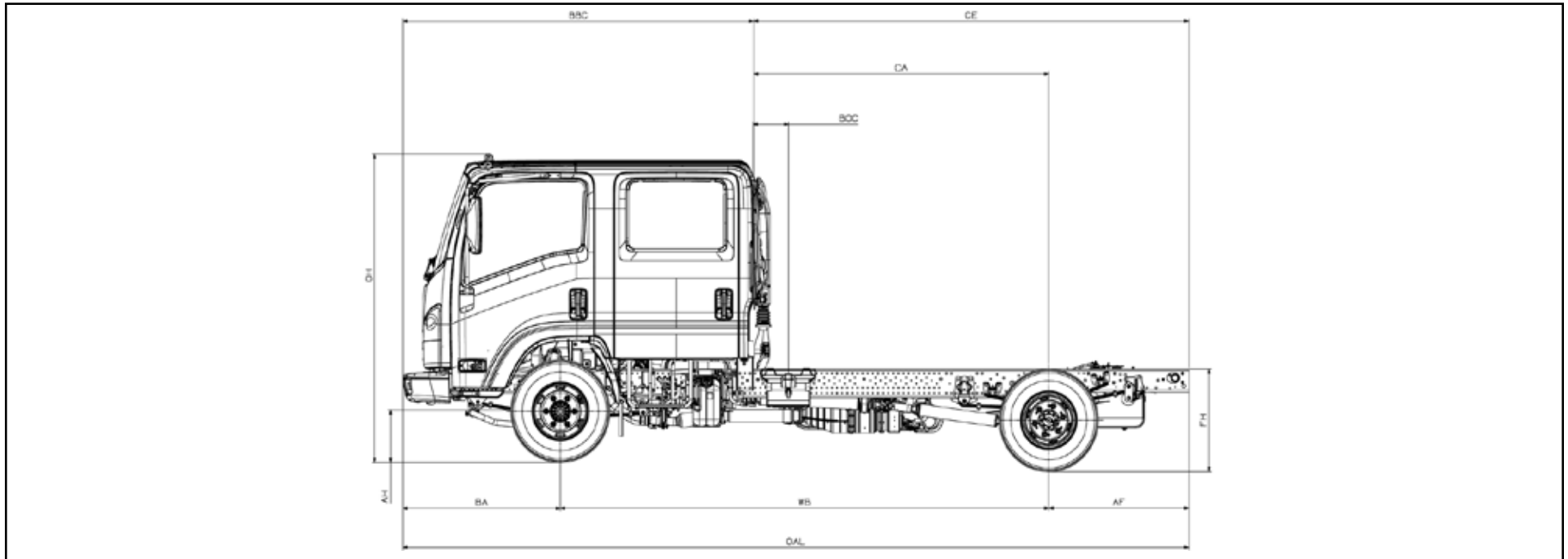
Crew Cab Gas Engine										
MODEL	GVWR	WB	CA	CE	OAL	BOC	10	12	14	16
3500 CREW CAB GAS	12,000	150	88.9	132	241.5	4.0		8/92		
3500 CREW CAB GAS	12,000	176	114.9	158	267.5	4.0			15/85	
MODEL	GVWR	WB	CA	CE	OAL	BOC	10	12	14	16
4500 CREW CAB GAS	14,500	150	88.9	132	241.5	4.0	16/84	8/92		
4500 CREW CAB GAS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

2018 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.

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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.

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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

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BODY APPLICATION SUMMARY CHART

6500XD MODELS

RPO CODE	GVWR	WB	BOC	14 ft.	16 ft.	18 ft.	20 ft.	22 ft.	24 ft.	26 ft.	28 ft.	30 ft.
EG9	25,950	152	3.0	x	x							
EH8		170				x						
EK3		188					x					
EM2		200						x				
EL5		212							x			
EK6		224								x		
EG7		236									x	
ES5		248										x

Figure 4.21.1

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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 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.

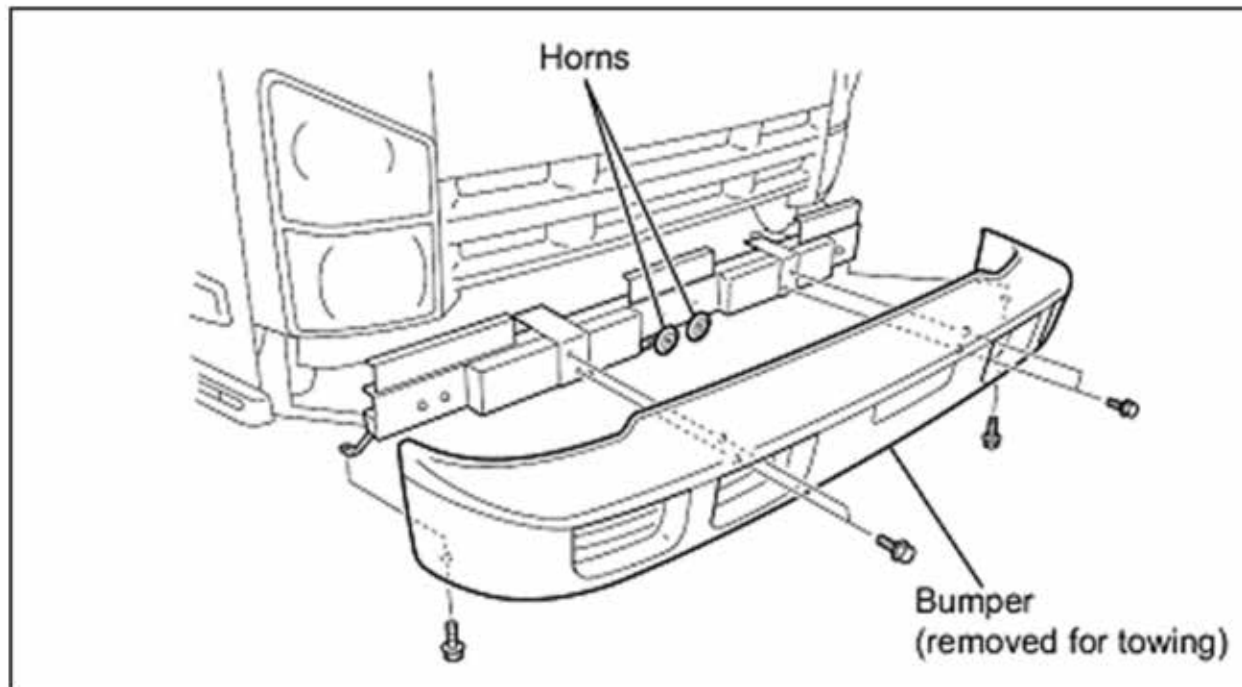


Figure 4.4.1

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.

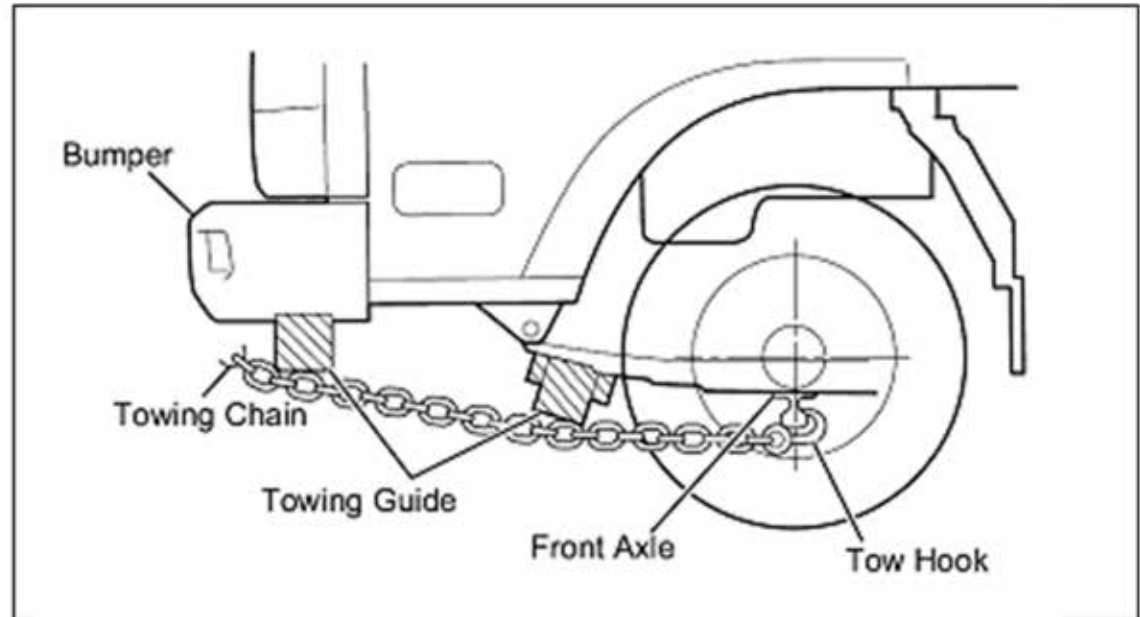


Figure 4.5.1

2018 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.

2018 Chevrolet Low Cab Forward

MECHANICAL AND CAB SPECIFICATIONS Engine Horsepower and Torque Chart

The following table presents Net versus Gross Horsepower and Torque ratings for Isuzu Product Engines:

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
ISUZU 4HK1-TC	6500XD	210/2500	520/1600	215/2500	520/1600

Figure 5.0.1

GVW/GCW Ratings

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

Truck Model	Transmission	GVWR (lbs.)	GCWR (lbs.) ³
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
4500XD DIESEL	AUTOMATIC	16,000	22,000
5500HD DIESEL	AUTOMATIC	17,950	23,950
5500XD DIESEL	AUTOMATIC	19,500	25,500
6500XD	AUTOMATIC	25,950	30,000

Figure 5.0.2

NOTE: 1. Horsepower and Torque Ratings are measured under SAE J1349 standards.
2. Governed RPM 4HK1-TC 2760 rpm 4JJ1-TC 3600rpm
3. The Chevrolet Gas/Diesel engines are not approved for Hot Shot applications.

6500XD Towing Procedure

When towing a vehicle: To move a disabled vehicle, it is best to rely on someone in the wrecker or tow truck business. If that is not possible, follow these procedures. When towing, use appropriate equipment and comply with state and local legal requirements. Do not try to start the engine by towing or pushing the vehicle.

CAUTION:

- **Be sure to chock the wheels when disconnecting the axle shaft. The vehicle could start to move and cause a serious accident. The vehicle will start moving upon disconnecting the axle shaft.**
- **Place the gearshift lever in the “N” position, and tow for a maximum distance of 6.2 miles (10 km) at speeds less than 25 MPH (40 km/h). Other than the above, disconnect the axle shaft when towing to avoid damage to the transmission.**
- **Whenever possible, tow a vehicle with the engine started. If the engine is not started:**
 - **The brakes will not be as effective**
 - **The steering wheel will be hard to turn**
 - **The steering wheel could lock, making it impossible to move. This is extremely dangerous. (When the ignition key is removed.)**
- **If you apply any one of the air brake parking controls while the vehicle is moving, your rig will stop suddenly. If you are not ready for this, you or others could be injured. Do not apply any one of these controls while you are driving, unless you have to make an emergency stop.**

Front End Towing (All wheels on the ground, or the front wheels are off the ground): When it is possible to operate the steering wheel, the vehicle can be towed with all wheels on the ground. If the engine cannot be started, the power steering system does not work, making steering difficult. In addition, when air pressure is low, the brakes will not work. Either install a tow bar between the towing vehicle and the disabled vehicle, or use a tow truck to move the disabled vehicle. To prevent damage to the differential and pinion seal, the axle shafts need to be removed whenever the vehicle is towed with the rear tires on the ground. Remove the axle shaft and plug up the opening of the hub to prevent differential gear oil from leaking, or to prevent dirt or foreign objects from entering the axle. When towing, disconnect the axle shaft at the rear axle to ensure the transmission is not damaged.

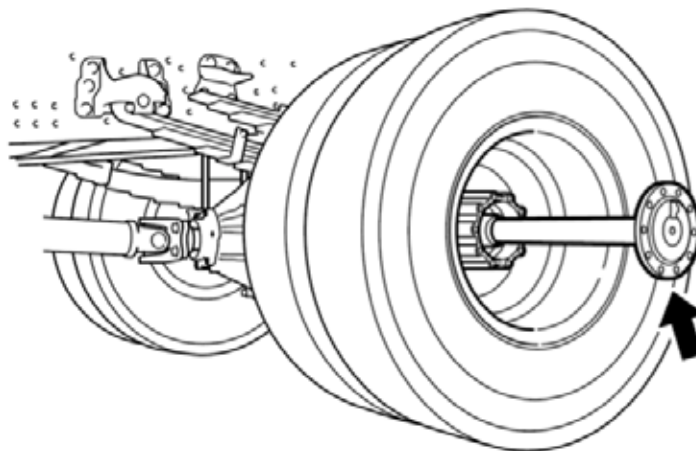


Figure 5.02.1

2018 Chevrolet Low Cab Forward

1. If the vehicle is towing or is towed, firmly attach a rope to the front towing hook on the same side.
2. During towing, carefully watch the stop lights of the towing vehicle in order to prevent slack in the rope. Ensure that there are no strong shocks or lateral force applied to the vehicle. Excessive towing load can damage the towing hook.

CAUTION:

- Do not tow a vehicle at an angle of greater than 15°. This could exert too much stress on the vehicle and damage it.
- Attach a rope to the towing hook only. Attaching a rope to any other part of the vehicle could damage it.
- Make sure there are no people near the towing rope and hook before towing a vehicle. If the rope snaps, people nearby could be injured.
- The towing hook is for use to tow a vehicle with about the same weight as the towing vehicle on good roads.
- When coming to channels or muddy areas, unload the vehicle. Do not use the towing hook to tow, but tow with a rope attached to the axle.

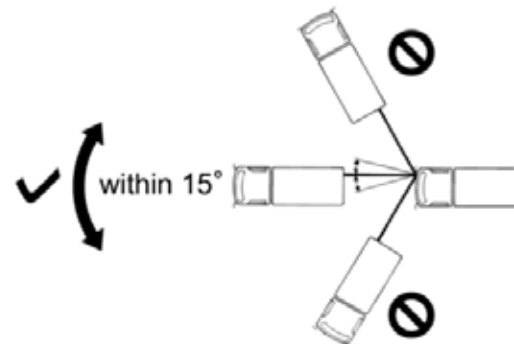
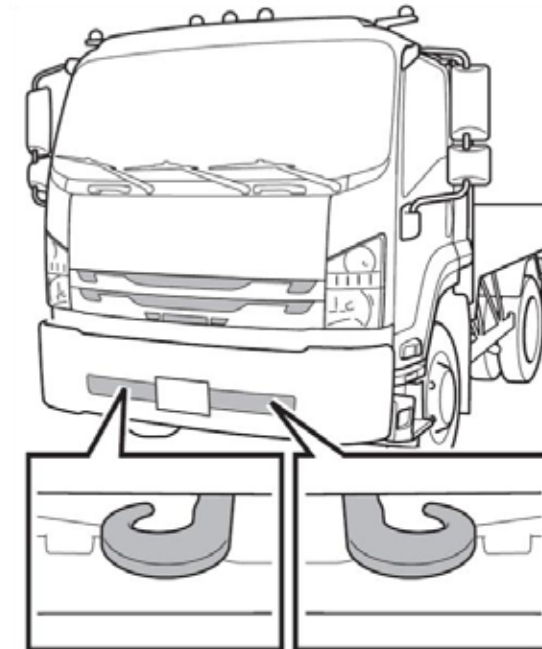


Figure 5.03.1

2018 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

2018 Chevrolet Low Cab Forward

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.

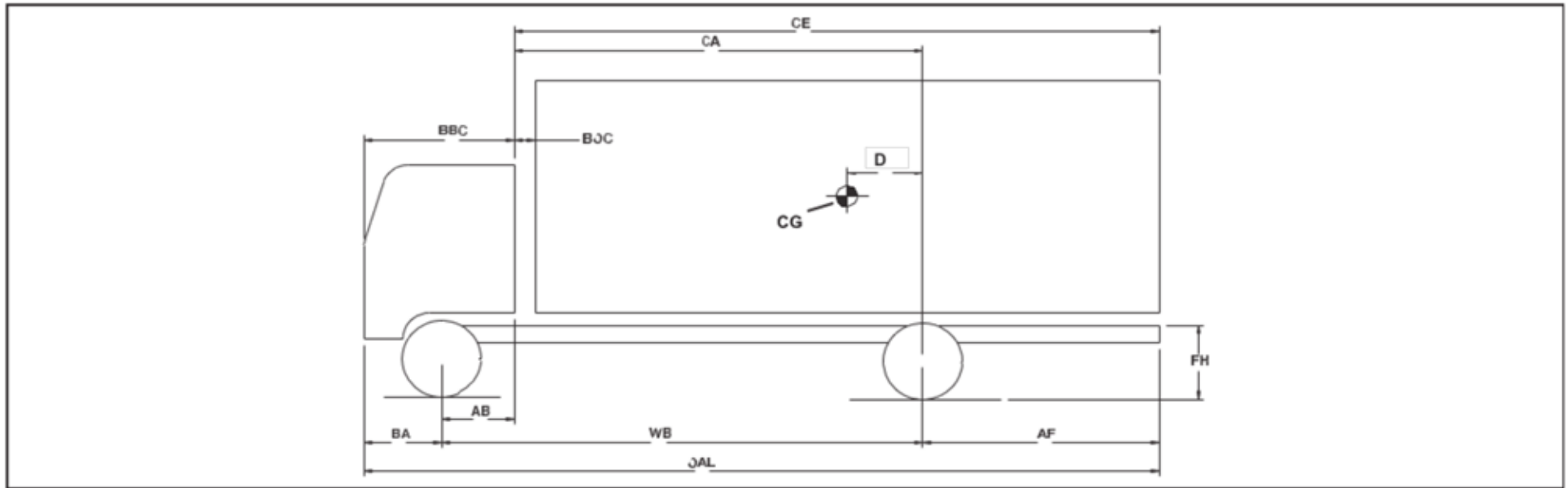


Figure 5.5.1

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

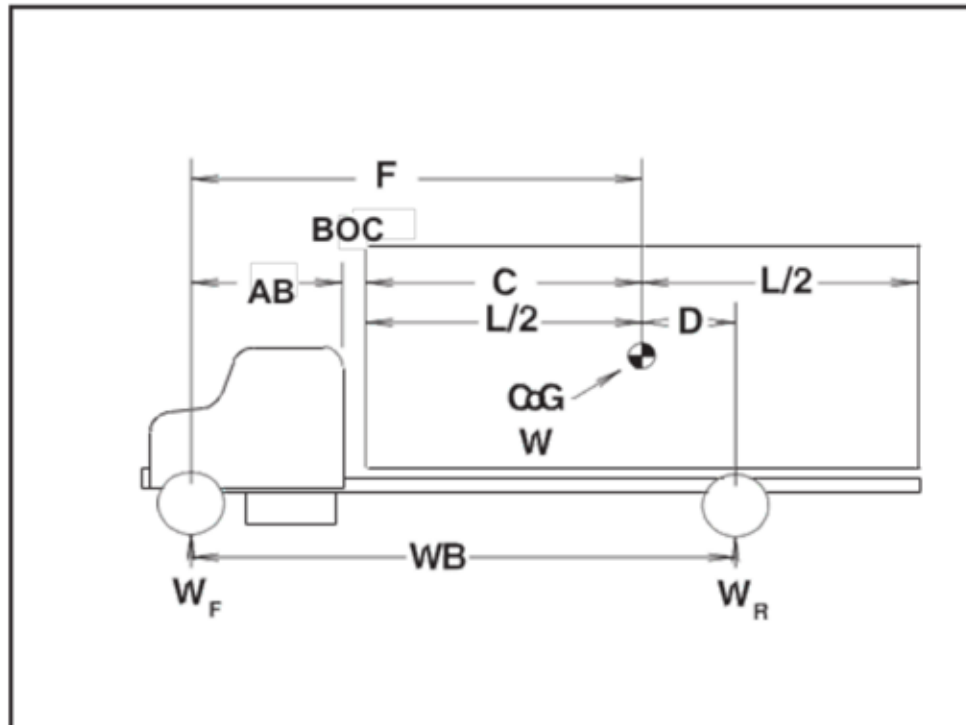


Figure 5.6.1

- 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

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

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

$$(d) W = W_f + W_r$$

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

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

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

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

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

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

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

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

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

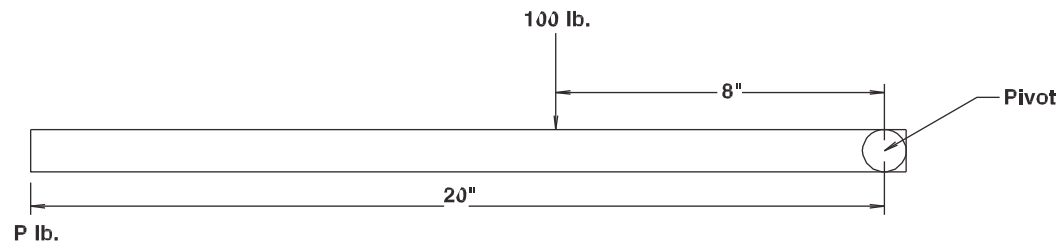


Figure 5.8.1

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.

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PAGE 5.9

Weight Distribution Formulas

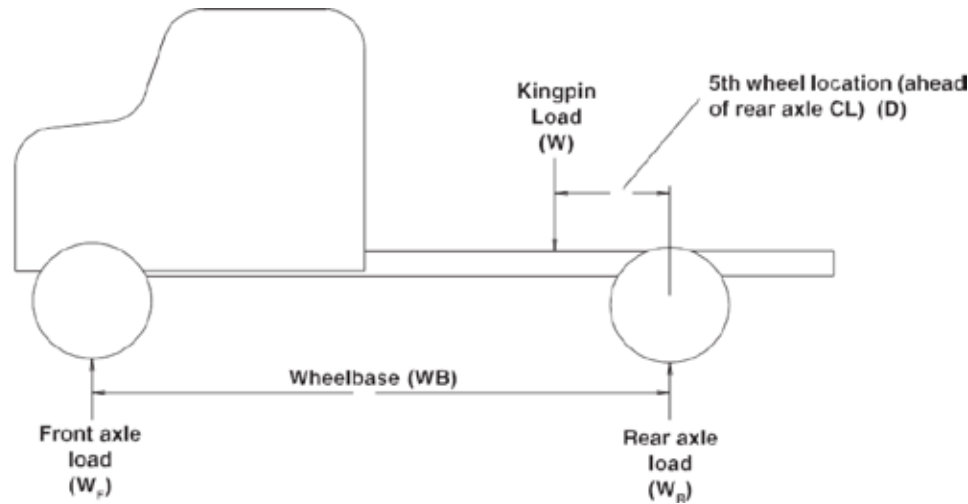


Figure 5.9.1

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:

$$\begin{array}{l} \text{Total Front Axle Weight} \\ \text{Total Rear Axle Weight} \end{array} = \begin{array}{l} 2,000 + 7,000 \text{ lbs.} = 9,000 \text{ lbs.} \\ 9,000 + 4,400 \text{ lbs.} = 13,400 \text{ lbs.} \end{array}$$

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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.

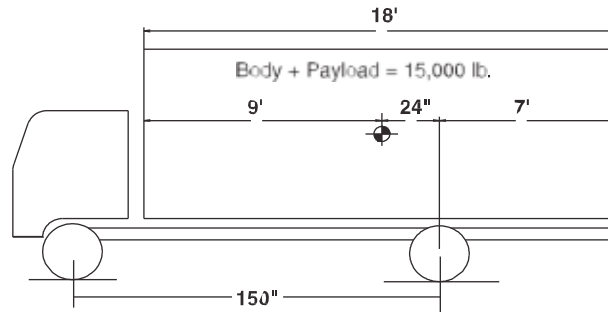


Figure 5.10.1

Example:

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

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

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

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

2018 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.

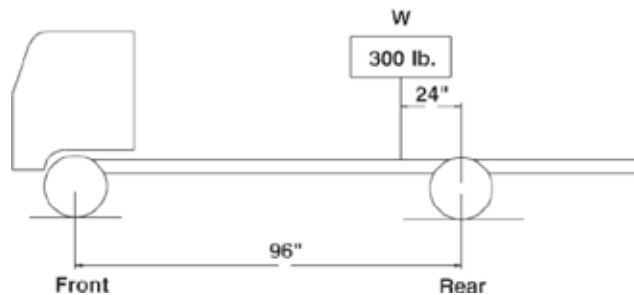


Figure 5.11.1

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. $300 - 75$

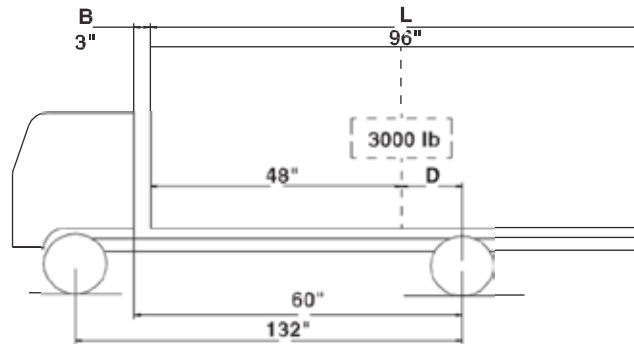
C. = 225 lbs.

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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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)

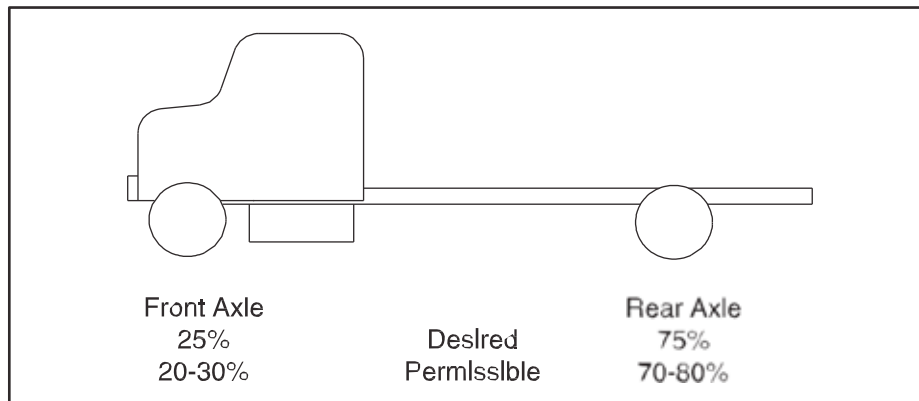


Figure 5.12.2

COE (2 Axle)

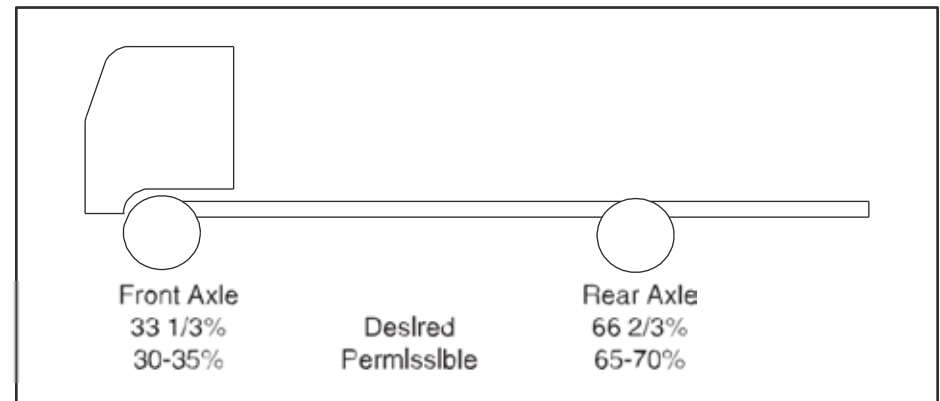


Figure 5.12.3

2018 Chevrolet Low Cab Forward

Recommended Weight Distribution % of Gross Vehicle Weight by Axle

Conventional (3 Axle)

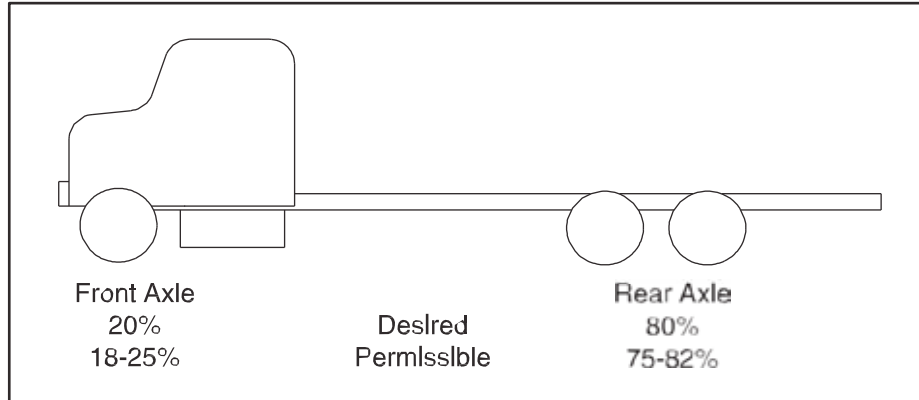


Figure 5.13.1

COE (3 Axle)

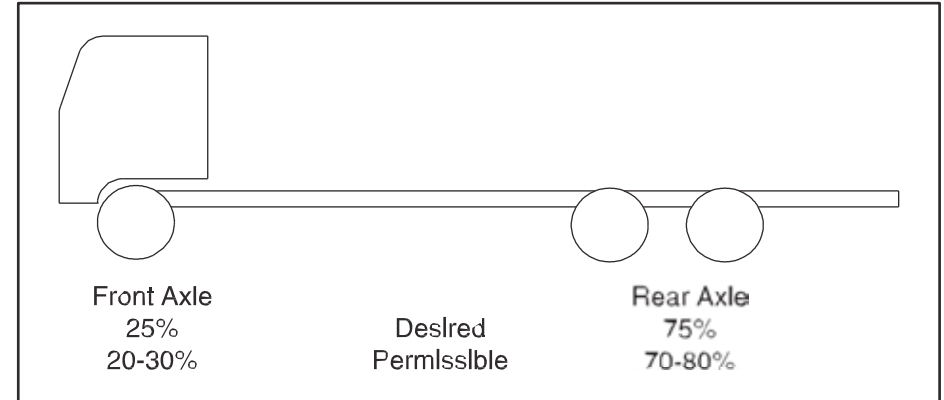
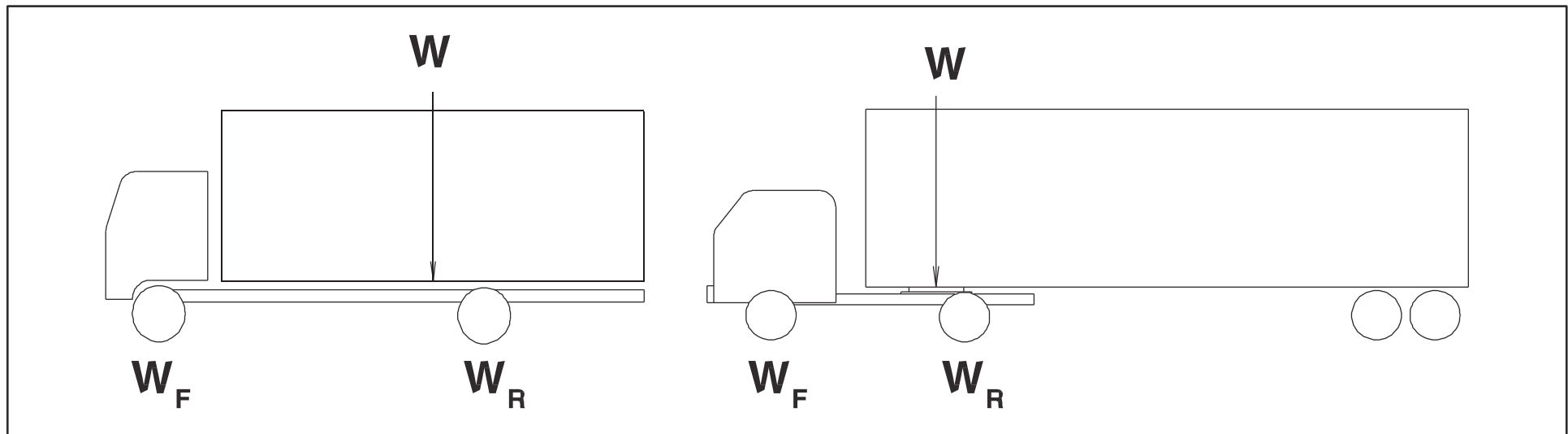


Figure 5.13.2

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

2018 Chevrolet Low Cab Forward

Trailer Weight

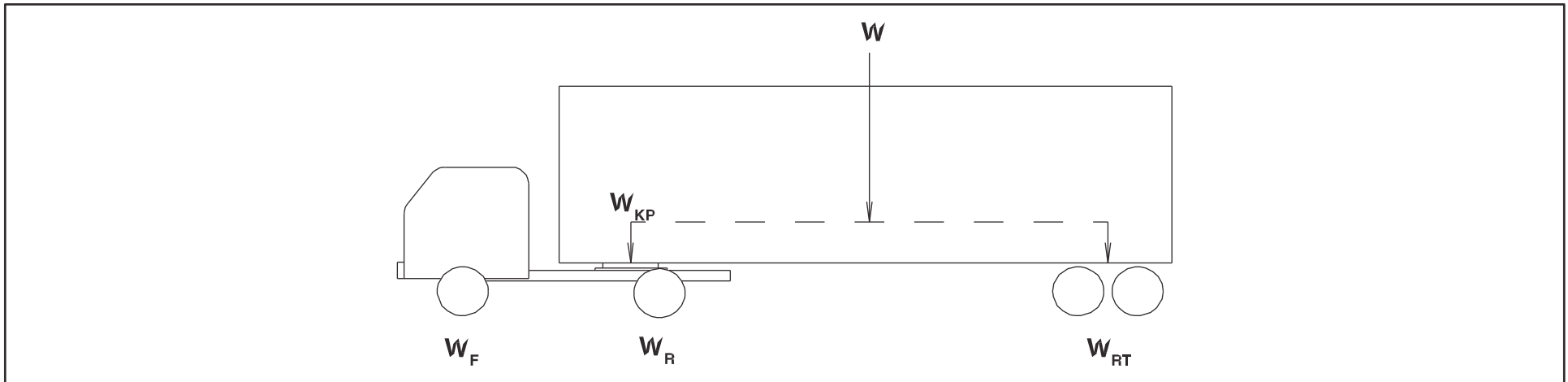


Figure 5.14.1

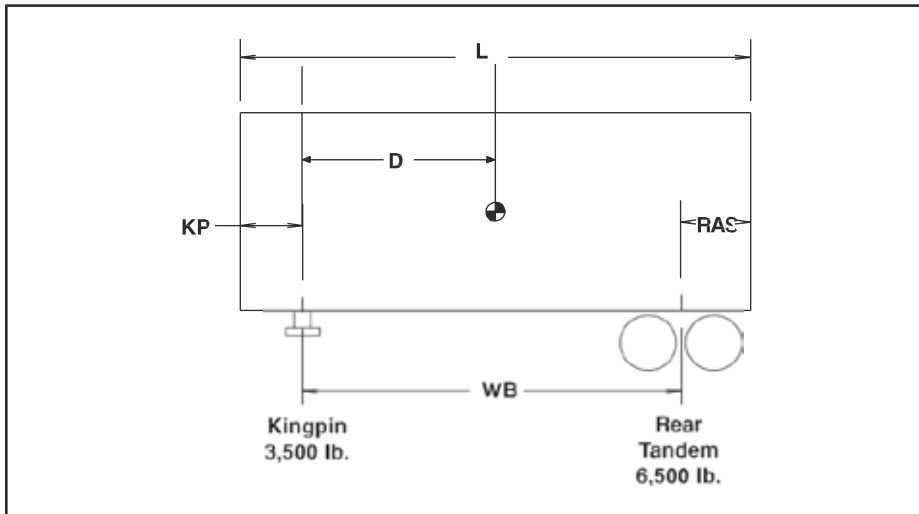


Figure 5.14.2

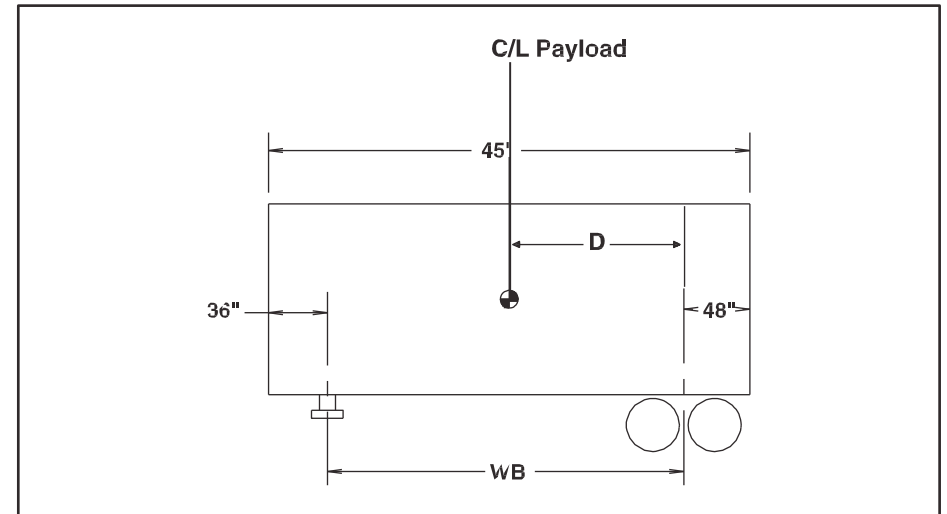


Figure 5.14.3

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.

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

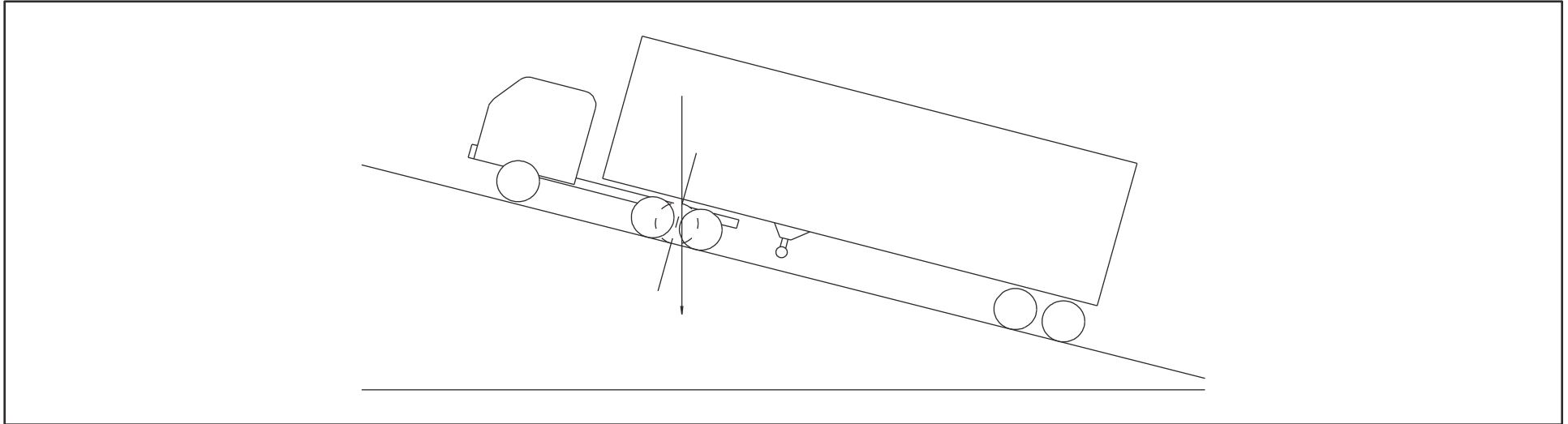


Figure 5.16.1

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.

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

2018 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

2018 Chevrolet Low Cab Forward

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

2018 Chevrolet Low Cab Forward

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.

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

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

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

2018 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

2018 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:

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

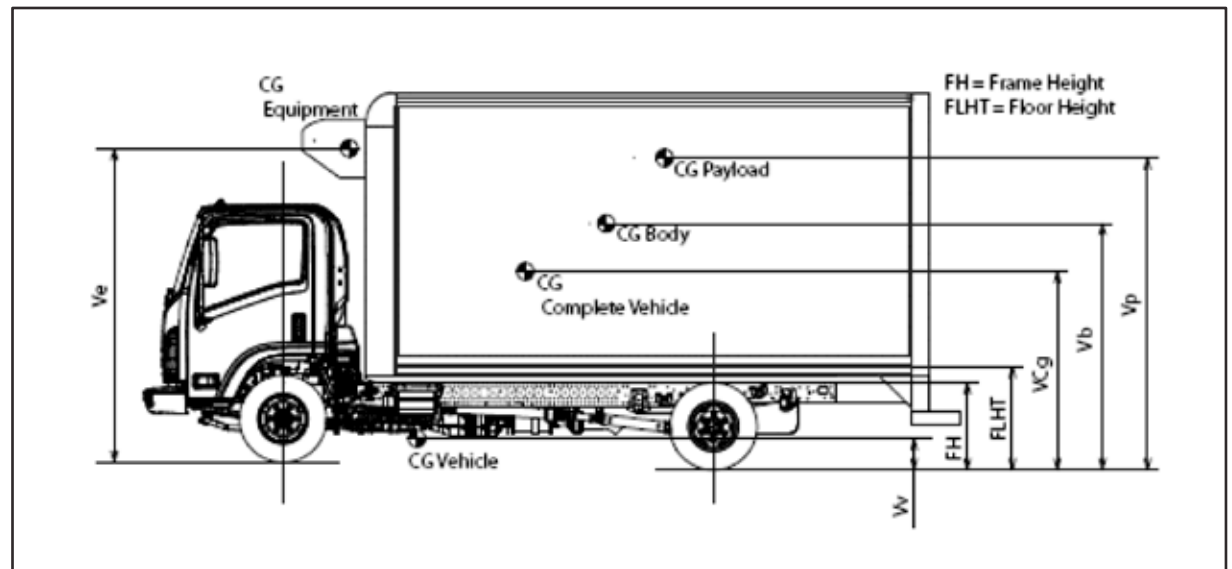


Figure 5.22.1

2018 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.

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

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

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

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

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

Definitions in formula:

H_{Cg}	=	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

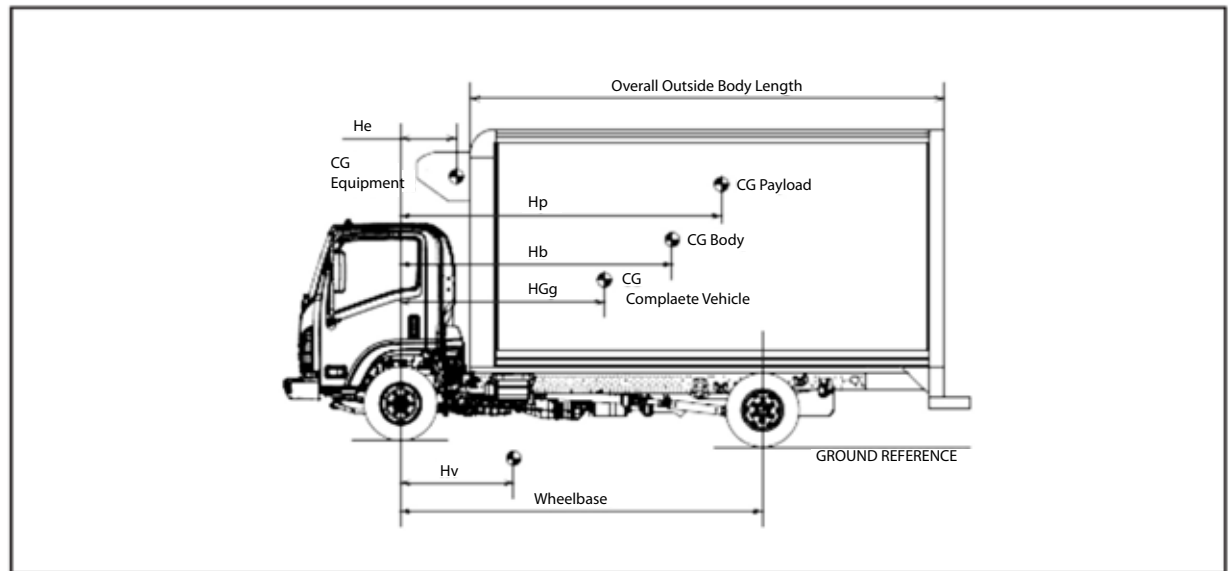


Figure 5.24.1

2018 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.

2018 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

2018 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

2018 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

2018 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

2018 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
	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

2018 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

2018 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

2018 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

2018 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.

2018 Chevrolet Low Cab Forward

Figure 7.2.1

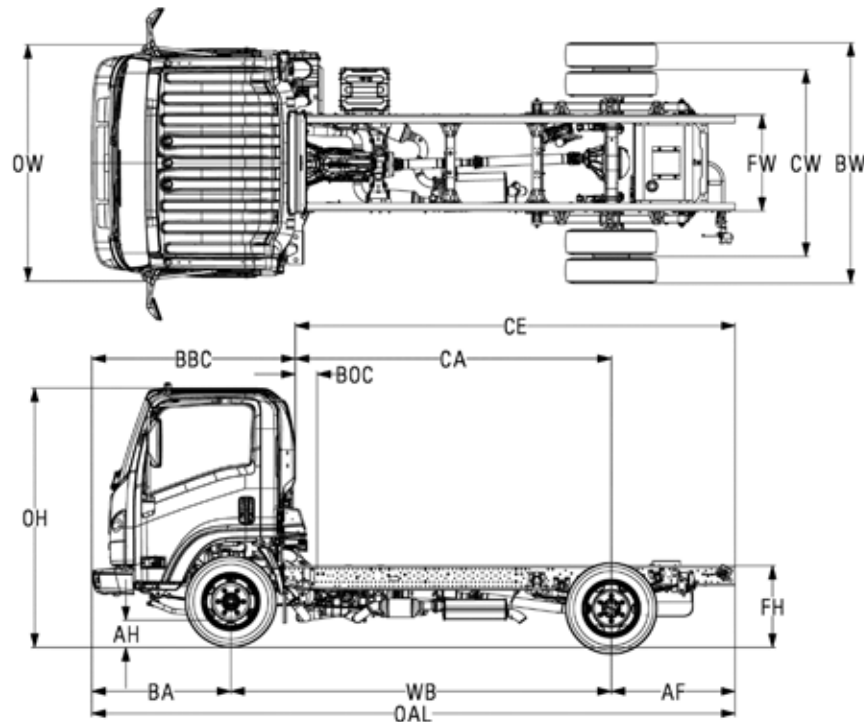


Figure 7.2.2

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

2018 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.

2018 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

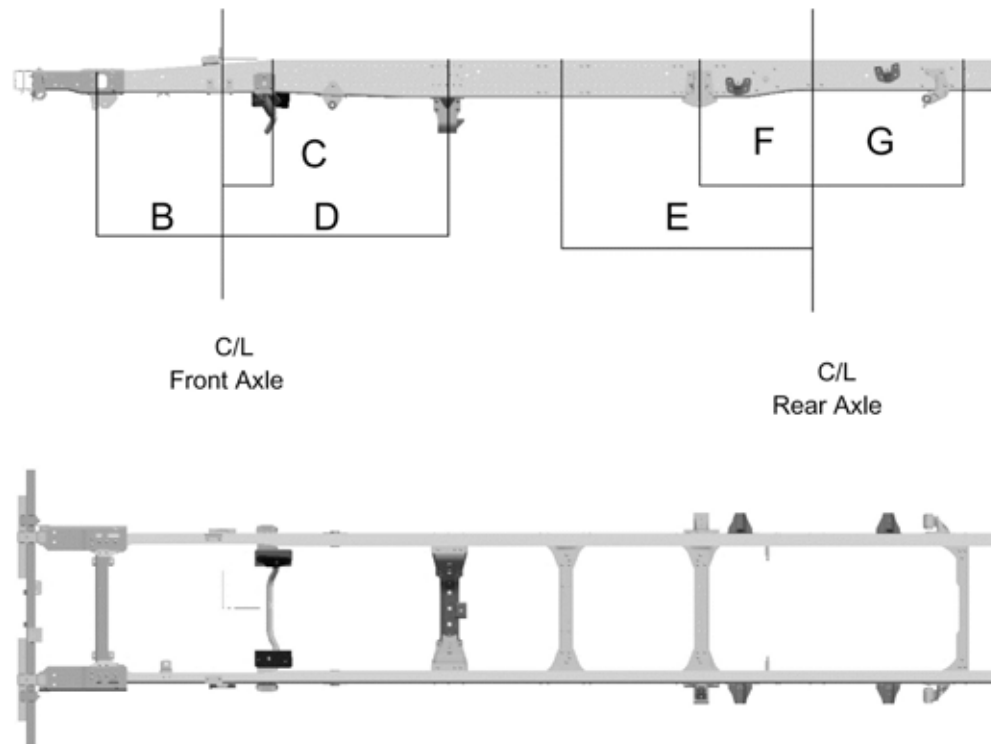


Figure 7.4.1

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

2018 Chevrolet Low Cab Forward

Frame Chart

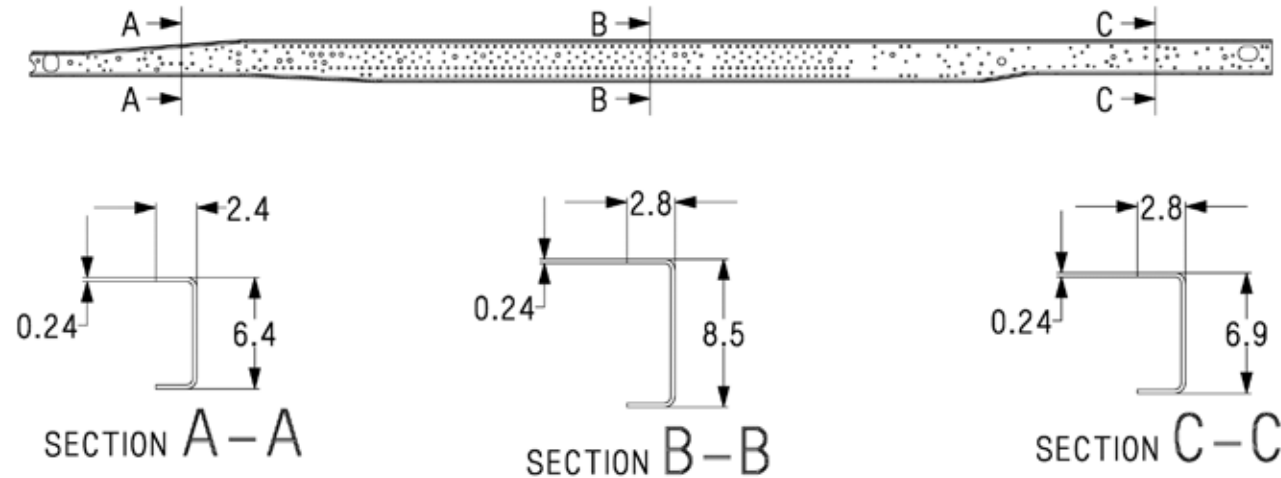


Figure 7.5.1

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

2018 Chevrolet Low Cab Forward

Frame Chart

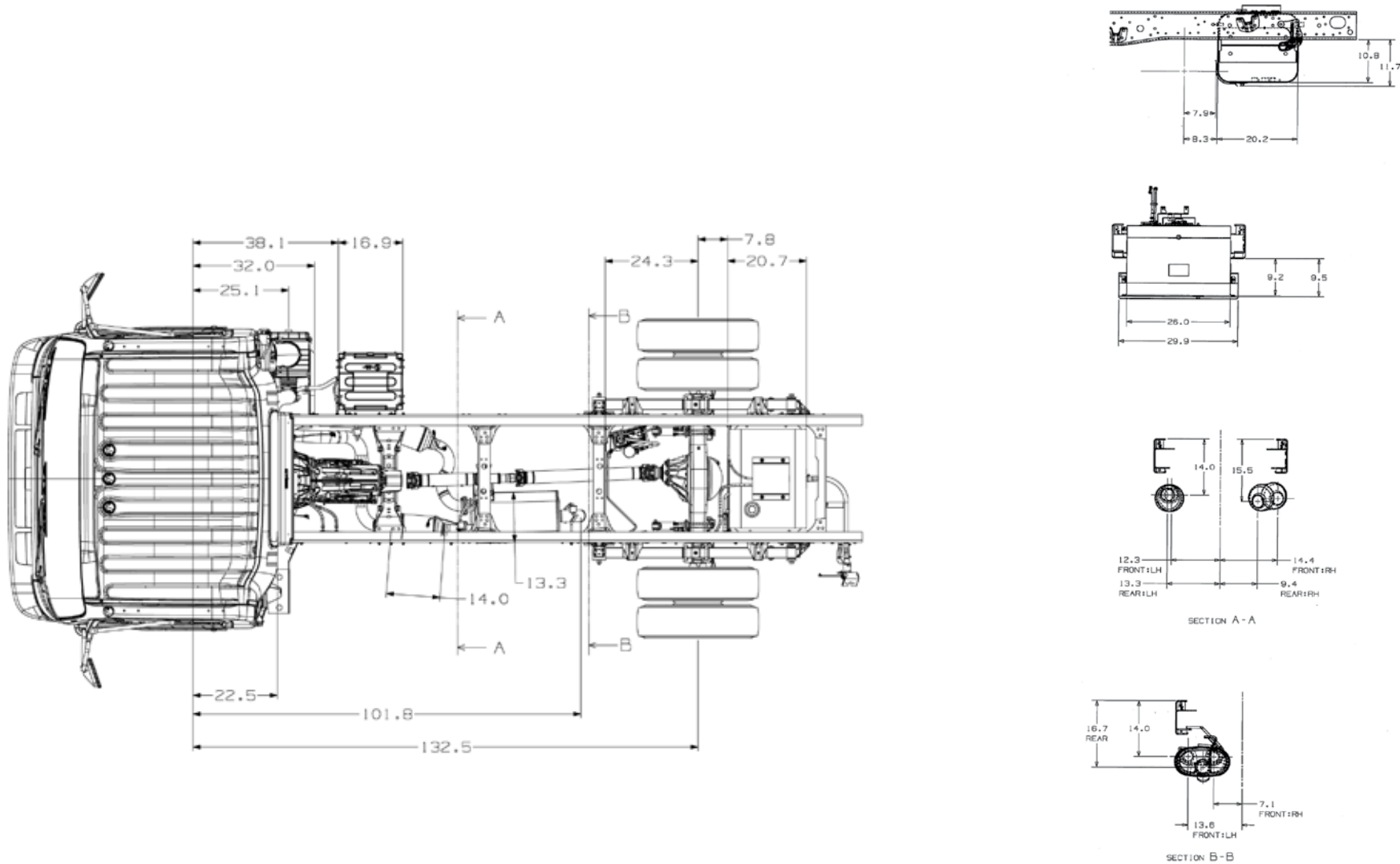


Figure 7.6.1

2018 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

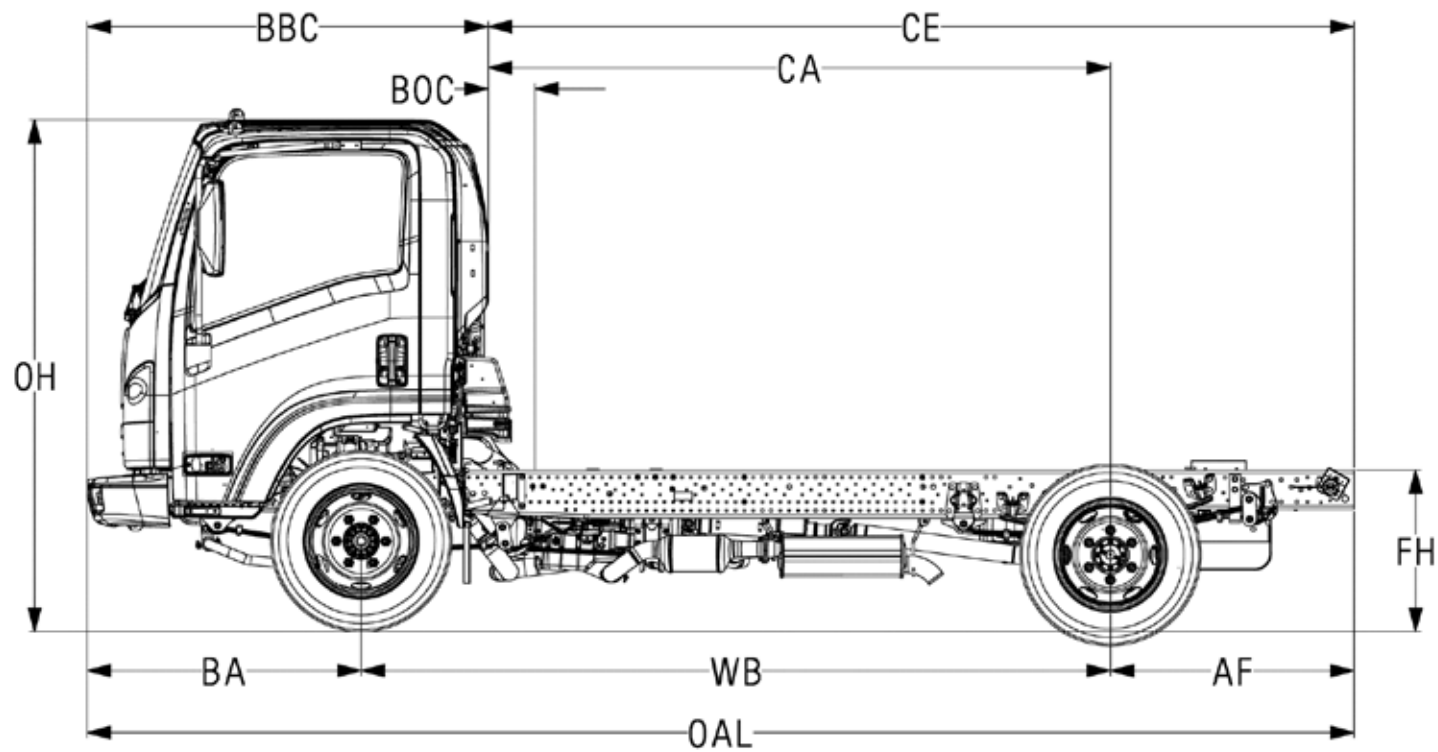


Figure 7.7.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

Chassis Dimensions

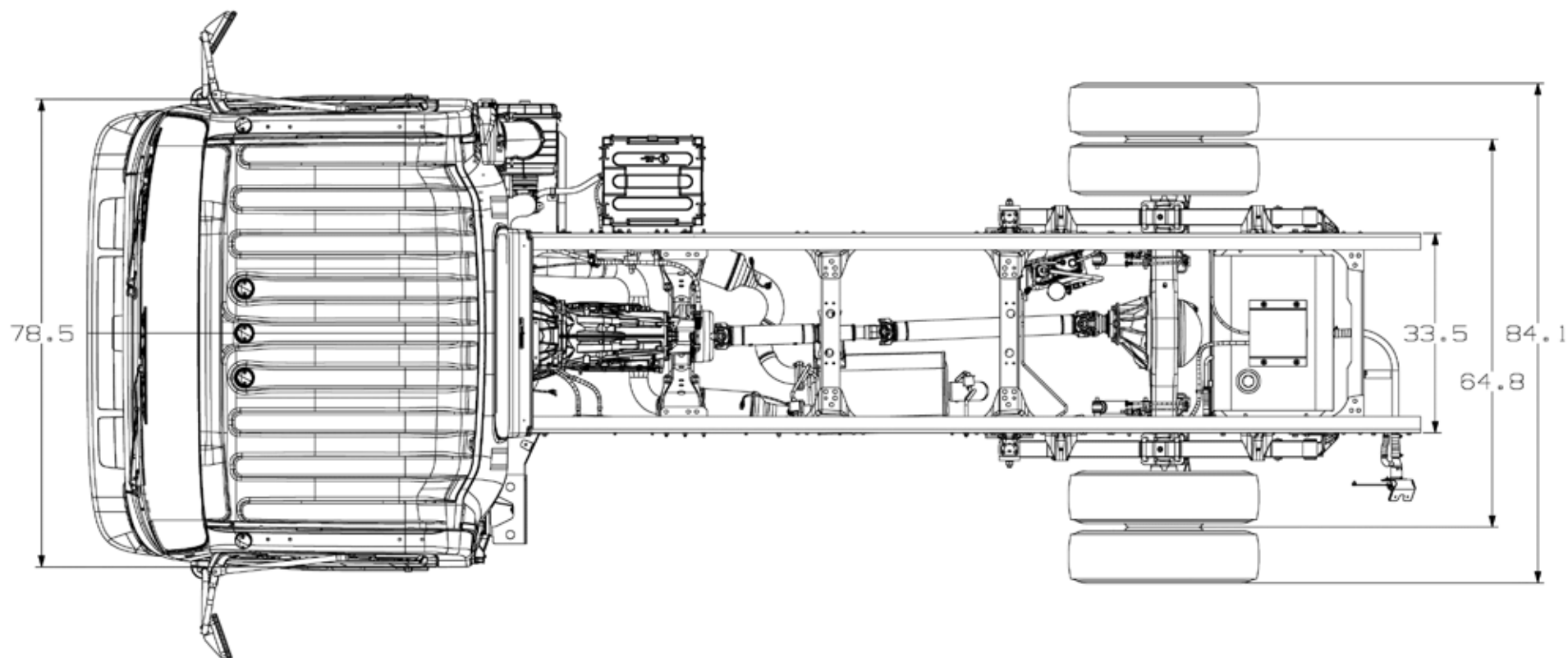


Figure 7.8.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

Cab Tilt Illustration

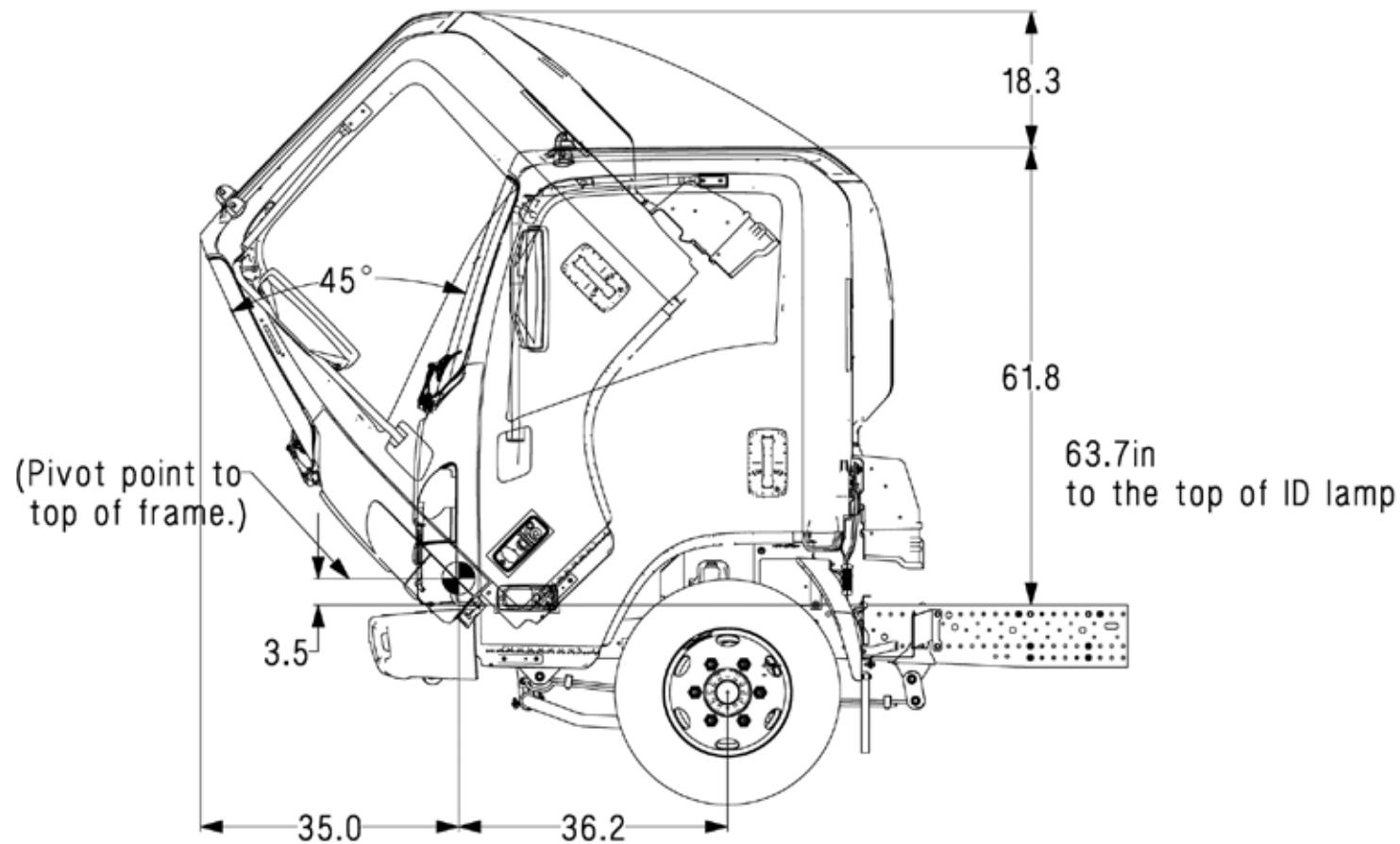


Figure 7.9.1

Dimensions in inches

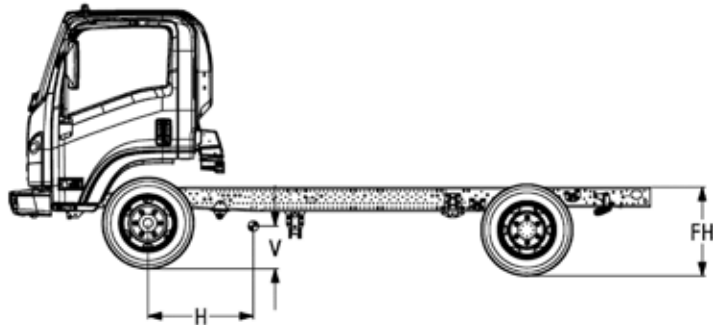
2018 Chevrolet Low Cab Forward

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.

2018 Chevrolet Low Cab Forward

Front Axle Chart

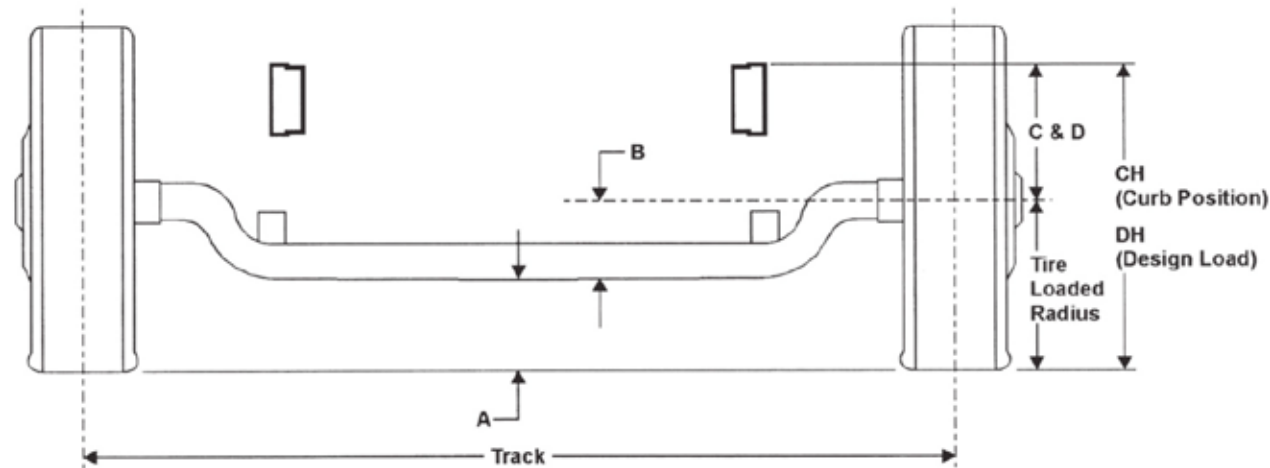


Figure 7.11.1

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

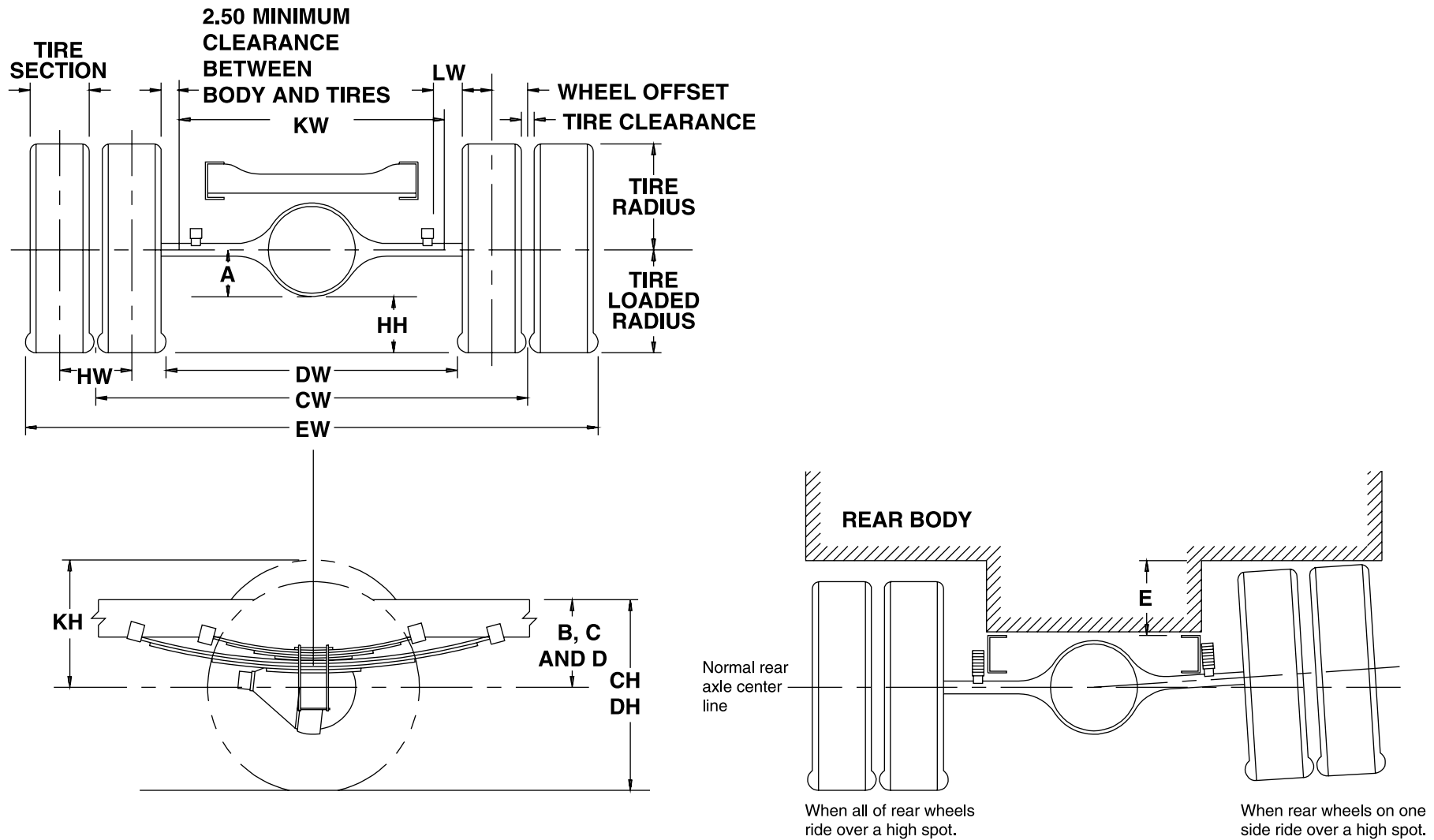


Figure 7.12.1

2018 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.		
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

2018 Chevrolet Low Cab Forward

Suspension Deflection Charts – 3500,4500 Gas

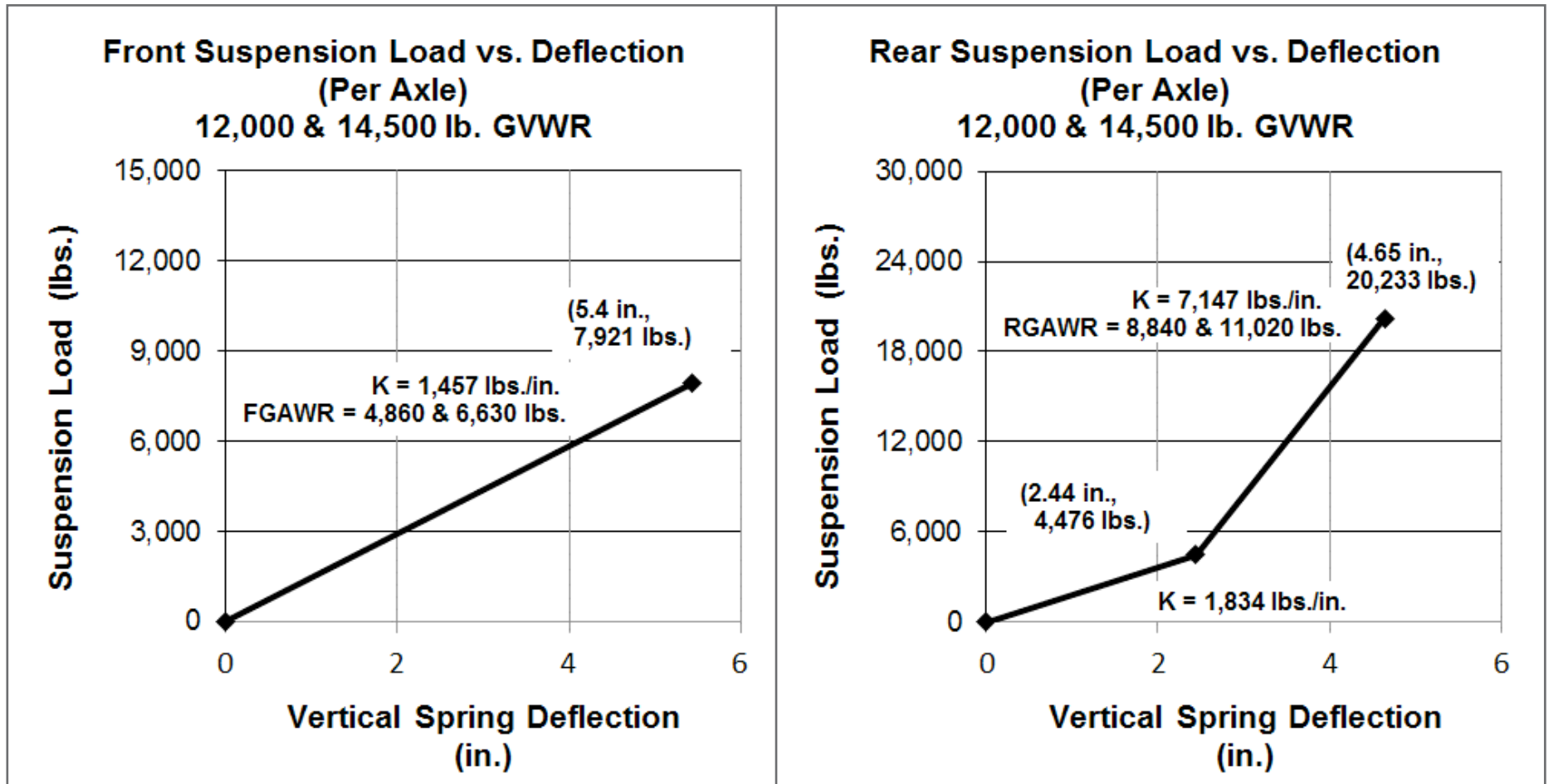


Figure 7.14.1

Dimensions in inches

2018 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

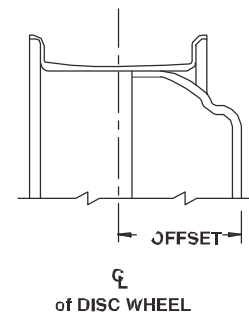
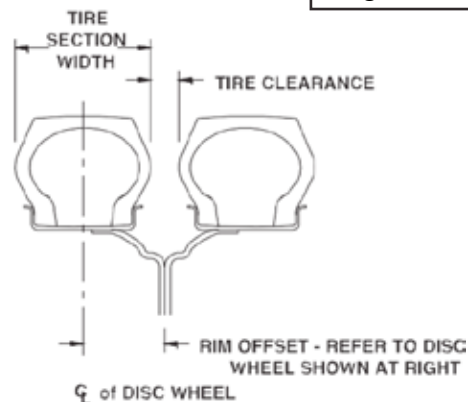


Figure 7.15.4

2018 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

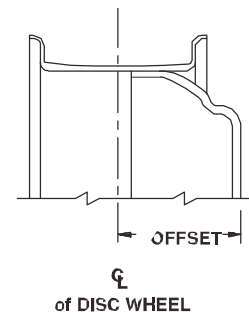
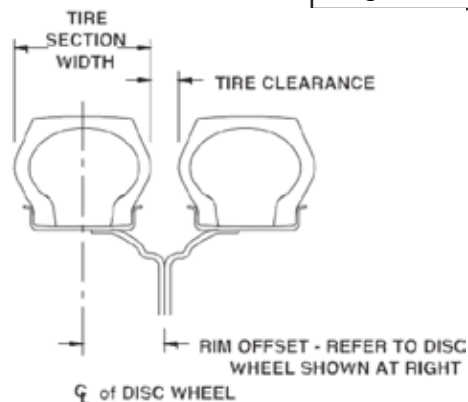


Figure 7.16.4

2018 Chevrolet Low Cab Forward

Propeller Shaft

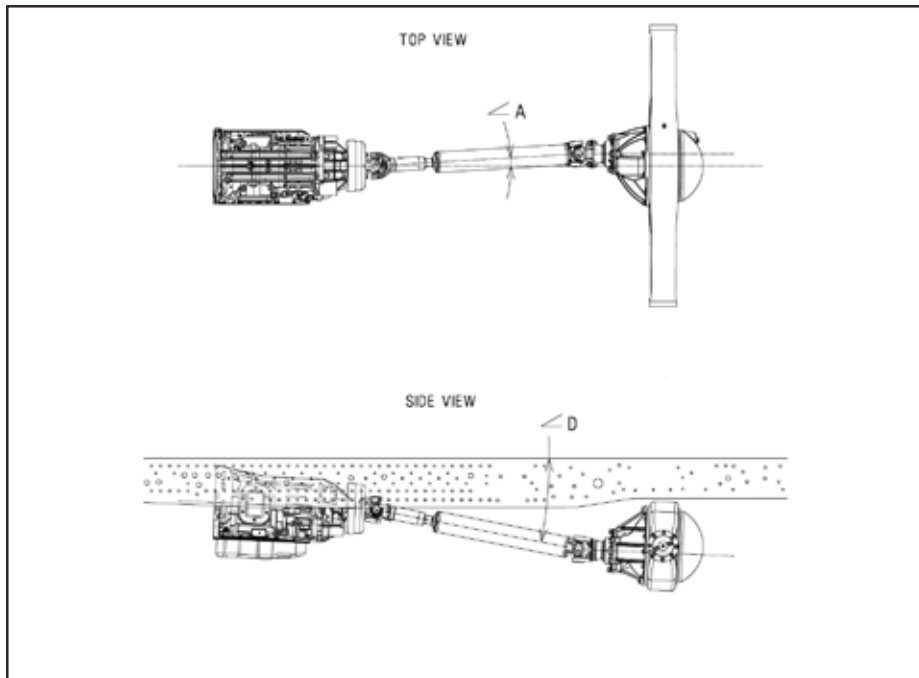


Figure 7.17.1

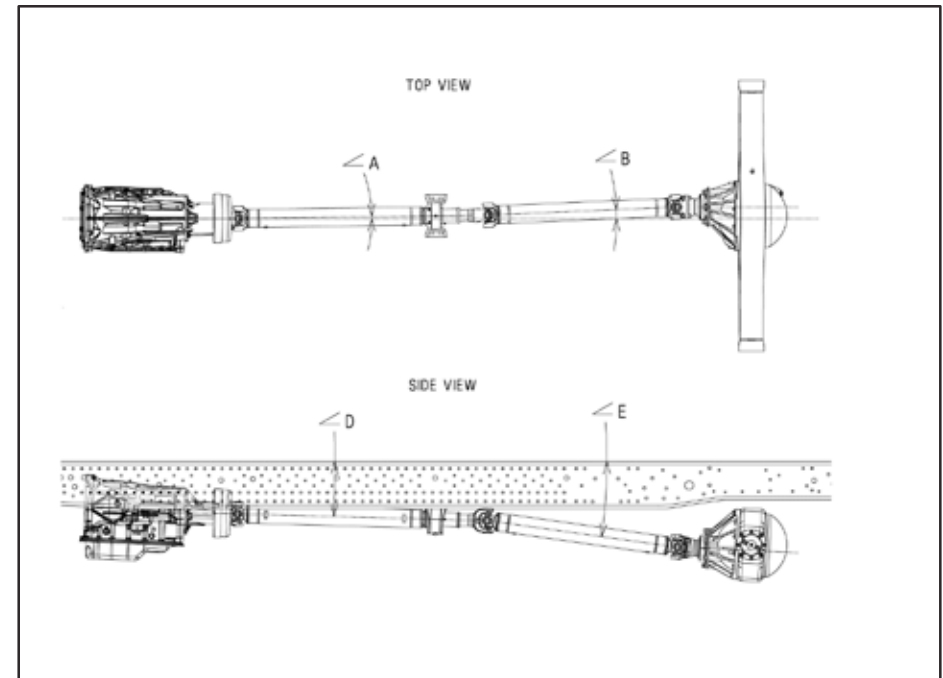


Figure 7.17.2

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.

2018 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

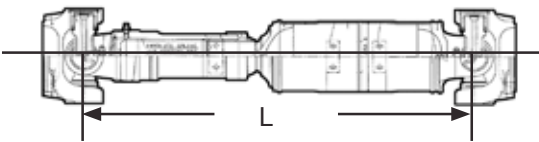
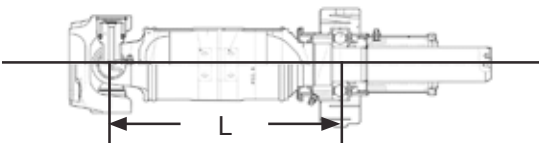
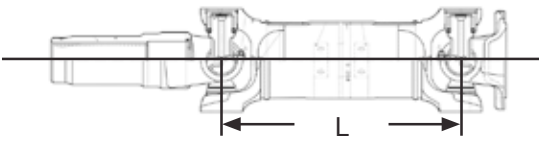
Type	Description	Illustration
Type A	1st shaft in 1-piece driveline	
Type B	1st shaft in 2-piece driveline	
Type C	2nd shaft in 2-piece driveline	

Figure 7.18.2

Dimensions in inches

2018 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

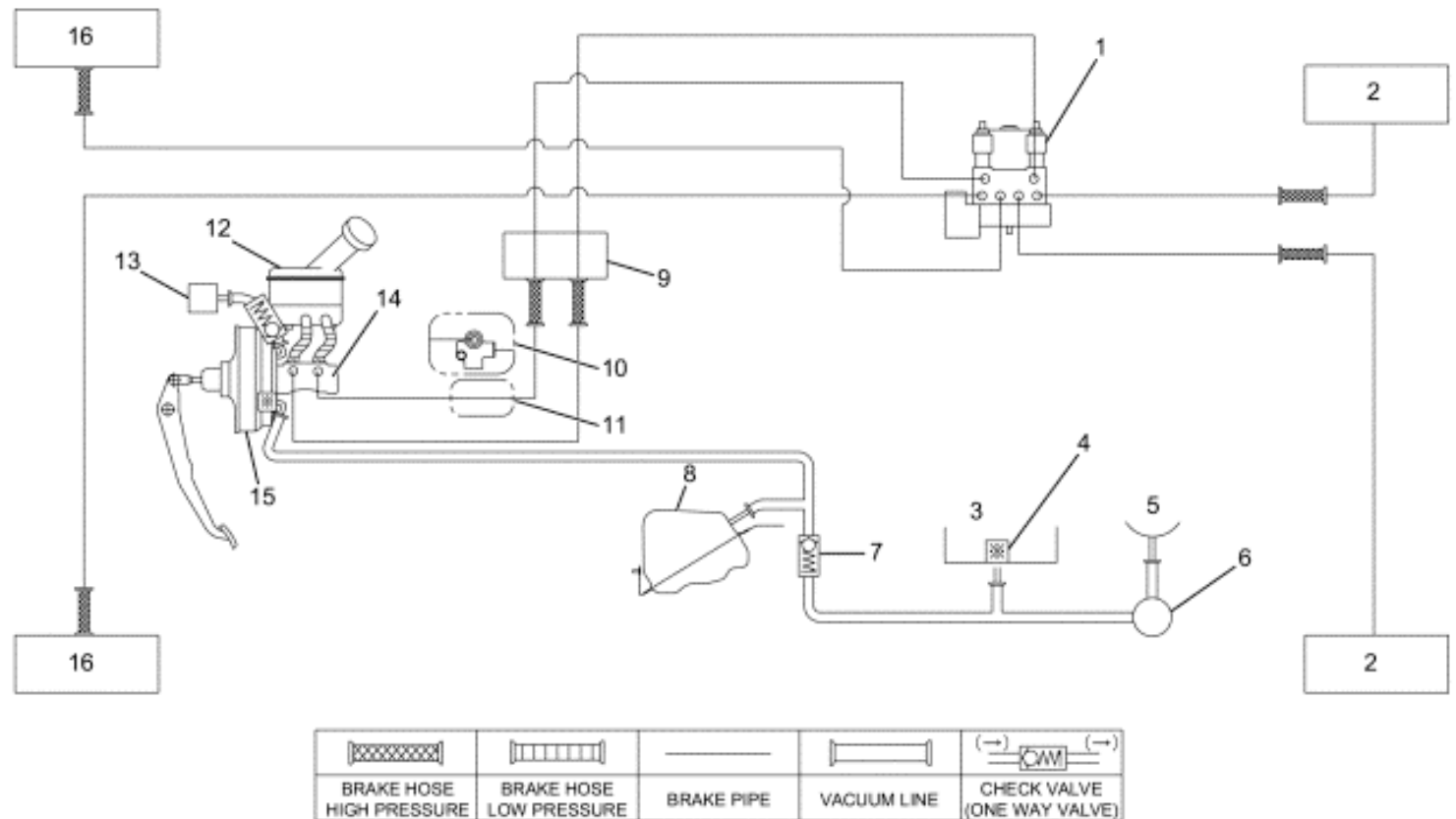


Figure 7.19.1

2018 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

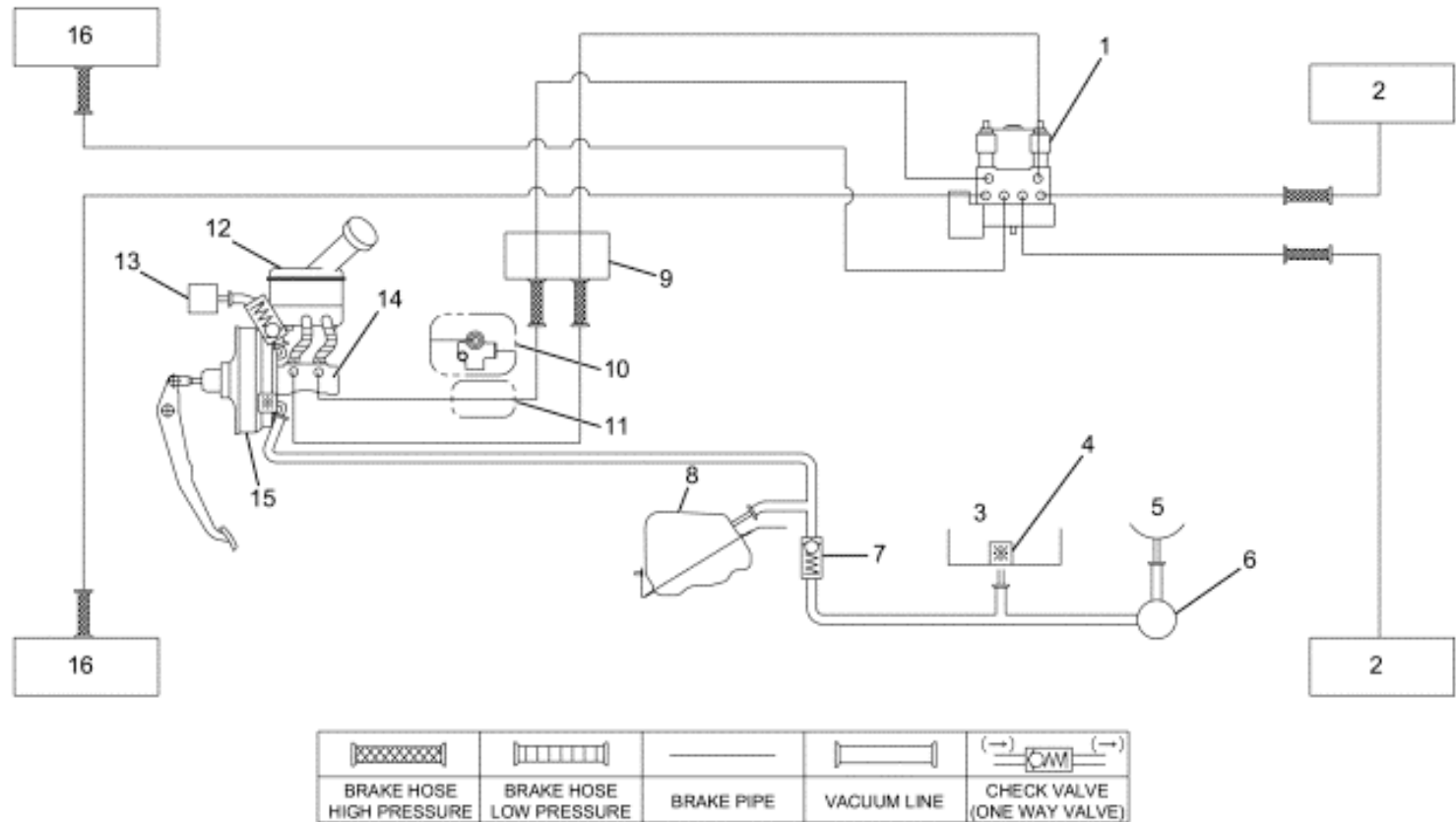


Figure 7.20.1

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.

2018 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.

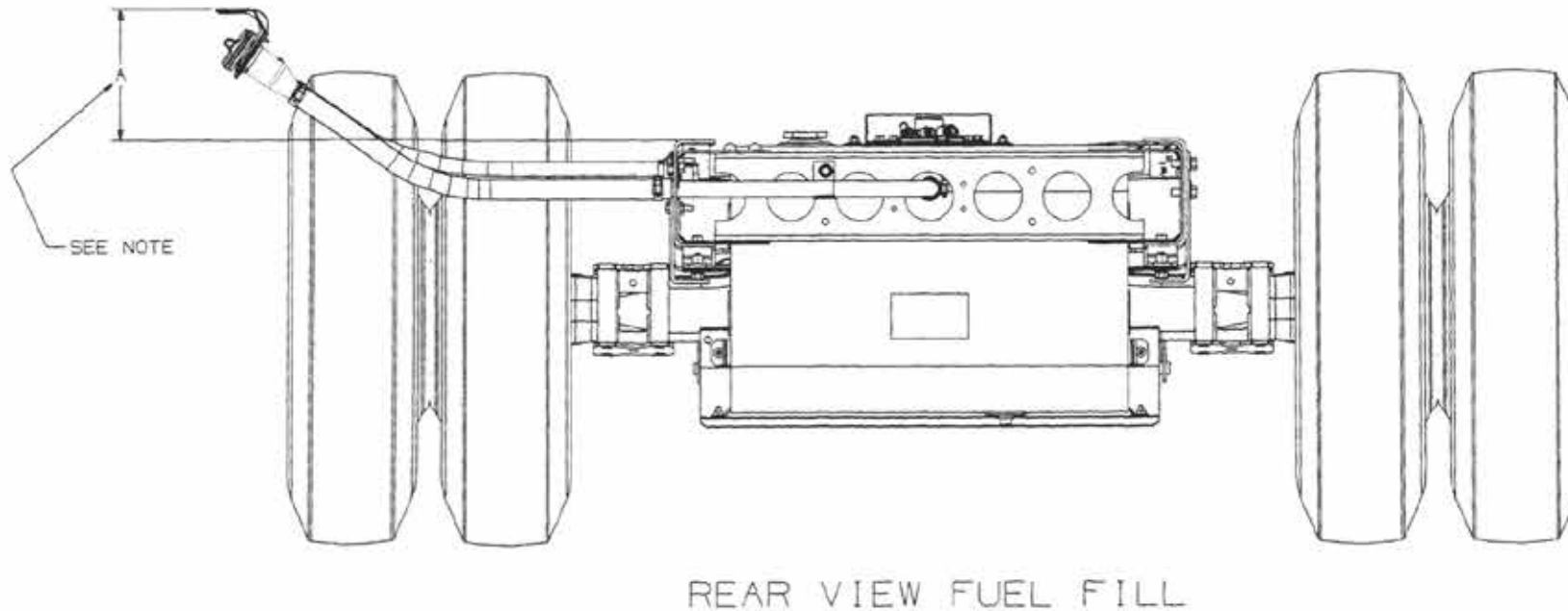
NOTICE: Fuel that is 15% Ethanol is not suitable for your vehicle. Fuel that is than 85% Ethanol is not suitable for your vehicle. Methanol is methyl or wood alcohol.

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.

2018 Chevrolet Low Cab Forward

PAGE	7.23
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Rear View Fuel Fill



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

Figure 7.23.1

Top View Fuel Fill

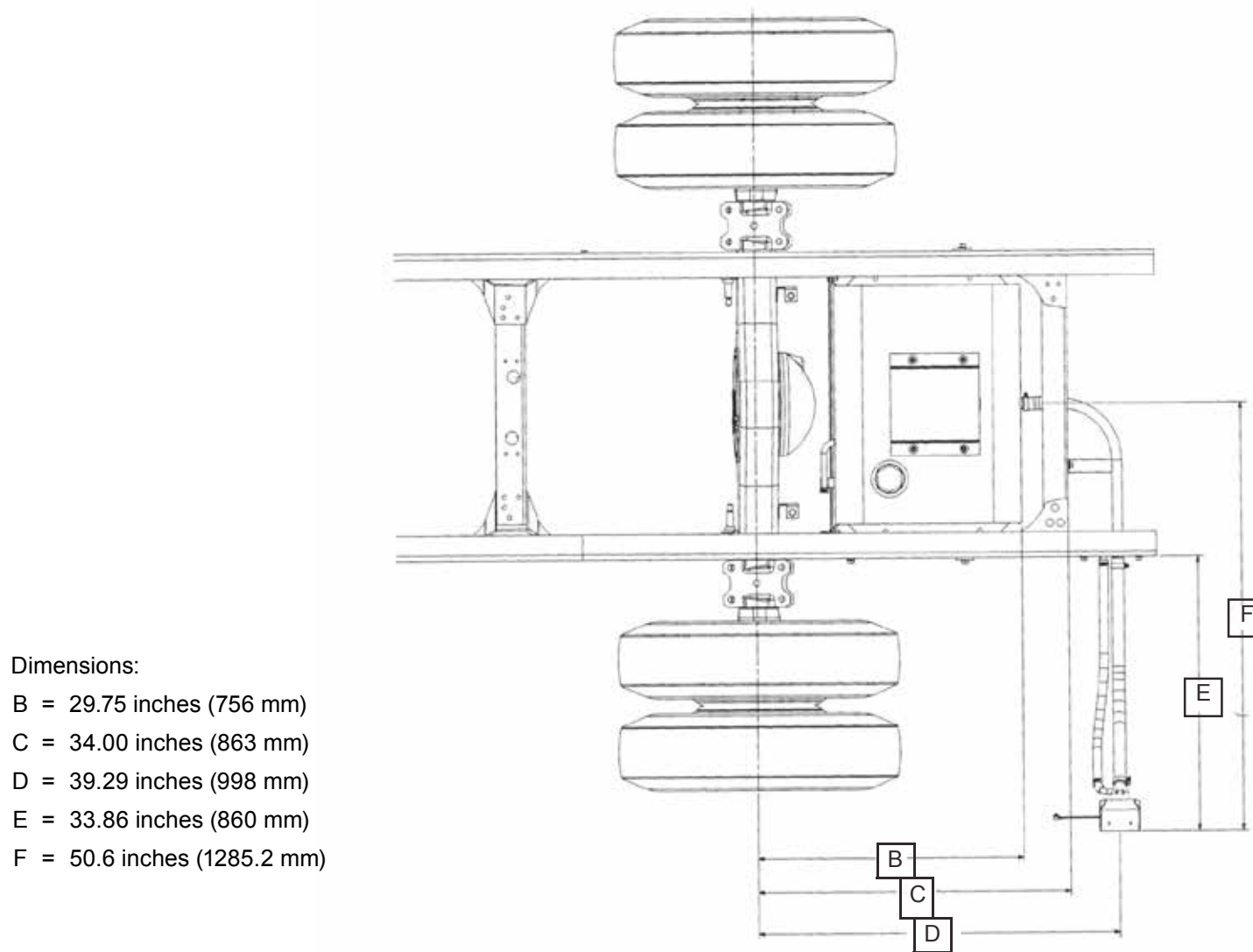


Figure 7.24.1

2018 Chevrolet Low Cab Forward

Through the Rail Fuel Fill Frame Hole

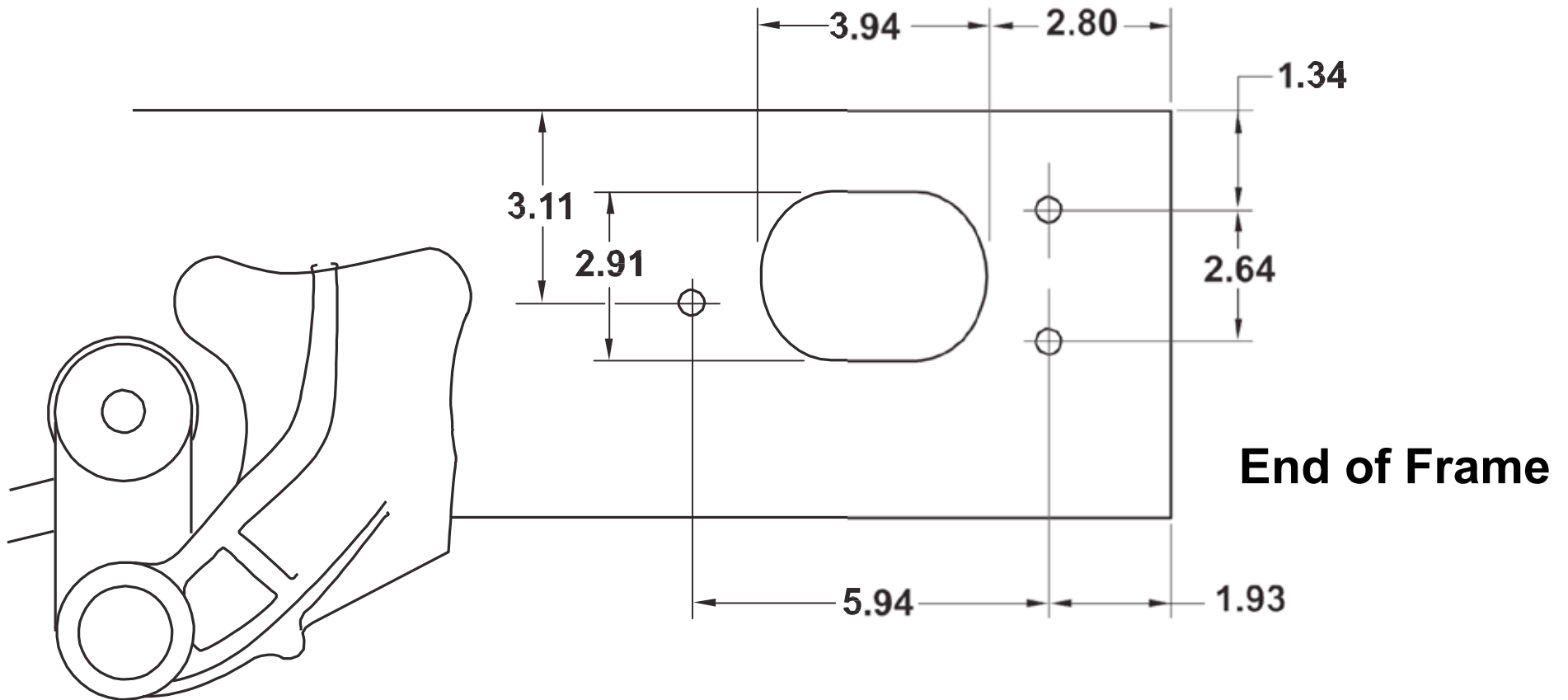


Figure 7.25.1

Dimensions in inches

Fuel Fill Parts Illustration

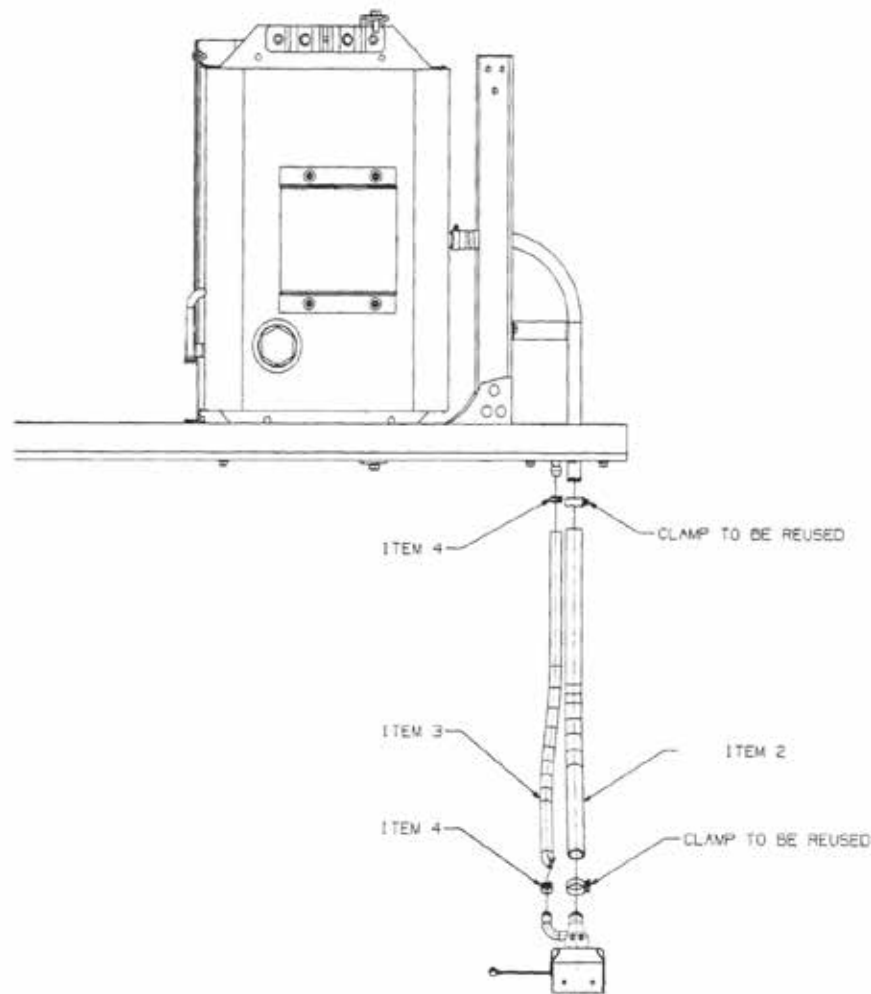


Figure 7.26.1

2018 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

2018 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.

