



BODY BUILDERS LAYOUT BOOK

E-Series
Ranger
F-150
Super Duty F-Series
F53 Motorhome
LCF
F-650/750

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Published 9/07

IMPORTANT NOTICE

The specifications and designs described herein are believed to be correct as of the time that this book was approved for printing, but accuracy cannot be guaranteed. They are intended only to provide basic data regarding such matters as dimensions and weight ratings of Ford-built chassis. The information contained in this book is general and nothing contained herein is to be regarded as providing specific or comprehensive instructions for the completion of a particular vehicle or as authorization by Ford of the specific modifications, alteration or designs of individual vehicles.

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DEFINITIONS OF TERMS

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The following definitions are from Title 49, Code of Federal Regulations, Parts 567.3, 568.3 and 571.3 where noted. Canadian definitions are from Canada Motor Vehicle Safety Regulations, Section 2(1), and are in italics. Ford Motor Company definitions are for the purpose of this publication only. Some terms are followed by an abbreviation that is used throughout this publication.

Ambulance — is a vehicle for emergency medical care which provides: A driver's compartment; a patient compartment to accommodate an Emergency Medical Technician (EMT), Paramedic, and two litter patients (one patient on the primary cot and secondary patient on a folding litter located on the squad bench) so positioned that the primary patient can be given intensive life-support during transit; equipment and supplies for emergency care at the scene as well as during transport; two-way radio communication; and, when necessary, equipment for light rescue/extrication procedures. The Ambulance shall be designed and constructed to afford safety, comfort, and avoid aggravation of the patient's injury or illness. (From Federal Specification KKK-A-1822-E). Ford Motor Company also includes within its definition of ambulance any vehicle that is used for transporting life-support equipment, for rescue operations, or for non-emergency patient transfer if the engine of the vehicle is equipped with a "throttle kicker" device, which enables an operator to increase engine speed over normal idle speed when the vehicle is not moving. (Ford Motor Company)

B-Pillar — is the vehicle body structure located directly rearward of each front door. This structure will include the outer panel, all inner panels or reinforcements which support the door opening, the door latching system and/ or the roof structure. (Ford Motor Company)

Basic (Stripped) Chassis — an incomplete vehicle, without occupant compartment, that requires the addition of an occupant compartment and cargo-carrying, work performing, or load-bearing components to perform its intended function. (Ford Motor Company)

Bus — a motor vehicle with motive power, except a trailer, designed for carrying more than 10 persons. (49CFR571.3)

Bus (Canada) — *a vehicle having a designated seating capacity of more than 10, but does not include a trailer or a vehicle imported temporarily for special purposes. (autobus)*

Chassis Cab — an incomplete vehicle, with completed occupant compartment, that requires only the addition of cargo-carrying, work-performing or lead-bearing components to perform its intended functions. (49CFR567.3)

Completed Vehicle — a vehicle that requires no further manufacturing operations to perform its intended function, other than the addition of readily attachable components, such as mirrors or tire and rim assemblies, or minor finishing operations such as painting. (49CFR568.3)

Critical Control Item — is a component or procedure which may affect compliance with a federal regulation or, which could directly affect the safe operation of the vehicle. The identifying symbol is an inverted delta (∇). (Ford Motor Company)

Cutaway Chassis Cab — an incomplete vehicle that has the back of the cab cut out for the intended installation of a structure that permits access from the driver's area to the back of the completed vehicle. (Ford Motor Company)

Cutaway Chassis Cab (Canada) — *an incomplete vehicle that has the back of the cab cut out for the intended installation of a structure that permits access from the driver's area to the back of the completed vehicle. (châssis tronqué)*

Designated Seating Position — any plan view location capable of accommodating a person at least as large as a 5th percentile adult female, if the overall seat configuration and design and vehicle design is such that the position is likely to be used as a seating position while the vehicle is in motion, except for auxiliary seating accommodations such as temporary or folding jump seats. Any bench or split-bench seat in passenger car, truck, or multipurpose passenger vehicle with a GVWR less than 4,536 kilograms (10,000 pounds), or having greater than 50 inches of hip room (measured in accordance with SAE Standard J1100(a)) shall have not less than three designated seating positions, unless the seat design or vehicle design is such that the center position cannot be used for seating. (49CFR571.3) (abbreviated by Ford Motor Company)

Designated Seating Position (Canada) — *any plan view position capable of accommodating a person at least as large as a 5th percentile adult female, as defined in section 100 of Schedule IV, where the overall seat configuration and design and the vehicle design are such that the position is likely to be used as a seating position while the vehicle is in motion, but does not include any plan view position of temporary or folding jump seats or other auxiliary seating accommodation. (place assise désignée)*

Final-Stage Manufacturer — a person who performs such manufacturing operations on an incomplete vehicle that it becomes a completed vehicle. (49CFR568.3)

Gross Axle Weight Rating (GAWR) — the value specified by the vehicle manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-ground interfaces. (49CFR571.3)

Gross Combination Weight Rating (GCWR) — the value specified by the manufacturer as the loaded weight of a combination vehicle. (49CFR571.3)

Gross Vehicle Weight Rating (GVWR) — the value specified by the manufacturer as the loaded weight of a single vehicle. (49CFR571.3)

H-Point — the mechanically hinged hip point of a manikin which simulated the actual pivot center of the human torso and thigh, described in SAE Recommended Practice J826, "Manikins For Use in Defining Vehicle Seating Accommodation," November 1962. (49CFR571.3)

H-Point (Canada) — *the mechanically hinged hip point of a manikin that simulates the actual pivot centre of the human torso and thigh, described in SAE Standard J826 APR80, Devices for Use in Defining and Measuring Vehicle Seating Accommodation. (point H)*

Incomplete Vehicle — an assemblage consisting, as a minimum, of frame and chassis structure, power train, steering system, suspension system, and braking system, to the extent that those systems are to be part of the completed vehicle, that requires further manufacturing operations, other than the addition of readily attachable components such as mirrors or tire and rim assemblies, or minor finishing operations, such as painting, to become a completed vehicle. (49CFR568.3)

Incomplete Vehicle (Canada) — *a vehicle (a) other than a vehicle imported temporarily for special purposes, that is capable of being driven and that consists, at a minimum, of a chassis structure, power train, steering system, suspension system, and braking system in the state in which those systems are to be part of the completed vehicle, but requires further manufacturing operations to become a completed vehicle or (b) that is an incomplete trailer. (véhicule incomplet)*

Incomplete Vehicle Manufacturer — a person who manufactures an incomplete vehicle by assembling components none of which, taken separately, constitute an incomplete vehicle. (49CFR568.3)

Intermediate Manufacturer — a person, other than the incomplete vehicle manufacturer or the final stage manufacturer, who performs manufacturing operations on an incomplete vehicle. (49CFR568.3)

Motor Home — a multi-purpose vehicle with motive power that is designed to provide temporary residential accommodations, as evidenced by the presence of at least four of the following facilities: Cooking; refrigeration or ice box; self-contained toilet; heating and/or air conditioning; a potable water supply system including a faucet and a sink; and a separate 110-125 volt electrical power supply and/or an LP gas supply. (49CFR571.3)

Multifunction School Activity Bus (MFSAB) — a school bus whose purposes do not include transporting students to and from home or school bus stops. (49CFR571.3)

Multipurpose Passenger Vehicle (MPV) — a motor vehicle with motive power, except a low-speed vehicle or trailer, designed to carry 10 persons or less which is constructed either on a truck chassis or with special features for occasional off-road operation. (49CFR571.3)

Multipurpose Passenger Vehicle (MPV) (Canada) — *a vehicle having a designated seating capacity of 10 or less that is constructed either on a truck chassis or with special features for occasional off-road operation, but does not include an air cushion vehicle, an all-terrain vehicle, a golf cart, a low-speed vehicle, a passenger car, a truck or a vehicle imported temporarily for special purposes. (véhicule de tourisme à usages multiples)*

School Bus — a bus that is sold, or introduced in interstate commerce, for purposes that include carrying students to and from school or related events, but does not include a bus designed and sold for operation as a common carrier in urban transportation. (49CFR571.3)

School Bus (Canada) — *a bus designed or equipped primarily to carry students to and from school. (autobus scolaire)*

(Cont'd next page)

DEFINITIONS OF TERMS
(CONTINUED)

Seating Reference Point — the unique design H-point, as defined in SAE J1100 (June 1984), which:

- (a) Establishes the rearmost normal design driving or riding position of each designated seating position in a vehicle;
- (b) Has X, Y, and Z coordinates established relative to the designed vehicle structure;
- (c) Simulated the position of the pivot center of the human torso and thigh; and
- (d) Is the reference point employed to position the two-dimensional drafting template described in SAE J826 (May 1987). (abbreviated by Ford Motor Company)

Seating Reference Point (Canada) — the unique Design H-point, as defined in section 2.2.11.1 of SAE Recommended Practice J1100 (June 1993), that:

- (a) establishes the rearmost normal design driving or riding position of each designated seating position, taking into account all modes of adjustment - horizontal, vertical and tilt - in a vehicle,
- (b) has X, Y, and Z coordinates, as defined in section 2.2.3 of SAE Recommended Practice J1100 (June 1993), established relative to the designed vehicle structure,
- (c) simulates the position of the pivot centre of the human torso and thigh, and
- (d) is the reference point employed to position the H-point template with the 95th percentile leg, as described in section 3.1 of SAE Standard J826 (June 1992), or, if that drafting template cannot be positioned, the reference point when the seat is in its rearmost adjustment position. (point de référence de position assise)

Second Unit Body (SUB) — consists of the body structure and/or all the cargo carrying, work performing, and/or load bearing components and/or equipment installed by a subsequent stage manufacturer on an incomplete vehicle, such that the incomplete vehicle becomes a completed vehicle. (Ford Motor Company)

Subsequent Stage Manufacturer — is a term which means either intermediate or final stage manufacturers or both. (Ford Motor Company)

Trimmed Seat — a complete functional seat assembly including the seat pedestal, seat track, seat base frame, seat back, recliner mechanism, seat padding, all attaching hardware, and the final trim material) (i.e., cloth, leather, or vinyl). (Ford Motor Company)

Truck — a motor vehicle with motive power, except a trailer, designed primarily for the transportation of property or special purpose equipment. (49CFR571.3)

Truck (Canada) — a truck designed primarily for the transportation of property or special-purpose equipment but does not include a competition vehicle, a crawler-mounted vehicle, a trailer, a work vehicle, a vehicle imported temporarily for special purposes or a vehicle designed for operation exclusively off-road. (camion)

Truck Tractor — a truck designed primarily for drawing other motor vehicles and not so constructed as to carry a load other than a part of the weight of the vehicle and the load so drawn. (49CFR571.2)

Truck Tractor (Canada) — a truck designed primarily for drawing other vehicles and not constructed for carrying any load other than part of the weight of the vehicles and load drawn, and includes a vehicle designed to accept a fifth-wheel coupling but does not include a crane-equipped breakdown vehicle. (camion le tracteur)

Unloaded Vehicle Weight (UVW) — the weight of a vehicle with maximum capacity of all fluids necessary for operation of the vehicle, but without cargo, occupants, or accessories that are ordinarily removed from the vehicle when it is not in use. (49CFR571.3)

Unloaded Vehicle Weight (UVW) (Canada) — the weight of a vehicle equipped with the containers for the fluids necessary for the operation of the vehicle filled to their maximum capacity but without cargo or occupants. (poids du véhicule sans charge)

Untrimmed Seat — the structure including the seat pedestal, seat track, seat base frame, seat back, recliner mechanism, seat padding and all attaching hardware required for a functional seat assembly without the final trim material (e.g., cloth, leather or vinyl) and trim material attaching components. (Ford Motor Company)

Walk-In Van — is a step entry city delivery van type vehicle that permits a person to enter the vehicle without stooping. This definition by Ford Motor Company is based on information appearing in 41 FR 54945, published December 16, 1976, and in 42 FR 34288, published July 5, 1977.

Walk-In Van (Canada) — a van type of truck in which a person having a height of 1700 mm can enter the occupant compartment in an upright position by a front door. (fourgon à accès en position debout)

COMPONENTS:

BPP Brake Pedal Position Switch: Supplies the processor a signal for converter clutch operation. A connection here may have an adverse effect on transmission operation. Refer to the ELECTRICAL WIRING SECTION “ADDING LIGHTS OR ELECTRICAL DEVICES” for guidelines.

CAUTION: Any connection to the PCM-V system (i.e., wiring, components) or alterations to the system may adversely affect vehicle operation (transmission and/or engine).

BARO/ MAP Barometer Pressure Sensor/Manifold Absolute Pressure Sensor: Must be physically in a higher location than the intake manifold and angled with the vacuum nipple at least 4 degrees downwards. MAP vacuum line must have a downward slope to the manifold without any potential kinking or twisting. BARO has no vacuum line.

DTR Digital Transmission Range Sensor: Located on the outside of the automatic transmission at the manual lever on all models except 6.0L diesel engines. The DTR sensor provides the position of the manual lever (P, R, N, D, 2, 1) to various vehicle circuits. Do not tap into or splice any wire attached to the DTR sensor or engine and transmission damage may occur.

HO₂ Heated Oxygen Sensor: Pigtail wire must be at least 4 inches from the exhaust pipe and exhaust manifold. If necessary, a clip should be used to secure its location.

PCM Powertrain Control Module: Location must be completely shielded from weather and case grounded to sheet metal. It should be oriented such that no moisture can accumulate in the 104-way connector. The ambient temperature at the PCM module should not exceed 80° Centigrade (176° Fahrenheit). Exterior surface shall not exceed 140° F.

NOTE: The powertrain control module requires battery power to be supplied at all times to maintain the keep-alive memory. Keep this in mind when installing load disconnect switches or solenoids.

TP Throttle Position Sensor: Supplies a throttle position signal to the PCM processor. Do not tap into or splice any wire to the TP Sensor. For 6.0L diesel engines use the TPO wire, circuit 1857 (YE/WH).

VSS Vehicle Speed Sensor: The source varies by model. Sources include the Anti-Lock Brake System (ABS) module, a transmission speed sensor or the Transfer Case Speed Sensor (TCSS) for 4x4 model equipped with a manual transfer case. The vehicle speed signal is either a speed variable frequency AC signal, or a SCP Data message depending on the source. The vehicle speed signal must be operational for key sub-systems and the vehicle diagnostics to operate properly. Do not tap into or splice any VSS signal wire, sensors or engine and transmission damage may occur. For 6.0L diesel engines use VSO wire, circuit 239 (WH/OG) for the vehicle speed signal. For all other engines, installation of an additional sensor will be required.

2008 VIN ELEMENT CODING INFORMATION

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VIN – What it Means

Universal Vehicle Identification Numbers (VINs) have 17 “positions”. There is a number or a letter in each position (see example below).

“VIN Decoder” is accessible on the Ford Fleet web site: www.fleet.ford.com

Typical VIN	1	F	D	S	F	3	4	S	1	8	E	A	8	6	3	1	1
Position Number	1-3			4	5-7			8	9	10	11	12-17					
Positions 1-3	World Manufacturer Identifier																
Position 4	Restraint System Type (Passenger Car Only) Brake Type, GVWR Class, and Restraint System Type (Trucks, MPVs and Buses)																
Positions 5-7	Line, Series, Body Type																
Position 8	Engine Type																
Position 9	Check Digit																
Position 10	Model Year																
Position 11	Assembly Plant																
Positions 12-17	Production Sequence Number																

For a direct interpretation of a specific VIN, see the reference material at your dealership for the years of your specific interest (the specific meanings of some of the codes used in the VIN can change from year to year.)

OCCUPANT PROTECTION SYSTEMS

SEAT RESTRAINT SYSTEM

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INFORMATION

The following recommendations are intended to assist in the design of seats and seat belt systems capable of meeting the requirements of the F/CMVSS 207, 208, 209 and 210 except for front seating positions for vehicles having a GVWR of 3855 kg [8500 lb] or less, and an Unloaded Vehicle Weight of 2495 kg [5500 lb] or less. These recommendations are based on testing and analyses performed by Ford Motor Company.

Ford Motor Company cautions subsequent stage manufacturers to note the definition of “Designated Seating Positions” on page 6. If a position can reasonably be used by a 5th percentile adult female for seating and the overall seat configuration and vehicle design make it likely that the position will be used by an occupant while the vehicle is in motion, then the position must be considered to be a “Designated Seating Position” for determination of compliance to U.S. and Canadian motor vehicle safety standards.

Seat and seat belt systems may take many forms; this list of recommendations cannot cover all possibilities. Strict adherence to these suggestions will not ensure that systems will comply with F/CMVSS 207, 208, 209 and 210. Responsibility for determining compliance to appropriate F/CMVSS regulations is that of the final stage manufacturer. Accordingly, Ford Motor Company makes no representation as to the appropriateness of any particular recommendation in its specific application of a particular design or act of intermediate or final stage manufacture.

To confidently verify compliance with F/CMVSS 207, 208, 209 and 210, the testing of representative systems to applicable F/CMVSS 207, 208, 209 and 210 procedures is recommended. Questions regarding compliance with F/CMVSS regulations should be directed to your legal counsel, the National Highway Traffic Safety Administration, or Transport Canada.

SEAT SYSTEMS

1. For Incomplete E-Series Vans and Cutaways with a GVWR over 3855 kg [8500 lb] purchased with the front seat delete option, Ford Motor Company strongly recommends following the practices specified in the compliance representations for F/CMVSS 208 that apply to vehicles with a GVWR of 3855 kg [8500 lb] or less and completed units Unloaded Vehicle Weight of 2495 kg [5500 lb] or less.
2. Any additional seats and seat anchorages installed by subsequent stage manufacturers must meet F/CMVSS 207 requirements and specifications.
3. Do not modify or alter Ford Motor Company furnished seating or occupant restraint system. When utilizing the Ford Motor Company driver's seat delete package, care must be taken to insure proper function of the seat adjustment latching mechanism, electrical wiring and seat belt buckle pretensioner. Refer to Bulletin Q-48 for wire routing. E-Series ordered with Passenger Seat Delete, Air Bag Delete, or RH Door Delete option may have the vehicle wiring modified according to Bulletin Q-93.
4. If the seat or seat belt components are temporarily removed for any reason, they must be reinstalled in accordance with the instructions and specifications found on the following pages for E-Series, Super Duty F-Series or the applicable *Ford Truck Shop Manual*.
5. Seating systems that include the attachment of lap belt or shoulder belt assemblies should also consider the requirements of F/CMVSS 210 as part of the seating system.
6. Seating system components should be free of sharp edges to prevent damage to seat belt systems when the belts could potentially contact the seating system components.
7. Seats should be mounted with appropriate fasteners in the mounting holes provided, since these holes are located to utilize floor pan structural reinforcements.
8. If additional holes are required for any reason, their locations should be carefully selected so that the structural integrity of the floor pan will not be compromised and to prevent damage to other components located below the floor.

9. Seating systems should be designed to be compatible with the seat belt systems, so as to permit proper adjustment, allow for occupant movement and provide convenient accessibility of the restraint system buckle release.
10. Seats not designated for occupancy while the vehicle is in motion must be conspicuously labeled as such.

WARNING:

FORD MOTOR COMPANY SAFETY BELTS ARE DESIGNED TO WORK WITH THE SEATS ORIGINALLY DESIGNED FOR THE VEHICLE. IF A MODIFIER USES DIFFERENT SEATS WITH FORD MOTOR COMPANY SEAT BELTS, THAT MODIFIER MUST ENSURE THE SAFETY BELTS AND REPLACEMENT SEATS MEET ALL FMVSS REQUIREMENTS AND WILL PERFORM SAFELY IN THE FIELD. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY IN THE EVENT OF A COLLISION.

LAP AND SHOULDER BELT SYSTEMS

1. The front seats are equipped with a pyrotechnic buckle pretensioner. The buckle pretensioner reduces slack in the lap and shoulder safety belt by pulling the buckle downward. The buckle pretensioners and air bags operate on the same sensors and will function simultaneously.
2. Additional lap and shoulder belt assemblies, including retractors and hardware, must comply with the requirements of F/CMVSS 208 and 209.
3. Additional lap and shoulder belt system anchorages must comply with the requirements of F/CMVSS 210.
4. Lap and shoulder belt systems that are attached to seat frame or base may affect compliance of the seating system with the requirements of F/CMVSS 207.

5. Ford Motor Company lap and shoulder belts, retractors and attaching hardware should not be altered or modified in any way. The reinstallation of these components should follow the instructions and specifications in the appropriate *Ford Truck Shop Manual*.
6. Lap and shoulder belt assemblies should be compatible with the seat systems and anchorages so that lap belts will be properly positioned about the occupant's pelvis to provide proper adjustment and fit. The buckle and buckle release are properly located with respect to the occupant and must comply with the requirements of F/CMVSS 208.
7. Seat belt warning system activation/deactivation, where applicable, should be provided by the lap and shoulder belt assembly.

WARNING:

THE SEAT BELT BUCKLE PRETENSIONER, AIRBAGS AND ELECTRONIC SENSOR MODULE ARE BAR CODED WITH A UNIQUE SERIAL NUMBER WHICH IS MATCHED TO THE VEHICLE VIN. TO MAINTAIN THE OCCUPANT PROTECTION SYSTEM PERFORMANCE, THE COMPLETED VEHICLE MUST CONTAIN THE SAME SEAT BELT BUCKLE PRETENSIONER, AIR BAGS AND ELECTRONIC SENSOR MODULE THAT WERE INSTALLED BY FORD MOTOR COMPANY. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY IN THE EVENT OF A COLLISION.

OCCUPANT PROTECTION ZONE AND OVERHEAD CONSOLE

For vehicles completed with an Unloaded Vehicle Weight (UVW) greater than 2495 kg [5500 lb], Ford Motor Company strongly recommends following the practices in the compliance representations for F/CMVSS 208 regarding overhead console specifications that apply to vehicles with a GVWR of 3856 kg [8500 lb] or less and completed units have an Unloaded Vehicle Weight of 2495 kg [5500 lb] or less.

(Cont'd next page)

OCCUPANT PROTECTION SYSTEMS

AIRBAG SUPPLEMENTAL RESTRAINT SYSTEM

2008
MODEL YEAR

INFORMATION

Ford Motor Company urges careful consideration of the recommendations that follow. They are based on analyses of component and vehicle tests, actual service situations, and engineering judgments. Disregard of these recommendations may affect the durability, reliability, handling and performance characteristics of a completed vehicle and may result in elevated underbody temperatures, increase the potential for fire, or may affect the safety of the occupants in the event of an accident.

These recommendations are supplemental to U.S. and Canadian Motor Vehicle Safety compliance representations provided in the *Incomplete Vehicle Manual* (IVM). Also, additional information is provided in the *Ford Truck Service Manual* which may be helpful to subsequent stage manufacturers.

The completed vehicle in the “Loaded” condition must not exceed the front GAWR, rear GAWR or the GVWR. (“Loaded” means the completed vehicle weight with the maximum fluid capacity necessary for vehicle operation, plus 150 lb for each designated seating position, and an additional allowance for any cargo weight advertised by the manufacturer). The GAWR and GVWR are on the label affixed to the cover of the *Incomplete Vehicle Manual*.

Subsequent Stage Manufacturers are encouraged to contact the Ford Truck Body Builder Advisory Service if they have any questions concerning these recommendations.

AIRBAG SUPPLEMENTAL RESTRAINT SYSTEM

Some trucks produced by Ford Motor Company are equipped with an Airbag Supplemental Restraint System (SRS). Vehicles equipped with this system will have the words “AIRBAG” and an airbag symbol on the VIN plate located on the top driver-side corner of the instrument panel. System components are shown in their vehicle locations on the following pages.

Included on the Vehicle Identification Number -(VIN)-plate (visible through the windshield) of the vehicle, manufactured by Ford Motor Company with a driver's airbag, are the words “AIR” and “BAG” and a pictogram for the airbag separating the two (see following illustration).



Detailed system and service information will be found in the *Ford Truck Service Manual* for the appropriate type and model year. Ford Motor Company urges the subsequent stage manufacturers to become familiar with this system prior to modifying vehicles that are so equipped.

CAUTION:
DO NOT REMOVE THE STEERING COLUMN, STEERING WHEEL, AND AIRBAG MODULE AS AN ASSEMBLY FROM THE VEHICLE UNLESS (1) THE COLUMN IS LOCKED TO PREVENT ROTATION, OR (2) THE LOWER END OF STEERING SHAFT IS SECURED (e.g., by wire) IN SUCH A WAY THAT THE STEERING WHEEL CANNOT BE ROTATED.

WARNING:
THE SEAT BELT BUCKLE PRETENSIONER, AIRBAGS, AND ELECTRONIC SENSOR MODULE ARE BAR CODED WITH A UNIQUE SERIAL NUMBER WHICH IS MATCHED TO THE VEHICLE VIN. TO MAINTAIN THE OCCUPANT PROTECTION SYSTEM PERFORMANCE, THE COMPLETED VEHICLE MUST CONTAIN THE SAME SEAT BELT BUCKLE PRETENSIONER, AIRBAGS, AND ELECTRONIC SENSOR MODULE THAT WERE INSTALLED BY FORD MOTOR COMPANY. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY IN THE EVENT OF A COLLISION.

If electrical work is performed in the steering column area, the instrument panel of the air bag system, the system must be deactivated to avoid unwanted inflation of the air bag. To do this, follow the procedure described on this page.

DEACTIVATION PROCEDURE

1. Disconnect all negative battery cable(s), and power supplies (if equipped).
2. Wait 1 minute. This is the time required for backup power supply in diagnostic monitor to deplete its stored energy.

WARNING:
TO AVOID ACCIDENTAL DEPLOYMENT AND POSSIBLE PERSONAL INJURY, THE BACKUP POWER SUPPLY MUST BE DEPLETED BEFORE REPAIRING OR REPLACING ANY AIRBAG SUPPLEMENTAL RESTRAINT SYSTEM (SRS) COMPONENTS. TO DEplete THE BACKUP POWER SUPPLY ENERGY, DISCONNECT THE BATTERY GROUND CABLE AND WAIT ONE MINUTE. BE SURE TO DISCONNECT AUXILIARY BATTERIES AND POWER SUPPLIES (IF EQUIPPED).

WARNING:
CARRY A LIVE AIRBAG MODULE WITH THE AIRBAG AND TRIM COVER POINTED AWAY FROM YOUR BODY. THIS WILL REDUCE THE RISK OF INJURY IN THE EVENT OF AN ACCIDENTAL DEPLOYMENT.

WARNING:
DO NOT SET A LIVE AIRBAG MODULE DOWN WITH THE TRIM COVER FACE DOWN.

3. Remove fasteners retaining driver airbag module to steering wheel. Disconnect driver airbag connector and remove the bag from steering wheel. Place the bag on a flat surface with trim cover facing upward. Connect an Airbag Simulator (Part # 105-R0012 in the Rotunda Tool catalog) to the airbag connector on the wire harness in the steering wheel.
4. Disconnect passenger airbag module connector and replace it with an Airbag Simulator (Part # 105-R0012 in the Rotunda Tool catalog) to the airbag connector on the wire harness in the I/P.
5. Reconnect all negative battery cables and power supplies (if equipped).

REACTIVATION PROCEDURE

1. Disconnect all negative battery cable(s) and power supplies (if equipped).
2. Wait 1 minute for backup power supply to deplete stored energy.
3. Remove Airbag Simulator and reconnect driver airbag connector. Position driver airbag on steering wheel and secure with fasteners (10 mm). Tighten fasteners to 2.7-3.7 Nm. [24-32 in-lb].

4. Remove Airbag Simulator and reconnect passenger airbag connector.
5. Reconnect all negative battery cables and power supplies (if equipped).
6. PROVE-OUT the system.

PROVE-OUT SYSTEM PROCEDURE

Prove-out system means to turn the ignition switch from OFF to RUN and visually monitor the airbag indicator. The airbag will light continuously for approximately six seconds and then turn off. If an airbag system fault is present, the indicator will either fail to light, remain lit continuously or light in a flashing manner. The flashing manner may not occur until approximately 30 seconds after the ignition switch has been turned from OFF to RUN. This is the time required for the diagnostic monitor to complete the testing of the airbag system. If the airbag indicator is inoperative and an airbag system fault exists, a tone will sound in a pattern of five sets of five beeps. If this occurs, the airbag indicator will need to be serviced before further diagnosis can be done.

E-SERIES ORDERED WITH PASSENGER SEAT / AIR BAG / DOOR DELETE OPTIONS

Starting with Job #1 2004, any E-Series vehicle with the Passenger Seat Delete option, RH Door Delete option, or Air Bag Delete option will have a new seat/air bag delete resistor/bracket installed in the front out-board seat pedestal's mounting hole. The intent of this resistor/bracket is to assure installation of the correct air bag/seat restraint actuation module at the assembly plant.

The builder may need to relocate the resistor/bracket in order to provide a “clear” cab floor in the passenger seat area. It is suggested the following procedure be used:

1. Remove resistor/bracket from current mounting hole.
2. Detach wire harness from rear of cab floor.
3. Remove the pushpin from the bracket and enlarge the mounting hole so that the bracket will slip over the M12 stud.
4. Route and neatly bundle wire harness under drivers seat pedestal.
5. Attach resistor/bracket over outboard rear driver's pedestal mounting stud, **using an additional M12 nut** (not provided) to retain the resistor/bracket. **Do not install the bracket under the nut retaining the seat pedestal.**

Note: If bundling the wire harness results in an undesirable package, shorten the harness by cutting, splicing with appropriate butt connectors, and protecting with convolute as necessary. Refer to QVM Bulletin Q93 published on the website www.fleet.ford.com/truckbas. (Cont'd next page)

OCCUPANT PROTECTION SYSTEMS
AIRBAG SUPPLEMENTAL RESTRAINT SYSTEM

2008
MODEL YEAR

VEHICLE	DRIVER AIRBAG	PASSENGER AIRBAG
Ranger	Standard Front	Standard Front (Includes deactivation switch)
F-150	Standard Front	Standard Front (Includes deactivation switch except with Crew Cab models)
E-Series Wagon	Standard Front	Standard Front
E-Series Vans	Standard Front	Standard Front
E-Series Cutaway	Standard Front	Standard Front
E-Series Stripped Chassis	—	—
Super Duty F-Series Pickups	Standard Front	Standard Front (Includes deactivation switch except with Crew Cab models)
Super Duty F-Series Pickup Box Delete and Chassis Cabs	Standard Front	Standard Front (Includes deactivation switch except with Crew Cab models)

E-Series Cutaway vehicles equipped with Passenger Seat Delete Option - refer to QVM Bulletin Q-93 published on the website www.fleet.ford.com/truckbbas. Bulletin provides instructions on relocating resistor/bracket from passenger seat area to driver seat area.

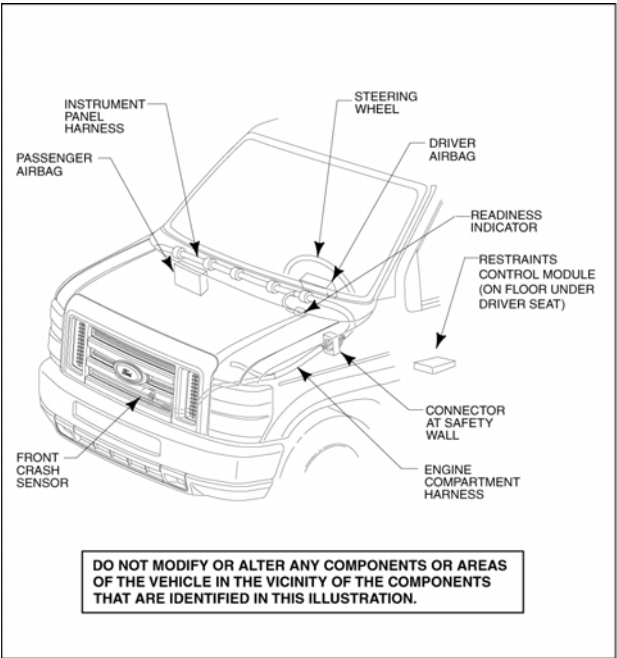


FIGURE E1 –E-SERIES SUPPLEMENTAL RESTRAINT SYSTEM (Air Bags, Sensors, and Wiring)

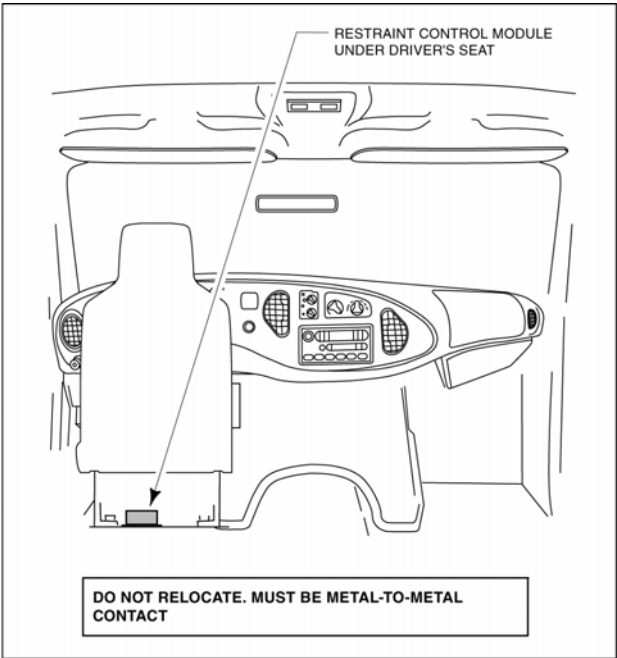


FIGURE E2 –E-SERIES RESTRAINT CONTROL MODULE

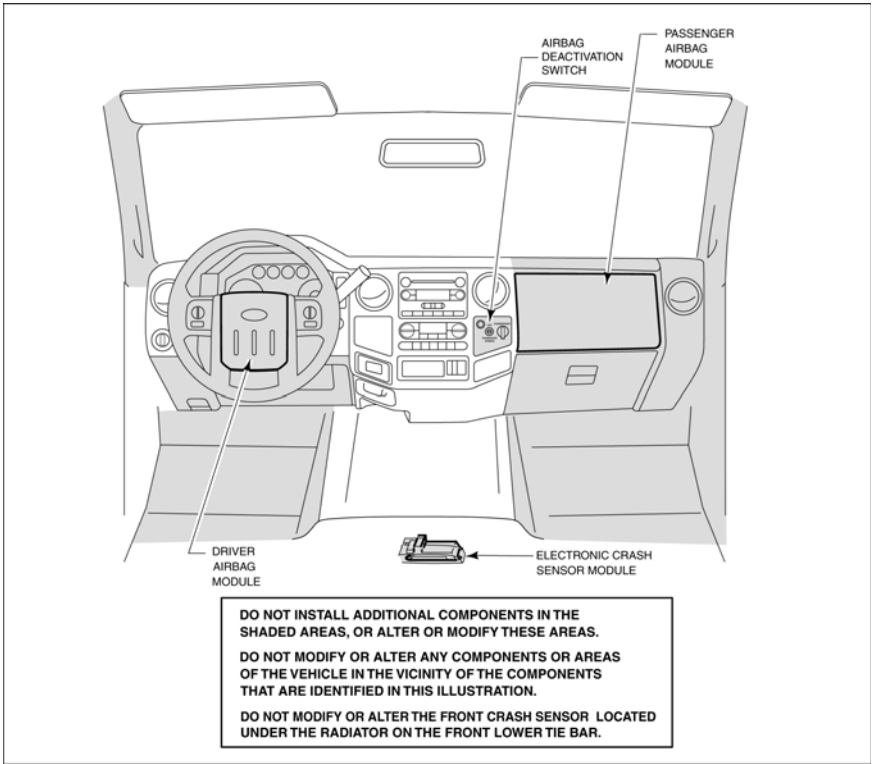


FIGURE 3 - SUPER DUTY F-SERIES OCCUPANT PROTECTION ZONE & SUPPLEMENTAL RESTRAINT SYSTEM (AIRBAGS, SENSORS AND WIRING)

(Cont'd next page)

OCCUPANT PROTECTION SYSTEMS

AIRBAG SUPPLEMENTAL RESTRAINT SYSTEM

2008
MODEL YEAR

Page 12 SAFETY / EMISSIONS

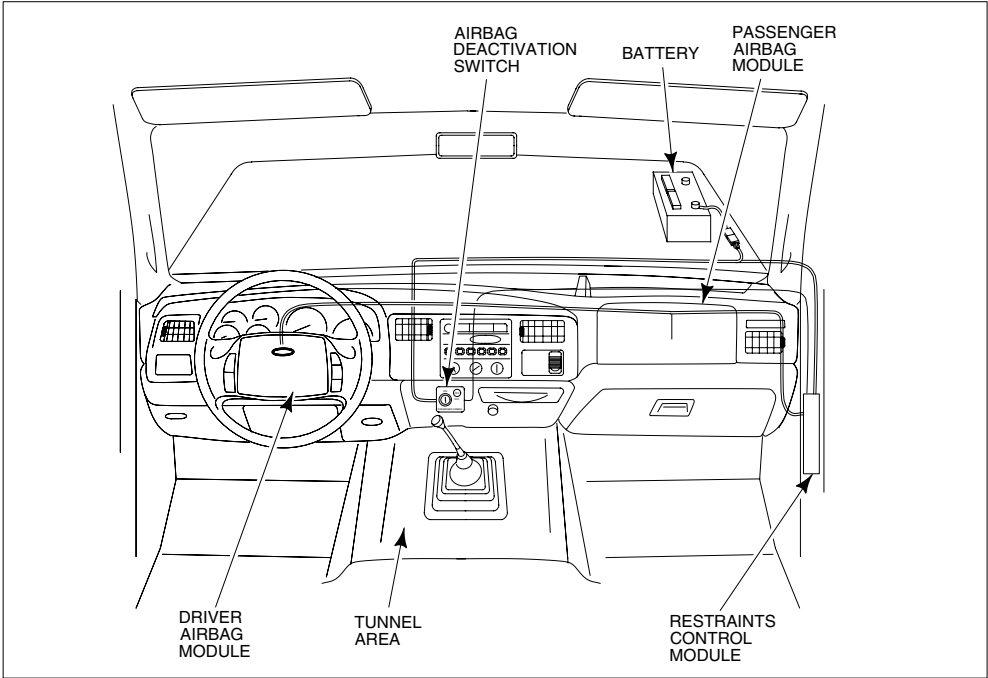


FIGURE A - RANGER RESTRAINTS CONTROL MODULE

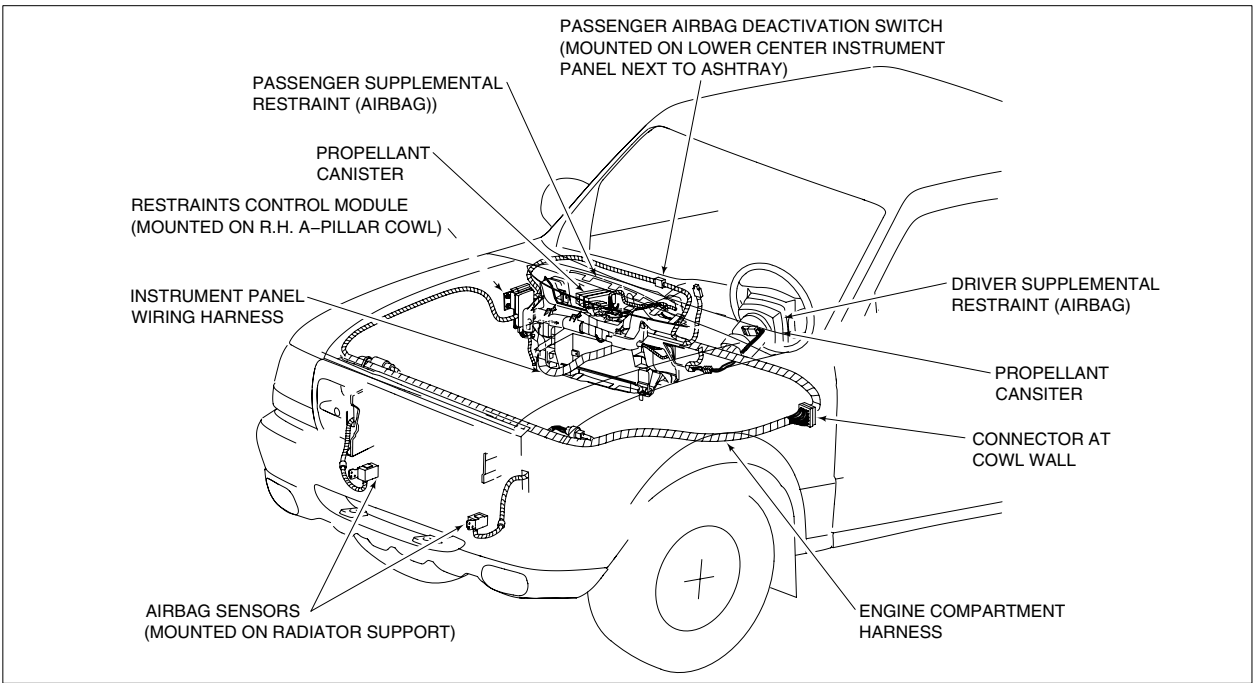
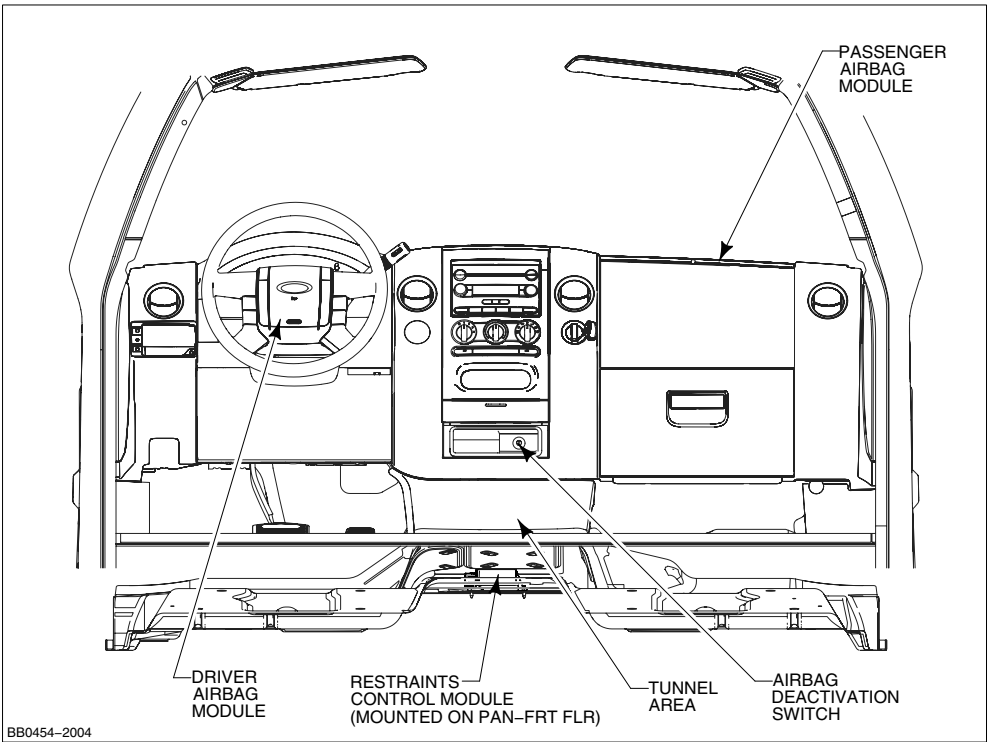


FIGURE B - RANGER SUPPLEMENTAL RESTRAINT SYSTEM (AIRBAGS, SENSORS AND WIRING)



BB0454-2004

FIGURE C - F-150 RESTRAINTS CONTROL MODULE

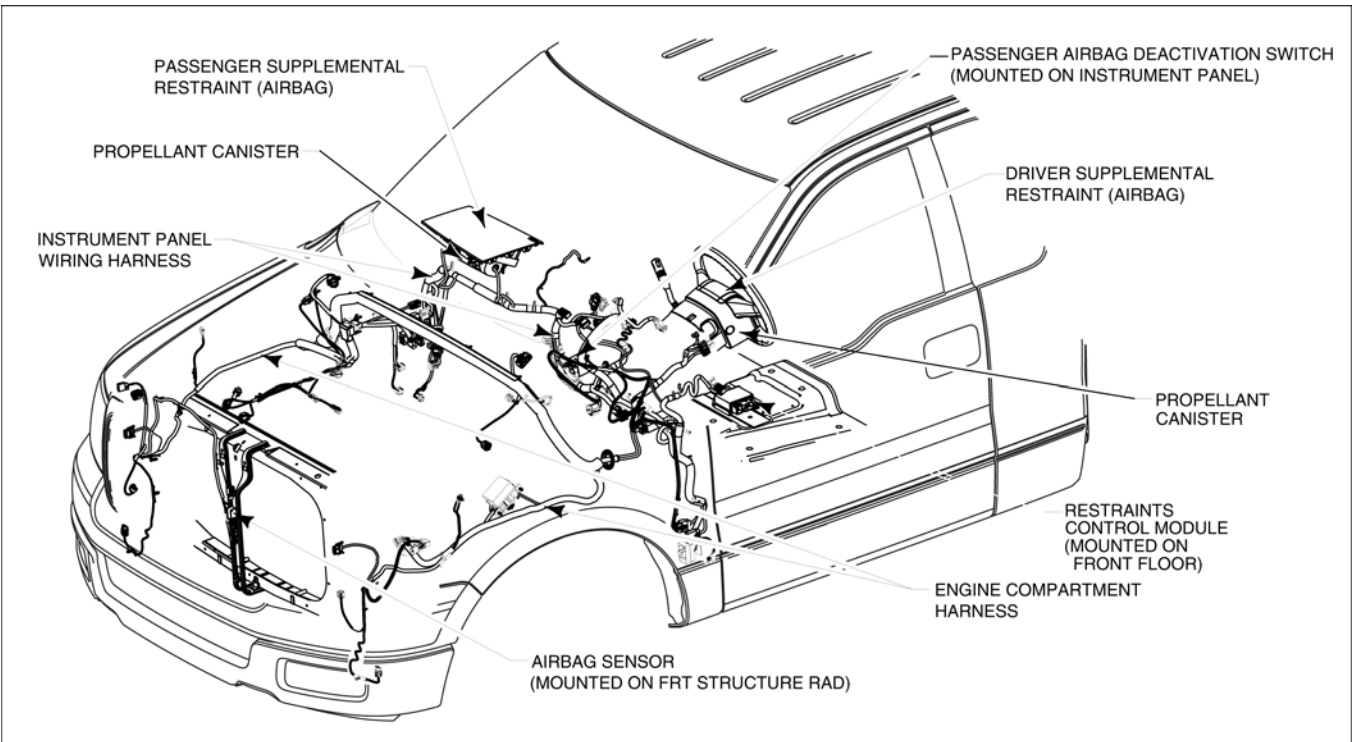


FIGURE D - F-150 SUPPLEMENTAL RESTRAINT SYSTEM (AIRBAGS, SENSORS AND WIRING)

VEHICLE NOISE REGULATIONS / EMISSION CONTROL MODIFICATIONS

2008
MODEL YEAR

EXTERIOR

The U.S. Federal Government, the Canadian Federal Government, and some states, provinces and municipalities have enacted a variety of noise control laws and regulations which apply to motor vehicles sold or operating within their jurisdictions. Sales representatives should become familiar with the various sales and user regulations, as required, to alert the individual purchaser. Moreover, the individual purchaser should check and become aware of any applicable regulations. The individual purchaser should be sure that the specifications of the vehicle, as ordered, are appropriate in view of those sales and user noise regulations applicable to the purchase and anticipated use of that vehicle.

Although vehicles which have GVWRs over 4536 kg (10,000 lb) are designed to comply with Federal Interstate Motor Carrier Noise Emissions Standards, 40 CFR § 325, Ford Motor Company does not represent compliance with this standard under numerous and varying conditions under which such vehicles may be operated.

Furthermore, Ford Motor Company does not represent compliance of any school bus, stripped chassis or chassis-cowl type vehicles with any noise control law or regulation. Vehicle noise varies with the number of tires on total vehicle combination, tire tread pattern, vehicle load, tire wear and road surface condition.

Vehicles, to which alterations or additions are made that may increase noise emissions, must be ascertained to comply with the applicable noise standards after modifications have been completed by the vehicle modifiers.

EXTERIOR NOISE REGULATIONS APPLICABLE TO SALE OF NEW VEHICLES

The U.S. Environmental Protection Agency (EPA) noise emission standards for medium and heavy trucks in excess of 4536 kg (10,000 lb) GVWR (40 CFR § 205.52) preempts, with certain exceptions, all those state and local noise regulations that are applicable to the sale of such new vehicles, and are not identical to the Federal standards. These Federal standards, which set a maximum sound emission level 80 dB(A), as measured by the prescribed procedure, are effective in all states, the District of Columbia, Puerto Rico, Virgin Islands, American Samoa, Guam and the Trust Territory of the Pacific Islands. These Federal standards do not apply to school buses which are required to meet 80 dB(A) in a number of local jurisdictions. They also do not apply to trucks not having a partially or fully enclosed operator's compartment (for example stripped chassis). (See 40 CFR § 205.50, "Applicability" and pertinent definitions in § 205.51. See 40 CFR § 205.55-1 (b) for when incomplete vehicles being completed become subject to the Federal standard.)

SPECIFICATIONS FOR INTERIOR NOISE WHEN BMCS (INTERSTATE COMMERCE) SERVICE IS INDICATED

The Federal Interstate Motor Carrier interior noise standard (49 CFR § 393.94) is applicable to all motor carrier vehicles. This standard requires that the interior sound level at the driver's seating position of any such vehicle not exceed 90db(A), when measured in accordance with the test procedure in 49 CFR § 393.94(c).

Ford Motor Company does not represent that stripped chassis or cutaway vehicles manufactured by Ford Motor Company comply with the Federal Interstate Motor Carrier interior noise standard.

Vehicles subjected to alterations or additions, which may increase interior sound levels, must be ascertained to comply with the interior noise regulation after the modifications have been completed by the vehicle modifiers.

CANADIAN INTERIOR NOISE REGULATION

Trucks and buses over 4536 kg (10,000 lb) GVWR manufactured for use in Canada must meet the noise standard of the Canada Motor Vehicle Safety Standards (Section 1106 (2)) which specifies that the interior sound level at the driver's seating position shall not exceed 90 db(A), as measured in accordance with the test procedure set forth in Section 1106 (2).

Ford Motor Company does not represent that stripped chassis or cut-away vehicles manufactured by Ford Motor Company comply with the Canadian interior noise standard.

RADIO FREQUENCY INTERFERENCE (RFI)

The ignition system on your vehicle (if other than a stripped chassis) has been designed to be capable of compliance with RFI requirements established by the Canadian government. However, because Ford Motor Company has no control over how an incomplete vehicle is completed by subsequent-stage manufacturers, Ford Motor Company does not represent that the completed vehicle, incorporating the Ford-built components, will comply with those requirements. Any ignition system component (i.e., spark plugs, ignition wiring, coil suppressor assembly, etc.) that is replaced should be replaced by the same Ford Motor Company part number or equivalent, to maintain RFI suppression. Ford Motor Company does not represent that stripped chassis vehicles comply with the standard.

While there are currently no RFI regulations in the United States, specifically applicable to automotive ignition systems, some Ford Motor Company trucks are built with ignition system components the same or equivalent to those supplied on Canadian vehicles. Ford Motor Company recommends that all ignition system service be performed at a Ford-authorized service facility to help hold RFI emission levels to a minimum.

Devices that emit radio frequency (RF) energy, such as AM/FM radios, mobile telecommunications systems (two-way radios, telephones) and radio-controlled security systems, are subject to the rules and regulations of the Federal Communications Commission (FCC) 47 CFR Parts 2 and 15. Any such system installed in a vehicle should comply with those rules and should be installed only by a qualified technician. In addition, to ensure continued compliance with the FCC's regulations, RF devices must not be modified or changed in a manner not expressly approved by Ford Motor Company.

Mobile communication systems, particularly if not properly installed, may adversely affect vehicle operation. For example, such systems, when operated, may cause the engine to stumble or stall. In addition, such systems themselves may be damaged, or their operation affected by the operation of the vehicle. (Citizens Band [CB] transceivers, garage door openers, and other transmitters whose power output is 5 watts or less, ordinarily will NOT affect vehicle operation.)

Because Ford Motor Company has no control over the operation or manufacture of such systems, or their installation, Ford Motor Company cannot assume responsibility for any adverse effects or damage, if such equipment is used.

Similar radio regulations are in place in Canada: see, e.g., Radio Standards Specification RSS-119 and Radio Standards Procedure RSP-100.

(Cont'd next page)

VEHICLE NOISE REGULATIONS / EMISSION CONTROL MODIFICATIONS

2008
MODEL YEAR

NOISE CONTROL MODIFICATIONS

All new Ford Motor Company trucks over 4536 kg (10,000 lb) GVWR (other than stripped chassis) manufactured for use in the United States are designed to comply with the U.S. Environmental Protection Agency's Medium and Heavy Truck Noise Emission Standards (40CFR Part 205). Information pertinent to these noise emission standards appears in the *Ford Truck Owners Guide* and *Maintenance Schedule and Record Log* supplied with each Ford Motor Company vehicle. Sections of the *Ford Truck Owners Guide* that specifically relate to the Federal noise regulations are:


1. A statement entitled "Tampering with Noise Control System Prohibited," prescribed by Environmental Protection Agency regulation (40 CFR § 205.58-2(b)), and a list of acts, commission of any of which may be presumed to constitute tampering (Tampering List).
2. Instructions for the maintenance, use and repair of the vehicle to minimize noise emission degradation*.
3. A section reserved for recording what maintenance was done, by whom, where and when.

* *For trucks powered by diesel engines, the engine manufacturer's operation and maintenance manual, supplied with the vehicle, should also be consulted.*

In planning vehicle modifications, the Tampering List should be consulted to identify those parts or systems where the alteration or removal is likely to affect the truck's compliance with the Noise Emission Standards. In addition, prospective modifications not mentioned in the Tampering List may increase the noise emissions of the truck to an impermissibly high level. The Federal regulations require regulated trucks, completed by a subsequent-stage manufacturer for use in the United States, to conform to these standards. The Federal Noise Control Act of 1972, as amended, provides civil penalties for distribution in commerce by a manufacturer of non-complying trucks, and criminal penalties where such distribution is willful or knowing. Advice concerning compliance with noise regulations should be obtained from your legal counsel.

A compliance label (see sample) is affixed to each Ford Motor Company truck regulated by the Federal Noise Regulations.

VEHICLE NOISE EMISSION CONTROL INFORMATION

 FORD MOTOR COMPANY

The Vehicle Conforms to U.S. Regulations for Noise Emission Applicable to Medium and Heavy Trucks.

The Following acts or the causing thereof by any person are prohibited by the Noise Control Act of 1972: (A) The removal or rendering inoperative, other than for purposes of maintenance, repair or replacement, of any noise control device or element of design (listed in the owner's manual) incorporated into this vehicle in compliance with the Noise Control Act; (B) The use of this vehicle after such device or element of design has been removed or rendered inoperative.

'Month and Year of Mfr.'
SAMPLE

BB0526

EMISSION CONTROL MODIFICATIONS

All new Ford Motor Company trucks, vehicles, and engines are certified by the U.S. Environmental Protection Agency and/or by the California Air Resources Board (CARB) for compliance with applicable government emission control regulations. A copy of the appropriate *Ford Truck Owners Guide* or *Operator's Manual and Warranty Facts Booklet* must be installed in every vehicle prior to sale to the ultimate purchaser in order to provide emission systems warranty and maintenance schedules.

CAUTION:

2008 MODEL YEAR VEHICLES ARE EMISSION CERTIFIED FOR REGISTRATION IN SPECIFIC AREAS OF THE UNITED STATES. FOR EXAMPLE, **VEHICLES CERTIFIED AND LABELED FOR SALE IN CALIFORNIA MAY NOT BE SOLD IN THE STATES THAT REQUIRE FEDERALLY CERTIFIED VEHICLES AND VEHICLES CERTIFIED TO FEDERAL STANDARDS MAY NOT BE SOLD IN STATES THAT REQUIRE CALIFORNIA CERTIFIED VEHICLES.** IT IS THE SUBSEQUENT STAGE MANUFACTURER'S RESPONSIBILITY TO PURCHASE A VEHICLE CERTIFIED FOR THE STATE/AREA IN WHICH THE VEHICLE WILL BE SOLD. EPA HAS STATED THAT UNDER CERTAIN CIRCUMSTANCES THEY WILL NOT ENFORCE THESE REQUIREMENTS. FOR FURTHER GUIDANCE, CONSULT EPA'S "POLICY ON CROSS BORDER SALES OF CALIFORNIA VEHICLES."

Modifications, revisions or removal of components may affect the emissions certification status of the vehicle and could cause the body builder, installer or any other subsequent modifier to be considered a manufacturer for purposes of emissions certification, warranty and recall. Modification of the emission control system may result in civil or criminal liability under Federal, state, or provincial law. To avoid any question of certification coverage, approval of any modification, revision or removal of components should be sought from the Environmental Protection Agency, California Air Resources Board or Canadian Department of Transportation, as applicable. Advice concerning compliance with applicable standards and regulations should be obtained from your legal counsel.

EMISSION COMPLIANCE

When ordering a vehicle, the body builder must ensure that the vehicle emissions system purchased complies with appropriate emission regulations. Failure to order such a vehicle could result in the inability to register the vehicle in the area of intended use. Examples of areas requiring specific emissions certification are Altitude, SLA-Civil, California, Federal and states adopting California Emissions Regulations.

FUEL VAPOR RECOVERY

The California Air Resources Board has adopted regulations "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" requiring that all 1977 and later model year gasoline-powered motor vehicles offered for sale in that state meet certain specifications for fill pipes and fuel tank openings.

(Cont'd next page)

VEHICLE NOISE REGULATIONS / EMISSION CONTROL MODIFICATIONS

2008
MODEL YEAR

Curb Weight and Frontal Area Restrictions

Vehicle modifiers that add weight to a vehicle or increase the frontal area of a vehicle prior to sale and delivery to the ultimate purchaser may be considered manufacturers for emission purposes (including responsibility for emissions warranty, recall and in-use compliance) and may be required to recertify the vehicle for compliance with applicable Federal or California emissions standards.

Federally Certified Vehicles with a GVWR of 8500 Lb or Less

According to U.S. Environmental Protection Agency (EPA) guidance, for all Federally certified vehicles 8500 lb GVWR or less, a vehicle modifier will not be deemed to be a manufacturer, and will not be required to obtain a separate Certificate of Conformity for a modified vehicle, if the following conditions are met:

- 1.The modified vehicle conforms in all material respects to the design specifications in the original manufacturer's application for certification; and
2. The weight of the modified vehicle, including the weight of fuel at nominal tank capacity, is no more than 500 lb above the maximum vehicle weight.

“Maximum vehicle weight” for a given vehicle is determined by (A) Subtracting 300 lb from the highest loaded vehicle weight (see 40 CFR 86.079-2 for loaded vehicle weight definition and the table at 40 CFR 86.129-80) associated with the test weight listed in the Application for Certification for the vehicle in question; and (B) Adding the weight of all options (in the case of mutually exclusive options only the weight of the heavier option is used) that are offered by the original manufacturer for the applicable truck line that were not included in the curb weight reported in the application. Vehicle modifiers can refer to the *Ford Source Book* to determine loaded vehicle weights and option weights for Ford Motor Company vehicles.

EPA guidance provides that no frontal area restrictions will apply to secondary manufacturers that comply with the conditions listed above.

NOTE: The information above is derived from guidance contained in U.S. EPA MSAPC Advisory Circular No. 64 (March 7, 1977) and a letter dated July 13, 1979 from Charles N. Freed, EPA Director, Mobile Source Enforcement Division to Maurice H. McBride, Legal Counsel, Recreational Vehicle Industry Association. Vehicle modifiers should refer to these documents directly for specific guidance regarding whether vehicle modifications are within the scope of the original application for certification. Vehicle modifiers should periodically consult with legal counsel to determine whether these documents have been amended or superseded and whether additional guidance exists.

Vehicles (14,000 lb GVWR or less) Certified for Sale, Registration or Use in California

Modifications to passenger cars, trucks, and vehicles (14,000 lb GVWR or less) intended for sale, registration, or use in California will be deemed to be within the original emissions certification only if such modifications do not:

1. increase vehicle weight more than 10 percent above the curb weight, increase frontal area more than 10 percent, or result in a combination increase of weight plus frontal area of more than 14 percent; or
2. include changes in axle ratio, tire size, or tire type resulting in changes in the drivetrain ratio of more than 5 percent; or
3. include any modification to the emission control system.

Modified vehicles that do not satisfy these conditions may not be sold to an ultimate purchaser, offered or delivered for sale to an ultimate purchaser, or registered in California unless the modified vehicle is certified by the California Air Resources Board pursuant to applicable emissions requirements. The vehicle modifier is responsible for obtaining such certification. Refer to “California Exhaust Emission Standards and Test Procedures for 1988 and Subsequent Model Passenger Cars, Trucks, and Vehicles.”

IMPORTANT:

The information above is provided as guidance only. Vehicle modifiers are responsible for compliance with applicable emissions, regulations, including recertification if necessary. Modifiers should refer to the documents referenced above for additional guidance. Questions regarding the above requirements should be directed to your legal counsel, the EPA, or the California Air Resources Board. **In no case can vehicle weight exceed the UVW in Table A, page 361 (Super Duty F-Series), or Table A, page 362 (Ranger), without also recertifying for F/CMVSS 105, 135, 204, 208, 212, 219, 301, and 303.**

Incomplete vehicles using engines which are certified as heavy-duty engines will not have frontal area or curb weight restrictions based on exhaust emissions regulations. It is important, however, that the final stage manufacturer observe vehicle restrictions from vehicle safety requirements, etc., which are located in the *Incomplete Vehicle Manual*.

WARNING

Any modification should not cause a vehicle to fit into a different weight class, (See Safety/Emissions, page 21 for a discussion against revising GAWR). Doing so may require recertification to both FMVSS and Emissions Standards. Also, this type of change voids Ford Motor Company's warranty.

Modifications not specified by Ford Motor Company, such as changes to the exhaust system, tire size, axle ratio, fuel system, etc., could adversely affect emissions performance of the vehicle and require emissions recertification by the modifier. More details are shown below.

Light-Duty Trucks / Medium-Duty Trucks / Some Heavy-Duty Trucks – Chassis Certified

Includes Ranger, Freestar and F-150 up through 3856 kg (8500 lb) for Federal, California, and Canada.

Examples of emission related parts:

- Engine Assembly
- Air Intake System including Air Cleaner, Duct, Valve, Heat Stove, and Cold Air Inlet Tube
- All EGR, Catalytic Converter(s), Thermactor, or any other emission control system components^{3/4/}
- Transmission including Vacuum Control System
- Axle Ratio
- Tire Size (other than available options)
- Fuel Pump and Lines
- Fuel Tank^{5/6/}
- Fuel Economy Rating (as printed on vehicle invoice as applicable^{7/}
- Filler and Vent Tube Assembly and Hose^{5/6/8/}
- Vapor Control Orifice and/or Float Valve Assembly
- Vapor Control Orifice Seal^{5/}
- Vapor Delivery Lines/Hoses/Clamps^{5/}
- Fuel Vapor Purge Line^{5/}
- Fuel Filler Pipe, Cap, and surrounding Sheet Metal^{5/6/8/}
- Carbon Canister(s) and Hoses^{5/}
- Exhaust Inlet and Outlet Pipe and Attaching Nuts^{8/}
- Exhaust System Joint Clamps/Suspension/Bracket Assemblies^{3/}
- Muffler^{3/4/}
- Tailpipe^{3/4/}
- Important Vehicle Information Label
- Emission Control Information Label^{2/}

Heavy-Duty Engine / Vehicles – Gasoline Powered and Diesel Powered – Engine Certified

Includes all vehicles over 8500 lb GVWR, both Federal and California Medium-Duty Vehicle category.

Examples of emission related parts:

- Engine Assembly^{10/}
- Fuel System
- Air Intake System, including Air Cleaner, Duct, Valve, Heat Stove, and Cold Air Inlet Tube
- All EGR, Catalytic Converter(s), Thermactor or any other emission control system components^{3/4/}
- Exhaust Inlet and Outlet Pipes^{3/4/}
- Muffler^{3/4/}
- Tailpipe^{3/4/}
- Important Engine Information Label
- Emission Control Information Label^{2/}
- All gasoline-powered units require an evaporative emission control system. Damage to or mislocation of any of the following elements of the evaporative emission control system may render the system inoperative, may invalidate the vehicle emission control system certification, and may result in the release of flammable gasoline fumes.
- Fuel Tank^{5/6/}
- Fuel Filler Pipe and Vent Tube Assembly, Hose, Cap, and surrounding sheet metal^{5/6/8/}
- Vapor Control Orifice Seal^{5/}
- Vapor Delivery Lines/Hoses/Clamps^{5/}
- Fuel Vapor Purge Line^{5/}
- Carbon Canister(s) and Hoses^{5/}
- Vapor Seal in Fuel Tank
- Fastener Seals on All Components Attached to Fuel Tank
- Vapor Control Valves, Solenoids, and Related Wiring in Engine Compartment or Adjacent Thereto
- Vehicle Emission Control Label 49 States Only^{9/}

(Cont'd next page)

VEHICLE NOISE REGULATIONS / EMISSION CONTROL MODIFICATIONS

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Heavy-Duty Engine / Vehicles – Gasoline Powered and Diesel Powered (Cont'd)

1/ For important information regarding radio frequency interference (RFI), see Radio Frequency Interference on pages 359 & 360. Note particularly that Canada has RFI regulations.

2/ EMISSION CONTROL INFORMATION LABEL

To meet United States Environmental Protection Agency regulations, the important vehicle information (tune-up and fuel tank capacity) labels must be affixed in a location that is readily visible after installation and in such a manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment that is easily detached from such vehicle.

When emission control labels are supplied, but not attached to the vehicle (i.e., tune-up label or fuel tank label), they must be permanently mounted in a readily visible location to meet the preceding requirements. In addition, whether the label is already affixed or to be affixed, no components shall be installed which visibly obscure the label in any way that fails to satisfy the visibility requirements described in the California Emission Control Label Specifications.

CALIFORNIA FUEL VAPOR RECOVERY

California regulations require that the vehicle fuel systems be designed to accommodate a vapor recovery fueling nozzle including unobstructed access to the fill pipe. Fuel filler pipes will comply with the “Specifications For Fill Pipes and Openings of Motor Vehicle Fuel Tanks” referenced in Title 13 California Administrative Code provided no part of the aftermarket body, as installed, intrudes within a 254 mm [10 in] radius cylinder which has its axis parallel to the ground, passing through point “Z” and extends outward from the Ford Motor Company supplied fuel pipe housing component. The fuel pipe housing component is shown on the referenced figures and is attached to the aftermarket body via rivets. Fuel filler pipes installed, using alternative brackets, will comply with the above California vapor recovery regulations provided the aftermarket body does not interfere with the access zone as described by the California Air Resources Board, and the areas adjacent to this opening cannot foreseeably damage the nozzle bellows or face plate of nozzles during insertion, latching, disposing, or removal.

CALIFORNIA MOTOR VEHICLE EMISSION CONTROL LABEL

To meet California emission certification regulations, the Emission Control Information (tune-up) label must be welded, riveted, or otherwise permanently attached to an area within the engine compartment or to the engine in such a way that it will be readily visible to the average person after installation of the engine in a vehicle. In selecting an acceptable location, the manufacturer shall consider the possibility of accidental damage (e.g., possibility of tools or sharp instruments coming in contact with the label). The label shall be affixed in such a manner that it cannot be removed without destroying or defacing the label, and shall not be affixed to any part which is likely to be replaced during the vehicle’s useful life. For motor vehicles rated at 3856 kg (8500 lb) GVWR or less, the label shall not be affixed to any equipment which is easily detached from the vehicle. The tune-up label must include the heading “Important Vehicle Information” for Medium-Duty trucks. As used in these specifications, readily visible to the average person shall mean that the label shall be readable from a distance of 460 cm [18 in] without any obstructions from vehicle or engine parts (including all manufacturer available optional equipment), except for flexible parts, (e.g., vacuum hoses, ignition wires). Alternately, information required by these specifications to be printed on the label shall be no smaller than 8 point type size provided that no vehicle or engine parts, (including all manufacturer available optional equipment), except for flexible parts that can be moved out of the way without disconnection, obstruct the label.

Completed vehicles for retail sale in California require a machine-readable Vehicle Identification Number (VIN) bar-code label made of paper, plastic, metal, or other permanent material which shall be affixed in a readily visible location to either the door-latch post next to the driver’s seating position, the door edge that meets this door-latch post, or above the instrument panel in a location clearly visible through the lower left corner of the windshield.

- All Incomplete Vehicles except stripped chassis type vehicles will conform to this standard.

•Stripped Chassis Type Vehicles:

Conformity with CARB Motor Vehicle Emission Control Label specifications for VIN label is not substantially affected by the design of this incomplete vehicle. Accordingly, Ford Motor Company makes no representation as to conformity with this requirement. To assist a subsequent stage manufacturer with conforming to this specification, Ford Motor Company is providing a label which will accompany the *Incomplete Vehicle Manual* inside the protective plastic bag located in the dunnage box.

For the VEC†† and VIN labels, sufficient clearance shall be provided to use a non-contact bar-code reading wand. For the tune-up label and vacuum hose routing diagram label, the label and any adhesives used shall be designed to withstand, for the vehicle’s total expected life, typical vehicle environment conditions in the area where the label is attached. Typical vehicle environmental conditions shall include, but are not limited to, exposure to engine lubricants and coolants (e.g., gasoline, motor oil, brake fluids, water, ethylene glycol), underhood temperatures, steam cleaning, and paints or paint solvents.

To meet U.S. Environmental Protection Agency important engine regulations, the Vehicle Emission Control Information of the Important Vehicle Information label (also referred to as the tune-up label) must be affixed in a readily visible location. The tune-up label must include the heading “Important Vehicle Information” or “Important Engine Information”. See sample labels on the following page.

When the tune-up label is supplied detached from the engine (with the operator’s manual), it must be permanently mounted in a readily visible location to meet the preceding requirements. In addition, whether the label is already affixed or to be affixed, no components shall be installed which visibly obscure the label in any way such that the preceding requirements are not satisfied.

- 3/ Some model trucks of Ford Motor Company built since 1981 may exhibit higher engine compartment and exhaust system temperatures in some operating modes than in previous model years. Components, including exhaust heat shielding systems, have been installed on some vehicles in our assembly plants in an effort to provide greater protection against such temperatures. Subsequent manufacturers are responsible for providing thermal protection for any structure and/or equipment added to the vehicle and **should not** remove any components and/or exhaust heat shielding installed on the vehicles by Ford Motor Company.

- 4/ The back pressure at the exhaust manifold **must not** be changed, and vehicle noise intensity (dbA) **must not** be allowed to increase. Catalytic converters **must not** be relocated.
- 5/ If a subsequent manufacturer desires to modify or add to the evaporative emission control system, or add permanent gasoline fuel tank(s) or an evaporative emission control system to a vehicle required to have an evaporative emission control system, the subsequent manufacturer is responsible for installing an appropriate evaporative emission control system. U.S. Environmental Protection Agency (EPA) approval and California Air Resources Board (CARB) approval (for all vehicles which will be delivered for sale and primary use in California) must be obtained by the subsequent manufacturer for any evaporative emission control system installed or modified by the subsequent manufacturer.
- 6/ **Must not** be altered such that CARB fuel vapor recovery regulations are not met.
- 7/ May not be removed until after sale to ultimate customer. Also see Frontal Area and Curb Weight considerations (above).
- 8/ Any rerouting or change in materials cannot be made unless approval is obtained from the California Air Resources Board (CARB) and/or the U.S. Environmental Protection Agency (EPA). Unleaded fuel filler pipe restrictions may not be removed.
- 9/ To meet U.S. EPA Regulation, the Vehicle Emission Control Information label must be affixed in a readily visible location. See sample labels on the following page.
- 10/ The check engine light is required by emissions regulations. It is installed by Ford Motor Company in all vehicles except the Stripped Chassis model. For this vehicle, it is located in the instrument cluster shipped in the dunnage box. The final stage manufacturer must install this light. For information regarding installation of Check Engine Warning Light to the Stripped Chassis model, see “Electrical Wiring - Adding Lights or Electrical Devices” section of this book.

† Vehicle Emission Control

VEHICLE NOISE REGULATIONS /
EMISSION CONTROL MODIFICATIONS

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EVAPORATIVE EMISSIONS

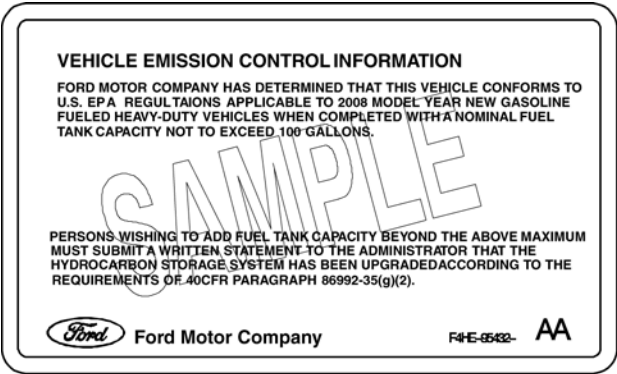
All Ford Motor Company Trucks are required to comply with evaporative emissions requirements established by the U.S. Environmental Protection Agency or the California Air Resources Board. Production fuel systems supplied on incomplete vehicles manufactured by Ford Motor Company comply with applicable requirements.

WARNING: If the subsequent manufacturer adds to or modifies the fuel system in any manner, it becomes that manufacturer's responsibility to assure compliance with the applicable Federal or California emissions standards.

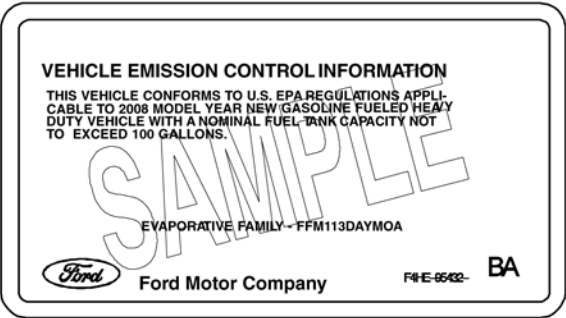
MALFUNCTION INDICATOR LIGHT (MIL)

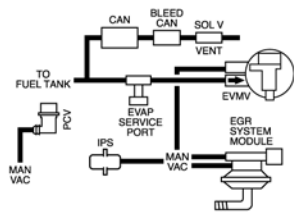

The MIL light is used to indicate malfunctions of the Electronic Engine Control System and certain emissions related components. For all incomplete vehicles **except** Stripped Chassis (which is not equipped with an instrument panel), it is Ford Motor Company installed and operational.

The Stripped Chassis vehicle has the warning light installed in the instrument cluster, which is shipped in the dunnage box. If an alternate instrument cluster is utilized, the final stage manufacturer must install an operational light in the instrument cluster. This light must glow amber and display the message "Service Engine Soon" or "Check Engine". It should be recognized that this light is a requirement of emission certification.



BB0434-2007



<i>Ford Motor Company</i>		VEHICLE EMISSION CONTROL INFORMATION	
This vehicle conforms to U.S. EPA regulations applicable to 2008 model year new IT2bin 10 light-duty trucks. OBD II certified.		VACUUM HOSE ROUTING 	
TWC/HO2S/EGR/SFI			
Attention: Dyno Restrictions may apply. Vehicle may have: AWD, ABS, Traction Control			
Adjustments: Spark Plug Gap: .052-.056 No other adjustments needed.			
▽4W7E-9C485- L C P		CATALYST	4.6L-Group: 4FMXT05.4RFC Evap: 4FMXR0240NBN

EMISSIONS COMPLIANCE GUIDELINES

NON-OEM FUEL TANK MODIFICATIONS

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These guidelines are applicable to those tanks designed to replace the Original Equipment Manufacturer (OEM) fuel tank for the purpose of increasing fuel capacity or to accommodate modifications to the vehicle. These tanks differ in design from the OEM tanks in terms of size, tank material, shape, location or purge strategy. Auxiliary fuel tanks are those tanks added on to the existing OEM tank(s) in order to increase the vehicle's fuel capacity.

WARNING:

Prohibitions Against Uncertified Vehicles, Devices and Tampering

Changes to the size, material, or shape of a fuel tank may cause the certified vehicle to exceed applicable evaporative emissions or not comply with OBD-II monitoring requirements. Such changes may constitute tampering. Changes made to accommodate the installation of non-OEM fuel tanks may also constitute tampering; these include changes in the Filler and Vent Tube Assembly and Hose, Fuel Vapor Purge Line, Vapor Control Orifice and/or Float Valve Assembly, Vapor Delivery Lines/Hoses/Clamps, etc.

Ford Motor Company vehicles are certified as compliant with California's OBD-II (On-Board Diagnostic II) requirements. These requirements (among other diagnostic tests) check the evaporative emission control and fuel tank system for leaks. A decrease or increase in tank size or change in material and shape, may degrade the function of the evaporative leak monitor. Further, decreases below the 25 gallon threshold would make the vehicle ineligible for an alternative to the 0.020" requirement. Degrading of the evaporative leak detection monitor may constitute tampering.

Violation of the applicable Federal, State or Canadian Provincial Laws prohibiting tampering may result in civil or criminal liability.

Exemptions from Tampering Prohibitions for Fuel Tank Modifications

Only those modifications to the evaporative emission control system (which includes the fuel tank) or OBD-II system that are specifically approved or certified by EPA and/or CARB may be exempted from these tampering prohibitions. In general, to obtain an exemption, the aftermarket manufacturer or converter must demonstrate that the replacement or auxiliary fuel tank does not reduce the effectiveness of the vehicle's OBD-II and evaporative emission control systems. This demonstration may require an evaluation using the Federal Test Procedure and enhanced evaporative system test procedures to ensure compatibility with OBD-II system requirements as well as compliance with the applicable evaporative emission standards.

Any conversion made to the vehicle must comply with the applicable Federal and California on-board diagnostic (OBD-II) system regulations. Any changes that potentially affect the OBD-II system must be reported to the Agencies (EPA and/or CARB) for their review and approval.

General Information Relating to EPA/CARB Approval of Aftermarket Conversions

Any conversion made to the vehicle must comply with the applicable Federal and California Emission regulations and laws including EPA's Tampering Prohibition (See EPA Mobile Source Enforcement Memorandum 1A and Addendum thereto as revised at 63 FR 32878) or obtain an "Exemption for Aftermarket from Tampering Prohibition" under Subpart F, 40CFR85. For California, please refer to CARB Mail Out #96-27, subject: "Sales and Installation of Replacement (and Auxiliary) Fuel Tanks", dated September 9, 1996. (See the Section of this Layout Book entitled "Vehicle Noise Regulations / Emissions Control Modifications" for a further explanation of the potential liabilities for the modifier.)

CARB Website

To apply for specific VC 27156 exemptions from the CARB for aftermarket conversions including non-OEM fuel tank replacement, refer to CARB consumer information on aftermarket performance and add-on parts at the following website:
<http://www.arb.ca.gov/msprog/aftermkt/aftermkt.htm>

EPA Website

EPA information concerning the conditions that must be satisfied to obtain an EPA exemption for an aftermarket conversion from the tampering prohibition contained in Section 203 of the Clean Air Act can be found at the Code of Federal Regulations and using the search option: <http://www.gpoaccess.gov/cfr/index.html>.

Ford Motor Company Body Builders Advisory Service

Changes to the fuel system can affect the Powertrain Control Module (PCM). The PCM will respond to changes which can result in activation of the check engine light and may result in loss of engine performance. Contact Ford Truck Body Builders Advisory Service for additional information.

Ford Motor Company and SEMA Website

Ford Motor Company and the Specialty Equipment Market Association (SEMA) have established a Powertrain Technology Initiative (PTI) for OBD-II related products. PTI provides manufacturers of performance aftermarket equipment with the opportunity to obtain custom-developed software calibrations needed for the proper use and installation of aftermarket products which could affect emissions, OBD-II compliance, emission compliance and durability, fuel requirements, exhaust temperatures, etc. If these categories are significantly affected, a calibration modification may be appropriate. PTI has established a website by which an aftermarket converter can learn how to obtain the custom calibration for its conversion. The PTI website explains the purpose of the PTI program, how PTI works, basic criteria for approval, what are the steps and expected turnover time, and what are the costs. The PTI website is: <http://www.sema.org/>

General OBD-II Monitoring Requirements:

The EPA has regulations in place establishing requirements for on-board diagnostic (OBD-II) systems on light duty vehicles and light duty trucks beginning with the 1994 model year. The purpose of the OBD-II system is to assure proper emission control system operation for the vehicle's lifetime by monitoring emission-related components and systems for deterioration and malfunction.

NOTE: California has slightly different OBD-II requirements from EPA's OBD-II requirements; however, systems designed to meet California's requirements are also accepted by EPA as meeting the federal requirements.

What is OBD-II and How Does It Work?

Automobile manufacturers developed the first OBD-II systems in the early 1980's as electronic systems replaced mechanical systems. The engines in today's vehicle are largely electronically controlled. Sensors and actuators sense the operation of specific components (e.g., the oxygen sensor) and actuate others (e.g., the fuel injectors) to maintain optimal engine control. An on-board computer, known sometimes as a "powertrain control module" or an "engine control unit" controls all of these systems.

With proper software, the on-board computer is capable of monitoring all of the sensors and actuators to determine whether they are working as intended. It can detect a malfunction or deterioration of the various sensors and actuators, usually well before the driver becomes aware of the problem through a loss in vehicle performance or drivability. The sensors and actuators, along with the diagnostic software in the on-board computer, make up what is called "the OBD-II system".

OBD-II monitoring requirements include the following systems: catalyst, misfire, evaporative, secondary air, air conditioning system refrigerant, fuel, oxygen sensor, Exhaust Gas Recirculation (EGR), Positive Crankcase Ventilation (PCV), thermostat monitoring, and comprehensive component monitoring.

Sources of Information on OBD-II Regulations:

For a comprehensive description of the regulations governing OBD-II systems, visit the EPA and CARB websites shown below.

(EPA) <http://www.epa.gov/oms/obd.htm>

(CARB) <http://www.arb.ca.gov/msprog/obdprog/obdprog.htm>

U.S. AND CANADA SAFETY STANDARDS

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The National Traffic and Motor Vehicle Safety Act of 1966 (United States) and the Motor Vehicle Safety Act (Canada) and the standards and regulations issued under authority of these laws impose responsibilities on dealers, intermediate and final stage manufacturers, and vehicle alterers and modifiers, as well as on Ford Motor Company. This section identifies some of these responsibilities. **It is not intended to be comprehensive, nor to provide advice on legal questions applicable to individual situations.** Advice on matters involving particular factual situations should be obtained from your legal counsel or from the National Highway Traffic Safety Administration (United States) or the Ministry of Transport (Canada).

Included among these safety standards and regulations are those applicable to trucks, buses, multipurpose passenger vehicles, passenger cars, vehicles manufactured in two or more stages, and to certain types of motor vehicle equipment offered for sale in the United States or Canada.

Completed vehicles as manufactured by Ford Motor Company and Ford Motor Company of Canada, Limited, are certified as conforming to all applicable Motor Vehicle Safety Standards issued under the National Traffic and Motor Vehicle Safety Act of 1966 (U.S.) or the Motor Vehicle Safety Act (Canada).

Where the vehicle is incomplete, a dealer or body builder who, after delivery and before retail sale, completes the vehicle is responsible for certification that the completed vehicle conforms to applicable U.S. or Canada Motor Vehicle Safety Standards. Dealers and body builders may be subject to substantial penalties if they sell or offer for sale vehicles which do not conform to all applicable U.S. or Canada Standards.

Certification-related information concerning Ford Motor Company completed vehicles and incomplete vehicles follows:

COMPLETED VEHICLES

All completed vehicles manufactured by Ford Motor Company and Ford Motor Company of Canada, Limited, for use on the public roads are provided with safety compliance certification labels affixed to the vehicles at the assembly plants. These labels contain information required by Part 567 of Title 49 of the Code of Federal Regulations for completed vehicles offered for sale in the United States and by Section 6 of the Canadian Motor Vehicle Safety Regulations for completed vehicles offered for sale in Canada. This information includes, among other things, the Gross Axle Weight Rating (GAWR) for each axle of the vehicle and the Gross Vehicle Weight Rating (GVWR) of the total vehicle. The labels also list the tire and rim data required by FMVSS or CMVSS 120, Tire Selection And Rims For Motor Vehicles Other Than Passenger Cars.

Completed vehicles, manufactured by Ford Motor Company, for sale in the United States, will have a label similar to the one shown on this page (the label is located on the driver's door latch pillar).

The Canadian Motor Vehicle Safety Act and Regulations require: (1) display of the National Safety mark (below); (2) the expression "Canada Motor Vehicle Safety Standards" or "CMVSS"; and (3) "Poids Nominal Brut du Vehicule" or "PNBV" on vehicles manufactured for sale in Canada. A label containing this information is shown on this page.

Completed vehicles manufactured by Ford Motor Company for sale in Canada, will have a label similar to the one shown on this page containing the Canadian National Safety Mark or a separate National Safety Mark label.

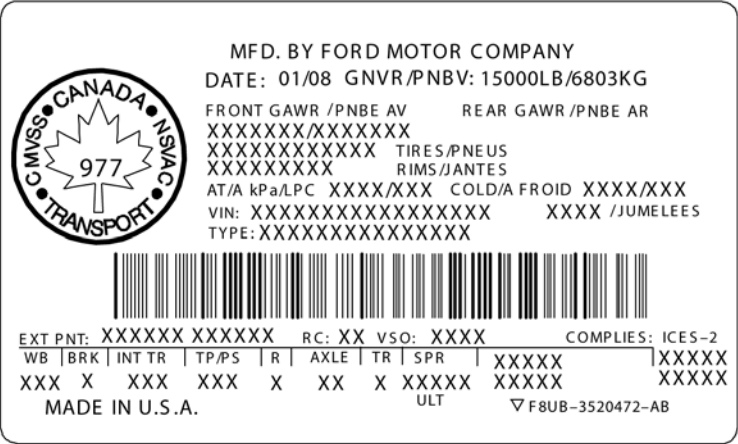
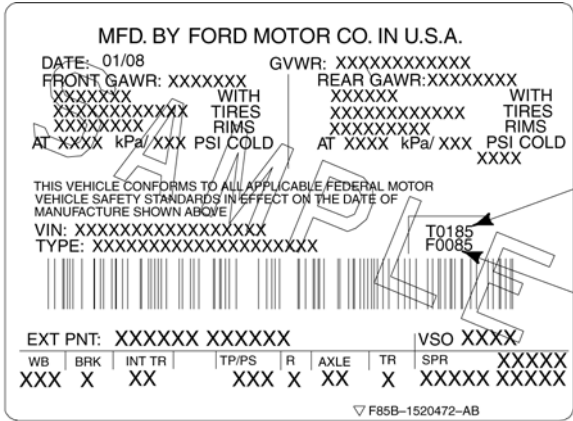
Alteration of completed vehicles before the first purchase of the vehicle for purposes other than resale may affect compliance of the vehicle to certain safety standards. Parts 567 and 568 of Title 49 of the Code of Federal Regulations state requirements for vehicle alterers in the United States. In Canada, Regulation 9 of the Canadian Motor Vehicle Safety Regulations determines the obligations of vehicle alterers under the Canadian Motor Vehicle Safety Regulations.

NOTE: For completed vehicles offered for sale in the province of Quebec, Canada, the label will be printed in French.

The following section headed "Information For Persons Who Alter Completed Vehicles" explains the "accessory reserve capacity" information printed on the safety compliance certification label and its relationship to FMVSS and CMVSS 105 or 135 (Hydraulic Brakes), FMVSS and CMVSS 204 (Steering Column Rearward Displacement), FMVSS and CMVSS 208 (Occupant Crash Protection), FMVSS and CMVSS 212 (Windshield Mounting), FMVSS and CMVSS 219 (Windshield Zone Intrusion), FMVSS and CMVSS 301 (Fuel System Integrity), and compliance testing for Ford Motor Company completed vehicles.

VEHICLES 4536 kg (10,000 lb) GVWR AND LESS

Trucks, buses and MPVs having GVWRs of 4536 kg (10,000 lb) and less manufactured by Ford Motor Company in the current model year are certified as complying with the requirements of all applicable Federal U.S. and Canadian Motor Vehicle Safety Standards including FMVSS and CMVSS 105 or 135, Hydraulic Brakes; FMVSS and CMVSS 204, Steering Column Rearward Displacement (if the vehicles have unloaded vehicle weights of 2495 kg (5500 lb) or less); FMVSS 208, Occupant Crash Protection (injury criteria if vehicles GVWR is 3856 kg (8500 lb) or less having an unloaded vehicle weight of 2495 kg (5500 lb) or less); FMVSS and CMVSS 212, Windshield Mounting; FMVSS and CMVSS 219, Windshield Zone Intrusion; and FMVSS and CMVSS 301, Fuel System Integrity. Ford Motor Company conducts compliance testing and makes compliance representations based on vehicle test weights that include the weights of all available regular production options plus the loads specified by FMVSS and CMVSS 105, 135, 204, 208, 212, 219, and 301. With the exception of FMVSS and CMVSS 105 or 135, the test weight for a particular vehicle is usually less than the GVWR indicated on the vehicle safety compliance certification label.



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U.S. AND CANADA SAFETY STANDARDS

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IMPORTANT INFORMATION!
For Persons Who Alter Completed Vehicles

The following applies to the alteration of vehicles completed by Ford Motor Company.

The degree of conformity to safety standards of incomplete vehicle chassis produced by Ford Motor Company is represented by the *Incomplete Vehicle Manual* (IVM). An IVM is included in dunnage accompanying each Incomplete Vehicle.

Vehicle alterers should exercise caution when adding weight to the vehicle by installing accessories or modifying the vehicle because if the unloaded vehicle weight of the altered vehicle exceeds the unloaded vehicle weight for which Ford Motor Company has established compliance, then the vehicle alterer will be responsible to certify the altered vehicle pursuant to Title 49 of the Code of Federal Regulations Sections 567.7 and 568.8 in the United States or to Section 9 of the Canadian Motor Vehicle Safety Regulations in Canada.

Payload worksheets are provided in the *Ford Truck Source Book* at your Ford Dealer to help prospective purchasers of Ford Motor Company truck products estimate the total weight of accessories, equipment, and modifications that may be added to the completed vehicle without exceeding the allowable weight ratings for the vehicle in question. Specific questions on this or related subjects may be directed to the Ford Truck Body Builder Advisory Service.

For each completed vehicle, Ford Motor Company determines the **TOTAL ACCESSORY RESERVE CAPACITY (TARC)**, which represents the amount of accessory or modification weight in pounds that can be added to a certified vehicle before its unloaded vehicle weight exceeds the unloaded vehicle weight for which Ford Motor Company has established compliance. Total Accessory Reserve Capacity designations assume the use of permanently attached components resulting in center of gravity locations generally similar to those of comparable completed vehicles. Any additions or alterations that significantly affect the center of gravity of the total unit could impose more severe conditions than those for which Ford Motor Company has established compliance to FMVSS and CMVSS requirements. Examples of such extremes would be the installation of relatively heavy devices at the front or rear of the vehicle, particularly if these devices also had very high centers of gravity.

Vehicles having a GVWR greater than 10,000 lb manufactured by Ford Motor Company display a Total Accessory Reserve Capacity weight that represents the maximum weight that can be permanently installed without compromising the durability and allow a reasonable minimum cargo for the customer.

Total Accessory Reserve Capacity is provided on the Safety Compliance Certification Label (located on the driver's door latch pillar of Ford Motor Company completed vehicles, as shown in the following example.

Total Accessory Reserve Capacity specifies the total weight of permanently attached accessories or equipment that can be added to the vehicle. T0185 in the illustrated example indicates that 185 lbs of accessories or equipment can be added to the vehicle.

Also specified is the **FRONT AXLE ACCESSORY RESERVE CAPACITY (FARC)** (F0085 in the illustrated example). Although not directly applicable to FMVSS/CMVSS 204, 208, 212, and 219 conformity representations, this magnitude represents the allowable weight that may be added in various forms (permanently attached equipment and accessories, removable equipment and accessories or any combination thereof) without overloading the front axle. Except for vehicles with the Snowplow Prep Package, this value will usually be less than the Total Accessory Reserve Capacity. Thus in the example, a total of 185 lbs of permanently installed equipment may be added to the vehicle, but its distribution must be such that the load on the front axle is not increased by more than 85 lbs. However, although the Front Axle Accessory Reserve Capacity value may be greater than the Total Accessory Reserve Capacity value in some cases, the latter must never be exceeded. For vehicles with the Snowplow Prep Package, the Front Axle Accessory Reserve Capacity may be greater than the Total Accessory Reserve Capacity. This additional front axle capacity can be utilized to accommodate the removable snow plow components, such as the blade assembly.

Should the Front Axle Accessory Reserve Capacity on a Snowplow Package optioned vehicle be less than that which is required to accommodate the snow plow assembly, it should be understood that allowances for carrying persons in at least two designated seating positions (those provided with seat belts) have already been made. Therefore, it may be possible to operate the vehicle with minimum cargo and only one or two persons on board.

To prevent overloading under these circumstances, it is recommended that the vehicle alterer weigh the front axle under the conditions in which the vehicle is to be operated to ensure that the Front Gross Axle Weight Rating is not exceeded. See the Loading Information section of the *Owner's Guide*.

If the weight and weight distribution (front to rear) of the accessories or equipment to be added are not known, it will be necessary to weigh the vehicle before and after accessories or equipment are added to verify that

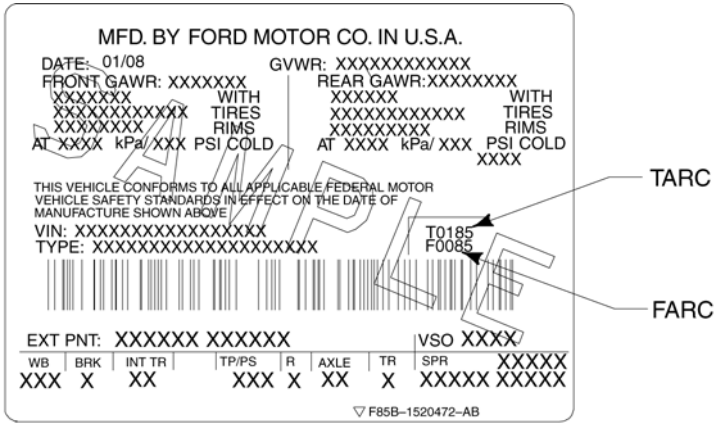
neither the Front Axle Accessory Reserve Capacity nor the Total Accessory Reserve Capacity has been exceeded. When weighing the vehicle, remember to have all fluids necessary for vehicle operation (including fuel) filled to maximum capacity and weigh vehicle by axle so that front axle weight and total vehicle weight can be determined. Subtract the front axle weight of the vehicle before modification from the front axle weight of the vehicle after accessories or equipment have been added; this value must be equal to or less than the Front Axle Accessory Reserve Capacity (for the above example — 85 lb). Subtract the total vehicle weight before modification from the total vehicle weight after accessories or equipment have been added; this value must be equal to or less than the Total Vehicle Accessory Reserve Capacity (for the above example — 185 lb). Use the actual Accessory Reserve Capacity information as it appears on the safety compliance certification label of your vehicle.

If you know the weight and weight distribution of the accessories or equipment (including all fluids, if applicable) to be added, compare these weights with the Total Accessory Reserve Capacity to ensure that the added accessories or equipment do not exceed the Total Accessory Reserve Capacity.

Compliance to FMVSS and CMVSS 105 or 135 depends upon, among other things, the location of the center of gravity of the completed vehicle. Therefore, any modification or alteration to a completed vehicle must take into account its effect upon FMVSS and CMVSS 105 or 135 conformance. A set of guidelines are contained at the end of the completed vehicle portion of this section. A section specifically addressing the modification of pickup trucks in ways that include replacing pickup boxes with other equipment is contained in the "Pickup Box Removal / Alterations" section of this book.

Completed vehicles as produced by Ford Motor Company meet the Center High Mounted Stop Lamp (CHMSL) requirements of FMVSS 108, Lamps, Reflector Devices, and Associated Equipment, and the mirror requirements of FMVSS and CMVSS 111, Rearview Mirrors. Removing a pickup box and installing a second unit body could affect compliance of the vehicle to these requirements even though the CHMSL and mirror systems have not been altered. See the detailed discussion on page 358 to determine what must be done to maintain compliance with the CHMSL and mirror requirements of FMVSS 108 and F/CMVSS 111.

(Cont'd next page)



U.S. AND CANADA SAFETY STANDARDS

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For Incomplete Vehicles, please refer to the Incomplete Vehicle Manual.

WARNING: The Total Accessory Reserve Capacity weight limitation found on the Safety Compliance Certification Label refers to FMVSS and CMVSS 204, 208, 212, and 219 compliance only. If the **added weight is 227 kg/500 lb or more and the vehicle's GVWR rating is 3856 kg/8500 lb or less, the modifier may be responsible for recertification** to the applicable EPA, CARB, or CMVSS emissions standards (refer to MSAPC [EPA] Advisory Circular No. 64).

GUIDELINES FOR REVISING GAWR CAPACITIES FOR FORD MOTOR COMPANY LIGHT TRUCK VEHICLES

NOTE: GVWR increases may not be made on Ford Motor Company Light Truck vehicles.

These guidelines are provided in response to requests for information on revising the Gross Axle Weight Rating (GAWR) capacities of Ford Motor Company Light Truck vehicles. Dealers or purchasers should first try to obtain a vehicle with the desired GAWR capacities before modifying a vehicle to revise its weight ratings. If circumstances require a vehicle to be altered and the GAWR ratings to be revised, the following guidelines must be followed:

1. This information is provided for new, current model vehicles, to assist vehicle alterers who modify vehicles as described below in determining whether the modified vehicle complies with applicable regulatory requirements.
2. Revised GAWR capacities must be within the currently available capacities in Ford Motor Company production for the particular model to maintain the vehicle's warranty. The **GVWR may be revised downward, but must remain in the same GVWR range as coded in the fourth position of the Vehicle Identification Number (VIN) in accordance with the requirements of 49 CFR Part 565 and CMVSS 115.** The VIN is displayed on the driver's side of the instrument panel and is visible from outside the vehicle. For GVWR codes utilized in the fourth position of the VIN, see the list in the chart on this page.

EXAMPLE:

A typical F-Series VIN is 1FTSF31S87EA01784. The fourth position in the VIN is S. Therefore, the GVWR of the vehicles is in the range 9001 to 10,000 lb and the lowered GVWR of this vehicle must fall in this GVWR range as well.

3. The appropriate chassis component or components (axles, brakes, tires/tire pressure, wheels, springs) are to be modified or changed to provide the revised GAWR capacity desired. All new suspension components installed are to have the same engineering specifications as those used by Ford Motor Company in production (Ford Motor Company service parts meet those specifications) at the GAWR capacities desired and must be installed according to the procedures specified in the applicable model year *Ford Truck Service Manual* to maintain the vehicle's warranty. Refer to the *Ford Source Book* for component specifications information. The person who alters the vehicle should maintain records of the modifications made to obtain the desired revised GAWR capacities in order to document the basis for certification to applicable Federal Motor Vehicle Safety Standards. Besides the suspension components noted above, the specifications for other components that have been altered must also be carefully reviewed to establish that these systems are equivalent to those provided by Ford Motor Company in a production vehicle at the GAWR capacities desired. These systems include brakes, steering, frame, powertrain (engine availability, driveline, transmission, rear axle ratio), and axle capacities (both front and rear) and are also specified in the *Ford Source Book*. For other information concerning the component changes necessary for the desired GAWR capacities, please contact the Ford Truck Body Builder Advisory Service.

GVWR CODES UTILIZED IN VIN POSITION FOUR					
Brake System	GVWR	GVWR Range	Trucks w/o Air Bags	Trucks & MPV's w/ Driver & Pass Air Bags	Trucks & MPV's w/ Driver & Pass Air Bags & Side Air Bags, Curtains, or Canopies
Hydraulic	Class A:	Not greater than 3000 pounds		T	
Hydraulic	Class B:	3001 - 4000 lb		U	B
Hydraulic	Class C:	4001 - 5000 lb		Y	C
Hydraulic	Class D:	5001 - 6000 lb		Z	D
Hydraulic	Class E:	6001 - 7000 lb		R	E
Hydraulic	Class F:	7001 - 8000 lb		P	F
Hydraulic	Class G:	8001 - 8500 lb		V	
Hydraulic	Class G:	8501 - 9000 lb	H	N	
Hydraulic	Class H:	9001 - 10,000 lb	J	S	
Hydraulic	Class 3:	10,001 - 14,000 lb	K	W	
Hydraulic	Class 4:	14,001 - 16,000 lb	L	X	
Hydraulic	Class 5:	16,001 - 19,500 lb	M	A	
Hydraulic	Class 6:	19,501 - 26,000 lb	N		
Hydraulic	Class 7:	26,001 - 33,000 lb	P		
Air	Class 3:	10,001 - 14,000 lb	T		
Air	Class 4:	14,001 - 16,000 lb	U		
Air	Class 5:	16,001 - 19,500 lb	V		
Air	Class 6:	19,501 - 26,000 lb	W		
Air	Class 7:	26,001 - 33,000 lb	X		

(Con't next page)

4. Certification Labels for Altered Vehicles - United States

A person or company who alters a previously certified vehicle before the first purchase by the final customer in such a manner that its stated weight ratings are revised, is required by Federal Regulation (49 CFR Part 567.7) to affix an Altered Vehicle Certification Label in addition to the Ford Motor Company Completed Vehicle Certification Label.

The label must be affixed to the vehicle in the manner and form described in 49 CFR Part 567.4:

- The label shall, unless riveted, be permanently affixed in such a manner that it cannot be removed without destroying or defacing it.
- The label shall be affixed to either the hinge pillar, door-latch post, or the door edge that meets the door-latch post next to the driver's seating position, or if none of these locations is practicable, to the left side of the instrument panel (other permissible locations are also specified in 49 CFR Part 567.4).
- The lettering on the label shall be of a color that contrasts with the background of the label.
- The label shall contain the required statements in the English language and lettered in block capitals and numerals not less than three thirty-seconds of an inch high.
- The lettering shall be permanent. If typed or written, a protective clear cover may be necessary to prevent information from being wiped off.
- Label must not cover or obscure the chassis manufacturers label.

Canada

"Alterers" of motor vehicles are required to affix a permanent label on vehicles that they manufacture bearing a statement of compliance as provided by Section 9 of the Canadian Motor Vehicle Safety Regulations. The vehicle alterer should affix a corporate label containing information shown on this page.

1. Insert the name of the company that altered the vehicle.
2. Insert the month and year during which the alteration of the vehicle was completed.
3. Insert a drawing of the National Safety Mark which includes their unique manufacturer number.

4. Insert revised GVWR or PNBV capacities in kilograms of the vehicle as altered, where they differ from those shown on the original compliance label.

5. Insert the GAWR/PNBEs of the vehicle as altered, where they differ from those shown on the original compliance label. Also, include the tire size, rim size and tire inflation pressure.

6. Insert the vehicle type stated on the safety standard certification label provided by Ford Motor Company.

The type of vehicle, in both official languages, or the word "TYPE" along with one of the following abbreviations, namely,

- (i) "AT/PA" to refer to an auto transporter,
- (ii) "ATV/VTT" to refer to an all-terrain vehicle,
- (iii) "B/A" to refer to a bus,
- (iv) "BT/RA" to refer to a bus trailer,
- (v) "CD/CCC" to refer to a C-dolly,
- (vi) "CMC/MCC" to refer to a competition motorcycle,
- (ix) "LDD/CRC" to refer to a load divider dolly,
- (x) "MH/AC" to refer to a motor home,
- (xi) "MC" to refer to a motorcycle,
- (xii) "MPV/VTUM" to refer to a multipurpose passenger vehicle,
- (xiv) "RUM/MUR" to refer to a restricted-use motorcycle,
- (xv) "SB/AS" to refer to a school bus,
- (xvi) "TRA/REM" to refer to a trailer,
- (xvii) "TCD/CDC" to refer to a trailer converter dolly,
- (xviii) "TRU/CAM" to refer to a truck, and
- (xix) "TT/CT" to refer to a truck tractor.

The label must meet the following requirements as described in Section 9:

- Shall be permanently attached.
- Shall be affixed adjacent to the original compliance label required by Section 6.
- The lettering of the label shall be clear, indelible, indented, or embossed, or of a color that contrasts with the background color of the label, and in block capitals and numerals not less than 2 mm high.
- The label shall be permanently affixed to the same surface as that to which the National Safety Mark is affixed.

THIS VEHICLE WAS ALTERED BY _____ (1)
IN _____ (2) AND AS ALTERED, IT CONFORMS TO ALL
APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS
IN EFFECT IN _____ (3)
TYPE _____ (4)
GVWR: _____ (5) LB
FRONT GAWR: _____ (5) LB WITH _____ (6)
TIRES, _____ (6) RIMS AT _____ (6) PSI COLD _____ (6)
REAR GAWR: _____ (5) LB WITH _____ (6)
TIRES, _____ (6) RIMS AT _____ (6) PSI COLD _____ (6)

- (1) Insert individual or corporate name of vehicle alterer.
- (2) Insert month and year in which alterations were completed.
- (3) Insert appropriate month and year — no earlier than the manufacturing date of the original vehicle and no later than the date alterations were completed.
- (4) Insert "Type" of altered vehicle, i.e., Truck, Bus, MPV, etc.
- (5) Insert revised GAWR capacities in lb.
- (6) Insert appropriate tire, rim and cold inflation pressure information corresponding to the revised GAWR capacities (insert the word "DUAL" after the rear wheel cold inflation pressure information on dual rear wheel vehicles).

Typical Certification Label for Altered Vehicle
For Sale in the United States

THIS VEHICLE WAS ALTERED BY/CE VÉHICULE A ÉTÉ MODIFIÉ PAR
_____ (1)

DATE: _____ (2) _____ (3)
GVWR: _____ (4) KG
FRONT GAWR: _____ (5) KG WITH _____ (5)
TIRES, _____ (5) RIMS AT _____ (5) kPa COLD
REAR GAWR: _____ (5) KG WITH _____ (5)
TIRES, _____ (5) RIMS AT _____ (5) kPa COLD
TYPE: _____ (6)

Typical Corporate Label Information for Altered Vehicle For Sale
in Canada (Reference Section 9 of the Canadian Motor Vehicle
Safety Regulations)

(Cont'd next page)

U.S. AND CANADA SAFETY STANDARDS

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FMVSS AND CMVSS 105 and 135 HYDRAULIC BRAKE COMPLIANCE GUIDELINES FOR ALTERED RANGER VEHICLES AND E-SERIES VEHICLES (EXCEPT WHEN COMPLETED AS A SCHOOL BUS)

105 and 135 INFORMATION

Vehicle weight and dimensional information required for center of gravity calculations are available in the *Ford Source Book*. See your local Ford Dealer and refer to appropriate model year and specific vehicle for required information.

Abbreviated definitions and a vehicle diagram to assist with the equations for the FMVSS 105 and 135 segment are shown on page 24 for E-Series and Ranger and page 29 for Super Duty F-Series.

FOR ALL RANGER AND E-SERIES VEHICLES

The vehicle, as altered will conform to FMVSS and CMVSS 105 or 135, Hydraulic Brake System, if:

- No alterations, modifications or replacements are made to the service or parking brake system, anti-lock brake system, vacuum system, wheels or tires, brake system, indicator lamp and wiring, brake system reservoir labeling, suspension ride height or spring rate, hydro-boost system, power steering pump and lines if used with hydro-boost, and engine belt drive system.
- Any removal of a Ford Motor Company body or chassis component is accompanied by the addition of equal weight.
- The vertical distance from the ground to the completed vehicle center of gravity should not exceed 36 inches for vehicles < 8000 lb GVWR and 48 inches for vehicles ≥ 8000 lb GVWR. (Restrictions for other standards may also apply).
- For Ranger pickup box removal, the SUB weight found in Table A of the “Ranger Pickup Box Removal / Alterations - Design Recommendations” section of this book is met, as is the maximum Unloaded Vehicle Weight.
- The applicable GAWR's, GVWR, and accessory reserve capacity (ARC) weights (see preceding pages) are not exceeded.
- The applicable center of gravity limitations are met using one of the following calculation methods on this page.

FOR VEHICLES UNDER 3629 KG [8000 LB] GVWR

- The rear weight component (W_{rul}), as measured between the rear tires and the ground, does not exceed 58% of the completed vehicle weight at Unloaded Vehicle Weight plus 397 lb or 400 lb located in the driver and front passenger area (W_{ul}).
 $Maximum\ W_{rul} = .58 \times W_{ul}$ (see definitions on the next page).
 L_{min} does not apply to a SUB of 120 lb or less when installed rearward of the front seats and forward of the centerline of the rear axle. (Do not restrict seat travel. See IVM for SgRP location and torso angle).

The horizontal center of gravity for the SUB is:

- At or forward of the rear axle centerline. The vertical center of gravity for the completed vehicle at Unloaded Vehicle Weight + 397 lb or 400 lb passenger load CG_v (Equation A) must not exceed 36.0 inches, when measured from the ground.
- Behind the rear axle centerline. The vertical center of gravity of the completed vehicle at Unloaded Vehicle Weight + 400 lb passenger load must fall within the appropriate range determined from Table 5, page 27. The value of CG_h (Equation B), which approximates the horizontal center of gravity of the completed vehicle, is used in Table 5 page 27 to determine the vertical center of gravity limits for the completed vehicle. The value CG_v (Equation A), which approximates the vertical center of gravity of the completed vehicle, must fall within the appropriate range determined from Table 5 page 27.

EQUATION A

$$CG_v = \frac{CG_{vb}W_b + CG_{vc}W_c + 25P}{W_t}$$

EQUATION B

$$CG_h = \frac{(W_{rb} + W_{rc} + (\frac{P \times CG_{hp}}{WB})) \times WB}{W_t}$$

FOR VEHICLES 3629 KG [8000 LB] THROUGH 8618 KG [19,000 LB] GVWR

The horizontal center of gravity for the SUB is:

- E-Series Van with a GVWR of 4536 kg [10,000 lb] or less does not exceed the maximum Unloaded Vehicle Weight value in Table 1 on page 26.
- At or forward of the rear axle centerline. The vertical center of gravity for the completed vehicle at GVWR (CG_v — Equation C) must not exceed 48 inches, when measured from the ground.
- Behind the rear axle centerline. The vertical center of gravity for the completed vehicle at GVWR must fall within the appropriate range determined from Table 5 page 27. The value of CG_h (Equation D), which approximates the horizontal center of gravity of the completed vehicle, is used in Table 5 page 27 to determine the vertical center of gravity limits for the completed vehicle.

EQUATION C

$$CG_v = \frac{CG_{vb}W_b + CG_{vc}(W_c + W_l) + 25P}{GVWR}$$

EQUATION D

$$CG_h = \frac{(W_{rb} + W_{rc} + (\frac{P \times CG_{hp}}{WB}) + W_{rl}) \times WB}{GVWR}$$

TABLE A PASSENGER LOAD	
GVWR [lb]	P [lb]
0 – 7716	397
7717 – 10,000	400
10,001 – 19,000	500

†SUB = Second Unit Body
(See definition next page.)
†† L_{min} = The minimum horizontal center of gravity of the SUB measured in inches rearward from the centerline of the front axle.

(Cont'd next page)

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FMVSS AND CMVSS 105 and 135 HYDRAULIC BRAKE COMPLIANCE GUIDELINES FOR ALTERED FORD MOTOR COMPANY LIGHT TRUCKS. FOR INCOMPLETE VEHICLES - REFER TO THE IVM.

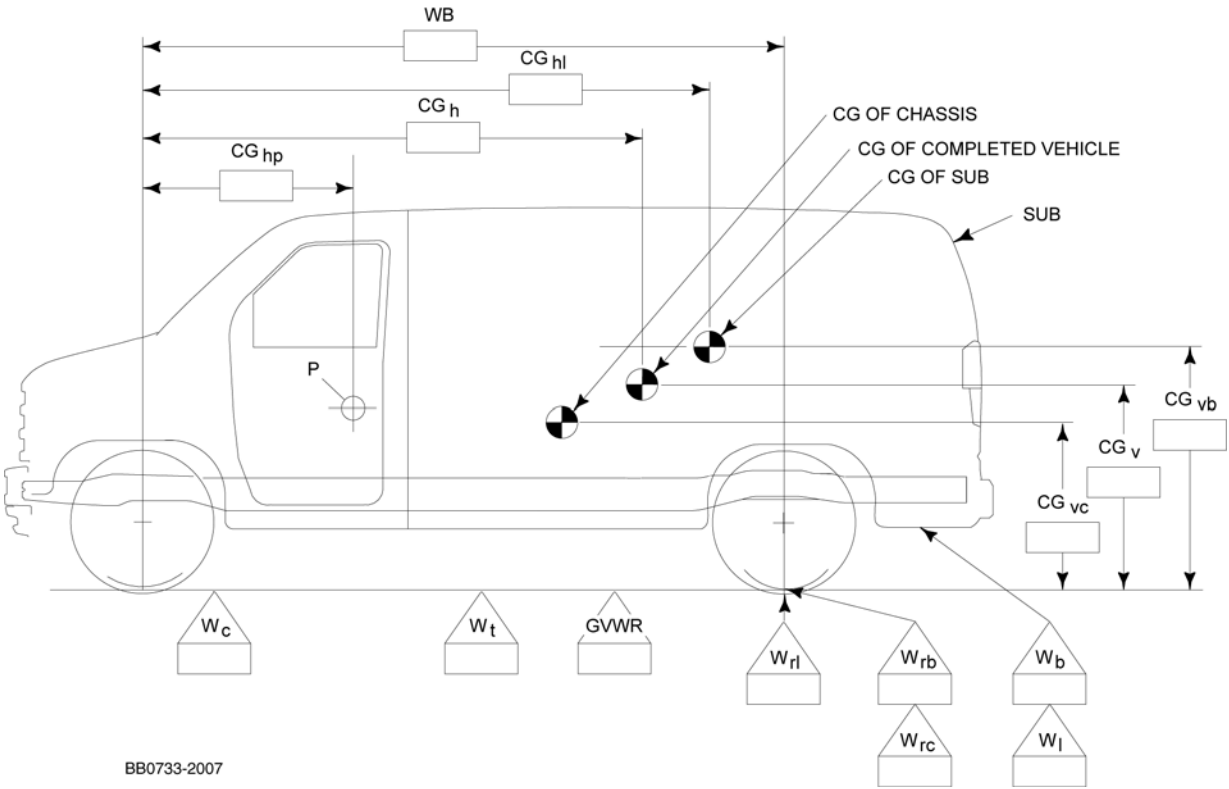
- L* = Horizontal distance in inches between the SUB center of gravity and the \bar{C} of the front axle.
- P = Passenger load [See Table A previous page.]
- CG_v = Vertical distance from the ground to the center of gravity [inches] of the completed vehicle.
- CG_h = Horizontal distance from \bar{C} of the front wheels to completed vehicle center of gravity [inches].
- CG_{vb} = Vertical distance from the ground to the center of gravity of the SUB and/or permanently attached equipment [inches].