2018 Chevrolet Low Cab Forward

Figure 8.2.1

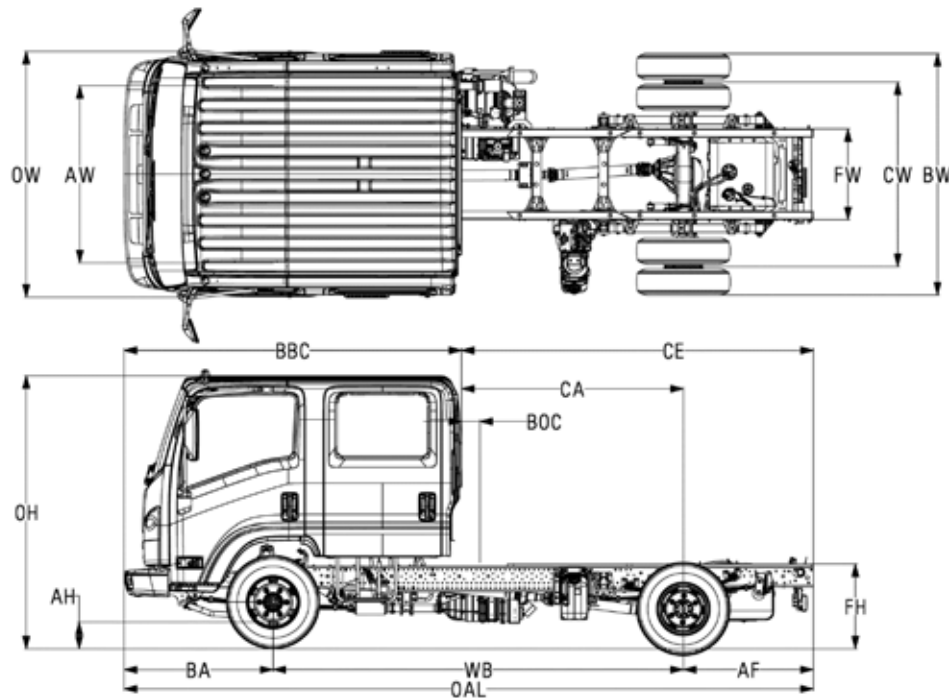


Figure 8.2.2

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

2018 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

2018 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

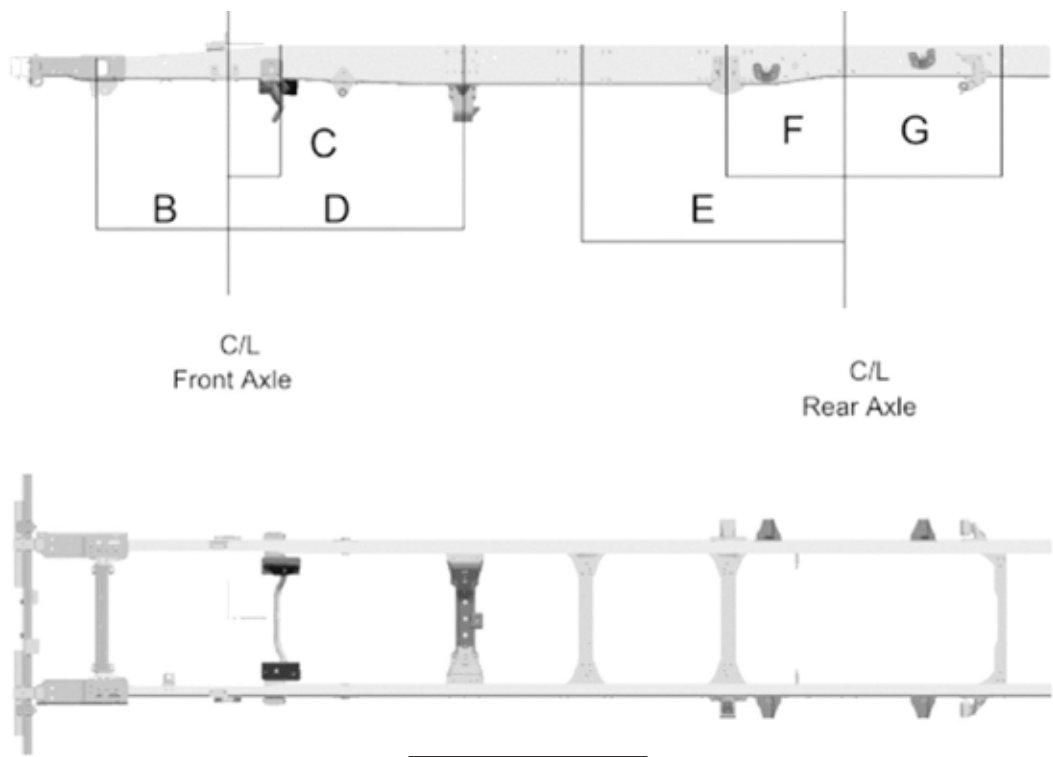


Figure 8.4.1

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

2018 Chevrolet Low Cab Forward

Frame Chart

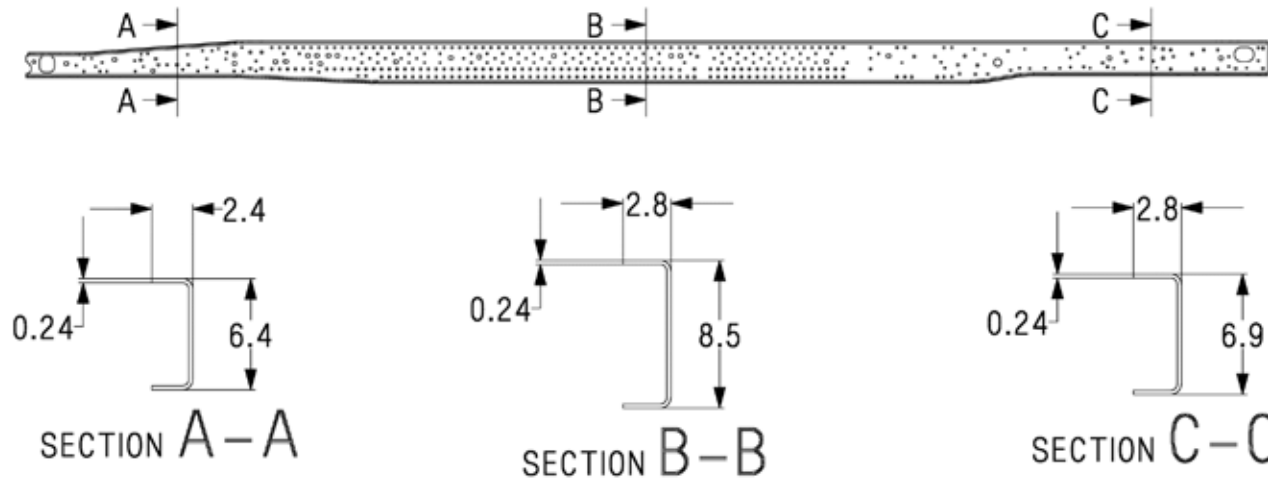


Figure 8.5.1

Wheelbase	Frame FL	Frame Thickness
150.0	223.8	0.24
176.0	249.8	0.24

Figure 8.5.2

Dimensions in inches

2018 Chevrolet Low Cab Forward

Auxiliary Views 176"

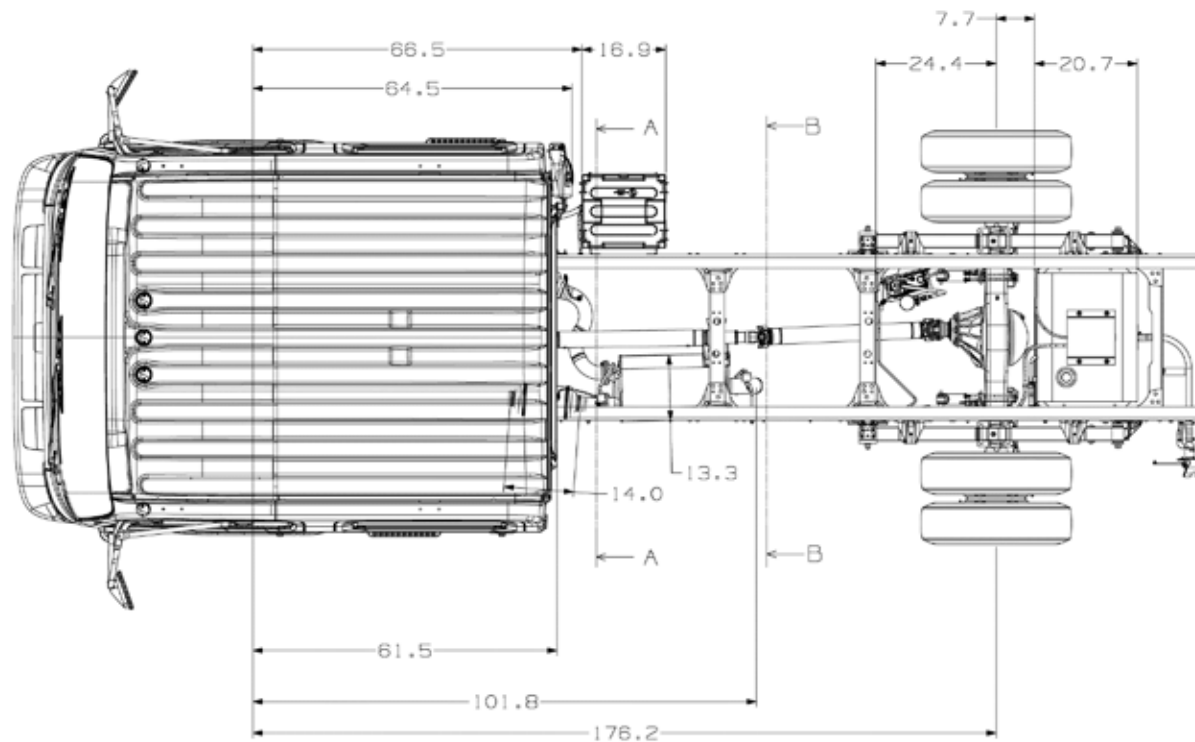
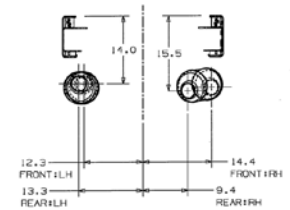
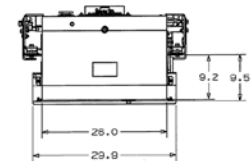
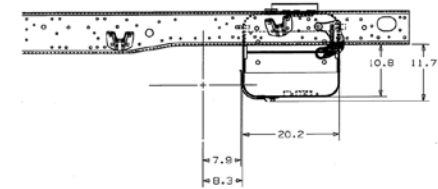
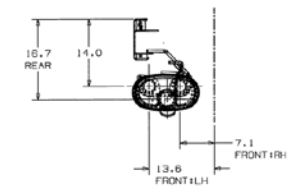


Figure 8.6.1



SECTION A-A



SECTION B-B

Dimensions in inches

2018 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

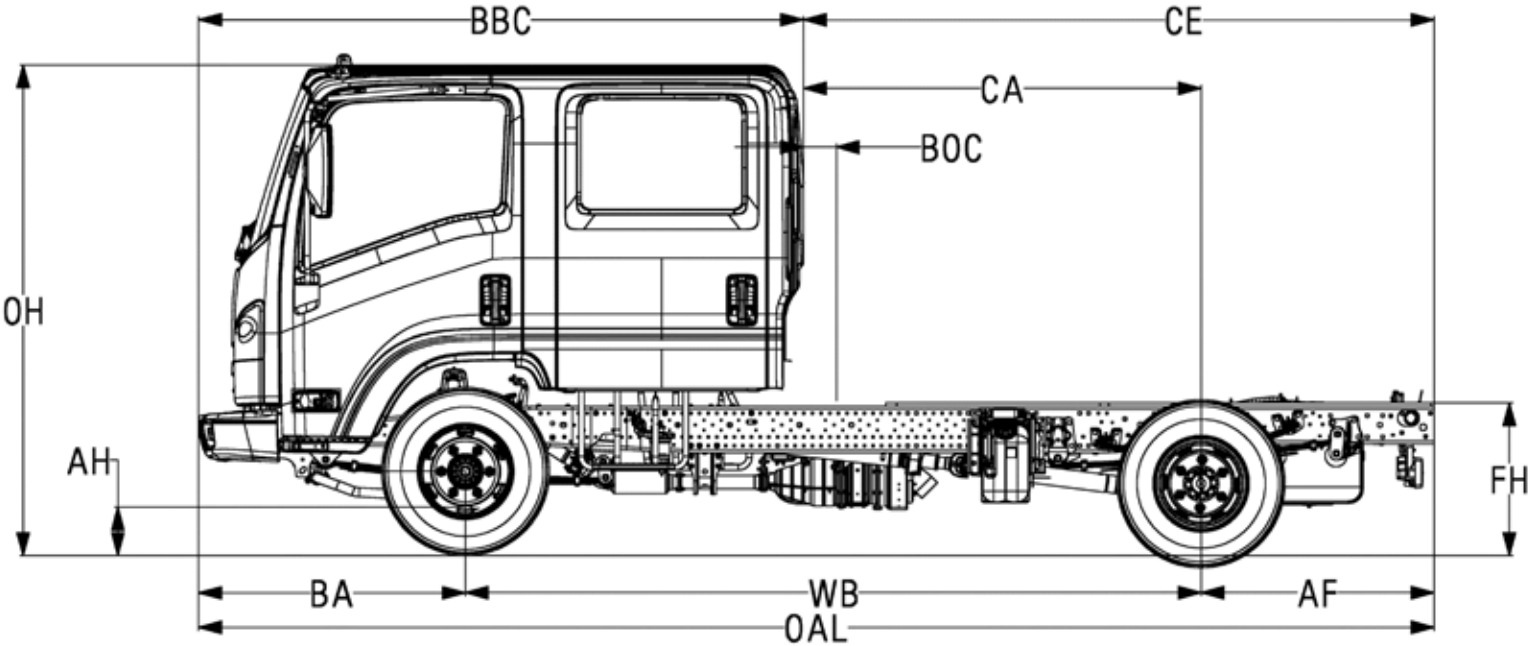


Figure 8.7.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

PAGE	8.8
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Chassis Dimensions

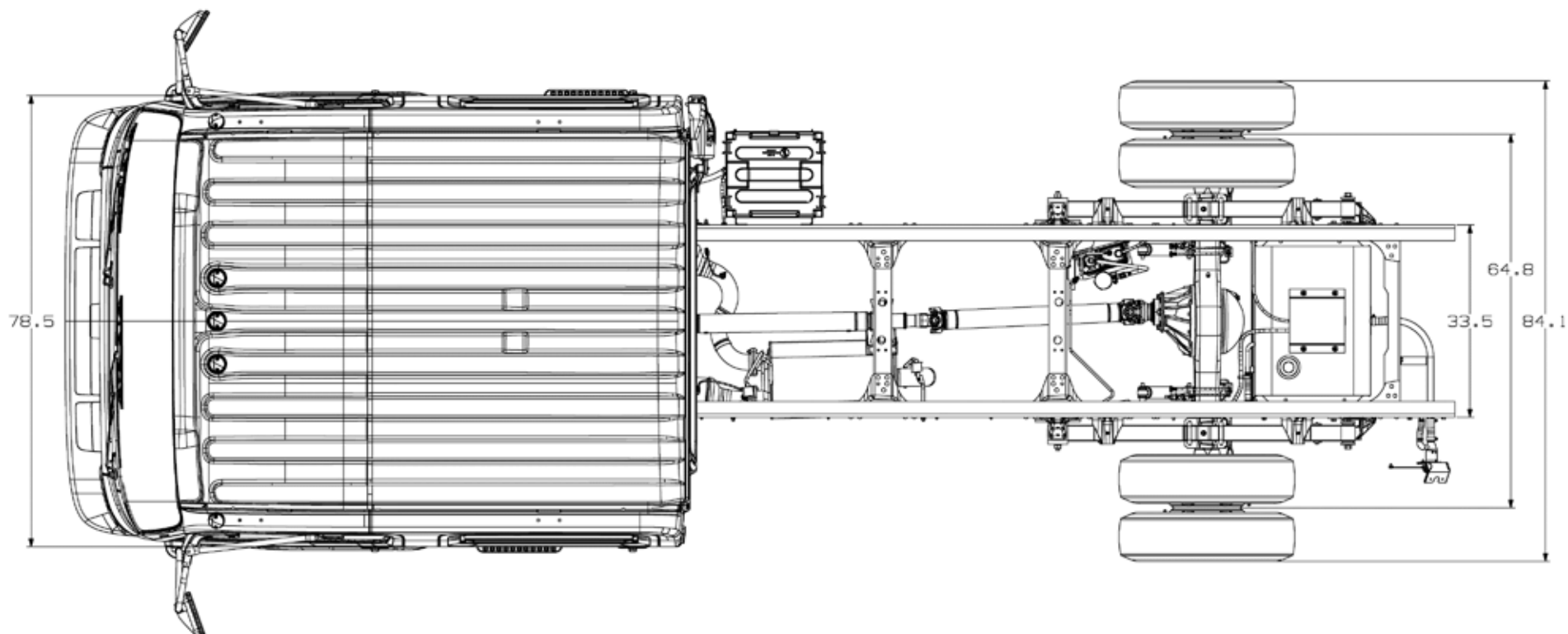


Figure 8.8.1

Dimensions in inches

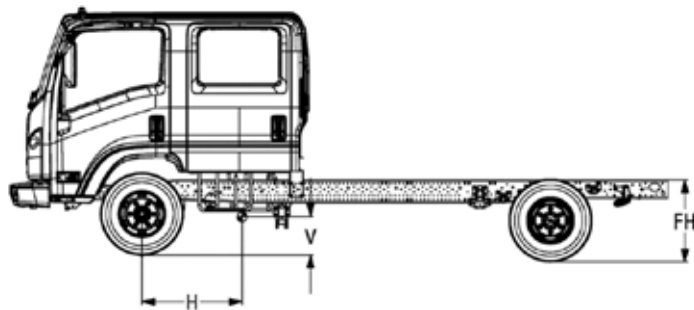
2018 Chevrolet Low Cab Forward

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

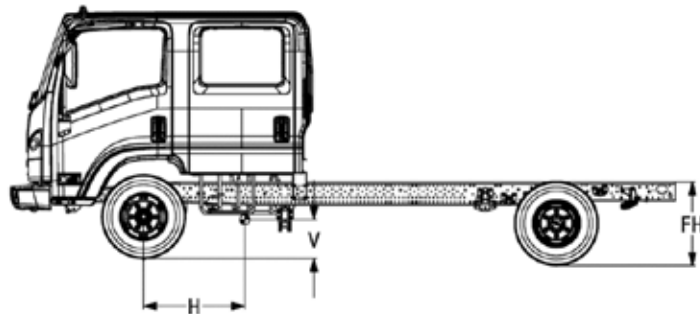
2018 Chevrolet Low Cab Forward

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

2018 Chevrolet Low Cab Forward

Front Axle Chart 3500

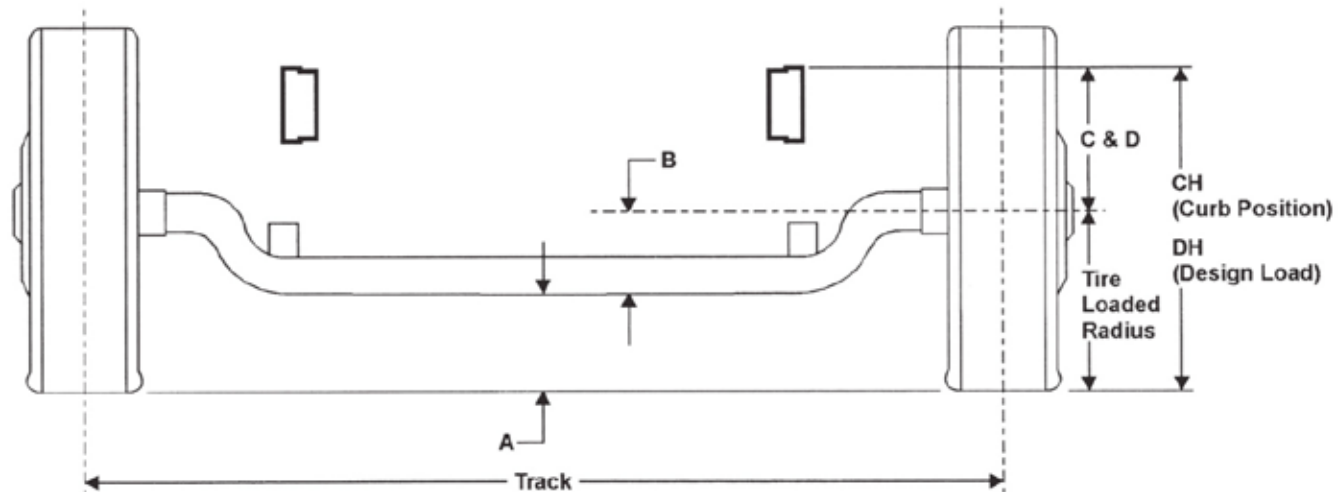


Figure 8.11.1

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

2018 Chevrolet Low Cab Forward

Front Axle Chart 4500

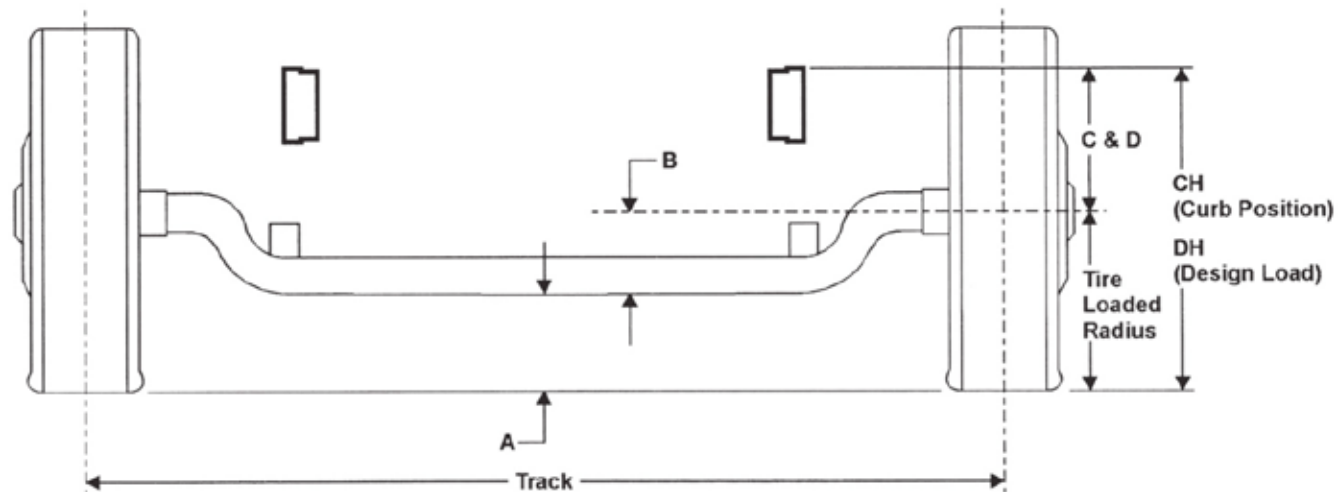


Figure 8.12.1

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

2018 Chevrolet Low Cab Forward

Rear Axle Chart 3500

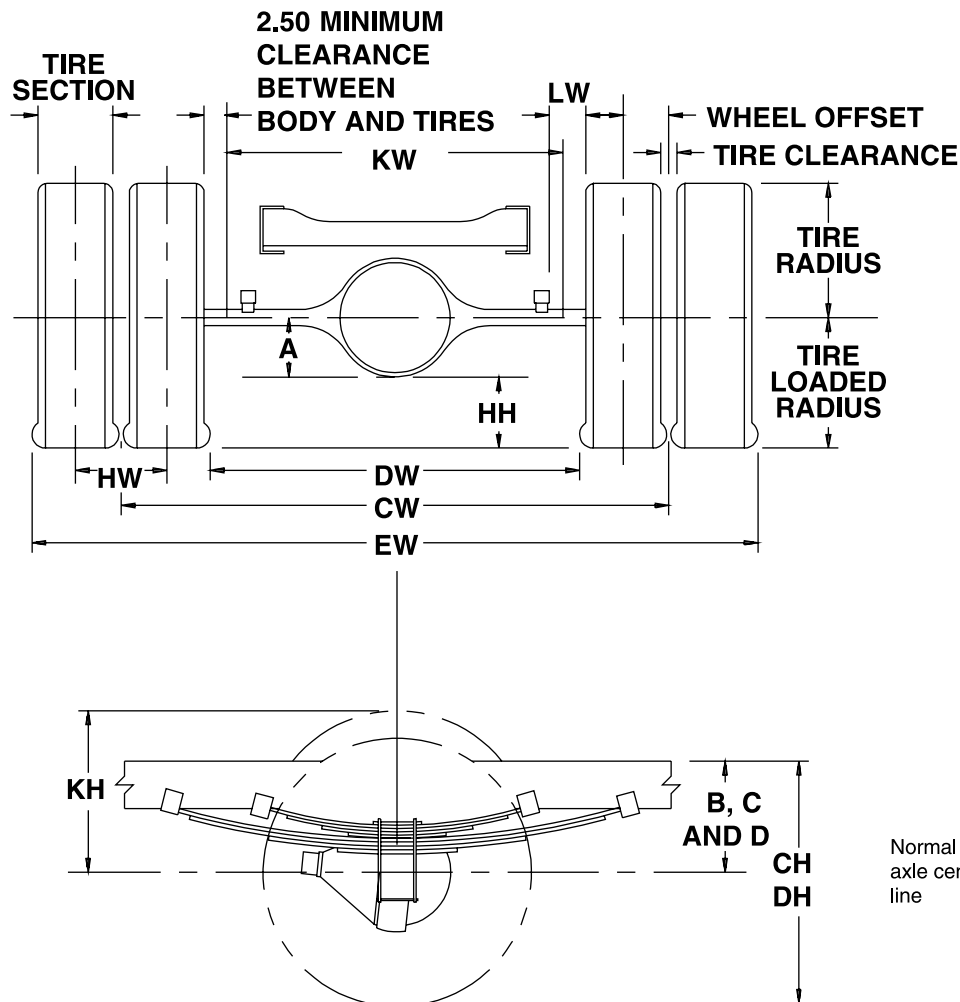
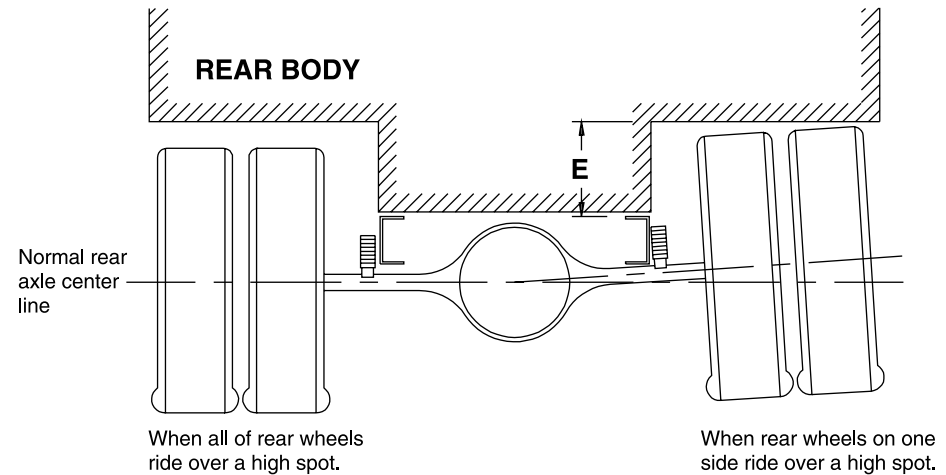


Figure 8.13.1



Dimensions in inches

2018 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

2018 Chevrolet Low Cab Forward

Rear Axle Chart 4500

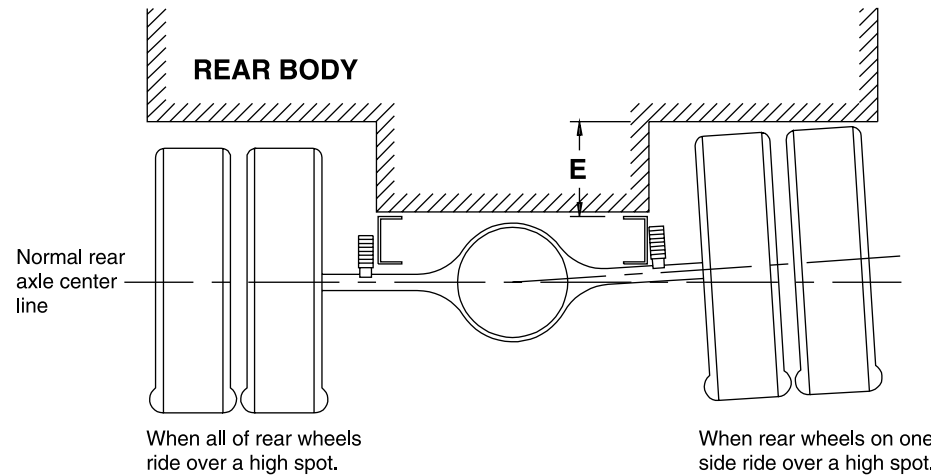
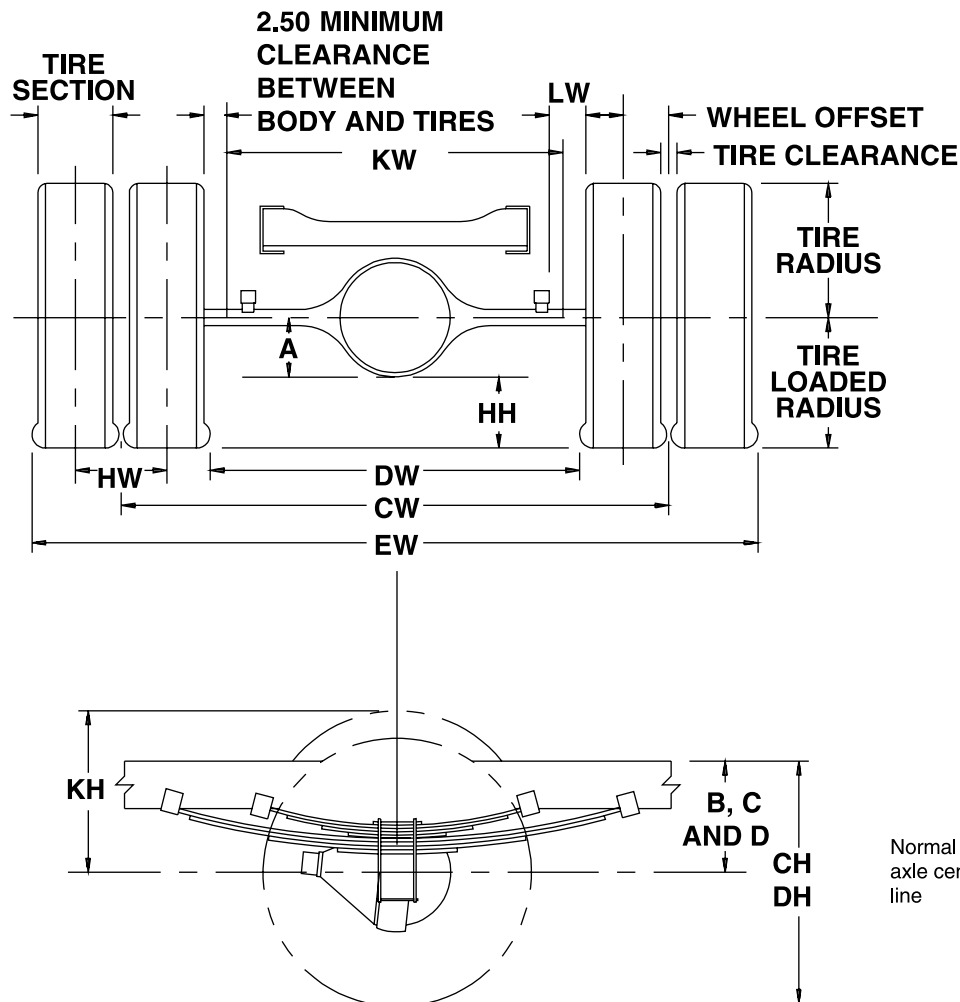


Figure 8.15.1

Dimensions in inches

2018 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

2018 Chevrolet Low Cab Forward

Suspension Deflection Charts – 3500, 4500

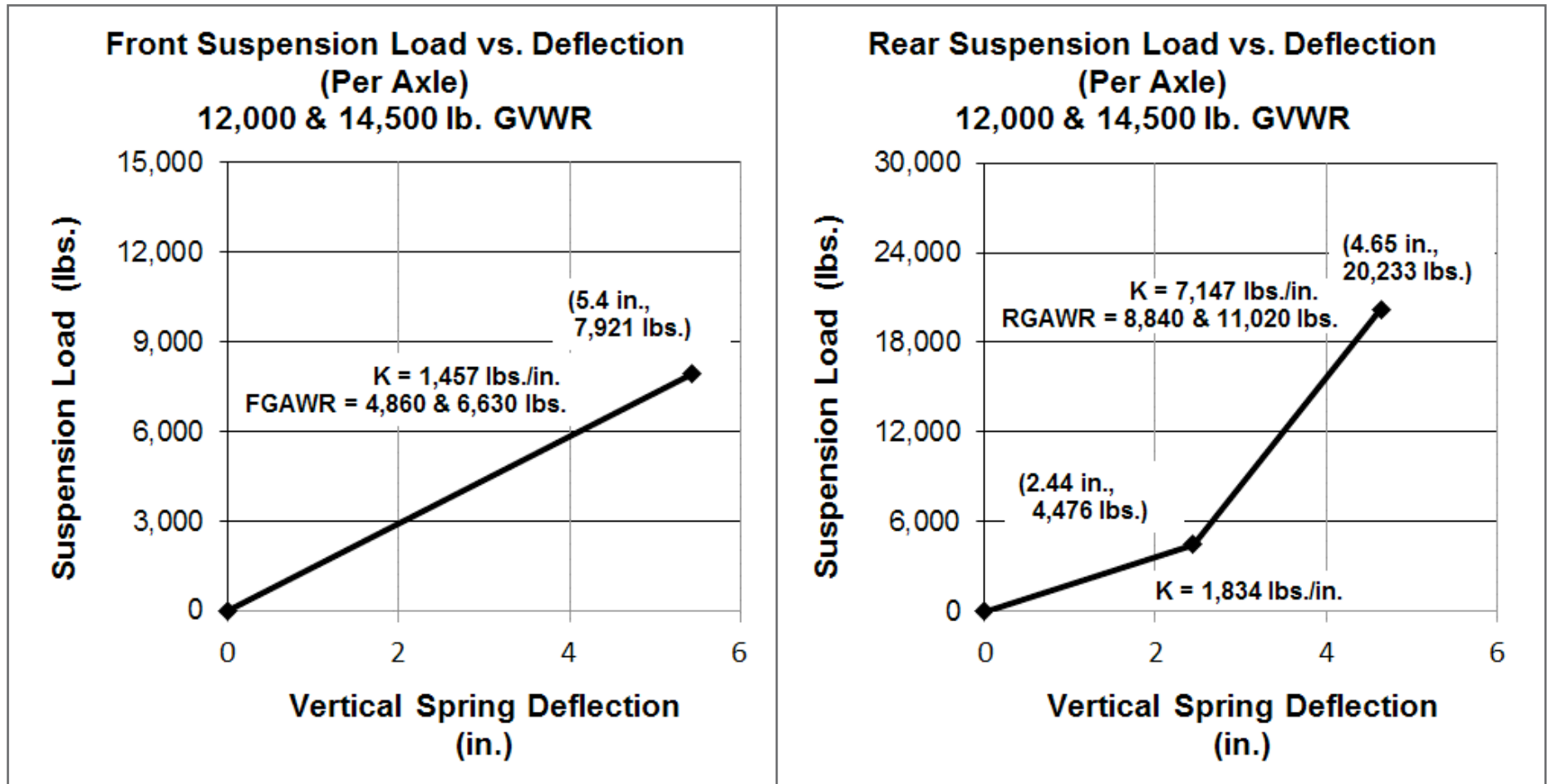


Figure 8.17.1

Dimensions in inches

2018 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

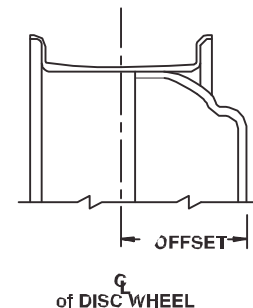
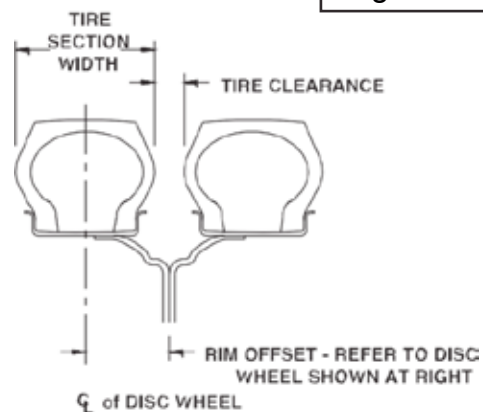
Figure 8.18.2

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

2018 Chevrolet Low Cab Forward

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

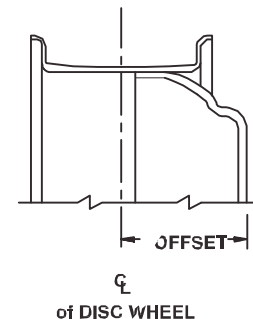
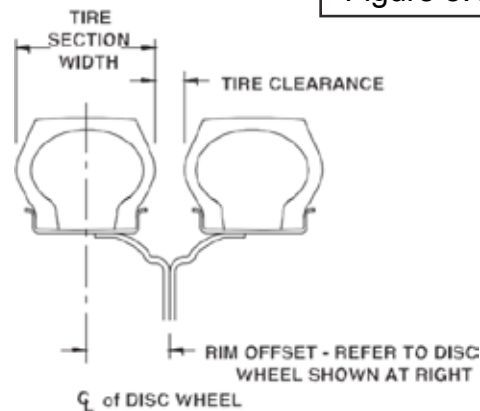
Figure 8.19.2

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

2018 Chevrolet Low Cab Forward

3500, 4500 Crew Cab Propeller Shaft

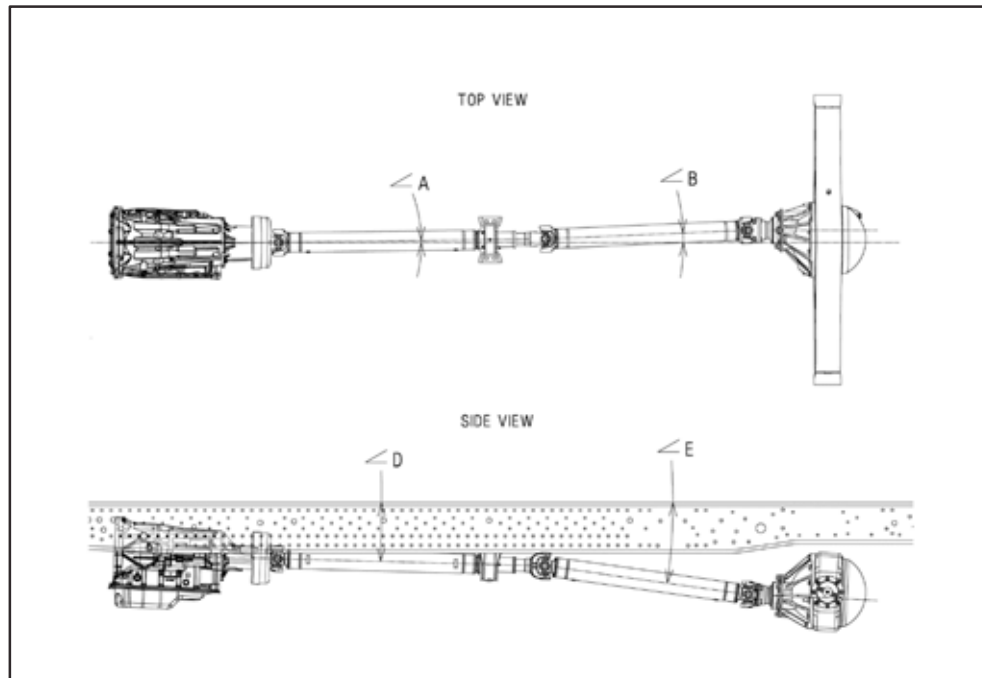


Figure 8.20.1

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.

2018 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

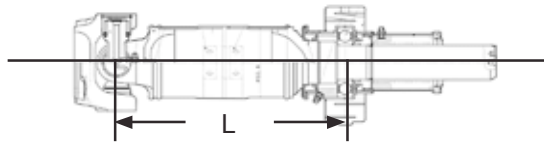
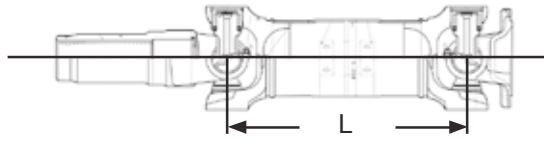
Type	Description	Illustration
Type B	1st shaft in 2-piece driveline	
Type C	2nd shaft in 2-piece driveline	

Figure 8.21.2

Dimensions in inches

PAGE 8.22

Vacuum Over Hydraulic

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

- (1) Electronic Hydraulic Control Unit (EHCUC)
- (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

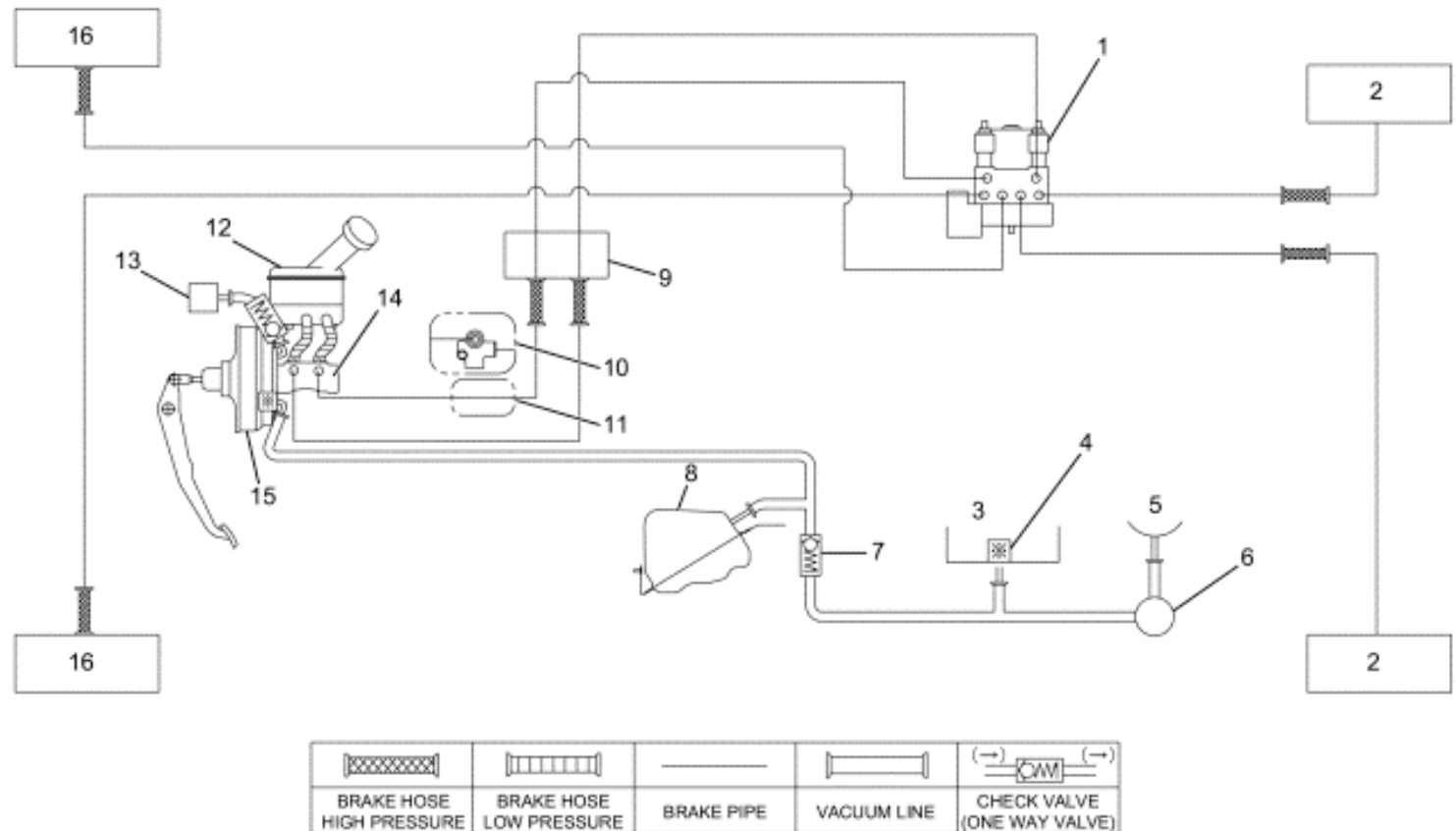


Figure 8.22.1

2018 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

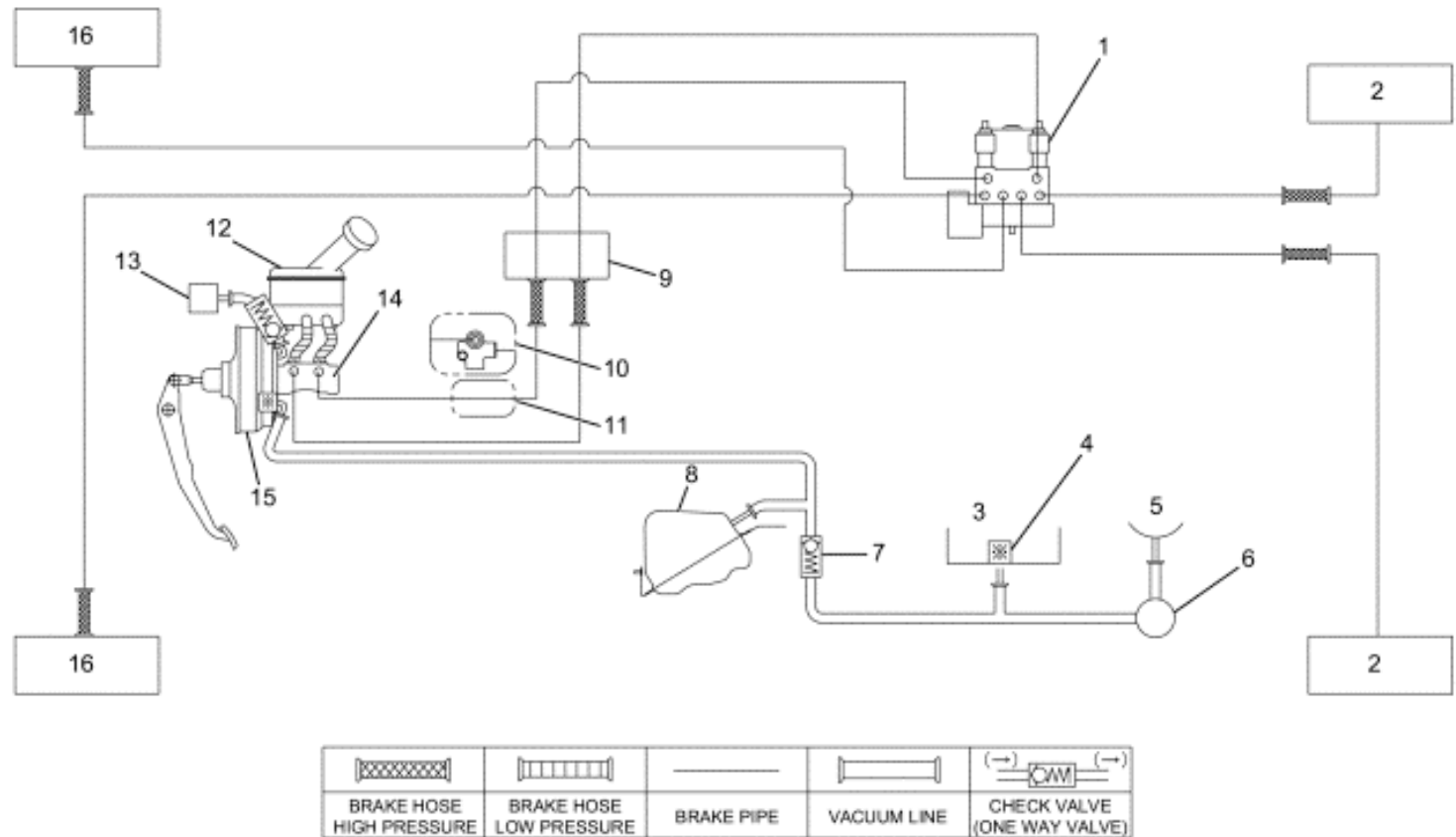


Figure 8.23.1

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.

2018 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.

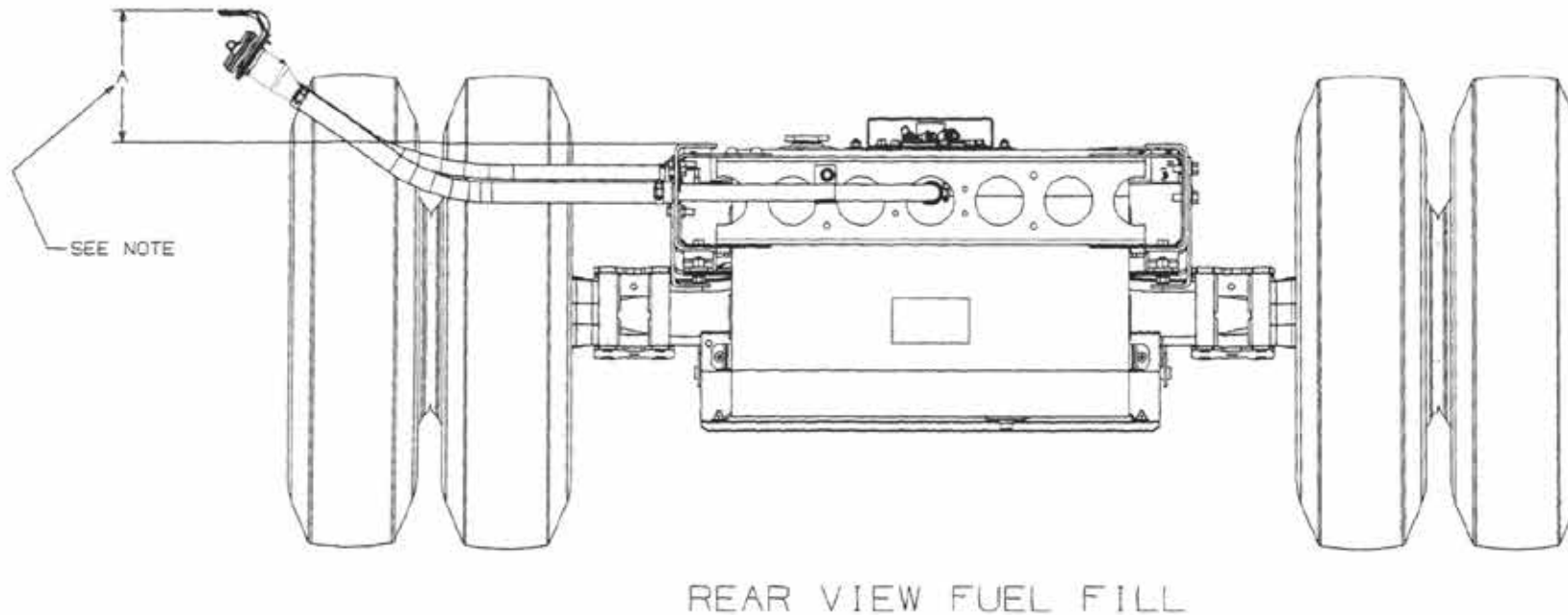
Ethanol is ethyl or grain alcohol. Properly-blended fuel that is no more than 10% ethanol is fine for your vehicle.

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.

2018 Chevrolet Low Cab Forward

Rear View Fuel Fill



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

Figure 8.26.1

2018 Chevrolet Low Cab Forward

Top View Fuel Fill

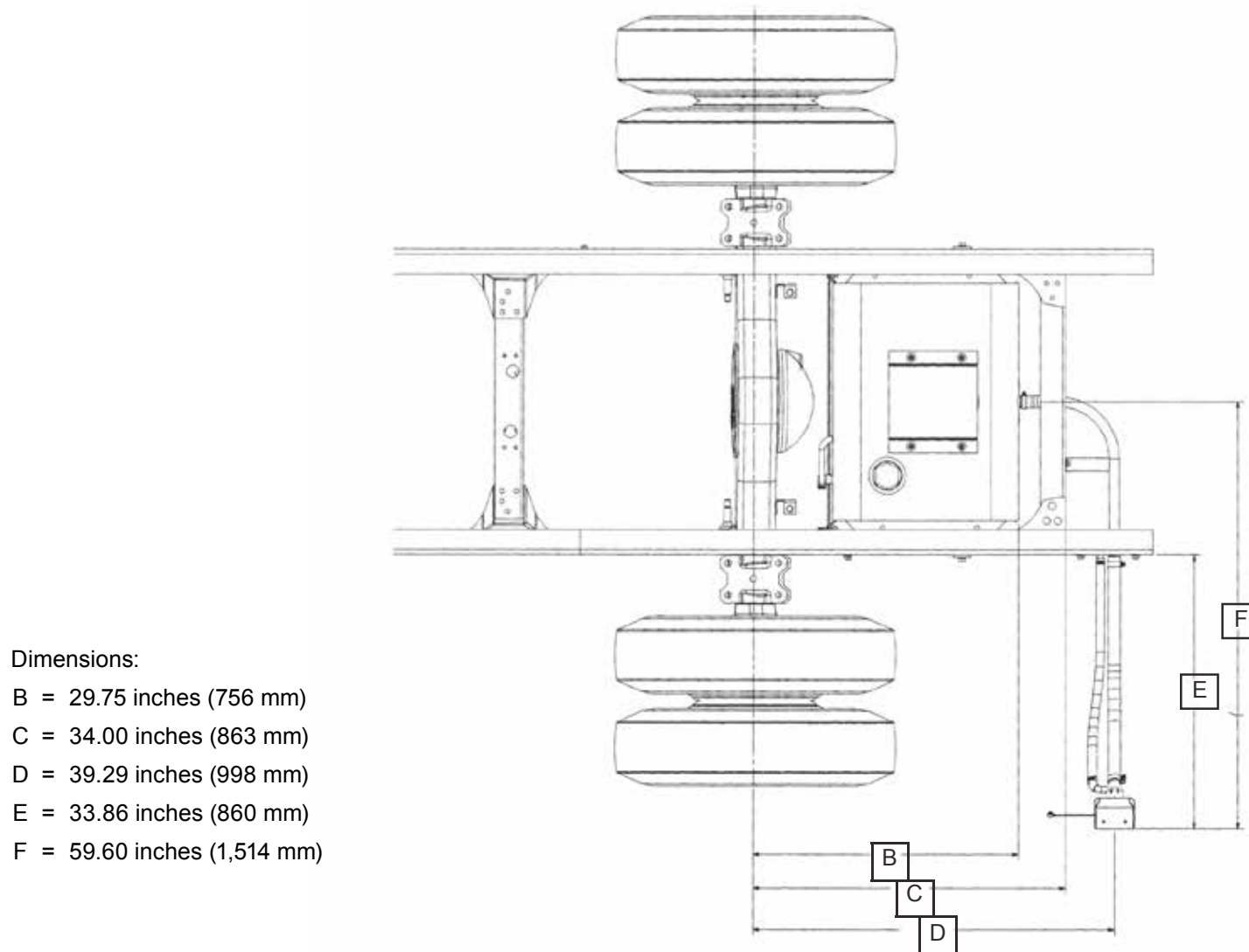


Figure 8.27.1

2018 Chevrolet Low Cab Forward

Through the Rail Fuel Fill Frame Hole

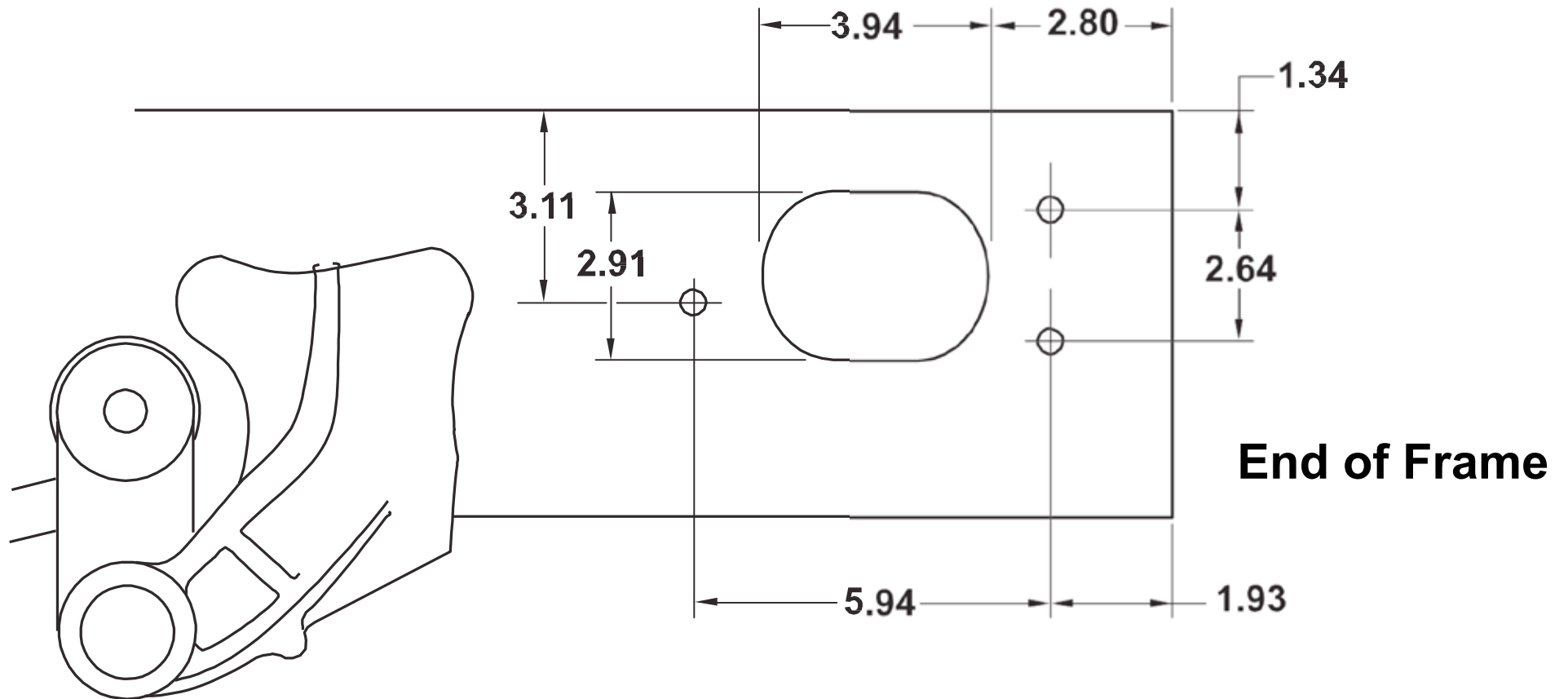


Figure 8.28.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

Fuel Fill Parts Illustration

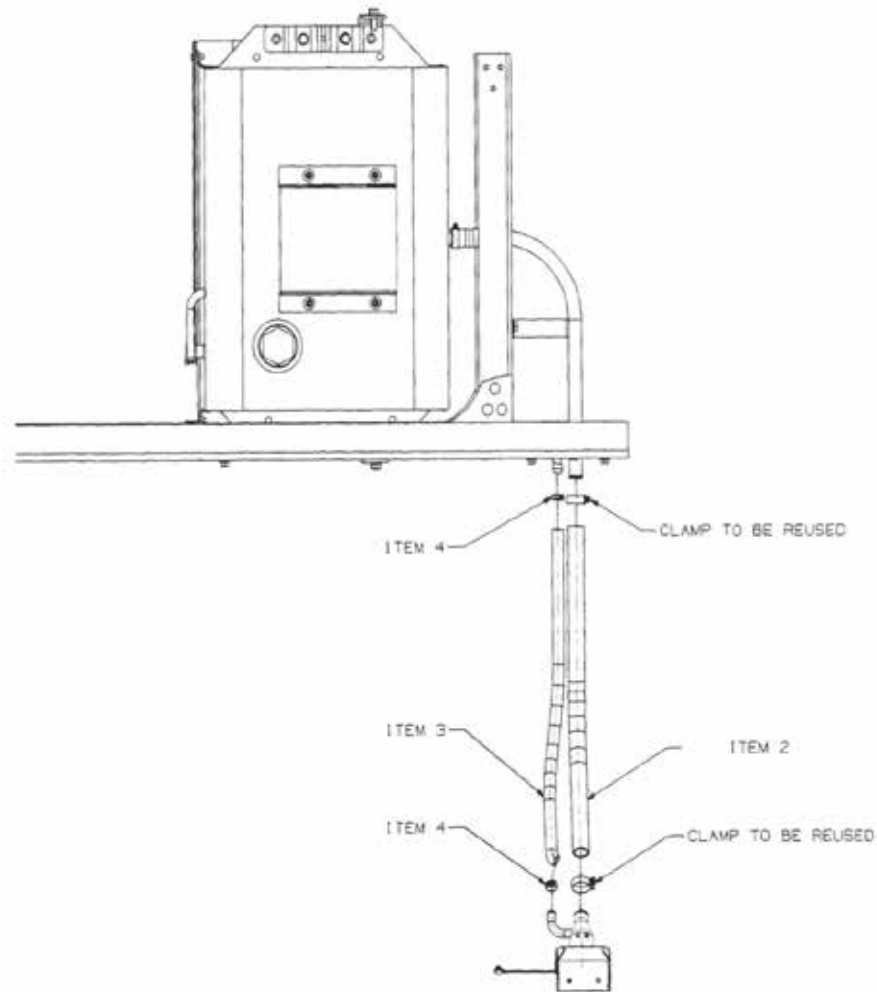


Figure 8.29.1

2018 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

2018 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.

2018 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

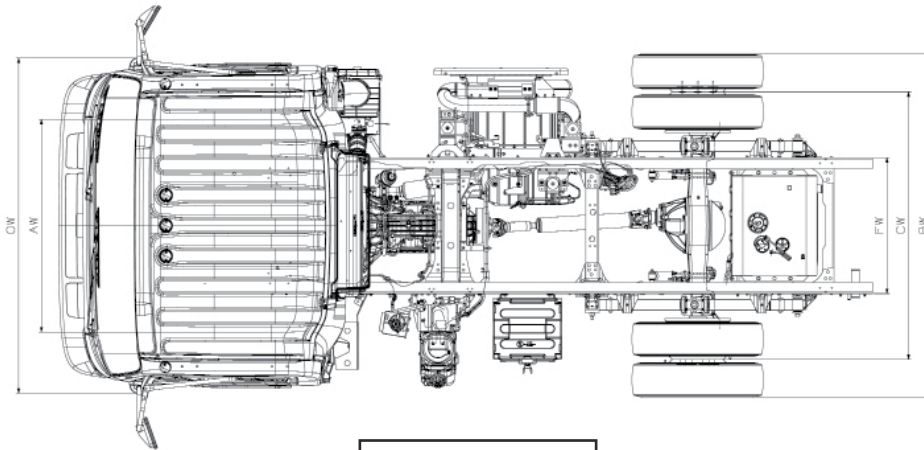


Figure 9.2.1

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

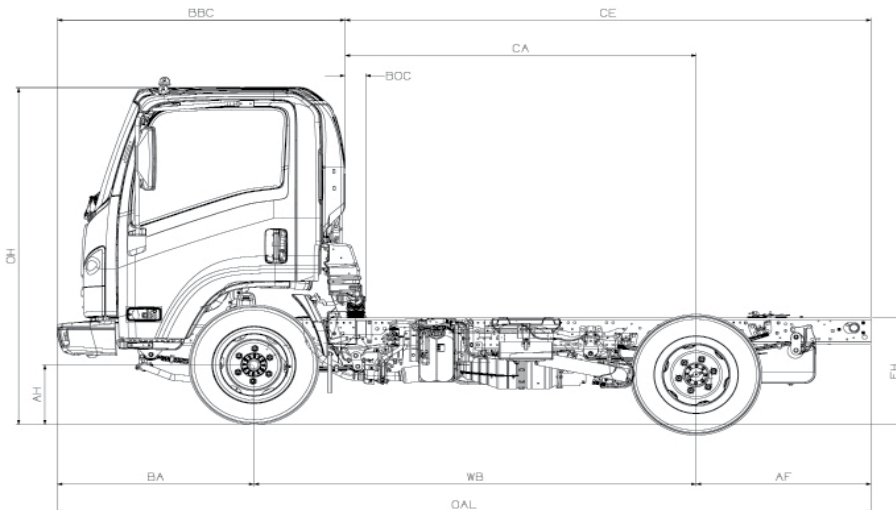


Figure 9.2.2

2018 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

2018 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

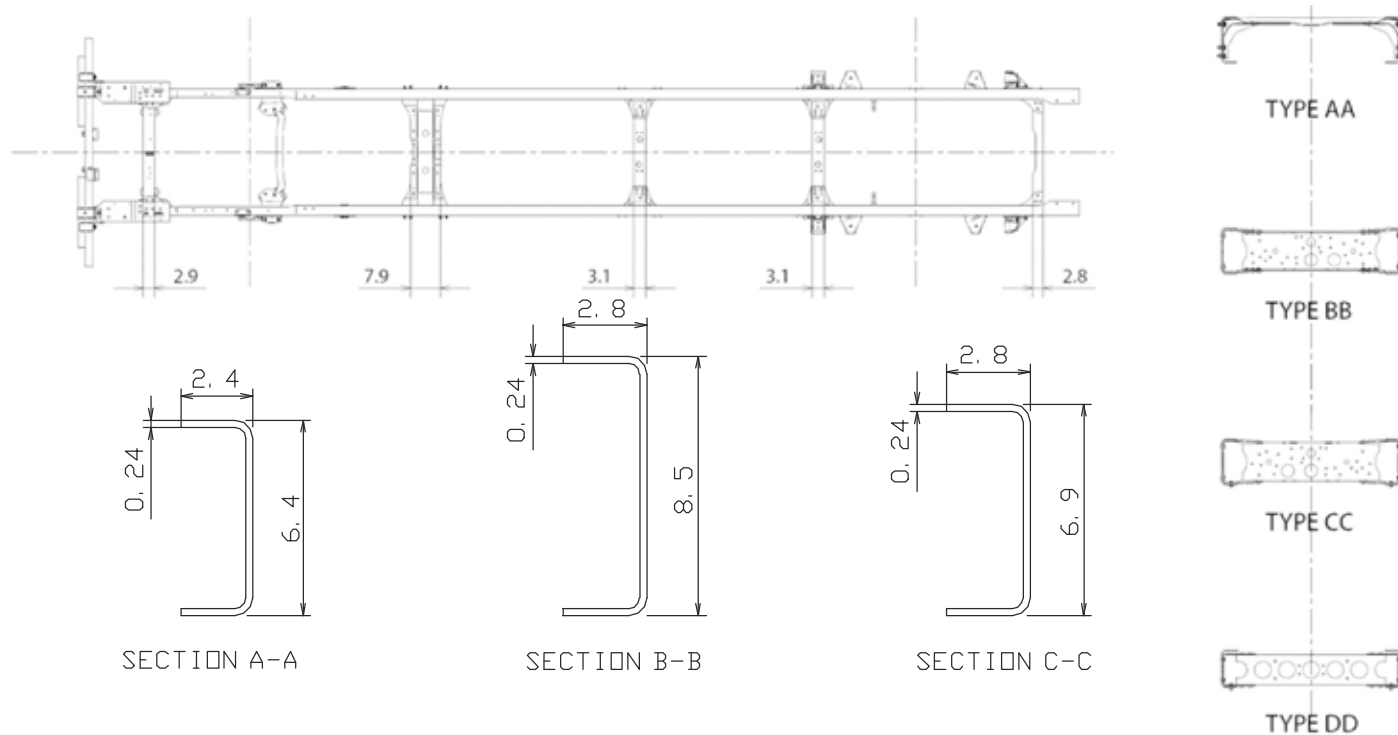


Figure 9.4.1

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

2018 Chevrolet Low Cab Forward

Frame Chart

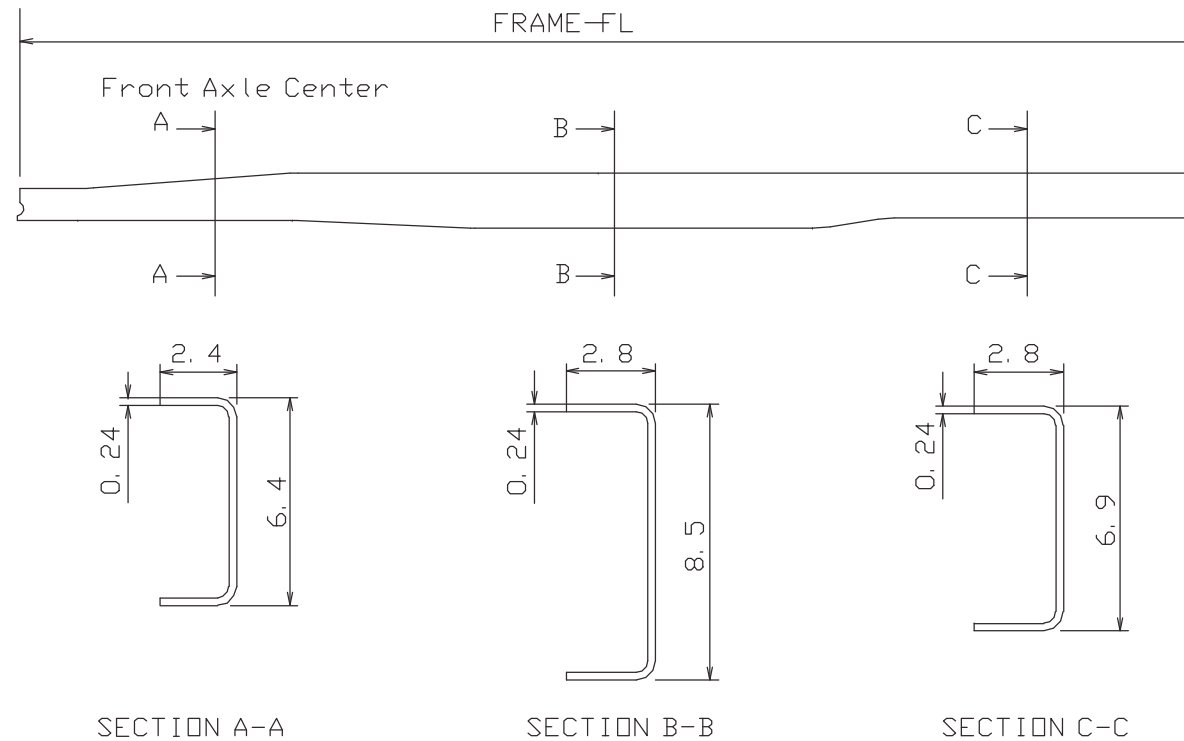


Figure 9.5.1

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

2018 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

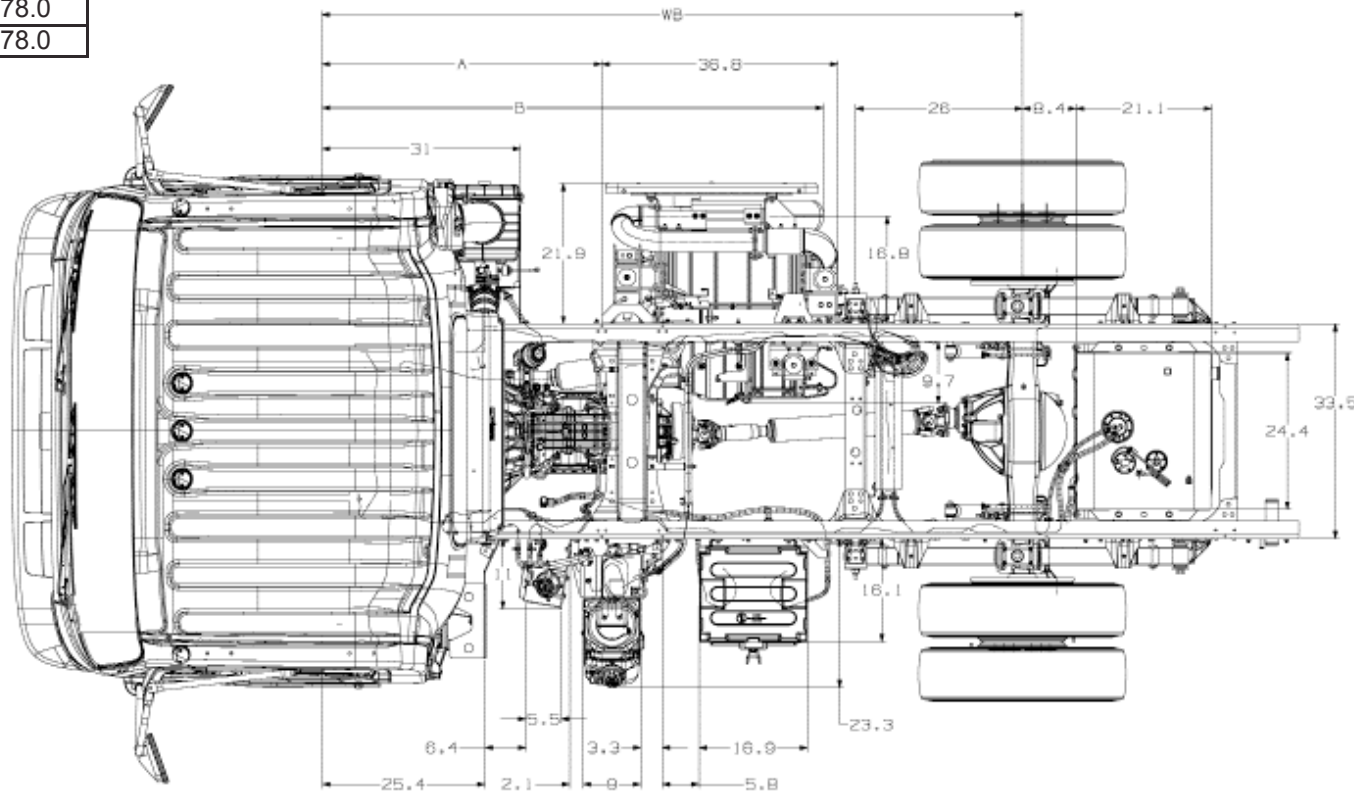


Figure 9.6.1

Dimensions in inches

2018 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

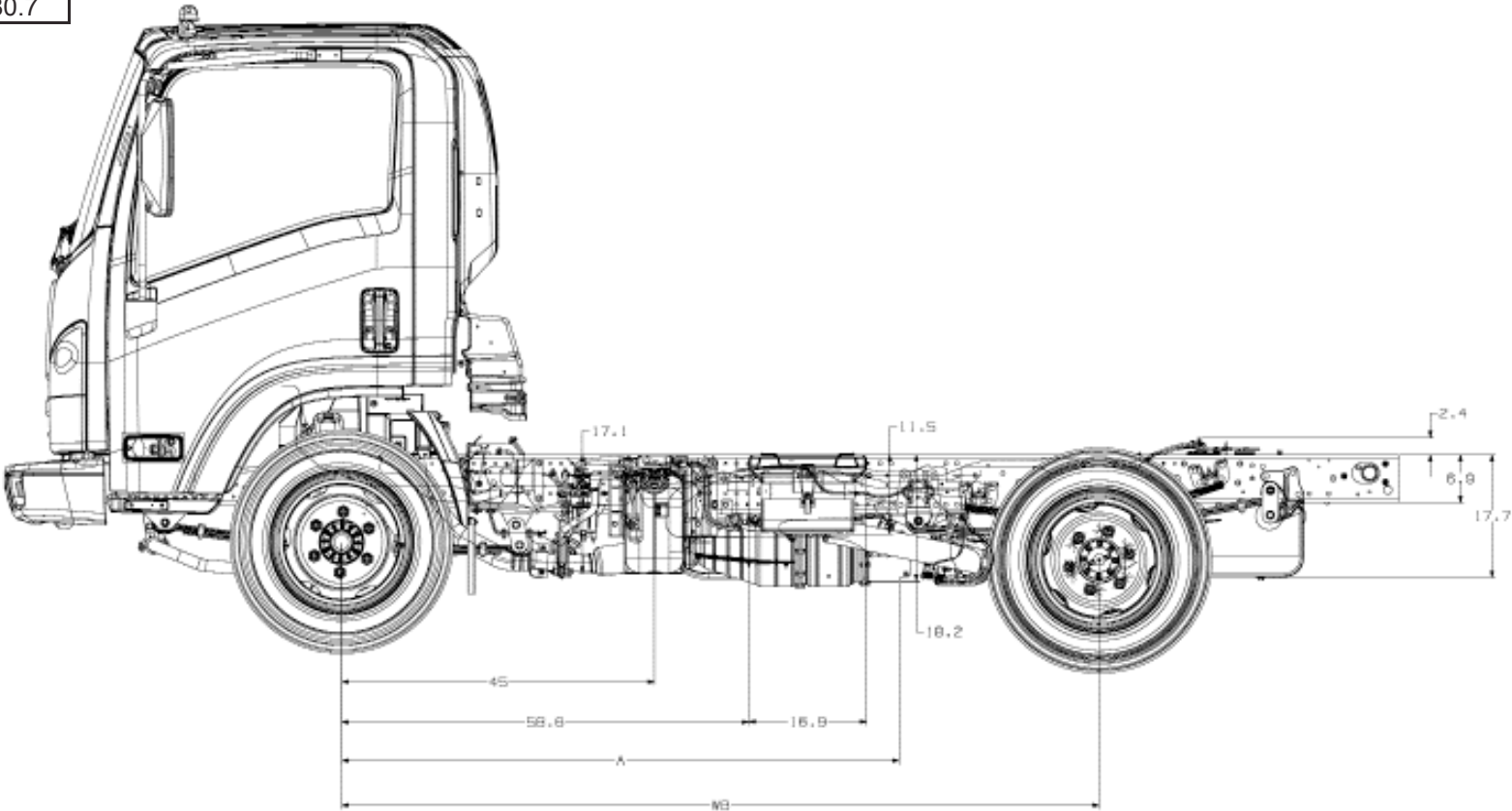


Figure 9.7.1

Dimensions in inches

2018 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

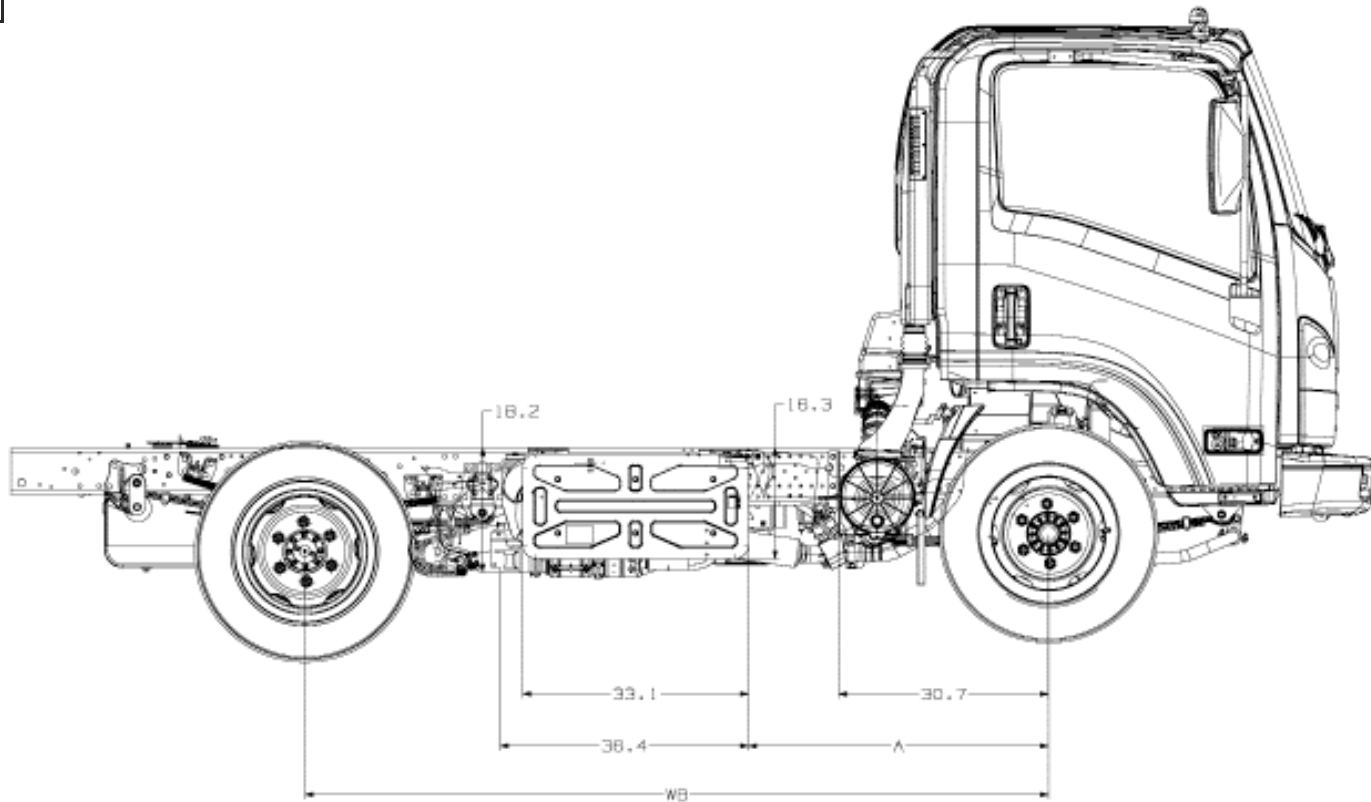


Figure 9.8.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

PAGE 9.9

SCR / DPF 4JJ1-TC

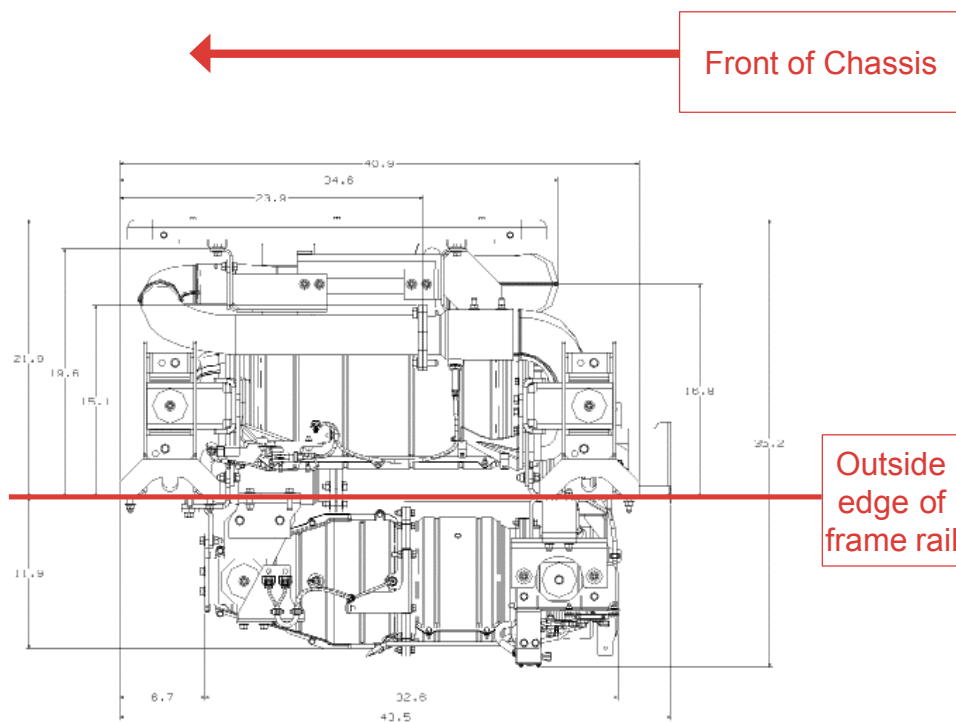


Figure 9.9.1

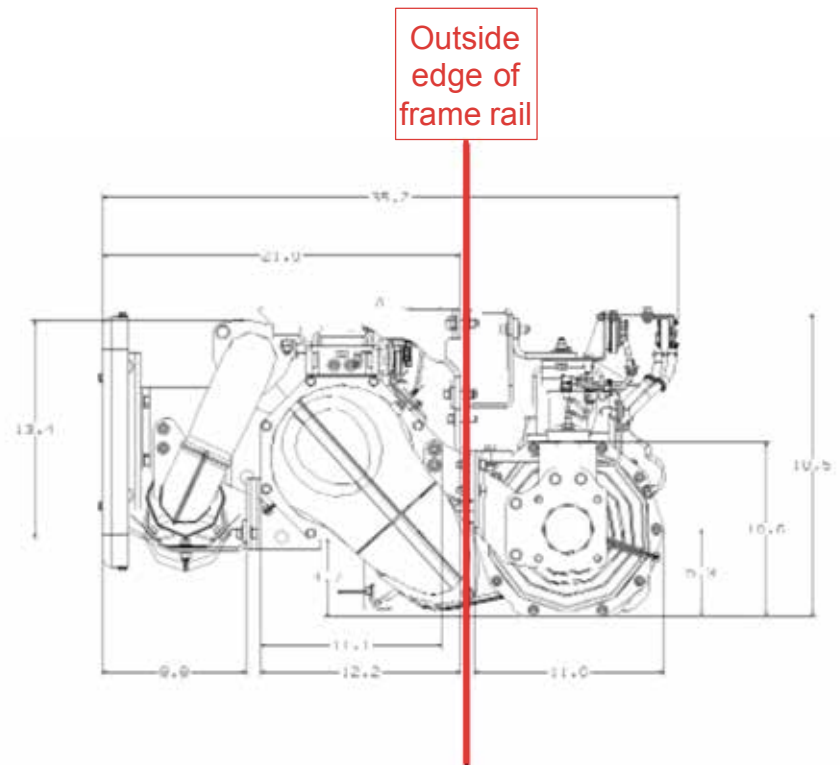


Figure 9.9.2

Dimensions in inches

2018 Chevrolet Low Cab Forward

PAGE	9.10
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Option Side Fuel Tank in addition to the Standard In Rail Fuel Tank RPO NLX

Side View 150 Wheelbase

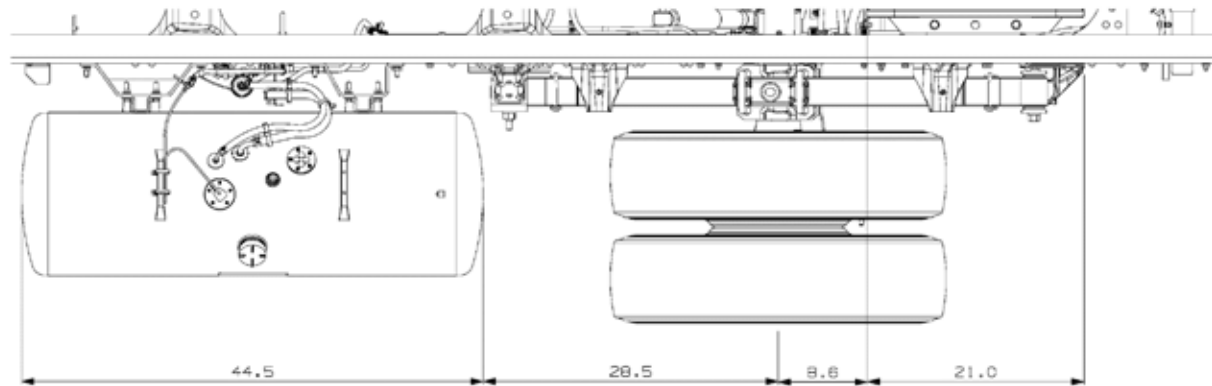


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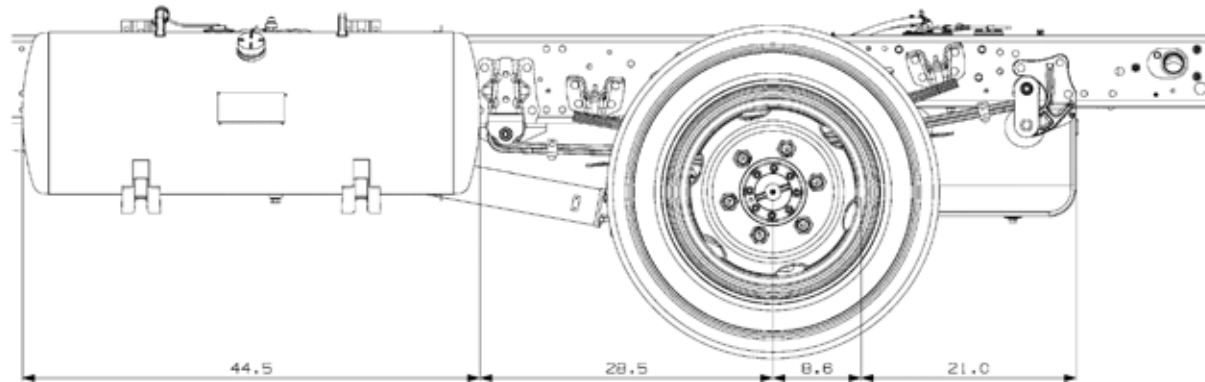


Figure 9.10.2

Dimensions in inches

2018 Chevrolet Low Cab Forward

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

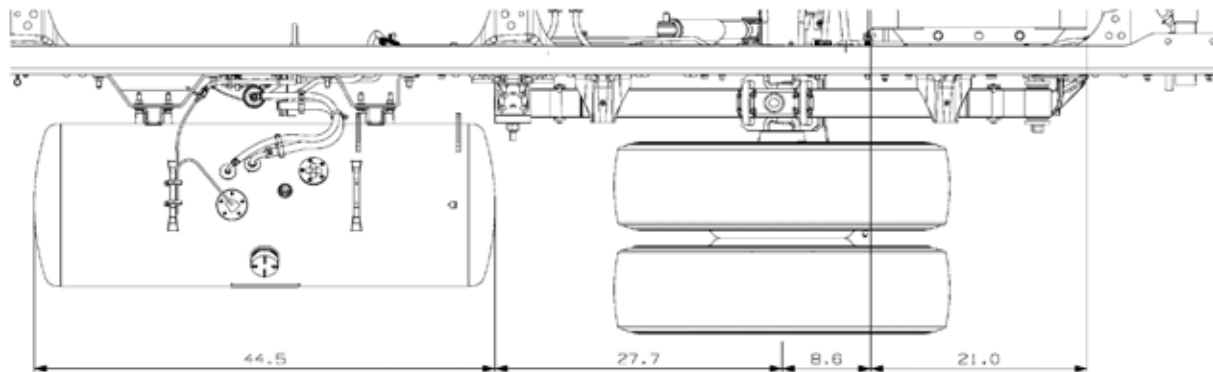


Figure 9.11.1

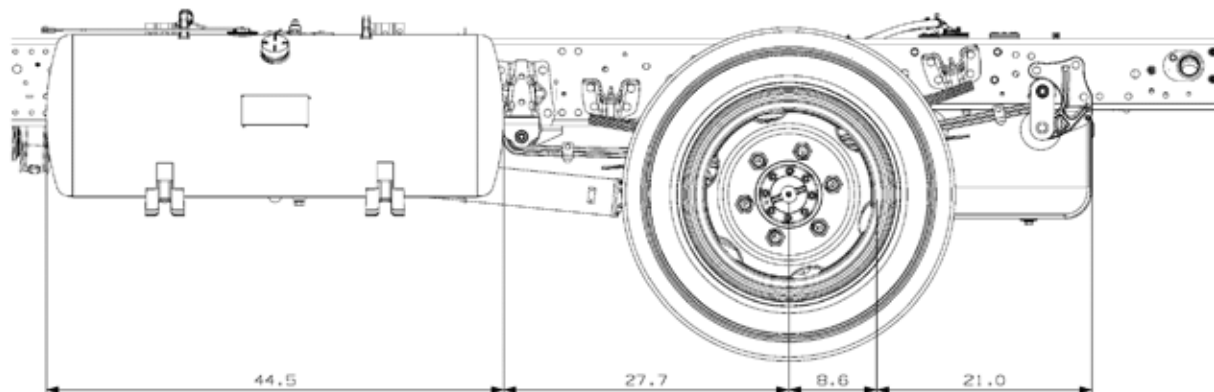


Figure 9.11.2

Dimensions in inches

2018 Chevrolet Low Cab Forward

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

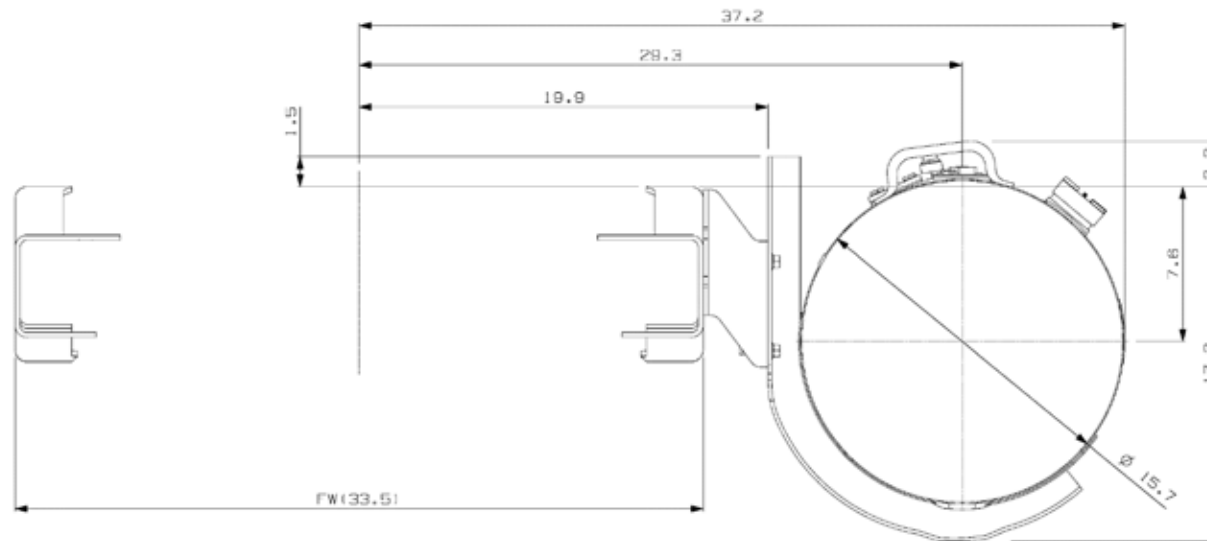


Figure 9.12.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

Cab Tilt

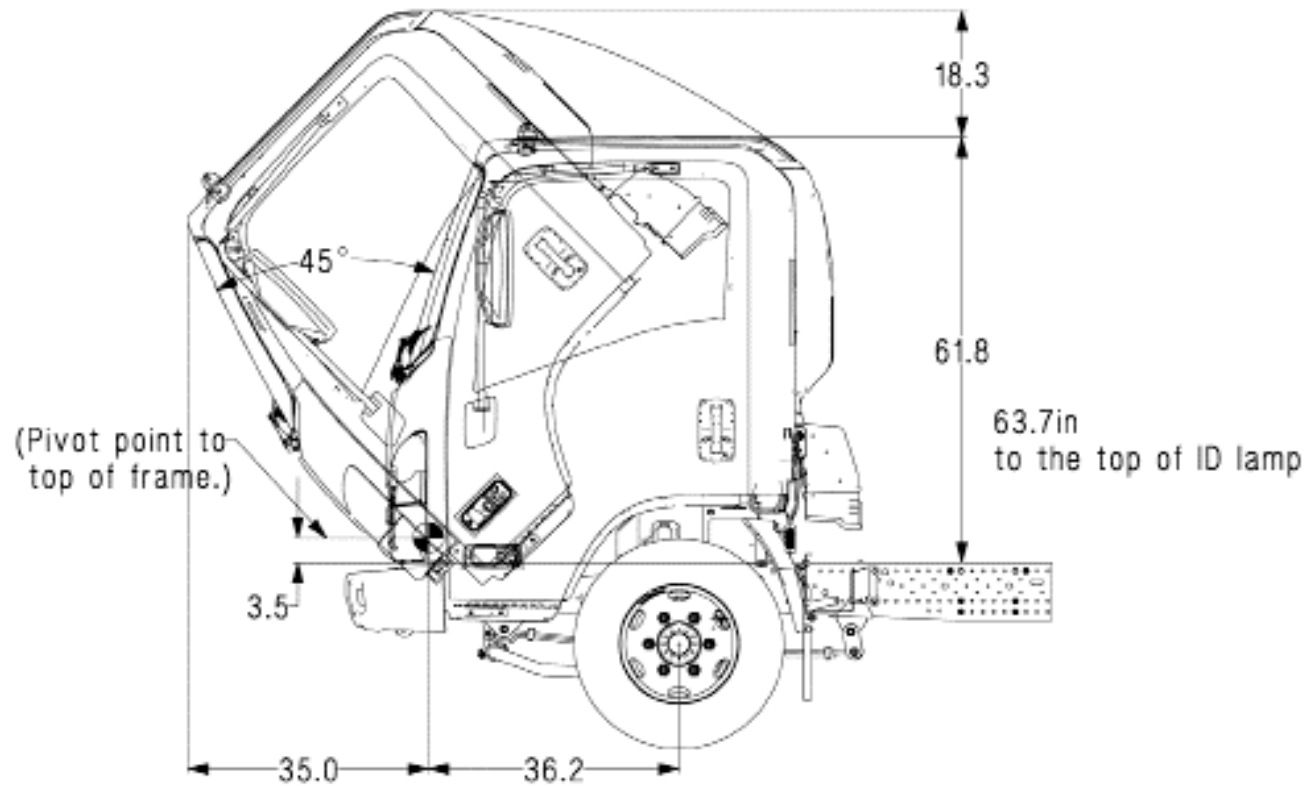


Figure 9.13.1

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

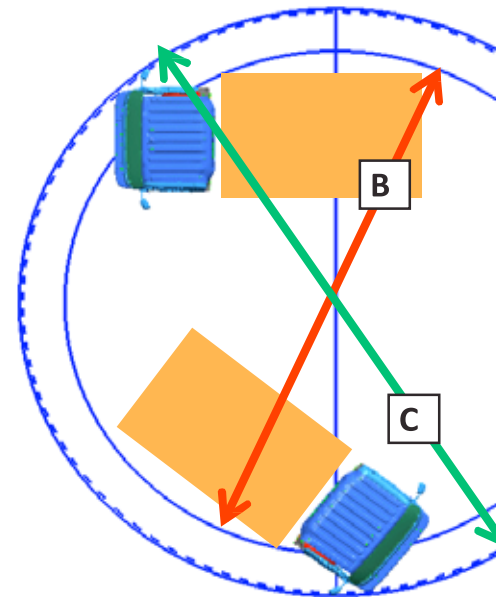


Figure 9.14.1

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

2018 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 9.15.1

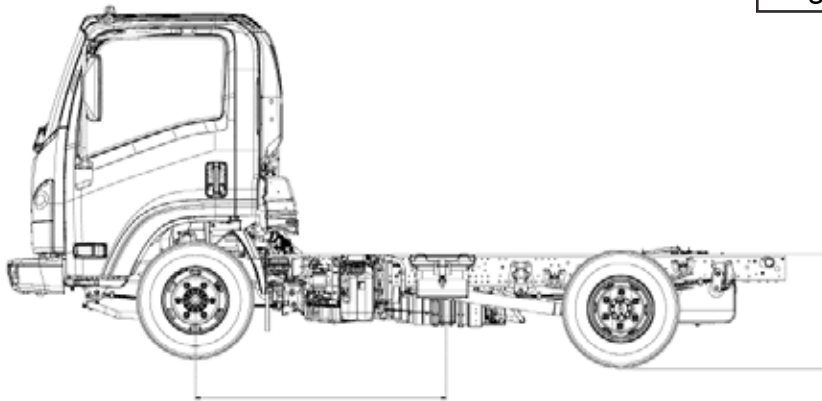


Figure 9.15.2

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

2018 Chevrolet Low Cab Forward

Front Axle Chart

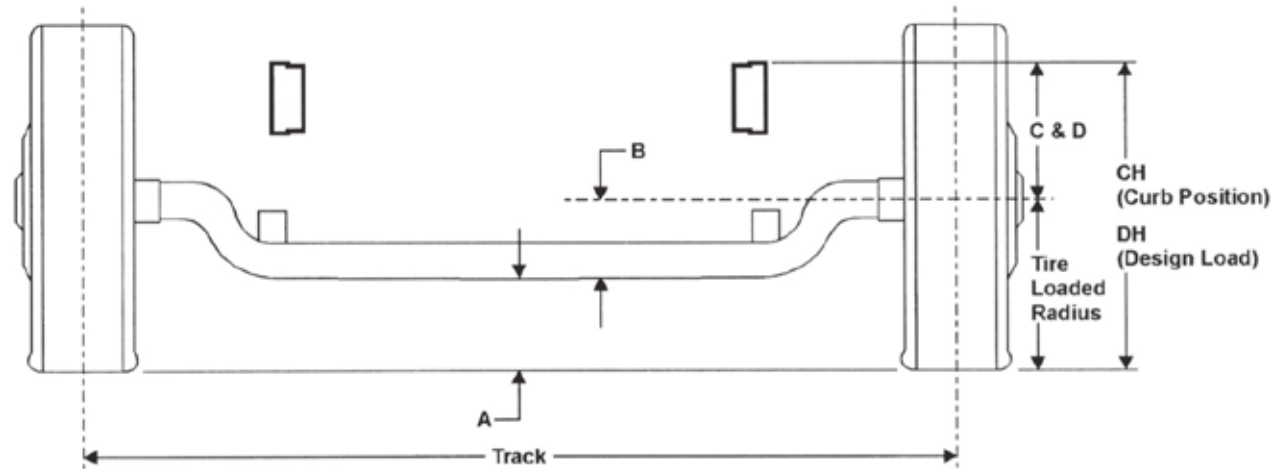


Figure 9.16.1

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 9.16.2

Dimensions in inches

Rear Axle Chart

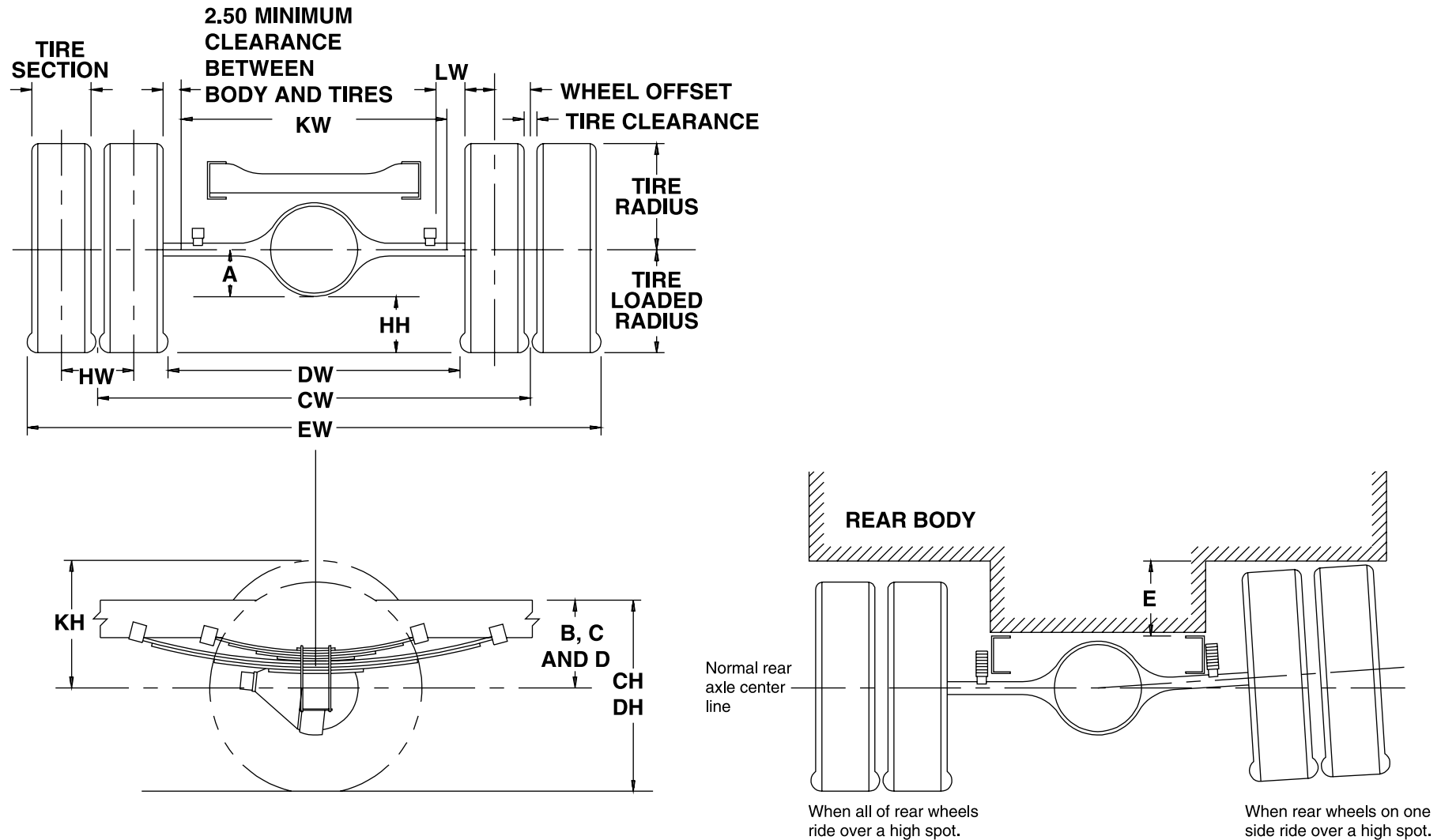


Figure 9.17.1

2018 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 9.18.1

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 9.18.2

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 9.18.3

2018 Chevrolet Low Cab Forward

3500HD Suspension Deflection Charts

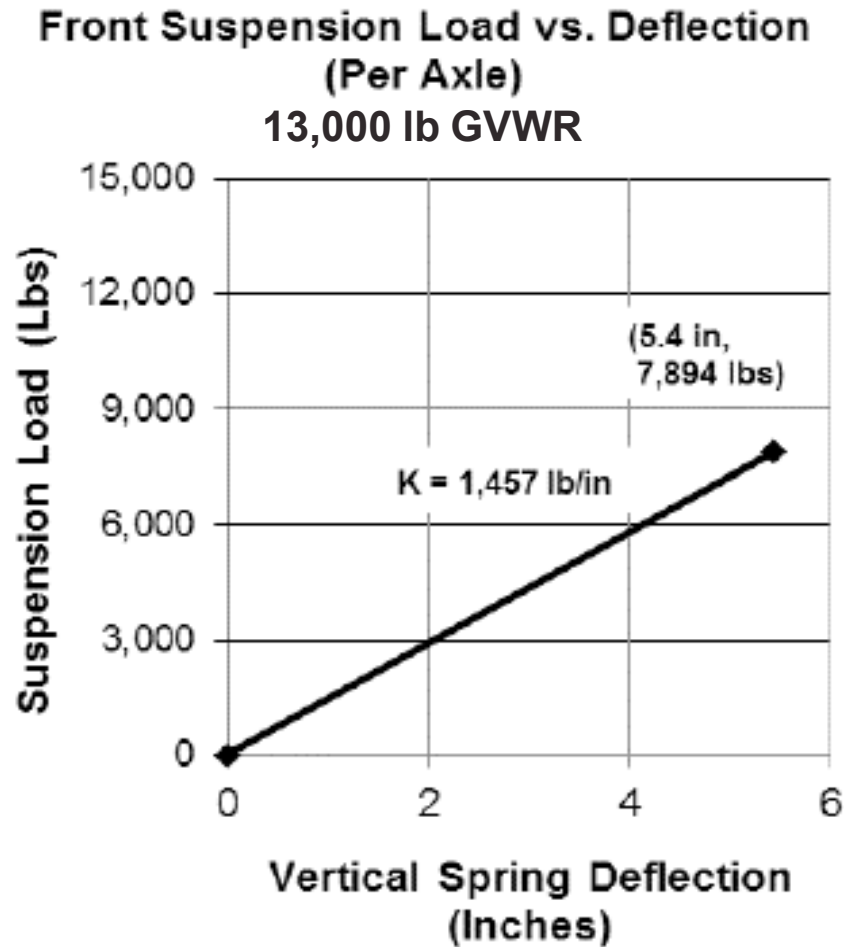


Figure 9.19.1

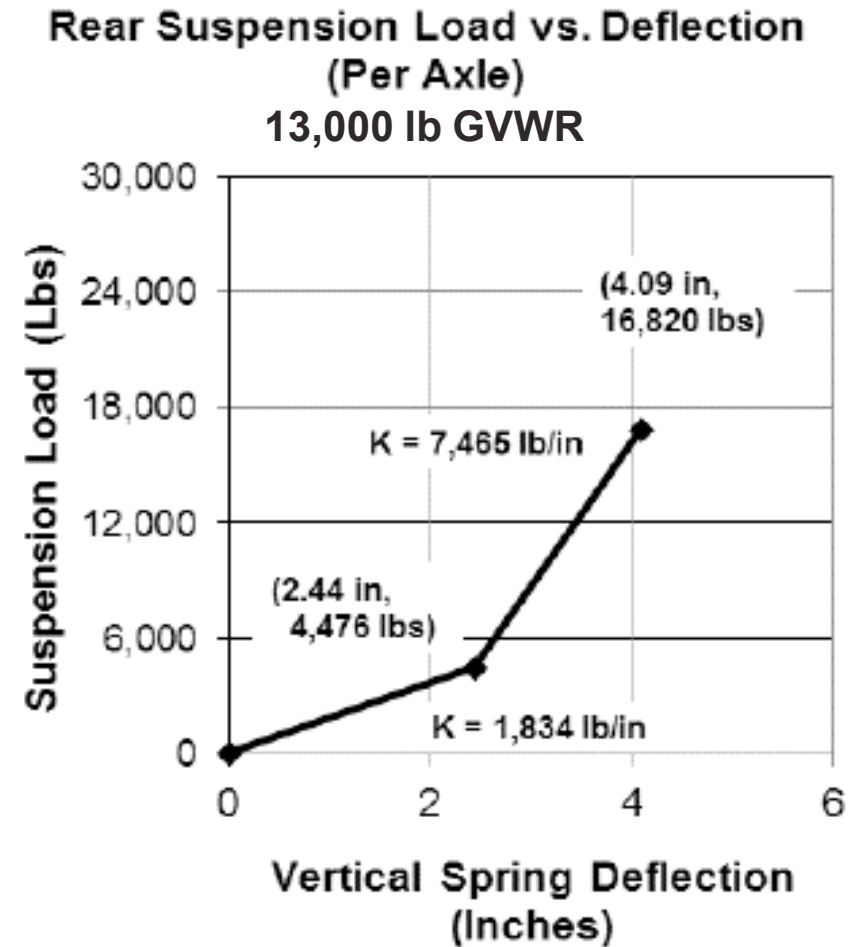


Figure 9.19.2

2018 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 9.20.1

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

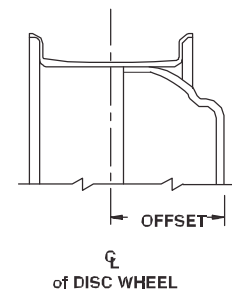
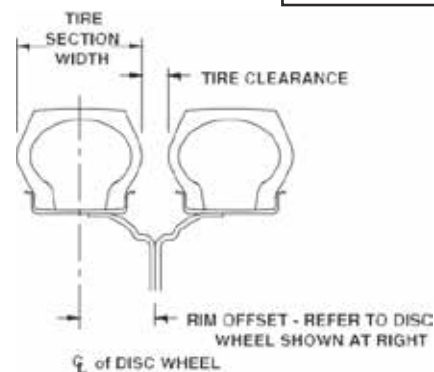
Figure 9.20.2

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.
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 9.20.3

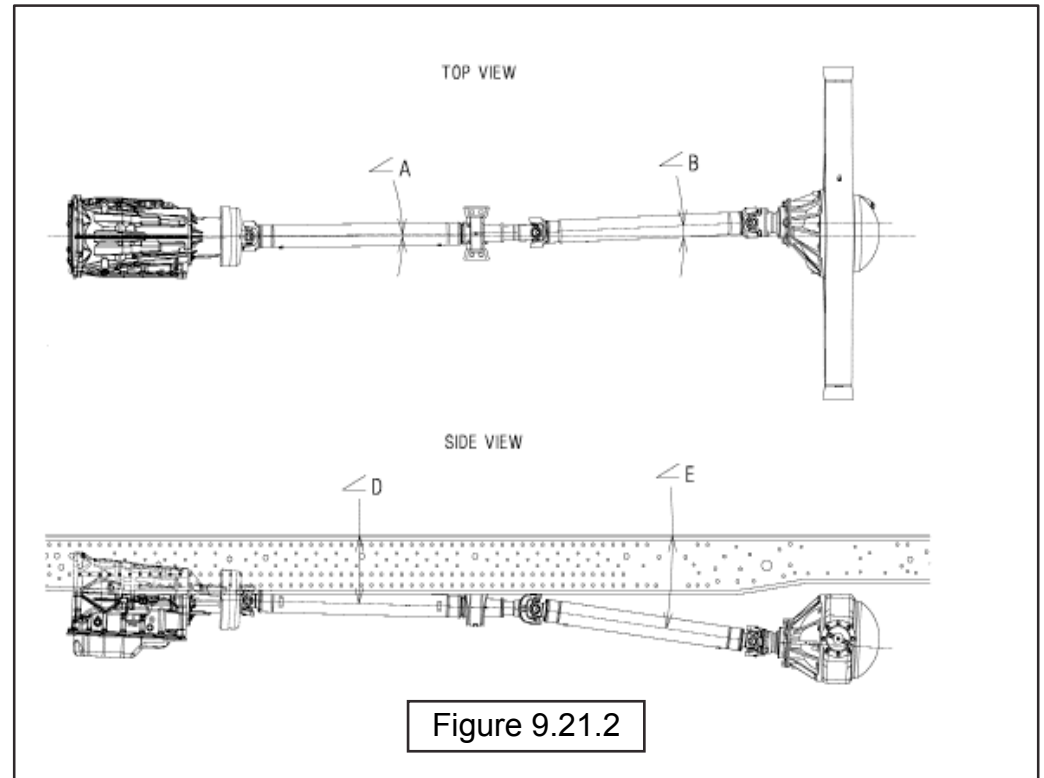
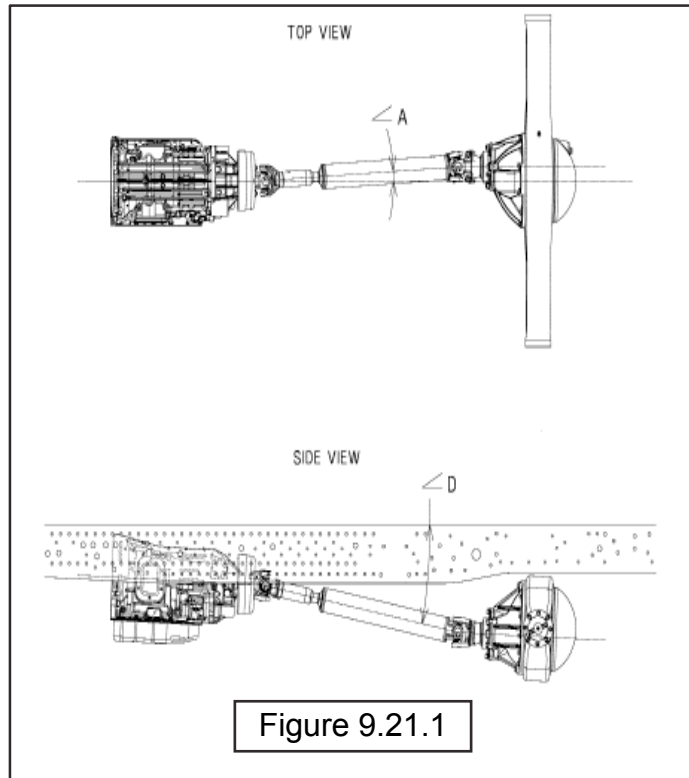


Dimensions in inches

Figure 9.20.4

2018 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.

2018 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 9.22.1

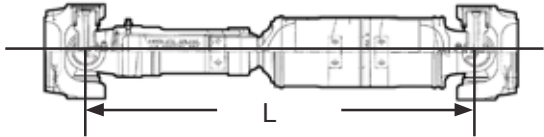
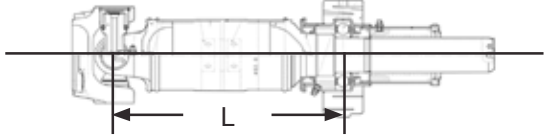
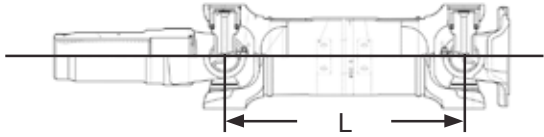
Type	Description	Illustration
Type A	1st shaft in 1-piece driveline	
Type B	1st shaft in 2-piece driveline	
Type C	2nd shaft in 2-piece driveline	

Figure 9.22.2

Dimensions in inches

2018 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

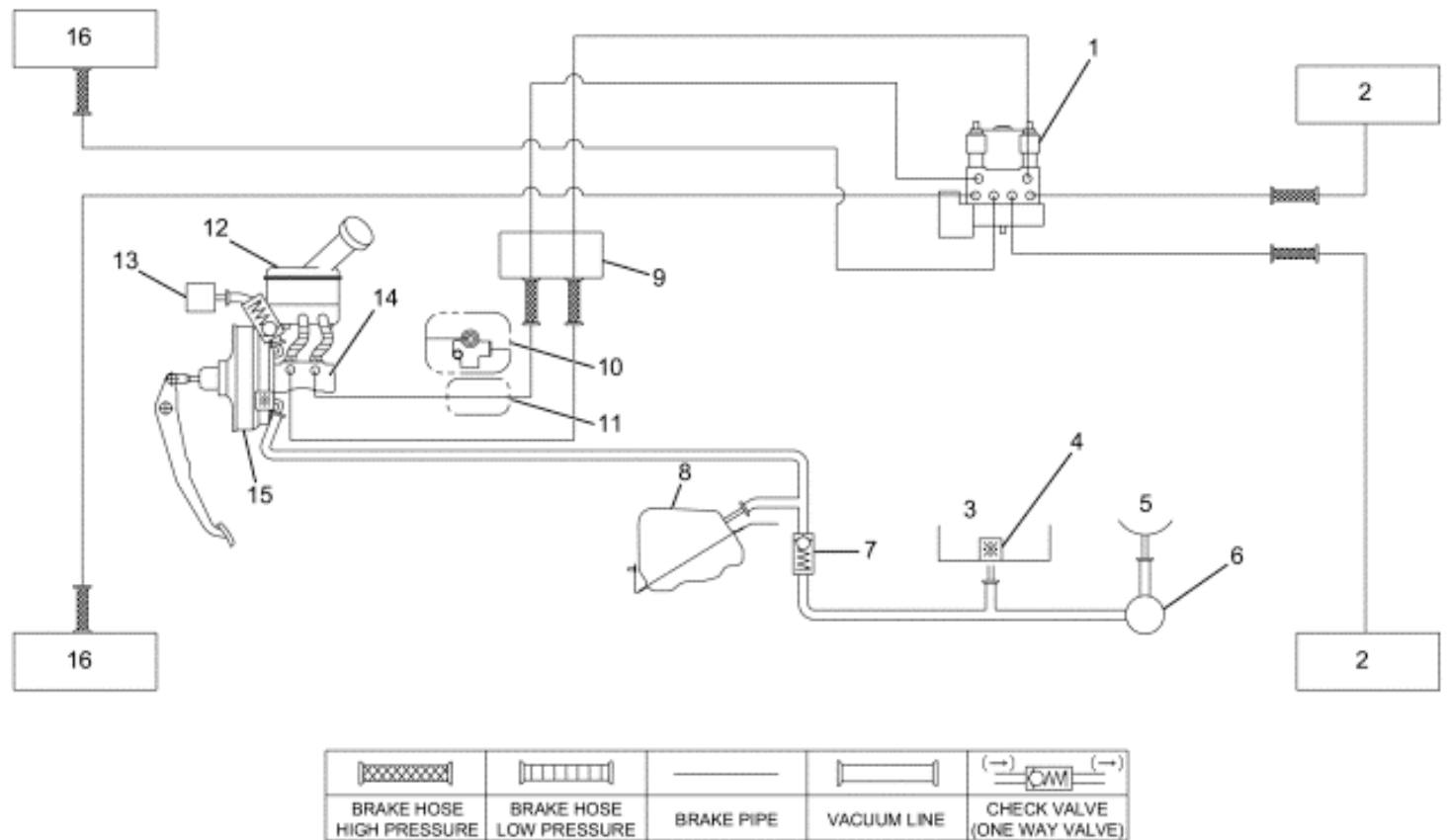


Figure 9.23.1

2018 Chevrolet Low Cab Forward

PTO Location, Drive Gear and Opening Information

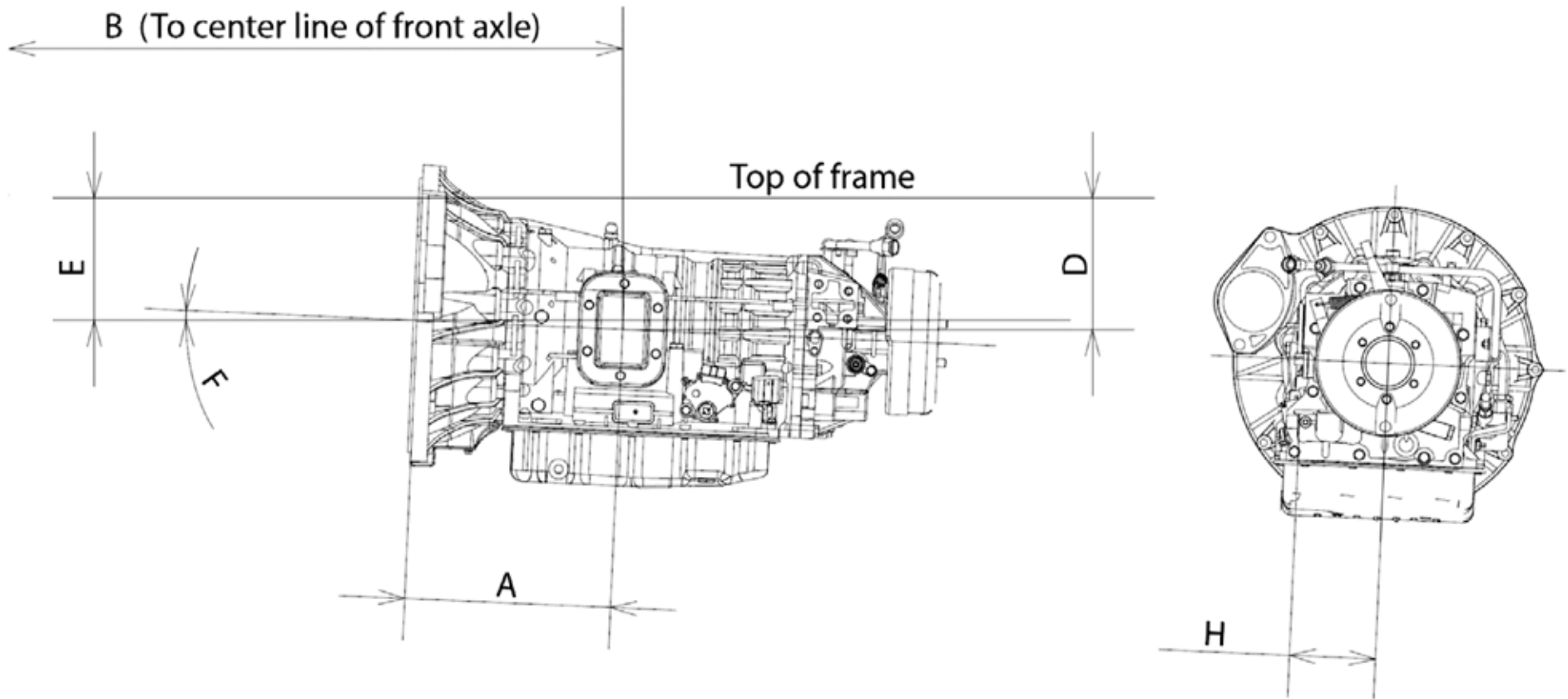


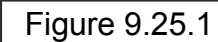
Figure 9.24.1

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 9.24.2

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.



2018 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.

2018 Chevrolet Low Cab Forward

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Rear View Fuel Fill

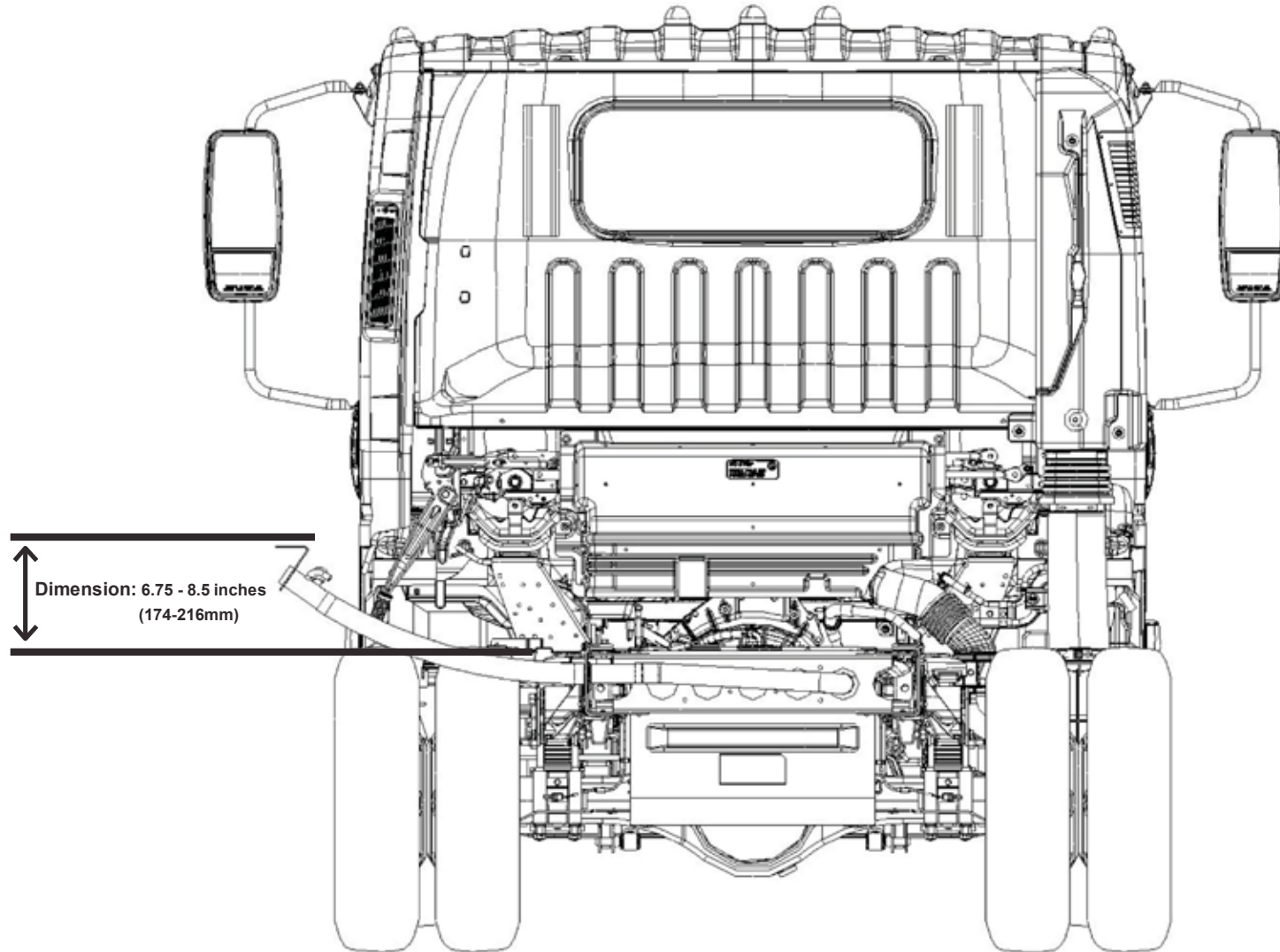
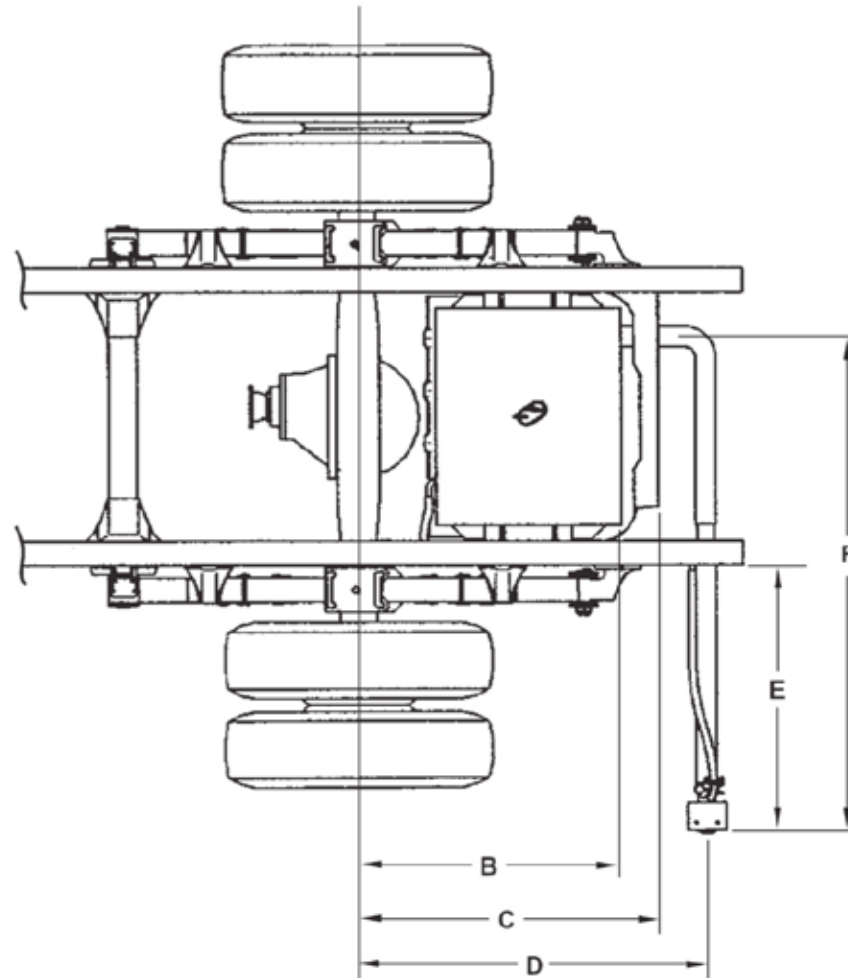


Figure 9.27.1

2018 Chevrolet Low Cab Forward

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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 (1,514 mm)

Figure 9.28.1

2018 Chevrolet Low Cab Forward

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

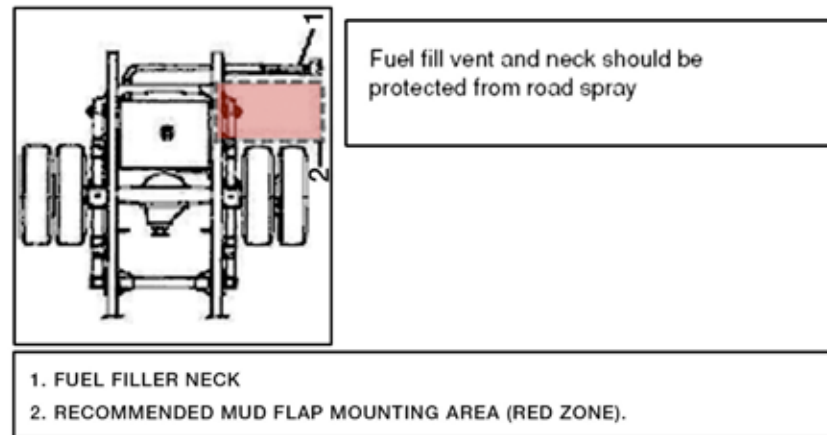
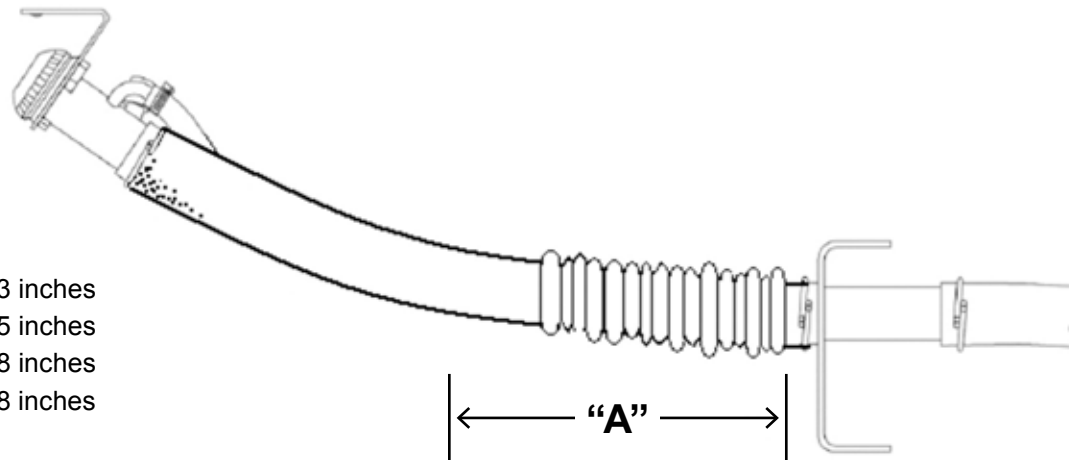


Figure 9.29.1

“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 9.29.2

2018 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 9.30.1

2018 Chevrolet Low Cab Forward

Through the Rail Fuel Fill Frame Hole

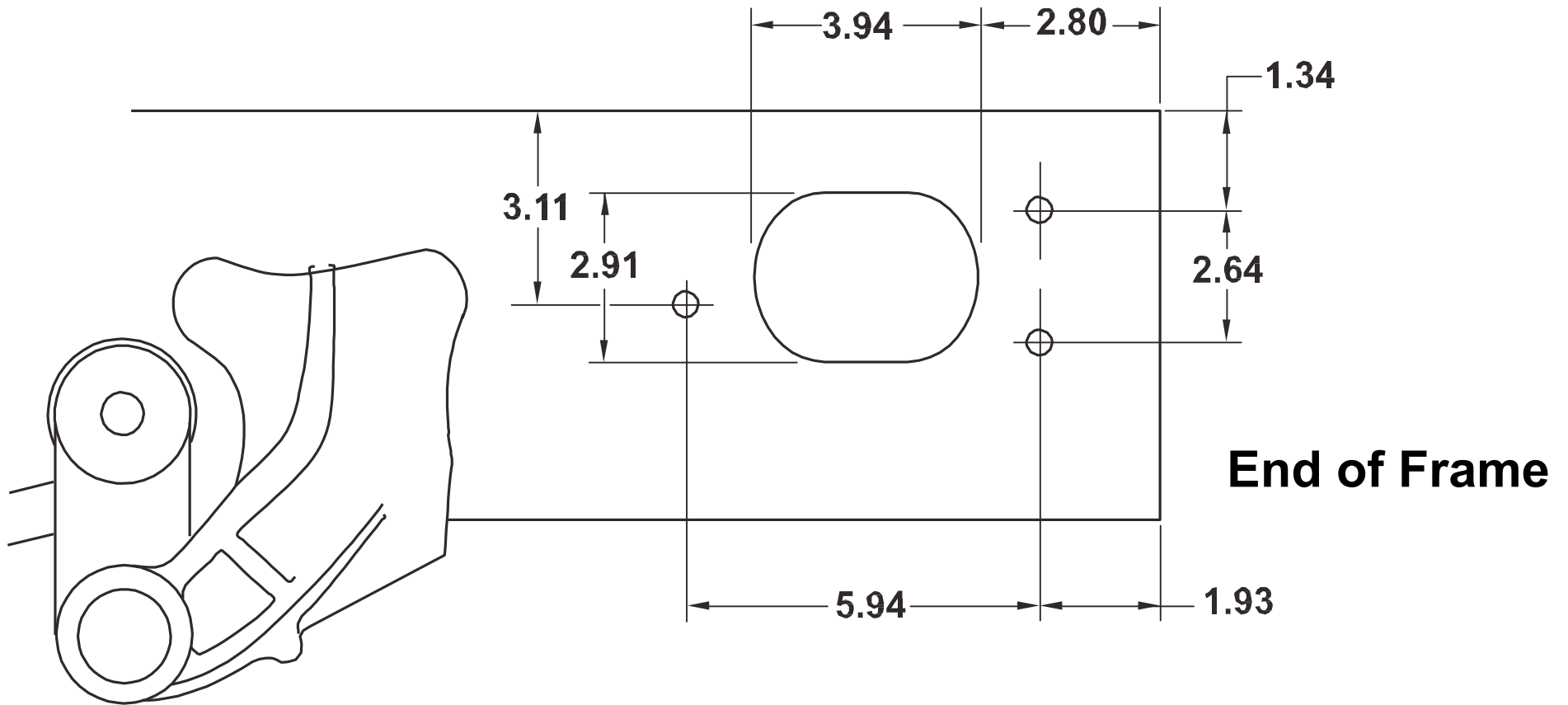


Figure 9.31.1

Dimensions in inches

2018 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**.

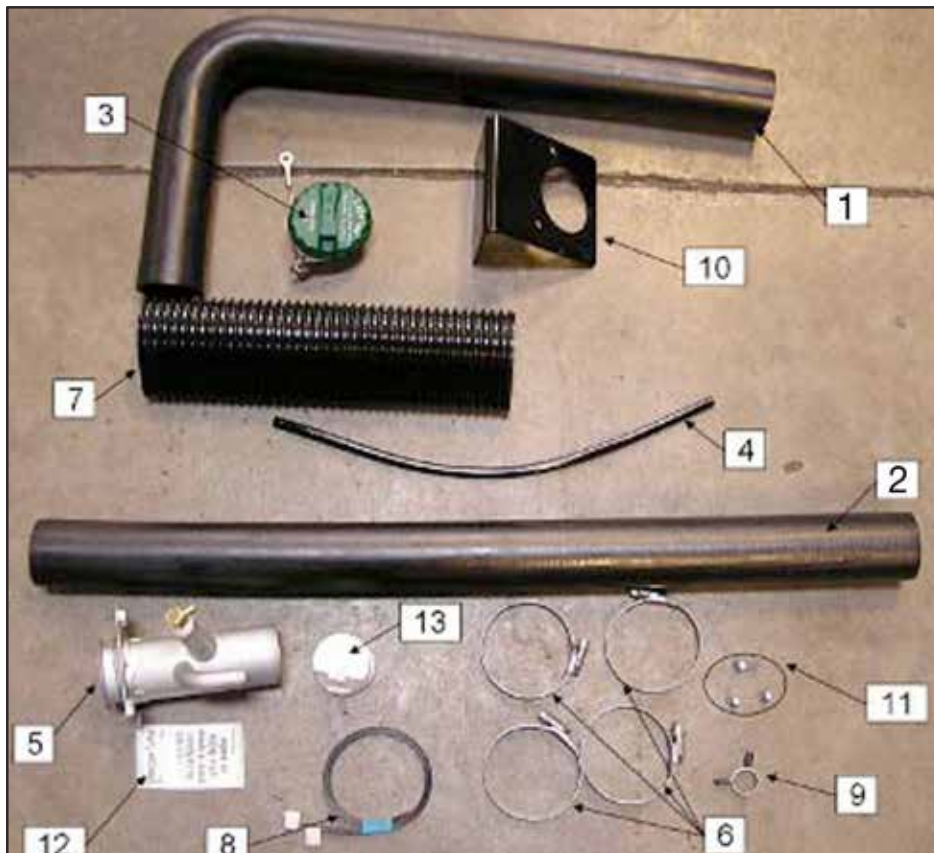


Figure 9.32.1

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 9.32.2

2018 Chevrolet Low Cab Forward

PAGE	9.33
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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 9.33.1

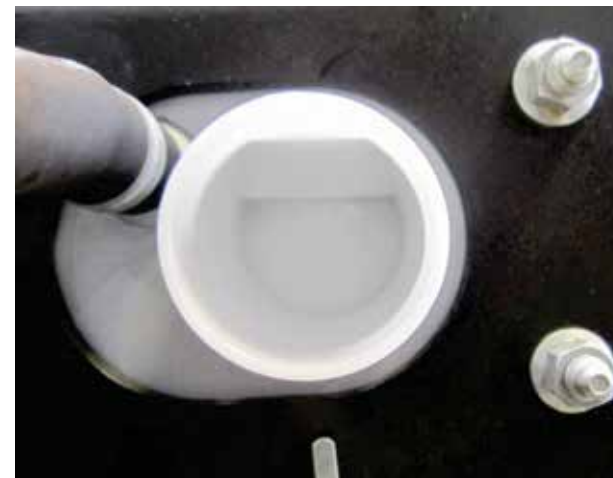


Figure 9.33.2

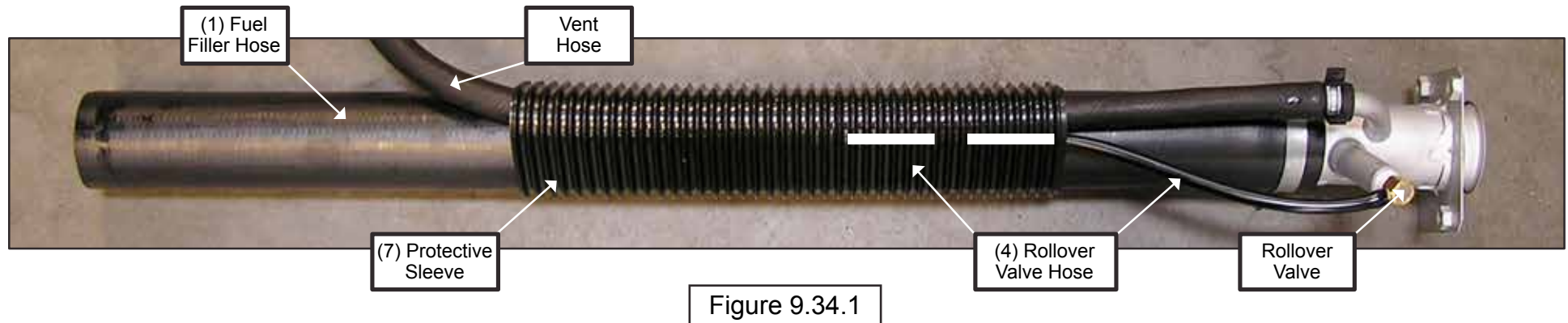
The fuel filler hose should be installed flush against the tank.
The clamp should be installed between 1/16" and 3/8" from the tank.
This is shown in **Figure 9.34.3** to the right.



Figure 9.33.3

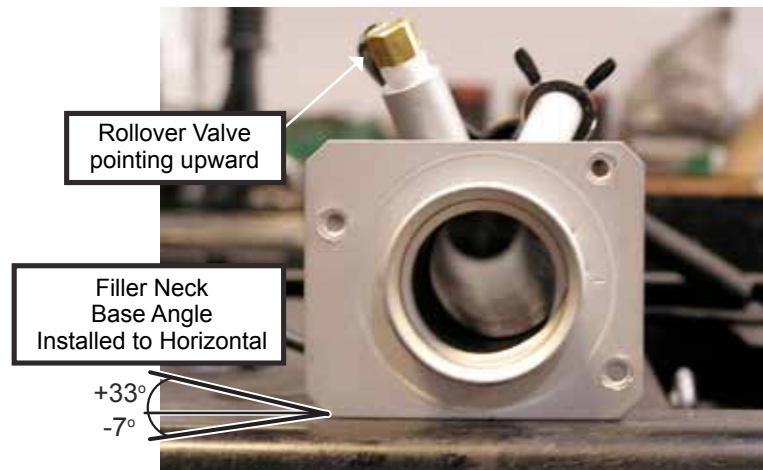
Roll-Over Valve Tubing

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 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.



2018 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 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, 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.	

2018 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

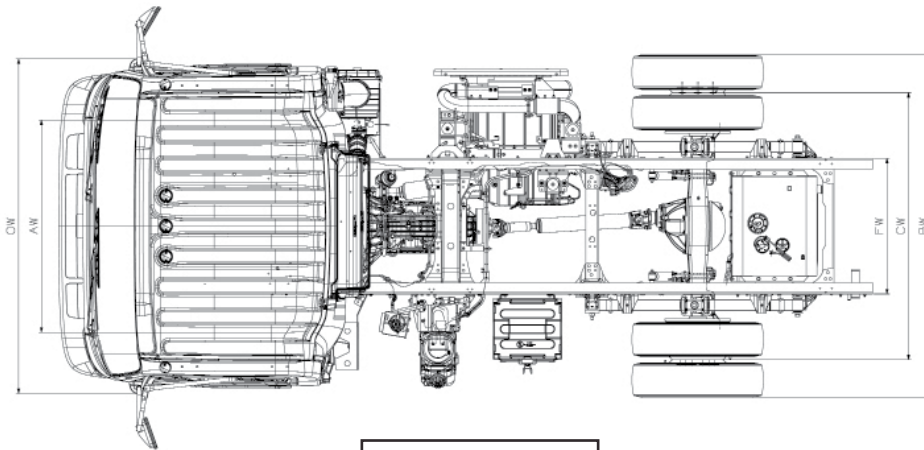


Figure 10.2.1

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

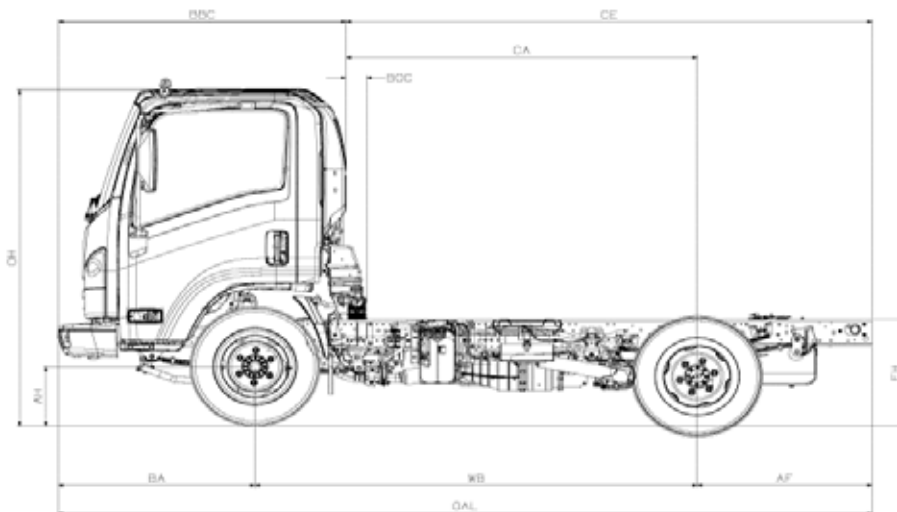


Figure 10.2.2

2018 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

2018 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

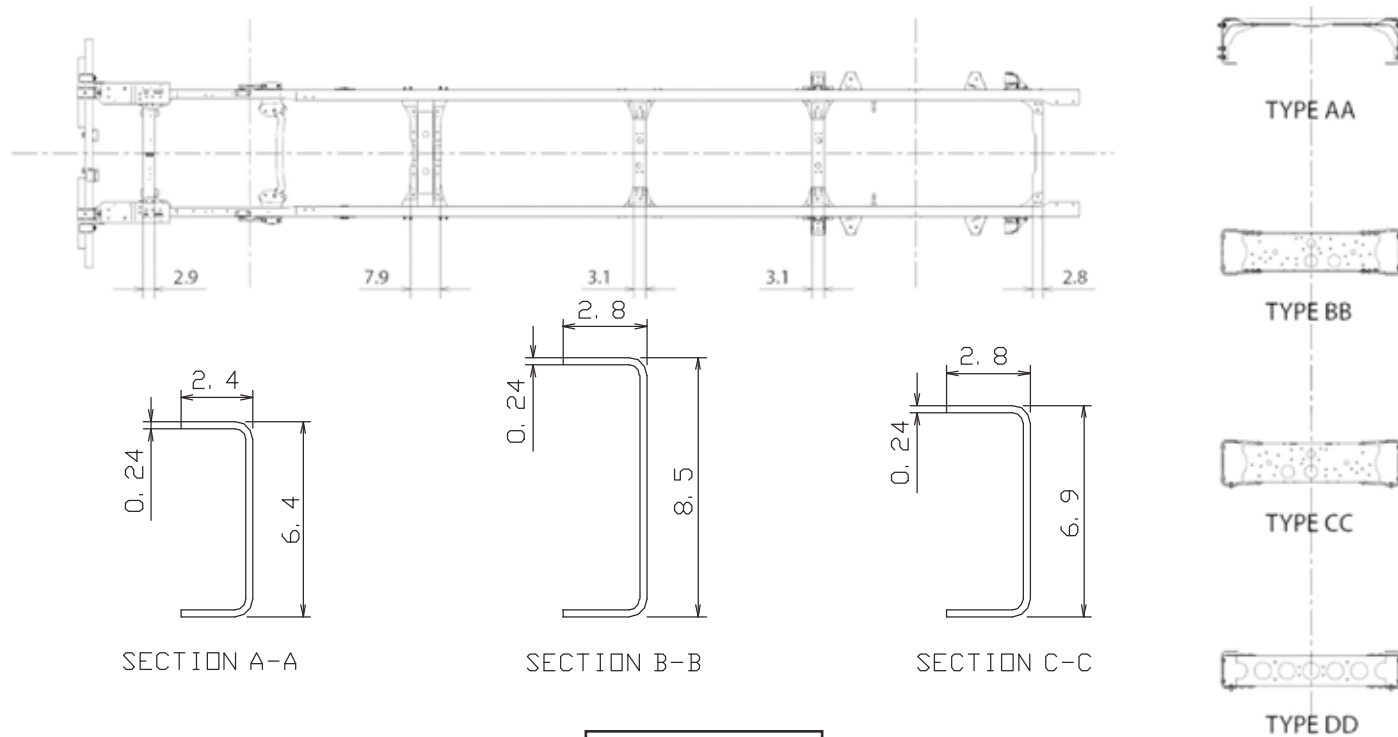


Figure 10.4.1

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

2018 Chevrolet Low Cab Forward

Frame Chart

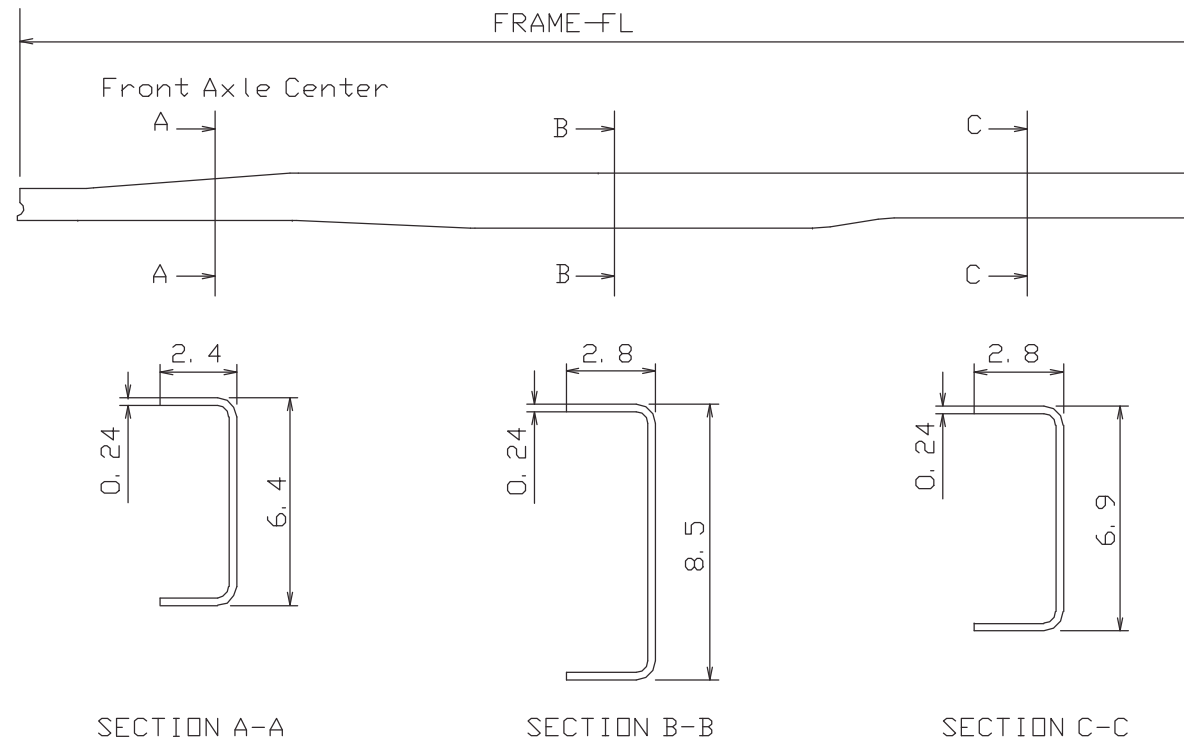


Figure 10.5.1

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

2018 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

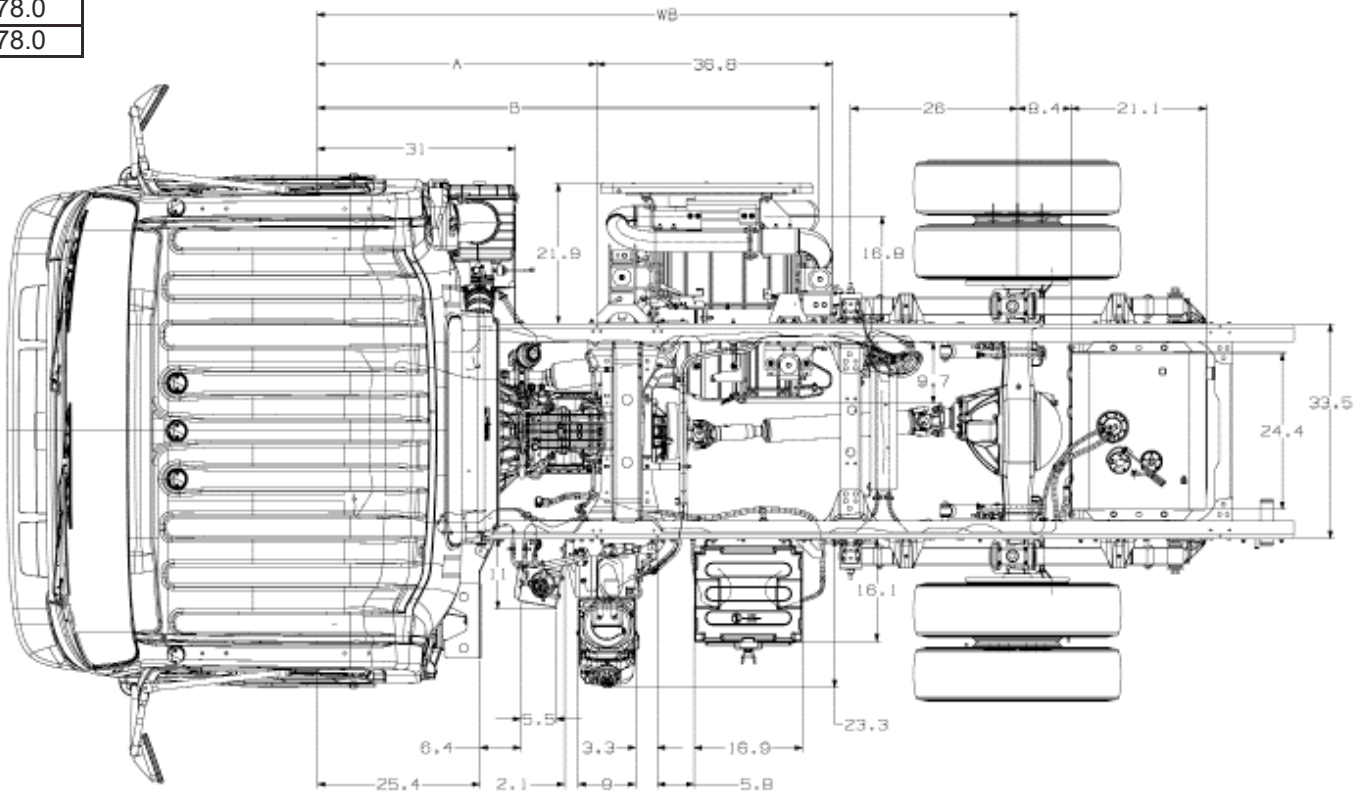


Figure 10.6.1

Dimensions in inches

2018 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

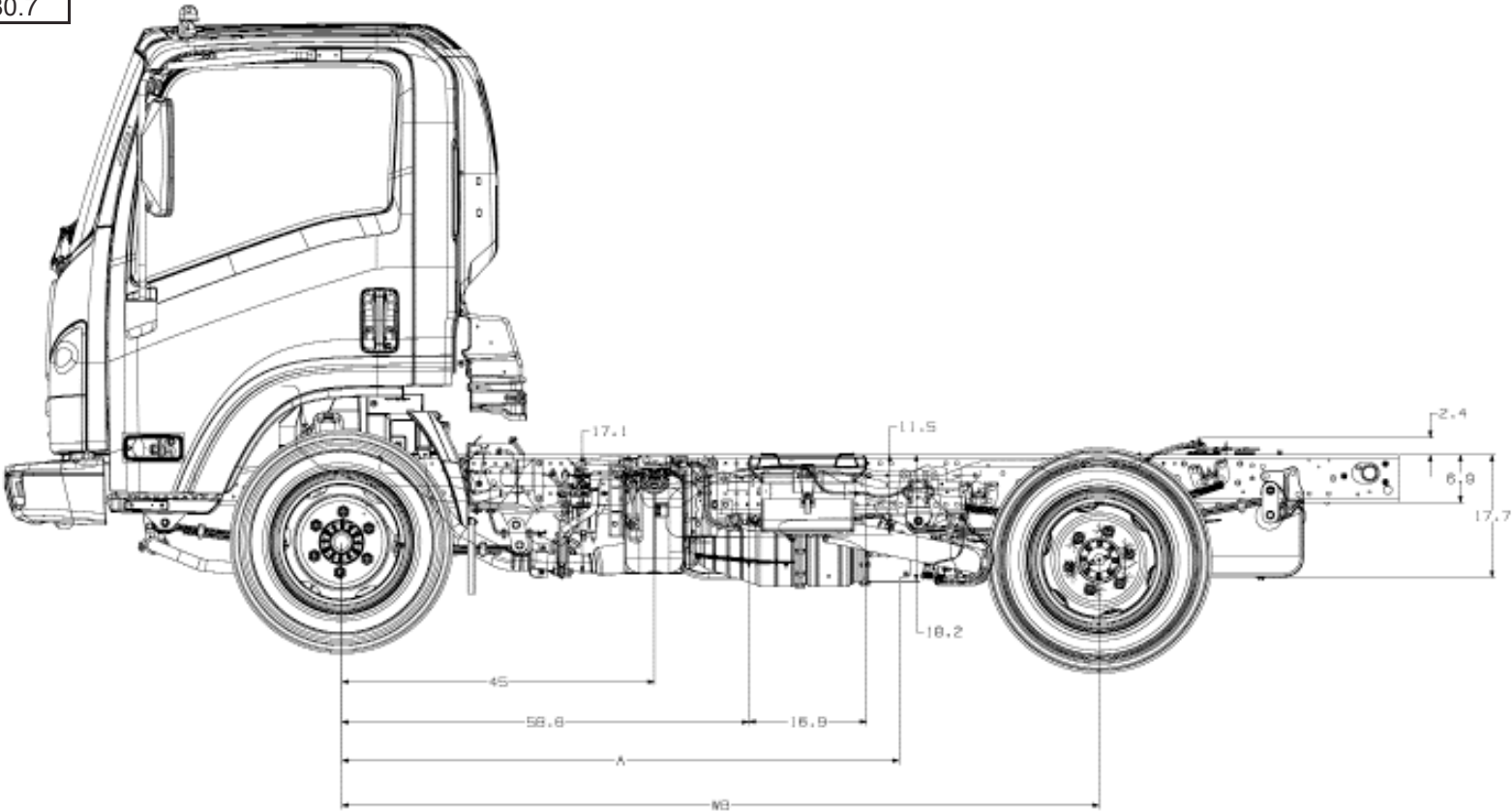


Figure 10.7.1

Dimensions in inches

2018 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

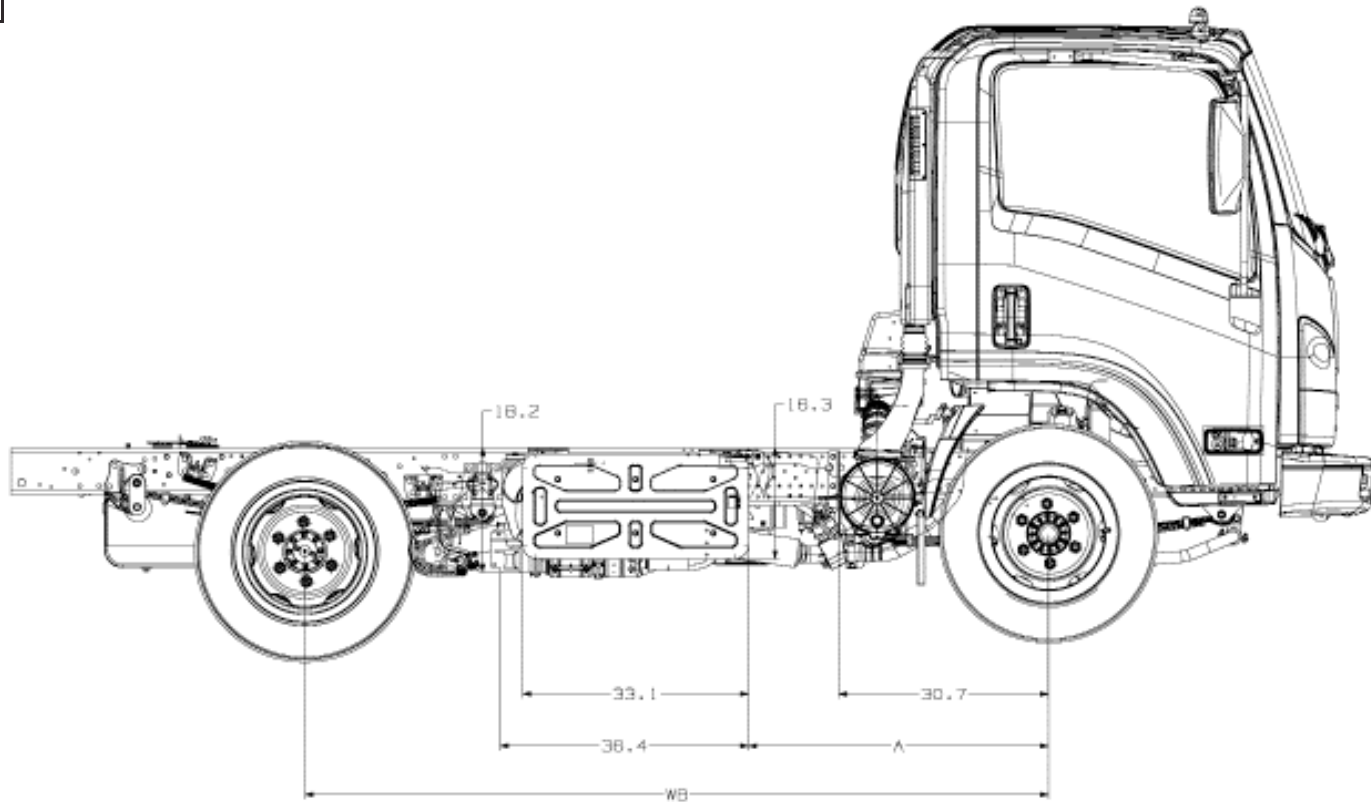


Figure 10.8.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

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SCR / DPF 4HK1-TC

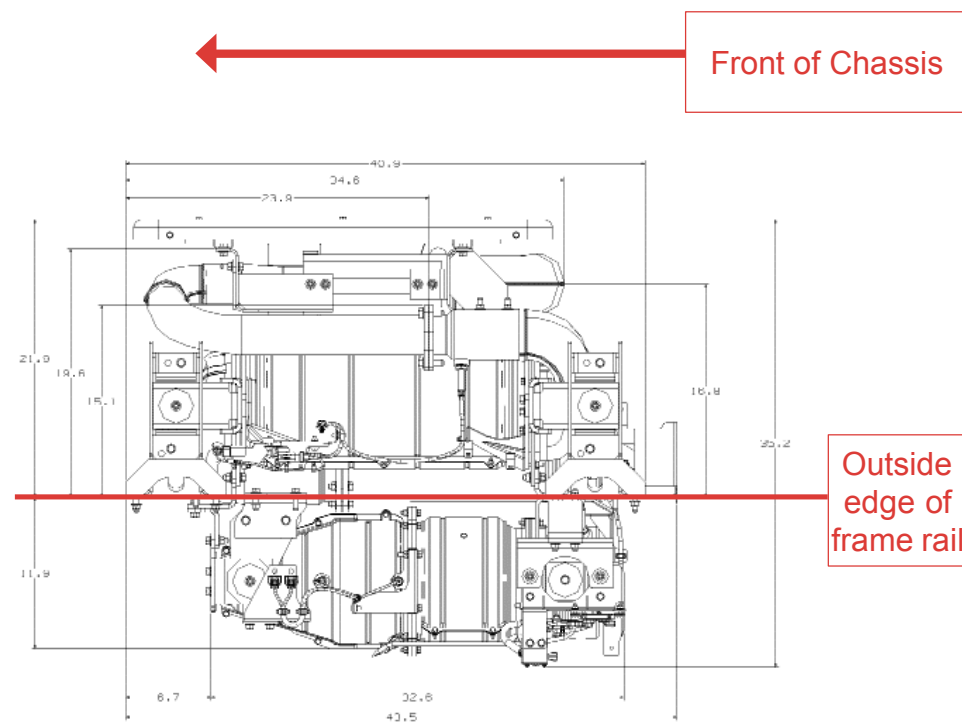


Figure 10.9.1

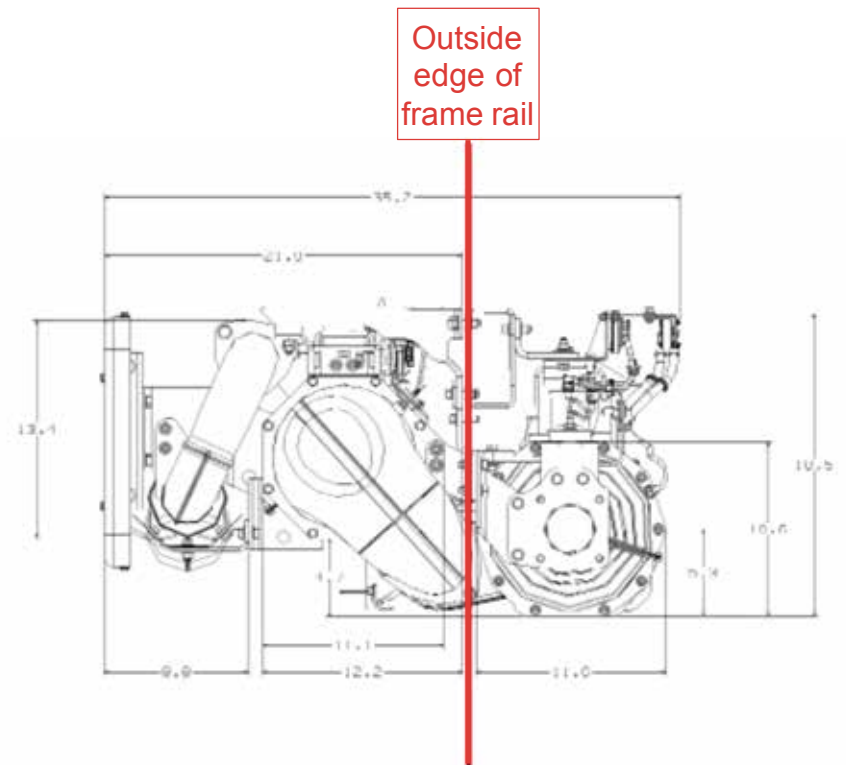


Figure 10.9.2

Dimensions in inches

2018 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 150 Wheelbase

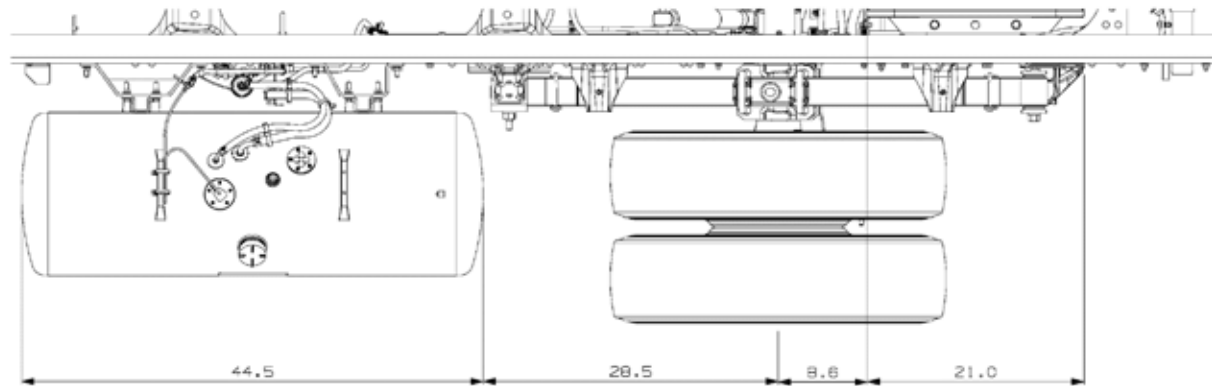


Figure 10.10.1

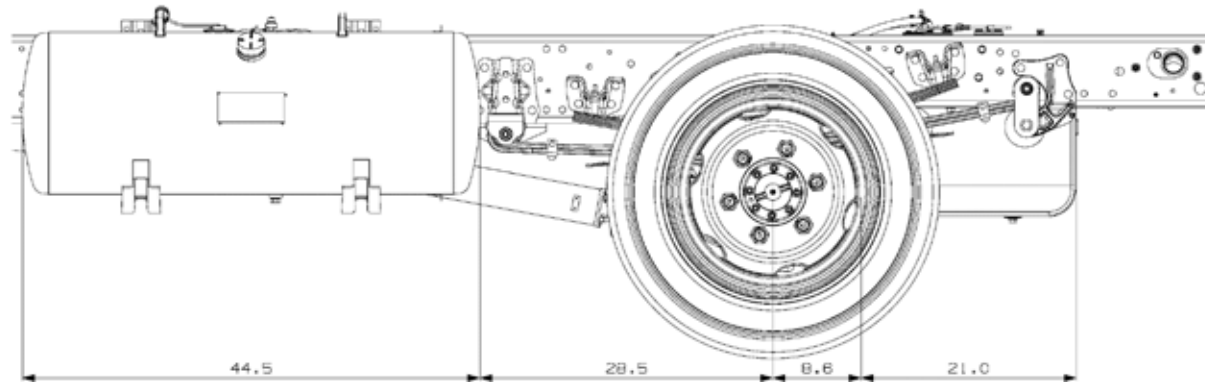


Figure 10.10.2

Dimensions in inches

2018 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

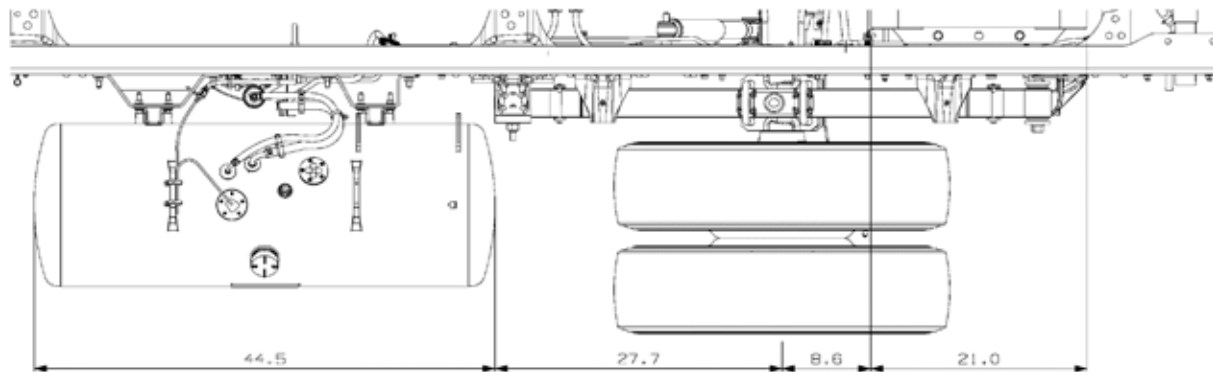


Figure 10.11.1

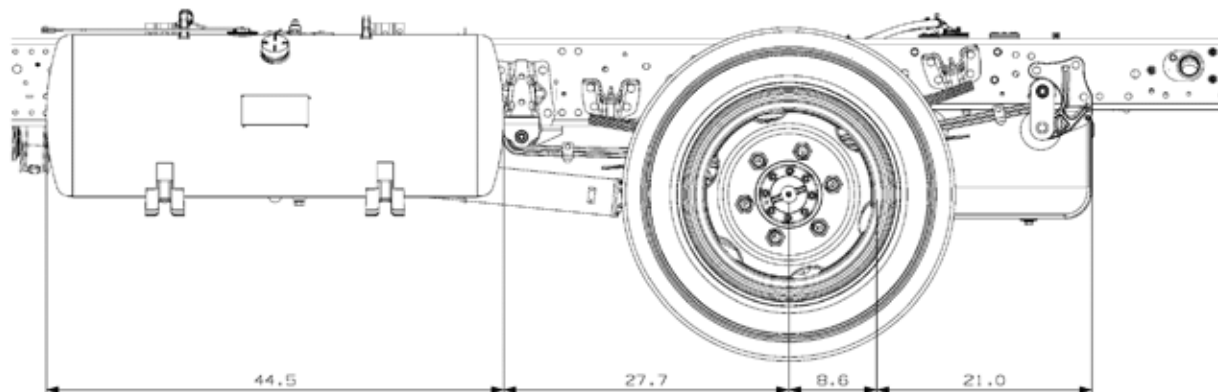


Figure 10.11.2

Dimensions in inches

2018 Chevrolet Low Cab Forward

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

T34003 ONLY

Side View 176 Wheelbase

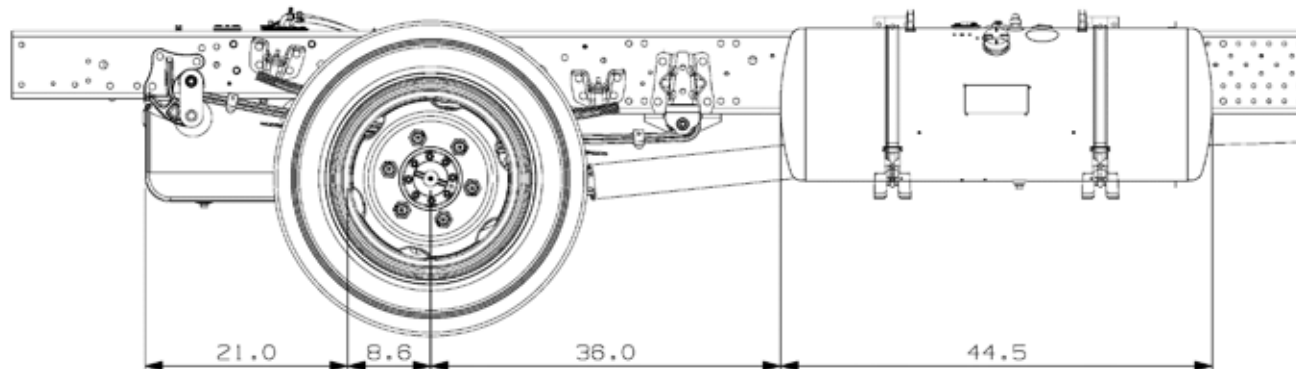


Figure 10.12.1

Dimensions in inches

PAGE **10.13**

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

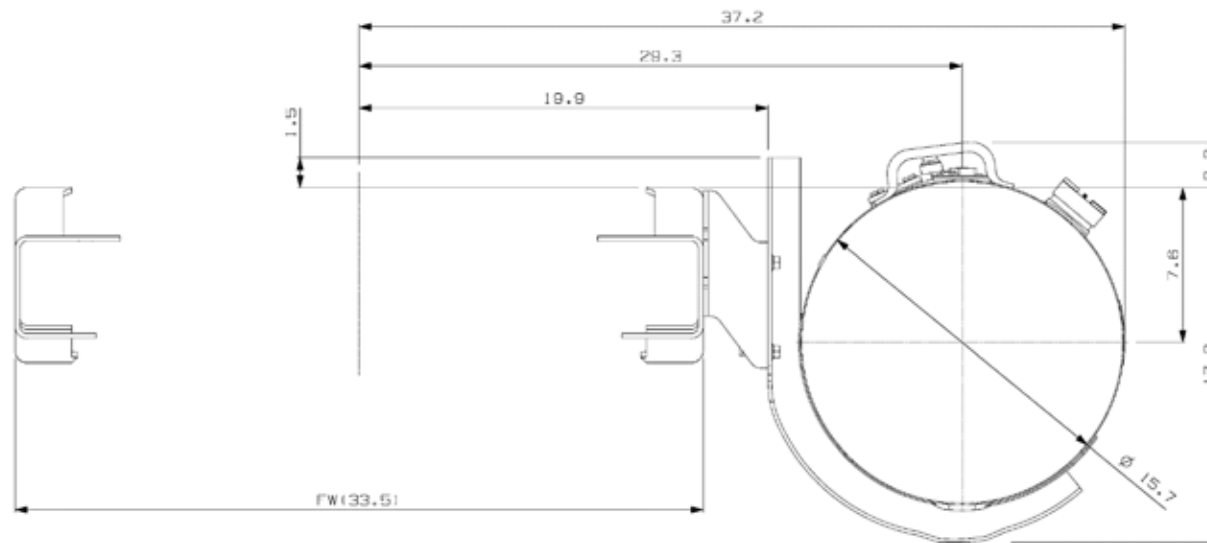


Figure 10.13.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

Cab Tilt

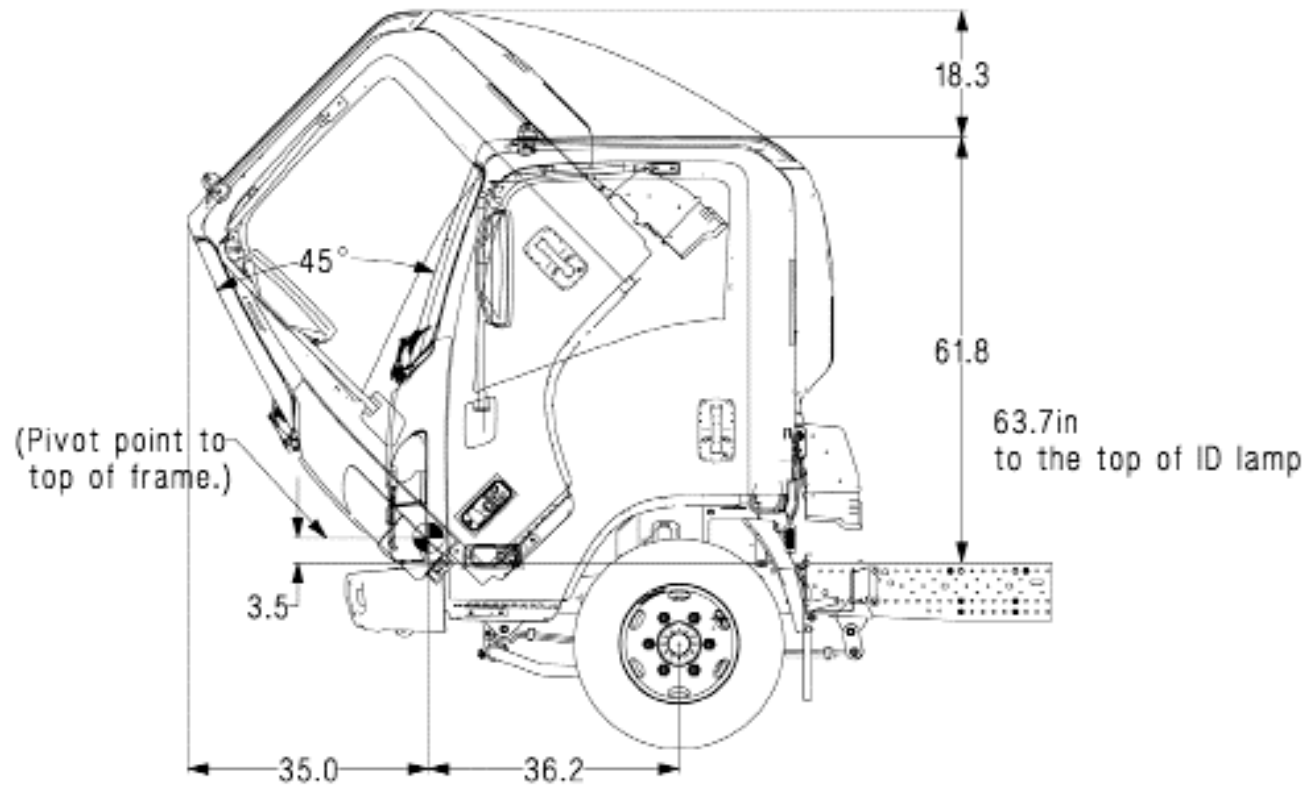


Figure 10.14.1

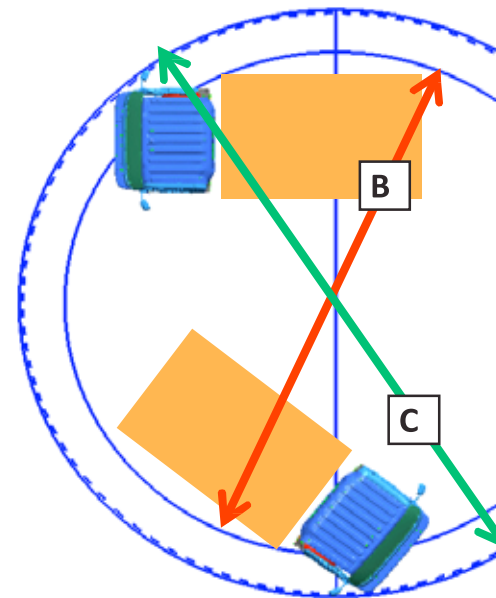
Dimensions in inches

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 <i>curb to curb</i>	C <i>(ft. wall to wall (ft.))</i>
109.0	31.5	37.1
132.0	38.7	44.0
150.0	42.7	48.9
176.0	51.2	56.4

2018 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

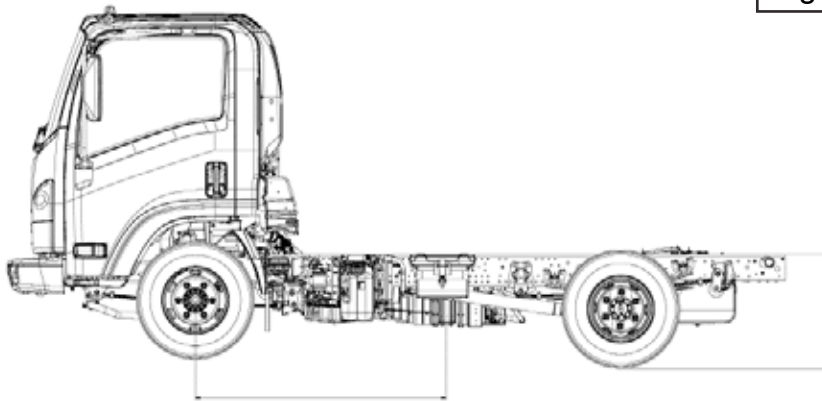


Figure 10.16.2

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

2018 Chevrolet Low Cab Forward

Front Axle Chart

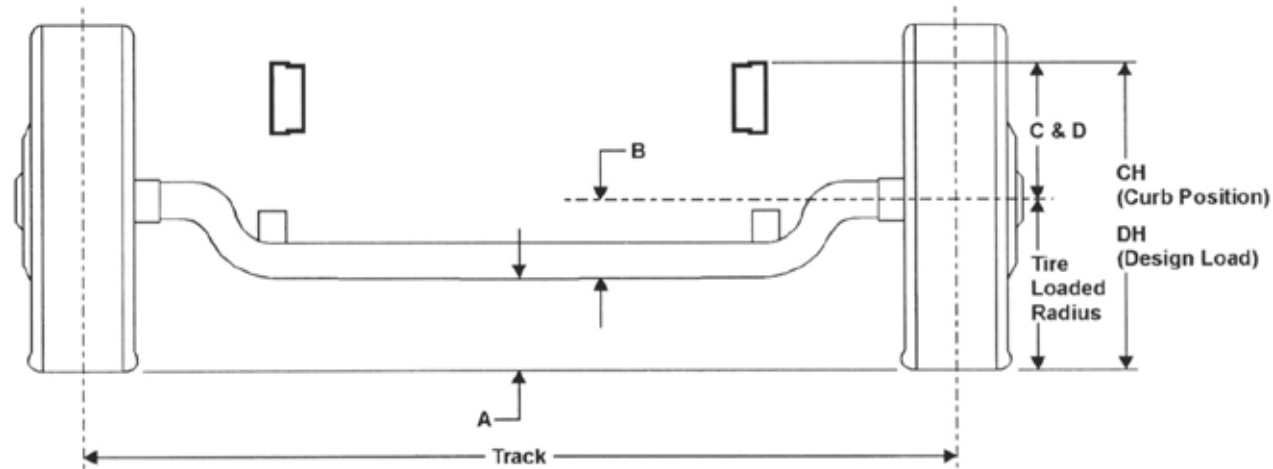


Figure 10.17.1

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

2018 Chevrolet Low Cab Forward

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Rear Axle Chart

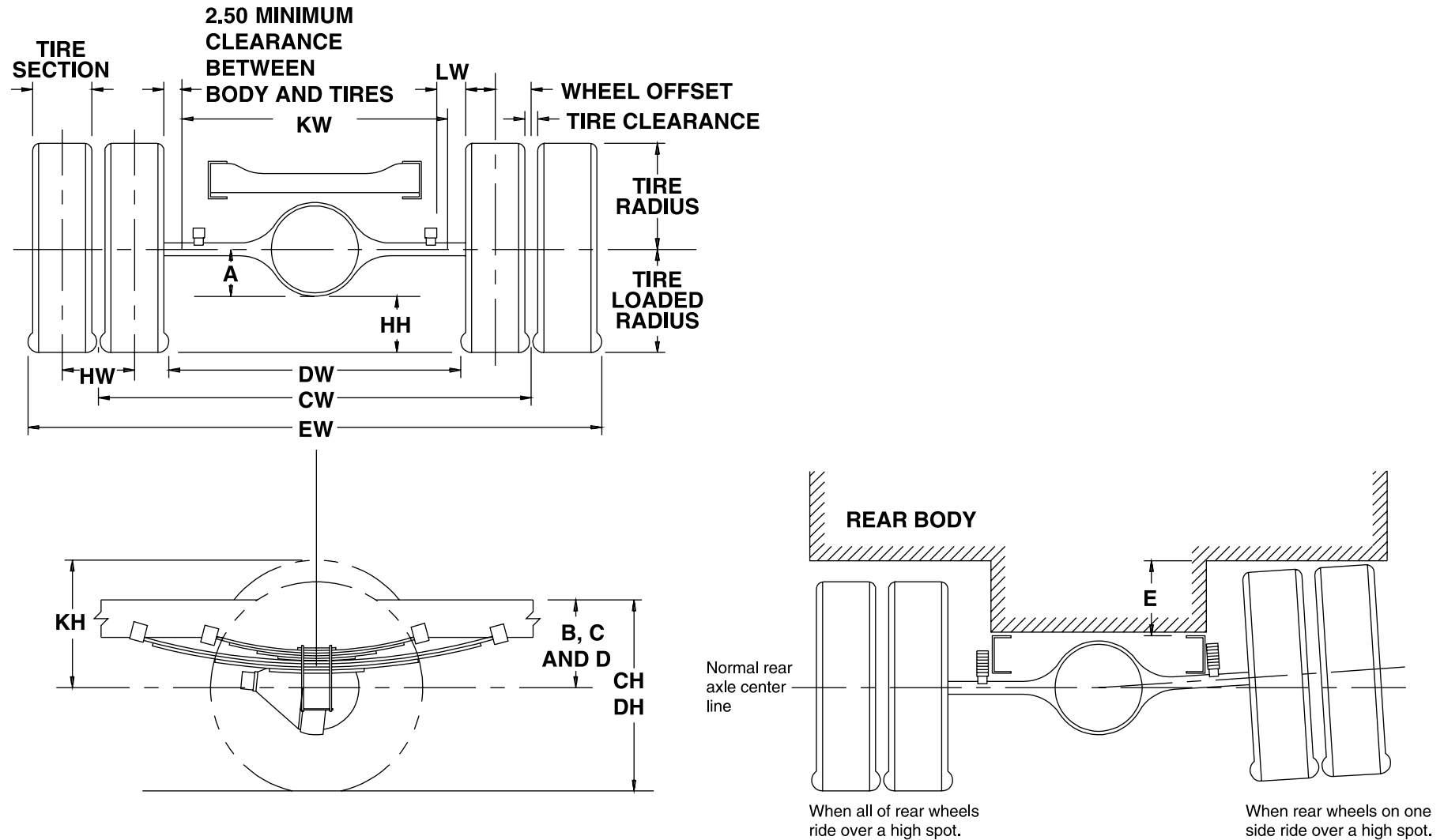


Figure 10.18.1

2018 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

2018 Chevrolet Low Cab Forward

4500HD Suspension Deflection Charts

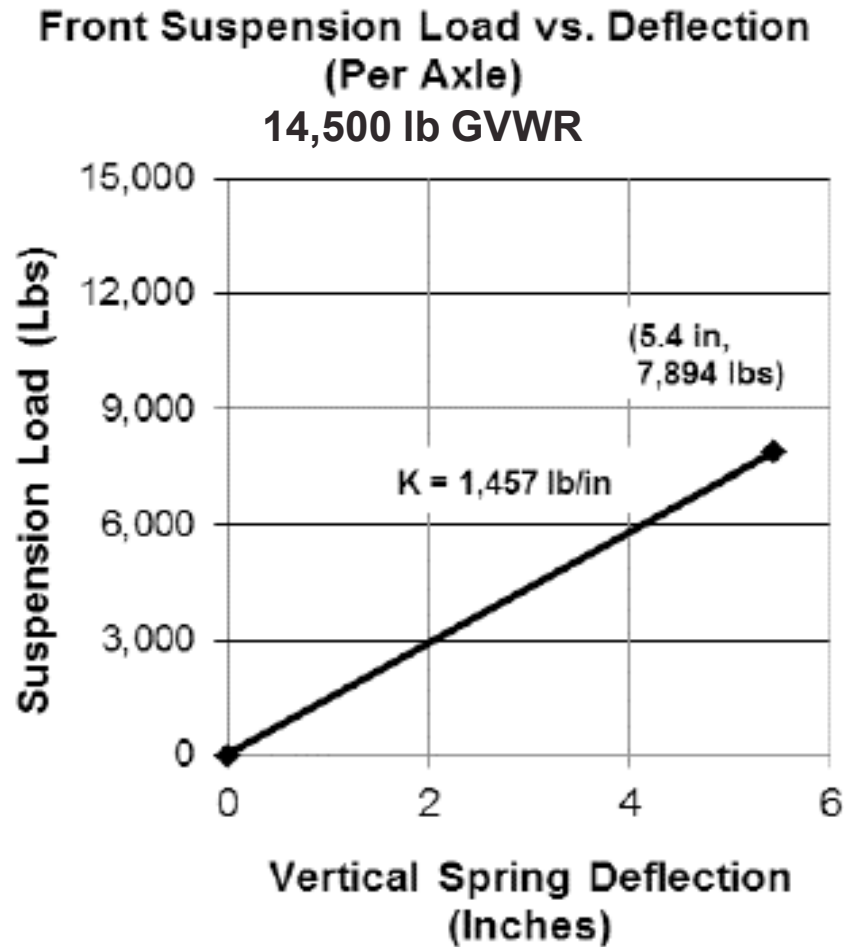


Figure 10.20.1

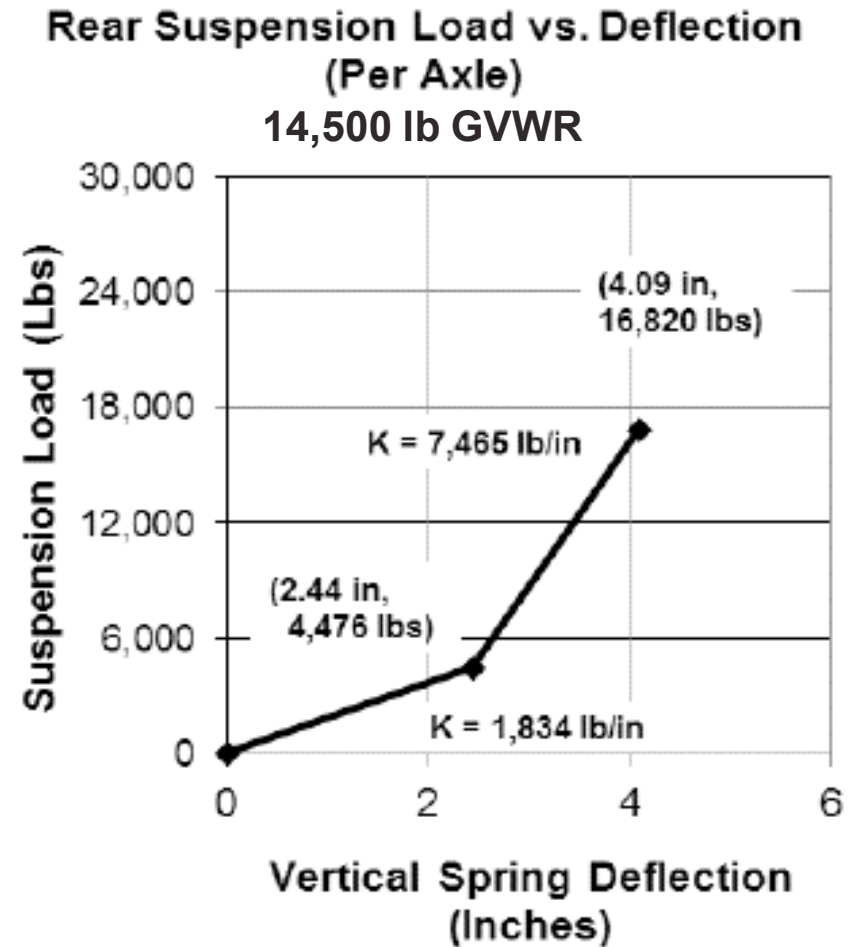


Figure 10.20.2

2018 Chevrolet Low Cab Forward

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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

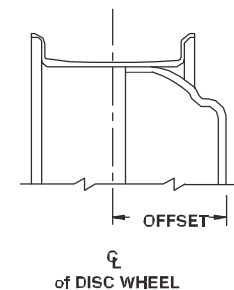
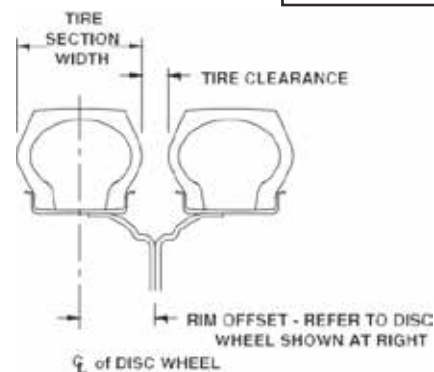
Figure 10.21.2

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

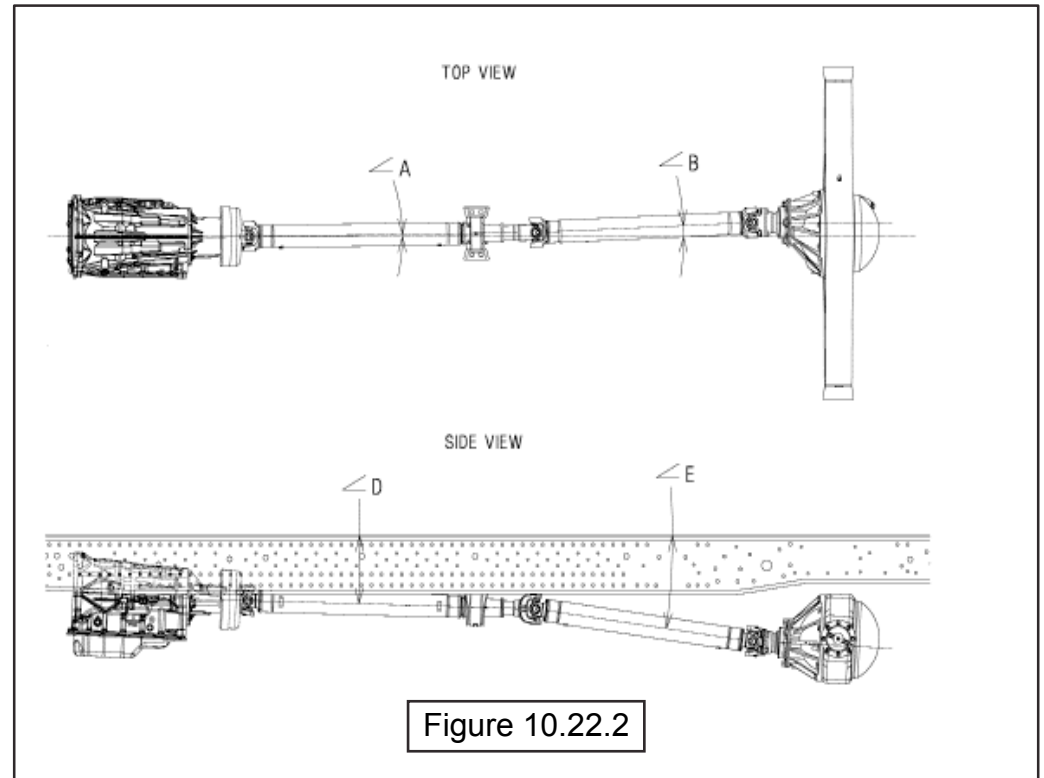
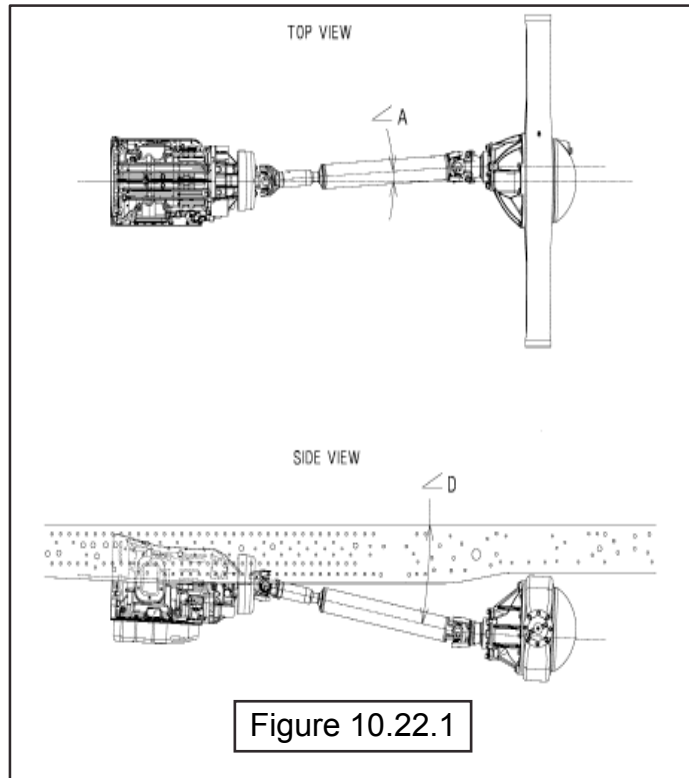


Dimensions in inches

Figure 10.21.4

2018 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.