- CG_{vc} = Vertical distance from the ground to the center of gravity of the chassis [inches] (including cab if original equipment). (Taken from Table 4, page 27.)
- CG_{hp} = Horizontal distance from the ground to the center of gravity of the of the front wheels to the P [inches] (passenger load). (Taken from Table 3, page 26.)
- W_b = Weight of the SUB and/or permanently attached added equipment [pounds].
- W_{rb} = Weight on the rear wheels of the SUB and/or permanently attached added equipment [pounds].
- W_{rc} = Weight at the rear wheels of the vehicle (chassis and cab) (fuel tanks full) [pounds], including option weight.
- W_c = Weight of the vehicle (chassis and cab) (fuel tanks full) [pounds], including option weight.
- WB = Vehicle wheelbase [inches].
- W_t = Total unladen weight = (W_b + W_c + P)
- GVWR = Gross Vehicle Weight Rating of the vehicle [pounds].
- W_l** = Remaining cargo capacity [pounds].
- Where: W_l = GVWR – (W_b + W_c + P)
- W_{rl}** = Weight of the remaining cargo capacity on the rear wheels [pounds].

$$W_{rl} = \frac{(CG_{hl}) W_l}{WB}$$

- CG_{hl}** = Horizontal distance from the \bar{C} of the front wheels to the cargo center of gravity [inches], (taken from Table 3, Page 26). For many common vehicles, if the CG_{hl} is not given in the table, then it may be estimated as the distance from the \bar{C} of the front wheel to the horizontal midpoint of the cargo area.
- SUB = A Second Unit Body consists of the body structure and/or all the cargo carrying, work performing and/or load bearing components and/pr equipment installed by a subsequent stage manufacturer on an incomplete vehicle, such that the incomplete vehicle becomes a completed vehicle.

* Required for < 8000 lb GVWR calculations only.
** Required for ≥ 8000 lb GVWR calculations only.



BB0733-2007

FMVSS AND CMVSS 105 and 135 HYDRAULIC BRAKE COMPLIANCE GUIDELINES FOR ALTERED FORD MOTOR COMPANY LIGHT TRUCKS. FOR INCOMPLETE VEHICLES - REFER TO THE *IVM*.

SECOND UNIT BODY CENTER OF GRAVITY CALCULATION SUGGESTIONS

In the case where the rear weight of the SUB and/or added equipment must be reduced and the CG_v is found to be below the allowed minimum CG_v it may be possible to bring the vehicles into compliance by moving the CG_h forward. Forward movement of the CG_h can be accomplished by:

- Redistributing the weight of the SUB and/or added equipment.
- Adding **permanently** attached ballast forward of the CG_h. In order to reduce the rear weight, the ballast must be forward of the front axle. (Caution must be taken not to exceed the GVWR or front GAWR of the vehicle.)

The following general equations can be used to find the center of gravity of the SUB and added equipment when there are several elements making up the CG.

NOTE: Removal of the components or body parts would be represented by a negative weight being used in these calculations.

$$CG_{vb} = \frac{CG_{vb1}(W_{b1}) + CG_{vb2}(W_{b2}) + \dots + CG_{vbn}(W_{bn})}{W_{b1} + W_{b2} + \dots W_{bn}}$$

and the horizontal CG location of the combined SUB and added equipment is:

$$CG_{hb} = \frac{(W_{rb1} + W_{rb2} + \dots + W_{rbn})WB}{W_{b1} + W_2 + \dots + W_{bn}}$$

The front/rear weight break down can be found with the use of the following equation:

$$W_{rb} = \frac{CG_{hb}(W_{b1} + W_{b2} + \dots + W_{bn})}{WB}$$

Conversely, the front weight component of the SUB and added equipment is:

$$W_{fb} = (W_{b1} + W_{b2} + \dots + W_{bn}) - W_{rb}$$

SAMPLE CALCULATIONS

Vehicles <8000 lb GVWR
Sample (1)
Ranger (4x2) pickup box removal vehicle 118 inch WB 4800 lb GVWR
Known:
W_b = 250 lb W_{rb} = 260 lb (behind rear axle)
W_c = 2912 lb; W_{rc} = 1080 lb
CG_{vb} = 28 CG_{vc} = 25.5 CG_{hp} = 53.9
This vehicle falls in the under 7717 lb GVWR category and the SUB CG is behind the rear axle.

From equation A & B

$$CG_v = \frac{(28)(250) + (25.5)(2912) + (25)(397)}{3562} = 25.4 \text{ inches}$$

$$CG_h = \frac{260 + 1080 + \frac{397 \times 53.9}{113.9}}{3562} \times 113.9 = 48.9 \text{ inches}$$

From Table 5, page 27:
Upper Limit CG_v = 1.39 x 48.4 – 36.8 = 31.2 inches
Lower Limit CG_v = 1.39 x 48.4 – 51.7 = 16.3 inches
The 25.4 inches calculated is within the range given so this vehicle is acceptable from a compliance to FMVSS and CMVSS 135 standpoint.

(Cont'd next page)

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TABLE 1 Maximum Unloaded Vehicle Weight (UVW) for Incomplete Vehicles When Completed ⁽¹⁾ (This information Does Not Apply To Vehicles Over 4536 kg [10,000 lb] GVWR)		
Model	Wheelbase Millimeter [inch]	Maximum Unloaded Vehicle Weights - Kilogram [pound]
E-150 Regular Van	3505 [138]	3130 [6900]
E-150 Regular Wagon	3505 [138]	3130 [6900]
E-250 Regular and Extended Van	3505 [138]	3130 [6900]
E-250 Cutaway	3505 [138]	2653 [5850]
E-350 Regular and Extended Van	3505 [138]	3583 [7900]
E-350 Regular and Extended Wagon	3505 [138]	3583 [7900]
E-350 Cutaway SRW (mid-ship fuel tank)	3505 [138]	3020 [6660]
E-350 Cutaway SRW (aft-of-axle fuel tank)	3505 [138]	3856 [8500]
E-350 Cutaway DRW	3505 [138]	3856 [8500]
E-350 Basic (Striped) Chassis SRW	3505 [138]	3946 [8700]
E-350 Basic (Striped) Chassis DRW	3505 [138]	3946 [8700]
E-350 Basic (Striped) Chassis SRW	4013 [158]	3946 [8700]
E-350 Basic (Striped) Chassis DRW	4013 [158]	3946 [8700]
E-350 Basic (Striped) Chassis DRW	4470 [176]	3946 [8700]
<i>(1) Maximum unloaded vehicle weight values shown in this table are limits for purposes of F/CMVSS conformity only. See Emission Certification information for possible additional weight restrictions to meet emission requirements.</i>		

TABLE 2 CG _{hl} = Horizontal distance from front axle to cargo CG:		
Model	WB [in]	CG _{hl} [in] †
Super Duty F-Series:		
Regular Cab	137.0	132
SuperCab	141.8	144
SuperCab	158.0	153
Crew Cab	156.2	158
Crew Cab	172.4	165
E-Series:		
Regular Van	138	116
†Extended Van or Extended Wagon	138	126
† If CG _{hl} is not given in the table or if the location of your cargo is not in the normal cargo area, then your CG _{hl} may be estimated as the distance from the \varnothing of the front wheel to the horizontal midpoint of the cargo area.		

TABLE 3 CG _{hp} = Horizontal distance from front wheel \varnothing to Passenger Load. [Dimensions are in inches.]	
All Rangers	53.9
All Super Duty F-Series	61.2
All E-Series †	48.5
† Except E-Series Stripped Chassis where the distance from the \varnothing of the front axle to the H-point of the driver must be measured.	

TABLE 4 CG _{vc} = Vertical distance ground to chassis CG [Dimensions are in inches.]	
Ranger (4x2)	= 24.0
Ranger (4x4)	= 27.0
F-150 (4x2)	= 26.0
F-150 (4x4)	= 28.5
F-250/350 (4x2) SRW > 8500 lb GVWR	= 30.4
F-250/350 (4x4) SRW > 8500 lb GVWR	= 31.4
F-350 (4x2) DRW	= 30.4
F-350 (4x4) DRW	= 31.4
E-150/250/350 SRW Van or Wagon	= 32.0

(Cont'd next page)

U.S. AND CANADA SAFETY STANDARDS

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TABLE 5 CG _v = Vertical distance from the ground to the completed vehicle center of gravity [inch]. GVWR < 8000 lb use equation A & B, page 23				
Model	WB	Equation for CG _v Range		
		Upper Limit	Lower Limit	
Ranger 4x2 GVWR ≤ 4580 lb	112	CG _v =	1.39 x CG _h – 34.8	1.39 x CG _h – 49.0
	118	CG _v =	1.39 x CG _h – 36.8	1.39 x CG _h – 51.7
	126	CG _v =	1.39 x CG _h – 40.3	1.39 x CG _h – 56.7
Ranger 4x2 GVWR ≥ 4580 lb	112	CG _v =	1.39 x CG _h – 36.0	1.39 x CG _h – 42.0
	118	CG _v =	1.39 x CG _h – 38.5	1.39 x CG _h – 44.6
	126	CG _v =	1.39 x CG _h – 45.5	1.39 x CG _h – 48.6
Ranger 4x4 GVWR ≥ 4580 lb	112	CG _v =	1.39 x CG _h – 32.8	1.39 x CG _h – 38.4
	118	CG _v =	1.39 x CG _h – 34.7	1.39 x CG _h – 40.5
	126	CG _v =	1.39 x CG _h – 38.0	1.39 x CG _h – 44.4
Requires use of Equations C & D, page 23 Place the CG _h of the vehicle (from equation D) into the appropriate equations below to determine the allowable range of the CG _v . If the actual CG _v (from equation C) is within the range calculated, the center of gravity location is acceptable.				
Model	WB	Equation for CG _v Range		
		Upper Limit	Lower Limit	
E-150/250	138	CG _v =	1.27 x CG _h – 59.0	1.27 x CG _h – 77.5
E-350 (SRW) ≤ 9600 lb GVWR	138	CG _v =	1.27 x CG _h – 60.0	1.27 x CG _h – 80.0
	158	CG _v =	1.27 x CG _h – 69.5	1.27 x CG _h – 90.7

TABLE 7 SUPER DUTY F-SERIES VEHICLES MINIMUM SUB WEIGHTS 8800 lb to 12,500 lb GVWR WIDE FRAME F-250/350 956 mm [37.7 in] Pickup Box Deletes			
Model and GVWR kg [lb]	Body Style	WB mm [in]	Minimum SUB kg [lb]
F-250/350 SRW	Regular Cab	3480 [137]	172 [380]
	SuperCab	4013 [158]	
	Crew Cab	4380 [172.4]	
	SuperCab	3602 [141.8]	154 [340]
	Crew Cab	3967 [156.2]	
F-350 DRW	Regular Cab	3480 [137]	190 [420]
	SuperCab	4013 [158]	
	Crew Cab	4380 [172.4]	
	SuperCab	3602 [141.8]	172 [380]
	Crew Cab	3967 [156.2]	

TABLE 6 MAXIMUM UNLOADED VEHICLE WEIGHT WITH SECOND UNIT BODY (FMVSS 301 Fuel System Integrity Compliance) (This Weight Information Does Not Apply to Vehicles Over 4536 kg [10,000 lb] GVWR)						
MODELS		FRAME WIDTH	SECOND UNIT BODY MAXIMUM CENTER OF GRAVITY HEIGHT (1) millimeter [inch]	MAX. UVW with SUB kilogram [pound]		
				Engine Size – liter [cubic inch]		
				5.4L [330]	6.8L [413]	6.4LD [390]
PICKUP BOX DELETES (2)	F-250 Regular Cab (4x2) 3480 mm [137 in] WB (56" CA)	Wide	447 [17.6]	3091 [6815]	3152 [6950]	3543 [7810]
	F-250 Regular Cab (4x4) 3480 mm [137 in] WB (56" CA)	Wide	447 [17.6]	3340 [7364]	3401 [7499]	3792 [8359]
	F-250 SuperCab (4x2) 4013 mm [158 in] WB (56" CA)	Wide	610 [24]	3273 [7215]	3334 [7350]	3724 [8210]
	F-250 SuperCab (4x4) 4013 mm [158 in] WB (56" CA)	Wide	610 [24]	3517 [7754]	3578 [7889]	3968 [8749]
	F-250 Crew Cab (4x2) 4379 mm [172.4 in] WB (56" CA)	Wide	610 [24]	3426 [7554]	3488 [7689]	3878 [8549]
	F-250 Crew Cab (4x4) 4379 mm [172.4 in] WB (56" CA)	Wide	610 [24]	3675 [8103]	3737 [8238]	4127 [9098]
CHASSIS CABS (3) (4)	F-350 Regular Cab (4x2) 3576 mm [140.8 in] WB (60" CA)	Narrow	447 [17.6]	3108 [6853]	3170 [6988]	3549 [7824]
	F-350 Regular Cab (4x4) 3576 mm [140.8 in] WB (60" CA)	Narrow	447 [17.6]	3325 [7331]	3387 [7466]	3766 [8302]
	F-350 Super Cab (4x2) 4110 mm [161.8 in] WB (60" CA)	Narrow	610 [24]	3287 [7246]	3348 [7381]	3727 [8217]
	F-350 Super Cab (4x4) 4110 mm [161.8 in] WB (60" CA)	Narrow	610 [24]	3504 [7724]	3565 [7859]	3944 [8695]
	F-350 Crew Cab (4x2) 4475 mm [176.2 in] WB (60" CA)	Narrow	610 [24]	3411 [7520]	3472 [7655]	3851 [8491]
	F-350 Crew Cab (4x4) 4475 mm [176.2 in] WB (60" CA)	Narrow	610 [24]	3628 [7998]	3689 [8133]	4068 [8969]

- (1) Vertical dimensions are measured from the top surface of the frame at a distance approximately 304.8-457.2 mm [12-18 inches] from the rear of the cab.
- (2) “Maximum UVW with SUB” is the pickup truck UVW with maximum option content plus 600 lb.
- (3) “Maximum UVW with SUB” is the chassis cab UVW with maximum option content plus 600 lb. plus 465 lb. for pickup and spare tire allowance.
- (4) Chassis Cab data shown for 18" wheel equipment. Reduce “Maximum UVW with SUB” by 1346 kg [53 lb] for 17" wheel equipment.

(Cont'd next page)

U.S. AND CANADA SAFETY STANDARDS

2008
MODEL YEAR

FMVSS and CMVSS 105 HYDRAULIC BRAKE COMPLIANCE GUIDELINES FOR F-SERIES ALTERED VEHICLES WITH A GVWR OVER 3629 kg [8000 lb] INCLUDING PICKUP BOX REMOVAL.

105 INFORMATION

Vehicle weights and dimensional information required for center of gravity calculations are available in the *Source Book*. See your local Ford Dealer and refer to appropriate model year and specific vehicle for the required information.

The abbreviated definitions and a vehicle diagram which are required for the equations in the FMVSS 105 segment of this document are shown on the next page.

The vehicle, as altered, will conform to FMVSS and CMVSS No. 105, Hydraulic and Electric Brake Systems, provided that:

- No alterations, modifications, or replacements are made to the following:
 - Service or parking brake system
 - Antilock brake system
 - Vacuum system
 - Wheels and tires
 - Brake system indicator lamp and wiring
 - Brake system reservoir labeling
 - Suspension ride height or spring rate
 - Hydro-boost system
 - Power steering pump and lines if used with Hydro-boost
 - Engine belt drive system
- Any removal of a Ford Motor Company body or chassis component is accompanied by the addition of equal weight.

- Vehicles with a GVWR of 4536 kg [10,000 lb] or less do not exceed the Maximum Unloaded Vehicle Weight value in Table 6, page 27.
- The applicable GAWRs and GVWR weights are not exceeded.
 - The completed vehicle must have a vertical center of gravity (Equation E) of 48.00 inches or less when measured from the ground.
 - The front axle curb weight of the completed vehicle (incomplete vehicle weight + min SUB weight, Table 7, page 27 may be reduced by no more than 10% for SRW or 25% for DRW vehicles, using the front axle ground reaction as manufactured by Ford Motor Company.
 - The rear axle curb weight of the completed vehicle (incomplete vehicle + min SUB weight, Table 7, page 27) must be the same or greater than the rear axle ground reaction as manufactured by Ford Motor Company.
 - REFERENCE: Equation F can be used to determine the completed vehicle's horizontal center of gravity (CG_h). Abbreviated definitions and a vehicle diagram are provided to assist with the equation on page 29.

SUPER DUTY F-SERIES PASSENGER LOAD TABLE		
CG _{hp}	GVWR [lb]	P [lb]
61.2 [in]	8500-10,000	400
	10,001-19,000	500

SUPER DUTY F-SERIES PASSENGER CG _{vp}		
All Seats		
	4x2	4x4
CG _{vp}	40.3 [in]	43.8 [in]

EQUATION E

$$CG_v = \frac{CG_{vb}W_b + CG_{vc}(W_c + W_l) + (CG_{vp}) \times P}{GVWR}$$

EQUATION F

$$CG_h = \frac{(W_{rb} + W_{rc} + (\frac{P \times CG_{hp}}{WB}) + W_{rl}) \times WB}{GVWR}$$

Example:
F-250 (4x4) Pickup Box Removal with 137 inch WB and 8800 lb GVWR

Known:
F-250 (4x4) 137 inch WB, 8800 lb GVWR, 5.4L pickup box removal vehicle.
W_b = 675 lb; w_{rb} = 600 lb; w_{rc} = 1531 lb; W_c = 4684 lb;
CG_{vb} = 35 inches;
CG_{vc} = 31.0 inches; W_l = GVWR - W_b + W_c +400) = 3041 lb

$W_{rl} = \frac{(132)(3041)}{137} = 2930lb$

From Equations E & F:

$CG_v = \frac{35(675) + 31(4684 + 3041) + 43.4 \times (400)}{8800} = 31.9in$

$CG_h = \frac{(600 + 1531 + \frac{400(61.2)}{137} + 2930) \times 137}{8800} = 81.6in$

Since CG_v is less than 48" and CG_h is less than 137", this vehicle is acceptable with the 675 lb SUB.

If CG _v exceeds 48", do one or more of the following, as required to get CG _v ≤ 48"	If CG _h exceeds wheelbase, do one or more of the following, as required to get CG _h ≤ WB
1. Move heavy objects to lower areas to lower the CG.	1. Move heavy objects forward to shift the CG forward.
2. Remove heavy objects with CG's greater than 48" above the ground.	2. Remove heavy objects which are aft of the rear axle.
3. Add weight as low as possible (lower than 48") to bring down CG.	3. Add weight as far forward as possible (forward of the rear axle) to shift the CG forward.

(Cont'd next page)

U.S. AND CANADA SAFETY STANDARDS

2008
MODEL YEAR

FMVSS AND CMVSS 105 HYDRAULIC BRAKE F-SERIES ALTERED VEHICLES INCLUDING PICKUP BOX REMOVAL.

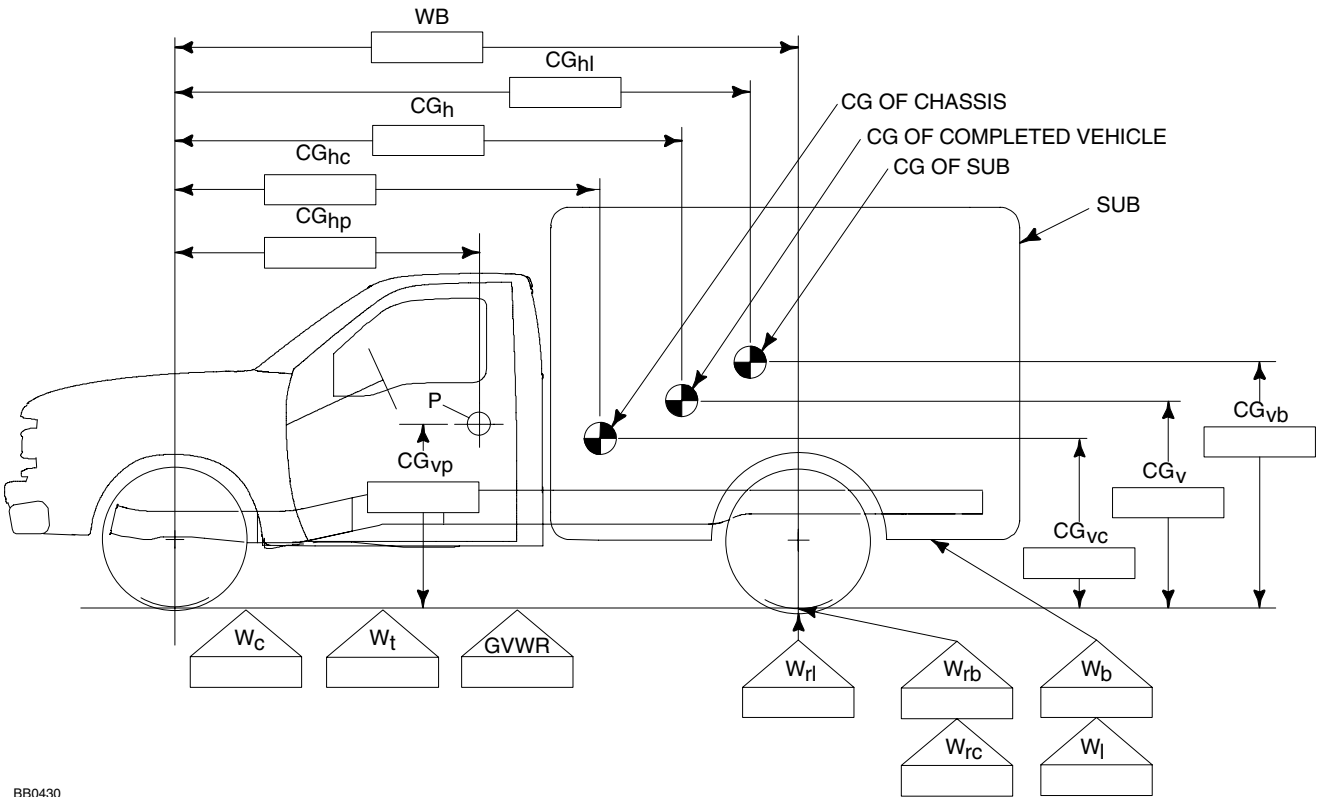
- P = Passenger load (see table on page 28).
- CG_v = Vertical distance from the ground to the center of gravity [inches] of the completed vehicle.
- CG_h = Horizontal distance from \varnothing of the front wheels to the center of gravity [inches] of the completed vehicle.
- CG_{vb} = Vertical distance from the ground to the center of gravity of the SUB and/or permanently attached added equipment [inches].

- CG_{vc} = Vertical distance from the ground to the center of gravity of the chassis [inches] (including cab if original equipment). (Taken from Table 4 page 27).
- CG_{hp} = Horizontal distance from the \varnothing of the front wheels to the P (passenger load). (Taken from Passenger Load Table on page 28).
- CG_{vp} = Vertical distance from the ground to the center of gravity of the front and rear seat P (passenger weight). (Taken from Passenger Load Table on page 28).
- W_b = Weight of the SUB and/or permanently attached added equipment [pounds].
- W_{rb} = Weight at the rear wheels of the SUB and/or permanently attached added equipment [pounds].

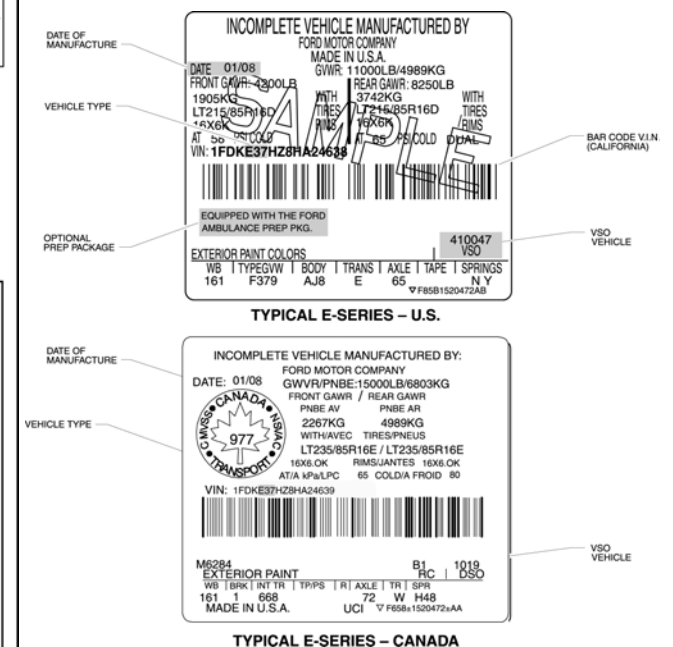
- W_{rc} = Weight at the rear wheels of the vehicle (chassis and cab) (fuel tanks full) [pounds], including option weight.
- W_c = Weight of the vehicle (chassis and cab) (fuel tanks full) [pounds], including option weight.
- WB = Vehicle wheelbase [inches].
- W_t = Total unladen weight = (W_b + W_c + P)
- GVWR = Gross Vehicle Weight Rating of the vehicle [pounds].
- W_l = Remaining cargo capacity [pounds]. Where:
W_l = GVWR – (W_b + W_c + P)
- W_{rl} = Weight of the remaining cargo capacity on the rear wheels [pounds].

- CG_{hl} = Horizontal distance from the \varnothing of the front wheels to the cargo center of gravity [inches] (Reference Table 2, page 26). If the CG_{hl} is not given in the table, then it may be estimated as the distance from the \varnothing of the front wheels to the horizontal midpoint of the cargo area.
- SUB = A Second Unit Body consists of the body structure and/or all the cargo carrying, work performing and/or load bearing components and/or equipment installed by a subsequent stage manufacturer on an incomplete vehicle, such that the incomplete vehicle becomes a completed vehicle.
- CG_{hc} = Horizontal distance from the \varnothing of the front wheels to the center of gravity [inches] of the chassis.

(Cont'd next page)



2008
MODEL YEAR



E-SERIES WAGON MODEL LINEUP

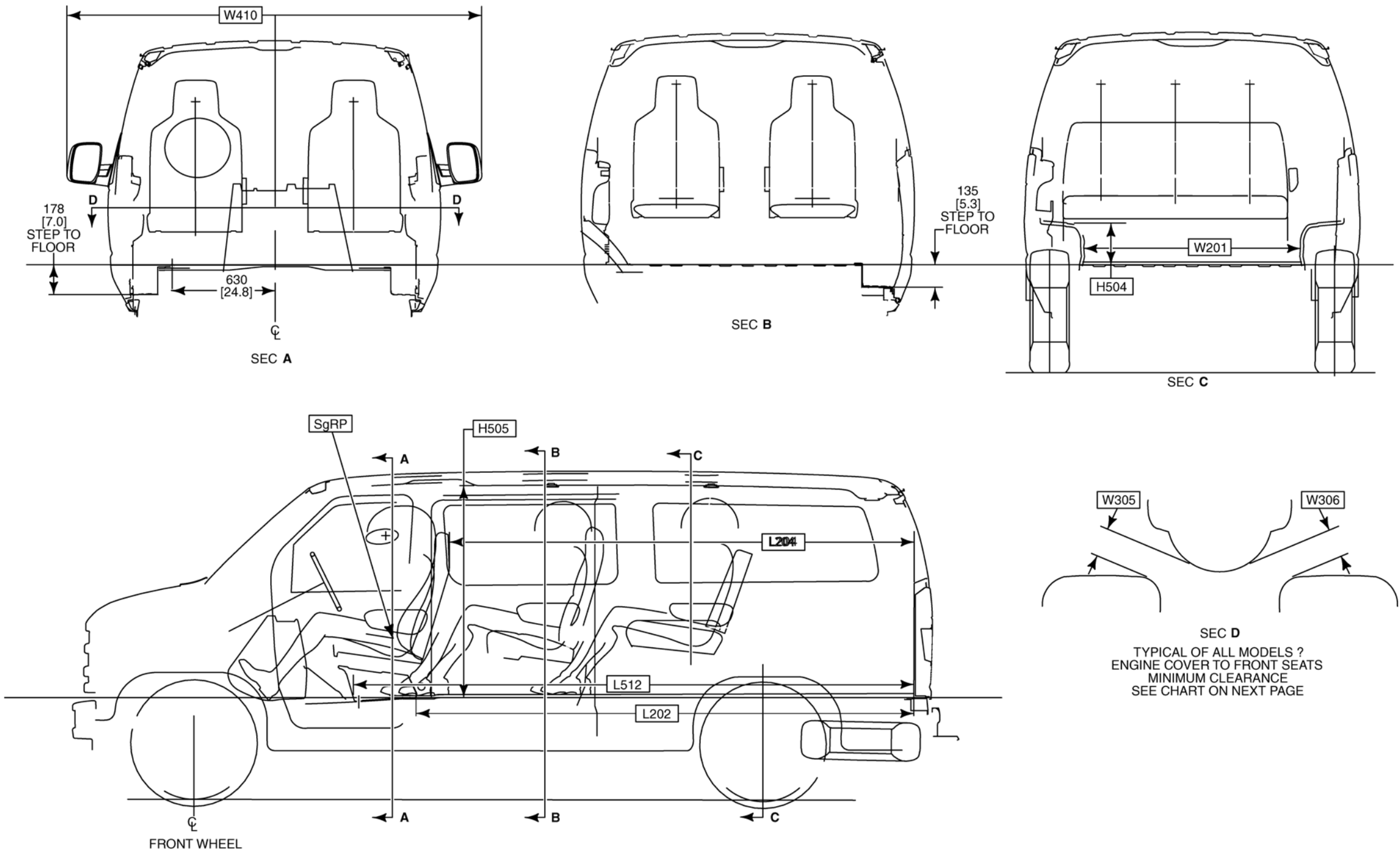
2008
MODEL YEAR

E-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE ⁽¹⁾ liters	STANDARD TRANSMISSION	MAXIMUM GVWR pounds	PASSENGER CAPACITY	BASE CURB WEIGHT ⁽²⁾		
								FRONT pounds	REAR pounds	TOTAL pounds
REGULAR / EXTENDED WAGON										
E-150 Wagon	E11	138	—	4.6L V-6	4-Spd. Auto OD (4R75E)	8520	7	3204	2603	5807
				5.4L V-8		8600	8	3102	2532	5634
							7	3257	2601	5858
							8	3173	2544	5717
E-350 Super Duty Wagon	E31	138	—	5.4L V-8	4-Spd. Auto OD (4R75E)	8800	12	3251	2773	6024
E-350 Super Duty Extended Wagon	S31	138	—	5.4L V-8	4-Spd. Auto OD (4R75E)	9300	11	3045	3198	6243
						9100	15	2974	3419	6393

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Base curb weight is for standard equipment only.

DIMENSIONAL DATA
E-150/E-350 SUPER DUTY WAGON 7-PASSENGER
QUAD CAPTAIN’S CHAIRS / 3-PASSENGER BENCH

2008
MODEL YEAR



DIMENSIONAL DATA

E-150/E-350 SUPER DUTY WAGON 7-PASSENGER
QUAD CAPTAIN’S CHAIRS / 3-PASSENGER BENCH

2008

MODEL YEAR

CODE	DESCRIPTION	7-PASSENGER QUAD CAPTAIN’S CHAIRS/ 3-PASSENGER BENCH
EXTERIOR		
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: SAIL MOUNT – MANUAL/POWER MIRROR)	2431 [95.7]
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: TRAILER TOW MIRROR)	2692 [106.0]
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: TRAILER TOW MIRROR EXTENDED)	2753 [108.4]
FRONT COMPARTMENT		
W305	SEAT TO ENGINE COVER – DRIVER	168 [6.6]
W306	SEAT TO ENGINE COVER – PASSENGER	155 [6.1]
REAR COMPARTMENT – CARGO		
H504	WHEELHOUSE HEIGHT	228 [9.0]
H505	CARGO HEIGHT – MAXIMUM	1316 [51.8]
L202	CARGO LENGTH – CLOSED FRONT	3064 [120.6]
L204	CARGO LENGTH @ BELT – FRONT	2802 [110.3]
L512	CARGO LENGTH TO ENGINE COVER	3512 [138.3]
W201	CARGO WIDTH BETWEEN WHEELHOUSE	1298 [51.1]
W500	CARGO BODY WIDTH @ FLOOR	1721 [67.8]
V6	CARGO VOLUME – REAR OF FRONT SEAT – CU. FT.	211.6

NOTE — [] DIMENSIONS ARE INCHES

2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
E-150/350 SUPER DUTY WAGON 8/12-PASSENGER

2008
MODEL YEAR

CODE	DESCRIPTION	BASE BUCKET 8-PASS CARGO DOOR	BASE BUCKET 12-PASS CARGO DOOR	CAPTAIN'S CHAIR 8-PASS SLIDING DOOR	CAPTAIN'S CHAIR 12-PASS SLIDING DOOR
EXTERIOR					
H106C	APPROACH ANGLE @ CURB (DEGREES)	23.1*	22.7**	23.1*	22.7**
H107C	DEPARTURE ANGLE @ CURB (DEGREES)	20.2*	22.9**	20.2*	22.9**
L101	WHEELBASE	3504 [138.0]			
L103	VEHICLE LENGTH	5505 [216.7]			
L104	FRONT OVERHANG	887 [34.9]			
L105	REAR OVERHANG	1113 [43.8]			
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/MOLDINGS)	2016 [79.4]			
W410	VEHICLE WIDTH (CAB WIDTH MAX W/ SAIL MOUNT — MANUAL/POWER MIRROR)	2431 [95.7]			
W410	VEHICLE WIDTH (CAB WIDTH MAX W/ TRAILER TOW MIRROR)	2692 [106.0]			
W410	VEHICLE WIDTH (CAB WIDTH MAX W/ TRAILER TOW MIRROR EXTENDED)	2753 [108.4]			
FRONT COMPARTMENT					
W305	SEAT TO ENGINE COVER — DRIVER	168 [6.6]			
W306	SEAT TO ENGINE COVER — PASSENGER	155 [6.1]			

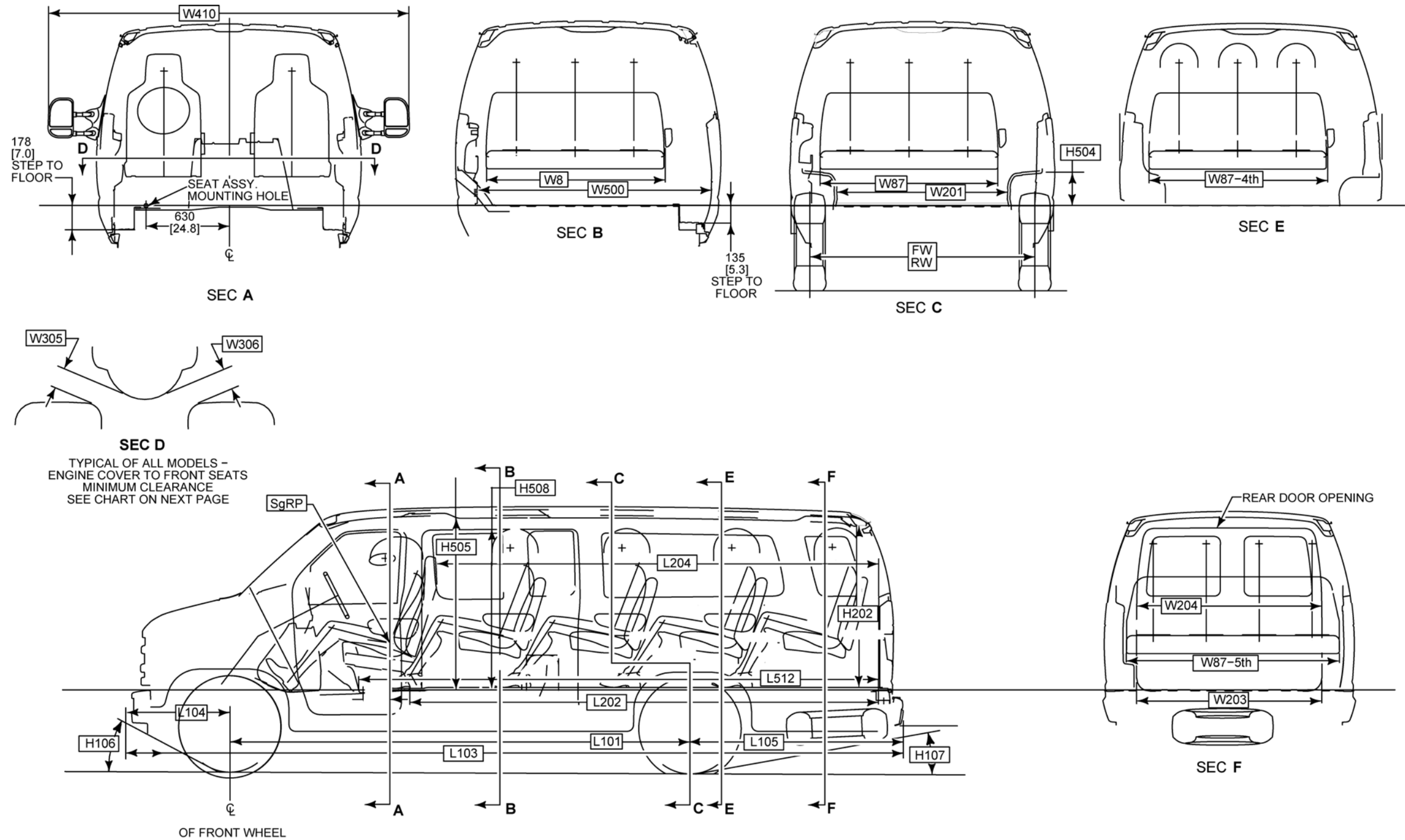
* E150
** E350

CODE	DESCRIPTION	BASE BUCKET 8-PASS CARGO DOOR	BASE BUCKET 12-PASS CARGO DOOR	CAPTAIN'S CHAIR 8-PASS SLIDING DOOR	CAPTAIN'S CHAIR 12-PASS SLIDING DOOR
REAR COMPARTMENT — CARGO					
H504	WHEELHOUSE HEIGHT	228 [9.0]			
H505	CARGO HEIGHT — MAXIMUM	1349 [53.1]			
L202	CARGO LENGTH — CLOSED FRONT	3064 [120.6]			
L204	CARGO LENGTH @ BELT — FRONT	2802 [110.3]			
L512	CARGO LENGTH TO ENGINE COVER	3512 [138.3]			
W201	CARGO WIDTH BETWEEN WHEELHOUSE	1298 [51.1]			
W500	CARGO BODY WIDTH @ FLOOR	1721 [67.8]		1772 [69.8]	
V6	CARGO VOLUME — REAR OF FRONT SEAT - CU.FT.	211.6			
REAR COMPARTMENT — SEATING					
W8	SEATING WIDTH — 2ND	1366 [53.8]			
W87	SEATING WIDTH — 3RD	1366 [53.8]			
W87-4TH	SEATING WIDTH — 4TH	—	1626 [64.0]	—	1626 [64.0]
DOOR OPENINGS (ENTRANCE ROOM)					
H202	REAR OPENING HEIGHT	1189 [46.8]			
H508	ENTRANCE HEIGHT — CARGO SIDE	1198 [47.2]		1198 [47.2]	
L508	ENTRANCE LENGTH — CARGO SIDE	1138 [44.8]		1006 [39.6]	
W203	REAR OPENING WIDTH @ FLOOR	1381 [54.4]			
W204	REAR OPENING WIDTH @ BELT	1377 [54.2]			

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
E-350 SUPER DUTY
EXTENDED WAGON 11/15-PASSENGER

2008
MODEL YEAR



BB0020-2007

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
E-350 SUPER DUTY
EXTENDED WAGON 11/15-PASSENGER

2008
MODEL YEAR

Page 37 E-SERIES

CODE	DESCRIPTION	11/15 PASS EXTENDED BASE BUCKET CARGO DOOR	11/15 PASS EXTENDED CAPTAIN'S CHAIR SLIDING DOOR
EXTERIOR			
H106C	APPROACH ANGLE @ CURB (DEGREES)	23.1°	
H107C	DEPARTURE ANGLE@ CURB (DEGREES)	16.3°	
L101	WHEELBASE	3505 [138.0]	
L103	VEHICLE LENGTH	6013 [236.7]	
L104	FRONT OVERHANG	887 [34.9]	
L105	REAR OVERHANG	1621 [63.8]	
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/ MOLDINGS)	2016 [79.4]	
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: SAIL MOUNT — MANUAL/POWER MIRROR)	2431 [95.7]	
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: TRAILER TOW MIRROR)	2692 [106.0]	
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: TRAILER TOW MIRROR EXTENDED)	2753 [108.4]	
FRONT COMPARTMENT			
W305	SEAT TO ENGINE COVER — DRIVER	168 [6.6]	
W306	SEAT TO ENGINE COVER — PASSENGER	155 [6.1]	

CODE	DESCRIPTION	11/15 PASS EXTENDED BASE BUCKET CARGO DOOR		11/15 PASS EXTENDED CAPTAIN'SCHAIR SLIDING DOOR
REAR COMPARTMENT — CARGO				
H504	WHEELHOUSE HEIGHT	228 [9.0]		
H505	CARGO HEIGHT — MAXIMUM	1349 [53.1]		
L202	CARGO LENGTH — CLOSED FRONT	3572 [140.6]		
L204	CARGO LENGTH @ BELT — FRONT	3310 [130.3]		
L512	CARGO LENGTH TO ENGINE COVER	4020 [158.3]		
W201	CARGO WIDTH BETWEEN WHEELHOUSE	1298 [51.1]		
W500	CARGO BODY WIDTH @ FLOOR	1721 [67.8]	1772 [69.8]	
V6	CARGO VOLUME — REAR OF FRONT SEAT — CU.FT.	249.1	251.7	
REAR COMPARTMENT — SEATING				
W8	SEATING WIDTH — 2ND	1366 [53.8]		
W87	SEATING WIDTH — 3RD	1366 [53.8]		
W87-4TH	SEATING WIDTH — 4TH (3-PASSENGER)	1366 [53.8]		
W87-5TH	SEATING WIDTH — 5TH (4-PASSENGER)	1626 [64.0]		
DOOR OPENINGS (ENTRANCE ROOM)				
H202	REAR OPENING HEIGHT	1220 [48.0]		
H508	ENTRANCE HEIGHT — CARGO SIDE	1199 [47.2]	1199 [47.2]	
L508	ENTRANCE LENGTH — CARGO SIDE	1138 [44.8]	1006 [39.6]	
W203	REAR OPENING WIDTH @ FLOOR	1381 [54.4]		
W204	REAR OPENING WIDTH @ BELT	1377 [54.2]		

NOTE — [] DIMENSIONS ARE INCHES.

E-SERIES VAN MODEL LINEUP

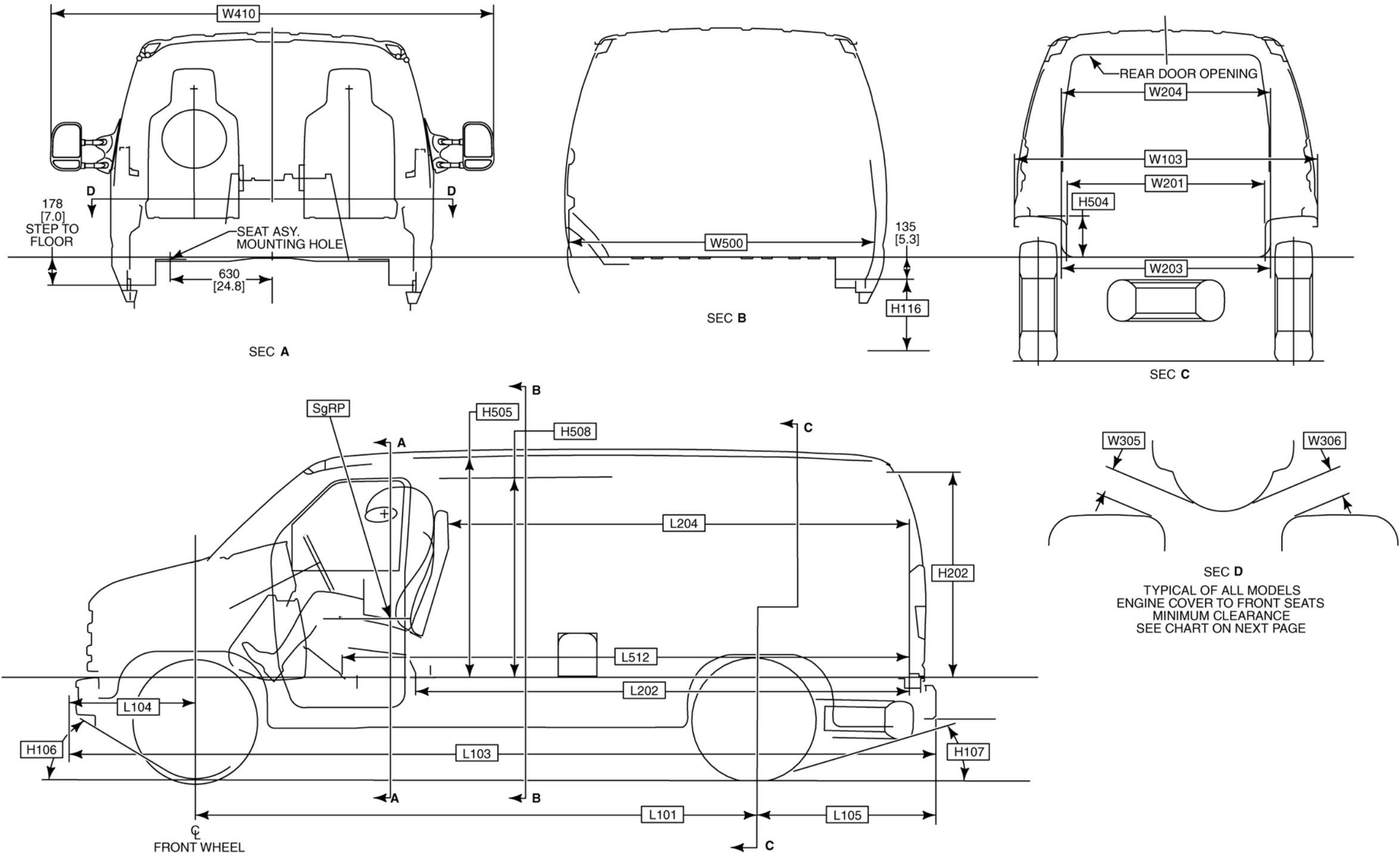
2008
MODEL YEAR

E-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE ⁽¹⁾ liters	STANDARD TRANSMISSION ⁽¹⁾	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽³⁾ pounds	BASE CURB WEIGHT ⁽²⁾		
								FRONT pounds	REAR pounds	TOTAL pounds
REGULAR / EXTENDED VAN										
E-150 Van	E14	138	—	4.6L V-6	4-Spd. Auto. OD (4R75E)	8520	3314	2894	2312	5206
				8520 ⁽⁴⁾		3087 ⁽⁴⁾	3013 ⁽⁴⁾	2420 ⁽⁴⁾	5433 ⁽⁴⁾	
				5.4L V-8		8600	3341	2936	2323	5259
				8600 ⁽⁴⁾		3121 ⁽⁴⁾	3051 ⁽⁴⁾	2428 ⁽⁴⁾	5479 ⁽⁴⁾	
E-150 Extended Van	S14	138	—	4.6L V-6	4-Spd. Auto. OD (4R75E)	8600	3219	2991	2390	5381
				5.4L V-8		8600	3164	3034	2402	5436
E-250 Van	E24	138	—	4.6L V-8	4-Spd. Auto. OD (4R75E)	8900	3624	2932	2344	5276
				8900 ⁽⁴⁾		3410 ⁽⁴⁾	3044 ⁽⁴⁾	2446 ⁽⁴⁾	5490 ⁽⁴⁾	
				5.4L V-8		9000	3673	2973	2354	5327
				9000 ⁽⁴⁾		3469 ⁽⁴⁾	3080 ⁽⁴⁾	2451 ⁽⁴⁾	5531 ⁽⁴⁾	
E-250 Extended Van	S24	138	—	4.6L V-8	4-Spd. Auto. OD (4R75E)	8900	3503	2999	2398	5397
				8900 ⁽⁴⁾		3260 ⁽⁴⁾	3123 ⁽⁴⁾	2517 ⁽⁴⁾	5640 ⁽⁴⁾	
				5.4L V-8		9000	3548	3042	2410	5452
				9000 ⁽⁴⁾		3319 ⁽⁴⁾	3159 ⁽⁴⁾	2522 ⁽⁴⁾	5681 ⁽⁴⁾	
E-350 Super Duty Van	E34	138	—	5.4L V-8	4-Spd. Auto OD (4R75E)	9500	4110 ⁽⁴⁾	3011	2379	5390
						9500 ⁽⁴⁾	3908 ⁽⁴⁾	3103 ⁽⁴⁾	2489 ⁽⁴⁾	5592 ⁽⁴⁾
E-350 Super Duty Extended Van	S34	138	—	5.4L V-8	4-Spd. Auto OD (4R75E)	9500	3967	2903	2630	5533
						9500 ⁽⁴⁾	3742 ⁽⁴⁾	3012 ⁽⁴⁾	2746 ⁽⁴⁾	5758 ⁽⁴⁾

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Base curb weight is for standard equipment only.
(3) Includes weight of driver, passengers and optional equipment.
(4) Crew Van

DIMENSIONAL DATA
E-150/250/350 SUPER DUTY VAN

2008
MODEL YEAR



BB0019-2007

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
E-150/250/350 SUPER DUTY VAN

2008
MODEL YEAR

CODE	DESCRIPTION	REGULAR VAN BASE BUCKET 2-PASS SLIDING DOOR	REGULAR VAN BASE BUCKET 2-PASS CARGO DOOR	EXTENDED LENGTH VAN CAPTAIN'S CHAIR 2-PASS CARGO DOOR
EXTERIOR				
H106C	APPROACH ANGLE @ CURB (DEGREES)	23.3*		24.8**
H107C	DEPARTURE ANGLE @ CURB (DEGREES)	22*		16.3**
L101	WHEELBASE	3505 [138.0]		
L103	VEHICLE LENGTH	5505 [216.7]		6013 [236.7]
L104	FRONT OVERHANG	887 [34.9]		
L105	REAR OVERHANG	1113 [43.8]		1621 [63.8]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/ MOLDINGS)	2016 [79.4]		
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: SAIL MOUNT — MANUAL/POWER MIRROR)	2430 [95.7]		
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: TRAILER TOW MIRROR)	2692 [106.0]		
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: TRAILER TOW MIRROR EXTENDED)	2753 [108.4]		
FRONT COMPARTMENT				
W305	SEAT TO ENGINE COVER — DRIVER	168 [6.6]		
W306	SEAT TO ENGINE COVER — PASSENGER	155 [6.1]		

* E150

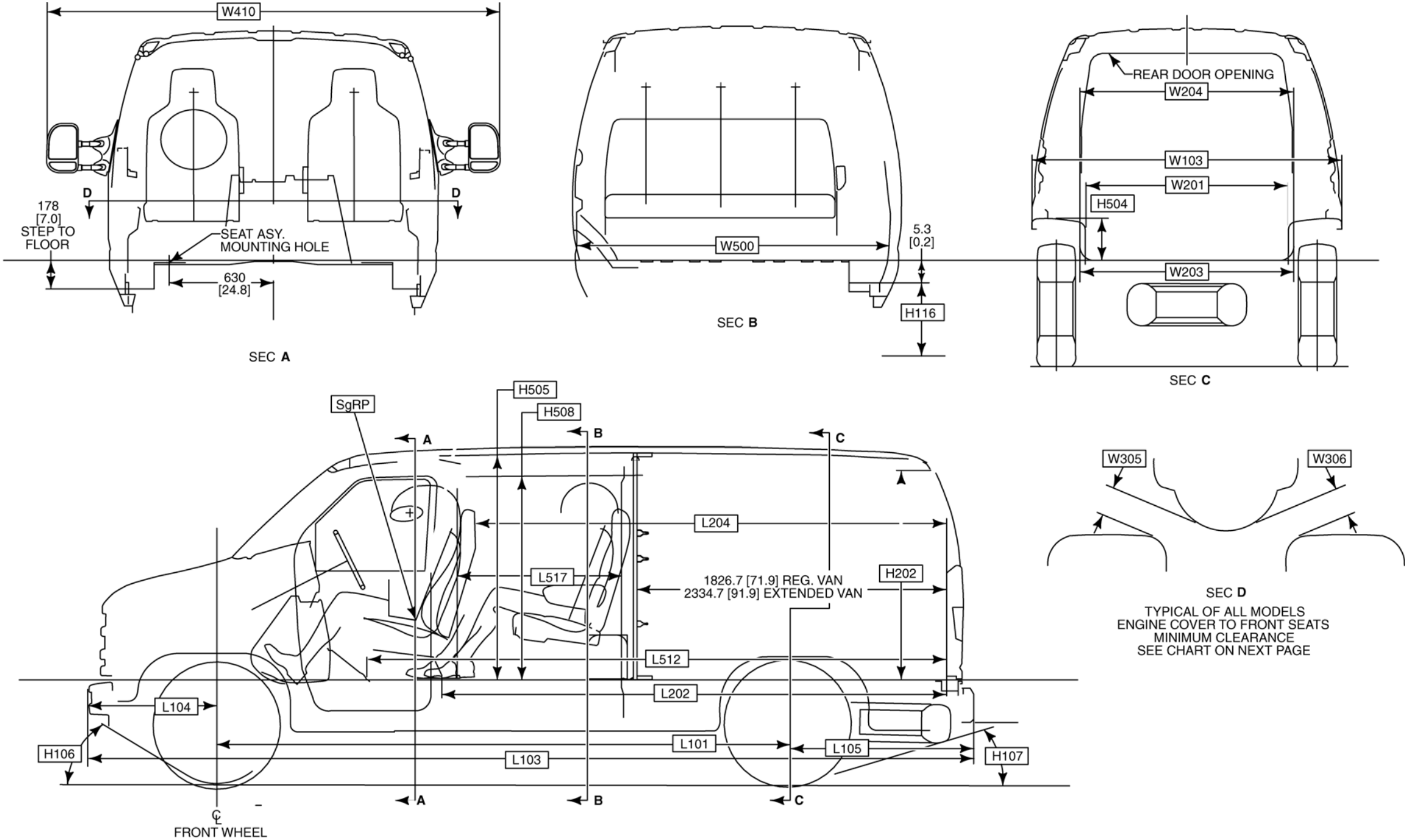
** E350

CODE	DESCRIPTION	REGULAR VAN BASE BUCKET 2-PASS SLIDING DOOR	REGULAR VAN BASE BUCKET 2-PASS CARGO DOOR	EXTENDED LENGTH VAN CAPTAIN'S CHAIR 2-PASS CARGO DOOR
REAR COMPARTMENT — CARGO				
H504	WHEELHOUSE HEIGHT	240 [9.4]		
H505	CARGO HEIGHT — MAXIMUM	1369 [53.9]		1376 [54.2]
L202	CARGO LENGTH — CLOSED FRONT	3084 [121.4]		3592 [141.4]
L204	CARGO LENGTH @ BELT — FRONT	2818 [110.9]		3326 [130.9]
L512	CARGO LENGTH TO ENGINE COVER	3523 [138.7]		4031 [158.7]
W201	CARGO WIDTH BETWEEN WHEELHOUSE	1334 [52.5]		
W500	CARGO BODY WIDTH @ FLOOR	1870 [73.6]	1871 [73.7]	
W506	CARGO WIDTH @ ROOF RAIL	1559 [61.4]		
V6	CARGO VOLUME — REAR OF PARTITION — CU.FT.	230.2		271.0
DOOR OPENINGS (ENTRANCE ROOM)				
H116	STEP HEIGHT — 2ND	522 [20.6]		510 [20.1]
H202	REAR OPENING HEIGHT	1258 [49.5]		
H508	ENTRANCE HEIGHT — CARGO SIDE	1225 [48.2]	1221 [48.1]	
L508	ENTRANCE LENGTH — CARGO SIDE	1006 [39.6]	1138 [44.8]	
W203	REAR OPENING WIDTH @ FLOOR	1369 [53.9]		
W204	REAR OPENING WIDTH @ BELT	1377 [54.2]		

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
E-150/250/350 SUPER DUTY
CREW VAN – REGULAR / EXTENDED LENGTH

2008
MODEL YEAR



BB0544-2007

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
E-150/250/350 SUPER DUTY
CREW VAN – REGULAR / EXTENDED LENGTH

2008
MODEL YEAR

CODE	DESCRIPTION	REGULAR LENGTH BASE BUCKET 5-PASS CARGO DOOR	EXTENDED LENGTH BASE BUCKET 5-PASS CARGO DOOR
EXTERIOR			
H106C	APPROACH ANGLE @ CURB (DEGREES)	23.1*	24.8**
H107C	DEPARTURE ANGLE @ CURB (DEGREES)	19*	16.3**
L101	WHEELBASE	3505 [138.0]	3505 [138.0]
L103	VEHICLE LENGTH	5505 [216.7]	6013 [236.7]
L104	FRONT OVERHANG	887 [34.9]	
L105	REAR OVERHANG	1113 [43.8]	1621 [63.8]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/ MOLDINGS)	2016 [79.4]	
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: SAIL MOUNT – MANUAL/POWER MIRROR)	2430 [95.7]	
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: TRAILER TOW MIRROR)	2692 [106.0]	
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: TRAILER TOW MIRROR EXTENDED)	2753 [108.4]	
FRONT COMPARTMENT			
W305	SEAT TO ENGINE COVER – DRIVER	168 [6.6]	
W306	SEAT TO ENGINE COVER – PASSENGER	155 [6.1]	

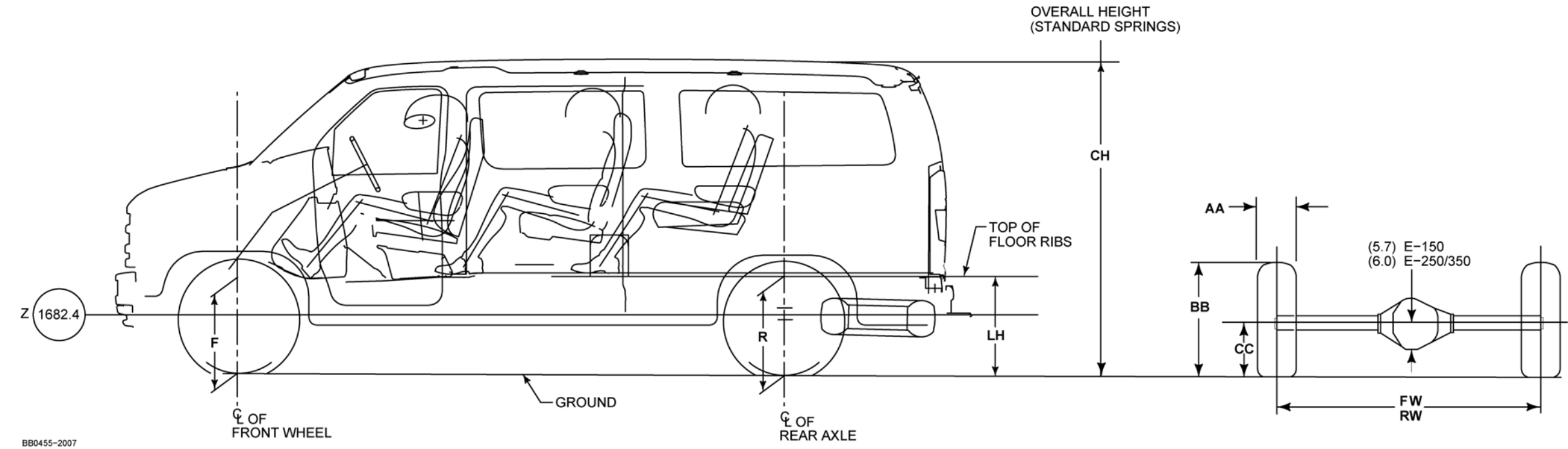
* E150
** E350

CODE	DESCRIPTION	REGULAR LENGTH BASE BUCKET 5-PASS CARGO DOOR	EXTENDED LENGTH BASE BUCKET 5-PASS CARGO DOOR
REAR COMPARTMENT – SEATING			
H504	WHEELHOUSE HEIGHT	241 [9.5]	
H505	CARGO HEIGHT — MAXIMUM	1368 [53.9]	
L202	CARGO LENGTH — CLOSED FRONT	3084 [121.4]	3592 [141.4]
L204	CARGO LENGTH @ BELT — FRONT	2818 [110.9]	3326 [130.9]
L512	CARGO LENGTH TO ENGINE COVER	3523 [138.7]	4031 [158.7]
W201	CARGO WIDTH BETWEEN WHEELHOUSE	1334 [52.5]	
W500	CARGO BODY WIDTH @ FLOOR	1869 [73.6]	1869 [73.6]
W506	CARGO WIDTH @ ROOF RAIL	1559 [61.4]	
V6	CARGO VOLUME — REAR OF PARTITION — CU.FT.	146.3	187.0
DOOR OPENINGS (ENTRANCE ROOM)			
H116	STEP HEIGHT – 2ND	499 [19.6]	510 [20.1]
H202	REAR OPENING HEIGHT	1258 [49.5]	
H508	ENTRANCE HEIGHT – CARGO SIDE	1225 [48.2]	
L508	ENTRANCE LENGTH – CARGO SIDE	1138 [44.8]	
W203	REAR OPENING WIDTH @ FLOOR	1369 [53.9]	
W204	REAR OPENING WIDTH @ BELT	1377 [54.2]	

NOTE — [] DIMENSIONS ARE INCHES.

AXLE/TIRE/VEHICLE HEIGHT DATA
E-SERIES WAGON / VAN

2008
MODEL YEAR



MODEL	WB [in]	MAX GVWR [lb]	BASE TIRE	F HEIGHT AT WHEEL FRONT ⁽¹⁾		R HEIGHT AT AXLE REAR ⁽¹⁾		LH ⁽¹⁾		CH ⁽¹⁾		AA	BB	CC*	FW	RW
				CURB ⁽²⁾	LOADED ⁽³⁾	CURB ⁽²⁾	LOADED ⁽³⁾	EMPTY	LOADED	EMPTY	LOADED					
E-150 WAGON	138	8520	LT225/75R16E	614 [24.2]	585 [23.0]	675 [26.6]	593 [23.3]	717 [28.2]	622 [24.5]	2062 [81.2]	1987 [78.2]	236 [9.3]	754 [29.7]	333 [13.1]	1765 [69.5]	1709 [67.3]
E-350 SUPER DUTY WAGON	138	8800	LT225/75R16E	658 [25.9]	627 [24.7]	733 [28.8]	648 [25.5]	777 [30.6]	680 [26.8]	2118 [83.4]	2040 [80.3]	236 [9.3]	752 [29.6]	345 [13.6]	1765 [69.5]	1687 [66.4]
E-350 SUPER DUTY EXTENDED WAGON	138	9300	LT245/75R16E	666 [26.2]	635 [25.0]	756 [29.8]	657 [25.9]	814 [32.1]	690 [27.2]	2148 [84.6]	2049 [80.7]	263 [10.3]	780 [30.7]	358 [14.1]	1763 [69.4]	1687 [66.4]
E-150 VAN	138	8520	LT225/75R16	659 [25.9]	629 [24.8]	698 [27.5]	624 [24.6]	708 [27.9]	622 [24.5]	2080 [81.9]	2022 [79.6]	218 [8.6]	754 [29.7]	333 [13.1]	1762 [69.4]	1692 [66.6]
E-150 VAN EXTENDED VAN	138	8520	LT225/75R16	659 [25.9]	629 [24.8]	698 [27.5]	624 [24.6]	708 [27.9]	622 [24.5]	2080 [81.9]	2022 [79.6]	236 [9.3]	754 [29.7]	333 [13.1]	1762 [69.4]	1692 [66.6]
E-250 VAN	138	8900	LT245/75R16E	658 [25.9]	627 [24.7]	745 [29.3]	646 [25.4]	765 [30.1]	669 [26.3]	2126 [83.7]	2049 [80.7]	236 [9.3]	752 [29.6]	345 [13.6]	1763 [69.4]	1691 [66.6]
E-250 VAN EXTENDED VAN	138	8900	LT245/75R16E	666 [26.2]	635 [25.0]	719 [28.3]	645 [25.4]	783 [30.8]	658 [25.9]	2148 [84.6]	2049 [80.7]	236 [9.3]	752 [29.6]	345 [13.6]	1763 [69.4]	1691 [66.6]
E-350 SUPER DUTY VAN	138	9500	LT245/75R16E	666 [26.2]	635 [25.0]	741 [29.2]	658 [25.9]	765 [30.1]	669 [26.3]	2126 [83.7]	2049 [80.7]	263 [10.3]	767 [30.2]	358 [14.1]	1763 [69.4]	1687 [66.4]
E-350 SUPER DUTY EXTENDED VAN	138	9500	LT245/75R16E	666 [26.2]	635 [25.0]	756 [29.8]	657 [25.9]	814 [32.1]	690 [27.2]	2148 [84.6]	2049 [80.7]	263 [10.3]	767 [30.2]	358 [14.1]	1763 [69.4]	1687 [66.4]

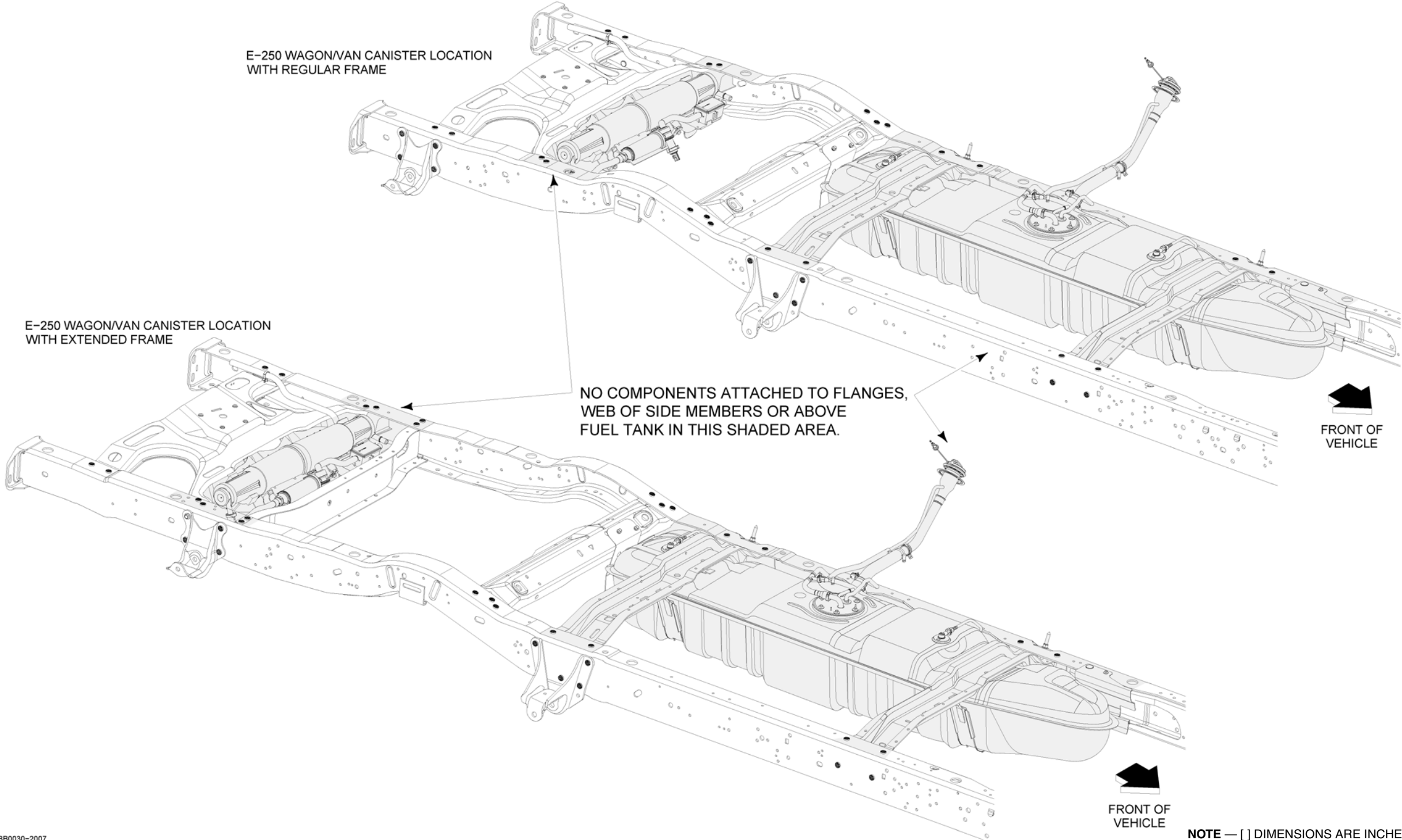
(1) THE HEIGHT DATA SHOWN REPRESENTS DIMENSIONS OF A BASE/STANDARD VEHICLE WITH NO OPTIONS. ACTUAL HEIGHT MAY VARY DUE TO PRODUCTION TOLERANCES.
(2) HEIGHT AT BASE CURB WEIGHT WITH STANDARD SPRINGS.
(3) LOADED HEIGHT AT SPRING RATING WITH STANDARD SPRINGS..

* — STATIC LOADED RADIUS REPRESENTS AXLE ϕ TO GROUND WITH MAXIMUM RATED LOAD ON TIRE AT MAXIMUM PRESSURE.

NOTES — [] DIMENSIONS ARE INCHES.
— F/R - TO FRAME DATUM LINE 633.7 MM (24.95 INCHES);
TO TOP OF FLOOR BEADS ADD 113.2 MM (4.46 INCHES).

E-SERIES
FUEL SYSTEM EVAPORATIVE EMISSIONS

2008
MODEL YEAR



E-SERIES SUPER DUTY
CUTAWAY / STRIPPED CHASSIS
MODEL LINEUP

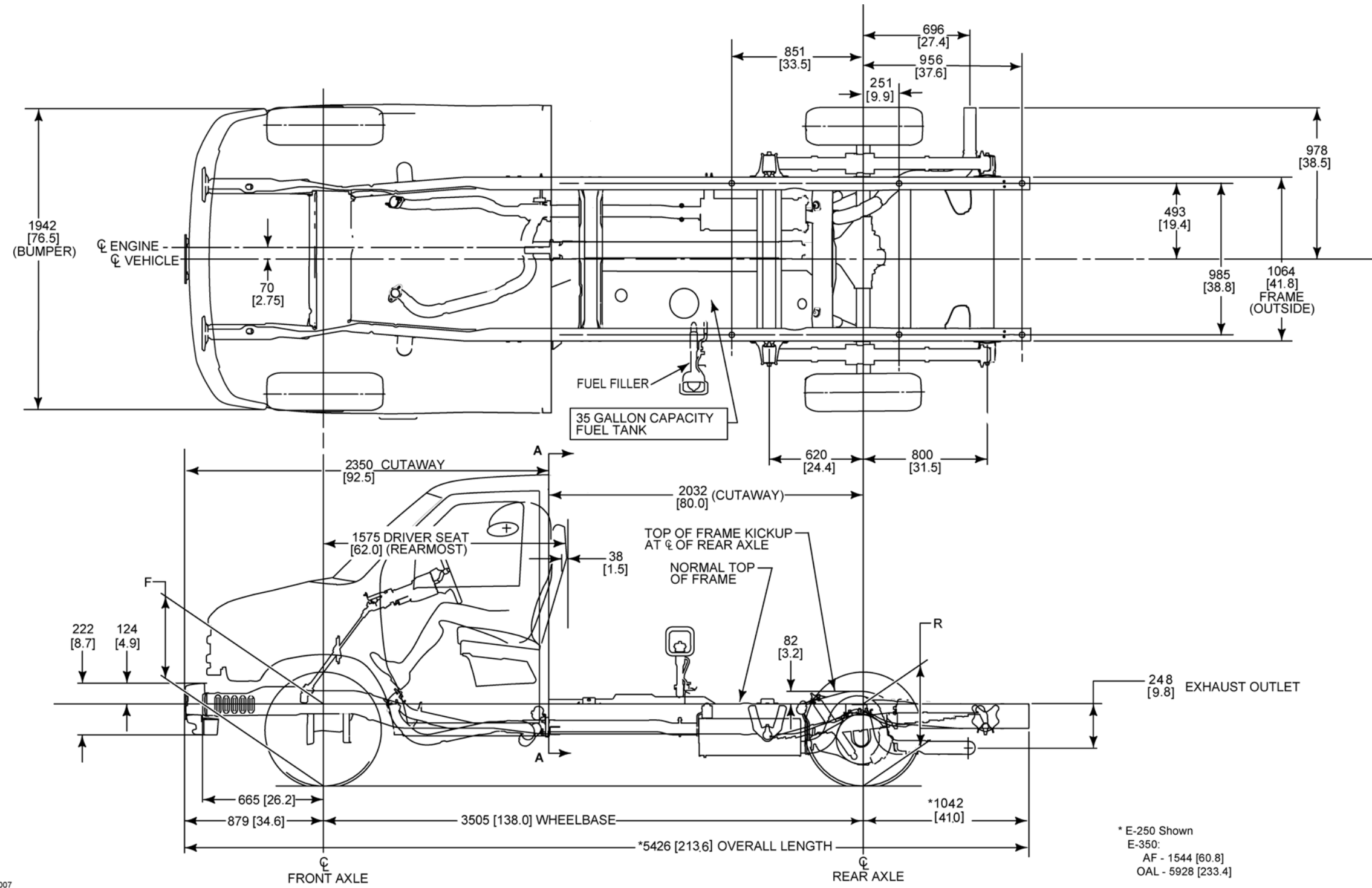
2008
MODEL YEAR

E-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE ⁽¹⁾ liters	STANDARD TRANSMISSION	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽³⁾ pounds	BASE CURB WEIGHT ⁽²⁾		
								FRONT pounds	REAR pounds	TOTAL pounds
COMMERCIAL/RV CUTAWAY										
E-250 Super Duty Cutaway	E25	138	80	4.6L V-8	4-Spd. Auto OD (4R75E)	8600 SRW	4339	2879	1382	4261
E-350 Super Duty Cutaway	E37	138	80	5.4L V-8	4-Spd. Auto OD (4R75E)	9600 SRW	4909	2924	1767	4691
	5-Spd. Auto OD (TorqShift™)				9600 SRW	4849	2954	1797	4751	
				11,500 DRW	6578	2968	1954	4922		
				11,500 ⁽⁴⁾ DRW	5853 ⁽⁴⁾	3538 ⁽⁴⁾	2109 ⁽⁴⁾	5647 ⁽⁴⁾		
	E35	158	100	5.4L V-8	5-Spd. Auto OD (TorqShift™)	12,500 DRW	7514	2956	2030	4986
		176	118				7506	3028	1966	4994
E-450 Super Duty Cutaway	E45	158	100	5.4L V-8	5-Spd. Auto OD (TorqShift™)	14,050 DRW	8723	2887	2440	5327
		176	118				8665	3015	2370	5385
COMMERCIAL STRIPPED CHASSIS										
E-350 Super Duty Commercial Stripped Chassis	E39	138	—	5.4L V-8	5-Spd. Auto OD (TorqShift™)	9000 SRW	4900	2247	1853	4100
						10,000 DRW	5633	2255	2112	4367
						11,500 DRW	7133	2255	2112	4367
		158	—	5.4L V-8	5-Spd. Auto OD (TorqShift™)	9600 SRW	5415	2356	1829	4185
						10,000 DRW	5708	2345	1947	4292
						12,500 DRW	8073	2315	2112	4427
		176	—	5.4L V-8	5-Spd. Auto OD (TorqShift™)	10,000 DRW	5514	2369	2117	4486
						12,500 DRW	8014	2369	2117	4486
E-450 Super Duty Commercial Stripped Chassis	E49	158	—	5.4L V-8	5-Spd. Auto OD (TorqShift™)	14,500 DRW	9409	2335	2306	4641
		176					9357	2370	2323	4693

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Base curb weight is for standard equipment only.
(3) Includes weight of driver, passengers and optional equipment.
(4) School Bus only.

DIMENSIONAL DATA
E-250/350 SUPER DUTY CUTAWAY
138" WHEELBASE (SRW)

2008
MODEL YEAR



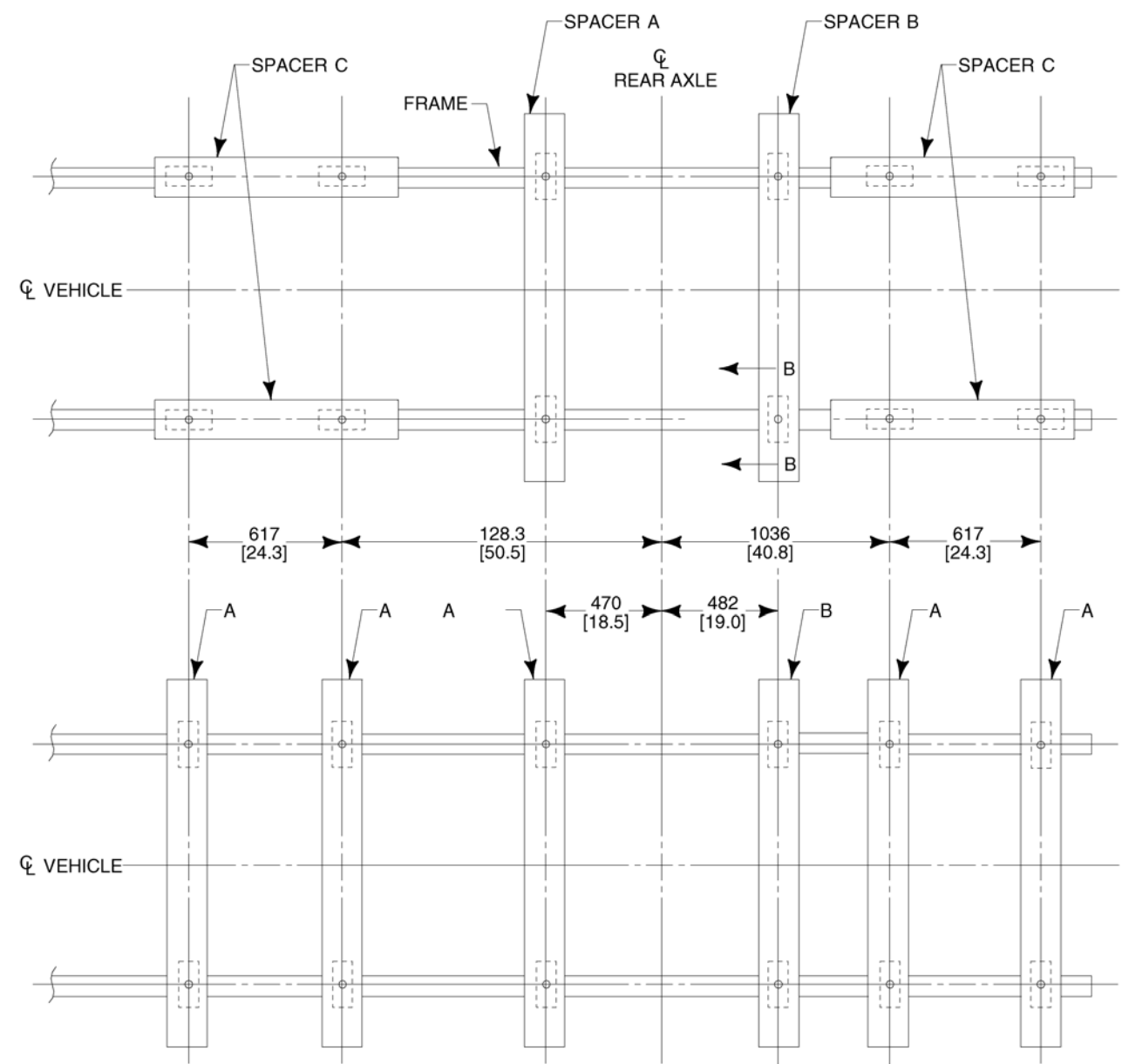
BB022a-2007

* E-250 Shown
E-350:
AF - 1544 [60.8]
OAL - 5928 [233.4]

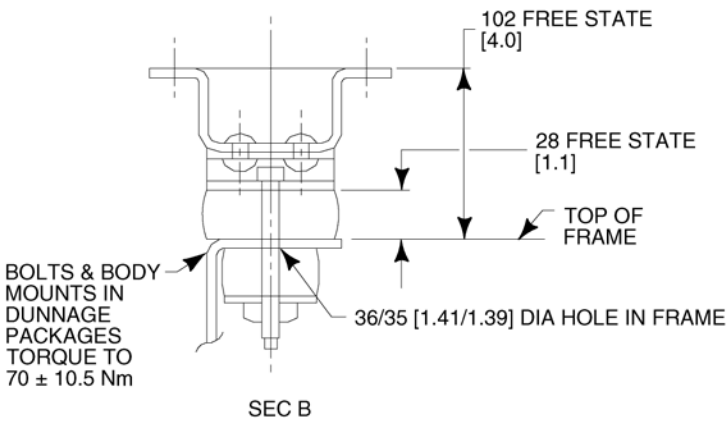
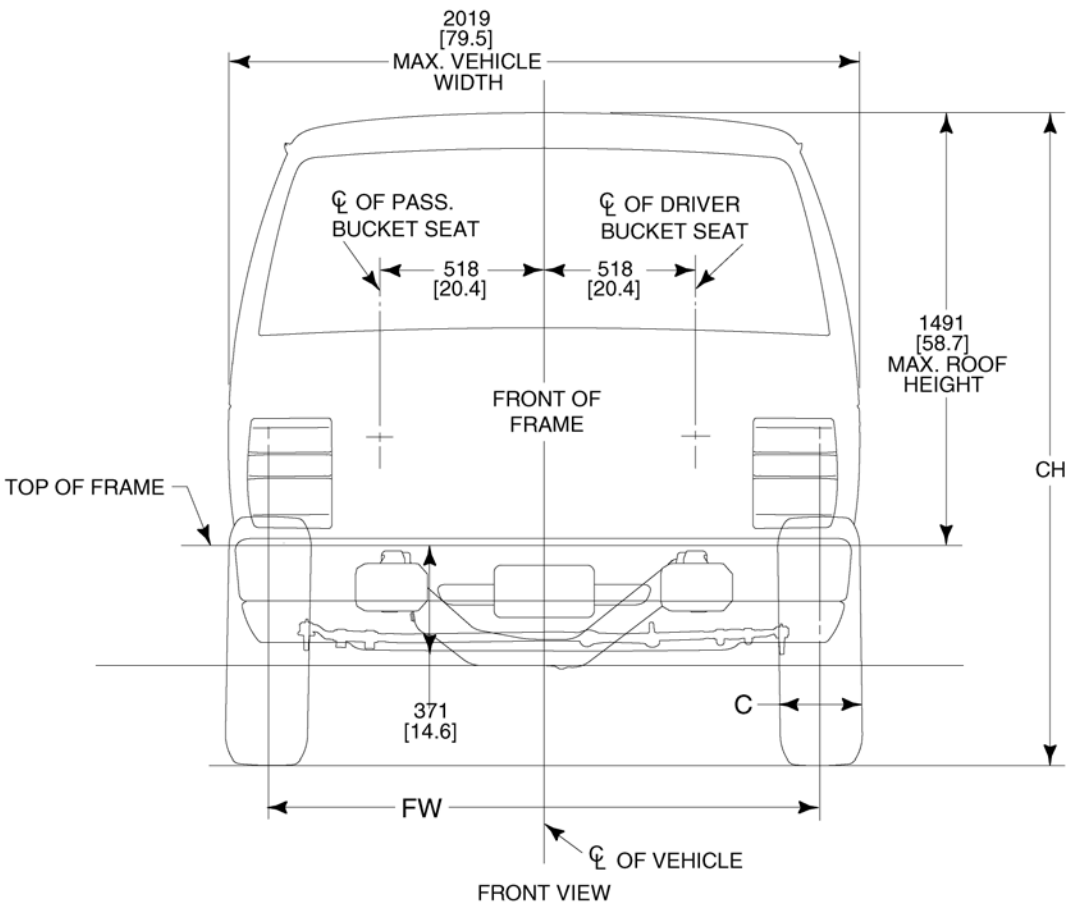
NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
E-350 SUPER DUTY CUTAWAY
138" WHEELBASE (SRW/DRW)

2008
MODEL YEAR



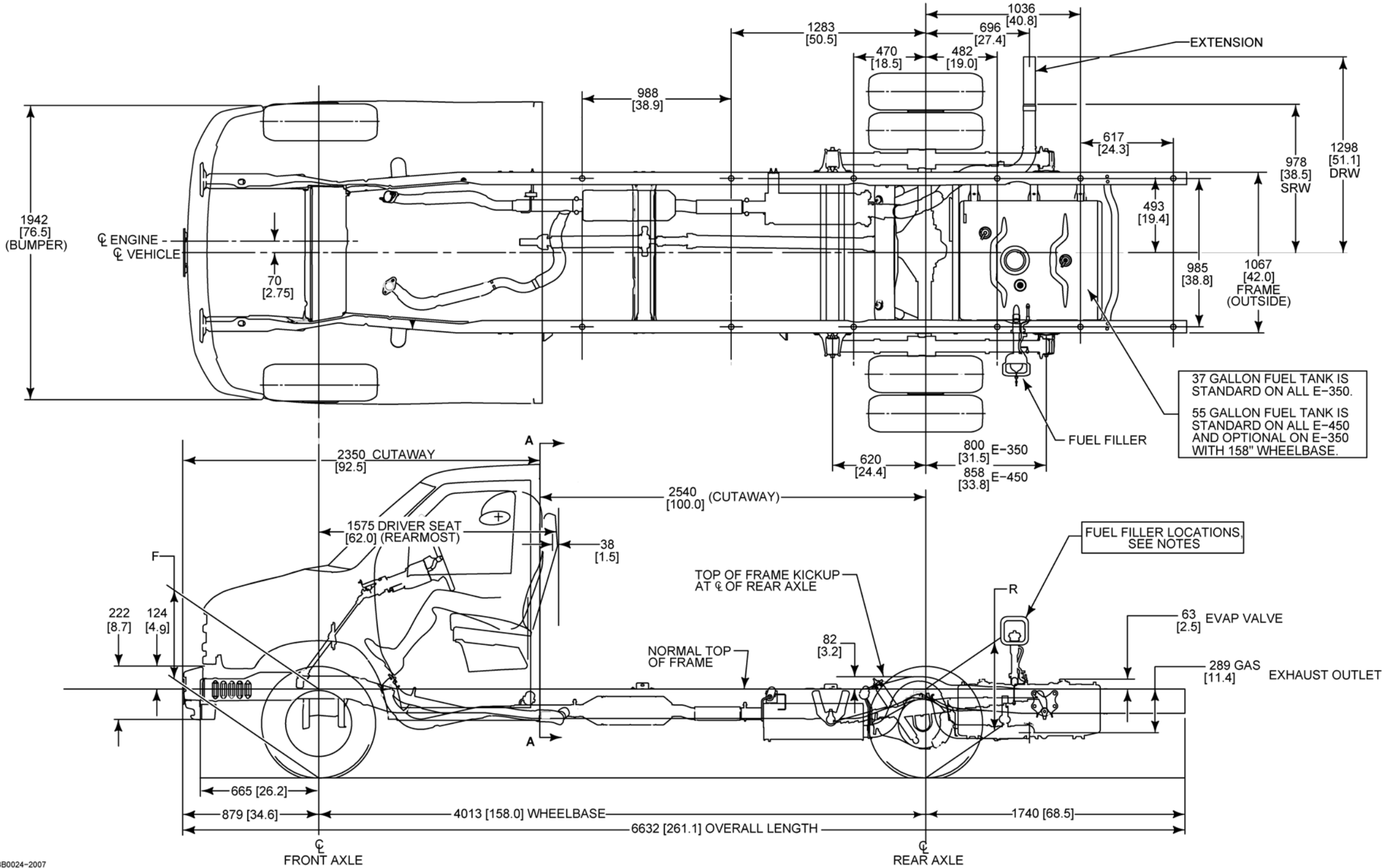
INCLUDES 6 LATERAL FRAME SPACERS WITH 12 BODY MOUNTS. USES SAME FRAME HOLES FOR LONGITUDINAL/LATERAL FRAME SPACER STANDARD SYSTEM.



NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
E-350/450 SUPER DUTY CUTAWAY
158" WHEELBASE (DRW)

2008
MODEL YEAR



BB0024-2007

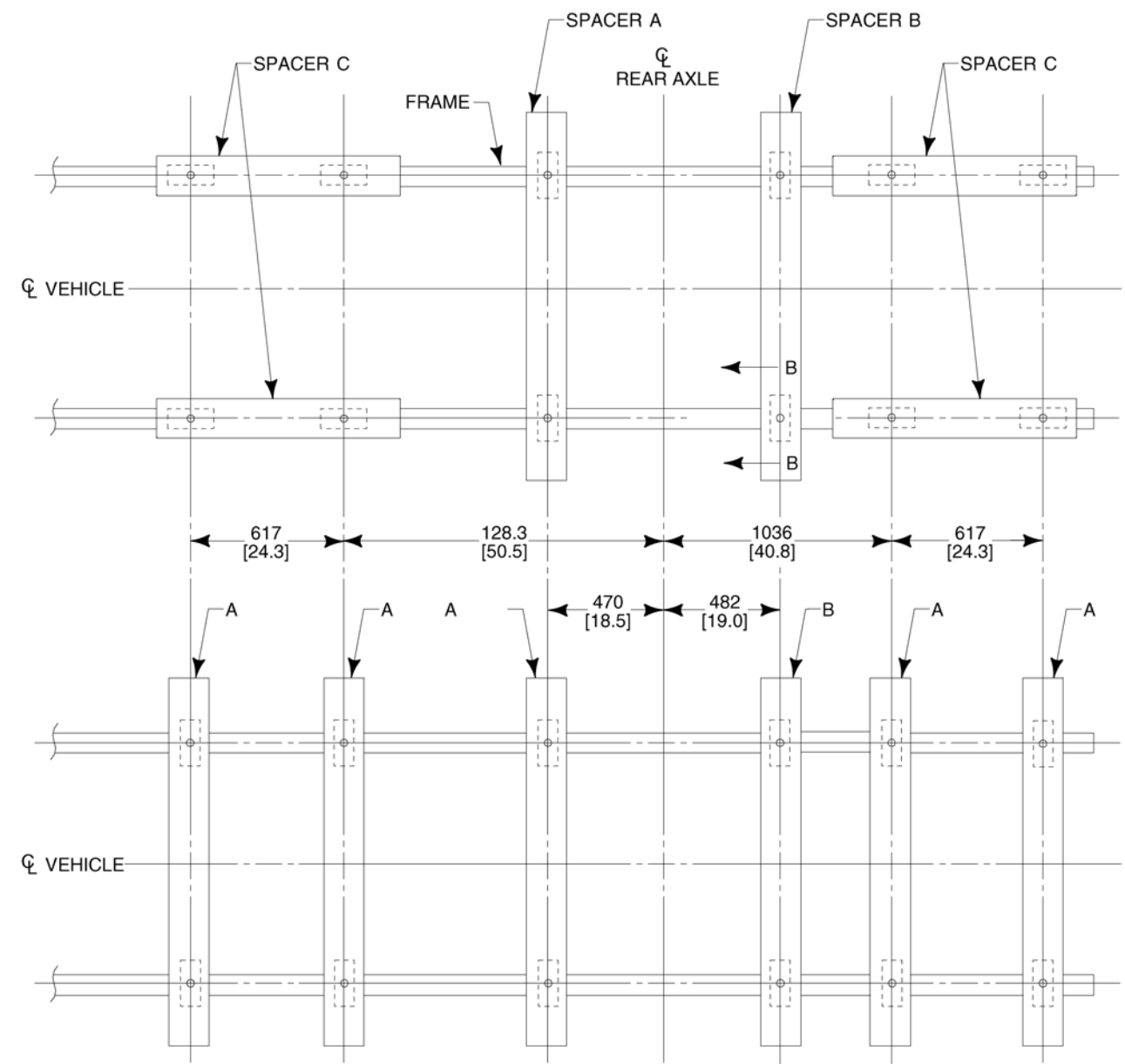
NOTES — [] DIMENSIONS ARE INCHES.
— FOR CA DIMENSION, SEE MODEL LINE UP.

DIMENSIONAL DATA
E-350/450 SUPER DUTY CUTAWAY
158" WHEELBASE (DRW)

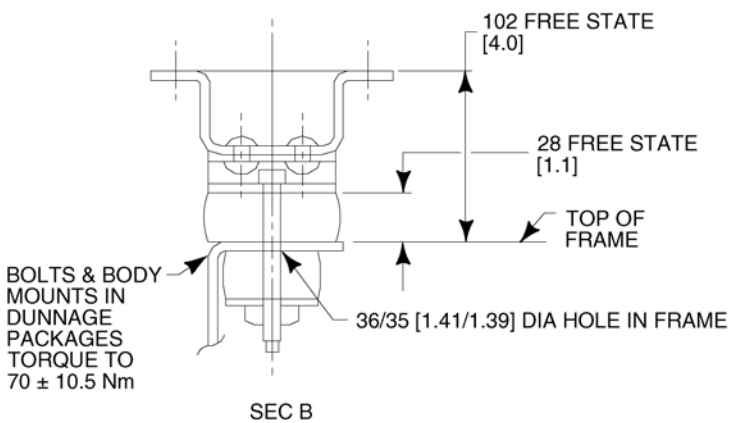
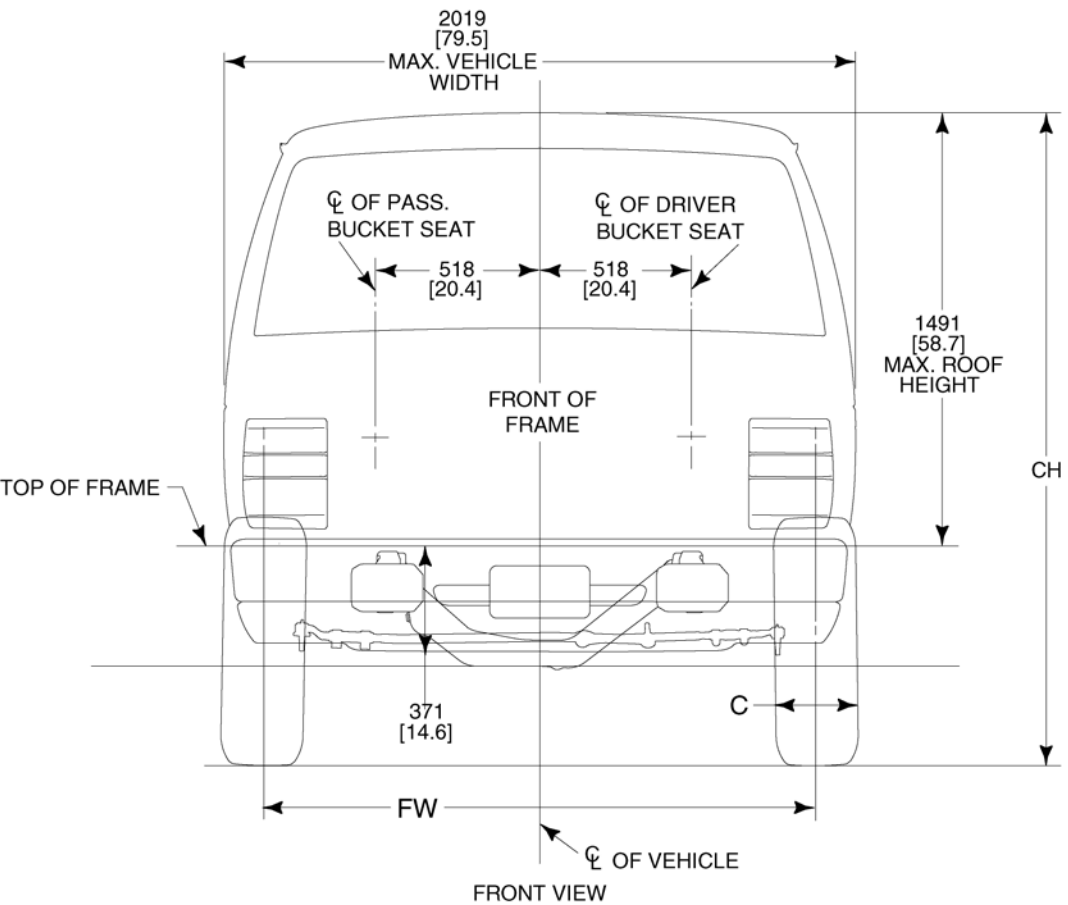
2008
MODEL YEAR

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E-SERIES



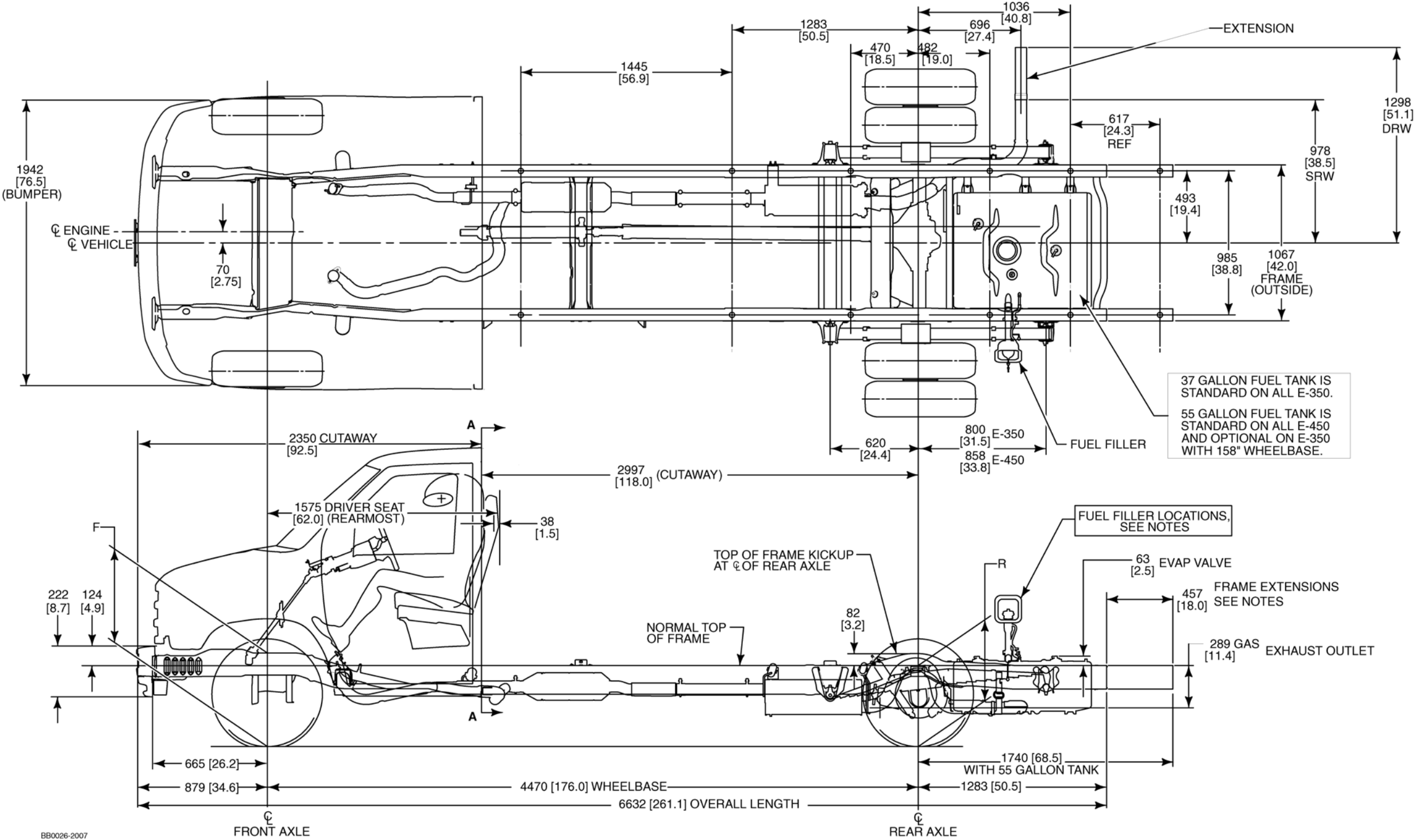
INCLUDES 6 LATERAL FRAME SPACERS WITH 12 BODY MOUNTS. USES SAME FRAME HOLES FOR LONGITUDINAL/LATERAL FRAME SPACER STANDARD SYSTEM.



NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
E-350/450 SUPER DUTY CUTAWAY
176" WHEELBASE (DRW)

2008
MODEL YEAR

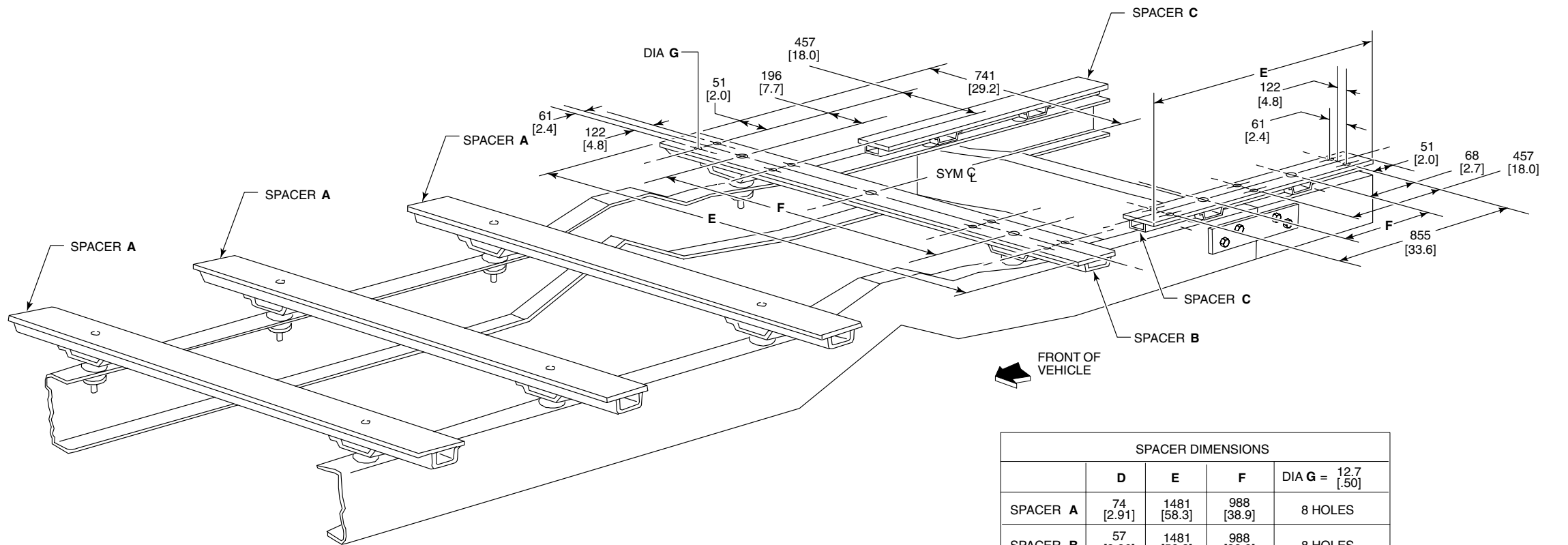


BB0026-2007

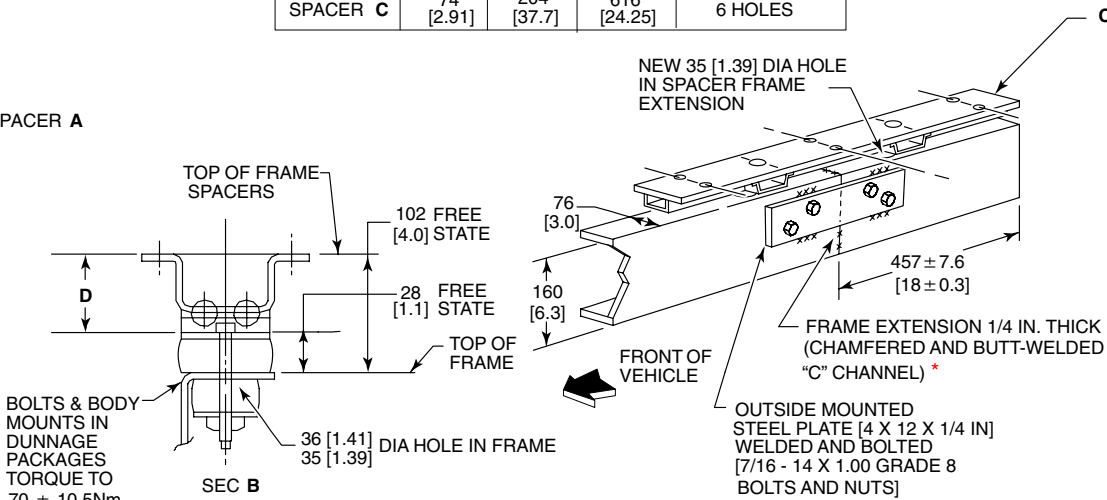
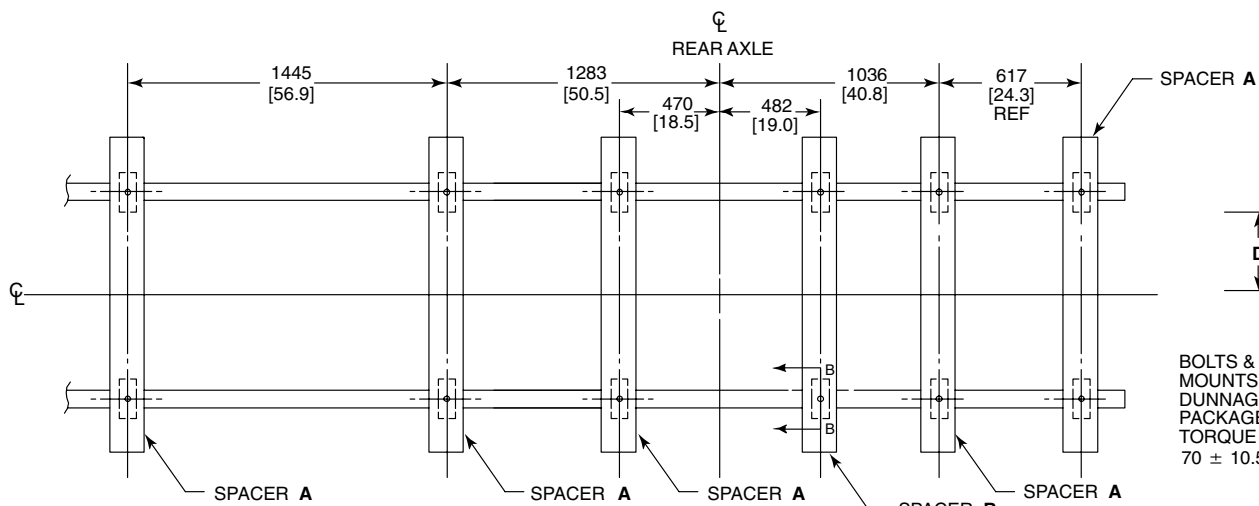
NOTES — [] DIMENSIONS ARE INCHES..
— FOR CA DIMENSION, SEE MODEL LINEUP.

DIMENSIONAL DATA
E-350/450 SUPER DUTY CUTAWAY
176" WHEELBASE (DRW)

2008
MODEL YEAR



SPACER DIMENSIONS				
	D	E	F	DIA G = 12.7 [50]
SPACER A	74 [2.91]	1481 [58.3]	988 [38.9]	8 HOLES
SPACER B	57 [2.26]	1481 [58.3]	988 [38.9]	8 HOLES
SPACER C	74 [2.91]	204 [37.7]	616 [24.25]	6 HOLES



BB0661

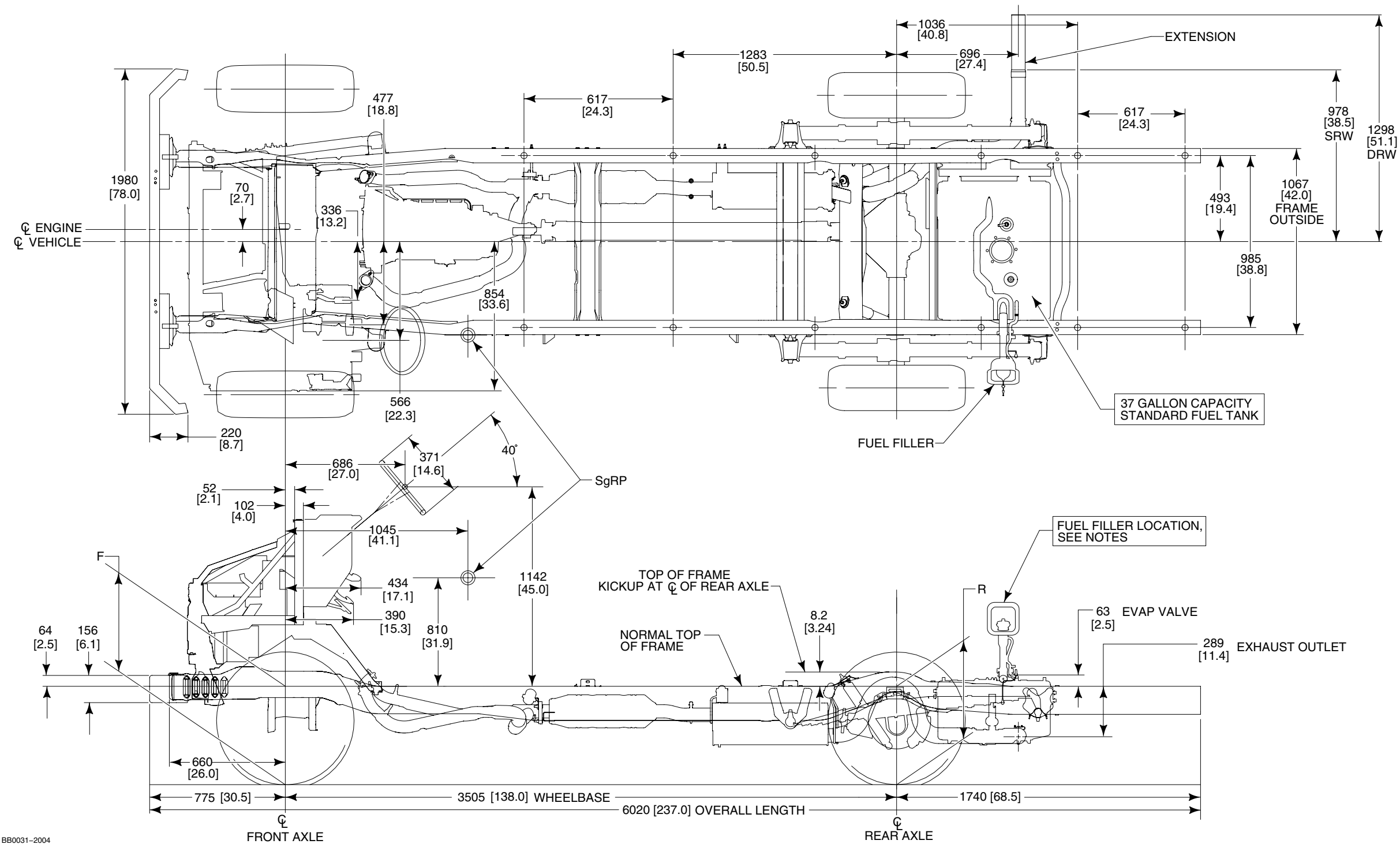
NOTES — [] DIMENSIONS ARE INCHES.
* FOR NGV VARIANT A "C" CHANNEL FRAME REINFORCEMENT IS REQUIRED ALONG WITH THE FRAME EXTENSION.

DIMENSIONAL DATA
E-350 SUPER DUTY STRIPPED CHASSIS
138" WHEELBASE (SRW/DRW)

2008
MODEL YEAR

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E-SERIES

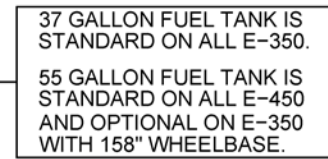


BB0031-2004

NOTE — [] DIMENSIONS ARE INCHES.

2008
MODEL YEAR

E-SERIES



	FUEL FILLER LOCATION, SEE NOTES
--	------------------------------------

63 EVAP VALVE
[2.5]

—289 EXHAUST OUTLET
[11.4]

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA

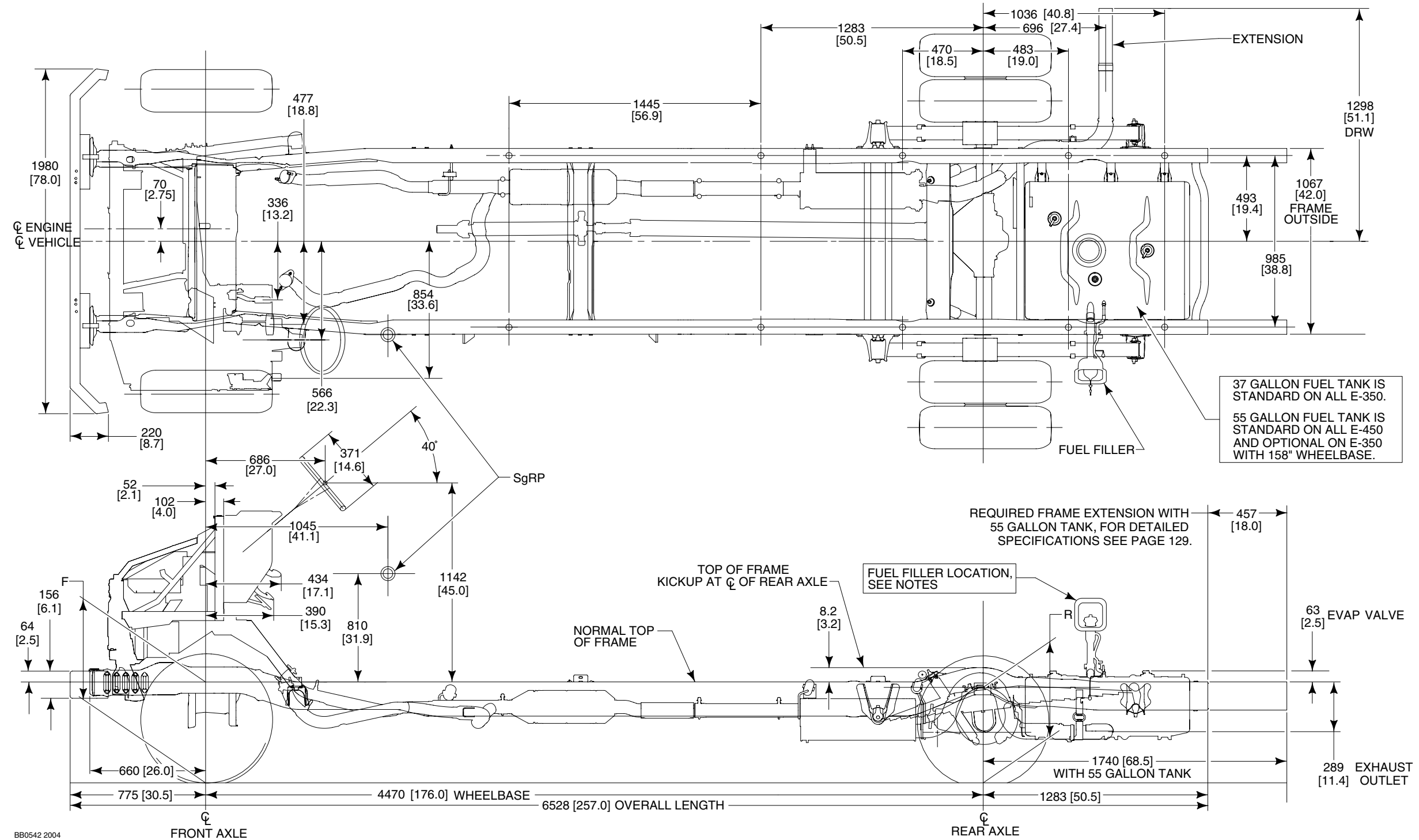
E-350/450 SUPER DUTY STRIPPED CHASSIS

176" WHEELBASE (DRW)

2008
MODEL YEAR

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E-SERIES



BB0542 2004

NOTE — [] DIMENSIONS ARE INCHES.