2018 Chevrolet Low Cab Forward

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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

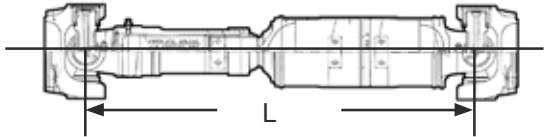
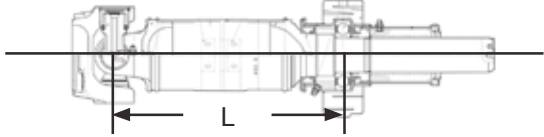
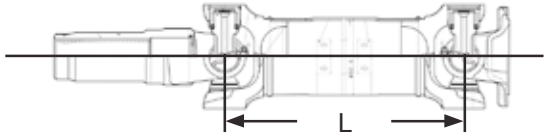
Type	Description	Illustration
Type A	1st shaft in 1-piece driveline	
Type B	1st shaft in 2-piece driveline	
Type C	2nd shaft in 2-piece driveline	

Figure 10.23.2

Dimensions in inches

2018 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

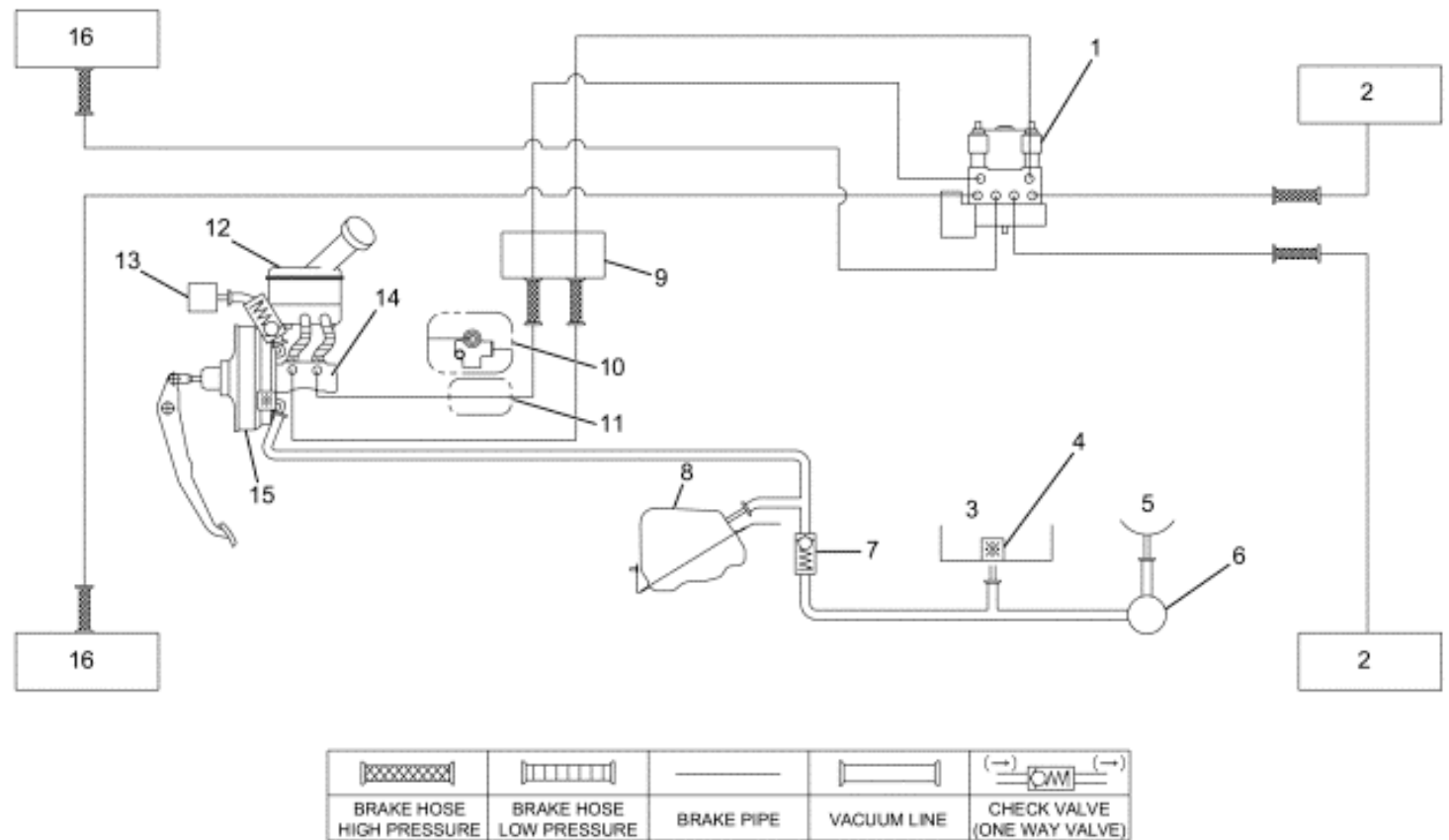


Figure 10.24.1

2018 Chevrolet Low Cab Forward

PTO Location, Drive Gear and Opening Information

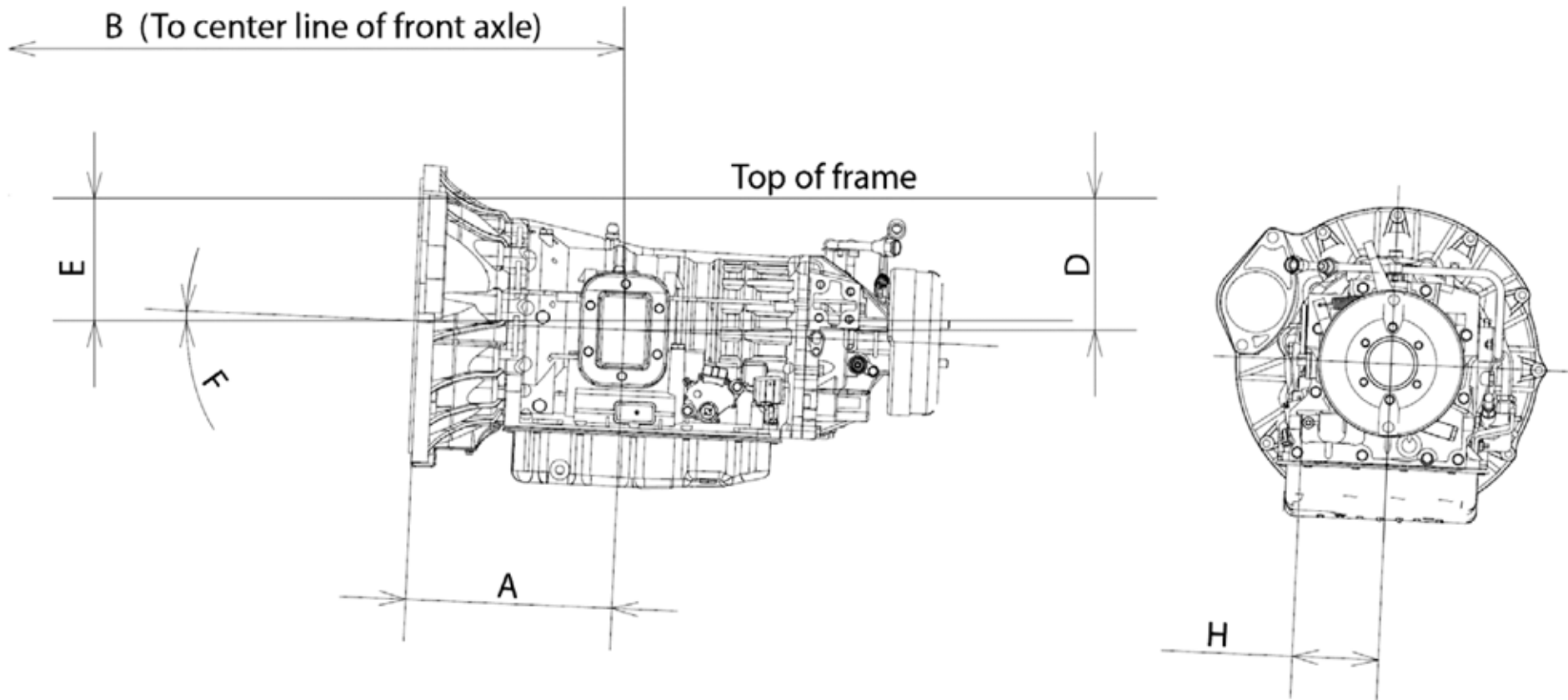


Figure 10.25.1

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

2018 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.

2018 Chevrolet Low Cab Forward

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Rear View Fuel Fill

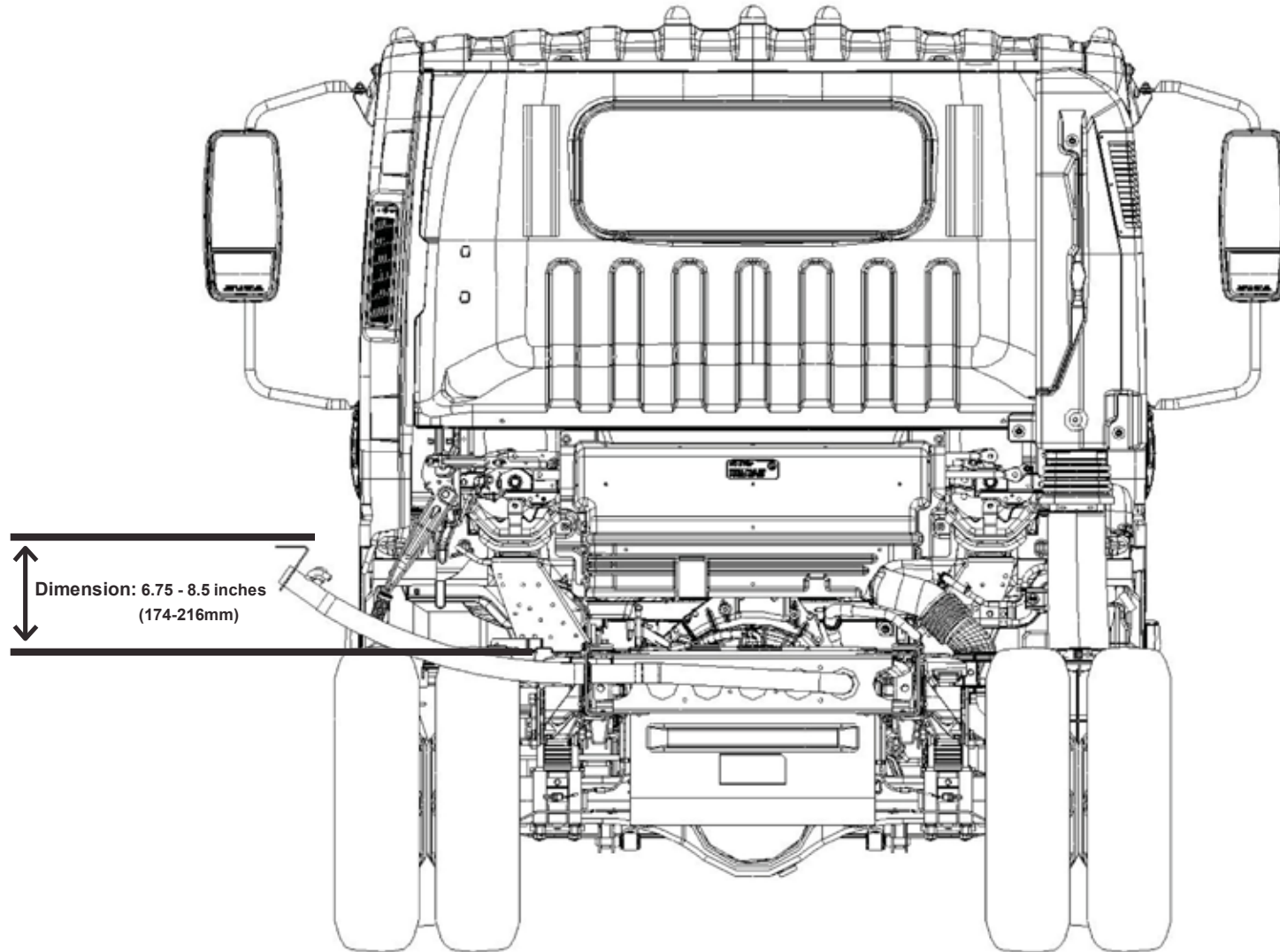
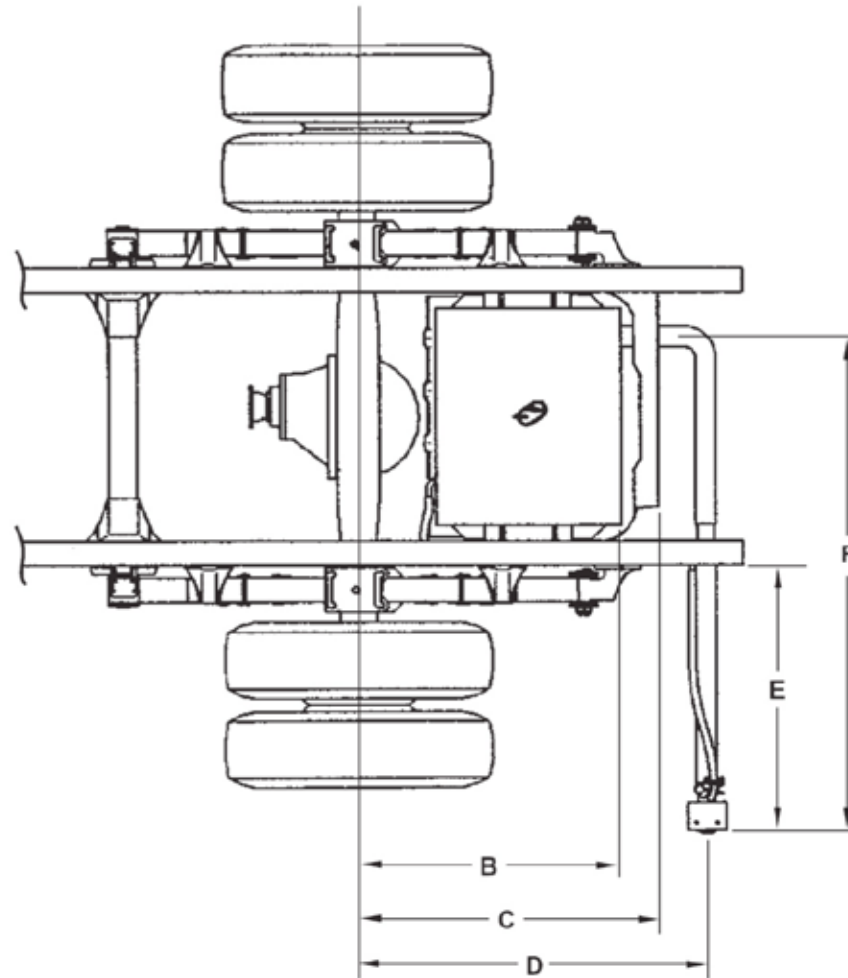


Figure 10.28.1

2018 Chevrolet Low Cab Forward

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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 (1,514 mm)

Figure 10.29.1

2018 Chevrolet Low Cab Forward

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

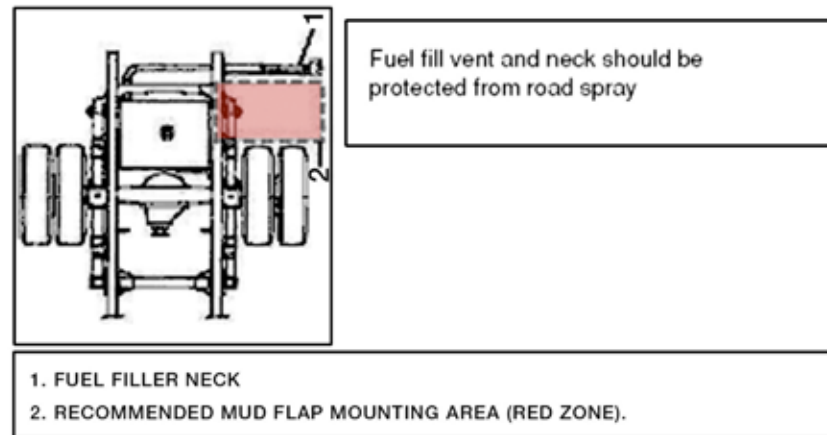
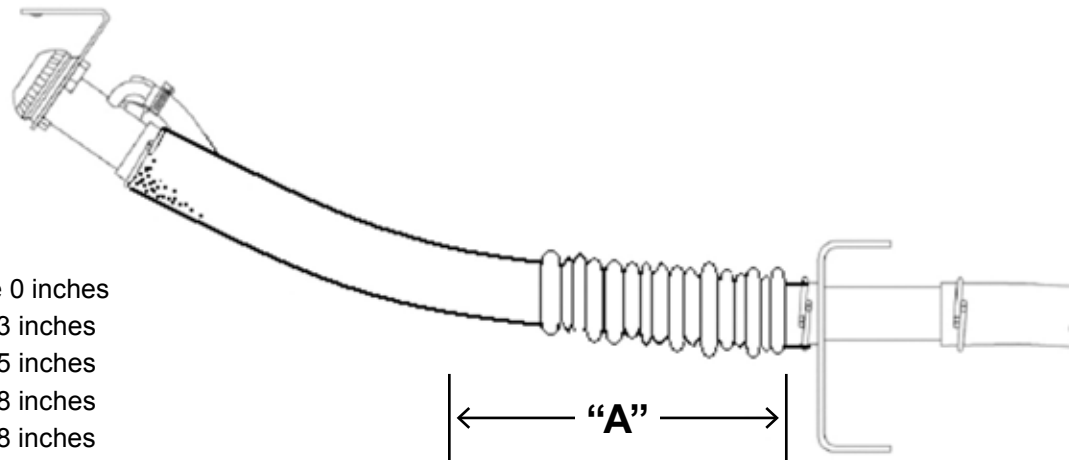


Figure 10.30.1

“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

2018 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

2018 Chevrolet Low Cab Forward

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Through the Rail Fuel Fill Frame Hole

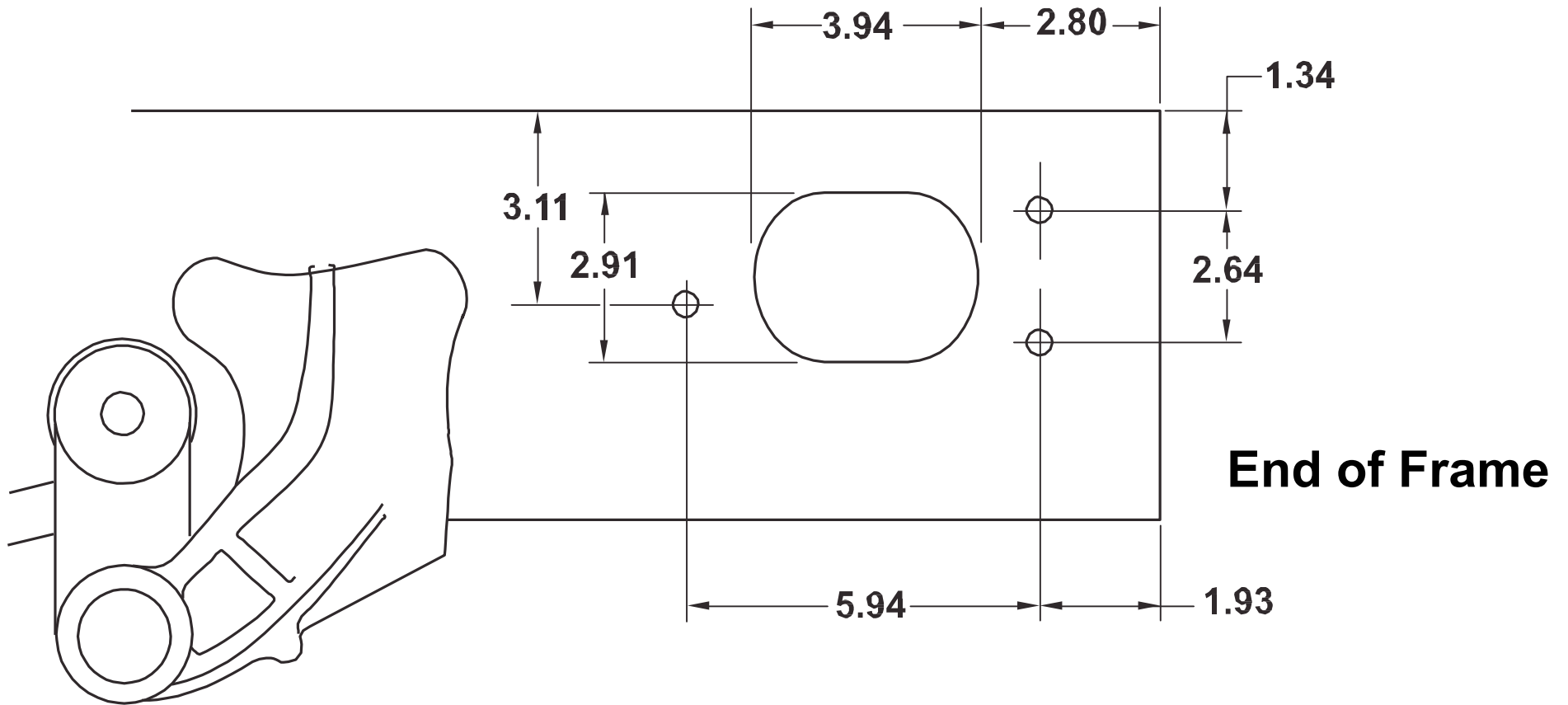


Figure 10.32.1

Dimensions in inches

2018 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**.

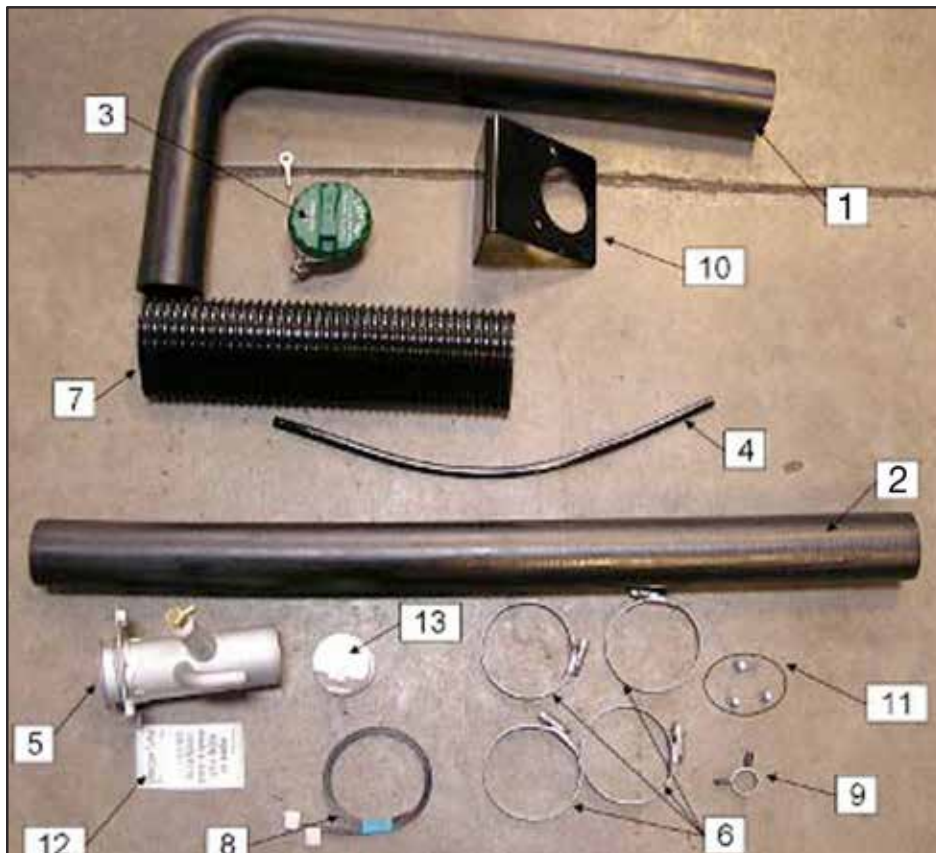


Figure 10.33.1

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

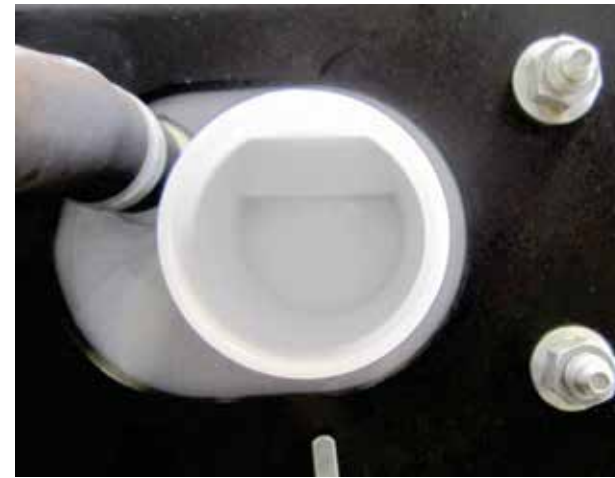
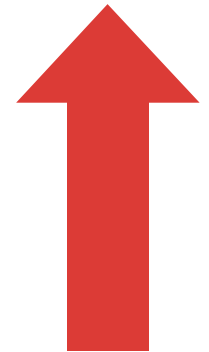


Figure 10.34.2

Up



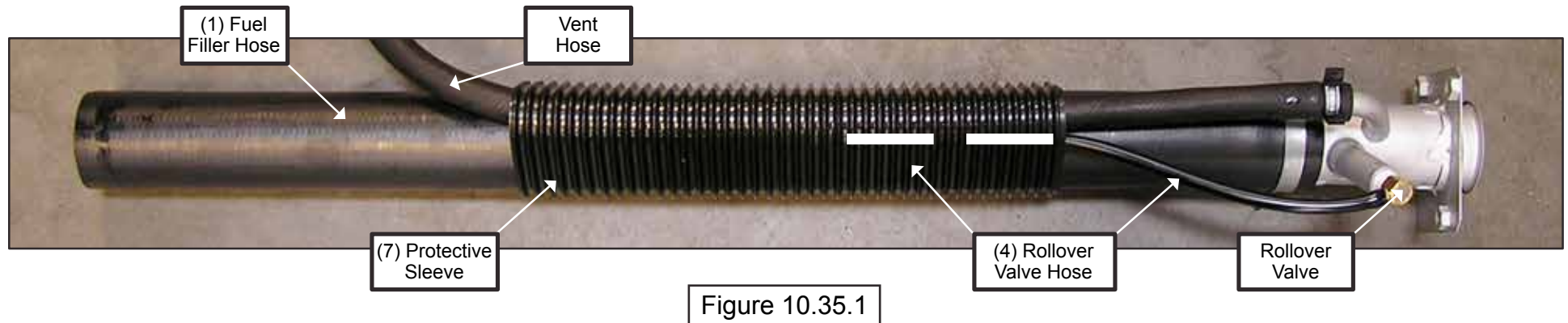
The fuel filler hose should be installed flush against the tank. The clamp should be installed between 1/16" and 3/8" from the tank. This is shown in **Figure 10.34.3** to the right.



Figure 10.34.3

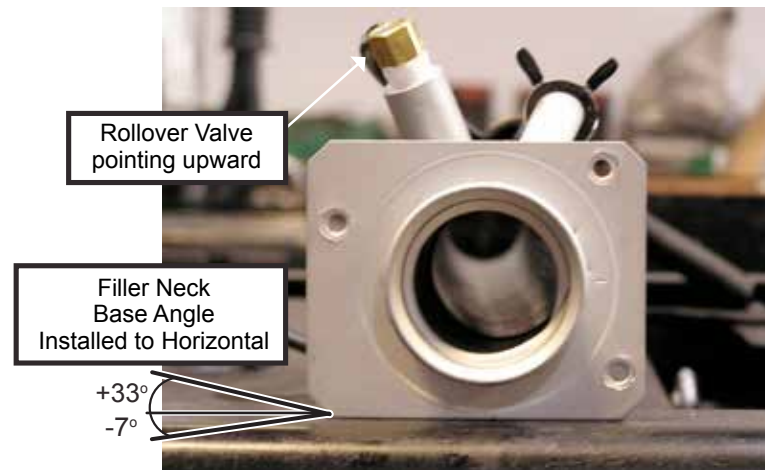
Roll-Over Valve Tubing

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.



2018 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.	

2018 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

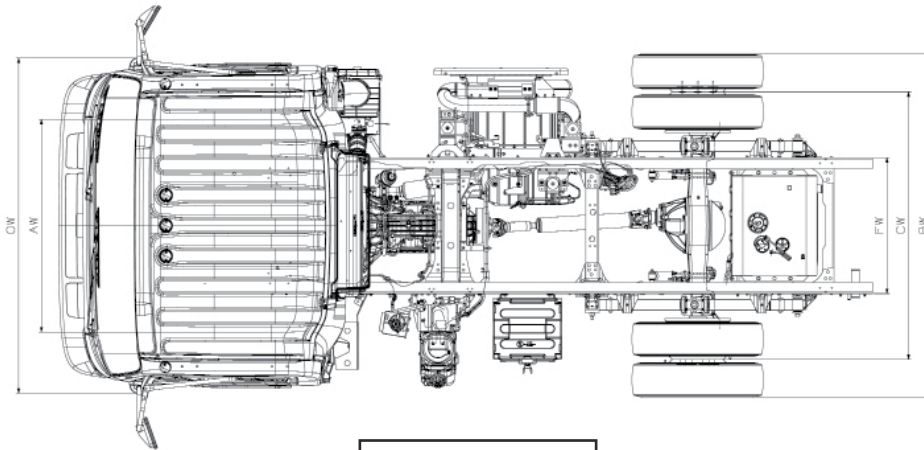


Figure 11.2.1

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

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		

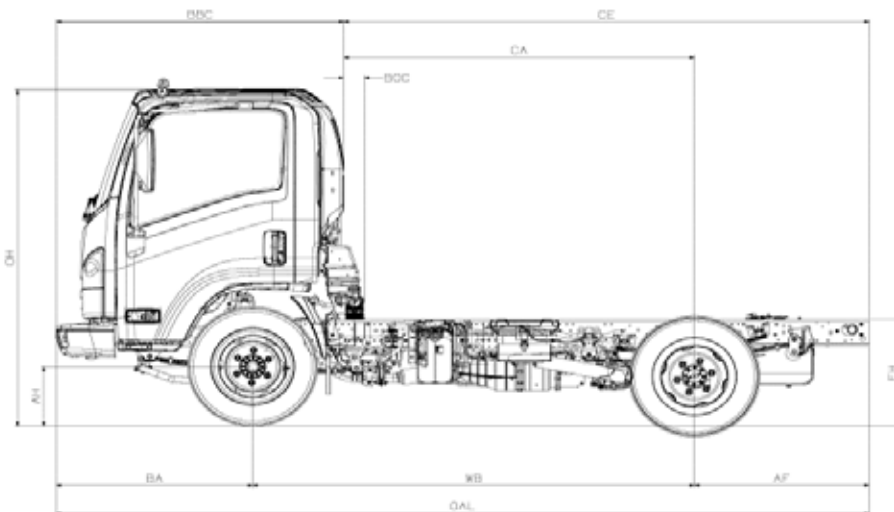


Figure 11.2.2

2018 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

2018 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

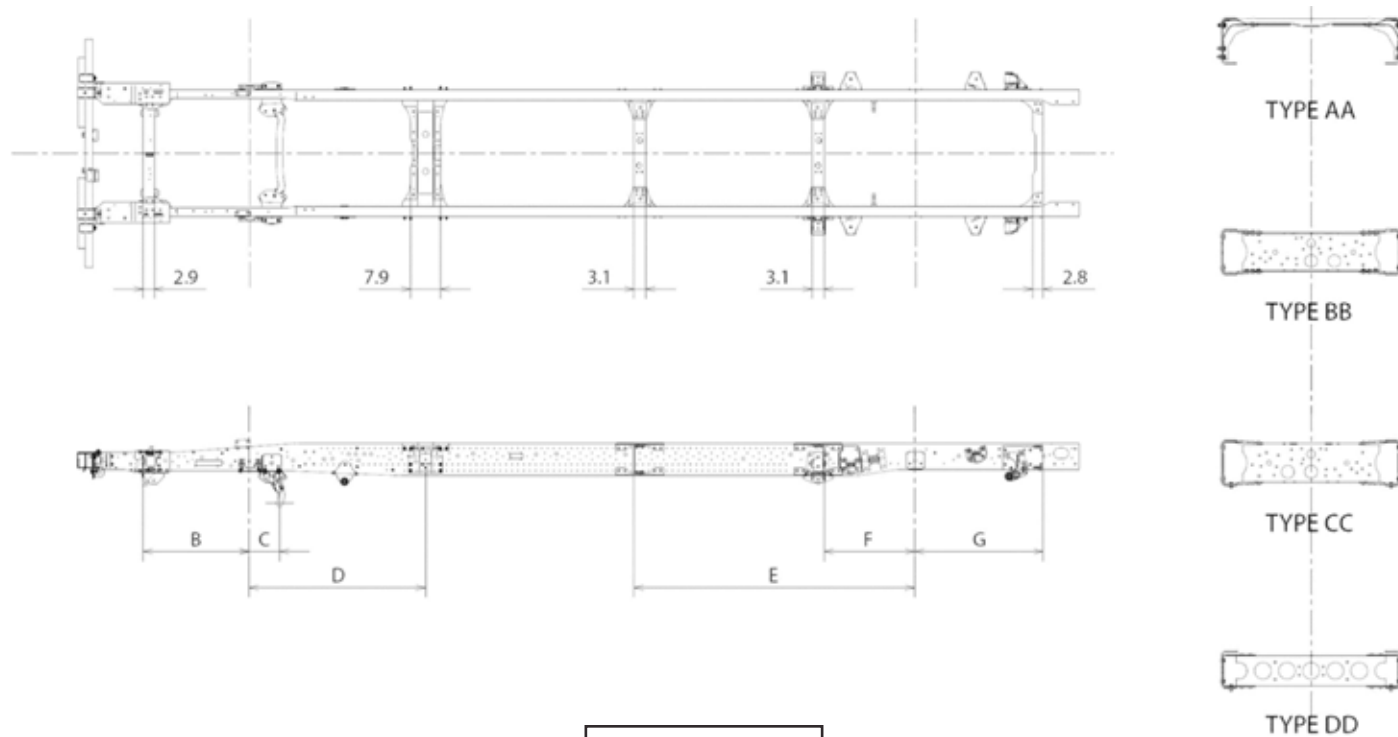


Figure 11.4.1

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

2018 Chevrolet Low Cab Forward

Frame Chart

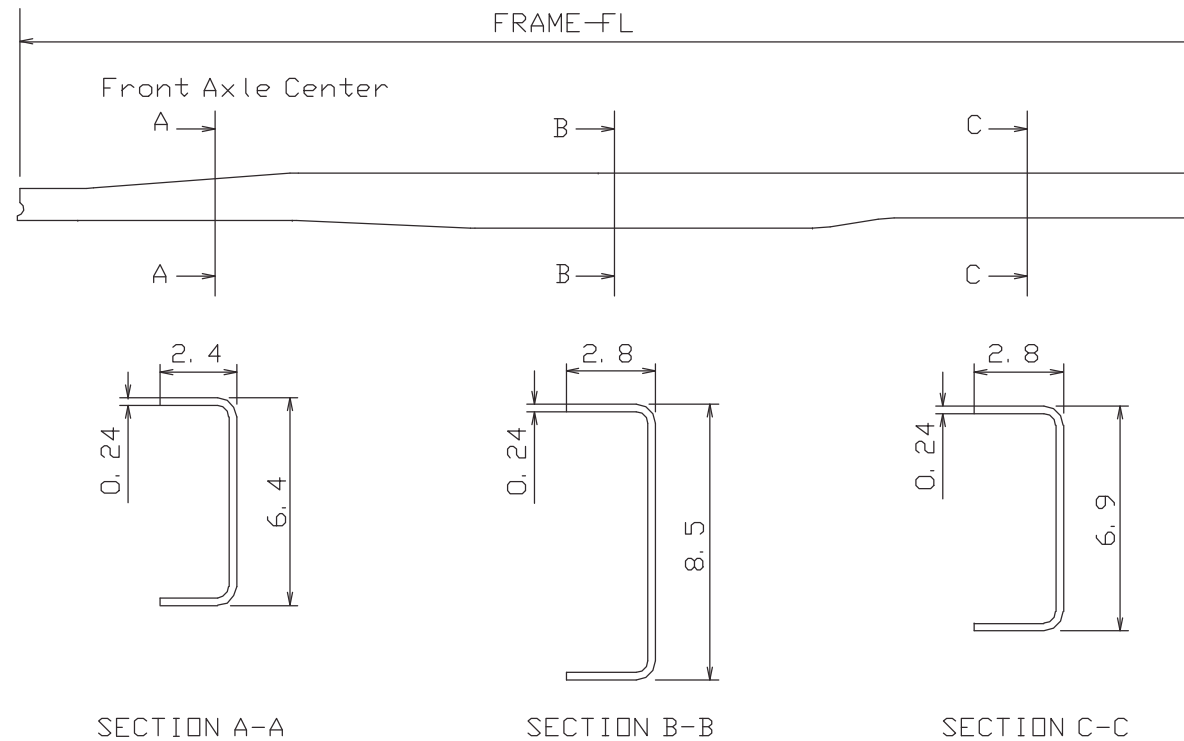


Figure 11.5.1

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

2018 Chevrolet Low Cab Forward

4500XD 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

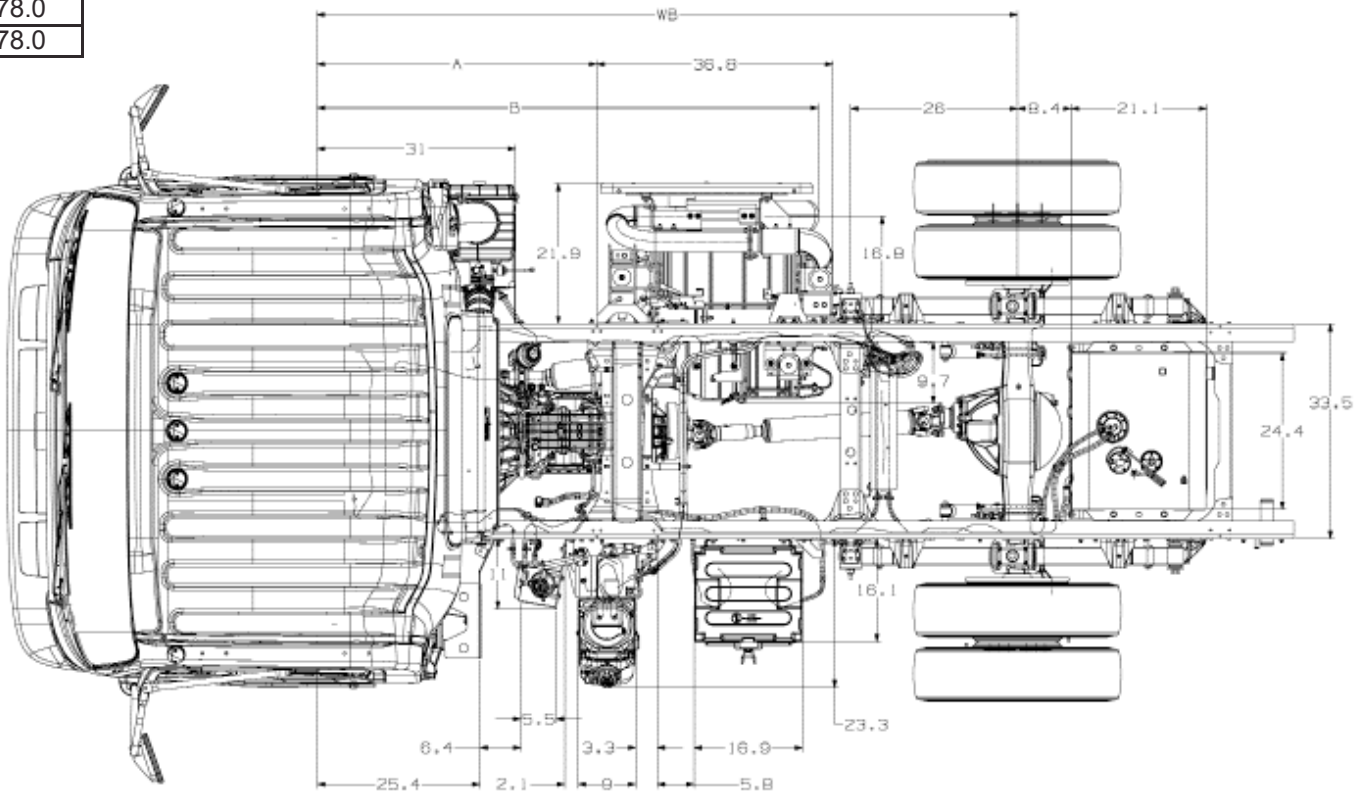


Figure 11.6.1

Dimensions in inches

2018 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

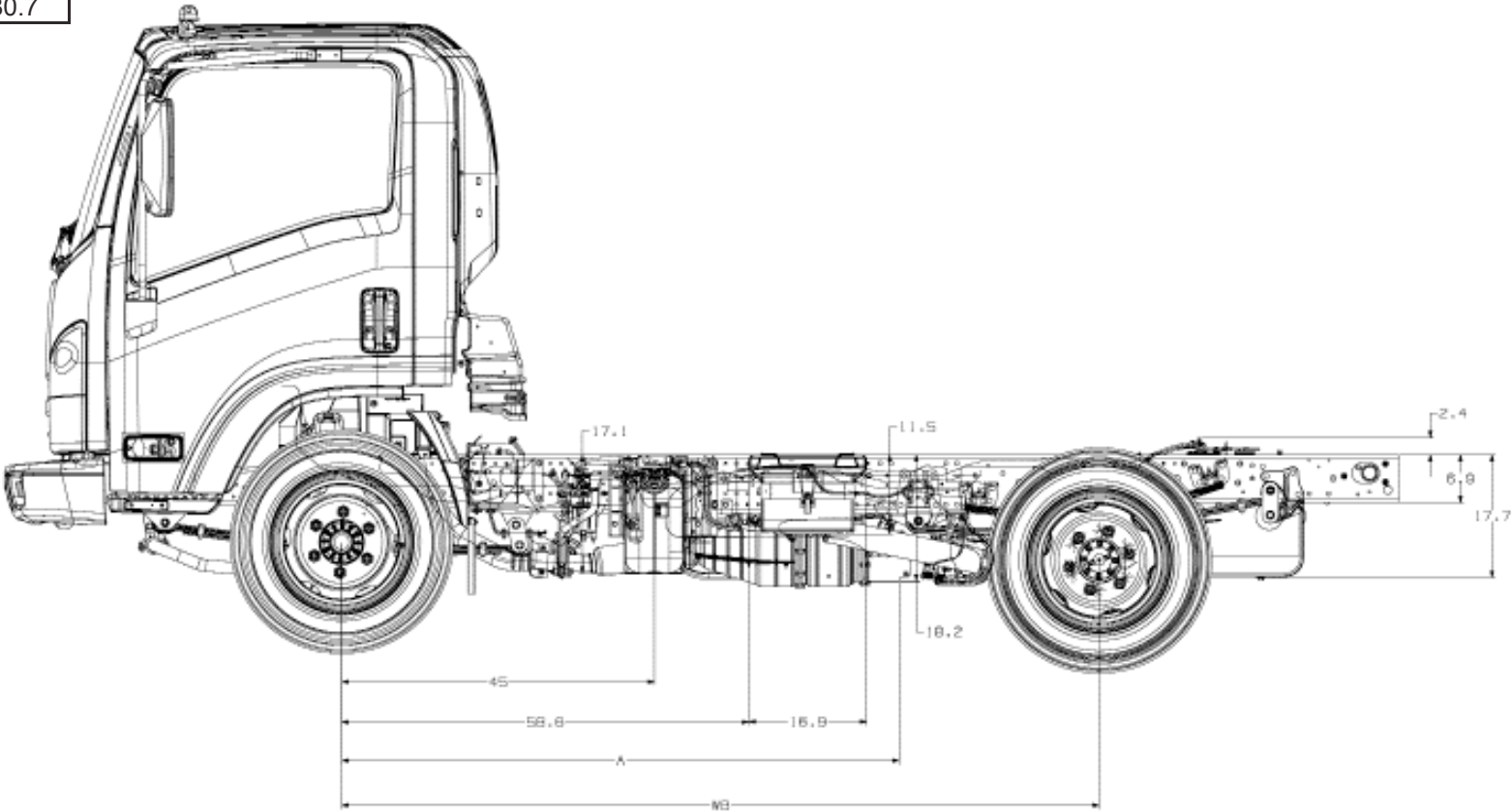


Figure 11.7.1

Dimensions in inches

2018 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

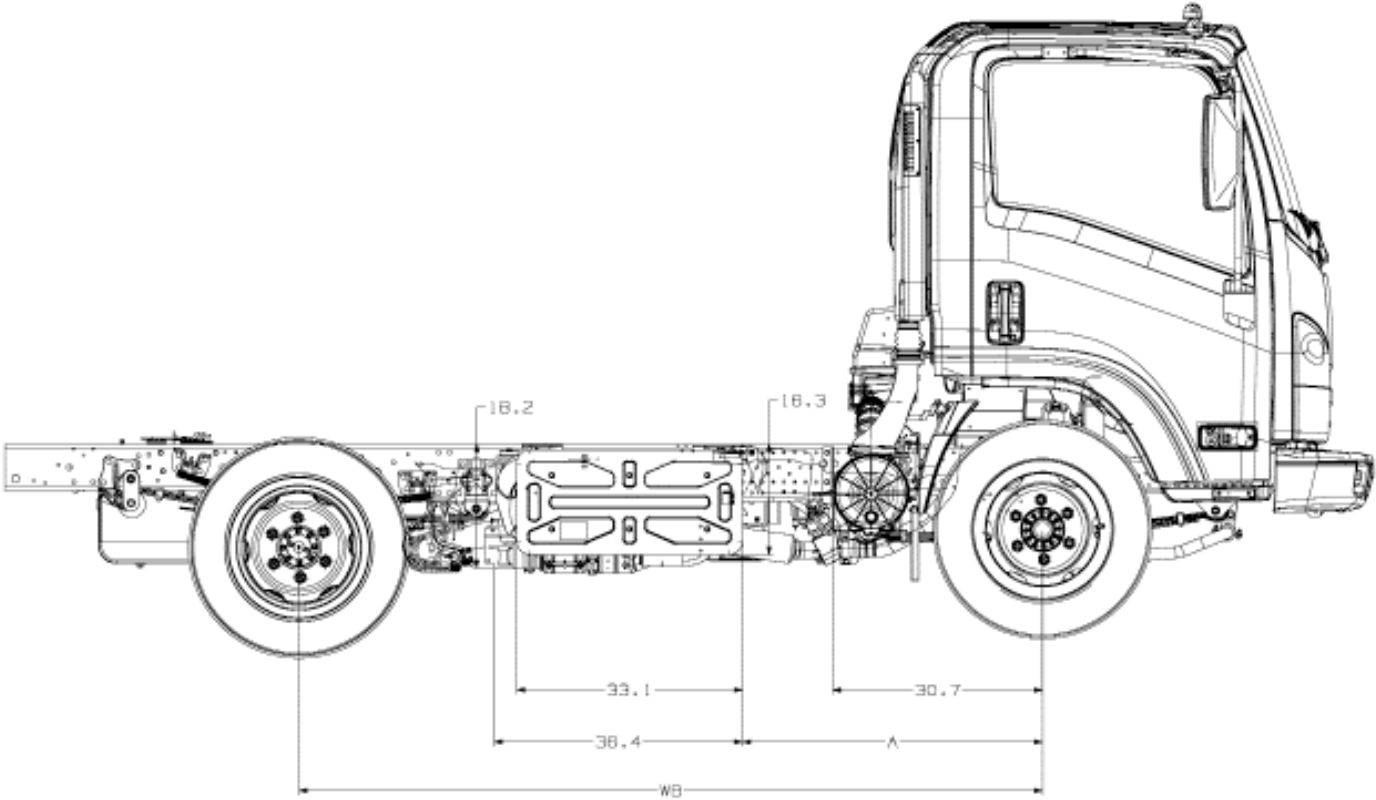


Figure 11.8.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

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SCR / DPF 4HK1-TC

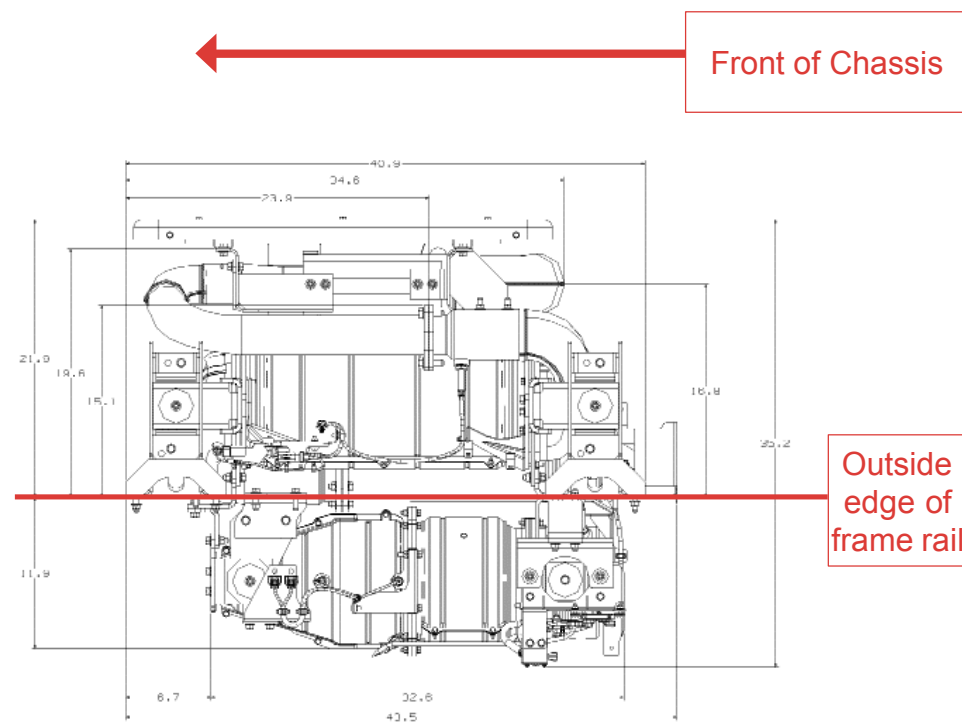


Figure 11.9.1

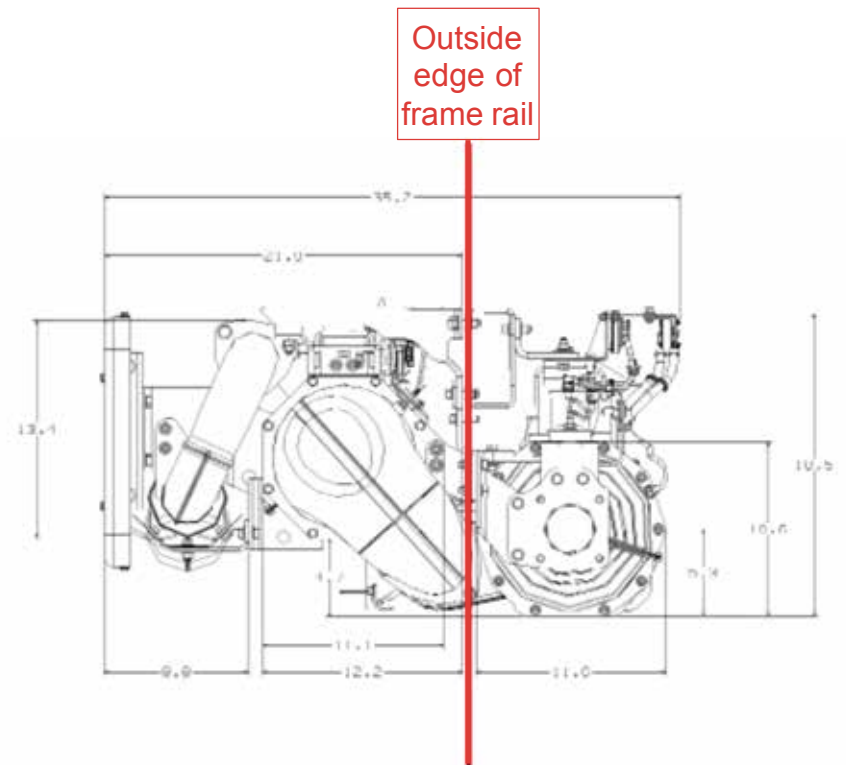


Figure 11.9.2

Dimensions in inches

2018 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 150 Wheelbase

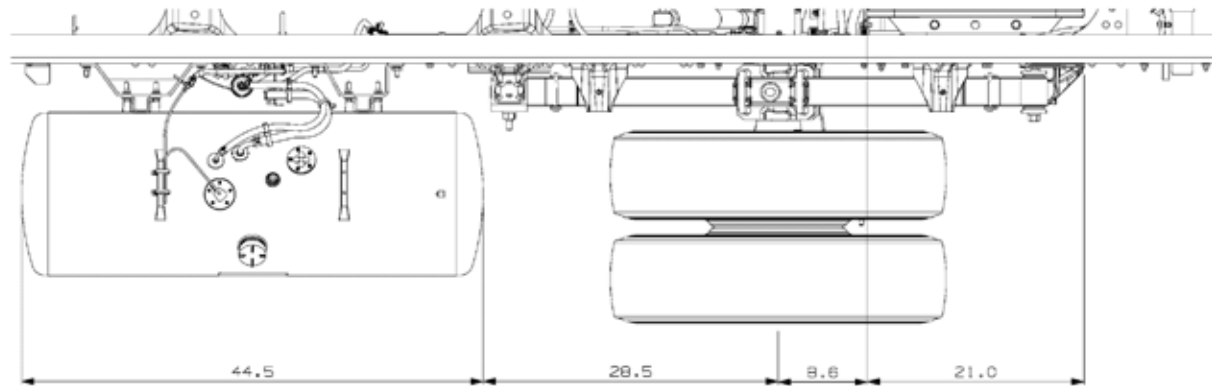


Figure 11.10.1

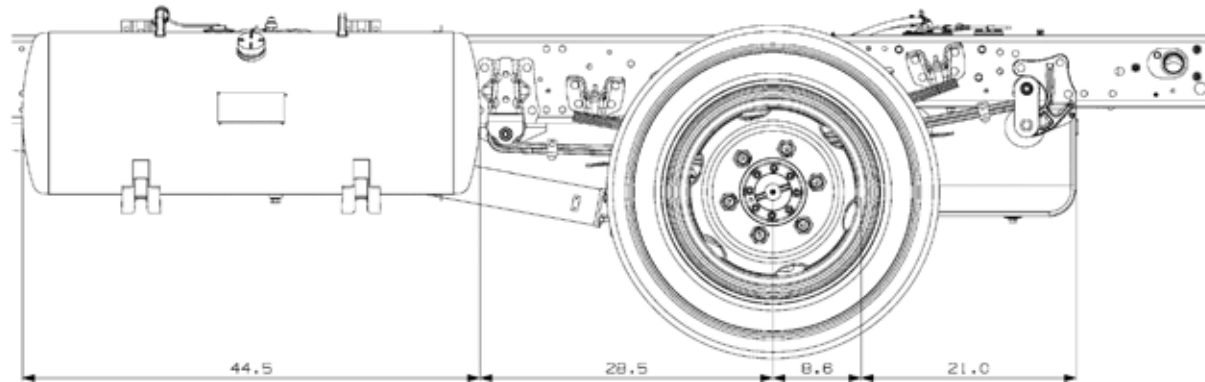


Figure 11.10.2

Dimensions in inches

2018 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

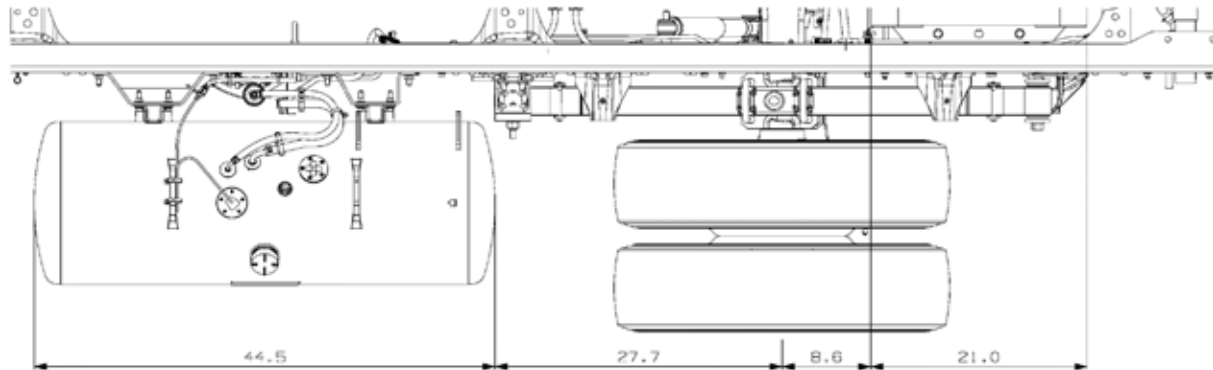


Figure 11.11.1

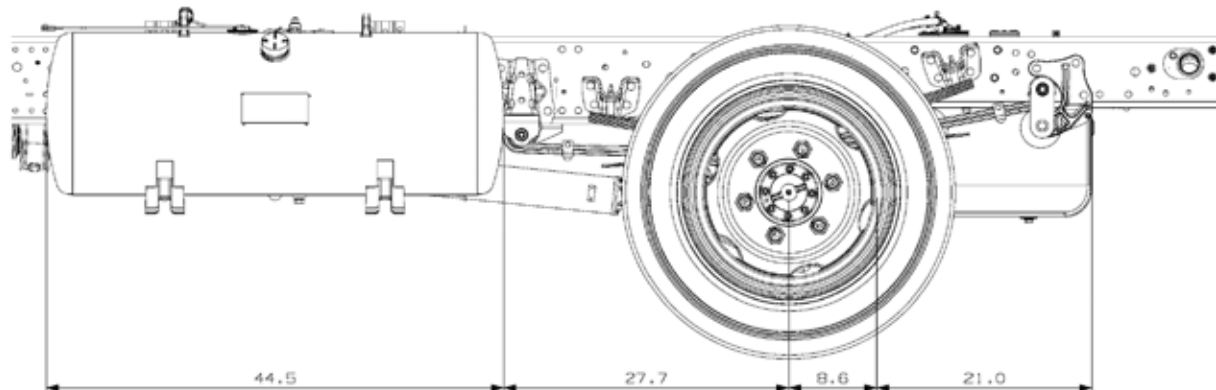


Figure 11.11.2

Dimensions in inches

2018 Chevrolet Low Cab Forward

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

T44003 ONLY

Side View 176 Wheelbase

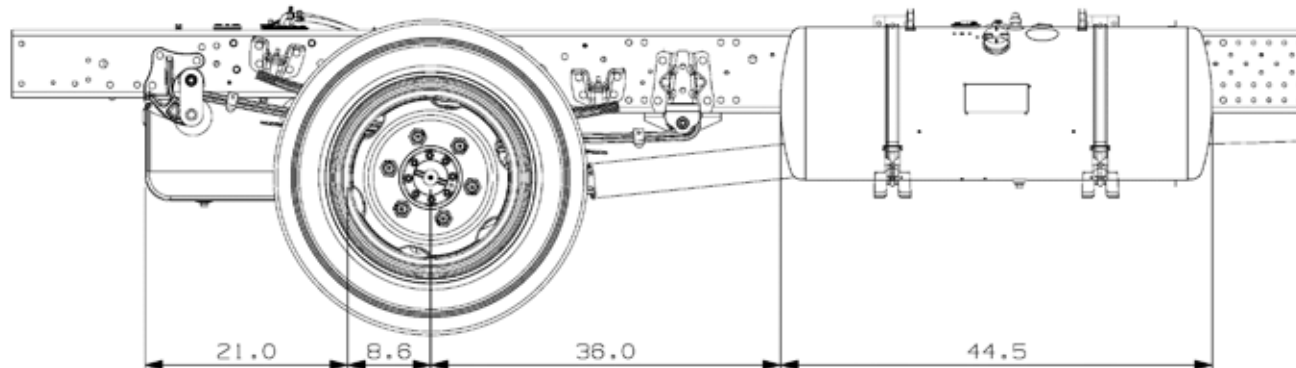


Figure 11.12.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

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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)

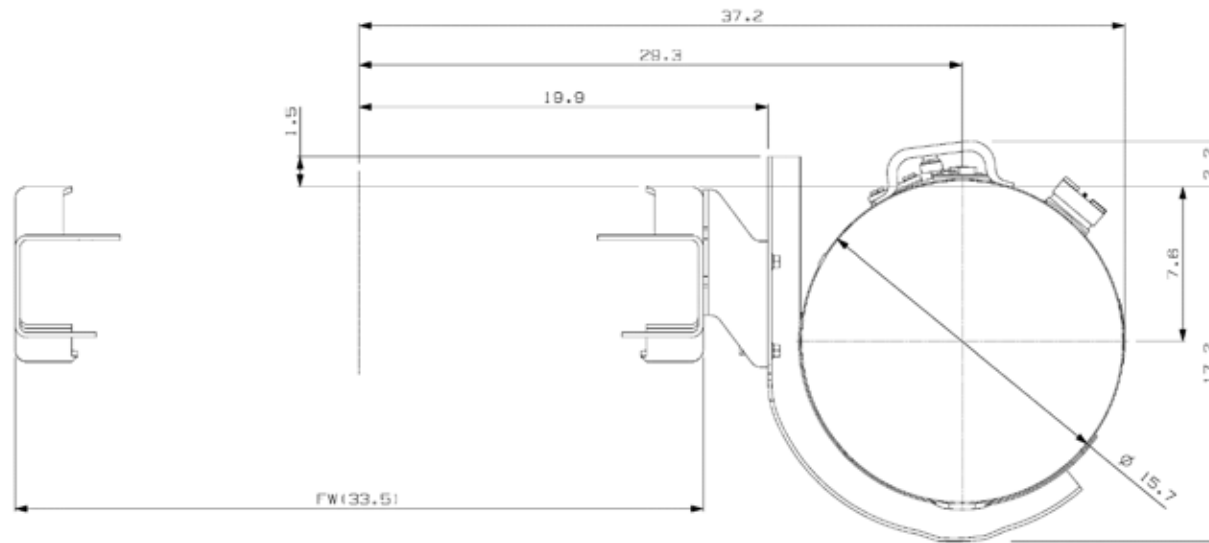


Figure 11.13.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

Cab Tilt

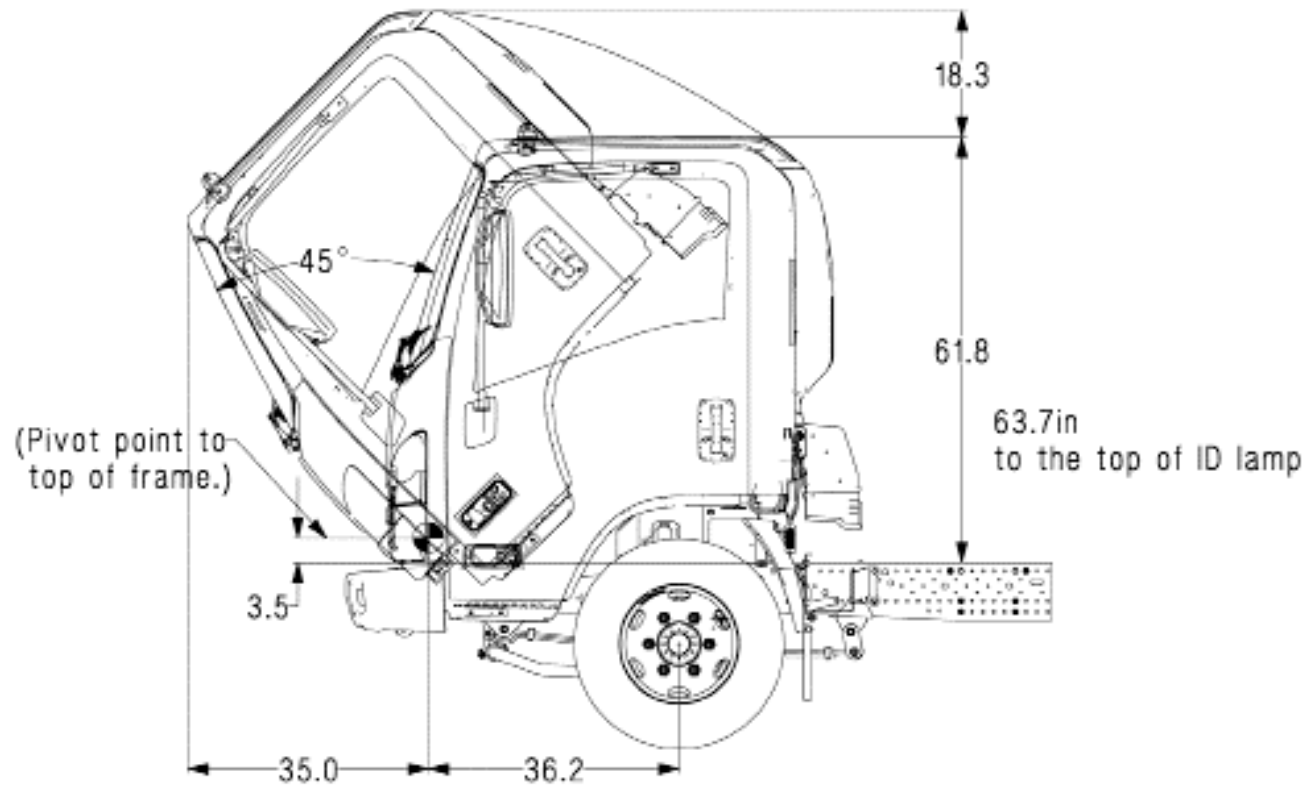


Figure 11.14.1

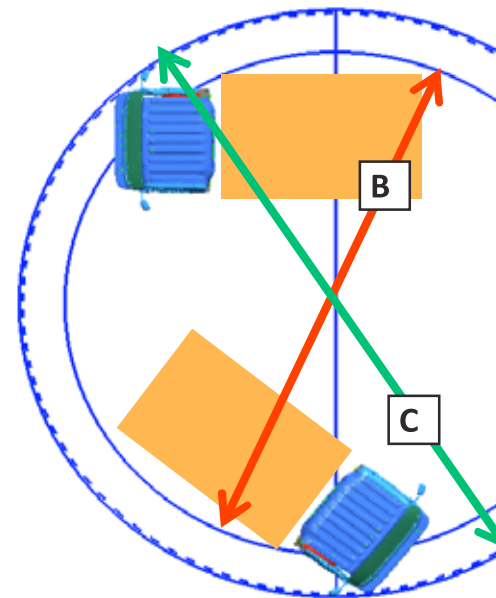
Dimensions in inches

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 <i>curb to curb</i>	C <i>(ft. wall to wall (ft.))</i>
109.0	32.8	38.7
132.0	40.0	44.9
150.0	45.3	50.2
176.0	52.5	58.1

2018 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

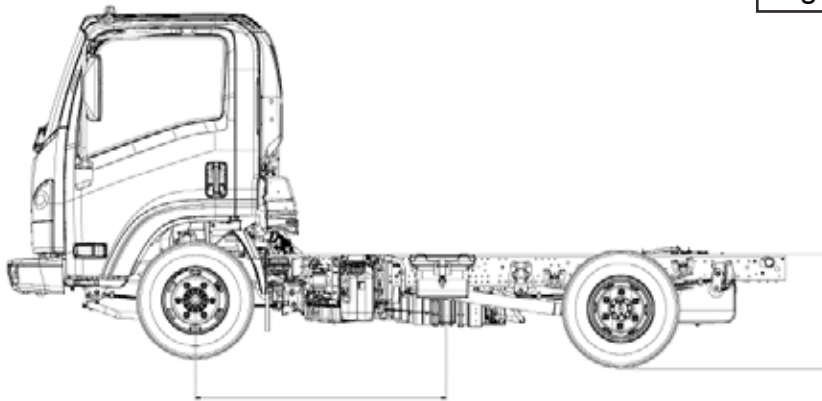


Figure 11.16.2

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

2018 Chevrolet Low Cab Forward

Front Axle Chart

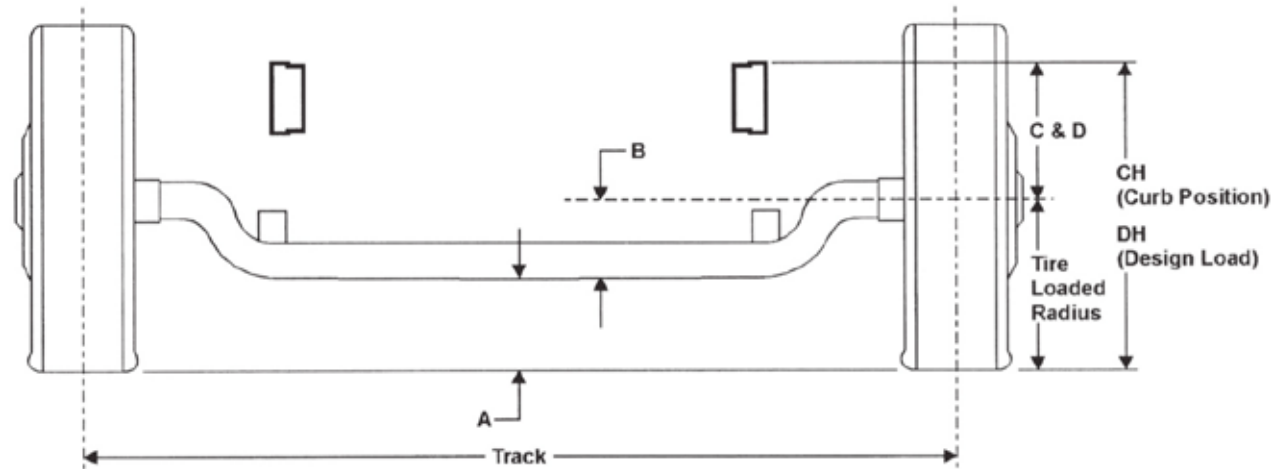


Figure 11.17.1

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

2018 Chevrolet Low Cab Forward

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Rear Axle Chart

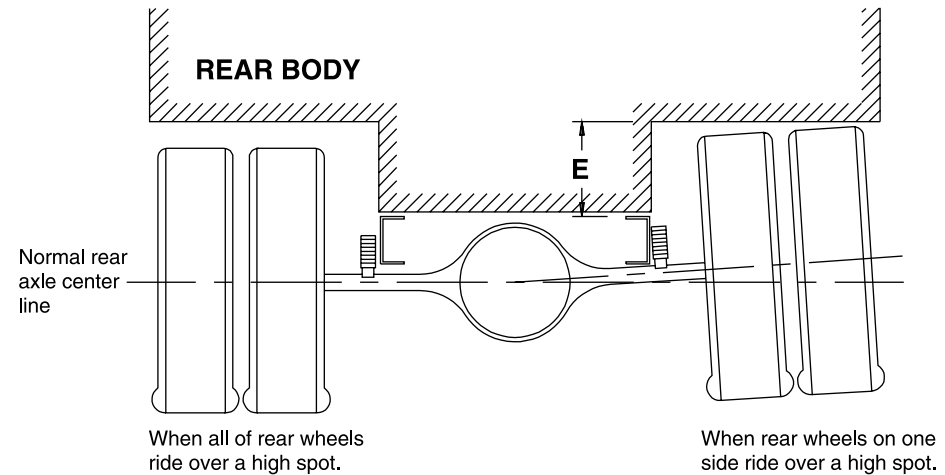
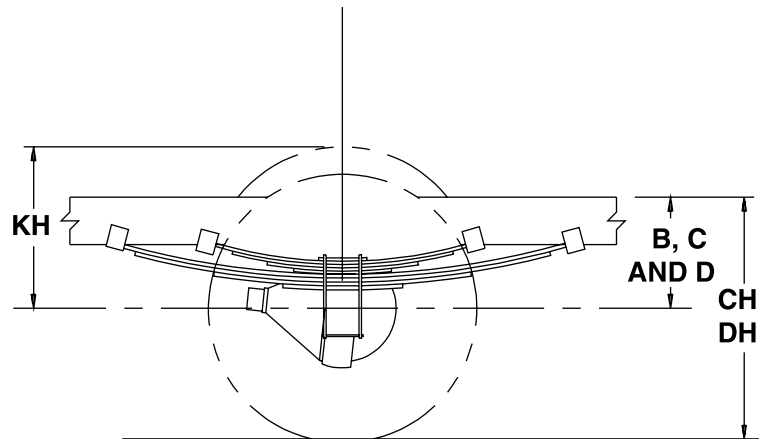
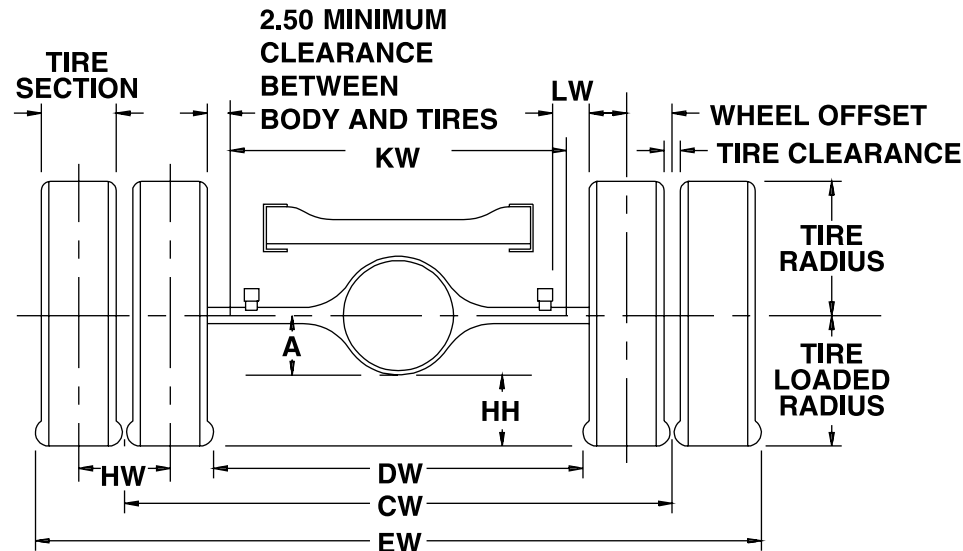


Figure 11.18.1

Dimensions in inches

2018 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

2018 Chevrolet Low Cab Forward

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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

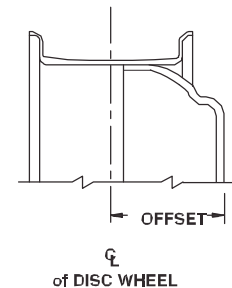
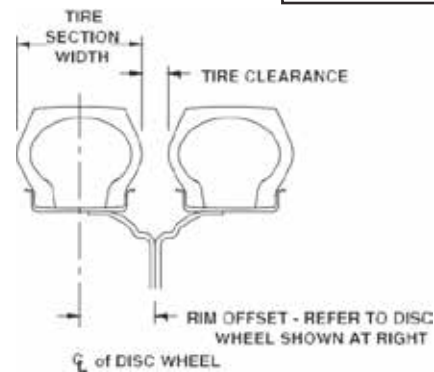
Figure 11.20.2

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

2018 Chevrolet Low Cab Forward

4500XD Suspension Deflection Charts

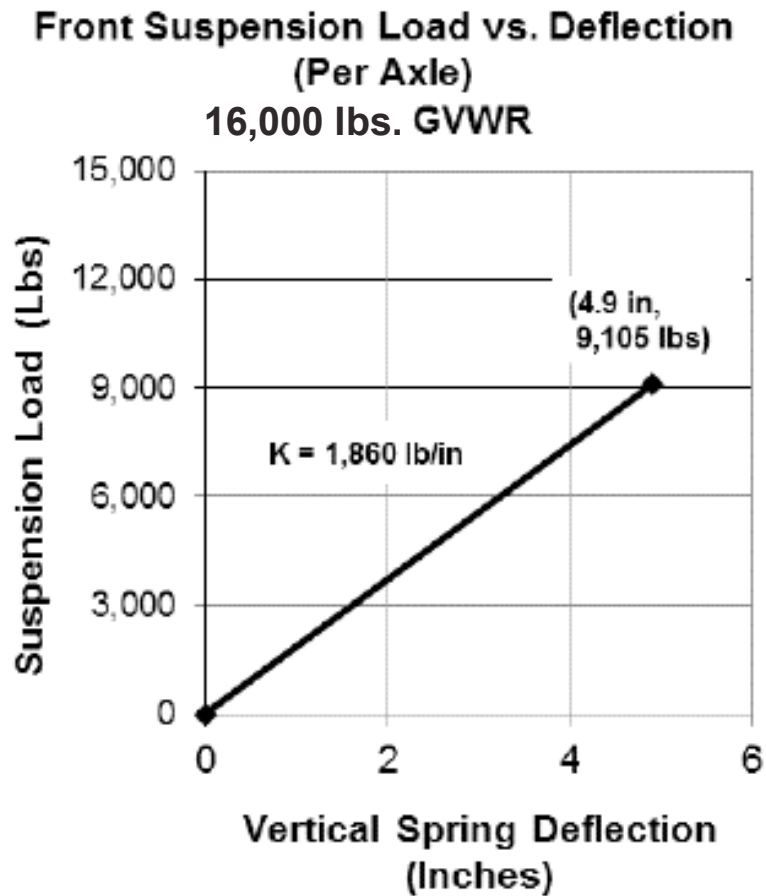


Figure 11.21.1

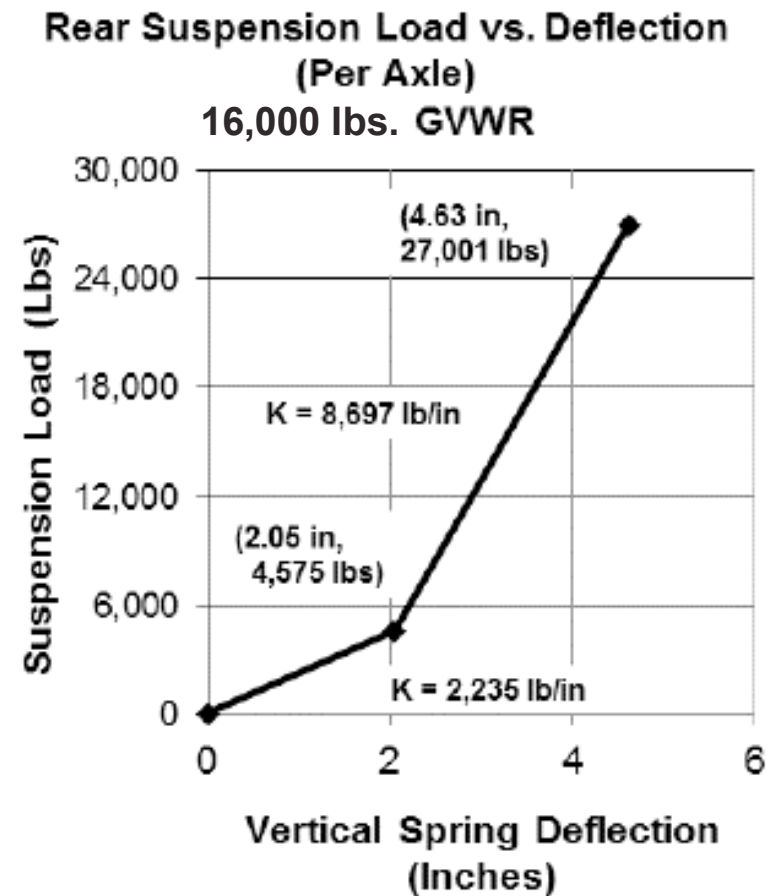
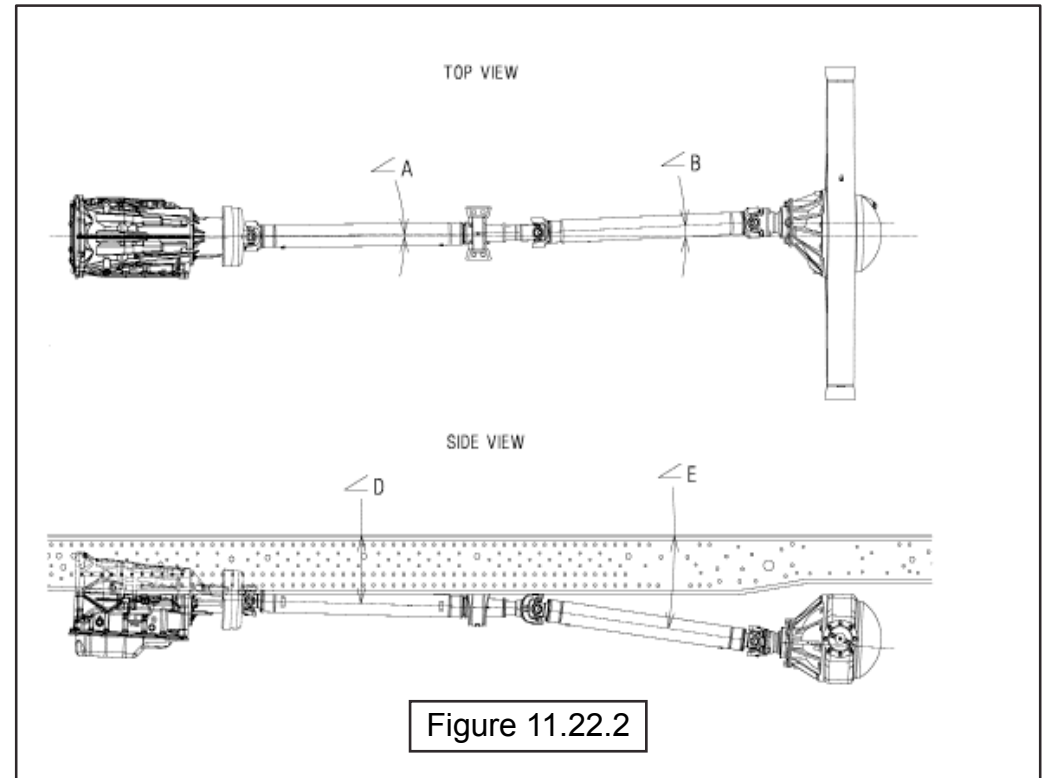
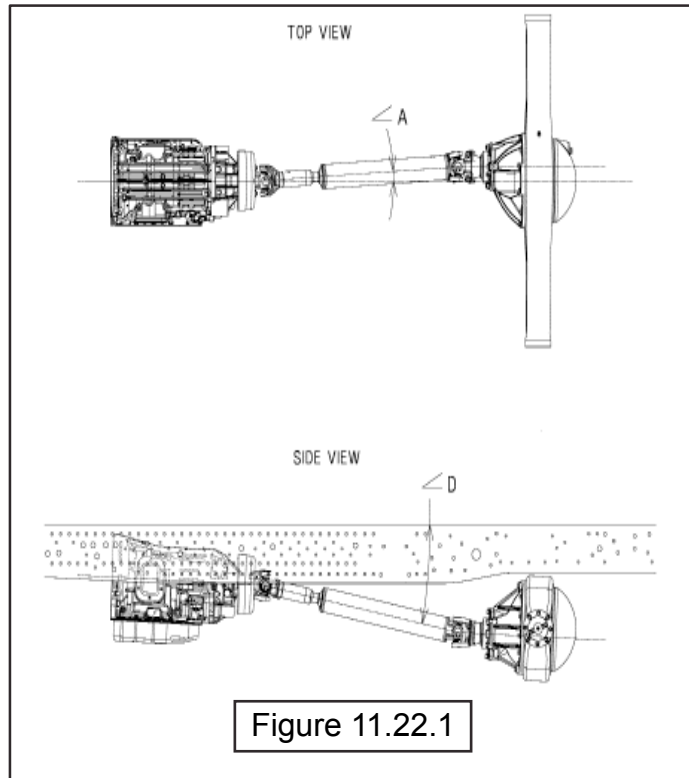


Figure 11.21.2

2018 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.

2018 Chevrolet Low Cab Forward

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

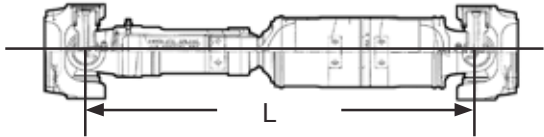
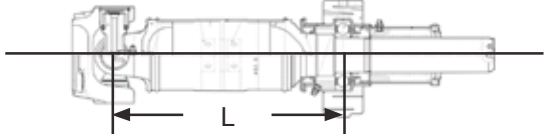
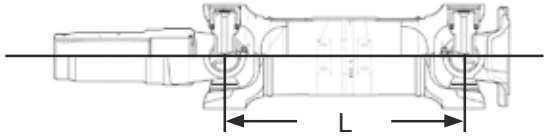
Type	Description	Illustration
Type A	1st shaft in 1-piece driveline	
Type B	1st shaft in 2-piece driveline	
Type C	2nd shaft in 2-piece driveline	

Figure 11.23.2

Dimensions in inches

2018 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

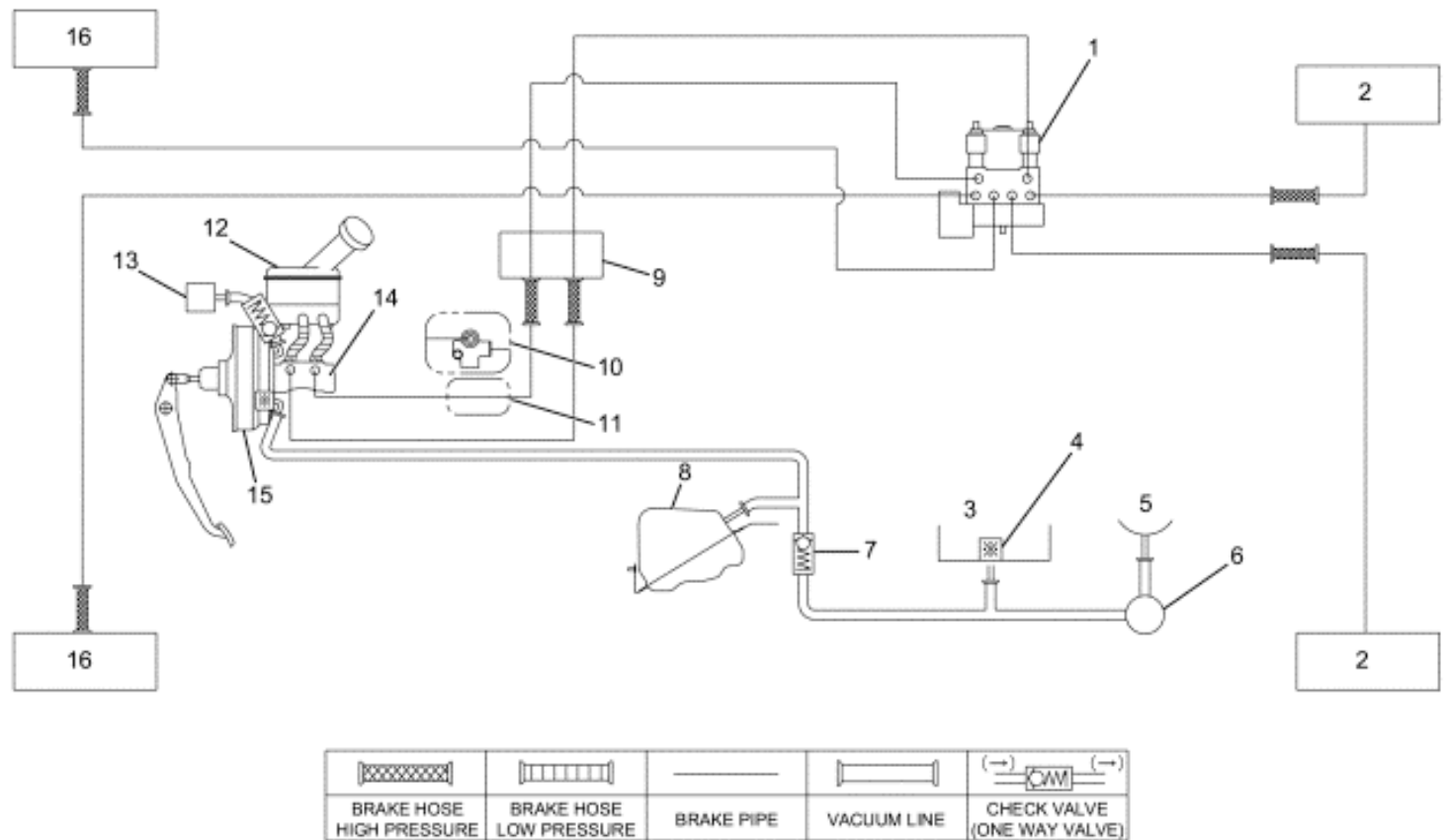


Figure 11.24.1

LNWC5AMF000201

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PTO Location, Drive Gear and Opening Information

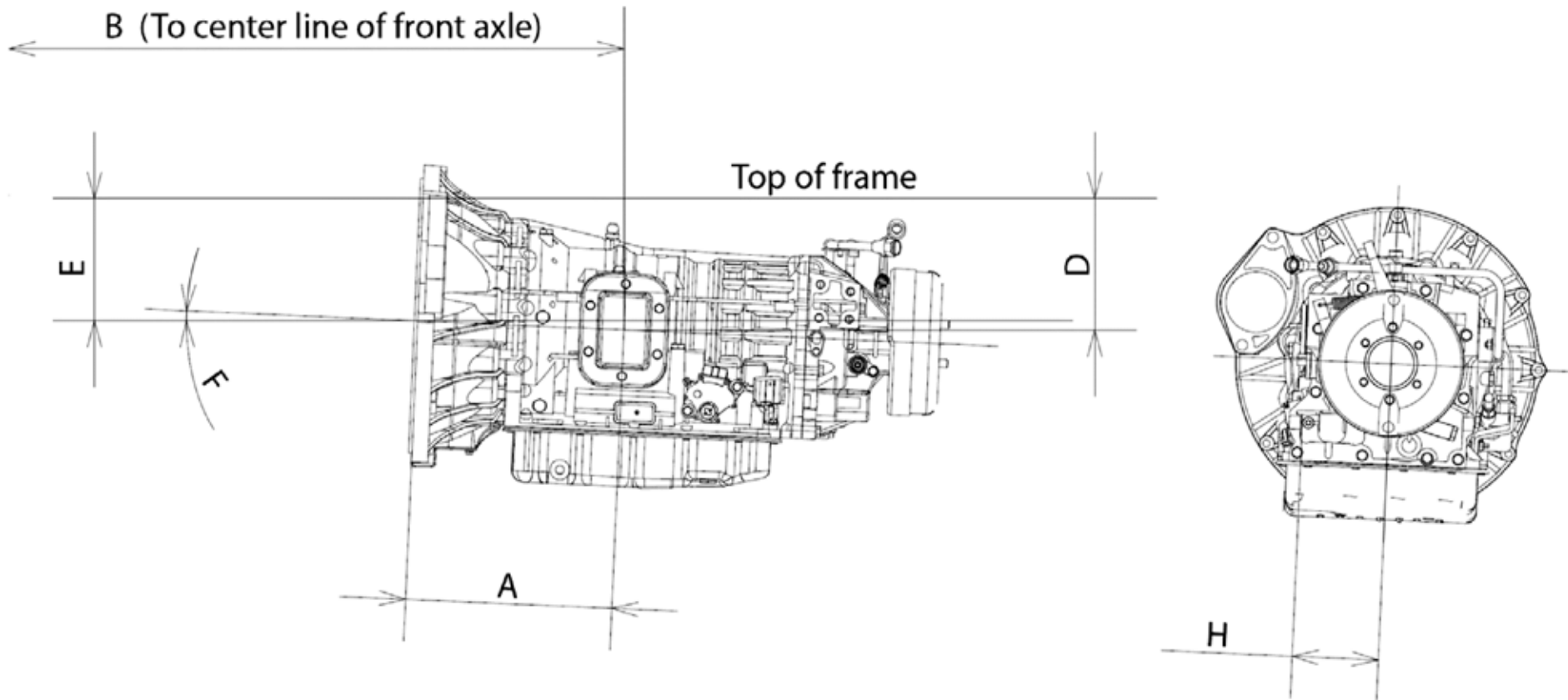


Figure 11.25.1

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: 11/30/2017

2018 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

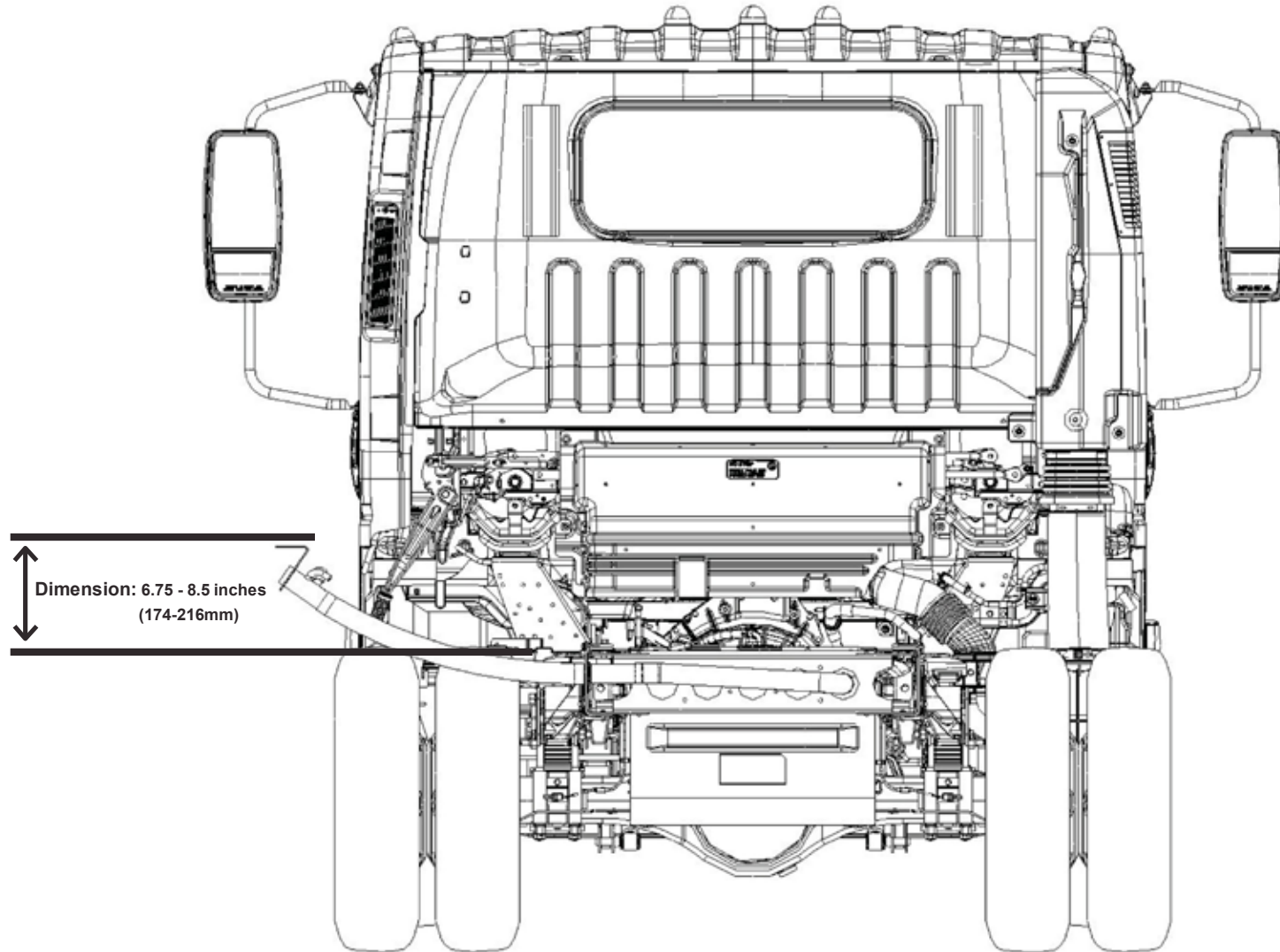


Figure 11.28.1

2018 Chevrolet Low Cab Forward

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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 (1,514 mm)

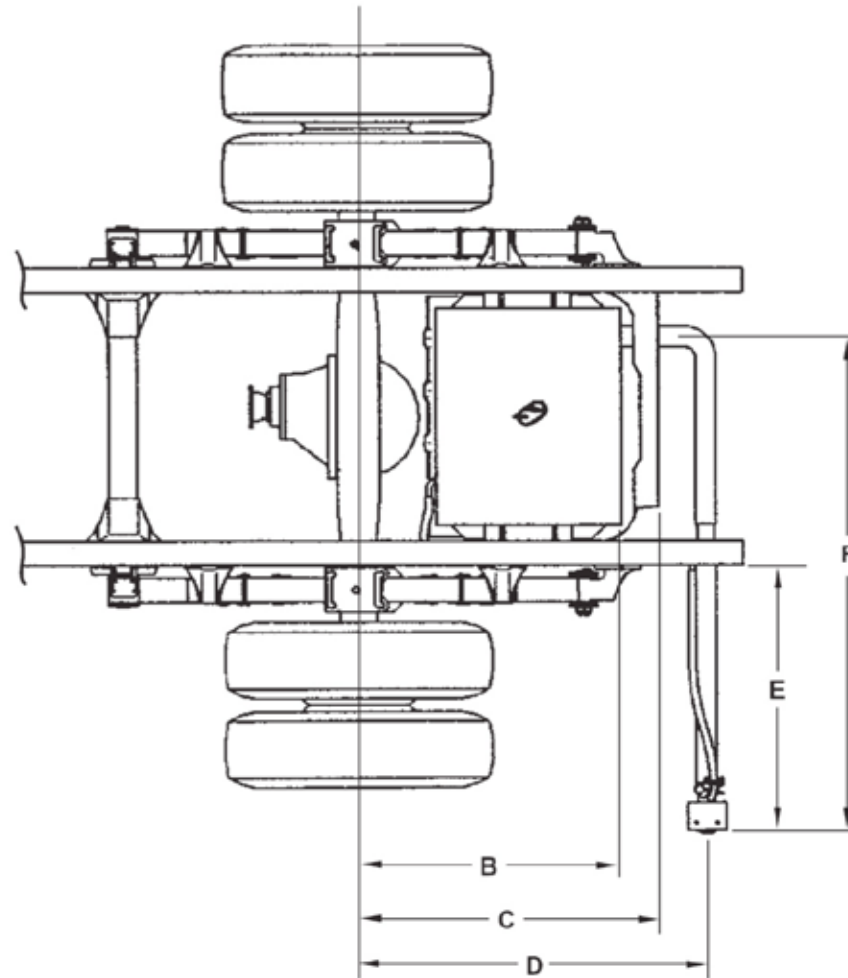


Figure 11.29.1

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

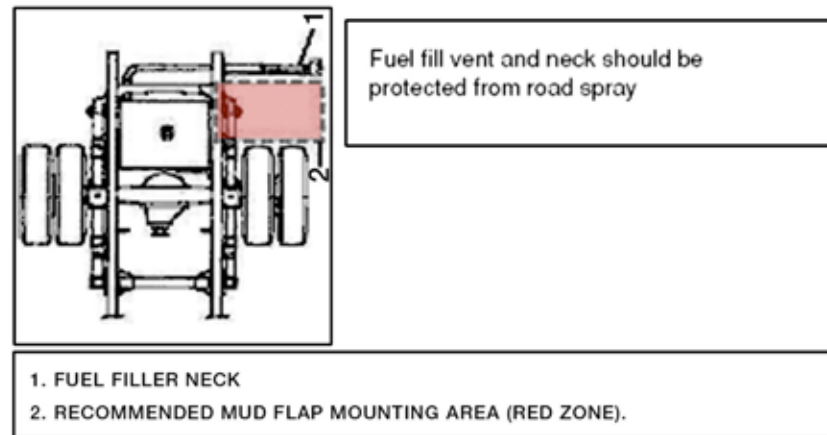
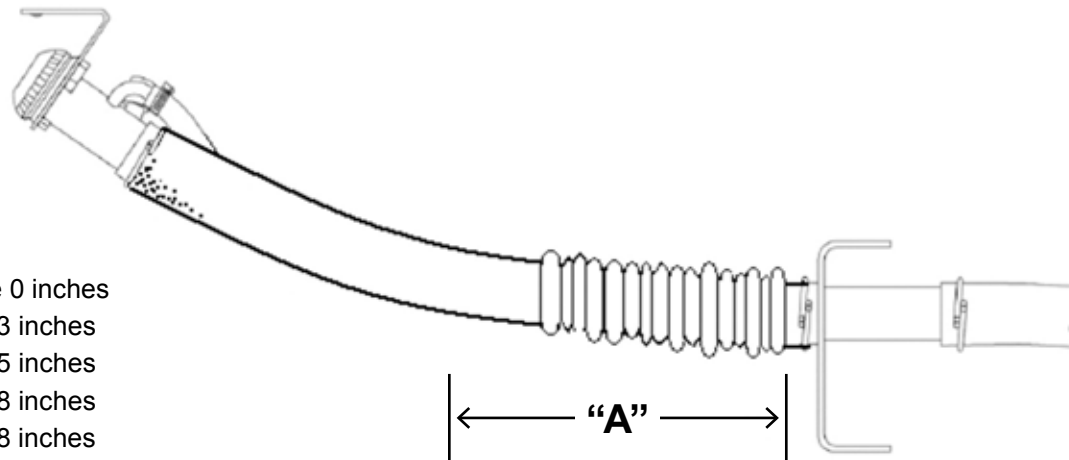


Figure 11.30.1

“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

2018 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

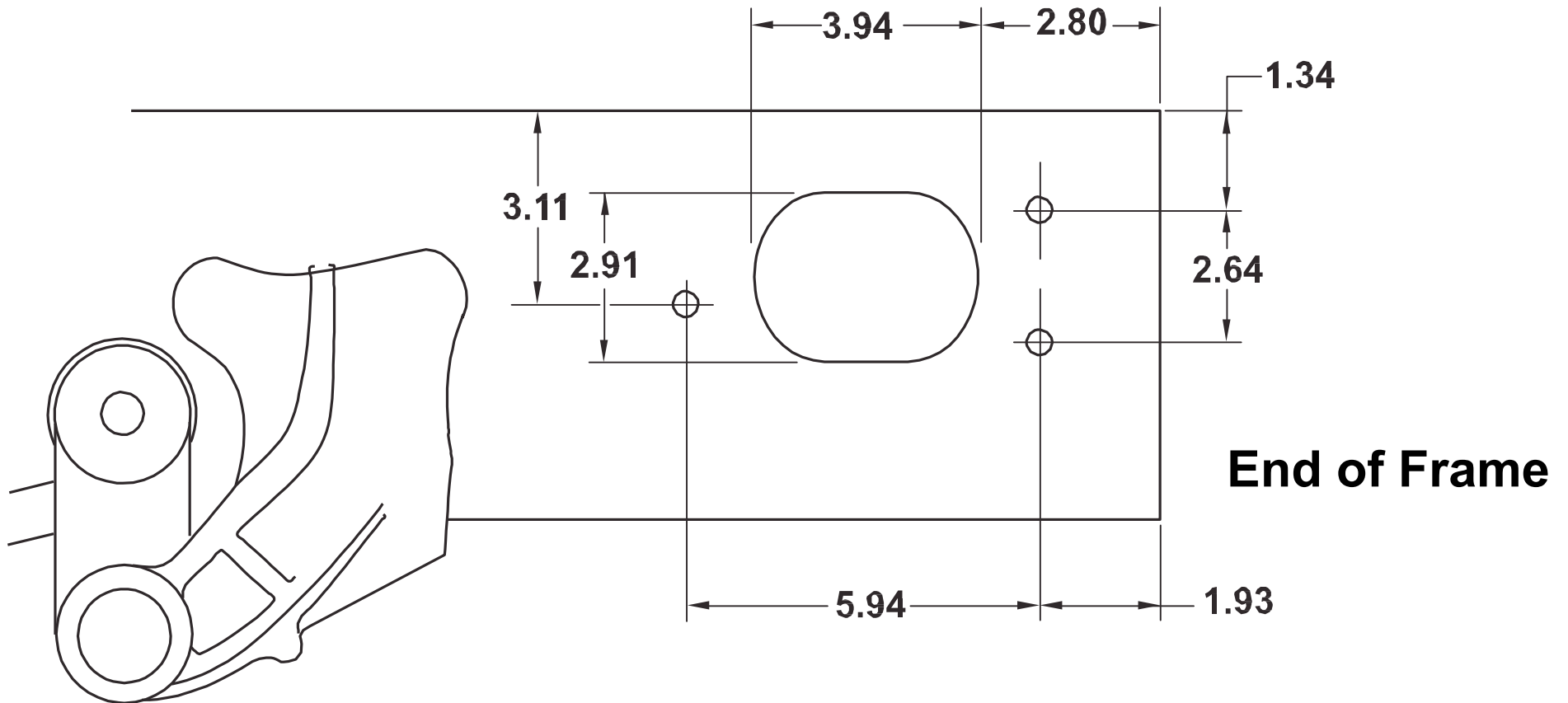


Figure 11.32.1

Dimensions in inches

2018 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**.

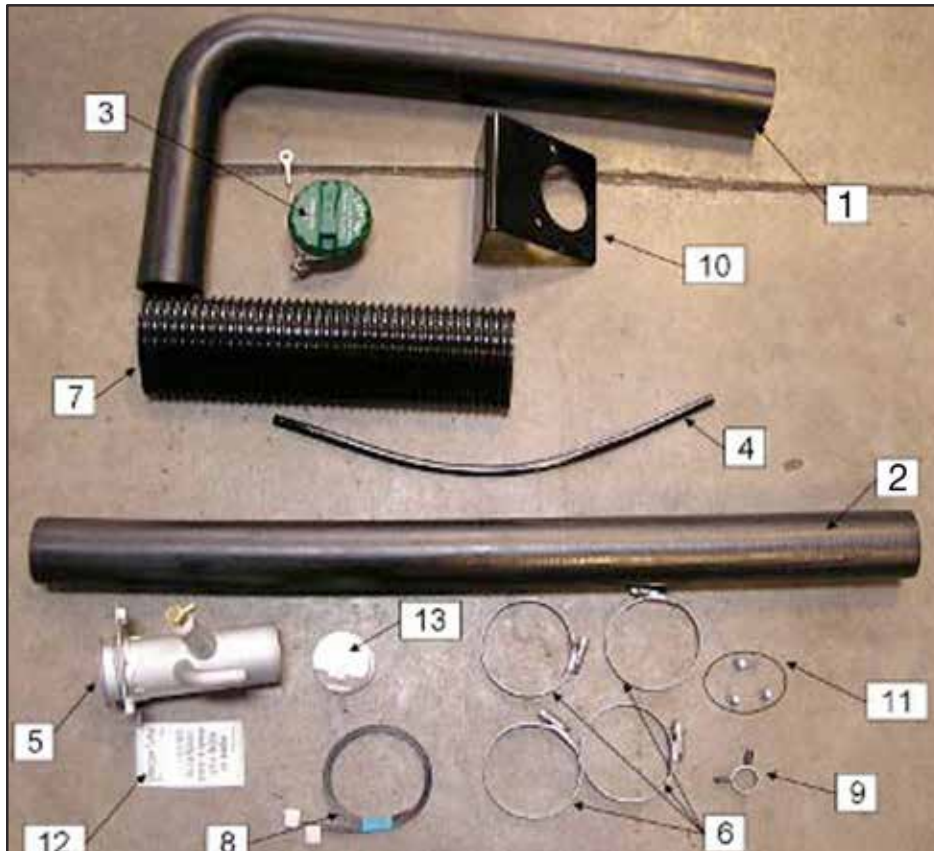


Figure 11.33.1

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

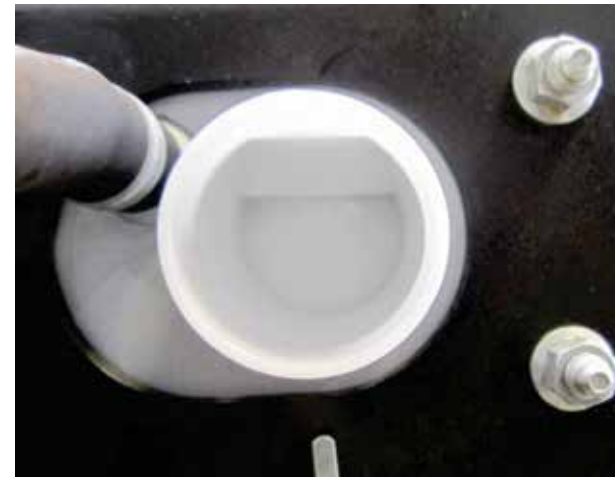


Figure 11.34.2



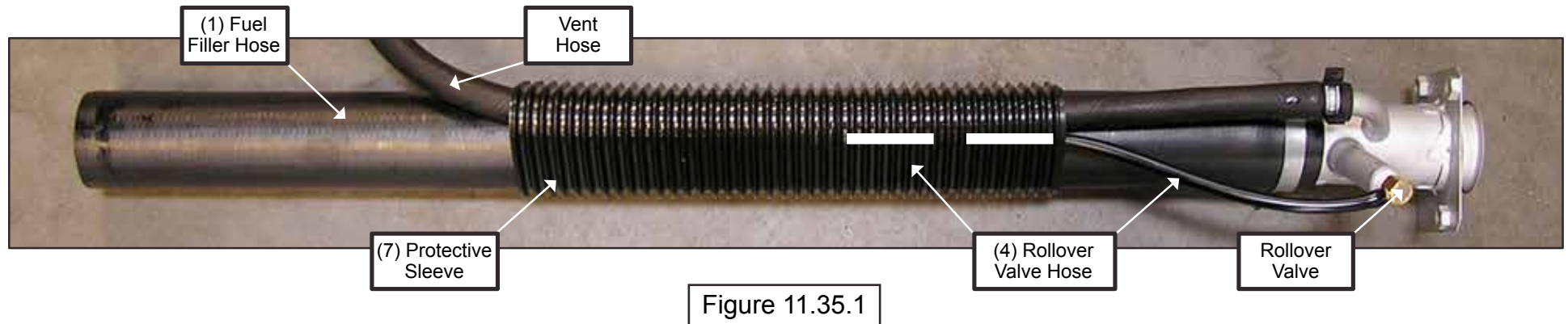
The fuel filler hose should be installed flush against the tank. The clamp should be installed between 1/16" and 3/8" from the tank. This is shown in **Figure 11.34.3** to the right.



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.

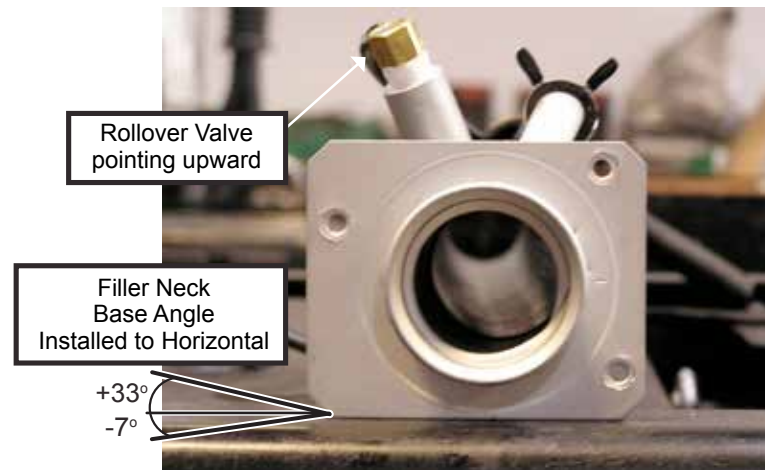


Figure 11.35.2

2018 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.	

2018 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

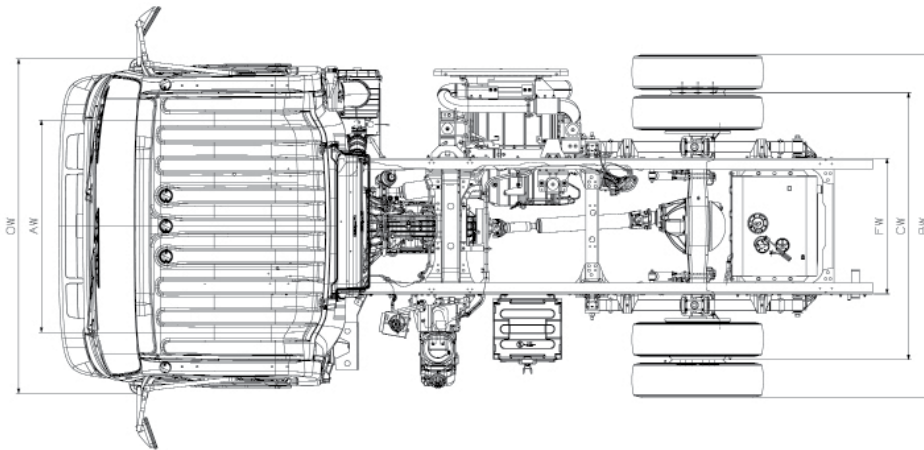


Figure 12.2.1

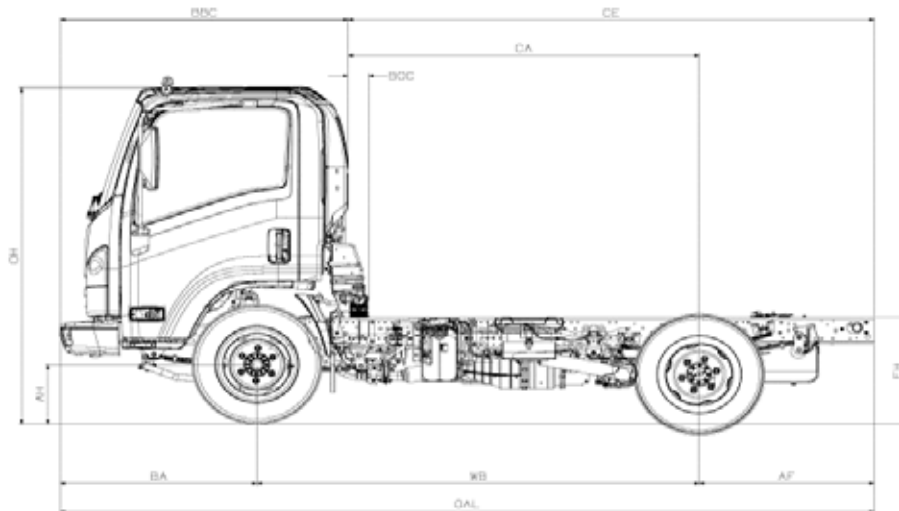


Figure 12.2.2

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		

2018 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

2018 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

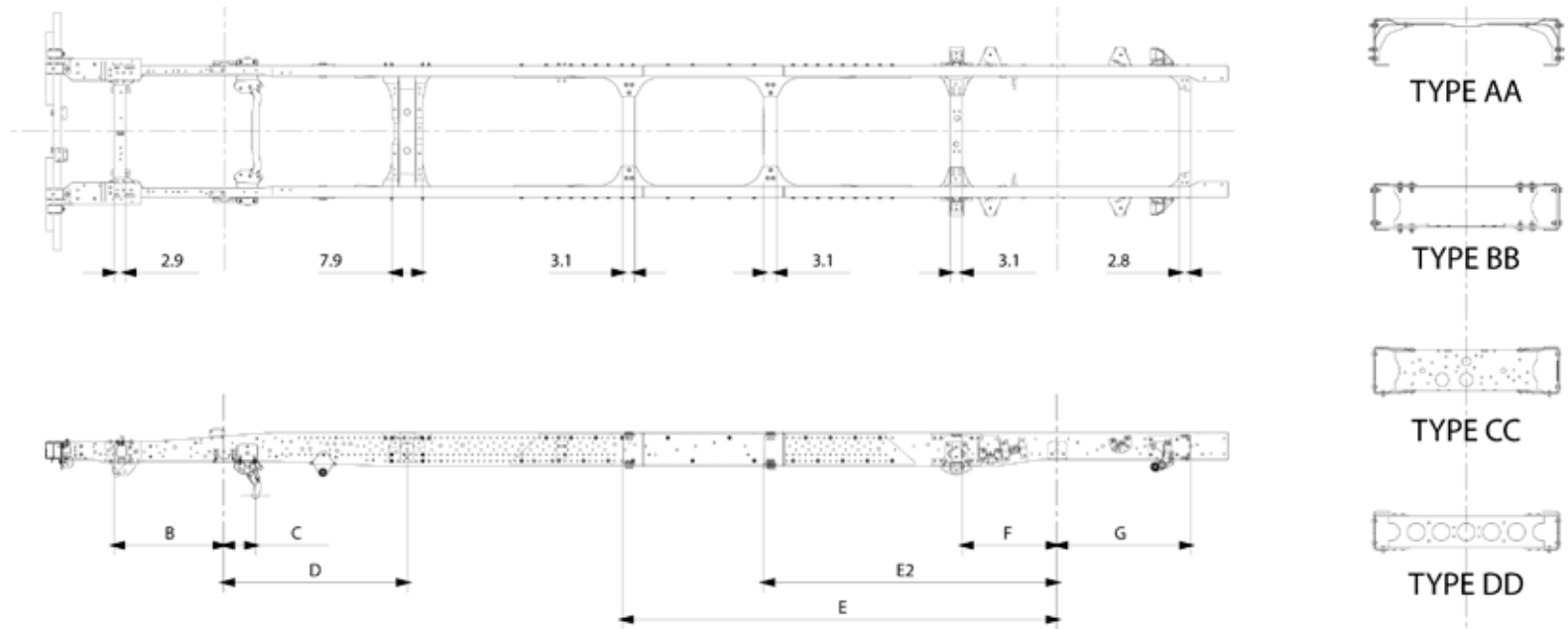


Figure 12.4.1

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

2018 Chevrolet Low Cab Forward

Frame Chart

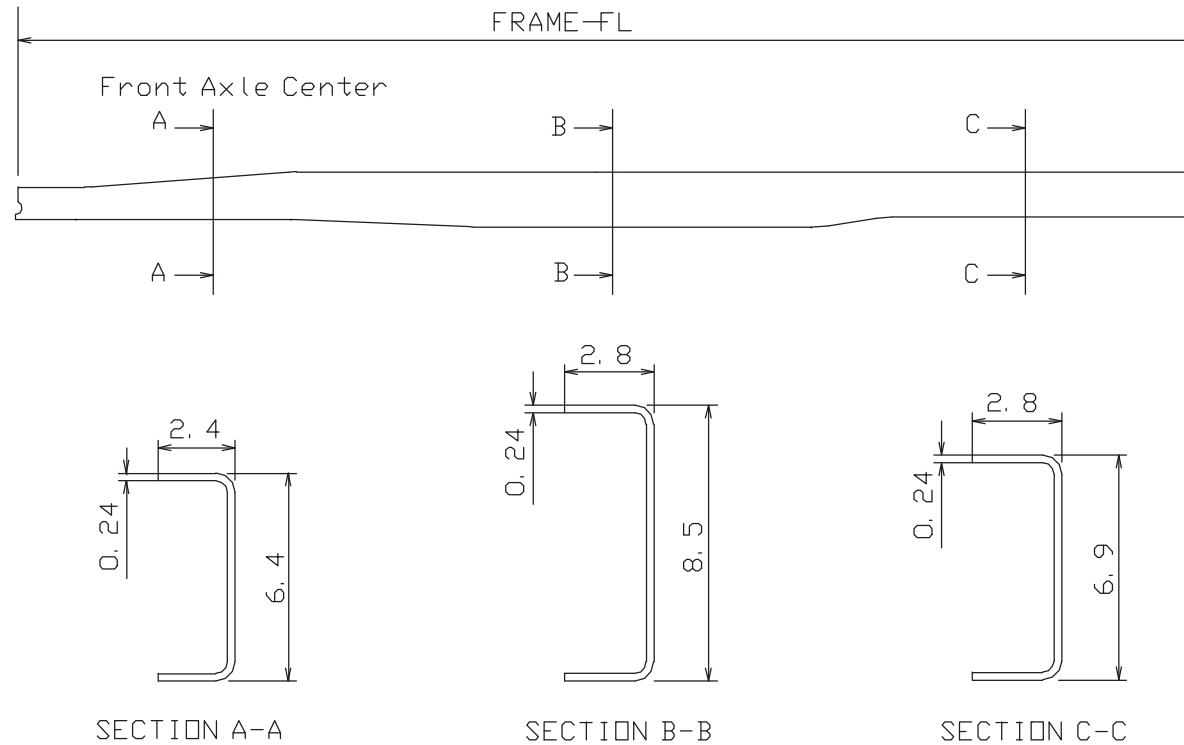


Figure 12.5.1

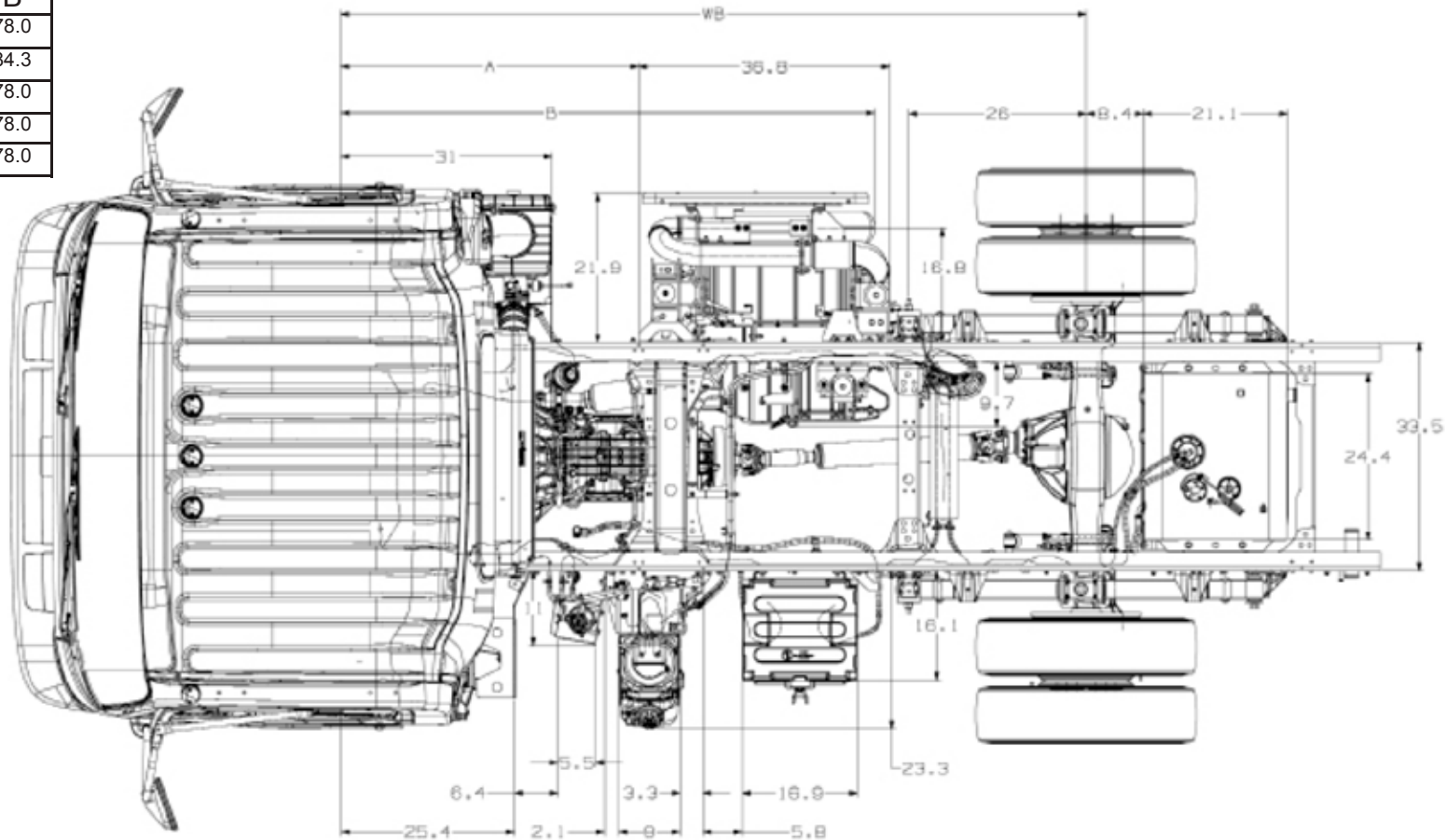
Wheelbase	Frame FL	Frame Thickness
109.0	182.5	0.24
132.5	206.1	0.24
150.0	223.8	0.24
176.0	249.8	0.24
200.0	273.8	0.24

Figure 12.5.2

Note: Dimensions in inches

PAGE **12.6**

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



Note: Dimensions in inches

2018 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

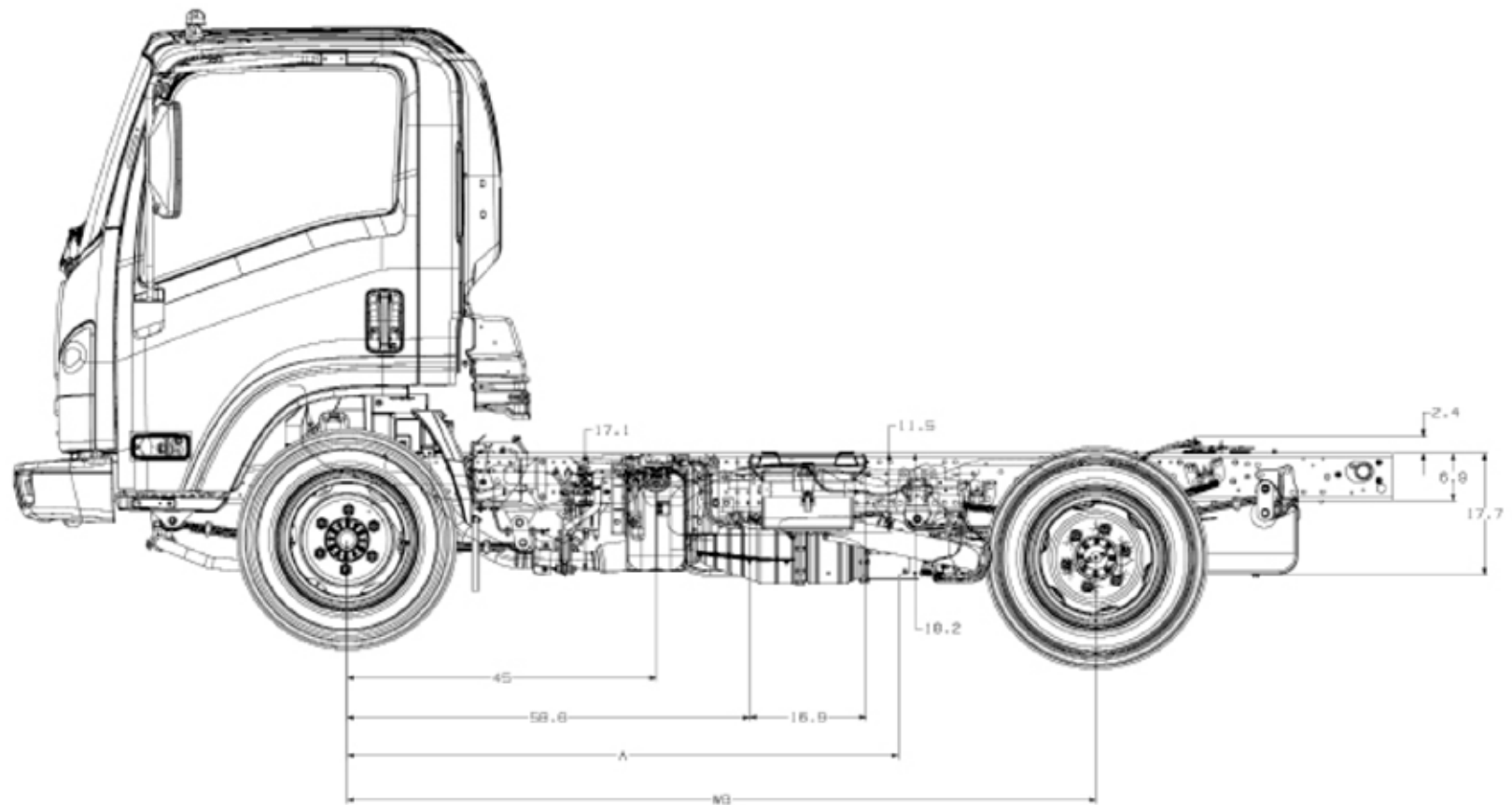


Figure 12.7.1

Note: Dimensions in inches

2018 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

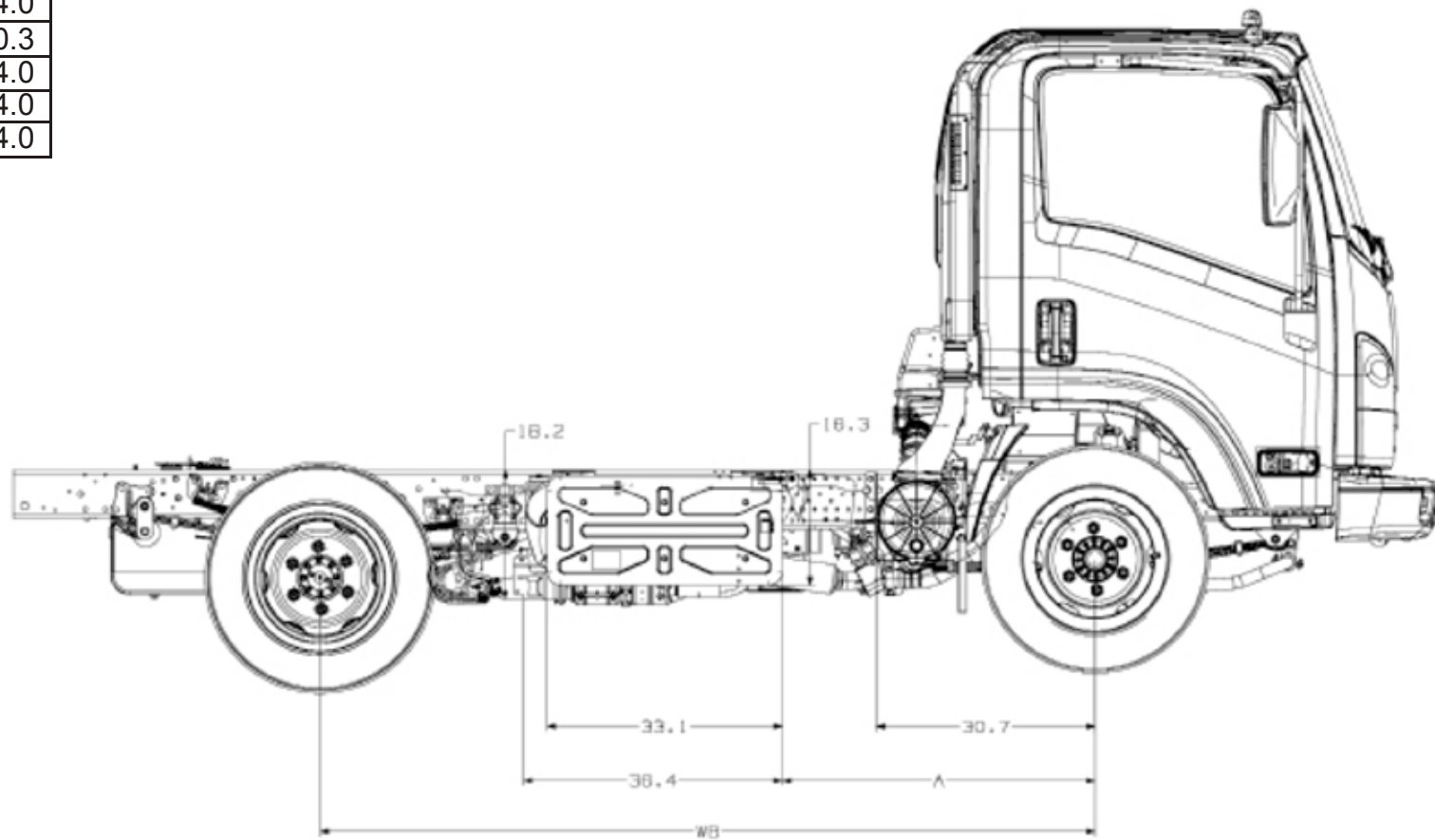


Figure 12.8.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

SCR / DPF 4HK1-TC

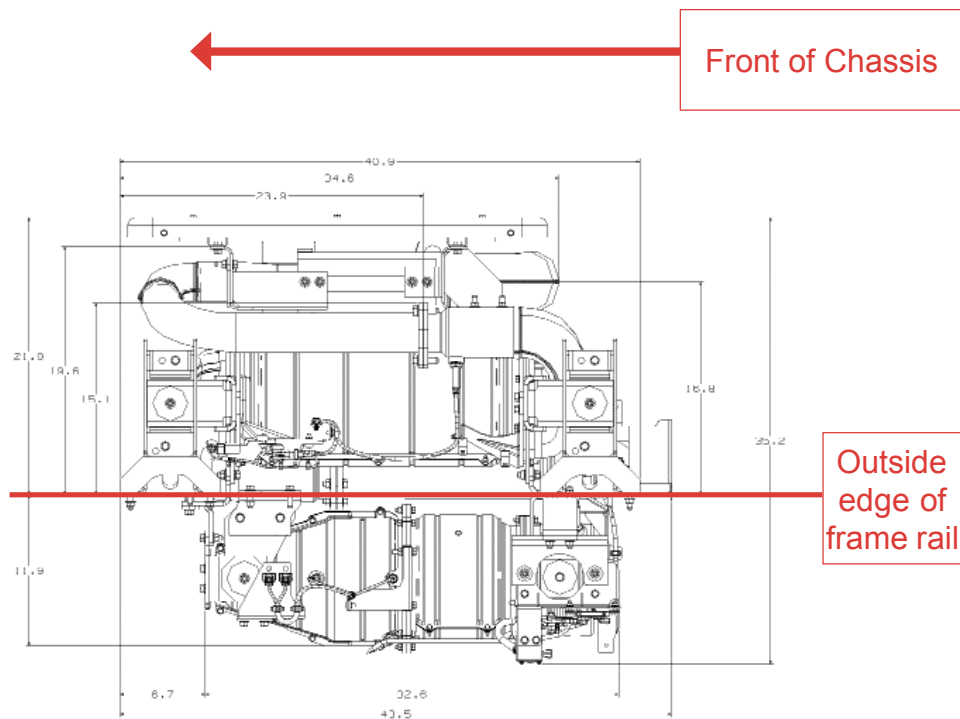


Figure 12.9.1

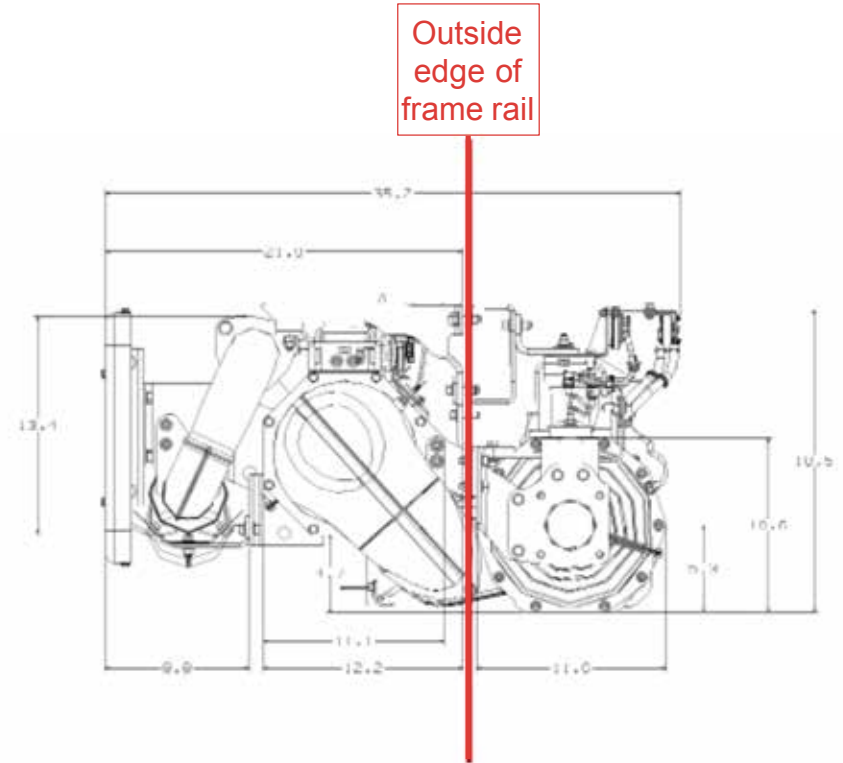


Figure 12.9.2

Note: Dimensions in inches

2018 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 150 Wheelbase

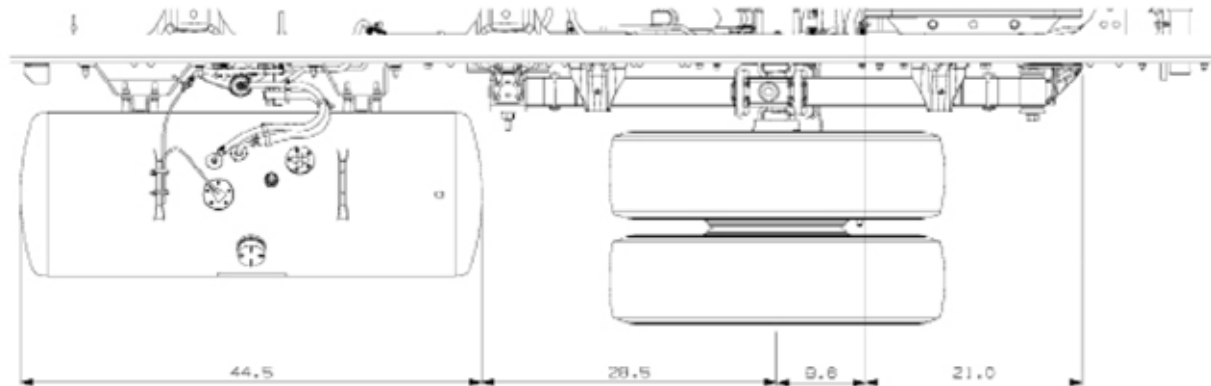


Figure 12.10.1

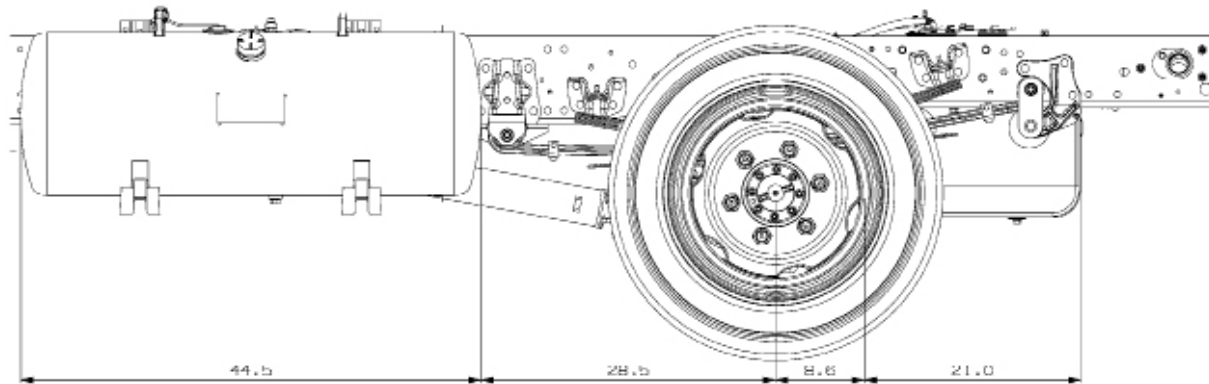


Figure 12.10.2

Note: Dimensions in inches

2018 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

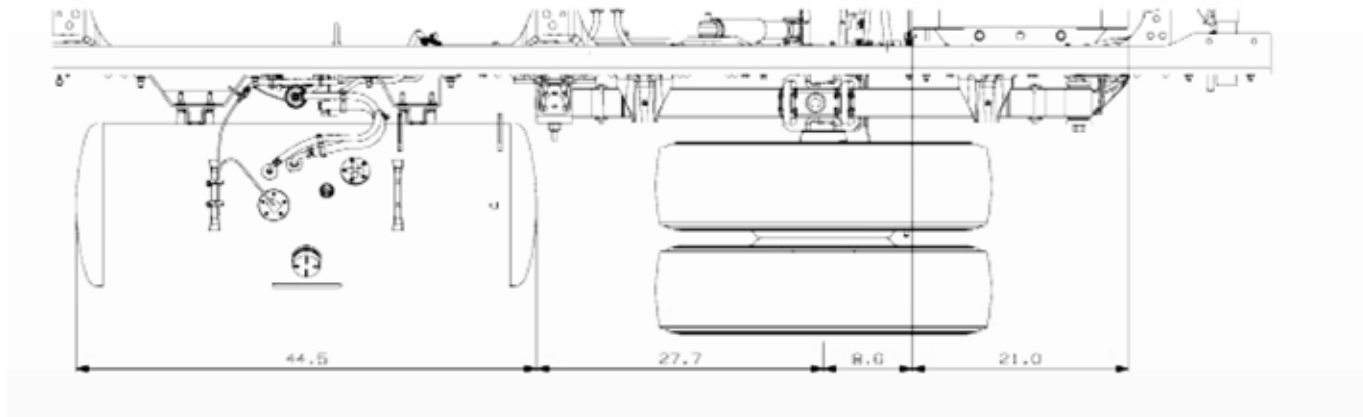


Figure 12.11.1

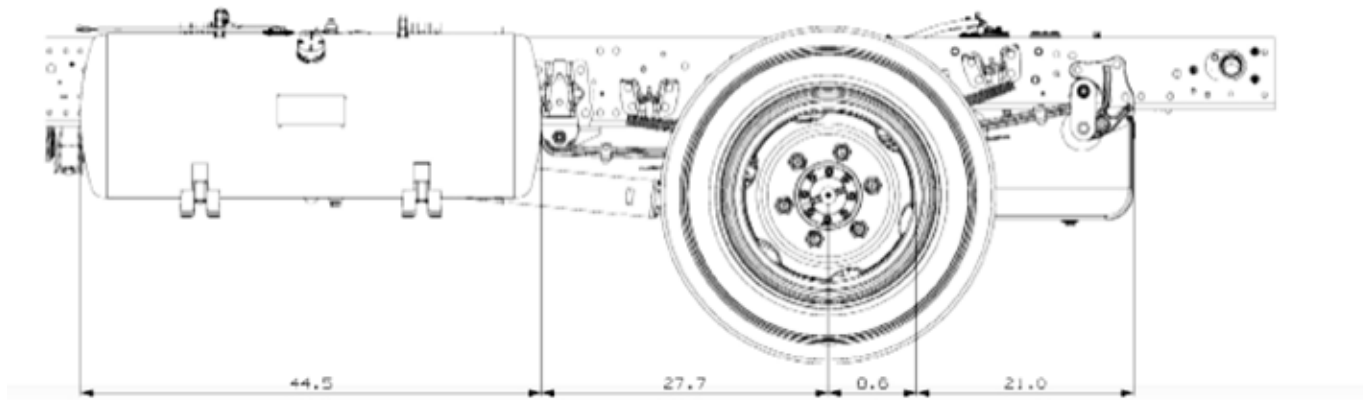


Figure 12.11.2

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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

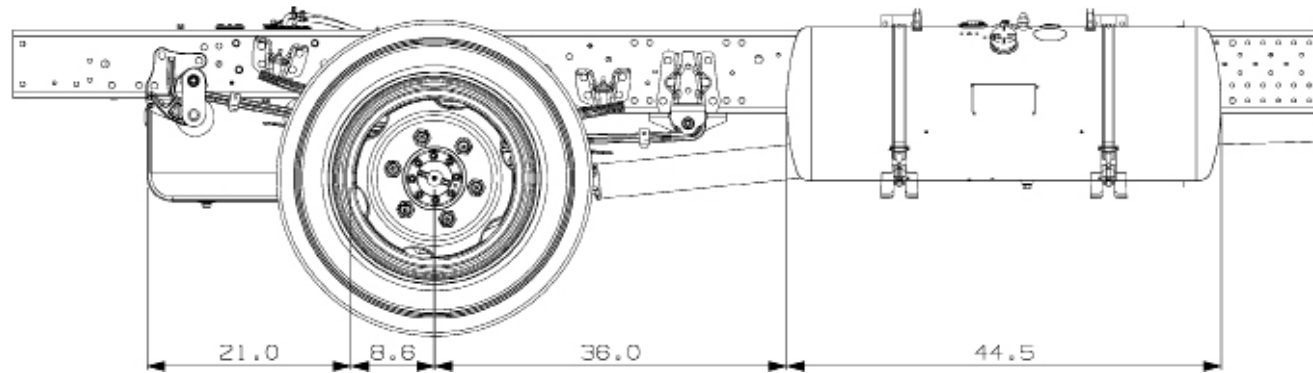


Figure 12.12.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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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)

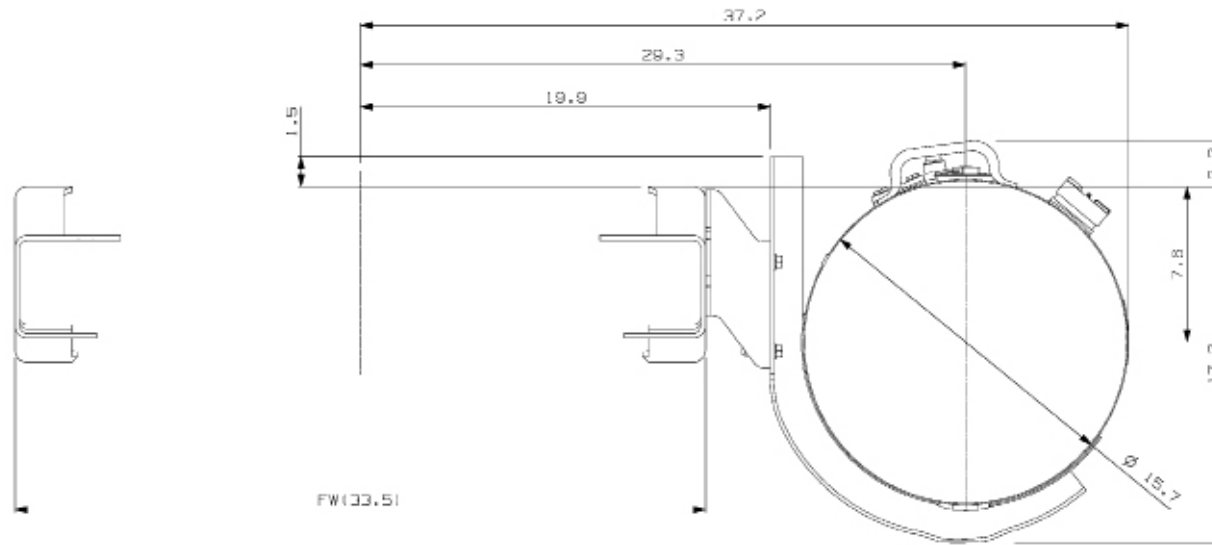


Figure 12.13.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

Cab Tilt

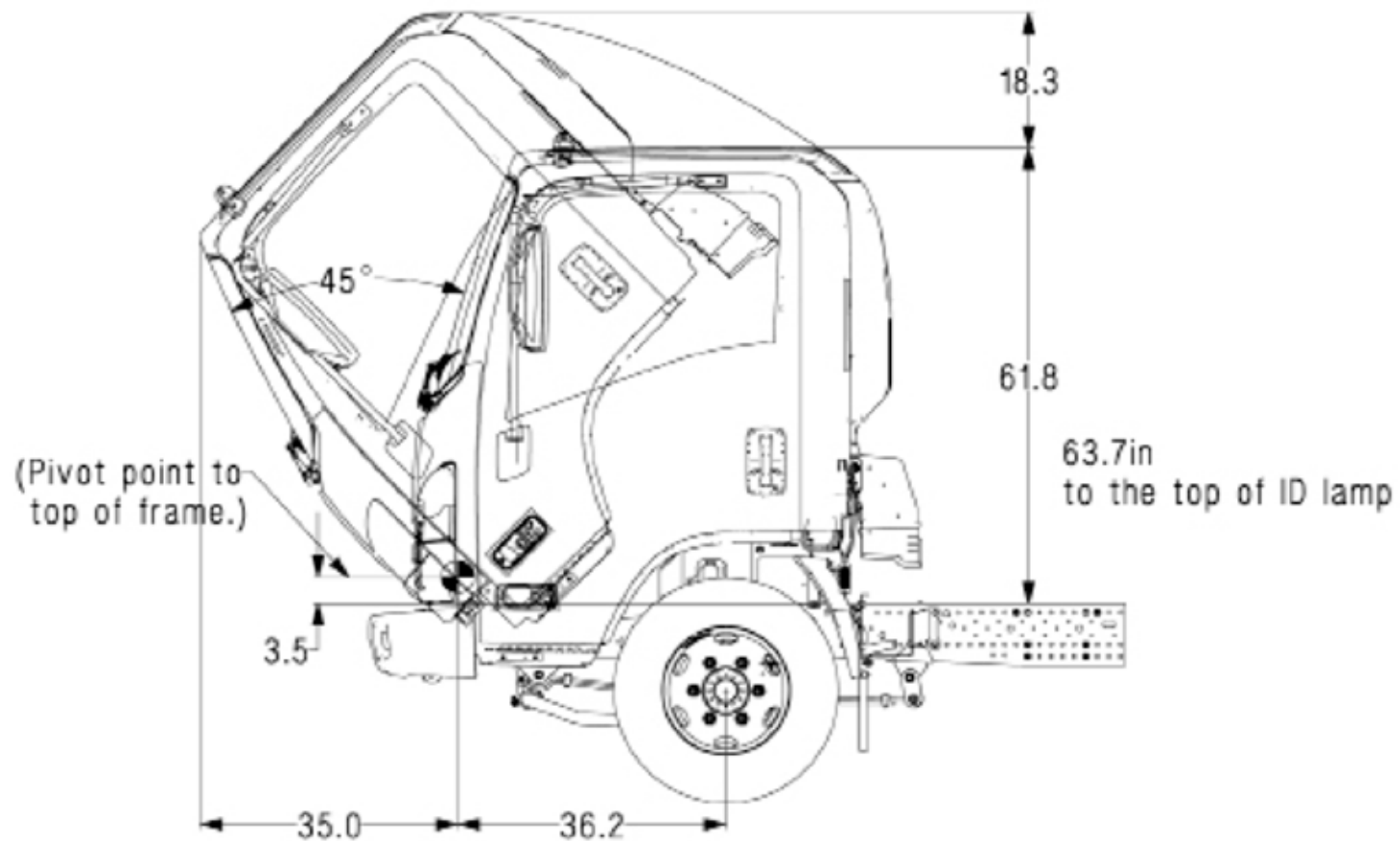


Figure 12.14.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

Turning Diameters

TURNING DIAMETERS

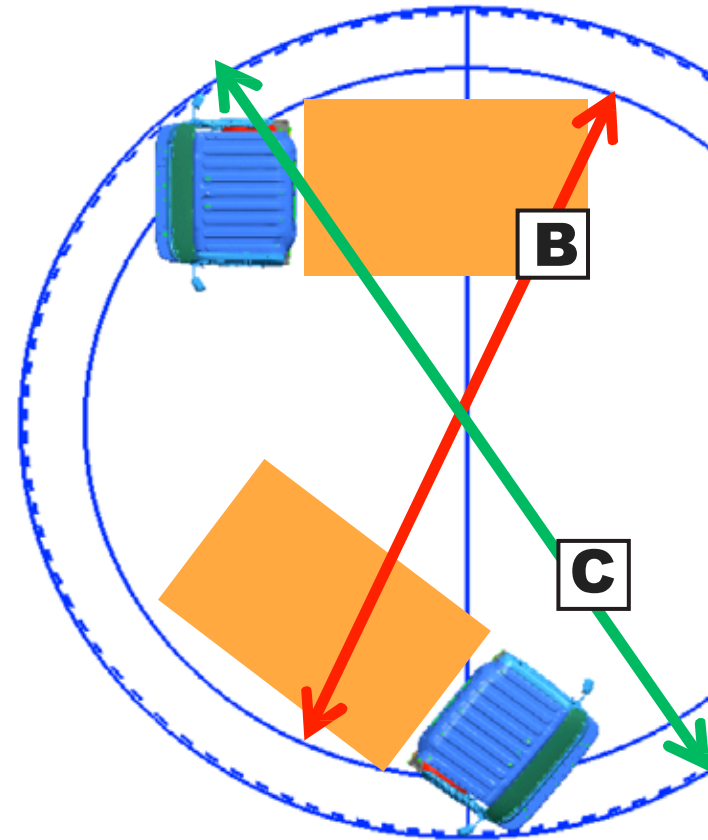
The LCF Series Diesel steering also features a 46.50 inside wheel cut angle. This, coupled with the integral power steering, makes the LCF Series Diesel an extremely maneuverable truck.

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



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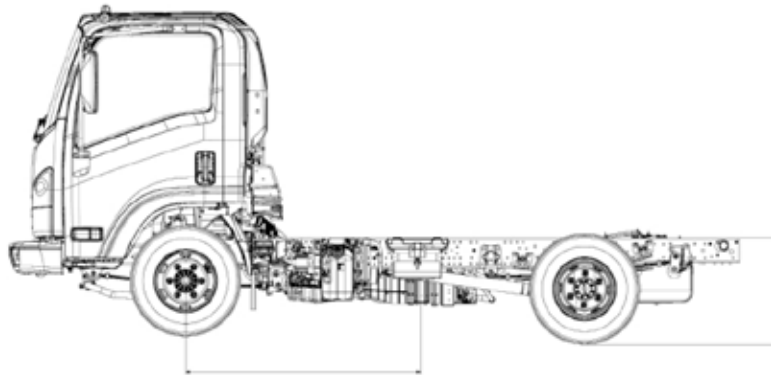
Center of Gravity

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

2018 Chevrolet Low Cab Forward

Front Axle Chart

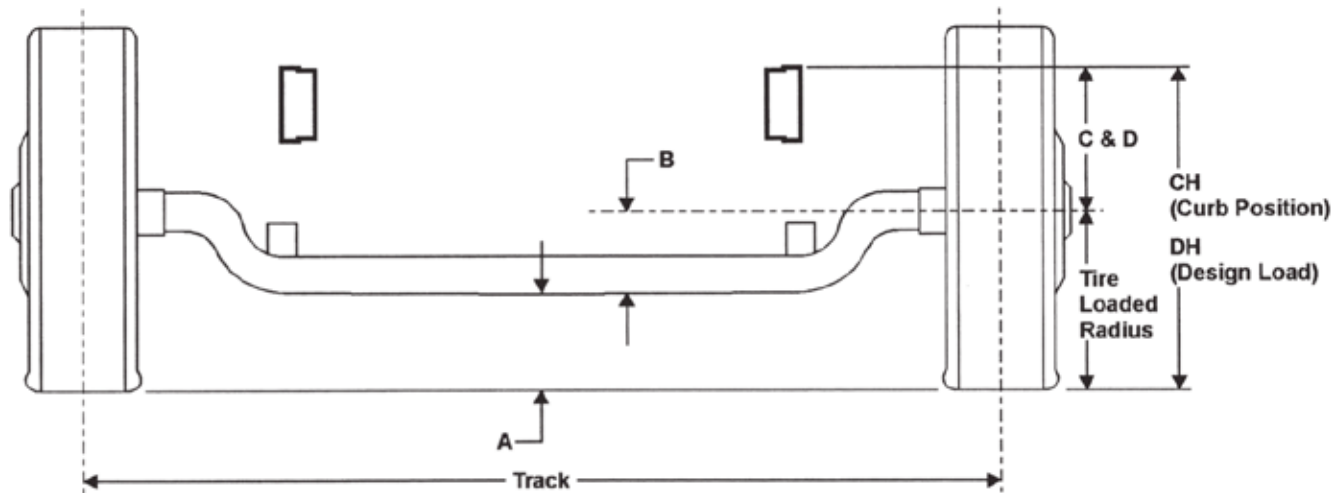


Figure 12.17.1

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

2018 Chevrolet Low Cab Forward

Rear Axle Chart

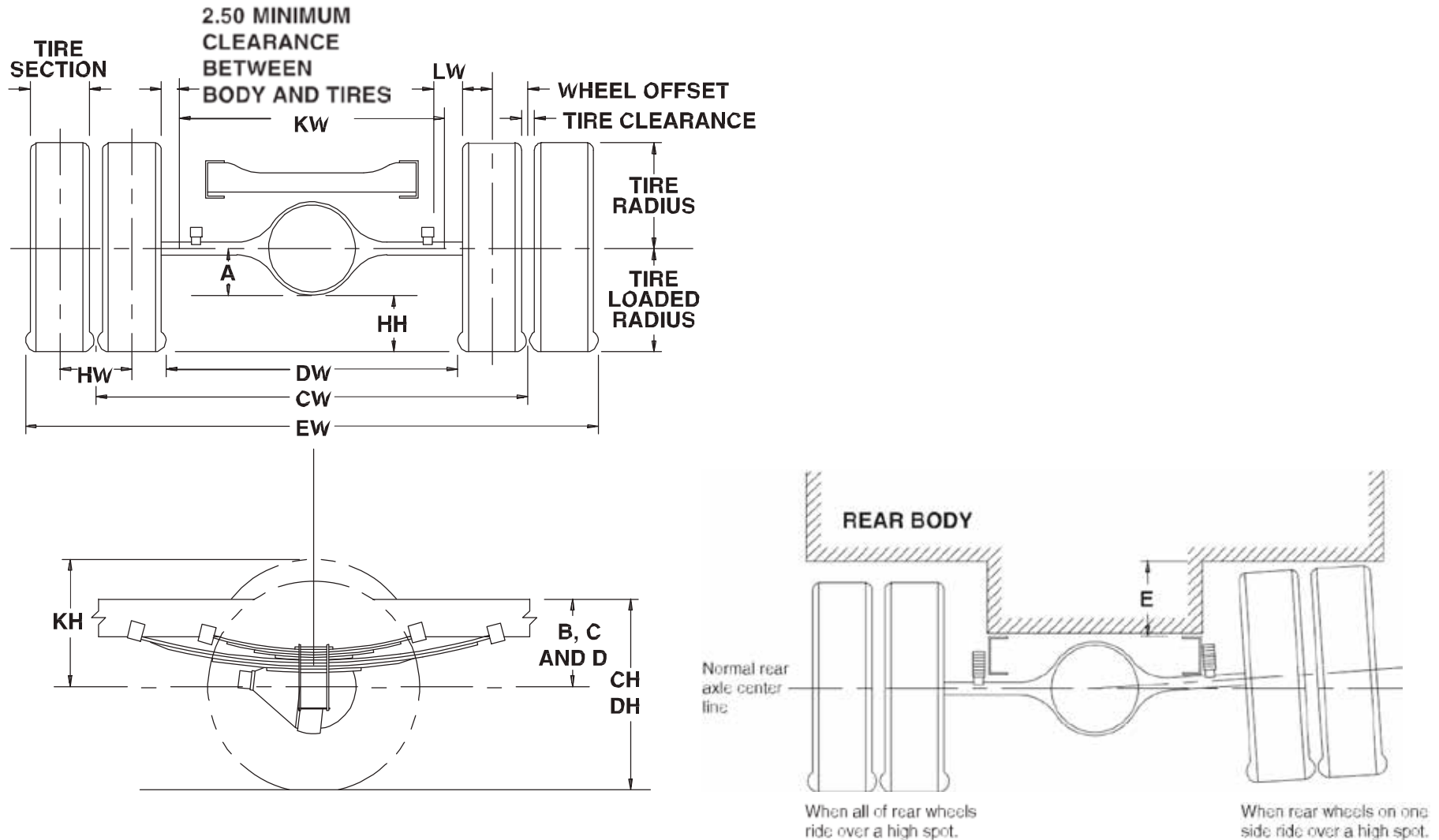


Figure 12.18.1

2018 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

2018 Chevrolet Low Cab Forward

5500HD Suspension Deflection Charts

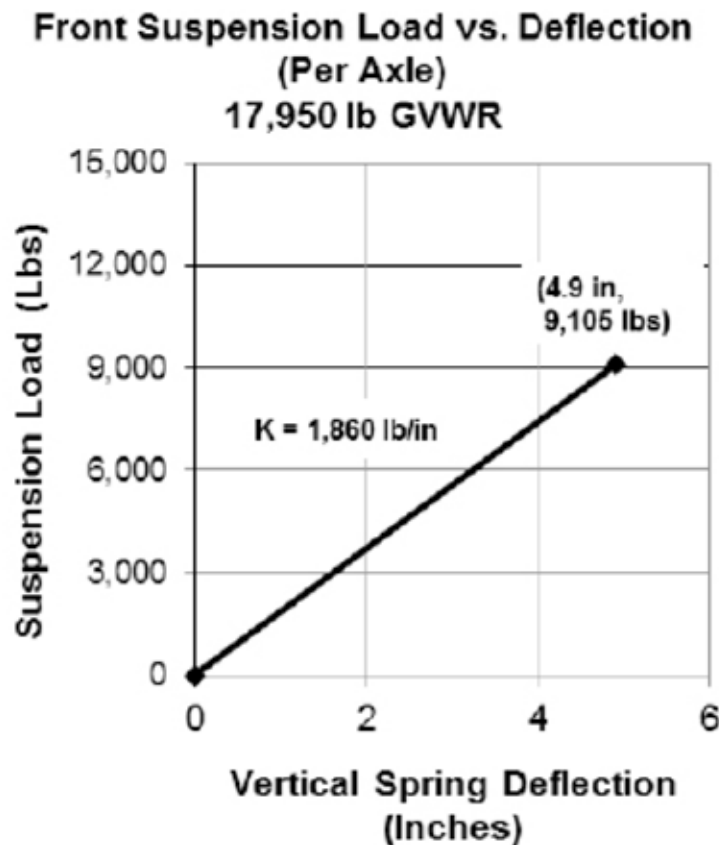


Figure 12.20.1

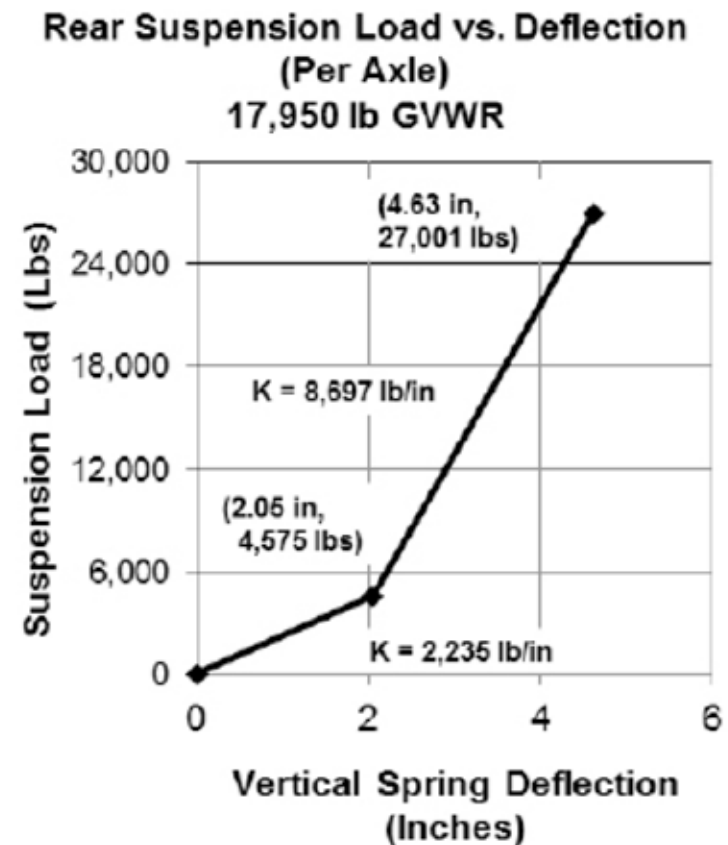


Figure 12.20.2

2018 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

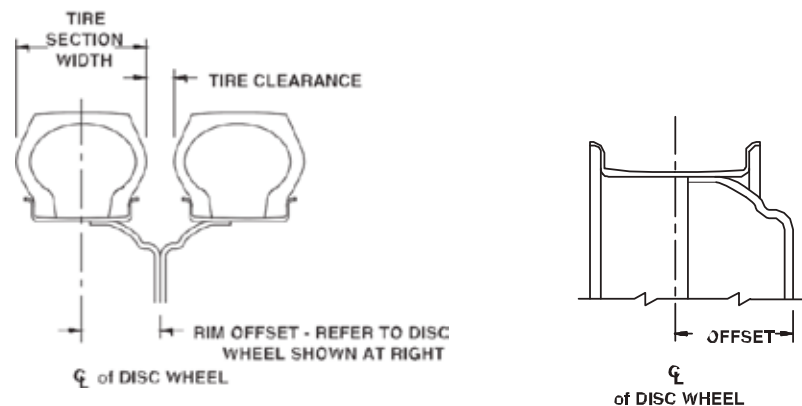


Figure 12.21.4

Note: Dimensions in inches

Revision: 11/30/2017

2018 Chevrolet Low Cab Forward

Propeller Shaft 5500HD

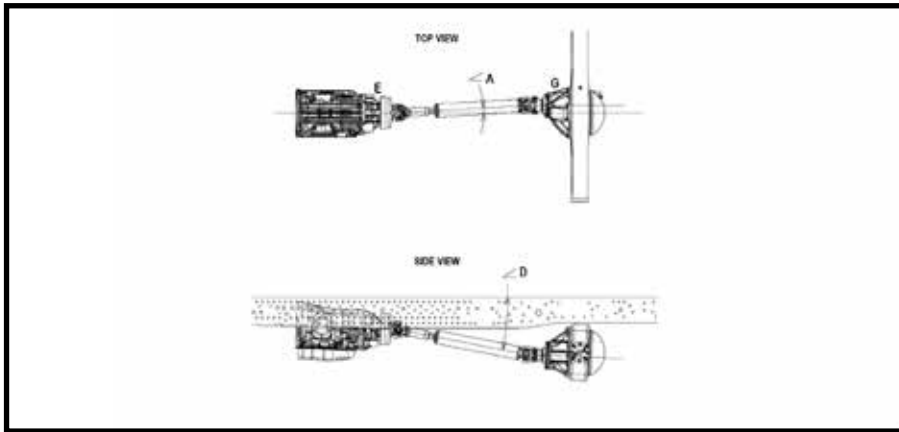


Figure 12.22.1

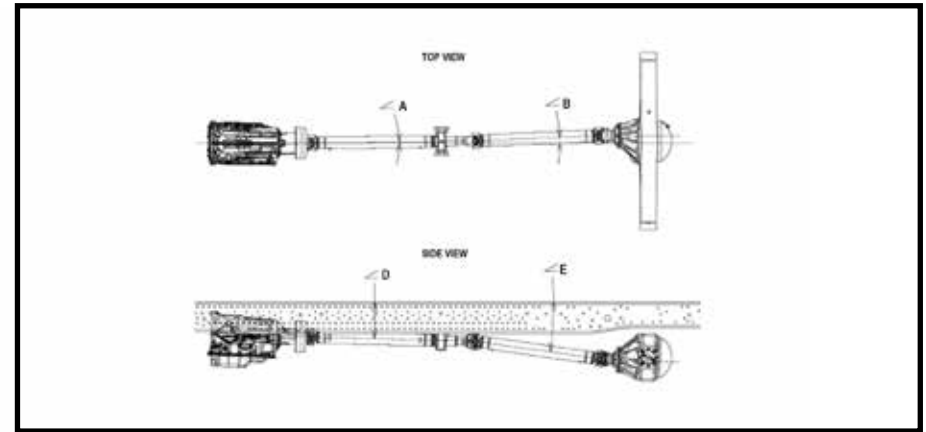


Figure 12.22.2

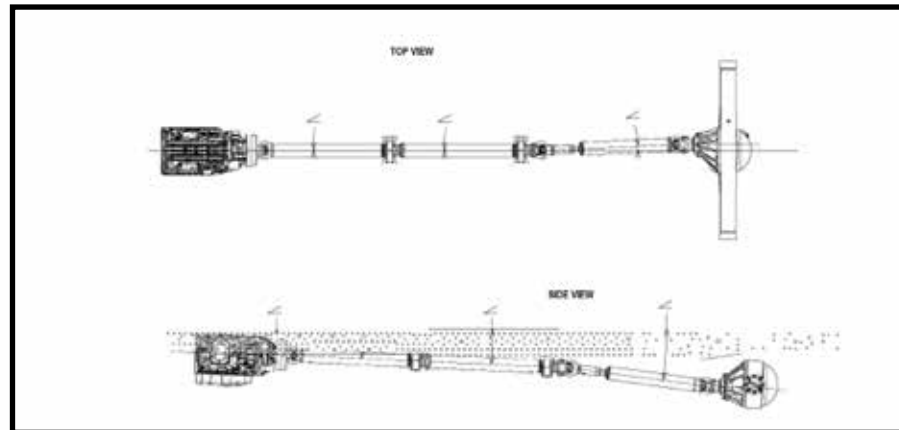


Figure 12.22.3

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.

2018 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

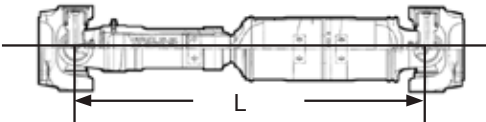
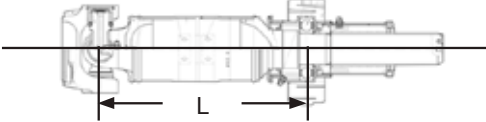
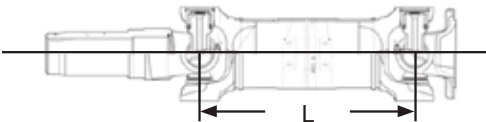
Type	Description	Illustration
Type A	1st shaft in 1-piece driveline	
Type B	1st shaft in 2-piece driveline	
Type C	2nd shaft in 2-piece driveline	

Figure 12.23.2

Note: Dimensions in inches

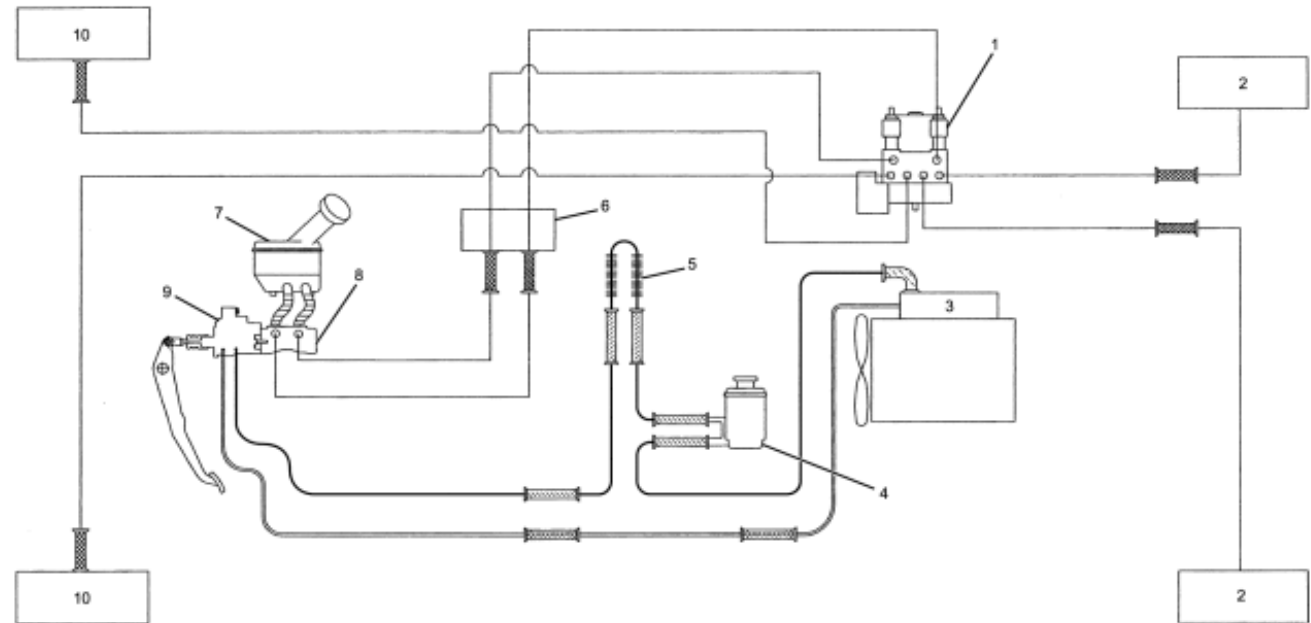
2018 Chevrolet Low Cab Forward

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

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PTO Location, Drive Gear and Opening Information

AUTOMATIC TRANSMISSION

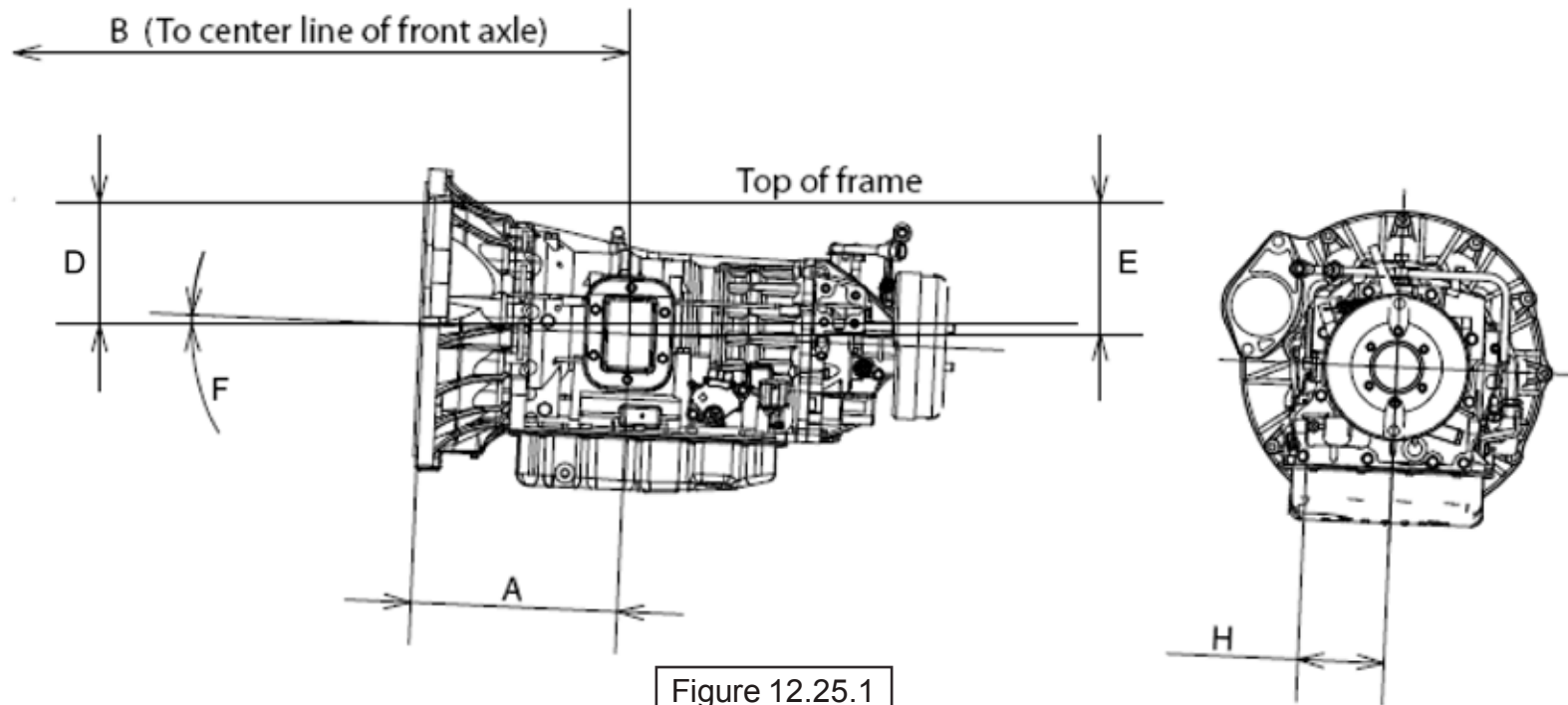


Figure 12.25.1

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

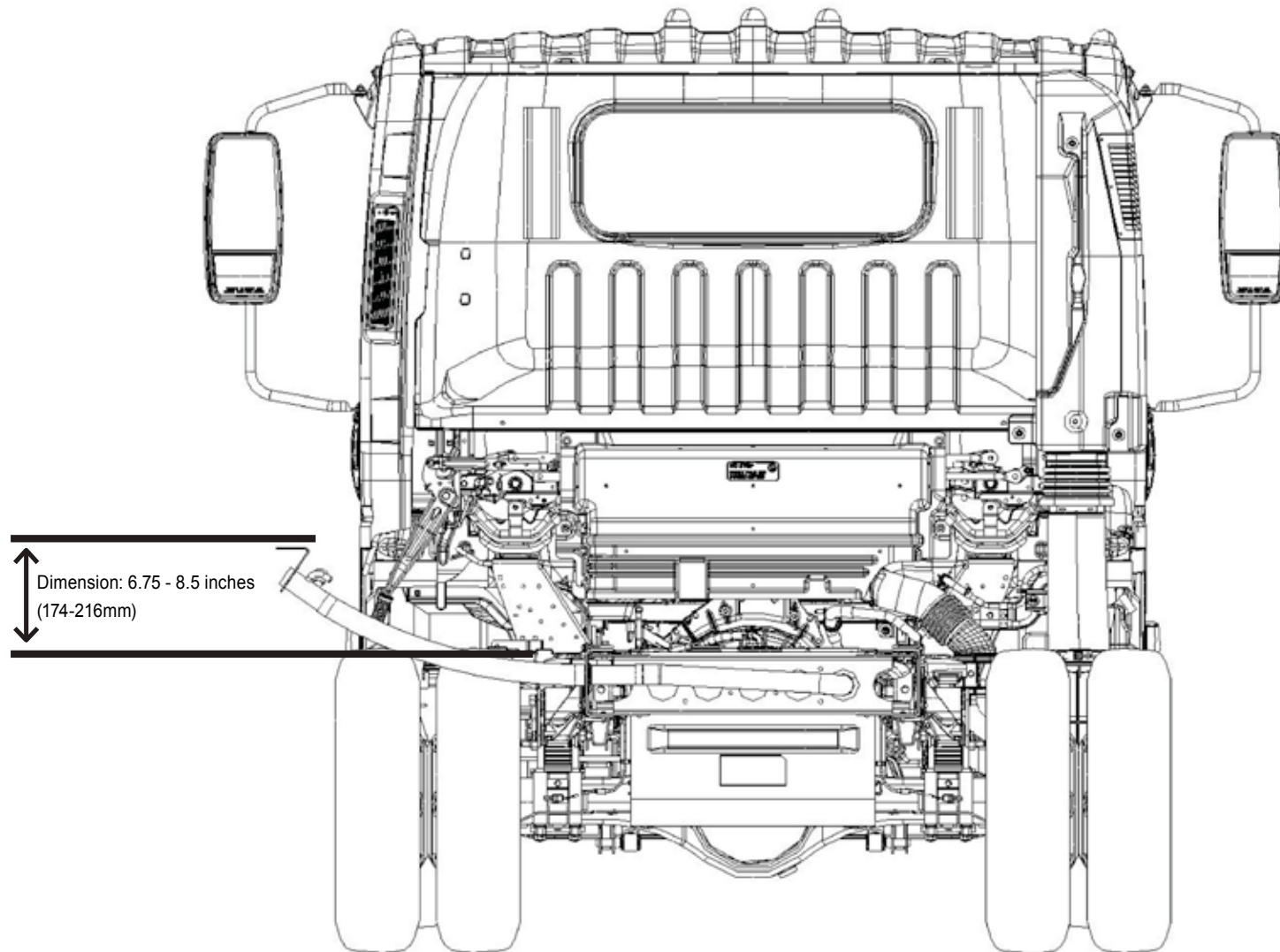
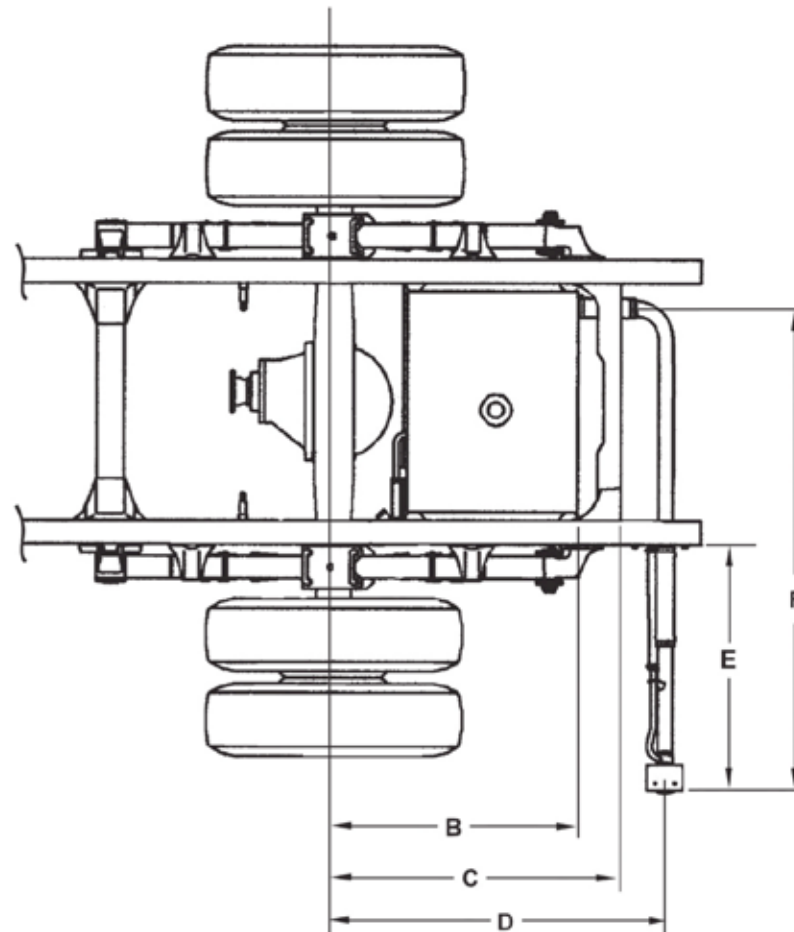


Figure 12.28.1

2018 Chevrolet Low Cab Forward

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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 12.29.1

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

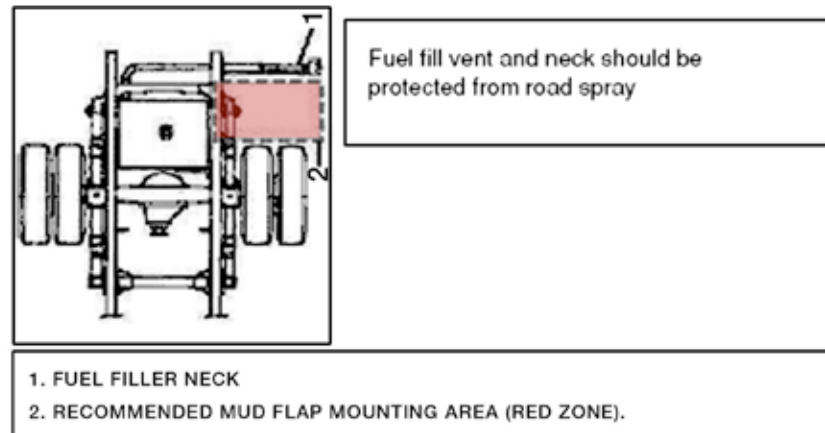
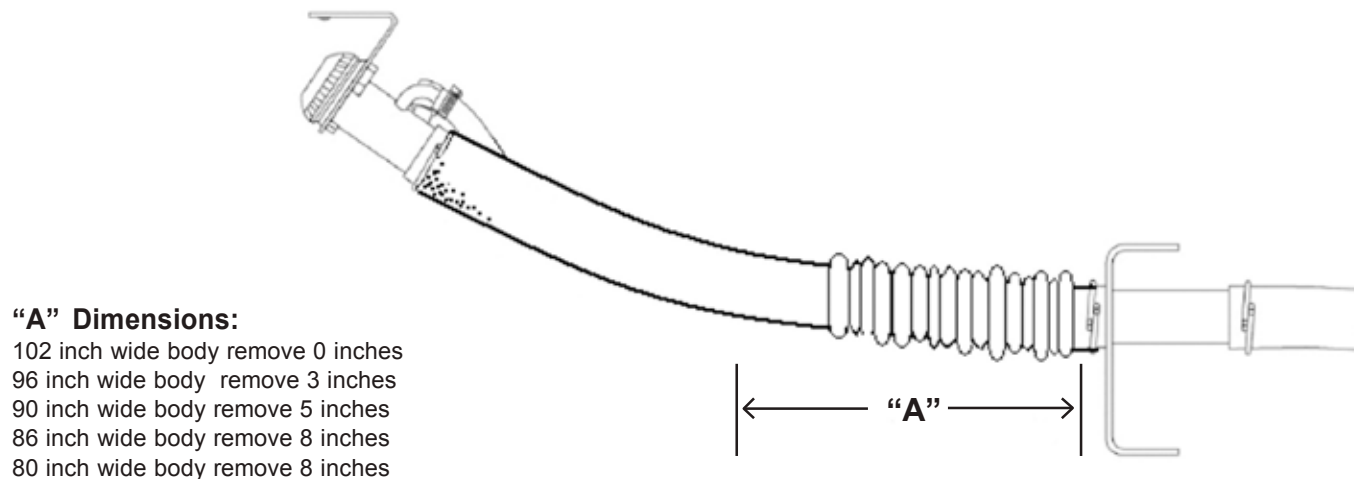


Figure 12.30.1



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

Figure 12.30.2

2018 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

2018 Chevrolet Low Cab Forward

Through the Rail Fuel Fill Frame Hole

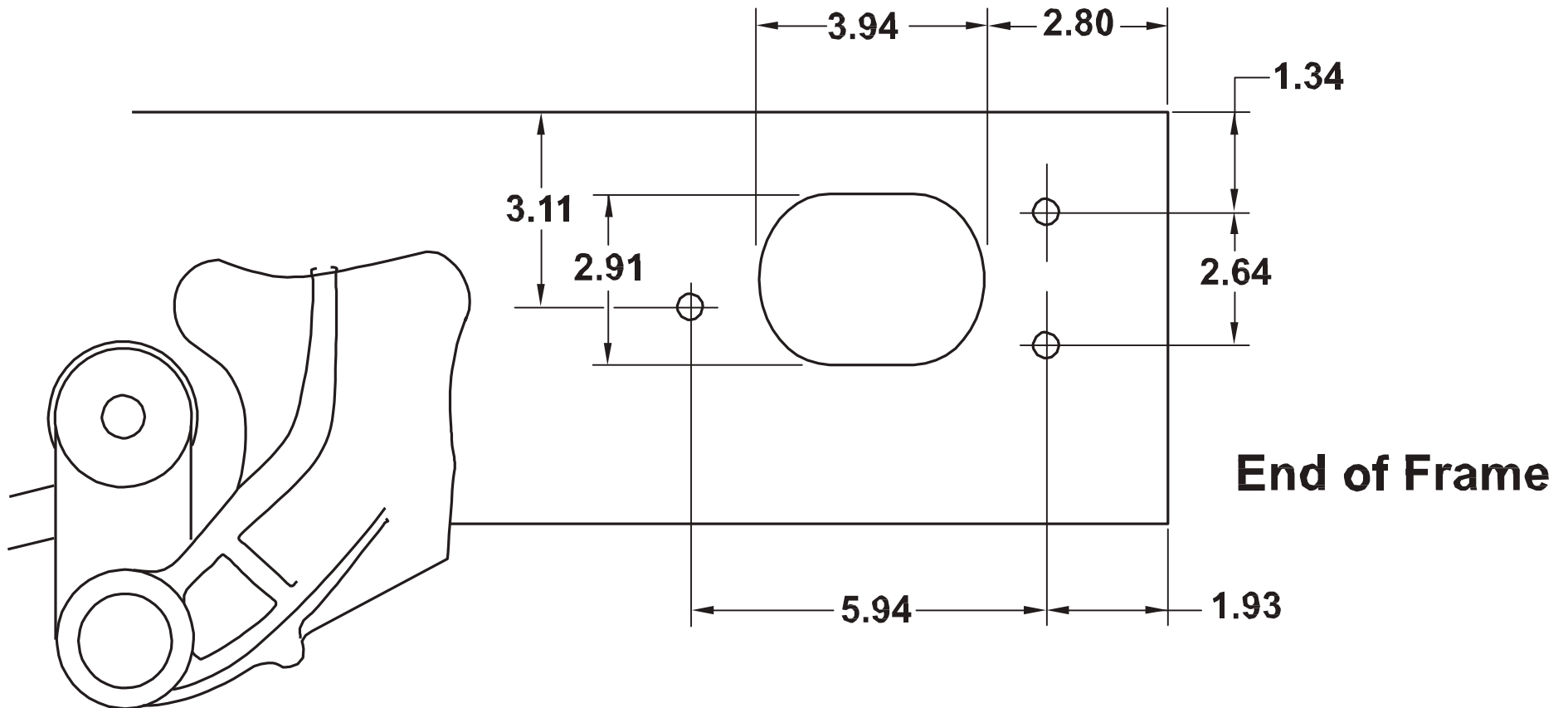


Figure 12.32.1

Note: Dimensions in inches

2018 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**.

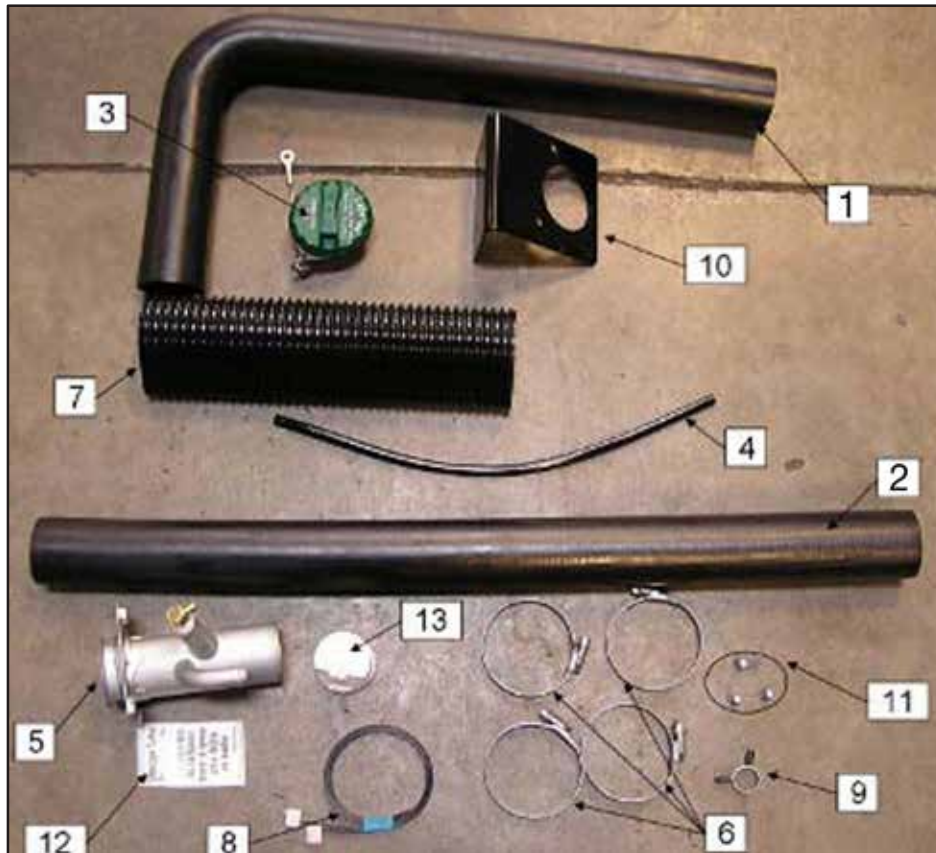


Figure 12.33.1

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

2018 Chevrolet Low Cab Forward

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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

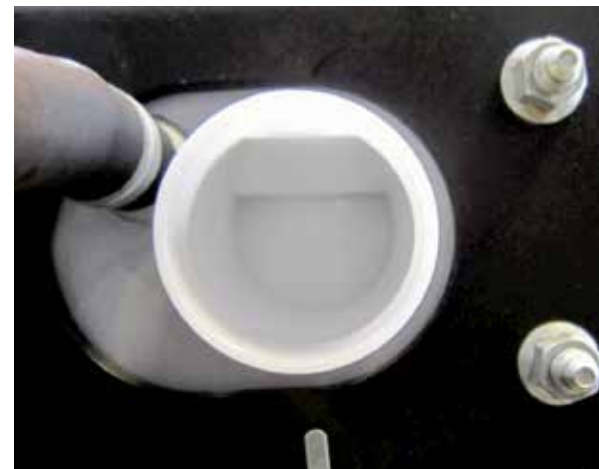


Figure 12.34.2

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 12.34.3** below.

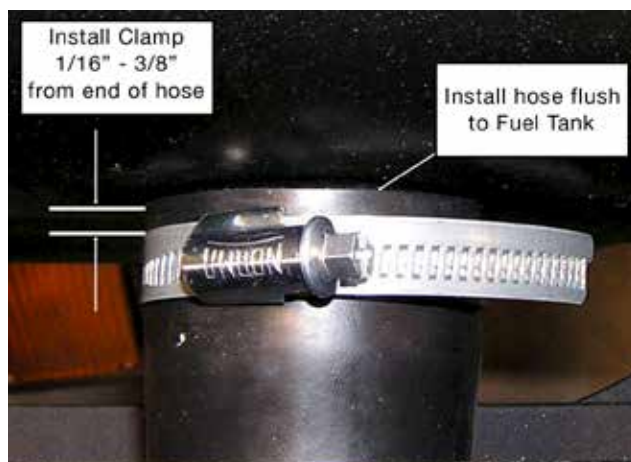


Figure 12.34.3

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**.

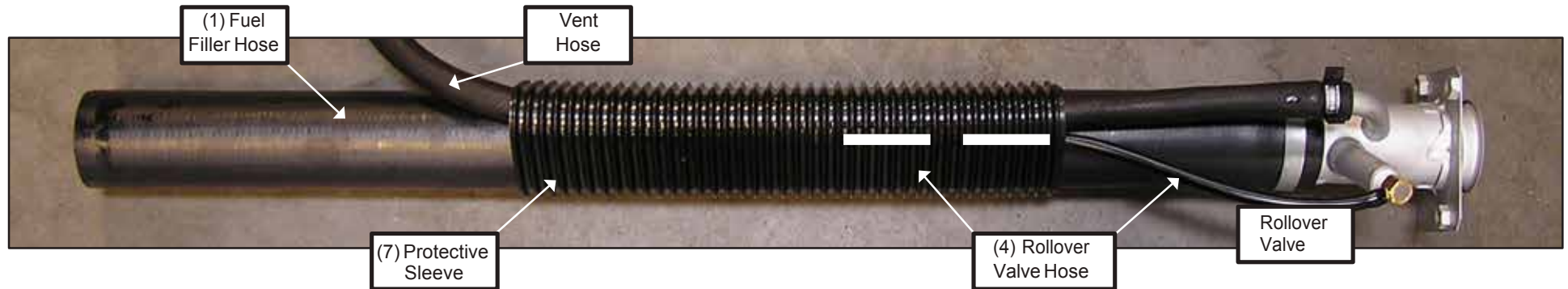


Figure 12.35.1

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.

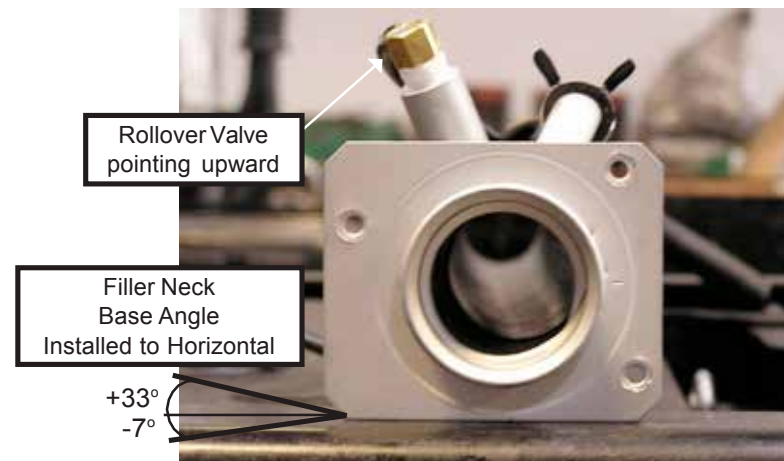


Figure 15.35.2

2018 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.