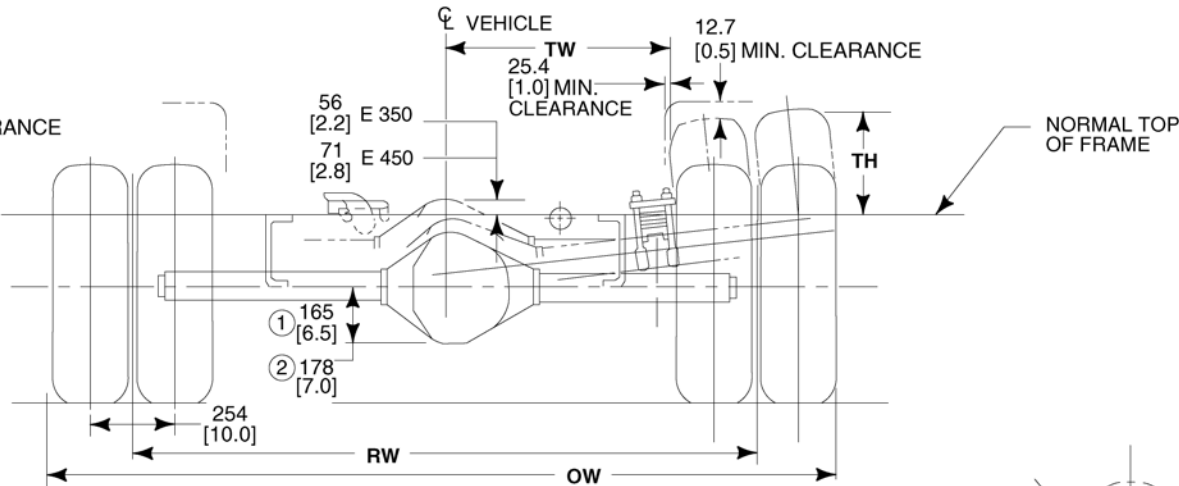
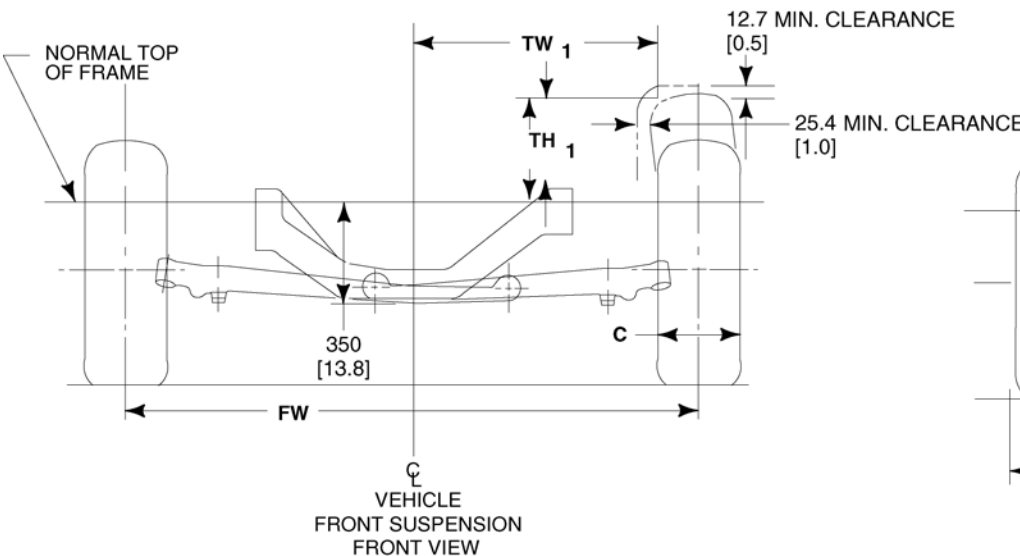
AXLE / TIRE / WHEELHOUSE / VEHICLE HEIGHT DATA
SUPER DUTY CUTAWAY / STRIPPED CHASSIS
ALL WHEELBASES (SRW/DRW)

2008

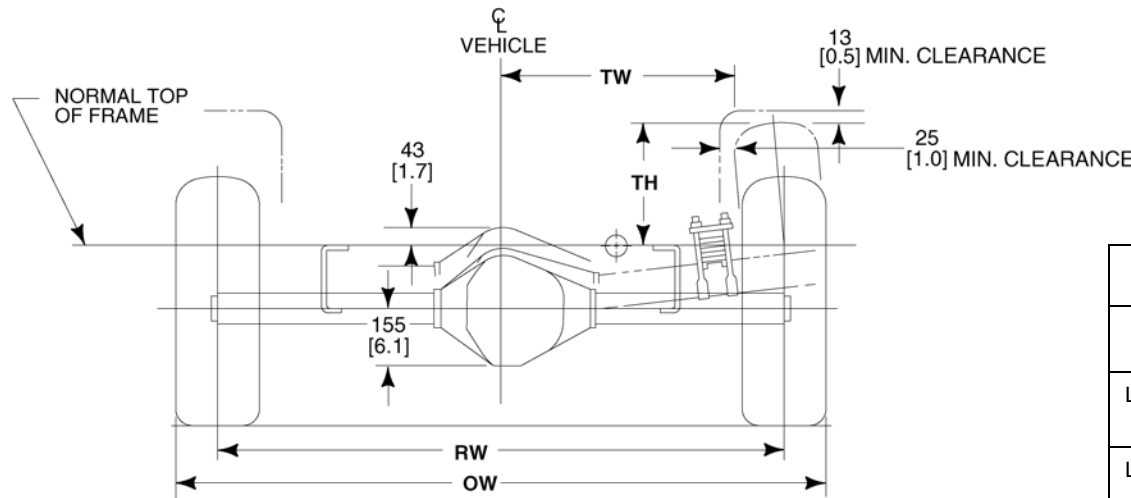
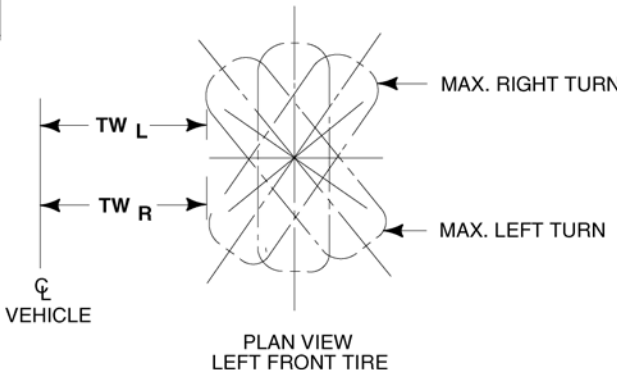
MODEL YEAR

Page 57

E-SERIES



- ① 8500 LB AXLE USED AT 10,000 11,500, 12,500 LB GVWR
② 9500 LB AXLE USED AT 14,050, 14,500 LB GVWR FOR E-450



- ① 7800 LB AXLE USED AT 9600 LB GVWR CUTAWAY APPLICATIONS
② 6340 LB AXLE USED AT 9000, 9600 LB GVWR FOR E-350 STRIPPED CHASSIS

REAR SUSPENSION (SRW) REAR VIEW

FRONT SUSPENSION

TIRE	TW ₁	TH ₁	TW _L	TW _R
LT225/75R16E	655 [25.8]	302 [11.9]	549 [21.6]	521 [20.5]
LT245/75R16E	655 [25.8]	320 [12.6]	549 [21.6]	521 [20.5]

TW = DISTANCE FROM ϕ OF VEHICLE TO SIDE OF TIRE IN MODIFIED JOUNCE.
TH = DISTANCE FROM NORMAL TOP OF FRAME TO TOP OF TIRE IN MODIFIED JOUNCE.

NOTE — [] DIMENSIONS ARE INCHES.

AXLE / TIRE / WHEELHOUSE / VEHICLE HEIGHT DATA
E-SERIES SUPER DUTY CUTAWAY

2008
MODEL YEAR

MODEL	WB inches	GVWR pounds	MINIMUM TIRE	FRONT GAWR MIN/MAX pounds		F HEIGHT AT FRONT AXLE ⁽¹⁾		REAR GAWR MAX pounds	COMBINED REAR SPRING CAPACITY RATE pounds	R HEIGHT AT REAR AXLE ⁽¹⁾		CH OVERALL HEIGHT OF VEHICLE (STANDARD SPRINGS) ⁽¹⁾ mm [in]	
					COMBINED FRONT SPRING CAPACITY RATE pounds	BASE CURB WEIGHT mm [in]	LOADED mm [in]			BASE CURB WEIGHT mm [in]	LOADED mm [in]		
					STD SPRING	STD SPRING	STD SPRING			STD SPRING	STD SPRING	STD SPRING	CURB
CUTAWAY													
E-250	138	8600 SRW	LT225/75R16E	3800	3800	551 [21.7]	521 [20.5]	5360	5545	605 [23.8]	528 [20.8]	2065 [81.3]	2016 [79.4]
E-350 Ext	138	9600 SRW	LT225/75R16E	4050/4200	4050	561 [22.1]	530 [20.9]	6084	6195	666 [26.2]	586 [23.1]	2096 [82.5]	2045 [80.5]
E-350 SD	138	9600 SRW	LT245/75R16E	4050/4200	4050/4200	561 [22.1]	530 [20.9]	6084	7810	666 [26.2]	586 [23.1]	2096 [82.5]	2045 [80.5]
		9900 SRW		4600	4600	561 [22.1]	530 [20.9]	6084	7810	666 [26.2]	586 [23.1]	2096 [82.5]	2045 [80.5]
		10,000 DRW		3900/4400	3900/4400	553 [21.8]	522 [20.6]	7800	8600	658 [25.9]	576 [22.7]	2085 [82.1]	2035 [80.1]
		11,500 DRW		4050/4600	4600	553 [21.8]	522 [20.6]	7800	8600	658 [25.9]	576 [22.7]	2085 [82.1]	2035 [80.1]
	158	10,000 DRW	LT225/75R16E	3900/4400	3900/4400	553 [21.8]	522 [20.6]	7800	8600	658 [25.9]	576 [22.7]	2080 [81.9]	2032 [80.0]
		11,500 DRW		4050/4600	4050/4600	553 [21.8]	522 [20.6]	7800	8600	658 [25.9]	576 [22.7]	2080 [81.9]	2032 [80.0]
		12,500 DRW		4600/5000	4600/5000	553 [21.8]	522 [20.6]	8500	8600	658 [25.9]	576 [22.7]	2080 [81.9]	2032 [80.0]
	176	10,000 DRW	LT225/75R16E	3900/4400	3900/4400	553 [21.8]	522 [20.6]	7800	8600	658 [25.9]	576 [22.7]	2080 [81.9]	2030 [79.9]
		12,500 DRW		4600/5000	5000	553 [21.8]	522 [20.6]	8500	8600	658 [25.9]	576 [22.7]	2078 [81.8]	2030 [79.9]
		13,990 DRW		5000	5000	553 [21.8]	522 [20.6]	9500	9500	662 [26.0]	577 [22.7]	2083 [82.0]	2032 [80.0]
E-450 SD	158	14,050 DRW	LT225/75R16E	4600/5000	5000	553 [21.8]	522 [20.6]	9500	9500	662 [26.0]	577 [22.7]	2083 [82.0]	2032 [80.0]
		14,500 DRW		5000	5000	553 [21.8]	522 [20.6]	9500	9500	662 [26.0]	577 [22.7]	2083 [82.0]	2032 [80.0]
		13,990 DRW		5000	5000	553 [21.8]	522 [20.6]	9500	9500	662 [26.0]	577 [22.7]	2078 [81.8]	2030 [79.9]
	176	14,050 DRW	LT225/75R16E	4600/5000	5000	553 [21.8]	522 [20.6]	9500	9500	662 [26.0]	577 [22.7]	2078 [81.8]	2030 [79.9]
		14,500 DRW		5000	5000	553 [21.8]	522 [20.6]	9500	9500	662 [26.0]	577 [22.7]	2078 [81.8]	2030 [79.9]

(1) The Height Data shown represents dimensions of a nominal vehicle with no options. Actual height may vary due to production tolerances.
SRW - Single Rear Wheels
DRW - Dual Rear Wheels

NOTE — [] DIMENSIONS ARE INCHES.

AXLE / TIRE / WHEELHOUSE / VEHICLE HEIGHT DATA
E-SERIES SUPER DUTY STRIPPED CHASSIS

2008
MODEL YEAR

MODEL	WB inches	GVWR pounds	MINIMUM TIRE	FRONT GAWR MIN/MAX pounds		F HEIGHT AT FRONT AXLE ⁽¹⁾		REAR GAWR MAX pounds	COMBINED REAR SPRING CAPACITY RATE pounds	R HEIGHT AT REAR AXLE ⁽¹⁾		CH OVERALL HEIGHT OF VEHICLE (STANDARD SPRINGS) ⁽¹⁾ mm [in]	
					COMBINED FRONT SPRING CAPACITY RATE pounds	BASE CURB WEIGHT mm [in]	LOADED mm [in]			BASE CURB WEIGHT mm [in]	LOADED mm [in]		
					STD SPRING	STD SPRING	STD SPRING			STD SPRING	STD SPRING	STD SPRING	CURB
STRIPPED CHASSIS													
E-350 SD	138	9000 SRW	LT245/75R16E	3800	3800	—	530[20.9]	6084	7810	—	586 [23.1]	—	—
		10,000 DRW		3900/4050	3900/4050	—	522 [20.6]	7800	8600	—	576 [22.7]	—	—
		11,500 DRW		4200/4600	4600	—	522 [20.6]	7800	8600	—	576 [22.7]	—	—
	158	9600 SRW	LT245/75R16E	3900/4200	4200	—	530[20.9]	6084	7810	—	586 [23.1]	—	—
		10,000 DRW		3900/4050	3900/4050	—	522 [20.6]	7800	7810	—	576 [22.7]	—	—
		12,500 DRW		4600/5000	5000	—	522 [20.6]	7800	7810	—	576 [22.7]	—	—
	176	10,000 DRW	LT225/75R16E	3900/4050	3900/4050	—	522 [20.6]	7200	7810	—	576 [22.7]	—	—
		12,500 DRW		4600/5000	5000	—	522 [20.6]	8500	8600	—	576 [22.7]	—	—
	E-450 SD	158	14,050 DRW	LT225/75R16E	4600/5000	5000	—	522 [20.6]	9500	9500	—	577 [22.7]	—
14,500 DRW			5000		5000	—	522 [20.6]	9500	9500	—	577 [22.7]	—	—
176		14,050 DRW	LT225/75R16E	4600/5000	5000	—	522 [20.6]	9500	9500	—	577 [22.7]	—	—
		14,500 DRW		5000	5000	—	522 [20.6]	9500	9500	—	577 [22.7]	—	—

(1) The Height Data shown represents dimensions of a nominal vehicle with no options. Actual height may vary due to production tolerances.

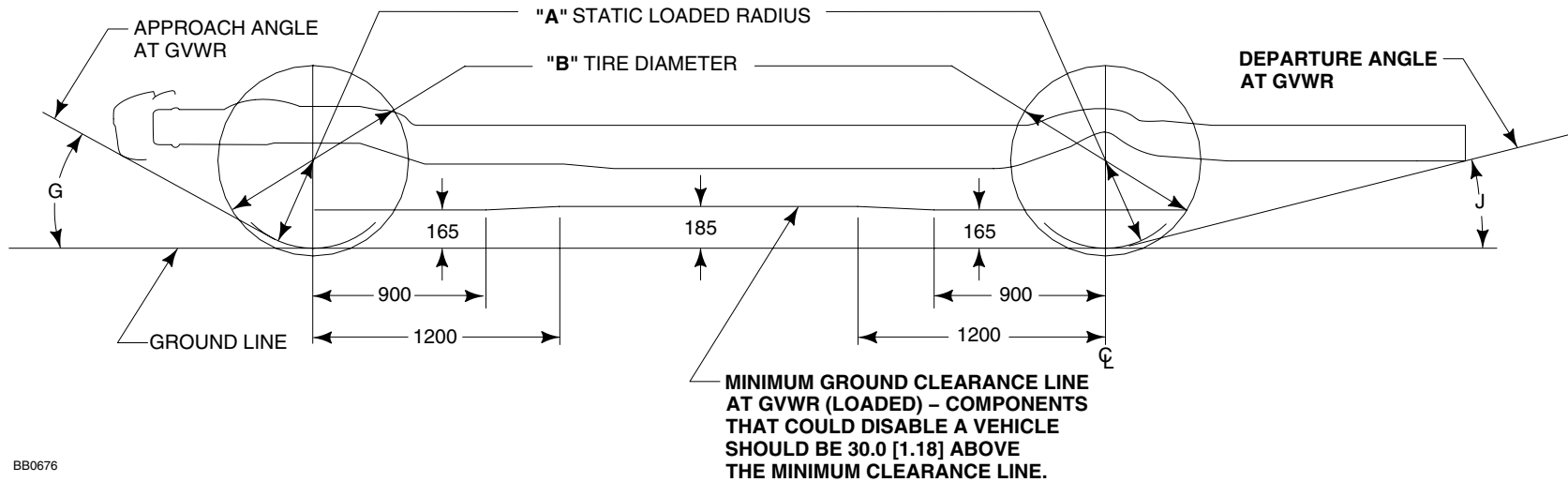
SRW - Single Rear Wheels

DRW - Dual Rear Wheels

NOTE — [] DIMENSIONS ARE INCHES.

CHASSIS DATA
SUPER DUTY CUTAWAY / STRIPPED CHASSIS

2008
MODEL YEAR



BASE VEHICLE LOADED

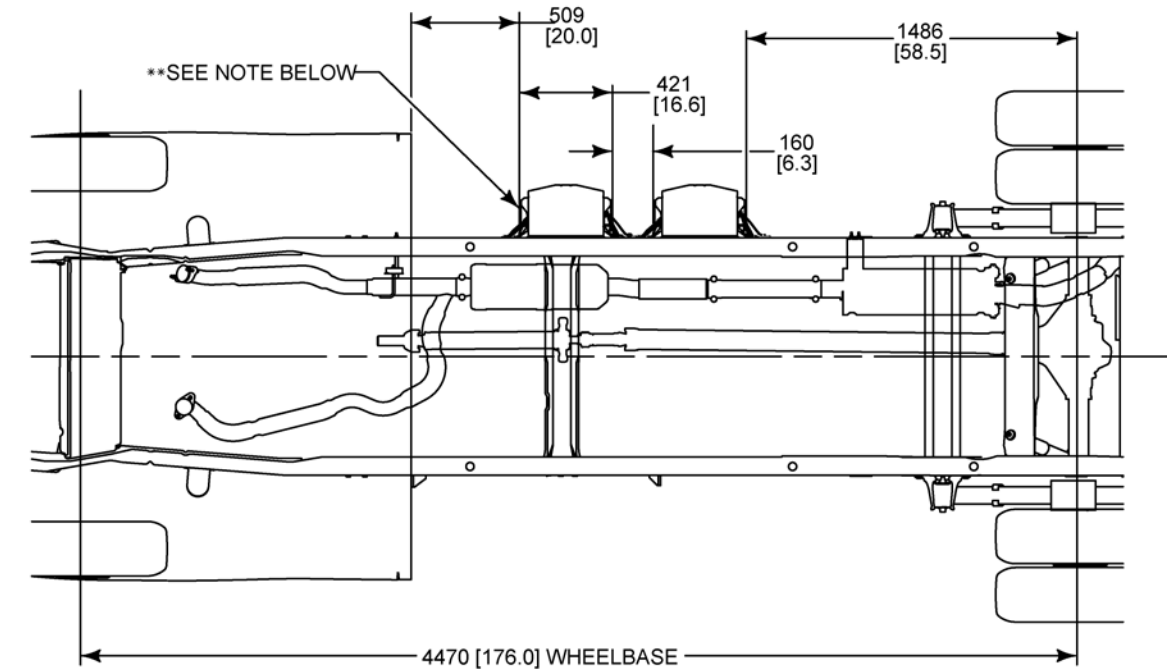
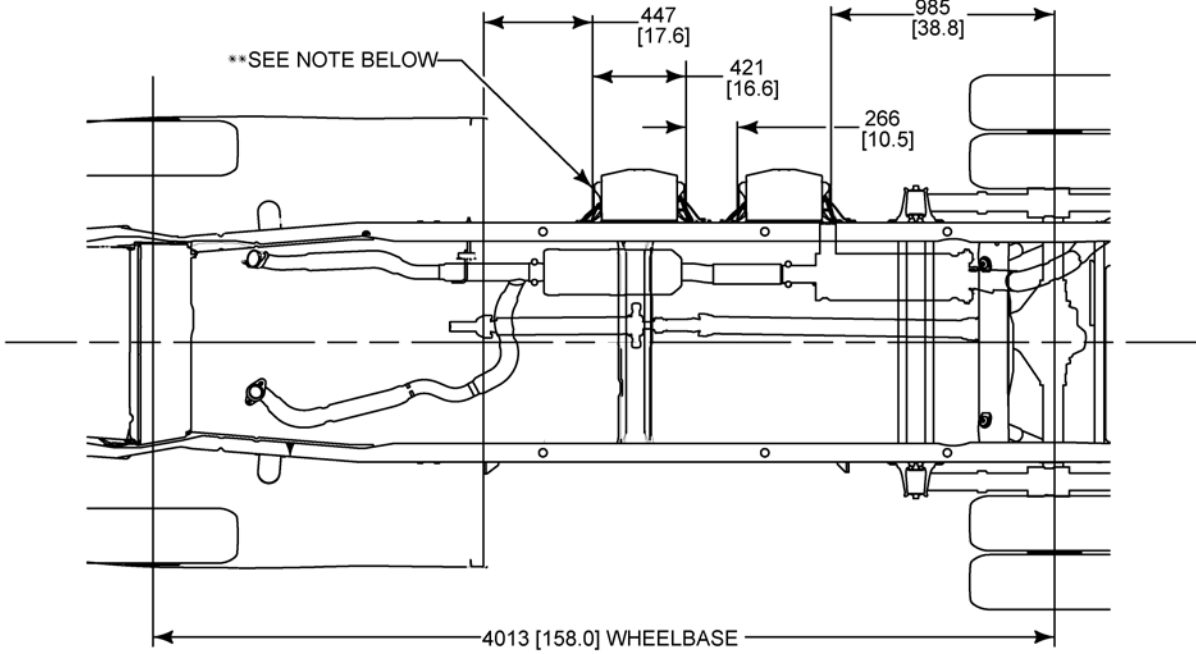
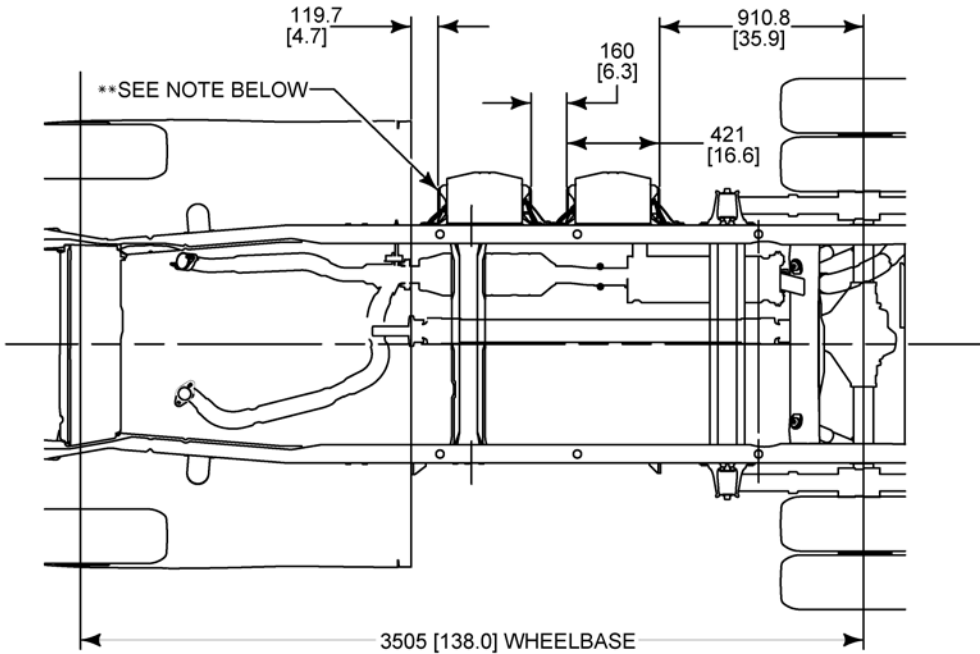
MODEL	TIRE SIZE	ALL SEASON TIRE DATA				TREAD WIDTH		OW	TH	TW	GROUND CLEARANCE					
		A	B	C		FW	RW	OVERALL WIDTH	STD	STD	G			J		
											APPROACH ANGLE			DEPARTURE ANGLE		
											138" WB	158" WB	176" WB	138" WB	158" WB	176" WB
E-250/350 Cutaway SRW (Mid-Ship Fuel Tank)	LT225/75R16E	346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1692 [66.6]	1915 [75.4]	307 [12.1]	653 [25.7]	21°	N/A	N/A	21°/20°	N/A	N/A
E-350 Cutaway SRW (Aft-of-Axle Fuel Tank)	LT245/75R16E	356 [14.0]	787 [31.0]	263 [10.3]	178 [7.0]	1763 [69.4]	1831 [72.1]	2094 [82.4]	307 [12.1]	710 [28.0]	21°	N/A	N/A	18°	N/A	N/A
E-350 Cutaway DRW	LT225/75R16E	346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1915 [75.4]	2405 [94.7]	329 [12.9]	684 [26.9]	21°	21°	21°	18°	15°♦	18°♦
E-350 Stripped Chassis SRW	LT245/75R16E	356 [14.0]	787 [31.0]	263 [10.3]	178 [7.0]	1763 [69.4]	1831 [72.1]	1950 [76.7]	298 [11.7]	638 [25.1]	34°	34°	N/A	18°	18°	N/A
E-350 Stripped Chassis DRW	LT225/75R16E	346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1915 [75.4]	2405 [94.7]	329 [12.9]	684 [26.9]	33°	33°	34°	18°	18°	24°
E-450 Cutaway DRW	LT225/75R16E	346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1974 [77.7]	2464 [97.0]	325 [12.8]	743 [29.2]	N/A	21°	21°	N/A	15°♦	18°♦
E-450 Stripped Chassis DRW	LT225/75R16E	346 [13.6]	757 [29.8]	236 [9.3]	152 [6.0]	1763 [69.4]	1974 [77.7]	2464 [97.0]	325 [12.8]	743 [29.2]	N/A	33°	35°	N/A	15°♦	18°♦

♦ 55-gallon tank and 18 inch frame extension.

NOTE — [] DIMENSIONS ARE INCHES.

BATTERY BOX LOCATIONS
E-350/450 DUAL AND GAS AUXILIARY

2008
MODEL YEAR



The guidelines below must be followed when repositioning the battery box

- Maintain attachment hole diameter of (12 mm)
- Maintain use of existing OEM bolts (M10)
- The battery box must NOT be packaged any lower in vehicle position than is provided by Ford
- All new frame holes must be at least 1x hole diameter away from all other holes & 1½ diameter away from the edge of a radius tangent
- Battery boxes may not be moved rearward of position provided by Ford

BB0016-2005

NOTES — [] DIMENSIONS ARE INCHES.
— ** PLACEMENT FOR GAS ENGINES AUXILIARY BATTERY OPTION

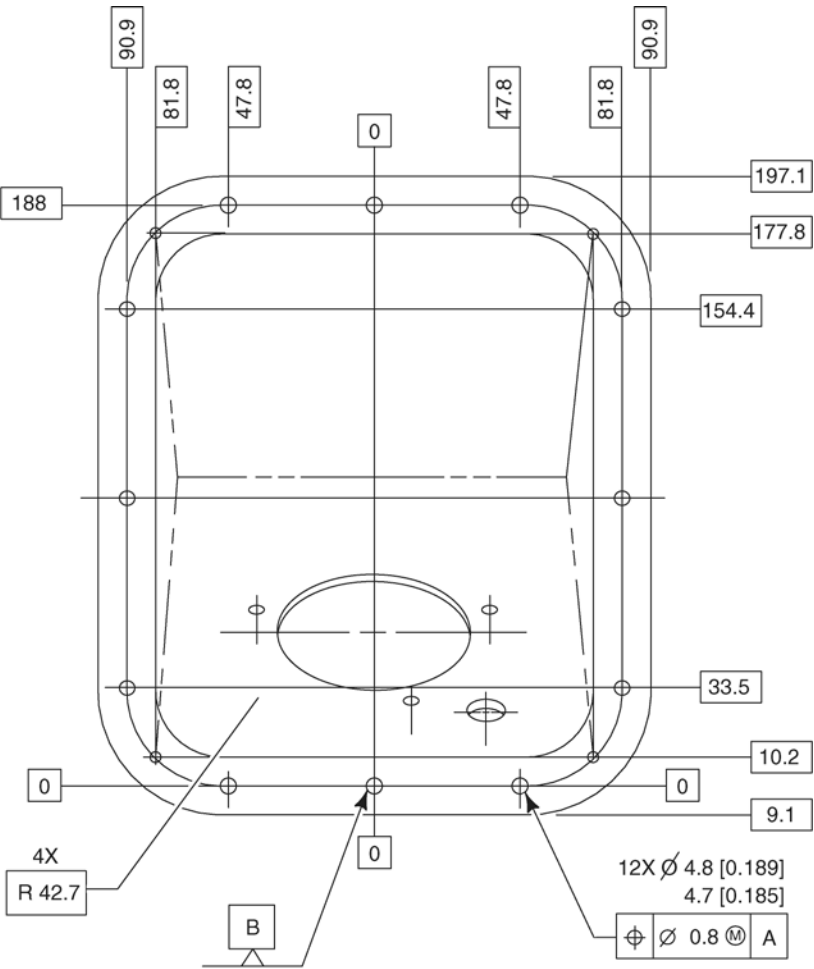
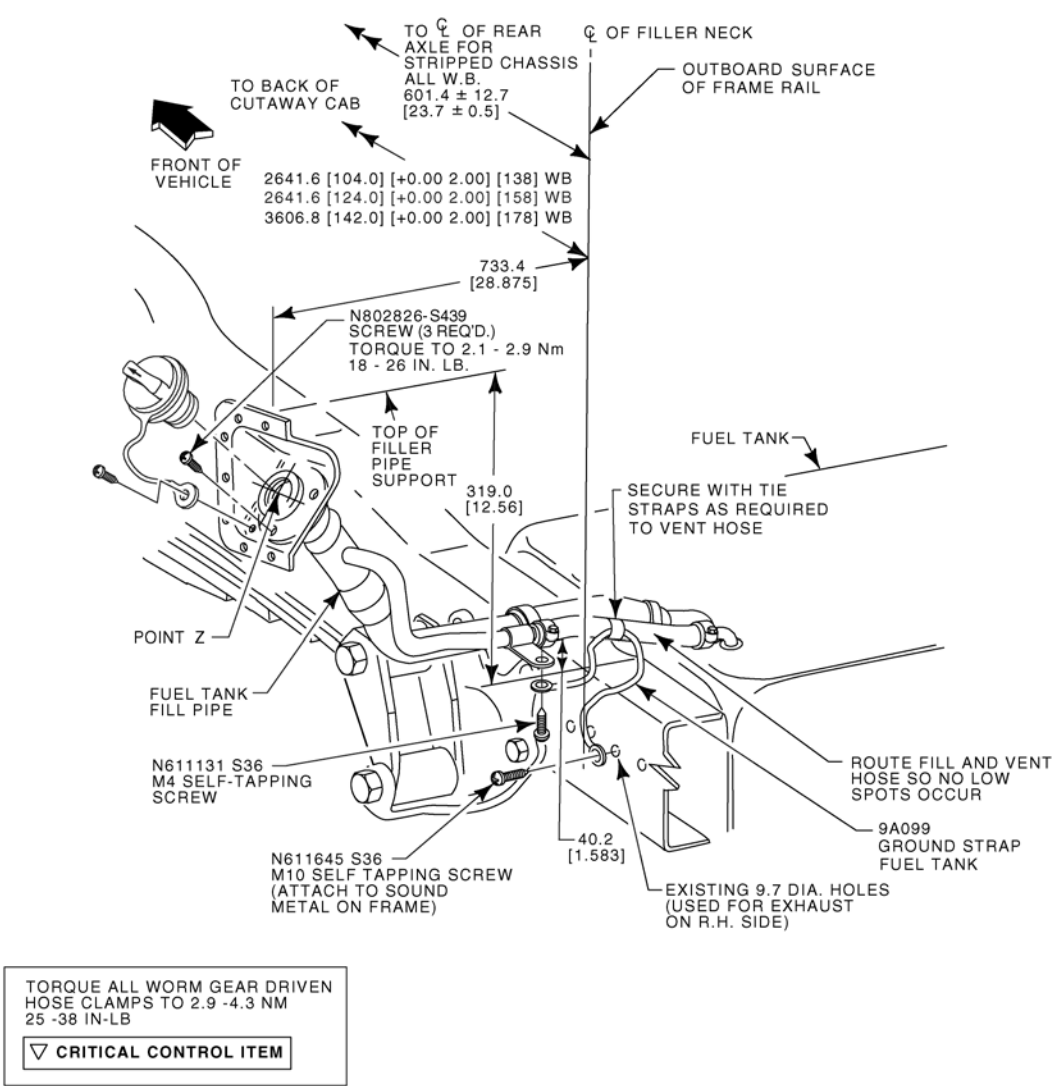
E-SERIES

FUEL FILLER SYSTEM

E-SERIES SUPER DUTY CUTAWAY / STRIPPED CHASSIS

2008

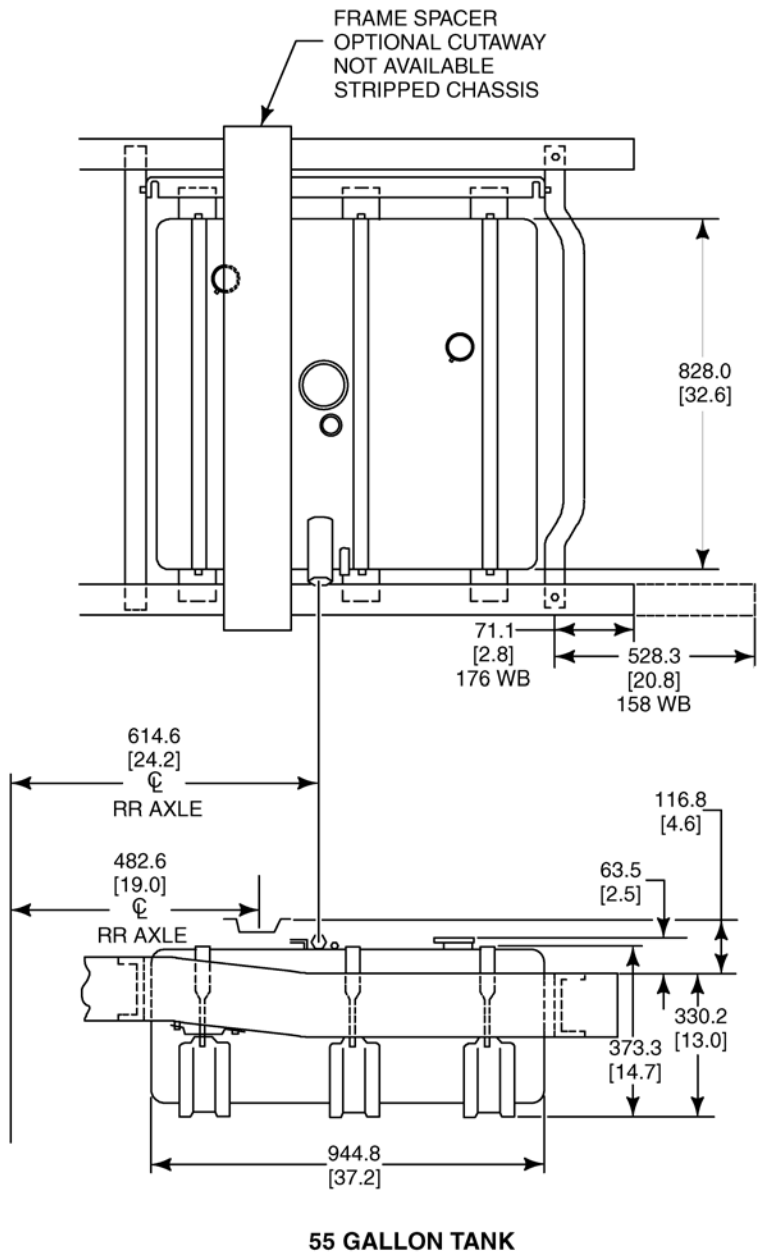
MODEL YEAR



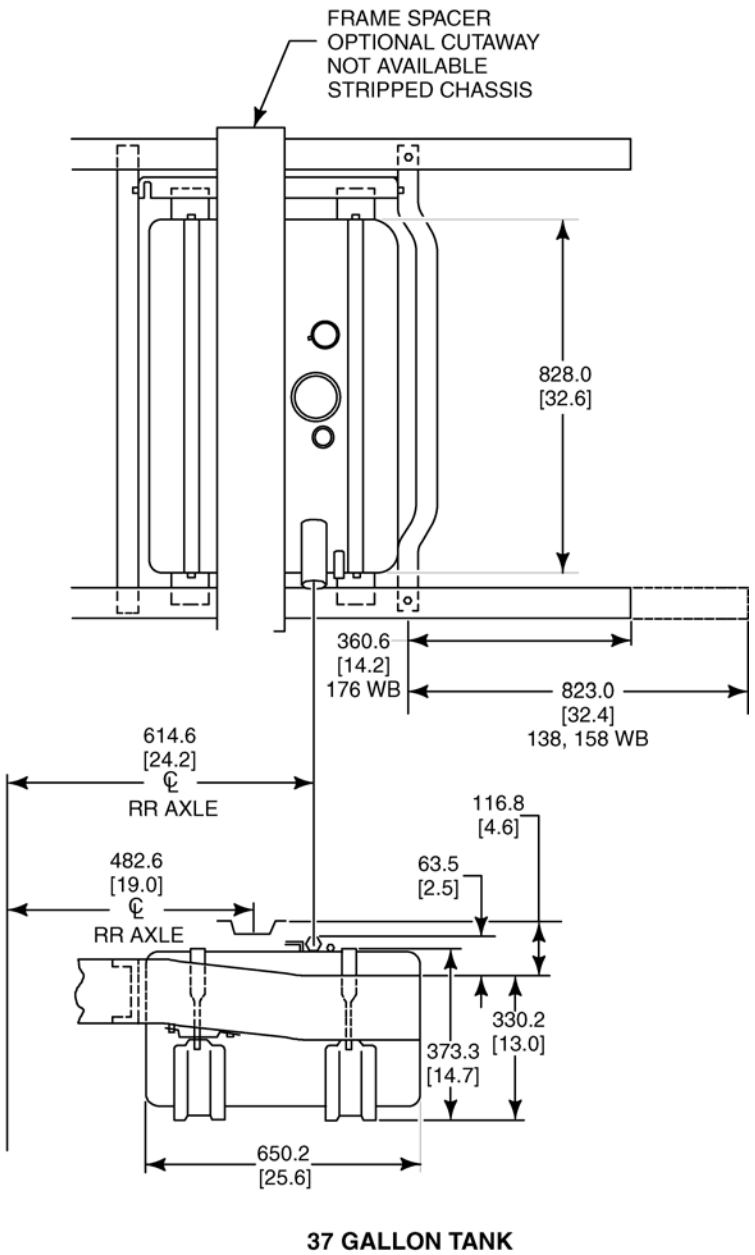
NOTE — [] DIMENSIONS ARE INCHES.

AFT-OF-AXLE FUEL TANK
E-350/450 SUPER DUTY
CUTAWAY / STRIPPED CHASSIS

2008
MODEL YEAR

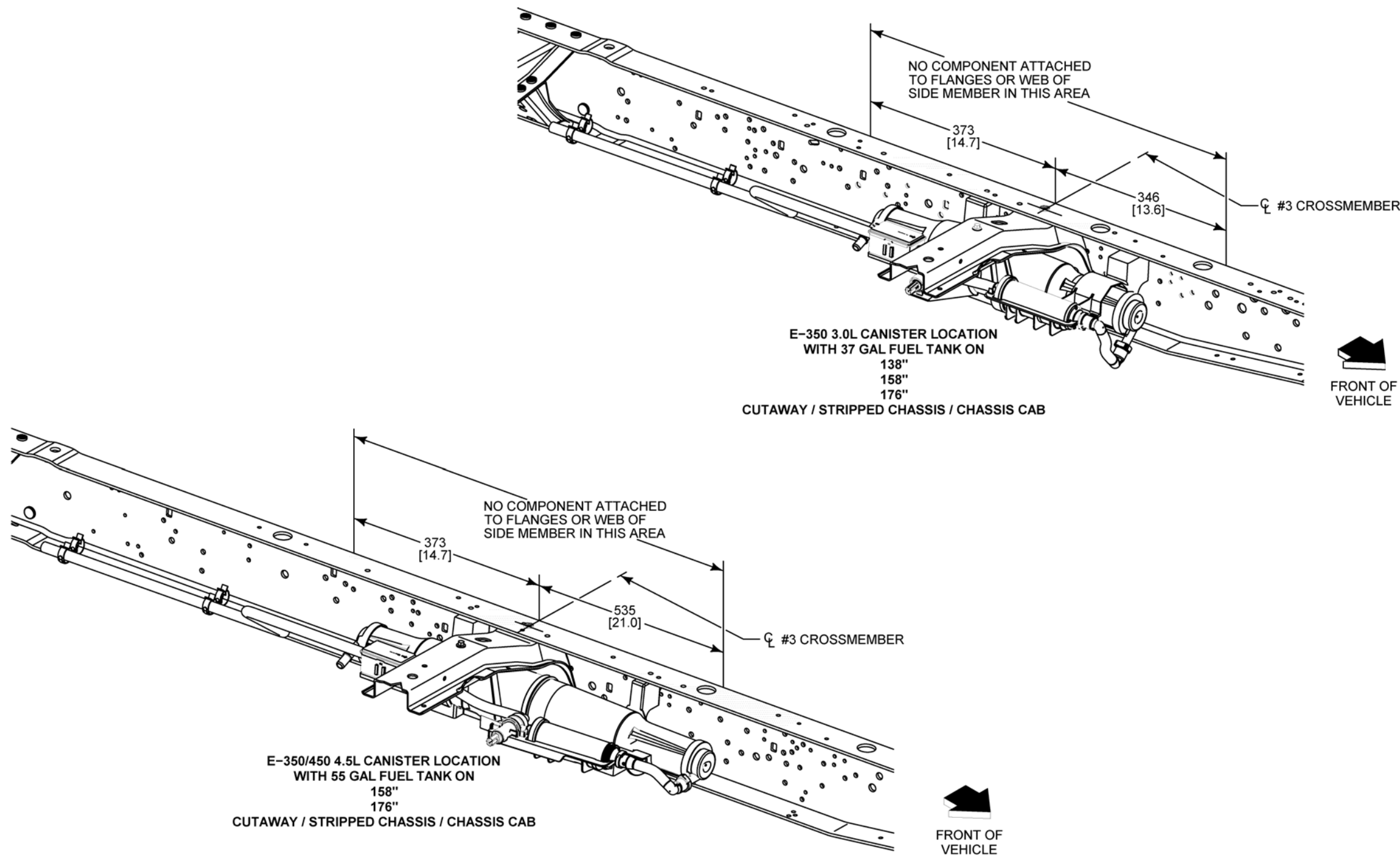


WARNING
18 INCH MIN. FRAME
EXTENSION REQUIRED
WITH THE 55 GAL. TANK
AND THE 176"
WHEELBASE ONLY



E-SERIES **FUEL SYSTEM EVAPORATIVE EMISSIONS**
E-SERIES SUPER DUTY CUTAWAY / STRIPPED CHASSIS

2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

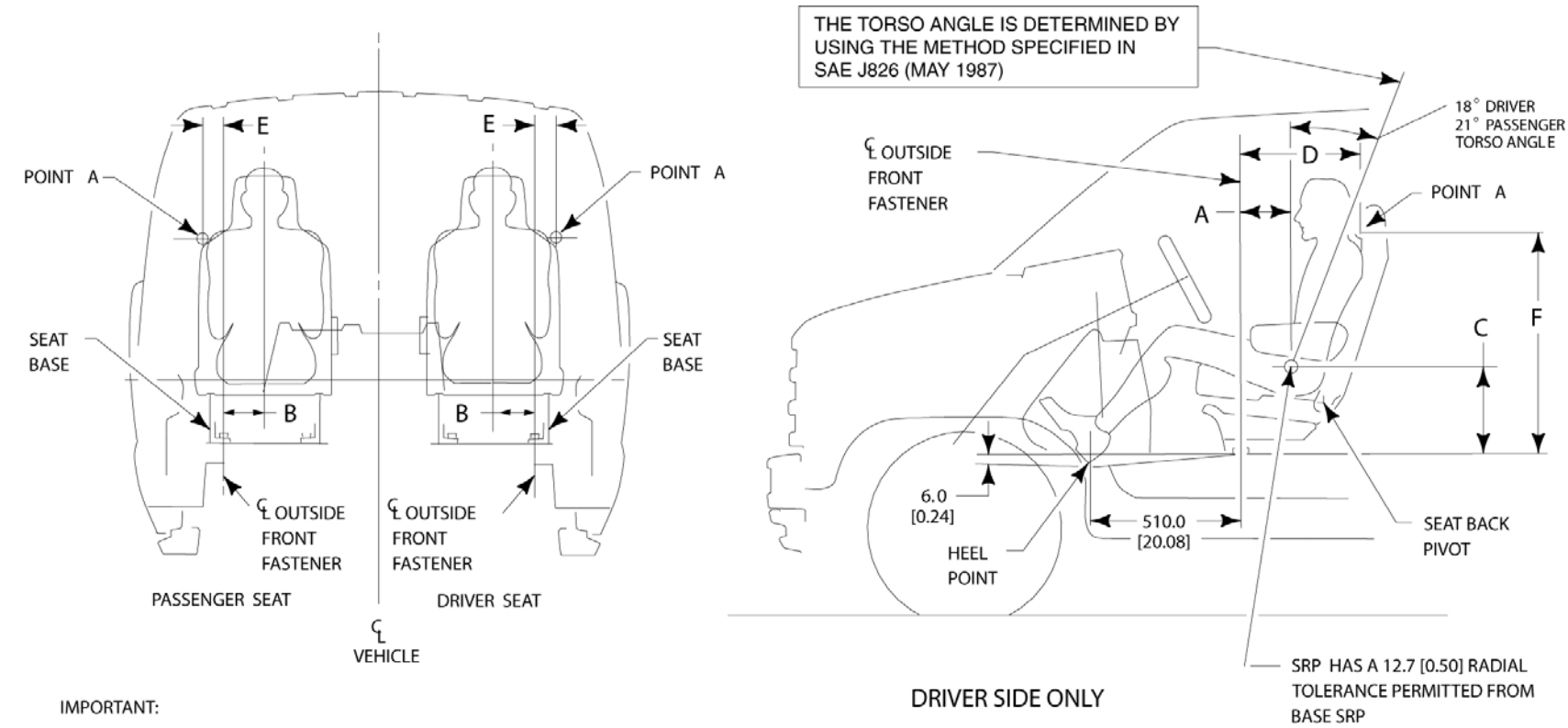
2008
MODEL YEAR

E-SERIES



SEAT POSITION
E-250/350/450 SUPER DUTY CUTAWAY

2008
MODEL YEAR



SRP INFORMATION (SEAT POSITION IS 10.0 mm [0.39] FORWARD OF REARMOST POSITION)				POINT A (SEAT POSITION IS AT THE MIDPOINT OF AVAILABLE TRAVEL)		
	A	B	C	D	E	F
DRIVER – SEAT	217.8 [8.57]	105.0 [4.13]	384.2 [15.13]	356.0 [14.01]	67.0 [2.64]	937.4 [36.90]
PASSENGER – SEAT	277.3 [10.92]	103.0 [4.06]	377.0 [14.84]	412.0 [16.22]	65.0 [2.56]	960.1 [37.80]

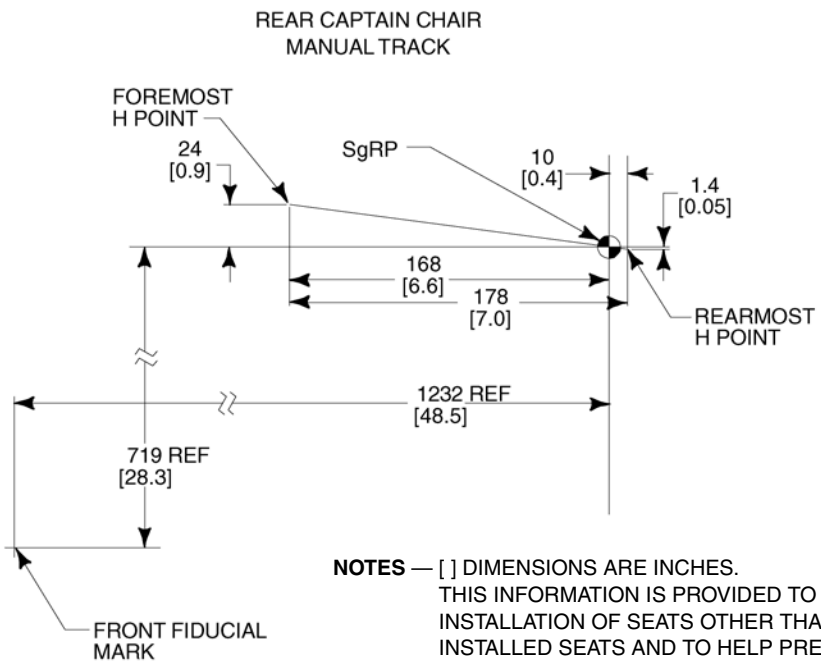
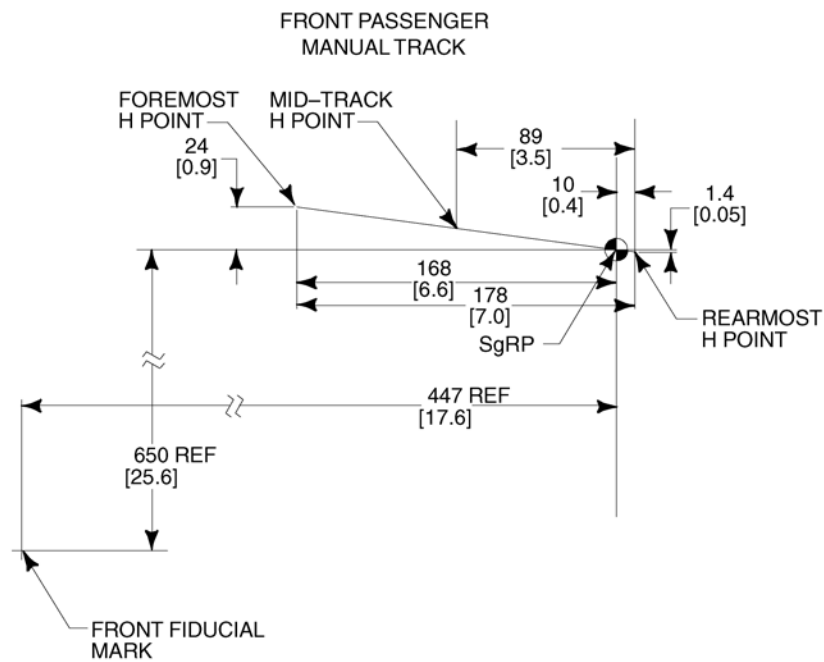
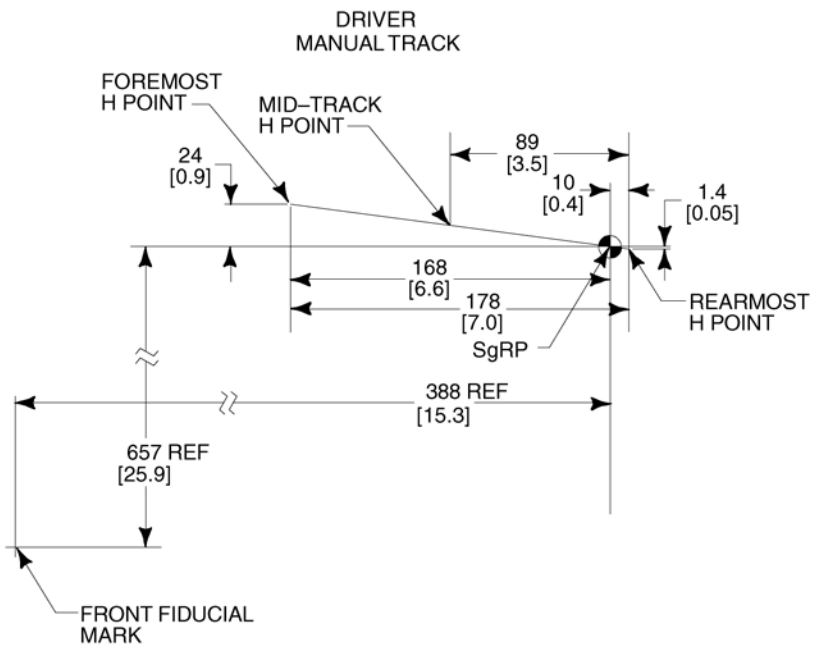
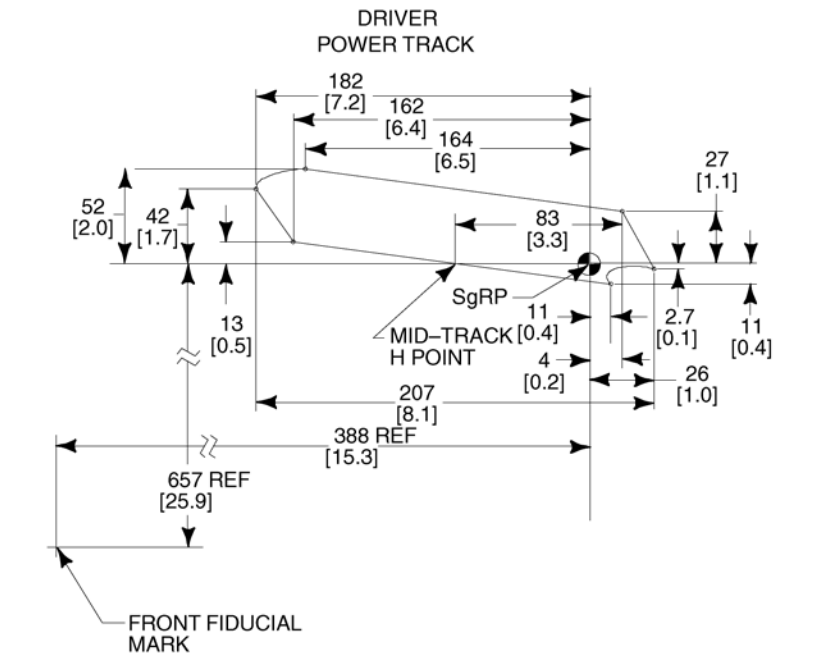
CODE	DESCRIPTION	
FRONT COMPARTMENT		
L34	MAXIMUM EFFECTIVE LEG ROOM – FRONT	1016 [40.0]
W3	SHOULDER ROOM – FRONT	1729 [68.1]
W5	HIP ROOM – FRONT	1664 [65.5]
W117	BODY WIDTH AT H-POINT	1999 [78.6]
H61	EFFECTIVE HEAD ROOM – FRONT	1070 [42.1]

NOTE — [] DIMENSIONS ARE INCHES.

SEAT TRACK TRAVEL / H-POINT LOCATION E-SERIES

2008
MODEL YEAR

E-SERIES



NOTES — [] DIMENSIONS ARE INCHES.
THIS INFORMATION IS PROVIDED TO ASSIST IN THE
INSTALLATION OF SEATS OTHER THAN FORD
INSTALLED SEATS AND TO HELP PRESERVE THE
INTENDED PERFORMANCE OF THE SAFETY AND
ERGONOMIC FEATURES OF THE E-SERIES.
THE MID-TRACK H-POINT LOCATION MUST BE
MAINTAINED IN ORDER TO COMPLY WITH F/CMVSS
208 AIRBAG REQUIREMENTS.

RANGER MODEL LINEUP

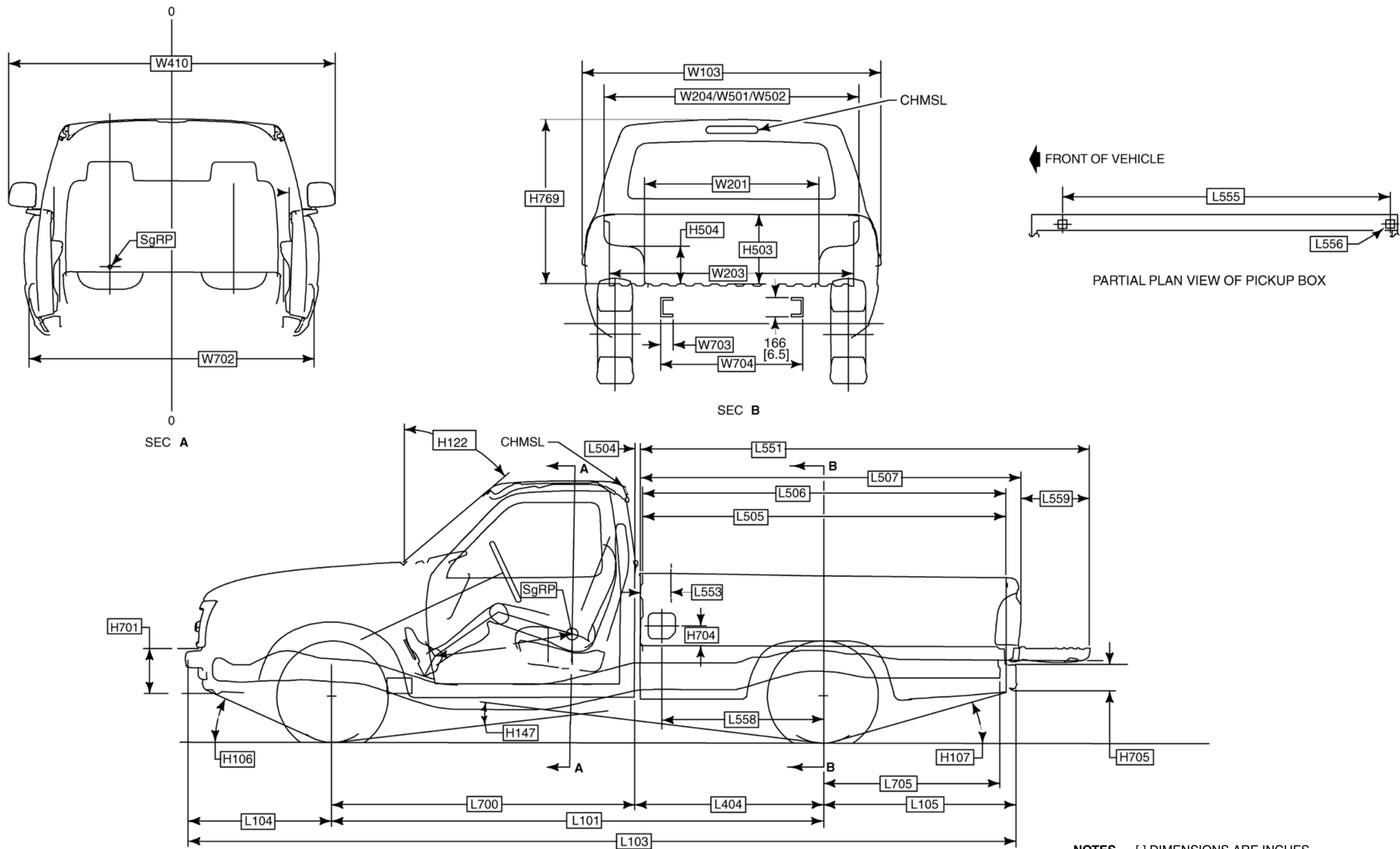
2008
MODEL YEAR

RANGER MODEL	TRIM LEVEL	BODY CODE	WHEELBASE inches	ENGINE ⁽¹⁾ liters	TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAX GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾			PICKUP NOMINAL LENGTH feet
									FRONT pounds	REAR pounds	TOTAL pounds	
REGULAR CAB PICKUP												
4x2 SWB	XL,XLT	R10	112	2.3L I-4	5-Spd. Manual OD	—	4380	1260	1757	1273	3030	6
	Sport			4700			1620	1757	1273	3030		
				4540			1260	1933	1298	3231		
				4840			1540	1933	1313	3246		
4x2 LWB	XLT	R10	118	2.3L I-4	5-Spd. Manual OD	—	4420	1260	1769	1300	3069	7
				3.0L V-6			4720	1620	1769	1300	3069	
4x4 SWB	XL,XLT	R11	112	3.0L V-6	5-Spd. Manual OD	BW1354	4780	1260	2050	1394	3444	6
	Sport						5000	1500	2050	1394	3444	
4x4 LWB	XLT	R11	118	4.0L V-6	5-Spd. Manual OD	BW1354	4840	1260	2071	1427	3498	7
							5040	1500	2071	1427	3498	
SUPERCAB PICKUP												
4x2 LWB without jump seats	XL,XLT	R14/R44	126	2.3L I-4	5-Spd. Manual OD	—	4620	1260	1836	1353	3189	6
	Sport	R14		4900			1520	1965	1368	3333		
				4860			1260	2056	1487	3543		
4x2 LWB with jump seats	XL,XLT	R14/R44	126	3.0L V-6	5-Spd. Manual OD	—	4760	1260	1836	1353	3189	6
	Sport						5040	1660	1968	1368	3339	
							5000	1260	2059	1490	3549	
4x4 LWB without jump seats	XL,XLT	R15/R45	126	4.0L V-6	5-Spd. Manual OD	BW1354	5000	1260	2205	1463	3668	6
							5140	1420	2205	1463	3668	
4x4 LWB with jump seats	XL,XLT	R15/R45	126	4.0L V-6	5-Spd. Manual OD	BW1354	5140	1260	2205	1463	3668	6
							5280	1560	2205	1463	3668	6

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Includes weight of driver, passengers and optional equipment.
(3) Base curb weight is for standard equipment only.

DIMENSIONAL DATA
RANGER REGULAR CAB 4X2 / 4X4

2008
MODEL YEAR



NOTES — [] DIMENSIONS ARE INCHES.
— CH, LH, F, R, FW AND RW DIMENSIONS, PAGE 74.
— TIRE DATA, PAGE 75.
— SgRP X AND Z LOCATIONS, PAGE 77.

2008
MODEL YEAR

RANGER

CAB

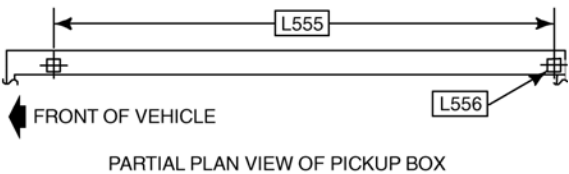
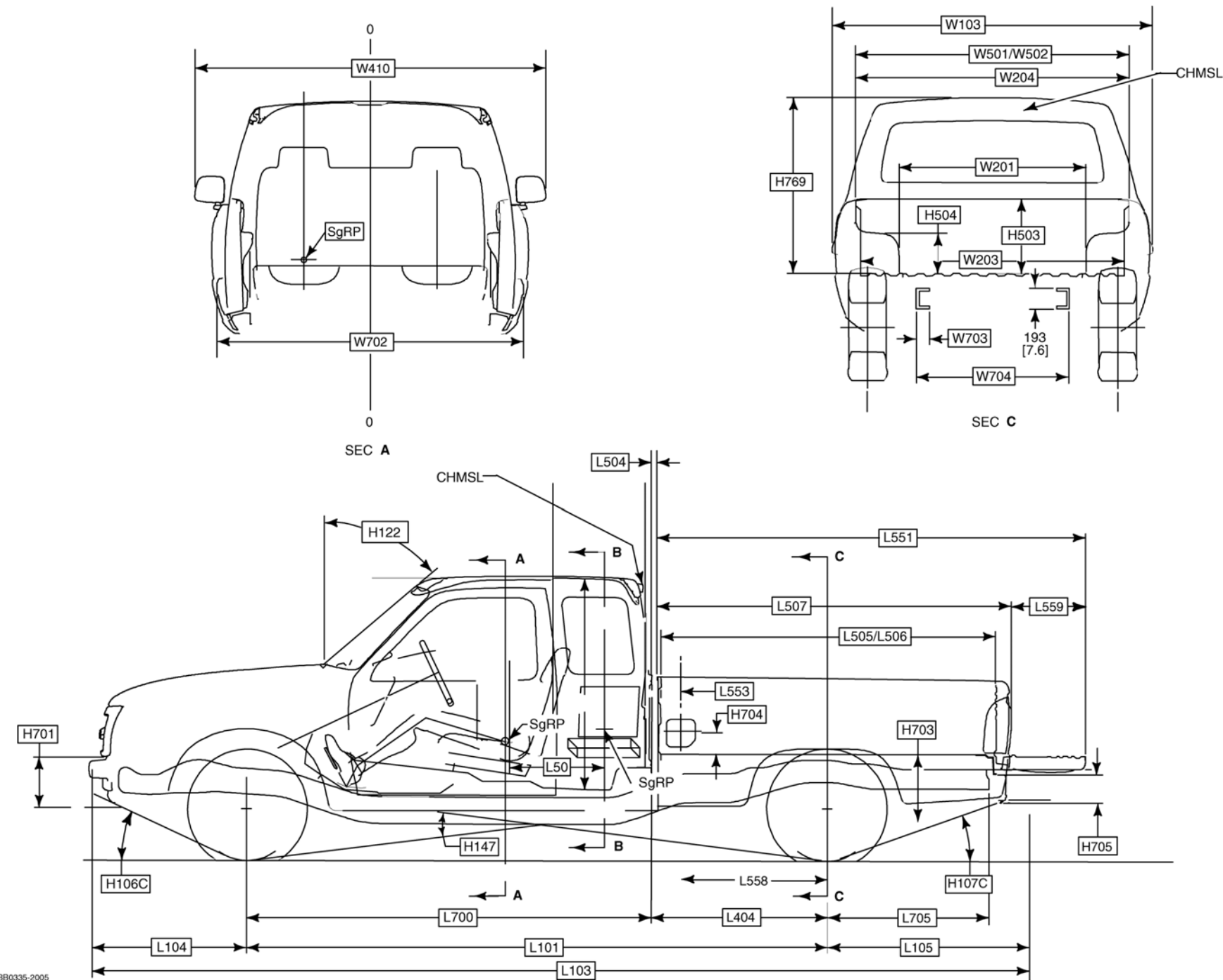
PICKUP BOX			
CODE	DESCRIPTION	SWB	LWB
H503	CARGO BODY HEIGHT W/MOLDING	425 [16.7]	
H503A	CARGO BODY HEIGHT W/O MOLDING	418 [16.5]	
H504	WHEELHOUSE HEIGHT	229 [9.0]	
L505	CARGO BODY LENGTH @ FLOOR	1847 [72.7]	2150 [84.6]
L506	CARGO BODY LENGTH @ TOP (BELT)	1831 [72.1]	2135 [84.1]
L507	CARGO BODY OVERALL LENGTH	1942 [76.5]	2246 [88.4]
L553	INSIDE FRONT OF BOX TO \mathbb{C} OF STAKE #1	180 [7.1]	
L554	\mathbb{C} OF STAKE #1 TO \mathbb{C} OF STAKE #2	1623 [63.9]	1925 [75.8]
L556	STAKE POCKET SIZE (L x W)	52 x 40 [2 x 1.6]	
W201	CARGO WIDTH @ WHEELHOUSE	1028 [40.5]	
W203	REAR OPENING WIDTH @ FLOOR	1320 [52.0]	
W204	REAR OPENING WIDTH @ TOP (BELT)	1381 [54.4]	
W500B	CARGO BODY MAXIMUM INSIDE WIDTH @ FLOOR	1382 [54.4]	
W501	CARGO BODY WIDTH @ TOP OF BOX	1377 [54.2]	
W502A	CARGO BODY MAXIMUM INSIDE WIDTH @ \mathbb{C} OF REAR AXLE	1382 [54.4]	
V5	CARGO VOLUME — LITERS/CU.FT.	1059 / 37.4	1234 / 43.6

CODE	DESCRIPTION	SWB 4x2	SWB 4x4	LWB 4x2	LWB 4x4
H122	WINDSHIELD ANGLE (DEGREES)	49.5			
H701	FRONT BUMPER HEIGHT (INCLUDING LOWER VALANCE PANEL)	333 [13.1]	349 [13.7]	333 [13.1]	349 [13.7]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/MOLDINGS) — 4x2	1761 [69.3]	1788 [70.4]	1762 [69.4]	1791 [70.53]
W410	VEHICLE WIDTH (MAX W/ STANDARD MIRRORS)	2066 [81.3]			
W702	FRONT BUMPER WIDTH	1696 [66.8]			

NOTES — [] DIMENSIONS ARE INCHES.
— DIMENSIONS ARE AT CURB HEIGHTS.

DIMENSIONAL DATA
RANGER SUPERCAB 4X2 / 4X4

2008
MODEL YEAR



NOTES — [] DIMENSIONS ARE INCHES.
— CH, LH, F, R, FW AND RW DIMENSIONS, PAGE 74.
— TIRE DATA, PAGE 75.
— SgRP X AND Z LOCATIONS, PAGE 77.

DIMENSIONAL DATA
RANGER SUPERCAB 4X2 / 4X4

2008
MODEL YEAR

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RANGER
CHASSIS

CODE	DESCRIPTION	4X2	4X4
H103	BOTTOM OF FRONT BUMPER VALANCE TO GROUND @ CURB	283 [11.1]	297 [11.7]
H105	BOTTOM OF REAR BUMPER VALANCE TO GROUND @ CURB	463 [18.2]	522 [20.6]
H106C	APPROACH ANGLE @ CURB (DEGREES)	23.8	24.9
H107C	DEPARTURE ANGLE @ CURB (DEGREES)	24.3	27.4
H147C	RAMP BREAKOVER ANGLE @ CURB (DEGREES)	23.3	18.6
L101	WHEELBASE	3192 [125.7]	3197 [125.9]
L103	VEHICLE LENGTH	5172 [203.6]	
L104	FRONT OVERHANG	864 [34.0]	863 [34.0]
L105	REAR OVERHANG	1117 [44.0]	1112 [43.8]
L403	FRONT OF BUMPER TO BACK OF CAB	3089 [121.6]	
L404	CAB TO \varnothing OF REAR AXLE	958 [37.7]	960 [37.8]
L700	\varnothing OF FRONT AXLE TO BACK OF CAB	2235 [88.0]	
L705	\varnothing OF REAR AXLE TO REAR END OF FRAME	894 [35.2]	
W703	FRAME RAIL WIDTH	74 [2.9]	
W704	REAR FRAME WIDTH	834 [32.8]	

PICKUP BODY

CODE	DESCRIPTION	
NOMINAL CARGO BODY SIZE		6 FT.
H704	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO \varnothing OF FUEL FILLER DOOR	132 [5.2]
H705	REAR BUMPER HEIGHT	178 [7.0]
H769	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO TOP OF CAB @ \varnothing OF REAR AXLE	978 [38.5]
L504	CAB TO PICKUP BOX	21 [0.8]
L551	BOX OVERALL LENGTH TO OPEN TAILGATE	2345 [92.3]
L558	\varnothing OF REAR AXLE TO \varnothing OF FUEL FILLER DOOR	777 [30.6]
L559	LENGTH OF OPEN TAILGATE	409 [16.1]

PICKUP BOX

CODE	DESCRIPTION	
H503	CARGO BODY HEIGHT WITH MOLDING	425 [16.7]
H503A	CARGO BODY HEIGHT WITHOUT MOLDING	418 [16.5]
H504	WHEELHOUSE HEIGHT	228 [9.0]
L505	CARGO BODY LENGTH @ FLOOR	1847 [72.7]
L506	CARGO BODY LENGTH @ TOP (BELT)	1832 [72.1]
L507	CARGO BODY OVERALL LENGTH	1942 [76.5]
L553	INSIDE FRONT OF BOX TO \varnothing OF STAKE #1	180 [7.1]
L554	\varnothing OF STAKE #1 TO \varnothing OF STAKE #2	1623 [63.9]
L556	STAKE POCKET SIZE (L X W)	52 x 40 [2 X 1.6]
W201	CARGO WIDTH @ WHEELHOUSE	1028 [40.5]
W203	REAR OPENING WIDTH @ FLOOR	1320 [52.0]
W204	REAR OPENING WIDTH @ TOP (BELT)	1381 [54.4]
W500B	CARGO BODY MAXIMUM INSIDE WIDTH @ FLOOR	1382 [54.4]
W502A	CARGO BODY MAXIMUM INSIDE WIDTH @ \varnothing OF REAR AXLE	1382 [54.4]
V5	CARGO VOLUME - LITERS CU. FT.	1059 37.4

CAB

CODE	DESCRIPTION	4x2	4x4
H122	WINDSHIELD ANGLE (DEGREES)	49.5	
H701	FRONT BUMPER HEIGHT (INCLUDING LOWER VALANCE PANEL)	333 [13.1]	349 [13.7]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/MOLDINGS)	1762 [69.4]	1810 [71.3]
W410	VEHICLE WIDTH (MAX W/ STANDARD MIRRORS)	2066 [81.3]	
W702	FRONT BUMPER WIDTH	1696 [66.8]	

NOTES — [] DIMENSIONS ARE INCHES.
— DIMENSIONS ARE AT CURB HEIGHTS.

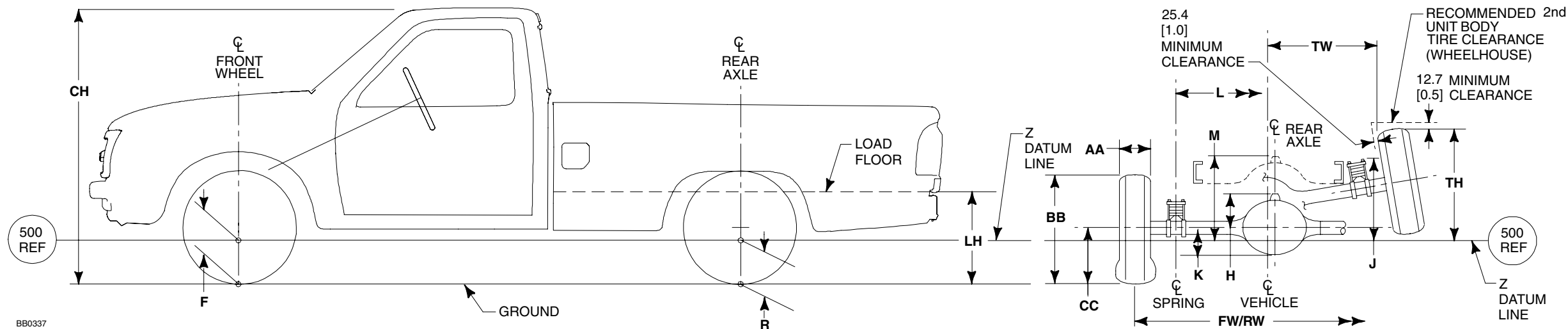
AXLE / TIRE / WHEELHOUSE / VEHICLE HEIGHT DATA

RANGER

2008
MODEL YEAR

Page 74

RANGER



Model	WB [in]	GVWR	Base Tire	F Height @ Front Wheel ⁽¹⁾		R Height @ Rear Axle ⁽¹⁾		LH ⁽¹⁾		CH ⁽¹⁾		H ⁽²⁾⁽³⁾	J	K ⁽⁴⁾	L	M ⁽²⁾⁽³⁾	CC ⁽⁵⁾	FW At Base Curb Weight	RW	TW	TH
				Height at Base Curb Weight	Loaded Height @ Spring Rating	Height at Base Curb Weight	Loaded Height @ Spring Rating	Empty	Loaded	Empty	Loaded										
Regular Cab Styleside 4x2	112	4380 4840	P225/70R-15SL	305 [12.0]	263 [10.4]	360 [14.2]	245 [9.6]	753 [29.6]	613 [24.1]	1682 [66.2]	1603 [63.1]	157 [6.2]	338 [13.3]	130 [5.10]	986 [38.8]	335 [13.2]	300 [11.8]	1486 [58.5]	1455 [57.3]	559 [22.0] 546 [21.5]	411 [16.2]
	118	4420 4720	P225/70R-15SL	311 [12.2]	262 [10.3]	354 [13.9]	245 [9.6]	743 [29.3]	613 [24.1]	1680 [66.1]	1603 [63.1]	157 [6.2]	338 [13.3]	130 [5.10]	986 [38.8]	335 [13.2]	300 [11.8]	1486 [58.5]	1455 [57.3]	559 [22.0] 546 [21.5]	411 [16.2]
SuperCab Styleside 4x2	126	4620 5040	P225/70R-15SL	315 [12.4]	260 [10.2]	352 [13.9]	244 [9.6]	748 [29.4]	614 [24.2]	1684 [66.3]	1604 [63.1]	157 [6.2]	338 [13.3]	130 [5.10]	986 [38.8]	335 [13.2]	300 [11.8]	1486 [58.5]	1455 [57.3]	559 [22.0] 546 [21.5]	411 [16.2]
Regular Cab Styleside 4x4	112	4780 5000	P235/75R-15	356 [14.0]	312 [12.3]	415 [16.3]	314 [12.4]	801 [31.5]	687 [27.0]	1713 [67.4]	1662 [65.4]	157 [6.2]	302 [11.9]	130 [5.10]	986 [38.8]	249 [9.8]	328 [12.9]	1486 [58.5]	1455 [57.3]	569 [22.4]	348 [13.7]
	118	4840 5040		354 [13.9]	312 [12.3]	410 [16.1]	314 [12.4]	794 [31.5]	687 [27.0]	1709 [67.3]	1662 [65.4]	157 [6.2]	302 [11.9]	130 [5.10]	986 [38.8]	249 [9.8]	328 [12.9]	1486 [58.5]	1455 [57.3]	569 [22.4]	419 [16.5]
SuperCab Styleside 4x4	126	5000 5280	P235/75R-15	350 [13.8]	311 [12.2]	423 [16.7]	328 [12.9]	809 [31.9]	705 [27.8]	1719 [67.7]	1670 [65.7]	157 [6.2]	302 [11.9]	130 [5.10]	986 [38.8]	249 [9.8]	328 [12.9]	1486 [58.5]	1455 [57.3]	569 [22.4]	374 [14.7]

(1) — The Height Data shown represents dimensions of a base/standard vehicle with no options.
Actual height may vary due to production tolerances.
(2) — Add 0.5" on vehicles equipped with 4.0L engine.

(3) — To top of brake tube union.
(4) — 5.7" on vehicles equipped with 4.0L engine.
(6) — Minimum loaded radius.

NOTES — [] DIMENSIONS ARE INCHES.
— VEHICLE RIDE HEIGHTS ARE GIVEN AT TIRE
MINIMUM LOAD RADIUS.
— TIRE DATA ON PAGE 75.

TIRE DATA
RANGER

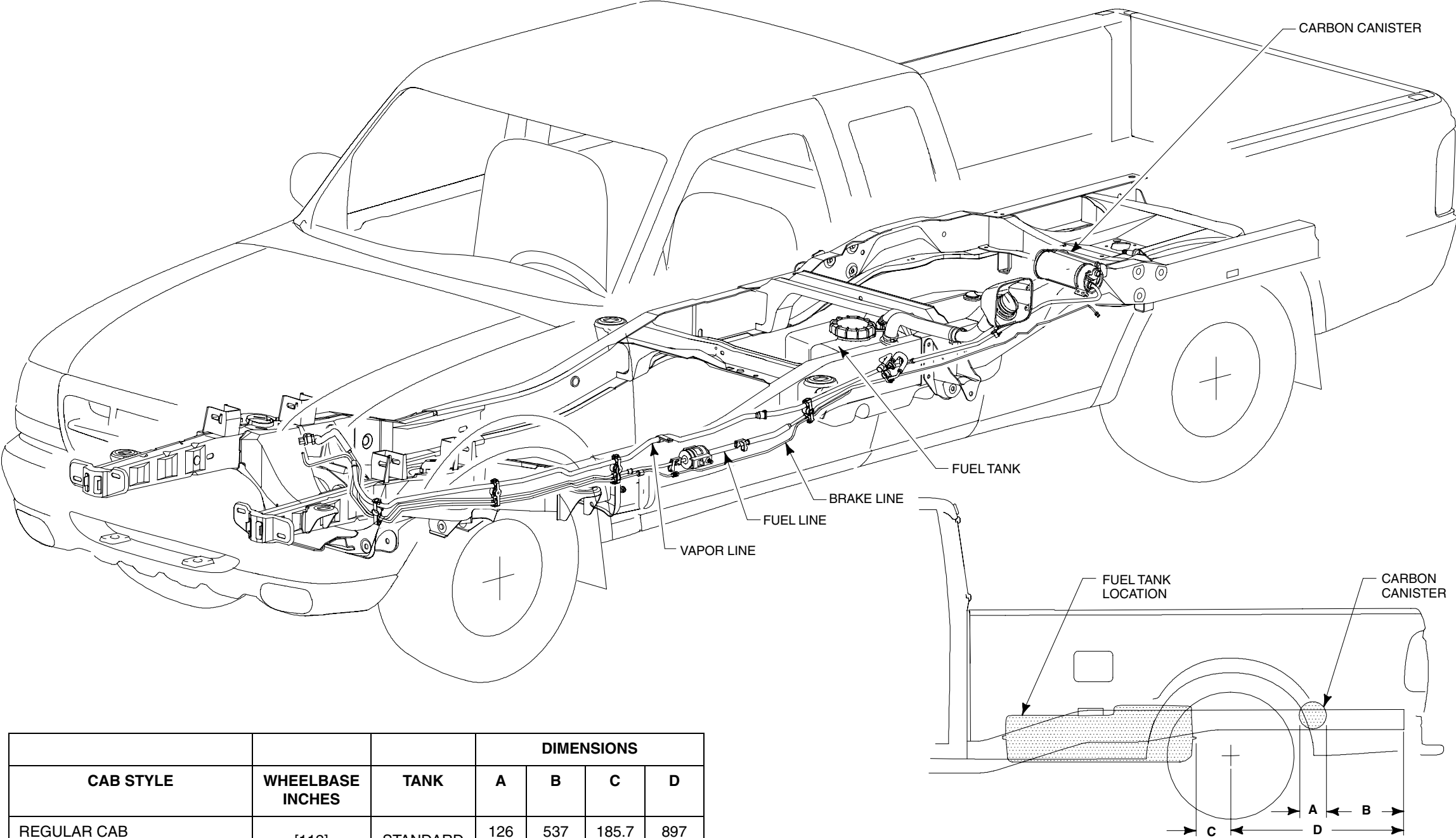
2008
MODEL YEAR

ALL-SEASON TIRE DATA				
Tire Size	Rim Width	AA Maximum Section Width	BB Minimum Height	*CC Minimum Loaded Radius
P225/70R-15	178 [7.0]	241 [9.3]	702 [27.5]	315 [12.2]
P235/70R16	178 [7.0]	240 [9.5]	737 [29.0]	332 [13.1]
ALL-TERRAIN TIRE DATA				
P235/75R-15	178 [7.0]	245 [9.9]	744 [29.2]	328 [13.0]
P255/70R-16	178 [7.0]	263 [10.37]	775 [30.5]	342 [13.5]

* This number represents Radius – Axle centerline to ground with maximum rated load on tire at maximum pressure.

FUEL AND VAPOR SYSTEM
TYPICAL FOR ALL LENGTHS OF RANGER

2008
MODEL YEAR



CAB STYLE	WHEELBASE INCHES	TANK	DIMENSIONS			
			A	B	C	D
REGULAR CAB	[112]	STANDARD	126 [5.0]	537 [21.4]	185.7 [7.3]	897 [35.3]
REGULAR CAB	[118]	STANDARD	126 [5.0]	689.9 [27.2]	185.7 [7.3]	1050 [41.3]
SUPERCAB	[126]	STANDARD	126 [5.0]	536.2 [21.1]	181.9 [7.2]	897 [35.3]

NOTE — [] DIMENSIONS ARE INCHES.

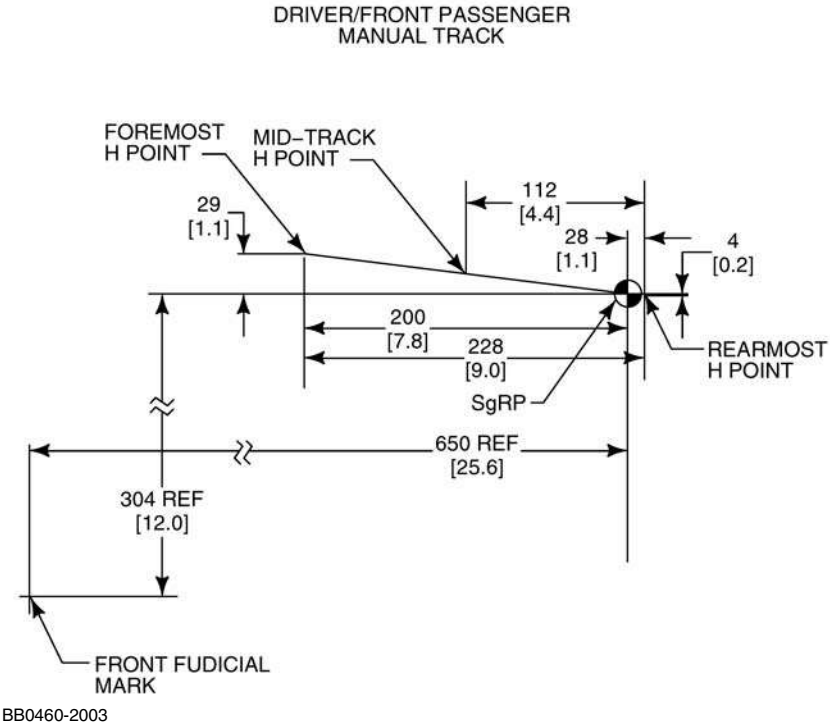
SEAT TRACK TRAVEL / H-POINT LOCATION

RANGER

2008
MODEL YEAR

Page 77

RANGER



NOTE — [] DIMENSIONS ARE INCHES.

F-150 MODEL LINEUP

2008
MODEL YEAR

F-SERIES MODEL	BODY CODE	WHEELBASE inches	ENGINE ⁽¹⁾ liters	TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾			PICKUP BOX NOMINAL LENGTH feet
								FRONT pounds	REAR pounds	TOTAL pounds	
REGULAR CAB FLARESIDE PICKUP											
F-150 4x2	F02	126.0	4.2L V-8	4-Spd. Auto OD	—	6500	1870	2588	2003	4591	6½
F-150 4x2	F02	126.0	4.6L V-8	4-Spd. Auto OD	—	6650	1940	2656	2007	4663	6½
F-150 4x2	F02	126.0	5.4L V-8	4-Spd. Auto OD	—	6650	1780	2751	2045	4796	6½
F-150 4x4	F04	126.0	4.6L V-8	4-Spd. Auto OD	Warner 44-06	6800	1790	2889	2067	4956	6½
F-150 4x4	F04	126.0	5.4L V-8	4-Spd. Auto OD	Warner 44-06	6850	1690	2990	2101	5091	6½
REGULAR CAB STYLESIDE PICKUP											
F-150 4x2	F12	126.0	4.2L V-8	5-Spd. Manual OD	—	6500	1890	2552	2005	4557	6½
F-150 4x2	F12	126.0	4.6L V-8	4-Spd. Auto OD	—	6650	1960	2649	1992	4641	6½
F-150 4x2	F12	126.0	5.4L V-8	4-Spd. Auto OD	—	6650	1800	2737	2056	4793	6½
F-150 4x2	F12	144.5	4.2L V-8	5-Spd. Manual OD	—	6650	1910	2686	2004	4690	8
F-150 4x2	F12	144.5	4.6L V-8	4-Spd. Auto OD	—	6800	1970	2788	1986	4774	8
F-150 4x2	F12	144.5	5.4L V-8	4-Spd. Auto OD	—	7050	2070	2893	2033	4926	8
F-150 4x2	F12	144.5	5.4L V-8	4-Spd. Auto OD	—	8200	3050	2958	2139	5097	8
F-150 4x4	F14	126.0	4.6L V-8	4-Spd. Auto OD	Warner 44-06	6800	1810	2889	2045	4934	6½
F-150 4x4	F14	126.0	5.4L V-8	4-Spd. Auto OD	Warner 44-06	6850	1710	2994	2094	5088	6½
F-150 4x4	F14	144.5	4.6L V-8	4-Spd. Auto OD	Warner 44-06	6950	1830	3028	2040	5068	8
F-150 4x4	F14	144.5	5.4L V-8	4-Spd. Auto OD	Warner 44-06	6950	1670	3132	2088	5220	8
F-150 4x4	F14	144.5	5.4L V-8	4-Spd. Auto OD	Warner 44-06	8200	2700	3212	2231	5443	8

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Includes weight of driver, passengers and optional equipment.
(3) Base curb weight is for standard equipment only.

F-150 MODEL LINEUP

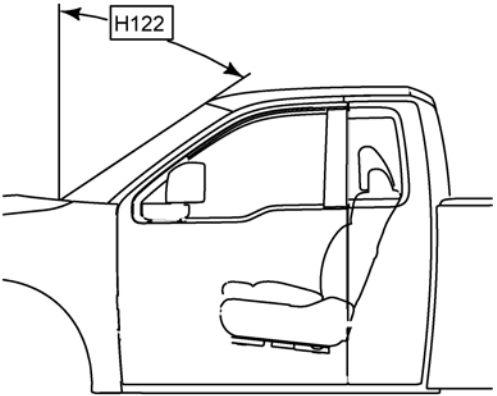
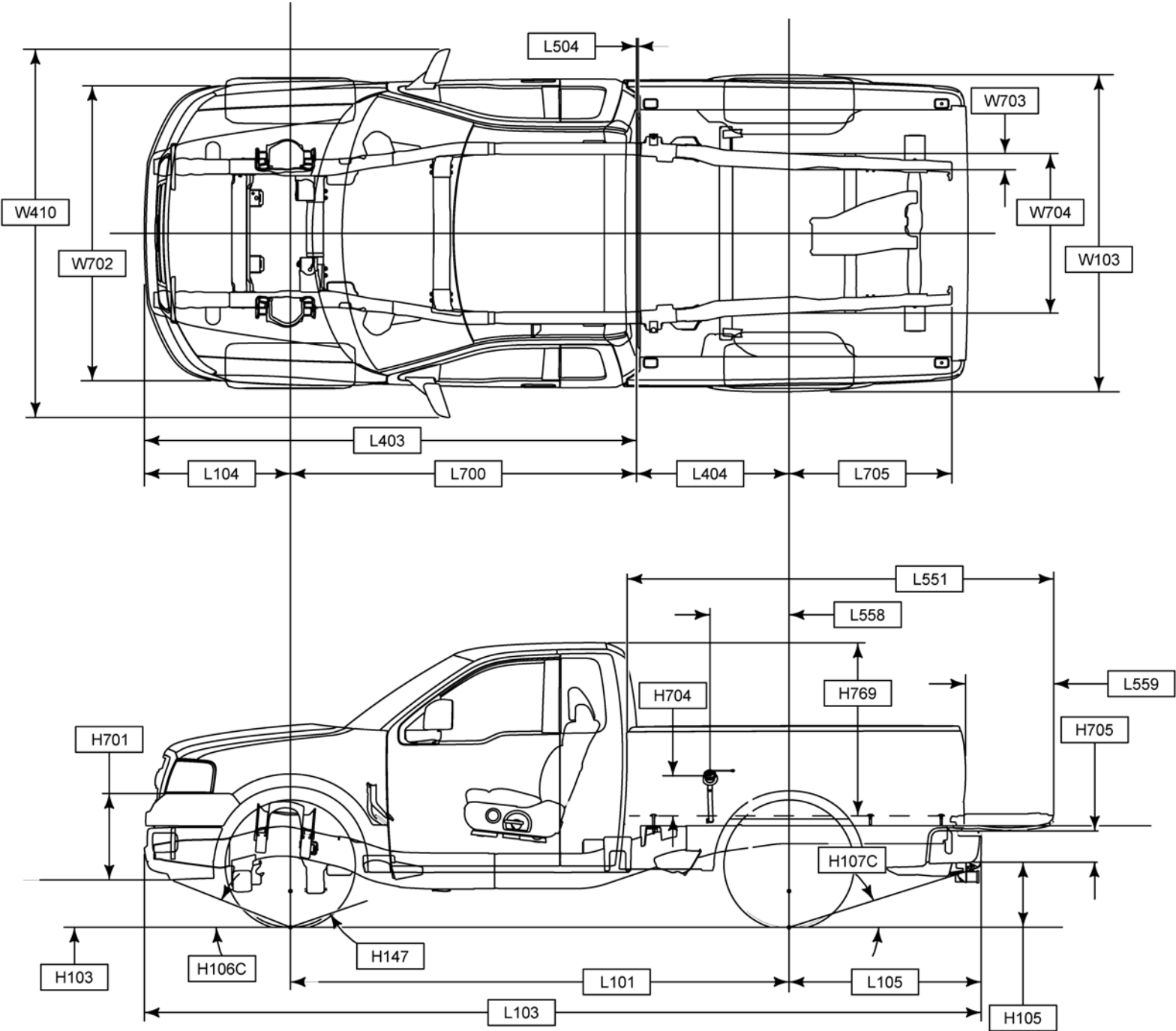
2008
MODEL YEAR

F-SERIES MODEL	BODY CODE	WHEELBASE inches	ENGINE ⁽¹⁾ liters	TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾			PICKUP BOX NOMINAL LENGTH feet
								FRONT pounds	REAR pounds	TOTAL pounds	
SUPERCAB FLARESIDE PICKUP											
F-150 4x2	X02	144.5	4.6L V-8	4-Spd. Auto OD	—	6700	1630	2884	2137	5021	6½
F-150 4x2	X02	144.5	5.4L V-8	4-Spd. Auto OD	—	7050	1850	2947	2179	5126	6½
F-150 4x4	X04	144.5	4.6L V-8	4-Spd. Auto OD	Warner 44-06	6950	1580	3119	2198	5317	6½
F-150 4x4	X04	144.5	5.4L V-8	4-Spd. Auto OD	Warner 44-06	7200	1710	3180	2240	5420	6½
SUPERCAB STYLESIDE PICKUP											
F-150 4x2	X12	132.5	4.6L V-8	4-Spd. Auto OD	—	6650	1680	2766	2146	4912	5½
F-150 4x2	X12	132.5	5.4L V-8	4-Spd. Auto OD	—	6950	1790	2890	2214	5104	5½
F-150 4x2	X12	144.5	4.6L V-8	4-Spd. Auto OD	—	6700	1650	2876	2121	4997	6½
F-150 4x2	X12	144.5	5.4L V-8	4-Spd. Auto OD	—	7050	1870	2948	2172	5120	6½
F-150 4x2	X12	163.0	5.4L V-8	4-Spd. Auto OD	—	8200	2700	3136	2306	5442	8
F-150 4x4	X14	132.5	4.6L V-8	4-Spd. Auto OD	Warner 44-06	6900	1640	2998	2209	5207	5½
F-150 4x4	X14	132.5	5.4L V-8	4-Spd. Auto OD	Warner 44-06	7150	1680	3140	2272	5412	5½
F-150 4x4	X14	144.5	4.6L V-8	4-Spd. Auto OD	Warner 44-06	6950	1600	3112	2180	5292	6½
F-150 4x4	X14	144.5	5.4L V-8	4-Spd. Auto OD	Warner 44-06	7200	1730	3185	2229	5414	6½
F-150 4x4	X14	163.0	5.4L V-8	4-Spd. Auto OD	Warner 44-06	8200	2350	3392	2397	5789	8
SUPERCREW STYLESIDE PICKUP											
F-150 4x2	W12	138.5	4.6L V-8	4-Spd. Auto OD	—	6800	1690	2868	2227	5095	5½
F-150 4x2	W12	138.5	5.4L V-8	4-Spd. Auto OD	—	7050	1770	2925	2294	5219	5½
F-150 4x2	W12	150.5	4.6L V-8	4-Spd. Auto OD	—	6800	1540	2950	2256	5206	6½
F-150 4x2	W12	150.5	5.4L V-8	4-Spd. Auto OD	—	7050	1660	3030	2297	5327	6½
F-150 4x4	W14	138.5	4.6L V-8	4-Spd. Auto OD	Warner 44-06	6900	1450	3097	2293	5390	5½
F-150 4x4	W14	138.5	5.4L V-8	4-Spd. Auto OD	Warner 44-06	7200	1630	3180	2332	5512	5½
F-150 4x4	W14	150.5	4.6L V-8	4-Spd.	Warner 44-06	6900	1340	3184	2314	5498	6½
F-150 4x4	W14	150.5	5.4L V-8	4-Spd.	Warner 44-06	7200	1520	3265	2356	5621	6½
SUPERCREW FLARESIDE PICKUP											
F-150 4x2	W02	150.5	4.6L V-8	4-Spd.	—	6800	1500	2959	2281	5240	6½
F-150 4x2	W02	150.5	5.4L V-8	4-Spd.	—	7050	1650	3026	2317	5343	6½
F-150 4x4	W04	150.5	4.6L V-8	4-Spd.	Warner 44-06	6900	1280	3184	2371	5555	6½
F-150 4x4	W04	150.5	5.4L V-8	4-Spd.	Warner 44-06	7200	1480	3249	2410	5659	6½

(1) Engine/transmission combinations may not be available in all models, or in all areas.
(2) Includes weight of driver, passengers and optional equipment.
(3) Base curb weight is for standard equipment only.

DIMENSIONAL DATA
F-150 REGULAR CAB STYLESIDE 4X2 / 4X4

2008
MODEL YEAR



NOTES — [] DIMENSIONS ARE INCHES.
— CH, LH, F, R, FW, RW DIMENSIONS, SEE PAGE 94.
— TIRE DATA, PAGE 96.
— INTERIOR BOX DIMENSIONS, PAGE 90-93.

2008
MODEL YEAR

F-150

CAB*

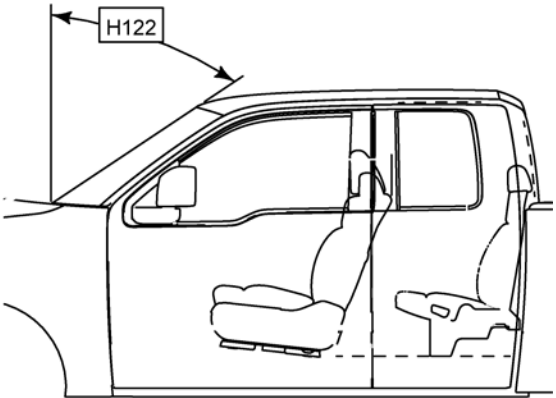
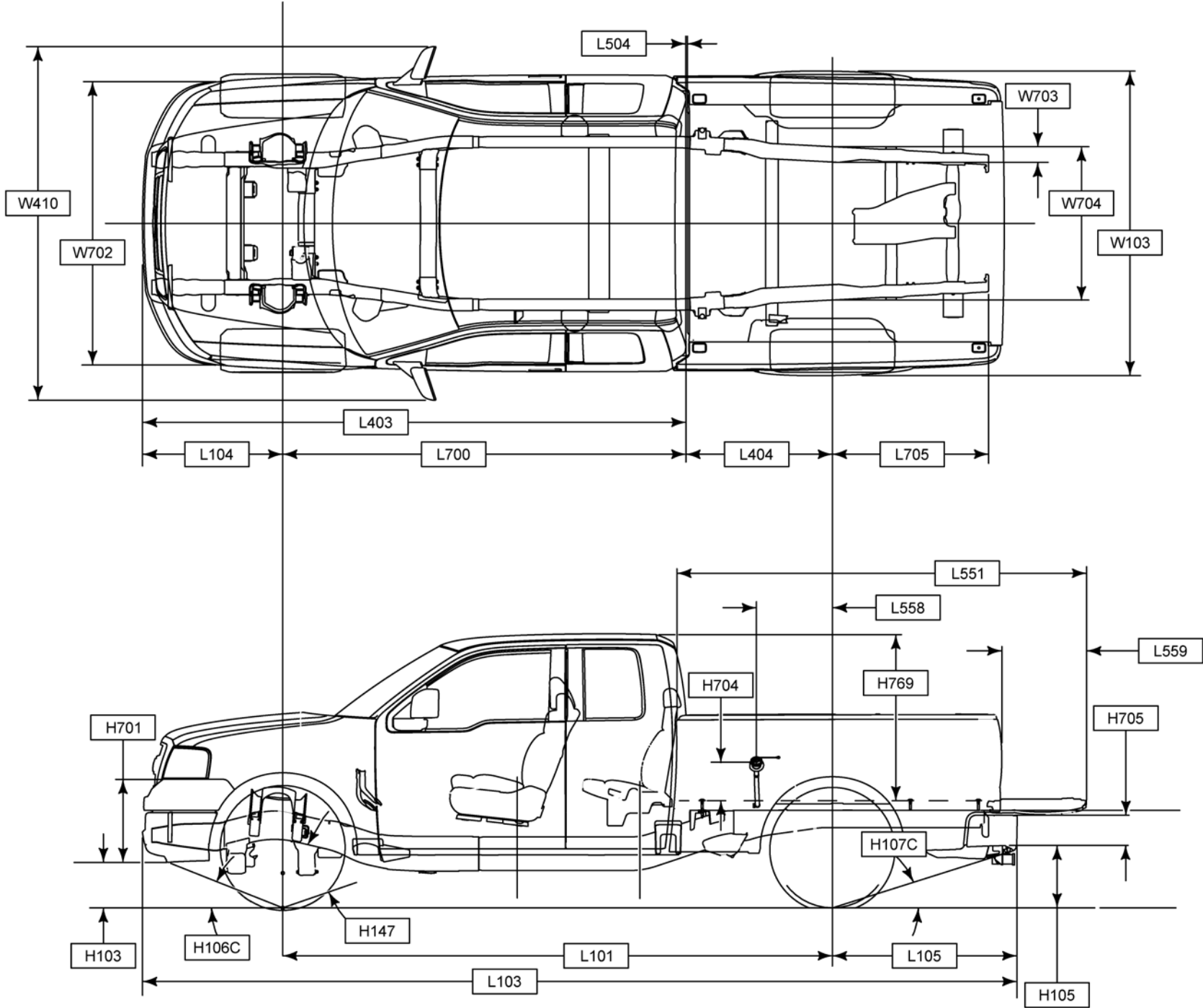
CODE	DESCRIPTION	126" WB	144.5" WB
NOMINAL CARGO BODY SIZE		6.5 FT.	8 FT.
H704	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO \varnothing OF FUEL FILLER DOOR	267 [10.5]	
H705	REAR BUMPER HEIGHT	258 [10.2]	
H769	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO TOP OF CAB @ \varnothing OF REAR AXLE	1103 [43.4]	
L504	CAB TO PICKUP BOX	6 [0.2]	
L551	BOX OVERALL LENGTH TO OPEN TAILGATE	2632 [103.6]	3104 [122.2]
L558	\varnothing OF REAR AXLE TO \varnothing OF FUEL FILLER DOOR	508 [20.0]	
L559	LENGTH OF OPEN TAILGATE	557 [21.9]	

CODE	DESCRIPTION	
H122	WINDSHIELD ANGLE (DEGREES)	54.5
H701	FRONT BUMPER HEIGHT	351 [13.8]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/ MOLDINGS)	2005 [78.9]
W410	VEHICLE WIDTH (MAX W/STANDARD MIRRORS)	2351 [92.6]
W702	FRONT BUMPER WIDTH	1901 [74.8]

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
F-150 SUPERCAB STYLE SIDE 4X2 / 4X4

2008
MODEL YEAR



BB0010-2005

NOTES — [] DIMENSIONS ARE INCHES.
— CH, LH, F, R, FW, RW DIMENSIONS, SEE PAGE 95.
— TIRE DATA, PAGE 96.
— INTERIOR BOX DIMENSIONS, PAGE 90-93.

2008
MODEL YEAR

F-150

PICKUP BODY

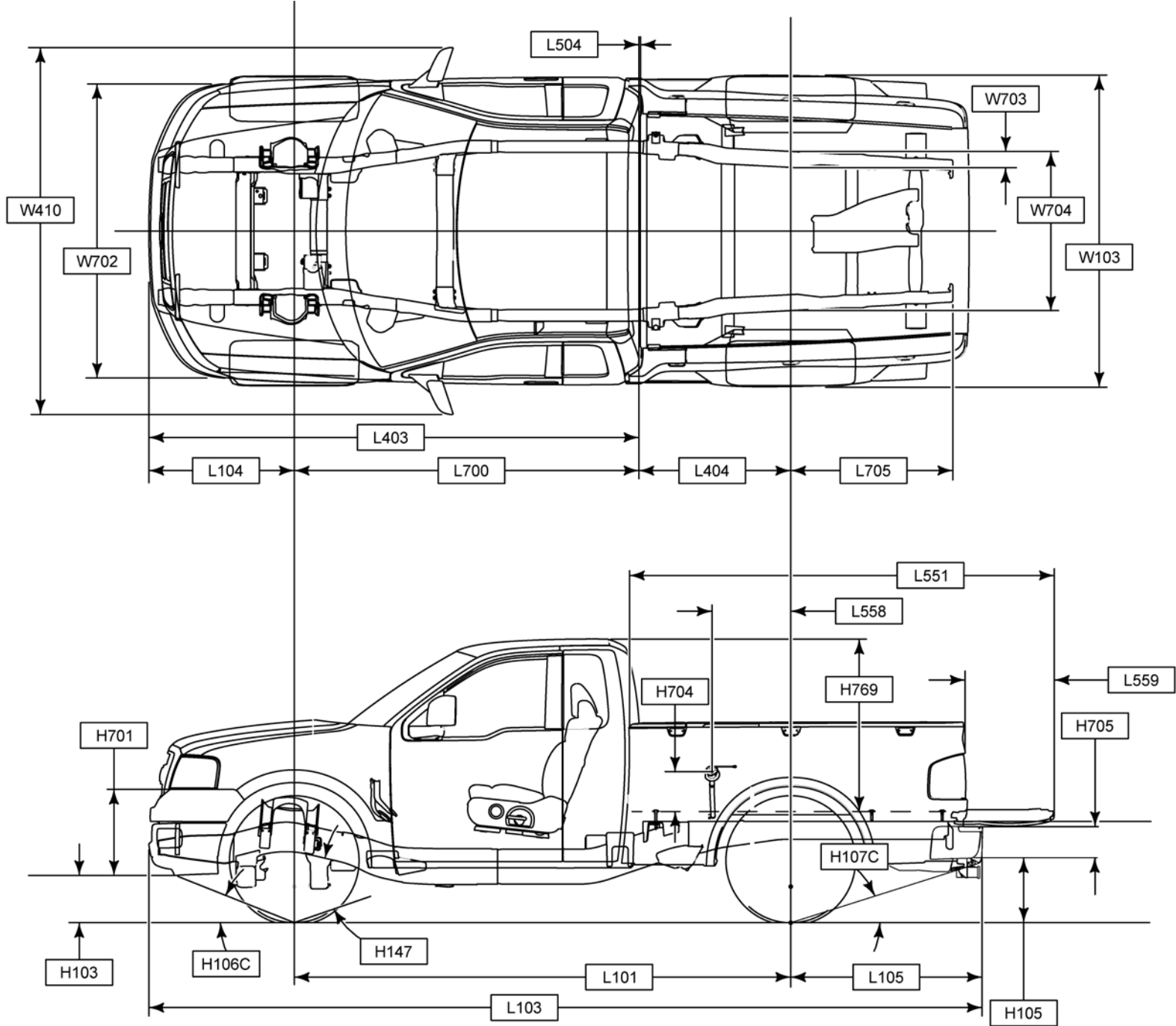
CODE	DESCRIPTION	132.5" WB	144.5" WB	163.0" WB
NOMINAL CARGO BODY SIZE		5.5 FT.	6.5 FT.	8 FT.
H704	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO C OF FUEL FILLER DOOR	267 [10.5]		
H705	REAR BUMPER HEIGHT	258 [10.2]		
H769	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO TOP OF CAB @ C OF REAR AXLE	1103 [43.4]		
L504	CAB TO PICKUP BOX	6 [0.2]		
L551	BOX OVERALL LENGTH TO OPEN TAILGATE	2332 [91.8]	2632 [103.6]	3104 [122.2]
L558	C REAR AXLE TO C FUEL FILLER DOOR	508 [20.0]		
L559	LENGTH OF OPEN TAILGATE	557 [21.9]		

CODE	DESCRIPTION	
H122	WINDSHIELD ANGLE (DEGREES)	54.5°
H701	FRONT BUMPER HEIGHT	351 [13.8]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/ MOLDINGS)	2005 [78.9]
W410	VEHICLE WIDTH (MAX W/STANDARD MIRRORS)	2351 [92.6]
W702	FRONT BUMPER WIDTH	1901 [74.8]

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
F-150 REGULAR CAB FLARESIDE 4X2 / 4X4

2008
MODEL YEAR



BB0011-2005

NOTES — [] DIMENSIONS ARE INCHES.
— CH, LH, F, R, FW, RW DIMENSIONS, SEE PAGE 94.
— TIRE DATA, PAGE 96.
— INTERIOR BOX DIMENSIONS, PAGE 93.

DIMENSIONAL DATA
F-150 REGULAR CAB FLARESIDE 4X2 / 4X4

2008
MODEL YEAR

CHASSIS

CODE	DESCRIPTION	126" WB	
		4X2	4X4
H103	BOTTOM OF FRONT BUMPER VALANCE TO GROUND @ CURB	385 [15.2]	445 [17.5]
H105	BOTTOM OF REAR BUMPER VALANCE TO GROUND @ CURB	463 [18.2]	510 [20.1]
H106C	APPROACH ANGLE @ CURB (DEGREES)	21.2	26.0
H107C	DEPARTURE ANGLE @ CURB (DEGREES)	23.2	19.9
H147C	RAMP BREAKOVER ANGLE @ CURB (DEGREES)	20.7	21.7
H507	TOP OF FRAME TO GROUND @ CURB (DEGREES)	705 [27.8]	
L101	WHEELBASE	3198 [125.9]	
L103	VEHICLE LENGTH	5364 [211.2]	
L104	FRONT OVERHANG	936 [36.9]	
L105	REAR OVERHANG	1230 [48.4]	
L403	FRONT OF BUMPER TO BACK OF CAB	3172 [124.9]	
L404	CAB TO \varnothing OF REAR AXLE	963 [37.9]	
L700	\varnothing OF FRONT AXLE TO BACK OF CAB	2235 [88.0]	
L705	\varnothing OF REAR AXLE TO REAR END OF FRAME	1041 [41.0]	
W703	FRAME RAIL WIDTH	102 [4.0]	
W704	REAR FRAME WIDTH	1024 [40.3]	

PICKUP BODY

CODE	DESCRIPTION	
NOMINAL CARGO BODY SIZE		6.5 FT.
H704	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO \varnothing OF FUEL FILLER DOOR	267 [10.5]
H705	REAR BUMPER HEIGHT	258 [10.2]
H769	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO TOP OF CAB @ \varnothing OF REAR AXLE	1103 [43.4]
L504	CAB TO PICKUP BOX	6 [0.2]
L551	BOX OVERALL LENGTH TO OPEN TAILGATE	2630 [103.5]
L558	\varnothing OF REAR AXLE TO \varnothing OF FUEL FILLER DOOR (4X2)	508 [20.0]
L559	LENGTH OF OPEN TAILGATE	557 [21.9]

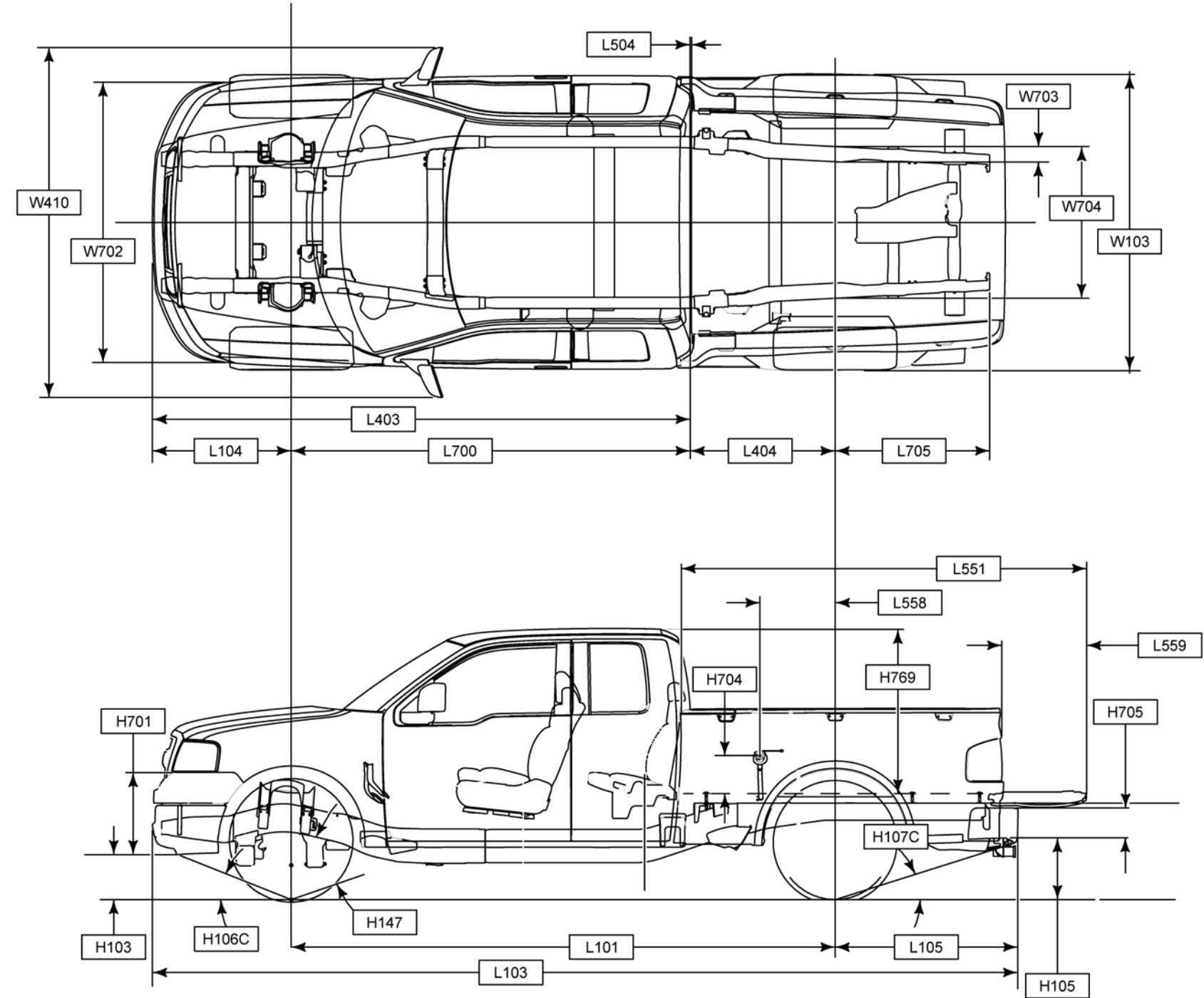
CAB

CODE	DESCRIPTION	
H122	WINDSHIELD ANGLE (DEGREES)	50
H701	FRONT BUMPER HEIGHT	351 [13.8]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/ MOLDINGS)	2005 [78.9]
W410	VEHICLE WIDTH (MAX W/STANDARD MIRRORS)	2351 [92.6]
W702	FRONT BUMPER WIDTH	1901 [74.8]

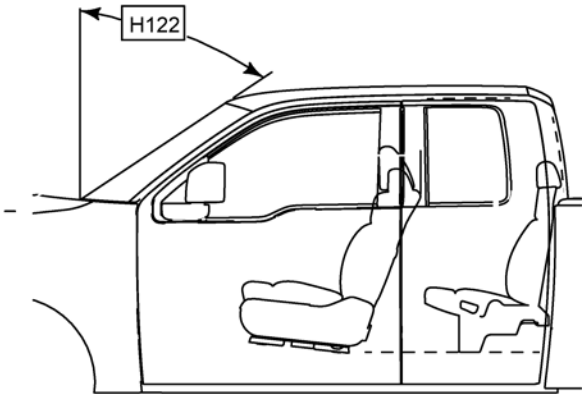
NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
F-150 SUPERCAB FLARESIDE 4X2 / 4X4

2008
MODEL YEAR



BB0012-2005



NOTES — [] DIMENSIONS ARE INCHES.
— CH, LH, F, R, FW, RW DIMENSIONS, SEE PAGE 94.
— TIRE DATA, PAGE 96.
— INTERIOR BOX DIMENSIONS, PAGE 92.

2008
MODEL YEAR

F-150

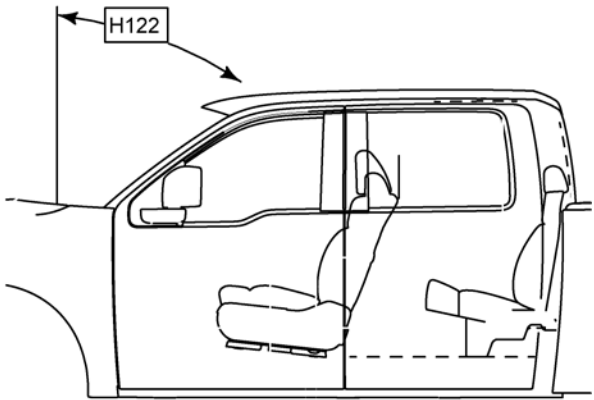
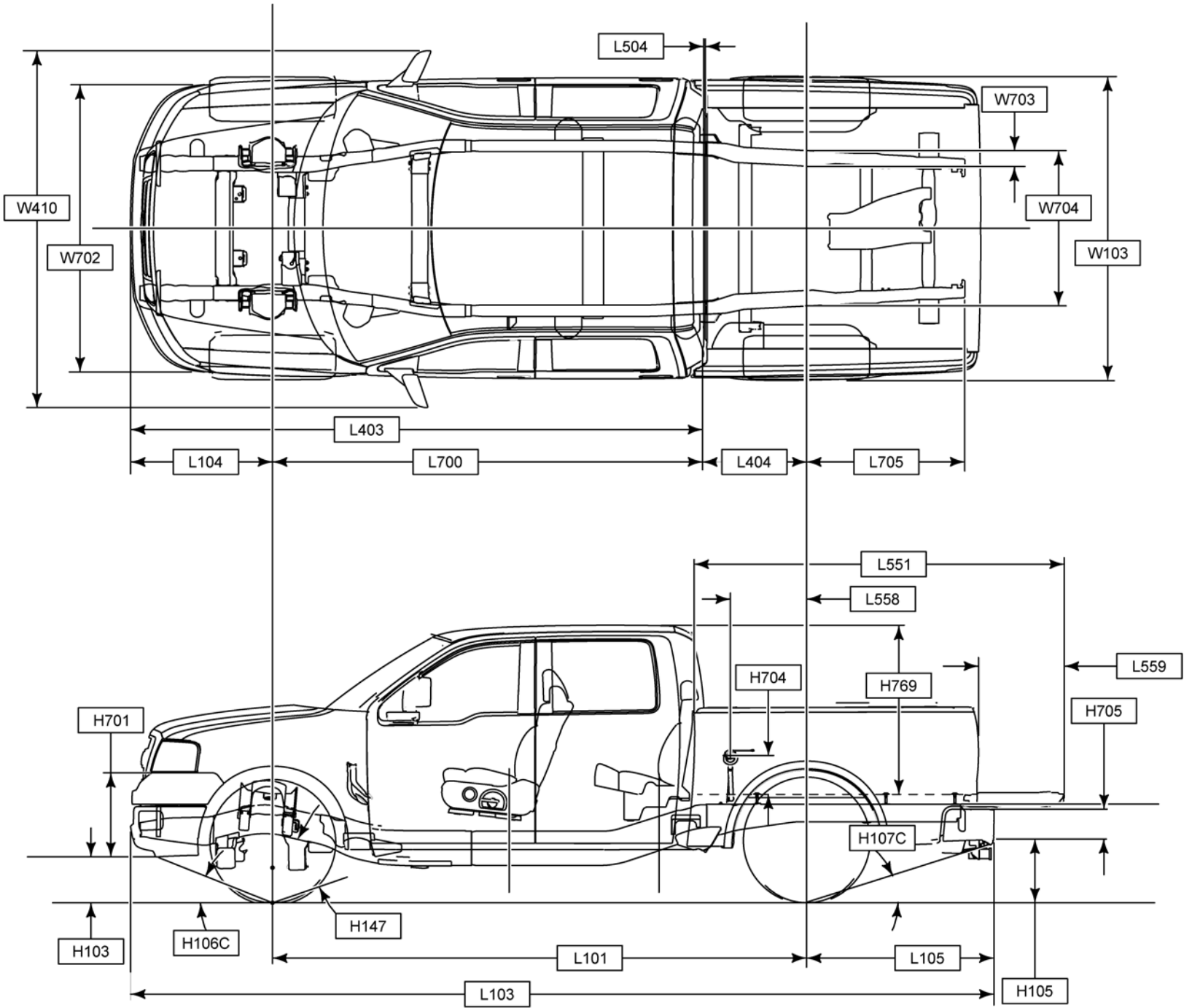
CAB

CODE	DESCRIPTION	
H122	WINDSHIELD ANGLE (DEGREES)	50
H701	FRONT BUMPER HEIGHT	351 [13.8]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/ MOLDINGS)	2005 [78.9]
W410	VEHICLE WIDTH (MAX W/STANDARD MIRRORS)	2351 [92.6]
W702	FRONT BUMPER WIDTH	1901 [74.8]

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
F-150 4-DOOR SUPERCREW PICKUP 4X2 / 4X4

2008
MODEL YEAR



NOTES — [] DIMENSIONS ARE INCHES.
— **CH, LH, F, R, FW, RW** DIMENSIONS, SEE PAGE 95.
— TIRE DATA, PAGE 96.
— INTERIOR BOX DIMENSIONS, PAGE 93.

2008
MODEL YEAR

F-150

CAB*

CODE	DESCRIPTION	138.5" WB		150.5" WB	
		4X2	4X4	4X2	4X4
H103	BOTTOM OF FRONT BUMPER VALANCE TO GROUND @ CURB	268 [10.6]	323 [12.7]	304 [12.0]	367.6 [14.5]
H105	BOTTOM OF REAR BUMPER VALANCE TO GROUND @ CURB	463 [18.2]	486 [19.1]	504 [19.8]	562 [22.1]
H106C	APPROACH ANGLE @ CURB (DEGREES)	21.5	26.0	21.8	26.3
H107C	DEPARTURE ANGLE @ CURB (DEGREES)	22.1	25.3	23.6	26.2
H147C	RAMP BREAKOVER ANGLE @ CURB (DEGREES)	17.7	21.2	16.6	20.2
H507	TOP OF FRAME TO GROUND @ CURB (DEGREES)	706 [27.8]	773 [30.4]	706 [27.8]	773 [30.4]
L101	WHEELBASE	3518 [138.5]		3823 [150.5]	
L103	VEHICLE LENGTH	5685 [223.8]		5994 [236.0]	
L104	FRONT OVERHANG	936 [36.9]			
L105	REAR OVERHANG	936 [36.9]			
L403	FRONT OF BUMPER TO BACK OF CAB	3791 [149.3]			
L404	CAB TO \varnothing OF REAR AXLE	663 [26.1]		963 [37.9]	
L700	\varnothing OF FRONT AXLE TO BACK OF CAB	2855 [112.4]			
L705	\varnothing OF REAR AXLE TO REAR END OF FRAME	1041 [41.0]			
W703	FRAME RAIL WIDTH	102 [4.0]			
W704	REAR FRAME WIDTH	1024 [40.3]			

CODE	DESCRIPTION	138.5" WB	150.5" WB
NOMINAL CARGO BODY SIZE		5.5 FT.	6.5 FT.
H704	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO \varnothing OF FUEL FILLER DOOR	267 [10.5]	
H705	REAR BUMPER HEIGHT	258 [10.2]	
H769	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO TOP OF CAB @ \varnothing OF REAR AXLE	1103 [43.4]	
L504	CAB TO PICKUP BOX	6 [0.2]	
L551	OVERALL LENGTH OF CARGO BODY FLOOR WITH OPEN TAILGATE	2332 [91.8]	2632 [103.6]
L558	\varnothing OF REAR AXLE TO \varnothing OF FUEL FILLER DOOR	508 [20.0]	
L559	LENGTH OF OPEN TAILGATE	557 [21.9]	

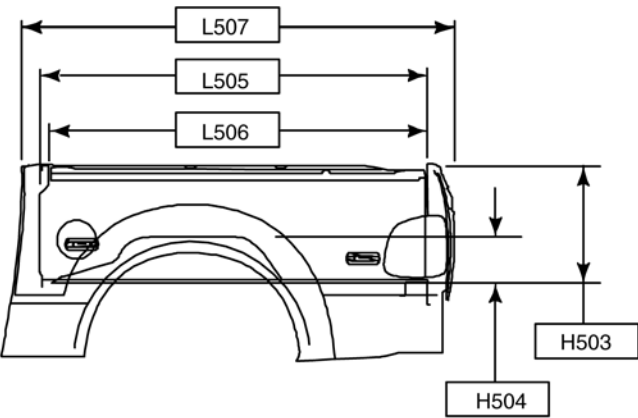
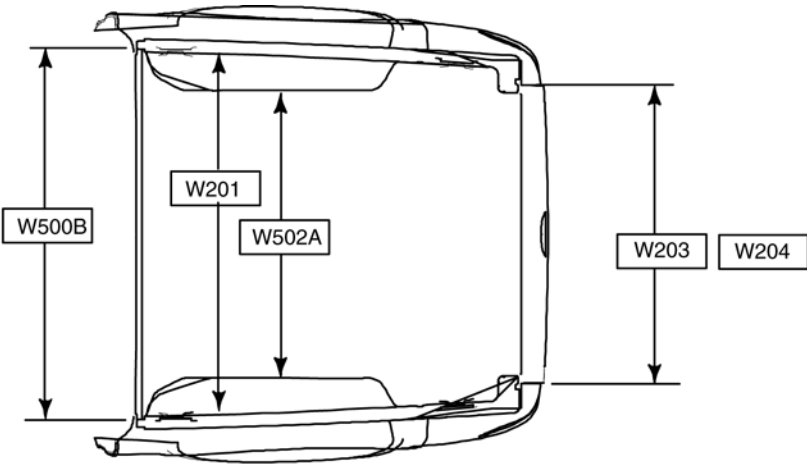
CODE	DESCRIPTION	
H122	WINDSHIELD ANGLE (DEGREES)	54.5
H701	FRONT BUMPER HEIGHT	479 [18.9]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/ MOLDINGS)	2005 [78.9]
W410	VEHICLE WIDTH (MAX W/STANDARD MIRRORS)	2458 [96.8]
W702	FRONT BUMPER WIDTH	1901 [74.8]

* Common cab dimensions between 138.5" WB & 150.5" WB

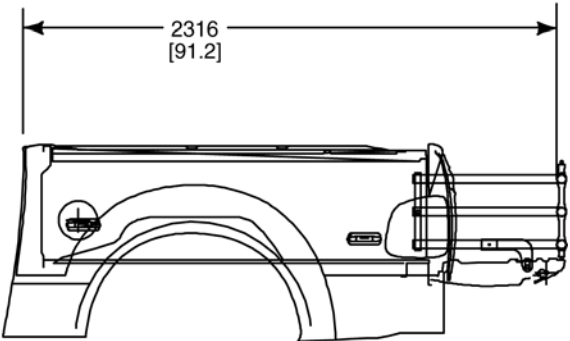
NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
F-150 5 1/2' STYLE SIDE PICKUP BOX

2008
MODEL YEAR



5 1/2' BOX



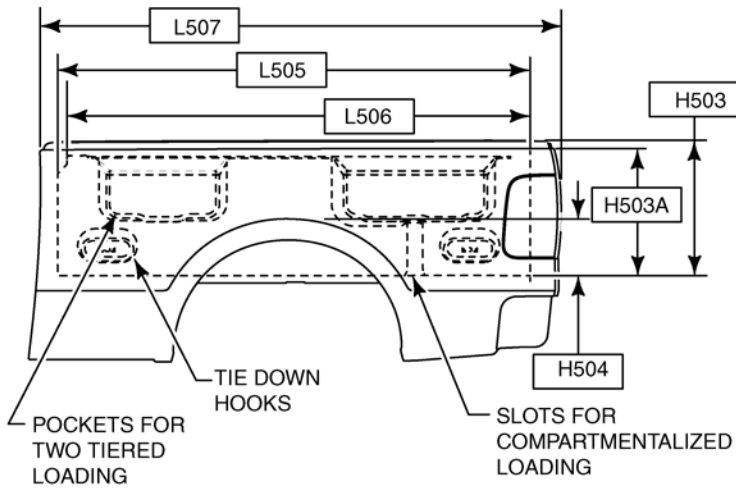
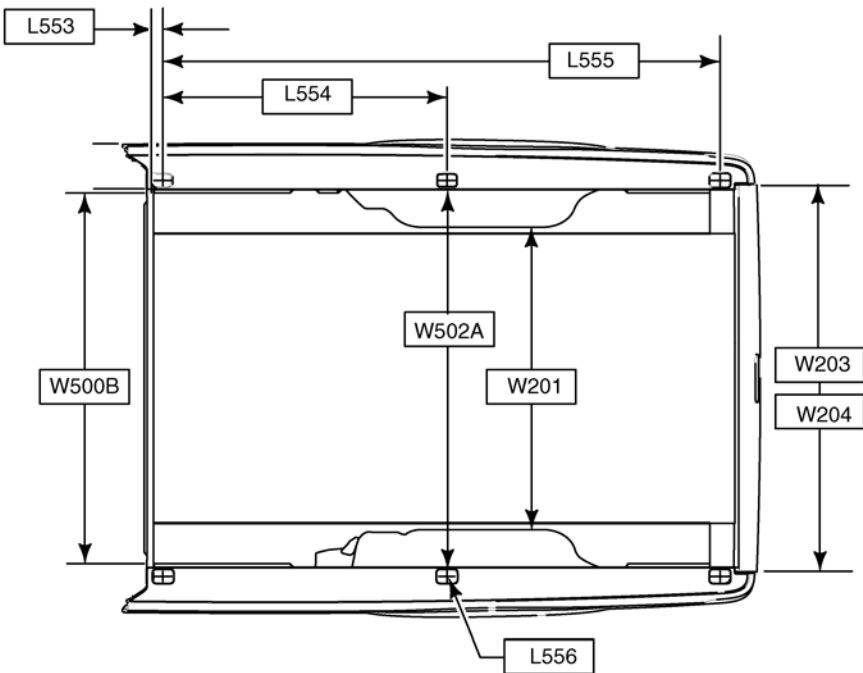
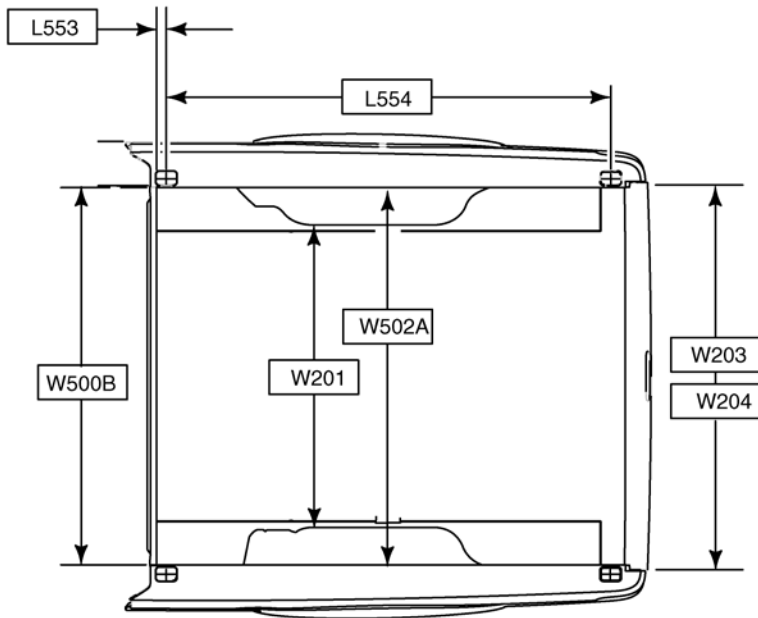
5 1/2' BOX WITH OPTIONAL BOX EXTENDER

BB0553-2005

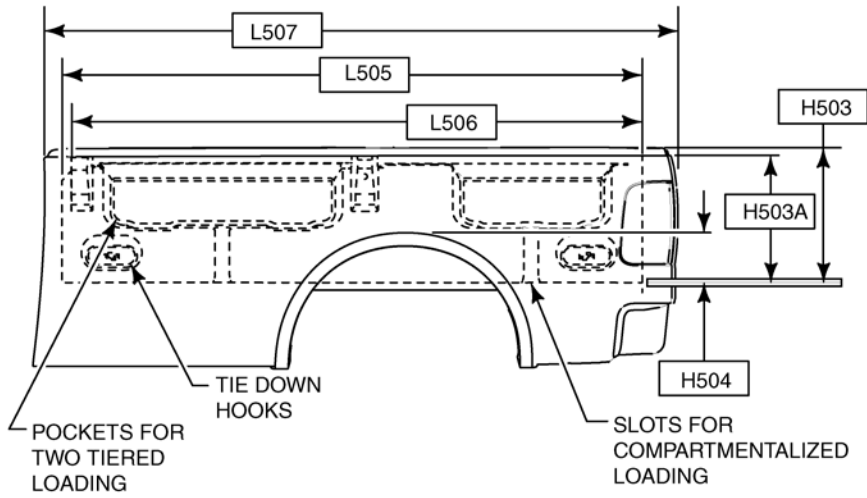
NOTES — [] DIMENSIONS ARE INCHES.
— SEE PAGE 93 FOR DIMENSIONS.

DIMENSIONAL DATA
F-150 6 1/2 & 8 FT. STYLESIDE PICKUP BOX

2008
MODEL YEAR



6 1/2 FT. BOX



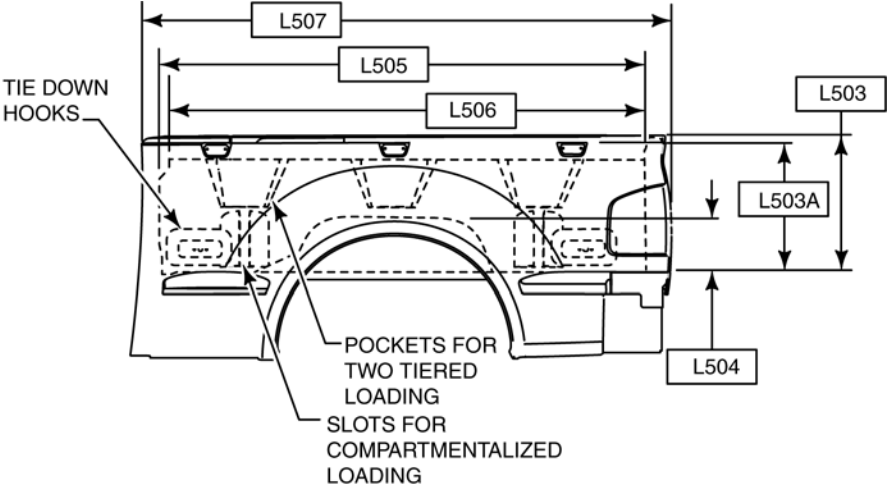
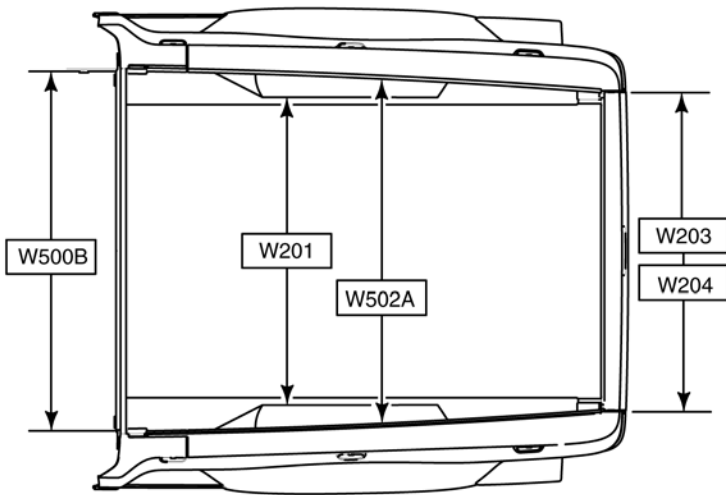
8 FT. BOX

BB0013-2005

NOTES — [] DIMENSIONS ARE INCHES.
— SEE PAGE 93 FOR DIMENSIONS.

DIMENSIONAL DATA
F-150 6 ½' FLARESIDE PICKUP BOX

2008
MODEL YEAR



BB0014-2005

NOTES — [] DIMENSIONS ARE INCHES.
— SEE PAGE 93 FOR DIMENSIONS.

DIMENSIONAL DATA
F-150 PICKUP BOX

2008
MODEL YEAR

PICKUP BOX

CODE	DESCRIPTION	5.5' STYLESIDE	6.5' STYLESIDE	8' STYLESIDE	6.5' FLARESIDE
H503	CARGO BODY HEIGHT W/MOLDING	566 [22.3]	565 [22.2]	568 [22.4]	565 [22.2]
H503A	CARGO BODY HEIGHT W/O MOLDING	556 [21.9]	556 [21.9]	556 [21.9]	551 [21.7]
H504	WHEELHOUSE HEIGHT	235 [9.3]	235 [9.3]	235 [9.3]	235 [9.3]
L505	CARGO BODY LENGTH @ FLOOR	1703 [67.0]	2002 [78.8]	2475 [97.4]	2002 [78.8]
L506	CARGO BODY LENGTH @ TOP (BELT)	1675 [65.9]	1975 [77.8]	2448 [96.4]	1968 [77.5]
L507	CARGO BODY OVERALL LENGTH	1800 [70.9]	2101 [82.7]	2571 [101.2]	2098 [82.6]
L553	INSIDE FRONT OF BOX TO \varnothing OF STAKE #1	41 [1.6]	41 [1.6]	41 [1.6]	NA
L554	\varnothing OF STAKE #1 TO \varnothing OF STAKE #2	1566 [61.7]	1867 [73.5]	1192 [46.9]	NA
L555	\varnothing OF STAKE #1 TO \varnothing OF STAKE #3	NA	NA	2338 [92.0]	NA
L556	STAKE POCKET SIZE (L x W)	58 x 43 [2.3 x 1.7]	58 x 43 [2.3 x 1.7]	58 x 43 [2.3 x 1.7]	NA
W201	CARGO WIDTH @ WHEELHOUSE	1269 [50.0]	1269 [50.0]	1269 [50.0]	1270 [50.0]
W203	REAR OPENING WIDTH @ FLOOR	1531 [60.3]	1531 [60.3]	1531 [60.3]	1250 [49.2]
W204	REAR OPENING WIDTH @ TOP (BELT)	1524 [60.0]	1524 [60.0]	1524 [60.0]	1323 [52.1]
W500B	CARGO BODY MAXIMUM INSIDE WIDTH @ FLOOR	1656 [65.2]	1656 [65.2]	1656 [65.2]	1507 [59.3]
W502A	CARGO BODY MAXIMUM INSIDE WIDTH @ \varnothing OF REAR AXLE	1656 [65.2]	1656 [65.2]	1656 [65.2]	1463 [57.6]
V5	CARGO VOLUME - LITERS / CU.FT.	1570 / 55.4	1856 / 65.5	2302 / 81.3	1673 / 59.1

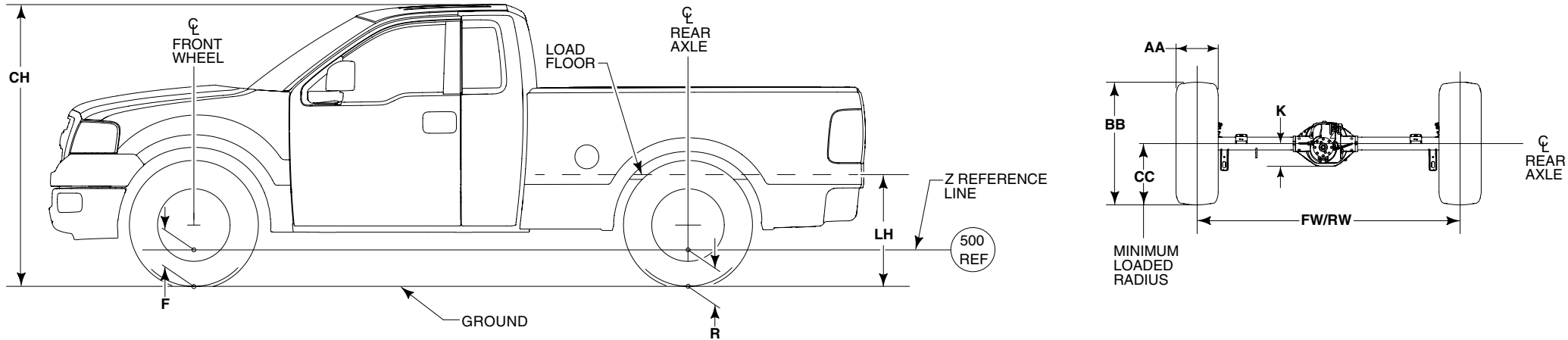
NOTE — [] DIMENSIONS ARE INCHES.

AXLE / TIRE / VEHICLE HEIGHT DATA
F-150 REGULAR/SUPERCAB

2008
MODEL YEAR

Page 94

F-150



BB0017 2004

Model	WB inches	GVWR pounds	Base Tire	F Height @ Front Wheel ⁽¹⁾⁽²⁾ mm [in]		R Height @ Rear Axle ⁽¹⁾⁽²⁾ mm [in]		LH ⁽¹⁾⁽²⁾ mm [in]		CH ⁽¹⁾⁽²⁾ mm [in]		K mm [in]	AA mm [in]	BB mm [in]	CC mm [in]	FW mm [in]	RW mm [in]
				Height at Base Curb Weight	Loaded Height @ Spring Rating	Height at Base Curb Weight	Loaded Height @ Spring Rating	Empty	Loaded	Empty	Loaded						
F-150 Regular Cab 4x2 Styleside	126.0	6600	P235/70R-17A/S	293 [11.5]	253 [9.9]	379 [14.9]	263 [10.3]	802 [31.6]	684 [26.9]	1872 [73.7]	1779 [70.0]	147 [5.8]	246 [9.6]	732 [28.8]	351 [13.8]	1701 [66.9]	1701 [66.9]
	144.5	6800	P235/70R-17A/S	283 [11.1]	252 [9.9]	377 [14.8]	261 [10.2]	835 [32.9]	698 [27.5]	1875 [73.8]	1794 [70.6]	147 [5.8]	246 [9.6]	732 [28.8]	351 [13.8]	1701 [66.9]	1701 [66.9]
F-150 Regular Cab 4x2 Flareside	126.0	6600	P255/65R-17A/S	293 [11.5]	254 [10.0]	380 [14.9]	264 [10.3]	802 [31.6]	684 [26.9]	1875 [73.8]	1779 [70.0]	147 [5.8]	275 [10.8]	778 [30.6]	343 [13.5]	1701 [66.9]	1701 [66.9]
F-150 SuperCab 4x2 Styleside	132.5	6650	P235/70R-17A/S	295 [11.6]	252 [9.9]	371 [14.6]	262 [10.3]	814 [32.0]	697 [27.4]	1881 [74.0]	1793 [70.6]	147 [5.8]	246 [9.6]	732 [28.8]	351 [13.8]	1701 [66.9]	1701 [66.9]
	144.5	6700	P235/70R-17A/S	289 [11.3]	250 [9.8]	367 [14.4]	262 [10.3]	791 [31.1]	685 [27.0]	1866 [73.5]	1782 [70.2]	147 [5.8]	246 [9.6]	732 [28.8]	351 [13.8]	1701 [66.9]	1701 [66.9]
	163.0	8200	LT245/70R-17D A/S	287 [11.3]	249 [9.8]	388 [15.3]	257 [10.1]	810 [31.9]	697 [27.4]	1865 [73.4]	1796 [70.7]	167 [6.5]	263 [10.3]	790 [31.1]	360 [14.1]	1701 [66.9]	1701 [66.9]
F-150 SuperCab 4x2 Flareside	144.5	6700	P255/65R-17A/S	290 [11.4]	252 [9.9]	368 [14.4]	260 [10.2]	791 [31.1]	685 [27.0]	1856 [73.1]	1782 [70.2]	147 [5.8]	275 [10.8]	778 [30.6]	343 [13.5]	1701 [66.9]	1701 [66.9]
F-150 Regular Cab 4x4 Styleside	126.0	6800	P235/75R-17A/T	345 [13.5]	311 [12.2]	435 [17.1]	322 [12.6]	850 [33.5]	744 [29.3]	1921 [75.6]	1837 [72.3]	147 [5.8]	251 [9.8]	752 [29.6]	359 [14.1]	1701 [66.9]	1701 [66.9]
	144.5	6950	P235/75R-17A/T	339 [13.3]	309 [12.1]	435 [17.1]	321 [12.6]	888 [35.0]	750 [29.5]	1921 [75.6]	1844 [72.6]	147 [5.8]	251 [9.8]	752 [29.6]	359 [14.1]	1701 [66.9]	1701 [66.9]
F-150 Regular Cab 4x4 Flareside	126.0	6800	P255/70R-17A/T	346 [13.6]	312 [12.2]	436 [17.1]	323 [12.7]	850 [33.5]	744 [29.3]	1903 [74.9]	1837 [72.3]	147 [5.8]	275 [10.8]	804 [31.6]	357 [14.0]	1701 [66.9]	1701 [66.9]
F-150 SuperCab 4x4 Styleside	132.5	6900	P235/75R-17A/T	347 [13.6]	309 [12.1]	419 [16.4]	321 [12.6]	860 [33.9]	757 [29.8]	1943 [76.5]	1852 [72.9]	147 [5.8]	251 [9.8]	752 [29.6]	359 [14.1]	1701 [66.9]	1701 [66.9]
	144.5	6950	P235/75R-17A/T	346 [13.6]	307 [12.0]	427 [16.8]	321 [12.6]	854 [33.6]	745 [29.3]	1919 [75.6]	1841 [72.5]	147 [5.8]	251 [9.8]	752 [29.6]	359 [14.1]	1701 [66.9]	1701 [66.9]
	163.0	8200	LT245/70R-17D A/T	341 [13.4]	300 [11.8]	425 [16.7]	310 [12.2]	854 [33.6]	753 [29.6]	1916 [75.4]	1848 [72.8]	167 [6.5]	263 [10.3]	790 [31.1]	360 [14.1]	1701 [66.9]	1701 [66.9]
F-150 SuperCab 4x4 Flareside	144.5	6950	P255/70R-17A/T	347 [13.6]	309 [12.1]	428 [16.8]	323 [12.7]	854 [33.6]	745 [29.3]	1912 [75.3]	1841 [72.5]	147 [5.8]	275 [10.8]	804 [31.6]	357 [14.0]	1701 [66.9]	1701 [66.9]

(1) The Height Data shown represents dimensions of a base/standard vehicle with no options. Actual height may vary due to production tolerances.
(2) Vehicle ride heights are given at tire minimum loaded radius.

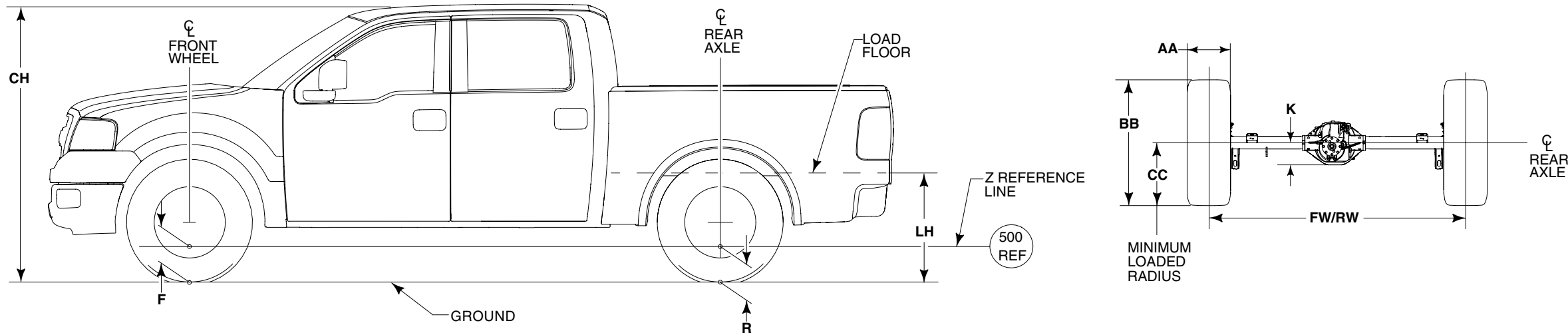
NOTES — [] DIMENSIONS ARE INCHES.
— TIRE DATA, PAGE 96.

AXLE / TIRE / VEHICLE HEIGHT DATA
F-150 SUPERCREW

2008
MODEL YEAR

Page 95

F-150



BB0554 2004

Model	WB inches	GVWR pounds	Base Tire	F Height @ Front Wheel ⁽¹⁾⁽²⁾ mm [in]		R Height @ Rear Axle ⁽¹⁾⁽²⁾ mm [in]		LH ⁽¹⁾⁽²⁾ mm [in]		CH ⁽¹⁾⁽²⁾ mm [in]		K mm [in]	AA mm [in]	BB mm [in]	CC mm [in]	FW mm [in]	RW mm [in]
				Height @ Base Curb Weight	Loaded Height @ Spring Rating	Height @ Base Curb Weight	Loaded Height @ Spring Rating	Empty	Loaded	Empty	Loaded						
F-150 SuperCrew 4x2	138.5	6800	P255/65R-17A/S	288 [11.3]	249 [9.8]	360 [14.1]	259 [10.1]	802 [31.6]	684 [26.9]	1867 [73.5]	1781 [70.1]	147 [5.8]	275 [10.8]	778 [30.6]	343 [13.5]	1701 [66.9]	1701 [66.9]
F-150 SuperCrew 4x4	138.5	6900	P255/70R-17A/T	327 [12.8]	291 [11.4]	406 [15.9]	305 [12.0]	826 [32.5]	730 [28.7]	1931 [76.0]	1827 [71.9]	147 [5.8]	251 [9.8]	752 [29.6]	359 [14.1]	1701 [66.9]	1701 [66.9]

(1) The Height Data shown represents dimensions of a base/standard vehicle with no options. Actual height may vary due to production tolerances.
(2) Vehicle ride heights are given at tire minimum loaded radius.

NOTES — [] DIMENSIONS ARE INCHES.
— TIRE DATA, PAGE 96.

WHEEL AND TIRE DATA
F-150

2008
MODEL YEAR

F-150 REGULAR/SUPERCAB/SUPERCREW TIRE DATA

Tire Size	Rim Width (in)	AA Maximum Section Width (mm)		BB Minimum Tire Height (mm)		*CC Minimum Loaded Radius (mm)	
		All-Season	All-Terrain	All-Season	All-Terrain	All-Season	All-Terrain
P235/70R17XL	7.5	246	—	732	—	351	—
P235/75R17	7.5	—	251	—	752	—	359
P255/65R17	7.5	275	—	778	—	343	—
P255/70R17	7.5	—	275	—	804	—	357
P265/60R18	7.5	260	—	778	—	354	—
P275/65R18	7.5	—	271	—	810	—	362
LT275/65R18C	7.5	—	318	—	826	—	383
LT245/70R17D	7.5	263	—	790	—	360	—
P275/55R20	8.5	—	282	—	770	—	366
P275/45R22	9.0	276	—	781	—	374	—

* This number represents Radius — Axle centerline to ground with maximum rated load on tire at maximum pressure.

F-150 REGULAR/SUPERCAB/SUPERCREW WHEEL DATA

Wheel Type	Wheel Size	Inset (mm)	No. of Studs	Bolt Circle (mm)	Max. Wheel Capacity
Painted Styled Steel	17x7.5J	44	6	135	2100
Al 5 Spoke Machined w/ Satin Nickel Accents	18x7.5J	44	6	135	2100
Al 5 Spoke Fabricated	17x7.5J	44	6	135	2100
Al 5 Spoke Fully Painted	17x7.5J	44	6	135	2100
Al 5 Spoke Center Fluted	17x7.5J	44	6	135	2100
Al 5 Spoke Machine Finish	17x7.5J	44	6	135	2100
Al 5 Spoke Machined Finish	18x7.5J	44	6	135	2100
Argent Steel (8200#)	17x7.5J	44	7	150	2450
Steel Wheel Spare	17x7.5J	44	6	135	2100
Steel Wheel Spare	18x7.5J	44	6	135	2100
Cast Aluminum	20x8.5J	44	6	135	2100
Forged Aluminum	22x9.0J	44	6	135	2100

NOTE — [] DIMENSIONS ARE INCHES.

SEAT TRACK TRAVEL / H-POINT LOCATION

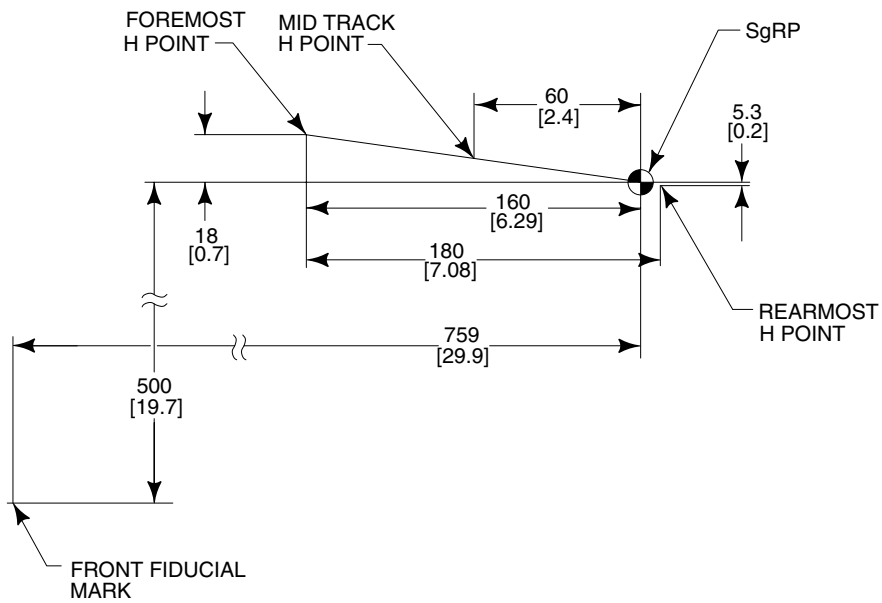
F-150

2008
MODEL YEAR

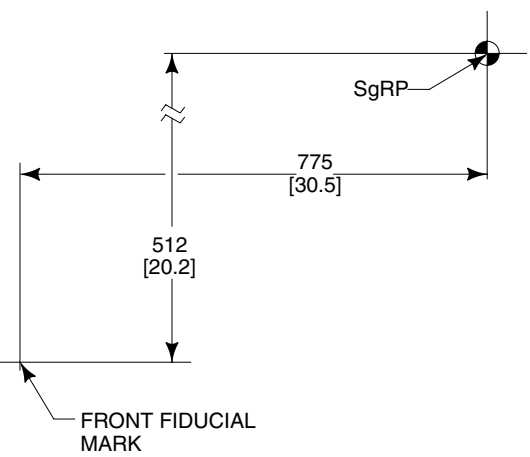
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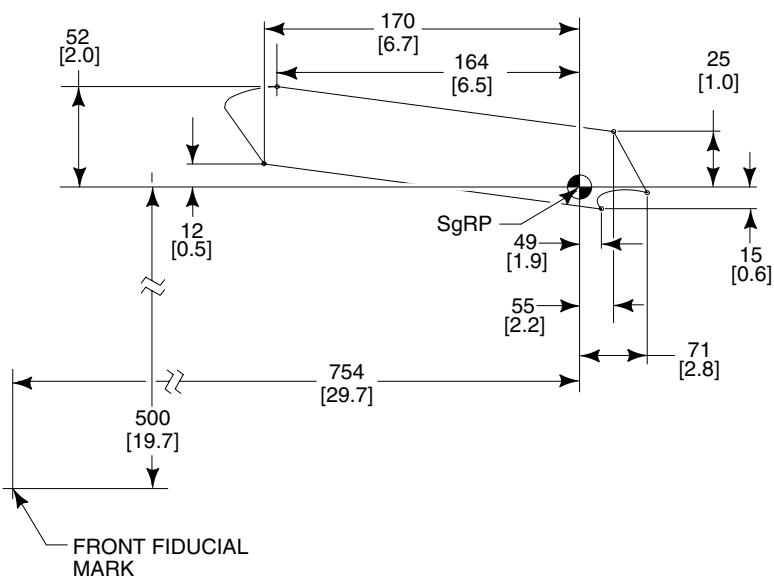
SUPERCREW/REGULAR CAB/SUPERCAB
BENCH SEAT MANUAL TRACK



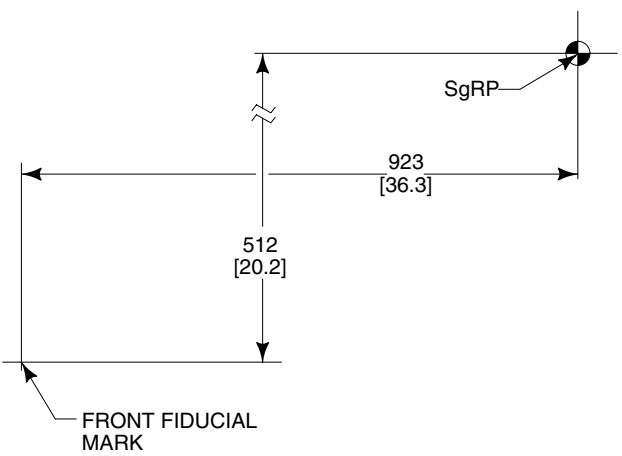
SUPERCAB
REAR PASSENGER SEAT



SUPERCREW/REGULAR CAB/SUPERCAB
DRIVER SEAT POWER TRACK



SUPERCREW
REAR PASSENGER SEAT



BB0298 2005

NOTE — [] DIMENSIONS ARE INCHES.

SUPER DUTY F-250/350/450 STYLESIDE PICKUP
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE ⁽¹⁾ liters	STANDARD TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾			PICKUP NOMINAL LENGTH feet
									FRONT pounds	REAR pounds	TOTAL pounds	
REGULAR CAB STYLESIDE PICKUP												
F-250 4X2	F20	137	56.3 ⁽⁴⁾	5.4L V-8	6-Spd. Manual OD	—	8800	3010	3216	2509	5725	8
				6.8L V-10			9000	3080	3360	2500	5860	8
				6.4L V-8			9400	2700	4045	2580	6625	8
F-250 4X4	F21	137	56.3 ⁽⁴⁾	5.4L V-8	6-Spd. Manual OD	NV271	9000	2770	3604	2561	6165	8
				6.8L V-10			9200	2830	3739	2561	6300	8
				6.4L V-8			9600	2440	4439	2646	7085	8
F-350 4X2 SRW	F30	137	56.3 ⁽⁴⁾	5.4L V-8	6-Spd. Manual OD	—	10,100	4170	3245	2618	5863	8
				6.8L V-10			10,300	4040	3401	2597	5998	8
				6.4L V-8			10,700	3860	4062	2701	6763	8
F-350 4X4 SRW	F31	137	56.3 ⁽⁴⁾	5.4L V-8	6-Spd. Manual OD	NV271	10,500	4130	3635	2668	6303	8
				6.8L V-10			10,700	4190	3794	2644	6438	8
				6.4L V-8			11,100	3800	4459	2764	7223	8
F-350 4X2 DRW	F32	137	56.3 ⁽⁴⁾	5.4L V-8	6-Spd. Manual OD	—	11,800	5560	3266	2909	6175	8
				6.8L V-10			12,000	5620	3410	2900	6310	8
				6.4L V-8			12,400	5250	4095	2980	7075	8
F-350 4X4 DRW	F33	137	56.3 ⁽⁴⁾	5.4L V-8	6-Spd. Manual OD	NV271	12,000	5310	3654	2961	6615	8
				6.8L V-10			12,200	5380	3789	2961	6750	8
				6.4L V-8			12,600	4980	4489	3046	7535	8

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Includes weight of driver, passengers and optional equipment.
(3) Base curb weight is for standard equipment only.
(4) Available with Pickup Box Delete Regular Production Option (RPO) with 5.4L V-8 or 6.4L diesel only.

(Cont'd next page)

SUPER DUTY F-250/350/450 STYLESIDE PICKUP
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE ⁽¹⁾ liters	STANDARD TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾			PICKUP NOMINAL LENGTH feet
									FRONT pounds	REAR pounds	TOTAL pounds	
SUPER CAB STYLESIDE PICKUP												
F-250 4X2	X20	141.8	40.0	5.4L V-8	6-Spd. Manual OD	—	9000	2990	3292	2653	5945	6¾
				6.8L V-10			9200	3050	3431	2649	6080	6¾
				6.4L V-8			9600	2650	4146	2729	6875	6¾
		158	56.2 ⁽⁴⁾	5.4L V-8			9200	3030	3415	2685	6100	8
				6.8L V-10			9400	3100	3552	2683	6235	8
				6.4L V-8			9800	2730	4242	2758	7000	8
F-250 4X4	X21	141.8	40.0	5.4L V-8	6-Spd. Manual OD	NV271	9200	2750	3699	2686	6385	6¾
				6.8L V-10			9400	2810	3836	2684	6520	6¾
				6.4L V-8			9800	2390	4540	2795	7335	6¾
		158	56.2 ⁽⁴⁾	5.4L V-8			9400	2790	3815	2725	6540	8
				6.8L V-10			9600	2850	3958	2717	6675	8
				6.4L V-8			10,000	2460	4645	2815	7460	8
F-350 4X2 SRW	X30	141.8	40.0	5.4L V-8	6-Spd. Manual OD	—	10,100	3950	3329	2754	6063	6¾
				6.8L V-10			10,300	4010	3468	2750	6218	6¾
				6.4L V-8			10,800	3710	4160	2853	7013	6¾
		158	56.2 ⁽⁴⁾	5.4L V-8			10,400	4090	3440	2798	6238	8
				6.8L V-10			10,600	4160	3577	2796	6373	8
				6.4L V-8			11,000	3790	4261	2877	7138	8
F-350 4X4 SRW	X31	141.8	40.0	5.4L V-8	6-Spd. Manual OD	NV271	10,600	4010	3731	2792	6523	6¾
				6.8L V-10			10,800	4070	3885	2773	6658	6¾
				6.4L V-8			11,200	3650	4550	2923	7473	6¾
		158	56.2 ⁽⁴⁾	5.4L V-8			10,800	4050	3839	2839	6678	8
				6.8L V-10			11,000	4110	4000	2813	6813	8
				6.4L V-8			11,400	3720	4666	2932	7598	8
F-350 4X2 DRW	X32	158	56.2 ⁽⁴⁾	5.4L V-8	6-Spd. Manual OD	—	12,200	5580	3465	3085	6550	8
				6.8L V-10			12,400	5640	3602	3083	6685	8
				6.4L V-8			12,800	5270	4292	3158	7450	8
F-350 4X4 DRW	X33	158	56.2 ⁽⁴⁾	5.4L V-8	6-Spd. Manual OD	NV271	12,400	5340	3865	3125	6990	8
				6.8L V-10			12,600	5400	4008	3117	7125	8
				6.4L V-8			13,000	5010	4695	3215	7910	8

(Cont'd next page)

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Includes weight of driver, passengers and optional equipment.
(3) Base curb weight is for standard equipment only.
(4) Available with Pickup Box Delete Regular Production Option (RPO) with 5.4L V-8 or 6.4L diesel only.

SUPER DUTY F-250/350/450 STYLESIDE PICKUP
MODEL LINEUP

2008
MODEL YEAR

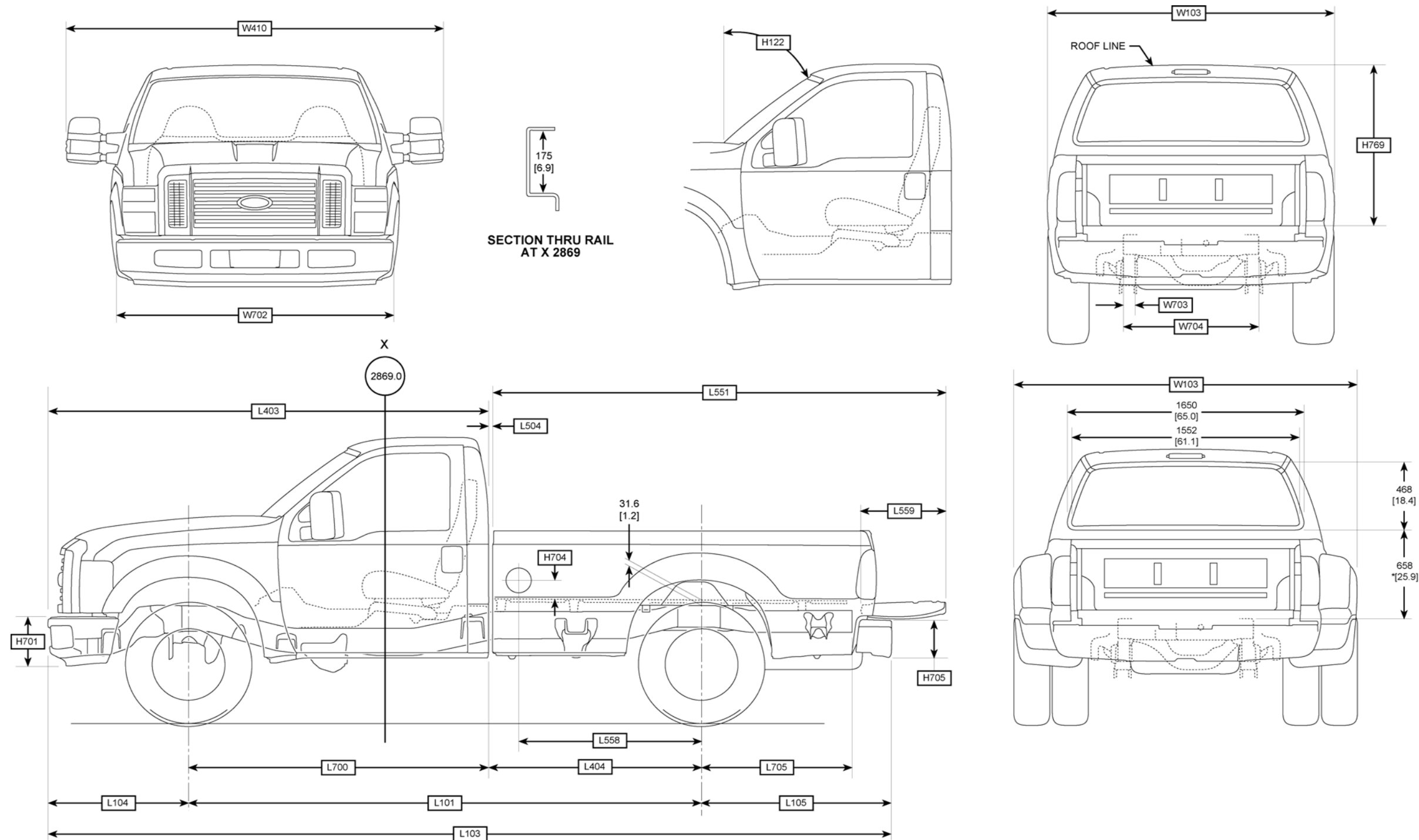
SUPER DUTY F-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE ⁽¹⁾ liters	STANDARD TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾			PICKUP NOMINAL LENGTH feet
									FRONT pounds	REAR pounds	TOTAL pounds	
CREW CAB STYLESIDE PICKUP												
F-250 4X2	W20	156.2	39.9	5.4L V-8	6-Spd. Manual OD	—	9200	2980	3412	2738	6150	6¾
				6.8L V-10			9400	3050	3545	2740	6285	6¾
				6.4L V-8			9800	2670	4253	2797	7050	6¾
		172.4	56.3 ⁽⁴⁾	5.4L V-8			9400	3060	3521	2754	6275	8
				6.8L V-10			9600	3120	3655	2755	6410	8
				6.4L V-8			10,000	2750	4344	2831	7175	8
F-250 4X4	W21	156.2	39.9	5.4L V-8	6-Spd. Manual OD	NV271	9400	2740	3808	2782	6590	6¾
				6.8L V-10			9600	2800	3941	2784	6725	6¾
				6.4L V-8			10,000	2410	4659	2851	7510	6¾
		172.4	56.3 ⁽⁴⁾	5.4L V-8			9600	2810	3924	2791	6715	8
				6.8L V-10			9800	2880	4050	2800	6850	8
				6.4L V-8			10,000	2280	4756	2879	7635	8
F-350 4X2 SRW	W30	156.2	39.9	5.4L V-8	6-Spd. Manual OD	—	10,400	4040	3442	2846	6288	6¾
				6.8L V-10			10,600	4110	3584	2839	6423	6¾
				6.4L V-8			11,000	3740	4260	2928	7188	6¾
		172.4	56.3 ⁽⁴⁾	5.4L V-8			10,600	4120	3549	2864	6413	8
				6.8L V-10			10,800	4180	3695	2853	6548	8
				6.4L V-8			11,200	3810	4357	2956	7313	8
F-350 4X4 SRW	W31	156.2	39.9	5.4L V-8	6-Spd. Manual OD	NV271	10,800	4000	3842	2886	6728	6¾
				6.8L V-10			11,000	4060	3994	2869	6863	6¾
				6.4L V-8			11,400	3670	4660	2988	7648	6¾
		172.4	56.3 ⁽⁴⁾	5.4L V-8			11,000	4070	3945	2908	6853	8
				6.8L V-10			11,200	4140	4097	2891	6988	8
				6.4L V-8			11,500	3640	4765	3008	7773	8
F-350 4X2 DRW	W32	156.2	39.9	5.4L V-8	6-Spd. Manual OD	—	12,200	5530	3464	3138	6600	6¾
				6.8L V-10			12,400	5590	3595	3140	6735	6¾
				6.4L V-8			12,800	5220	4303	3197	7500	6¾
		172.4	56.3 ⁽⁴⁾	5.4L V-8			12,400	5600	3571	3154	6725	8
				6.8L V-10			12,600	5670	3705	3155	6860	8
				6.4L V-8			13,000	5290	4394	3231	7625	8
F-350 4X4 DRW	W33	156.2	39.9	5.4L V-8	6-Spd. Manual OD	NV271	12,400	5280	3858	3182	7040	6¾
				6.8L V-10			12,600	5350	3991	3184	7175	6¾
				6.4L V-8			13,000	4960	4709	3251	7960	6¾
		172.4	56.3 ⁽⁴⁾	5.4L V-8			12,400	5160	3974	3191	7165	8
				6.8L V-10			12,600	5220	4100	3200	7300	8
				6.4L V-8			13,000	4830	4806	3279	8085	8
F-450 4X2 DRW	W42	172.4	56.3 ⁽⁴⁾	6.4L V-8	6-Spd. Manual OD	—	14,500	6100	4723	3592	8315	8
F-450 4X4 DRW	W43				6-Spd. Manual OD	NV271	14,500	5730	5006	3669	8675	8

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Includes weight of driver, passengers and optional equipment.
(3) Base curb weight is for standard equipment only.
(4) Available with Pickup Box Delete Regular Production Option (RPO) with 5.4L V-8 or 6.4L diesel only.

DIMENSIONAL DATA
SUPER DUTY F-250/350 REGULAR CAB
STYLESIDE PICKUP – 4x2 / 4x4

Page 101 SUPER DUTY F-SERIES

2008
MODEL YEAR



BB0715-2007

NOTES — [] DIMENSIONS ARE INCHES.
— INTERIOR BOX DIMENSIONS, PAGES 107-108.
— AXLE/TIRE/VEHICLE HEIGHT DATA, PAGES 109-115.
* MEASURED FROM TOP OF FRAME TO BOTTOM OF REAR WINDOW.

DIMENSIONAL DATA
SUPER DUTY F-250/350 REGULAR CAB
STYLESIDE PICKUP – 4x2 / 4x4

CHASSIS

CODE	DESCRIPTION	4X2 / 4X4
L101	WHEELBASE	3480 [137.0]
L103	VEHICLE LENGTH	5765 [227.0]
L104	FRONT OVERHANG	954 [37.6]
L105	REAR OVERHANG	1331 [52.4]
L403	FRONT OF BUMPER TO BACK OF CAB	3020 [118.9]
L404	CAB TO ¢ OF REAR AXLE	1431 [56.3]
L700	¢ OF FRONT AXLE TO BACK OF CAB	2052 [80.8]
L705	¢ OF REAR AXLE TO REAR END OF FRAME	1024 [40.3]
W703	FRAME RAIL WIDTH	73 [2.9]
W704	REAR FRAME WIDTH	958 [37.7]

PICKUP BODY

CODE	DESCRIPTION	4X2 / 4X4
NOMINAL CARGO BODY SIZE		
H704	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO ¢ OF FUEL FILLER DOOR	127 [5.0]
H705	REAR BUMPER HEIGHT	261 [10.3]
H769	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO TOP OF CAB @ ¢ OF REAR AXLE	1148 [45.2]
L504	CAB TO PICKUP BOX	35 [1.4]
L551	BOX OVERALL LENGTH TO OPEN TAILGATE	3113 [122.6]
L558	¢ OF REAR AXLE TO ¢ OF FUEL FILTER DOOR	1229 [48.4]
L559	LENGTH OF OPEN TAILGATE	598 [23.5]

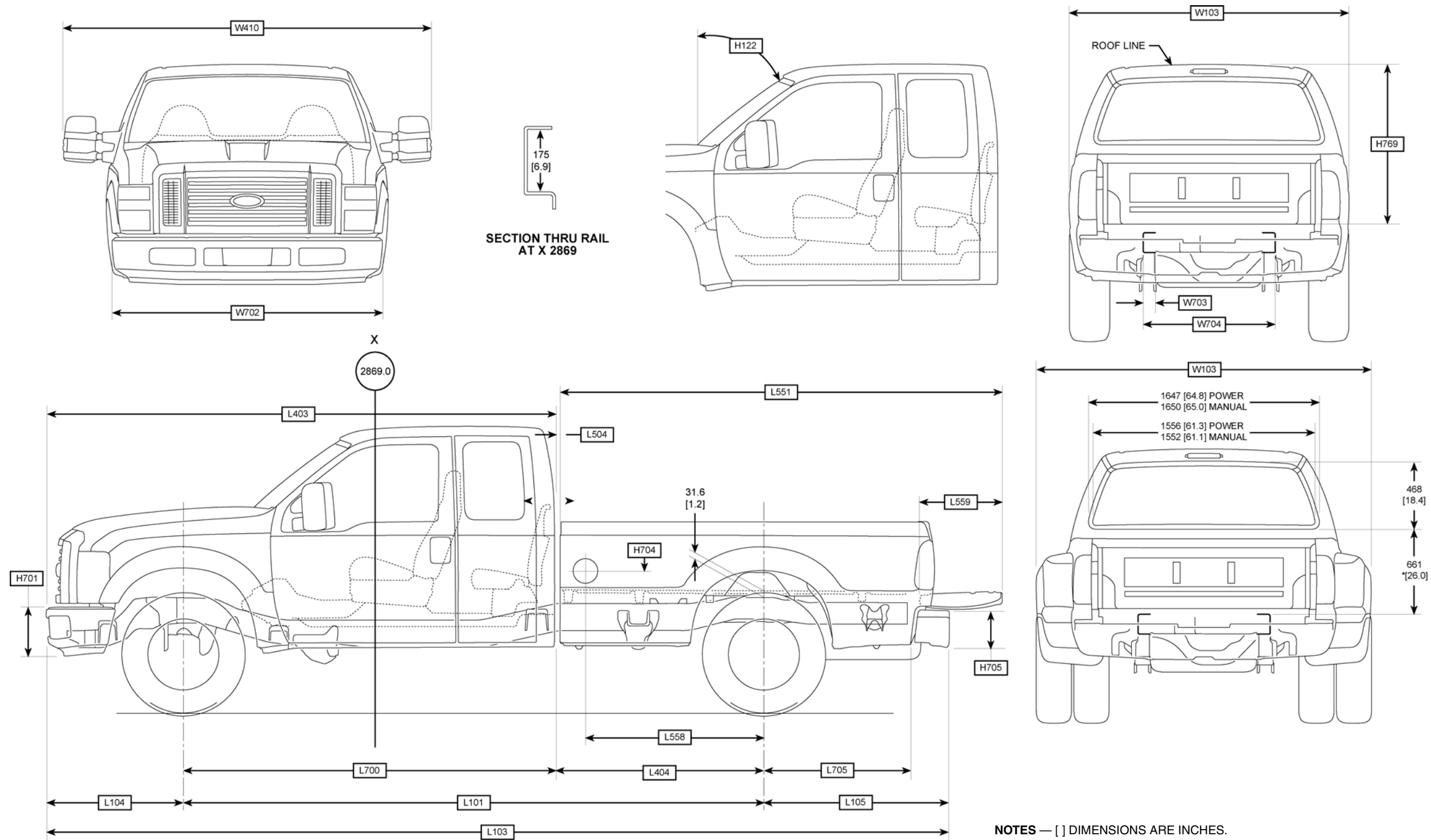
CAB

CODE	DESCRIPTION	4X2 / 4X4
H122	WINDSHIELD ANGLE (DEGREES)	52.8
H701	FRONT BUMPER HEIGHT - W/O VALANCE	308 [12.1]
H701	FRONT BUMPER HEIGHT - W/VALANCE	341 [13.4]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/ MOLDINGS - SRW)	2030 [79.9]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/ MOLDINGS - DRW)	2430 [95.7]
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: MANUAL MIRRORS)	2530 [99.6]
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: ELECTRICAL MIRRORS)	2530 [99.6]
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: TRAILER TOW MIRRORS)	2665 [104.9]
W702	FRONT BUMPER WIDTH	1946 [76.6]

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
SUPER DUTY F-250/350 SUPERCAB
STYLESIDE PICKUP – 4x2 / 4x4

2008
MODEL YEAR



BB0716-2007

NOTES — [] DIMENSIONS ARE INCHES.
— INTERIOR BOX DIMENSIONS, PAGES 107-108.
— AXLE/TIRE/VEHICLE HEIGHT DATA, PAGES 109-115.
* MEASURED FROM TOP OF FRAME TO BOTTOM OF REAR WINDOW.

DIMENSIONAL DATA
SUPER DUTY F-250/350 SUPERCAB
STYLESIDE PICKUP – 4x2 / 4x4

2008
MODEL YEAR

Revised 04-11-08

CHASSIS

CODE	DESCRIPTION	SWB	LWB
L101	WHEELBASE	3602 [141.8]	4013 [158.0]
L103	VEHICLE LENGTH	5888 [231.8]	6299 [248.0]
L104	FRONT OVERHANG	954 [37.6]	954 [37.6]
L105	REAR OVERHANG	1331 [52.4]	1331 [52.4]
L403	FRONT OF BUMPER TO BACK OF CAB	3553 [139.9]	3553 [139.9]
L404	CAB TO  OF REAR AXLE	1016 [40.0]	1427 [56.2]
L700	 OF FRONT AXLE TO BACK OF CAB	2583 [101.7]	2583 [101.7]
L705	 OF REAR AXLE TO REAR END OF FRAME	1024 [40.3]	1024 [40.3]
W703	FRAME RAIL WIDTH	73 [2.9]	73 [2.9]
W704	REAR FRAME WIDTH	958 [37.7]	958 [37.7]

PICKUP BODY

CODE	DESCRIPTION	SWB	LWB
NOMINAL CARGO BODY SIZE			
H704	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO  OF FUEL FILLER DOOR	127 [5.0]	
H705	REAR BUMPER HEIGHT	261 [10.3]	
H769	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO TOP OF CAB @  REAR AXLE	1143 [45.0]	
L504	CAB TO PICKUP BOX	35 [1.4]	
L551	BOX OVERALL LENGTH TO OPEN TAILGATE	2698 [106.2]	3113 [122.6]
L558	 OF REAR AXLE TO  OF FUEL FILLER DOOR	597 [23.5]	1229 [48.4]
L559	LENGTH OF OPEN TAILGATE	598 [23.5]	

CAB

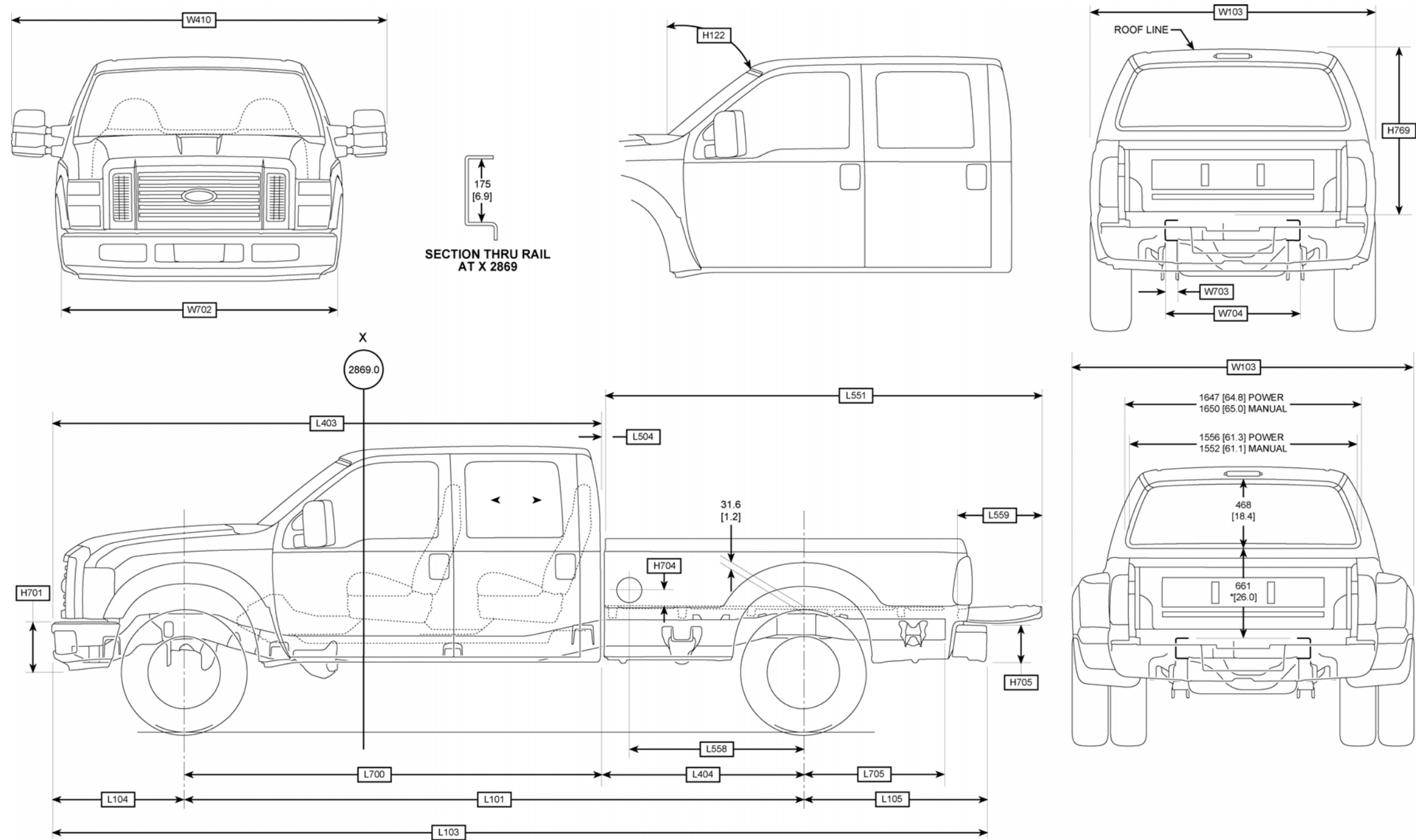
CODE	DESCRIPTION	4X2 / 4X4
H122	WINDSHIELD ANGLE (DEGREES)	52.8
H701	FRONT BUMPER HEIGHT - W/O VALANCE	308 [12.1]
H701	FRONT BUMPER HEIGHT - W/VALANCE	341 [13.4]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/MOLDINGS - SRW)	2030 [79.9]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/MOLDINGS - DRW)	2430 [95.7]
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: MANUAL MIRRORS)	2530 [99.6]
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: ELECTRIC MIRRORS)	2530 [99.6]
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: TRAILER TOW MIRRORS)	2665 [104.9]
W702	FRONT BUMPER WIDTH	1946 [76.6]

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
SUPER DUTY F-250/350/450 CREW CAB
STYLESIDE PICKUP – 4x2 / 4x4

2008
MODEL YEAR

Page 105 SUPER DUTY F-SERIES



BB0717-2007

NOTES — [] DIMENSIONS ARE INCHES.
— INTERIOR BOX DIMENSIONS, PAGES 107-108.
— AXLE/TIRE/VEHICLE HEIGHT DATA, PAGES 109-115.
* MEASURED FROM TOP OF FRAME TO BOTTOM OF REAR WINDOW.

DIMENSIONAL DATA
SUPER DUTY F-250/350/450 CREW CAB
STYLESIDE PICKUP – 4x2 / 4x4

2008
MODEL YEAR

Revised 04-11-08

CHASSIS

CODE	DESCRIPTION	SWB	LWB
L101	WHEELBASE	3967 [156.2]	4379 [172.4]
L103	VEHICLE LENGTH	6238 [245.6]	6650 [261.8]
L104	FRONT OVERHANG	945 [37.2]	945 [37.2]
L105	REAR OVERHANG	1326 [52.2]	1326 [52.2]
L403	FRONT OF BUMPER TO BACK OF CAB	3902 [153.6]	3902 [153.6]
L404	CAB TO  OF REAR AXLE	1013 [39.9]	1430 [56.3]
L700	 OF FRONT AXLE TO BACK OF CAB	2951 [116.2]	2951 [116.2]
L705	 OF REAR AXLE TO REAR END OF FRAME	1024 [40.3]	1024 [40.3]
W703	FRAME RAIL WIDTH	73 [2.9]	73 [2.9]
W704	REAR FRAME WIDTH	958 [37.7]	958 [37.7]

PICKUP BODY

CODE	DESCRIPTION	SWB	LWB
NOMINAL CARGO BODY SIZE			
H704	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO  OF FUEL FILLER DOOR	127 [5.0]	
H705	REAR BUMPER HEIGHT	261 [10.3]	
H769	TOP OF PICKUP BOX FLOOR (HIGHEST POINT) TO TOP OF CAB @  REAR AXLE	1164 [45.8]	
L504	CAB TO PICKUP BOX	35 [1.4]	
L551	BOX OVERALL LENGTH TO OPEN TAILGATE	2698 [106.2]	3113 [122.6]
L558	 OF REAR AXLE TO  OF FUEL FILLER DOOR - SRW	597 [23.5]	1229 [48.4]
L558	 OF REAR AXLE TO  OF FUEL FILLER DOOR - DRW	667 [26.3]	1229 [48.4]
L559	LENGTH OF OPEN TAILGATE	598 [23.5]	

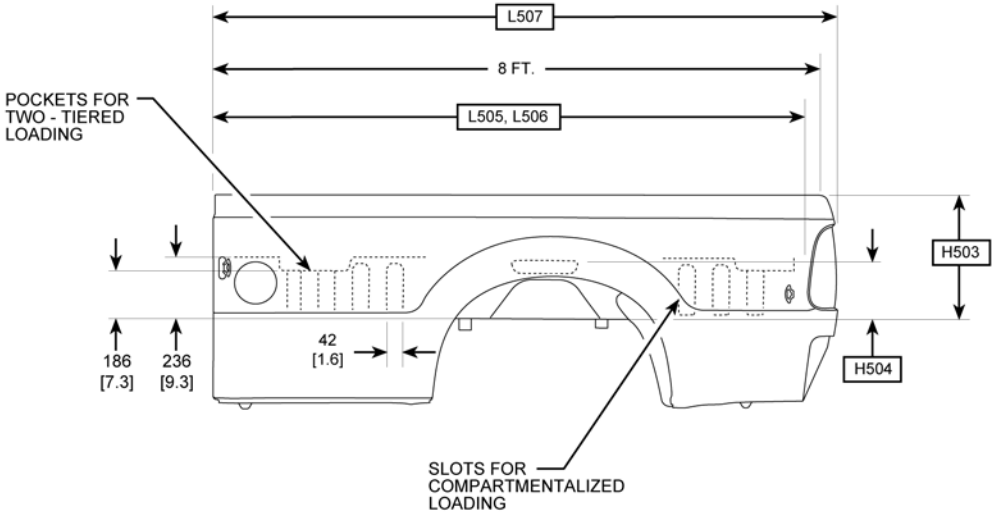
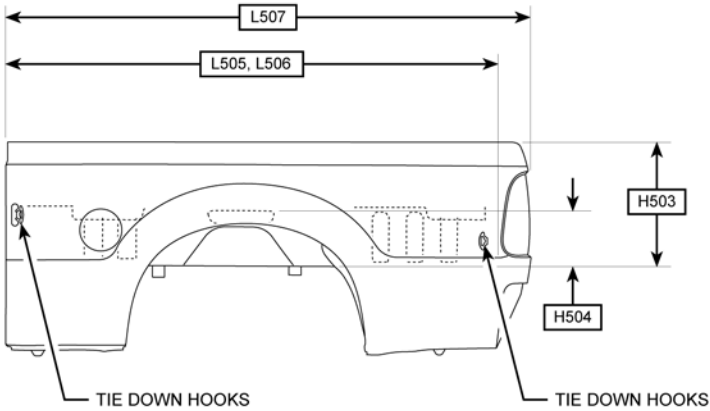
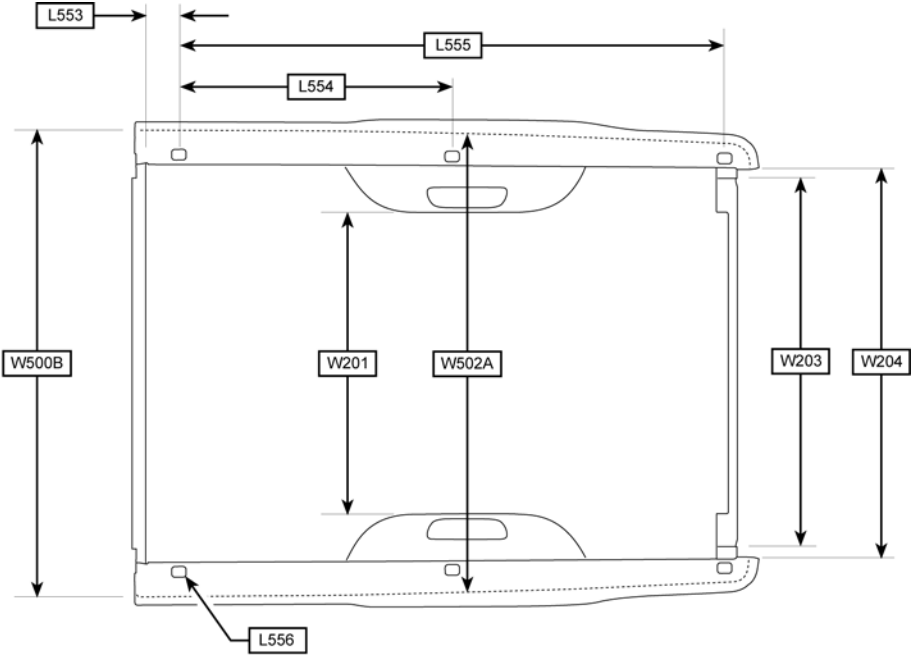
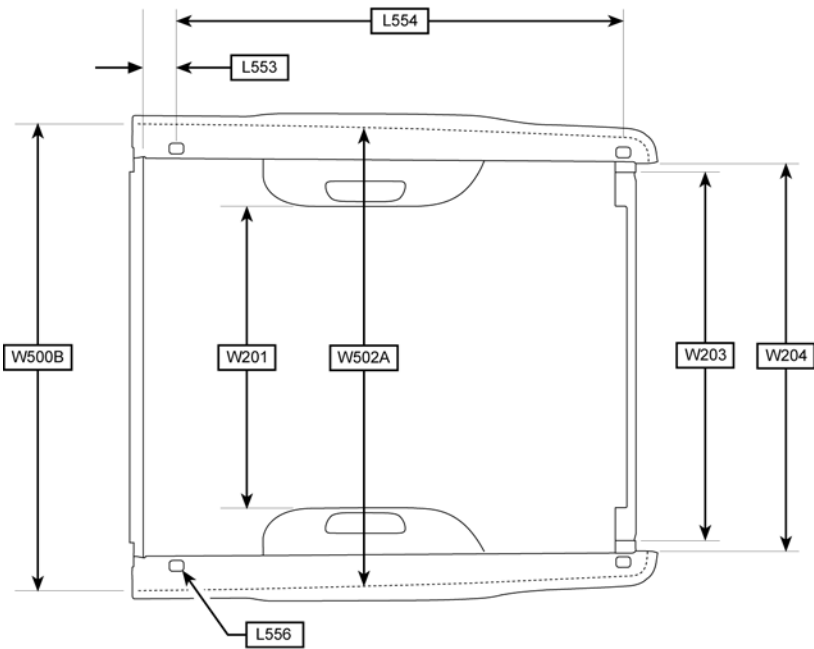
CAB

CODE	DESCRIPTION	4X2 / 4X4
H122	WINDSHIELD ANGLE (DEGREES)	52.8
H701	FRONT BUMPER HEIGHT - W/O VALANCE	308 [12.1]
H701	FRONT BUMPER HEIGHT - W/VALANCE	341 [13.4]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/MOLDINGS - SRW)	2030 [79.9]
W103	VEHICLE WIDTH (MAX W/O MIRRORS & W/MOLDINGS - DRW)	2430 [95.7]
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: MANUAL MIRRORS)	2530 [99.6]
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: ELECTRIC MIRRORS)	2665 [104.9]
W410	VEHICLE WIDTH (CAB WIDTH MAX WITH: TRAILER TOW MIRRORS)	2665 [104.9]
W702	FRONT BUMPER WIDTH	1946 [76.6]

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
SUPER DUTY F-250/350/450
STYLESIDE PICKUP BOX

2008
MODEL YEAR



6 3/4 FT. BOX

8 FT. BOX

BB0719-2007

NOTE — [] DIMENSIONS ARE INCHES.

DIMENSIONAL DATA
SUPER DUTY F-250/350/450
STYLESIDE PICKUP – 4x2 / 4x4

2008
MODEL YEAR

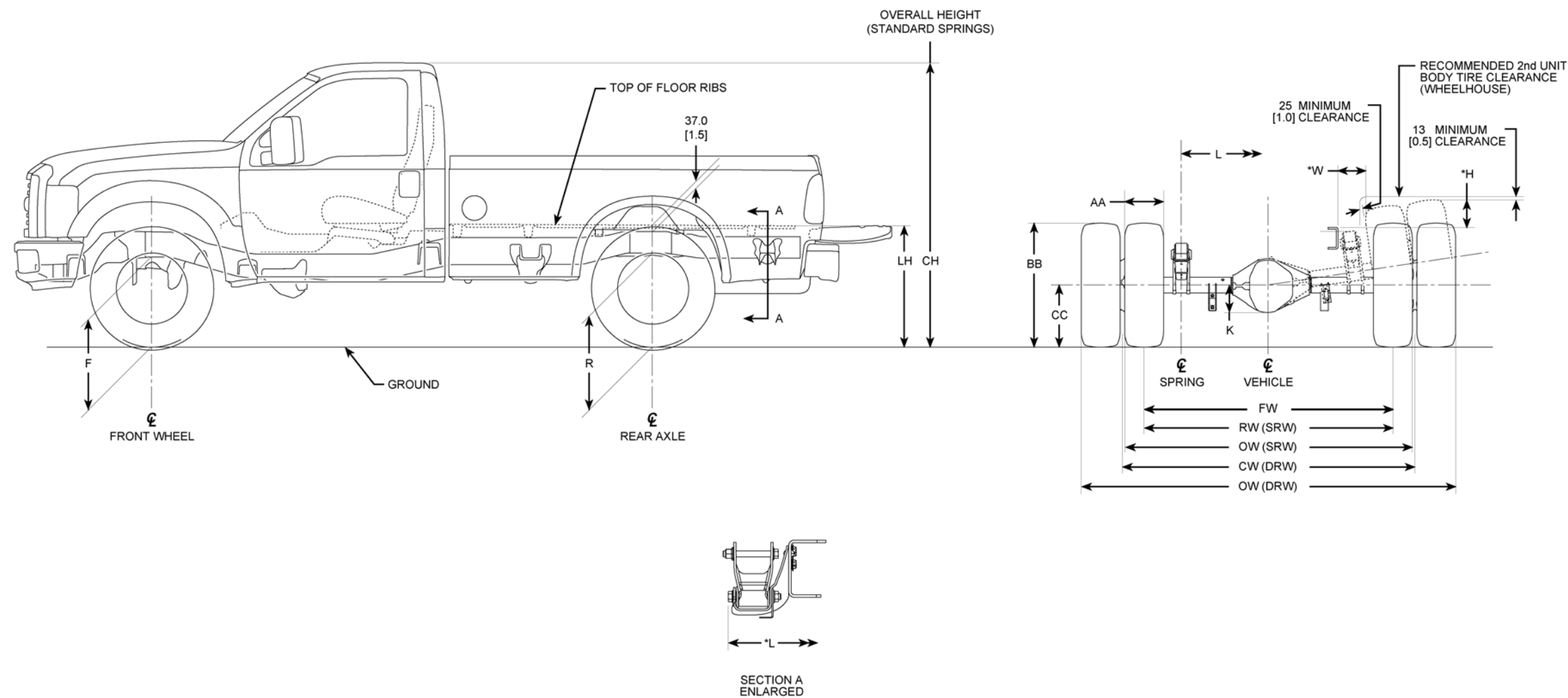
CODE	DESCRIPTION	6¾' STYLESIDE	8' STYLESIDE
H503	CARGO BODY HEIGHT (MEASURED FROM TOP OF FLOOR BEADS).	510 [20.1]	509 [20.0]
H504	WHEELHOUSE HEIGHT	233 [9.2]	233 [9.2]
L505	CARGO BODY LENGTH @ FLOOR	2078 [81.8]	2490 [98.0]
L506	CARGO BODY LENGTH @ TOP (BELT)	2035 [80.1]	2446 [96.3]
L507	CARGO BODY OVERALL LENGTH	2209 [87.0]	2621 [103.2]
L553	INSIDE FRONT OF BOX TO ¢ OF STAKE #1	137 [5.4]	137 [5.4]
L554	¢ OF STAKE #1 TO ¢ OF STAKE #2	1859 [73.2]	1135 [44.7]
L555	¢ OF STAKE #1 TO ¢ OF STAKE #3	NA NA	2270 [89.4]
L556	STAKE POCKET SIZE (L x W)	59 x 44 [2.3 x 1.7]	59 x 44 [2.3 x 1.7]
W201	CARGO WIDTH @ WHEELHOUSE	1292 [50.9]	1292 [50.9]
W203	REAR OPENING WIDTH @ FLOOR	1540 [60.6]	1540 [60.6]
W204	REAR OPENING WIDTH @ TOP BELT	1615 [63.6]	1615 [63.6]
W500B	CARGO BODY MAXIMUM INSIDE WIDTH @ FLOOR	1760 [69.3]	1760 [69.3]
W502A	CARGO BODY MAXIMUM INSIDE WIDTH @ ¢ OF REAR AXLE	1623 [63.9]	1623 [63.9]
V5	CARGO VOLUME - LITERS - CU. FT.	1825 64.4	2193 77.4

NOTE — [] DIMENSIONS ARE INCHES.

AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-250/350 REGULAR CAB
STYLE SIDE PICKUP – 4x2 / 4x4

2008
MODEL YEAR

Page 109 SUPER DUTY F-SERIES



BB0720-2007

NOTES — [] DIMENSIONS ARE INCHES.
— F AND R VEHICLE HEIGHT DIMENSIONS ARE FROM GROUND TO BOTTOM OF FRAME
— LH IS FROM GROUND TO TOP OF FLOOR RIBS.

AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-250/350 REGULAR CAB
STYLESIDE PICKUP – 4x2 / 4x4

2008
MODEL YEAR

Model	Units	WB	Standard GVWR (pounds)	Base Tire	CC (SLR)	Tire Diameter	F Height at Front wheel ⁽³⁾		R Height at Rear Axle ⁽³⁾		LH ⁽³⁾⁽⁴⁾		CH ⁽³⁾		K	L	*L	AA ⁽⁵⁾	BB	FW	RW	OW	CW	*H	*W
							Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾											
F250 Regular Cab 4x2 w/o Aux Leaf	mm	3480	8800 SRW	LT265/70R17E	372	818	530	503	622	533	851	733	1927	1869	166	1143	1276	288	781	1734	1706	1994	--	213	219
	inches	137.0			14.6	32.2	20.9	19.8	24.5	21.0	33.5	28.9	75.9	73.6	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	8.4	8.6
F250 Regular Cab 4x4 w/o Aux Leaf	mm	3480	9000 SRW		372	818	618	590	669	580	879	762	1994	1937	166	1143	1276	288	781	1736	1706	1994	--	161	220
	inches	137.0			14.6	32.2	24.3	23.2	26.4	22.9	34.6	30.0	78.5	76.3	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	6.4	8.7
F250 Regular Cab 4x2 w/Aux Leaf	mm	3480	8800 SRW	LT265/70R17E	372	818	530	503	631	542	864	746	1931	1873	166	1143	1276	288	781	1734	1706	1994	--	201	224
	inches	137.0			14.6	32.2	20.9	19.8	24.8	21.3	34.0	29.4	76.0	73.7	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	7.9	8.8
F250 Regular Cab 4x4 w/Aux Leaf	mm	3480	9000 SRW		372	818	618	590	678	589	893	775	1999	1941	166	1143	1276	288	781	1736	1706	1994	--	148	226
	inches	137.0			14.6	32.2	24.3	23.2	26.7	23.2	35.2	30.5	78.7	76.4	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	5.8	8.9
F350 Regular Cab 4x2	mm	3480	10,100 SRW	LT275/65R18E	376	829	534	507	635	537	868	732	1935	1873	166	1143	1276	296	790	1734	1706	2002	--	206	217
	inches	137.0			14.8	32.6	21.0	20.0	25.0	21.1	34.2	28.8	76.2	73.7	6.5	45.0	50.2	11.7	31.1	68.3	67.2	78.8	--	8.1	8.6
	mm	3480	11,800 DRW	LT245/75R17E	371	814	529	502.0	638	533	863	732	1930	1868	173	1143	1276	263	778	1734	--	2436	1898	209	190
	inches	137.0			14.6	32.0	20.8	19.8	25.1	21.0	34.0	28.8	76.0	73.5	6.8	45.0	50.2	10.4	30.6	68.3	--	95.9	74.7	8.2	7.5
F350 Regular Cab 4x4	mm	3480	10,500 SRW	LT275/65R18E	376	829	622	595	728	630	964	833	2026	1963	166	1143	1276	296	790	1736	1706	2002	--	120	221
	inches	137.0			14.8	32.6	24.5	23.4	28.7	24.8	38.0	32.8	79.8	77.3	6.5	45.0	50.2	11.7	31.1	68.3	67.2	78.8	--	4.7	8.7
	mm	3480	12,000 DRW	LT245/75R17E	371	814	617	589	685	581	822	732	1974	1868	173	1143	1276	263	778	1736	--	2436	1898	172	191
	inches	137.0			14.6	32.0	24.3	23.2	27.0	22.9	32.4	28.8	77.7	73.5	6.8	45.0	50.2	10.4	30.6	68.3	--	95.9	74.7	6.8	7.5

DRW — Dual Rear Wheels

- (1) — Height at base curb weight with standard springs.
(2) — Loaded height at spring rating with standard springs.
(3) — The Height Data shown represents dimensions of a base/standard vehicle with no options.
Actual height may vary due to production tolerances [completed vehicles only].
(4) — Distance from Pickup Box Floor to Frame Datum Line is 211 [8.3] at front, 199 [7.8] at rear.
(5) — AA is maximum grown width at maximum tire pressure and load.


BB — Half of TRA* maximum grown tire diameter plus average SLR** available for that tire size.
SLR** is measured as maximum TRA* pressure and load.

CC — Static load rating maximum TRA* load and pressure.

TRA* — Tire and Rim Association.

SLR** — Static Loaded Radius.

@ — The top of the spring seat is below datum line.

*H — Top of frame at  of rear axle to top of tire in jounce

*L — From outside edge of shackle eyebolt

*W — Outside of frame to top of tire in jounce

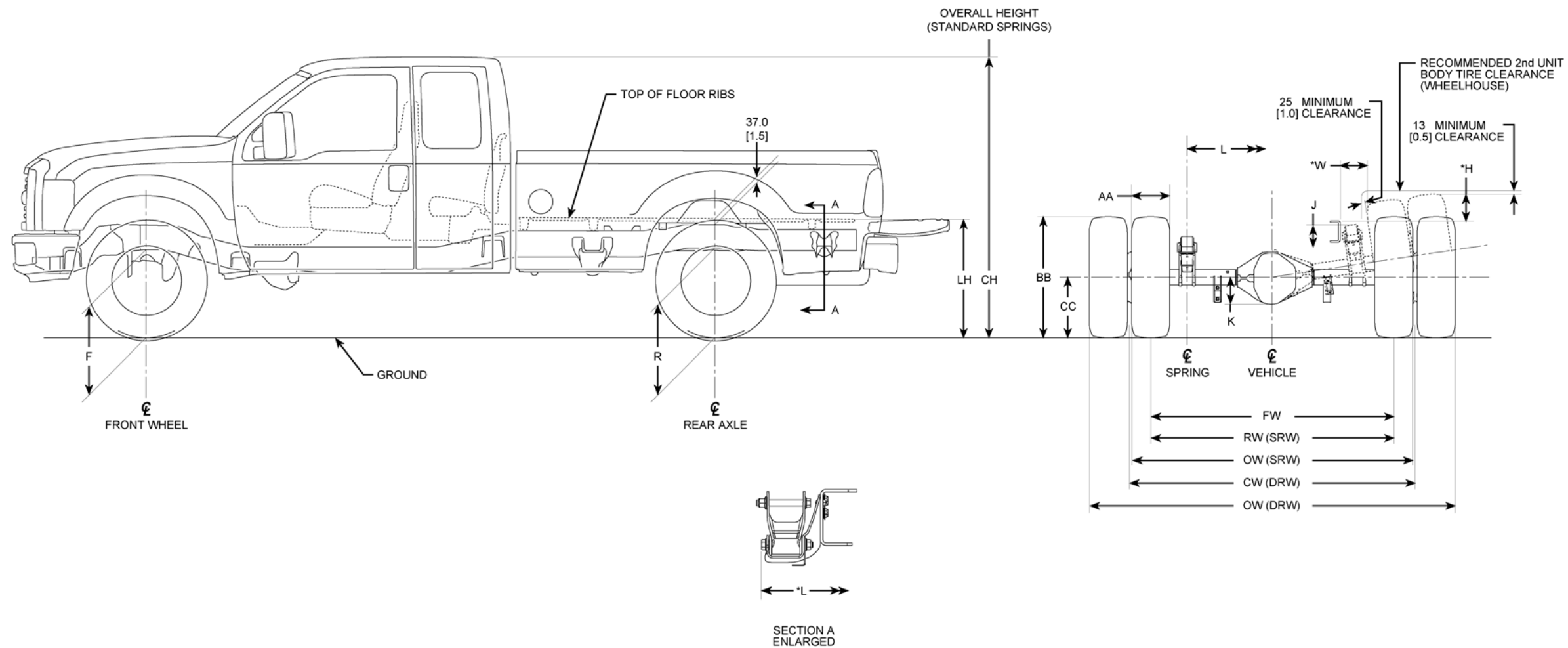
NOTES — [] DIMENSIONS ARE INCHES.

— F AND R VEHICLE HEIGHT DIMENSIONS ARE FROM GROUND TO BOTTOM OF FRAME.

— LH IS FROM GROUND TO TOP OF FLOOR RIBS.

AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-250/350 SUPERCAB
STYLESIDE PICKUP – 4x2 / 4x4

2008
MODEL YEAR



BB0721-2007


- NOTES** — [] DIMENSIONS ARE INCHES.
- **F** AND **R** VEHICLE HEIGHT DIMENSIONS ARE FROM GROUND TO BOTTOM OF FRAME.
 - **LH** IS FROM GROUND TO TOP OF FLOOR RIBS.
 - ***H** IS TOP OF FRAME AT \varnothing OF REAR AXLE TO TOP OF TIRE IN JOUNCE.
 - ***L** IS FROM OUTSIDE EDGE OF SHACKLE EYEBOLT.
 - ***W** IS OUTSIDE OF FRAME TO TOP OF TIRE IN JOUNCE.

AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-250/350 SUPERCAB
STYLESIDE PICKUP – 4x2 / 4x4

2008
MODEL YEAR

Model	Units	WB	Standard GVWR (pounds)	Base Tire	CC (SLR)	Tire Diameter	F Height at Front wheel ⁽³⁾		R Height at Rear Axle ⁽³⁾		LH ⁽³⁾⁽⁴⁾		CH ⁽³⁾		K	L	*L	AA ⁽⁵⁾	BB	FW	RW	OW	CW	*H	*W
							Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾											
F250 SuperCab 4x2 w/o Aux Leaf	mm	3602	9000 SRW	LT265/70R17E	372	818	530	503	622	533	852	734	1938	1874	166	1143	1276	288	781	1734	1706	1994	--	213	219
	inches	141.8			14.6	32.2	20.9	19.8	24.5	21.0	33.5	28.9	76.3	73.8	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	8.4	8.6
	mm	4014	9200 SRW		372	818	530	503	622	533	851	734	1934	1874	166	1143	1276	288	781	1734	1706	1994	--	213	219
	inches	158.0			14.6	32.2	20.9	19.8	24.5	21.0	33.5	28.9	76.1	73.8	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	8.4	8.6
F250 SuperCab 4x4 w/o Aux Leaf	mm	3602	9200 SRW	LT265/70R17E	372	818	618	590	669	580	881	764	2002	1940	166	1143	1276	288	781	1736	1706	1994	--	161	220
	inches	141.8			14.6	32.2	24.3	23.2	26.4	22.9	34.7	30.1	78.8	76.4	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	6.4	8.7
	mm	4014	9400 SRW		372	818	618	590	669	580	881	765	2000	1942	166	1143	1276	288	781	1736	1706	1994	--	161	221
	inches	158.0			14.6	32.2	24.3	23.2	26.4	22.8	34.7	30.1	78.7	76.5	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	6.4	8.7
F250 SuperCab 4x2 w/Aux Leaf	mm	3602	9000 SRW	LT265/70R17E	372	818	530	503	631	542	865	747	1943	1879	166	1143	1276	288	781	1734	1706	1994	--	201	224
	inches	141.8			14.6	32.2	20.9	19.8	24.8	21.3	34.1	29.4	76.5	74.0	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	7.9	8.8
	mm	4014	9200 SRW		372	818	530	503	631	542	932	816	1965	1904	166	1143	1276	288	781	1734	1706	1994	--	201	224
	inches	158.0			14.6	32.2	20.9	19.8	24.8	21.3	36.7	32.1	77.4	75.0	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	7.9	8.8
F250 SuperCab 4x4 w/Aux Leaf	mm	3602	9200 SRW	LT265/70R17E	372	818	618	590	678	589	894	777	2007	1945	166	1143	1276	288	781	1736	1706	1994	--	148	226
	inches	141.8			14.6	32.2	24.3	23.2	26.7	23.2	35.2	30.6	79.0	76.6	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	5.8	8.9
	mm	4014	9400 SRW		372	818	618	590	678	589	893	777	2005	1965	166	1143	1276	288	781	1736	1706	1994	--	148	226
	inches	158.0			14.6	32.2	24.3	23.2	26.7	23.2	0.0	30.6	78.9	77.4	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	5.8	8.9
F350 SuperCab 4x2	mm	3602	10,200 SRW	LT275/65R18E	376	829	534	507	635	537	869	739	1947	1879	166	1143	1276	296	790	1734	1706	2002	--	206	217
	inches	141.8			14.8	32.6	21.0	20.0	25.0	21.1	34.2	29.1	76.7	74.0	6.5	45.0	50.2	11.7	31.1	68.3	67.2	78.8	--	8.1	8.6
	mm	4014	10,400 SRW		376	829	534	507	635	537	868	739	1943	1878	166	1143	1276	296	790	1734	1706	2002	--	206	217
	inches	158.0			14.8	32.6	21.0	20.0	25.0	21.1	34.2	29.1	76.5	73.9	6.5	45.0	50.2	11.7	31.1	68.3	67.2	78.8	--	8.1	8.6
	mm	4014	12,200 DRW	LT245/75R17E	371	814	529	502	638	533	874	736	1942	1874	173	1143	1276	263	778	1734	--	2436	1898	209	190
	inches	158.0			14.6	32.0	20.8	19.8	25.1	21.0	34.4	29.0	76.5	73.8	6.8	45.0	50.2	10.4	30.6	68.3	--	95.9	74.7	8.2	7.5
F350 SuperCab 4x4	mm	3602	10,600 SRW	LT275/65R18E	376	829	622	595	728	630	965	835	2038	1969	166	1143	1276	296	790	1736	1706	2002	--	120	221
	inches	141.8			14.8	32.6	24.5	23.4	28.7	24.8	38.0	32.9	80.2	77.5	6.5	45.0	50.2	11.7	31.1	68.3	67.2	78.8	--	4.7	8.7
	mm	4014	10,800 SRW		376	829	622	595	729	631	965	836	2034	1969	166	1143	1276	296	790	1736	1706	2002	--	120	221
	inches	158.0			14.8	32.6	24.5	23.4	28.7	24.8	38.0	32.9	80.1	77.5	6.5	45.0	50.2	11.7	31.1	68.3	67.2	78.8	--	4.7	8.7
	mm	4014	12,400 DRW	LT245/75R17E	371	814	617	589	687	582	906	767	2009	1943	173	1143	1276	263	778	1736	--	2436	1898	172	191
	inches	158.0			14.6	32.0	24.3	23.2	27.0	22.9	35.7	30.2	79.1	76.5	6.8	45.0	50.2	10.4	30.6	68.3	--	95.9	74.7	6.8	7.5

BB — Half of TRA* maximum grown tire diameter plus average SLR** available for that tire size.
SLR** is measured as maximum TRA* pressure and load.
CC — Static load rating maximum TRA* load and pressure.
TRA* — Tire and Rim Association.
SLR** — Static Loaded Radius.
@ — The top of the spring seat is below datum line.

*H — Top of frame at  of rear axle to top of tire in jounce
*L — From outside edge of shackle eyebolt
*W — Outside of frame to top of tire in jounce

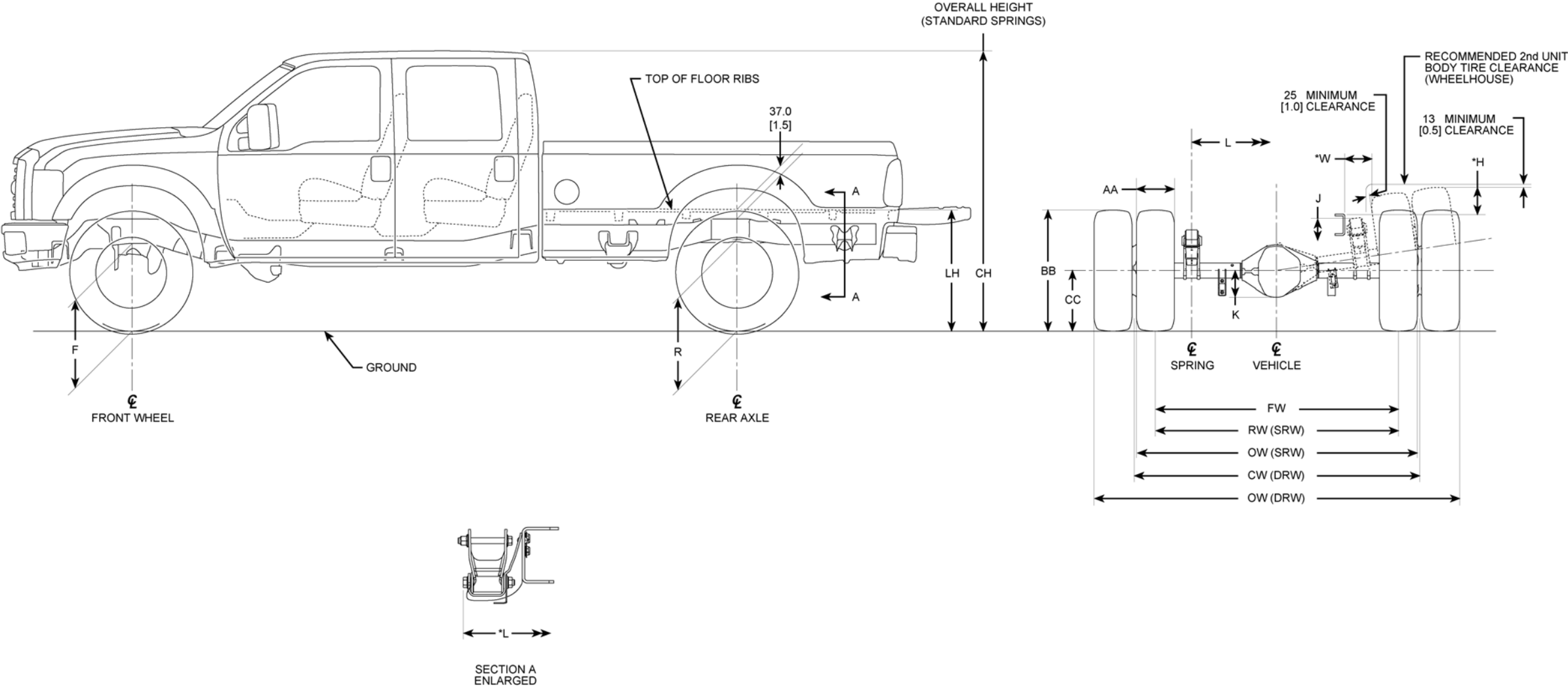
NOTES — [] DIMENSIONS ARE INCHES.
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— LH IS FROM GROUND TO TOP OF FLOOR RIBS.

DRW — Dual Rear Wheels
(1) — Height at base curb weight with standard springs.
(2) — Loaded height at spring rating with standard springs.
(3) — The Height Data shown represents dimensions of a base/standard vehicle with no options.
Actual height may vary due to production tolerances [completed vehicles only].
(4) — Distance from Pickup Box Floor to Frame Datum Line is 211 [8.3] at front, 199 [7.8] at rear.
(5) — AA is maximum grown width at maximum tire pressure and load.

AXLE/TIRE/VEHICLE HEIGHT DATA SUPER DUTY F-250/350 CREW CAB STYLESIDE PICKUP – 4x2 / 4x4

2008

MODEL YEAR



BB0722-2007

- NOTES** — [] DIMENSIONS ARE INCHES.
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 - **H** IS TOP OF FRAME AT **C** OF REAR AXLE TO TOP OF TIRE IN JOUNCE.
 - **L** IS FROM OUTSIDE EDGE OF SHACKLE EYEBOLT.
 - **W** IS OUTSIDE OF FRAME TO TOP OF TIRE IN JOUNCE.

AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-250/350/450 CREW CAB
STYLESIDE PICKUP – 4x2 / 4x4


2008
MODEL YEAR

Model	Units	WB	Standard GVWR (pounds)	Base Tire	CC (SLR)	Tire Diameter	F Height at Front wheel ⁽³⁾		R Height at Rear Axle ⁽³⁾		LH ⁽³⁾⁽⁴⁾		CH ⁽³⁾		K	L	*L	AA ⁽⁵⁾	BB	FW	RW	OW	CW	*H	*W
							Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾											
F250 Crew Cab 4x2 w/o Aux Leaf	mm	3967	9200 SRW	LT265/70R17E	372	818	530	503	622	533	851	734	1950	1887	166	1143	1276	288	781	1734	1706	1994	--	213	219
	inches	156.2			14.6	32.2	20.9	19.8	24.5	21.0	33.5	28.9	76.8	74.3	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	8.4	8.6
	mm	4379	9400 SRW		372	818	530	503	622	533	848	734	1946	1887	166	1143	1276	288	781	1734	1706	1994	--	213	219
	inches	172.4			14.6	32.2	20.9	19.8	24.5	21.0	33.4	28.9	76.6	74.3	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	8.4	8.6
F250 Crew Cab 4x4 w/o Aux Leaf	mm	3967	9400 SRW	LT265/70R17E	372	818	618	590	669	580	881	764	2014	1954	166	1143	1276	288	781	1736	1706	1994	--	161	220
	inches	156.2			14.6	32.2	24.3	23.2	26.4	22.8	34.7	30.1	79.3	76.9	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	6.4	8.7
	mm	4379	9600 SRW		372	818	618	590	669	580	881	766	2013	1955	166	1143	1276	288	781	1736	1706	1994	--	161	221
	inches	172.4			14.6	32.2	24.3	23.2	26.4	22.8	34.7	30.2	79.3	77.0	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	6.4	8.7
F250 Crew Cab 4x2 w/Aux Leaf	mm	3967	9200 SRW	LT265/70R17E	372	818	530	503	631	542	932	816	1985	1920	166	1143	1276	288	781	1734	1706	1994	--	201	224
	inches	156.2			14.6	32.2	20.9	19.8	24.8	21.3	36.7	32.1	78.1	75.6	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	7.9	8.8
	mm	4379	9400 SRW		372	818	530	503	631	542	861	747	1951	1891	166	1143	1276	288	781	1734	1706	1994	--	201	224
	inches	172.4			14.6	32.2	20.9	19.8	24.8	21.3	33.9	29.4	76.8	74.4	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	7.9	8.8
F250 Crew Cab 4x4 w/Aux Leaf	mm	3967	9400 SRW	LT265/70R17E	372	818	618	590	678	589	894	777	2019	1958	166	1143	1276	288	781	1736	1706	1994	--	148	226
	inches	156.2			14.6	32.2	24.3	23.2	26.7	23.2	35.2	30.6	79.5	77.1	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	5.8	8.9
	mm	4379	9600 SRW		372	818	618	590	678	589	892	778	2017	1960	166	1143	1276	288	781	1736	1706	1994	--	148	226
	inches	172.4			14.6	32.2	24.3	23.2	26.7	23.2	35.1	30.6	79.4	77.2	6.5	45.0	50.2	11.3	30.7	68.3	67.2	78.5	--	5.8	8.9

(Cont'd next page)

DRW — Dual Rear Wheels

- (1) — Height at base curb weight with standard springs.
(2) — Loaded height at spring rating with standard springs.
(3) — The Height Data shown represents dimensions of a base/standard vehicle with no options.
Actual height may vary due to production tolerances [completed vehicles only].
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- BB — Half of TRA* maximum grown tire diameter plus average SLR** available for that tire size.
SLR** is measured as maximum TRA* pressure and load.
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@ — The top of the spring seat is below datum line.
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*L — From outside edge of shackle eyebolt
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NOTES — [] DIMENSIONS ARE INCHES.
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— LH IS FROM GROUND TO TOP OF FLOOR RIBS.

AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-250/350/450 CREW CAB
STYLESIDE PICKUP – 4x2 / 4x4

2008
MODEL YEAR

Model	Units	WB	Standard GVWR (pounds)	Base Tire	CC (SLR)	Tire Diameter	F Height at Front Wheel ⁽³⁾		R Height at Rear Axle ⁽³⁾		LH ⁽³⁾⁽⁴⁾		CH ⁽³⁾		K	L	*L	AA ⁽⁵⁾	BB	FW	RW	OW	CW	*H	*W
							Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾	Curb ⁽¹⁾	Loaded ⁽²⁾											
F350 Crew Cab 4x2	mm	3967	10,400 SRW	LT275/65R18E	376	829	534	507	635	537	868	739	1960	1891	166	1143	1276	296	790	1734	1706	2002	--	206	217
	inches				14.8	32.6	21.0	20.0	25.0	21.1	34.2	29.1	77.2	74.4	6.5	45.0	50.2	11.7	31.1	68.3	67.2	78.8	--	8.1	8.6
	mm	156.2	12,400 DRW	LT245/75R17E	371	814	529	502	638	533	875	736	1960	1887	173	1143	1276	263	778	1734	--	2436	1898	209	190
	inches				14.6	32.0	20.8	19.8	25.1	21.0	34.4	29.0	77.2	74.3	6.8	45.0	50.2	10.4	30.6	68.3	--	95.9	74.7	8.2	7.5
	mm	4379	10,600 SRW	LT245/75R17E	371	814	534	507	635	537	865	740	1955	1889	166	1143	1276	263	778	1734	1706	1969	--	206	217
	inches				14.6	32.0	21.0	20.0	25.0	21.1	34.1	29.1	77.0	74.4	6.5	45.0	50.2	10.4	30.6	68.3	67.2	77.5	--	8.1	8.6
	mm	172.4	12,600 DRW		371	814	529	502	638	533	871	736	1955	1887	173	1143	1276	263	778	1734	--	2436	1898	209	190
	inches				14.6	32.0	20.8	19.8	25.1	21.0	34.3	29.0	77.0	74.3	6.8	45.0	50.2	10.4	30.6	68.3	--	95.9	74.7	8.2	7.5
F350 Crew Cab 4x4	mm	3967	10,800 SRW	LT275/65R18E	376	829	622	595	729	631	965	836	2051	1982	166	1143	1276	296	790	1736	1706	2002	--	120	221
	inches				14.8	32.6	24.5	23.4	28.7	24.8	38.0	2051.0	80.7	78.0	6.5	45.0	50.2	11.7	31.1	68.3	67.2	78.8	--	4.7	8.7
	mm	156.2	12,600 DRW	LT245/75R17E	371	814	617	589	687	582	906	767	2023	1954	173	1143	1276	263	778	1736	--	2436	1898	172	191
	inches				14.6	32.0	24.3	23.2	27.0	22.9	35.7	30.2	79.6	76.9	6.8	45.0	50.2	10.4	30.6	68.3	--	95.9	74.7	6.8	7.5
	mm	4379	11,000 SRW	LT275/65R18E	375.9	829.0	622	595	729	631	964	838	2045	1979	166	1143	1276	296	790	1736	1706	2002	--	120	221
	inches				14.8	32.6	24.5	23.4	28.7	24.8	38.0	33.0	80.5	77.9	6.5	45.0	50.2	11.7	31.1	68.3	67.2	78.8	--	4.7	8.7
	mm	172.4	12,600 DRW	LT245/75R17E	370.8	814.0	617	589	687	582	904	769	2021	1956	173	1143	1276	263	778	1736	--	2436	1898	172	191
	inches				14.6	32.0	24.3	23.2	27.0	22.9	35.6	30.3	79.6	77.0	6.8	45.0	50.2	10.4	30.6	68.3	--	95.9	74.7	6.8	7.5
F450 Crew Cab 4x2	mm	4379	14,500 DRW	225/70R19.5G	380	823	634	599	691	601	903	791	2031	1969	178	1148	1277	237	792	1900	--	2432	1927	161	218
	inches				15.0	32.4	25.0	23.6	27.2	23.6	35.6	31.1	80.0	77.5	7.0	45.2	50.3	9.3	31.2	74.8	--	95.7	75.9	6.3	8.6
F450 Crew Cab 4x4	mm	172.4			380	823	634	599	691	601	903	791	2031	1069	178	1148	1277	237	792	1900	--	2432	1927	161	218
	inches				15.0	32.4	25.0	23.6	27.2	23.6	35.6	31.1	80.0	42.1	7.0	45.2	50.3	9.3	31.2	74.8	--	95.7	75.9	6.3	8.6

DRW — Dual Rear Wheels

(1) — Height at base curb weight with standard springs.

(2) — Loaded height at spring rating with standard springs.

(3) — The Height Data shown represents dimensions of a base/standard vehicle with no options.
Actual height may vary due to production tolerances [completed vehicles only].

(4) — Distance from Pickup Box Floor to Frame Datum Line is 211 [8.3] at front, 199 [7.8] at rear.

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SLR** is measured as maximum TRA* pressure and load.

CC — Static load rating maximum TRA* load and pressure.

TRA* — Tire and Rim Association.

SLR** — Static Loaded Radius.

@ — The top of the spring seat is below datum line.