2018 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

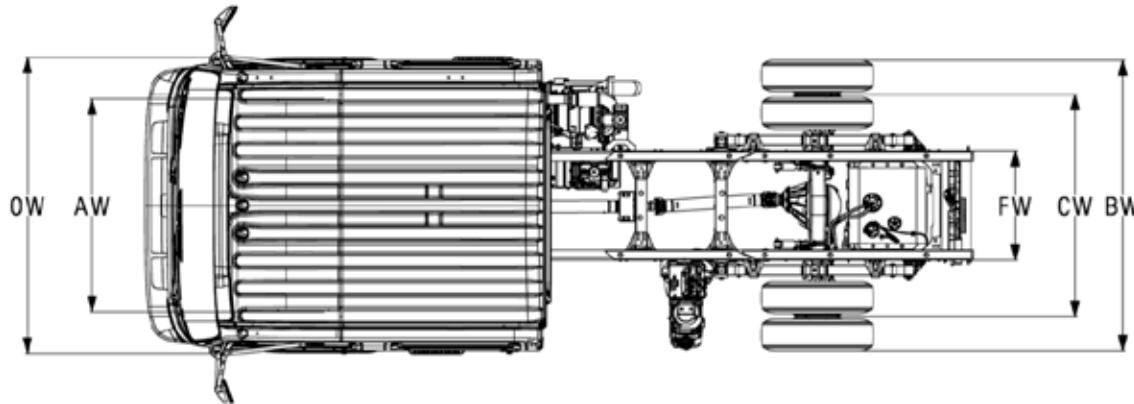


Figure 13.2.2

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

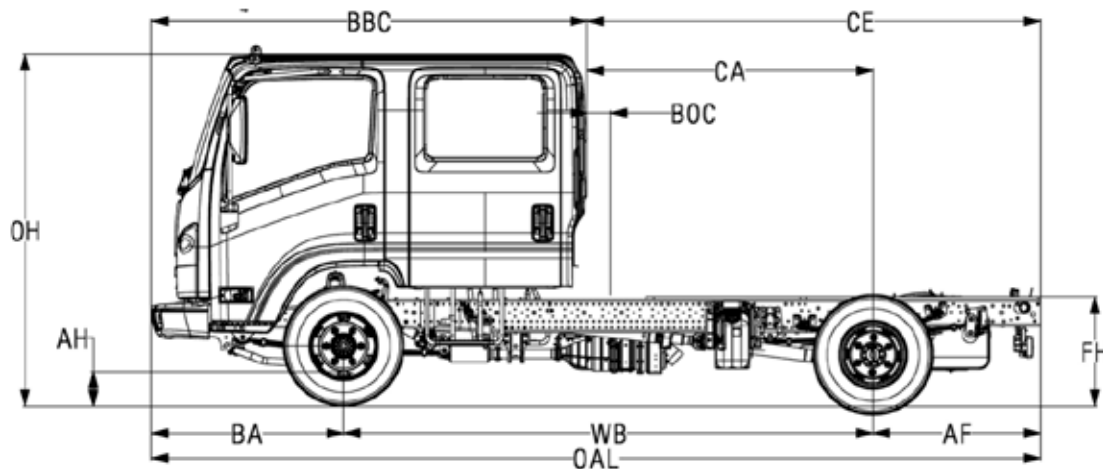


Figure 13.2.2

2018 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

2018 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

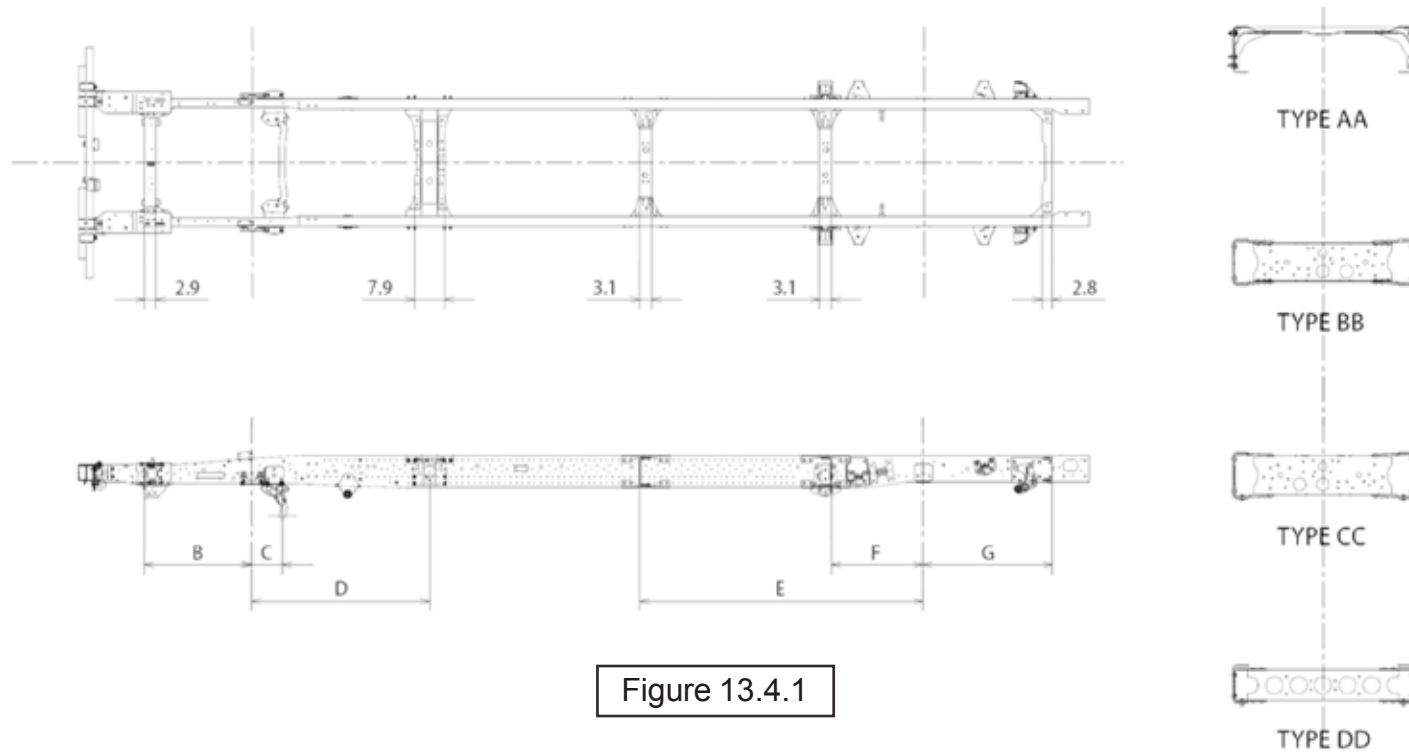


Figure 13.4.1

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

2018 Chevrolet Low Cab Forward

Frame Chart

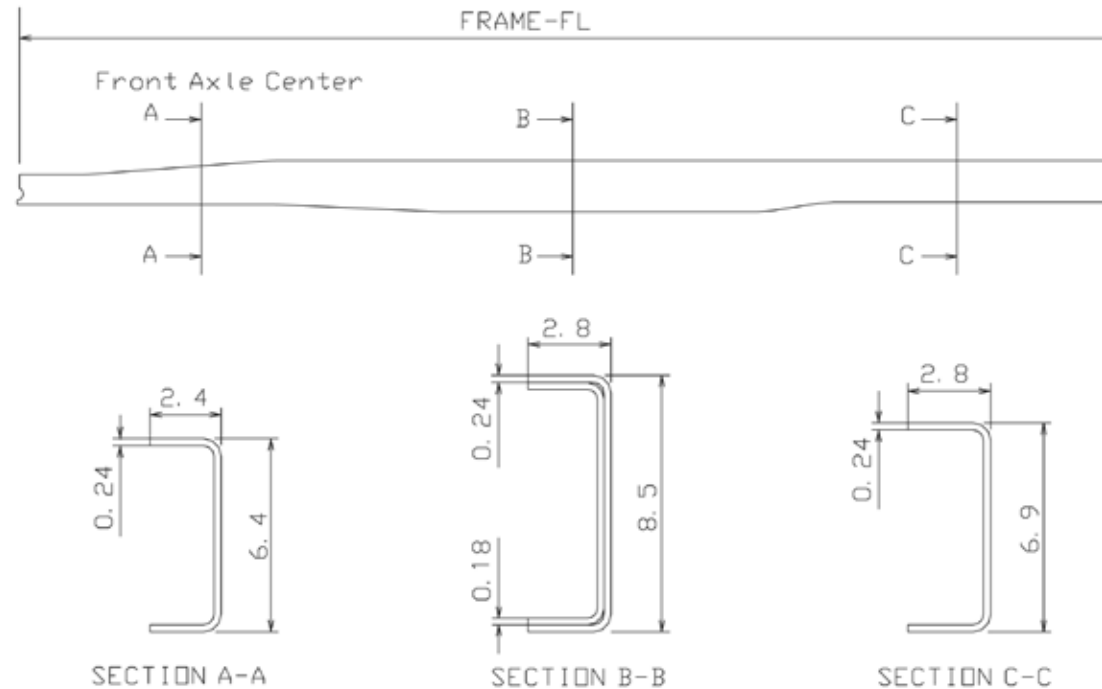


Figure 13.5.1

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

2018 Chevrolet Low Cab Forward

4500XD Diesel Standard Cab Top View

Wb	A	B
150	67.0	101.6
176	76.5	111.1

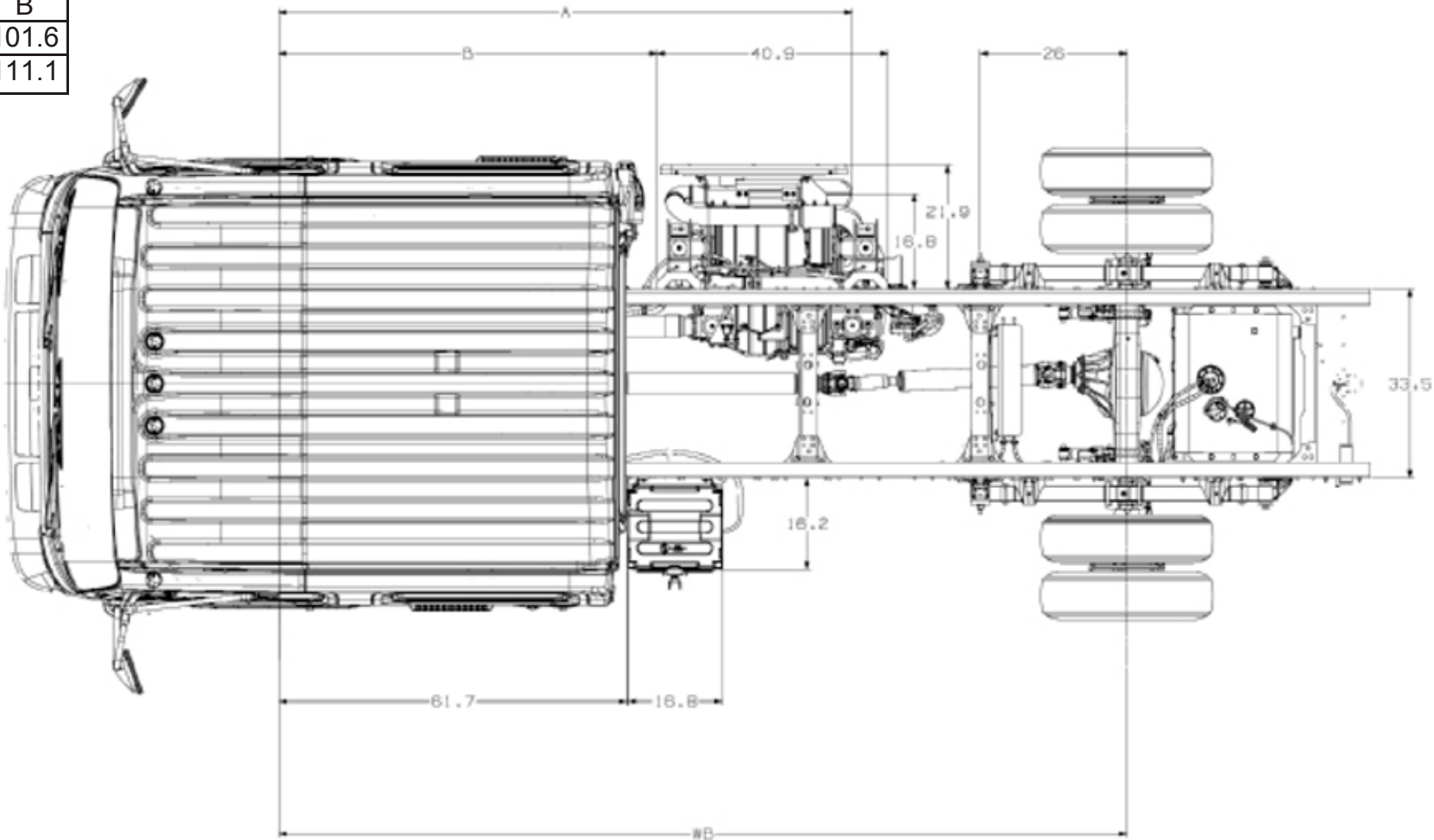


Figure 13.6.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

4500XD Diesel Standard Cab Left Side View

WB	A
150	104.3
176	113.8

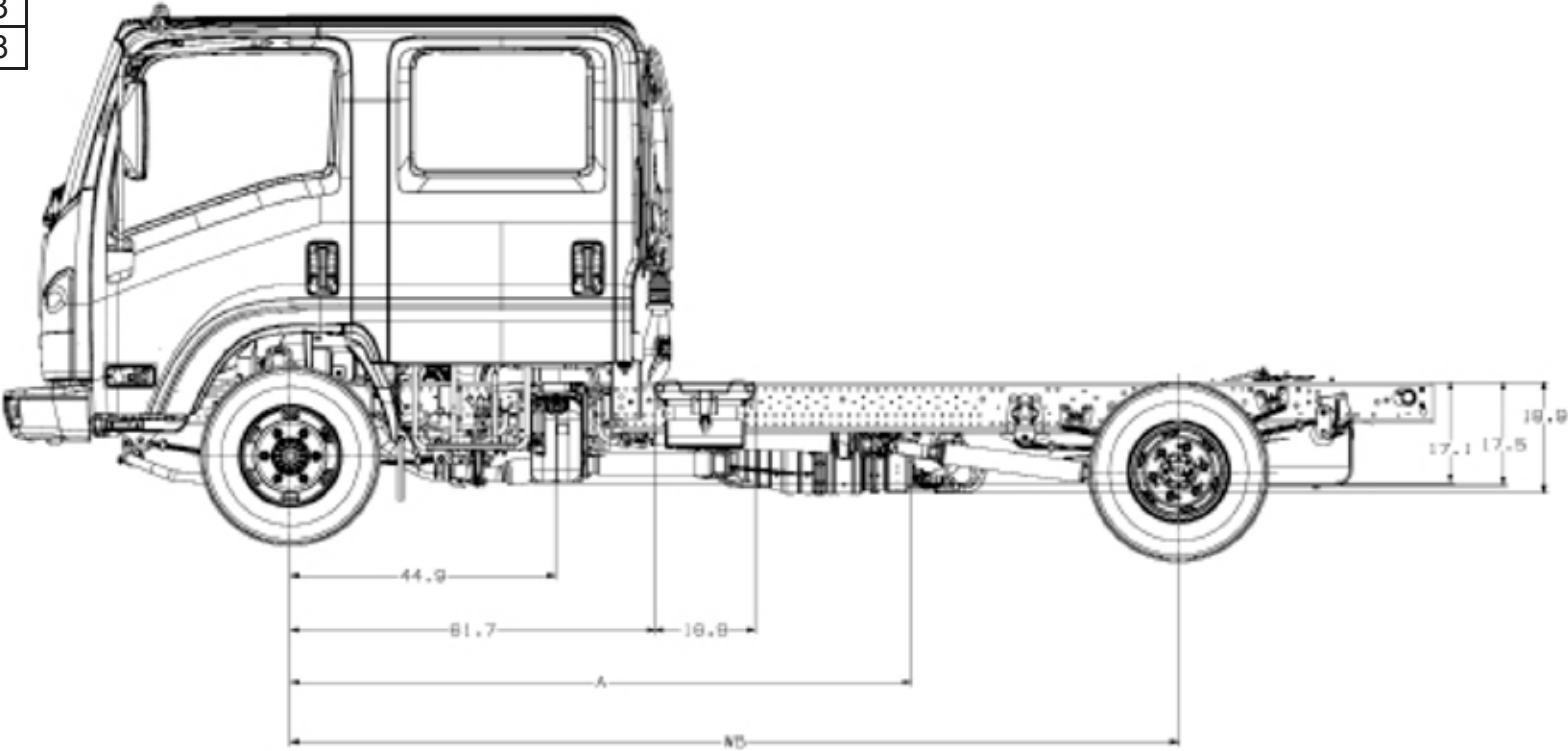


Figure 13.7.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

4500XD Diesel Standard Cab Right Side View

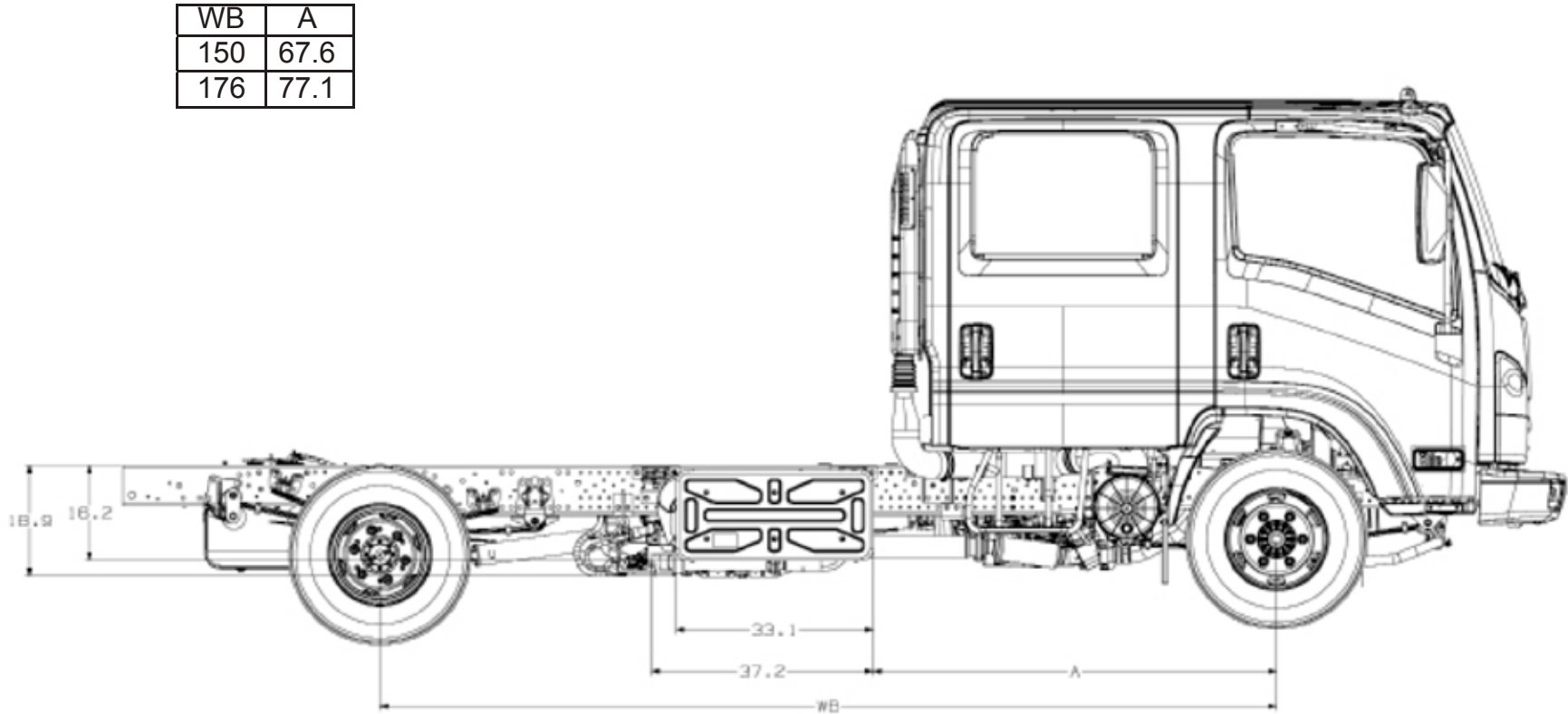


Figure 13.8.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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SCR / DPF 4HK1-TC

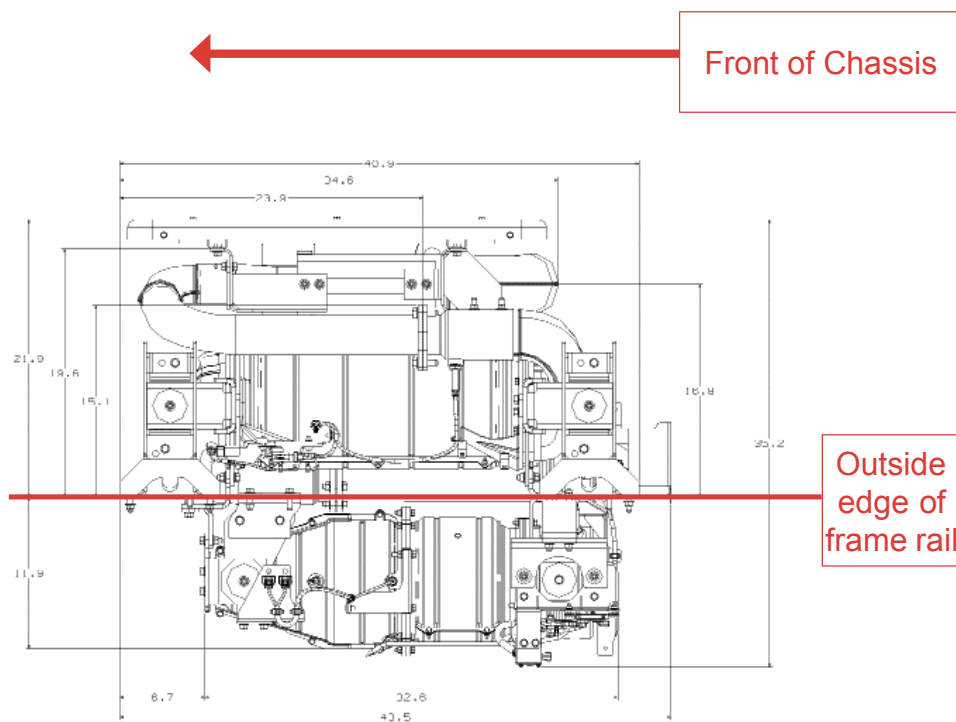


Figure 13.9.1

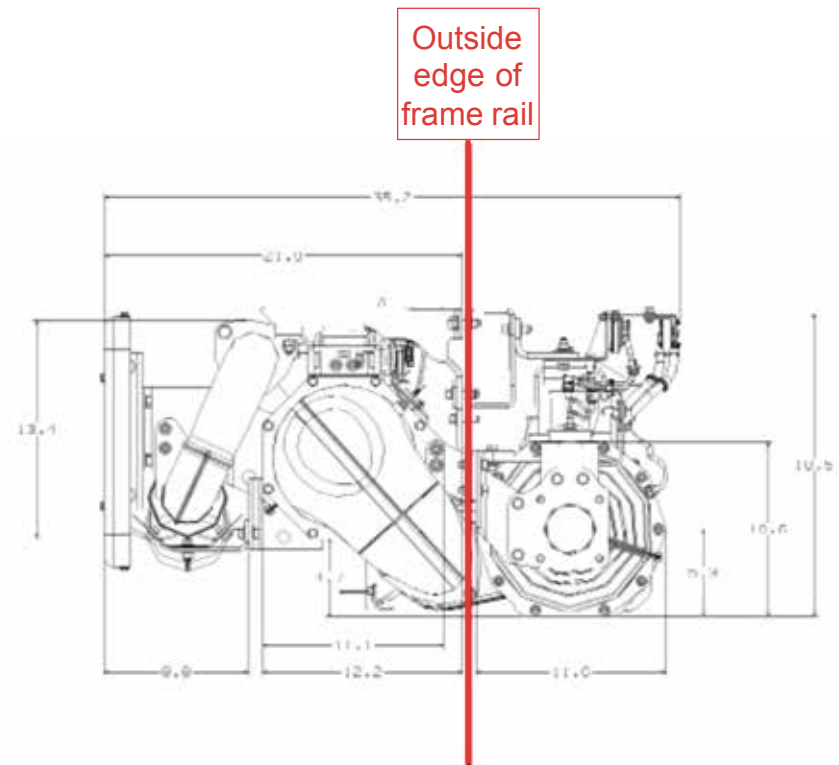


Figure 13.9.2

Note: Dimensions in inches

2018 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

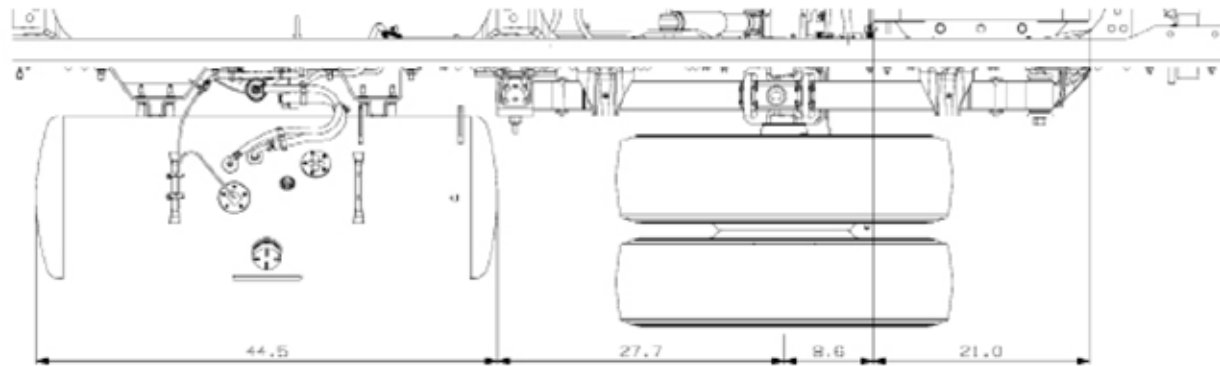


Figure 13.10.1

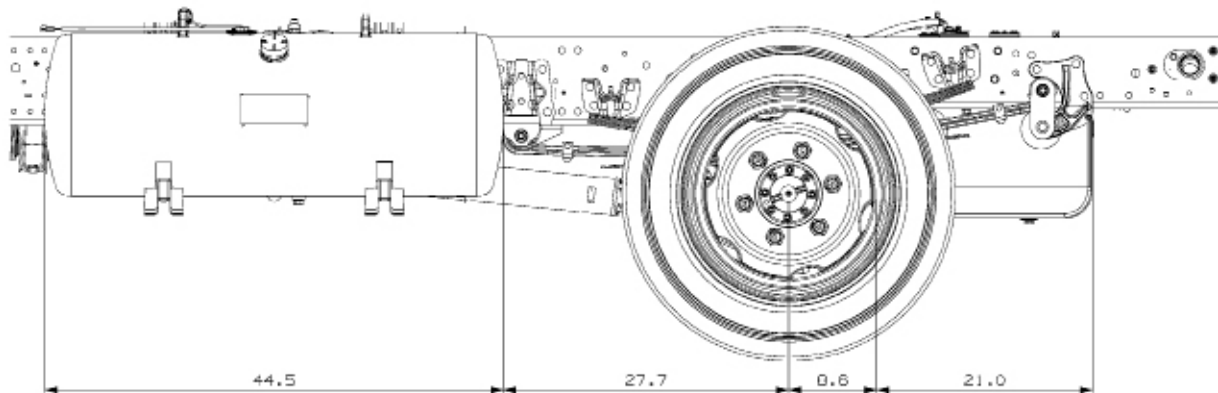


Figure 13.10.2

Note: Dimensions in inches

2018 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

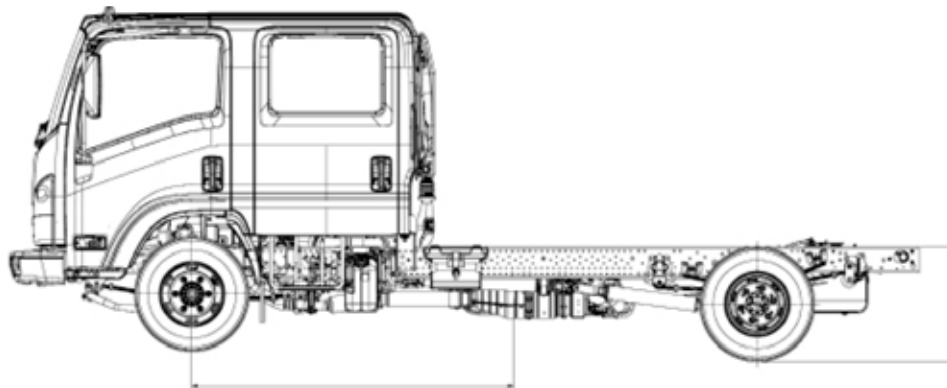


Figure 13.11.1

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

2018 Chevrolet Low Cab Forward

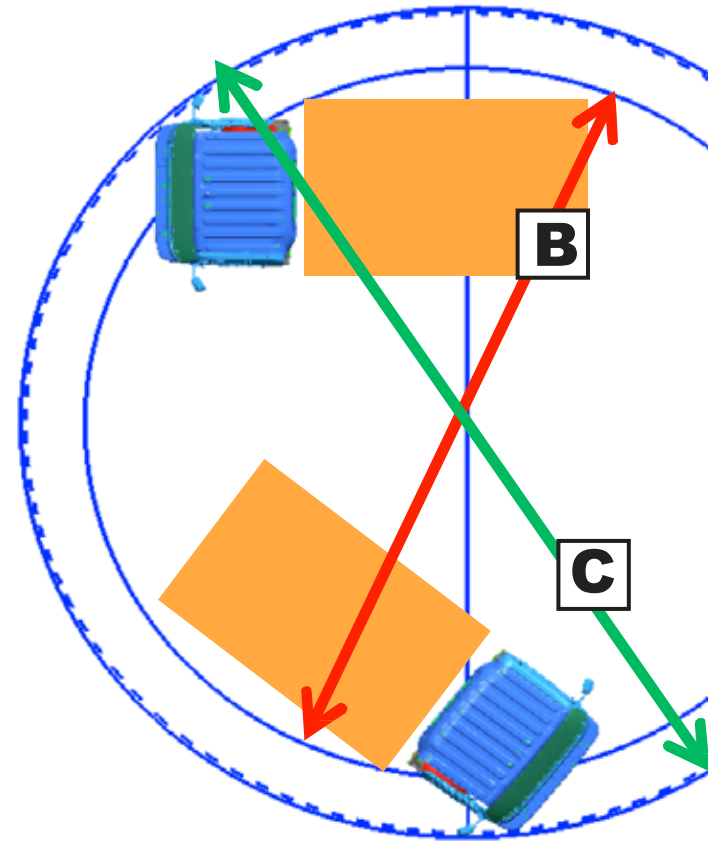
Turning Diameters

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

2018 Chevrolet Low Cab Forward

Front Axle Chart 4500XD

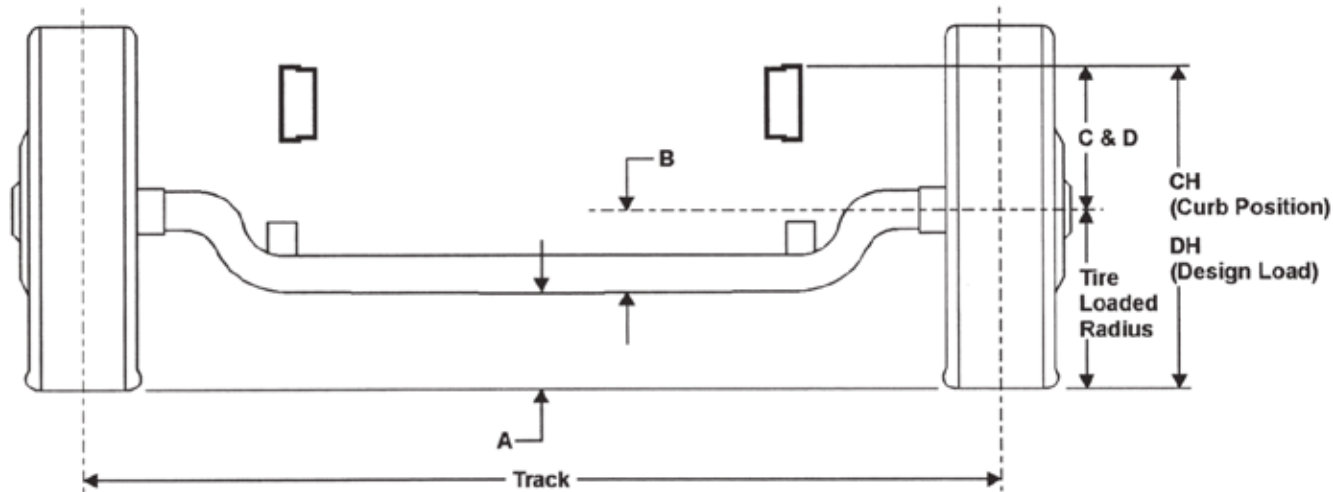


Figure 13.13.1

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

2018 Chevrolet Low Cab Forward

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Rear Axle Chart 4500XD

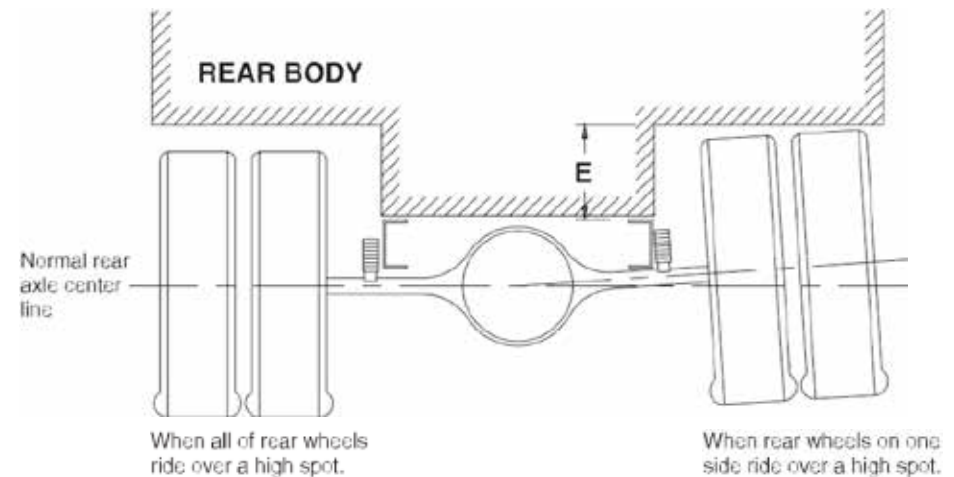
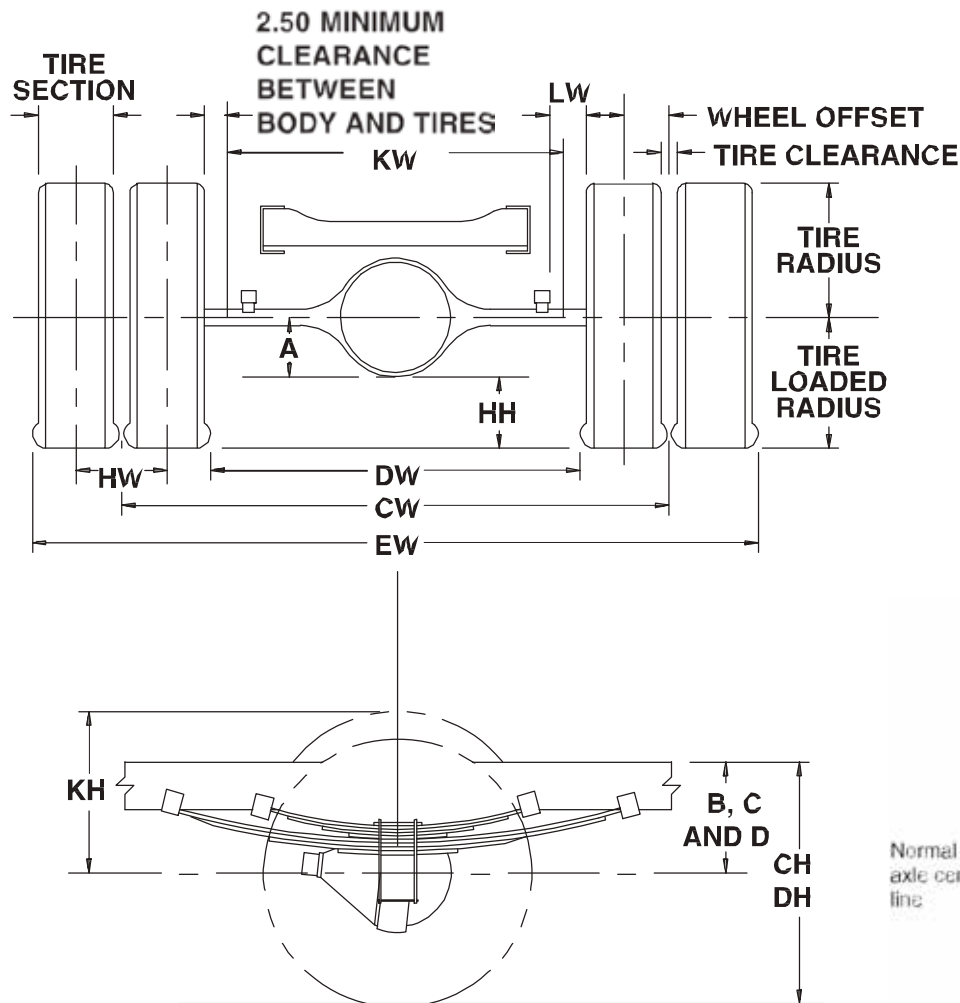


Figure 13.14.1

2018 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 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

2018 Chevrolet Low Cab Forward

4500XD Suspension Deflection Charts

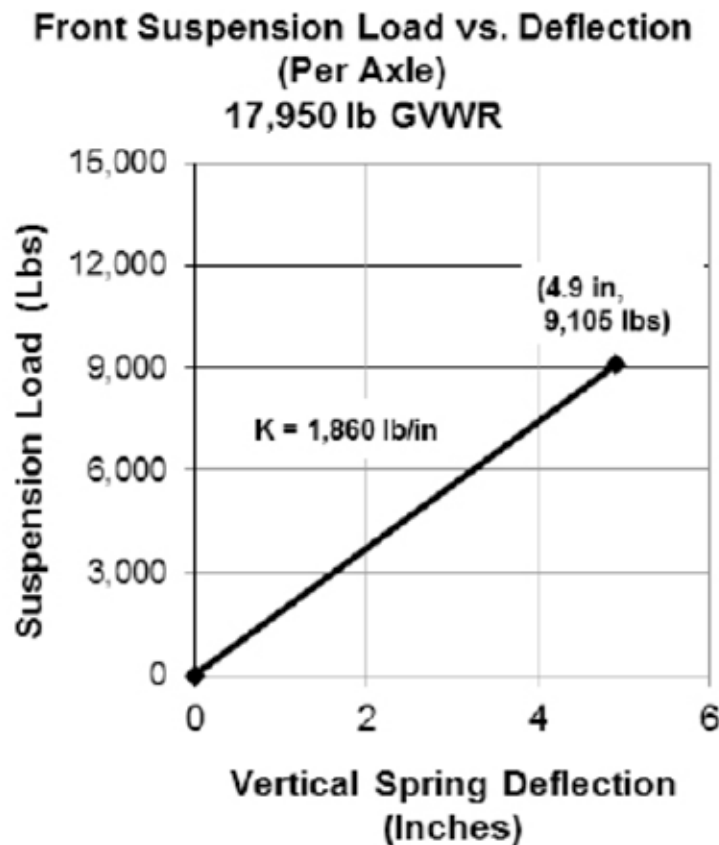


Figure 13.16.1

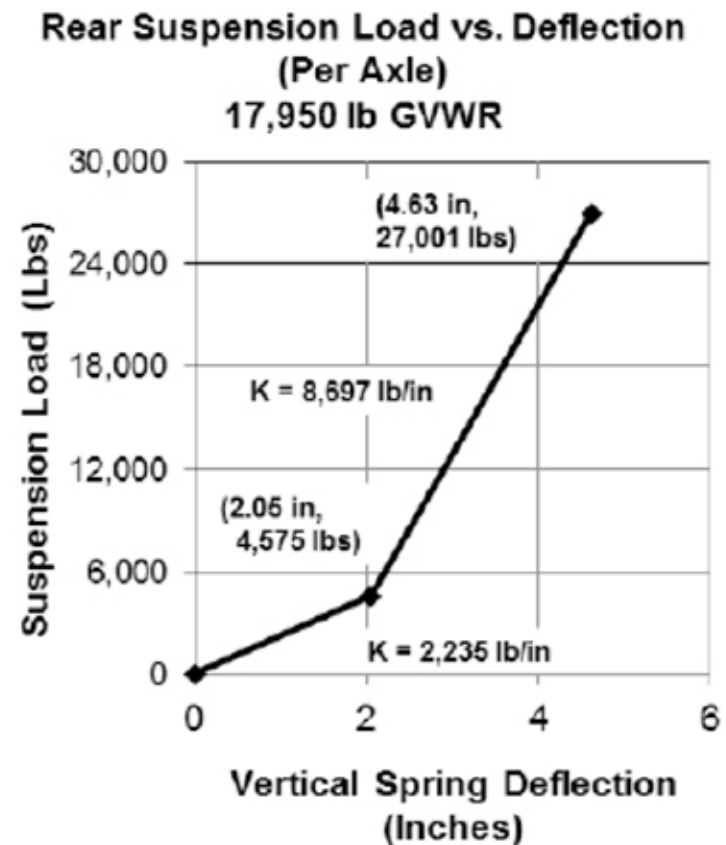


Figure 13.16.2

2018 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

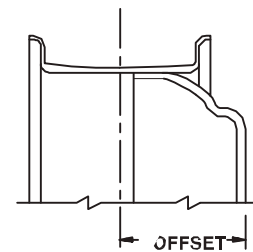
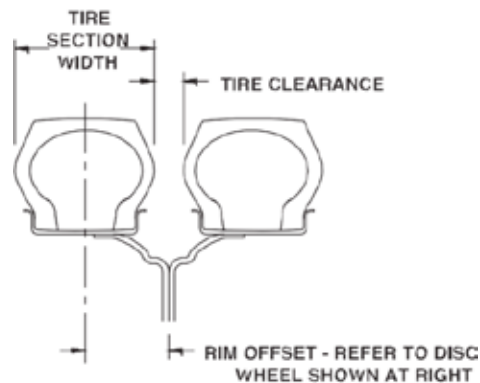


Figure 13.17.4

Note: Dimensions in inches

Revision: 11/30/2017

2018 Chevrolet Low Cab Forward

Propeller Shaft 4500XD

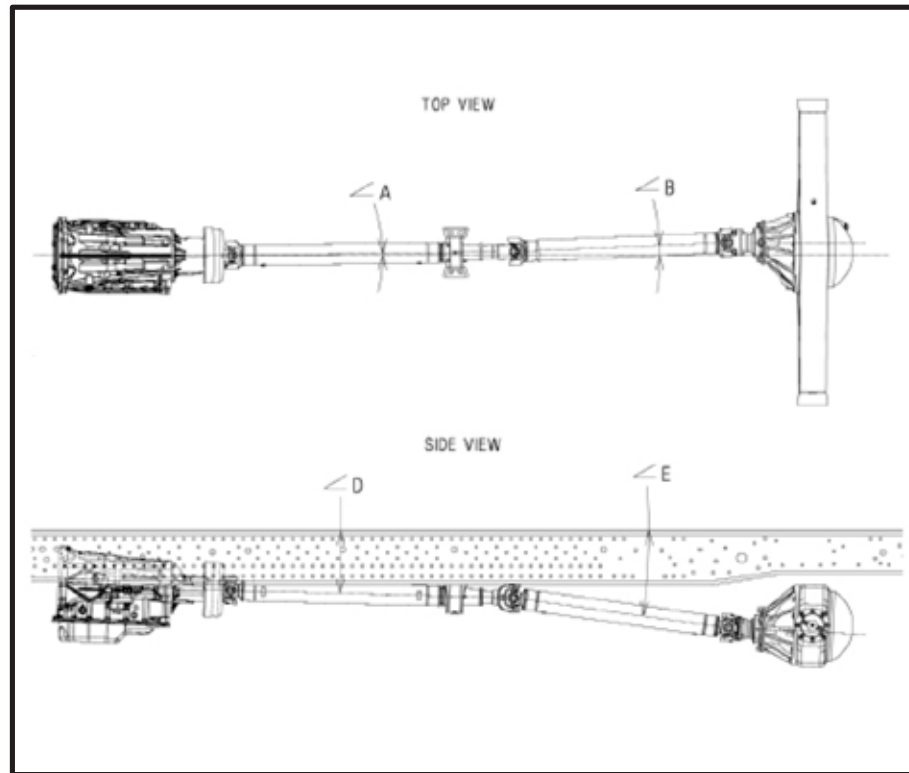


Figure 13.18.1

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.

2018 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

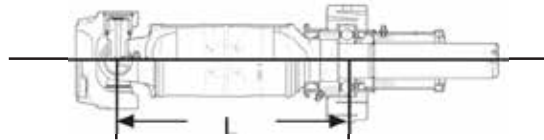
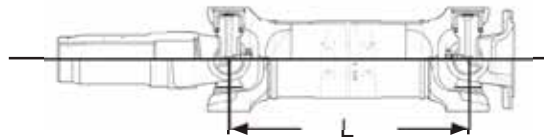
Type	Description	Illustration
Type B	1st shaft in 2-piece driveline	
Type C	2nd shaft in 2-piece driveline	

Figure 13.19.2

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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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

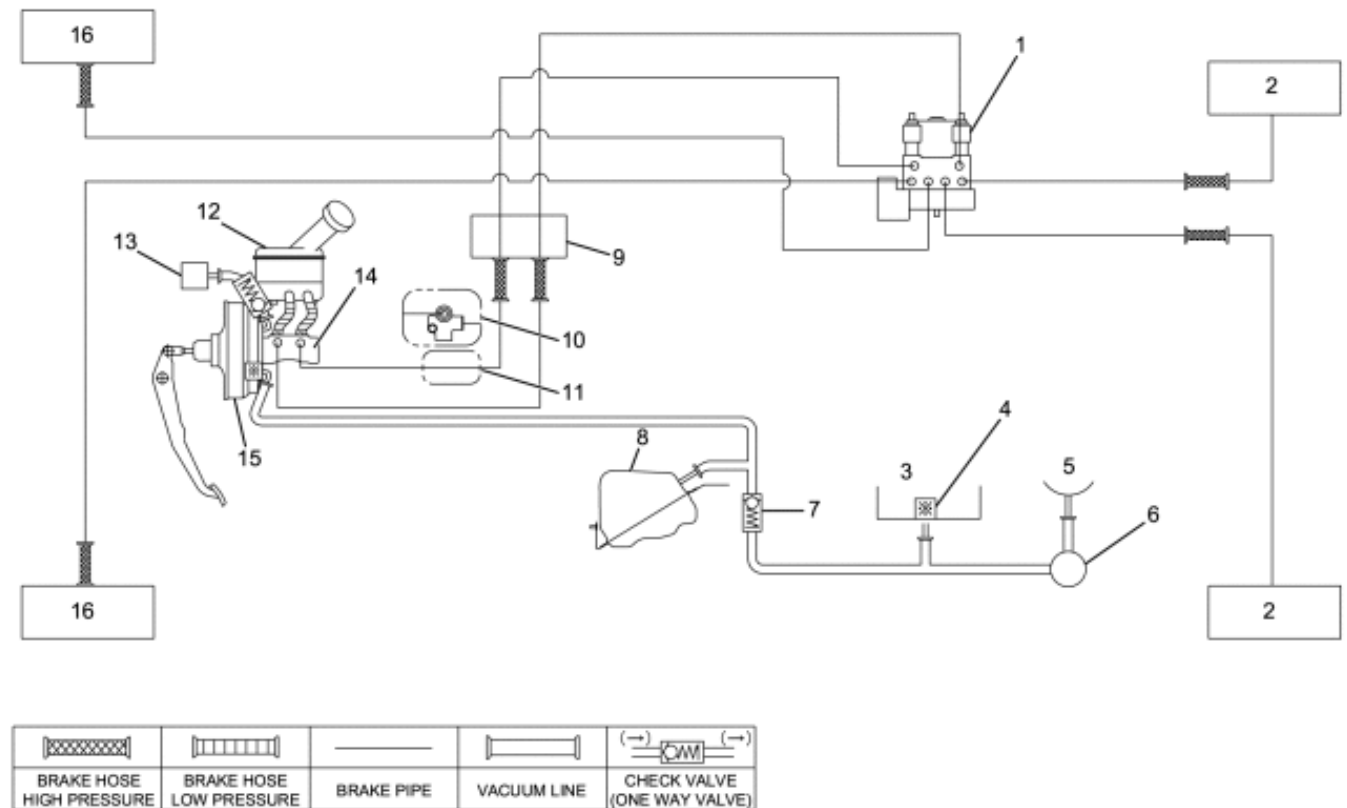


Figure 13.20.1

2018 Chevrolet Low Cab Forward

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PTO Location, Drive Gear and Opening Information

AUTOMATIC TRANSMISSION

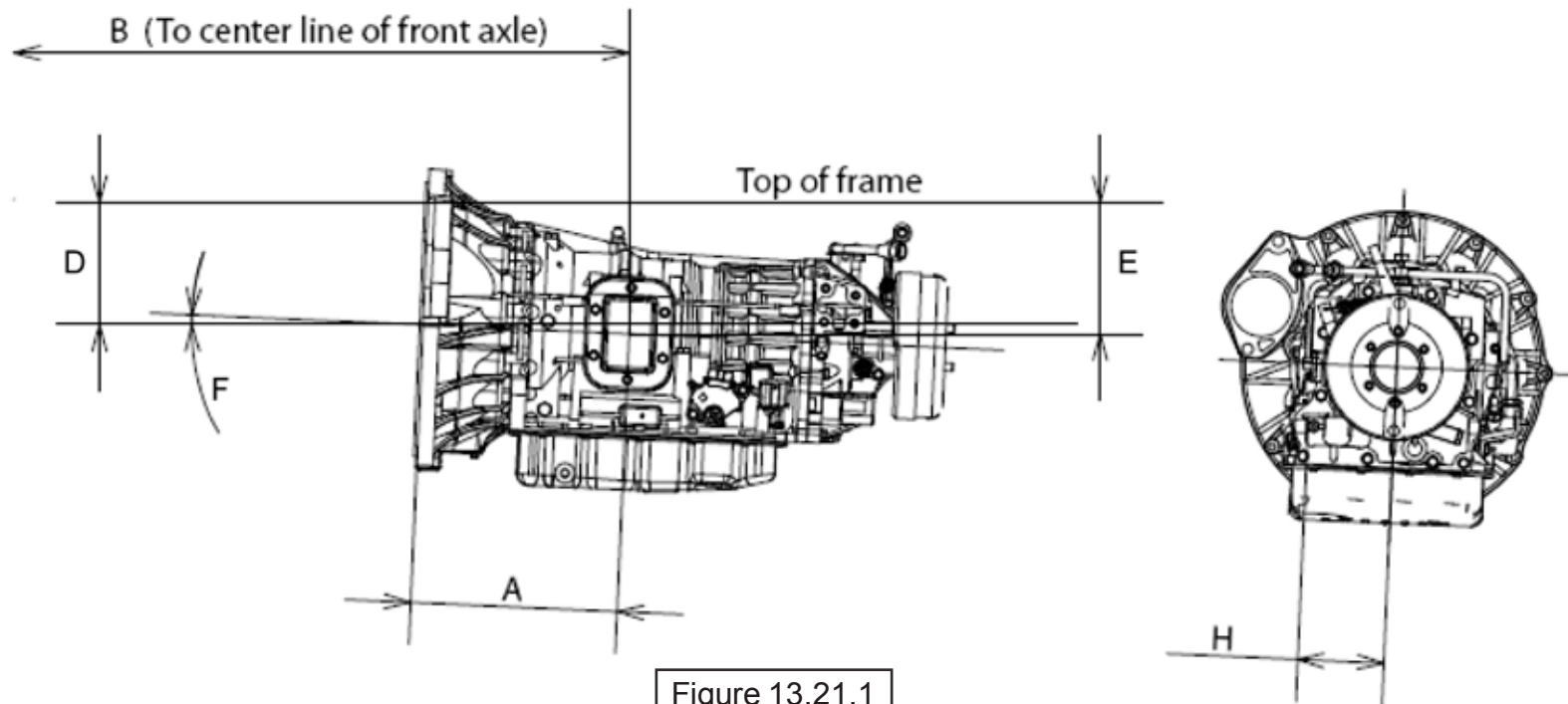


Figure 13.21.1

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

Revision: 11/30/2017

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.

2018 Chevrolet Low Cab Forward

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Rear View Fuel Fill

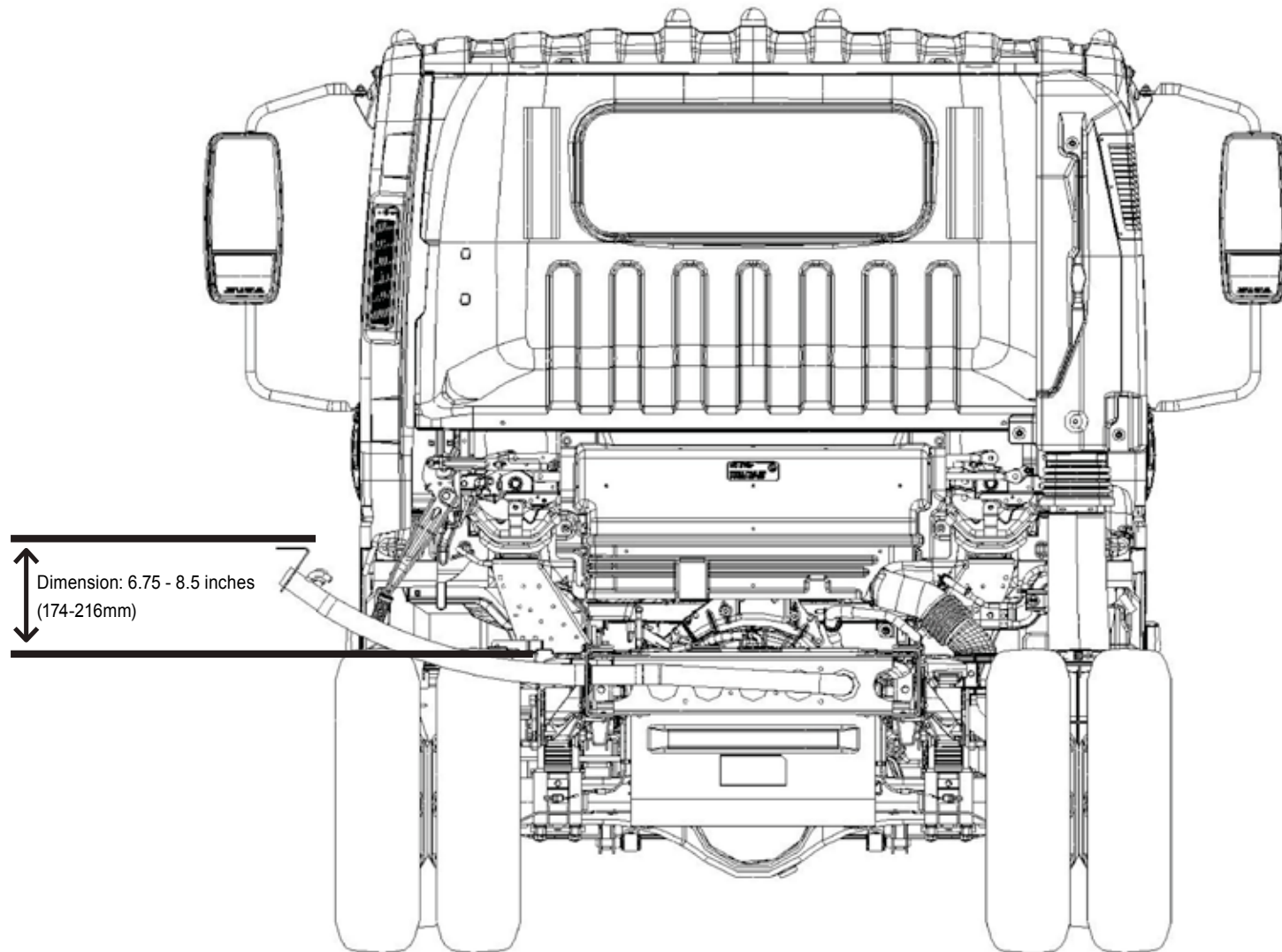
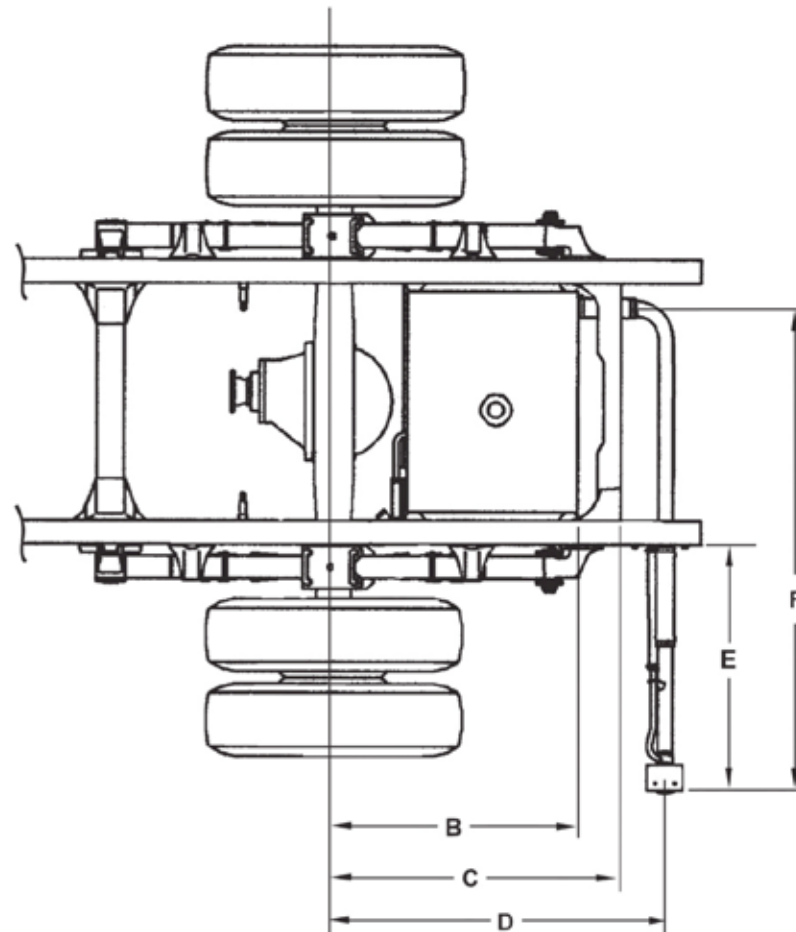


Figure 13.24.1

2018 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

2018 Chevrolet Low Cab Forward

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

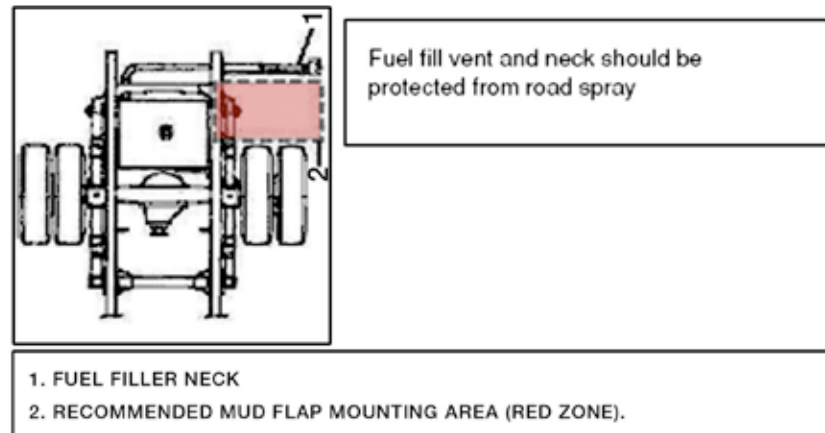
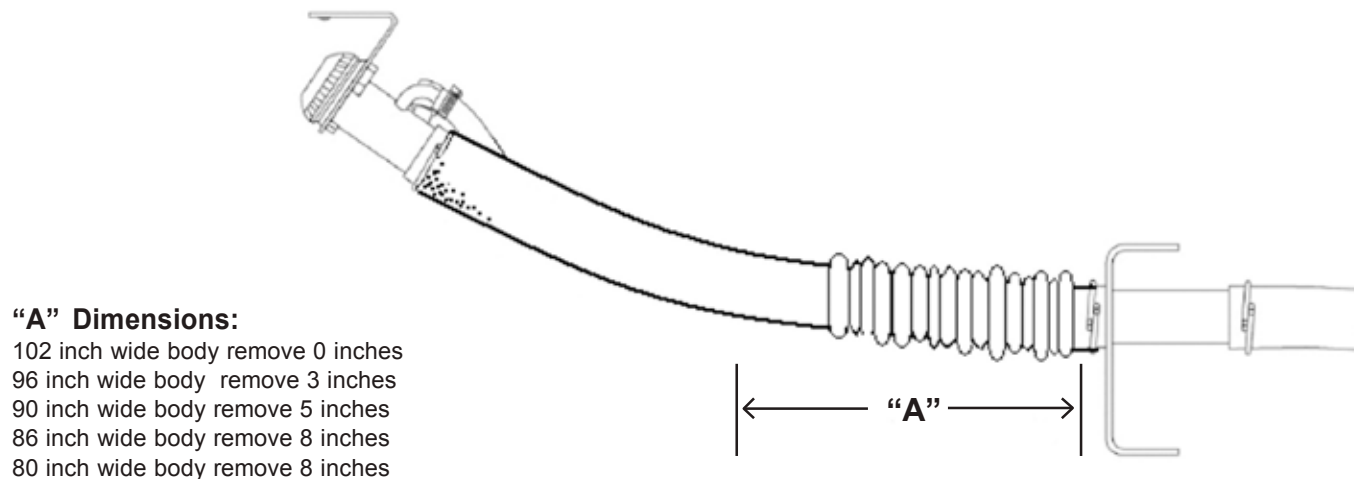


Figure 13.26.1



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

Figure 13.26.2

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

2018 Chevrolet Low Cab Forward

Through the Rail Fuel Fill Frame Hole

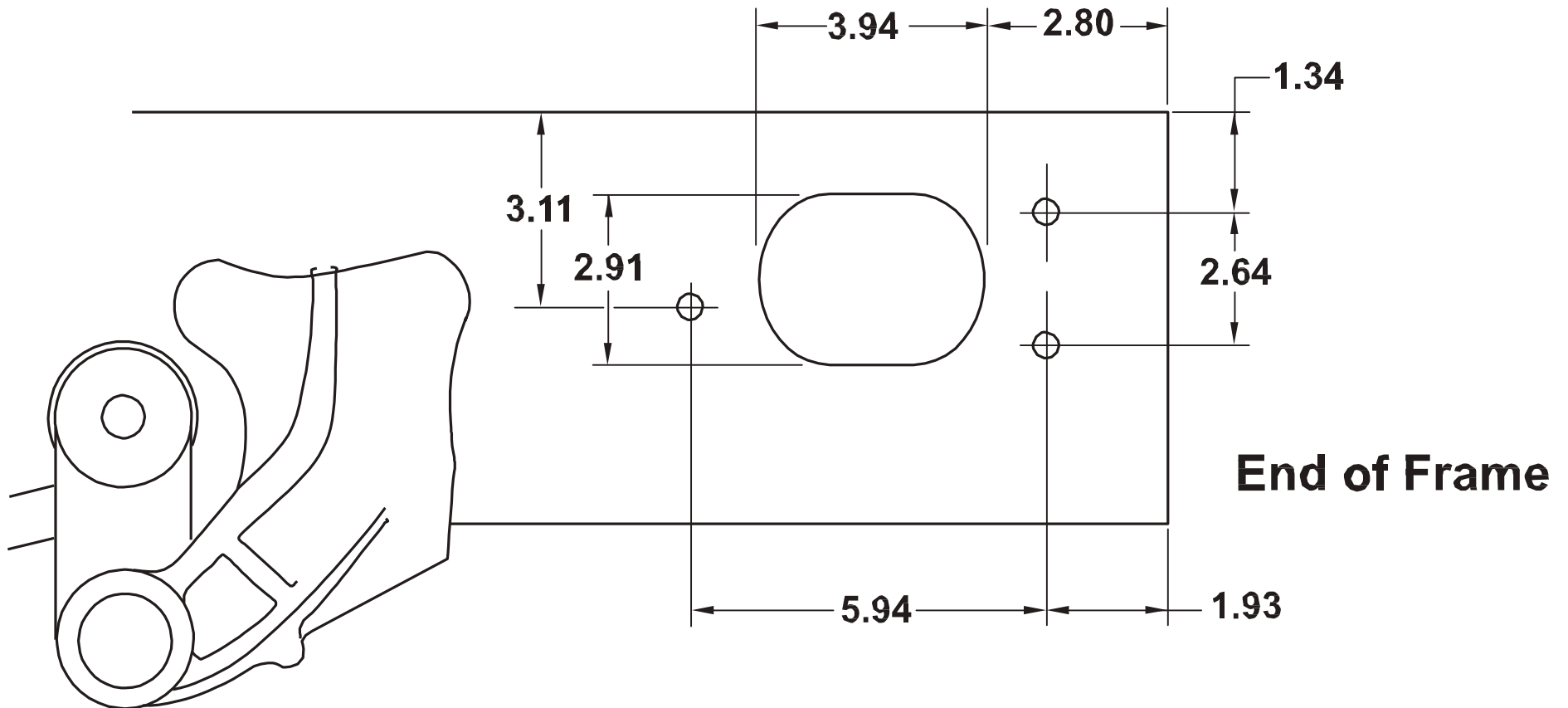


Figure 13.28.1

Note: Dimensions in inches

2018 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**.

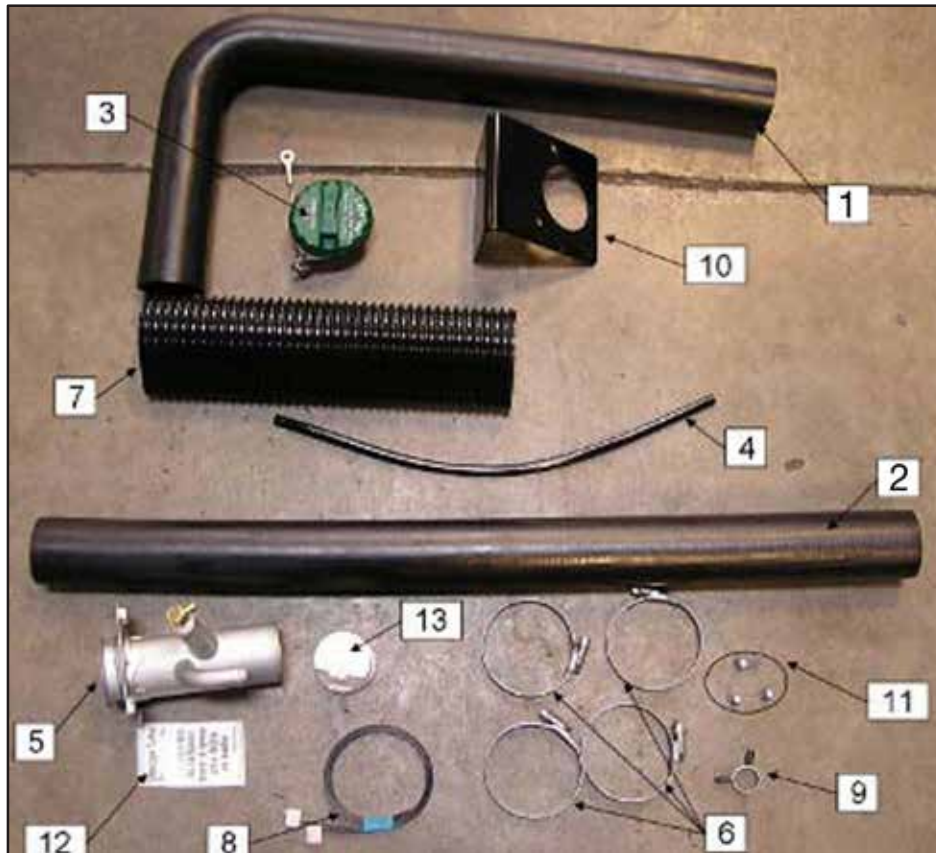


Figure 13.29.1

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

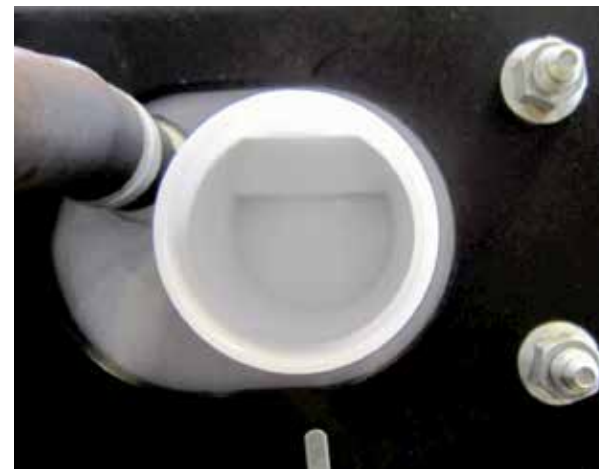


Figure 13.30.2

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.

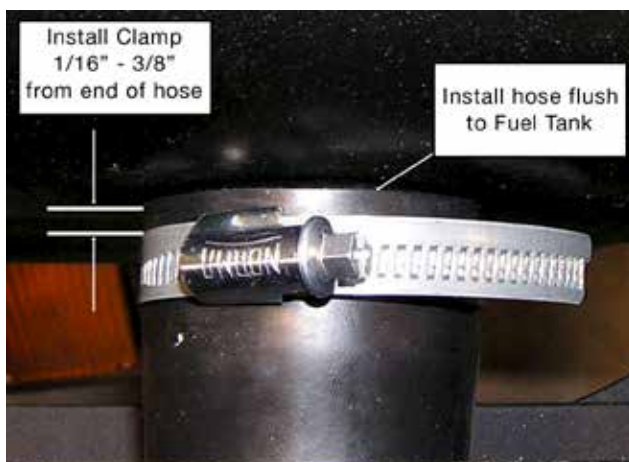


Figure 13.30.3

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**.

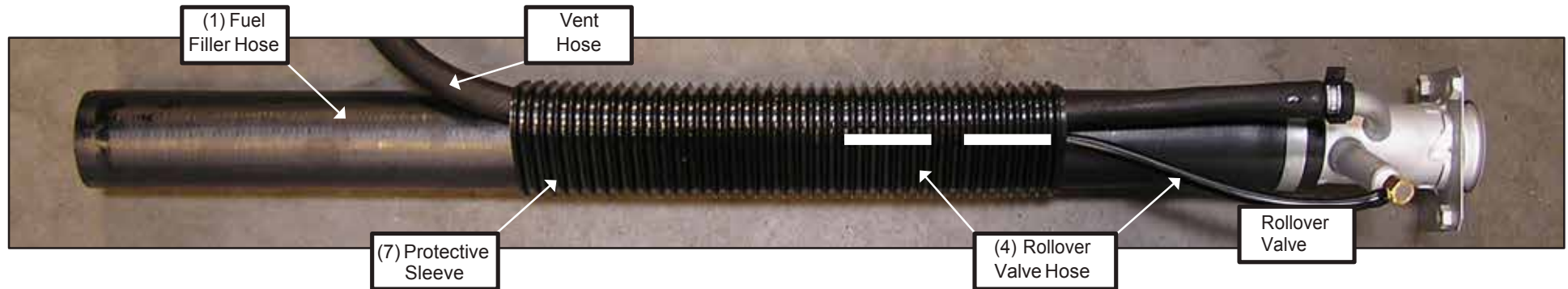


Figure 13.31.1

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.

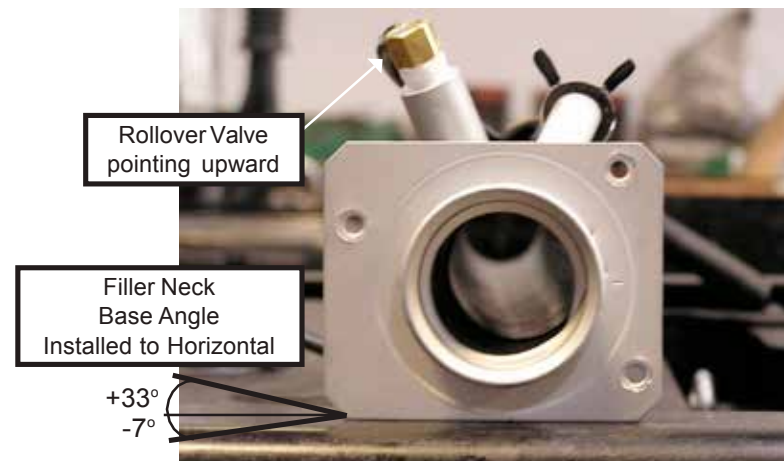


Figure 13.31.2

2018 Chevrolet Low Cab Forward

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.

2018 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

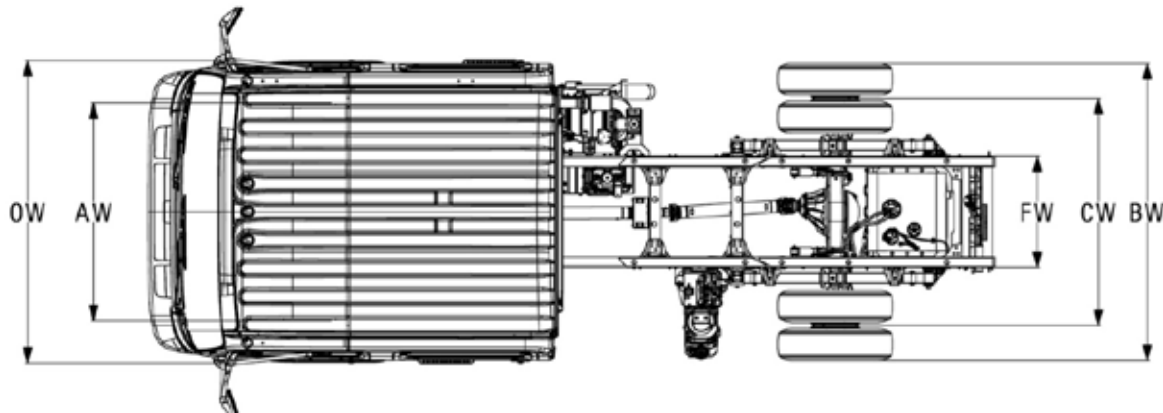


Figure 14.2.1

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

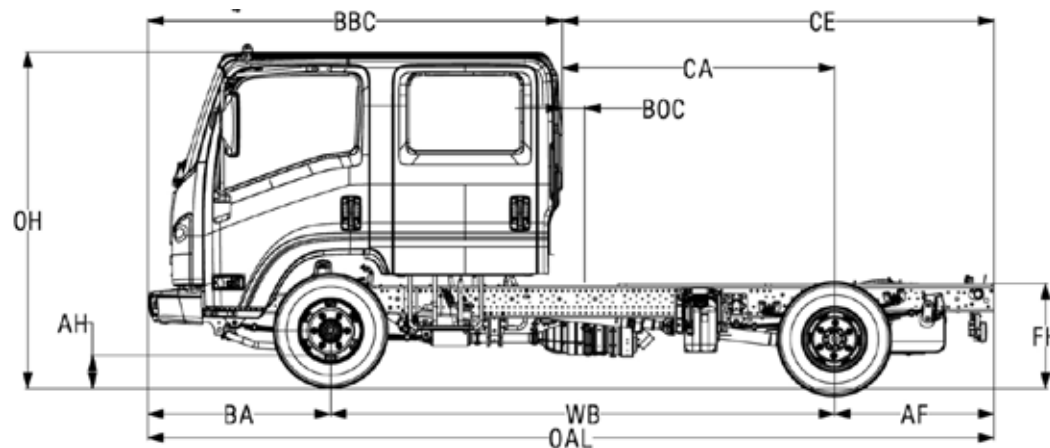


Figure 14.2.2

2018 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

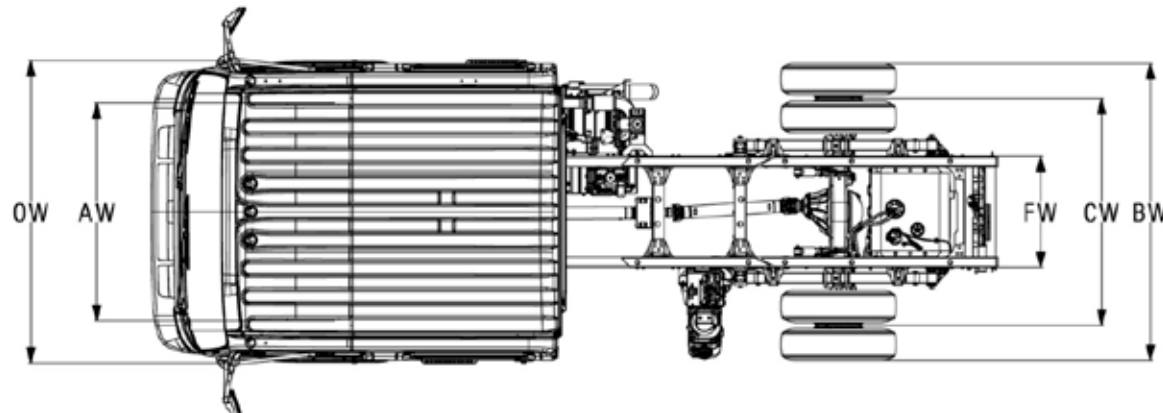


Figure 14.3.1

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.

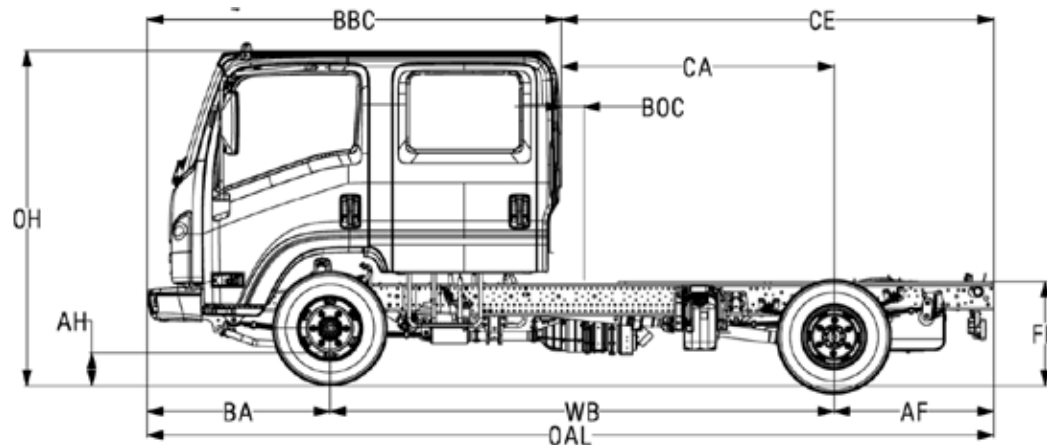


Figure 14.3.2

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

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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

2018 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

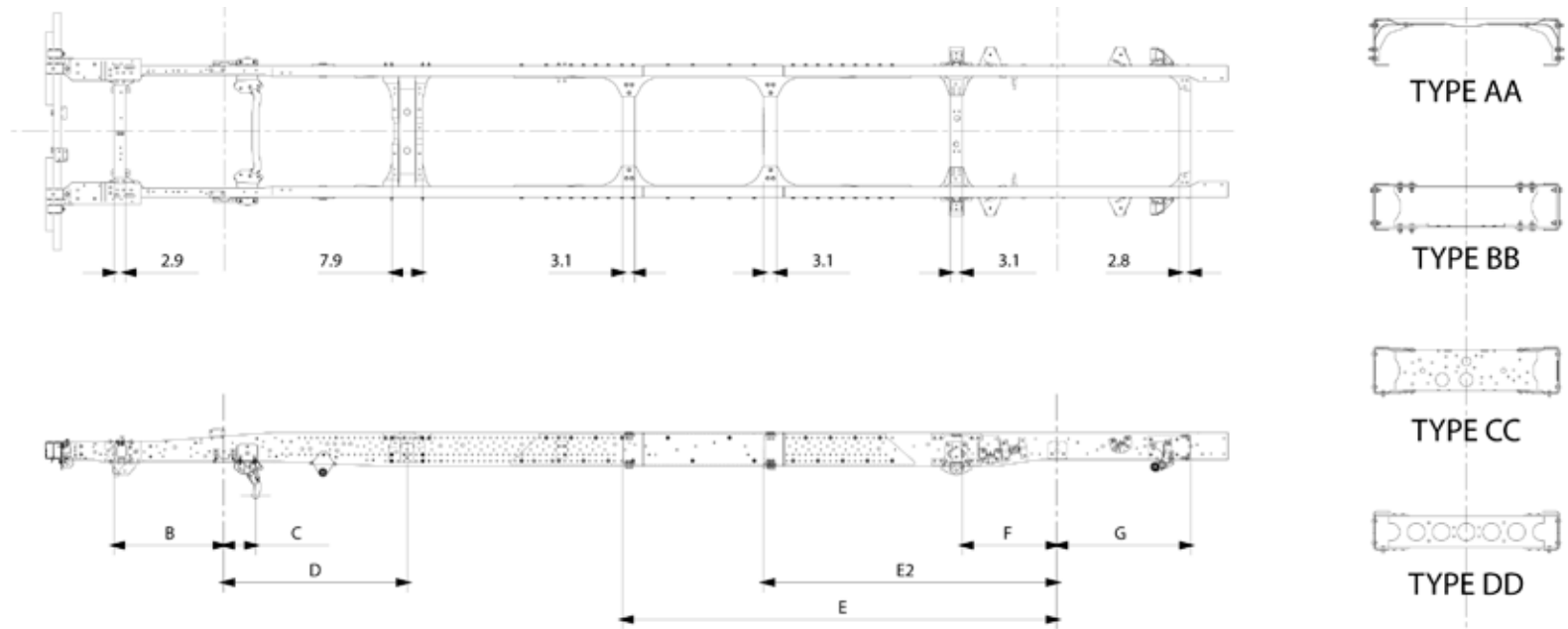


Figure 14.5.1

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

2018 Chevrolet Low Cab Forward

Frame Chart

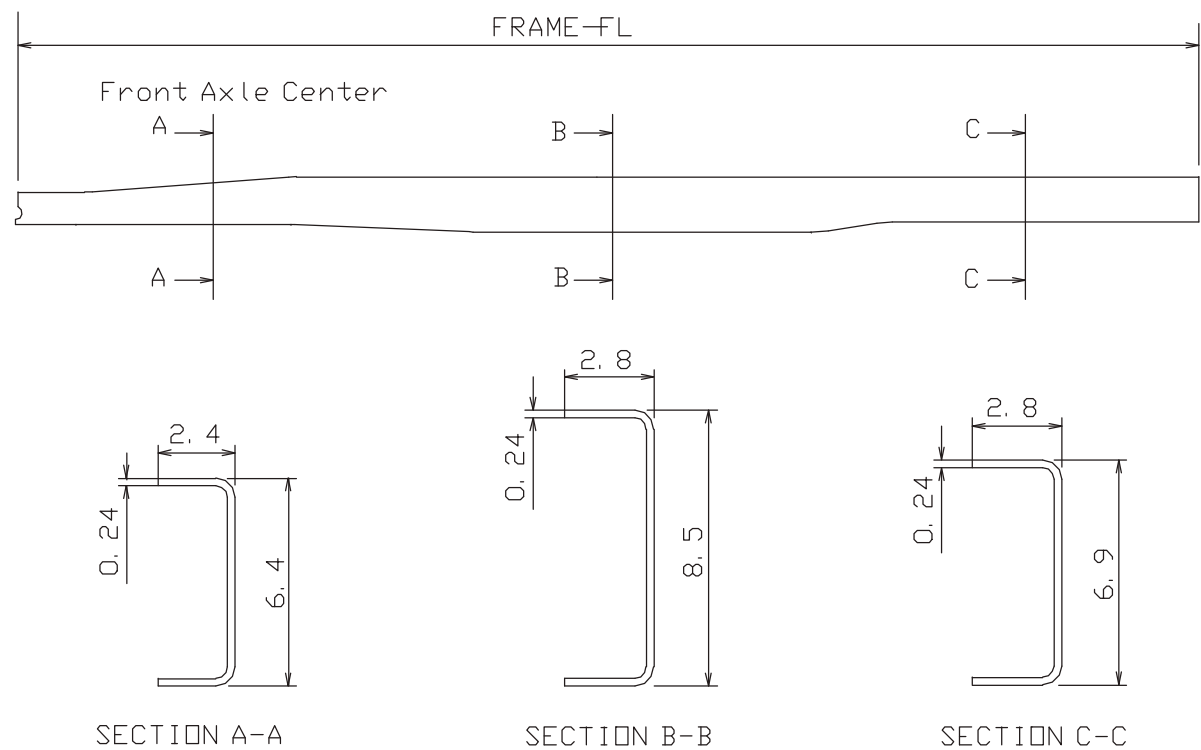


Figure 14.6.1

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

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4500HD, 5500HD Diesel Standard Crew Cab Top View

Wb	A	B
150	67.0	101.6
176	76.5	111.1

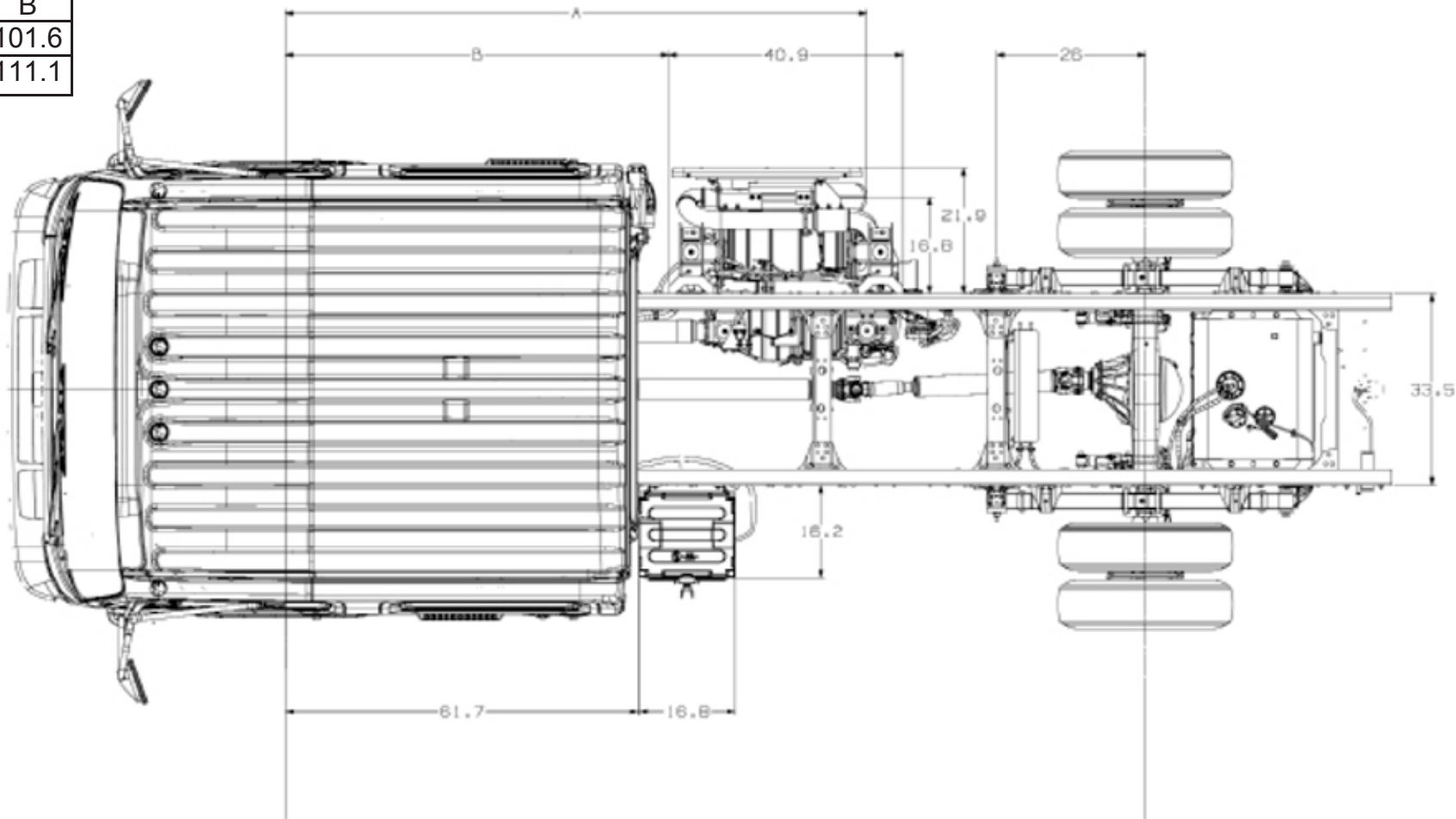


Figure 14.7.1

Note: Dimensions in inches

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4500HD, 5500HD Diesel Standard Crew Cab Left Side View

WB	A
150	104.3
176	113.8

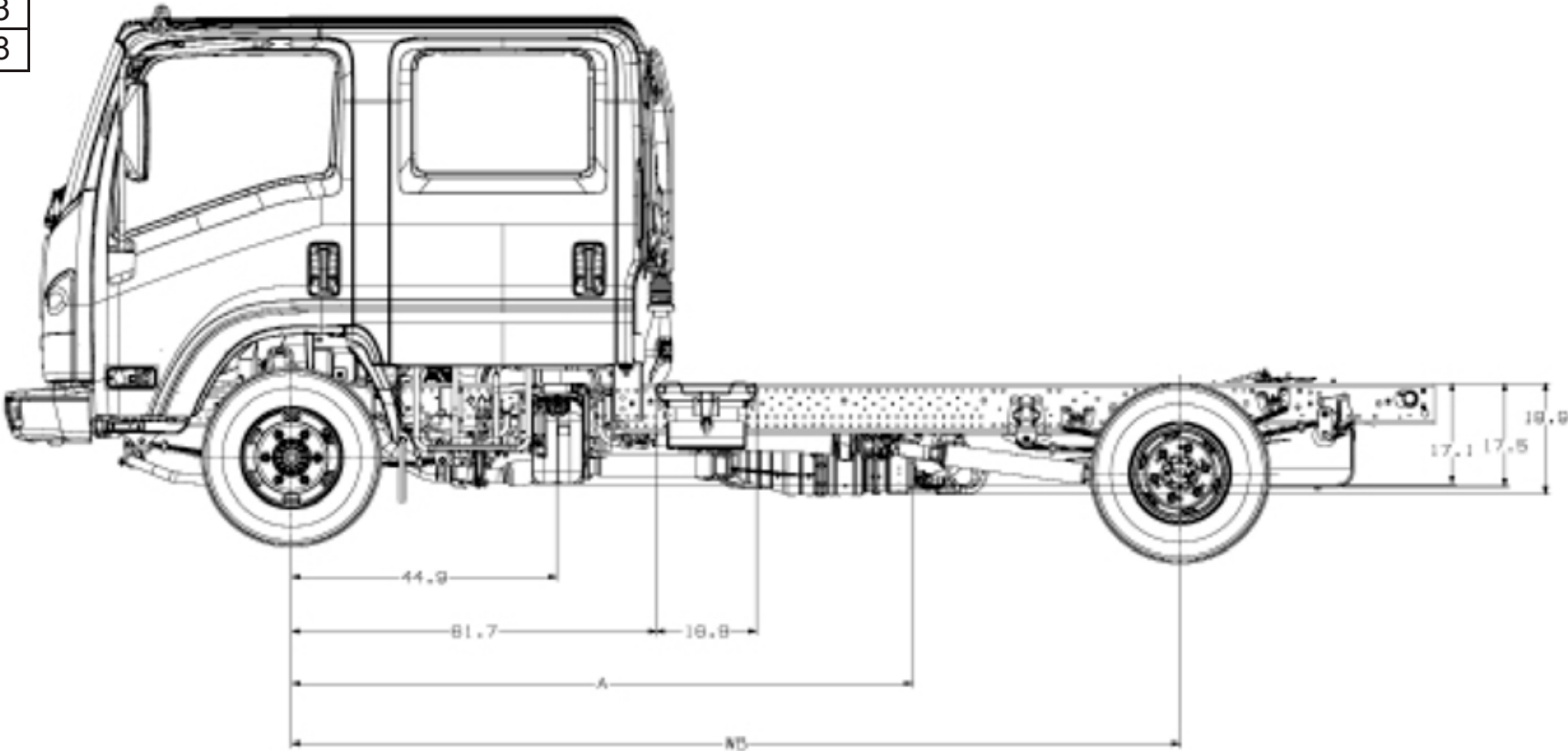


Figure 14.8.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

4500HD, 5500HD Diesel Standard Cab Right Side View

WB	A
150	67.6
176	77.1

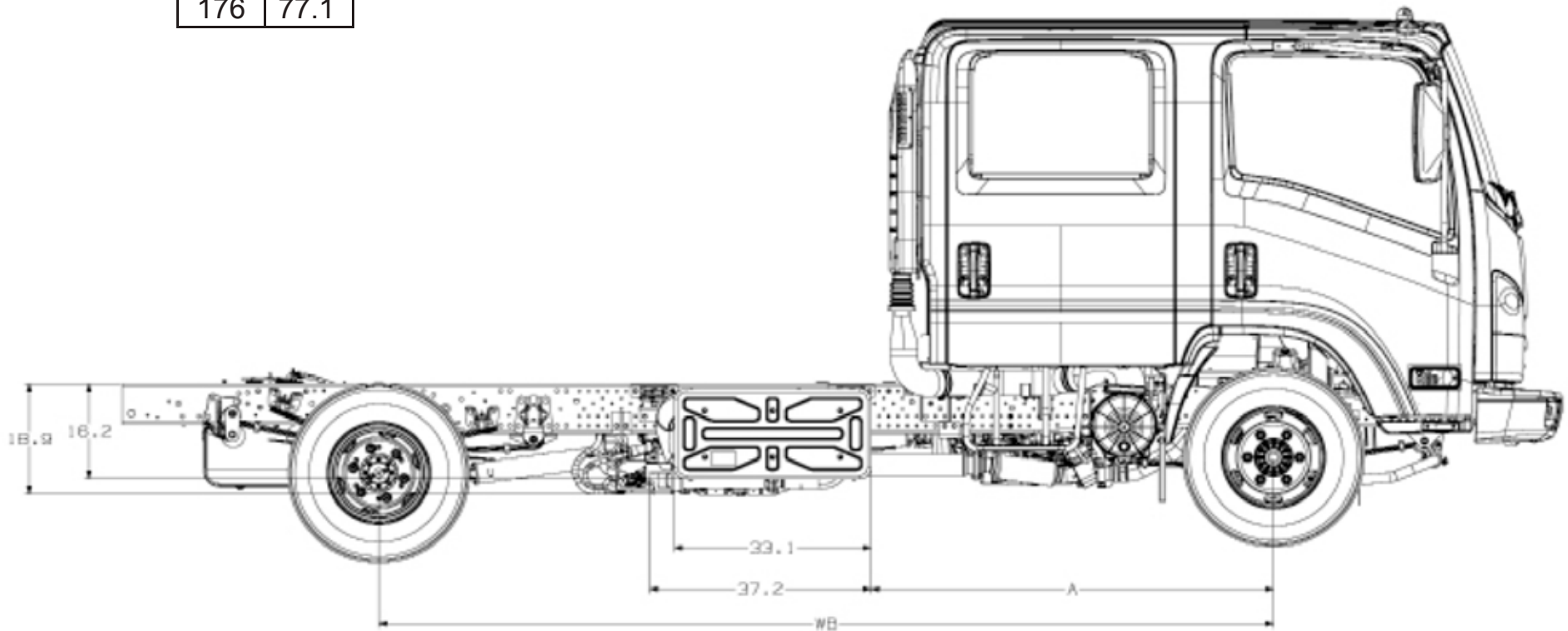
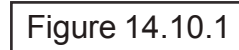


Figure 14.9.1

Note: Dimensions in inches

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

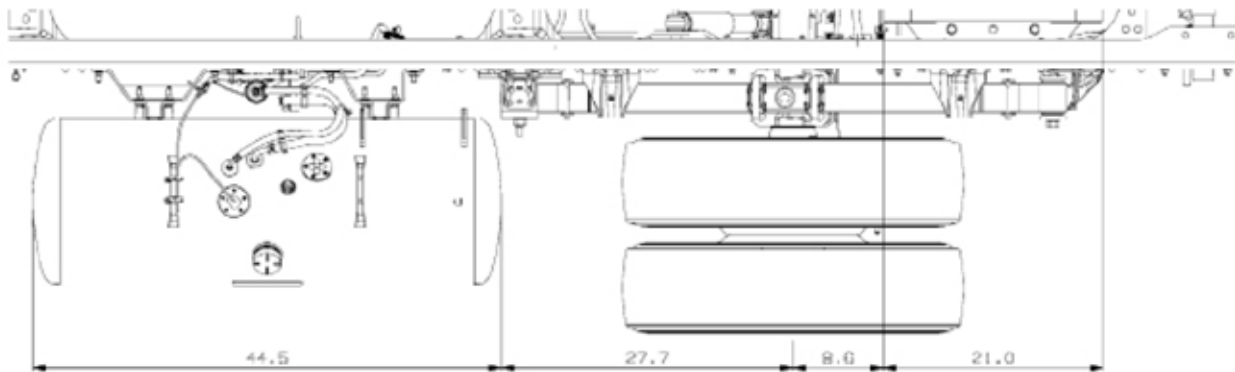


Figure 14.11.1

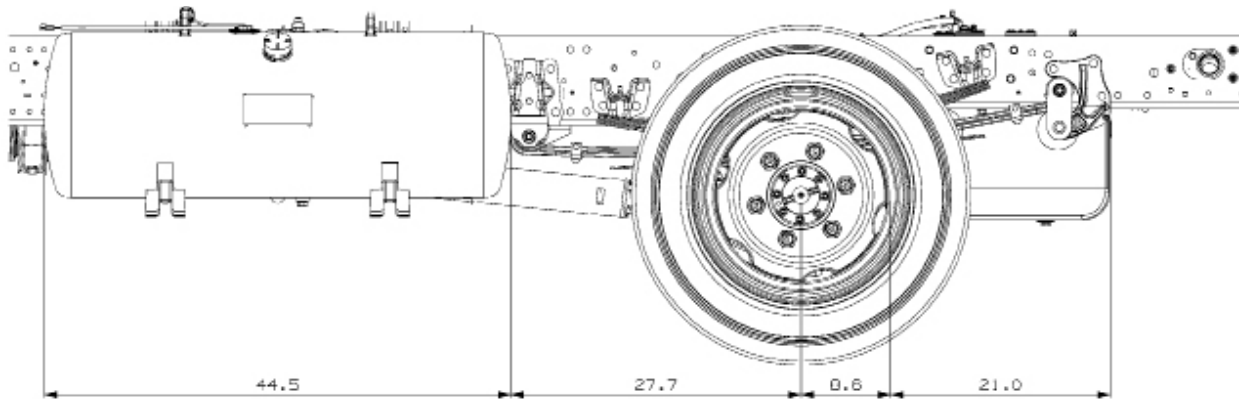


Figure 14.11.2

Note: Dimensions in inches

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Center of Gravity

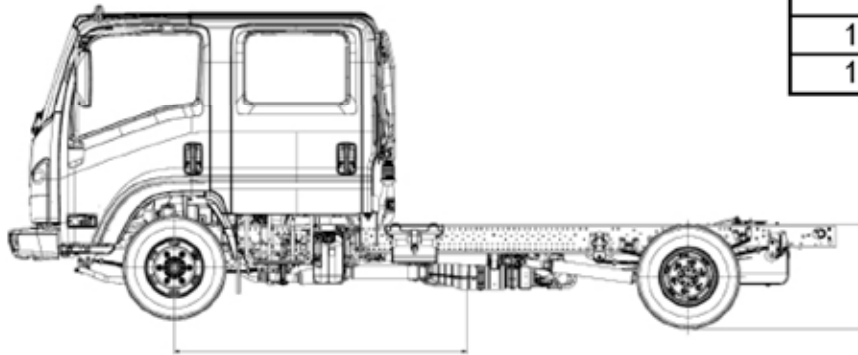


Figure 14.12.1

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

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Turning Diameters

TURNING DIAMETERS

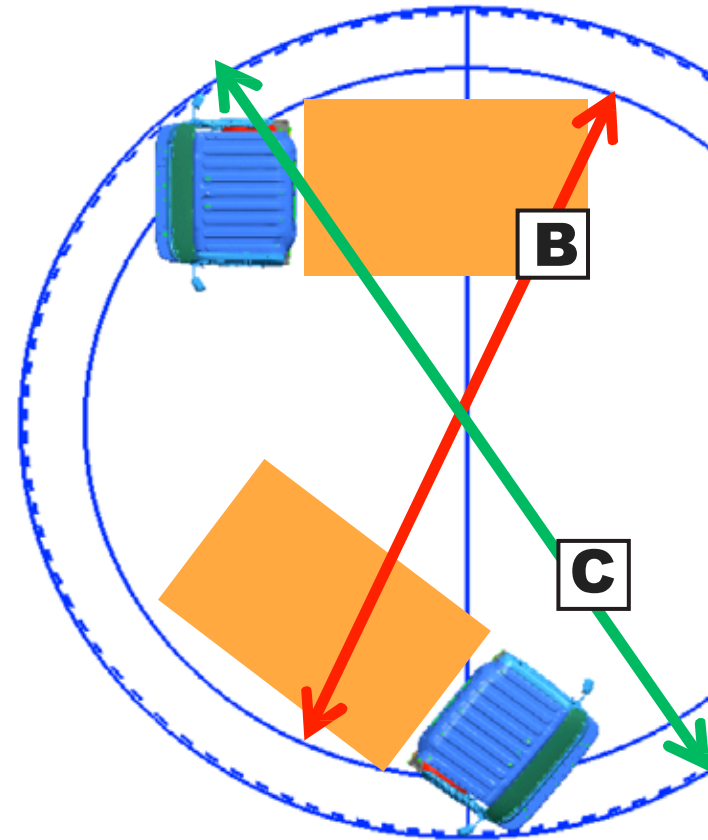
The LCF Series Diesel steering also features a 46.50 inside wheel cut angle. This, coupled with the integral power steering, makes the LCF Series Diesel an extremely maneuverable truck.