*H — Top of frame at  of rear axle to top of tire in fender

*L — From outside edge of shackle eyebolt

*W — Outside of frame to top of tire in fender

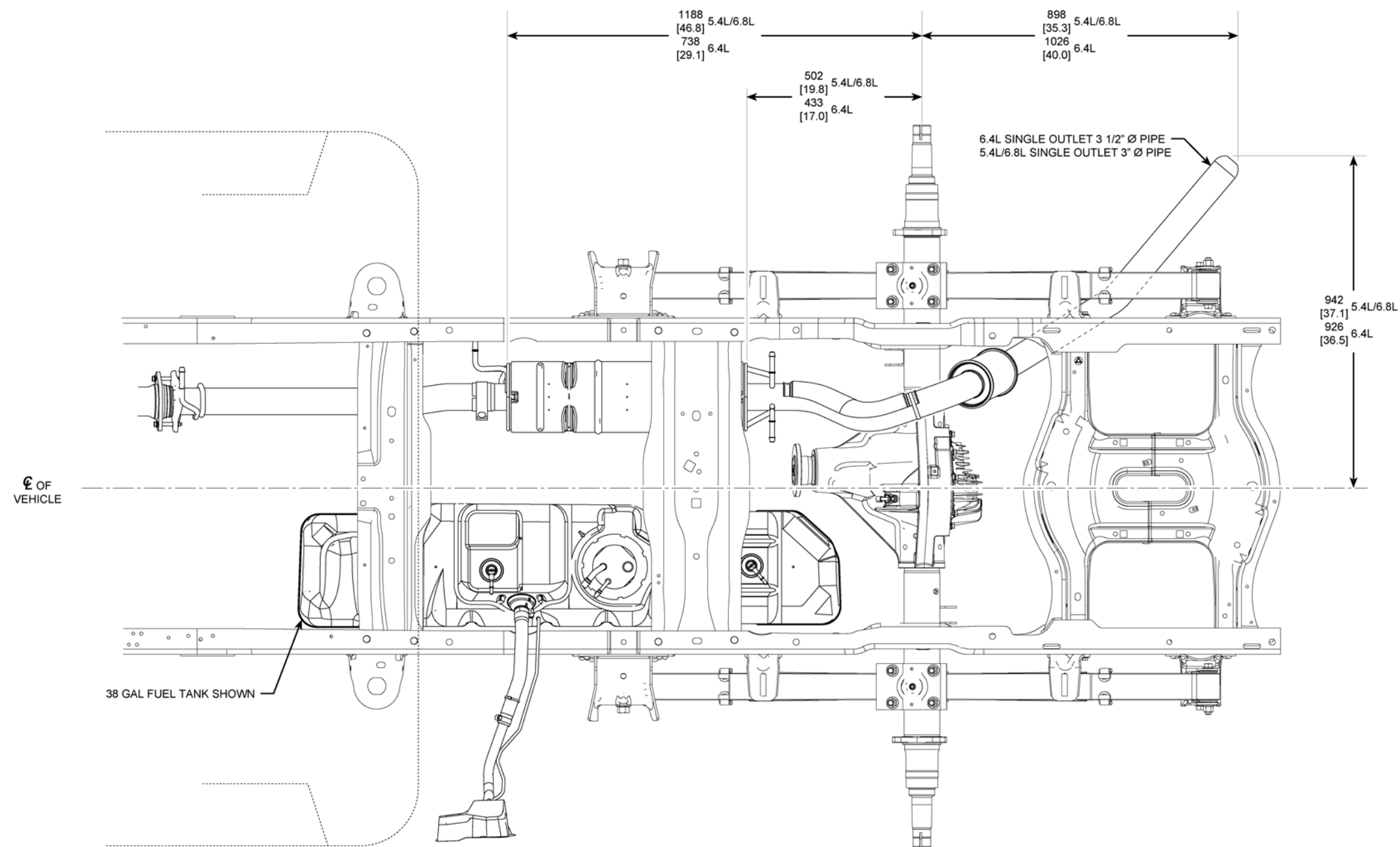
NOTES — [] DIMENSIONS ARE INCHES.

— F AND R VEHICLE HEIGHT DIMENSIONS ARE
FROM GROUND TO BOTTOM OF FRAME.

— LH IS FROM GROUND TO TOP OF FLOOR RIBS.

PICKUP BOX DELETE – WIDE FRAME
SUPER DUTY F-SERIES
EXHAUST / FUEL SYSTEMS

2008
MODEL YEAR

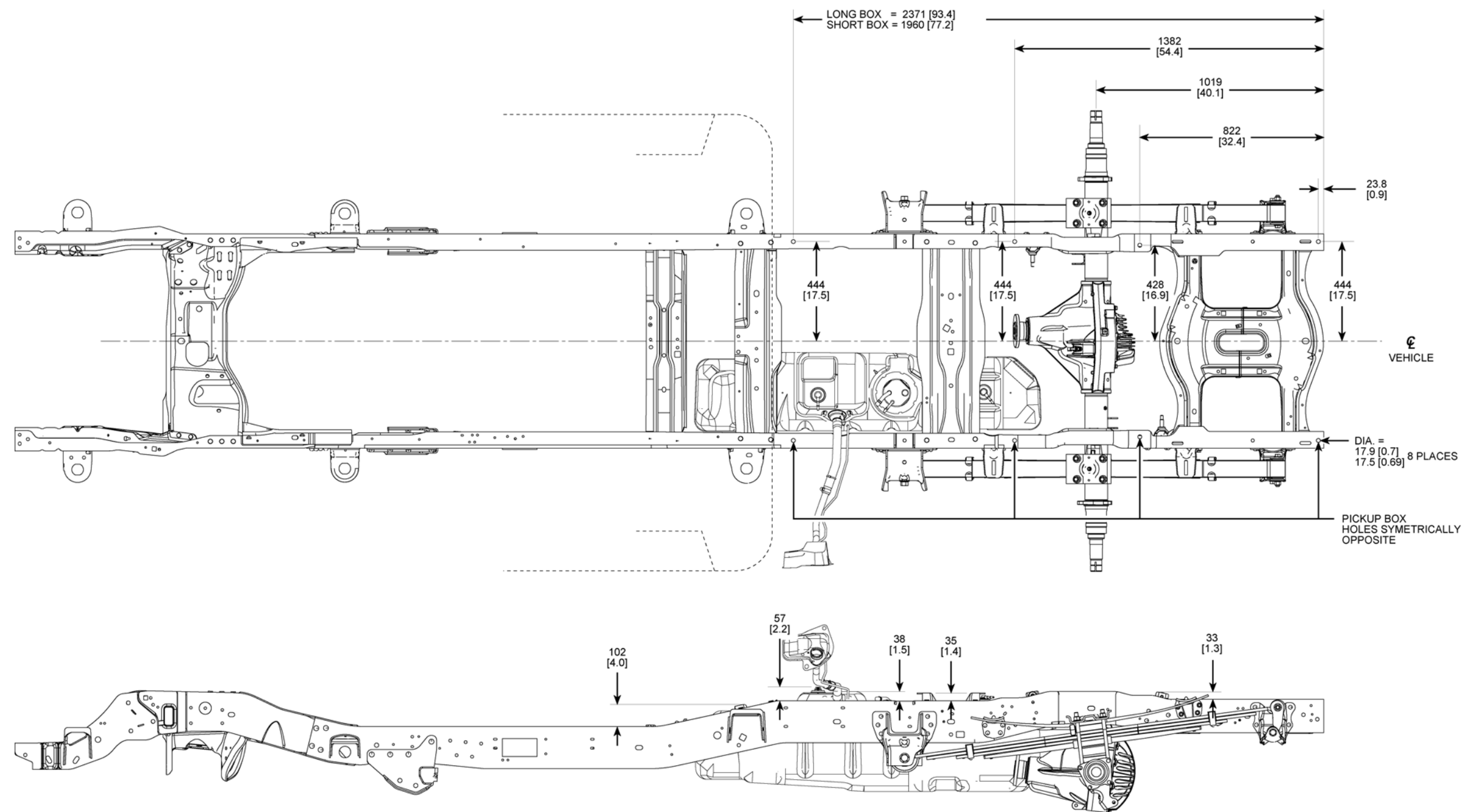


BB0723-2007

NOTE — [] DIMENSIONS ARE INCHES.

PICKUP BOX DELETE – WIDE FRAME
SUPER DUTY F-SERIES
FRAME DATA

2008
MODEL YEAR

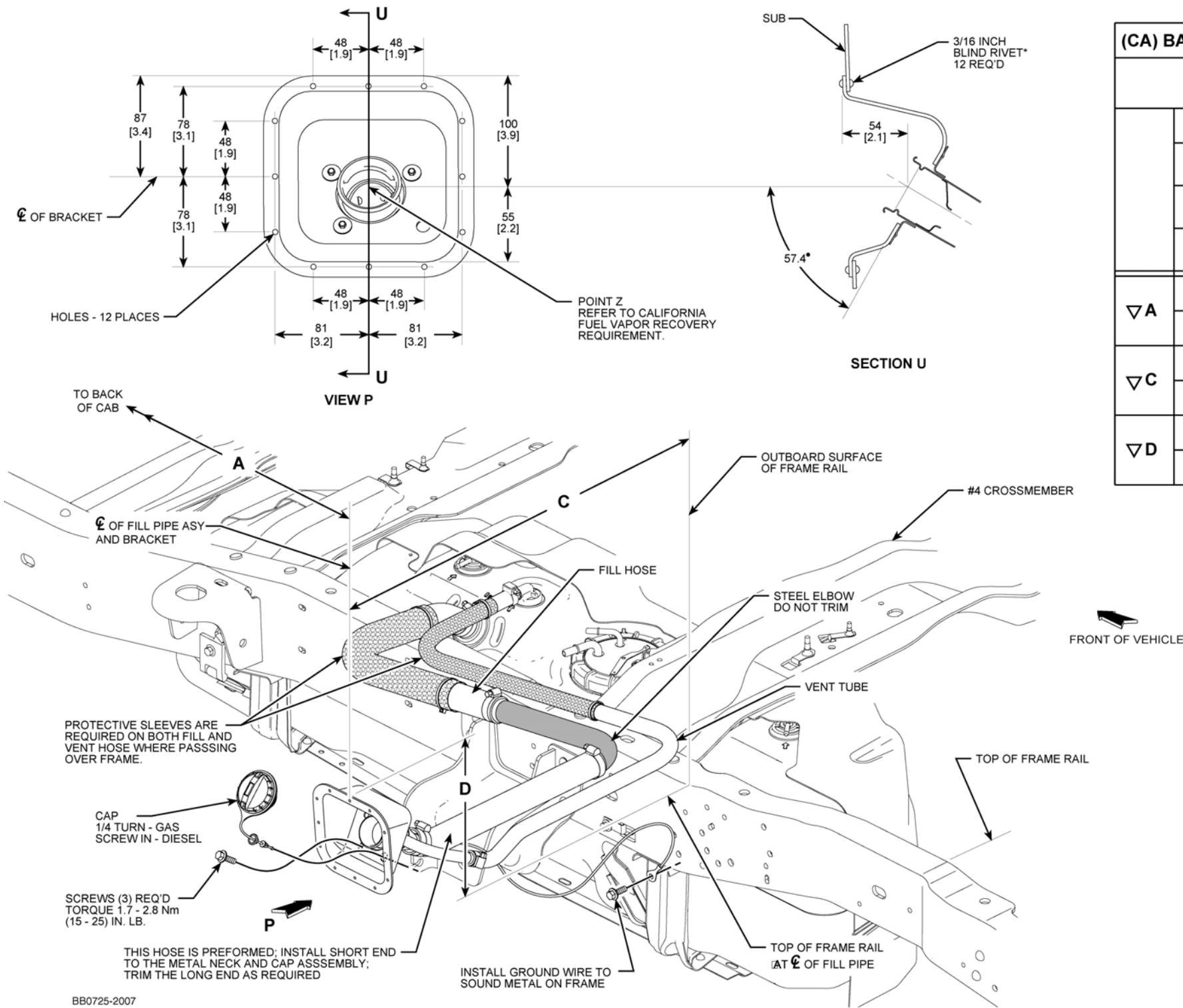


BB0724-2007

NOTES — [] DIMENSIONS ARE INCHES.
— REAR PICKUP BOX MOUNTING HOLES ARE COMMON TO ALL CAB TYPES - REGULAR, SUPERCAB AND CREW CAB.

PICKUP BOX DELETE – WIDE FRAME
SUPER DUTY F-SERIES
FUEL FILLER PIPE LOCATION AND DIMENSIONS

2008
MODEL YEAR



(CA) BACK OF CAB TO CENTERLINE OF REAR AXLE			
		40 IN. CA	56 IN. CA
	WHEELBASE		
	Regular Cab	NOT AVAILABLE	3480 [137.0]
	Super Cab	3602 [141.8]	4013 [158.0]
	Crew Cab	3967 [156.2]	4380 [172.4]
▽A	MIN.	404 [15.9]	620 [24.4]
	MAX.	716 [28.2]	932 [36.7]
▽C	MIN.	540 [21.3]	540 [21.3]
	MAX.	743 [29.2]	743 [29.2]
▽D	MIN.	267 [10.5]	267 [10.5]
	MAX.	343 [13.5]	343 [13.5]

NOTES [] DIMENSIONS ARE INCHES

▽TORQUE ALL WORM GEAR DRIVEN HOSE CLAMPS TO 2.8 - 3.9 N.m [25-35 IN-LB]

* NOT SUPPLIED BY FORD MOTOR COMPANY

▽CRITICAL CONTROL ITEM

REMOVE AND DISCARD THE FORD INSTALLED FUEL FILL SYSTEM COMPONENTS (PROVIDED FOR SHIPPING PURPOSES ONLY) SAVE AND REUSE THE METAL NECK AND CAP ASSEMBLY.

USE THE NEW HOSES, PIPES, SCUFF GUARDS, TIE WRAPS AND CLAMPS PROVIDED IN THE DUNNAGE KIT.

THE COMPLETED FUEL FILL SYSTEM MUST PROVIDE A 4 DEGREE MINIMUM, CONTINUOUS, DOWNWARD SLOPE TO THE FUEL TANK. ADDITIONAL SUPPORT MAY BE REQUIRED TO PREVENT HOSE SAGGING WHICH COULD CAUSE SPRAY OR SPITBACK DURING NORMAL FUELING OPERATIONS.

DO NOT EXTEND THE FUEL FILL SYSTEM OUTBOARD OF THE SECOND UNIT BODY.

SUPER DUTY F-350 CHASSIS CAB
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE liters	STANDARD TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾		
									FRONT pounds	REAR pounds	TOTAL pounds
REGULAR CHASSIS CAB											
F-350 4x2 SRW	F34	140.8	60	5.4L V-8	6-Spd. Manual OD	—	10,000	4540	3221	2179	5400
				6.8L V-10				4400	3351	2184	5535
				6.4L V-8				3580	3975	2375	6350
F-350 4x4 SRW	F35	140.8	60	5.4L V-8	6-Spd. Manual OD	NV271		4080	3640	2220	5860
				6.8L V-10				3940	3778	2217	5995
				6.4L V-8				3120	4427	2383	6810
SUPERCAB CHASSIS CAB											
F-350 4x2 SRW	X34	161.8	60	5.4L V-8	6-Spd. Manual OD	—	10,000	4160	3440	2335	5775
				6.8L V-10				4030	3574	2336	5910
				6.4L V-8				3200	4203	2522	6725
F-350 4x4 SRW	X35	161.8	60	5.4L V-8	6-Spd. Manual OD	NV271		3700	3853	2382	6235
				6.8L V-10				3560	3994	2376	6370
				6.4L V-8				2740	4656	2529	7185
CREW CAB CHASSIS CAB											
F-350 4x2 SRW	W34	176.2	60	5.4L V-8	6-Spd. Manual OD	—	10,000	3990	3540	2410	5950
				6.8L V-10				3850	3675	2410	6085
				6.4L V-8				3030	4313	2587	6900
F-350 4x4 SRW	W35	176.2	60	5.4L V-8	6-Spd. Manual OD	NV271		3520	3961	2449	6410
				6.8L V-10				3380	4104	2441	6545
				6.4L V-8				2560	4769	2591	7360

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Includes weight of driver, passengers and optional equipment.
(3) Base curb weight is for standard equipment only.

SUPER DUTY F-350 CHASSIS CAB
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE liters	STANDARD TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾		
									FRONT pounds	REAR pounds	TOTAL pounds
REGULAR CHASSIS CAB - OPTIONAL PAYLOAD UPGRADE PACKAGE											
F-350 4x2 SRW	F34	140.8	60	5.4L V-8	6-Spd. Manual OD	—	10,100	4640	3221	2179	5400
				6.8L V-10			10,300	4700	3351	2184	5535
				6.4L V-8			10,700	4280	3975	2375	6350
F-350 4x4 SRW	F35	140.8	60	5.4L V-8	6-Spd. Manual OD	NV271	10,400	4480	3640	2220	5860
				6.8L V-10			10,600	4540	3778	2217	5995
				6.4L V-8			11,000	4120	4427	2383	6810
SUPERCAB CHASSIS CAB - OPTIONAL PAYLOAD UPGRADE PACKAGE											
F-350 4x2 SRW	X34	161.8	60	5.4L V-8	6-Spd. Manual OD	—	10,400	4560	3440	2335	5775
				6.8L V-10			10,600	4630	3574	2336	5910
				6.4L V-8			11,000	4200	4203	2522	6725
F-350 4x4 SRW	X35	161.8	60	5.4L V-8	6-Spd. Manual OD	NV271	10,800	4500	3853	2382	6235
				6.8L V-10			11,000	4560	3994	2376	6370
				6.4L V-8			11,400	4140	4656	2529	7185
CREW CAB CHASSIS CAB - OPTIONAL PAYLOAD UPGRADE PACKAGE											
F-350 4x2 SRW	W34	176.2	60	5.4L V-8	6-Spd. Manual OD	—	10,600	4590	3540	2410	5950
				6.8L V-10			10,800	4650	3675	2410	6085
				6.4L V-8			11,200	4230	4313	2587	6900
F-350 4x4 SRW	W35	176.2	60	5.4L V-8	6-Spd. Manual OD	NV271	11,000	4520	3961	2449	6410
				6.8L V-10			11,200	4580	4104	2441	6545
				6.4L V-8			11,500	4060	4769	2591	7360

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Includes weight of driver, passengers and optional equipment.
(3) Base curb weight is for standard equipment only.

SUPER DUTY F-350 CHASSIS CAB
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE liters	STANDARD TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾		
									FRONT pounds	REAR pounds	TOTAL pounds
REGULAR CHASSIS CAB											
F-350 4x2 DRW	F36	140.8	60	5.4L V-8	6-Spd. Manual OD	—	13,000	7230	3244	2468	5712
				6.8L V-10				7090	3374	2473	5847
				6.4L V-8				6270	3984	2678	6662
		164.8	84	5.4L V-8				7150	3348	2444	5792
				6.8L V-10				7010	3479	2448	5927
				6.4L V-8				6190	4111	2631	6742
F-350 4x4 DRW	F37	140.8	60	5.4L V-8	6-Spd. Manual OD	NV271	13,000	6760	3658	2514	6172
				6.8L V-10				6620	3794	2513	6307
				6.4L V-8				5800	4416	2706	7122
		164.8	84	5.4L V-8				6680	3767	2485	6252
				6.8L V-10				6540	3906	2481	6387
				6.4L V-8				5720	4537	2665	7202

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Includes weight of driver, passengers and optional equipment.
(3) Base curb weight is for standard equipment only.

SUPER DUTY F-350 CHASSIS CAB
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE liters	STANDARD TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾		
									FRONT pounds	REAR pounds	TOTAL pounds
SUPERCAB CHASSIS CAB											
F-350 4x2 DRW	X36	161.8	60	5.4L V-8	6-Spd. Manual OD	—	13,000	6850	3457	2630	6087
				6.8L V-10				6710	3590	2632	6222
				6.4L V-8				5890	4208	2829	7037
		185.8	84	5.4L V-8				6770	3546	2621	6167
				6.8L V-10				6630	3680	2622	6302
F-350 4x4 DRW	X37	161.8	60	5.4L V-8	6-Spd. Manual OD	NV271	13,000	6380	3880	2667	6547
				6.8L V-10				6250	4020	2662	6682
				6.4L V-8				5420	4648	2849	7497
		185.8	84	5.4L V-8				6300	3974	2653	6627
				6.8L V-10				6170	4115	2647	6762
				6.4L V-8				5340	4751	2826	7577
CREW CAB CHASSIS CAB											
F-350 4x2 DRW	W36	176.2	60	5.4L V-8	6-Spd. Manual OD	—	13,000	6670	3557	2705	6262
				6.8L V-10				6530	3691	2706	6397
				6.4L V-8				5710	4313	2899	7212
		200.2	84	5.4L V-8				6520	3639	2768	6407
				6.8L V-10				6390	3775	2767	6542
F-350 4x4 DRW	W37	176.2	60	5.4L V-8	6-Spd. Manual OD	NV271	13,000	6210	3983	2739	6722
				6.8L V-10				6070	4125	2732	6857
				6.4L V-8				5250	4757	2915	7672
		200.2	84	5.4L V-8				6060	4069	2798	6867
				6.8L V-10				5920	4212	2790	7002
				6.4L V-8				5100	4847	2970	7817

(1) Engine/transmission combinations may not be available on all models, or in all areas.

(2) Includes weight of driver, passengers and optional equipment.

(3) Base curb weight is for standard equipment only.

SUPER DUTY F-450 CHASSIS CAB
MODEL LINEUP

2008
MODEL YEAR

Revised 10-09-07

SUPER DUTY F-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE liters	STANDARD TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾		
									FRONT pounds	REAR pounds	TOTAL pounds
REGULAR CHASSIS CAB											
F-450 4x2 DRW	F46	140.8	60	6.8L V-10	6-Spd. Manual OD	—	16,000	9390	3705	2830	6535
				6.4L V-8				8570	4314	3036	7350
		164.8	84	6.8L V-10				9290	3795	2840	6635
				6.4L V-8				8470	4410	3040	7450
		188.8	108	6.8L V-10				9020	3973	2937	6910
				6.4L V-8				8190	4596	3129	7725
		200.8	120	6.8L V-10				8970	4023	2937	6960
				6.4L V-8				8140	4649	3126	7775
F-450 4x4 DRW	F47	140.8	60	6.8L V-10	6-Spd. Manual OD	NV271	16,000	9030	4011	2884	6895
				6.4L V-8				8210	4599	3111	7710
		164.8	84	6.8L V-10				8930	4104	2891	6995
				6.4L V-8				8110	4698	3112	7810
		188.8	108	6.8L V-10				8650	4302	2968	7270
				6.4L V-8				7830	4904	3181	8085
		200.8	120	6.8L V-10				8600	4368	2952	7320
				6.4L V-8				7780	4973	3162	8135
SUPERCAB CHASSIS CAB											
F-450 4x2 DRW	X46	161.8	60	6.8L V-10	6-Spd. Manual OD	—	16,000	9020	3870	3040	6910
				6.4L V-8				8190	4519	3206	7725
		185.8	84	6.8L V-10				8910	3961	3049	7010
				6.4L V-8				8090	4617	3208	7825
F-450 4x4 DRW	X47	161.8	60	6.8L V-10	6-Spd. Manual OD	NV271	16,000	8650	4108	3162	7270
				6.4L V-8				7830	4730	3355	8085
		185.8	84	6.8L V-10				8550	4201	3169	7370
				6.4L V-8				7730	4829	3356	8185
CREW CAB CHASSIS CAB											
F-450 4x2 DRW	W46	176.2	60	6.8L V-10	6-Spd. Manual OD	—	16,000	8840	3968	3117	7085
				6.4L V-8				8020	4637	3263	7900
		200.2	84	6.8L V-10				8680	4108	3137	7245
				6.4L V-8				7850	4788	3272	8060
F-450 4x4 DRW	W47	176.2	60	6.8L V-10	6-Spd. Manual OD	NV271	16,000	8480	4221	3224	7445
				6.4L V-8				7650	4849	3411	8260
		200.2	84	6.8L V-10				8310	4361	3244	7605
				6.4L V-8				7490	4997	3423	8420

(1) Engine/transmission combinations may not be available on all models, or in all areas.
(2) Includes weight of driver, passengers and optional equipment.
(3) Base curb weight is for standard equipment only.

SUPER DUTY F-550 CHASSIS CAB
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE liters	STANDARD TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾		
									FRONT pounds	REAR pounds	TOTAL pounds
REGULAR CHASSIS CAB											
F-550 4x2 DRW	F56	140.8	60	6.8L V-10	5-Spd. Auto OD	—	17,950	11,290	3705	2880	6585
				6.4L V-8	6-Spd. Manual OD			10,470	4314	3086	7400
				6.8L V-10	5-Spd. Auto OD		19,000	12,290	3762	2868	6630
				6.4L V-8	6-Spd. Manual OD			11,470	4373	3077	7450
		164.8	84	6.8L V-10	5-Spd. Auto OD	—	17,950	11,190	3795	2890	6685
				6.4L V-8	6-Spd. Manual OD			10,370	4410	3090	7500
				6.8L V-10	5-Spd. Auto OD	—	19,000	12,190	3873	2862	6735
				6.4L V-8	6-Spd. Manual OD			11,370	4492	3058	7550
		188.8	108	6.8L V-10	5-Spd. Auto OD	—	17,950	10,920	3973	2987	6960
				6.4L V-8	6-Spd. Manual OD			10,090	4596	3179	7775
				6.8L V-10	5-Spd. Auto OD		19,000	11,910	4052	2958	7010
				6.4L V-8	6-Spd. Manual OD			11,090	4656	3169	7825
		200.8	120	6.8L V-10	5-Spd. Auto OD	—	17,950	10,860	4023	2987	7010
				6.4L V-8	6-Spd. Manual OD			10,040	4649	3176	7825
				6.8L V-10	5-Spd. Auto OD	—	19,000	11,860	4095	2965	7060
				6.4L V-8	6-Spd. Manual OD			11,040	4709	3166	7875
F-550 4x4 DRW	F57	140.8	60	6.8L V-10	5-Spd. Auto OD	NV271	17,950	10,930	3909	3036	6945
				6.4L V-8	6-Spd. Manual OD			10,110	4526	3234	7760
				6.8L V-10	5-Spd. Auto OD		19,000	11,930	3969	3026	6995
				6.4L V-8	6-Spd. Manual OD			11,110	4659	3151	7810
		164.8	84	6.8L V-10	5-Spd. Auto OD	NV271	17,950	10,830	4001	3044	7045
				6.4L V-8	6-Spd. Manual OD			10,010	4624	3236	7860
				6.8L V-10	5-Spd. Auto OD	NV271	19,000	11,830	4163	2932	7095
				6.4L V-8	6-Spd. Manual OD			11,010	4758	3152	7910
		188.8	108	6.8L V-10	5-Spd. Auto OD	NV271	17,950	10,550	4180	3140	7320
				6.4L V-8	6-Spd. Manual OD			9730	4811	3324	8135
				6.8L V-10	5-Spd. Auto OD		19,000	11,550	4361	3009	7370
				6.4L V-8	6-Spd. Manual OD			10,730	4964	3221	8185
		200.8	120	6.8L V-10	5-Spd. Auto OD	NV271	17,950	10,500	4227	3143	7370
				6.4L V-8	6-Spd. Manual OD			9680	4861	3324	8185
				6.8L V-10	5-Spd. Auto OD	NV271	19,000	11,500	4428	2992	7420
				6.4L V-8	6-Spd. Manual OD			10,680	5034	3201	8235

(1) Engine/transmission combinations may not be available on all models, or in all areas.

(2) Includes weight of driver, passengers and optional equipment.

(3) Base curb weight is for standard equipment only.

SUPER DUTY F-550 CHASSIS CAB
MODEL LINEUP

2008
MODEL YEAR

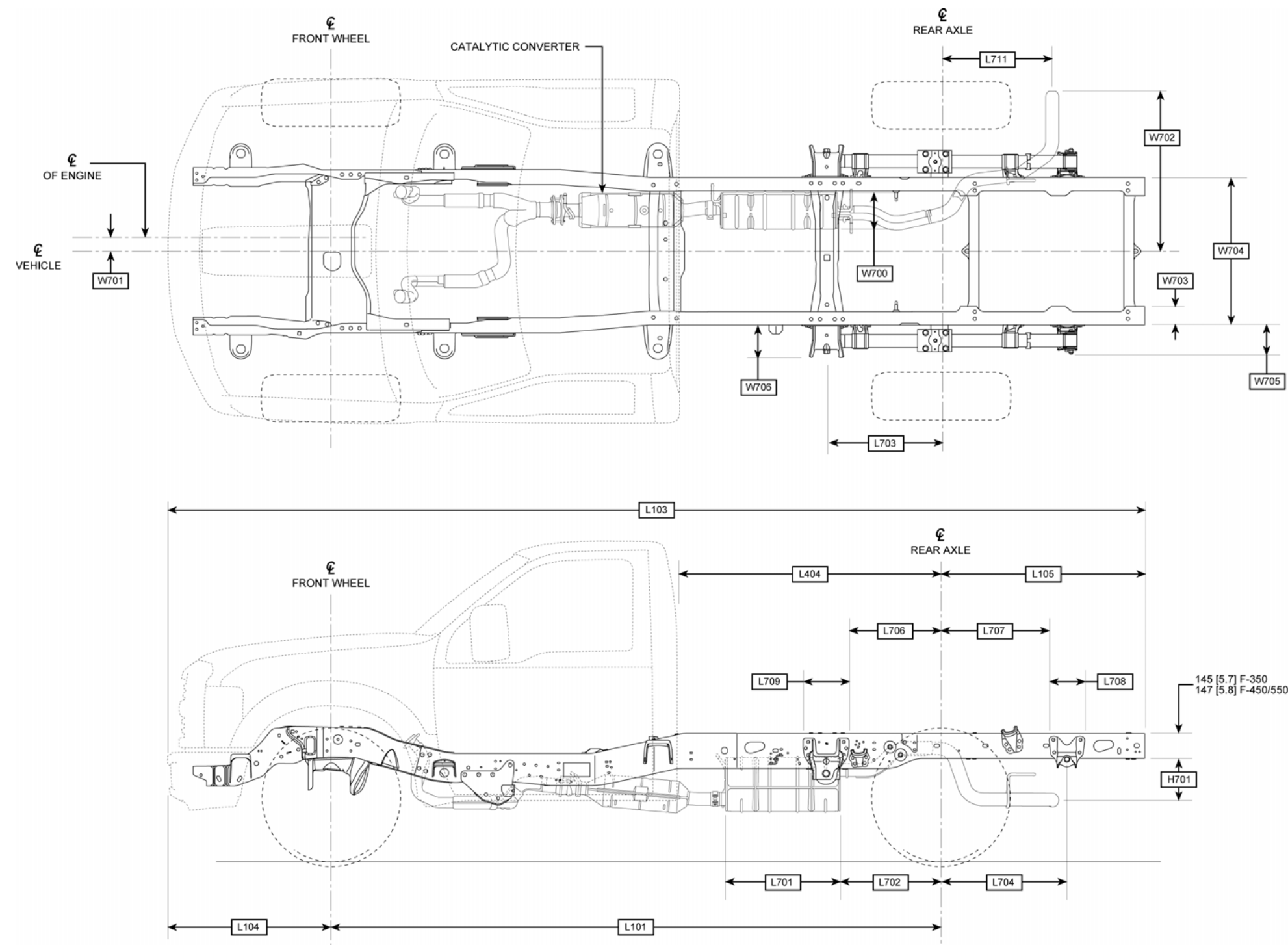
SUPER DUTY F-SERIES MODEL	BODY CODE	WHEELBASE inches	CA inches	STANDARD ENGINE liters	STANDARD TRANSMISSION ⁽¹⁾	TRANSFER CASE	MAXIMUM GVWR pounds	MAXIMUM PAYLOAD ⁽²⁾ pounds	BASE CURB WEIGHT ⁽³⁾		
									FRONT pounds	REAR pounds	TOTAL pounds
SUPERCAB CHASSIS CAB											
F-550 4x2 DRW	X56	161.8	60	6.8L V-10	5-Spd. Auto OD	—	17,950	10,920	3870	3090	6960
				6.4L V-8	6-Spd. Manual OD			10,090	4519	3256	7775
				6.8L V-10	5-Spd. Auto OD		19,000	11,910	3926	3084	7010
				6.4L V-8	6-Spd. Manual OD			11,090	4578	3247	7825
		185.8	84	6.8L V-10	5-Spd. Auto OD		17,950	10,810	3961	3099	7060
				6.4L V-8	6-Spd. Manual OD			9990	4617	3258	7875
				6.8L V-10	5-Spd. Auto OD		19,000	11,810	4017	3093	7110
				6.4L V-8	6-Spd. Manual OD			10,990	4676	3249	7925
F-550 4x4 DRW	X57	161.8	60	6.8L V-10	5-Spd. Auto OD	NV271	17,950	10,550	4108	3212	7320
				6.4L V-8	6-Spd. Manual OD			9730	4730	3405	8135
				6.8L V-10	5-Spd. Auto OD		19,000	11,550	4164	3206	7370
				6.4L V-8	6-Spd. Manual OD			10,730	4788	3397	8185
		185.8	84	6.8L V-10	5-Spd. Auto OD		17,950	10,450	4201	3219	7420
				6.4L V-8	6-Spd. Manual OD			9630	4829	3406	8235
				6.8L V-10	5-Spd. Auto OD		19,000	11,450	4258	3212	7470
				6.4L V-8	6-Spd. Manual OD			10,630	4888	3397	8285
CREW CAB CHASSIS CAB											
F-550 4x2 DRW	W56	176.2	60	6.8L V-10	5-Spd. Auto OD	—	17,950	10,740	3968	3167	7135
				6.4L V-8	6-Spd. Manual OD			9920	4637	3313	7950
				6.8L V-10	5-Spd. Auto OD		19,000	11,740	4024	3161	7185
				6.4L V-8	6-Spd. Manual OD			10,920	4696	3304	8000
		200.2	84	6.8L V-10	5-Spd. Auto OD		17,950	10,580	4108	3187	7295
				6.4L V-8	6-Spd. Manual OD			9750	4788	3322	8110
				6.8L V-10	5-Spd. Auto OD		19,000	11,580	4165	3175	7340
				6.4L V-8	6-Spd. Manual OD			10,750	4847	3313	8160
F-550 4x4 DRW	W57	176.2	60	6.8L V-10	5-Spd. Auto OD	NV271	17,950	10,380	4221	3274	7495
				6.4L V-8	6-Spd. Manual OD			9550	4849	3461	8310
				6.8L V-10	5-Spd. Auto OD		19,000	11,370	4221	3324	7545
				6.4L V-8	6-Spd. Manual OD			10,550	4849	3511	8360
		200.2	84	6.8L V-10	5-Spd. Auto OD		17,950	10,210	4361	3294	7655
				6.4L V-8	6-Spd. Manual OD			9390	4997	3473	8470
				6.8L V-10	5-Spd. Auto OD		19,000	11,210	4419	3286	7705
				6.4L V-8	6-Spd. Manual OD			10,390	5057	3463	8520

(1) Engine/transmission combinations may not be available on all models, or in all areas.

(2) Includes weight of driver, passengers and optional equipment.

(3) Base curb weight is for standard equipment only.

DIMENSIONAL DATA
SUPER DUTY F-SERIES
CHASSIS CAB – REGULAR CAB



NOTES — [] DIMENSIONS ARE INCHES.
— AXLE/TIRE/VEHICLE HEIGHT DATA, PAGES 132-138
— GROUND CLEARANCE DATA , PAGES 139-140.

DIMENSIONAL DATA
SUPER DUTY F-SERIES
CHASSIS CAB – REGULAR CAB

2008
MODEL YEAR

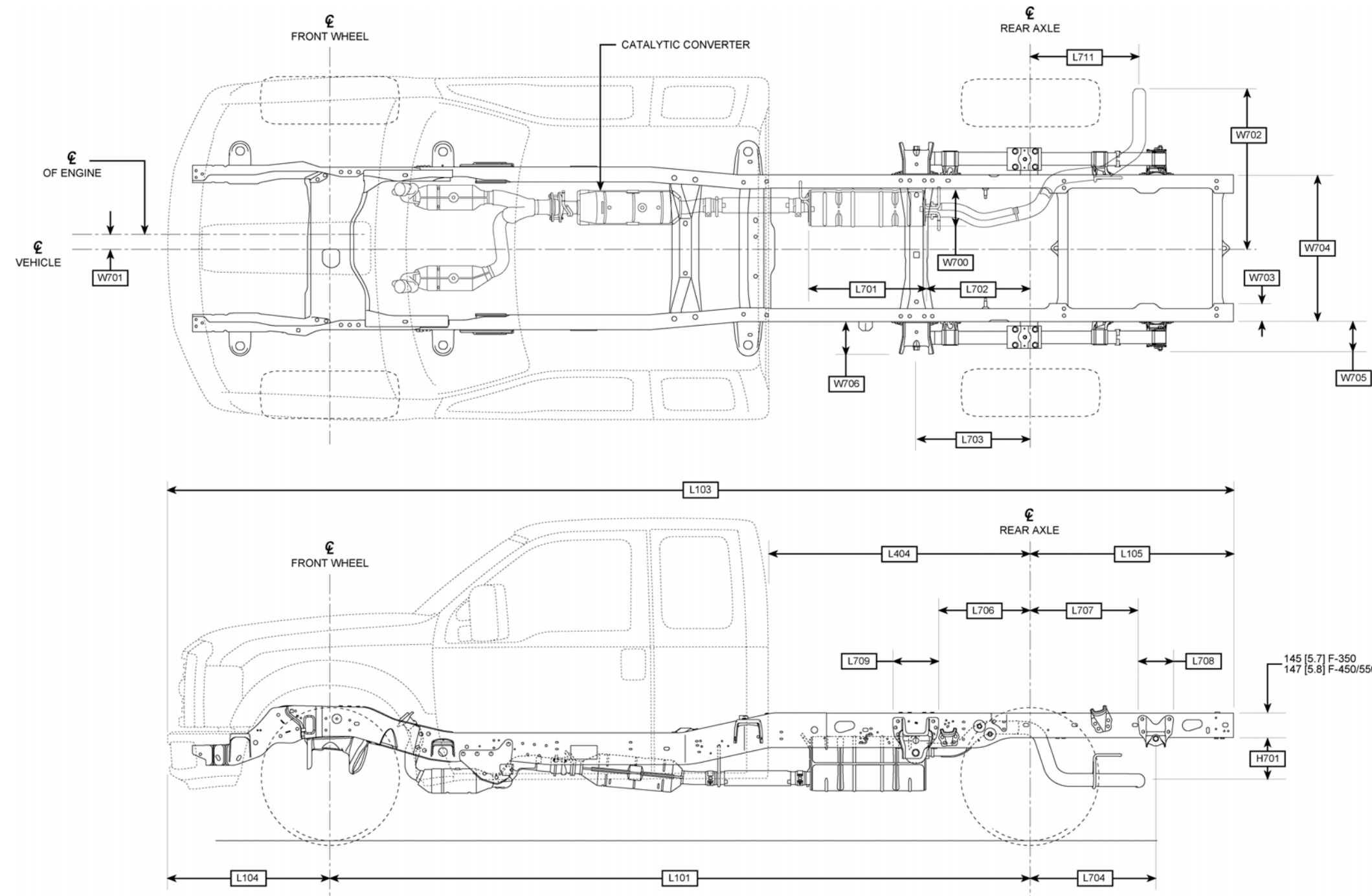
Page 127 SUPER DUTY F-SERIES

CODE	DESCRIPTION	F-350						F-450				F-550			
		SRW		DRW		DRW		DRW				DRW			
		4x2	4x4	4x2	4x4	4x2	4x4	4x2 / 4x4				4x2 / 4x4			
H701	℄ OF OUTLET PIPE TO BOTTOM OF FRAME -5.4L/6.8L/6.4L	211 [8.3]		211 [8.3]		211 [8.3]		211 [8.3]				211 [8.3]			
L101	WHEELBASE	3576 [140.8]		3576 [140.8]		4186 [164.8]		3576 [140.8]	4186 [164.8]	4795 [188.8]	5100 [200.8]	3576 [140.8]	4186 [164.8]	4795 [188.8]	5100 [200.8]
L103	OVERALL LENGTH	3738 [225.6]		3738 [225.6]		6348 [249.9]		3738 [225.6]	6348 [249.9]	6957 [273.9]	7262 [285.9]	3738 [225.6]	6348 [249.9]	6957 [273.9]	7262 [285.9]
L104	FRONT OVERHANG	953 [37.5]		953 [37.5]		953 [37.5]		953 [37.5]				953 [37.5]			
L105	REAR OVERHANG	1201 [47.3]		1199 [47.2]	1194 [47.0]	1199 [47.2]	1194 [47.0]	1207 [47.5]				1207 [47.5]			
L404	BACK OF CAB TO ℄ OF REAR AXLE	1539 [60.6]		1539 [60.6]		2134 [84.0]		1539 [60.6]	2134 [84.0]	2743 [108.0]	3048 [120.0]	1539 [60.6]	2134 [84.0]	2743 [108.0]	3048 [120.0]
L701	MUFFLER LENGTH - 5.4L/6.8L - 6.4L	686 [27.0]		686 [27.0]		686 [27.0]		686 [27.0]				686 [27.0]			
		305 [26.0]		305 [26.0]		305 [26.0]		305 [26.0]				305 [26.0]			
L702	MUFFLER REAR TO ℄ REAR AXLE - 5.4L/6.8L - 6.4L	665 [26.2]		665 [26.2]		665 [26.2]		665 [26.2]				665 [26.2]			
		616 [24.3]		616 [24.3]		616 [24.3]		616 [24.3]				616 [24.3]			
L703	REAR SPRING FRONT EYE TO ℄ REAR AXLE	664 [26.1]	672 [26.5]	666 [26.2]	671 [26.4]	666 [26.2]	671 [26.4]	658 [25.9]				658 [25.9]			
L704	℄ REAR AXLE TO ℄ REAR SPRING SHACKLE BRACKET	746 [29.4]	738 [29.0]	744 [29.3]	739 [29.0]	744 [29.3]	739 [29.0]	752 [29.6]				752 [29.6]			
L706	REAR OF FRONT SPRING BRACKET TO ℄ REAR AXLE	521 [20.5]	530 [20.9]	523 [20.6]	528 [20.8]	523 [20.6]	528 [20.8]	529 [20.8]				529 [20.8]			
L707	℄ REAR AXLE TO FRONT OF REAR SPRING SHACKLE BRACKET	642 [25.3]	634 [25.0]	640 [25.2]	635 [25.0]	640 [25.2]	635 [25.0]	649 [25.6]				649 [25.6]			
L708	REAR SPRING SHACKLE BRACKET WIDTH	208 [8.2]		208 [8.2]		208 [8.2]		205 [8.1]				205 [8.1]			
L709	FRONT SPRING HANGER BRACKET WIDTH	285 [11.2]		285 [11.2]		285 [11.2]		258 [10.2]				258 [10.2]			
L711	℄ OF REAR AXLE TO ℄ OF EXHAUST PIPE - 5.4L/6.8L - 6.4L	661 [26.0]		661 [26.0]		661 [26.0]		661 [26.0]				661 [26.0]			
		879 [34.6]		879 [34.6]		879 [34.6]		879 [34.6]				879 [34.6]			
W700	MUFFLER CROSS SECTION - 5.4L/6.8L - 6.4L	210 [8.3] x 665 [26.2]		210 [8.3] x 665 [26.2]		210 [8.3] x 665 [26.2]		210 [8.3] x 665 [26.2]				210 [8.3] x 665 [26.2]			
		ø 180 [7.1]		ø 180 [7.1]		ø 180 [7.1]		ø 180 [7.1]				ø 180 [7.1]			
W701	DISTANCE BETWEEN ℄ ENGINE / VEHICLE	45 [1.8]		45 [1.8]		45 [1.8]		45 [1.8]				45 [1.8]			
W702	END OF TAILPIPE TO ℄ VEHICLE - 5.4L/6.8L - 6.4L	840 [33.1]		840 [33.1]		840 [33.1]		840 [33.1]				840 [33.1]			
		960 [37.8]		960 [37.8]		960 [37.8]		960 [37.8]				960 [37.8]			
W703	FRAME RAIL WIDTH	107 [4.2]		107 [4.2]		107 [4.2]		108 [4.2]				108 [4.2]			
W704	REAR FRAME WIDTH	866 [34.1]		866 [34.1]		866 [34.1]		868 [34.2]				868 [34.2]			
W705	DISTANCE FROM FRAME TO OUTSIDE OF REAR SPRING SHACKLE BRACKET	149 [5.9]		149 [5.9]		149 [5.9]		147 [5.8]				147 [5.8]			
W706	DISTANCE FROM FRAME TO OUTSIDE OF REAR SPRING HANGER BRACKET	191 [7.5]		191 [7.5]		191 [7.5]		151 [5.9]				151 [5.9]			

NOTES — [] DIMENSIONS ARE INCHES.
— AXLE/TIRE/VEHICLE HEIGHT DATA, PAGES 132-138
— GROUND CLEARANCE DATA , PAGES 139-140.

DIMENSIONAL DATA
SUPER DUTY F-SERIES
CHASSIS CAB – SUPERCAB

2008
MODEL YEAR



BB0711-2007

NOTES — [] DIMENSIONS ARE INCHES.
— AXLE/TIRE/VEHICLE HEIGHT DATA, PAGES 132-138
— GROUND CLEARANCE DATA , PAGES 139-140.

DIMENSIONAL DATA
SUPER DUTY F-SERIES
CHASSIS CAB – SUPERCAB

2008
MODEL YEAR

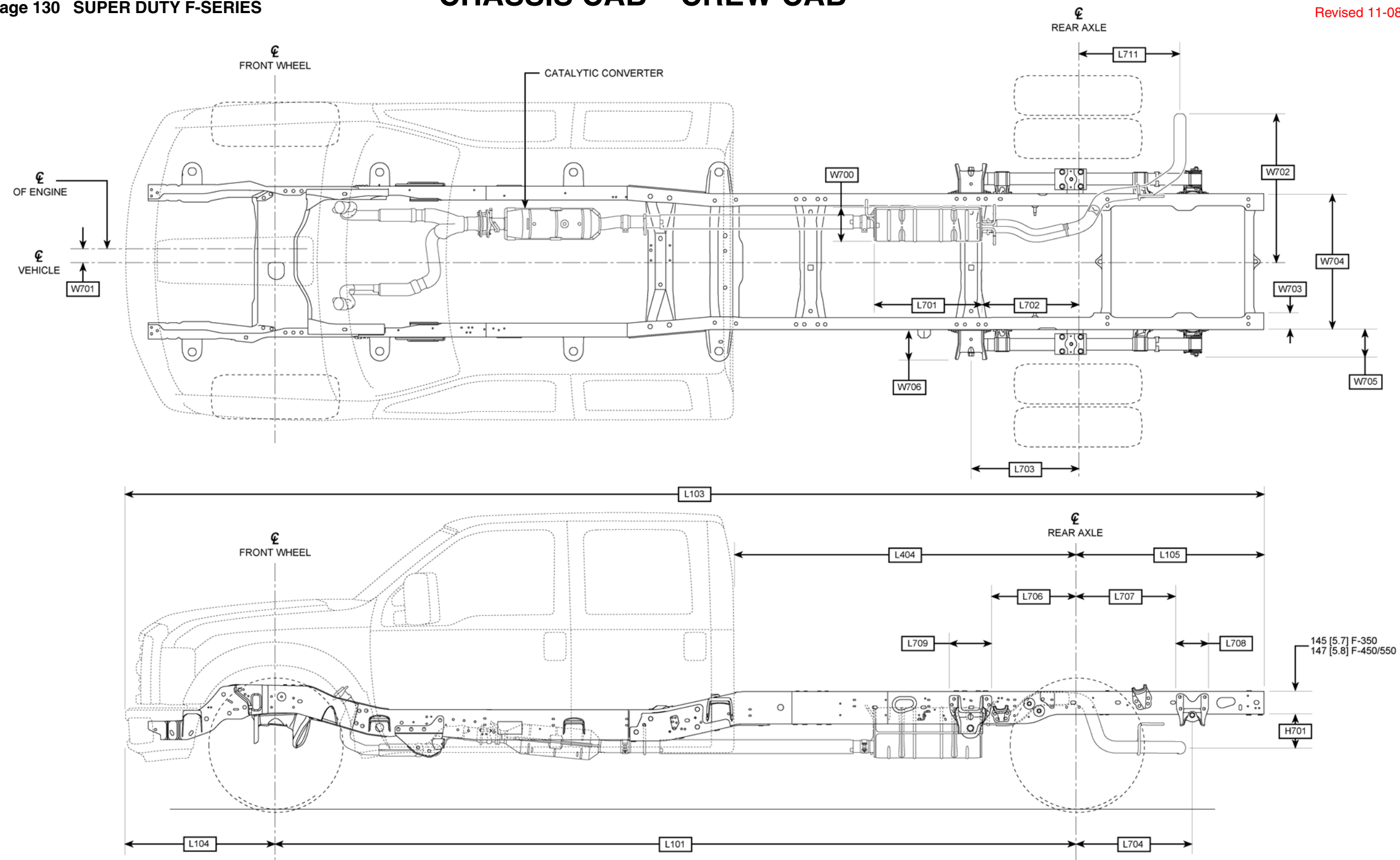
CODE	DESCRIPTION	F-350				F-450	F-550
		SRW		DRW		DRW	DRW
		4x2	4x4	4x2	4x4	4x2 / 4x4	4x2 / 4x4
H701	℄ OF OUTLET PIPE TO BOTTOM OF FRAME -5.4L/6.8L/6.4L	211 [8.3]		211 [8.3]		211 [8.3]	211 [8.3]
L101	WHEELBASE	4110 [161.8]		4110 [161.8]		4110 [161.8]	4110 [161.8]
L103	OVERALL LENGTH	6271 [246.9]		6271 [246.9]		6271 [246.9]	6271 [246.9]
L104	FRONT OVERHANG	953 [37.5]		953 [37.5]		953 [37.5]	953 [37.5]
L105	REAR OVERHANG	1201 [47.3]		1199 [47.2]	1194 [47.0]	1207 [47.5]	1207 [47.5]
L404	BACK OF CAB TO ℄ OF REAR AXLE	1535 [60.4]		1535 [60.4]		1535 [60.4]	1535 [60.4]
L701	MUFFLER LENGTH - 5.4L/6.8L - 6.4L	686 [27.0]		686 [27.0]		686 [27.0]	686 [27.0]
		305 [26.0]		305 [26.0]		305 [26.0]	305 [26.0]
L702	MUFFLER REAR TO ℄ REAR AXLE - 5.4L/6.8L - 6.4L	665 [26.2]		665 [26.2]		665 [26.2]	665 [26.2]
		616 [24.3]		616 [24.3]		616 [24.3]	616 [24.3]
L703	REAR SPRING FRONT EYE TO ℄ REAR AXLE	664 [26.1]	672 [26.5]	666 [26.2]	671 [26.4]	658 [25.9]	658 [25.9]
L704	℄ REAR AXLE TO ℄ REAR SPRING SHACKLE BRACKET	746 [29.4]	738 [29.0]	744 [29.3]	739 [29.0]	752 [29.6]	752 [29.6]
L706	REAR OF FRONT SPRING BRACKET TO ℄ REAR AXLE	521 [20.5]	530 [20.9]	523 [20.6]	528 [20.8]	529 [20.8]	529 [20.8]
L707	℄ REAR AXLE TO FRONT OF REAR SPRING SHACKLE BRACKET	642 [25.3]	634 [25.0]	640 [25.2]	635 [25.0]	649 [25.6]	649 [25.6]
L708	REAR SPRING SHACKLE BRACKET WIDTH	208 [8.2]		208 [8.2]		205 [8.1]	205 [8.1]
L709	FRONT SPRING HANGER BRACKET WIDTH	285 [11.2]		285 [11.2]		258 [10.2]	258 [10.2]
L711	℄ OF REAR AXLE TO ℄ OF EXHAUST PIPE - 5.4L/6.8L - 6.4L	661 [26.0]		661 [26.0]		661 [26.0]	661 [26.0]
		879 [34.6]		879 [34.6]		879 [34.6]	879 [34.6]
W700	MUFFLER CROSS SECTION - 5.4L/6.8L - 6.4L	210 [8.3] x 665 [26.2]		210 [8.3] x 665 [26.2]		210 [8.3] x 665 [26.2]	210 [8.3] x 665 [26.2]
		ø 180 [7.1]		ø 180 [7.1]		ø 180 [7.1]	ø 180 [7.1]
W701	DISTANCE BETWEEN ℄ ENGINE / VEHICLE	45 [1.8]		45 [1.8]		45 [1.8]	45 [1.8]
W702	END OF TAILPIPE TO ℄ VEHICLE - 5.4L/6.8L - 6.4L	840 [33.1]		840 [33.1]		840 [33.1]	840 [33.1]
		960 [37.8]		960 [37.8]		960 [37.8]	960 [37.8]
W703	FRAME RAIL WIDTH	107 [4.2]		107 [4.2]		108 [4.2]	108 [4.2]
W704	REAR FRAME WIDTH	866 [34.1]		866 [34.1]		868 [34.2]	868 [34.2]
W705	DISTANCE FROM FRAME TO OUTSIDE OF REAR SPRING SHACKLE BRACKET	149 [5.9]		149 [5.9]		147 [5.8]	147 [5.8]
W706	DISTANCE FROM FRAME TO OUTSIDE OF REAR SPRING HANGER BRACKET	191 [7.5]		191 [7.5]		151 [5.9]	151 [5.9]

NOTES — [] DIMENSIONS ARE INCHES.
— AXLE/TIRE/VEHICLE HEIGHT DATA, PAGES 132-138
— GROUND CLEARANCE DATA , PAGES 139-140.

DIMENSIONAL DATA
SUPER DUTY F-SERIES
CHASSIS CAB – CREW CAB

2008
MODEL YEAR

Revised 11-08-07



NOTES — [] DIMENSIONS ARE INCHES.
— AXLE/TIRE/VEHICLE HEIGHT DATA, PAGES 132-138
— GROUND CLEARANCE DATA , PAGES 139-140.

DIMENSIONAL DATA
SUPER DUTY F-SERIES
CHASSIS CAB – CREW CAB

2008
MODEL YEAR

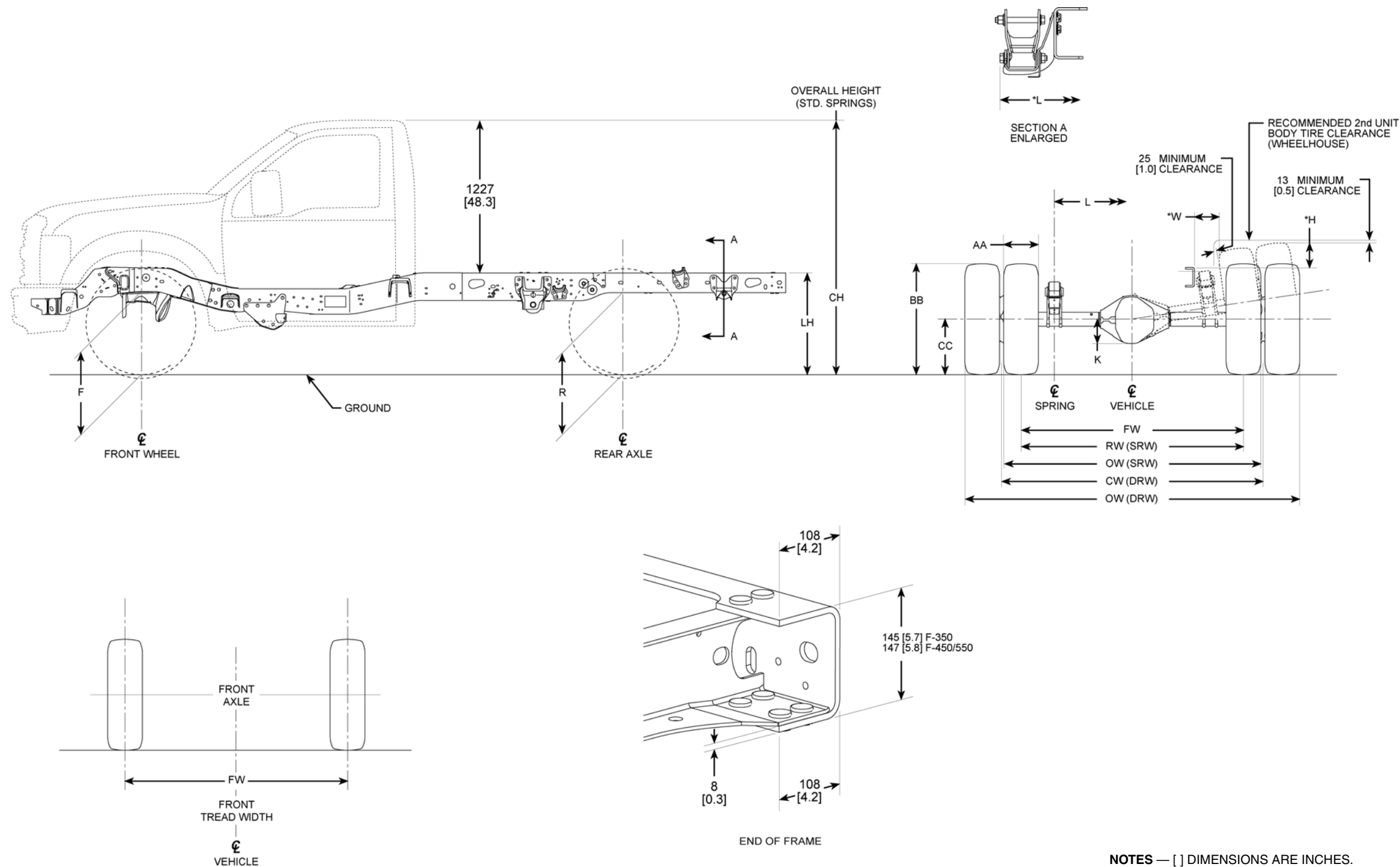
Revised 11-08-07

CODE	DESCRIPTION	F-350				F-450	F-550
		SRW		DRW		DRW	DRW
		4x2	4x4	4x2	4x4	4x2 / 4x4	4x2 / 4x4
H701	℄ OF OUTLET PIPE TO BOTTOM OF FRAME - 5.4L/6.8L/6.4L	211 [8.3]		211 [8.3]		211 [8.3]	211 [8.3]
L101	WHEELBASE	4475 [176.2]		4475 [176.2]		4475 [176.2] / 5085 [200.2]	4475 [176.2] / 5085 [200.2]
L103	OVERALL LENGTH	6629 [261.0]		6629 [261.0]		6629 [261.0] / 7239 [285.0]	6629 [261.0] / 7239 [285.0]
L104	FRONT OVERHANG	953 [37.5]		953 [37.5]		953 [37.5]	953 [37.5]
L105	REAR OVERHANG	1201 [47.3]		1199 [47.2]	1194 [47.0]	1207 [47.5]	1207 [47.5]
L404	BACK OF CAB TO ℄ OF REAR AXLE	1535 [60.4]		1535 [60.4]		1535 [60.4]	1535 [60.4]
L701	MUFFLER LENGTH - 5.4L/6.8L - 6.4L	686 [27.0]		686 [27.0]		686 [27.0]	686 [27.0]
		305 [26.0]		305 [26.0]		305 [26.0]	305 [26.0]
L702	MUFFLER REAR TO ℄ REAR AXLE - 5.4L/6.8L - 6.4L	665 [26.2]		665 [26.2]		665 [26.2]	665 [26.2]
		616 [24.3]		616 [24.3]		616 [24.3]	616 [24.3]
L703	REAR SPRING FRONT EYE TO ℄ REAR AXLE	664 [26.1]	672 [26.5]	666 [26.2]	671 [26.4]	658 [25.9]	658 [25.9]
L704	℄ REAR AXLE TO ℄ REAR SPRING SHACKLE BRACKET	746 [29.4]	738 [29.0]	744 [29.3]	739 [29.0]	752 [29.6]	752 [29.6]
L706	REAR OF FRONT SPRING BRACKET TO ℄ REAR AXLE	521 [20.5]	530 [20.9]	523 [20.6]	528 [20.8]	529 [20.8]	529 [20.8]
L707	℄ REAR AXLE TO FRONT OF REAR SPRING SHACKLE BRACKET	642 [25.3]	634 [25.0]	640 [25.2]	635 [25.0]	649 [25.6]	649 [25.6]
L708	REAR SPRING SHACKLE BRACKET WIDTH	208 [8.2]		208 [8.2]		205 [8.1]	205 [8.1]
L709	FRONT SPRING HANGER BRACKET WIDTH	285 [11.2]		285 [11.2]		258 [10.2]	258 [10.2]
L711	℄ OF REAR AXLE TO ℄ OF EXHAUST PIPE - 5.4L/6.8L - 6.4L	661 [26.0]		661 [26.0]		661 [26.0]	661 [26.0]
		879 [34.6]		879 [34.6]		879 [34.6]	879 [34.6]
W700	MUFFLER CROSS SECTION - 5.4L/6.8L - 6.4L	210 [8.3] x 665 [26.2]		210 [8.3] x 665 [26.2]		210 [8.3] x 665 [26.2]	210 [8.3] x 665 [26.2]
		ø 180 [7.1]		ø 180 [7.1]		ø 180 [7.1]	ø 180 [7.1]
W701	DISTANCE BETWEEN ℄ ENGINE / VEHICLE	45 [1.8]		45 [1.8]		45 [1.8]	45 [1.8]
W702	END OF TAILPIPE TO ℄ VEHICLE - 5.4L/6.8L - 6.4L	840 [33.1]		840 [33.1]		840 [33.1]	840 [33.1]
		960 [37.8]		960 [37.8]		960 [37.8]	960 [37.8]
W703	FRAME RAIL WIDTH	107 [4.2]		107 [4.2]		108 [4.2]	108 [4.2]
W704	REAR FRAME WIDTH	866 [34.1]		866 [34.1]		868 [34.2]	868 [34.2]
W705	DISTANCE FROM FRAME TO OUTSIDE OF REAR SPRING SHACKLE BRACKET	149 [5.9]		149 [5.9]		147 [5.8]	147 [5.8]
W706	DISTANCE FROM FRAME TO OUTSIDE OF REAR SPRING HANGER BRACKET	191 [7.5]		191 [7.5]		151 [5.9]	151 [5.9]

NOTES — [] DIMENSIONS ARE INCHES.
— AXLE/TIRE/VEHICLE HEIGHT DATA, PAGES 132-138
— GROUND CLEARANCE DATA , PAGES 139-140.

AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-SERIES
CHASSIS CAB – REGULAR CAB

2008
MODEL YEAR



BB0726-2007

NOTES — [] DIMENSIONS ARE INCHES.
— F AND R VEHICLE HEIGHT DIMENSIONS ARE FROM GROUND TO BOTTOM OF FRAME.
— LH IS FROM GROUND TO TOP OF FLOOR RIBS.


AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-SERIES
CHASSIS CAB – REGULAR CAB

2008
MODEL YEAR

Model	Units	WB	Standard GVWR (pounds)	Base Tire	CC (SLR)	Tire Diameter	F Height at Front wheel ⁽¹⁾		R Height at Rear Axle ⁽¹⁾		LH ⁽¹⁾		CH ⁽¹⁾		K	L	*L	AA	BB	FW	RW	OW	CW	*H	*W	
							Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾												
F350 Regular Cab 4x2	mm	3576	10,000 SRW	LT275/65R18E	376	829	534	507	626	532	803	687	1947	1887	174	1056	1184	296	790	1734	1729	2025	--	227	276	
	inches				14.8	32.6	21.0	20.0	24.6	20.9	31.6	27.0	76.7	74.3	6.9	41.6	46.6	11.7	31.1	68.3	68.1	79.7	--	8.9	10.9	
	mm		13,000 DRW Ambulance	LT245/75R17E	371	814	529	502	633	527	815	682	1949	1882	174	1056	1184	263	778	1736	--	2415	1881	228	229	
	inches				14.6	32.0	20.8	19.8	24.9	20.7	32.1	26.9	76.7	74.1	6.9	41.6	46.6	10.4	30.6	68.3	--	95.1	74.1	9.0	9.0	
	mm	140.8	13,000 DRW	LT245/75R17E	371	814	529	502	633	527	815	682	1949	1882	174	1056	1184	263	778	1736	--	2343	1805	226	193	
	inches				14.6	32.0	20.8	19.8	24.9	20.7	32.1	26.9	76.7	74.1	6.9	41.6	46.6	10.4	30.6	68.3	--	92.2	71.1	8.9	7.6	
	mm	4186	13,000 DRW Ambulance	LT245/75R17E	371	814	529	502	633	527	810	680	1940	1880	174	1056	1184	263	778	1736	--	2415	1881	228	229	
	inches				14.6	32.0	20.8	19.8	24.9	20.7	31.9	26.8	76.4	74.0	6.9	41.6	46.6	10.4	30.6	68.3	--	95.1	74.1	9.0	9.0	
	mm		164.8	13,000 DRW	LT245/75R17E	371	814	529	502	633	527	810	680	1940	1880	174	1056	1184	263	778	1736	--	2343	1805	226	193
	inches					14.6	32.0	20.8	19.8	24.9	20.7	31.9	26.8	76.4	74.0	6.9	41.6	46.6	10.4	30.6	68.3	--	92.2	71.1	8.9	7.6
F350 Regular Cab 4x4	mm	3576	10,000 SRW	LT275/65R18E	376	829	622	595	683	590	851	735	2020	1960	174	1056	1184	296	790	1734	1729	2025	--	171	278	
	inches				14.8	32.6	24.5	23.4	26.9	23.2	33.5	28.9	79.5	77.2	6.9	41.6	46.6	11.7	31.1	68.3	68.1	79.7	--	6.7	11.0	
	mm	140.8	13,000 DRW	LT245/75R17E	371	814	617	589	691	585	863	730	2021	1955	174	1056	1184	263	778	1736	--	2343	1805	177	195	
	inches				14.6	32.0	24.3	23.2	27.2	23.0	34.0	28.7	79.6	77.0	6.9	41.6	46.6	10.4	30.6	68.3	--	92.2	71.1	7.0	7.7	
	mm	4186	13,000 DRW	LT245/75R17E	371	814	617	589	691	585	859	730	2015	1955	174	1056	1184	263	778	1736	--	2343	1805	177	195	
	inches	164.8			14.6	32.0	24.3	23.2	27.2	23.0	33.8	28.7	79.3	77.0	6.9	41.6	46.6	10.4	30.6	68.3	--	92.2	71.1	7.0	7.7	
F450 Regular Cab 4x2/4 w/Spacer (Low Deflection)	mm	3576	16,000 DRW	225/70R19.5G	380	823	634	599	714	632	890	793	2042	1984	178	1056	1184	237	792	1900	--	2386	1880	139	246	
	inches	140.8									35.0	31.2	80.4	78.1												
	mm	4186									886	791	2035	1980												
	inches	164.8									34.9	31.1	80.1	78.0												
	mm	4795									883	789	2031	1978												
	inches	188.8									34.8	31.1	80.0	77.9												
	mm	5100 ⁽⁴⁾									876	786	2029	1977												
	inches	200.8									15.0	32.4	25.0	23.6	28.1	24.9	35.0	31.2	79.9	77.8	7.0	41.6	46.6	9.3	31.2	74.8

DRW — Dual Rear Wheels

- (1) — The Height Data shown represents dimensions of a base/standard vehicle with no options.
Actual height may vary due to production tolerances [completed vehicles only].
- (2) — Height at base curb weight with standard springs.
- (3) — Loaded height at spring rating with standard springs.
- (4) — Reinforced frame available pm 200.8" wheelbase, Regular Cab, 450/550

- *H — Top of frame at  of rear axle to top of tire in jounce
- *L — From outside edge of shackle eyebolt
- *W — Outside of frame to top of tire in jounce

(Cont'd next page)

NOTES — [] DIMENSIONS ARE INCHES.

— F AND R VEHICLE HEIGHT DIMENSIONS ARE FROM GROUND TO BOTTOM OF FRAME.

— LH IS FROM GROUND TO TOP OF FLOOR RIBS.

AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-SERIES
CHASSIS CAB – REGULAR CAB

2008
MODEL YEAR

Model	Units	WB	Standard GVWR (pounds)	Base Tire	CC (SLR)	Tire Diameter	F Height at Front wheel ⁽¹⁾		R Height at Rear Axle ⁽¹⁾		LH ⁽¹⁾		CH ⁽¹⁾		K	L	*L	AA	BB	FW	RW	OW	CW	*H	*W
							Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾											
F450 Regular Cab 4x2/4 w/o Spacer	mm	3576	16,000 DRW	225/70R19.5G	380	823	634	599	666	585	827	730	2018	1961	178	1056	1184	237	792	1900	--	2386	1880	194	245
	inches	140.8									32.6	28.7	79.4	77.2											
	mm	4186									825	730	2015	1961											
	inches	164.8									32.5	28.7	79.3	77.2											
	mm	4795									823	730	2013	1961											
	inches	188.8									32.4	28.7	79.3	77.2											
	mm	5100 ⁽⁴⁾									820	231	2012	1961											
	inches	200.8			15.0	32.4	25.0	23.6	26.2	23.0	32.6	28.7	79.2	77.2	7.0	41.6	46.6	9.3	31.2	74.8	--	93.9	74.0	7.6	9.7
F550 Regular Cab 4x2/4 w/o Spacer	mm	3576	17,950 DRW	225/70R19.5G	380	823	634	599	674	585	837	730	2022	1961	178	1056	1184	237	792	1900	--	2386	1880	194	245
	inches	140.8									33.0	28.7	79.6	77.2											
	mm	4186									834	730	2018	1961											
	inches	164.8									32.8	28.7	79.4	77.2											
	mm	4795									833	730	2016	1961											
	inches	188.8									32.8	28.7	79.4	77.2											
	mm	5100 ⁽⁴⁾									829	731	2015	1961											
	inches	200.8			15.0	32.4	25.0	23.6	26.5	23.0	33.0	28.7	79.3	77.2	7.0	41.6	46.6	9.3	31.2	74.8	--	93.9	74.0	7.6	9.7
F550 Regular Cab 4x2/4 w/Spacer (Low Deflection)	mm	3576	17,950 DRW	225/70R19.5G	380	823	634	599	678	589	843	736	2024	1963	178	1056	1184	237	792	1900	--	2386	1880	139	246
	inches	140.8									33.2	29.0	79.7	77.3											
	mm	4186									841	736	2020	1963											
	inches	164.8									33.1	29.0	79.5	77.3											
	mm	4795									839	736	2018	1963											
	inches	188.8									33.0	29.0	79.4	77.3											
	mm	5100 ⁽⁴⁾									835	736	2017	1863											
	inches	200.8			15.0	32.4	25.0	23.6	26.7	23.2	33.2	29.0	79.4	73.3	7.0	41.6	46.6	9.3	31.2	74.8	--	93.9	74.0	5.5	9.7


DRW — Dual Rear Wheels

(1) — The Height Data shown represents dimensions of a base/standard vehicle with no options.
Actual height may vary due to production tolerances [completed vehicles only].

(2) — Height at base curb weight with standard springs.

(3) — Loaded height at spring rating with standard springs.

(4) — Reinforced frame available pm 200.8" wheelbase, Regular Cab, 450/550

*H — Top of frame at  of rear axle to top of tire in jounce

*L — From outside edge of shackle eyebolt

*W — Outside of frame to top of tire in jounce

NOTES — [] DIMENSIONS ARE INCHES.

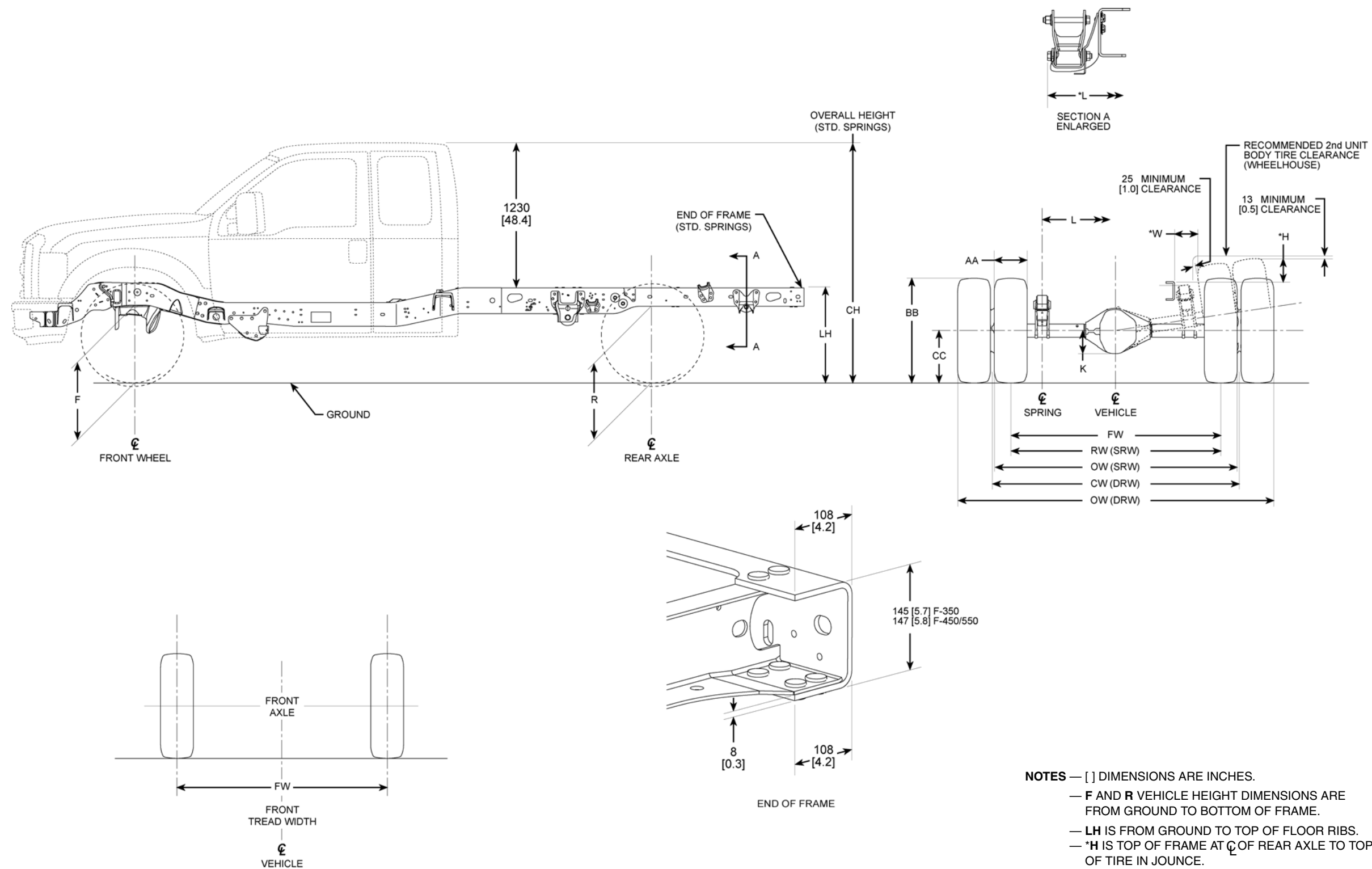
— F AND R VEHICLE HEIGHT DIMENSIONS ARE FROM GROUND TO BOTTOM OF FRAME.

— LH IS FROM GROUND TO TOP OF FLOOR RIBS.

AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-SERIES
CHASSIS CAB – SUPERCAB

2008
MODEL YEAR

Page 136 SUPER DUTY F-SERIES



- NOTES — [] DIMENSIONS ARE INCHES.
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 - **LH** IS FROM GROUND TO TOP OF FLOOR RIBS.
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 - ***L** IS FROM OUTSIDE EDGE OF SHACKLE EYEBOLT.
 - ***W** IS OUTSIDE OF FRAME TO TOP OF TIRE IN JOUNCE.


AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-SERIES
CHASSIS CAB – SUPERCAB

2008
MODEL YEAR

Model	Units	WB	Standard GVWR (pounds)	Base Tire	CC (SLR)	Tire Diameter	F Height at Front wheel ⁽¹⁾		R Height at Rear Axle ⁽¹⁾		LH ⁽¹⁾		CH ⁽¹⁾		K	L	*L	AA	BB	FW	RW	OW	CW	*H	*W
							Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾											
F350 SuperCab 4x2	mm	4110	10,000 SRW	LT275/65R18E	376	829	534	507	626	532	799	686	1955	1893	174	1056	1184	296	790	1734	1729	2025	--	227	276
	inches				14.8	32.6	21.0	20.0	24.6	20.9	31.5	27.0	77.0	74.5	6.9	41.6	46.6	11.7	31.1	68.3	68.1	79.7	--	8.9	10.9
	mm		13,000 DRW Ambulance	LT245/75R17E	371	814	529	502	633	527	810	681	1957	1888	174	1056	1184	263	778	1736	--	2415	1881	228	229
	inches				14.6	32.0	20.8	19.8	24.9	20.7	31.9	26.8	77.0	74.3	6.9	41.6	46.6	10.4	30.6	68.3	--	95.1	74.1	9.0	9.0
	mm	13,000 DRW		371	814	529	502	633	527	810	681	1957	1888	174	1056	1184	263	778	1736	--	2343	1805	226	193	
	inches			14.6	32.0	20.8	19.8	24.9	20.7	31.9	26.8	77.0	74.3	6.9	41.6	46.6	10.4	30.6	68.3	--	92.2	71.1	8.9	7.6	
F350 SuperCab 4x4	mm	4110	10,000 SRW	LT275/65R18E	376	829	622	595	683	590	848	735	2027	1966	174	1056	1184	296	790	1734	1729	2025	--	171	277
	inches				14.8	32.6	24.5	23.4	26.9	23.2	33.4	28.9	79.8	77.4	6.9	41.6	46.6	11.7	31.1	68.3	68.1	79.7	--	6.7	10.9
	mm	13,000 DRW	LT245/75R17E	371	814	617	589	691	585	859	730	20229	1961	174	1056	1184	263	778	1736	--	2343	1805	177	195	
	inches			14.6	32.0	24.3	23.2	27.2	23.0	33.8	28.7	796.4	77.2	6.9	41.6	46.6	10.4	30.6	68.3	--	92.2	71.1	7.0	7.7	
F450 SuperCab 4x2 / 4x4 w/o Spacer	mm	4110	16,000 DRW	225/70R19.5G	380	823	634	599	666	585	825	730	2025	1966	178	1056	1184	237	792	1900	--	2386	1880	194	245
		161.8			15.0	32.4	25.0	23.6	26.2	23.0	32.5	28.7	79.7	77.4	7.0	41.6	46.6	9.3	31.2	74.8	--	93.9	74.0	7.6	9.7
F450 SuperCab 4x2 / 4x4 w/Spacer (Low Deflection)	mm	4110	16,000 DRW	225/70R19.5G	380	823	634	599	714	632	886	791	2050	1990	178	1056	1184	237	792	1900	--	2386	1880	139	246
		161.8			15.0	32.4	25.0	23.6	28.1	24.9	34.9	31.1	80.7	78.3	7.0	41.6	46.6	9.3	31.2	74.8	--	93.9	74.0	5.5	9.7
F550 SuperCab 4x2 / 4x4 w/o Spacer	mm	4110	17,950 DRW	225/70R19.5G	380	823	634	599	674	585	835	730	2029	1966	178	1056	1184	237	792	1900	--	2386	1880	194	245
		161.8			15.0	32.4	25.0	23.6	26.5	23.0	32.9	28.7	79.9	77.4	7.0	41.6	46.6	9.3	31.2	74.8	--	93.9	74.0	7.6	9.7
F550 SuperCab 4x2 / 4x4 w/Spacer (Low Deflection)	mm	4110	17,950 DRW	225/70R19.5G	380	823	634	599	678	589	841	736	2031	1969	178	1056	1184	237	792	1900	--	2386	1880	139	246
		161.8			15.0	32.4	25.0	23.6	26.7	23.2	33.1	29.0	80.0	77.5	7.0	41.6	46.6	9.3	31.2	74.8	--	93.9	74.0	5.5	9.7

DRW — Dual Rear Wheels

- (1) — The Height Data shown represents dimensions of a base/standard vehicle with no options.
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- (4) — Reinforced frame available pm 200.8" wheelbase, Regular Cab, 450/550

*H — Top of frame at  of rear axle to top of tire in jounce

*L — From outside edge of shackle eyebolt

*W — Outside of frame to top of tire in jounce

NOTES — [] DIMENSIONS ARE INCHES.

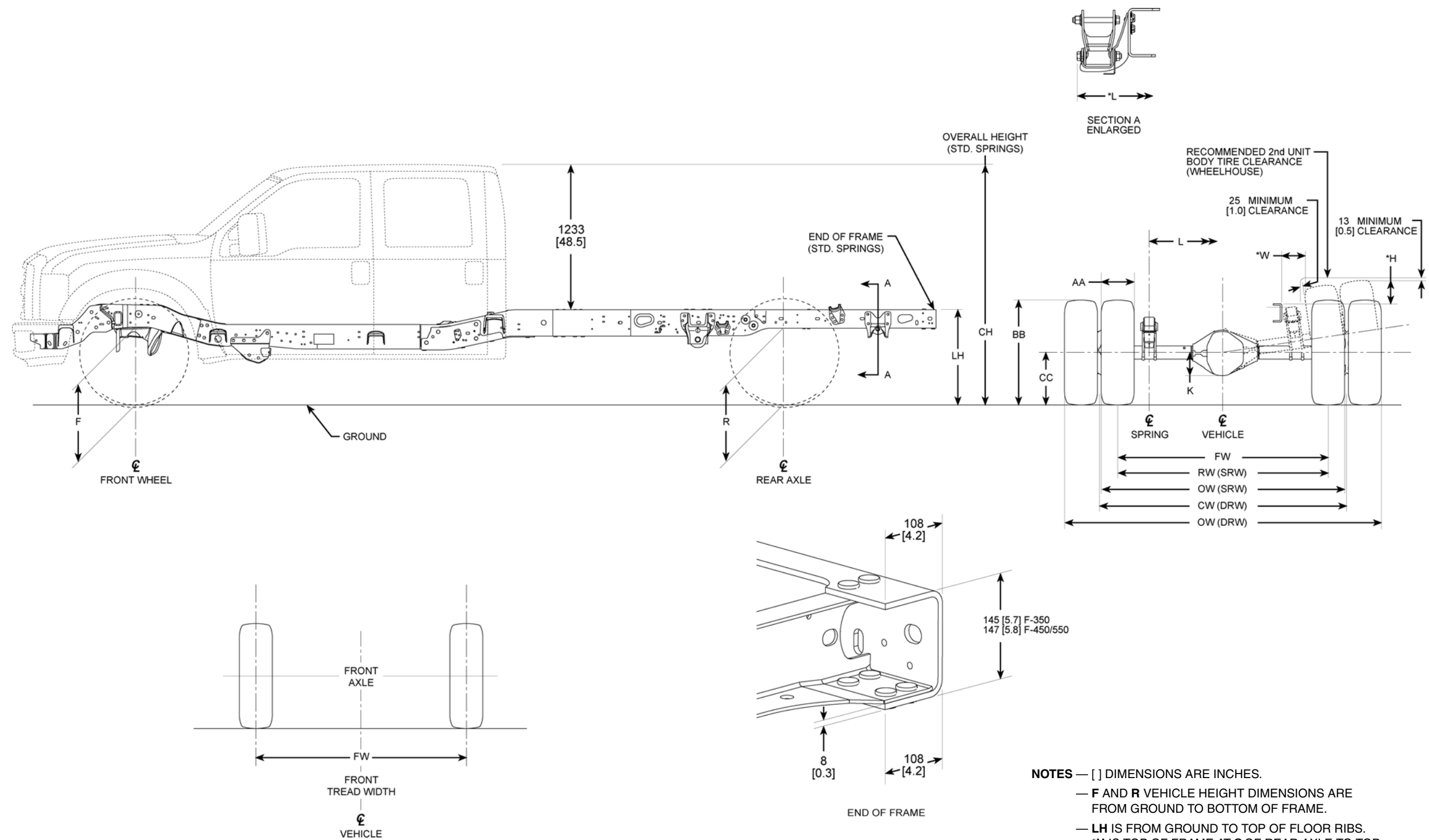
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AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-SERIES
CHASSIS CAB – CREW CAB

2008
MODEL YEAR

Revised 11-09-07



BB0745-2007

- NOTES — [] DIMENSIONS ARE INCHES.
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 - ***W** IS OUTSIDE OF FRAME TO TOP OF TIRE IN JOUNCE.

AXLE/TIRE/VEHICLE HEIGHT DATA
SUPER DUTY F-SERIES
CHASSIS CAB – CREW CAB

2008
MODEL YEAR


Model	Units	WB	Standard GVWR (pounds)	Base Tire	CC (SLR)	Tire Diameter	F Height at Front wheel ⁽¹⁾		R Height at Rear Axle ⁽¹⁾		LH ⁽¹⁾		CH ⁽¹⁾		K	L	*L	AA	BB	FW	RW	OW	CW	*H	*W		
							Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾	Curb ⁽²⁾	Loaded ⁽³⁾													
F350 Crew Cab 4x2	mm	4475	10,000 SRW	LT275/65R18E	376	829	534	507	626	532	797	685	1969	1906	174	1056	1184	296	790	1734	1729	2025	--	227	276		
	inches				14.8	32.6	21.0	20.0	24.6	20.9	31.4	27.0	77.5	75.0	6.9	41.6	46.6	11.7	31.1	68.3	68.1	79.7	--	8.9	10.9		
	mm		13,000 DRW Ambulance	LT245/75R17E	371	814	529	502	633	527	808	680	1971	1901	174	1056	1184	263	778	1736	--	2415	1881	228	229		
	inches					14.6	32.0	20.8	19.8	24.9	20.7	31.8	26.8	77.6	74.8	6.9	41.6	46.6	10.4	30.6	68.3	--	95.1	74.1	9.0	9.0	
	mm	13,000 DRW			371	814	529	502	633	527	808	680	1971	1901	174	1056	1184	263	778	1736	--	2343	1805	226	193		
	inches	176.2			14.6	32.0	20.8	19.8	24.9	20.7	31.8	26.8	77.6	74.8	6.9	41.6	46.6	10.4	30.6	68.3	--	92.2	71.1	8.9	7.6		
F350 Crew Cab 4x4	mm	4475	10,000 SRW	LT275/65R18E	376	829	622	595	683	590	846	735	2040	1979	174	1056	1184	296	790	1734	1729	2025	--	171	277		
	inches				14.8	32.6	24.5	23.4	26.9	23.2	33.3	28.9	80.3	77.9	6.9	41.6	46.6	11.7	31.1	68.3	68.1	79.7	--	6.7	10.9		
	mm		13,000 DRW	LT245/75R17E	371	814	617	589	691	585	857	730	2042	1974	174	1056	1184	263	778	1736	--	2343	1805	177	195		
	inches		176.2			14.6	32.0	24.3	23.2	27.2	23.0	33.7	28.7	80.4	77.7	6.9	41.6	46.6	10.4	30.6	68.3	--	92.2	71.1	7.0	7.7	
F450 Crew Cab 4x2 / 4x4 w/Spacer (Low Deflection)	mm	4475	16,000 DRW	225/70R19.5G	380	823	634	599	714	632	883	789	2063	2000	178	1056	1184	237	792	1900	--	2386	1880	139	246		
	inches	176.2									34.8	31.1	81.2	78.7													
	mm	5085									881	789	2057	2006													
	inches	200.2									15.0	32.4	25.0	23.6												28.1	24.9
	mm	5085.0	17,950 DRW				380	823	634	599	714	632	881	789	2057	2006	178	1056	1184	237	792	1900	--	2386	1880	139	246
	inches	200.2				15.0	32.4	25.0	23.6	28.1	24.9	34.7	31.1	81.0	79.0	7.0	41.6	46.6	9.3	31.2	74.8	--	93.9	74.0	5.5	9.7	
F450 Crew Cab 4x2/4 w/o Spacer	mm	4475	16,000 DRW	225/70R19.5G	380	823	634	599	666	585	823	729	2037	1979	178	1056	1184	237	792	1900	--	2386	1880	194	245		
	inches	176.2									32.4	28.7	80.2	77.9													
	mm	5085									823	730	2035	1979													
	inches	200.2									15.0	32.4	25.0	23.6												26.2	23.0
	mm	5085.0	17,950 DRW				380	823	634	599	666	585	823	730	2035	1979	178	1056	1184	237	792	1900	--	2386	1880	194	245
	inches	200.2				15.0	32.4	25.0	23.6	26.2	23.0	32.4	28.7	80.1	77.9	7.0	41.6	46.6	9.3	31.2	74.8	--	93.9	74.0	7.6	9.7	
F550 Crew Cab 4x2 / 4x4 w/o Spacer	mm	4475	17,950 DRW	225/70R19.5G	380	823	634	599	674	585	834	729	2042	1979	178	1056	1184	237	792	1900	--	2386	1880	194	245		
	inches	176.2									32.8	28.7	80.4	77.9													
	mm	5085									833	730	2039	1979													
	inches	200.2									15.0	32.4	25.0	23.6												26.5	23.0
F550 Crew Cab 4x2 / 4x4 w/Spacer (Low Deflection)	mm	4475	17,950 DRW	225/70R19.5G	380	823	634	599	678	589	839	735	2044	1981	178	1056	1184	237	792	1900	--	2386	1880	139	246		
	inches	176.2									33.0	28.9	80.5	78.0													
	mm	5085									838	736	2040	1981													
	inches	200.2									15.0	32.4	25.0	23.6												26.7	23.2

(1) — The Height Data shown represents dimensions of a base/standard vehicle with no options.

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*H — Top of frame at  of rear axle to top of tire in jounce

*L — From outside edge of shackle eyebolt

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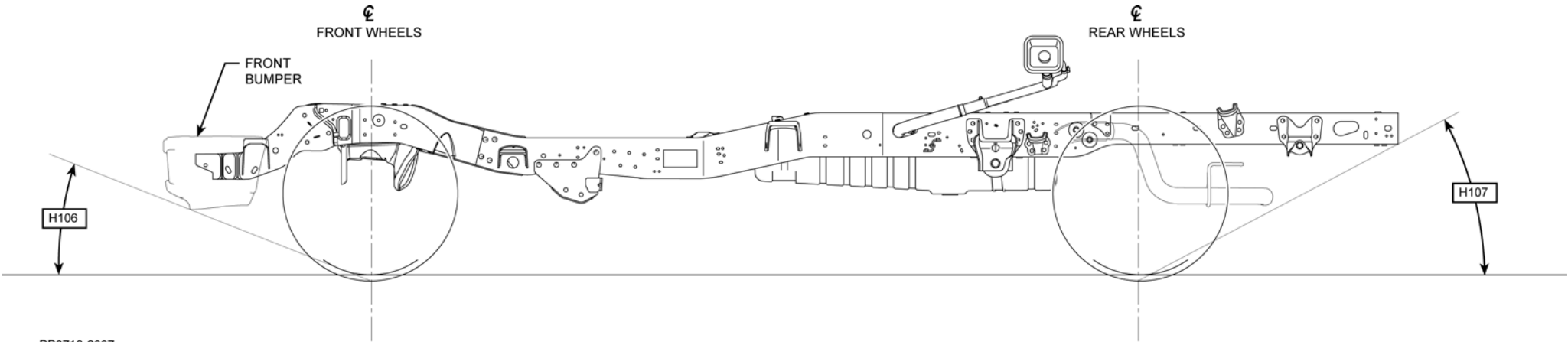
NOTES — [] DIMENSIONS ARE INCHES.

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— LH IS FROM GROUND TO TOP OF FLOOR RIBS.

GROUND CLEARANCE
SUPER DUTY F-SERIES CHASSIS CAB

2008
MODEL YEAR



BB0713-2007

TIRE	MODEL	WHEELBASE	GVWR [lb]	H106 APPROACH ANGLE	H107 DEPARTURE ANGLE FRAME RAIL
LT245/75R17E	SD F-350 REGULAR CAB CHASSIS CAB 4x4 DRW	3576 [140.8]	13,000	26.4°	27.8°
		4186 [164.8]	13,000	26.4°	27.9°
	SD F-350 SUPERCAB CHASSIS CAB 4x4 DRW	4110 [161.8]	13,000	26.4°	27.9°
	SD F-350 CREW CAB CHASSIS CAB 4x4 DRW	4475 [176.2]	13,000	26.4°	27.9°
LT245/75R17E	SD F-350 REGULAR CAB CHASSIS CAB 4x2 DRW	3576 [140.8]	13,000	19.8°	25.7°
		4186 [164.8]	13,000	19.8°	25.6°
	SD F-350 SUPERCAB CHASSIS CAB 4x2 DRW	4110 [161.8]	13,000	19.8°	25.2°
	SD F-350 CREW CAB CHASSIS CAB 4x2 DRW	4475 [176.2]	13,000	19.8°	25.7°
LT265/70R17E	SD F-350 REGULAR CAB CHASSIS CAB 4x2 SRW	3576 [140.8]	10,000	20.1°	25.9°
	SD F-350 REGULAR CAB CHASSIS CAB 4x4 SRW	3576 [140.8]	10,000	26.8°	28.0°
	SD F-350 SUPERCAB CHASSIS CAB 4x2 SRW	4110 [161.8]	10,000	20.2°	25.8°
	SD F-350 SUPERCAB CHASSIS CAB 4x4 SRW	4110 [161.8]	10,000	26.8°	28.1°
	SD F-350 CREW CAB CHASSIS CAB 4x2 SRW	4475 [176.2]	10,000	20.2°	25.7°
	SD F-350 CREW CAB CHASSIS CAB 4x4 SRW	4475 [176.2]	10,000	26.8°	28.1°

(cont'd next page)
NOTE — [] DIMENSIONS ARE INCHES.

GROUND CLEARANCE
SUPER DUTY F-SERIES CHASSIS CAB

2008
MODEL YEAR

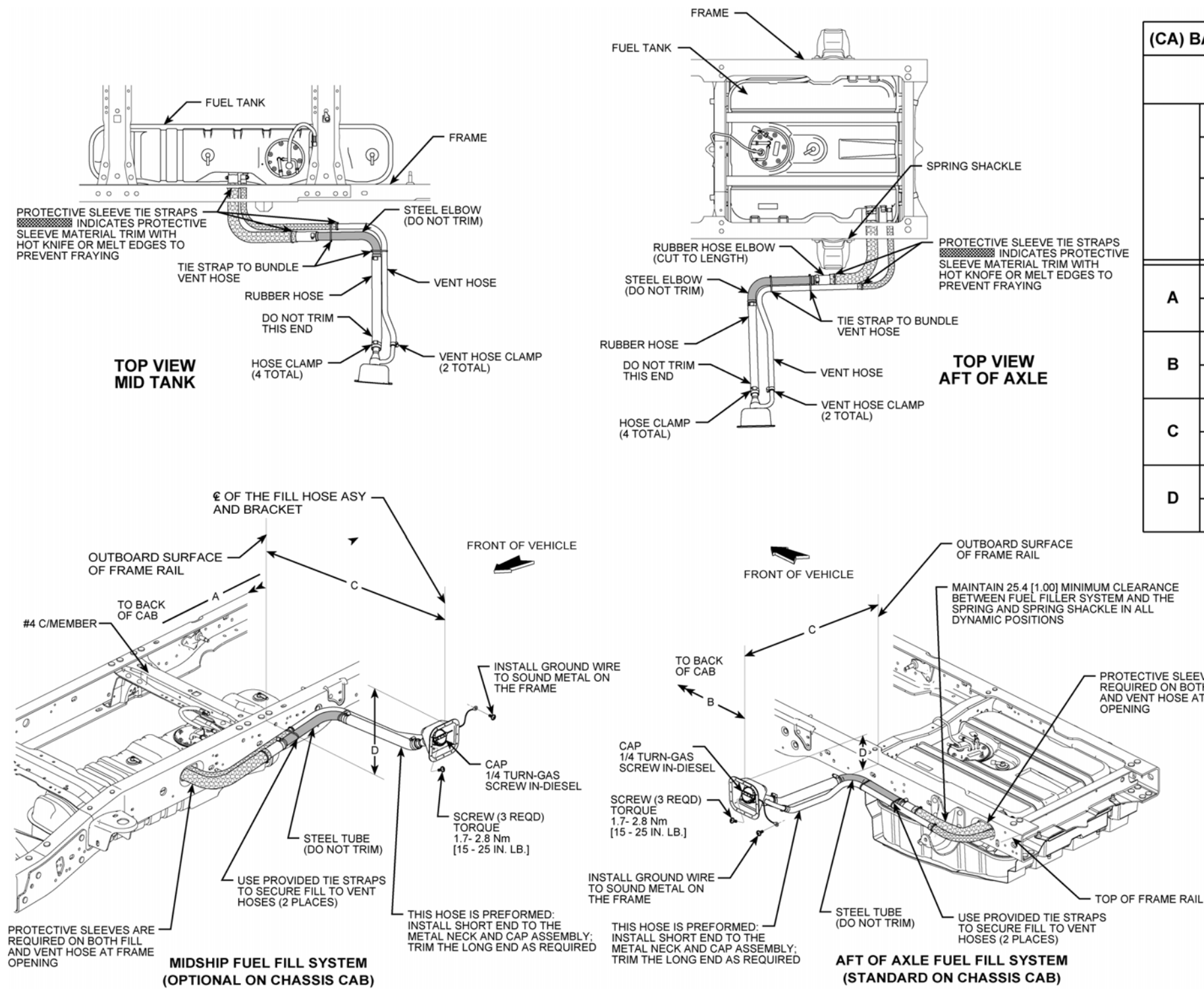
TIRE	MODEL	WHEELBASE	GVWR [lb]	H106 APPROACH ANGLE	H107 DEPARTURE ANGLE FRAME RAIL
225/70R19.5F	SD F-450 REGULAR CAB CHASSIS CAB 4x2 DRW	3576 [140.8]	16,000	27.2°	27.4°
		4186 [164.8]		27.2°	27.4°
		4795 [188.8]		27.2°	27.6°
		5100 [200.8]		27.2°	27.5°
		3576 [140.8]		27.2°	27.4°
	SD F-450 REGULAR CAB CHASSIS CAB 4x4 DRW	4186 [164.8]	16,000	27.2°	27.4°
		4795 [188.8]		27.2°	27.6°
		5100 [200.8]		27.2°	27.5°
	SD F-450 SUPERCAB CHASSIS CAB 4x2 DRW	4110 [161.8]	16,000	27.2°	27.4°
	SD F-450 SUPERCAB CHASSIS CAB 4x4 DRW	4110 [161.8]	16,000	27.2°	27.4°
	SD F-450 CREW CAB CHASSIS CAB 4x2 DRW	4475 [176.2]	16,000	27.2°	27.5°
		5085 [200.2]		27.2°	27.4°
	SD F-450 CREW CAB CHASSIS CAB 4x4 DRW	4475 [176.2]	16,000	27.2°	27.5°
		5085 [200.2]		27.2°	27.4°
	SD F-550 REGULAR CAB CHASSIS CAB 4x2 SRW	3576 [140.8]	17,950	27.1°	27.7°
		4186 [164.8]		27.2°	27.4°
		4795 [188.8]		27.1°	27.7°
		5100 [200.8]		27.2°	27.5°
		5100 [200.8]		27.2°	27.5°
	SD F-550 REGULAR CAB CHASSIS CAB 4x4 SRW	3576 [140.8]	17,950	27.1°	27.7°
		4186 [164.8]		27.2°	27.4°
		4795 [188.8]		27.1°	27.7°
		5100 [200.8]		27.2°	27.5°
	SD F-550 SUPERCAB CHASSIS CAB 4x2 SRW	4110 [161.8]	17,950	27.2°	27.4°
	SD F-550 SUPERCAB CHASSIS CAB 4x4 SRW	4110 [161.8]	17,950	27.2°	27.4°
	SD F-550 CREW CAB CHASSIS CAB 4x2 SRW	4475 [176.2]	17,950	27.2°	27.5°
		5085 [200.2]		27.2°	27.4°
	SD F-550 CREW CAB CHASSIS CAB 4x4 SRW	4475 [176.2]	17,950	27.2°	27.5°
		5085 [200.2]		27.2°	27.4°

NOTE — [] DIMENSIONS ARE INCHES.

FUEL FILLER PIPE LOCATION AND DIMENSIONS

2008
MODEL YEAR

Page 141 SUPER DUTY F-SERIES



(CA) BACK OF CAB TO CENTERLINE OF REAR AXLE					
		60 IN. CA	84 IN. CA	108 IN. CA	120 IN. CA
		WHEELBASE			
	Regular Cab	3576 [140.8]	4186 [164.8]		5100 [200.8]
	Super Cab	4110 [161.8]			
	Crew Cab	4475 [176.2]	5085 [200.2]	4795 [188.8]	
A	MIN.	864 [34.0]	1473 [58.0]	2083 [82.0]	2388 [94.0]
	MAX.	1029 [40.5]	1638 [64.5]	2248 [88.5]	2553 [100.5]
B	MIN.	1981 [78.0]	2591 [102.0]	3200 [126.0]	3505 [138.0]
	MAX.	2159 [85.0]	2769 [109.0]	3378 [133.0]	3683 [145.0]
C	MIN.	584 [23.0]	584 [23.0]	584 [23.0]	584 [23.0]
	MAX.	787 [31.0]	787 [31.0]	787 [31.0]	787 [31.0]
D	MIN.	267 [10.5]	267 [10.5]	267 [10.5]	267 [10.5]
	MAX.	343 [13.5]	343 [13.5]	343 [13.5]	343 [13.5]

NOTES - [] DIMENSIONS ARE INCHES.

▽ TORQUE ALL WORM GEAR DRIVEN HOSE CLAMPS TO 2.8 - 3.9 N.m [25-35 IN. LB.]

▽ CRITICAL CONTROL ITEM.

REMOVE AND DISCARD THE FORD INSTALLED FUEL FILL SYSTEM COMPONENTS (PROVIDED FOR SHIPPING PURPOSES ONLY) EXCEPT SAVE AND REUSE THE METAL NECK AND CAP ASSEMBLY.

USE THE NEW HOSES, PIPES, SCUFF GUARDS, TIE WRAPS AND CLAMPS PROVIDED IN THE DUNNAGE KIT.

THE COMPLETED FUEL FILL SYSTEM MUST PROVIDED A 4 DEGREE MINIMUM, CONTINUOUS, DOWNWARD SLOPE TO THE FUEL TANK. ADDITIONAL SUPPORT MAY BE REQUIRED TO PREVENT HOSE SAGGING WHICH COULD CAUSE SPRAY OR SPITBACK DURING NORMAL FUELING OPERATIONS.

DO NOT EXTEND THE FUEL FILL SYSTEM OUTBOARD OF THE SECOND UNIT BODY.

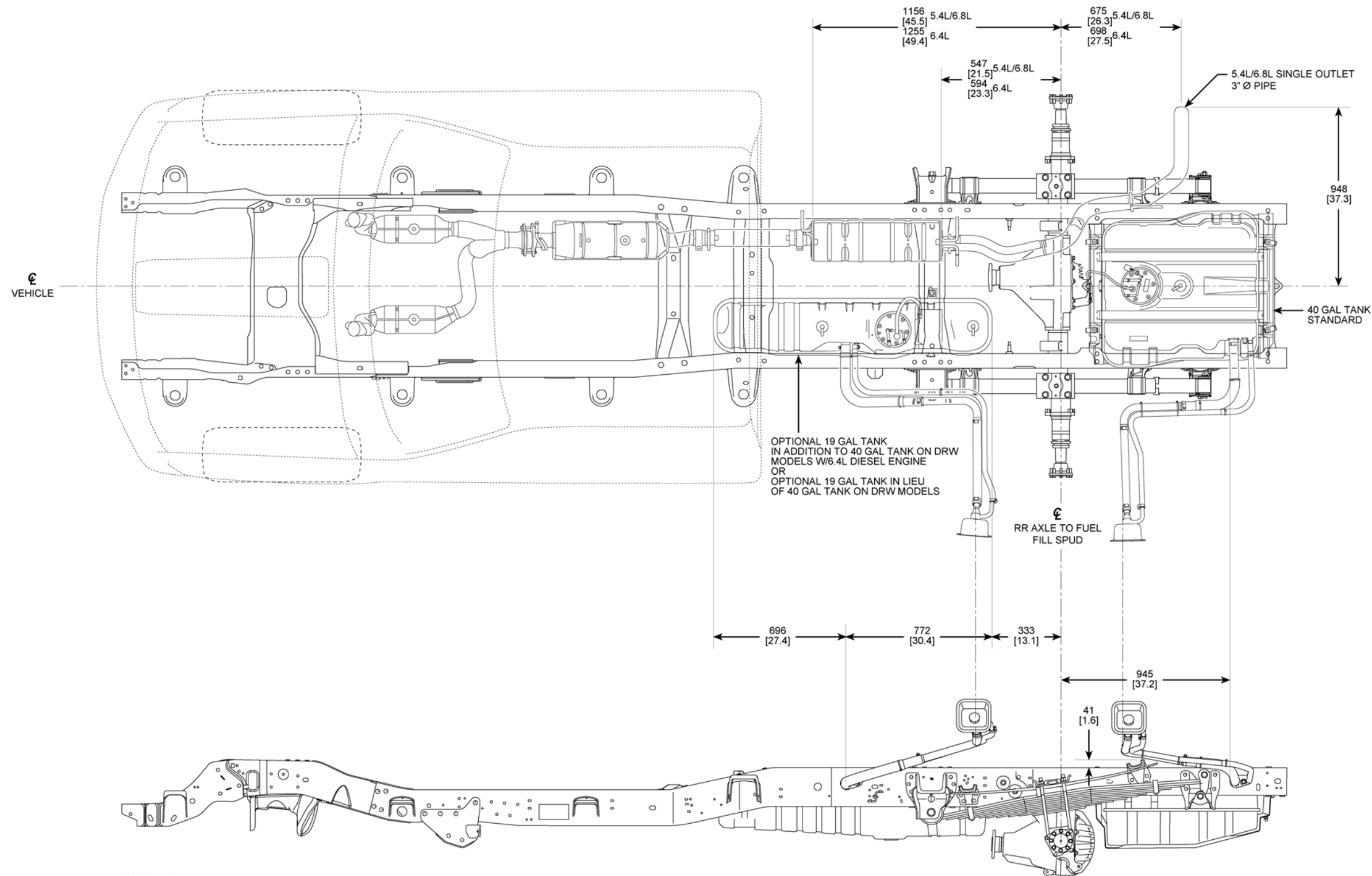
THE INSTALLATION OF TUBE EXTENSION 9B149 WILL PERMIT THE LOCATION AFT-OF-AXLE FUEL FILL HOUSING TO BE NO FURTHER REARWARD THAN THE C OF THE FILL HOSE AS IT PASSES THROUGH THE FRAME.

TRIM BOTH ENDS AS DIRECTED.

EXHAUST SYSTEM
CHASSIS CAB – NARROW FRAME

2008
MODEL YEAR

Revised 11-07-07



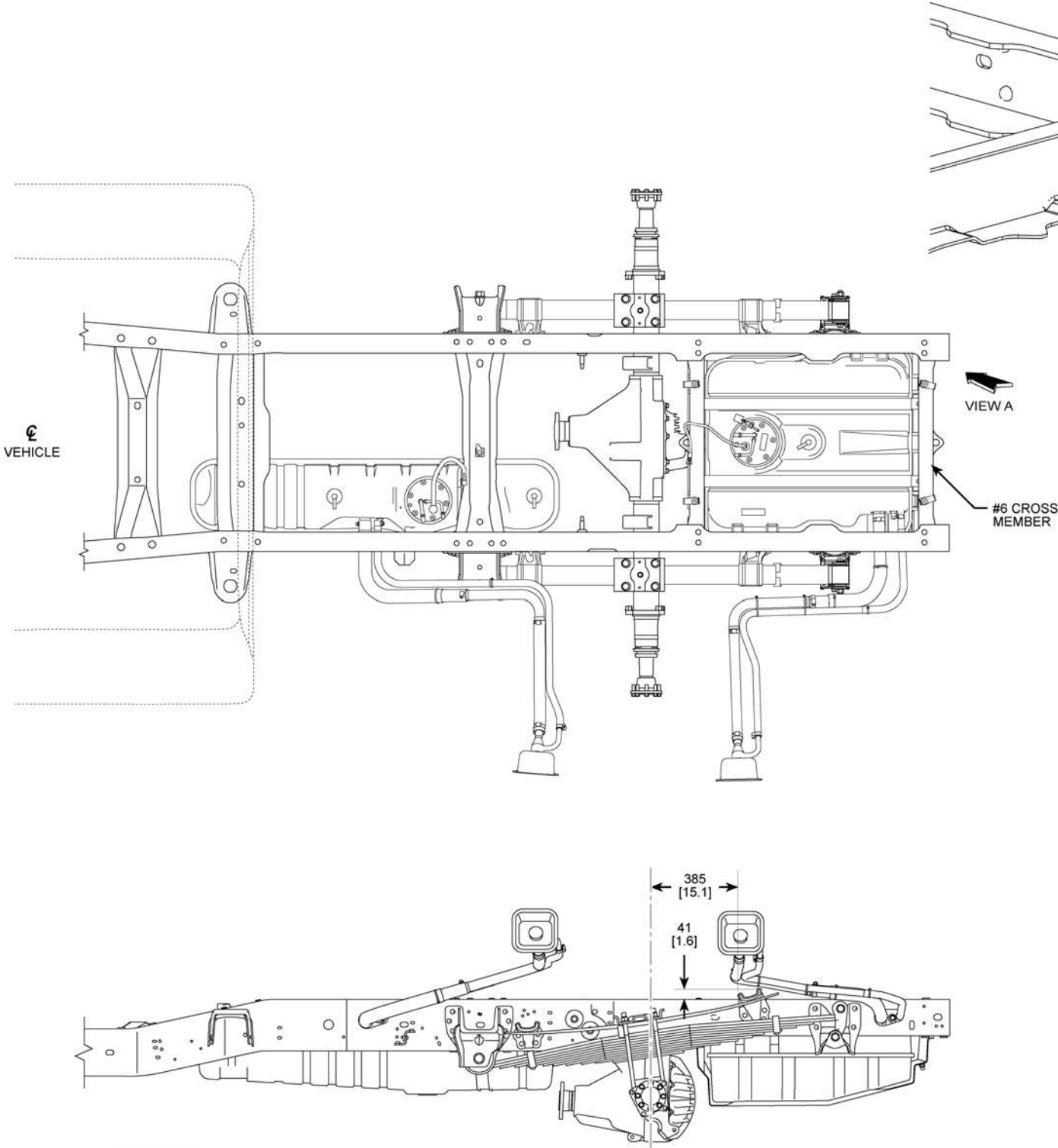
bb0741-2007

NOTE — [] DIMENSIONS ARE INCHES.

FRAME DATA – CHASSIS CAB – NARROW FRAME
SUPER DUTY F-350/450/550 – ALL WHEELBASES

2008
MODEL YEAR

Revised 06-25-08



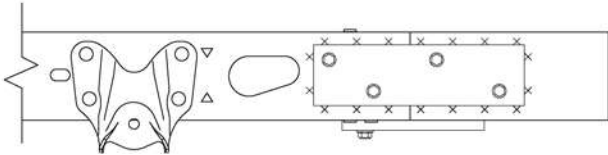
FRAME EXTENSION RECOMMENDATIONS

(applicable to all WB models)

When it is necessary to add a frame extension to the Super Duty F-Series Chassis Cab, follow these suggestions:

- * Clean **contaminants off** the back portion of the frame using steam, high pressure water or solvent.
- * Protect the fuel system from weld sparks and splatter, being particularly careful with the rubber fuel fill hoses.
- * Select a suitable mild steel channel (not iron) with a section modulus the same as the frame to be extended.
- * Chamfer both the back of the frame and the end of the extensions to be welded. Remove the 2 rearmost lower rivets attaching the rear crossmember to the frame. Weld an overlay plate on to the lower flange of the frame extension that extends approximately 2 1/2" under the frame end.
- * Transfer the rivet hole locations to the lower flange overlay plate and drill through the plate.
- * Disconnect the battery(ies), the ABS Module, and then the Powertrain Control Module (PCM). Connect the welding ground cable to the frame at the back of the vehicle.
- * Clamp the extension into place and weld all around the top and sides, but not the lower flange, following normal weld practices.
- * Grind the outer side of the vertical frame web down smooth, clamp on a re-enforcement section of mild steel approximately 4" x 12" x 1/4" and skip weld to the frame and extension. Do not weld at the corners of the re-enforcement to minimize stress concentrations. Note that this re-enforcement may be combined with a rear shear plate and/or underrun bumper if desired, in which case it would be an „L" shape to pick up the added attachment points.
- * Bolt through the lower overlay plate and frame section using 5/8" grade 5 flange head, bolt and nuts (1).
- * Drill through the frame and re-enforcement and bolt using four 1/2" grade 5 flange head bolts and nuts (1).
- * Coat the frame extension with a suitable protective paint. Reconnect the PCM Module, ABS Module and battery(ies).

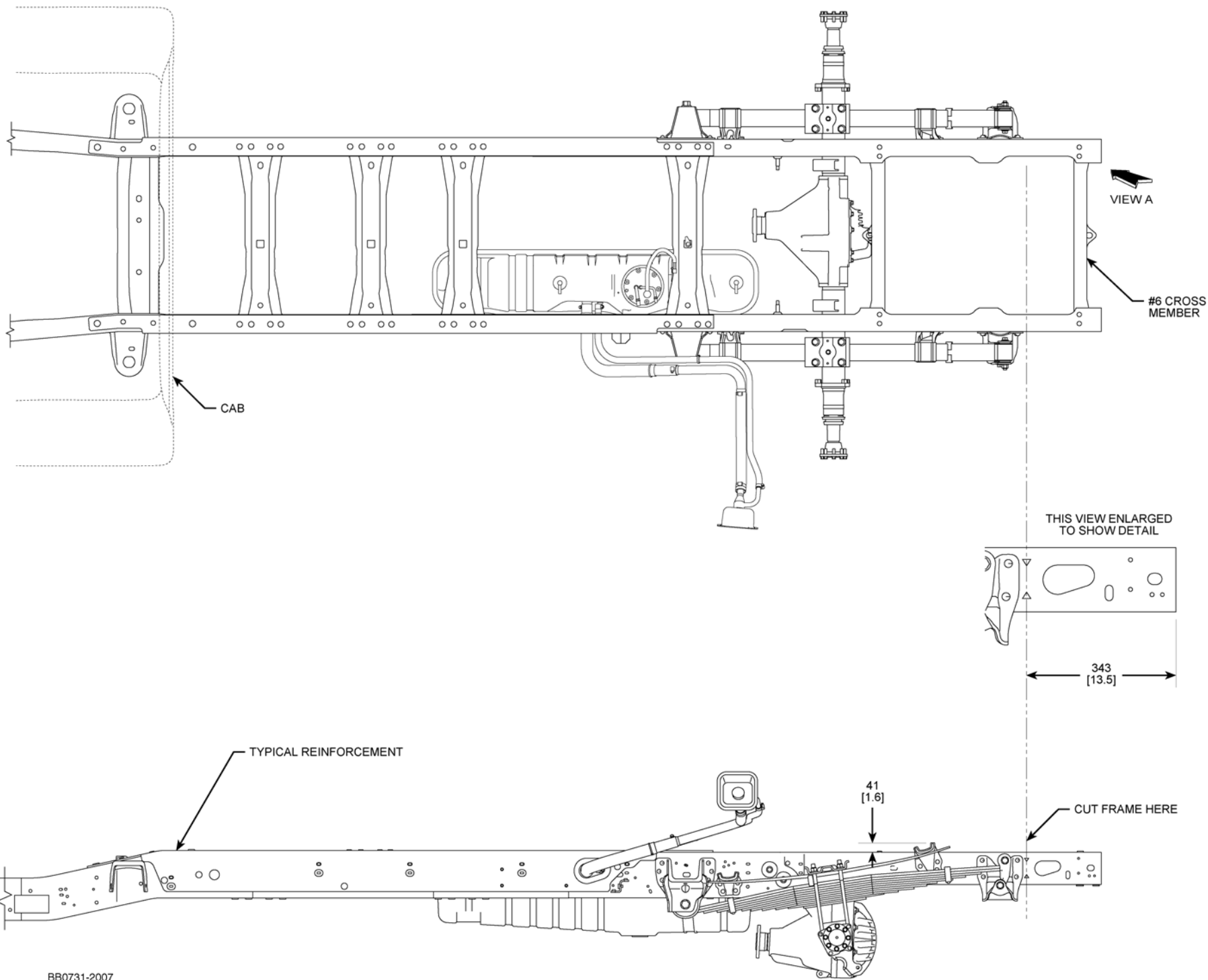
(1) If flange head fasteners are not available, regular hex heads may be substituted with one flat washer under the head of the nut and bolt.



NOTE — [] DIMENSIONS ARE INCHES.

FRAME DATA – CHASSIS CAB – NARROW FRAME
SUPER DUTY F-450/550 – ALL WHEELBASES

2008
MODEL YEAR



FRAME OVERHANG SHORTENING RECOMMENDATIONS
(applicable to all WB models)

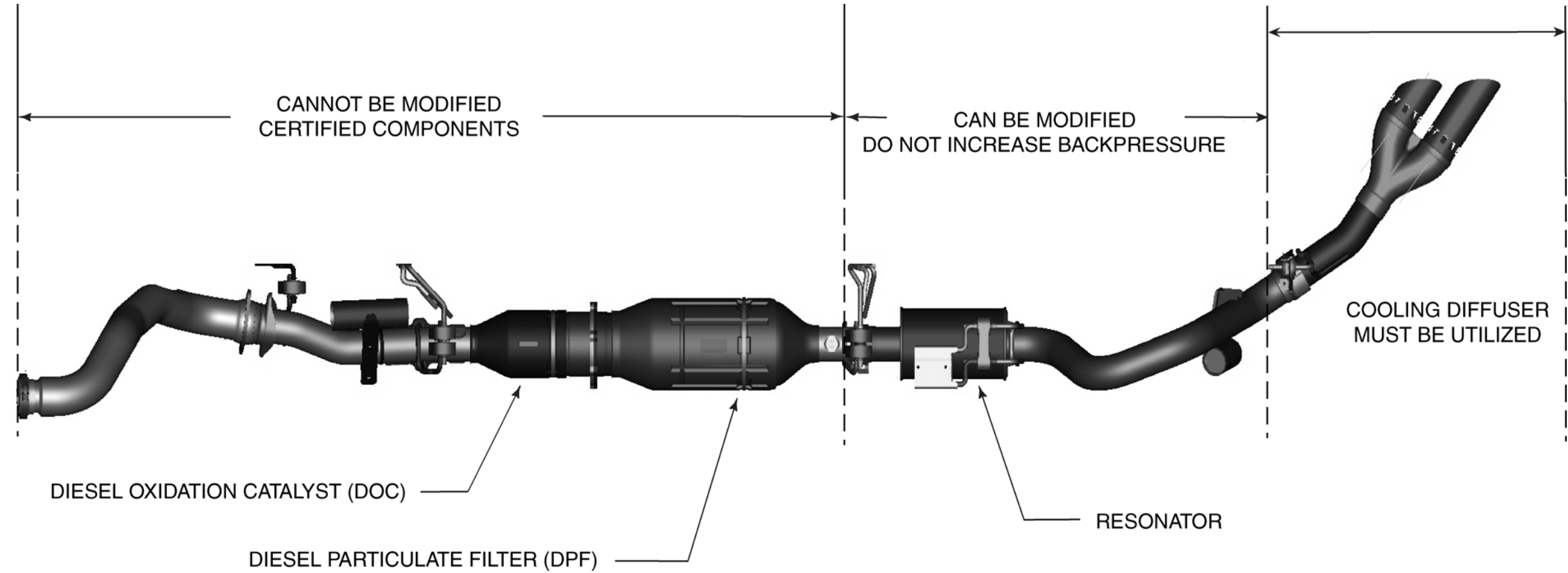
If a shorter rear frame overhang is required for the vocational body mounting, the body builder must:

1. Order the chassis with the optional mid-ship fuel tank.
2. Drill out attaching rivets and remove the rear crossmember. Reinstall in the next forward crossmember mounting location provided using grade 8 Bolts, as described in the rivet replacement procedure in the Ford Service Manual.
3. Cut the frame along the line through the two triangle-shaped holes depicted below, using a cutoff wheel or saw. A torch is not recommended. If a torch is used within 4 inches of the rear suspension mounting attachments, these attachments must be either retorqued (where bolts are used) or have the rivets removed and replaced with grade 8 Bolts per the procedure noted above.

NOTE — ON THE F-450/550 CHASSIS, THE FORWARD OUTBOARD REAR SUSPENSION BRACKET BOLT NEEDS TO BE SHARED WITH THE REAR CROSSMEMBER. RETORQUE WITH NEW GRADE 8 M12 BOLT AND NUT.
— [] DIMENSIONS ARE INCHES.

SUPER DUTY F-SERIES EXHAUST AFTERTREATMENT

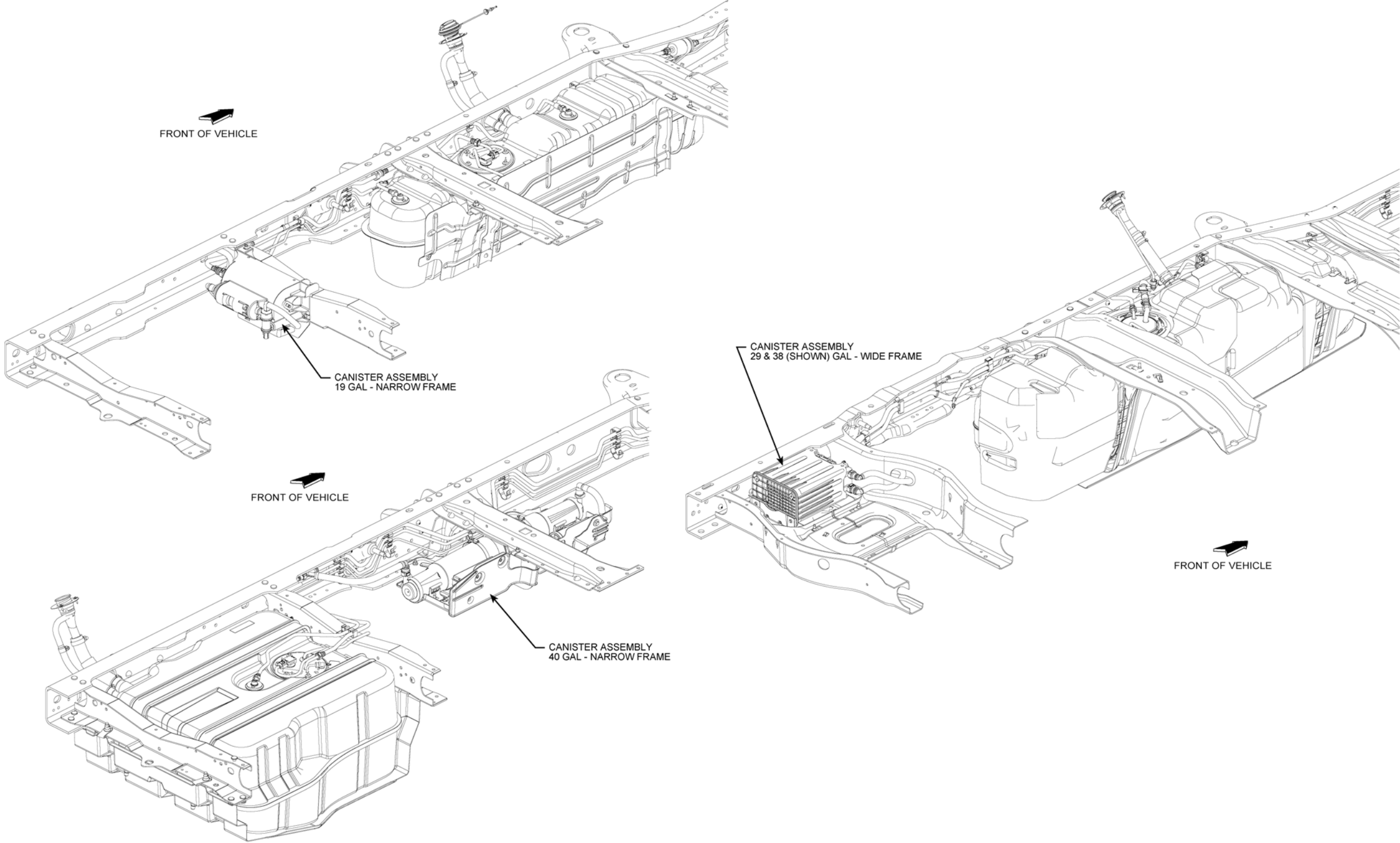
2008
MODEL YEAR



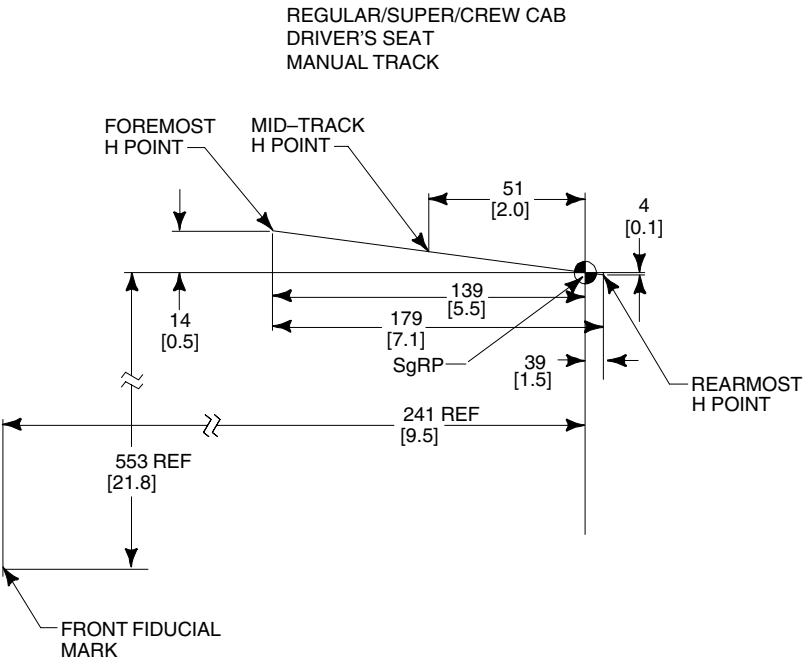
**SUPER DUTY F-SERIES
FUEL SYSTEM EVAPORATIVE EMISSIONS
GASOLINE ONLY**

2008
MODEL YEAR

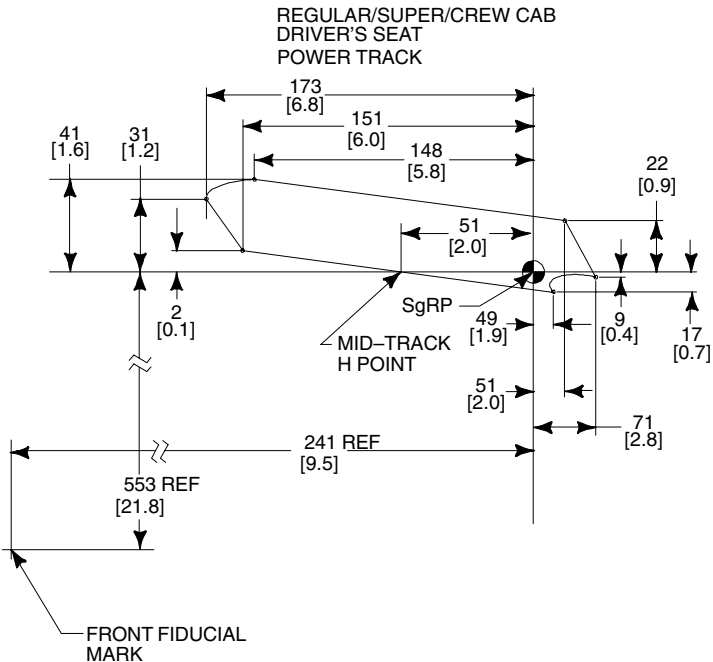
Page 146 SUPER DUTY F-SERIES



SEAT TRACK TRAVEL / H-POINT LOCATION SUPER DUTY F-SERIES



BB0298-2005



NOTES — [] DIMENSIONS ARE INCHES.
THIS INFORMATION IS PROVIDED TO ASSIST IN THE
INSTALLATION OF SEATS OTHER THAN FORD
INSTALLED SEATS AND TO HELP PRESERVE THE
INTENDED PERFORMANCE OF THE SAFETY AND
ERGONOMIC FEATURES OF THE 2008 SUPER DUTY
F-SERIES OVER 8500 LB.

CLASS A MOTORHOME CHASSIS MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES CLASS A MOTORHOME CHASSIS (F-53)

MODEL	BODY CODE	STANDARD ENGINE liters	STANDARD TRANSMISSION	GVWR pounds	WHEELS inches	WHEELBASE inches		CURB WEIGHT ⁽¹⁾							GCWR	PAYLOAD pounds
								LEFT FRONT pounds	RIGHT FRONT pounds	TOTAL FRONT pounds	LEFT REAR pounds	RIGHT REAR pounds	TOTAL REAR pounds	TOTAL pounds		
F-SUPER DUTY CLASS A MOTORHOME CHASSIS	F-53	6.8L V-10	5-Spd. TorqueShift®	16,000	19.5	158	†			3150			2610	5760	26,000	10,180
					19.5	178	†	1607	1590	3197	1420	1245	2665	5862	26,000	10,070
					19.5	190		1685	1550	3235	1345	1335	2680	5915	26,000	10,020
				18,000	19.5	178		1700	1580	3280	1395	1340	2735	6015	26,000	11,920
					19.5	190		1778	1540	3318	1320	1430	2750	6068	26,000	11,870
					19.5	208		1774	1600	3374	1334	1434	2768	6142	26,000	11,790
				20,500	19.5	228	†	1781	1640	3421	1393	1430	2823	6244	26,000	11,690
					19.5	208		1813	1585	3398	1386	1479	2865	6263	26,000	14,170
					19.5	228		1820	1625	3445	1445	1475	2920	6365	26,000	14,070
				22,000	19.5	208				3504			3002	6506	26,000	15,420
					22.5	228				3544			3064	6608	26,000	15,320
					22.5	242				3580			3099	6679	26,000	15,250
				24,000	22.5	228	†			3750			3133	6883	30,000	17,040
					22.5	242	†			3800			3154	6954	30,000	16,970
				26,000	22.5	228	†			3750			3165	6915	30,000	19,010
					22.5	242	†			3800			3186	6986	30,000	18,940

(1) Base curb weight is for standard equipment only.
† Calculated weights

GVW [lbs]	16,000		18,000		20,500				22,000		24,000		26,000	
AXLE LOCATION	FRONT	REAR	FRONT	REAR	FRONT	REAR	FRONT	REAR	FRONT	REAR	FRONT	REAR	FRONT	REAR
GAWR [lbs]	6500	11,000	7000	11,000	7000	13,500	7500	13,500	7500	14,500	9000	15,500	9000	17,500
AXLE RATING [lbs]	7500	11,000	7500	11,000	7500	13,500	7500	13,500	7500	14,500	9000	15,500	9000	17,500
SPRING RATING [lbs]	7000	11,000	7000	11,000	7000	13,500	7500	13,500	7500	14,500	9000	15,500	9000	17,500
225/70R 19.5	6630 @ 85psi	12,460 @ 85 psi	*	*	*	*	*	*	*	*	*	*	*	*
245/70R 19.5	*	*	7280 @ 82 psi	13,660 @ 82 psi	7280 @ 82 psi	13,660 @ 82 psi	7780 @ 92 psi	14,620 @ 92 psi	7780 @ 92 psi	14,620 @ 92 psi	*	*	*	*
235/80R 22.5	*	*	*	*	*	*	*	*	8280 @ 90 psi	15,060 @ 90 psi	*	*	*	*
255/80R 22.5	*	*	*	*	*	*	*	*	*	*	9950 @ 100 psi	18,100 @ 100 psi	9950 @ 100 psi	18,100 @ 100 psi
NUMBER OF LEAVES	2	3	2	3	2	3	2	3	2	3	3	4	3	4
WHEELS 19.5 X 6	RATED 3750 PER WHEEL		*	*	*	*	*	*	*	*	*	*	*	*
WHEELS 19.5 X 6.75	*	*	RATED 4000 PER WHEEL									*	*	*
WHEELS 22.5 X 7.5 (Steel)	*	*	*	*	*	*	*	*	RATED 5000 PER WHEEL					
WHEELS 22.5 X 7.5 (Aluminum)	*	*	*	*	*	*	*	*	RATED 7300 PER WHEEL					

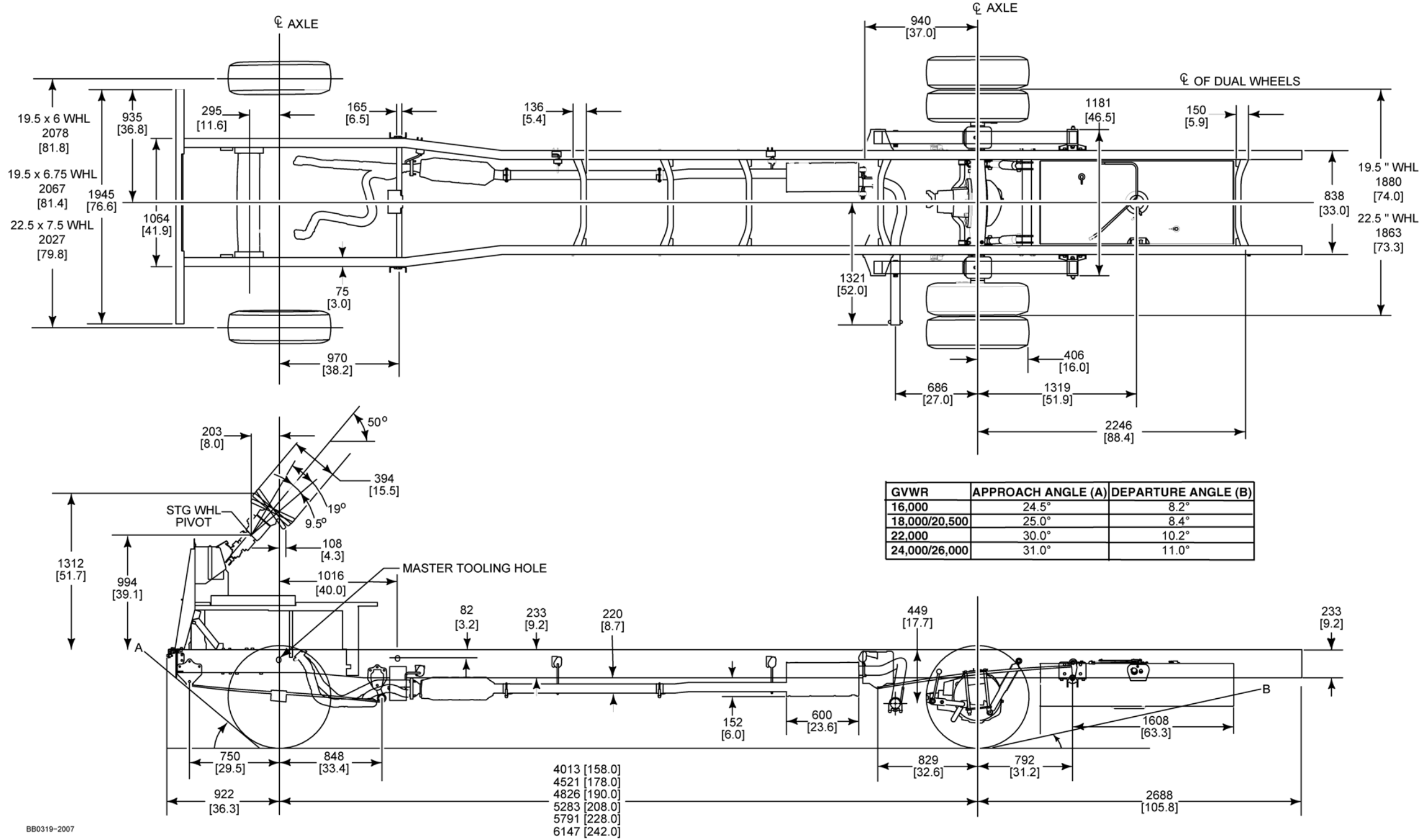
* Not Applicable

F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53)
CHASSIS DIMENSIONS

2008
MODEL YEAR

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F53 MOTORHOME



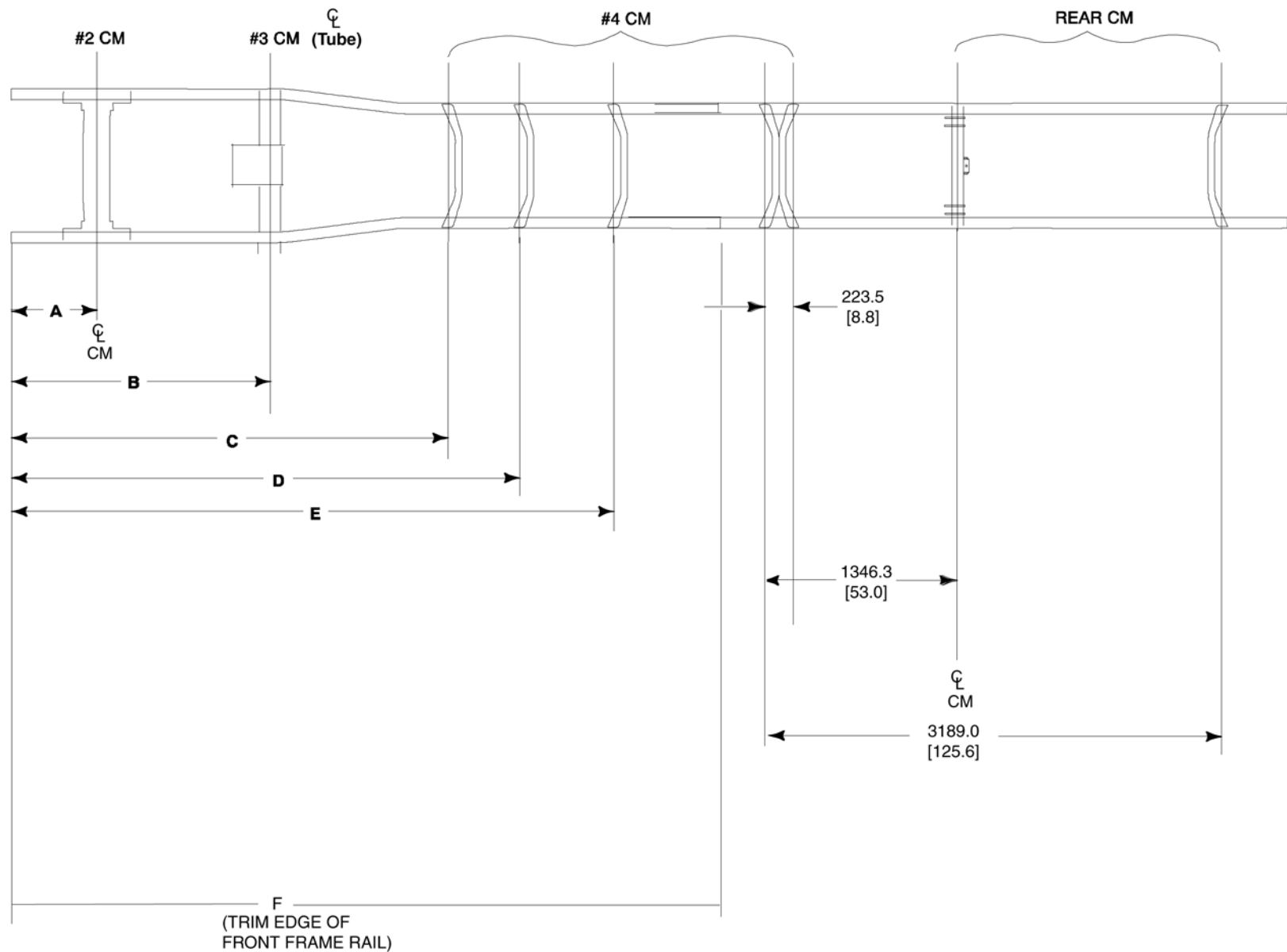
BB0319-2007

NOTE — [] DIMENSIONS ARE INCHES.

F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53)
FRONT CROSSMEMBER (CM) LOCATIONS

2008
MODEL YEAR

DIM.	158" WB	178" WB	190" WB	208" WB	228" WB	242" WB
A	530.6 [20.9]	530.6 [20.9]	530.6 [20.9]	530.6 [20.9]	530.6 [20.9]	530.6 [20.9]
B	1821 [71.7]	1821 [71.7]	1821 [71.7]	1821 [71.7]	1821 [71.7]	1821 [71.7]
C	NA	NA	NA	3002 [118.2]	3282 [129.2]	3282 [129.2]
D	NA	NA	NA	NA	4004 [157.6]	4004 [157.6]
E	2994.6 [117.9]	3388 [133.4]	3436 [135.3]	4147 [163.3]	4655 [183.3]	4655 [183.3]
F	3828 [150.7]	4336 [170.7]	4640.8 [182.7]	5098 200.7]	5606 [220.7]	5961.6 [234.7]
MEASUREMENTS TAKEN FROM FRONT EDGE OF LOWER FLANGE OF RAIL						



BB0316-2007

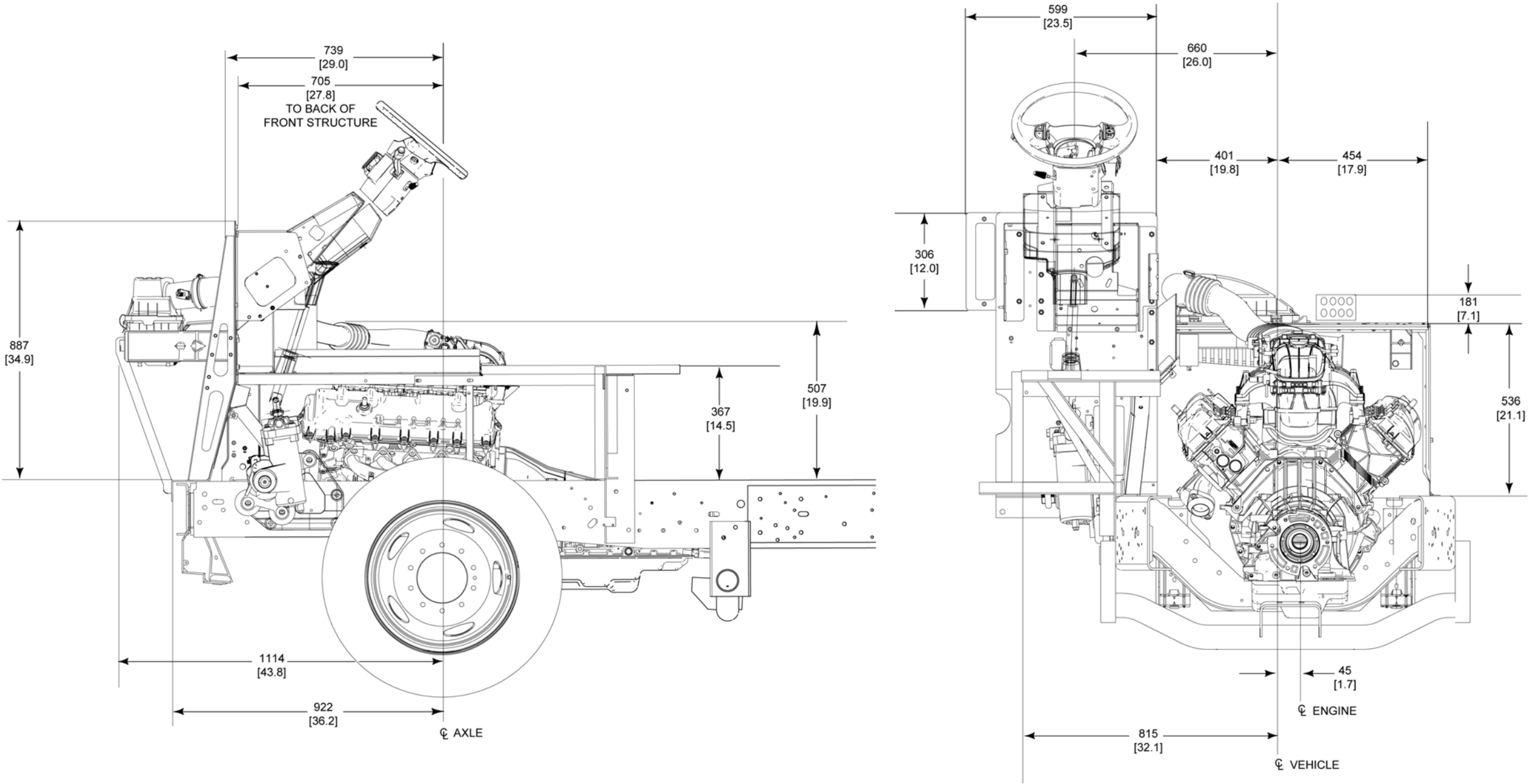
NOTES — UNLESS OTHERWISE NOTED, DIMENSIONS ARE TO THE CENTERLINE OF CROSSMEMBER FASTENERS.
— MEASUREMENTS FROM FRONT EDGE OF LOWER FRAME. SUBTRACT 9 MM IF MEASURED FROM TOP FRONT EDGE OF FRAME WEB.
— [] DIMENSIONS ARE INCHES.

F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53)
FRONT STRUCTURE

2008
MODEL YEAR

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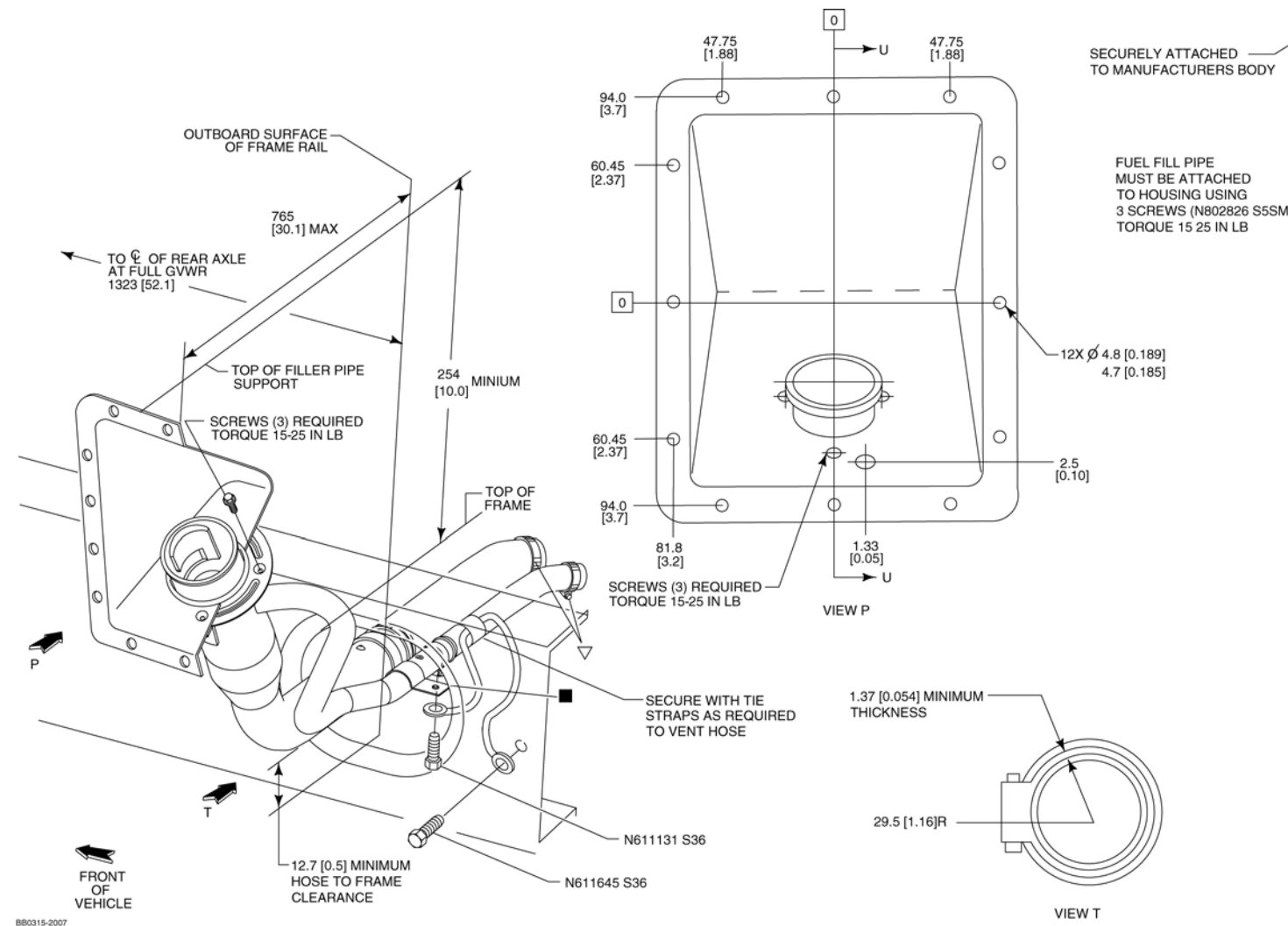
F53 MOTORHOME



NOTE — [] DIMENSIONS ARE INCHES.

F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53) FUEL FILLER PIPE INSTALLATION

2008
MODEL YEAR



- * WORM GEAR DRIVEN HOSE CLAMP
STRUCTURAL BRACKET AND BLIND RIVETS
ARE NOT PROVIDED BY FORD MOTOR COMPANY
- DIMENSIONS USING HOSE AS
SUPPLIED BY FORD MOTOR COMPANY
- ▽ WORM GEAR DRIVEN HOSE CLAMPS
TORQUE 2.8-4.0 NEWTON METERS
(25-35 IN LBS)
- WORM GEAR DRIVEN HOSE CLAMP *
MUST FIT SECURELY OVER A 57.2 (2.25) O.D.
FILL PIPE AND SECOND STAGE
VEHICLE MANUFACTURERS BRACKET *

NOTE: MAKE SURE THE FILLER NECK SUPPORT IS INSTALLED PROPERLY AS PER THE NOTE IN THIS SECTION.

▽ CRITICAL CONTROL ITEM

WARNING:
IT IS MANDATORY TO USE THE SUPPLIED RUBBER HOSE FOR INSTALLING THE FUEL PIPE. ANY INCREASE IN LENGTH OR CHANGE IN MATERIAL OF THE SUPPLIED RUBBER HOSE WILL RESULT IN VOIDING THE EVAPORATE EMISSIONS CERTIFICATION.

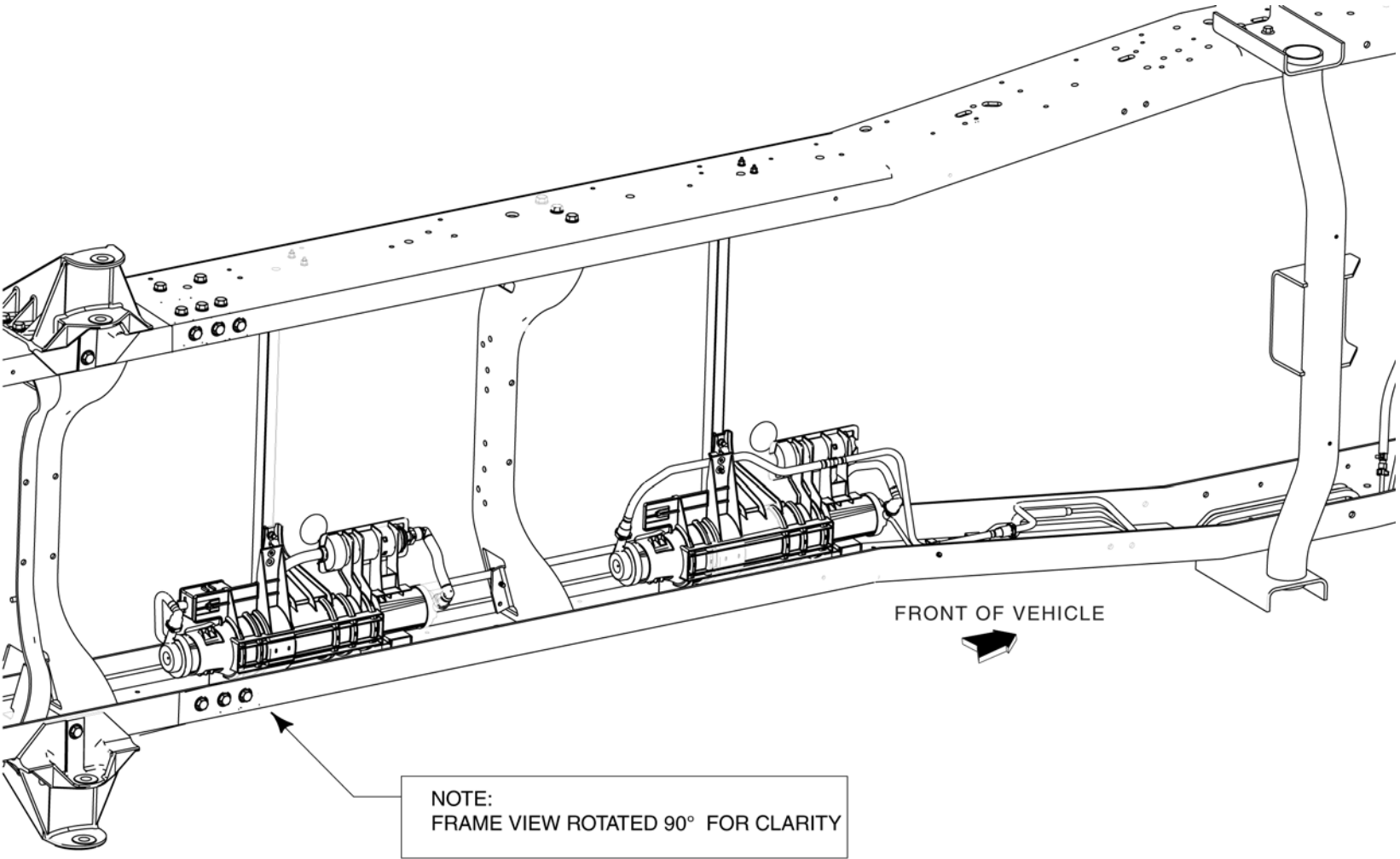
NOTE — [] DIMENSIONS ARE INCHES.

F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53)
FUEL SYSTEM EVAPORATIVE EMISSIONS — 178" & 190" WB

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F53 MOTORHOME

2008
MODEL YEAR



BB0700-2007

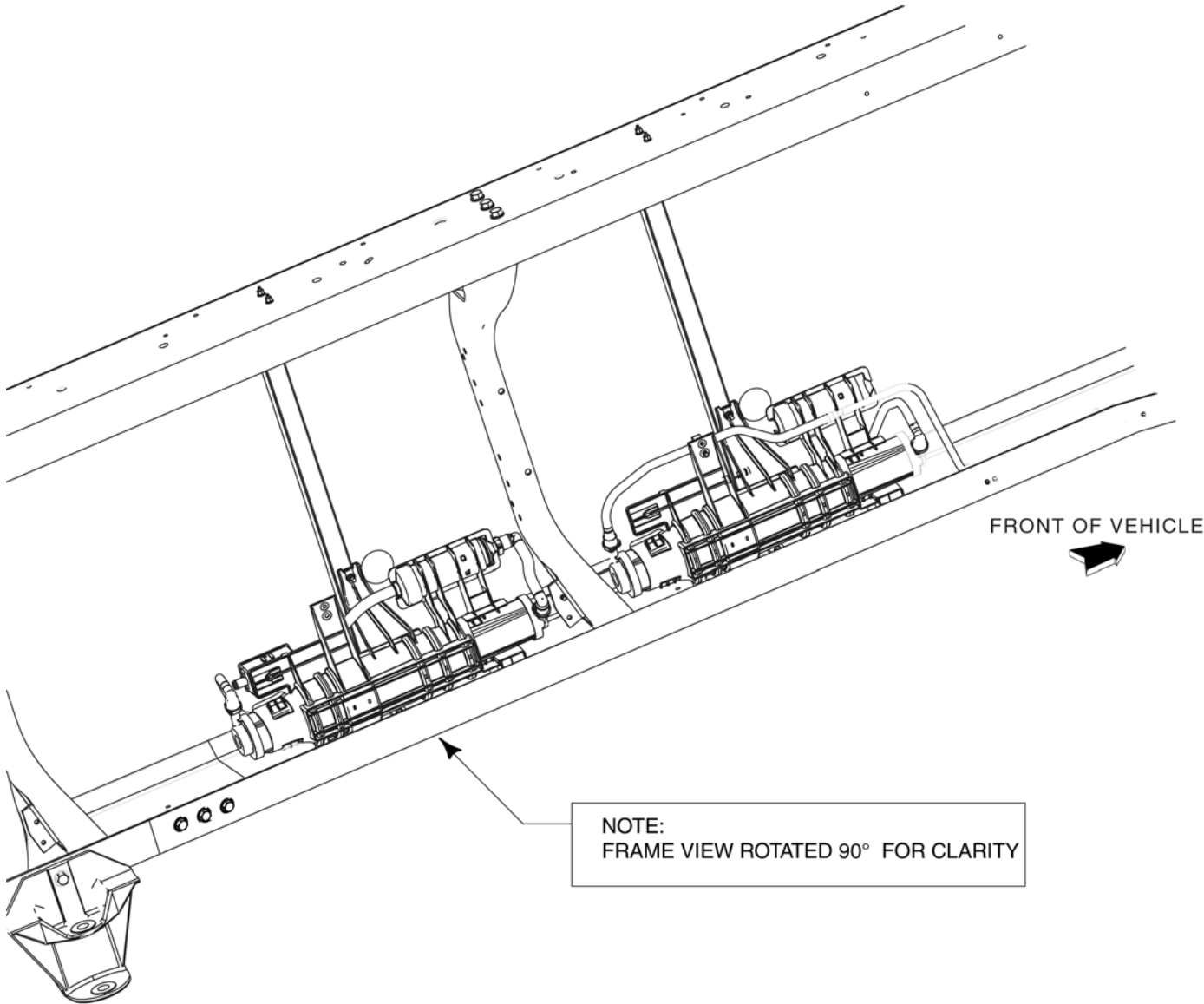
NOTE — [] DIMENSIONS ARE INCHES.

F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53)
FUEL SYSTEM EVAPORATIVE EMISSIONS — 158" & 208" WB

2008
MODEL YEAR

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F53 MOTORHOME

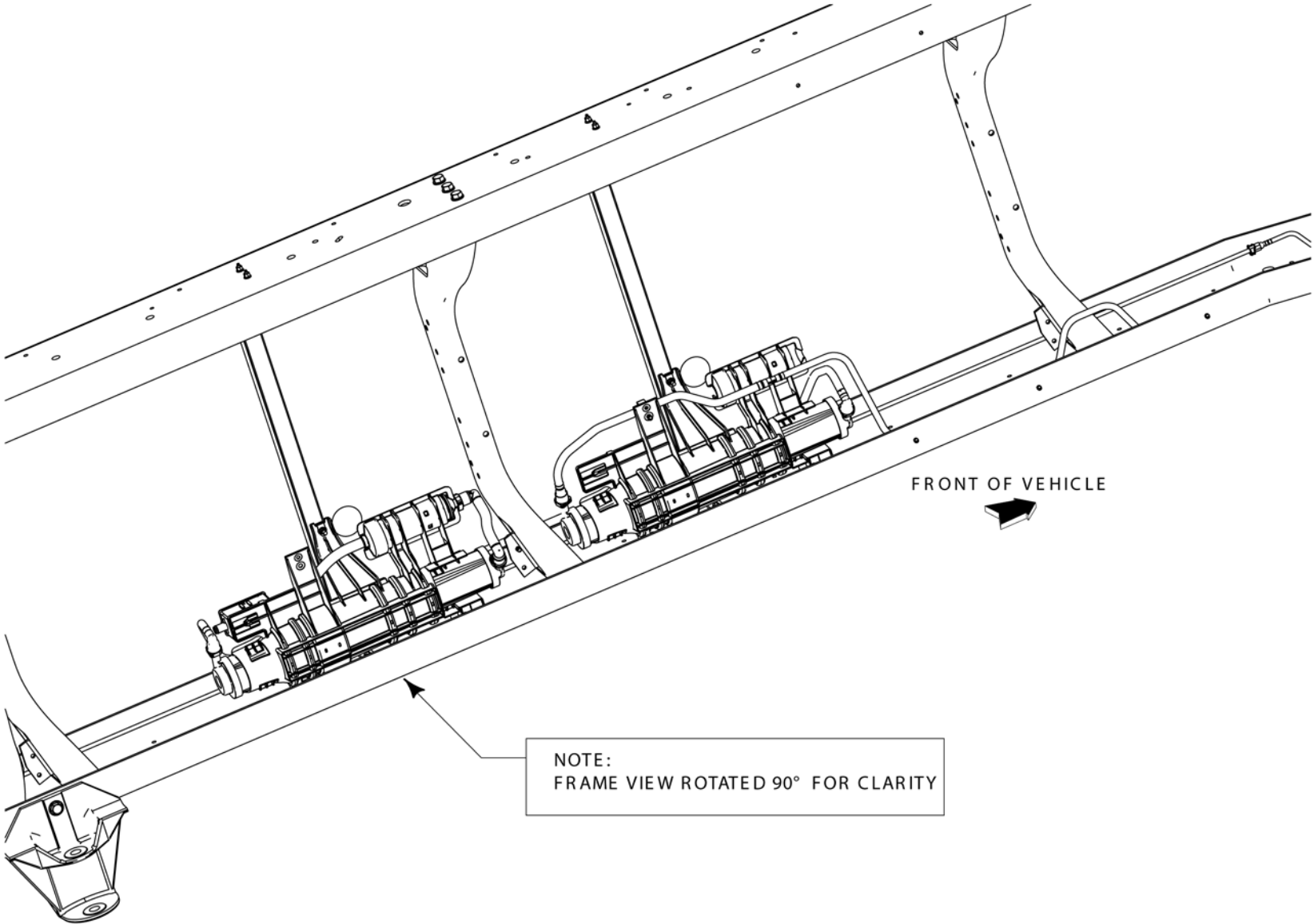


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NOTE — [] DIMENSIONS ARE INCHES.

F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53)
FUEL SYSTEM EVAPORATIVE EMISSIONS — 228" & 242" WB

2008
MODEL YEAR

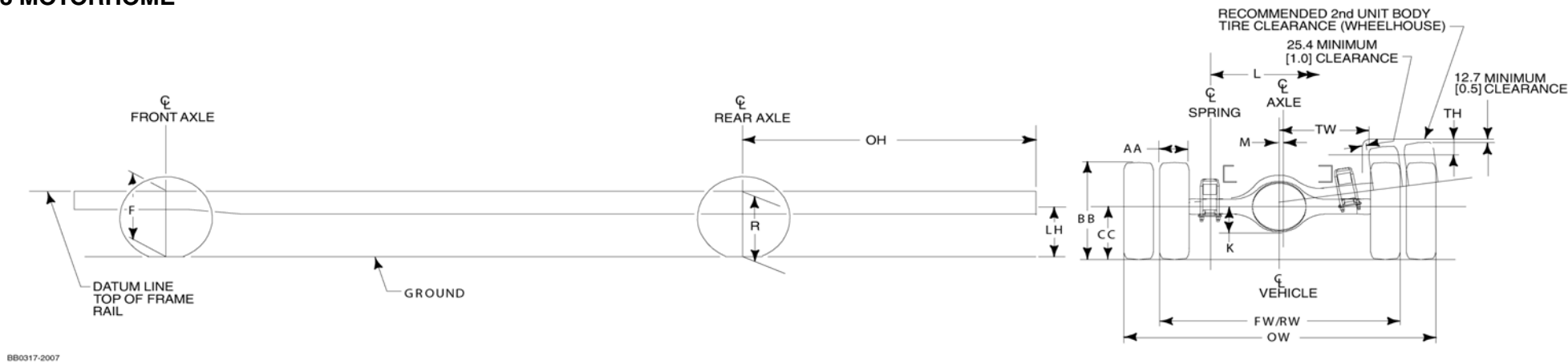


NOTE — [] DIMENSIONS ARE INCHES.

F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53)
AXLE/TIRE/VEHICLE HEIGHT DATA

2008
MODEL YEAR

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MODEL	WB	GVWR [lbs]	BASE TIRE	F HEIGHT AT FRONT WHEEL (1) (2)	R HEIGHT AT REAR AXLE (1) (2)	LH (2)	OH	K	L	M	AA	BB	CC	FW	RW	REAR WHEEL MEASUREMENTS		
				AT SPRING RATING	AT SPRING RATING	AT SPRING RATING										OW	TH	TW
F-Super Duty Class A Motorhome Chassis (F-53)	4013 [158.0]	16,000	225/70R19.5	710 [28.0]	770 [30.3]	568 [22.4]	2688 [105.8]	177 [7.0]	1079 [42.5]	24 [1.0]	236 [9.3]	779 [30.7]	373 [14.7]	2291 [90.2]	1857 [73.1]	2389 [94.0]	270 [10.6]	638 [25.1]
	4521 [178.0]																	
	4826 [190.0]																	
	4521 [178.0]	18,000	245/70R19.5	719 [28.3]	779 [30.7]	577 [22.7]	2688 [105.8]	177 [7.0]	1079 [42.5]	24 [1.0]	248 [9.8]	810 [31.9]	391 [15.4]	2327 [91.6]	1848 [72.8]	2424 [95.4]	283 [11.1]	638 [25.1]
	4826 [190.0]																	
	5283 [208.0]																	
	5791 [228.0]	20,500	245/70R19.5	719 [28.3]	779 [30.7]	577 [22.7]	2688 [105.8]	214 [8.4]	1079 [42.5]	24 [1.0]	248 [9.8]	810 [31.9]	391 [15.4]	2327 [91.6]	1848 [72.8]	2424 [95.4]	283 [11.1]	638 [25.1]
	5283 [208.0]																	
	5791 [228.0]																	
	5283 [208.0]	22,000	245/70R19.5	775 [30.5]	779 [30.7]	577 [22.7]	2688 [105.8]	214 [8.4]	1079 [42.5]	24 [1.0]	248 [9.8]	810 [31.9]	391 [15.4]	2327 [91.6]	1848 [72.8]	2424 [95.4]	283 [11.1]	638 [25.1]
	5791 [228.0]																	
	5791 [228.0]																	
	6147 [242.0]	24,000	235/80R22.5	775 [30.5]	835 [32.9]	633 [24.9]	2688 [105.8]	214 [8.4]	1079 [42.5]	24 [1.0]	233 [9.2]	942 [37.1]	443 [17.4]	2305 [90.7]	1785 [70.3]	2423 [95.4]	221 [8.7]	640 [25.2]
	5791 [228.0]																	
	6147 [242.0]																	
	5791 [228.0]	26,000	255/80R22.5	792 [31.2]	861 [33.9]	630 [24.8]	2688 [105.8]	226.5 [8.9]	1079 [42.5]	24 [1.0]	252 [9.9]	941.5 [37.0]	941.5 [37.0]	2354 [92.7]	1783.4 [70.2]	2418 [95.2]	235 [9.2]	594 [23.4]
	6147 [242.0]																	
	5791 [228.0]																	
	6147 [242.0]																	

(1) — The **F** and **R** Height Data represent dimensions from ground to “frame datum line” (top of frame rail) of a base/standard vehicle with no options.
(2) — These dimensions are for reference only. Actual height may vary due to production tolerances.

NOTE — [] DIMENSIONS ARE INCHES.
— ALL OTHER DIMENSIONS ARE MILLIMETERS.

F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53)

BODY AND SPECIAL EQUIPMENT

INSTALLATION PRECAUTIONS

2008

MODEL YEAR

Mar-04-08

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F53 MOTORHOME

GENERAL NOTES

- Adherence to the following suggestions and warnings should not be construed as implying compliance with any particular U.S. or Canadian regulation. See the *Incomplete Vehicle Manual* (IVM) for specific information regarding compliance with U.S. or Canadian regulations.
- The weight of the basic vehicle plus the sum of the weights of:
 - additions to the basic vehicle (body and equipment),
 - other cargo,
 - fuel sufficient to fill all tanks, and
 - the maximum number of occupants, at 150 lb per occupantmust not exceed the GVWR of the vehicle as specified on the incomplete vehicle label attached to the IVM and must be distributed so that neither the front or rear GAWR (as specified on the Incomplete Vehicle label) is exceeded. Also see the IVM for further instructions. All heavy equipment installed by the body builder should be placed as close to the floor as practical to maintain a minimum vertical center of gravity. Side-to-side loading should be as symmetrical as possible about the vehicle longitudinal centerline to prevent vehicle lean and adverse steering and braking characteristics.
- Rear departure angle of 8.1° minimum for the motorhome chassis should be maintained to protect the fuel tank at GVWR. Rear bumpers or underbody skids should be considered to minimize interference to ground.
- All subsequent manufacturer-installed items must be at least 3/4 inch away from fuel tank(s), rotating driveline components, and all other moving components. Also, they must be clear of all axle total movements.
- EMISSIONS CONTROLS — See the *Incomplete Vehicle Manual*.
- NOISE REGULATIONS — See the *Incomplete Vehicle Manual*.
- SAFETY CERTIFICATION INFORMATION — See the *Incomplete Vehicle Manual*.

BODY

- Any structural member removed from the body or cowl assembly areas, except for the dunnage box supports, must be replaced or included in the body structure of any special body installed.
- It is mandatory that the body builder establish a structurally sound combination of body and vehicle

- structure by securely fastening together the body and the frame. This requires a rigid body design and a thoroughly planned system of bolts, welds and other fastenings between the frame and body. To ensure structural integrity is maintained, the vehicle's front structure must not be modified.
- To avoid interference problems with suspension components, body attachments to frame should not protrude below side member flange.
- An access panel may be provided in the vehicle floor by the body builder to service the in-tank fuel pump.
- The body builder should consider the addition of sound insulation to minimize engine and fan noise in the driver compartment.

FRAME

- 2-PIECE FRAME** — for 2008, the F-53 utilizes a 2-piece frame. The bolt together joint is located just ahead of the forward rear spring hanger on all models/GVWR's.
 - The two frame sections are assembled by fixture at the assembly plant and are not intended to be adjusted in service.
 - The fasteners are not re-useable. If the bolts are removed, both the bolts and nut plates must be replaced.
 - The bolts are torqued to 350 Nm +/- 50 [258 ft lb +/- 37]
 - For measuring frame straightness, refer to the F-53 Workshop Manual.
 - The 24/26K GVWR frame utilizes 50,000 psi high-strength steel. For high-strength steel welding recommendations, refer to QVM Bulletin Q-140.
- FRAME WEB** — holes to mount brackets, outriggers, and supports may be drilled in the vertical side rail web with the following restrictions:
 - Material between edge of hole and inside of upper or lower flange must be at least 1.50 inch.
 - Minimum edge distance between any two holes must be at least twice the diameter of the largest hole.
 - Holes must be no larger than 0.75 inch in diameter. Avoid close vertical succession of fasteners.
 - All attaching fasteners, including flat washers, must be of high strength steel (Grade 8 or metric equivalent).
- FRAME FLANGE** — holes may be drilled in the horizontal frame flanges with the following restrictions:

- Material between edge of hole and radius/edge of flange must be at least 1.0 inch.
 - Minimum edge distance between any two holes must be at least twice the diameter of the largest hole.
 - Holes must be no larger than 0.5 inch in diameter.
- Welding to the vertical side web is preferred. **Welding is not recommended on frame flanges or bend radii, however, a series of tack welds is allowed on frame flanges, e.g., to attach heat shields. Tack welds must be no greater than 0.4 inches in diameter and they must be at least 1.5 times the weld diameter away from both the edge of the frame and the radius bend tangent line.**
 - The frame for the motorhome chassis is designed to permit removal of the engine and transmission out-the-bottom. This is facilitated by bolt-in No. 2 and No.3 crossmembers. Body builders should not add permanent structures which preclude powertrain removal.

ENGINE

- Engine compartments must be designed to eliminate any air circulation restriction that would affect the air induction and cooling systems. Motorhome engine compartments must provide adequate flow-through ventilation to prevent local temperatures from exceeding recommended maximums. Limits for critical engine components are shown in the table (see Cooling) on next page.
- No modification of the air cleaner inlet duct is permissible. Removal or modification of this duct will affect function of the mass air meter, possibly causing driveability problems and increased tailpipe emissions.
- The air induction inlet should not be closed off from fresh air; underhood air should not be the primary source of air into the inlet. Fresh dry air should be provided to the air box inlet. This can be accomplished in various manners, such as, provide a vent opening in the front of the vehicle, close off the engine compartment to prevent recirculation of underhood air, and/or ducting of air from grill opening to inlet.

SUSPENSION AND STEERING

- No vehicle or component alterations are allowed which restrict or prevent steering wheel, column, intermediate shaft, or coupling assembly collapse/stroke travel during crash.
- Relocating the power steering fluid reservoir is not recommended. If the reservoir is moved, care must be taken to ensure that the power steering hoses are not kinked; hoses should have generous radii. Keep the reservoir upright in a vertical position while in the process of relocating it to ensure that no air enters the system.

- If the suspension spacers are used between the spring and axle seats to accommodate side-to-side variations, they should not exceed 3/4 inch. Addition of spacers is not covered under warranty.

TRANSMISSION

- Transmission components are sensitive to ambient temperatures. Underbody ventilation is critical and temperatures in specific areas should not exceed those listed in the Table (see Cooling) on the next page.
- TorqShift® wire harness routing location, wire harness locating clips, all heat shielding, and minimum clearance to the exhaust must be maintained as installed from the assembly plant. Failure to maintain minimum clearances may result in heat damage to the wiring, assembly and loss of transmission controls.
- It is mandatory that the shift linkage be readjusted after linkage repair, engine mount replacement or shimming, steering column replacement or repositioning, transmission replacement, or any repair which could change the linkage adjustment.

WHEELS AND TIRES

- Use only wheels with the same load capacity, rim width, rim offset, and mounting configuration as those originally installed on the vehicle. Consult an authorized Ford Dealer for correct wheel load capacity, size, and usage. Wheels used must conform to the F/CMVSS 120. The use of any wheel or tire, other than those originally installed on the vehicle as manufactured by Ford Motor Company, may adversely affect load carrying capacity, handling, bearing life, ride, braking performance, speedometer/odometer accuracy, automatic transmission shift timing, and tire/wheel clearance of the body and chassis.
- Use only tires with the equivalent load-carrying capacity as those originally installed on the vehicle. Use only tires of a type and size that are on the vehicle certification label. Do not over or under inflate tires, always maintain tire pressure identified on certification label. Never mix radial, bias-belted, or conventional bias type tires, and avoid mixing P and LT metric tires with alphanumeric tires whenever possible. Consult an authorized Ford Dealer for correct tire load capacity, type, size, and inflation pressure for the vehicle. Tires used must conform to FMVSS 119 (non-passenger car type tires) in the United States, or to the Motor Vehicle Tire Safety Regulations in Canada.

F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53) BODY AND SPECIAL EQUIPMENT INSTALLATION PRECAUTIONS (Continued)

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COOLING

Refer also to Design Recommendations: Cooling.

1. Cooling inlet area revisions (grille, bumper slots, etc.) must not significantly alter air flow and should be free from blockage such as spare tires, added brackets, etc. Restricted air flow can result in possible engine damage for which the installer may be held liable, should any claims arise.
2. A minimum frontal grille opening of 370 square inches is required to provide satisfactory engine cooling. The grille opening should be directly in front of the radiator or ducted in such a manner to direct airflow through the radiator core. Battery(s) or other components should not be mounted in front of the radiator or impede airflow through the radiator.
3. Engine and Automatic Transmission temperatures may be affected by motorhome front-end design. Component temperature limitations should not be exceeded (See table below).

F-SUPER DUTY
CLASS A MOTORHOME CHASSIS (F-53)
MAXIMUM ALLOWABLE
COMPONENT TEMPERATURE

Components	Temperature
Fuel Rails/Pressure Regulator	200F
Engine Ignition Sensors	250F
EEC Module	175F
Fuel Pump Delivery Module	167F
Auto Transmission Sensors	250F
Lower Transmission Area (mounts, gaskets, etc.)	250F

NOTE: Use only Ford Factory Coolers/Heat Exchangers.

EXHAUST

1. Any changes to the existing exhaust pipe length should be accomplished by welding or use of 3/8 inch U-bolt. Pipe added to the exhaust outlet must be of 0.053 inch minimum wall thickness. Extending the outlet pipe 10 inches or more requires an additional support bracket of a type similar to those provided with the original chassis.

WARNING: It is mandatory that the side outlet tailpipe configuration be retained when any modification is made to the exhaust system, to reduce the possibility of exhaust fume entry through rear openings. The pipe outlet should not be located near any vent, window, door or body opening. The tailpipe or attenuator of any modified system should be above the departure angle of the finished vehicle.

2. Do not remove, reposition, or otherwise modify any existing OEM chassis or exhaust mounted heat shielding. These shields are there to ensure heat protection from underbody components as well as occupant comfort. Changes in the exhaust pipe length should be accompanied by a similar lengthening of the heat shielding where it exists. Additional underbody heat shielding is required to be installed by the builder as specified in the *Ford Truck Quality Program Guidelines* binder.

FUEL SYSTEM - LEV II COMPLIANT

1. The fuel tank for the motorhome chassis is located between the frame rails aft of the rear axle, and is supported by straps and frame crossmembers. The body builder should consider skid plates or protective bars if the body structure does not adequately protect the lower and rear surfaces of the tank.
2. Avoid relocating fuel tanks. Relocated fuel tanks must meet FMVSS requirements. Use torque specifications and controls for reinstalling tanks (refer to service manual).
 - To avoid electrical sparking at tank, disconnect the battery ground cable(s) from the vehicle battery(ies) before removing tank.
 - Fuel tank clearance to body or frame components is 0.75 inches minimum. The size of any flexible body mounts must not be considered as part of this clearance.
 - Suspension components must clear the fuel tank by 2.00 inches minimum through their functional geometry.
 - Unfriendly surfaces by fuel tanks are unacceptable (i.e., any fastener used to install back-up alarm, seats, etc., to floor or chassis components must not point toward fuel tank).
 - Revisions and welding to fuel filler pipes, filler necks and tanks must be avoided. Prior to welding in the vicinity of the fuel system, verify no fuel is dripping from disconnected components, thoroughly clean up any fuel drips/spills, protect any fuel system component in the vicinity (including evaporative emissions components) or remove the system components (including fuel tank) from the vehicle.

- When removing tanks for processing, tanks should be stored where protected and caps should be installed on all openings. Dirt/dust will plug fuel filters and could result in engine damage.
- Reinstallation of fuel sender units always requires a new gasket (fastener torque of 85-115 in-lb is specified).
- Auxiliary generator systems that are installed with their own fuel supply, or with a fuel supply provided by means other than using the tank auxiliary port, must meet FMVSS requirements.
- Tapping into fuel tanks for an extra fuel source is unacceptable.

A fuel filler kit is provided with the F-Super Duty Class A Motorhome Chassis. This filler kit is installed and tested in a representative motorhome to verify that it is capable of providing acceptable fuel fill function without spray, spitback or premature shutoff. However, Ford has no control over how the filler pipe and vent line are installed or modified by the Vehicle Modifier. Consequently, the Vehicle Modifier must ensure that the fuel filler pipe and any extensions added to the fill or vent lines are adequately supported to prevent sagging that could cause spray, spitback or premature shutoff during normal fueling operations. The Final Stage Manufacturer is responsible for verifying acceptable fuel fill function on the completed vehicle.

3. Fuel filler and vent hoses must not be exposed to sharp corners and should have a minimum of 1.00 inch clearance to the body and surrounding body and chassis components (except frame). If fuel filler hoses are in the vicinity of edges or corners, then shield/abrasion protection should be used. Sink traps (low spots in fuel filler and/or vent hose) are unacceptable.

Lengthening/relocating the fuel filler pipe can only be done with the hoses supplied in the dunnage box and steel tube provided by the body builder. No substitute hose material is allowed. Total length of the hose used in the system cannot exceed that of the original hose supplied in the dunnage box. The short shipping hoses provided on the chassis, as received, is for shipment only and should not be used in the final assembly of the fuel filler pipe. Failure to comply may void the evaporative emissions certification.

- If fuel hoses or vent hoses are replaced, the new hoses must meet Ford Engineering specifications.
 - Extra connections in the fuel filler hose or vent hose, caused by the use of extensions, should be avoided.
 - Use only the Ford-specified fuel cap. Caps other than the Ford original (such as aftermarket locking gas caps) are unacceptable.
4. Splicing of fuel lines with clamps and rubber hoses is unacceptable.

When drilling or welding in areas where there are fuel or vapor lines, the lines should be removed.

Bolts installed into the chassis near fuel/vapor lines should have protective caps or other means of protection for the lines.

Kinking or collapsing of fuel or vapor lines, while handling or after installation, is unacceptable. If line has been kinked, it must be replaced.

If carbon canisters are relocated:

- Heat shields should be added if they are located in the vicinity of the catalyst and/or muffler.
- No additional hose can be added to the canister purge lines. Lengthening of the system can only be accomplished by replacing one or more of the steel tubes with a longer tube. The number of joints and length of hose in the system cannot be increased. If any of the hose is damaged, it must be replaced with CADBAR II low permeability hose meeting Ford Engineering Specification ESA-M2D50-B. Failure to comply may void the evaporative emissions certification.
- Fastener torque specs are 14 to 22 ft-lb for remounting of canister brackets to frame.

Avoid routing of fuel or vapor lines near any sharp edges or corners. Protect lines if near any sharp edges or corners.

FRONT AXLE

1. No drilling or welding to the front axle "I" beam is permissible. Special equipment mounting or attaching brackets, requiring attachment to the front axle, may be clamped to axle "I" beam only.

F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53) BODY AND SPECIAL EQUIPMENT INSTALLATION PRECAUTIONS (Continued)

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ELECTRICAL

Although there are many points in the electrical system to connect additional circuits, certain connection points provided are recommended for reliability and convenience. This section defines the recommended connection points for the F-Super Duty Class A Motorhome Chassis (F-53) models and the maximum electrical loads allowable.

CAUTION: Improper electrical tie-ins may affect vehicle operation (i.e., engine, transmission).

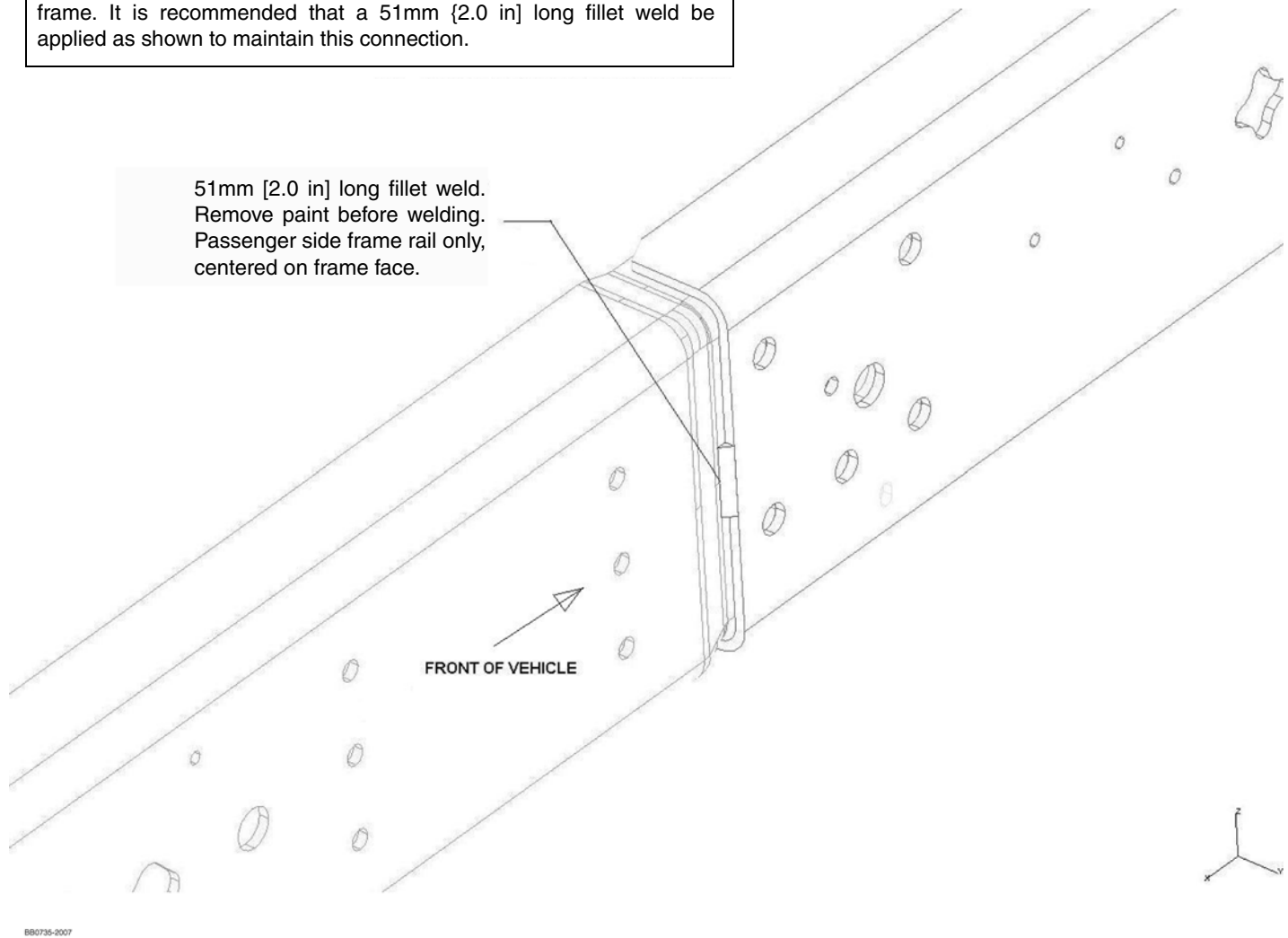
Alternative connections or wiring practices are not recommended as certain modifications may result in other circuits becoming nonfunctional. Disconnect the battery negative (ground) cable and remove it from the battery carrier prior to any vehicle modification. Upon completion of body or equipment installation, all wiring should be checked for proper routing, etc., to preclude electrical shorts upon reinstallation of the battery negative cable.

The vehicle wiring and protection were designed for the following lighting loads - additional loads to any circuit must be installed in accordance with the detailed electrical wiring instructions provided later in this book.

NOTE: When chassis wheelbases are lengthened, the body builder must maintain the original slack length in the wire harness leads that are affected by suspension movement (jounce & rebound).

Qty	Components	Trade No.
2	Halogen Headlamp Bulbs	9004
10	Combination Rear Lamp (tail, brake, turn signal) Bulbs	1157
2	Back-up Lamps	1156
4	Side Marker Bulbs	194
2	License Plate Illumination Bulbs	194
2	Interior Dome Bulb	561
16	Bulbs for Instrument Cluster Illumination	37
5	Small Bulb	194
	Large Bulb	

WARNING: F-53 Electrical Grounding Requirement
The two-piece frame rail design on the 2008MY F-Super Duty Class A Motorhome Chassis (F-53) requires a ground path to be provided from the rear of the vehicle. Failure to maintain this ground path may interfere with the proper operation of any circuits grounded to the rear of the frame. It is recommended that a 51mm {2.0 in} long fillet weld be applied as shown to maintain this connection.



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F-SUPER DUTY CLASS A MOTORHOME CHASSIS (F-53) BODY AND SPECIAL EQUIPMENT INSTALLATION PRECAUTIONS (Continued)

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1. LIGHTS CONTROLLED BY HEADLAMP SWITCH

The headlamp switch on the F-Super Duty Class A Motorhome Chassis (F-53) utilizes one 20 amp fuse for the headlamp high beam circuit and two 10 amp fuses for low beam.

NOTE: Do not add marker lamps to the headlamp circuit; a separate circuit is provided for the marker lamps. Adding the marker lamps to the headlamp circuit can result in an overload of the circuit. For full service temperature range, the headlamp switch load should not exceed 15 amp.

Wiring access for lights to be controlled by the headlamp switch are provided at the front of the dash panel and at the rear of the vehicle, and are identified by tags attached to these wires.

Splices and electrical loading (fusing and wire size requirements) of these circuits must be in accordance with general practices previously identified.

2. LIGHTS CONTROLLED BY STOP LAMP SWITCH AND TURN INDICATOR SWITCH

NOTE: Splicing into the stop lamp switch on vehicles with TorqueShift® transmissions can interfere with the proper functioning of PCM and speed control. This can:

- Affect engine idle speed quality
- Affect torque converter operation
- Prevent the speed control from disengaging upon braking

If your application involves splicing into the stop lamp switch of a TorqueShift® equipped vehicle, please call the Truck Body Builders Advisory Service at 1-877-840-4338.

The F-Super Duty Class A Motorhome Chassis (F-53) has a mechanical stop lamp switch mounted on the brake pedal arm. These switches and associated wiring are designed for a maximum load of 10.5 amp, which is less than the fuse in the circuit, but ample for normal stop lamp loads. Under no circumstances are total loads in excess of this value permissible.

If only turn signal function is desired for the added lights, splice into the taillamp loom located at the rear of the vehicle. Splice into wires tagged "RH turn signal only 'or' LH turn signal only."

If both the turn signal and stop lamp function are desired for the added lights, splice into the taillamp loom at the rear of the vehicle into wires tagged, "RH turn w/brake 'and' LH turn w/brake."

NOTE: The turn signal switch used on light trucks has a maximum rated current of 6.5 amps for right and left turning functions and 10 amps for stop lamp function. Do not exceed these values on the turn signals.

The turn signal and emergency flasher system on the F-Super Duty Class A Motorhome Chassis (F-53) utilizes an electronic flasher. For the turn signal function, the electronic flasher is designed to accommodate five 2.1 amp lights; and for the emergency flasher function, it is designed to accommodate ten 2.1 amp lights for combination stop/turn and trailer lamps.

NOTE: Adding more lights than what is specified above can result in reduced life and performance of the flasher.

3. ADDED LIGHT OR ACCESSORIES CONTROLLED BY ADDED SWITCHES

The added electrical switches and wiring must have sufficient electrical capacity for the accessory load and must be protected by appropriate fuses or circuit breakers. Also, added current draw must not cause total loads to exceed capabilities of the base vehicle wiring.

State, provincial, local laws may regulate the manner in which the fog and driving lamps are used, or may require additional equipment for the particular use intended for the vehicle. It is the buyer's/owner's responsibility to determine the applicability of such laws to the buyer's/owner's intended use for the vehicle and to arrange for the installation of required equipment.

When horns are installed, the location must be as high as possible with bell mouth of horn pointed downward.

4. BATTERIES AND VOLTAGE REGULATOR

The battery location must be adequately ventilated, accessible for servicing, protected from road splash, and must also incorporate a shockless mounting.

The coach or chassis battery must not be located under the air cleaner inlet to prevent ingesting any gas that may be emitted from the battery.

Batteries should not be mounted in front of the radiator or impede air flow through the radiator.

If the original equipment battery is replaced by more than one battery, or a battery of a larger capacity, the battery charging power supply circuit must be checked and revised to carry the additional loads.

F-Super Duty Class A Motorhome Chassis (F-53) has a separate wire to maintain Keep Alive Power; PCM the addition of a battery cut-off switch must not affect the operation of this circuit.

The electronic voltage regulator base must always be connected to the battery, engine chassis ground when the ignition switch is in either the ON or START position. The voltage regulator will be damaged if the connection does not exist when the ignition switch is energized.

5. WIPER DELAY MODULE

The Wiper Delay Module on the F-Super Duty Class A Motorhome Chassis (F-53) is not internally protected for a continuous high current load greater than 9.0 amps and must be protected either internal to the wiper motor or via inline protection such as a properly sized circuit breaker. The existing 30 amp fuse in the fuse panel is sized for the maximum allowable inrush current and does not provide appropriate protection to the Wiper Delay Motor

A/C PREP PACKAGE

1. The F-Super Duty Class A Motorhome Chassis (F-53) comes with an R134a (non-CFC) air conditioning prep package for use with a TXV controlled A/C system. This package consists of a compressor, condenser, high side lines with high pressure switch, air recirculation baffles, and front end accessory drive which are mounted to the chassis, and a receiver/dryer with low pressure cutoff switch.
2. Information on air conditioning refrigerant and lubricant quantities are shown in the *Ford Truck Quality Program Guidelines* binder.

**F-SUPER DUTY CLASS A MOTORHOME
CHASSIS (F-53) BODY AND SPECIAL EQUIPMENT
INSTALLATION PRECAUTIONS (Continued)**

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Circuit	Circuit #	Gauge	Color	Location	Fuse Location	Fuse Size
• Accessory Feed (Accy's & Run)	296	18	White-Purple	Top Side of Dash Panel (Part of 14A318)	F/P #5	10A
• Accessory Feed (Off & Run)	294	18	White-Lt. Blue	Top Side of Dash Panel (Part of 14A318)	F/P #38	10A
• A/C Switch	441	16	Red-Yellow	Top Side of Dash Panel (Part of 14A318)	—	—
• Backup Lamp	140	18	Black-Pink	Rear of Vehicle (Part of 14408)	F/P #33	10A
• Battery Feed	1049	16	Brown-Pink	Top Side of Dash Panel (Part of 14A318)	F/P #16	20A
• Blower Motor Feed	181	10	Brown-Orange	Top Side of Dash Panel (Part of 14401)	PDB #23	40A
• Brake Lamp Feeds	511	16	Lt. Green	Top Side of Dash Panel (Part of 14A318), Front Side of Dash Panel (Part of 14A348) -and Rear of Vehicle (Part of 14408)	F/P #9	20A
• Cigarette Lighter Feed	40	14	Lt. Blue-White	Top Side of Dash Panel (Part of 14A318)	PDB #22	20A
• Electric Brake Power	43	12	Dark Blue	Rear of Vehicle (Part of 14408)	PDB #13	30A
• Fuel Pump Delivery Module Relay	1059	14	Lt. Blue-Orange	Power Distribution Box Relay #2	PDB #21	20A
• Ground During Start	41	20	Black-Lt. Blue	Top Side of Dash Panel (Part of 14A318)	—	—
• Headlamp High Beam Feed	12	16	Lt. Green-Black	Front Side of Dash Panel (Part of 14290)	F/P #35	20A
• Headlamp Low Beam Feed (Left) (Right)	160 161	18 18	Dark Brown and White Dark Green-Orange	Front Left Side of Dash Panel (Part of 14290) Front Right Side of Dash Panel (Part of 14290)	F/P #31 F/P #25	10A 10A
• Horn Feed	6	16	Yellow-Lt. Green	Front Side of Dash Panel (Part of 14290)	PDB #17	20A
• Instrument Panel Lamp Feed	19	20	Lt. Blue-Red	Top Side of Dash Panel (Part of 14A318)	F/P #41	10A
• Interior Lamp Feed	53	18	Black-Lt. Blue	Top Side of Dash Panel (Part of 14A318) and Rear of Vehicle (Part of 14408)	—	—
• Interior Lamp Feed (Ground)	402	20	Orange-Lt. Green	(Part of 14A318)	—	—
• LH Turn Signal (only) Feed	3	16	Lt. Green-White	Front Side of Dash Panel (Part of 14290) and Rear of Vehicle (Part of 14408)	F/P #15	15A
• LH Turn w/Brake Signal Feed (Turn)	9	16	Lt. Green-Orange	Rear of Vehicle (Part of 14408)	F/P #1	20A
• Marker Lamp Feed (Park Lamp)	14 14 14 14 14	16 16 16 16 16	Brown Brown Brown Brown Brown	Front Side of Dash Panel (Part of 14290) Front Side of Dash Panel (Part of 14A348) Top Side of Dash Panel (Part of 14A318) Middle of Vehicle (Part of 14405) Rear of Vehicle (Part of 14408)	PDB #6	20A
• Park Brake Switch (Ground)	162	20	Lt. Green-Red	Top Side of Dash Panel (Part of 14A318)	—	—
• Radio Feed	137	18	Yellow-Black	Top Side of Dash Panel (Part of 14A318)	F/P #17	5A
• RH Turn Signal (only) Feed	2	16	White-Lt. Blue	Front Side of Dash Panel (Part of 14290) and Rear of Vehicle (Part of 14408)	F/P #21	15A
• Climate Control Customer Demand Switch	391	16	Red-Lt. Blue	(Part of 12A581)	PDB #3	20A

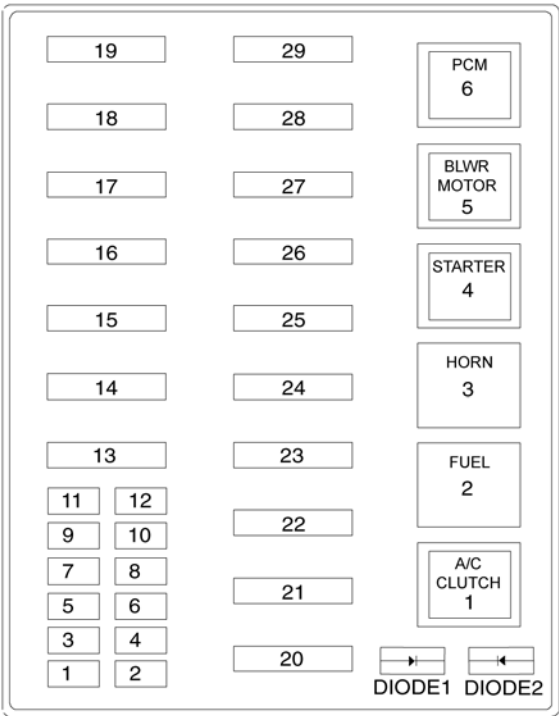
NOTES — 14A032, 14A318, 17B587, 14408, 13A840, AND 18A840 WIRE HARNESS ASSY ARE PROVIDED IN DUNNAGE BOX.
FUSE PANEL (F/P) IS LOCATED ON 14A032-A WIRE HARNESS PROVIDED IN DUNNAGE BOX.
POWER DISTRIBUTION BOX (PDB) IS LOCATED ON 12A581 WIRE HARNESS LOCATED IN ENGINE COMPARTMENT.
* REFER TO OWNERS GUIDE FOR COMPLETE LIST OF FUSE AND RELAY CIRCUITS/COMPONENTS.

F-SUPER DUTY CLASS A MOTORHOME
CHASSIS (F-53) BODY AND SPECIAL EQUIPMENT
INSTALLATION PRECAUTIONS (Continued)

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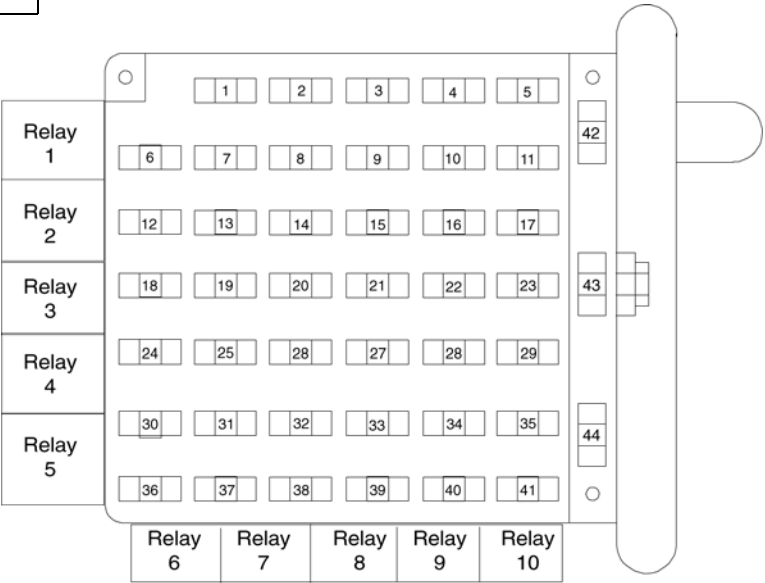
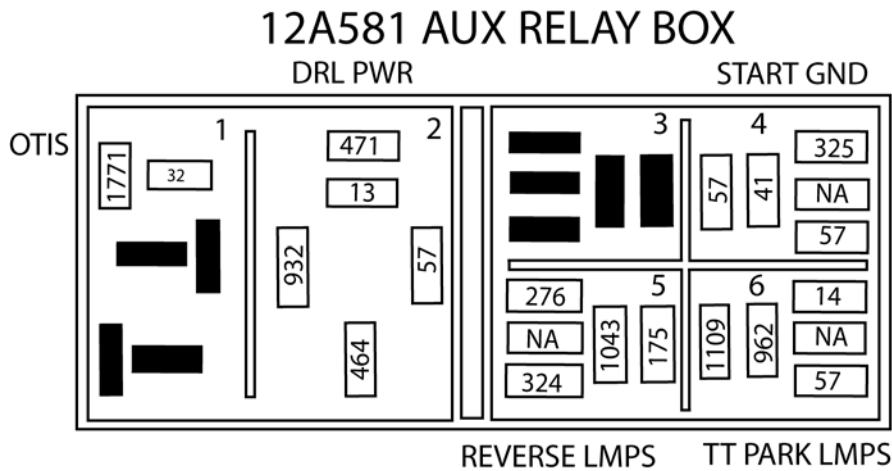
Circuit	Circuit #	Gauge	Color	Location	Fuse Location	Fuse Size
• Blower Motor Relay Ground	753	18	Yellow-Red	Top Side of Dash Panel (Part of 14401)	—	—
• Electric Brake Controller	50	12	Red	Front Side of Dash (Part of 14A348)	PDB #13	30A
• Electric Brake Ground	206	14	White	Front Side of Dash (Part of 14A348)	—	—
• Hot During Start	113	10	Yellow-Lt. Blue	Top Side of Dash Panel (Part of 14401)	PDB #28	30A
• LH Turn w/Brake Signal Feed (Brake)	9	16	Lt. Green-Orange	Rear of Vehicle (Part of 14408)	F/P #1	20A
• RH Turn w/Brake Signal Feed (Turn)	5	16	Orange-Lt. Blue	Rear of Vehicle (Part of 14408)	F/P #1	20A
• RH Turn w/Brake Signal Feed (Brake)	5	16	Orange-Lt. Blue	Rear of Vehicle (Part of 14408)	F/P #1	20A
• Tach Output Clean	76	20	Lt. Green-White	Top Side of Dash Panel (Part of 14401)	—	—
• Trailer Backup Lamp	963	16	Black-Lt. Green	Top Side of Dash Panel (Part of 14A318) and Rear of Vehicle (Part of 14408)	F/P #34	10A
• Trailer Ground	206	10	White	Rear of Vehicle (Part of 14408)	—	—
• Trailer LH Turn/Stop Lamp	52	16	Yellow	Rear of Vehicle (Part of 14408)	F/P #22	20A
• Trailer RH Turn/Stop Lamp	64	16	Dark Green	Rear of Vehicle (Part of 14408)	F/P #22	20A
• Trailer Running/Park Lamps	962	16	Brown-White	Rear of Vehicle (Part of 14408)	PDB #15	20A
• Trans Tach Output (Park)	1146	20	Lt. Green-Red	Top Side of Dash Panel (Part of 14401)	—	—
• Trans Tach Output (Neutral)	463	20	Red-White	Top Side of Dash Panel (Part of 14401)	—	—
• Vehicle Speed Output	239	20	White-Orange	Top Side of Dash Panel (Part of 14401)	—	—
• Warning Chime — Seat Belt	85	20	Brown-Lt. Blue	Top Side of Dash Panel (Part of 14A318-A)	—	—
• Washer Pump Feed	941	14	Black-White	Front Side of Dash Panel (Part of 17B587)	F/P #11	30A
• Wiper Motor Feed — Common	61	14	Yellow-Red	Front Side of Dash Panel (Part of 17B587)	F/P #11	30A
• Wiper Motor Feed — High	58	14	White	Front Side of Dash Panel (Part of 17B587)	F/P #11	30A
• Wiper Motor Feed — Ignition	65	14	Dark Green	Front Side of Dash Panel (Part of 17B587)	F/P #11	30A
• Wiper Motor Feed — Low	56	14	Dark Blue-Orange	Front Side of Dash Panel (Part of 17B587)	F/P #11	30A
• Wiper Motor Feed — Switch	28	14	Black-Pink Stripe	Front Side of Dash Panel (Part of 17B587)	F/P #11	30A



POWER DISTRIBUTION BOX

BB1500-2006

NOTES: 14A032, 14A318, 17B587, 14408, 13A840, and 18A586 WIRE HARNESS'S ARE PROVIDED IN DUNNAGE BOX.
FUSE PANEL (F/P) IS LOCATED ON 14A032-A WIRE HARNESS PROVIDED IN DUNNAGE BOX.
POWER NETWORK BOX (PNB) IS LOCATED ON 12A581 WIRE HARNESS LOCATED IN ENGINE COMPARTMENT.

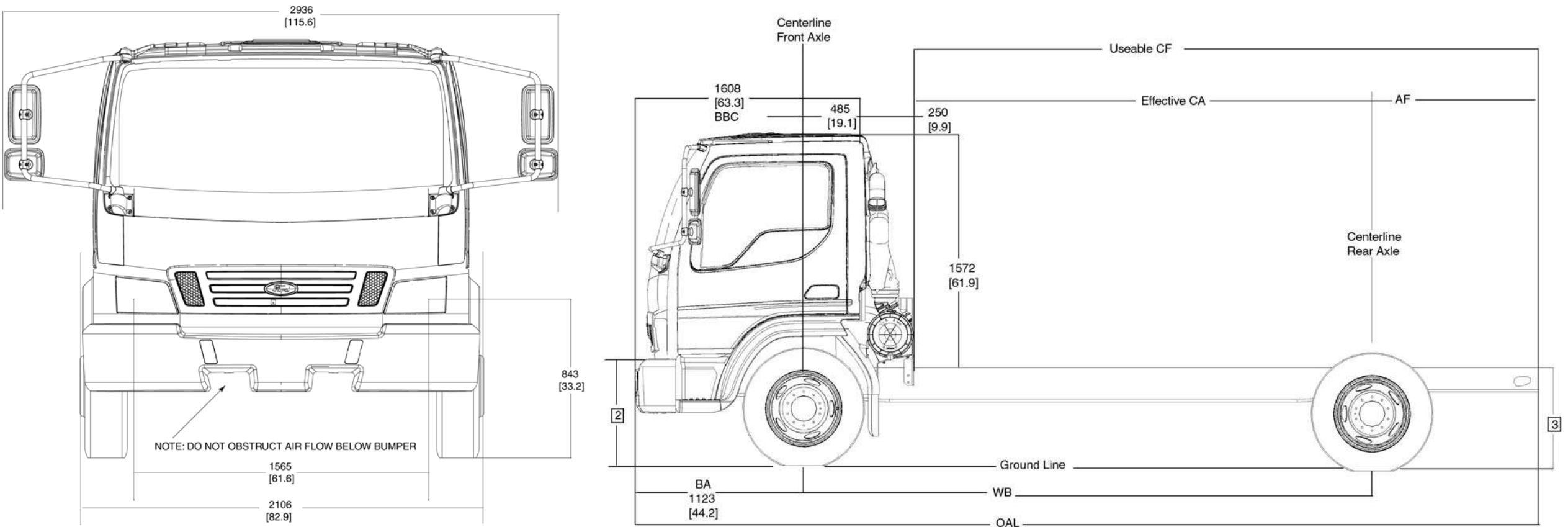


FUSE PANEL

BB05001-2006

ENGINEERING DATA

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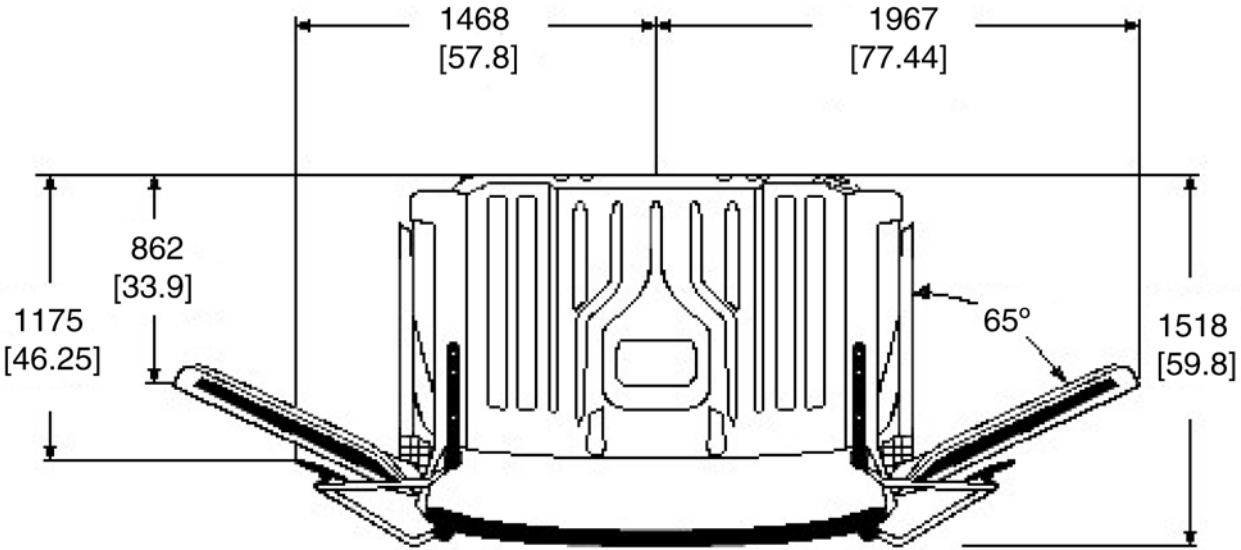
Wheelbase (in.)	Chassis Weight (lbs)**			Dimensions (in.)				Turning Radius	
	Front	Rear	Total	Effective CA	Useable CF	AF	OAL	To Curb	w/Bumper Clearance
*113	3915	2383	6298	86	131.5	47.5	204.7	16 ft. 7in.	18 ft. 7in.
113	3901	2428	6329	86	147.0	63.0	220.2	16 ft. 7in.	18 ft. 7in.
137	3950	2415	6365	108	155.5	47.5	228.7	19 ft. 3in.	21 ft. 0in.
137	3937	2458	6395	108	171.0	63.0	244.2	19 ft. 3in.	21 ft. 0in.
149	3972	2437	6409	120	167.5	47.5	240.7	20 ft. 8in.	22 ft. 5in.
149	3932	2551	6483	120	195.0	75.0	268.2	20 ft. 8in.	22 ft. 5in.
167	3956	2563	6519	138	213.0	75.0	286.2	22 ft. 5in.	24 ft. 2in.
185	3963	2653	6616	156	252.0	96.0	325.2	24 ft. 6in.	26 ft. 3in.

NOTES: Chart data based on vehicle with standard equipment. Artwork may show some optional equipment.
* Dimension data is based on the 113" wheelbase with 47.5" after frame unless otherwise noted.
** Weight includes standard chassis, standard tires, oil and water, but less fuel.
2 = Frame Height at centerline of front axle with standard tires: unloaded - 28.3"
3 = Frame Height at centerline of rear axle with standard suspension and tires: unloaded - 30.0"
Note: Due to internal spring friction and manufacturing tolerances, these values may vary up to 0.5 inches.
To achieve these normal values directly after loading or unloading a vehicle, it may be necessary to drive the vehicle for a short period.

NOTE — [] DIMENSIONS ARE INCHES.

TOP OF CAB

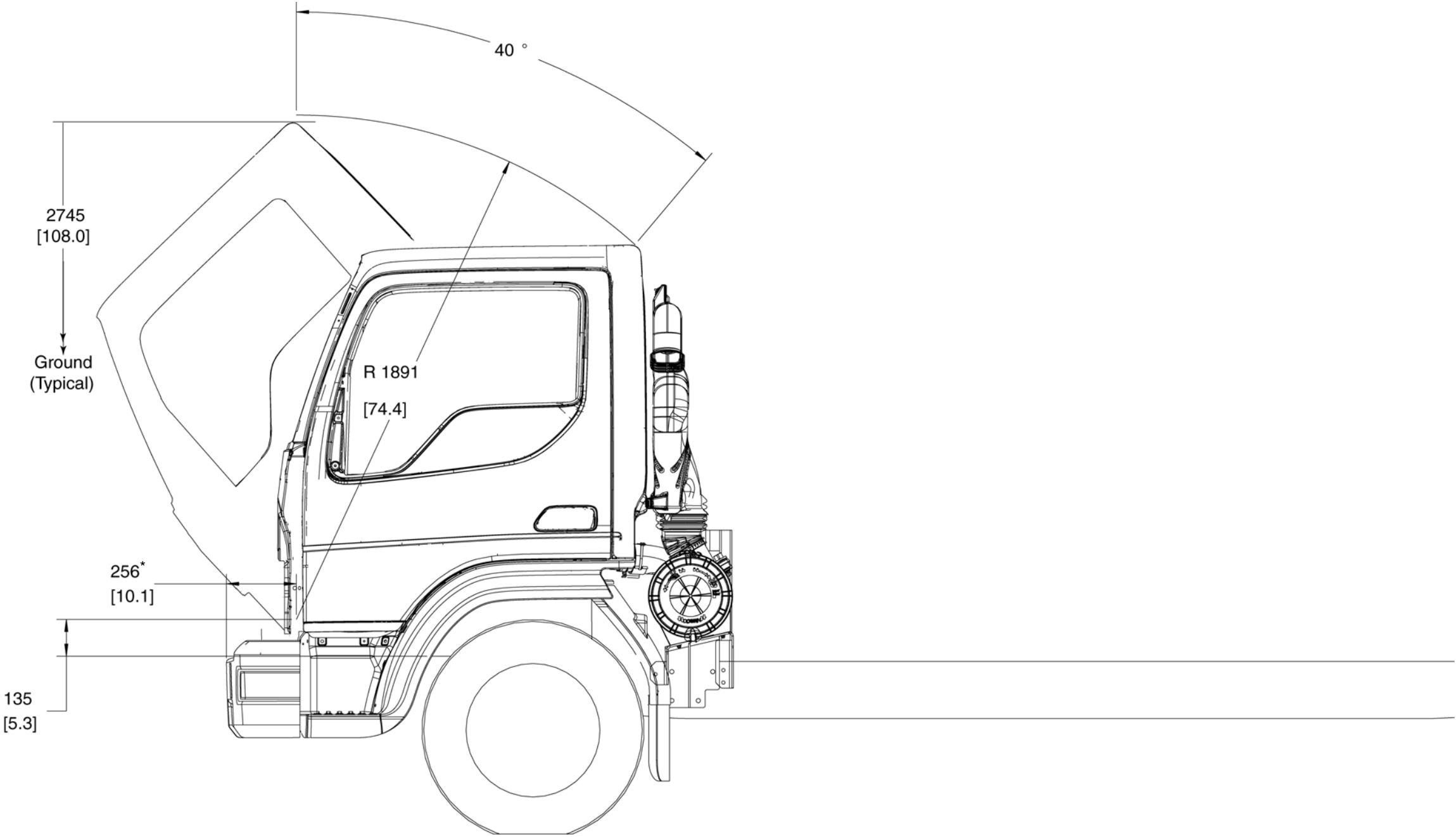
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NOTE — [] DIMENSIONS ARE INCHES.

SIDE VIEW — CAB TILT

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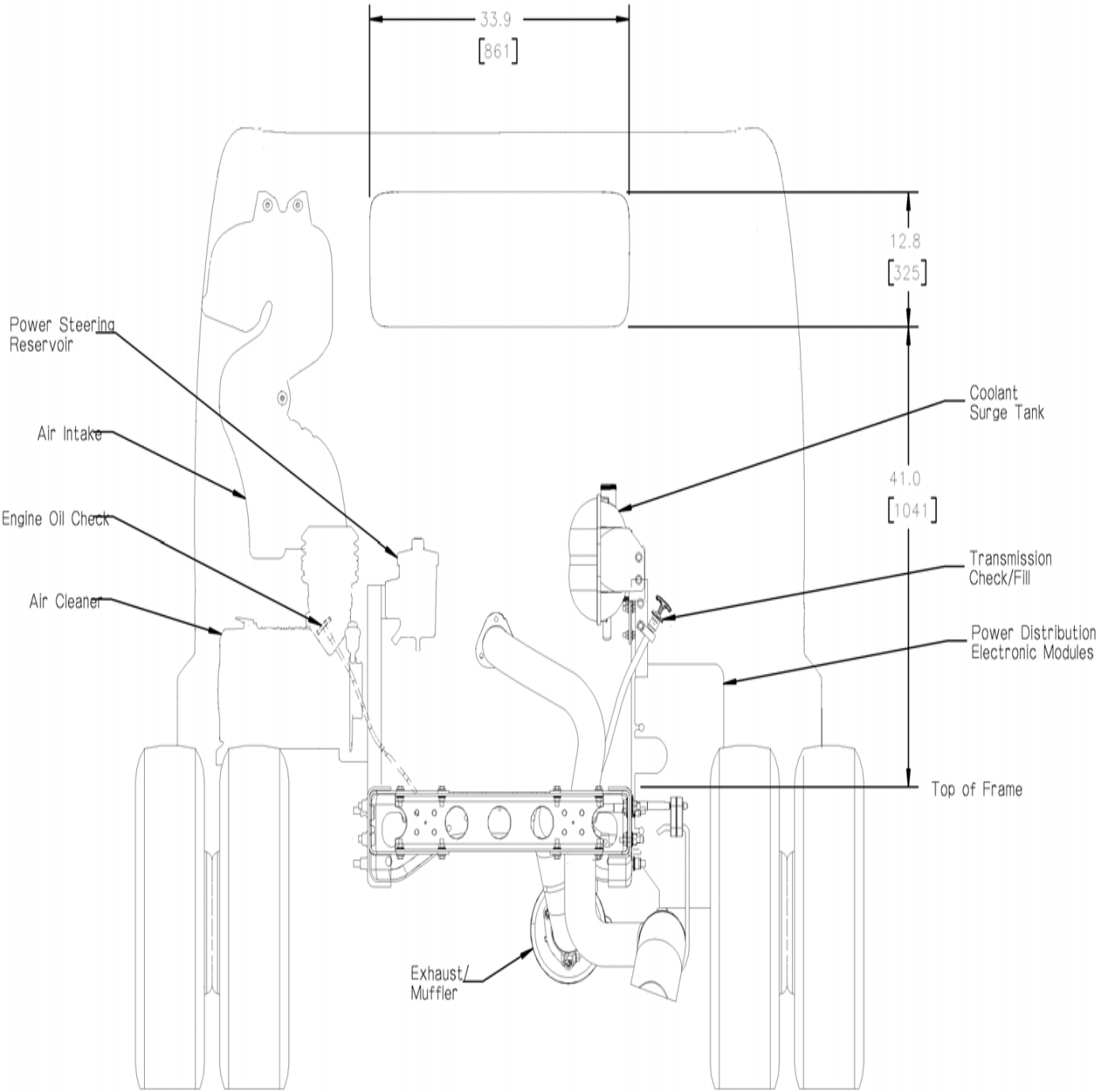


NOTE: *Dimension shown for standard molded argent bumper.
Optional chrome bumper dimension 306 [12.0]

NOTE — [] DIMENSIONS ARE INCHES.

REAR VIEW OF VEHICLE
115" WHEELBASE

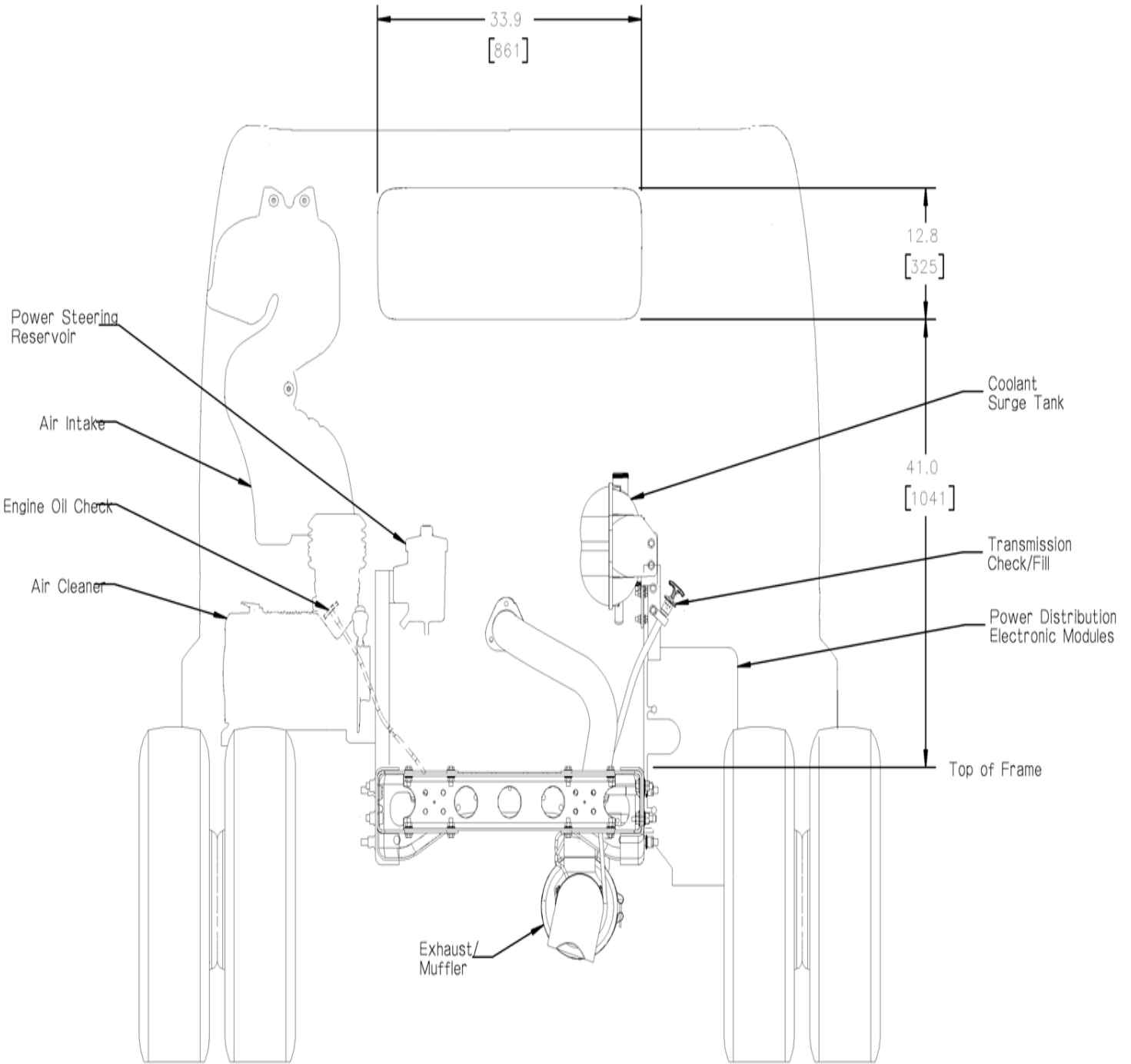
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NOTE — [] DIMENSIONS ARE INCHES.