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



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Front Axle Chart 4500HD

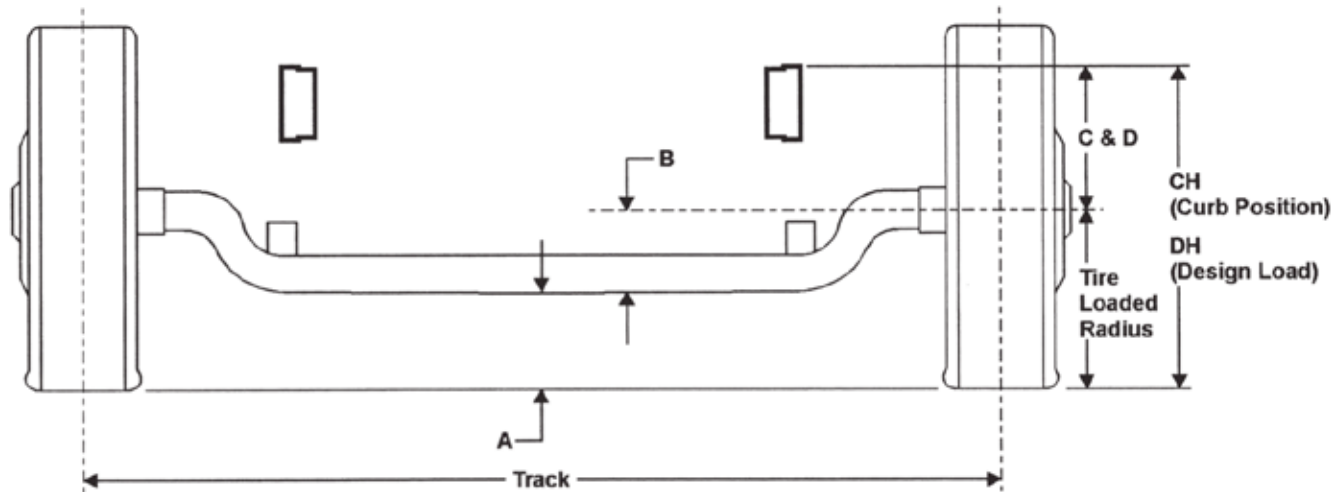


Figure 14.14.1

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

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Front Axle Chart 5500HD

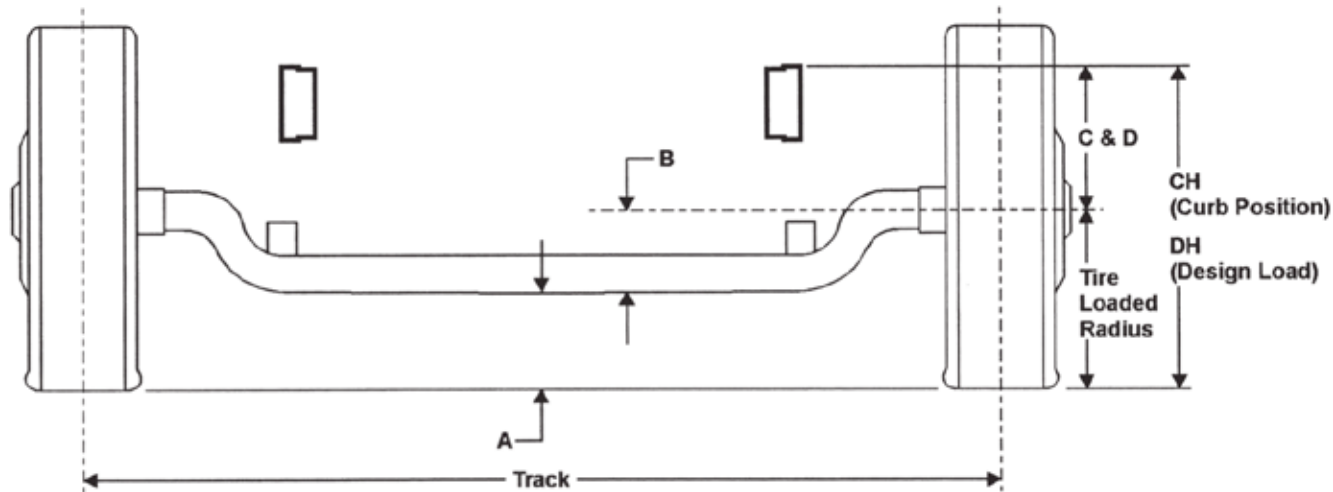


Figure 14.15.1

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

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Rear Axle Chart 4500HD

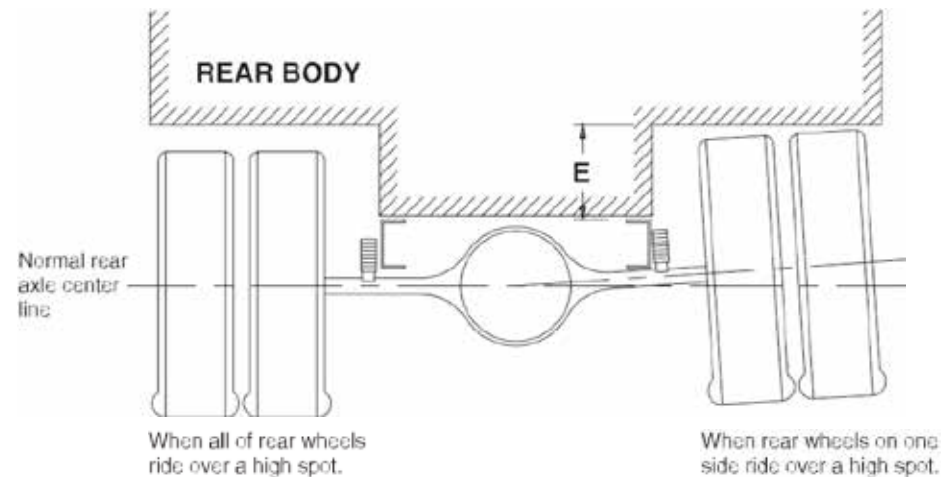
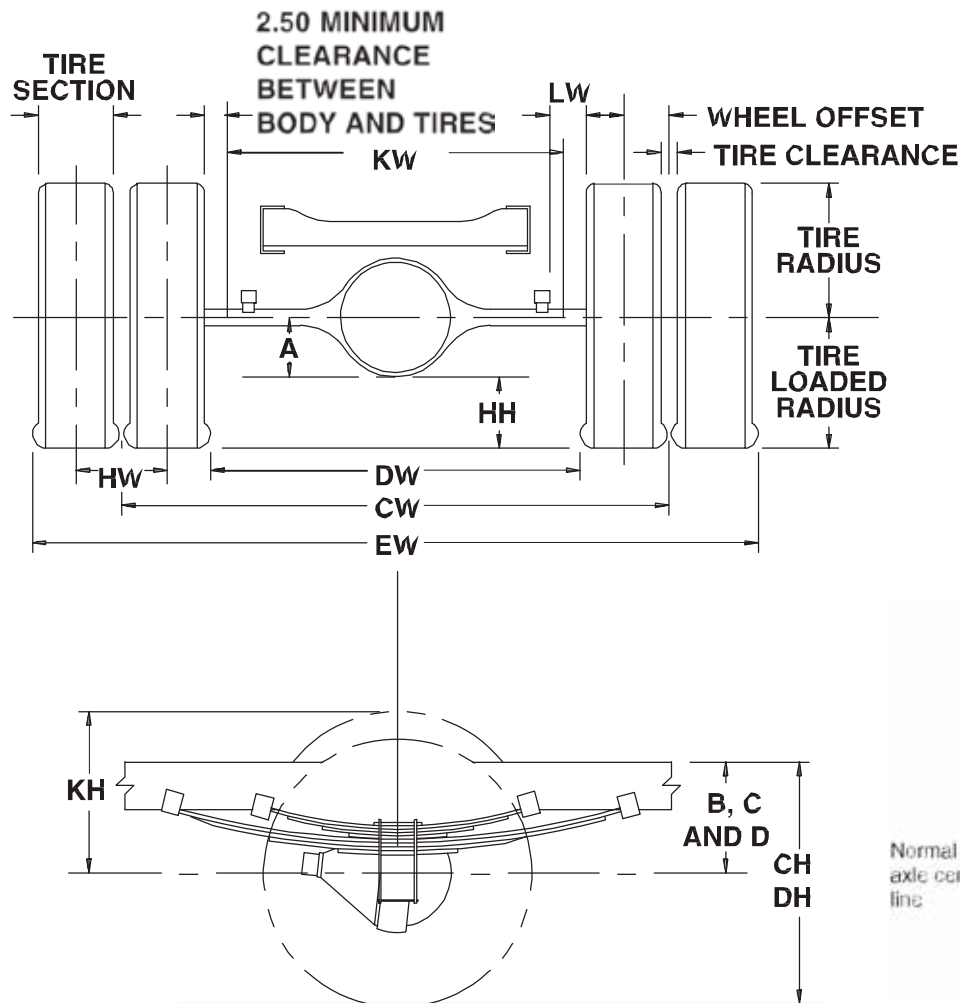


Figure 14.16.1

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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 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

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Rear Axle Chart 5500HD

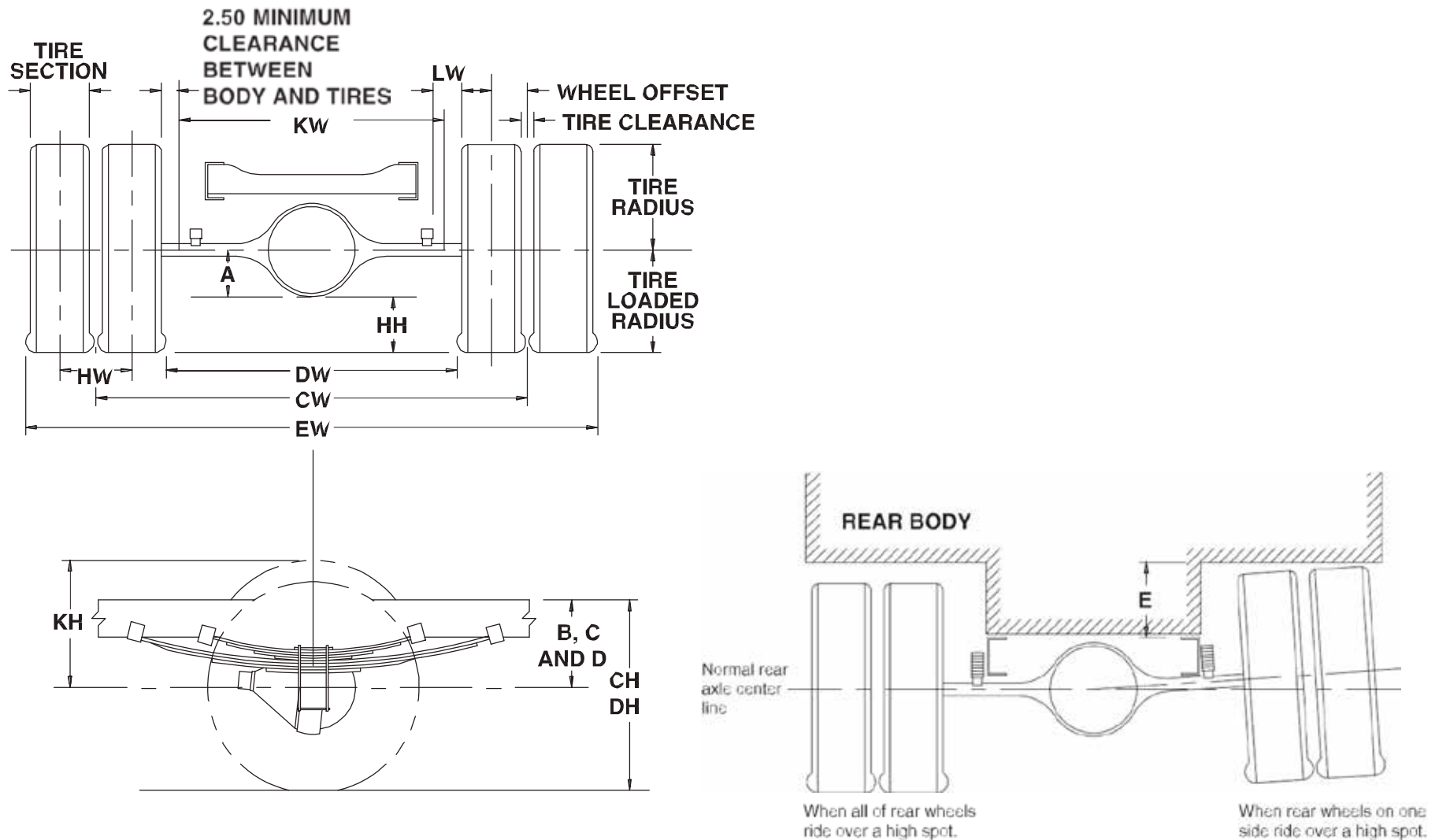


Figure 14.18.1

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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 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

2018 Chevrolet Low Cab Forward

4500HD Suspension Deflection Charts

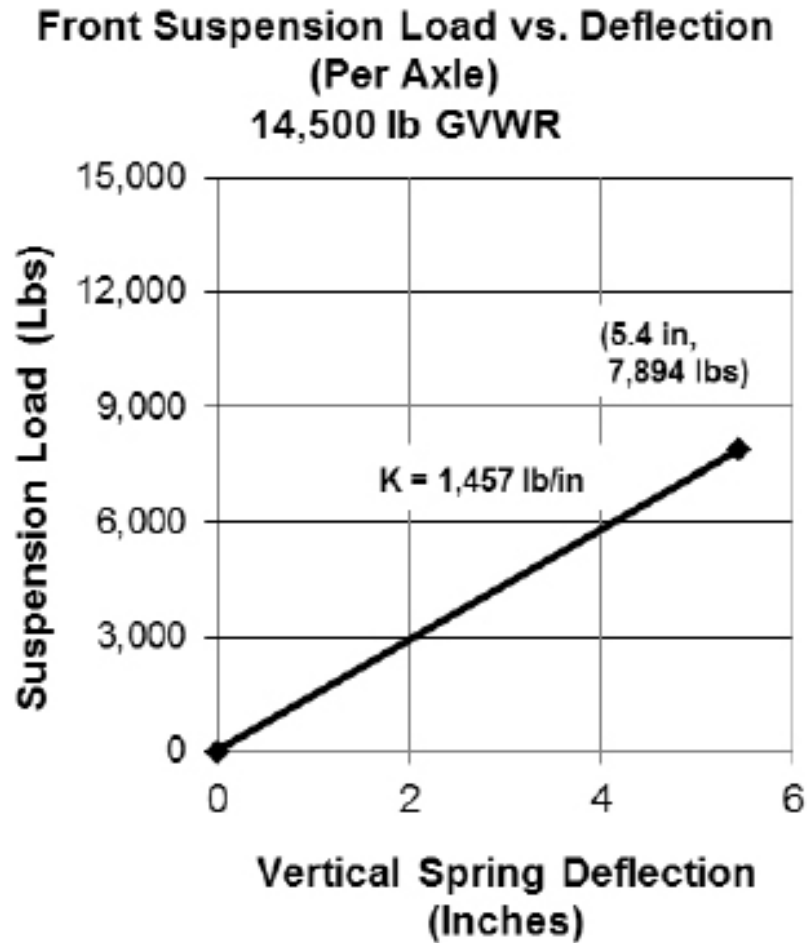


Figure 14.20.1

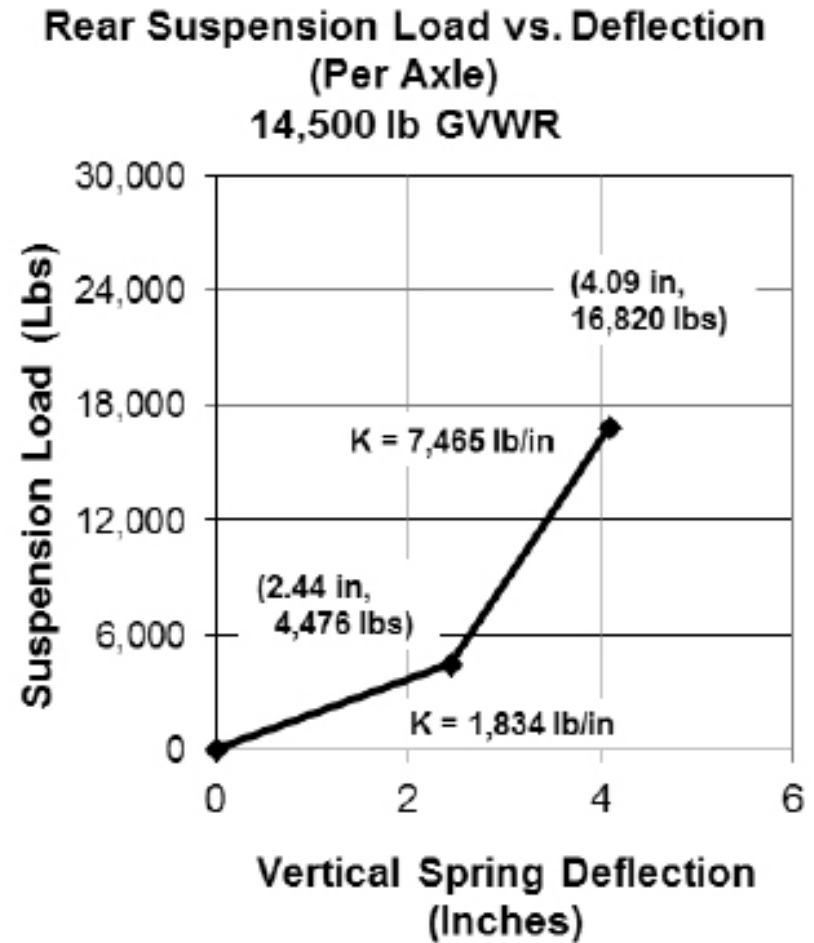


Figure 14.20.2

2018 Chevrolet Low Cab Forward

5500HD Suspension Deflection Charts

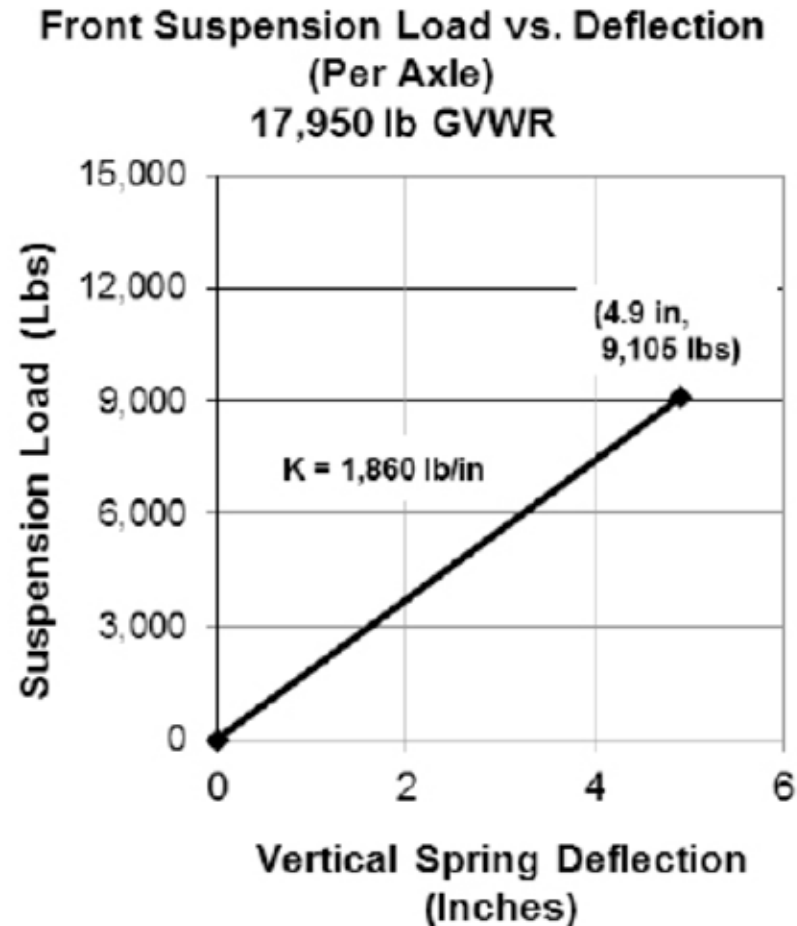


Figure 14.21.1

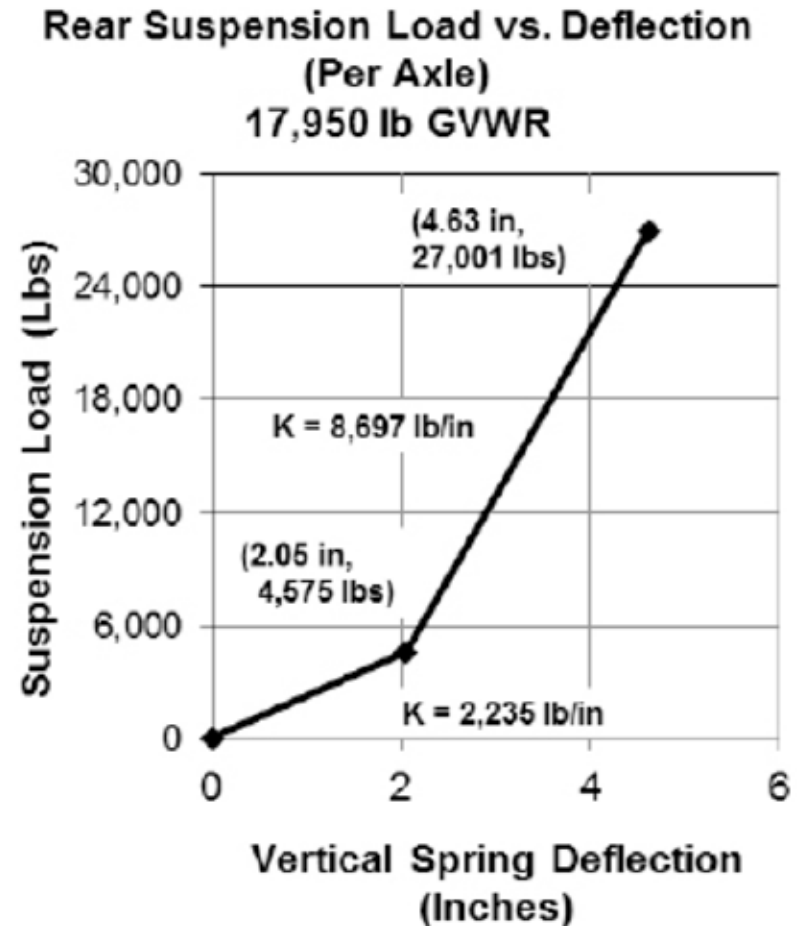


Figure 14.21.2

2018 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

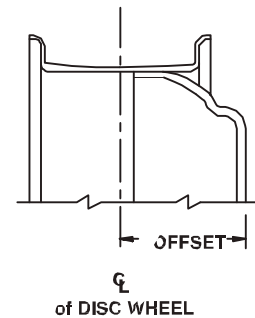
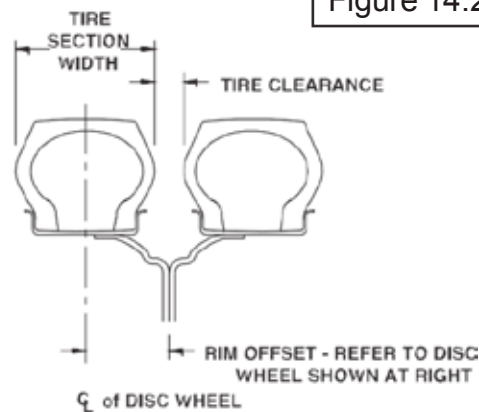


Figure 14.22.4

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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

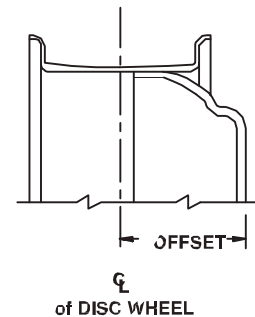
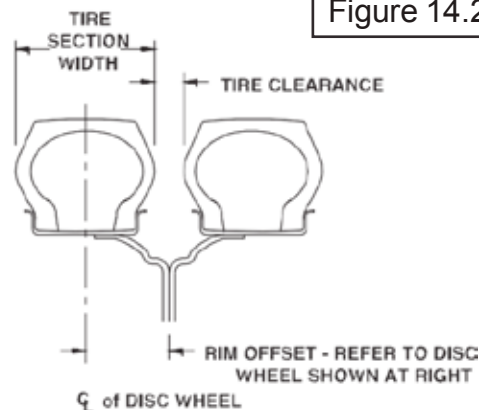


Figure 14.23.4

Note: Dimensions in inches

Revision: 11/30/2017

2018 Chevrolet Low Cab Forward

Propeller Shaft 4500HD, 5500HD

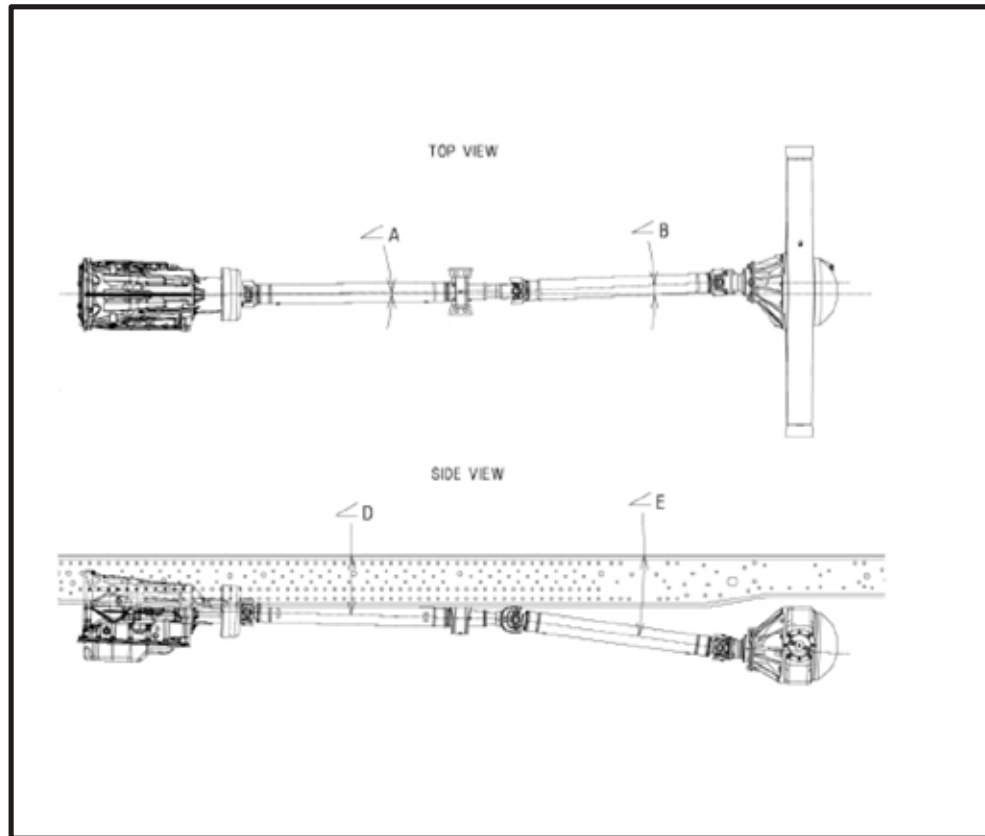


Figure 14.24.1

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

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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

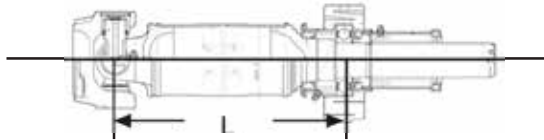
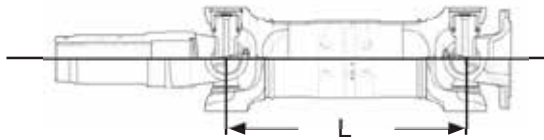
Type	Description	Illustration
Type B	1st shaft in 2-piece driveline	
Type C	2nd shaft in 2-piece driveline	

Figure 14.25.3

2018 Chevrolet Low Cab Forward

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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

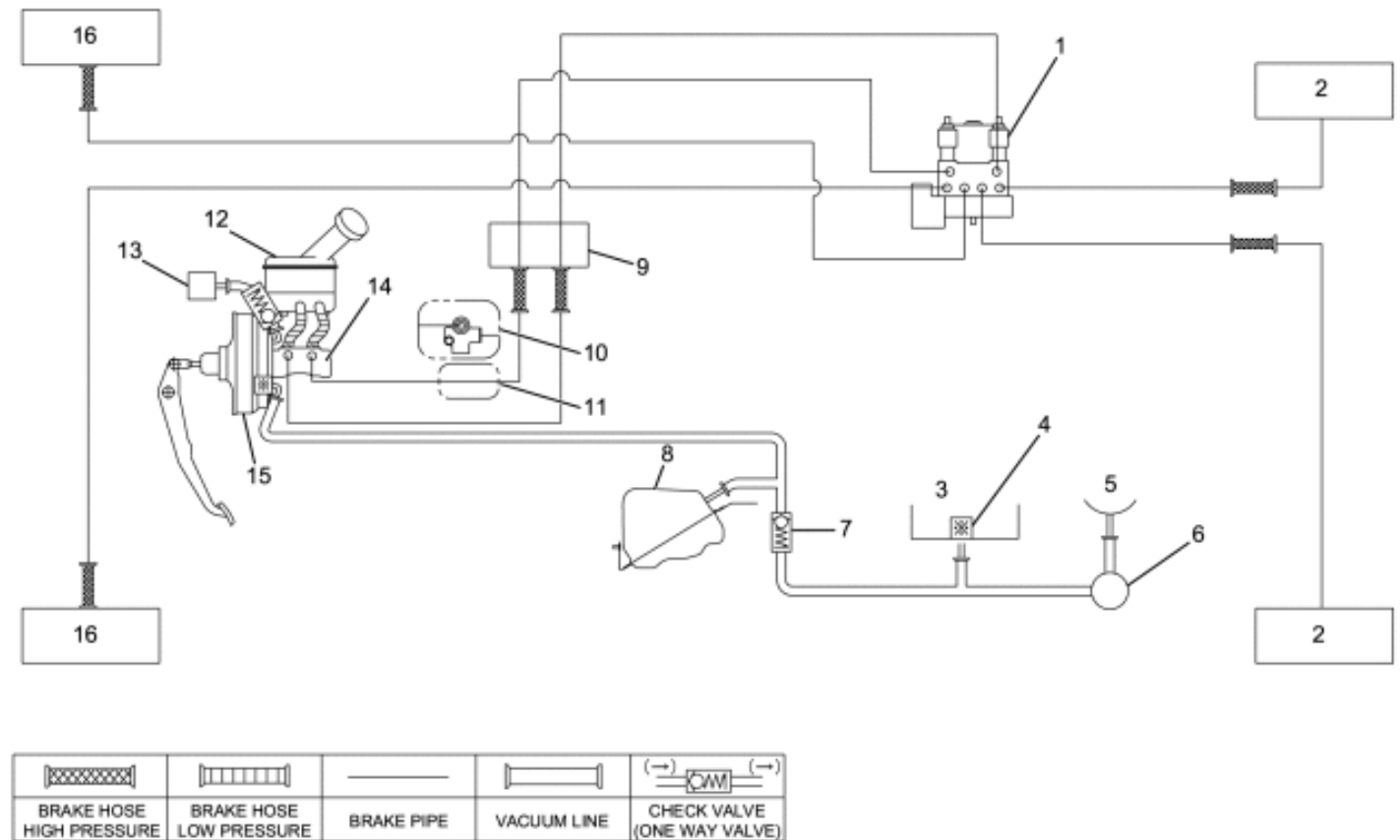


Figure 14.26.1

2018 Chevrolet Low Cab Forward

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

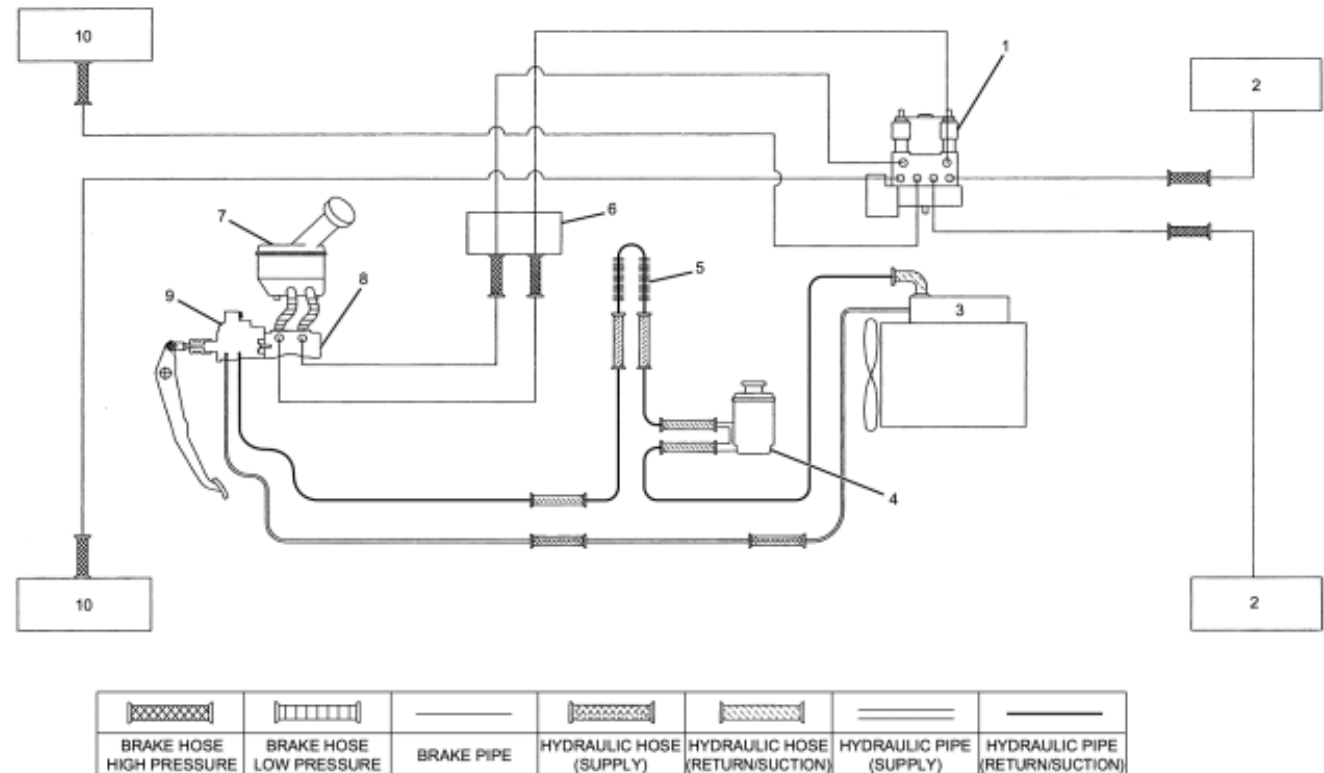


Figure 14.27.1

2018 Chevrolet Low Cab Forward

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PTO Location, Drive Gear and Opening Information

AUTOMATIC TRANSMISSION

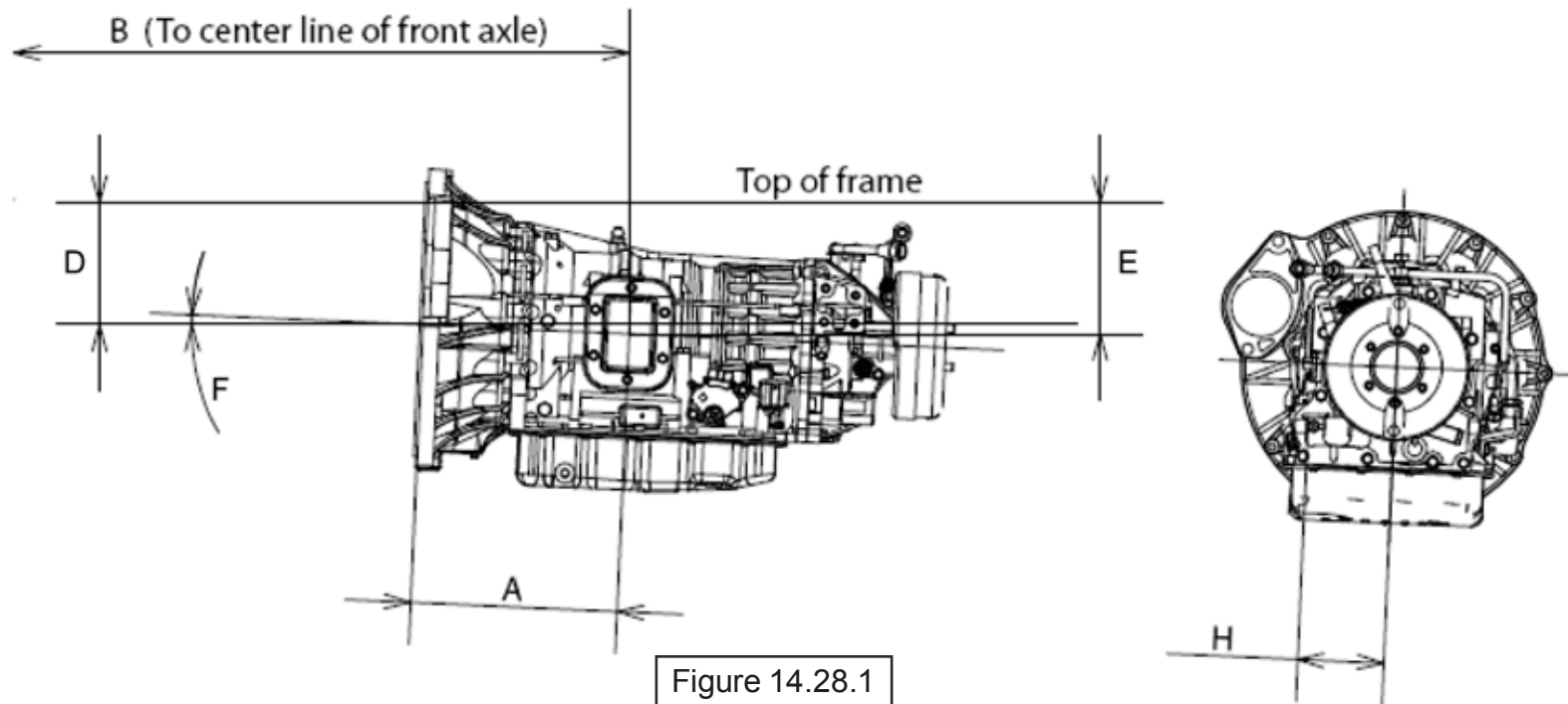


Figure 14.28.1

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

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

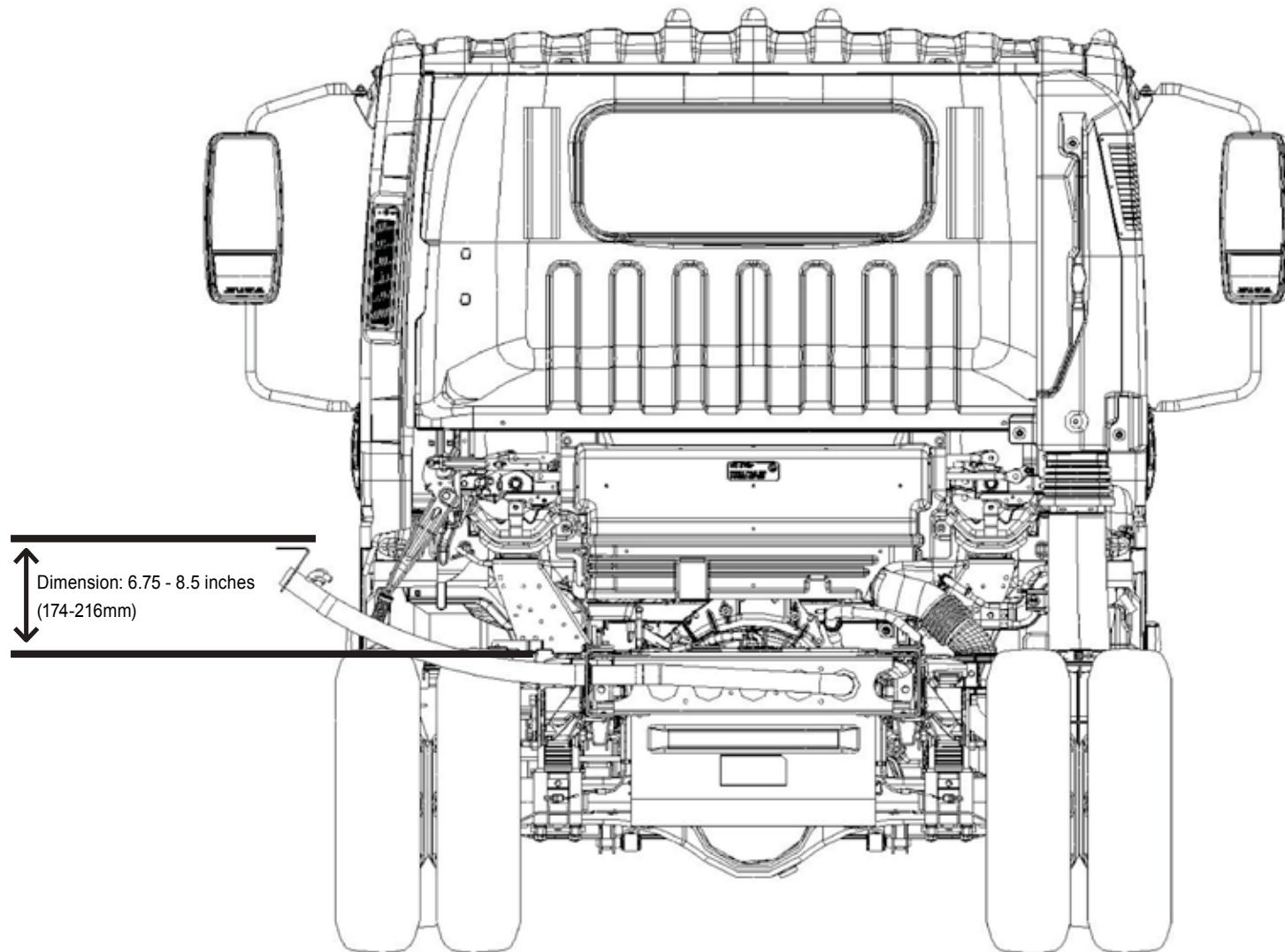
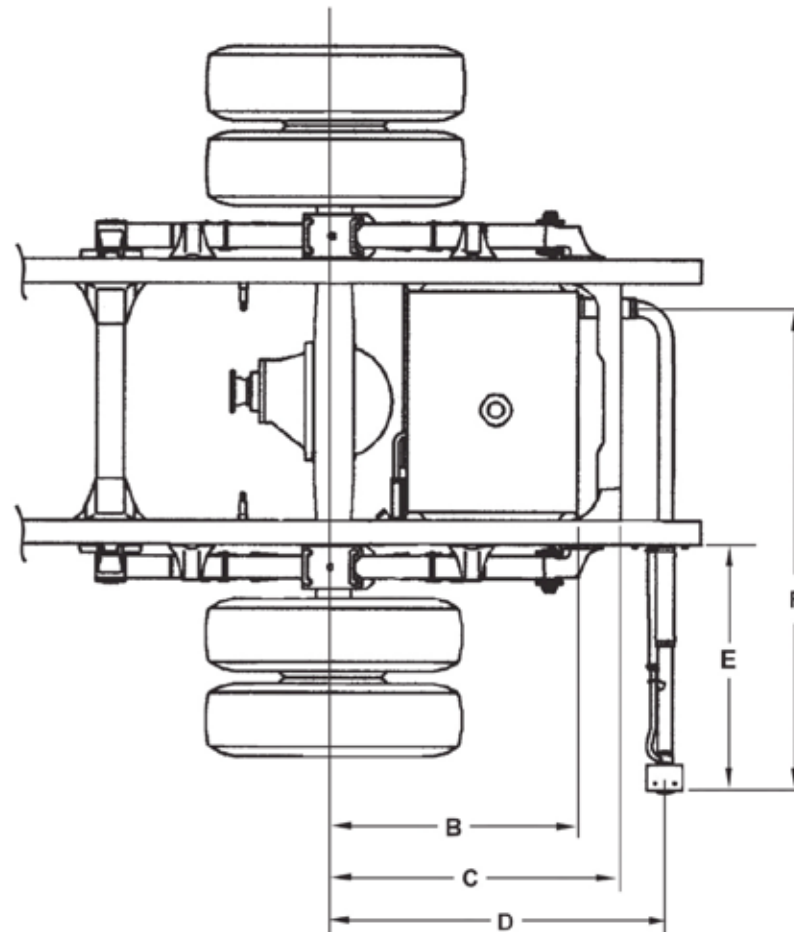


Figure 14.31.1

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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 14.32.1

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Hose Modification for Various Width Bodies and Fuel Fill Vent Protection

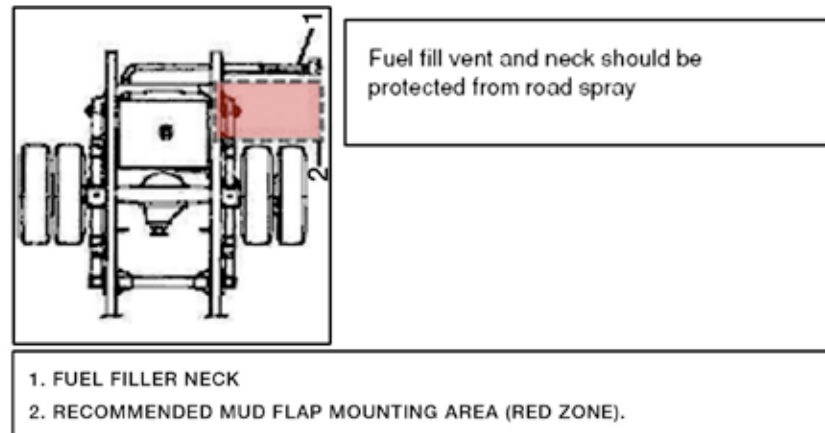
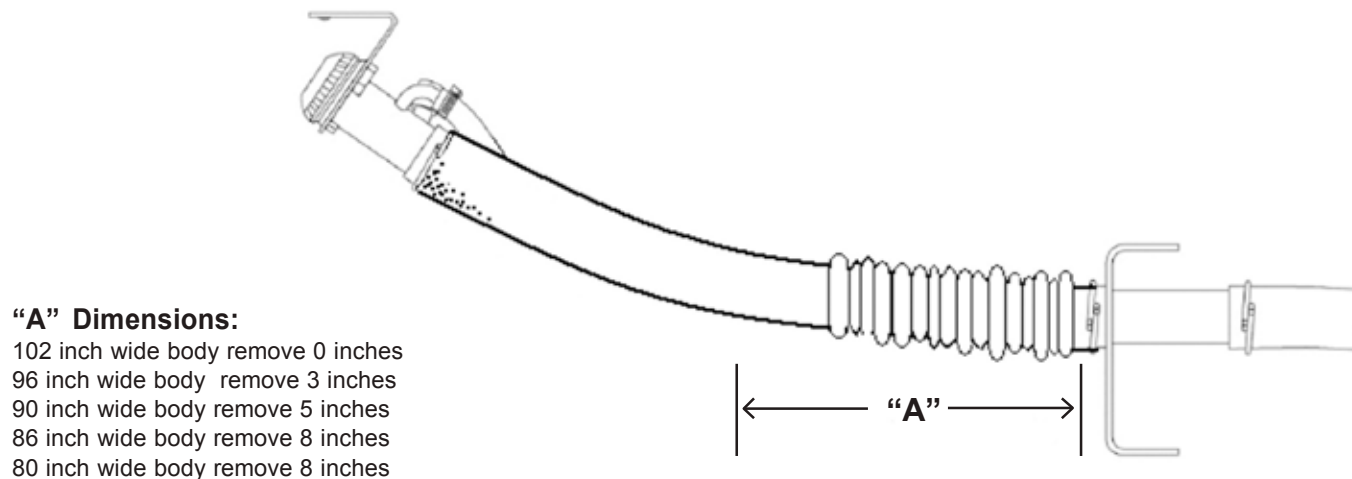


Figure 14.33.1



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

Figure 14.33.2

2018 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

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Through the Rail Fuel Fill Frame Hole

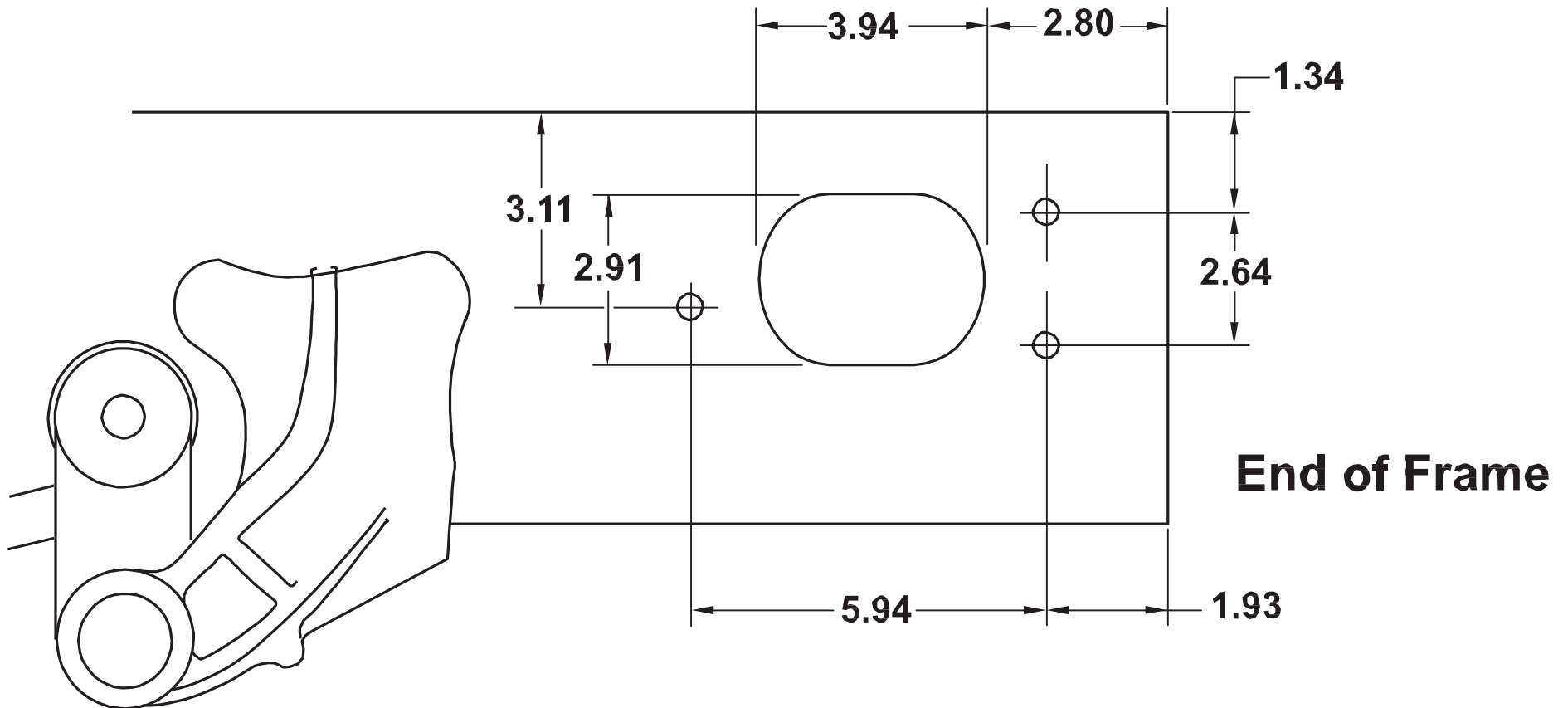


Figure 14.35.1

Note: Dimensions in inches

2018 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**.

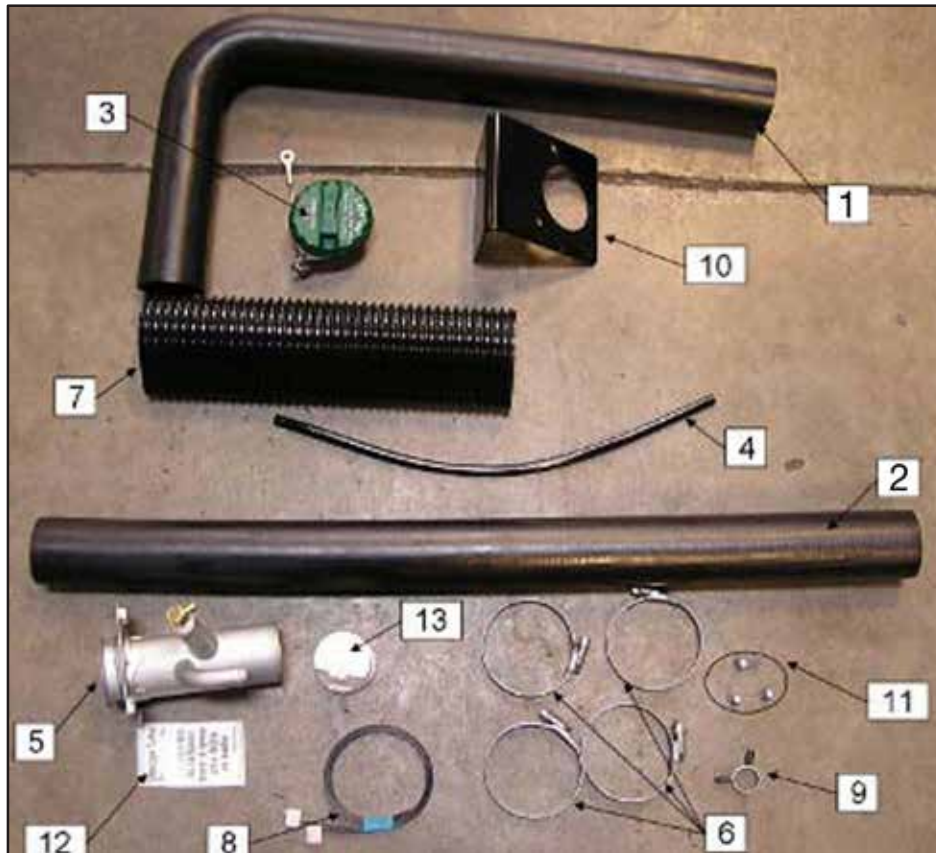


Figure 14.36.1

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

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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 assemble 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.

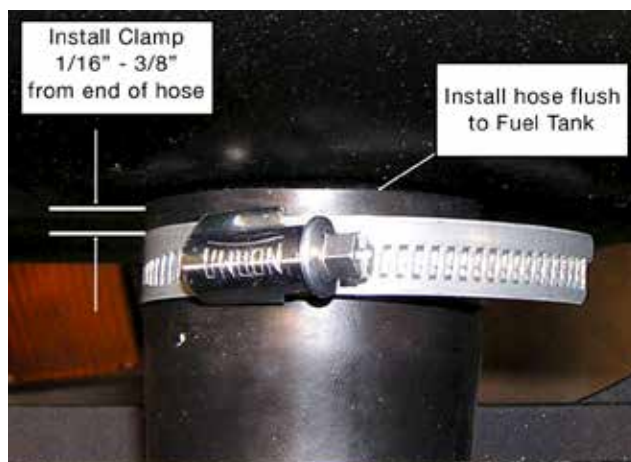


Figure 14.37.3

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**.

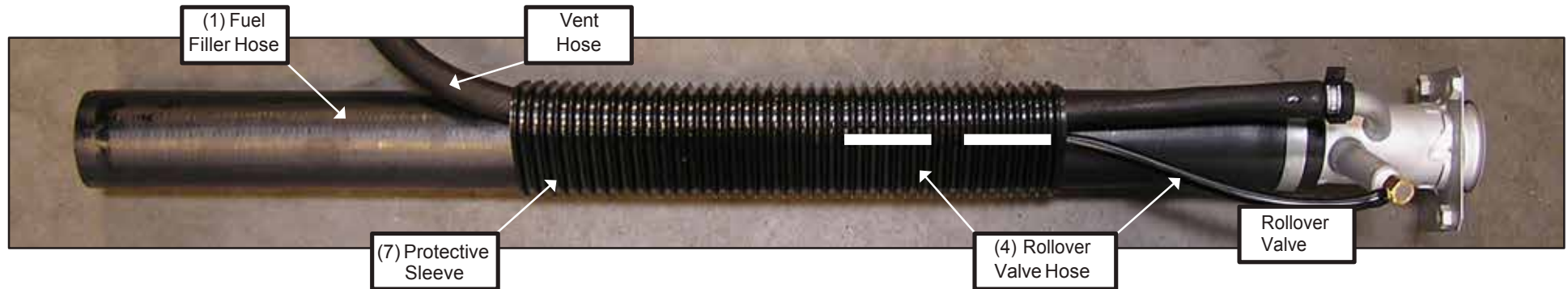


Figure 14.38.1

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.

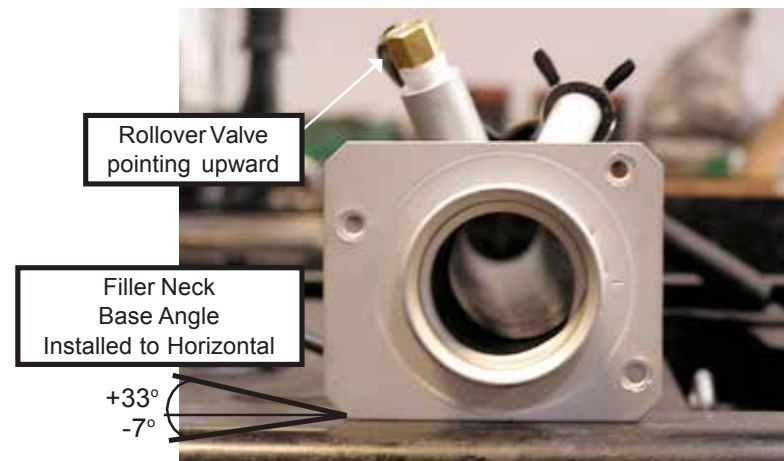


Figure 14.38.2

2018 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.

2018 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

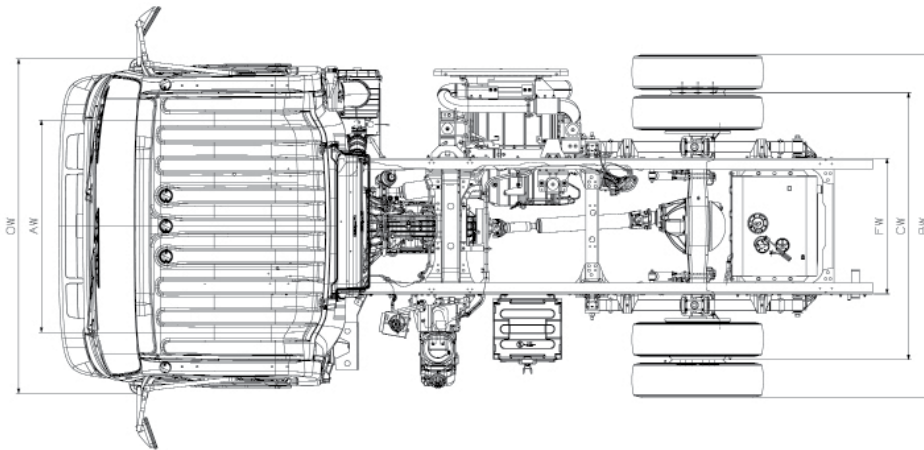


Figure 15.2.1

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		

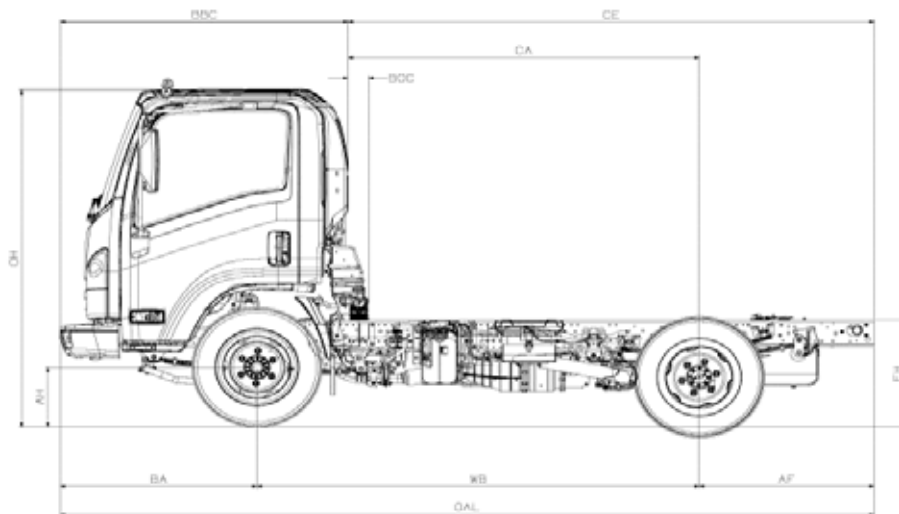


Figure 15.2.2

2018 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

2018 Chevrolet Low Cab Forward

Frame and Crossmember Specifications

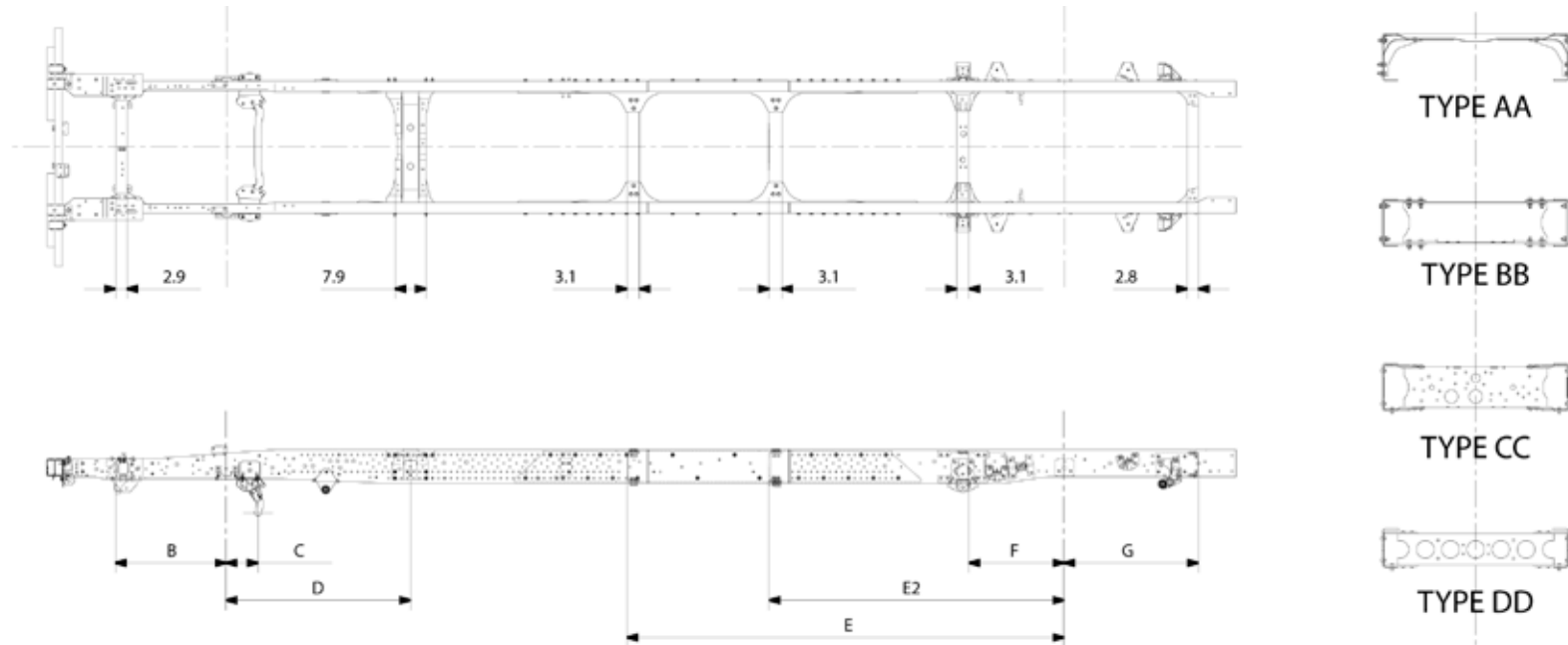


Figure 15.4.1

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

2018 Chevrolet Low Cab Forward

Frame Chart

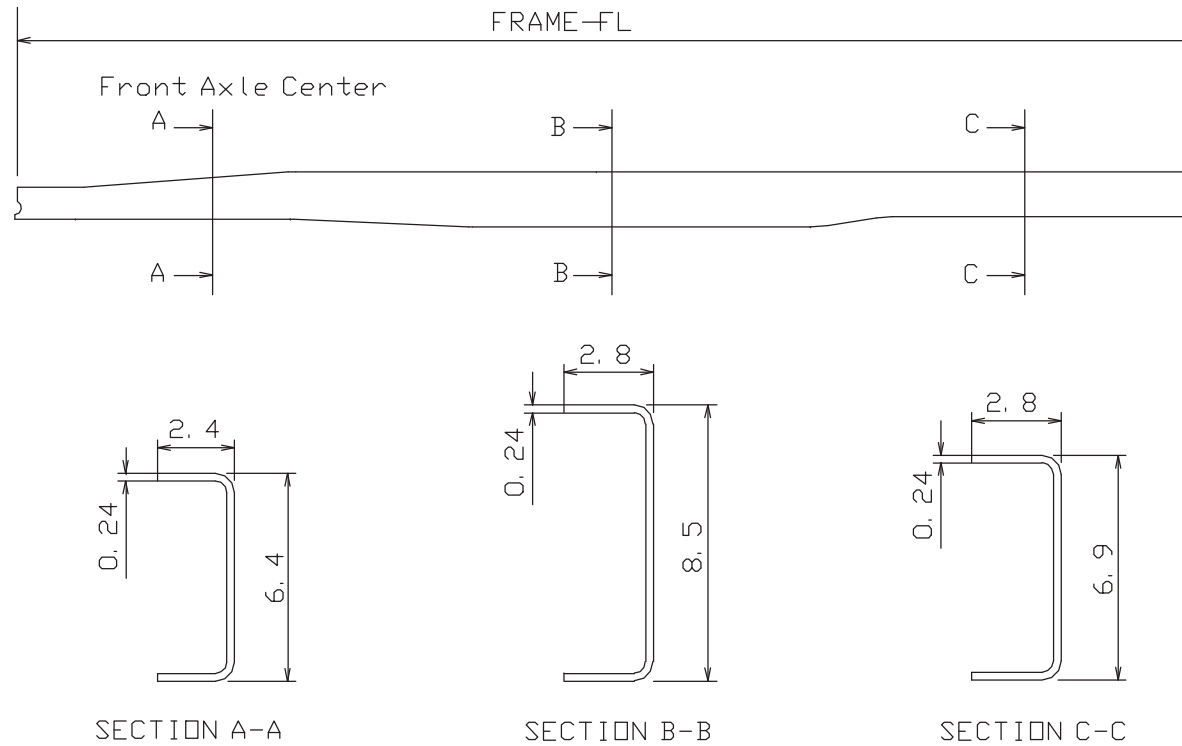


Figure 15.5.1

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

2018 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

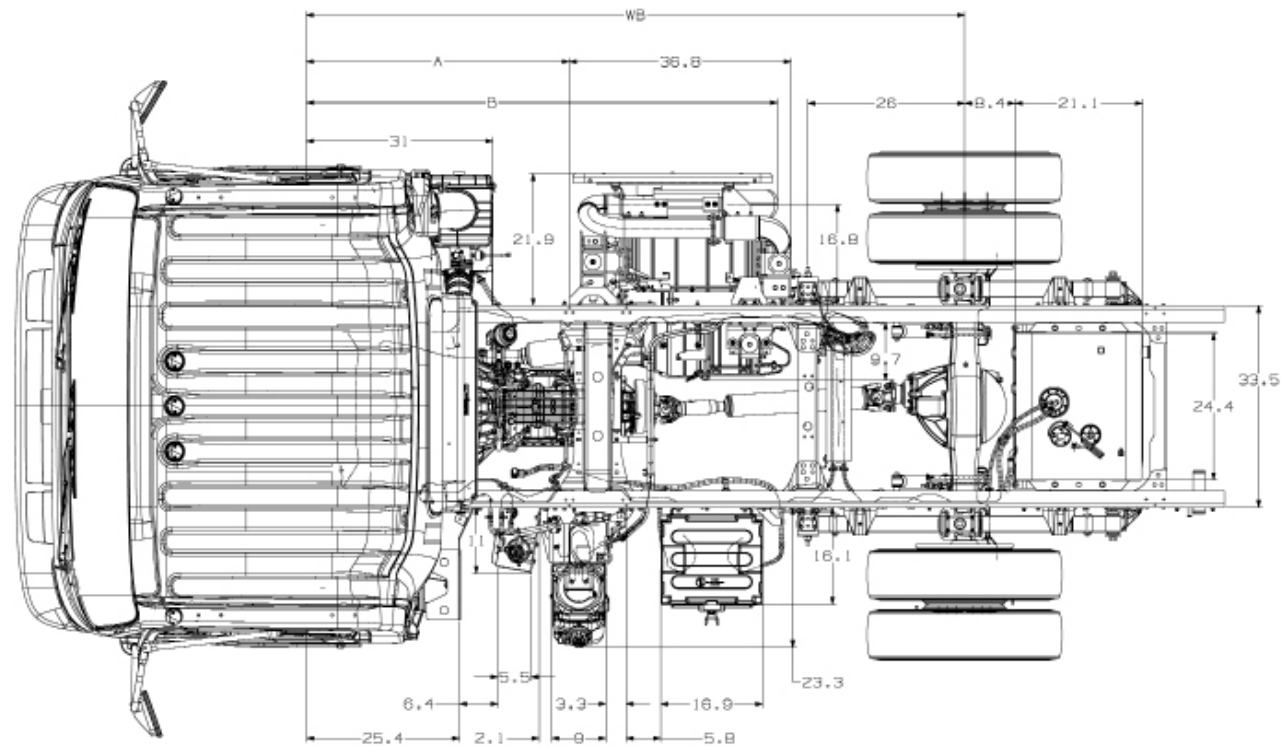


Figure 15.6.1

Note: Dimensions in inches

2018 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

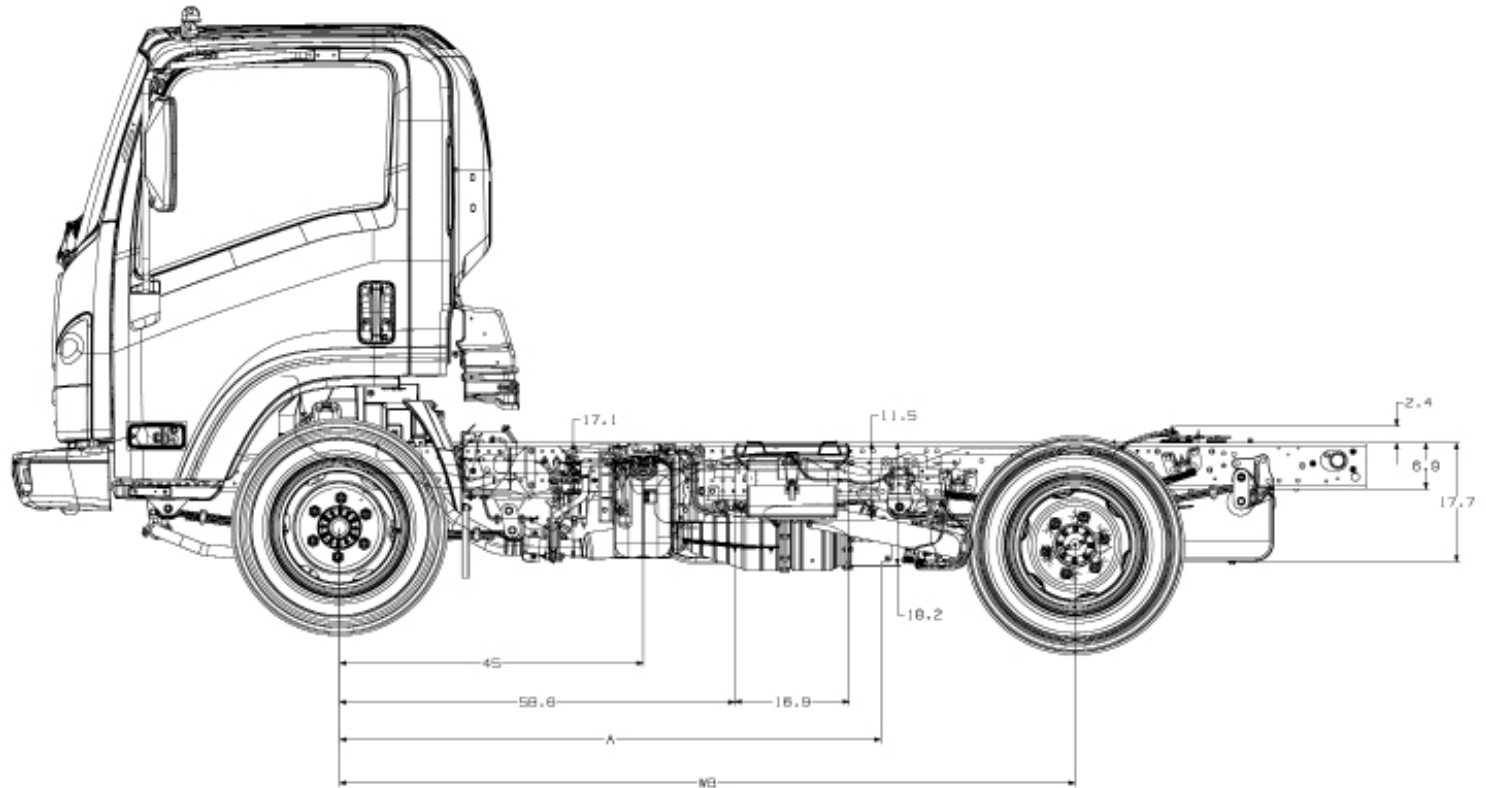


Figure 15.7.1

Note: Dimensions in inches

2018 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

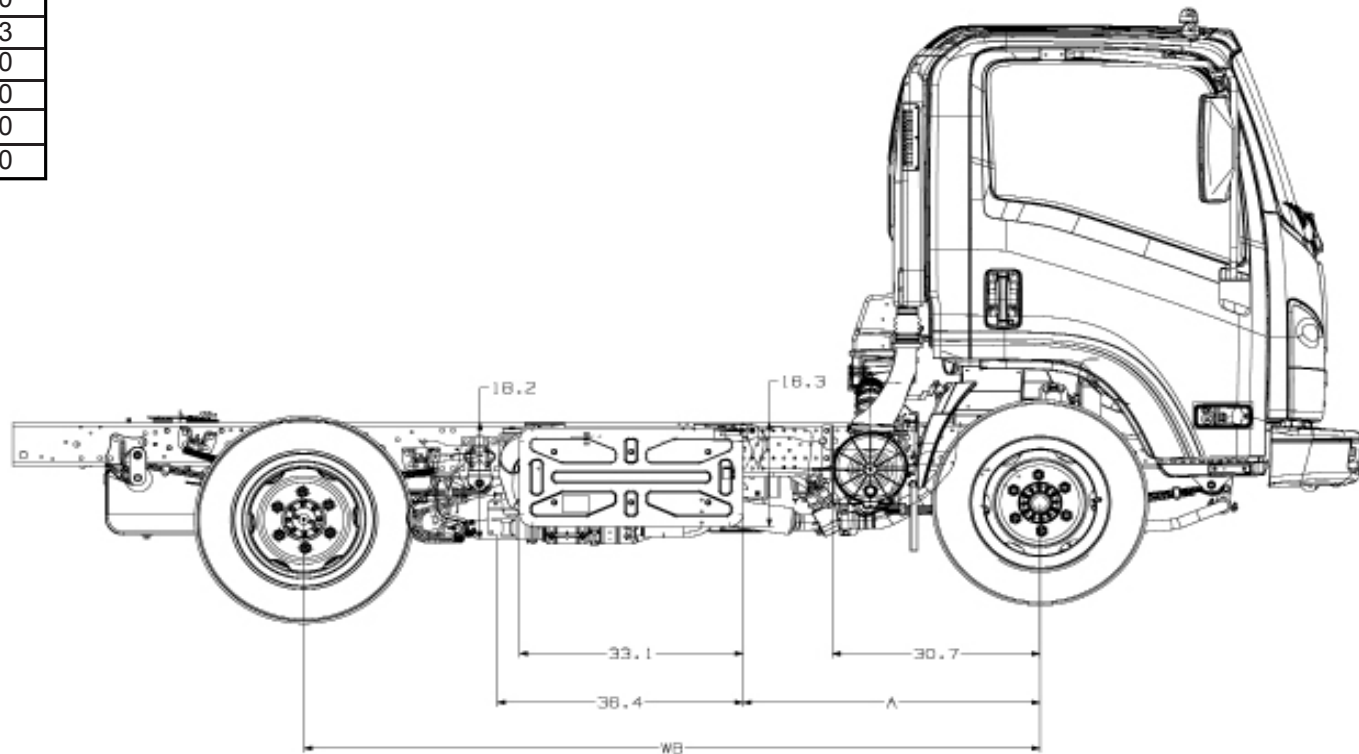


Figure 15.8.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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SCR / DPF 4HK1-TC

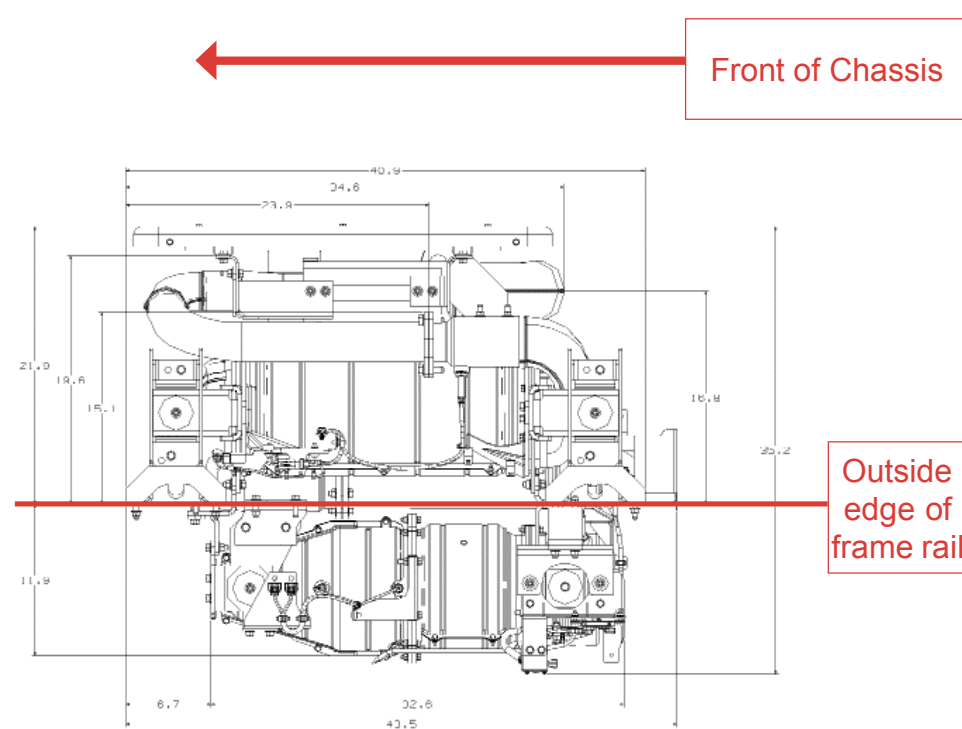


Figure 15.9.1

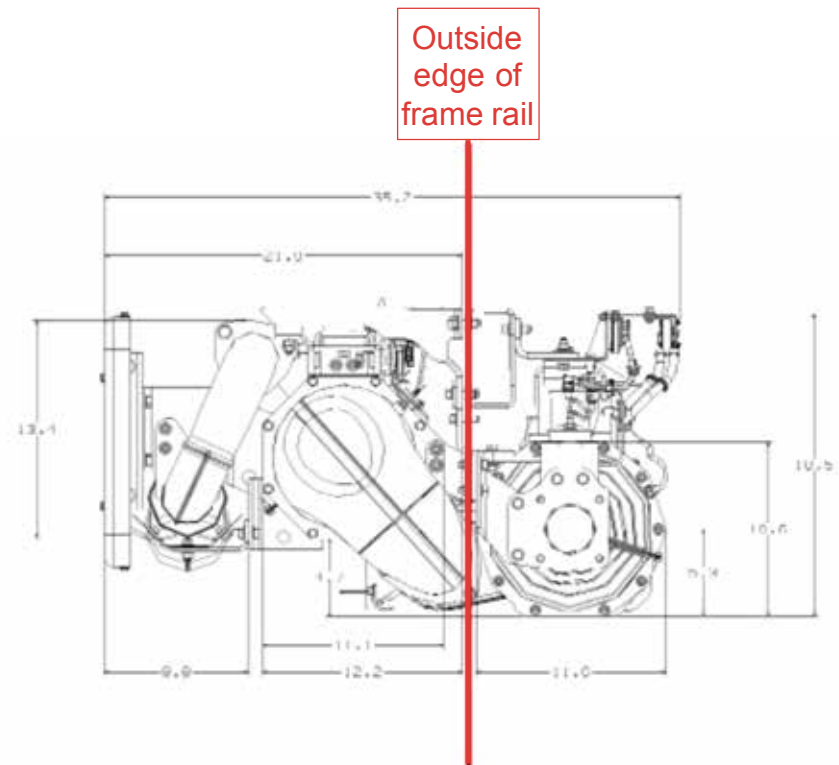


Figure 15.9.2

Note: Dimensions in inches

2018 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 150 Wheelbase

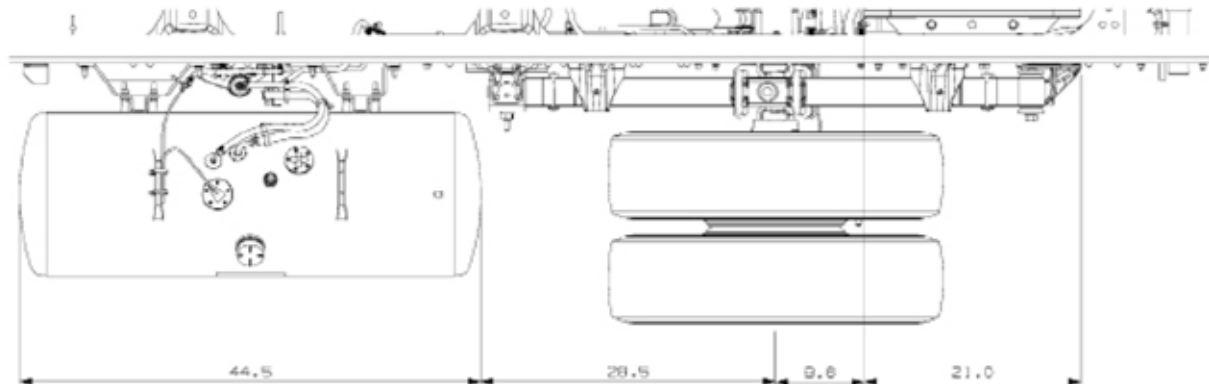


Figure 15.10.1

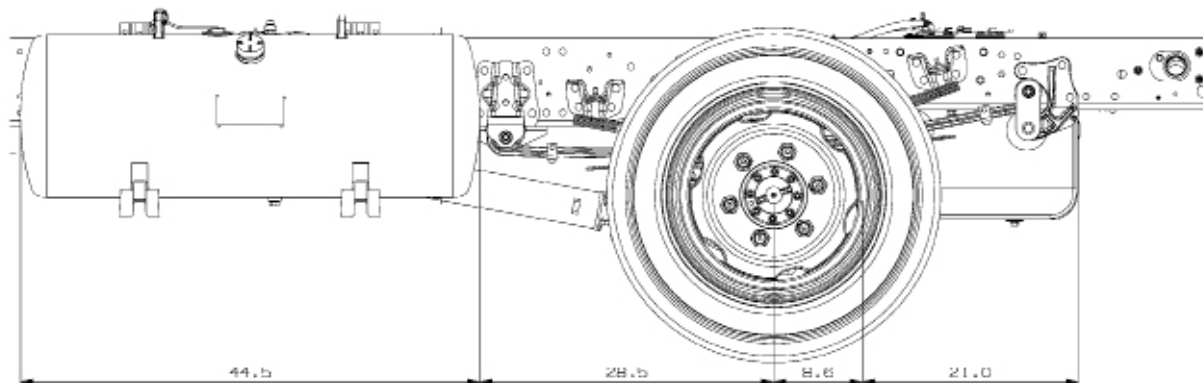


Figure 15.10.2

Note: Dimensions in inches

2018 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

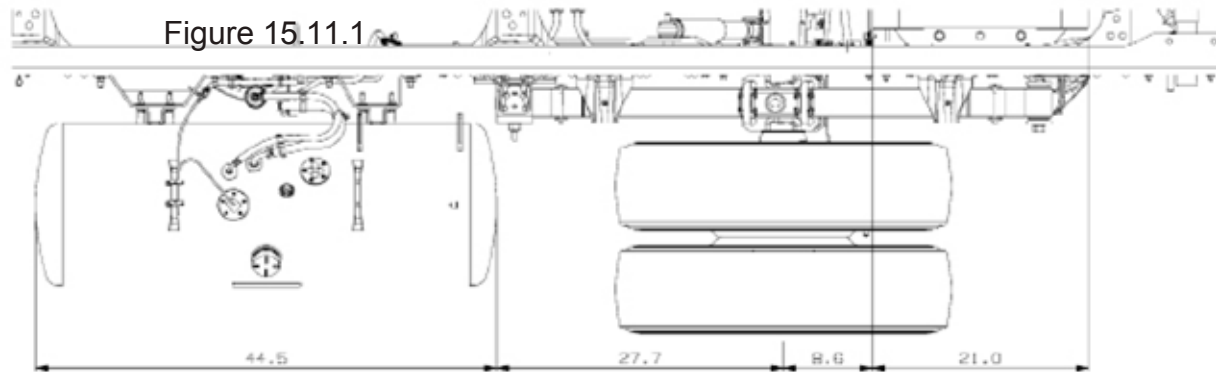


Figure 15.11.1

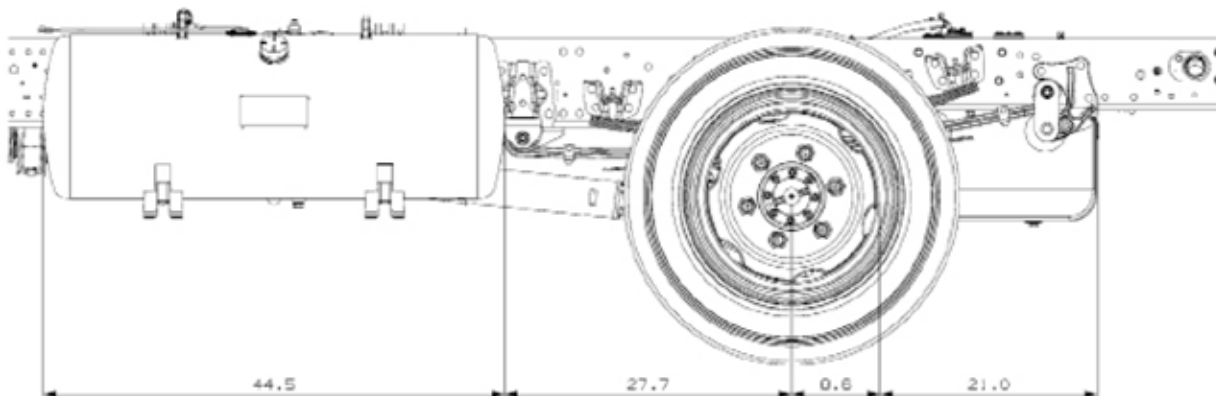


Figure 15.11.2

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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Option Side Fuel Tank in place of the Standard In Rail Fuel Tank on RPO NL7

Side View 176 Wheelbase

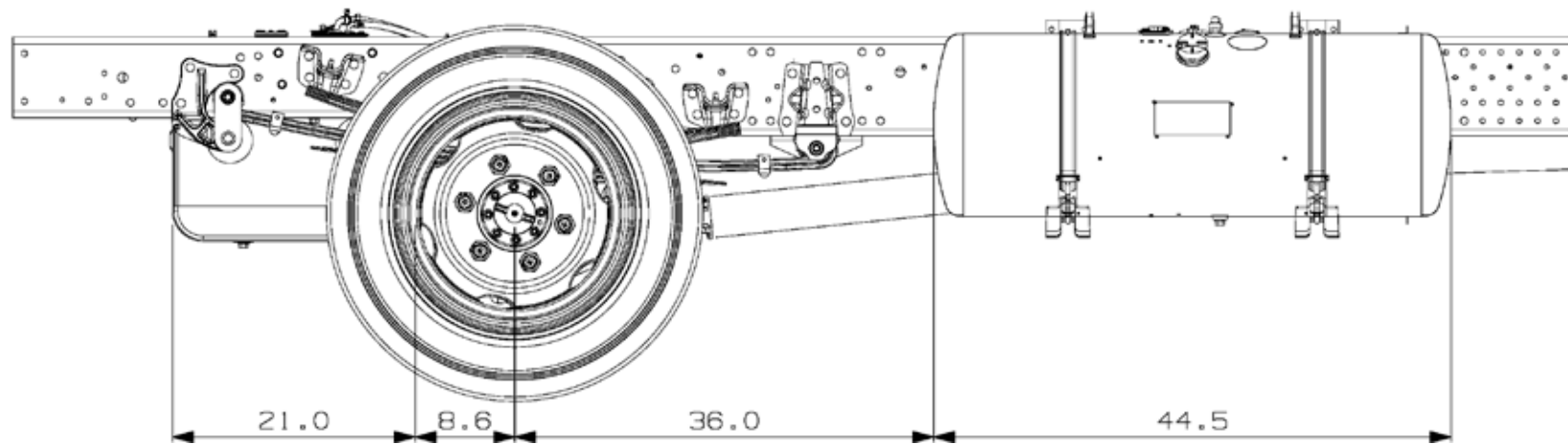


Figure 15.12.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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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)

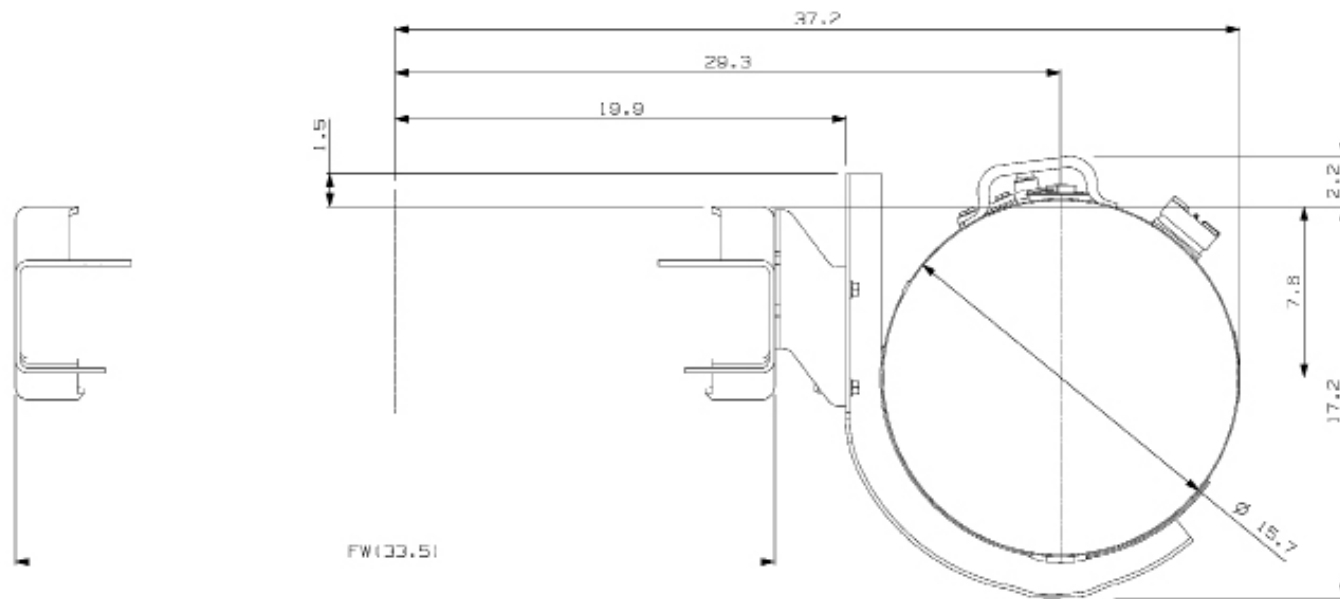


Figure 15.13.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

Cab Tilt

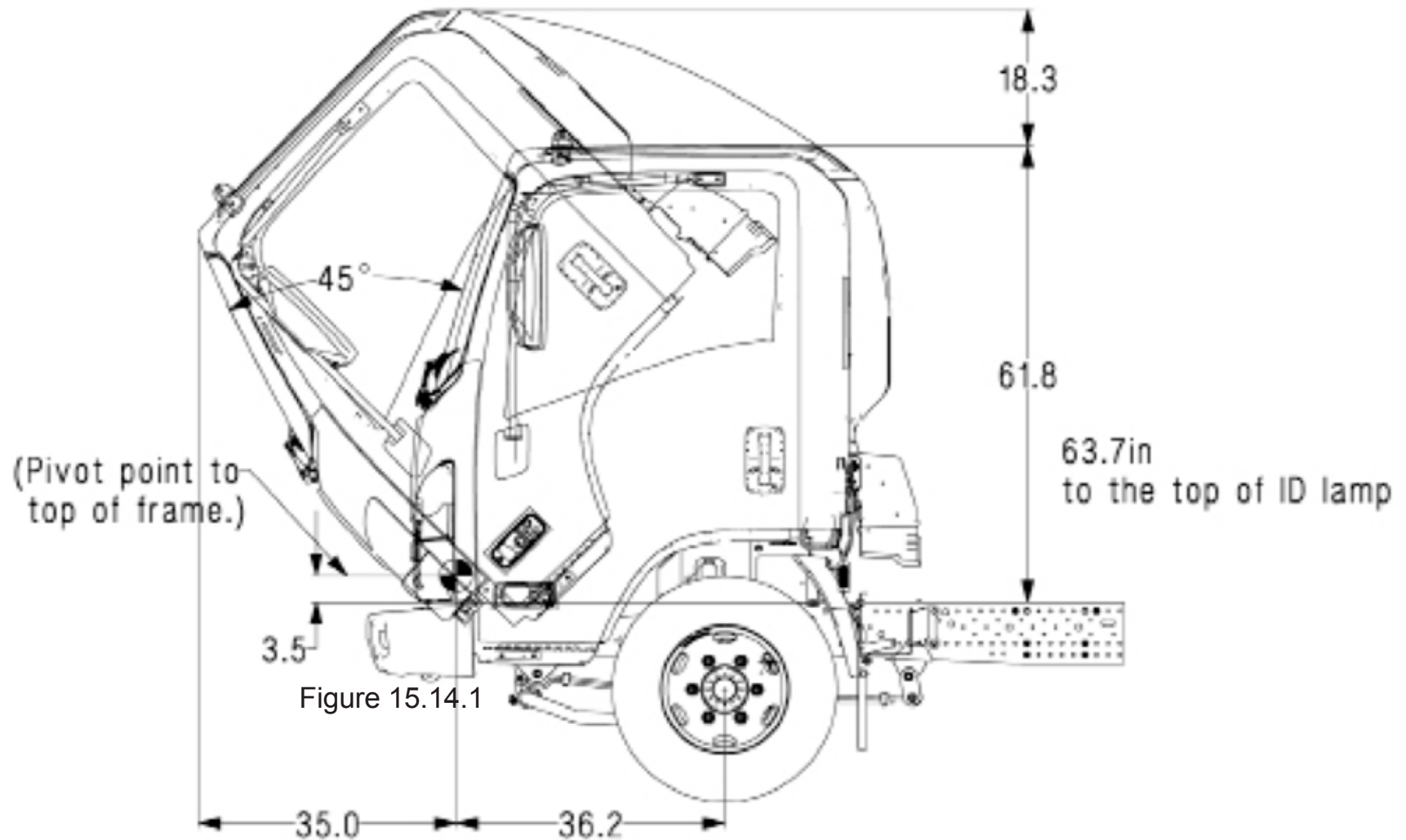


Figure 15.14.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

Turning Diameters

TURNING DIAMETERS

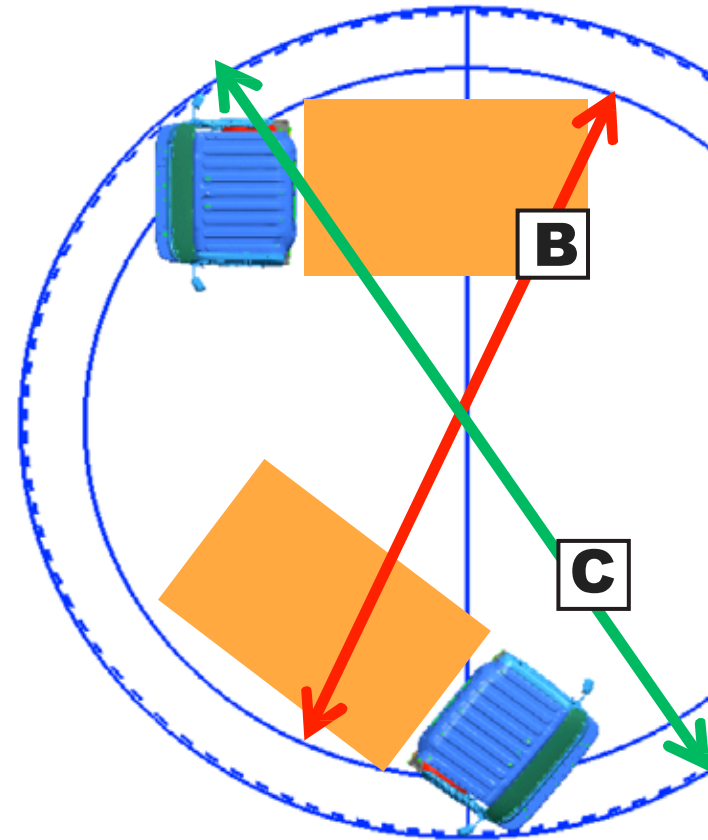
The LCF Series Diesel steering also features a 46.50 inside wheel cut angle. This, coupled with the integral power steering, makes the LCF Series Diesel an extremely maneuverable truck.

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



2018 Chevrolet Low Cab Forward

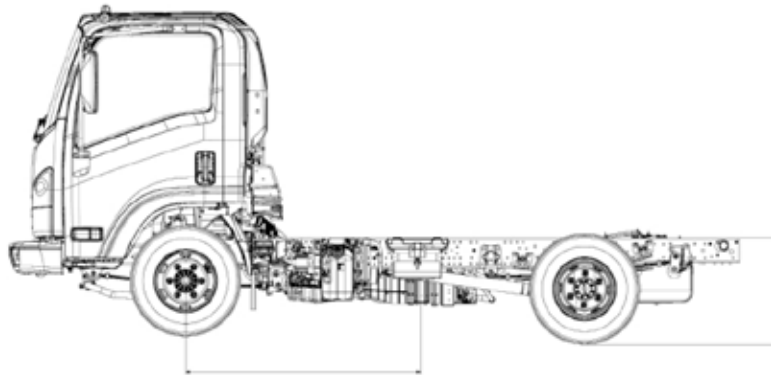
Center of Gravity

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

2018 Chevrolet Low Cab Forward

Front Axle Chart

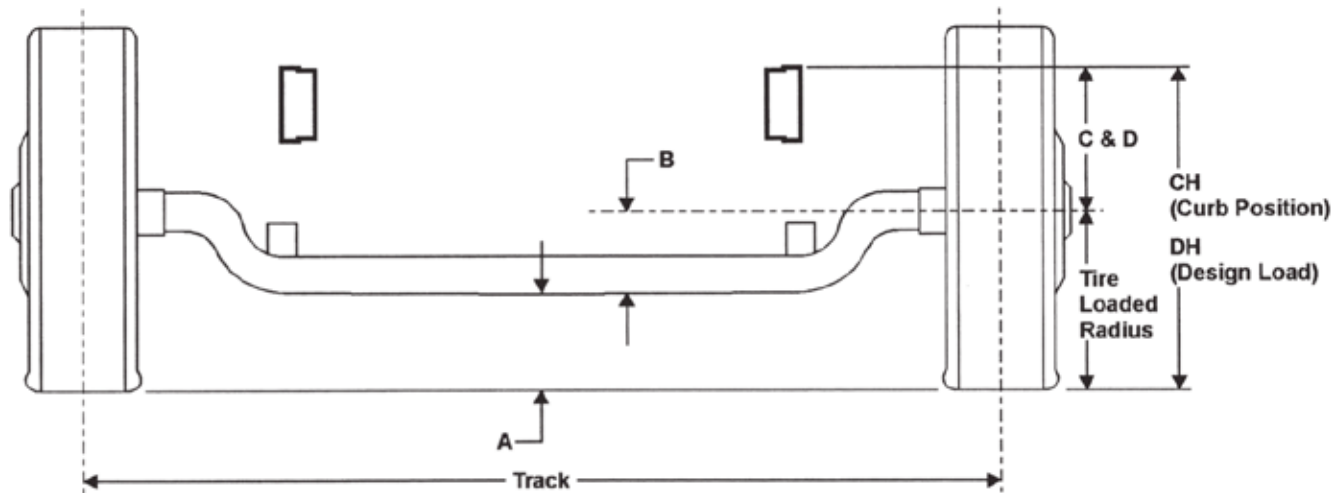


Figure 15.17.1

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

2018 Chevrolet Low Cab Forward

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Rear Axle Chart

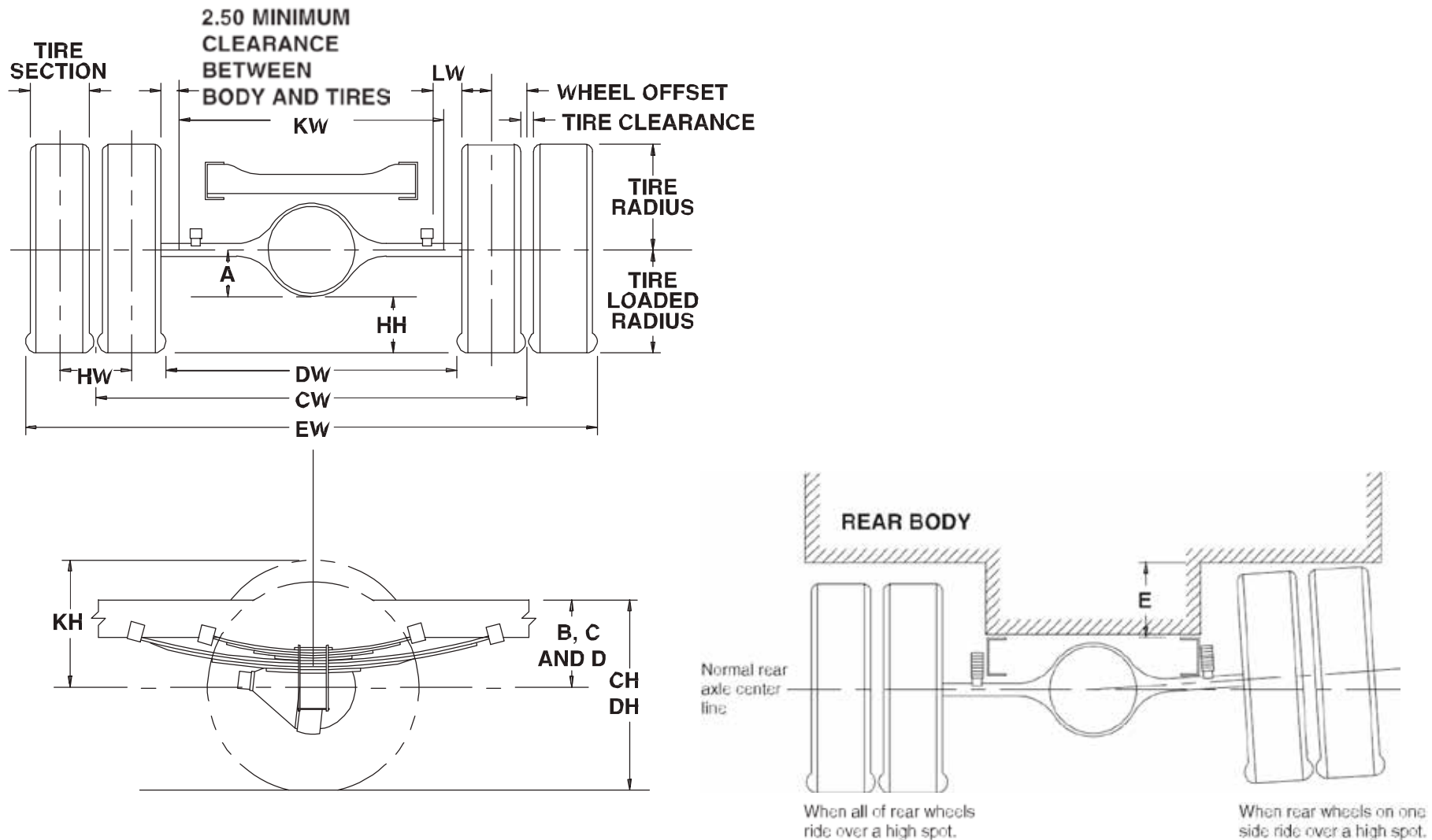


Figure 15.18.1

2018 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

2018 Chevrolet Low Cab Forward

5500XD Suspension Deflection Charts

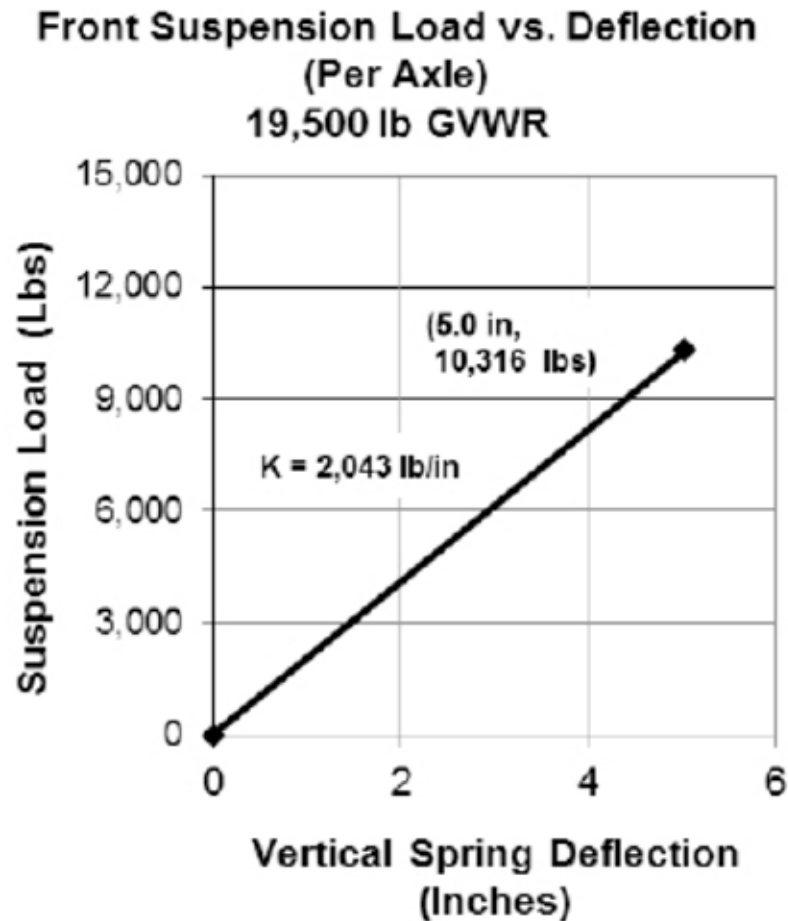


Figure 15.20.1

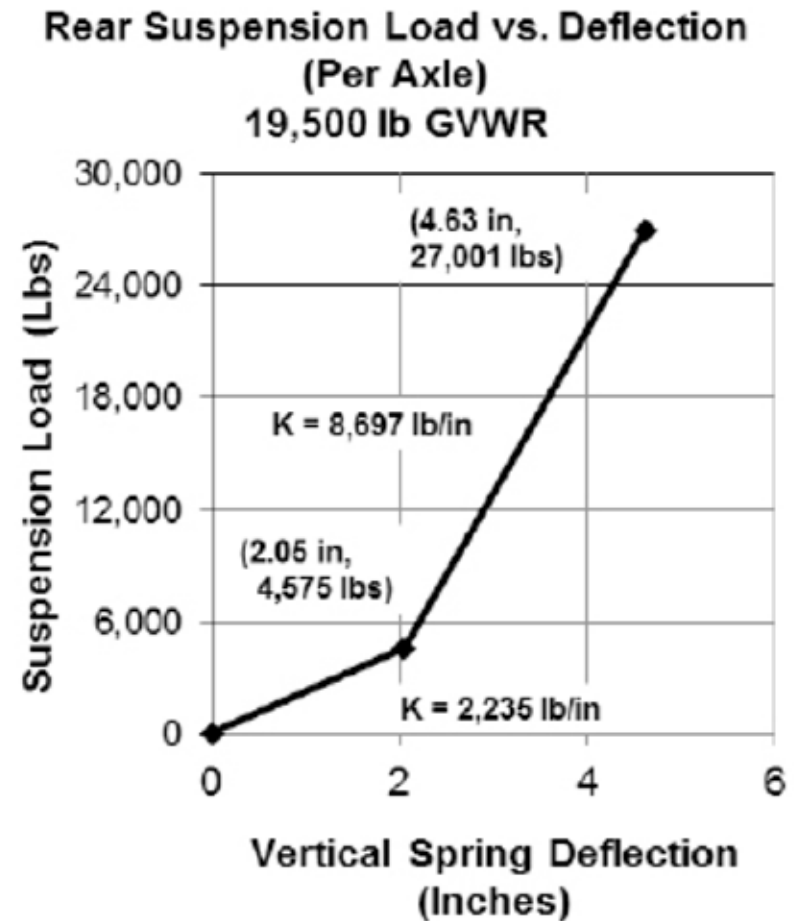


Figure 15.20.2

2018 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

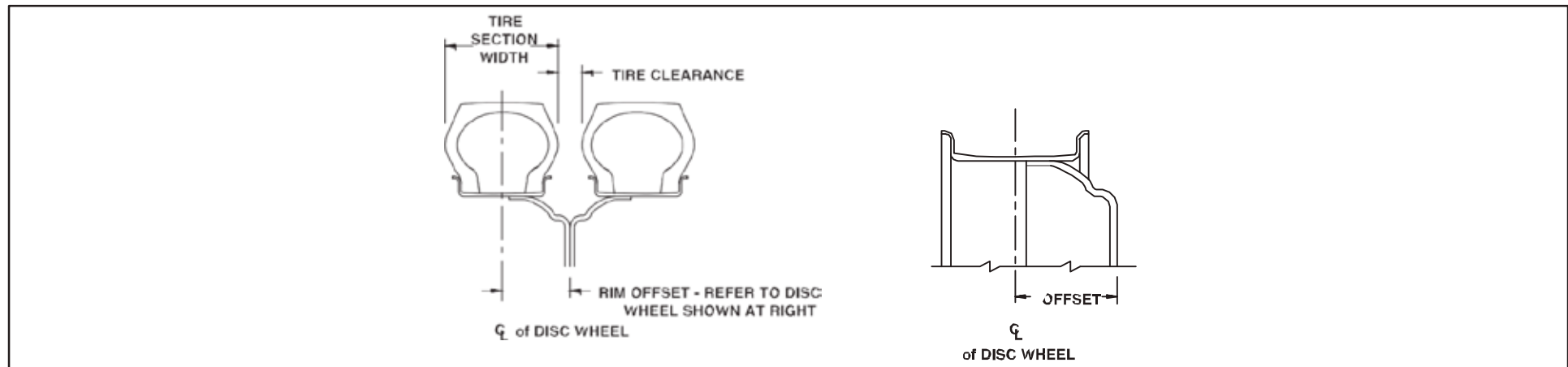


Figure 15.21.4

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

Propeller Shaft 5500XD

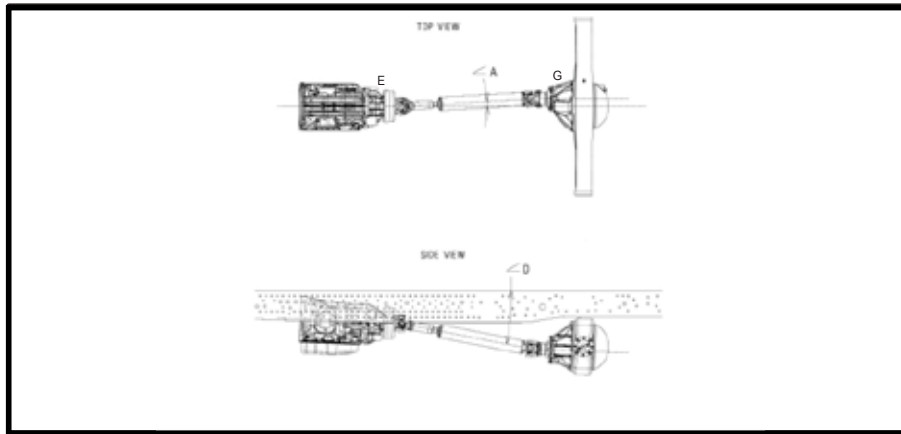


Figure 15.22.1

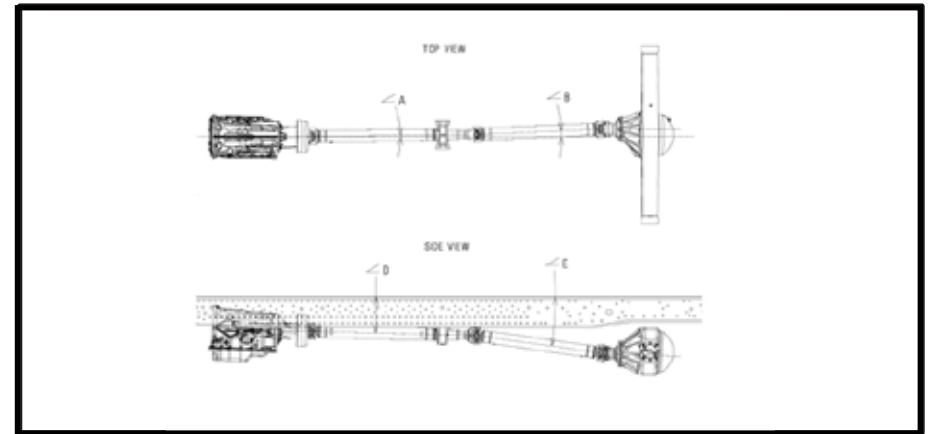


Figure 15.22.2

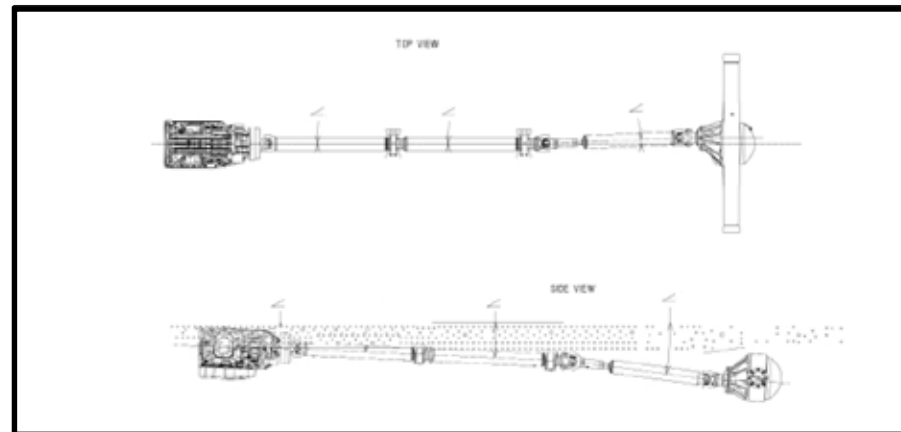


Figure 15.22.3

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.