REAR VIEW OF VEHICLE
137" - 185" WHEELBASE

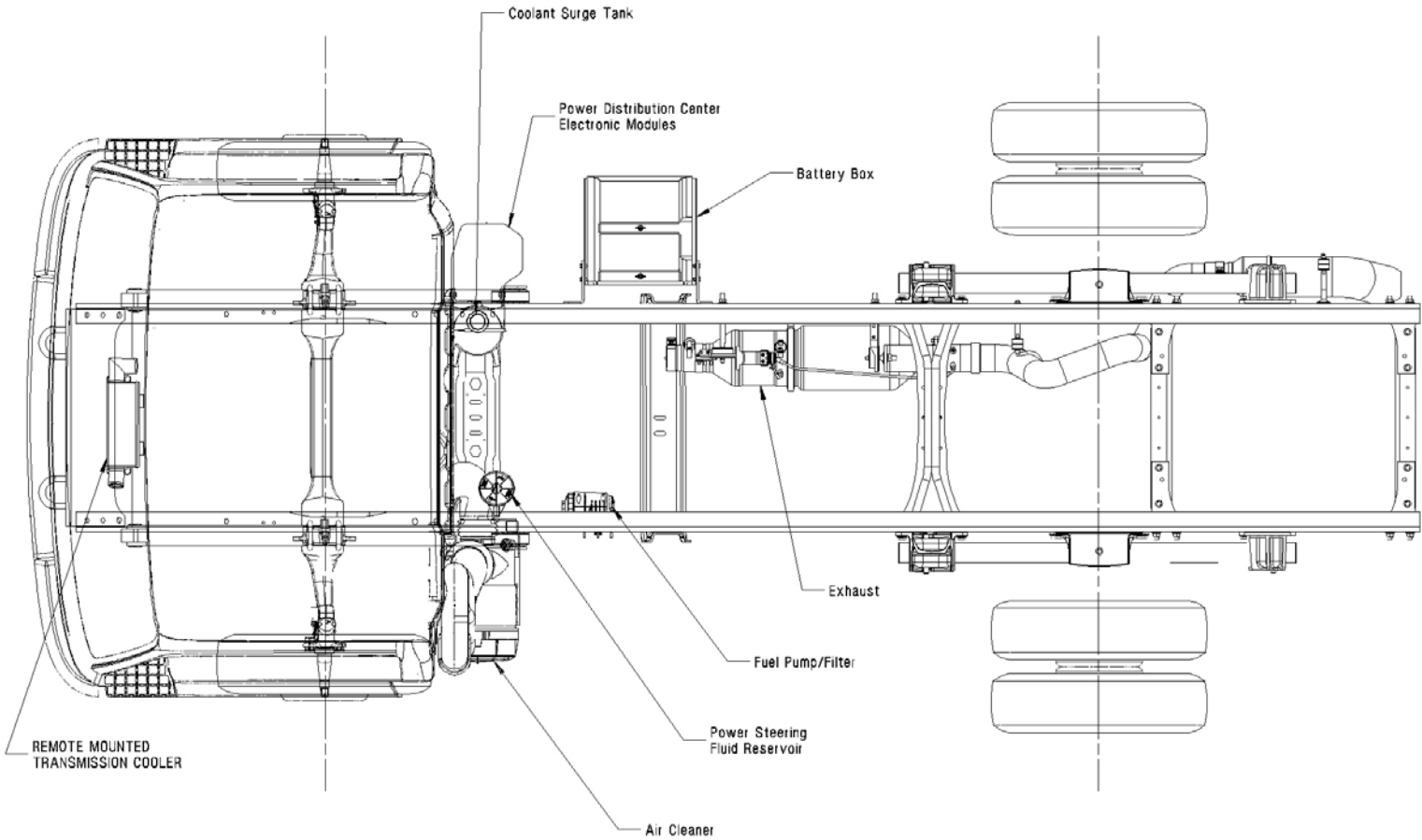
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

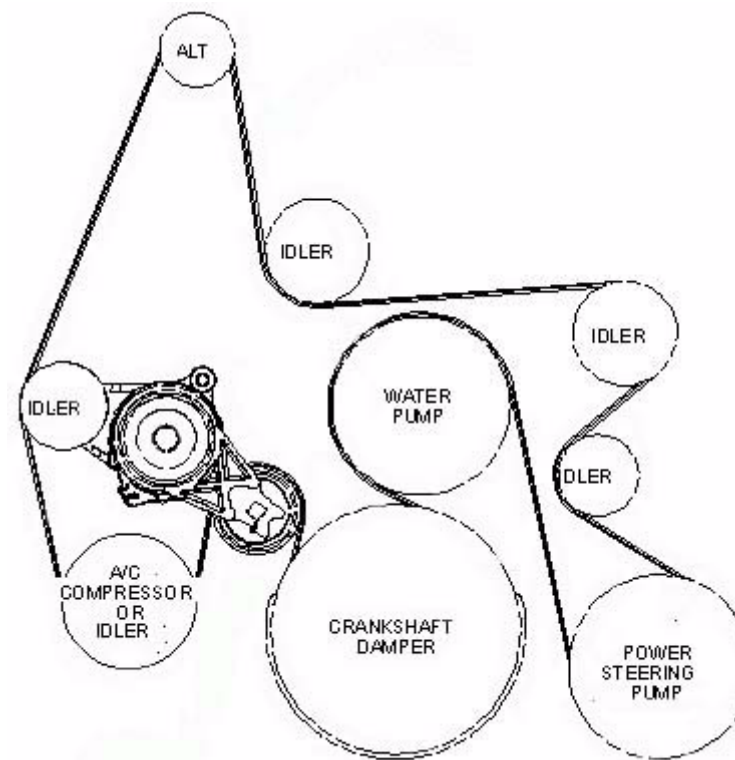
TOP VIEW OF VEHICLE
115" WHEELBASE

2008
MODEL YEAR



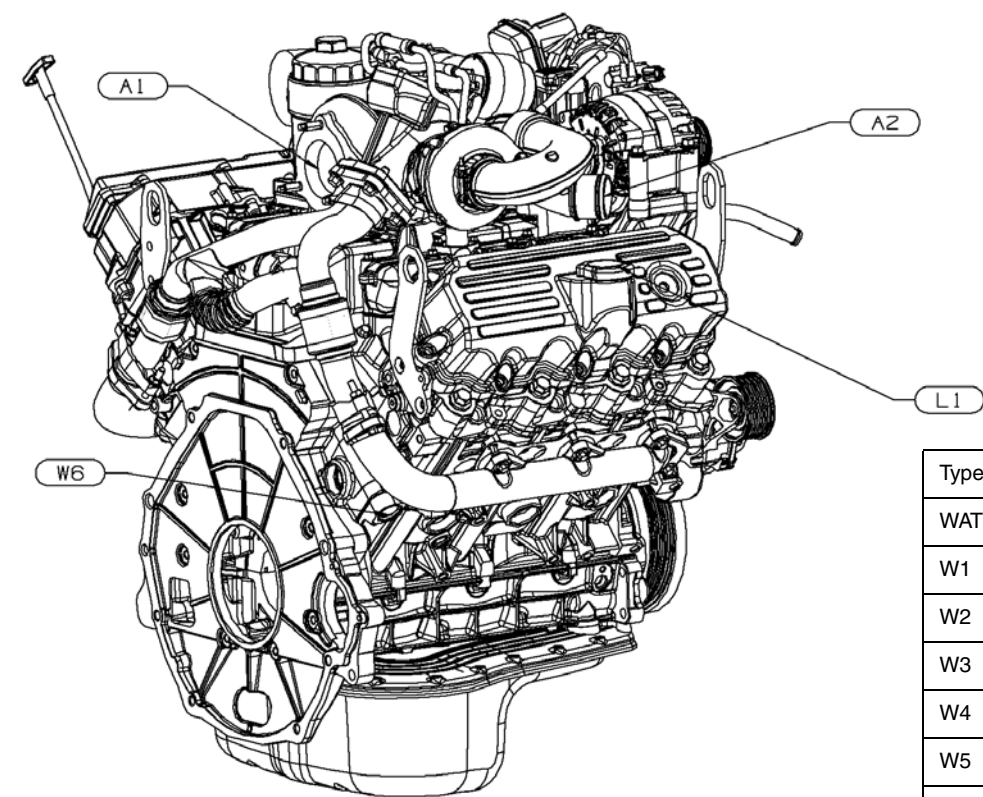
FRONT ENGINE ACCESSORY DRIVE

2008
MODEL YEAR

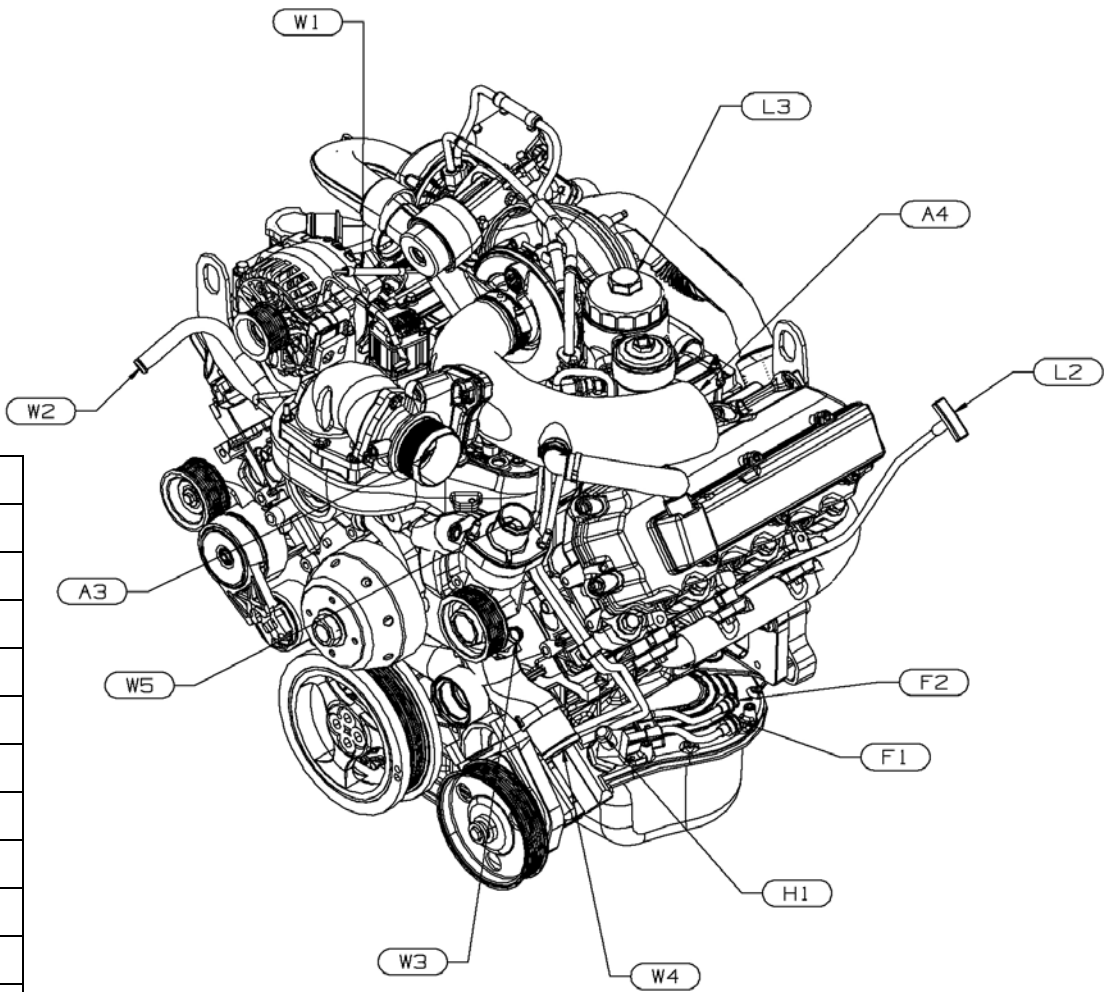


4.5L V6 DIESEL

ENGINE PORTS

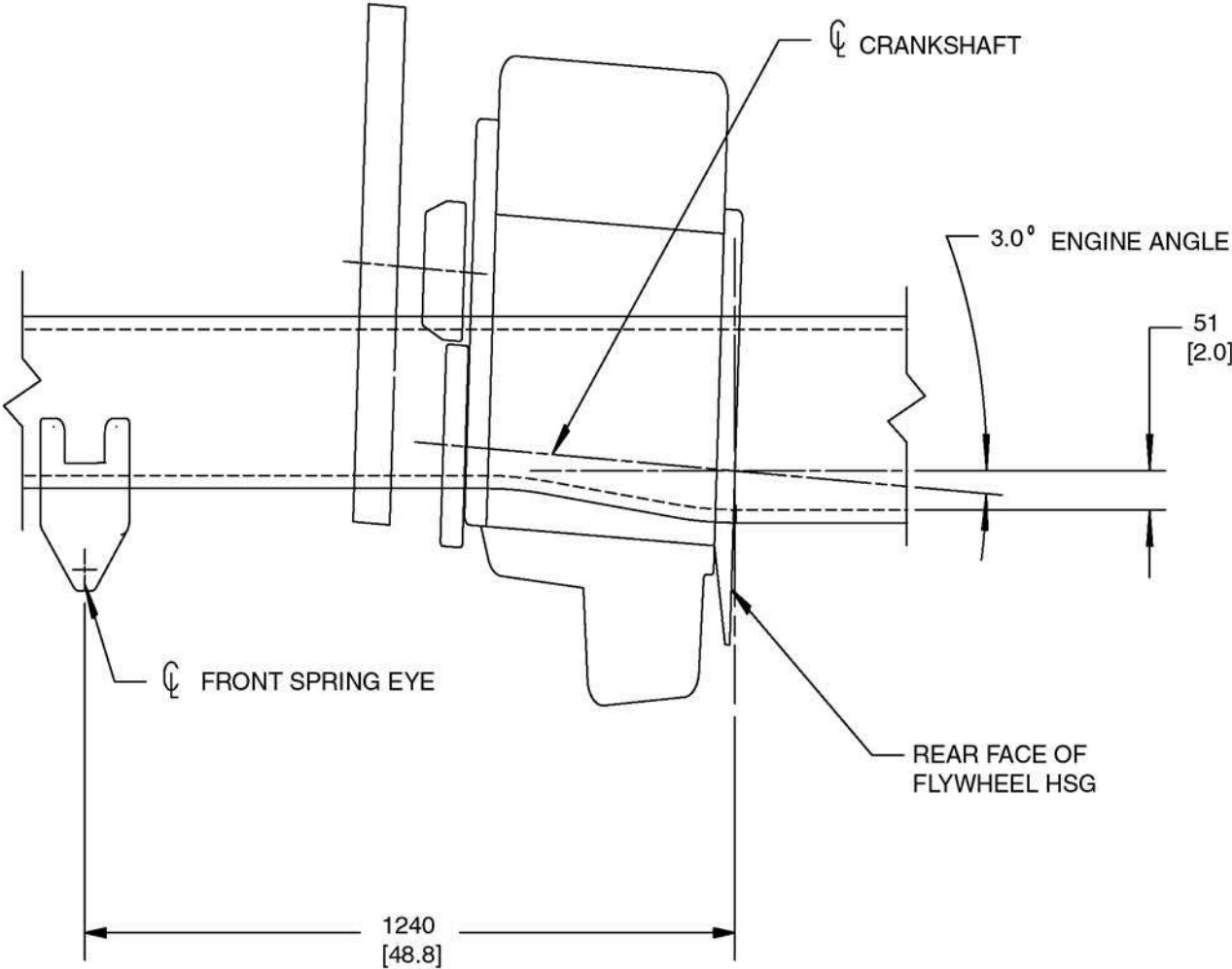
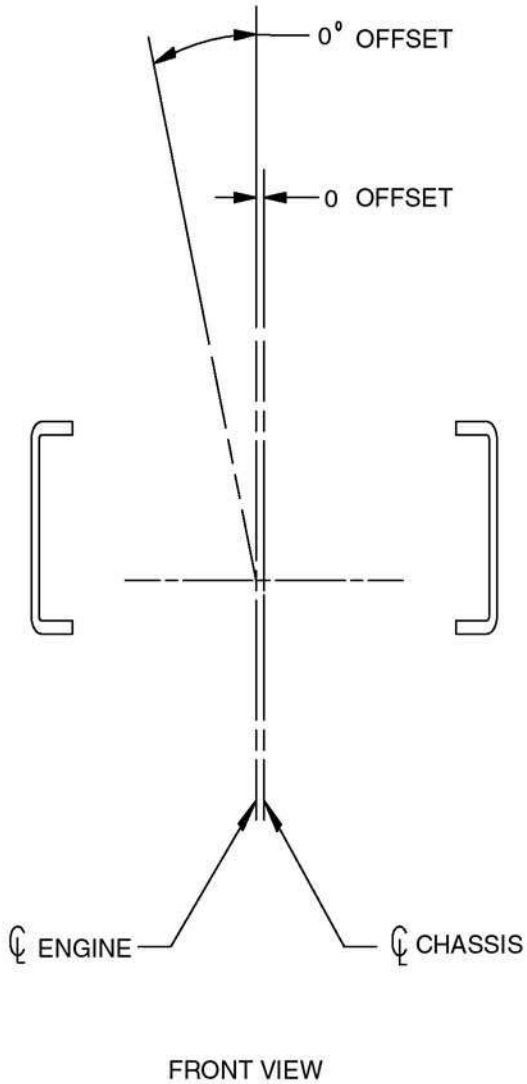


Type	NPTF	USAGE
WATER		
W1	-	Deaeration Supply
W2	-	Heater Supply
W3	-	Heater Return
W4	-	Block Heater
W5	-	Engine Water Inlet
W6	-	Engine Water Outlet
AIR		
A1	-	Turbo Outlet Exhaust
A2	-	Engine Air Outlet to Inter-cooler
A3	-	Engine Air Inlet From Inter-cooler
A4	-	Engine Air Inlet from Air-Cleaner
OIL		
L1	-	Engine Oil Fill
L2	-	Oil Level Gauge
L3	-	Oil Filter Cap
FUEL		
F1	-	Fuel Supply
F2	-	Fuel Return
HYDRAULIC		
H1	7/8"-14	Power Steering Hydraulic Line



ENGINE LOCATION

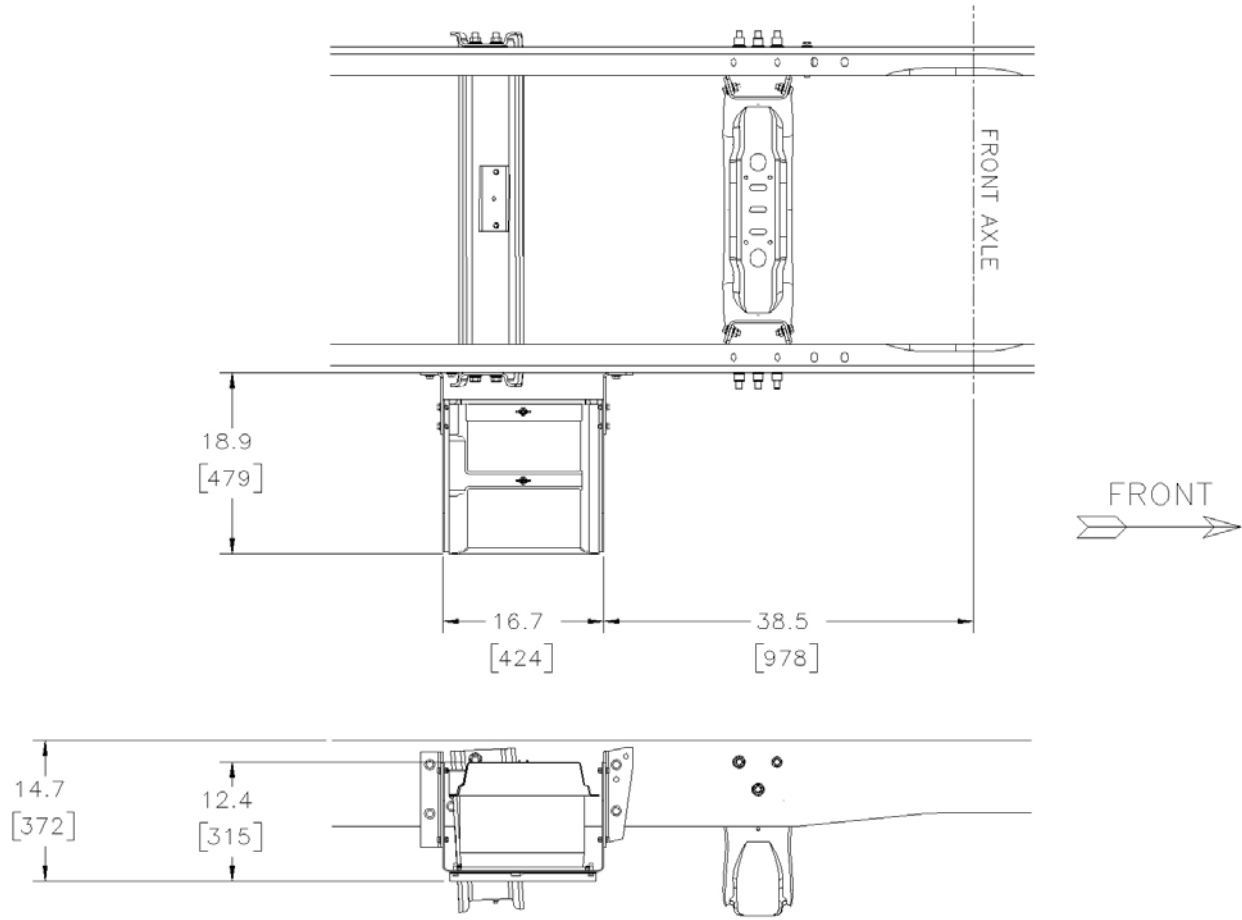
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

BATTERY BOX

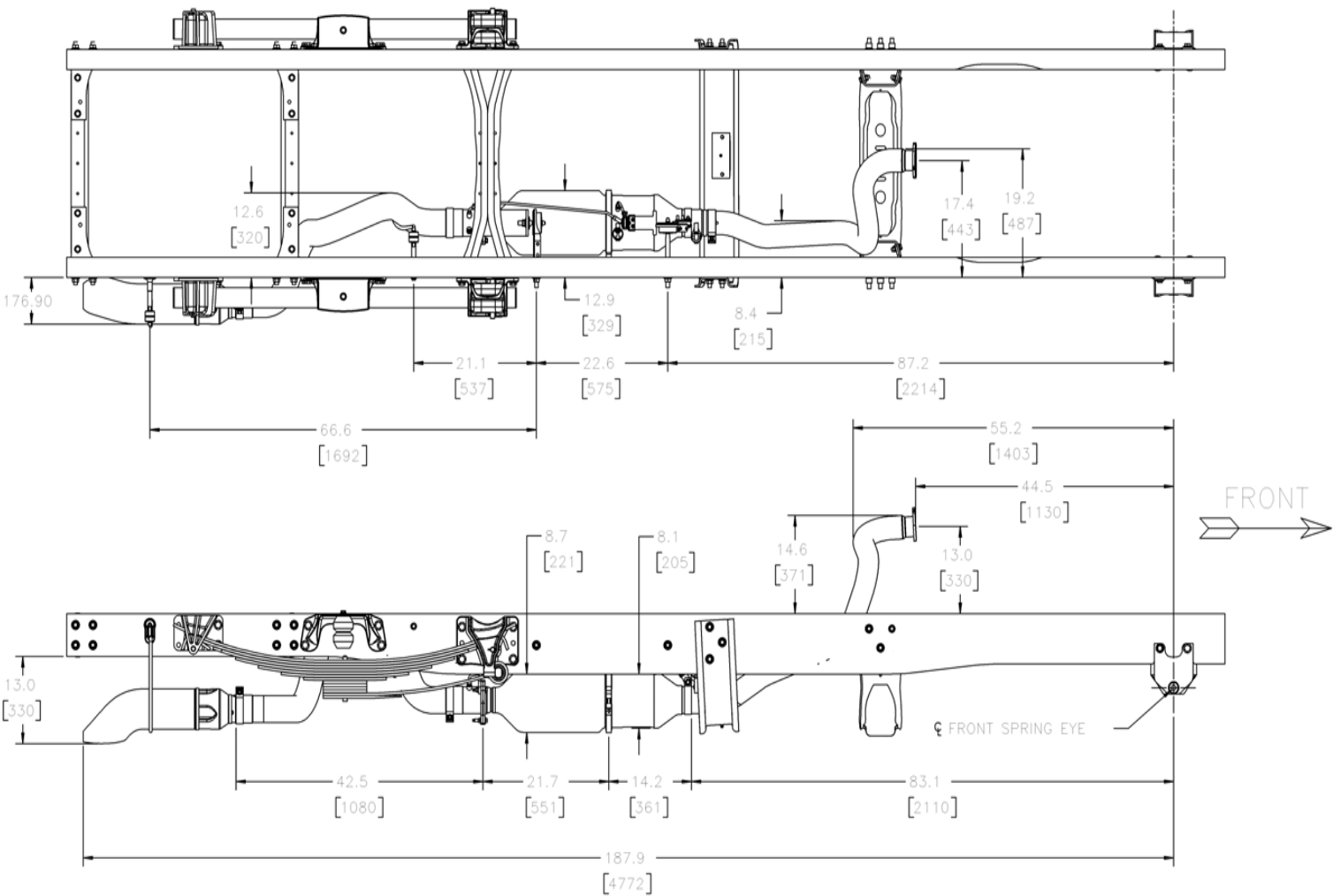
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

EXHAUST
115" WHEELBASE

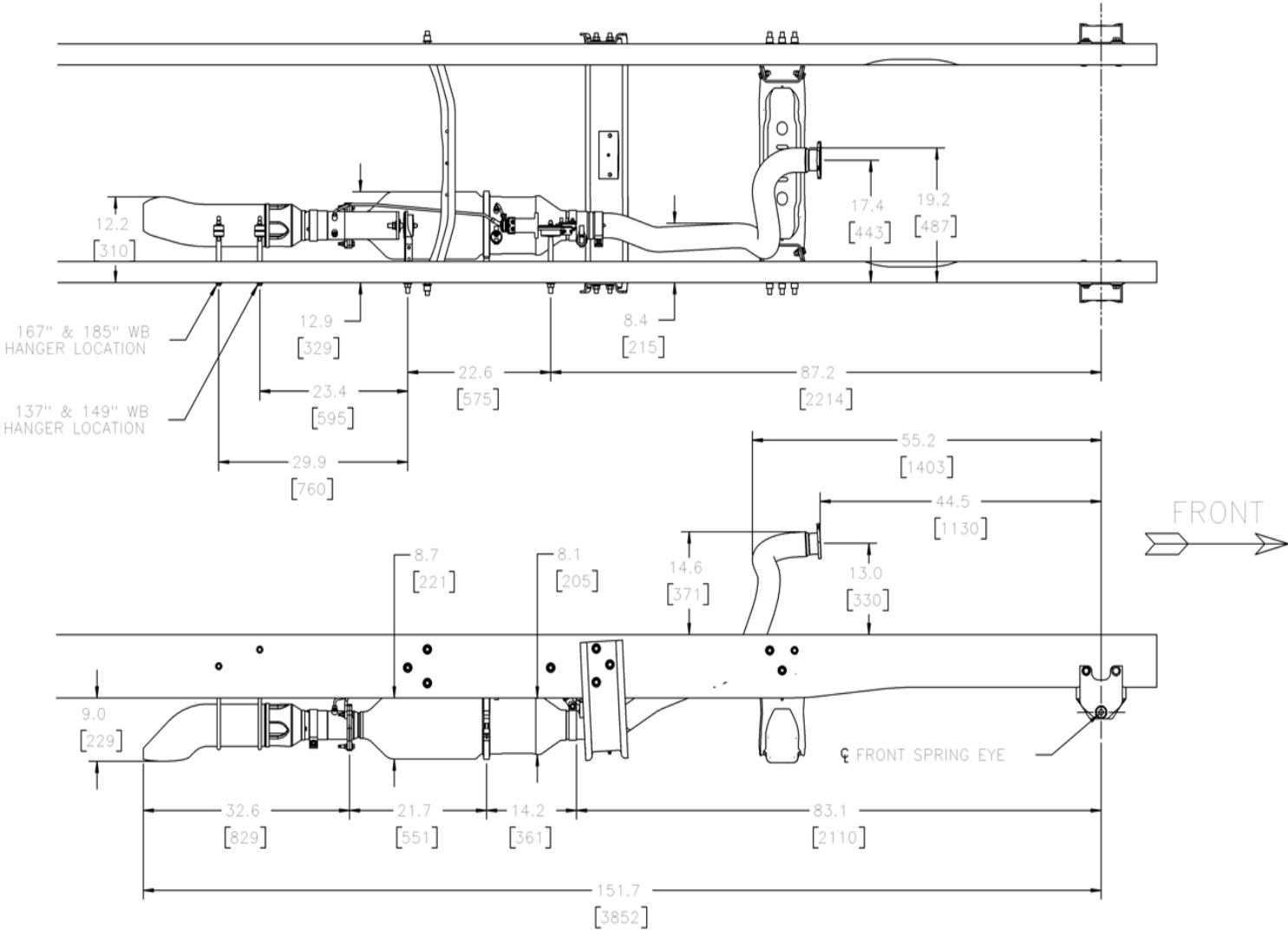
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

EXHAUST
137" - 185" WHEELBASE

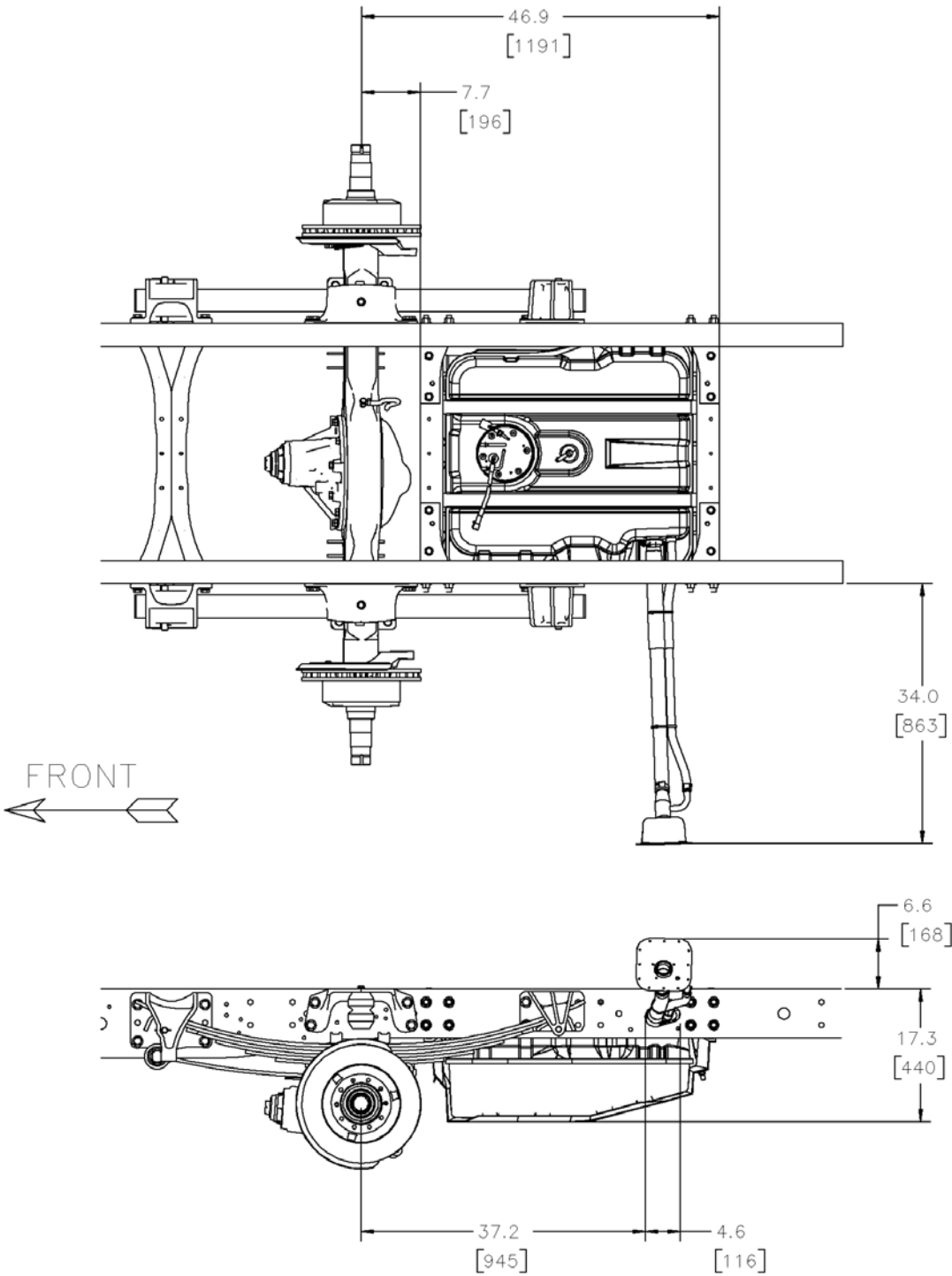
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

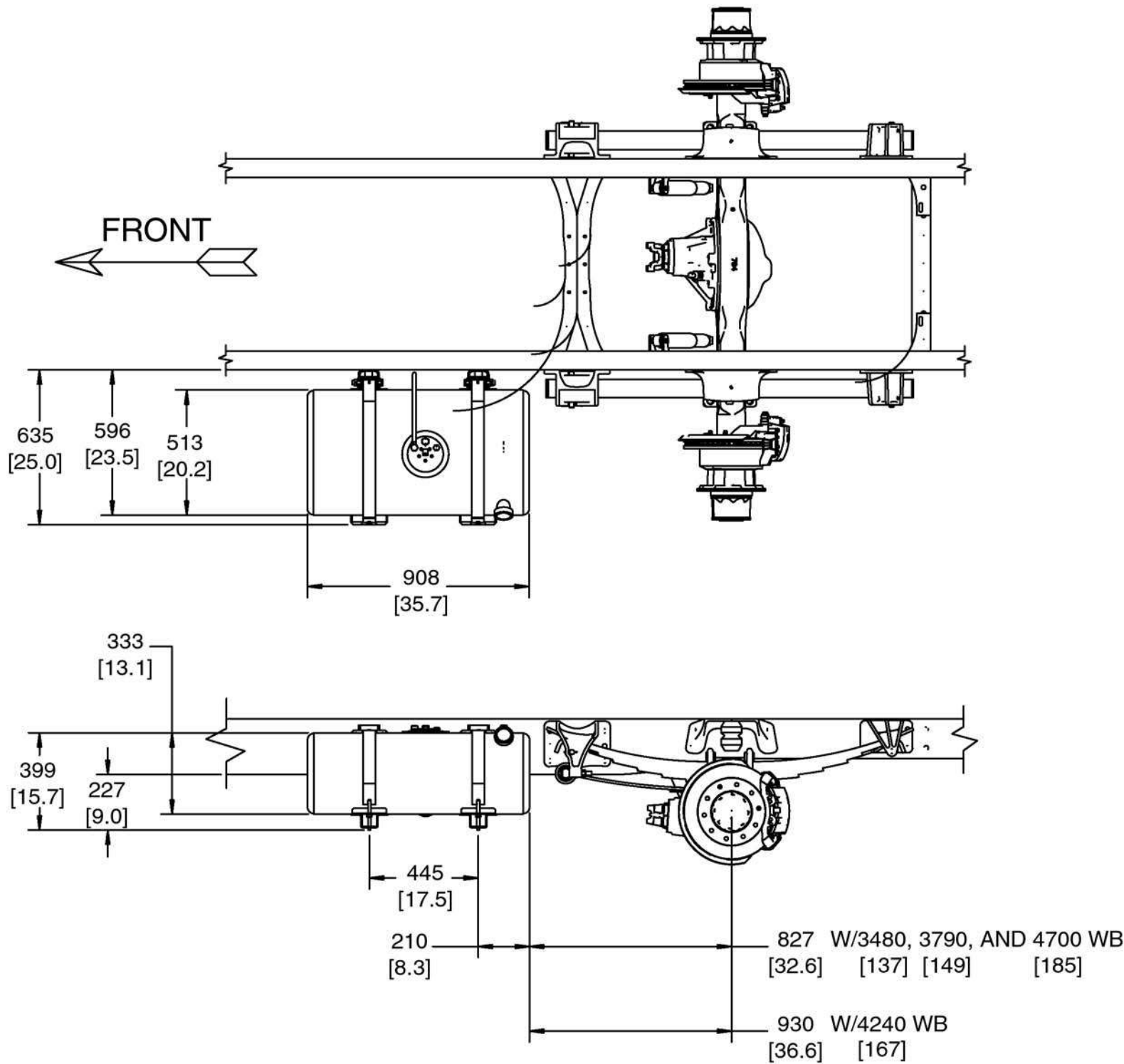
FUEL TANK — BETWEEN THE RAILS

2008
MODEL YEAR



FUEL TANK — LEFT HAND FRAME-MOUNTED

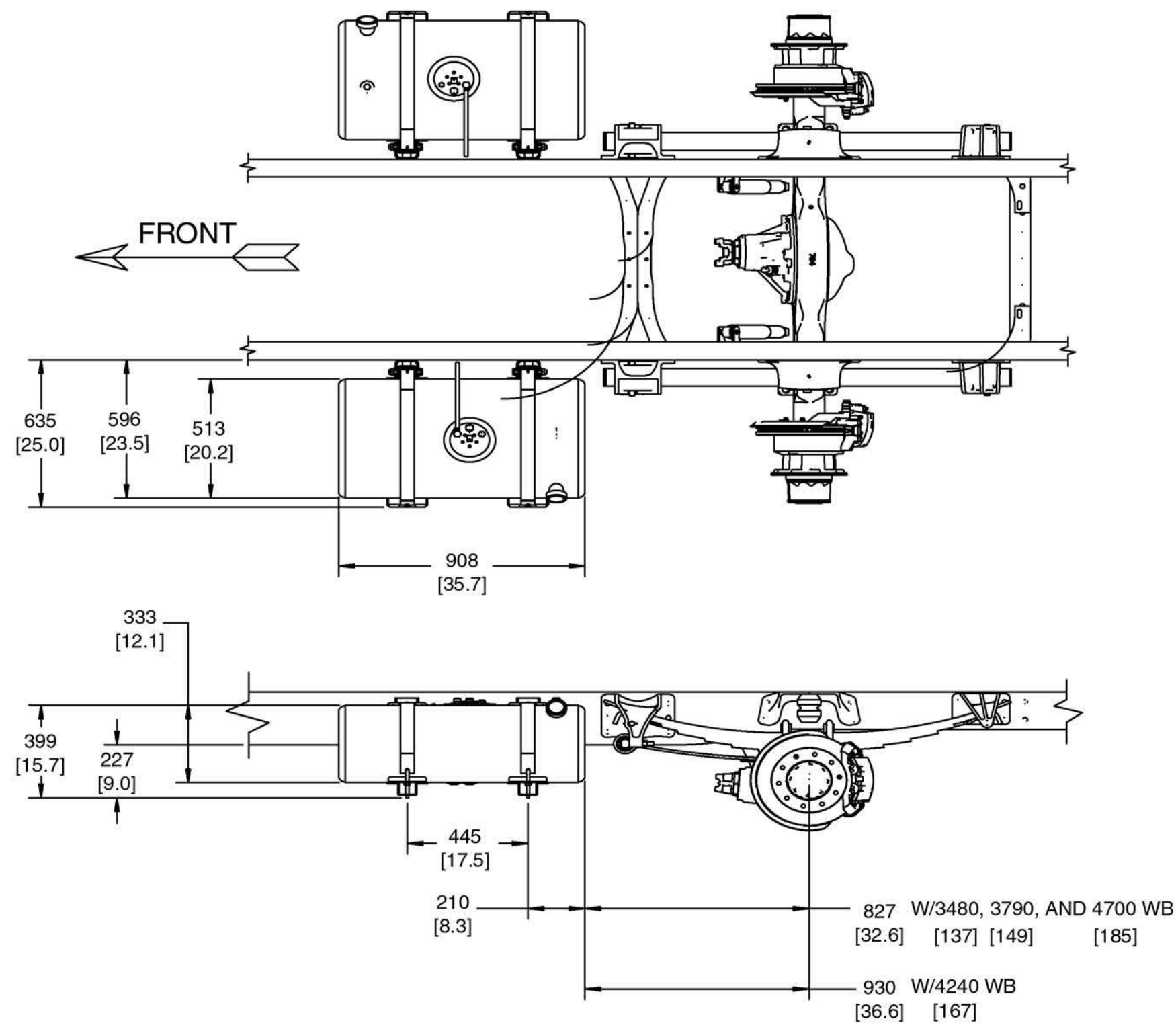
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

FUEL TANKS — DUAL FRAME-MOUNTED

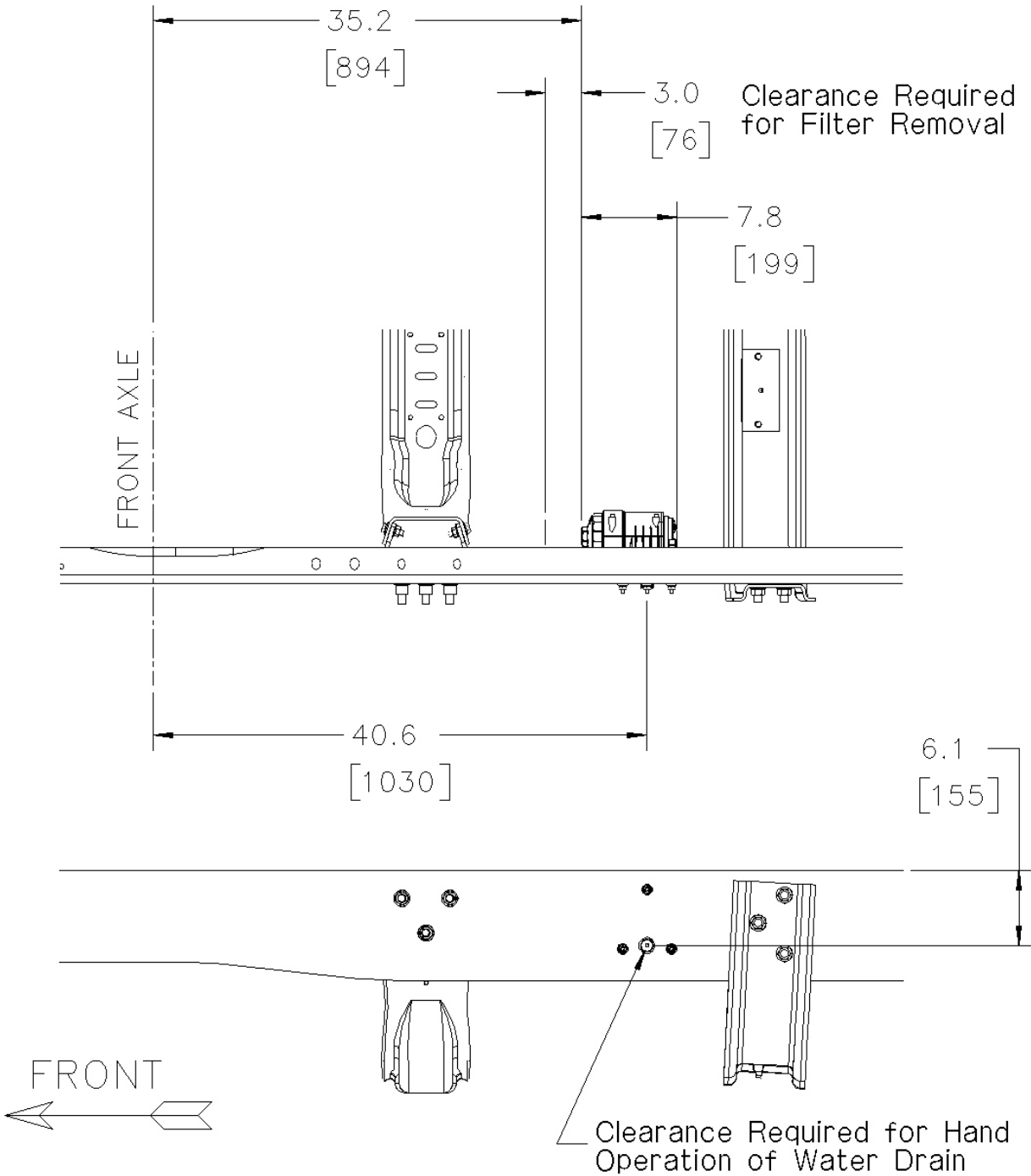
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

HORIZONTAL FUEL CONDITIONING MODULE (HFCM)

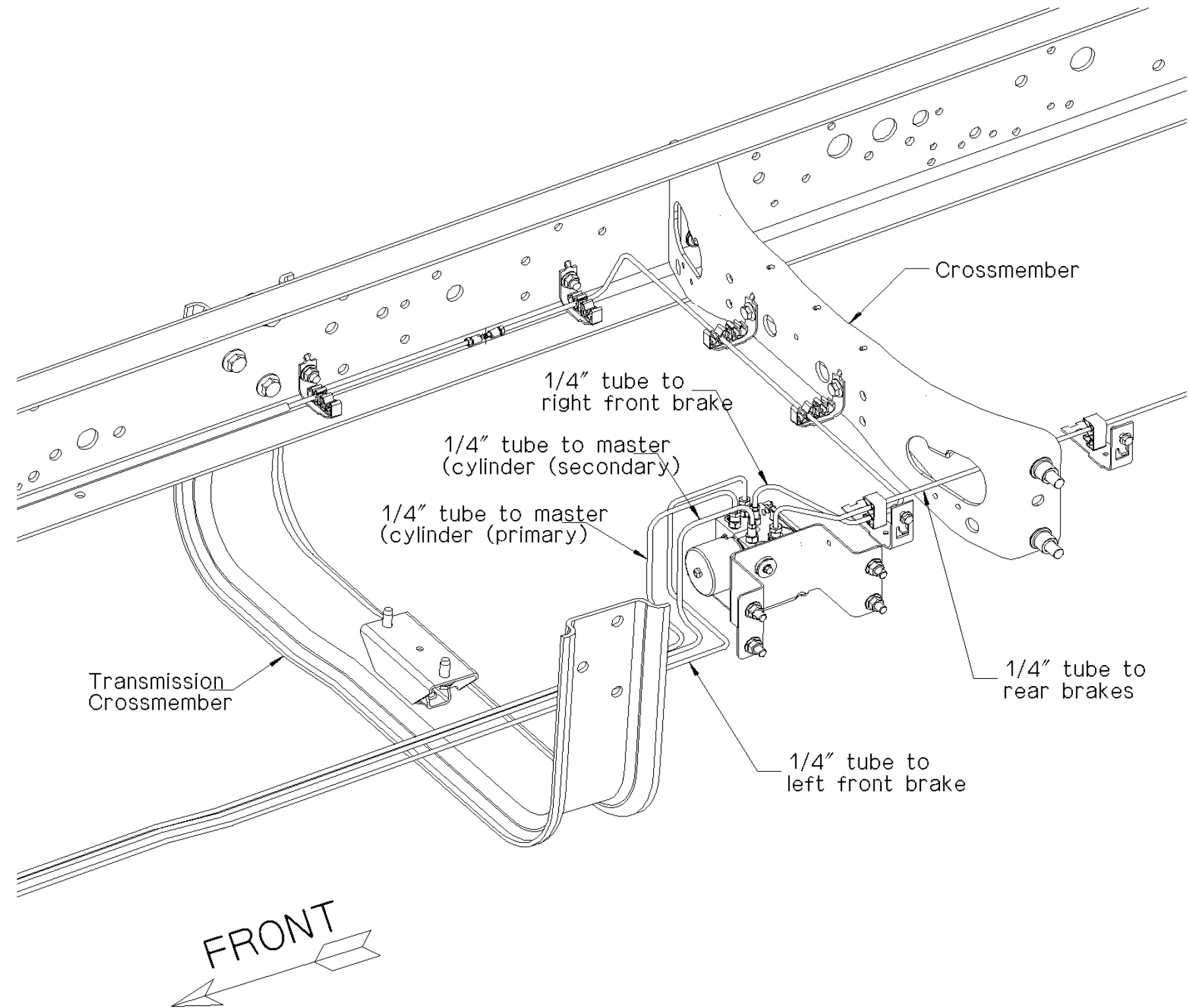
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

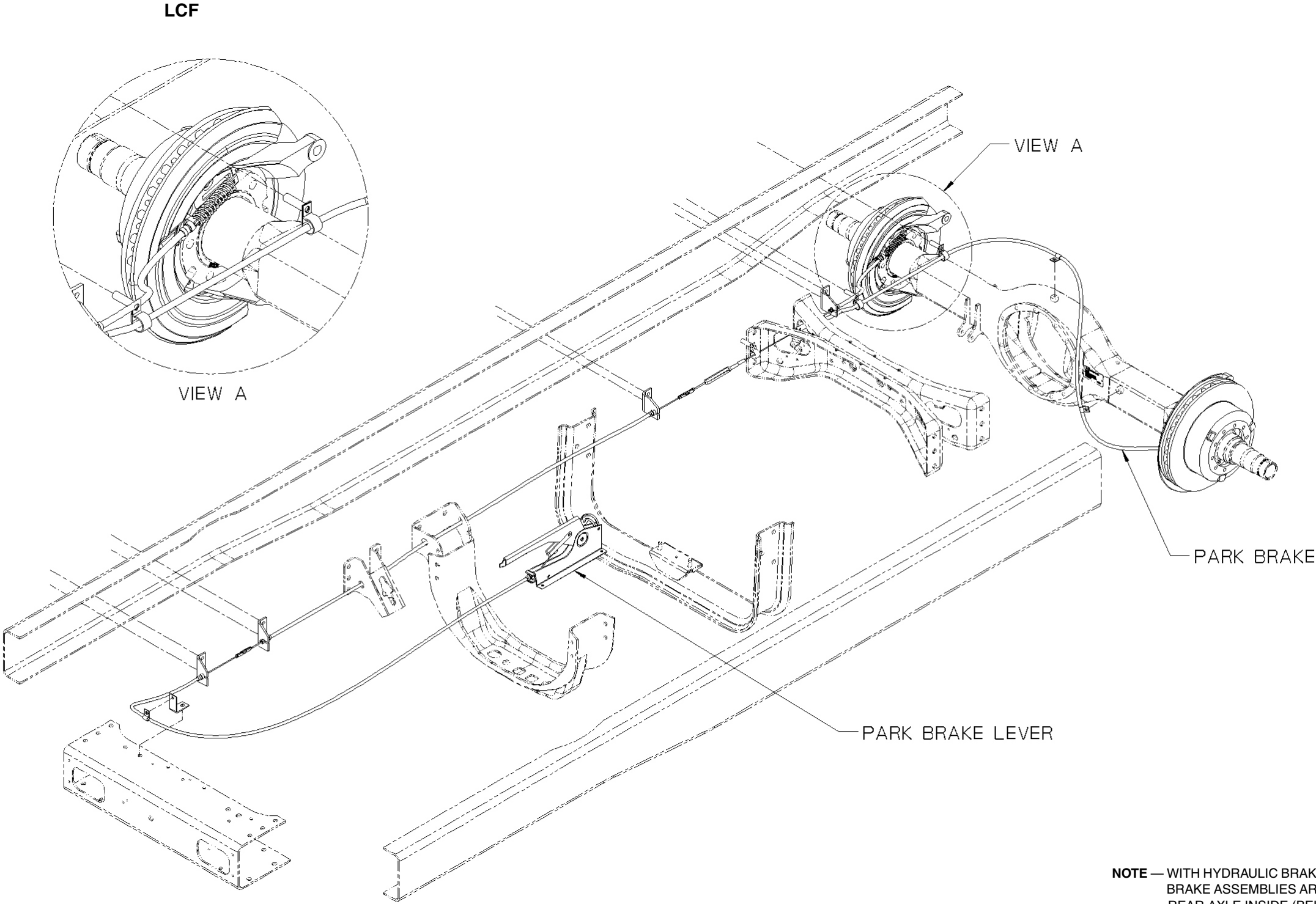
HYDRAULIC CONTROL UNIT

2008
MODEL YEAR



PARKING BRAKE

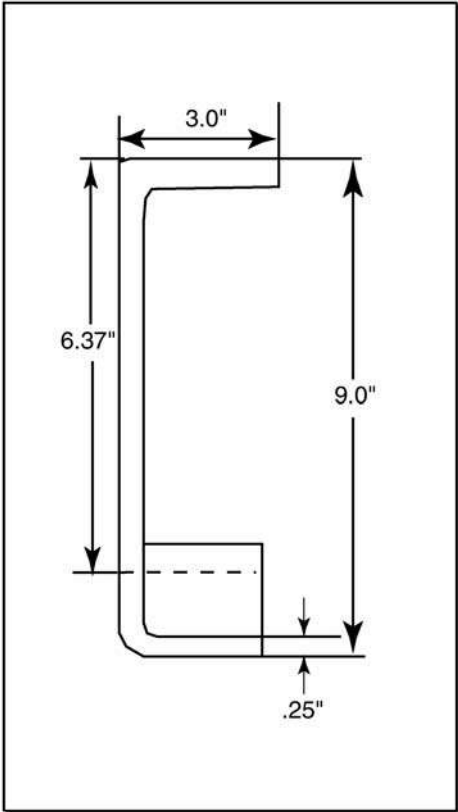
2008
MODEL YEAR



NOTE — WITH HYDRAULIC BRAKES, THE PARK BRAKE ASSEMBLIES ARE ATTACHED TO THE REAR AXLE INSIDE (BEHIND) THE ROTOR. THEY ARE MECHANICALLY ACTUATED THROUGH THE USE OF A FIVE-SECTION CABLE. DUE TO THE CONSTRUCTION OF THE CABLES, IT IS NOT POSSIBLE TO ALTER THE LENGTH.

FRAME RAIL SPECIFICATIONS

2008
MODEL YEAR

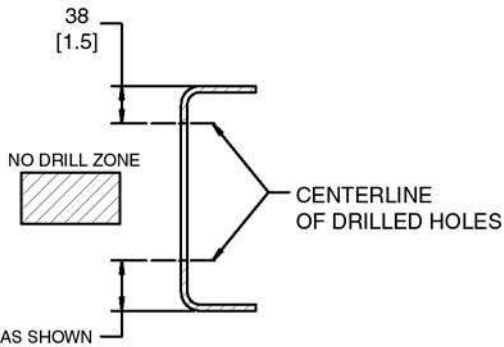
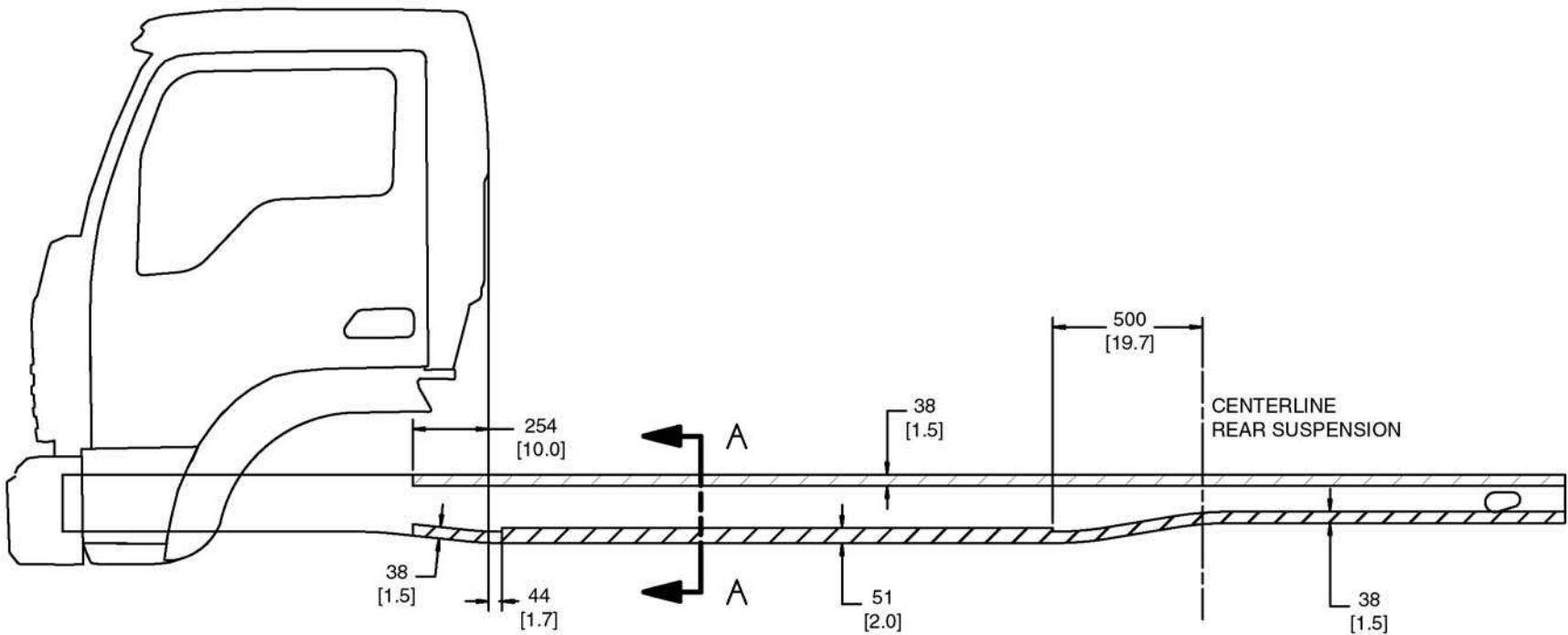


	Side Rail								
	DIMENSIONS (inches)			YIELD STRENGTH NOMINAL (psi)	MATERIAL #	SECTION MODULUS ¹ (inches³)		RESISTING BENDING MOMENT (in.-lbs.)	
	Depth	Width	Thickness			Maximun	Nominal	Maximun	Design
All Frame Rail Codes	Straight Channel Side Rail - Kick-up at Rear Suspension Rearward								
	9.0	3.0	0.25	50,000	B	10.67	9.23	533,500	461,500

NOTE:
B = High Strength Low Alloy Steel
[1]= **Section Modulus:**
 Maximum Tolerance: All frame dimensions are at maximum tolerance; used by some competitors as advertised values.
 Nominal: Calculated using design dimensions - indicates the design load capacity of the frame.
[3]= Rail depth given is for base rail . . . kick-up in AF section is 6.37".
Refer to Bulletin Q-140 for frame modification recommendations

FRAME — DRILLING RESTRICTIONS

2008
MODEL YEAR



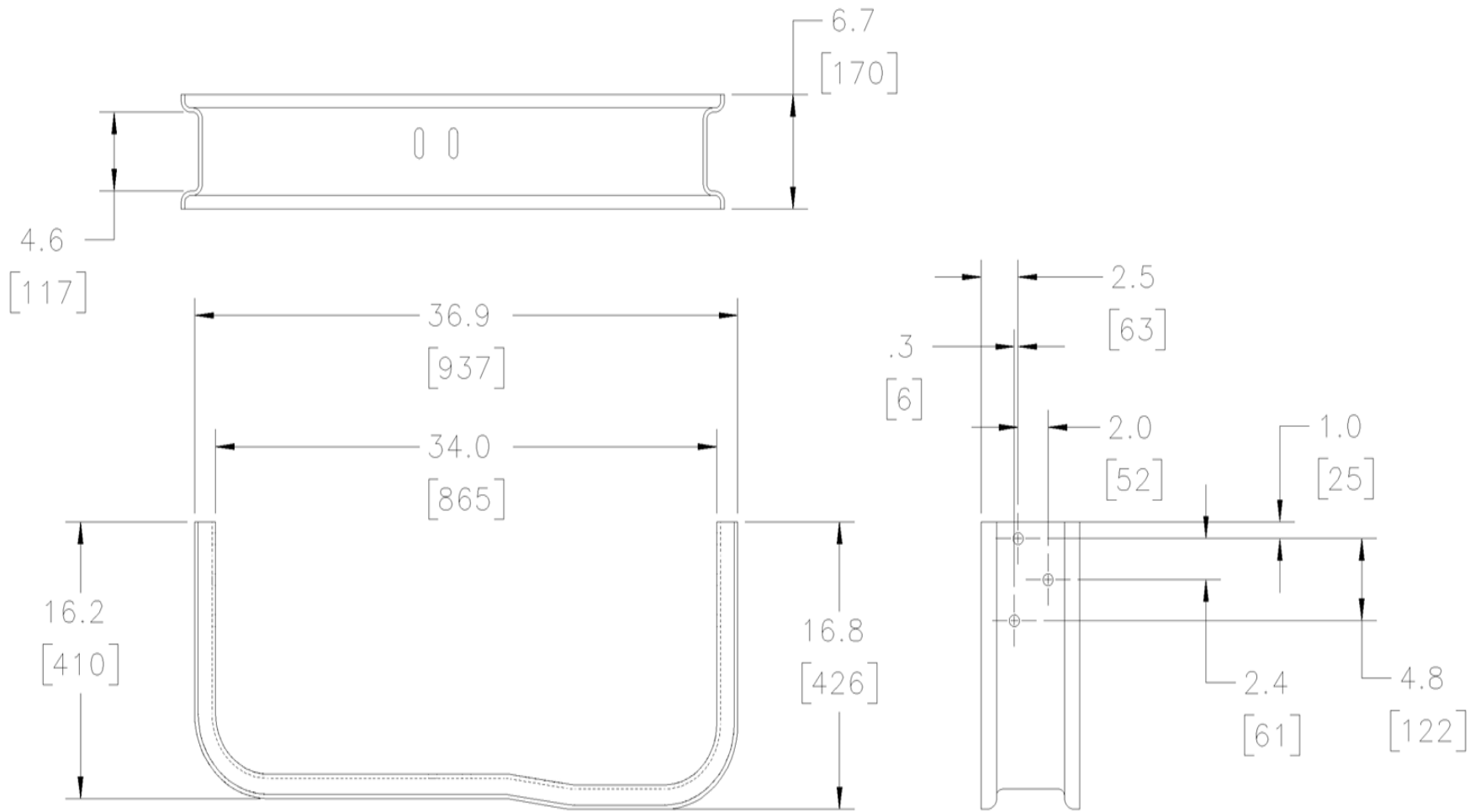
- DO NOT** Leave Less Than .75" [19 mm] of Material Between Holes
- DO NOT** Drill Holes in the Following Areas:
- Distance from Top of Top Flange to Centerline of Hole
 - Distance from Bottom of Bottom Flange to Centerline of Hole

Refer to Bulletin Q-140 for frame modification recommendations.

NOTE — [] DIMENSIONS ARE INCHES.

FRAME CROSSMEMBER

2008
MODEL YEAR

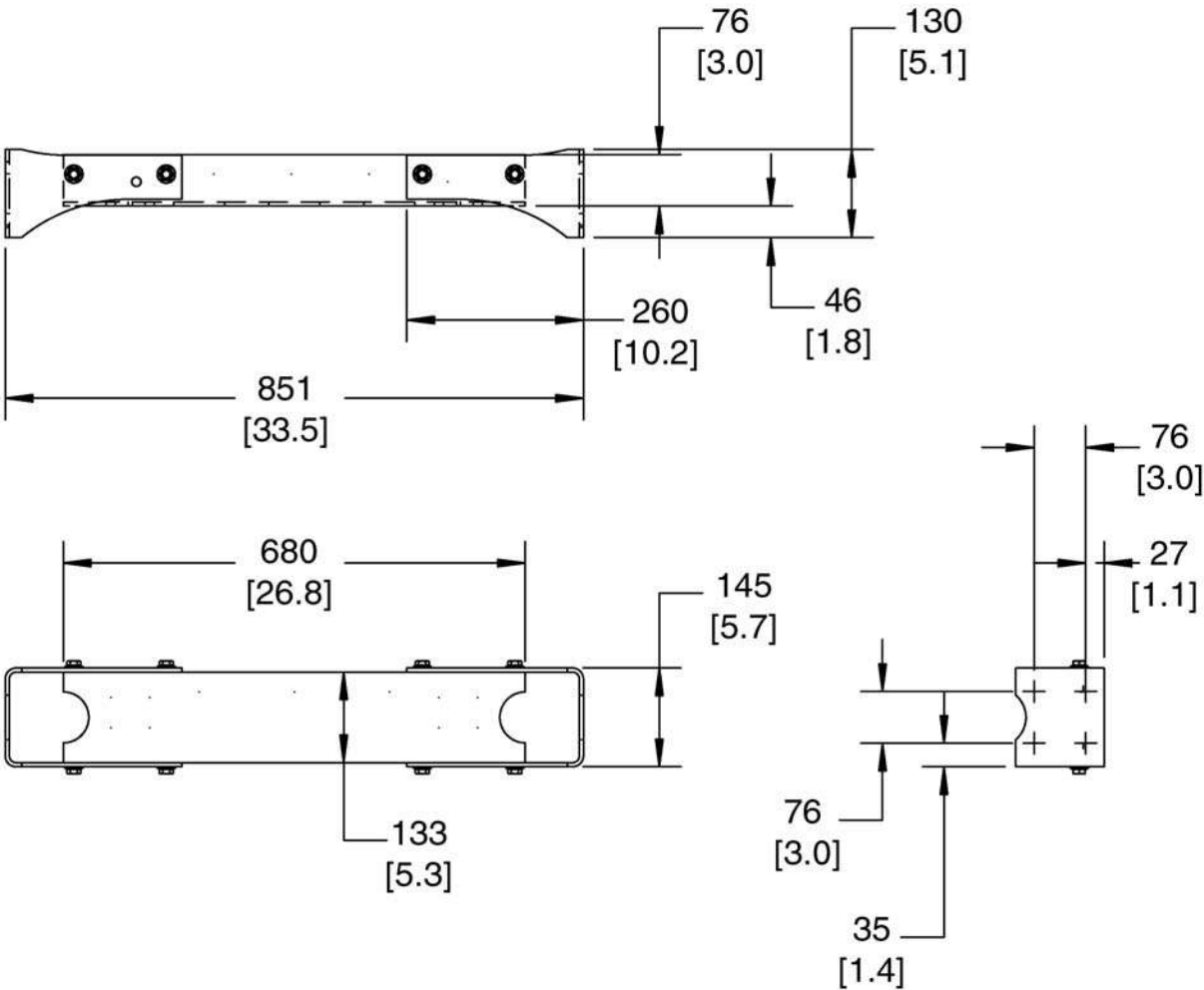


TRANSMISSION

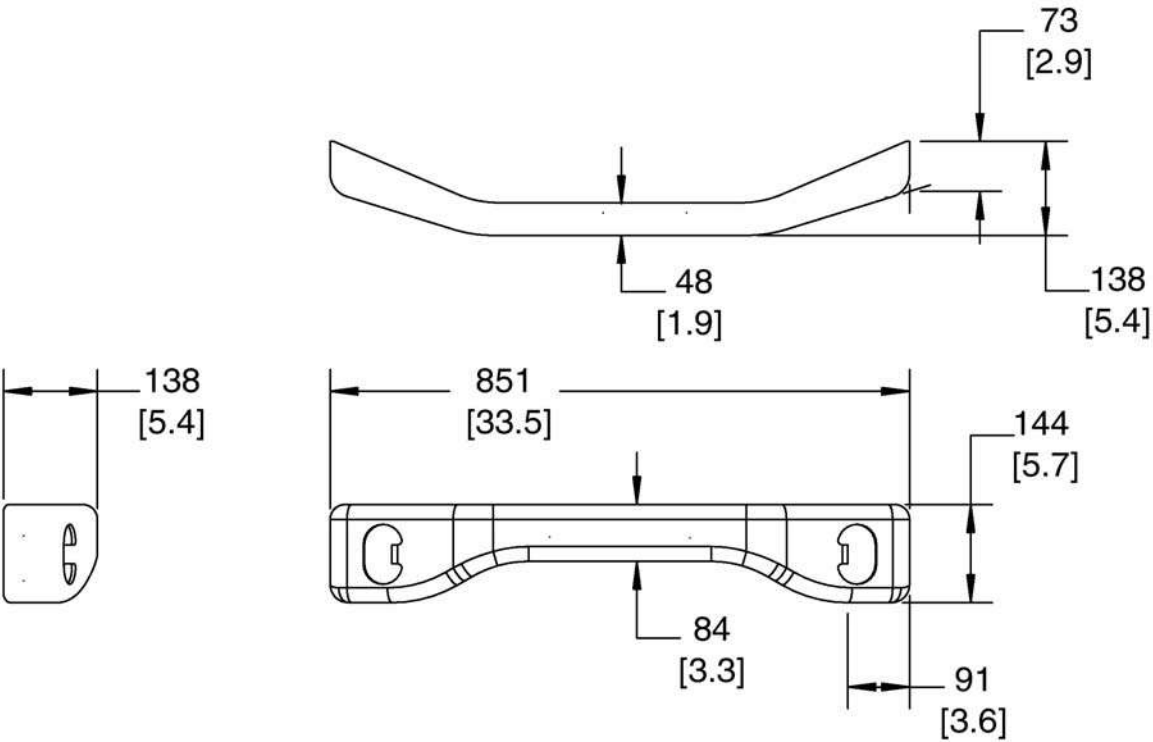
NOTE — [] DIMENSIONS ARE INCHES.

FRAME CROSSMEMBER

2008
MODEL YEAR



REAR SUSPENSION/BETWEEN THE RAILS FUEL TANK

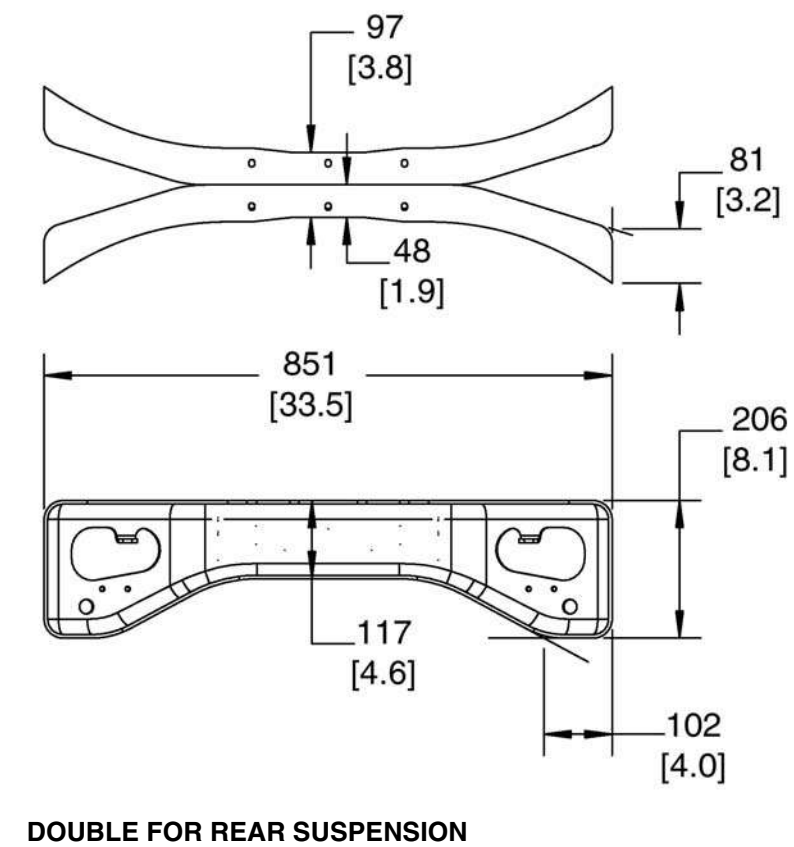
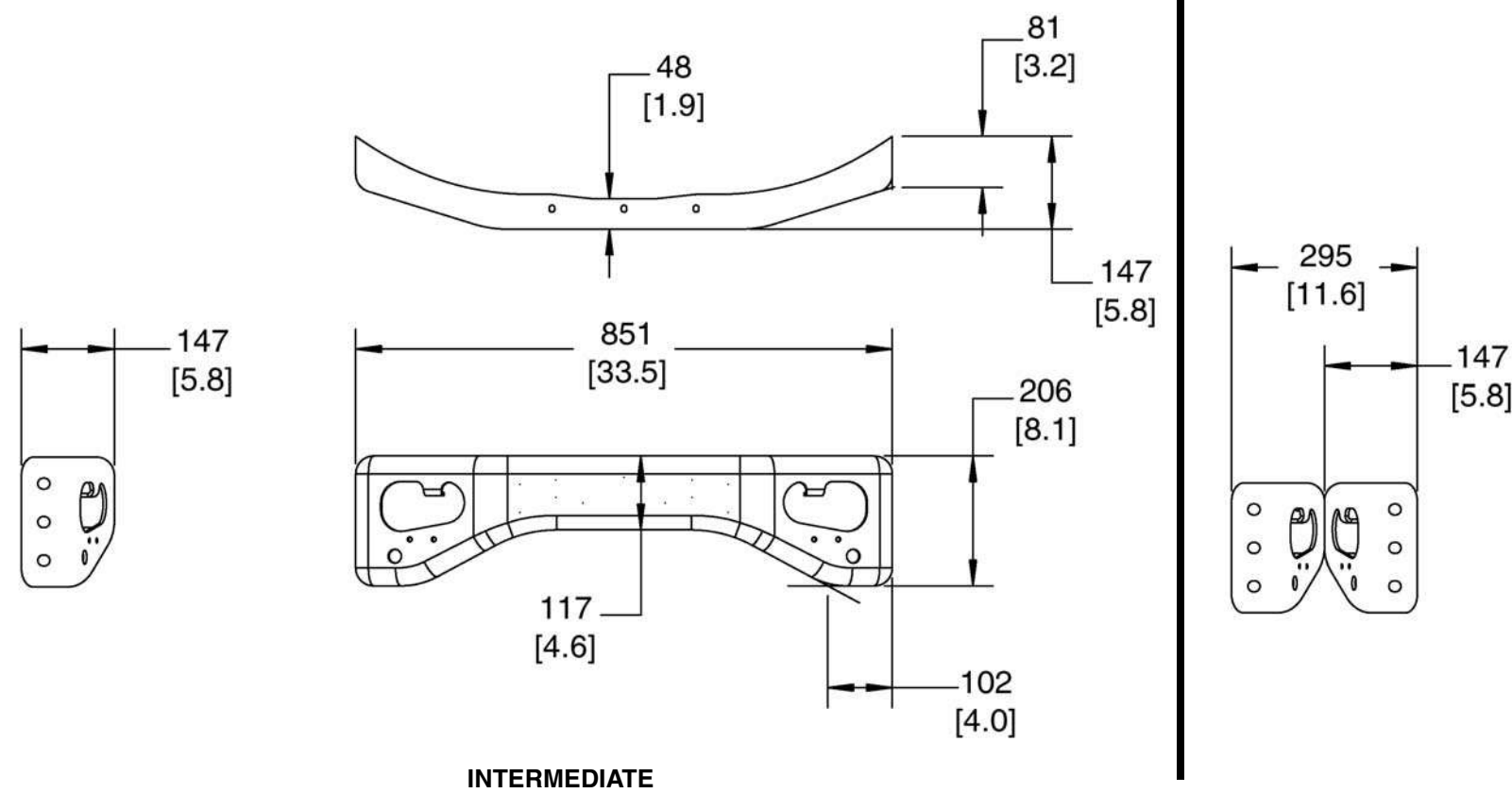


AFT FRAME

NOTE — [] DIMENSIONS ARE INCHES.

FRAME CROSSMEMBER

2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

FRAME CROSSMEMBER LOCATION — FRAME LADDER

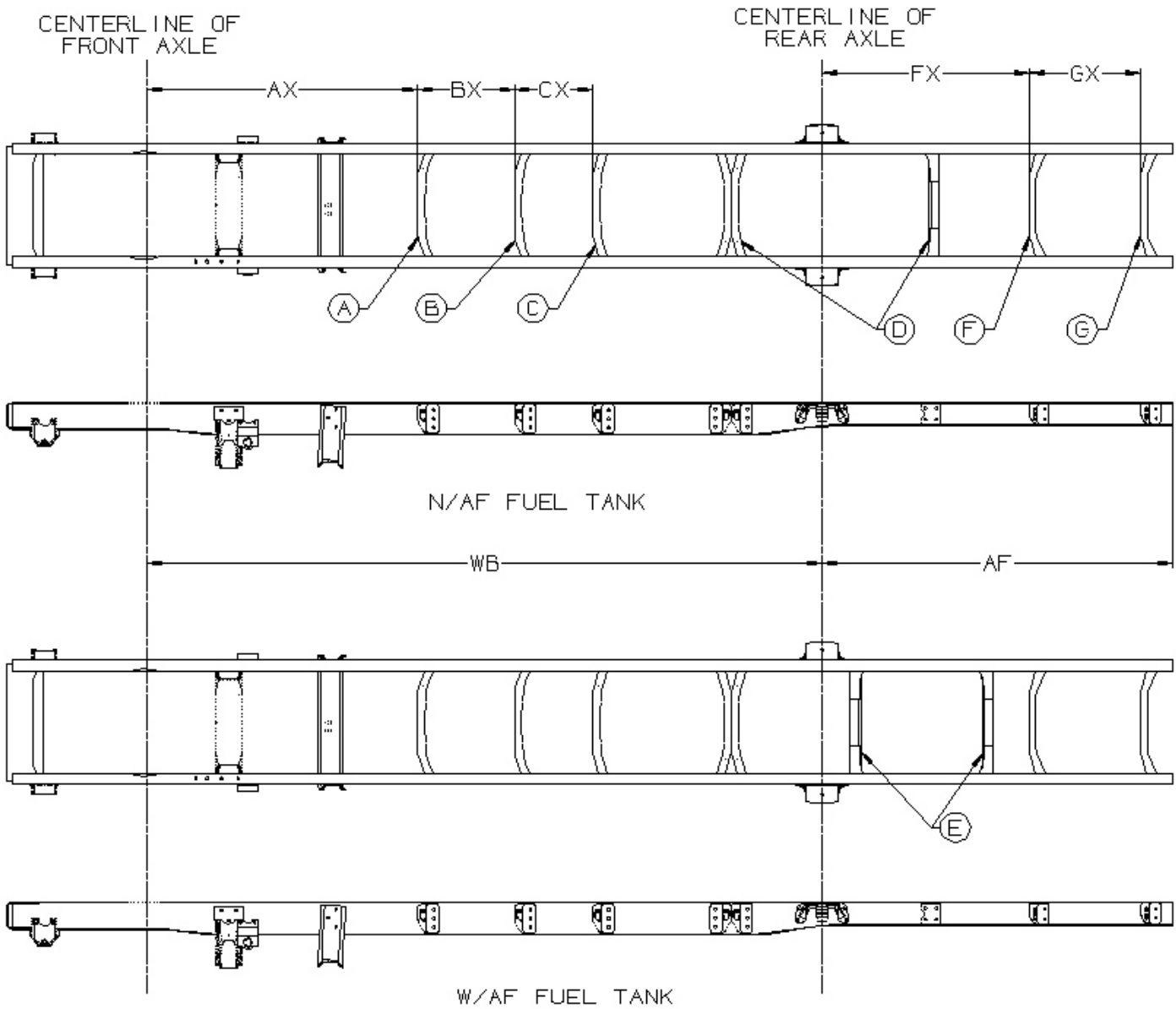
2008
MODEL YEAR

WB	AX	BX	CX
INCHES			
115	-	-	-
137	74	-	-
149	74	12	-
167	74	26	-
185	74	27	21

WB	AX	BX	CX
MILLIMETERS			
2920	-	-	-
3480	1885	-	-
3790	1885	305	-
4240	1885	657	-
4700	1885	674	545

AF	FX	GX
INCHES		
47.5	-	-
66	-	-
75	57	-
96	57	31

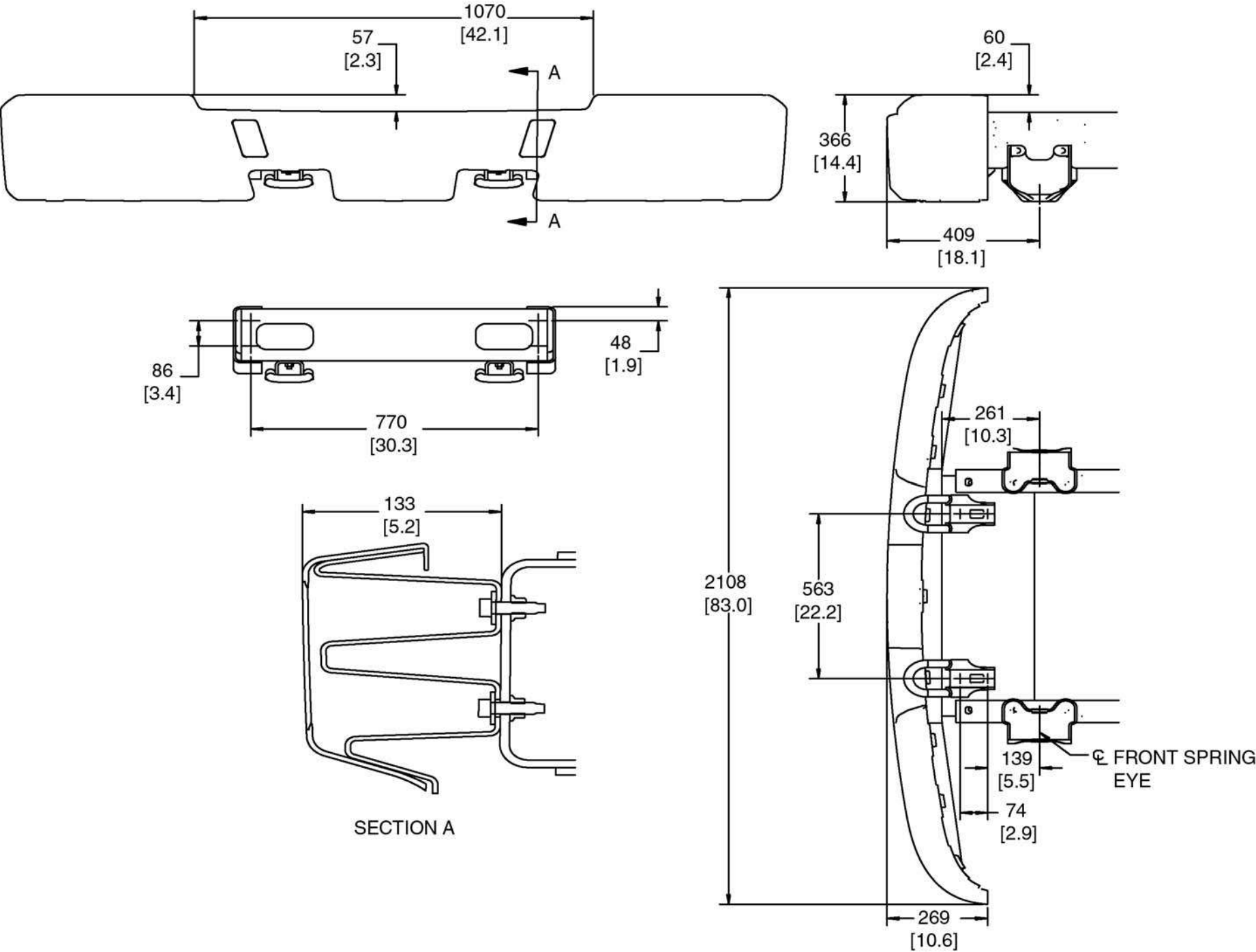
AF	FX	GX
MILLIMETERS		
1210	-	-
1600	-	-
1910	1437	-
2440	1437	776



- (A)(B)(C) SINGLE STAMPED CROSSMEMBER MOUNTED WITH FLAT FLANGE UP AND WEB FORWARD
- (D) REAR SUSPENSION CROSSMEMBER
- (E) AF FUEL TANK CROSSMEMBER
- (F)(G) SINGLE STAMPED CROSSMEMBER MOUNTED WITH FLAT FLANGE UP AND WEB FORWARD

STANDARD FRONT BUMPER & TOW HOOKS
MOLDED ARGENT

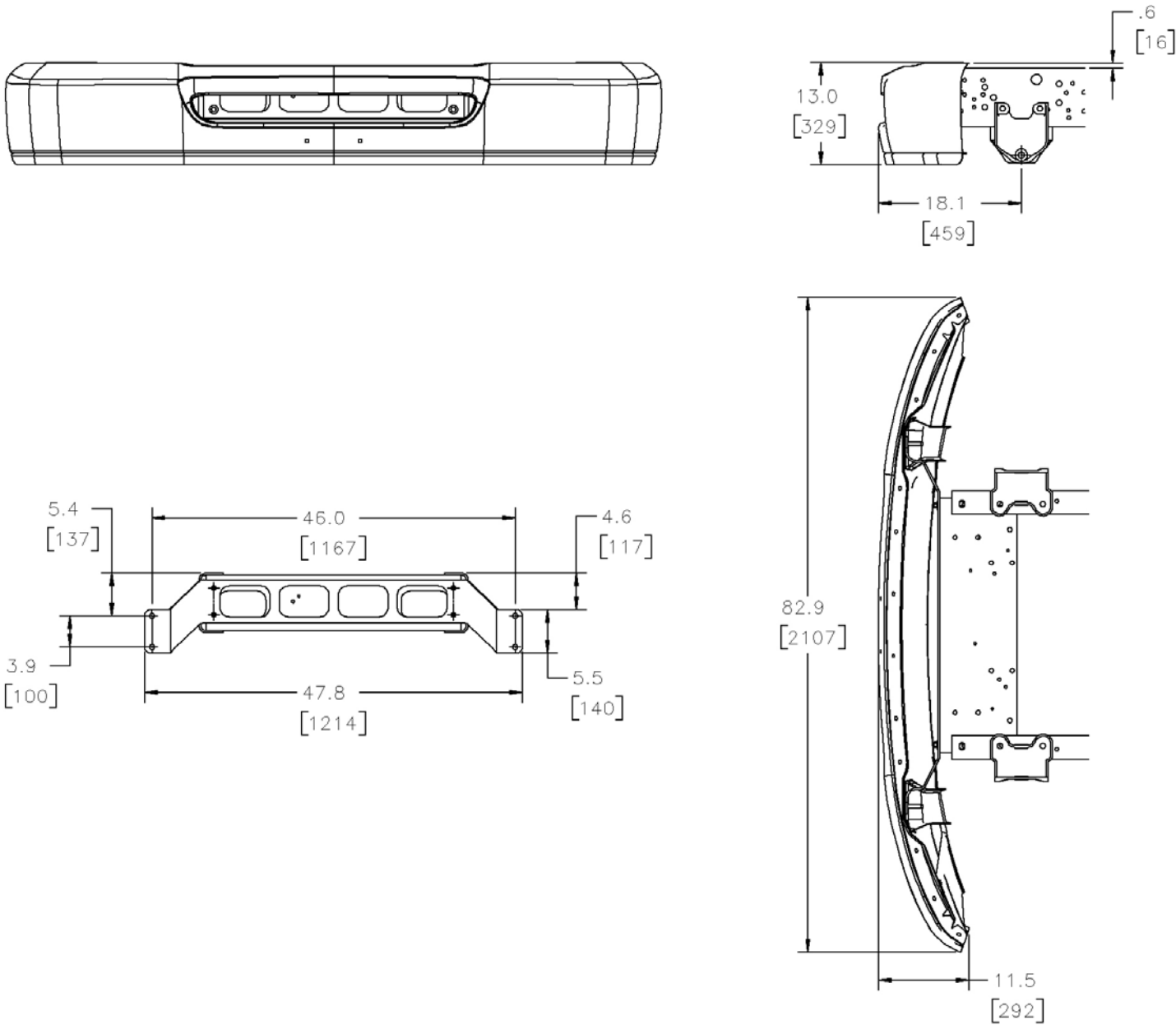
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

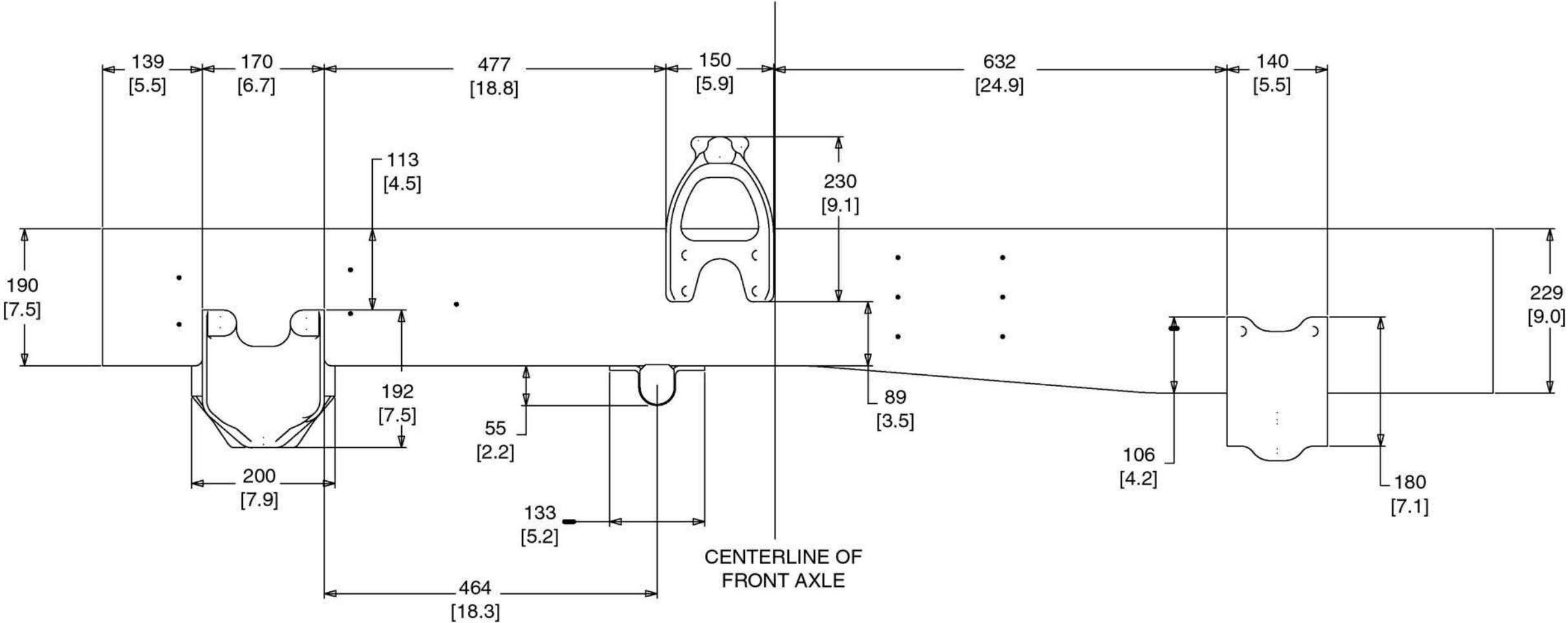
OPTIONAL CHROME FRONT BUMPER

2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

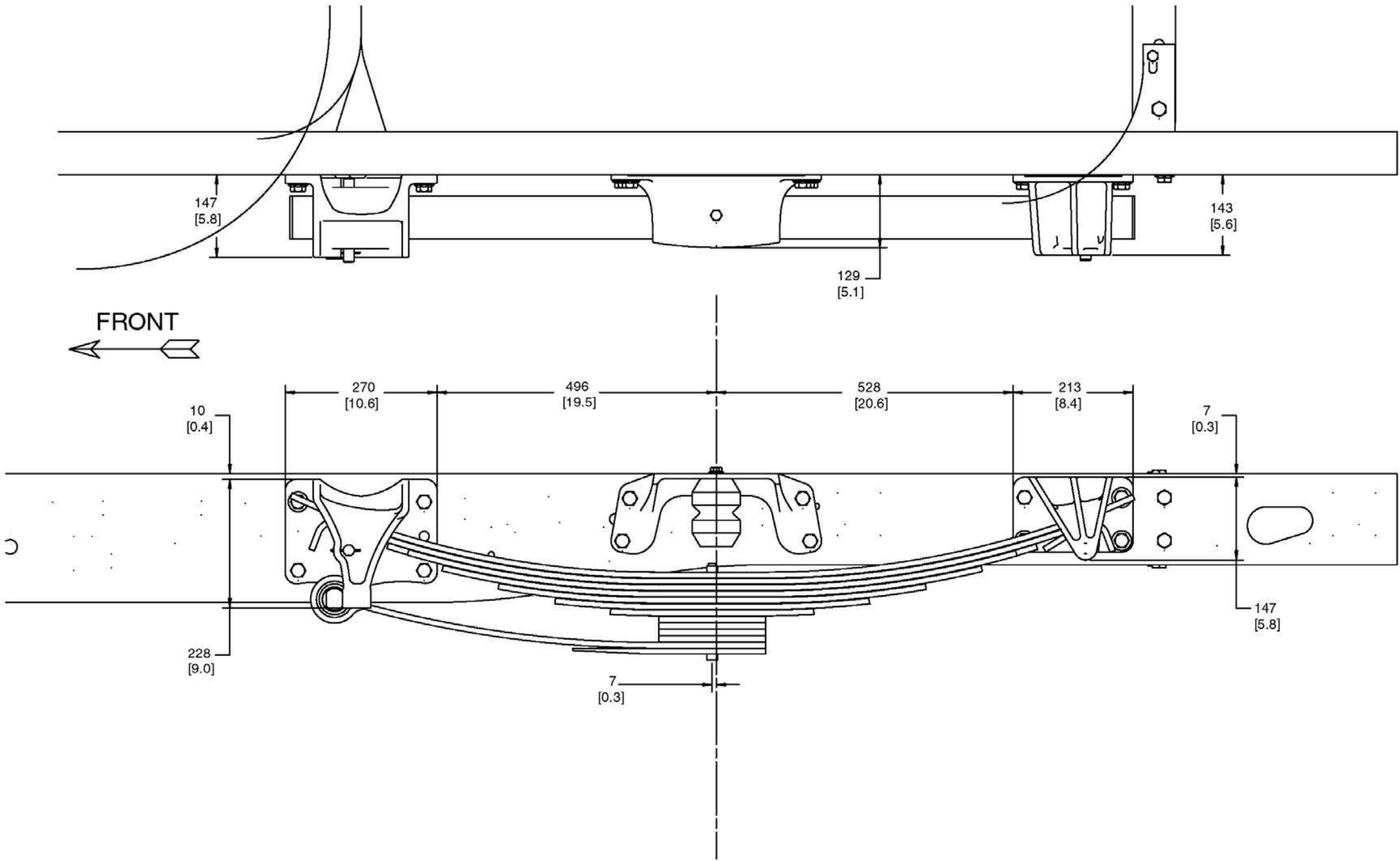
FRONT SUSPENSION



NOTE — [] DIMENSIONS ARE INCHES.

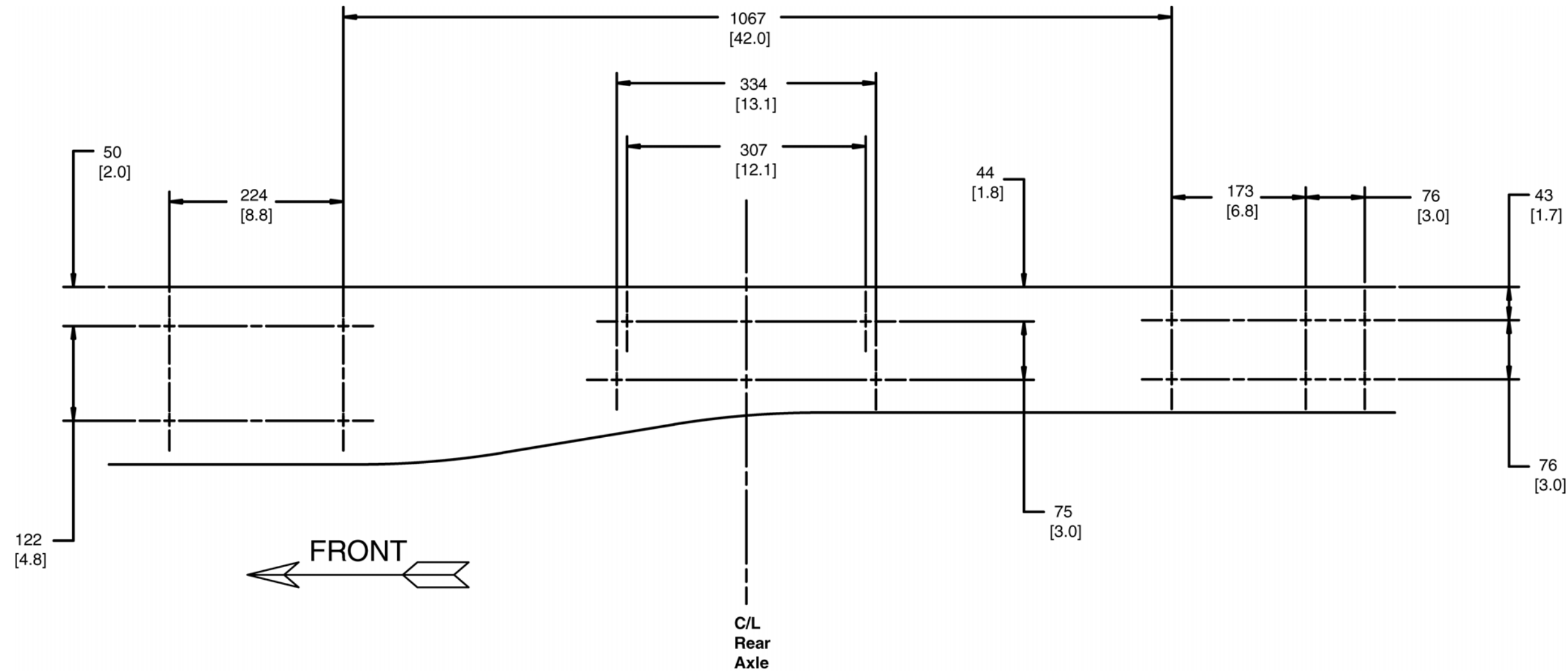
REAR SPRING SUSPENSION — INSTALLED POSITION

2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

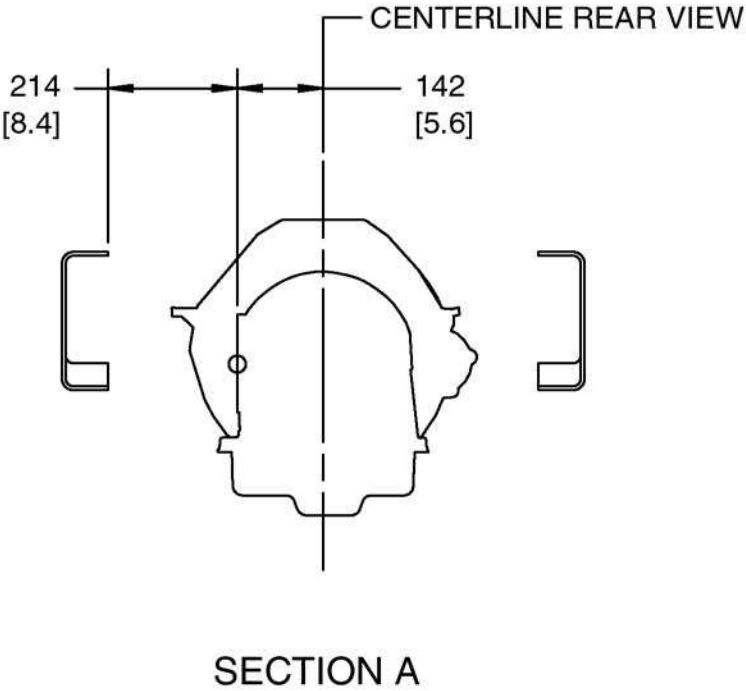
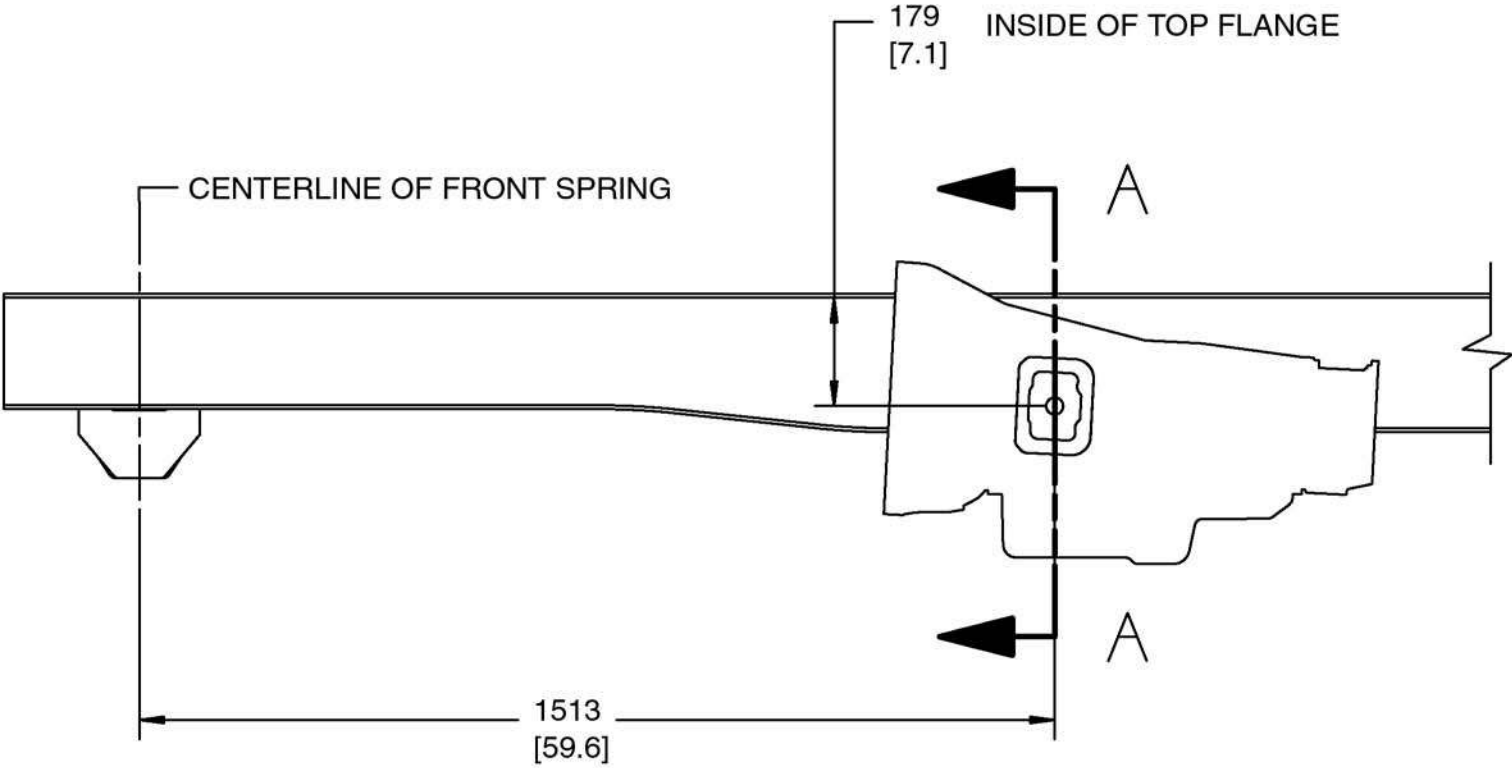
REAR SPRING SUSPENSION — HOLE PATTERN



NOTE — [] DIMENSIONS ARE INCHES.

POWER TAKE OFF

2008
MODEL YEAR



- NOTES:**
- CLEARANCE PROVIDED FOR SAE ENVELOPE
 - DO NOT REUSE PTO COVER PLATE GASKETS

NOTE — [] DIMENSIONS ARE INCHES.

REQUIRED PTO WIRING FOR AUTOMATIC TRANSMISSION

Required PTO Wiring for Ford Motor Company Automatic Transmission

CAUTION: Installing a transmission-mounted PTO without the required PTO wiring may result in transmission failure.

To minimize the risk of transmission damage, PTO controls must be integrated into the vehicle wiring.

PTO Request - Applying vehicle battery voltage to the "PTO Request" wire will (1) place the transmission in PTO mode and (2) elevate idle engine idle speed when certain conditions (described below) are met. This wire **MUST** be part of the PTO control system; failing to do so may result in under-capacity PTO clutch wear, resulting in rapid contamination of transmission fluid and internal transmission damage.

PTO Enable - An output wire is available that indicates when the elevated idle is active. The "PTO Enable" output may be used at the body builder's discretion; for example, to restrict PTO operation to stationary only.

PTO Engaged - An input wire is available to control the PTO lamp in the instrument cluster. Applying vehicle battery voltage to the "PTO Engaged" wire will illuminate the PTO lamp.

"PTO Request", "PTO Enable", "PTO Engaged", and the remote engine PTO signals are blunt cut wires supplied with the vehicle and are located behind the cab on the left frame rail near the transmission. All other PTO components are to be supplied by the body builder.

Elevated Idle Operation - When (1) the "PTO Request" input transitions from open circuit to vehicle battery voltage and (2) the conditions in Table 1 are met, the engine will ramp to 1200 RPM and the "PTO Enable" output will be activated. While in this mode, normal engine speed hand controls are available; however, the engine will maintain an engine speed between 1200 and 2400 RPM. The engine will remain in this mode until either (1) the "PTO Request" input is open circuit or (2) one or more of the conditions in Table 1 are no longer met.

NOTE: A "change-of-state" at the "PTO Request" input is required to re-invoke the elevated idle mode. The operator must turn off voltage to the "PTO Request" input, and back on again.

Engine Programming - The engine programmable parameter "PTO-CONTROL" must be set to either "1: REMOTE OPERATION ONLY" or "3: REMOTE AND IN-CAB OPERATION" for PTO installations. This parameter is set to "3: REMOTE AND IN-CAB OPERATION" from the factory.

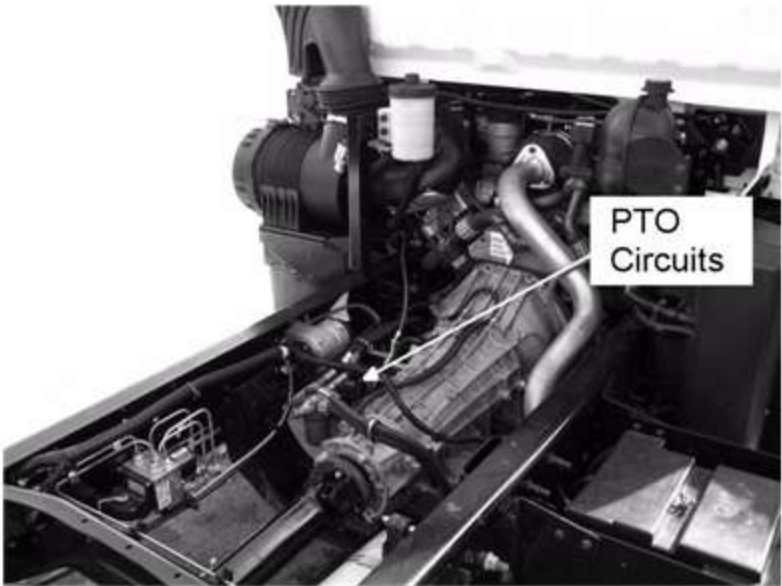
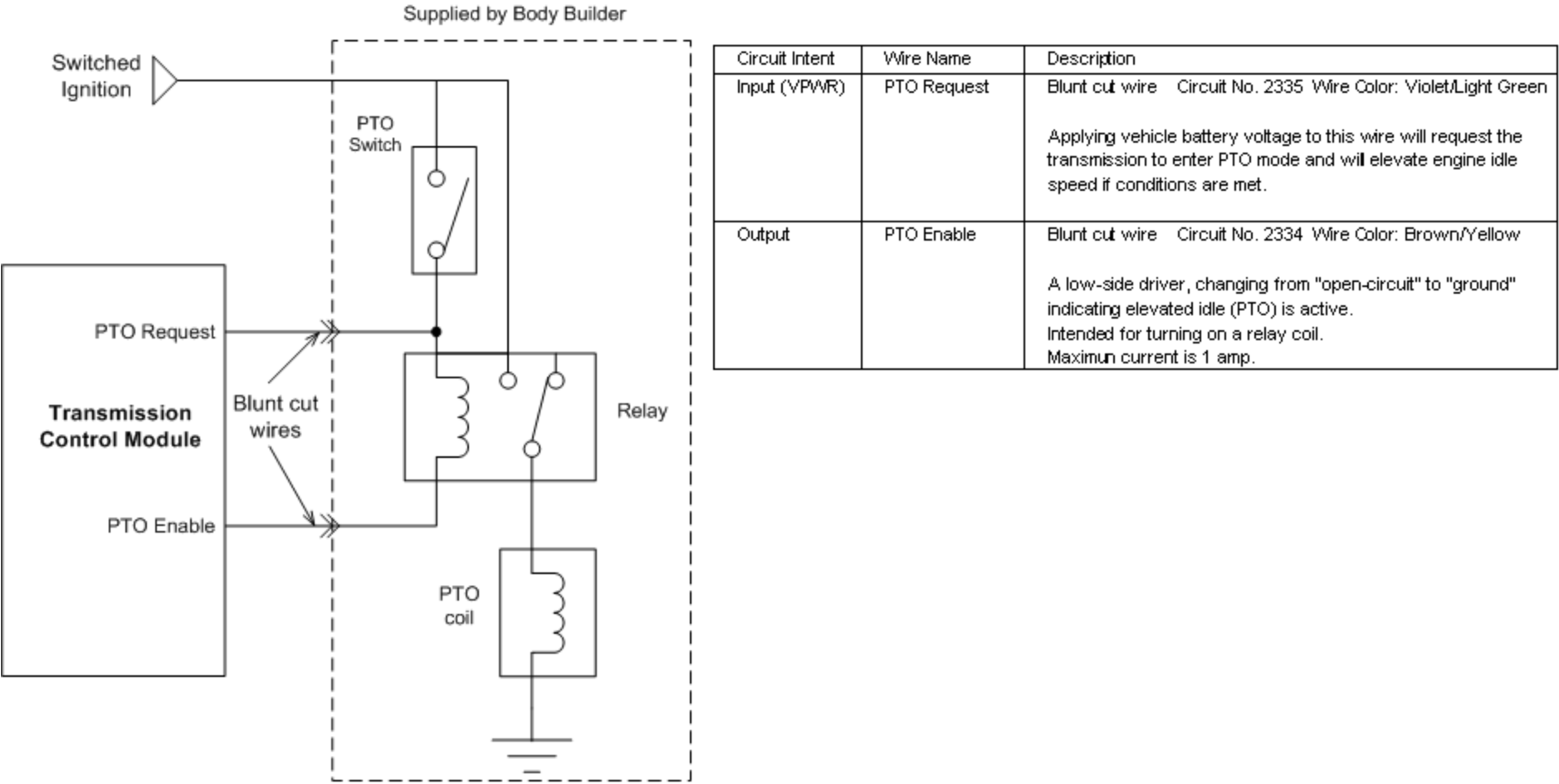


Table 1
PTO Elevated Idle Conditions
Park Brake Applied
Service Brake released
Vehicle in Park
Vehicle speed is 0
Engine speed is below 1200 RPM

PTO WIRING FOR AUTOMATIC TRANSMISSION

2008
MODEL YEAR

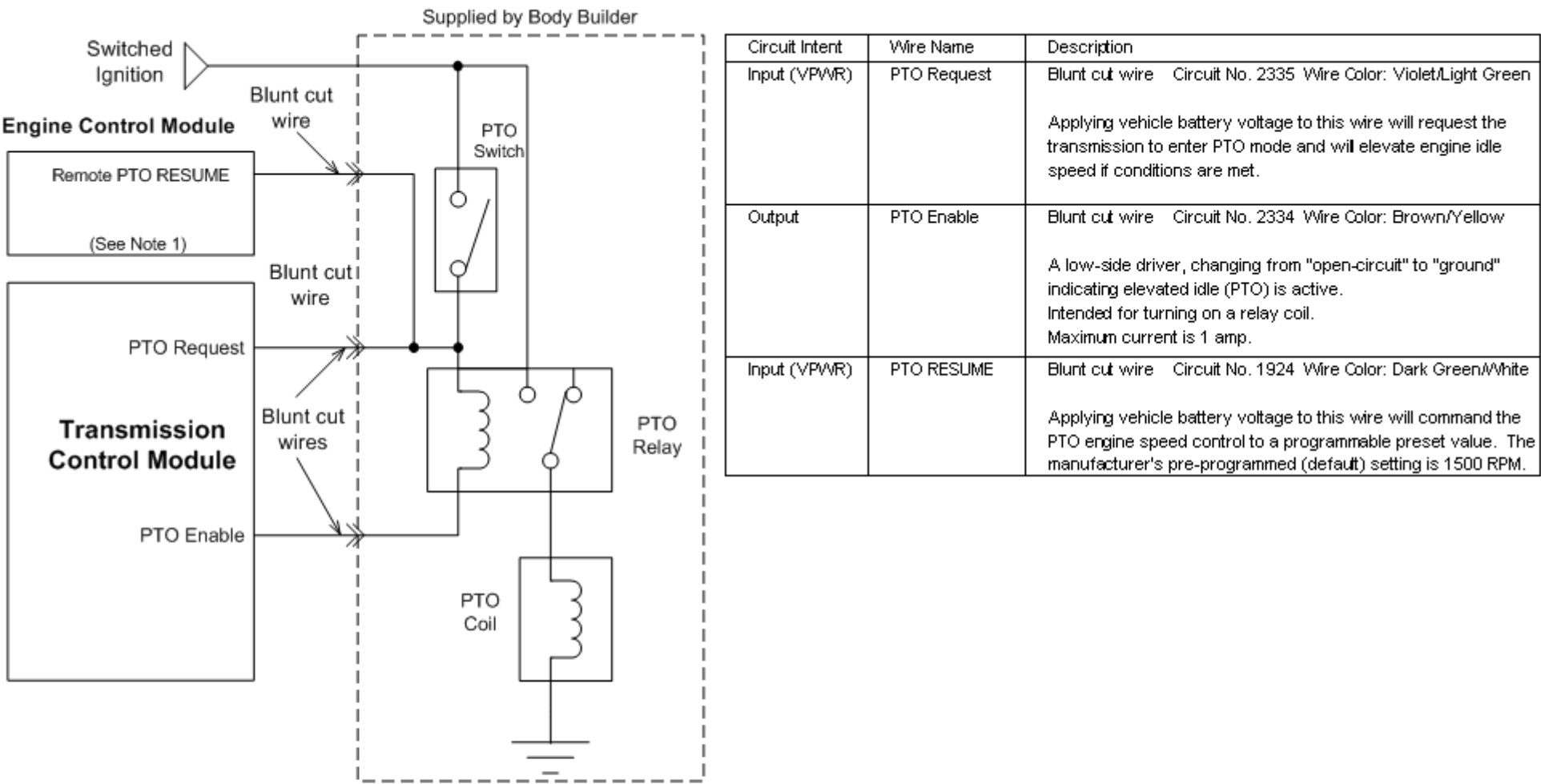
PTO Wiring for Ford Motor Company Automatic Transmission



Example Wiring Diagram for stationary PTO operation (Base PTO)

PTO WIRING FOR AUTOMATIC TRANSMISSION

PTO Wiring for Ford Motor Company Automatic Transmission



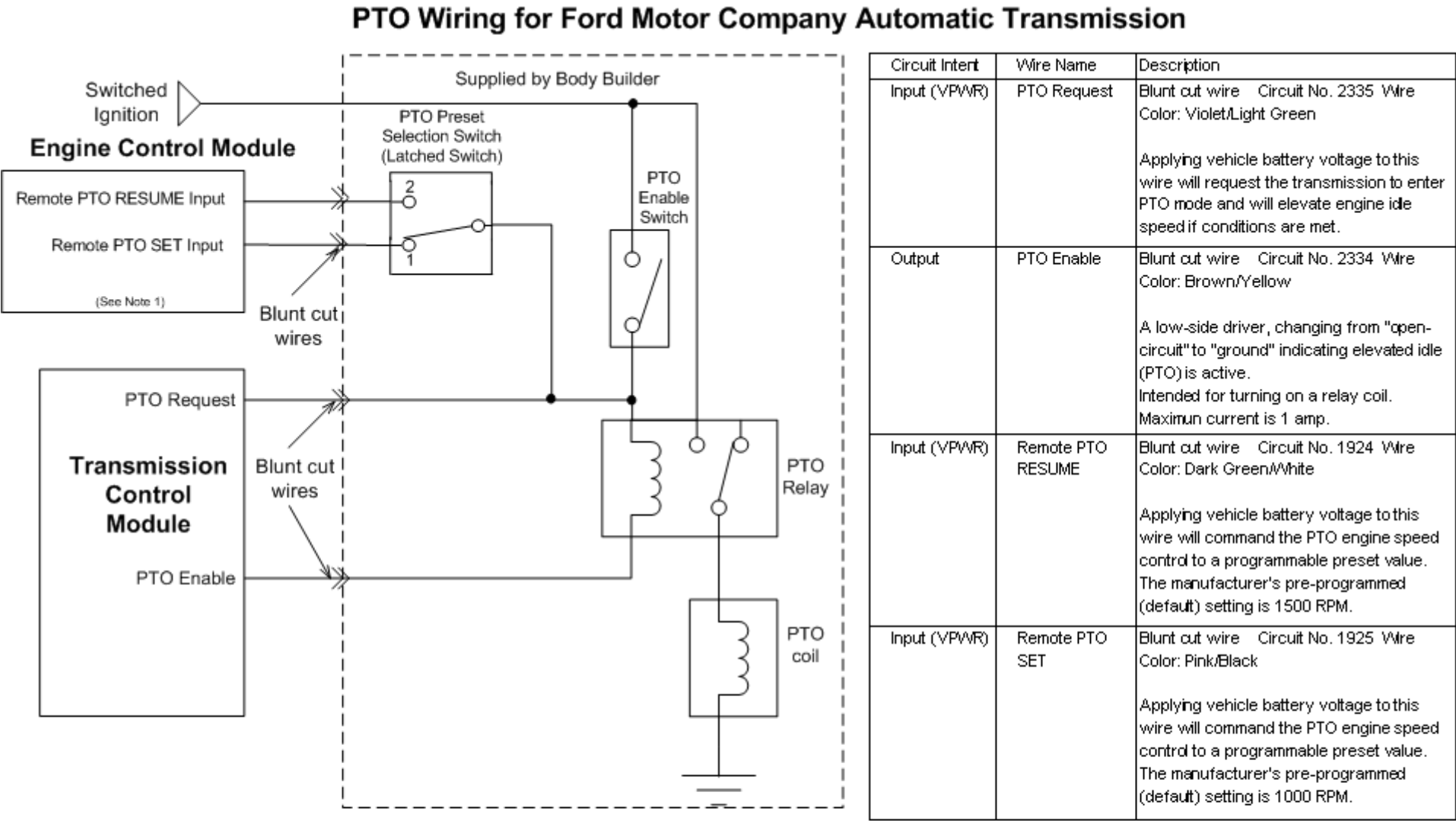
Note 1: When PTO is enabled the engine will ramp up to a programmable engine speed. The manufacturer's pre-programmed (default) setting is 1500 RPM. This preset engine speed can be adjusted in order to suit the customer's needs. The actual engine speed will be limited to 1200 – 2400 RPM during PTO mode, even if pre-programmed or commanded otherwise.

Example Wiring Diagram for Stationary Preset PTO operation (High Torque Applications)

This function controls engine speed to a previously programmed value when a constant engine speed is required to operate equipment, and requires a non-moving (stationary) vehicle for operation. This particular application is useful to prevent the engine from "kicking out" of PTO mode when high torque conditions cause the engine speed to drop.

PTO WIRING FOR AUTOMATIC TRANSMISSION

2008
MODEL YEAR



Note 1: When PTO is enabled the engine can be commanded to PRESET 1 or PRESET 2, depending on the position of the PTO Preset selection switch.

PRESET 1 and PRESET 2 are programmable preset engine speeds, which can both be adjusted in order to suit the customer's needs. The actual engine speed will be limited to 1200 – 2400 RPM during PTO mode, even if pre-programmed or commanded otherwise.

Example Wiring Diagram for Stationary Preset PTO operation with 2 Preset Engine Speeds

This function allows the operator to select one of 2 previously programmed engine speeds when a constant engine speed is required to operate equipment, and requires a non-moving (stationary) vehicle for operation.

PTO WIRING FOR AUTOMATIC TRANSMISSION

2008
MODEL YEAR

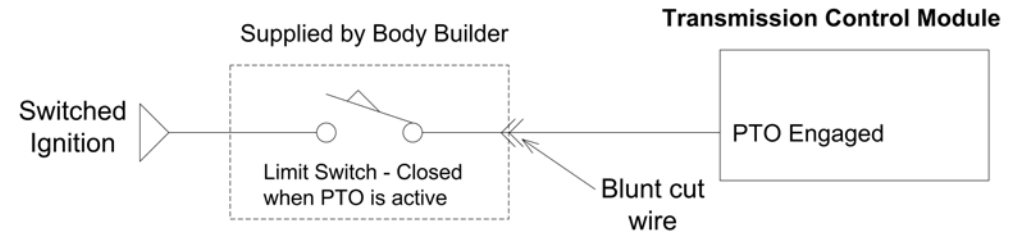
Revised 01-08-08

PTO WIRING FOR AUTOMATIC TRANSMISSION

2008
MODEL YEAR

PTO Wiring for Ford Motor Company Automatic Transmission

Circuit Intent	Wire Name	Description
Input (VPWR)	PTO Engaged	Blunt cut wire Circuit No. 2336 Wire Color: Red/Orange Applying vehicle battery voltage to this wire will activate the PTO lamp in the instrument cluster, and removing vehicle battery voltage will deactivate the PTO lamp.

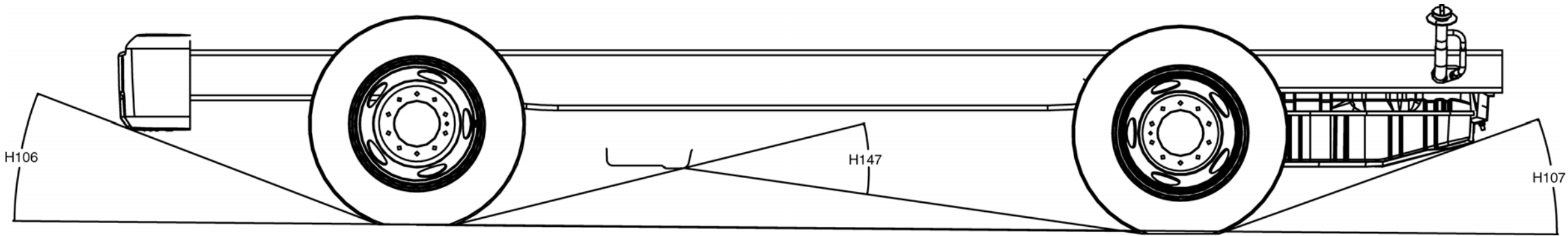


Example Wiring Diagram for PTO Lamp

This function provides an indication to the operator when the PTO function is “Active”.