2018 Chevrolet Low Cab Forward

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

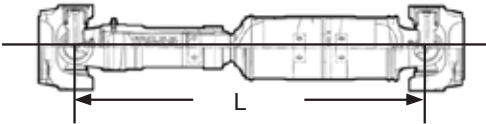
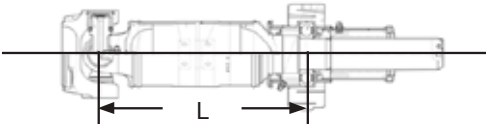
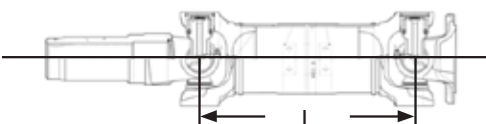
Type	Description	Illustration
Type A	1st shaft in 1-piece driveline	
Type B	1st shaft in 2-piece driveline	
Type C	2nd shaft in 2-piece driveline	

Figure 15.23.2

Note: Dimensions in inches

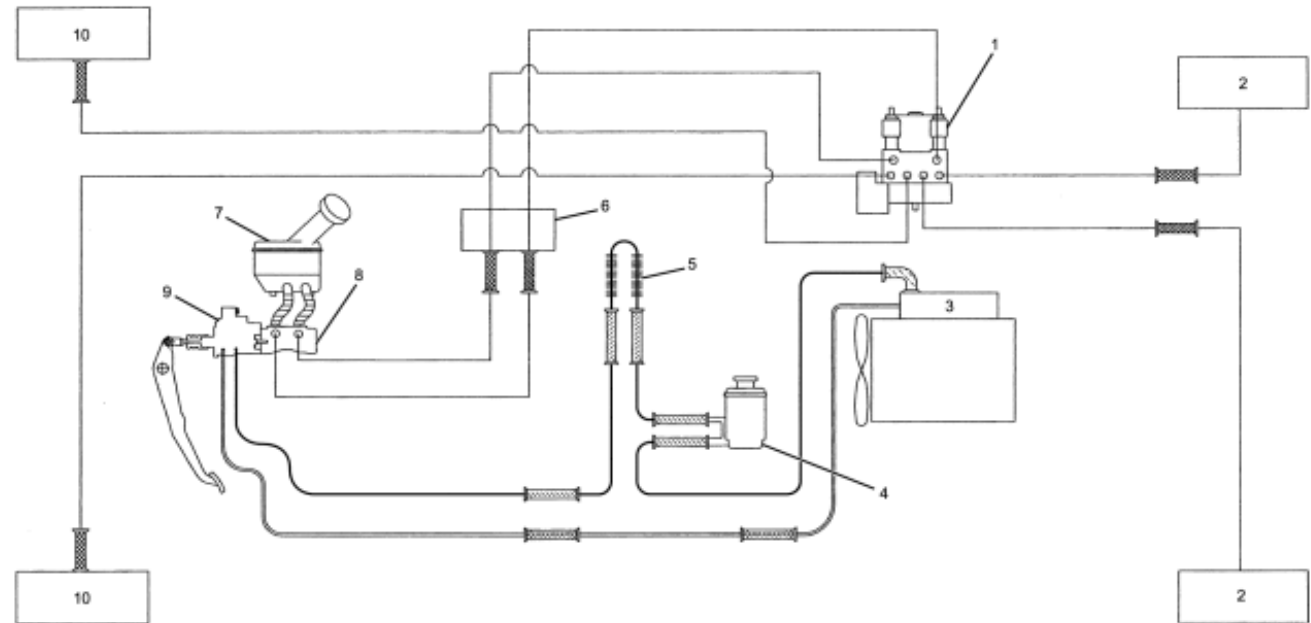
2018 Chevrolet Low Cab Forward

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

2018 Chevrolet Low Cab Forward

PTO Location, Drive Gear and Opening Information

AUTOMATIC TRANSMISSION

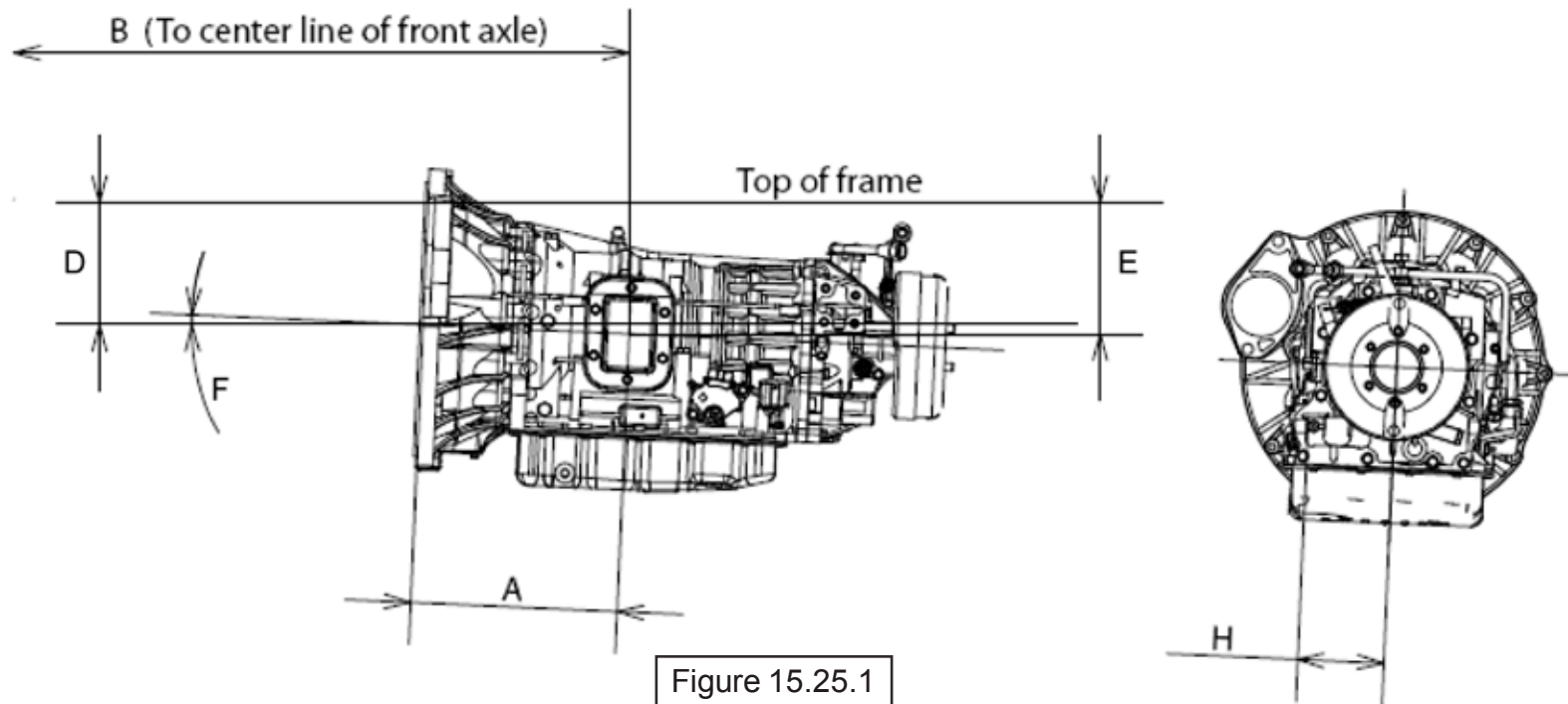


Figure 15.25.1

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

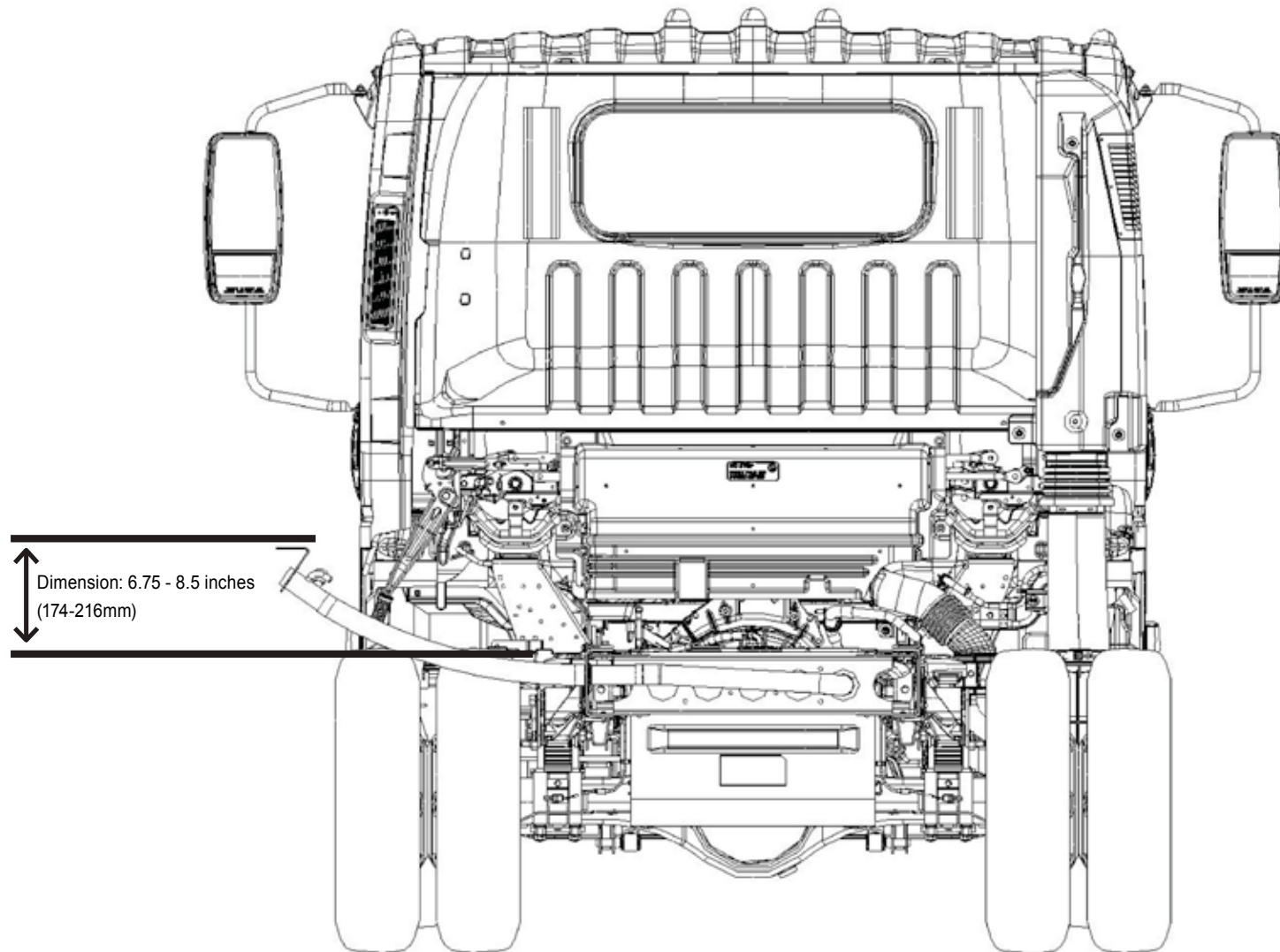
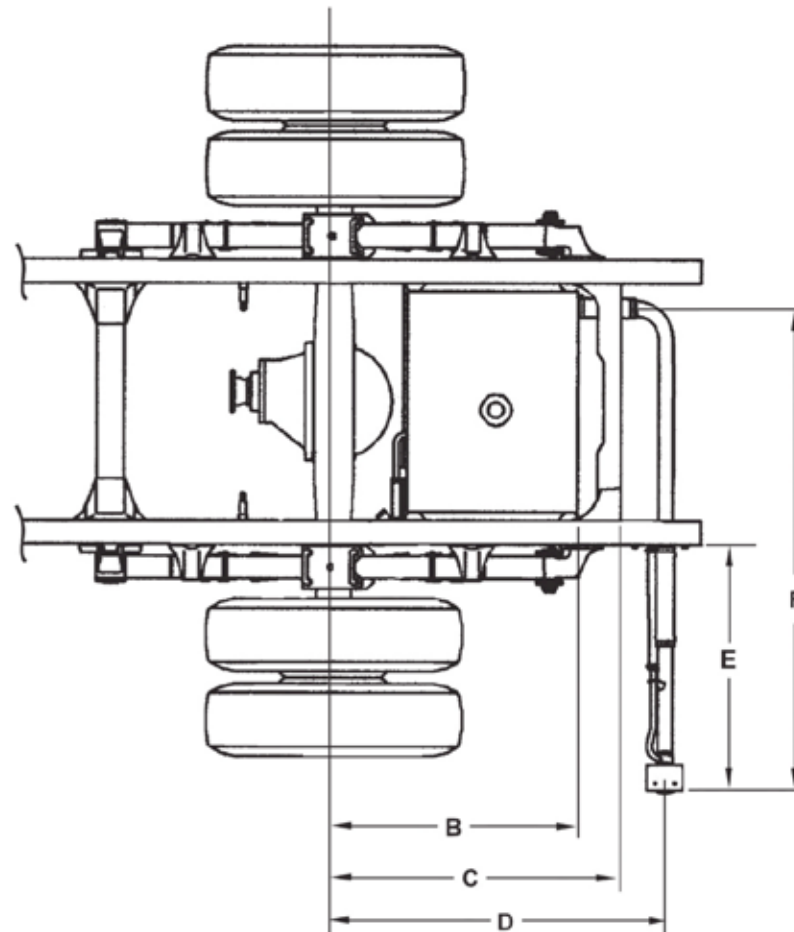


Figure 15.28.1

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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

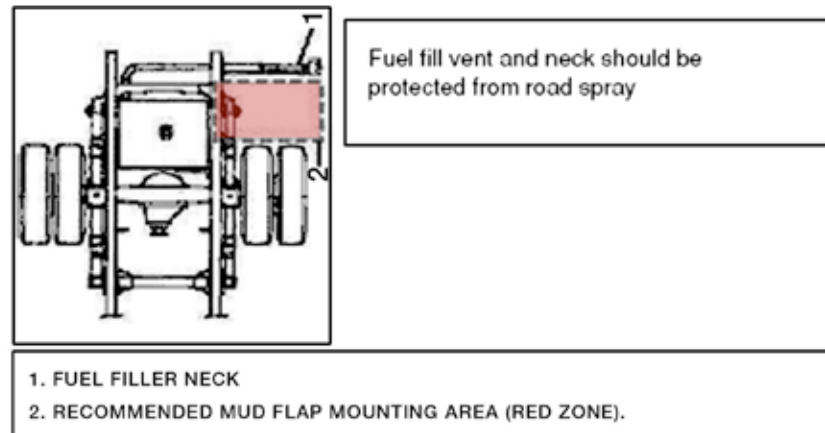
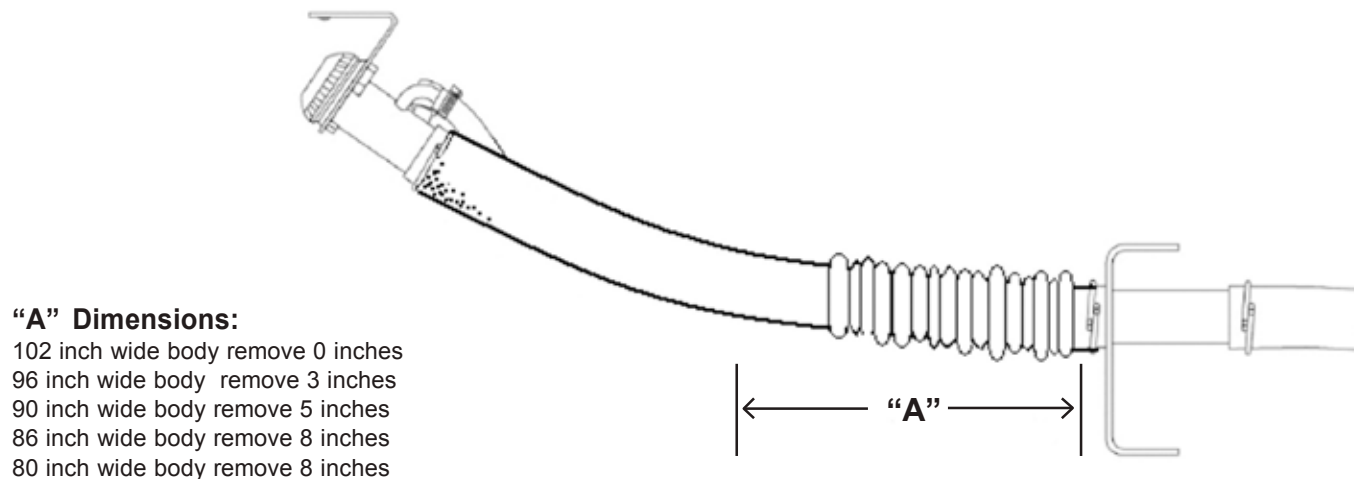


Figure 15.30.1



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

Figure 15.30.2

2018 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

2018 Chevrolet Low Cab Forward

Through the Rail Fuel Fill Frame Hole

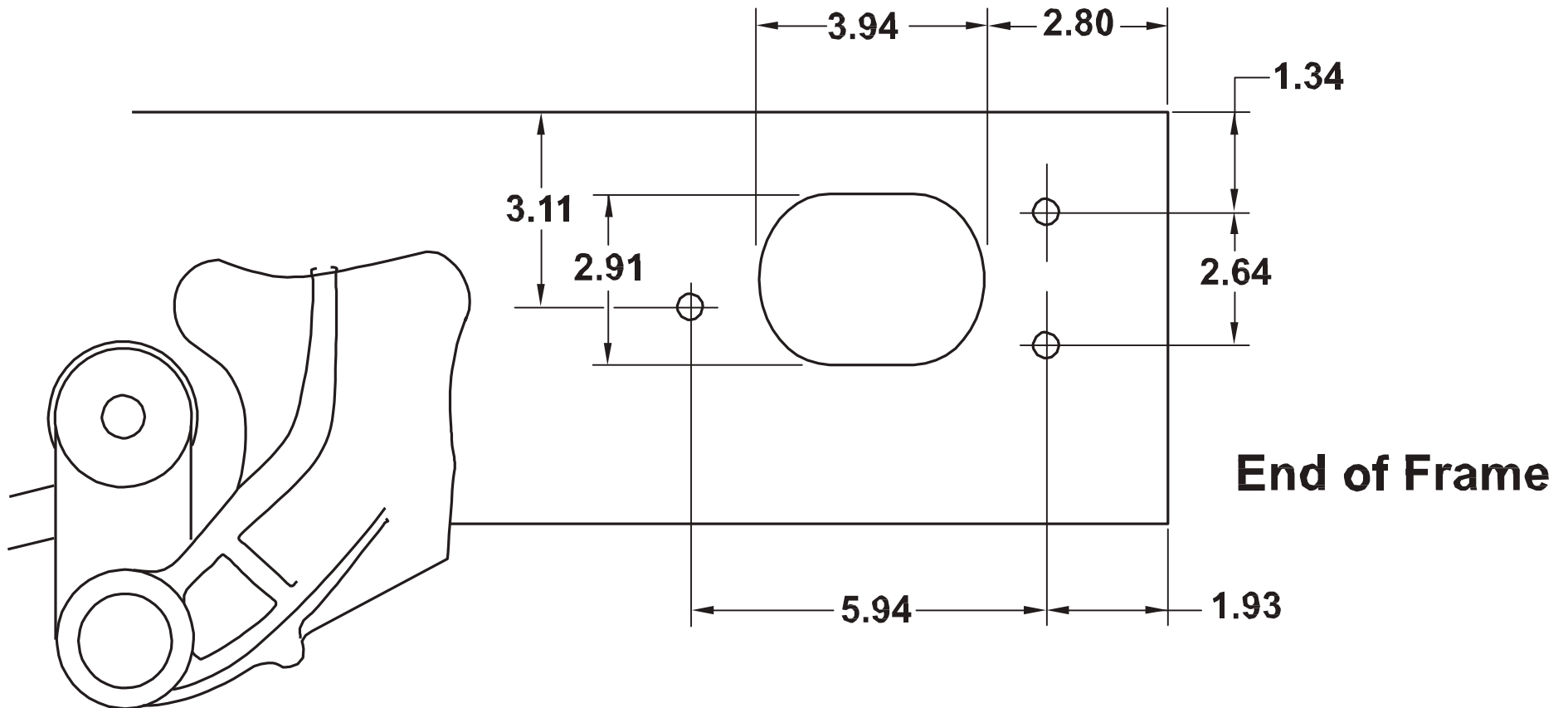


Figure 15.32.1

Note: Dimensions in inches

2018 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**.

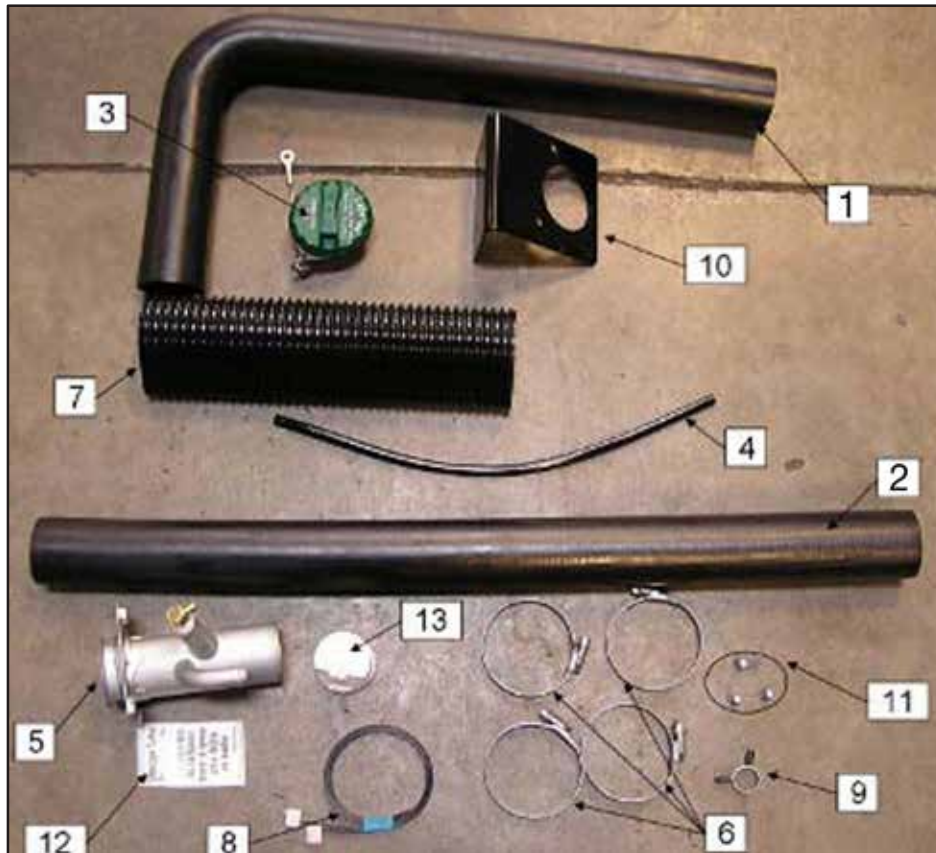


Figure 15.33.1

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.

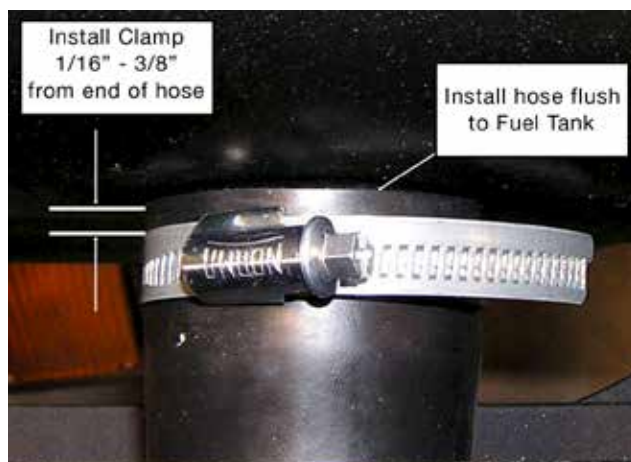


Figure 15.34.3

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**.

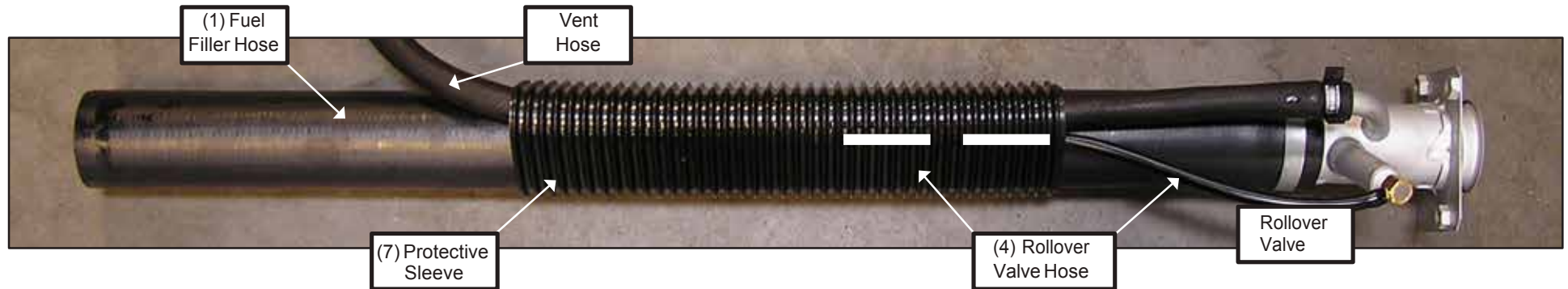


Figure 15.35.1

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.

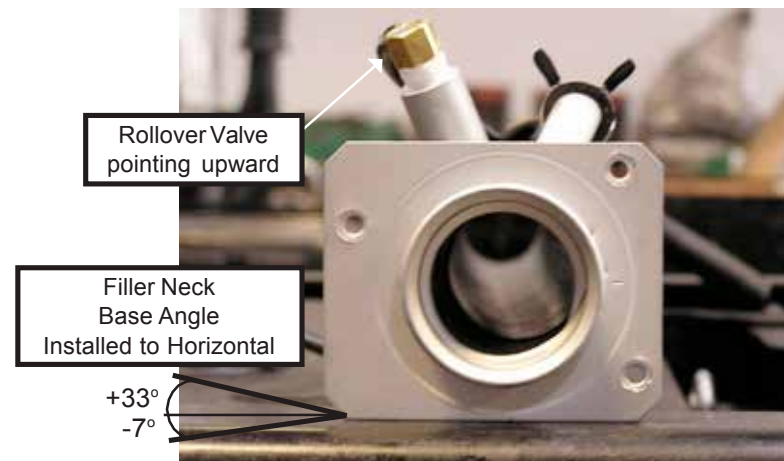
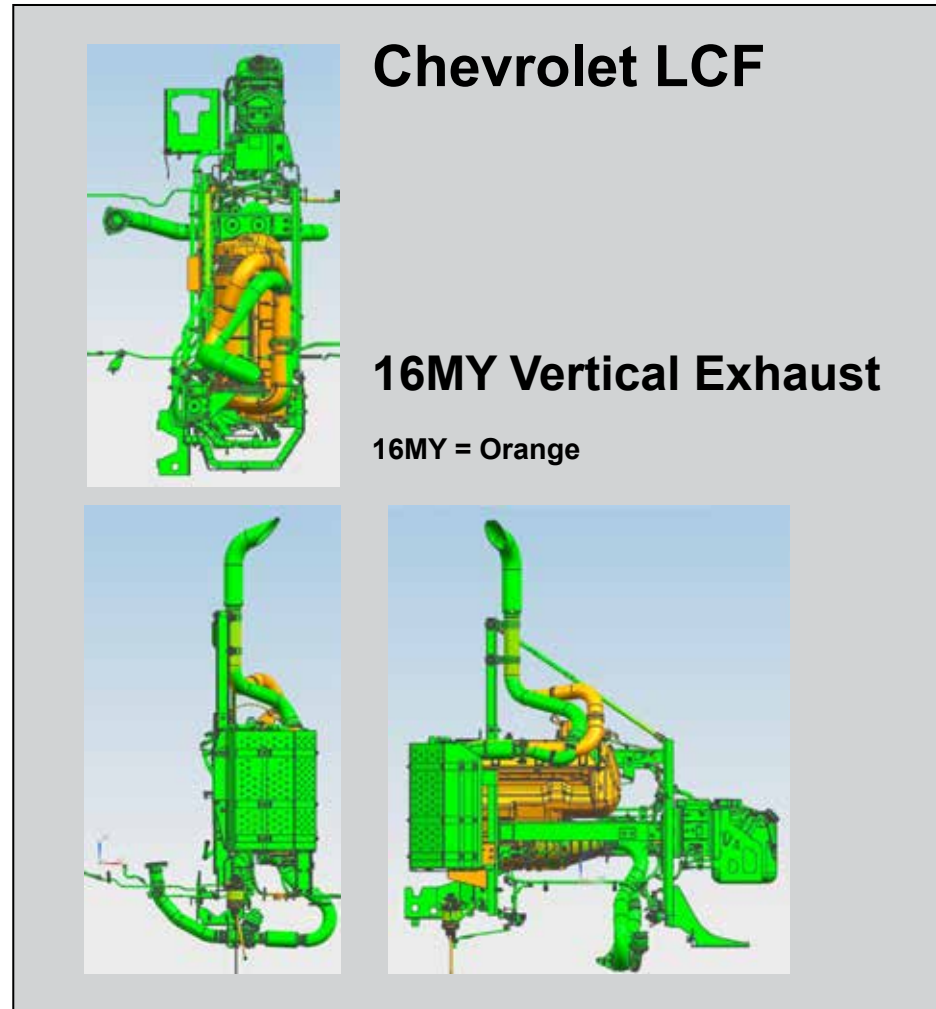


Figure 15.35.2

2018 Chevrolet Low Cab Forward

PAGE 16.1

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

2018 Chevrolet Low Cab Forward

Single Cab – Side View

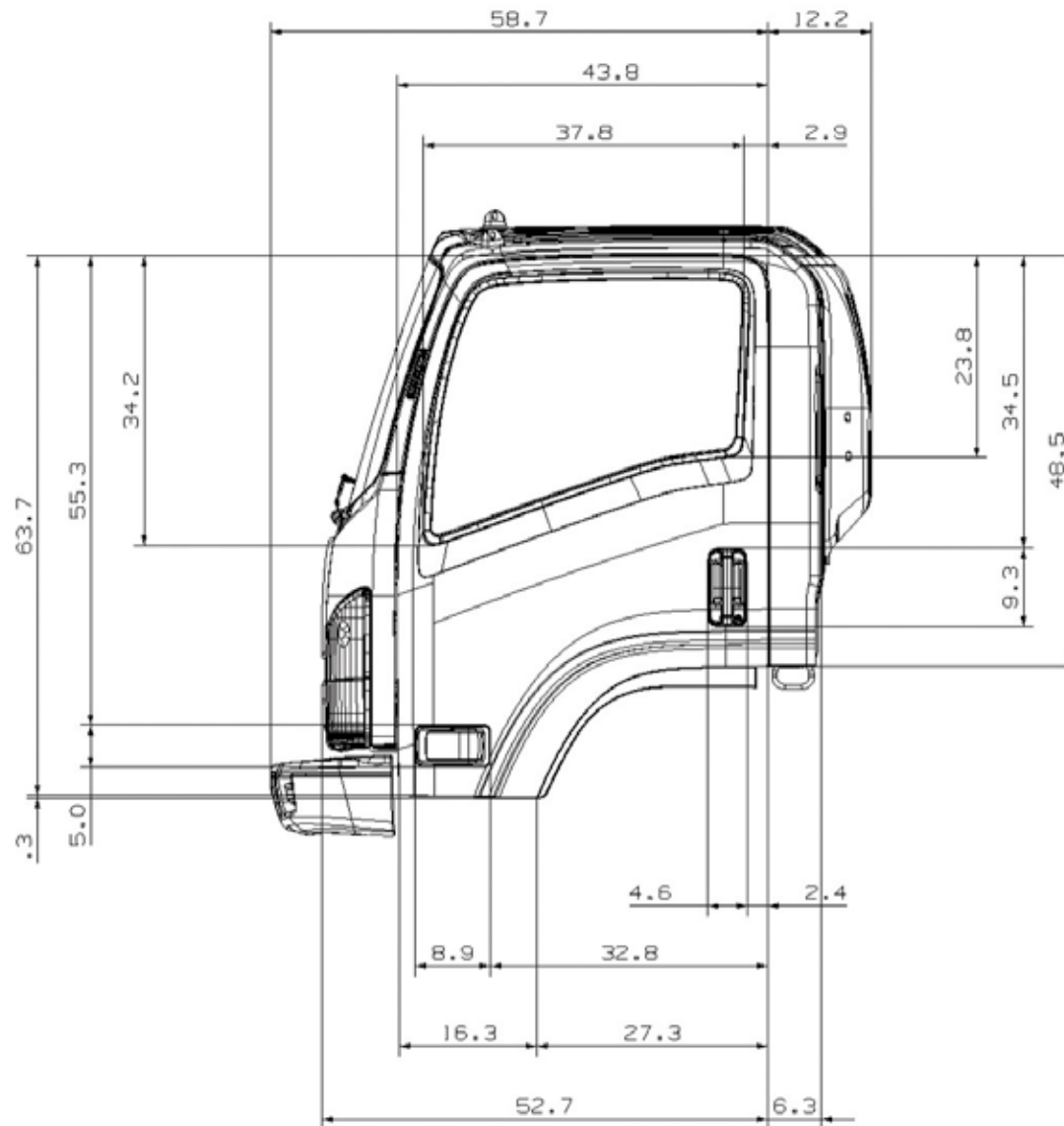


Figure 17.1.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

PAGE 17.2

Single Cab – Front View

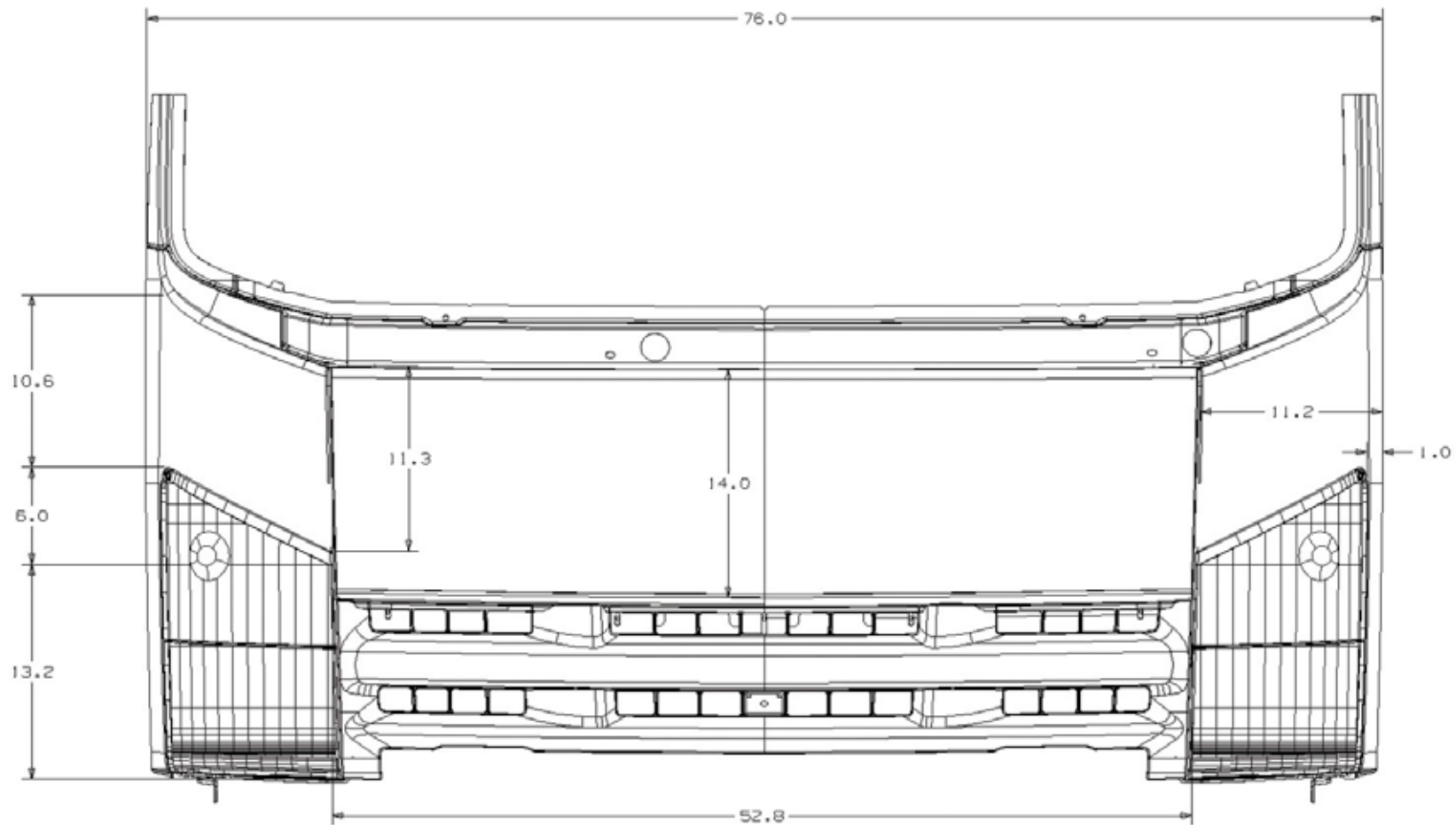
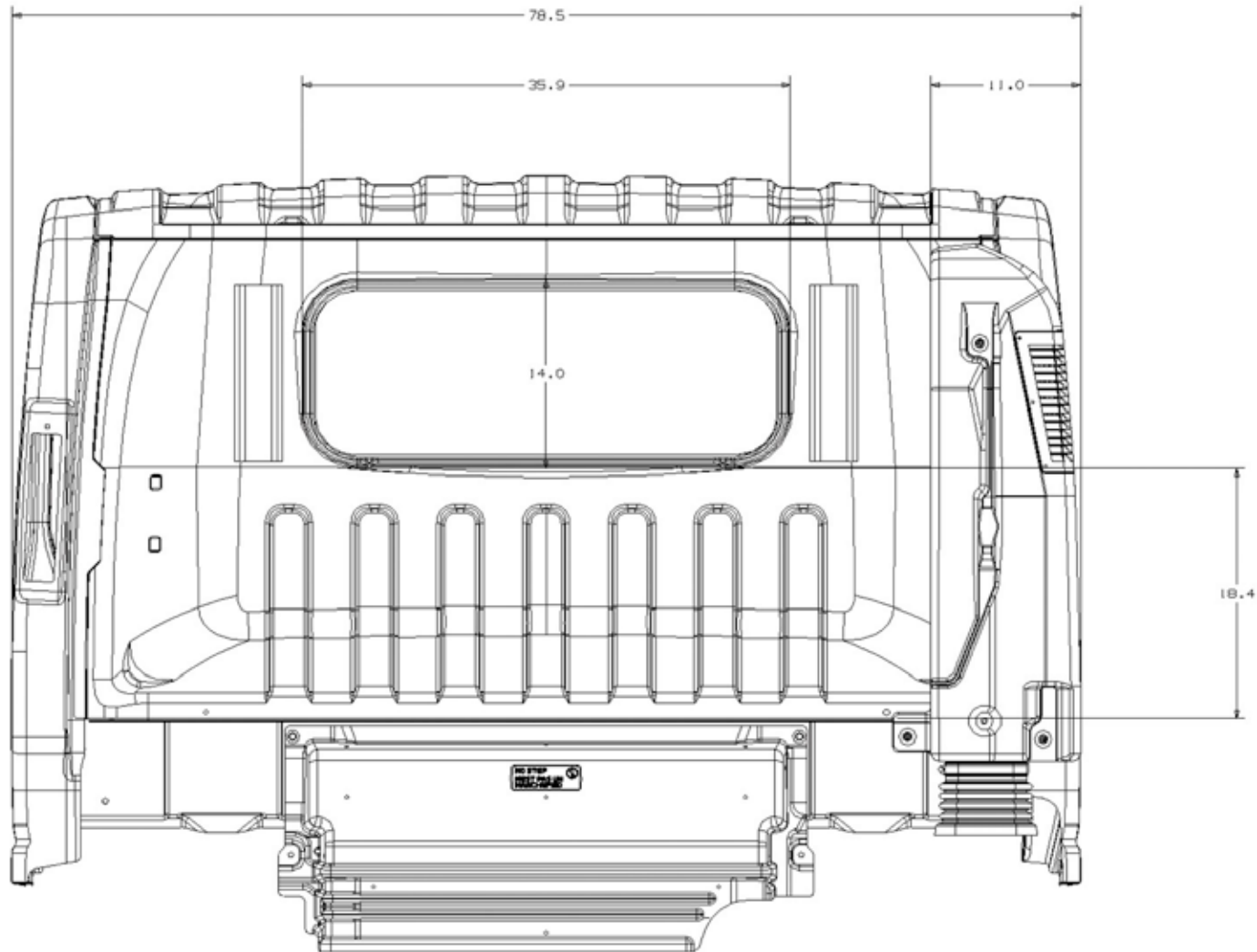


Figure 17.2.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

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 chassis showing dimensions in inches. The drawing includes a side view of the chassis with various components labeled and dimensions provided. Key dimensions include overall width (63.7), wheelbase (58.7), and various component widths and spacings.

Dimensions (inches):

- Overall width: 63.7
- Wheelbase: 58.7
- Front overhang: 5.0
- Front fender width: 48.5
- Front fender height: 34.2
- Front fender depth: 23.8
- Front fender width (inner): 37.8
- Front fender width (outer): 2.9
- Front fender width (rear): 3.5
- Front fender width (rear): 31.1
- Front fender width (rear): 23.6
- Front fender width (rear): 34.4
- Front fender width (rear): 55.1
- Front fender width (rear): 9.4
- Front fender width (rear): 5.6
- Front fender width (rear): 30.8
- Front fender width (rear): 2.4
- Front fender width (rear): 4.6
- Front fender width (rear): 32.8
- Front fender width (rear): 27.3
- Front fender width (rear): 16.3
- Front fender width (rear): 8.9
- Front fender width (rear): 52.7
- Front fender width (rear): 48.9
- Front fender width (rear): 51.3

Dimensions in inches

2018 Chevrolet Low Cab Forward

PAGE 17.5

Crew Cab – Front View

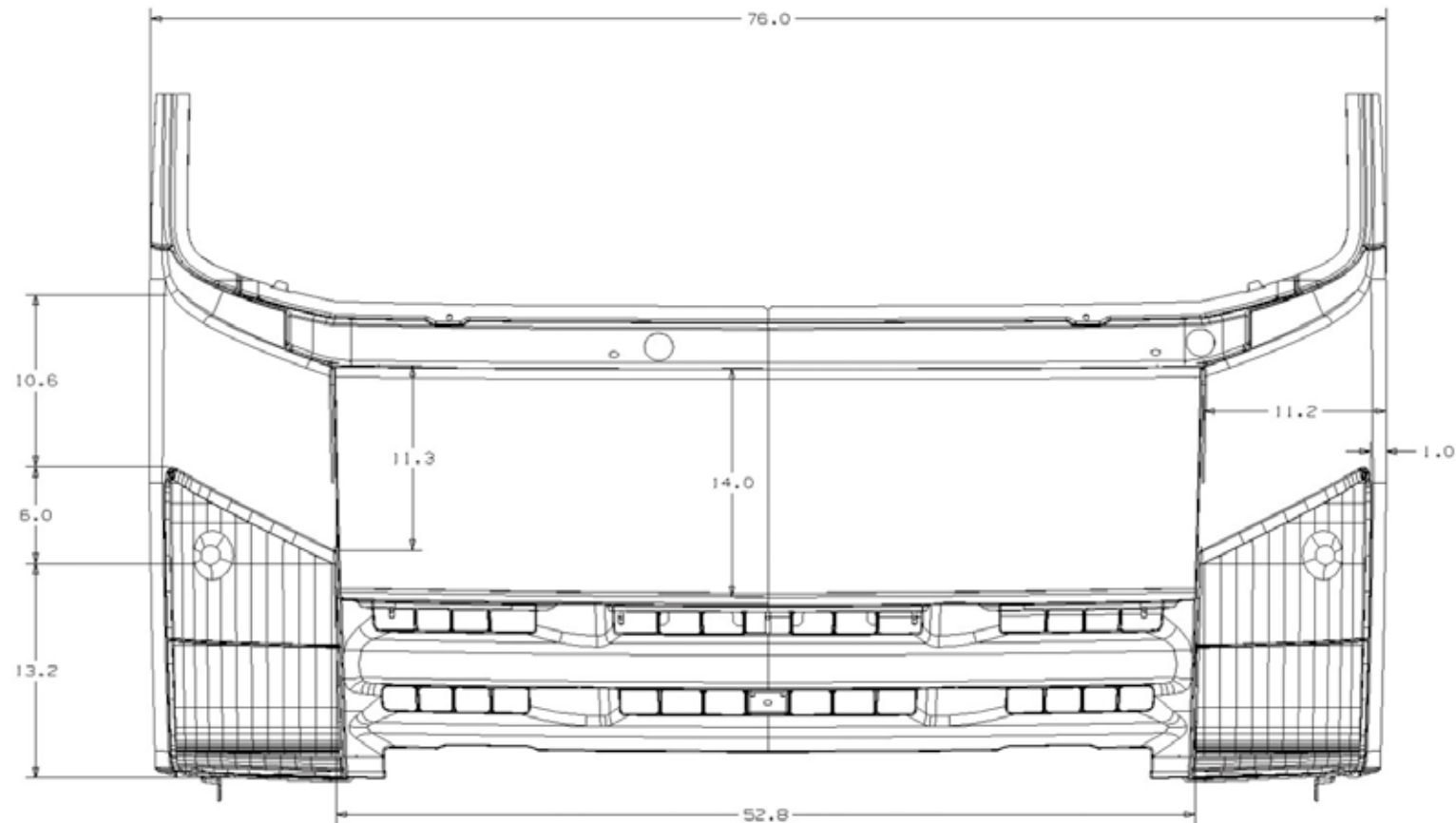


Figure 17.5.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

Crew Cab – Rear View

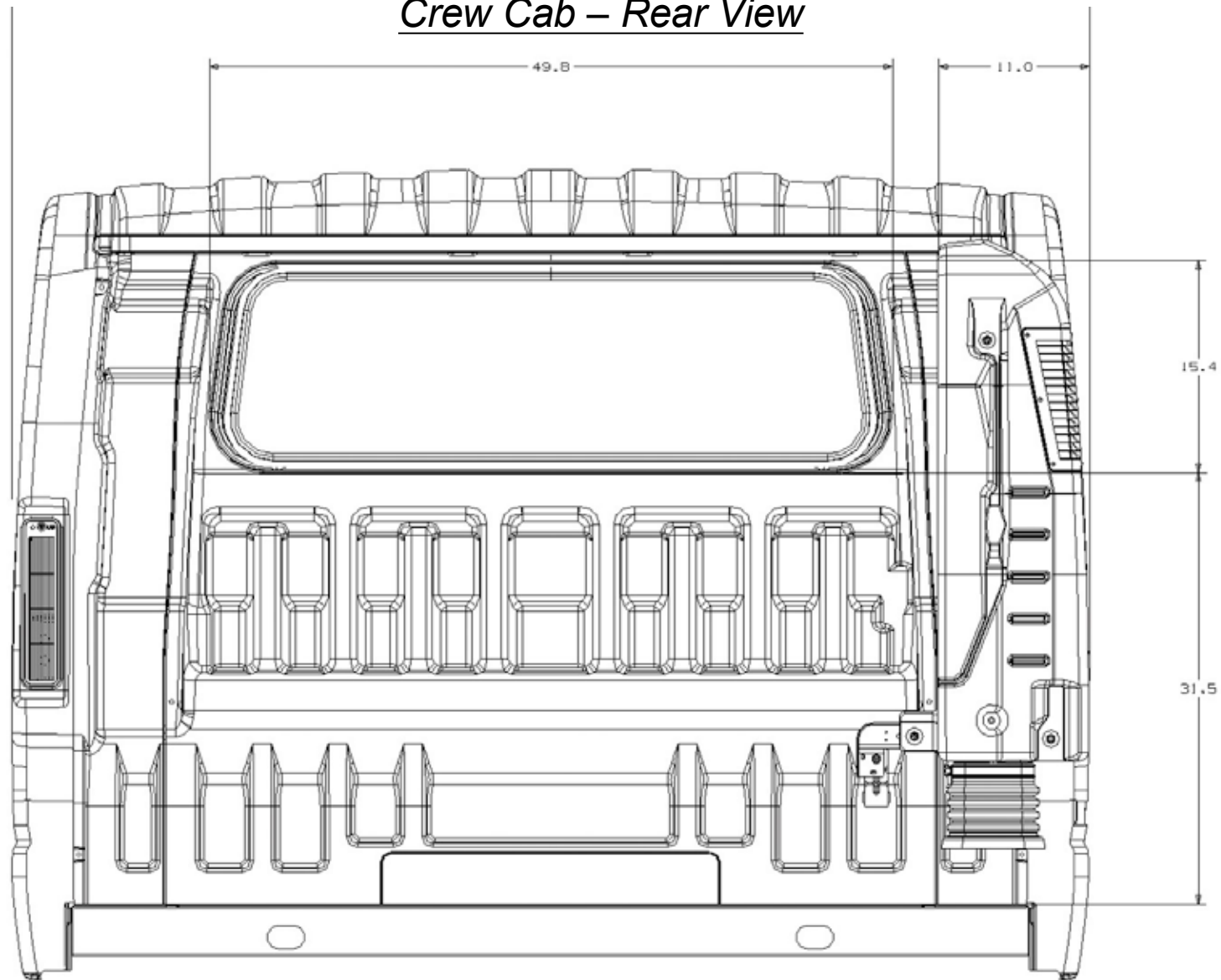


Figure 17.6.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

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Single Cab - Front and Side View (Air Shield on Single Cab only)

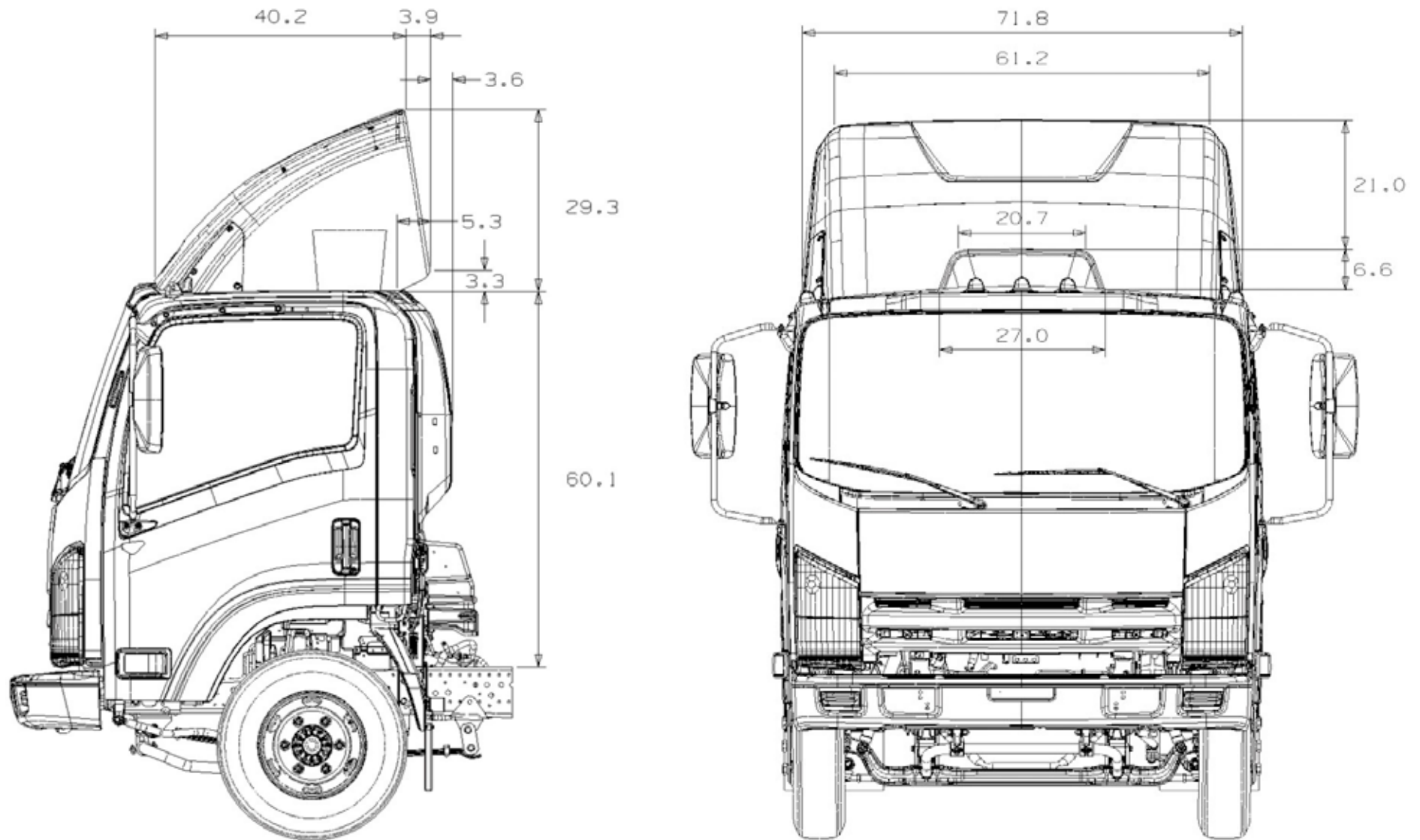


Figure 17.7.1

Dimensions in inches

2018 Chevrolet Low Cab Forward

6500XD Diesel Specifications

Model	6500XD
GVWR	25,950 lbs.
WB	152 in., 170 in., 188 in., 200 in., 212 in., 224, 236 in., 248 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
Torque (Gross)	520 lb ft torque/1650 RPM
Equipment	Dry element air cleaner with vertical intake; 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.
Transmission	Allison 2550 RDS series automatic transmission with lock up and PTO gear.
Steering	Integral power steering. Tilt and Telescoping steering column.
Front Axle	%BOB 4QJDFS &-12048 rated at 12,000 lbs.
Suspension	Semi-elliptical steel alloy tapered leaf springs with stabilizer bar and shock absorbers.
GAWR	12,000 lbs.
Rear Axle	%BOB 4QJDFS 190604 rated at 19,000 lbs.
Suspension	Semi-elliptical steel alloy multi-leaf springs and shock absorbers rated at 21,000 lbs.
GAWR	19,000 lbs.
Wheels	4UFFM 22.5 Y 8.25 IVC QJMPUFE 10 IPMF EJTD XIFFMT Painted white
Tires	11r22.5 14pr LRR (Low Rolling Resistance) tubeless steel belted radials, highway tread front and traction rear.
Brakes	Dual circuit air service brakes. Brake system is standard with an exhaust brake and 4 channel anti-lock brake system.
Fuel Tank	50 gal. or 100 gal. rectangular steel fuel tank mounted on left hand frame rail. 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 :JFME TUSFOHUI 80,000 QTJ
Cab	All steel low cab forward, BBC 81.5 in, 45° mechanical tilt with torsion assist.
Equipment	TRICOT breathable cloth covered high back air drivers seat with two fixed occupant passenger seats. Dual cab mounted exterior mirrors with convex mirror. Lower windows and door locks, floor mats, tinted glass, AM/FM/ CD stereo radio with bluetooth.
Electrical	12 Volt, negative ground, dual Group 31 maintenance free batteries, 750 CCA each with threaded posts 140 Amp alternator with integral regulator.

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

2018 Chevrolet Low Cab Forward

Vehicle Weights, Dimensions and Ratings

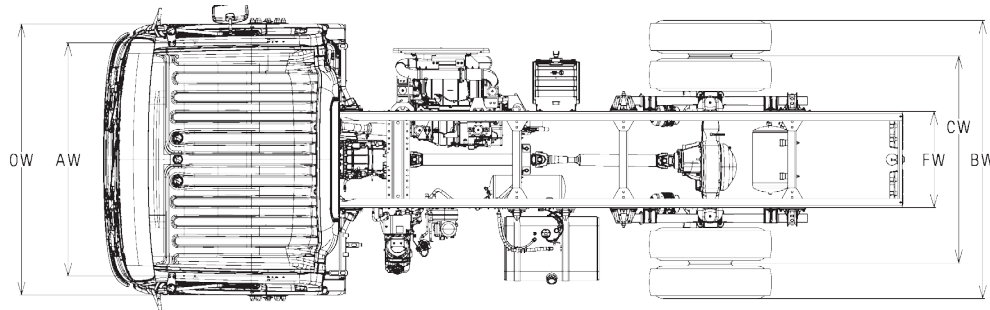


Figure 18.3.1

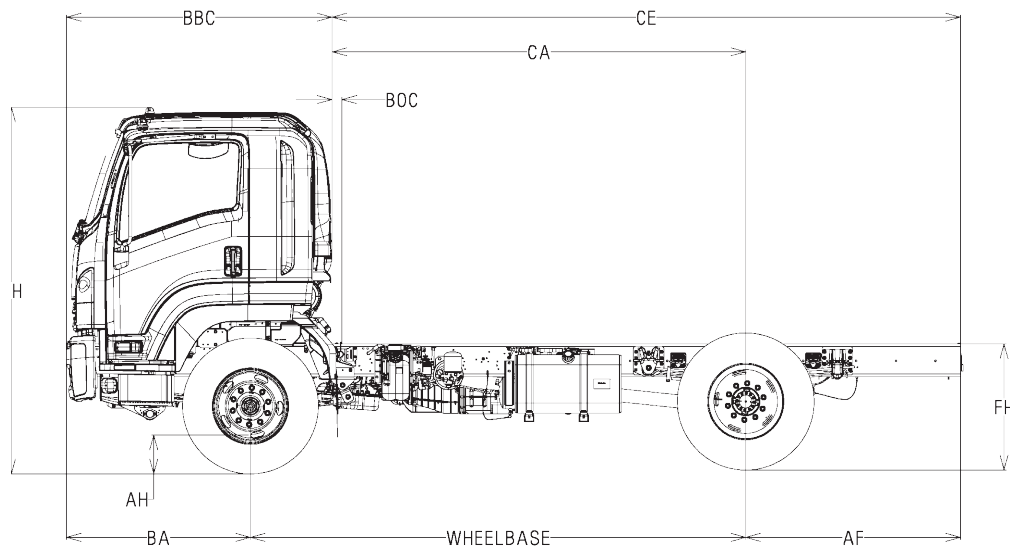


Figure 18.3.2

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.

In-Frame Tank

25,950 lb. GVWR Automatic Transmission Model

Chassis Curb and Maximum Payload Weights

Model	WB	Unit	Front	Rear	Total	Payload	RPO
T71003	152	lb.	6527	3733	10260	15690	E99
T72003	170	lb.	6605	3782	10387	15563	EH8
T73003	188	lb.	6882	4007	10889	15061	EK8
T74003	200	lb.	6933	4039	10972	14978	EM2
T75003	212	lb.	6984	4072	11056	14894	EL5
T76003	224	lb.	7036	4105	11141	14809	EK6
T77003	236	lb.	7087	4138	11225	14725	EG7
T78003	248	lb.	7139	4170	11309	14641	ES5

Variable Chassis Dimensions:

25,950 GVWR

Model	WB	CA	CE	AF	FL	OAL
T71003	152	127.0	192.9	65.9	270.5	274.4
T72003	170	145.0	220.0	75.0	297.6	301.5
T73003	188	163.0	247.0	84.1	324.6	328.5
T74003	200	175.0	264.9	90.0	342.5	346.4
T75003	212	187.0	283.1	96.1	360.6	364.6
T76003	224	199.0	301.0	102.0	378.5	382.5
T77003	236	211.0	319.1	108.1	396.7	400.6
T78003	248	223.0	337.0	114.0	414.6	418.5

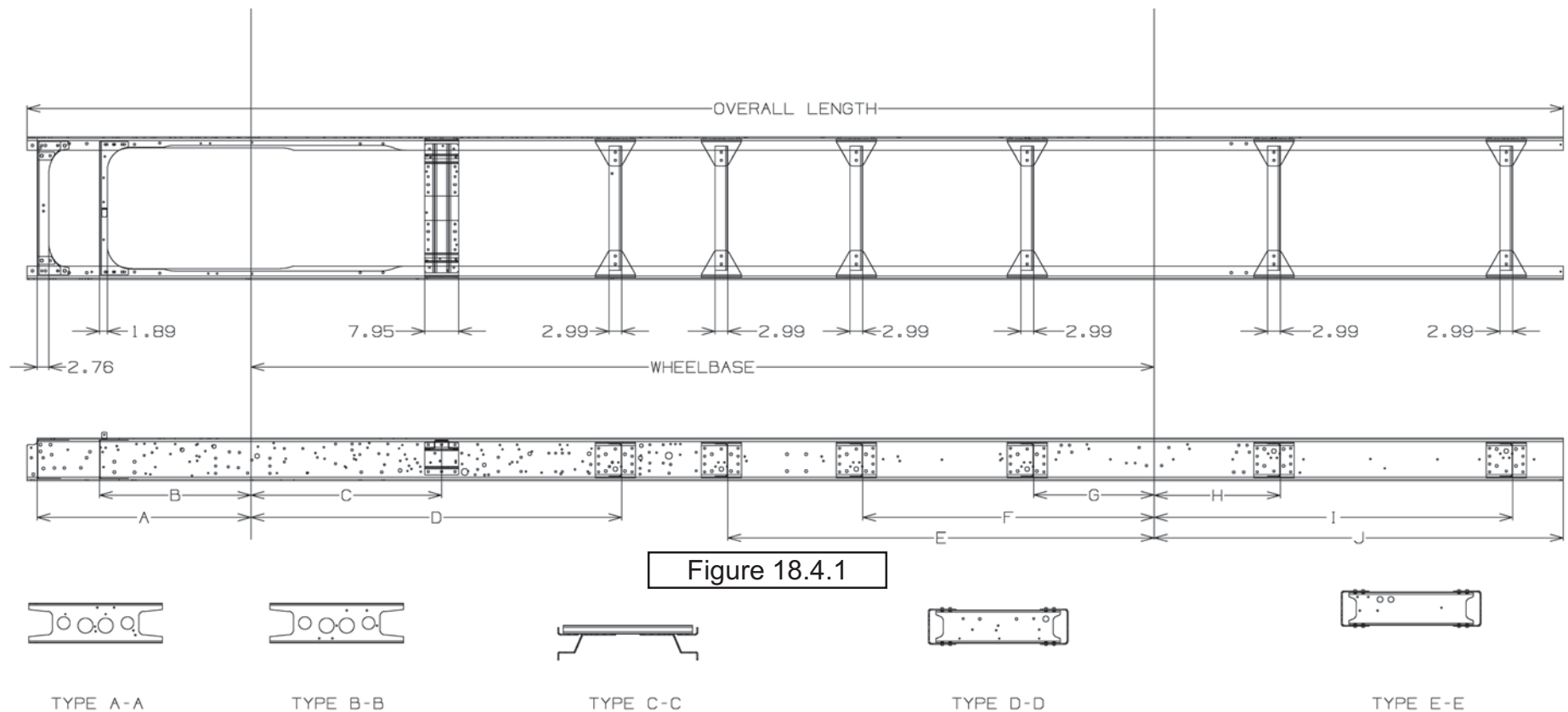
Dimension Constants:

Code	Inches	Code	Inches
AH	12	BW	96
AW	81.1	CW	72.2
BA	56.5	FW	33.5
BBC	81.5	OH	112
BOC	3.0	OW	93.5
FH	42.5	OAL	96

2018 Chevrolet Low Cab Forward

PAGE **18.3**

Frame and Crossmember Specifications



WHEEL BASE	OVERALL LENGTH	FRAME THICKNESS	CROSSMEMBER TYPE/LOCATION																			
			A		B		C		D		E		F		G		H		I		J	
152	270.5	0.31	A-A	50.2	B-B	35.6	C-C	44.8	D-D	87.0	-	-	-	-	E-E	28.3	E-E	29.6	-	-	-	65.9
170	297.6	0.31	A-A	50.2	B-B	35.6	C-C	44.8	D-D	87.0	E-E	58.1	-	-	E-E	28.3	E-E	29.6	E-E	63.1	-	75.0
188	324.6	0.31	A-A	50.2	B-B	35.6	C-C	44.8	D-D	87.0	E-E	76.1	-	-	E-E	28.3	E-E	29.6	E-E	72.1	-	84.0
200	342.5	0.31	A-A	50.2	B-B	35.6	C-C	44.8	D-D	87.0	E-E	81.2	-	-	E-E	28.3	E-E	29.6	E-E	78.1	-	90.0
212	360.6	0.31	A-A	50.2	B-B	35.6	C-C	44.8	D-D	87.0	E-E	100.1	E-E	68.4	E-E	28.3	E-E	29.6	E-E	84.2	-	96.1
224	378.5	0.31	A-A	50.2	B-B	35.6	C-C	44.8	D-D	87.0	E-E	112.1	E-E	68.4	E-E	28.3	E-E	29.6	E-E	90.1	-	102.0
236	396.7	0.31	A-A	50.2	B-B	35.6	C-C	44.8	D-D	87.0	E-E	124.1	E-E	83.1	E-E	28.3	E-E	29.6	E-E	96.2	-	108.1
248	414.6	0.31	A-A	50.2	B-B	35.6	C-C	44.8	D-D	87.0	E-E	136.1	E-E	83.1	E-E	28.3	E-E	29.6	E-E	102.1	-	114.0

Figure 18.4.2

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

Frame Chart

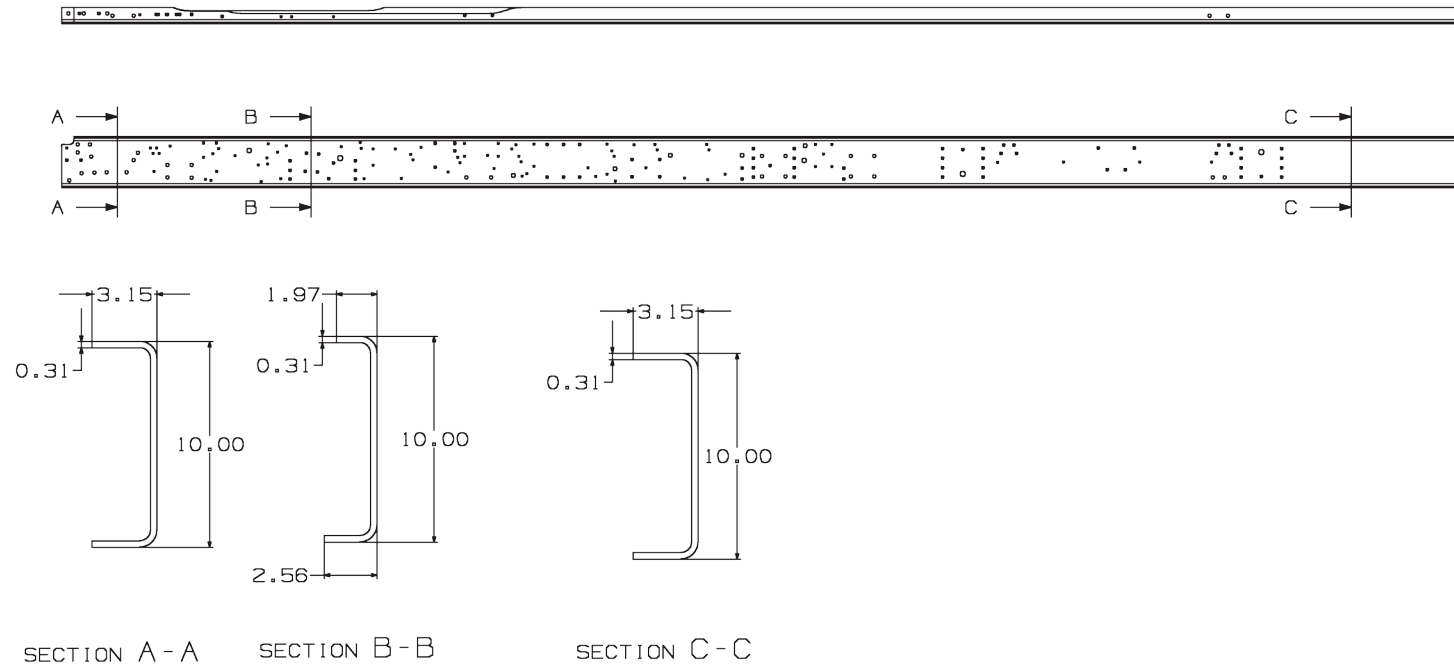


Figure 18.5.1

Wheelbase	Frame FL	Frame Thickness
152	270.5	0.315
170	297.6	0.315
188	324.6	0.315
200	342.5	0.315
212	360.6	0.315
224	378.5	0.315
236	396.7	0.315
248	414.6	0.315

Figure 18.5.2

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

6500XD Diesel Standard Cab - Top View

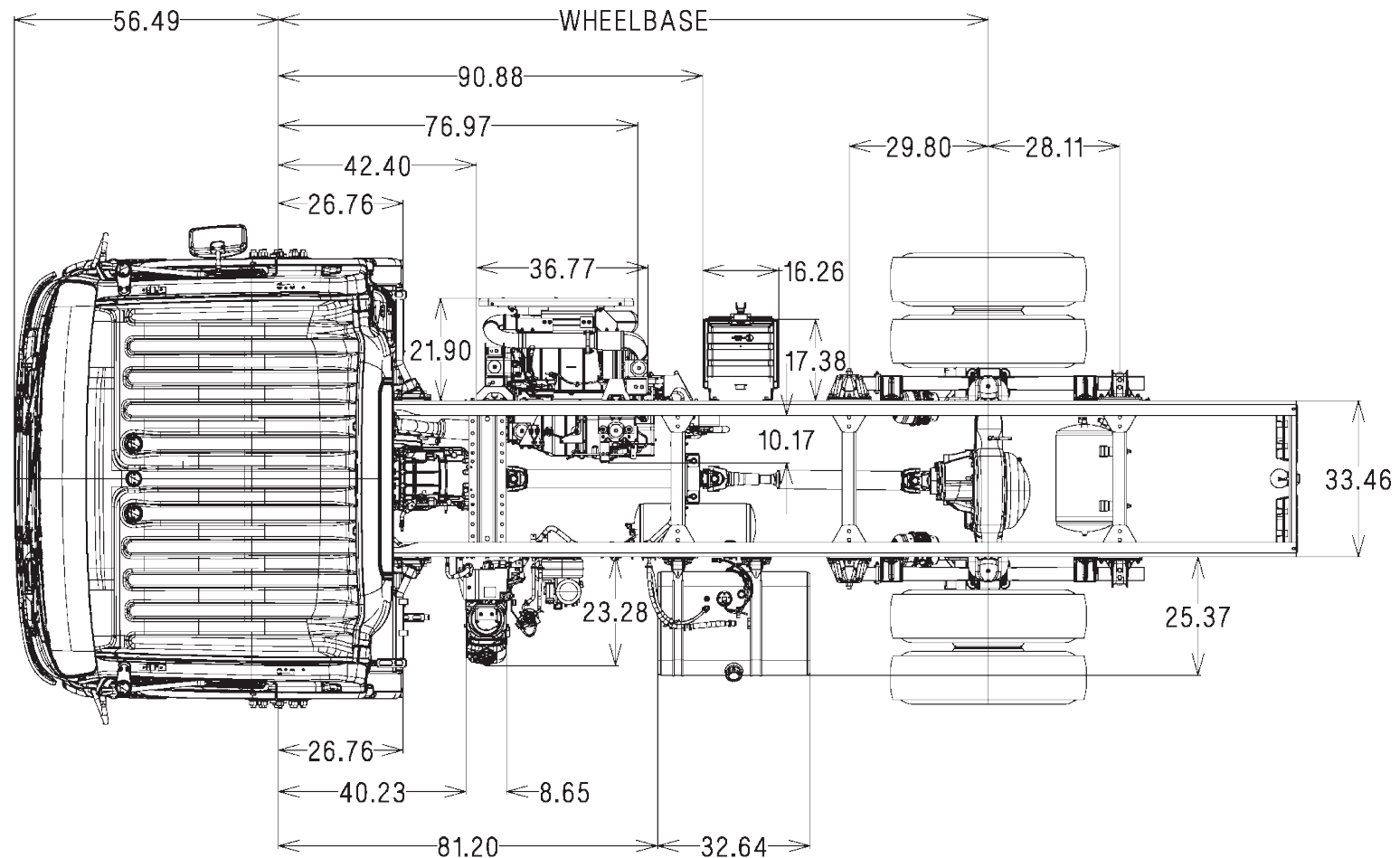


Figure 18.6.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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6500XD Diesel Standard Cab - Left Side View

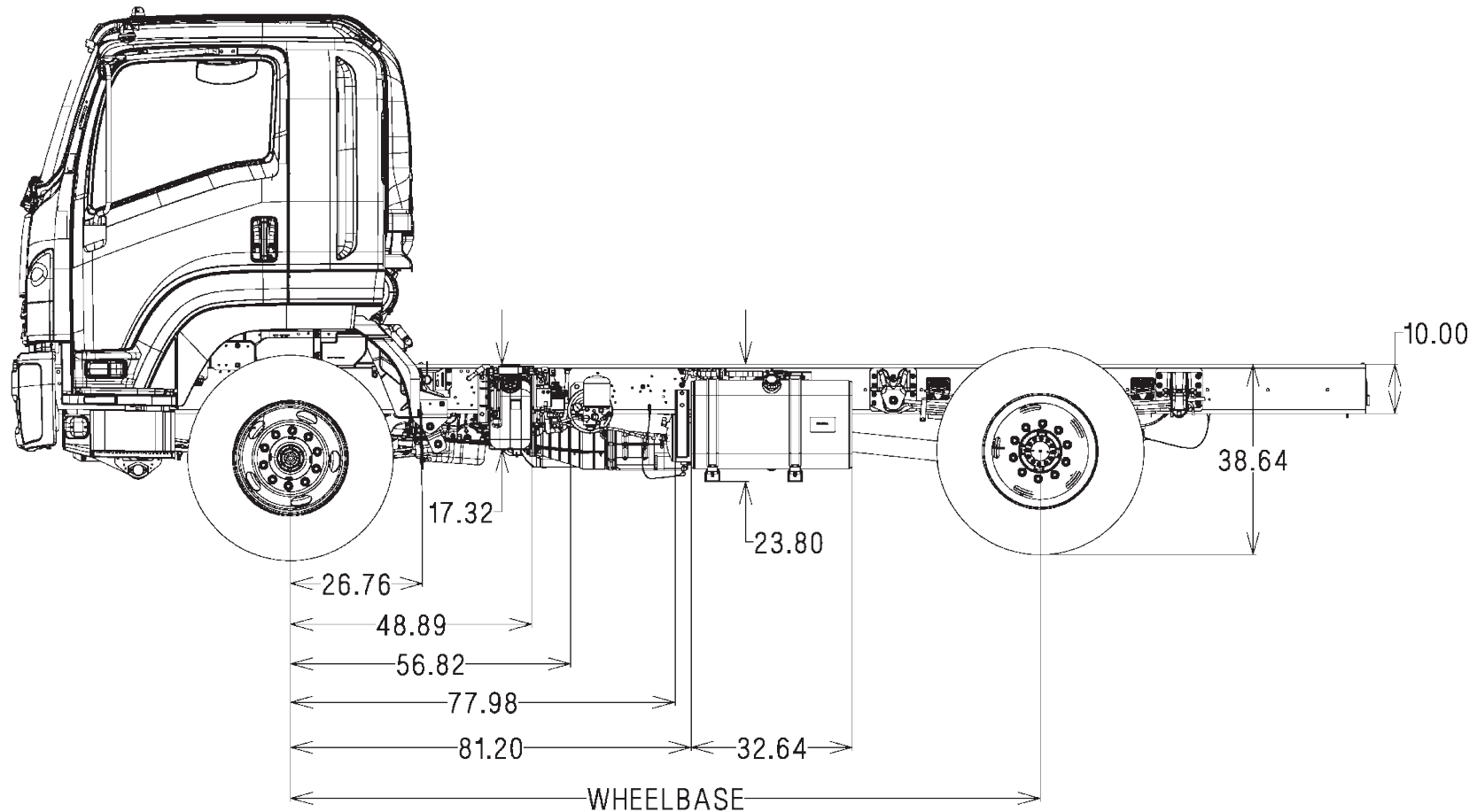


Figure 18.7.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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6500XD Diesel Standard Cab - Right Side View

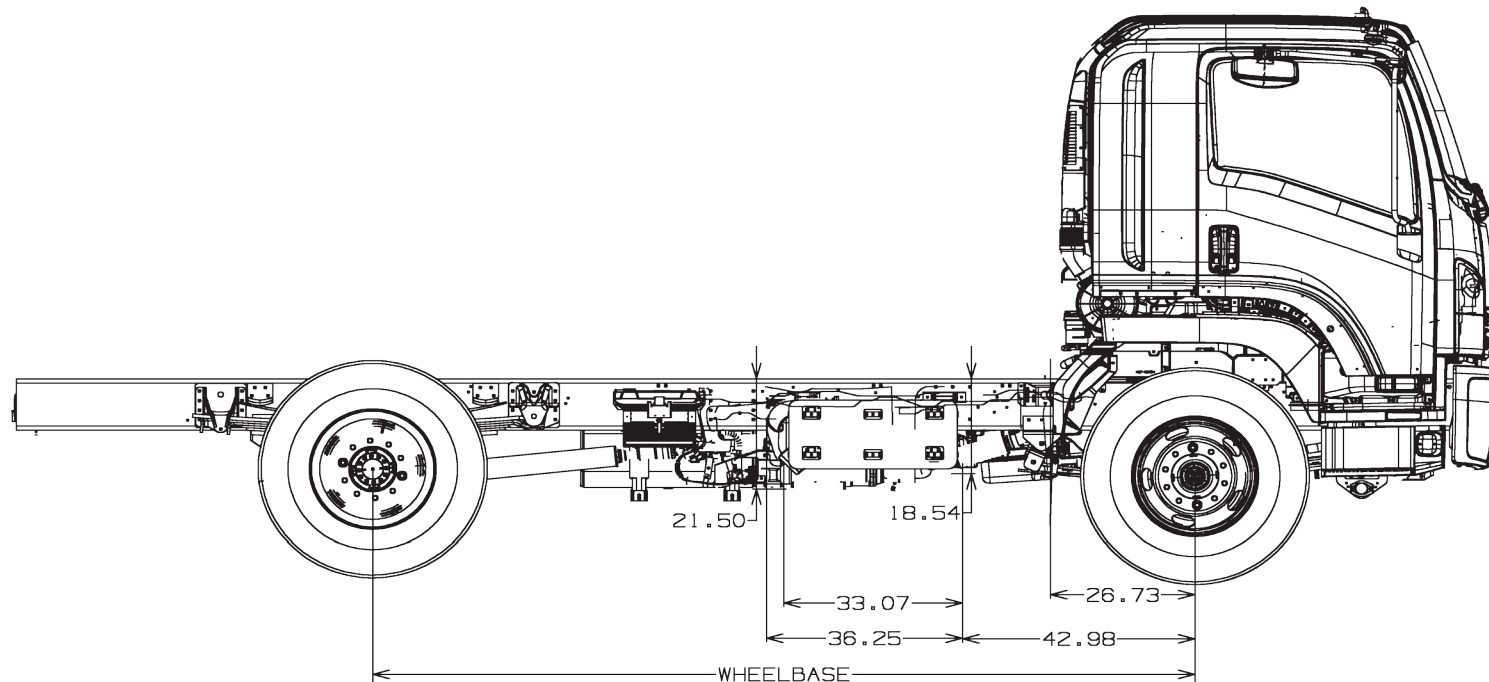


Figure 18.8.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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SCR / DPF 4HK1-TC — 5.2 Diesel

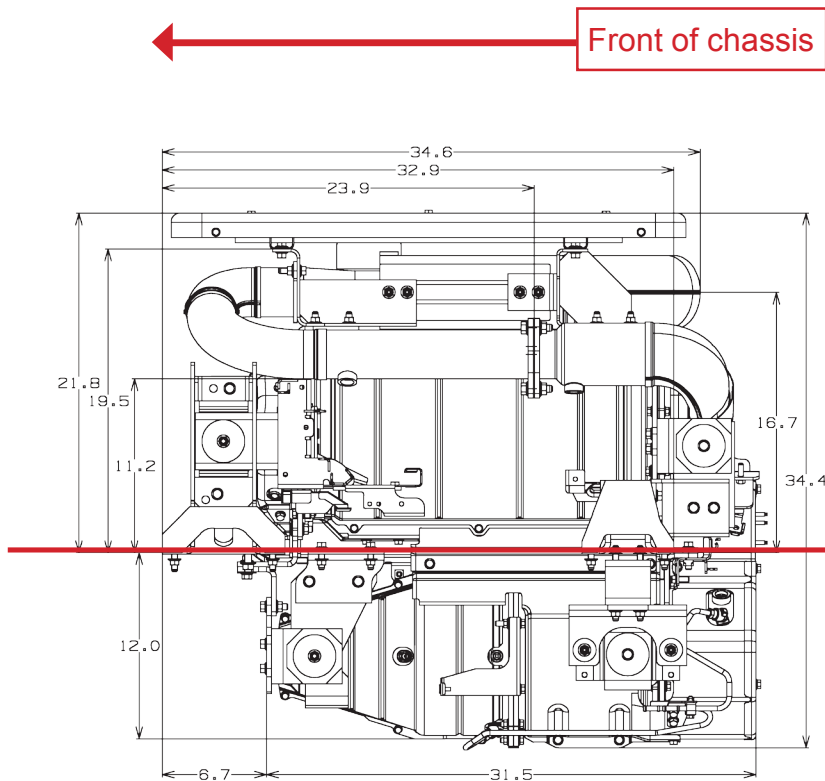


Figure 18.9.1

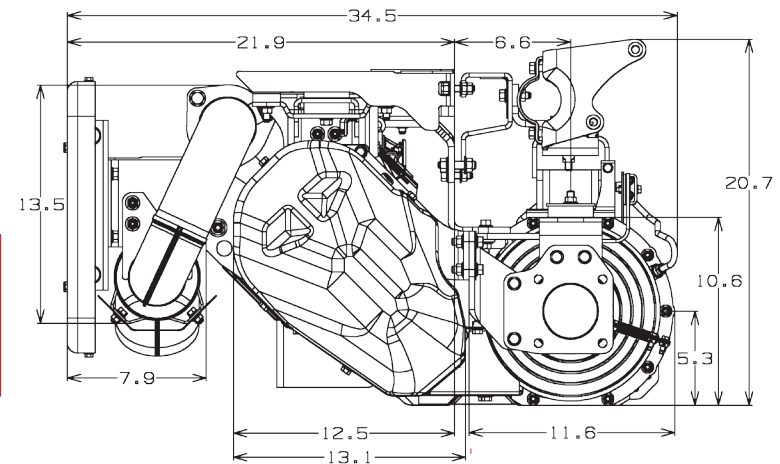


Figure 18.9.2

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

Fuel Tank Options

Fuel Tank Information				
Model Code	GVWR (lb)	WB (in)	Tank Capacity (Gal)	Location LH Rail
T71003	25,950	152	50	YES
T72003		170	50	YES
T73003		188	100	YES
T74003		200	100	YES
T75003		212	100	YES
T76003		224	100	YES
T77003		236	100	YES
T78003		248	100	YES

See page 18.7 and 18.8 for 50 gallon fuel tank locations

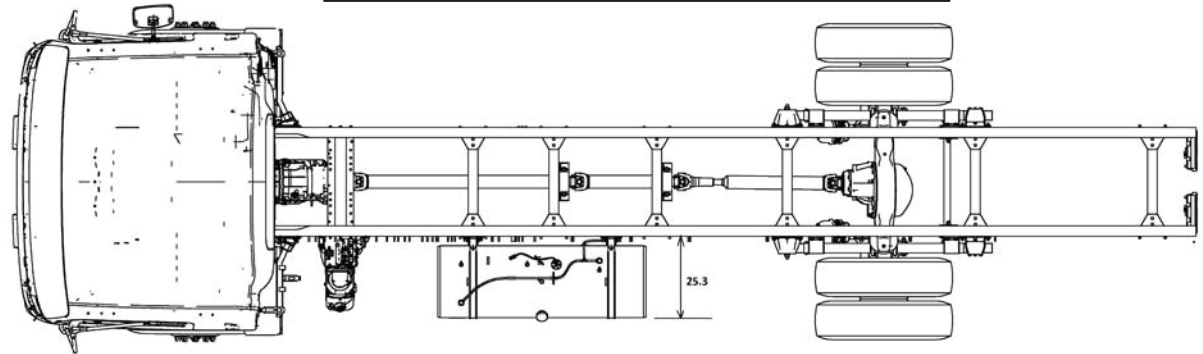


Figure 18.10.1

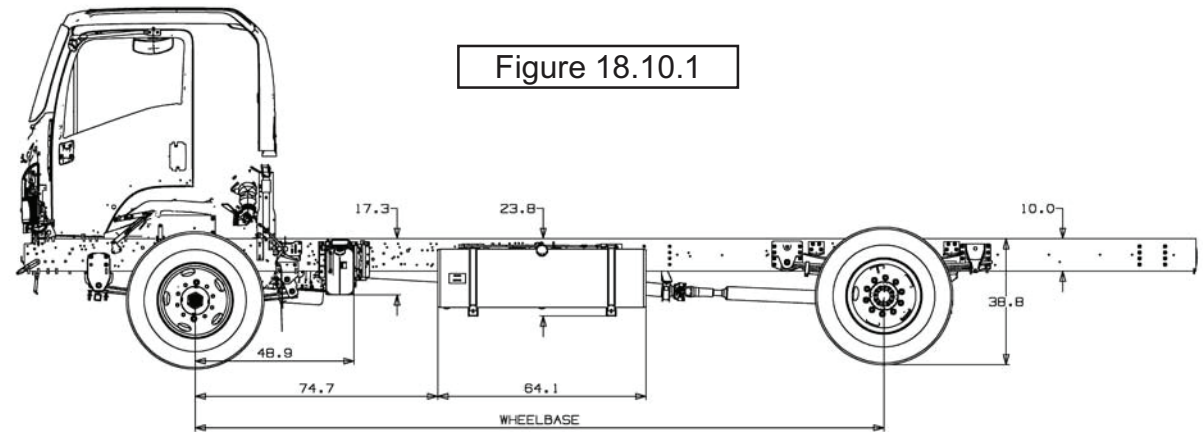


Figure 18.10.2

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

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Cab Tilt

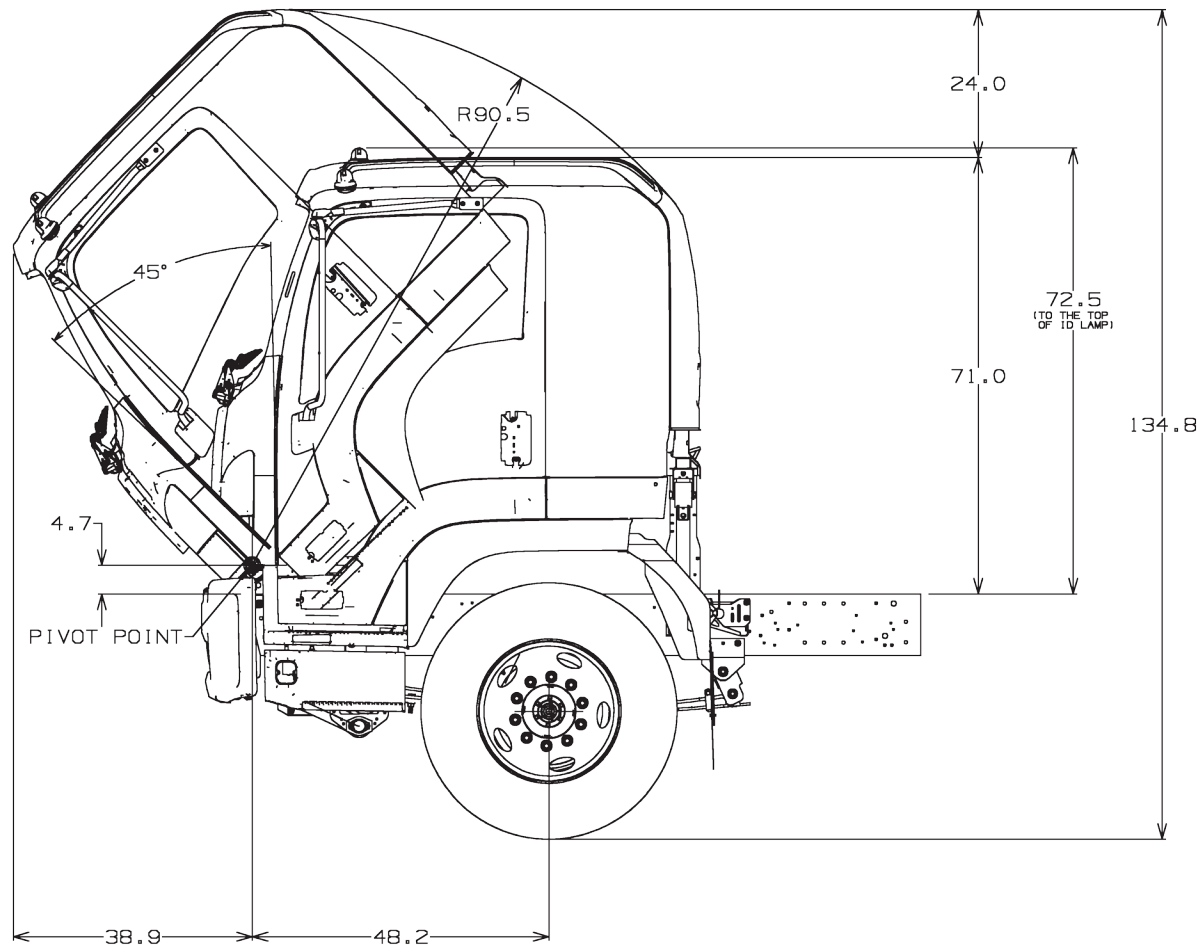


Figure 18.11.1

Note: Dimensions in inches

2018 Chevrolet Low Cab Forward

TURNING DIAMETERS

The 6500XD Diesel steering also features a 50.00 inside wheel cut angle.

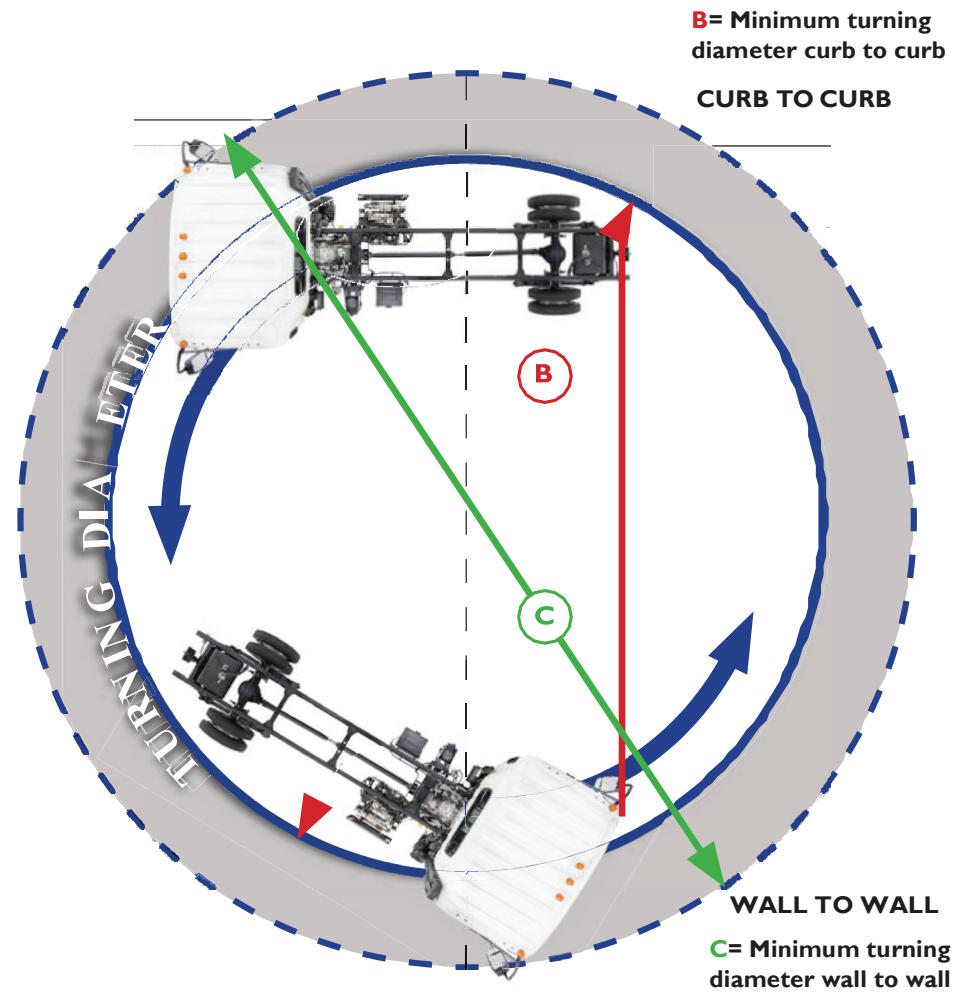


Figure 18.12.1

Measure		wheelbase							
		152	170	188	200	212	224	236	248
Curb-to-Curb	ft	21.84	23.72	25.91	27.37	28.23	29.66	31.09	32.52
Wall-to-Wall {bumper}	ft	24.34	26.27	28.47	29.93	30.86	32.30	33.73	35.16
Wall-to-Wall {96" mirrors}	ft	24.32	26.24	28.43	29.89	30.79	32.23	33.66	35.09
Wall-to-Wall {102" mirrors}	ft	24.52	26.43	28.62	30.08	30.98	32.42	33.85	35.28

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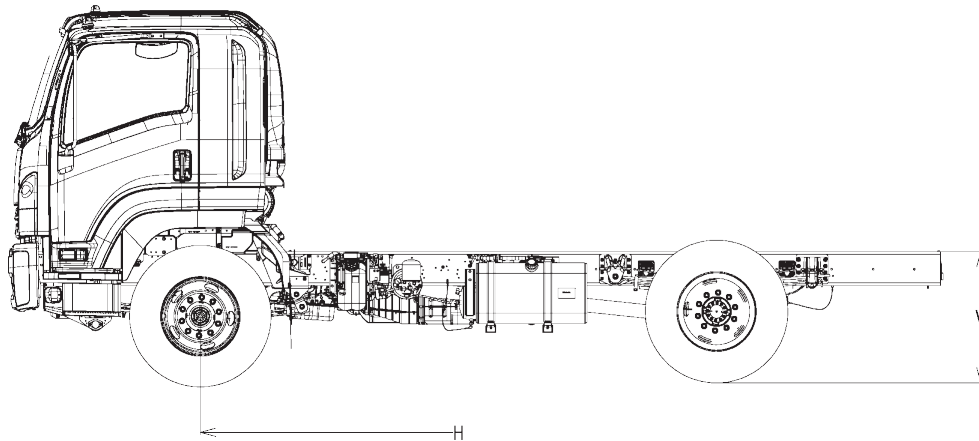


Figure 18.13.1

Horizontal and Vertical CG of Chassis			
Model Code	WB (in)	V (in)	H (in)
T71003	152	39.37	55.3
T72003	170		61.9
T73003	188		69.2
T74003	200		73.6
T75003	212		78.1
T76003	224		82.5
T77003	236		87.0
T78003	248		91.5

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 Incomplete Vehicle Document (IVD).

The maximum dimensions for a body installed on the 6500XD chassis are 102 inches wide (outside width*) by 102 inches high (inside height).

* With 102 inches wide the mirror bracket option must be installed in place of standard mirror brackets.

Note: Dimensions in inches

6500XD Suspension Deflection Charts

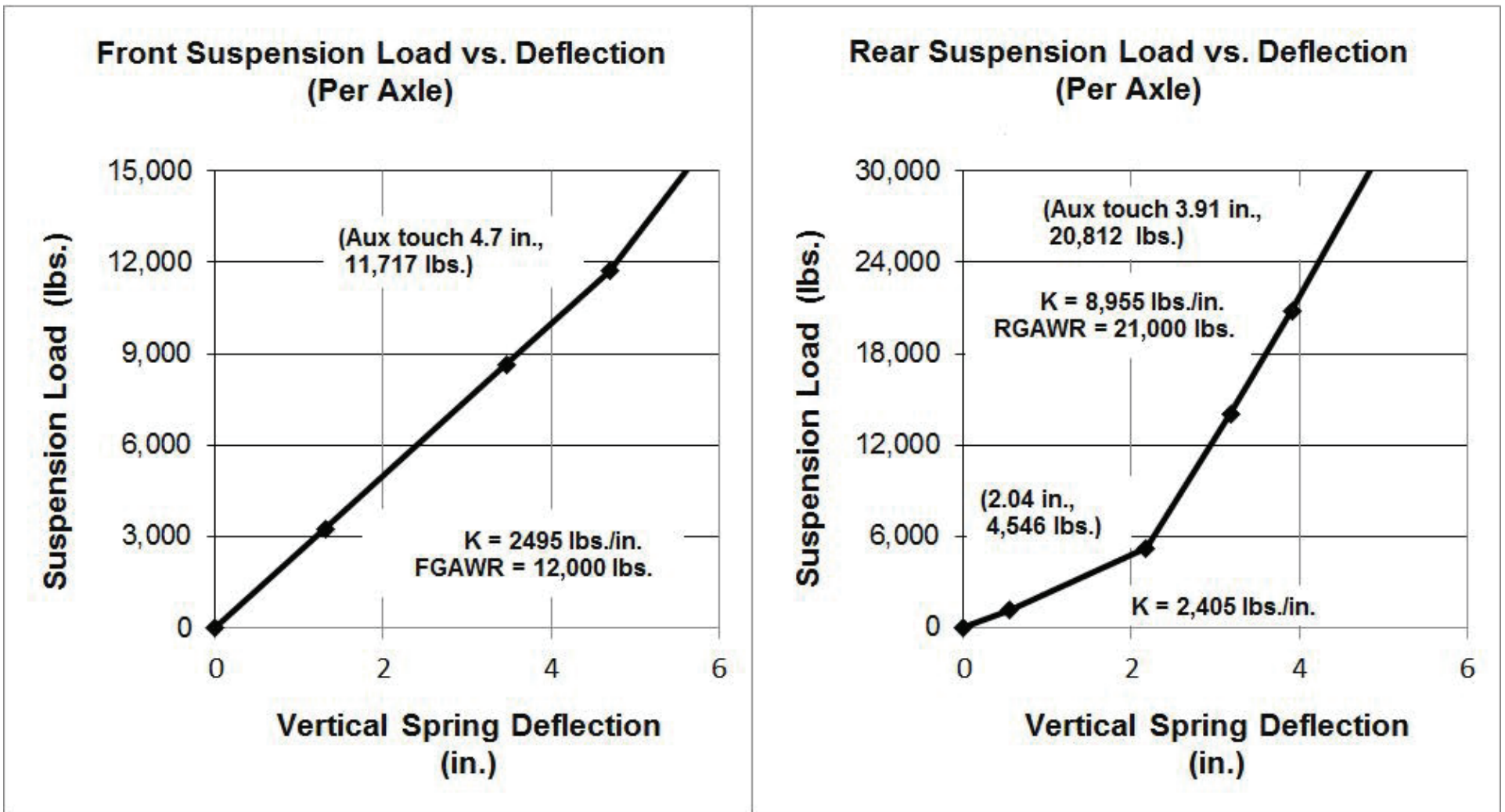


Figure 18.14.1

Figure 18.14.2

2018 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.

Understanding SCR (Selective Catalyst Reduction)

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).

Understanding SCR (Selective Catalyst Reduction)

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 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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Understanding SCR (Selective Catalyst Reduction)

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