GROUND CLEARANCE

2008
MODEL YEAR



Wheelbase (inches)	AF (inches)	SAE Standard Angles			
		H106	H147	H107	H107
		Bumper	Transmission Oil Pan	Aft Fuel Tank	Frame Rail
115	47.5	20.6°	21.5°	19.9°	—
115	63	20.6°	21.5°	19.9°	20.3°
137	47.5	20.6°	19.7°	19.9°	20.3°
137	63	20.6°	19.7°	19.9°	20.3°
149	47.5	20.6°	19°	19.9°	20.3°
149	75	20.6°	19°	—	16.9°
167	75	20.6°	18.3°	—	16.9°
185	96	20.6°	17.7°	—	13.2°

OVERHANG LIMITS FOR PIVOTING BODIES AND
CONCENTRATED AF LOADINGS

2008
MODEL YEAR

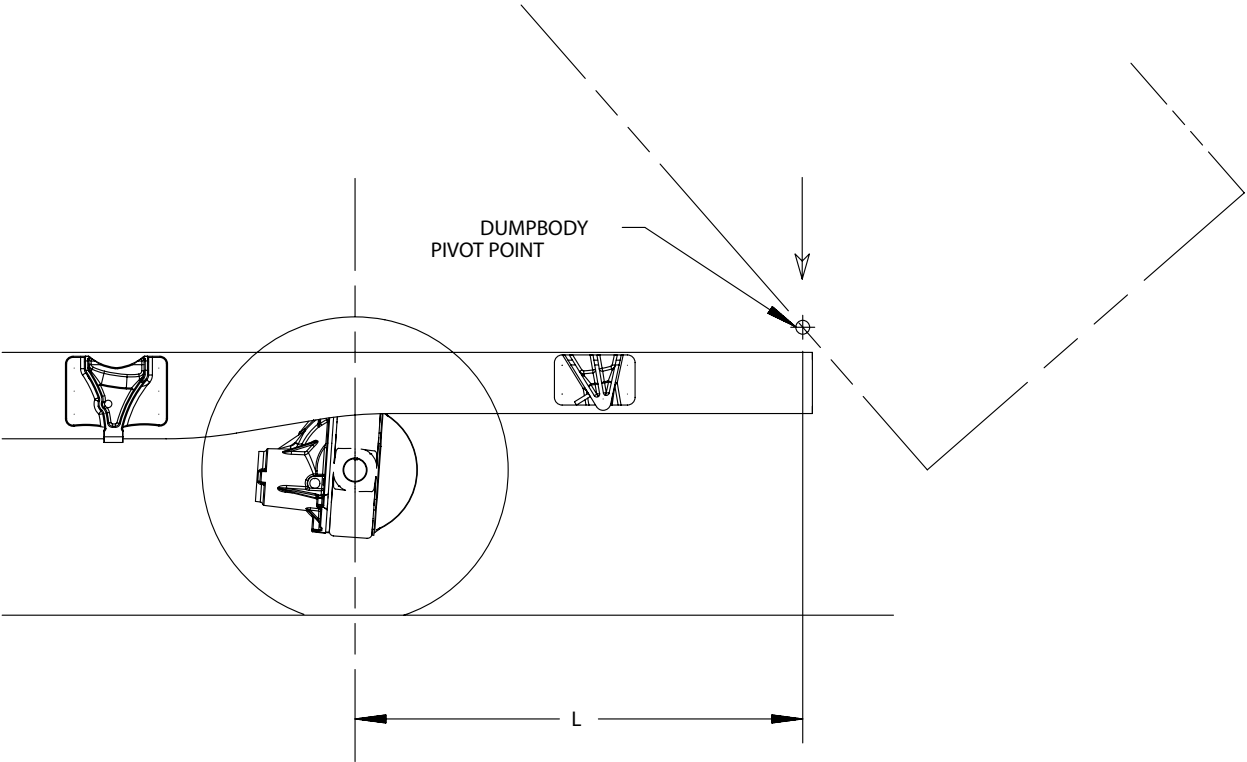
Dump, car carriers, and other pivoting bodies impose a great deal of stress on the frame rails around and aft of the rear suspension area of the frame. In addition, concentrated loads can be applied by the installation and use of equipment such as lift gates, or the placement of heavy objects on a small section of the body. The body installer has the responsibility for determining the magnitude of the pivot pin load or other forces exerted by the body, and for establishing operating guidelines to avoid exceeding the load limits published in the chart.

The limits shown in this chart are for equal loading on both sidemembers, i.e. the center of gravity of the raised body is ideally centered and the chassis is on solid, level ground. If the center of gravity is laterally offset due either to uneven loading, uneven ground, or both, the bending moment on one of the rails could increase substantially. For this reason the body installer should derate the overhang limits to account for the lateral shift if either of these factors apply.

These limits apply specifically to concentrated or pivoting loads supported only by the bare chassis, and do not factor in the load support provided by any part of the installed body structure. Any load exceeding these limits must be wholly supported by the installed body structure.

Static loading refers to the application of loads without shocks to the chassis or significant dynamic accelerations applied to the chassis. Dynamic loading refers to all loading conditions during which the chassis must absorb a shock, stop a load in motion, or support a load during movement of the vehicle. Examples of dynamic loadings would be dumping materials from a dump body, driving the vehicle over uneven surfaces with AF loads, or even operating a loaded liftgate.

Because most operations involve dynamic loadings of some kind, the load limits in column “P” should never be exceeded. The load limits in column “D” should be exceeded only when the excess load is supported by rail reinforcement or by the body structure.



P (LBS.)	D (LBS.)	OVERHANG LIMIT, “L” (IN.)
Max. static vertical load (1) both rails combined	Max. dynamic vertical load (2) both rails combined	Nominal yield strength - 50,000 PSI
3825	850	96
4950	1100	64
6525	1450	48
9225	2050	32
Maximum (3)	3500	16
Maximum (3)	8900	0

- (1) Maximum static vertical load defined as maximum load which can be applied in steady state condition without exceeding yield strength of rails.
- (2) Maximum dynamic vertical load defined as maximum load which can be applied during equipment operation to provide adequate margin for shocks and accelerations
- (3) Maximum load limited by rear GAWR and vehicle GVWR rather than frame stresses

F-650 SUPER DUTY REGULAR CAB
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL REGULAR CHASSIS CAB	SERIES CODE	WHEELBASE Inches	CA Inches	STANDARD ENGINE	STANDARD TRANSMISSION	GVWR pounds	BASE CURB WEIGHT FRONT pounds	REAR pounds	TOTAL pounds
F-650 ProLoader 4x2	F65	134	60	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5369	2445	7814
	F65	158	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5381	2594	7975
	F65	182	108	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5403	2664	8067
	F65	194	120	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5429	2689	8118
	F65	218	144	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5458	2737	8195
	F65	242	168	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5471	2874	8345
F-650 4x2	F65	146	72	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5387	2813	8200
	F65	158	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5403	2828	8231
	F65	158	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5396	2864	8260
	F65	176	102	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5395	2991	8386
	F65	182	108	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5403	2998	8401
	F65	194	120	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5424	3044	8468
	F65	200	126	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5434	3051	8485
	F65	212	138	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5446	3088	8534
	F65	218	144	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5455	3095	8550
	F65	224	150	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5447	3156	8603
	F65	230	156	PCummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5457	3162	8619
	F65	242	168	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5469	3239	8708
	F65	260	186	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5473	3339	8812

F-750 SUPER DUTY REGULAR CAB
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL REGULAR CHASSIS CAB	SERIES CODE	WHEELBASE Inches	CA Inches	STANDARD ENGINE	STANDARD TRANSMISSION	GVWR pounds	BASE CURB WEIGHT FRONT pounds	REAR pounds	TOTAL pounds
F-750 4x2	F75	146	72	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5654	2913	8567
	F75	146	72	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5643	2956	8599
	F75	158	84	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5673	2932	8605
	F75	158	84	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5664	2975	8639
	F75	176	102	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5664	3123	8787
	F75	182	108	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5675	3132	8807
	F75	194	120	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5699	3184	8883
	F75	200	126	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5710	3193	8903
	F75	212	138	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5724	3238	8962
	F75	218	144	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5736	3246	8982
	F75	224	150	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5729	3313	9042
	F75	230	156	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5740	3321	9061
	F75	242	168	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5753	3411	9164
	F75	260	186	Cummins	Allison 2500RDS/WR 5 Spd	30,000	5958	3531	9489
	F75	281	207	Cummins	Allison 2500RDS/WR 5 Spd	30,000	6133	4096	10,229

F-650 SUPER DUTY SUPERCAB
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL SUPERCAB CHASSIS CAB	SERIES CODE	WHEELBASE Inches	CA Inches	STANDARD ENGINE	STANDARD TRANSMISSION	GVWR pounds	BASE CURB WEIGHT FRONT pounds	REAR pounds	TOTAL pounds
F-650 ProLoader 4x2	F65	155	60	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5546	2532	8078
	F65	179	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5558	2661	8219
	F65	203	108	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5795	2737	8532
	F65	239	144	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5654	2805	8459
F-650 4x2	F65	167	72	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5559	2887	8446
	F65	179	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5579	2901	8480
	F65	179	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5572	2935	8507
	F65	197	102	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5586	3068	8654
	F65	203	108	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5597	3073	8670
	F65	215	120	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5612	3105	8717
	F65	221	126	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5622	3111	8733
	F65	233	138	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5636	3146	8782
	F65	239	144	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5654	3165	8819
	F65	245	150	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5648	3223	8871
	F65	251	156	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5659	3229	8888
	F65	263	168	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5664	3292	8956
	F65	281	186	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5672	3389	9061

F-750 SUPER DUTY SUPERCAB
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL SUPERCAB CHASSIS CAB	SERIES CODE	WHEELBASE Inches	CA Inches	STANDARD ENGINE	STANDARD TRANSMISSION	GVWR pounds	BASE CURB WEIGHT FRONT pounds	REAR pounds	TOTAL pounds
F-750 4x2	F75	167	72	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5832	2994	8826
	F75	179	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5855	3010	8865
	F75	179	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5846	3052	8898
	F75	197	102	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30000	5862	3205	9067
	F75	203	108	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5875	3212	9087
	F75	215	120	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5893	3250	9143
	F75	221	126	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5905	3258	9163
	F75	233	138	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5921	3301	9222
	F75	239	144	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5941	3321	9262
	F75	245	150	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5936	3386	9322
	F75	251	156	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5948	3393	9341
	F75	263	168	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5955	3469	9424
	F75	281	186	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	6296	4124	10,420

F-650 SUPER DUTY CREW CAB
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL CREW CAB CHASSIS CAB	SERIES CODE	WHEELBASE Inches	CA Inches	STANDARD ENGINE	STANDARD TRANSMISSION	GVWR pounds	BASE CURB WEIGHT FRONT pounds	REAR pounds	TOTAL pounds
F-650 Proloader 4x2	F65	170	60	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5677	2570	8247
	F65	194	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5701	2707	8408
	F65	218	108	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22,000	5731	2769	8500
	F65	254	144	Cummins	Allison 2500RDS/WR 5 Spd Automatic	22000	5769	2918	8687
F-650 4x2	F65	182	72	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5692	2926	8618
	F65	194	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5722	2948	8670
	F65	194	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5715	2983	8698
	F65	212	102	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5723	3101	8824
	F65	218	108	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5734	3107	8841
	F65	230	120	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5750	3138	8888
	F65	236	126	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5760	3144	8904
	F65	248	138	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5783	3190	8973
	F65	254	144	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5794	3196	8990
	F65	260	150	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5789	3254	9043
	F65	266	156	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5799	3260	9059
	F65	278	168	Cummins	Allison 2500RDS/WR 5 Spd Automatic	26,000	5806	3321	9127

F-750 SUPER DUTY CREW CAB
MODEL LINEUP

2008
MODEL YEAR

SUPER DUTY F-SERIES MODEL CREW CAB CHASSIS CAB	SERIES CODE	WHEELBASE Inches	CA Inches	STANDARD ENGINE	STANDARD TRANSMISSION	GVWR pounds	BASE CURB WEIGHT FRONT pounds	REAR pounds	TOTAL pounds
F-750 4x2	F75	182	72	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5969	3036	9005
	F75	194	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	6003	3062	9065
	F75	194	84	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	5994	3104	9098
	F75	212	102	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30000	6004	3242	9246
	F75	218	108	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	6016	3250	9266
	F75	230	120	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	6035	3287	9322
	F75	236	126	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	6047	3295	9342
	F75	248	138	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	6073	3349	9422
	F75	254	144	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	6085	3356	9441
	F75	260	150	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	6081	3420	9501
	F75	266	156	Cummins	Allison 2500RDS/WR 5 Spd Automatic	30,000	6093	3428	9521

DIMENSIONAL DATA
F-650/F-750 SUPER DUTY

2008
MODEL YEAR

FRONT RIDE HEIGHTS (FH)									STANDARD CAB		SUPERCAB		CREW CAB	
	STD FRT TIRE	GVWR	FRONT AXLE	SPRING CAPACITY	EMPTY STD CAB mm [in]	EMPTY SUPER CAB mm [in]	EMPTY CREW-CAB mm [in]	LOADED ALL CAB mm [in]	CAB HEIGHT VALUE "A" EMPTY	CAB HEIGHT VALUE "A" LOADED	CAB HEIGHT VALUE "A" EMPTY	CAB HEIGHT VALUE "A" LOADED	CAB HEIGHT VALUE "A" EMPTY	CAB HEIGHT VALUE "A" LOADED
F-650 w/19.5 wheels	Hankook 245/70R19.5 AH11	22,000-27,500	8500	8500	805.8 [31.7]	804.2 [31.7]	803.0 [31.6]	738.9 [29.1]	2243.3 [88.3]	2176.4 [85.7]	2250.5 [88.6]	2185.2 [86.0]	2262.4 [89.1]	2198.4 [86.5]
		25,000-29,000	10,000	10,000	867.2 [34.2]	865.9 [34.1]	864.9 [34.1]	795.2 [31.3]	2304.7 [90.8]	2232.6 [87.9]	2312.2 [91.1]	2241.5 [88.3]	2324.4 [91.5]	2254.6 [88.8]
F-650 w/22.5 wheels	Hankook 11R22.5 AH12	24,000-28,500	8500	8500	921.4 [36.3]	919.8 [36.2]	918.6 [36.2]	853.2 [33.6]	2358.9 [92.9]	2290.7 [90.2]	2366.1 [93.2]	2299.5 [90.5]	2378.0 [93.6]	2312.7 [91.0]
		25,000-30,000	10,000	10,000	954.2 [37.6]	952.9 [37.5]	951.9 [37.5]	882.2 [34.7]	2391.7 [94.2]	2319.6 [91.3]	2399.2 [94.5]	2328.5 [91.7]	2411.4 [94.9]	2341.6 [92.2]
F-750 PD	Hankook 11R22.5 AH12	33,000	10,000	10,000	957.4 [37.7]	956.1 [37.6]	955.1 [37.6]	885.3 [34.9]	2394.9 [94.3]	2322.8 [91.4]	2402.4 [94.6]	2331.6 [91.8]	2414.5 [95.1]	2344.8 [92.3]
		33,000	12,000	12,000	969.2 [38.2]	968.0 [38.1]	967.2 [38.1]	885.6 [34.9]	2406.6 [94.7]	2323.1 [91.5]	2414.3 [95.1]	2331.9 [91.8]	2426.6 [95.5]	2345.0 [92.3]
		33,000	13,200	13,200	963.6 [37.9]	962.8 [37.9]	962.1 [37.9]	887.7 [34.9]	2401.1 [94.5]	2325.1 [91.5]	2409.1 [94.8]	2334.0 [91.9]	2421.5 [95.3]	2347.1 [92.4]
		33,000	14,000	14,000	977.9 [38.5]	977.9 [38.5]	977.9 [38.5]	901.7 [35.5]	2415.5 [95.1]	2339.3 [92.1]	2423.2 [95.4]	2349.5 [92.5]	2435.9 [95.9]	2362.2 [93.0]

REGULAR CAB					
WB	BA*	CF	CA	AF	OAL*
3400 [134]	1000 [39.4]	2504 [98.6]	1514 [59.6]	990 [39]	5390 [212.2]
3710 [146]	1000 [39.4]	2814 [110.8]	1824 [71.8]	990 [39]	5700 [224.4]
4010 [158]	1000 [39.4]	3724 [146.6]	2124 [83.6]	1600 [63]	6610 [260.2]
4010 [158]	1000 [39.4]	3114 [122.6]	2124 [83.6]	990 [39]	6000 [236.2]
4470 [176]	1000 [39.4]	4364 [71.8]	2584 [101.7]	1780 [70]	7250 [285.4]
4620 [182]	1000 [39.4]	4644 [182.8]	2734 [107.6]	1910 [75]	7530 [296.5]
4620 [182]	1000 [39.4]	4514 [177.7]	2734 [107.6]	1780 [70]	7400 [291.3]
4930 [194]	1000 [39.4]	4954 [195.0]	3044 [119.8]	1910 [75]	7840 [308.7]
5080 [200]	1000 [39.4]	5104 [200.9]	3194 [25.7]	1910 [75]	7990 [314.6]
5380 [212]	1000 [39.4]	5554 [218.7]	3494 [137.6]	2060 [81]	8440 [332.3]
5540 [218]	1000 [39.4]	5714 [225.0]	3654 [143.9]	2060 [81]	8600 [338.6]
5690 [224]	1000 [39.4]	6014 [236.8]	3804 [149.8]	2210 [87]	8900 [350.4]
5840 [230]	1000 [39.4]	6164 [242.7]	3954 [155.7]	2210 [87]	9050 [356.3]
6150 [242]	1000 [39.4]	6804 [267.9]	4264 [167.9]	2540 [100]	9690 [381.5]
6600 [260]	1000 [39.4]	7764 [305.7]	4714 [185.6]	3050 [120]	10,650 [419.3]
7140 [281]	1000 [39.4]	7775 [306.1]	5254 [206.9]	3050 [120]	11,190 [440.6]
SUPER CAB					
3940 [155]	1000 [39.4]	2515 [99.0]	1525 [60.0]	990 [39]	5930 [233.5]
4240 [167]	1000 [39.4]	2815 [110.8]	1825 [71.9]	990 [39]	6230 [245.3]
4550 [179]	1000 [39.4]	3375 [132.9]	2135 [84.1]	1240 [49]	6790 [267.3]
4550 [179]	1000 [39.4]	3735 [147.0]	2135 [84.1]	1600 [63]	7150 [281.5]
4550 [179]	1000 [39.4]	3125 [123.0]	2135 [84.1]	990 [39]	6540 [257.5]
5000 [197]	1000 [39.4]	4365 [171.9]	2585 [101.8]	1780 [70]	7780 [306.3]
5160 [203]	1000 [39.4]	4525 [178.1]	2745 [108.1]	1780 [70]	7940 [312.6]
5160 [203]	1000 [39.4]	4655 [183.3]	2745 [108.1]	1910 [75]	8070 [317.7]
5460 [215]	1000 [39.4]	4955 [195.1]	3045 [119.9]	1910 [75]	8370 [329.5]
5610 [221]	1000 [39.4]	5105 [201.0]	3195 [125.8]	1910 [75]	8520 [335.4]
5920 [233]	1000 [39.4]	5565 [219.1]	3505 [138.0]	2060 [81]	8980 [353.5]
6070 [239]	1000 [39.4]	5715 [225.0]	3655 [143.9]	2060 [81]	9130 [359.4]
6220 [245]	1000 [39.4]	6015 [236.8]	3805 [149.8]	2210 [87]	9430 [371.3]
6380 [251]	1000 [39.4]	6175 [243.1]	3965 [156.1]	2210 [87]	9590 [377.6]
6680 [263]	1000 [39.4]	6805 [267.9]	4265 [167.9]	2540 [100]	10,220 [402.4]
7140 [281]	1000 [39.4]	7775 [306.1]	4725 [186.0]	3050 [120]	11,190 [440.6]
CREW CAB					
4320 [170]	1000 [39.4]	2526 [99.4]	1536 [60.5]	990 [39]	6310 [248.4]
4620 [182]	1000 [39.4]	2826 [111.3]	1836 [72.3]	990 [39]	6610 [260.2]
4930 [194]	1000 [39.4]	3386 [133.3]	2146 [84.5]	1240 [49]	7170 [282.3]
4930 [194]	1000 [39.4]	3746 [147.5]	2146 [84.5]	1600 [63]	7530 [296.5]
4930 [194]	1000 [39.4]	3136 [123.5]	2146 [84.5]	990 [39]	6920 [272.4]
5380 [212]	1000 [39.4]	4376 [172.3]	2596 [102.2]	1780 [70]	8160 [321.3]
5540 [218]	1000 [39.4]	4536 [178.6]	2756 [108.5]	1780 [70]	8320 [327.6]
5540 [218]	1000 [39.4]	4666 [183.7]	2756 [108.5]	1910 [75]	8450 [332.7]
5840 [230]	1000 [39.4]	4966 [195.5]	3056 [120.3]	1910 [75]	8750 [344.5]
5990 [236]	1000 [39.4]	5116 [201.4]	3206 [126.2]	1910 [75]	8900 [350.4]
6300 [248]	1000 [39.4]	5576 [219.5]	3516 [138.4]	2060 [81]	9360 [368.5]
6450 [254]	1000 [39.4]	5726 [225.4]	3666 [144.3]	2060 [81]	9510 [374.4]
6450 [254]	1000 [39.4]	6106 [240.4]	3666 [144.3]	2440 [96]	9890 [389.4]
6600 [260]	1000 [39.4]	6026 [237.2]	3816 [150.2]	2210 [87]	9810 [386.2]
6760 [266]	1000 [39.4]	6186 [243.5]	3976 [156.5]	2210 [87]	9970 [392.5]
7060 [278]	1000 [39.4]	6816 [268.3]	4276 [168.3]	2540 [100]	10,600 [417.3]

NOTE — [] DIMENSIONS ARE INCHES.

REAR RIDE HEIGHT*							
	STD REAR TIRE	GVWR	REAR AXLE	SPRING CAPACITY	EMPTY mm [in]	LOADED mm [in]	SUSP TYPE
F-650 ProLoader w/ 9.125" Tapered Rail	Hankook 245/70R19.5 DH01	22,000	13,500	13,500	853 [33.6]	772 [30.4]	MULTI-LEAF
		24,000	15,500	15,500	853 [33.6]	762 [30.0]	MULTI-LEAF
		27,000	17,500	18,500	853 [33.6]	757 [29.8]	MULTI-LEAF
		20,500-27,000	13,500-17,500	12,000-18,500	777 [30.6]	749 [29.5]	AIR (5.3")
F-650 ProLoader w/ 9.125" Straight Rail	Hankook 245/70R19.5 DH01	24,000	17,500-19,000	15,500	856 [33.7]	770 [30.3]	MULTI-LEAF
		27,000	17,500-19,000	18,500	884 [34.8]	785 [30.9]	MULTI-LEAF
F-650 4x2 w/10.125" Straight Rail	Hankook 11R22.5 DL01	24,000	15,500	15,500	965 [38.0]	879 [34.6]	MULTI-LEAF
		26,000	19,000	18,500	993 [39.1]	894 [35.2]	MULTI-LEAF
		27,000	19,000	18,500-20,000	986 [38.8]	963 [37.9]	AIR (9.25")
		28,500	19,000	20,000	1001 [39.4]	902 [35.5]	MULTI-LEAF
F-650 4x2 w/10.250" Straight Rail	Hankook 11R22.5 DL01	28,500-33,000	21,000-23,000	20,000-23,000	986 [38.8]	963 [37.9]	AIR (9.25")
		31,000-33,000	21,000-23,000	23,500	1008.1 [39.7]	909.0 [35.8]	MULTI-LEAF
		31,000-33,000	21,000-23,000	31,000	1028.7 [40.5]	920.8 [36.3]	MULTI-LEAF
* Ride Height = Distance from ground to inside of top frame rail flange							

Front and rear heights are based off of standard equipment configuration.
ProLoader heights use Goodyear 245/70R 19.5 (Load Range:G) G159 and 9.125" x 3.062" x 0.312" (231.8mm x 77.8mm x 8.0mm) frame rails.
650 4x2 heights use Goodyear 10R22.5 (Load Range:F) G159 and 10.125" x 3.062" x 0.312" (257.2mm x 77.8mm x 8.0mm) frame rails.
750 4x2 heights use Goodyear 10R22.5 (Load Range:G) G24 and 10.25" x 3.092" x 0.375" (260.4mm x 78.5mm x 9.5mm) frame rails.

F-650/F-750 SUPER DUTY
SPRING CAPACITIES

2008
MODEL YEAR

FRONT SPRING IDENTIFICATION AND CAPACITY RATINGS

SUPER DUTY		TOTAL NO. OF LEAVES	TOTAL SPRING PACK THICKNESS AT PAD - IN	ONE SPRING CAPACITY AT PAD - LBS	ONE SPRING CAPACITY AT GROUND - LBS	FRONT SUSPENSION CAPACITY AT GROUND i.e. SPRINGS/BRACKETS LBS
F650	F750					
S	-	2	2.44	3,825	4,250	8,500
O*	S	2	2.65	4,500	5,000	10,000
-	O	2	2.65	5,400	6,000	12,000
-	O	2	2.70	5,940	6,600	13,200
-	O	2	3.20	6,300	7,000	14,000

*NOT AVAILABLE F650 ProLoader

REAR SPRING IDENTIFICATION AND CAPACITY RATINGS

SUPER DUTY		PER AXLE END						FULL SUSPENSION CAPACITY AT GROUND i.e. SPRINGS/BRACKETS LBS
		TOTAL NO. OF LEAVES MAIN SPRING	TOTAL SPRING PACK THICKNESS AT PAD - IN	MAIN SPRING CAPACITY AT PAD - LBS	MAIN SPRING CAPACITY AT GROUND - LBS	AUXILIARY SPRING CAPACITY AT PAD - LBS (1)	MAIN & AUXILIARY COMBINATION CAPACITY AT PAD - LBS	
F650	F750							
O	-	10	4.86	6,800	7,750	4500(1)	6,800	15,500
S	-	10	6.31	8,200	9,250	4500(1)	8,200	18,500
O	-	12	6.31	8,200	10,000	4500(1)	8,200	20,000
-	S	12	6.65	10,400	11,750	4500(1)	10,400	23,500
ProLoader								
S	-	9	4.82	5,450	6,750	-	-	13,500
O	-	10	6.31	8,200	9,250	-	-	18,500
O	-	10	4.86	6,800	7,750	-	-	15,500

(1) AUXILIARY SPRING IS FOR LOAD STABILIZATION ONLY

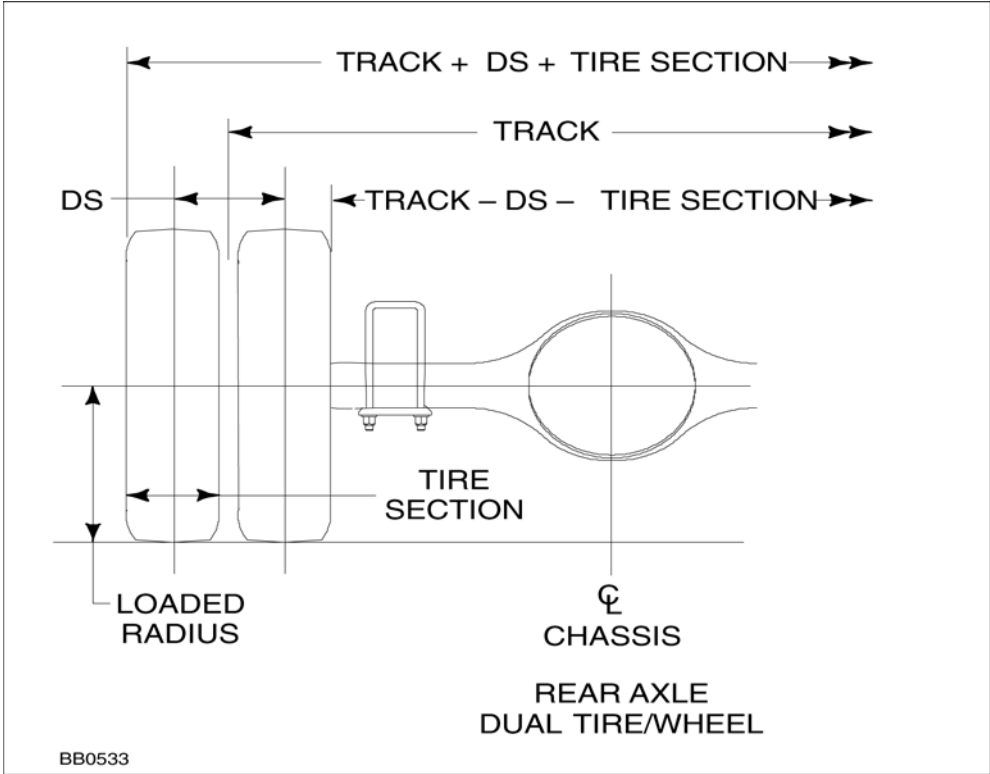
REAR AIR SUSPENSION IDENTIFICATION AND CAPACITY RATINGS

		PER AXLE END				
SUPER DUTY		AIR SPRING DIMENSIONS	MAIN SPRING CAPACITY AT PAD LBS	MAIN SPRING CAPACITY AT GROUND LBS	PRESSURE AT RATED LOAD PSI	FULL SUSPENSION CAPACITY AT GROUND LBS
F650	F750					
O	-	16.35" High x 12.28" Diameter	8,150	9,250	62	18,500
O	O	16.35" High x 12.28" Diameter	8,900	10,000	68	20,000
ProLoader						
O	-	15.28" High x 10.60" Diameter		6,000	53	12,000
O	-	15.28" High x 10.60" Diameter	6,650	7,750	53	15,500
O	-	15.28" High x 12.28" Diameter	8,150	9,250	62	18,500

F-650/F-750 SUPER DUTY
AXLE TRACK

2008
MODEL YEAR

Front Axle Track



Disc Wheel	Wheel Type	Disc Thickness mm [in]	Wheel Offset mm [in]	Front Axle Track mm [in]			
				8,500 lb		10,000 - 14,000 lb	
				Brake Type		Brake Type	
				Air	Hyd	Air	Hyd
19.5X6.75 STL	8H	11.1 [0.44]	142 [5.60]	-	2,082 [82.0]	-	-
19.5X7.50 ALUM	8H	22.2 [0.88]	159 [6.25]	-	2,071 [81.5]	-	-
19.5X7.50 STL	10H	11.1 [0.44]	163 [6.40]	2,045 [80.5]	-	2,032 [80.0]	-
19.5X7.50 ALUM	10H	22.2 [0.88]	159 [6.25]	2,075 [81.7]	-	2,061 [81.1]	-
22.5X7.50 STL	10H	11.1 [0.44]	164 [6.44]	2,043 [80.4]	2,043 [80.4]	2,029 [79.9]	2,035 [80.1]
22.5X8.25 STL	10H	11.1 [0.44]	168 [6.62]	2,034 [80.1]	2,034 [80.1]	2,019 [79.5]	2,026 [79.8]
22.5X8.25 ALUM	10H	22.5 [0.89]	167 [6.59]	2,058 [81.0]	2,058 [81.0]	2,044 [80.5]	2,050 [80.7]

Rear Axle Track

Disc Wheel	Wheel Type	Disc Thickness mm [in]	Wheel Offset mm [in]	Dual Spacing (DS) mm [in]	Rear Axle Track mm [in] Dana® Spicer® Axles					
					21060D, 23082T, S23-170, S23-170D		17060S, 19060S, 21060S, 21060T, 19055T		S135-S, S150-S	
					Brake Type		Brake Type		Brake Type	
					Air	Hyd	Air	Hyd	Air	Hyd
19.5X6.75 STL	8H	11.1 [0.44]	142 [5.60]	284 [11.2]	-	-	-	1809.2 [71.2]	-	1804.1 [71.0]
19.5X7.50 ALUM OUTER & 19.5X6.75 STL INNER	8H	22.2 [0.88]	159 [6.25]	301 [11.9]	-	-	-	1820.5 [71.7]	-	1815.4 [71.5]
19.5X7.50 STL	10H	11.1 [0.44]	163 [6.40]	325 [12.8]	-	-	1834.6 [72.2]	-	-	-
19.5X7.50 ALUM OUTER & 19.5X7.50 STL INNER	10H	22.2 [0.88]	159 [6.25]	321 [12.7]	-	-	1845.9 [72.7]	-	-	-
22.5X7.50 STL	10H	11.1 [0.44]	164 [6.44]	327 [12.9]	1842.5 [72.5]	-	1834.6 [72.2]	1809.2 [71.2]	-	-
22.5X8.25 STL	10H	11.1 [0.44]	168 [6.62]	336 [13.2]	1842.5 [72.5]	-	1834.6 [72.2]	1809.2 [71.2]	-	-
22.5X8.25 ALUM	10H	22.5 [0.89]	167 [6.59]	335 [13.2]	1865.3 [73.4]	-	1857.4 [73.1]	1832 [72.1]	-	-

F-650/F-750 SUPER DUTY
TIRE DIMENSION TABLE

2008
MODEL YEAR

TIRE SIZE	DESC.	MAX OUTSIDE mm [in]	LOADED RADIUS mm [in]	MAX. TIRE SECTION mm [in]	REVS PER MILE
9R22.5F (12PR)	G124	980 [38.6]	460 [18.1]	251 [9.9]	538
9R22.5F (12PR)	G149 RSA	975 [38.4]	460 [18.1]		541
10R22.5F (12PR)	G124	1024 [40.3]	483 [19.0]	279 [11.0]	514
10R22.5F (12PR)	G149 RSA	1019 [40.1]	475 [18.7]		518
10R22.5F (12PR)	XDE M/S	1022 [40.2]	477 [18.8]	283 [11.1]	515
10R22.5F (12PR)	XZE	1019 [40.1]	475 [18.7]	283 [11.1]	517
10R22.5G (14PR)	G124	1024 [40.3]	483 [19.0]	279 [11.0]	514
10R22.5G (14PR)	G149 RSA	1021 [40.2]	475 [18.7]		517
10R22.5G (14PR)	XDE M/S	1022 [40.2]	477 [18.8]	283 [11.1]	515
10R22.5G (14PR)	XZE	1019 [40.1]	475 [18.7]	283 [11.1]	517
11R22.5G (14PR)	G149 RSA	1057 [41.6]	493 [19.4]	300 [11.8]	501
11R22.5G (14PR)	G164 RTD	1067 [42.0]	495 [19.5]	307 [12.1]	497
11R22.5G (14PR)	G182 RSD	1069 [42.1]	503 [19.8]	302 [11.9]	496
11R22.5G (14PR)	G395	1046 [41.2]	488 [19.2]	274 [10.8]	504
11R22.5G (14PR)	XDE M/S	1057 [41.6]	492 [19.4]	318 [12.5]	498
11R22.5G (14PR)	XDN 2	1060 [41.7]	495 [19.5]	318 [12.5]	496
11R22.5G (14PR)	XZE	1050 [41.3]	488 [19.2]	318 [12.5]	501
11R22.5H (16PR)	G149 RSA	1057 [41.6]	493 [19.4]	300 [11.8]	501
11R22.5H (16PR)	G164 RTD	1067 [42.0]	495 [19.5]	307 [12.1]	497
11R22.5H (16PR)	G177	1074 [42.3]	500 [19.7]	302 [11.9]	493
11R22.5H (16PR)	G244 MSD	1067 [42.0]	503 [19.8]	302 [11.9]	497
11R22.5H (16PR)	AH12	1054 [41.5]	—	282 [11.1]	501
11R22.5H (16PR)	DL01	1064 [41.9]	—	284 [11.2]	496
11R22.5H (16PR)	Z35A	1062[41.8]	—	277 [10.9]	497
11R22.5H (16PR)	XZE	1051 [41.4]	488 [19.2]	318 [12.5]	501

TIRE SIZE	DESC.	MAX OUTSIDE mm [in]	LOADED RADIUS mm [in]	MAX. TIRE SECTION mm [in]	REVS PER MILE
225/70R19.5F (12PR)	G124	823 [32.4]	384 [15.1]	241 [9.5]	641
225/70R19.5F (12PR)	G647 RSS	818 [32.2]	381 [15.0]	241 [9.5]	640
225/70R19.5G (14PR)	G647 RSS	818 [32.2]	381 [15.0]	241 [9.5]	640
235/80R22.5G (14PR)	XZE	949 [37.4]	443 [17.4]	262 [10.3]	555
245/70R19.5F (12PR)	G124	843 [33.2]	394 [15.5]	279 [11.0]	626
245/70R19.5F (12PR)	G647 RSS	843 [33.2]	391 [15.4]	264 [10.4]	626
245/70R19.5G (14PR)	AH11	843 [33.2]	—	244 [9.6]	625
245/70R19.5G (14PR)	DH01	848 [33.4]	—	244 [9.6]	622
245/70R19.5F (12PR)	XZE	853 [33.6]	395 [15.6]	272 [10.7]	619
245/70R19.5G (14PR)	G124	843 [33.2]	394 [15.5]	279 [11.0]	626
245/70R19.5G (14PR)	G647 RSS	843 [33.2]	391 [15.4]	264 [10.4]	626
245/70R19.5H (16PR)	XDE M/S	858 [33.8]	398 [15.7]	272 [10.7]	614
245/75R22.5G (14PR)	G124	947 [37.3]	442 [17.4]	267 [10.5]	557
255/70R22.5H (16PR)	G169 RSA	932 [36.7]	434 [17.1]	279 [11.0]	566
255/80R22.5G (14PR)	XZE	979 [38.5]	455 [17.9]	287 [11.3]	538
265/70R19.5G (14PR)	G124	871 [34.3]	406 [16.0]	284 [11.2]	606
265/70R19.5G (14PR)	G159	864 [34.0]	404 [15.9]	284 [11.2]	606
275/70R22.5H (16PR)	G169 RSA	958 [37.7]	447 [17.6]	287 [11.3]	551
275/70R22.5J (18PR)	XZE2+	966 [38.0]	448 [17.6]	303 [11.9]	545
275/80R22.5G (14PR)	XD4	1036 [40.8]	482 [19.0]	278 [10.9]	509
275/80R22.5G (14PR)	XDA-HT	1036 [40.8]	483 [19.0]	278 [10.9]	509
275/80R22.5G (14PR)	XZE	1021 [40.2]	473 [18.6]	311 [12.2]	517
295/75R22.5G (14PR)	G164 RTD	1029 [40.5]	485 [19.1]	307 [12.1]	515
295/75R22.5G (14PR)	G169 RSA	1029 [40.5]	480 [18.9]	307 [12.1]	513
295/75R22.5G (14PR)	G338 1AD	1041 [41.0]	485 [19.1]	307 [12.1]	509
295/75R22.5G (14PR)	G372 LHD	1044 [41.1]	488 [19.2]	307 [12.1]	508
295/75R22.5G (14PR)	AH12	1021 [40.2]	—	292 [11.5]	517
295/75R22.5G (14PR)	Z35A	1031 [40.6]	—	284 [11.2]	511
295/80R22.5H (16PR)	XZE2+	1054 [41.5]	490 [19.3]	325 [12.8]	500

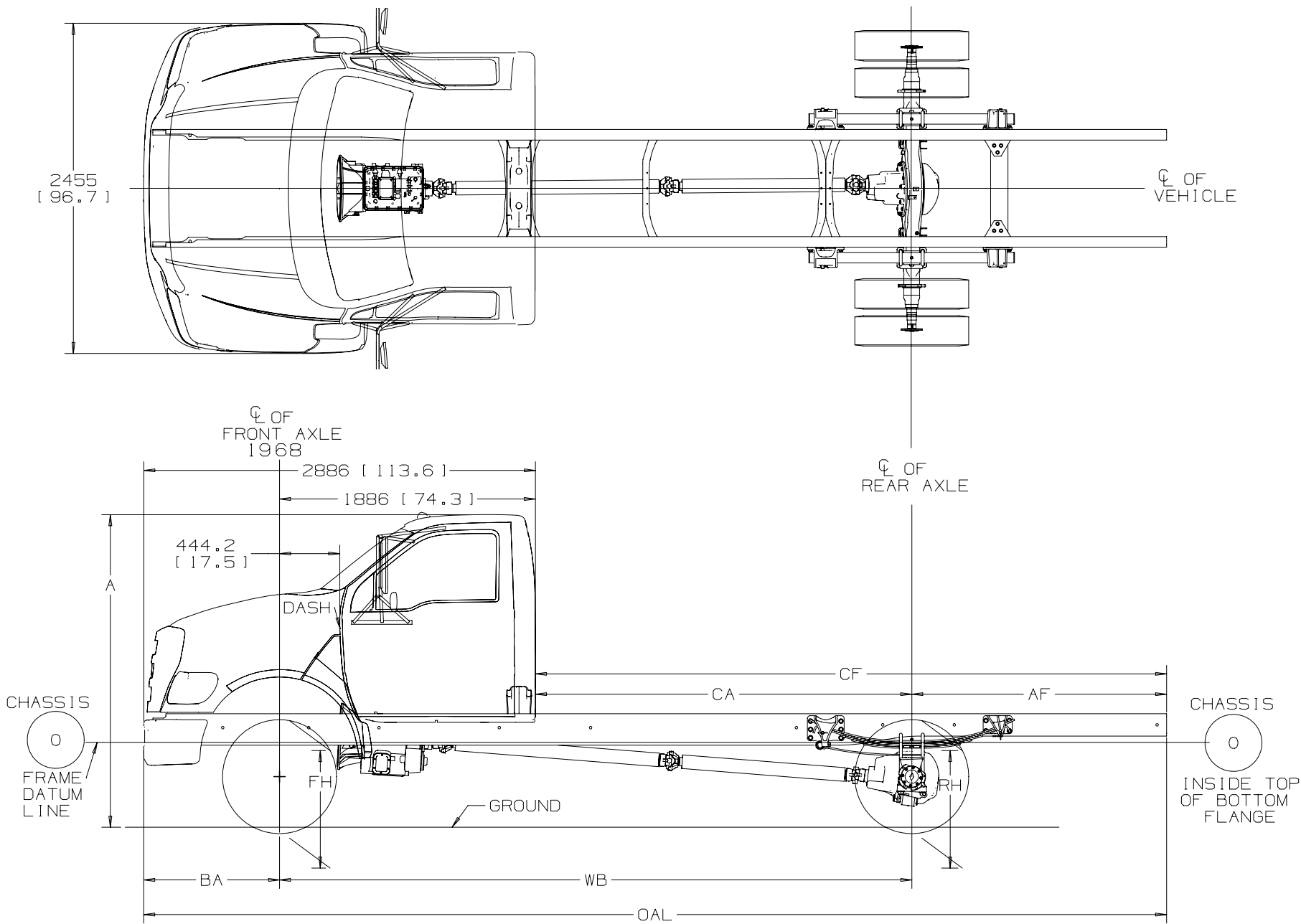
F-650/F-750 SUPER DUTY
WHEEL & TIRE RATINGS

2008
MODEL YEAR

			GOODYEAR				MICHELIN				
			FRONT		REAR		FRONT		REAR		
DESCRIPTION		RIM	LOAD/AXLE		LOAD/AXLE		LOAD/AXLE		LOAD/AXLE		
WHEEL	TIRE SIZE	SIZE	LBS	PSI	LBS	PSI	LBS	PSI	LBS	PSI	
19.5x6.75 STL	225/70R19.5F (12PR)	6.75	7,280	95	13,660	95					
	225/70R19.5G (14PR)	6.75	7940	110	15,000	110					
	245/70R19.5F (12PR)	6.75					8160	95	15,440	95	
	245/70R19.5H (16PR)	6.75					9880	120	18,700	120	Michelin XDE M/S
	245/70R19.5H (16PR)	6.75					9880	120	8480	120	Michelin XZE
19.5x7.5 ALUM	245/70R19.5G (14PR)	7.5	9080	100	17,640	100					
	245/70R19.5H (16PR)	7.5					9880	120	18,700	120	Michelin XDE M/S
	245/70R19.5H (16PR)	7.5					9880	120	8480	120	Michelin XZE
	265/70R19.5G (14PR)	7.5	10,710	120	20,280	120					
22.5x7.50 STL	9R22.5F (12PR)	7.5	9080	105	17,200	105					
	10R22.5F (12PR)	7.5	10,410	100	19,760	100	10,410	100	19,760	100	
	10R22.5G (14PR)	7.5	11,350	115	21,420	115	11,350	115	21,420	115	
	11R22.5G (14PR)	7.5					12,350	105	23,360	105	
	11R22.5H (16PR)	7.5					13,220	120	24,020	120	
	235/80R22.5G (14PR)	7.5					9350	110	17,640	110	
	245/75R22.5G (14PR)	7.5	9350	110	17,640	110					
	255/70R22.5H (16PR)	7.5	11,020	120	20,280	120					
	255/80R22.5G (14PR)	7.5					10,410	110	19,220	110	
	275/70R22.5H (16PR)	7.5	13,880	125	25,580	125					
	275/70R22.5J (18PR)	7.5					13,880	130	25,580	120	
	275/80R22.5G (14PR)	7.5					12,350	110	22,700	110	
22.5x8.25 STL / ALUM	11R22.5G (14PR)	8.25	12,350	105	23,360	105	12,350	105	23,360	105	
	11R22.5H (16PR)	8.25	13,220	120	24,020	120	13,220	120	24,020	120	
	255/80R22.5G (14PR)	8.25					10,410	110	19,220	110	
	275/70R22.5J (18PR)	8.25					13,880	130	25,580	120	
	275/80R22.5G (14PR)	8.25					12,350	110	22,700	110	
	295/75R22.5G (14PR)	8.25	12,350	110	22,700	100					
	295/80R22.5H (16PR)	8.25					14,780	120	27,760	120	Michelin XZE2+

DIMENSIONAL DATA
F-650 SUPER DUTY ProLoader
REGULAR CAB CHASSIS

2008
MODEL YEAR



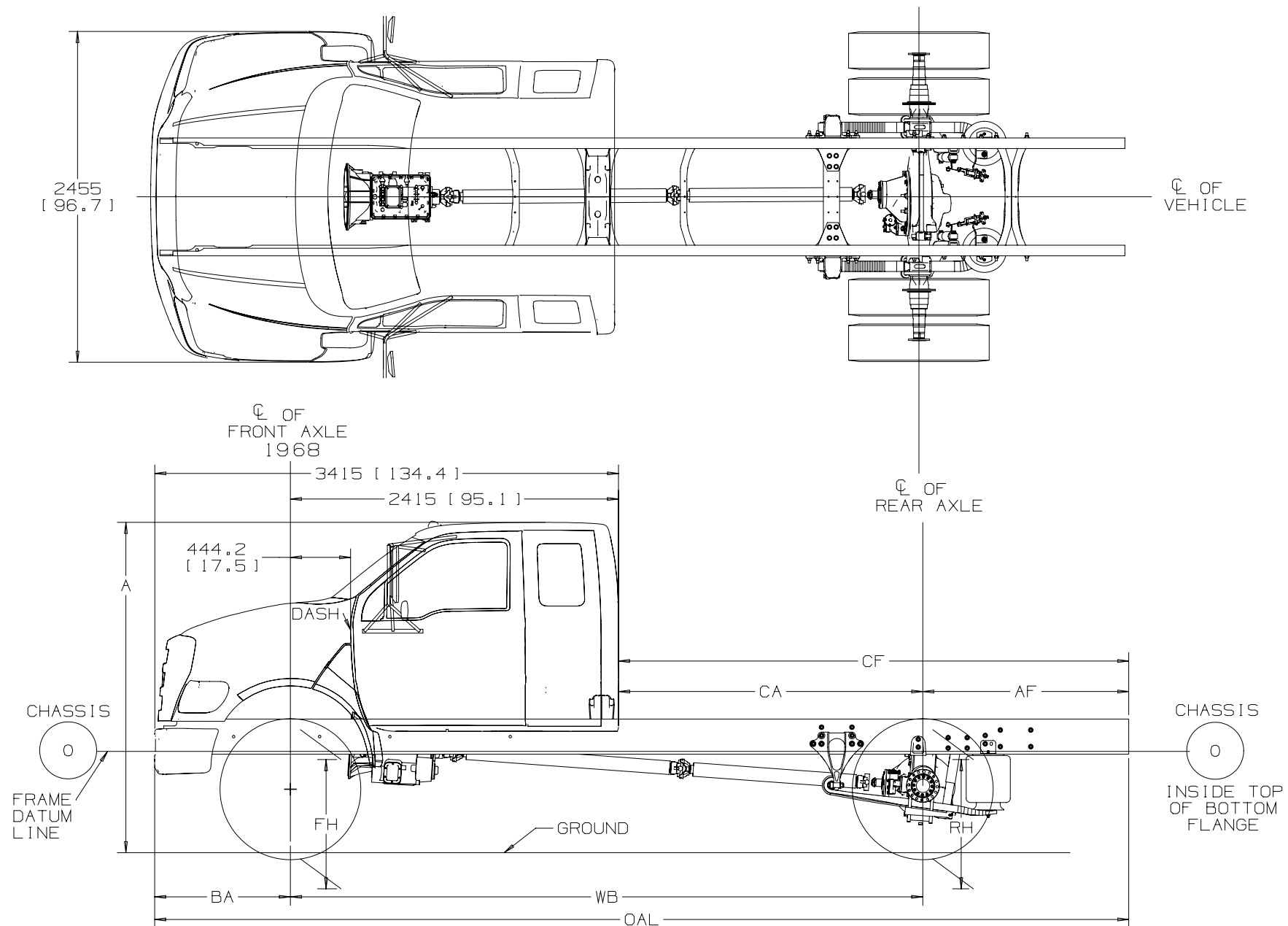
NOTES — [] DIMENSIONS ARE INCHES.
— WB, BA, CA, AF, CF, OAL DIMENSIONS SHOWN ON PAGE 198, TABLE C.
— FH, RH, & A SHOWN ON PAGE 198, TABLES A AND B.

DIMENSIONAL DATA **F-650 SUPER DUTY DOCK HEIGHT** **SUPERCAB CHASSIS**

2008
MODEL YEAR

Page 213

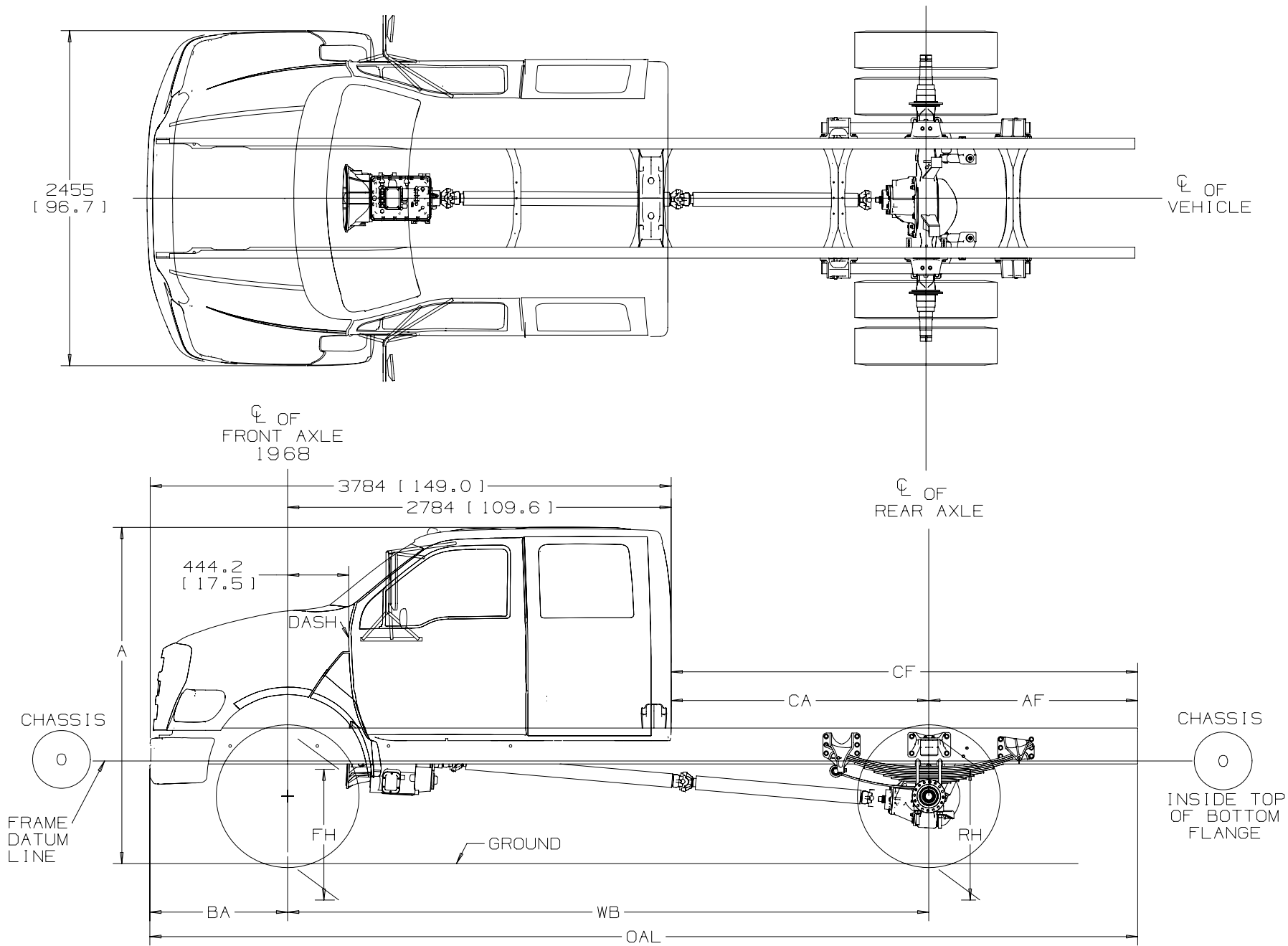
F-650/750



NOTES — [] DIMENSIONS ARE INCHES.
 — **WB, BA, CA, AF, CF, OAL** DIMENSIONS SHOWN ON PAGE 198, TABLE C.
 — **FH, RH, & A** SHOWN ON PAGE 198, TABLES A AND B.

DIMENSIONAL DATA
F-750 SUPER DUTY
CREW CAB CHASSIS

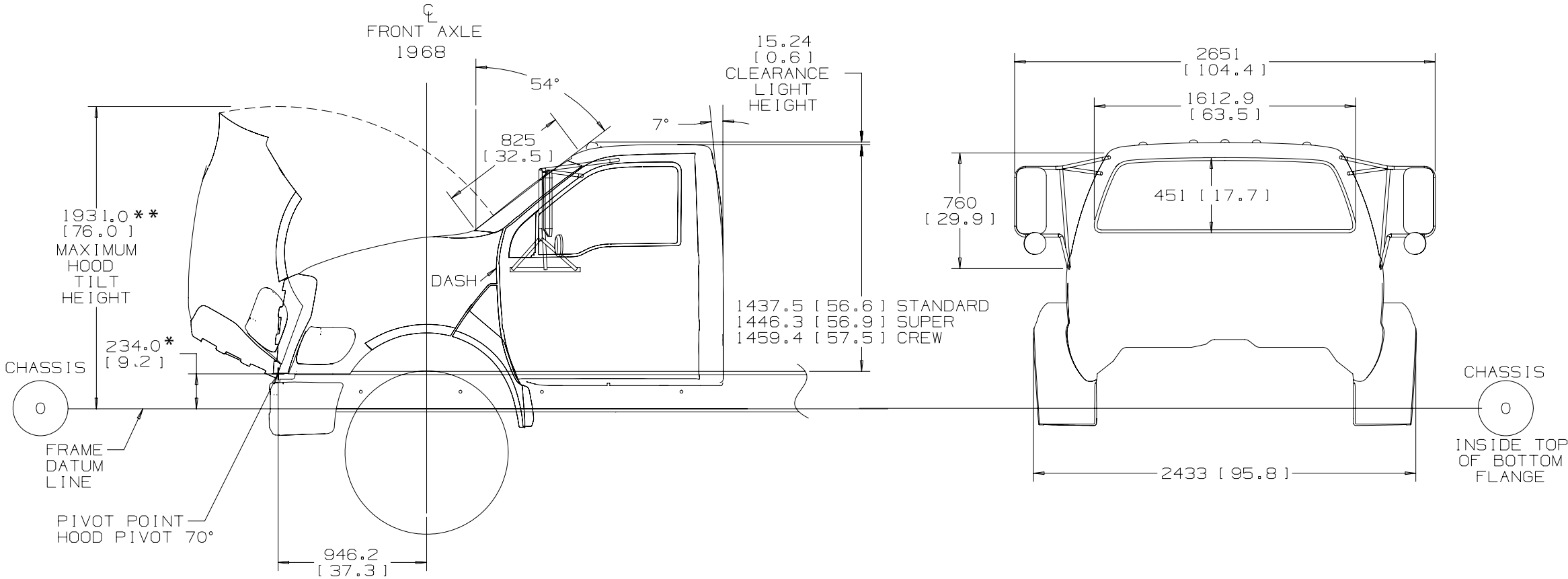
2008
MODEL YEAR



NOTES — [] DIMENSIONS ARE INCHES.
— WB, BA, CA, AF, CF, OAL DIMENSIONS SHOWN ON PAGE 198, TABLE C.
— FH, RH, & A SHOWN ON PAGE 198, TABLES A AND B.

DIMENSIONAL DATA
F-650/F-750 SUPER DUTY
HOOD TILT & BACK OF CAB

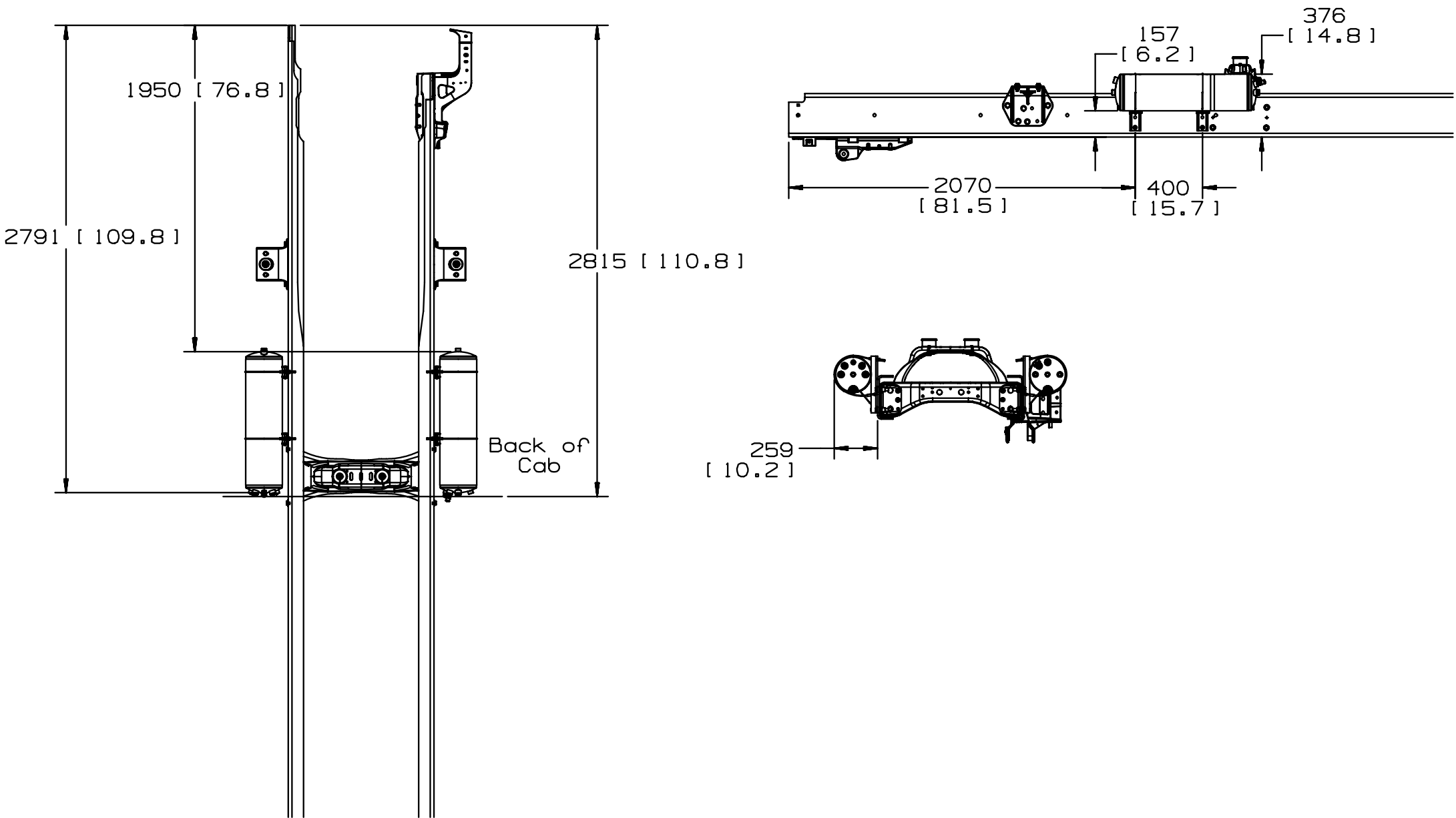
2008
MODEL YEAR



NOTES — [] DIMENSIONS ARE INCHES.
— TOP-OF-FRAME TO TOP-OF-CAB HEIGHT
BASED OFF OF 10.125" X 3.062" X 0.312"
(257.2MM X 77.8MM X 8.0MM) FRAME RAILS.
* — WITH FIXED GRILL HOOD AND CROSSMEMBER,
PIVOT POINT HEIGHT IS 274 [10.8].
** — WITH FIXED GRILL HOOD AND CROSSMEMBER,
MAXIMUM HOOD TILT HEIGHT IS 1959 [77.1]

F-650/F-750 SUPER DUTY
BRAKES – AIR TANKS – REGULAR CAB

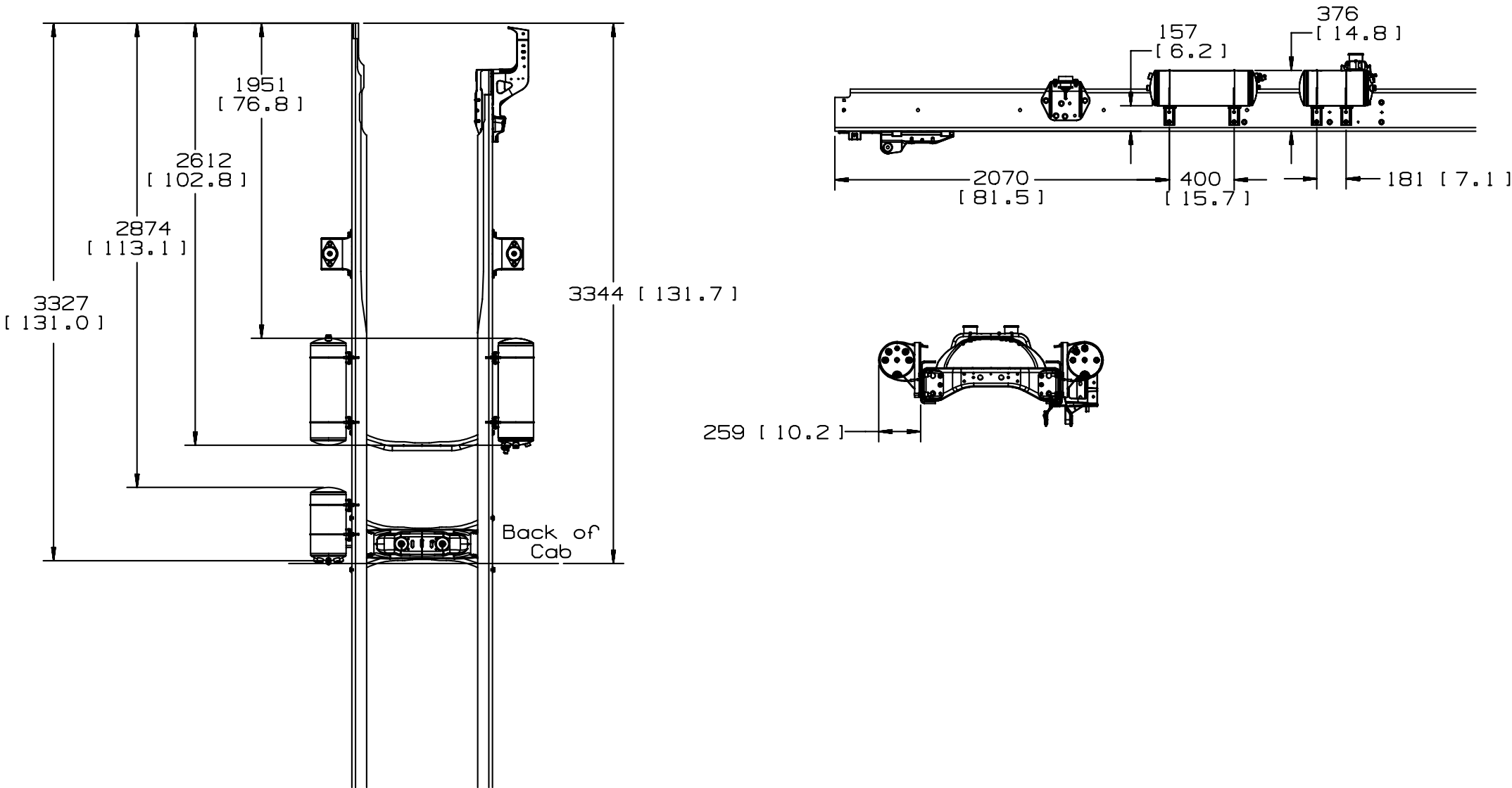
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY
BRAKES – AIR TANKS – SUPER CAB

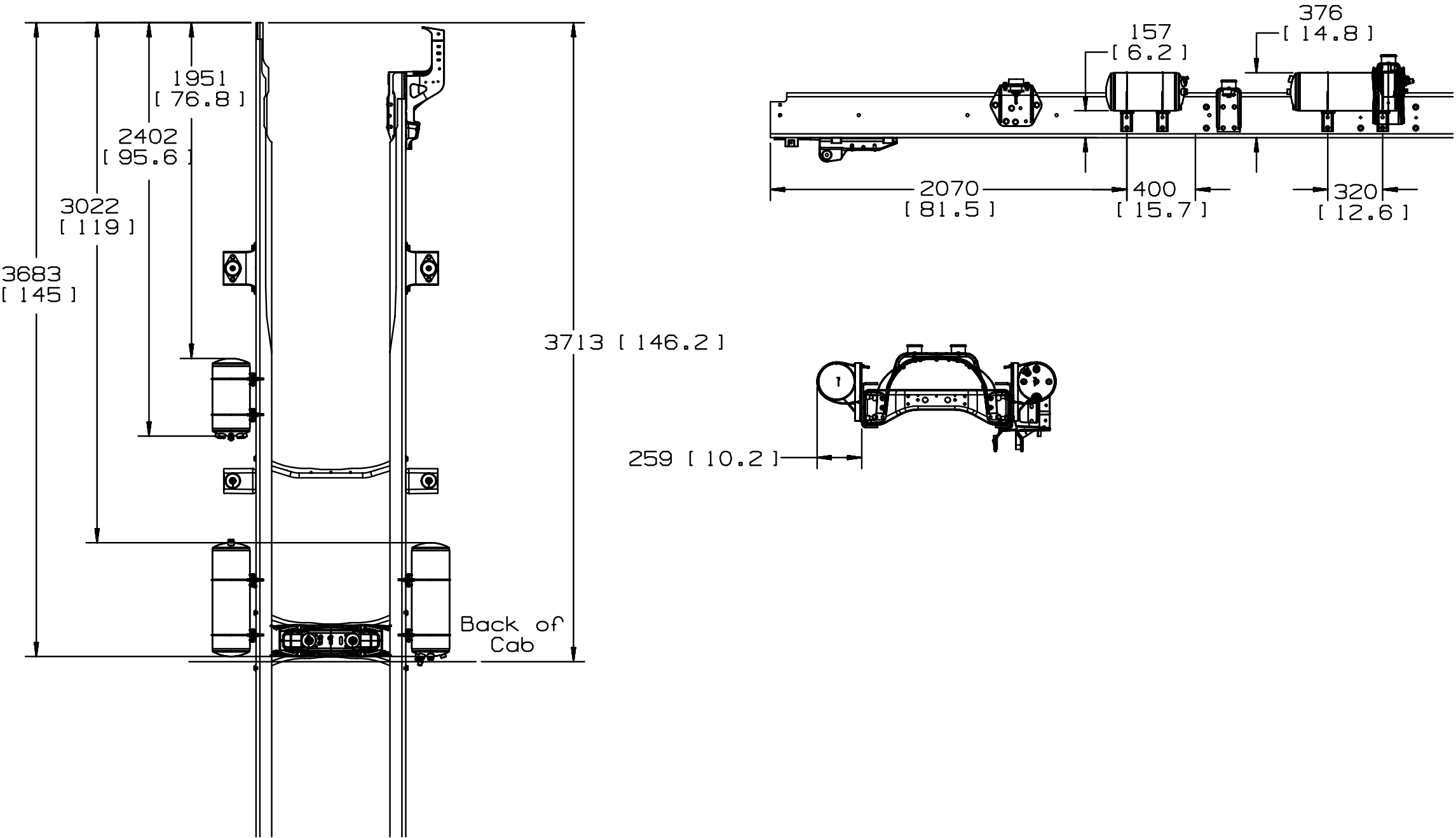
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY
BRAKES – AIR TANKS – CREW CAB

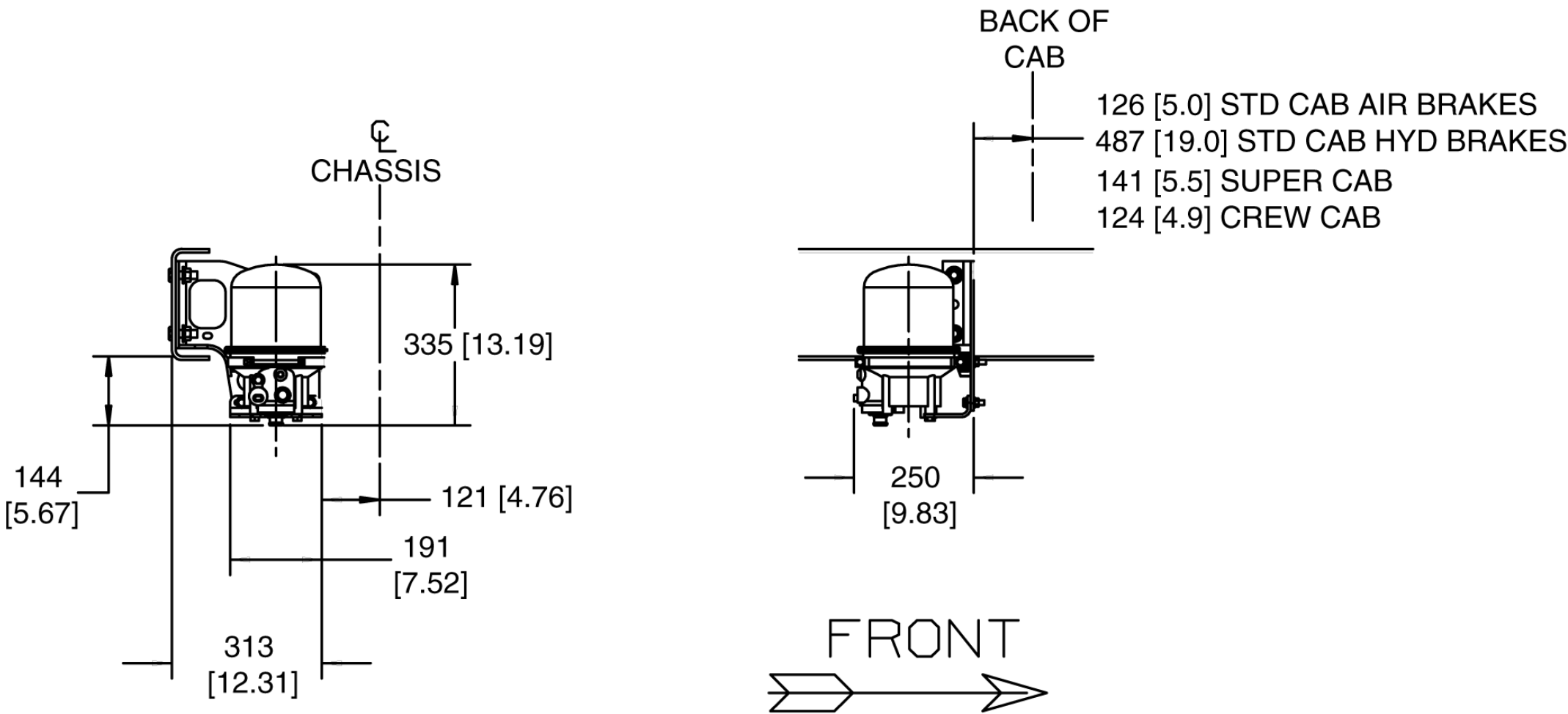
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY
AIR DRYER LOCATIONS

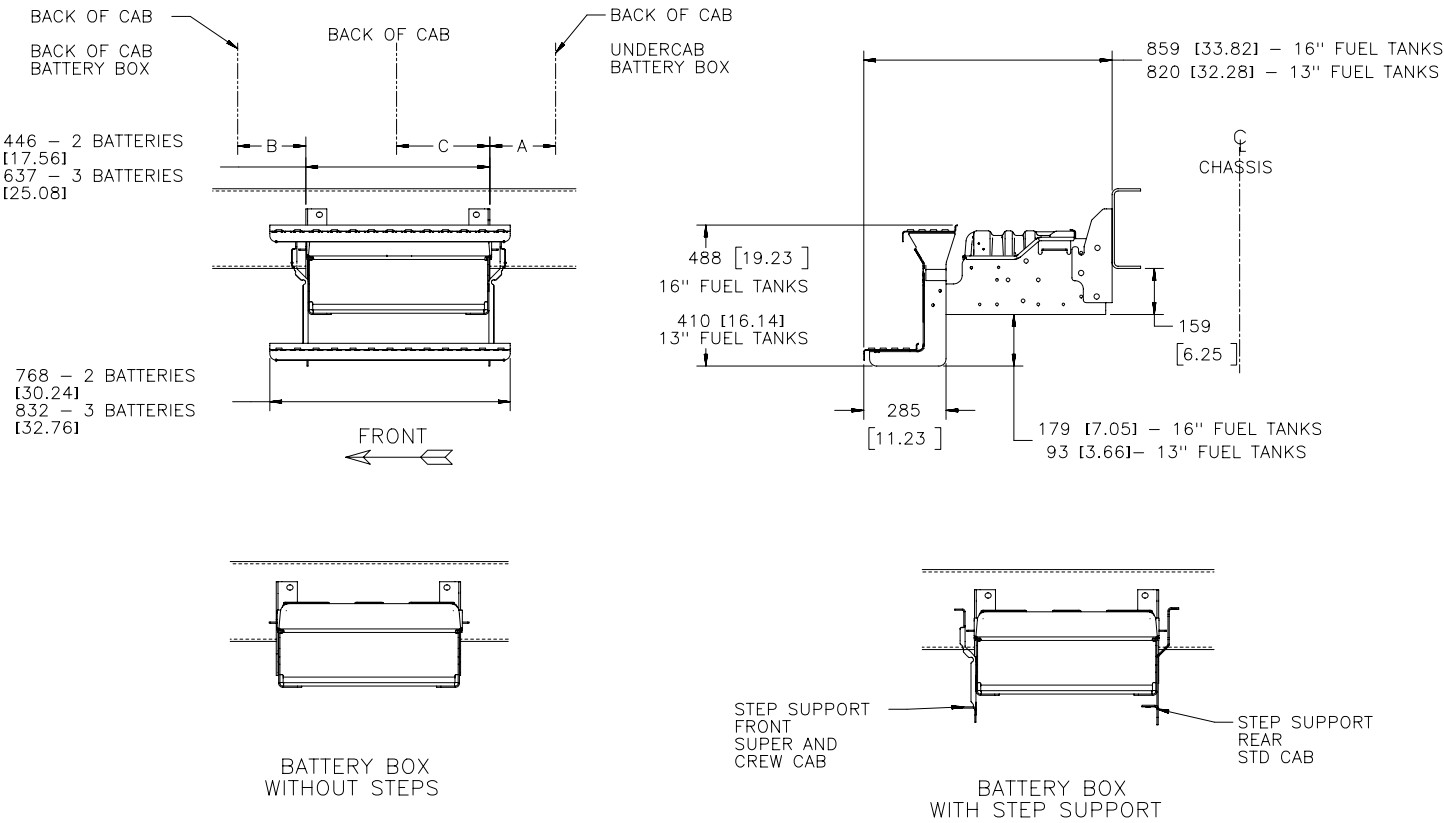
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY
BATTERY BOX LOCATIONS

2008
MODEL YEAR



CODE	DIM A	SIDE
STD CAB 2 BATT	5 (0.20)	LSM
CREW CAB 2 BATT	239 (9.41)	LSM
CREW CAB 3 BATT	42 (1.65)	LSM
STD CAB 2 BATT	487 (19.17)	RSM
STD CAB 3 BATT	390 (15.35)	RSM
SUPER CAB 2 BATT	1015 (39.96)	RSM
SUPER CAB 3 BATT	921 (36.26)	RSM
CREW CAB 2 BATT	1387 (54.61)	RSM
CREW CAB 3 BATT	1290 (50.79)	RSM

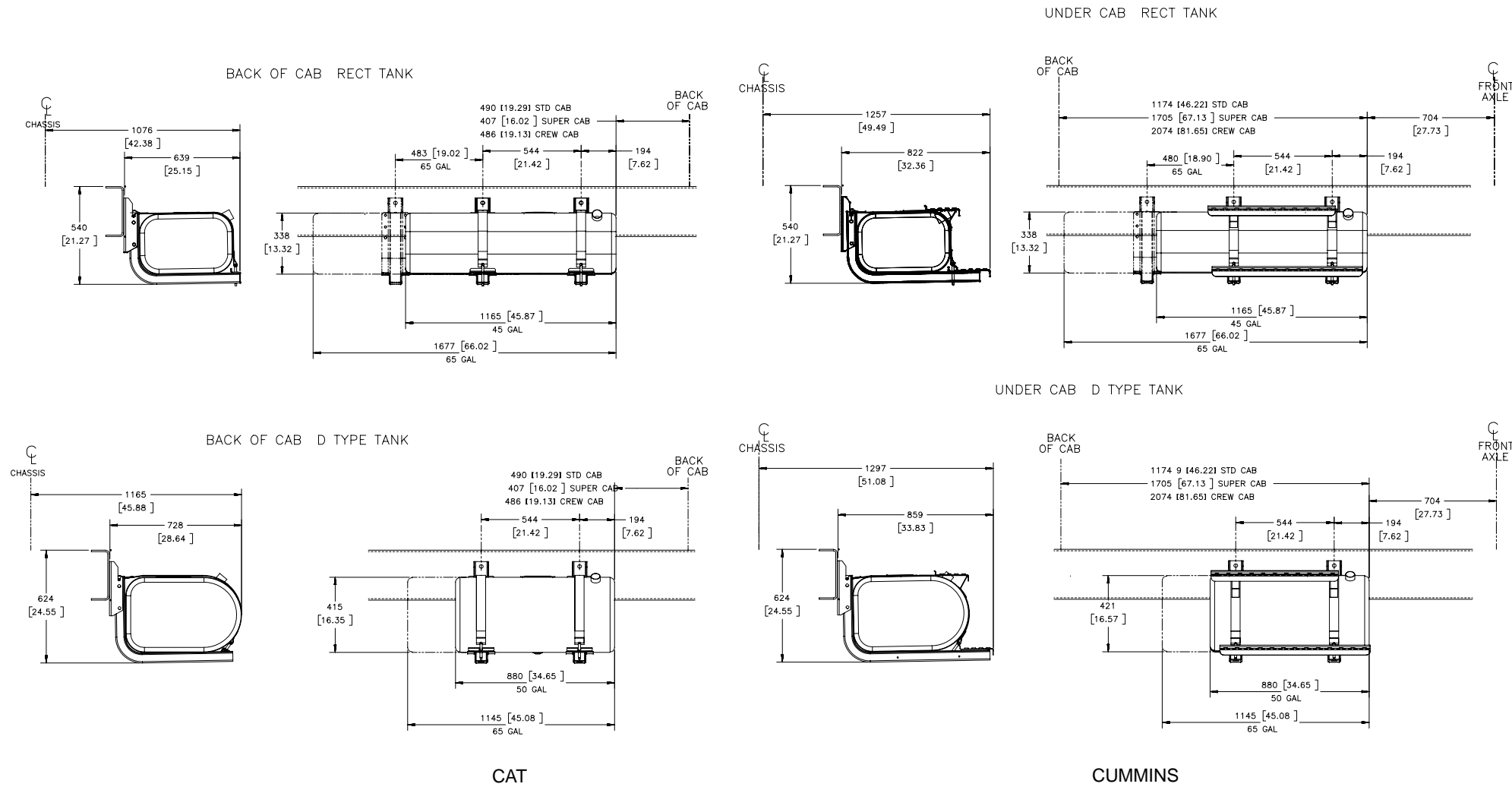
CODE	DIM B	SIDE
STD CAB 2/3 BATT	221 (8.70)	LSM
STD CAB 2/3 BATT	894 (35.20)	LSM
SUPER CAB 2/3 BATT	362 (14.25)	LSM

CODE	DIM C	SIDE
SUPER CAB 2/3 BATT	122 (4.80)	LSM
CREW CAB 2/3 BATT	6 (0.24)	LSM

NOTE — [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY ProLoader
FUEL TANK LOCATION – RIGHT SIDE MOUNT

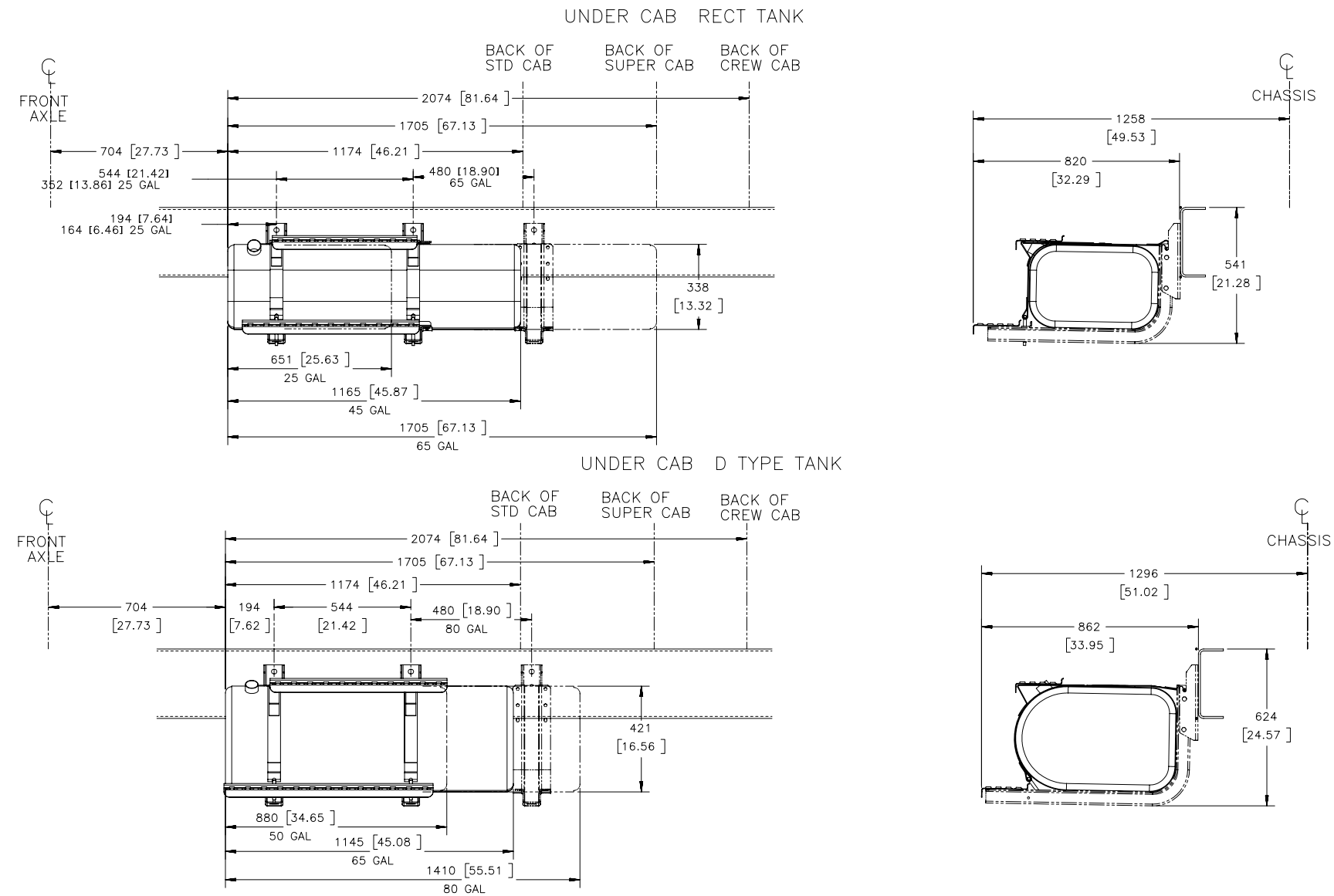
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY ProLoader
FUEL TANK LOCATION – LEFT SIDE MOUNT

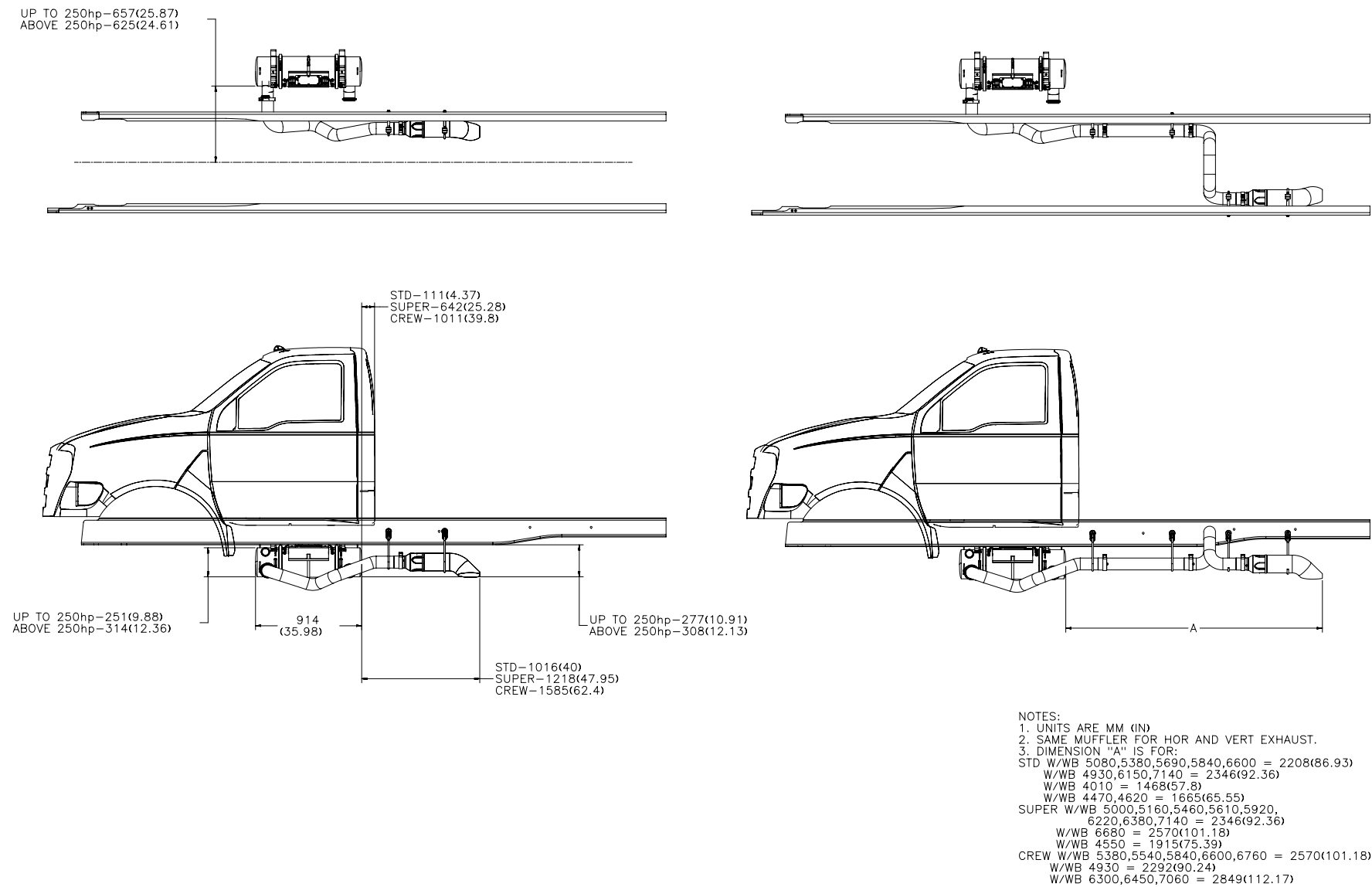
2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY
EXHAUST SYSTEM DATA
CATERPILLAR C7

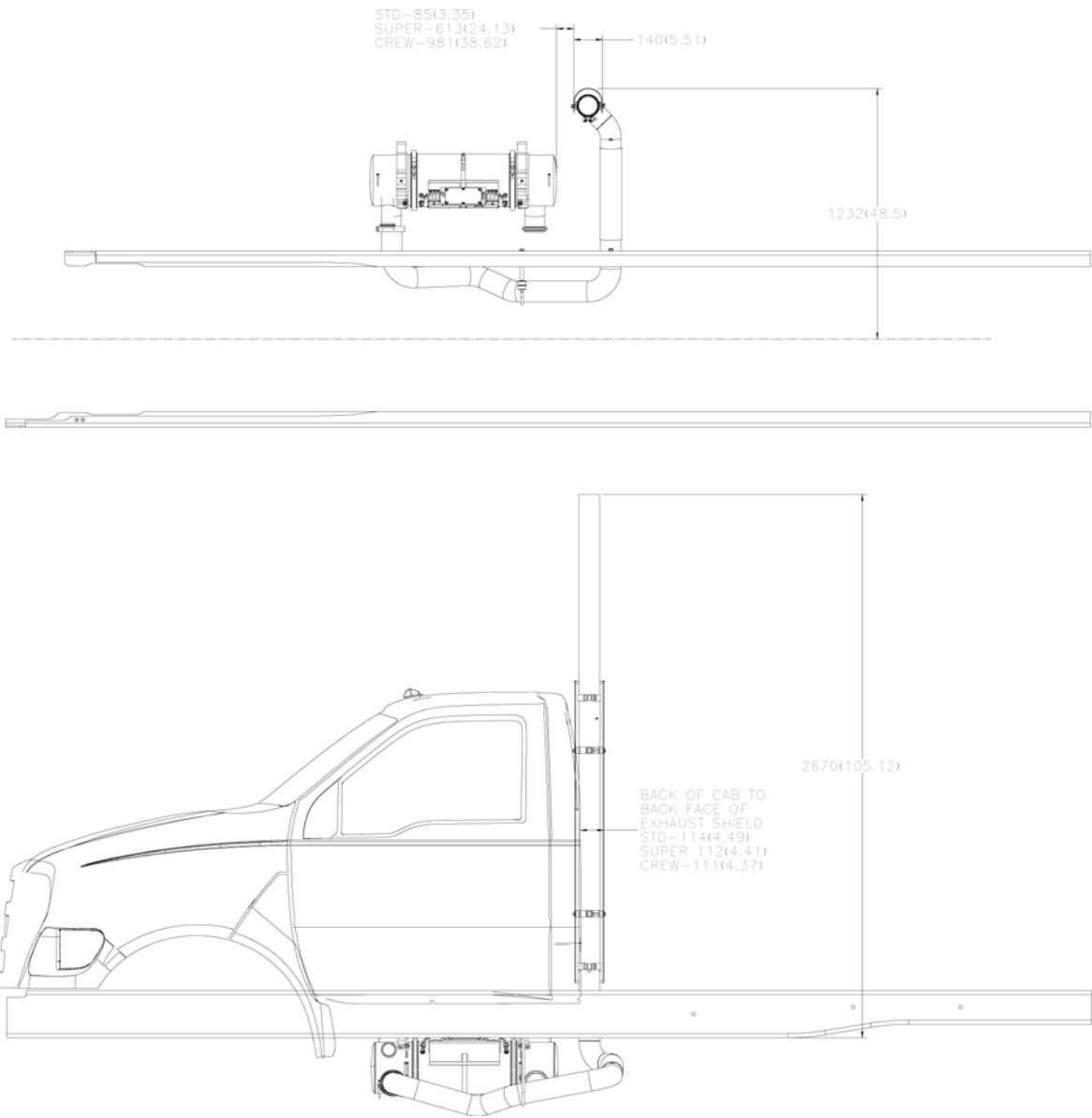
2008
MODEL YEAR



NOTES — ALTERATIONS OF EXHAUST SYSTEM MAY REQUIRE EMISSIONS
RECERTIFICATION AND NOISE TESTING TO DETERMINE
COMPLIANCE TO FEDERAL AND/OR LOCAL EMISSIONS AND
NOISE STANDARDS.
— FOR SAFETY/EMISSION NOTES AND DECALS, AND NOISE
RESTRICTIONS, SEE THE SAFETY AND EMISSIONS SECTION.
— [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY
EXHAUST SYSTEM DATA
CATERPILLAR C7

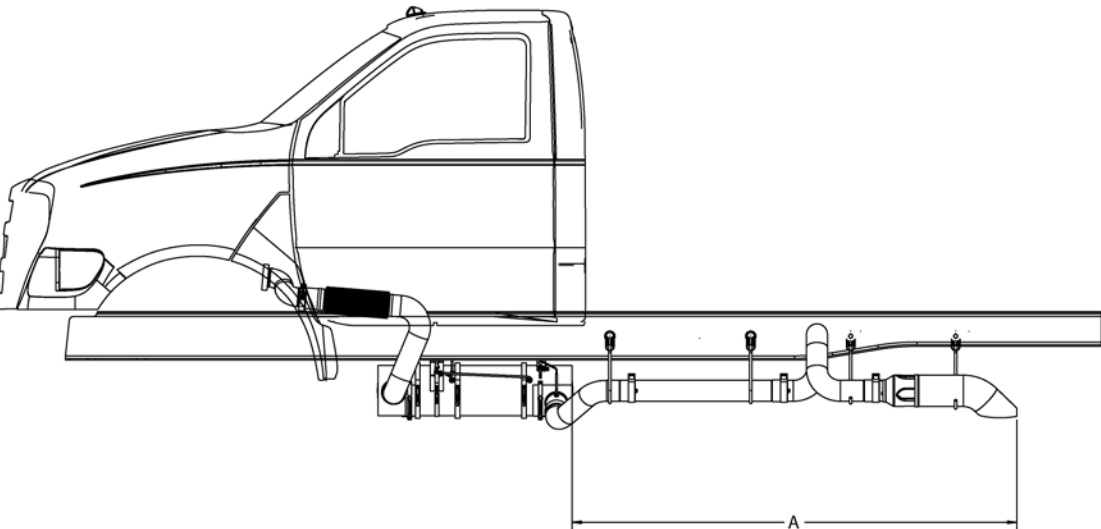
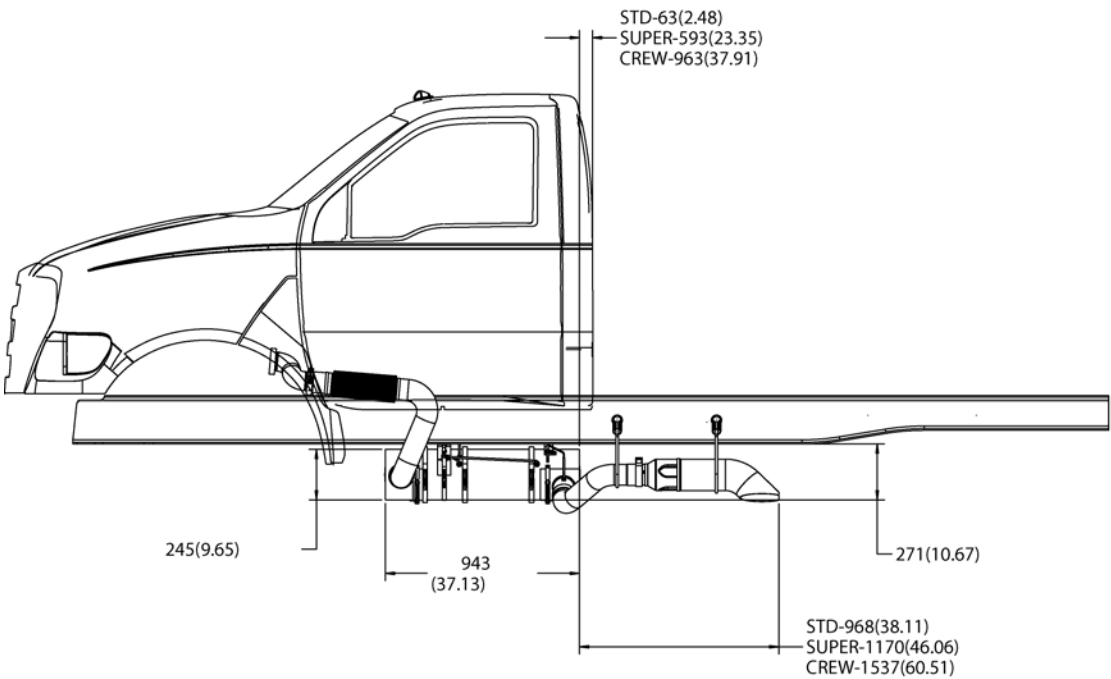
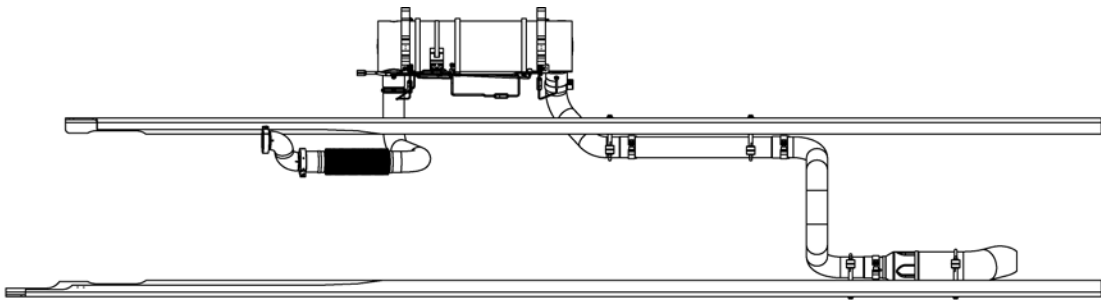
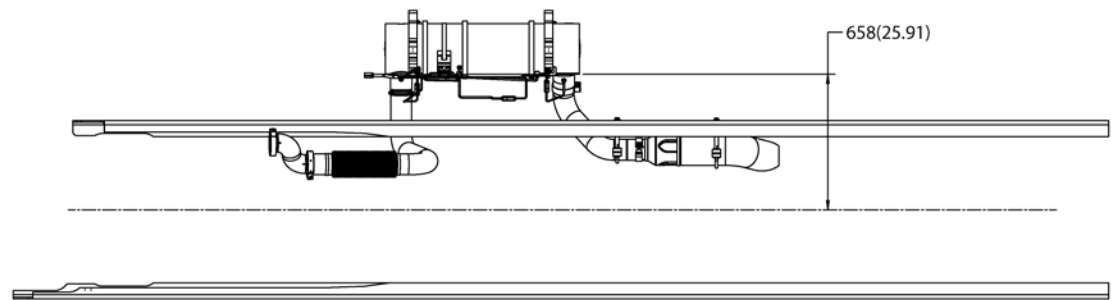
2008
MODEL YEAR



NOTES — ALTERATIONS OF EXHAUST SYSTEM MAY REQUIRE EMISSIONS RECERTIFICATION AND NOISE TESTING TO DETERMINE COMPLIANCE TO FEDERAL AND/OR LOCAL EMISSIONS AND NOISE STANDARDS.
— FOR SAFETY/EMISSION NOTES AND DECALS, AND NOISE RESTRICTIONS, SEE THE SAFETY AND EMISSIONS SECTION.
— [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY
EXHAUST SYSTEM DATA
CUMMINS 6.7L ISB

2008
MODEL YEAR

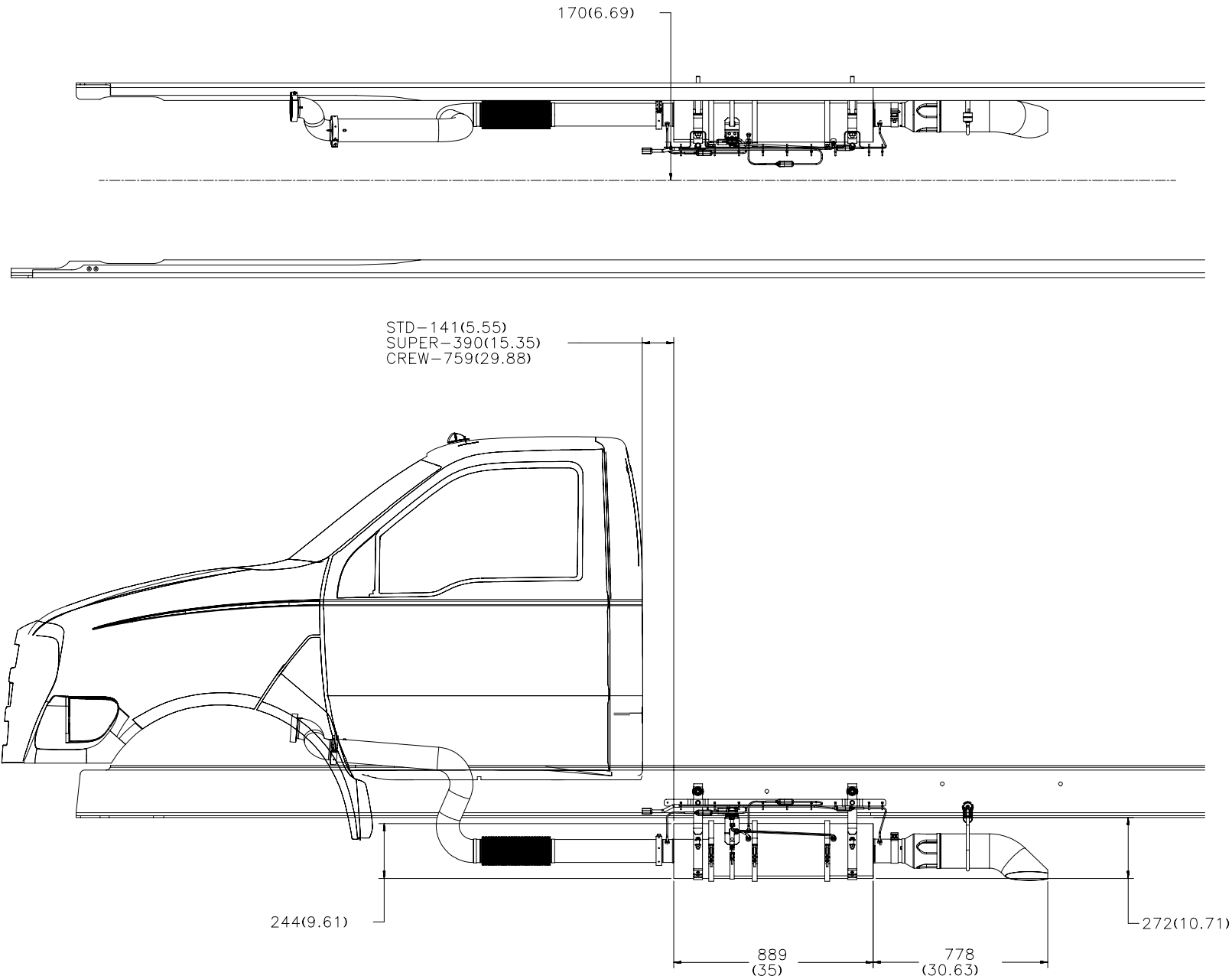


NOTES:
1. UNITS ARE MM (IN)
2. SAME MUFFLER FOR HOR AND VERT EXHAUST.
3. DIMENSION "A" IS FOR:
STD W/WB 5080,5380,5690,5840,6600 = 2160(85.04)
W/WB 4930,6150,7140 = 2298(90.47)
W/WB 4010 = 1420(55.91)
W/WB 4470,4620 = 1617(63.66)
SUPER W/WB 5000,5160,5460,5610,5920,
6220,6380,7140 = 2298(90.47)
W/WB 6680 = 2522(99.29)
W/WB 4550 = 1867(73.50)
CREW W/WB 5380,5540,5840,6600,6760 = 2522(99.29)
W/WB 4930 = 2244(88.35)
W/WB 6300,6450,7060 = 2801(110.28)

NOTES — ALTERATIONS OF EXHAUST SYSTEM MAY REQUIRE EMISSIONS
RECERTIFICATION AND NOISE TESTING TO DETERMINE
COMPLIANCE TO FEDERAL AND/OR LOCAL EMISSIONS AND
NOISE STANDARDS.
— FOR SAFETY/EMISSION NOTES AND DECALS, AND NOISE
RESTRICTIONS, SEE THE SAFETY AND EMISSIONS SECTION.
— [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY
EXHAUST SYSTEM DATA
CUMMINS 6.7L ISB

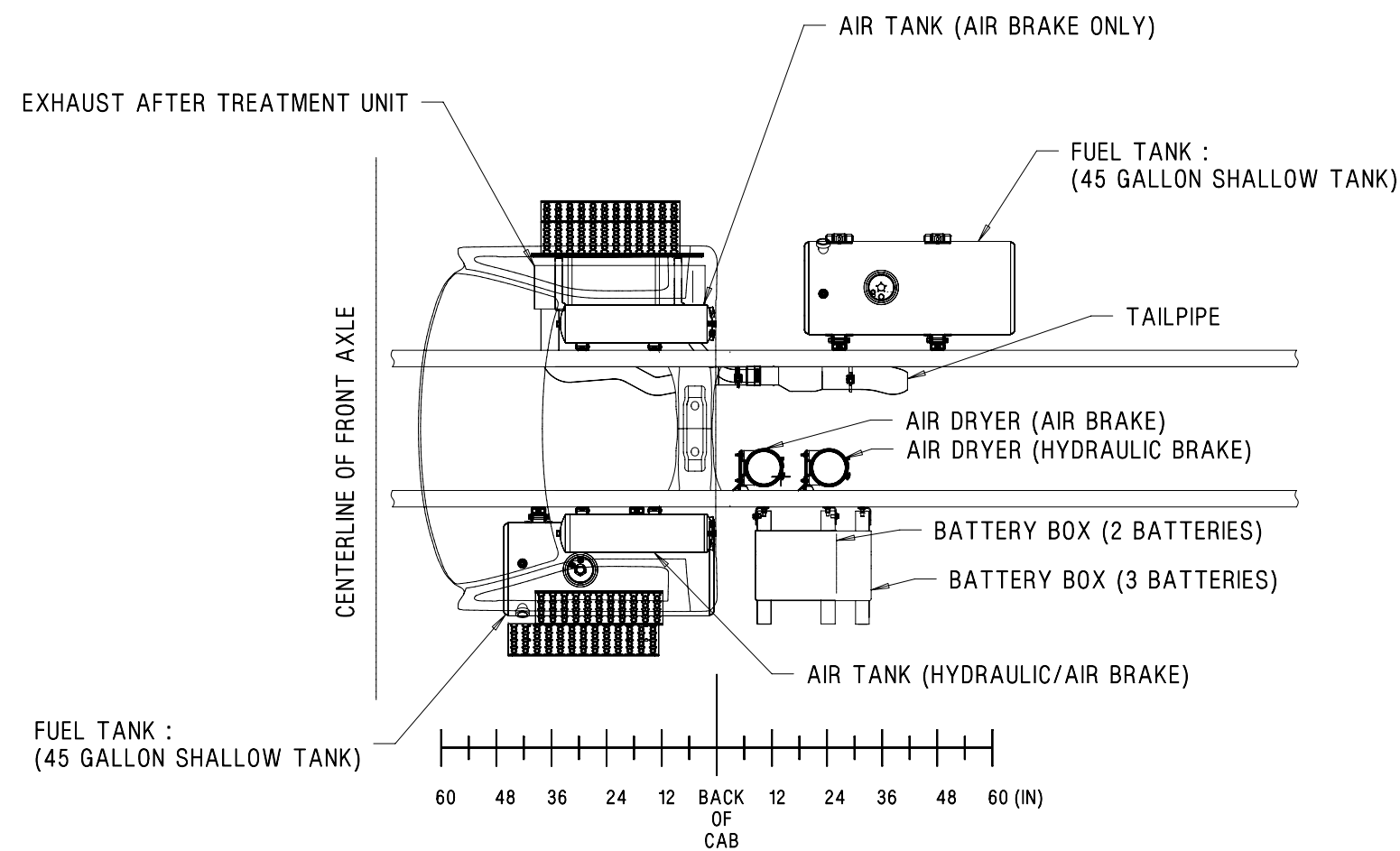
2008
MODEL YEAR



NOTES — ALTERATIONS OF EXHAUST SYSTEM MAY REQUIRE EMISSIONS RECERTIFICATION AND NOISE TESTING TO DETERMINE COMPLIANCE TO FEDERAL AND/OR LOCAL EMISSIONS AND NOISE STANDARDS.
— FOR SAFETY/EMISSION NOTES AND DECALS, AND NOISE RESTRICTIONS, SEE THE SAFETY AND EMISSIONS SECTION.
— [] DIMENSIONS ARE INCHES.

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

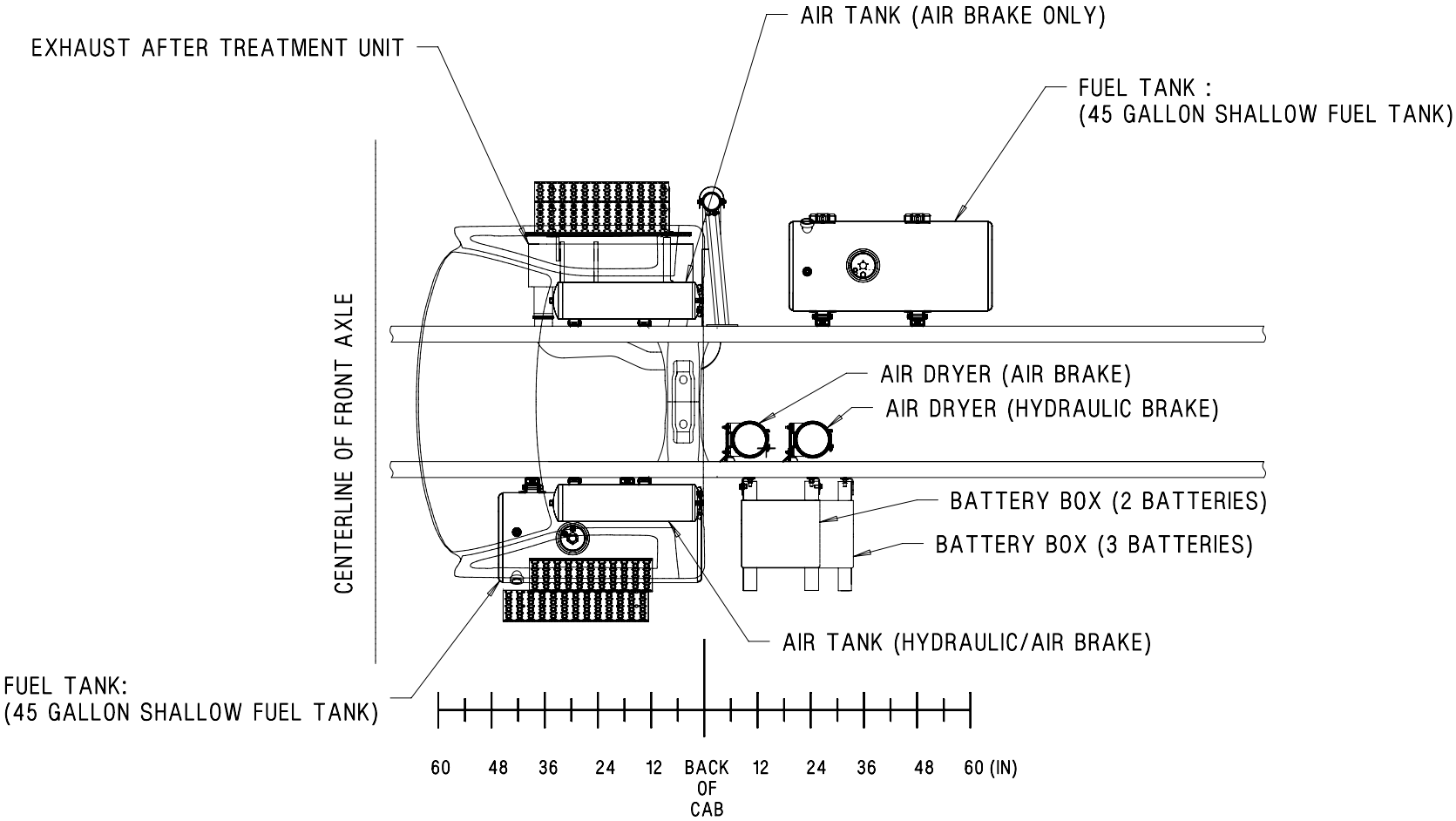


AVAILABLE WITH F650PL/F650/F750

REGULAR CAB WITH BACK OF CAB RIGHT SIDE HORIZONTAL EXHAUST AND WITH DUAL 45/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

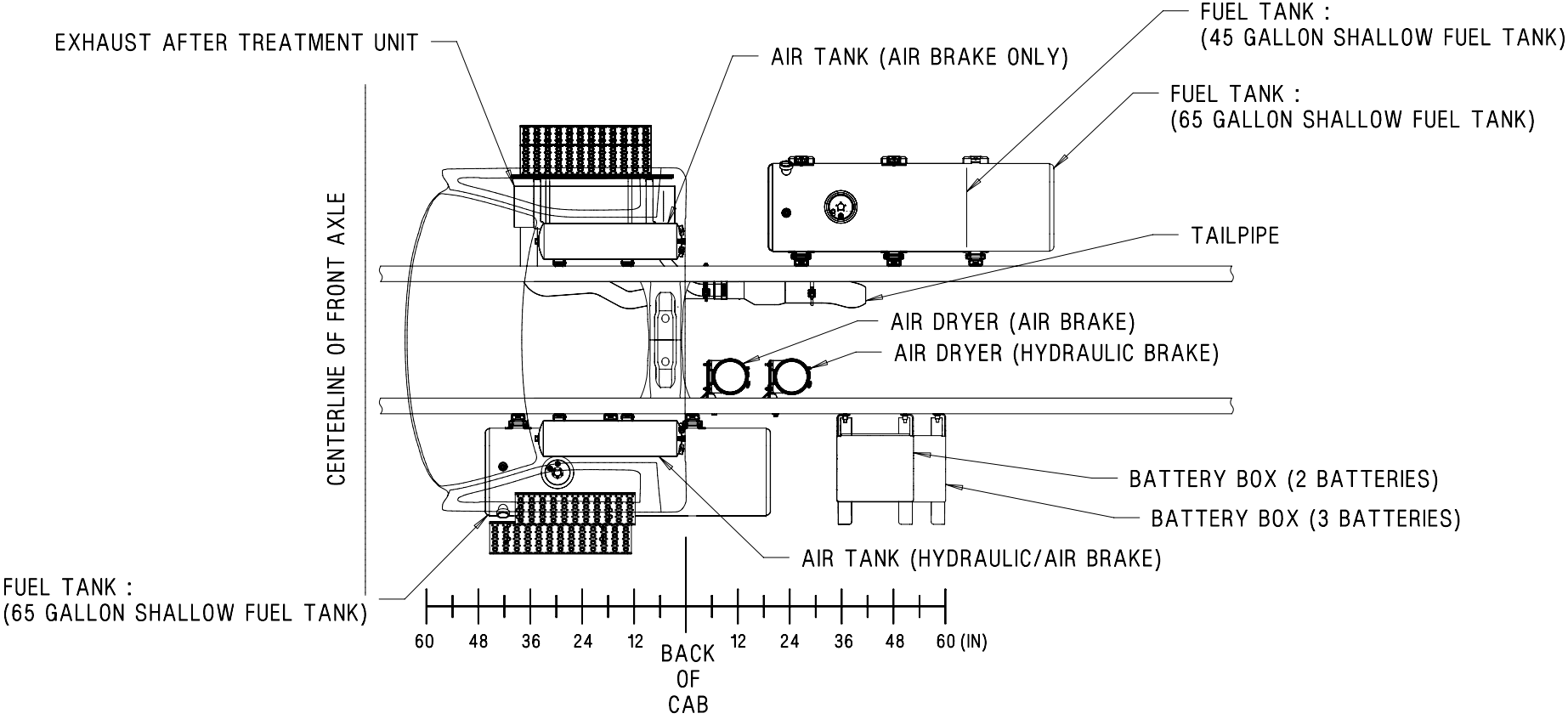


AVAILABLE WITH F650PL/F650/F750

REGULAR CAB WITH BACK OF CAB RIGHT SIDE VERTICAL EXHAUST AND WITH DUAL 45/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

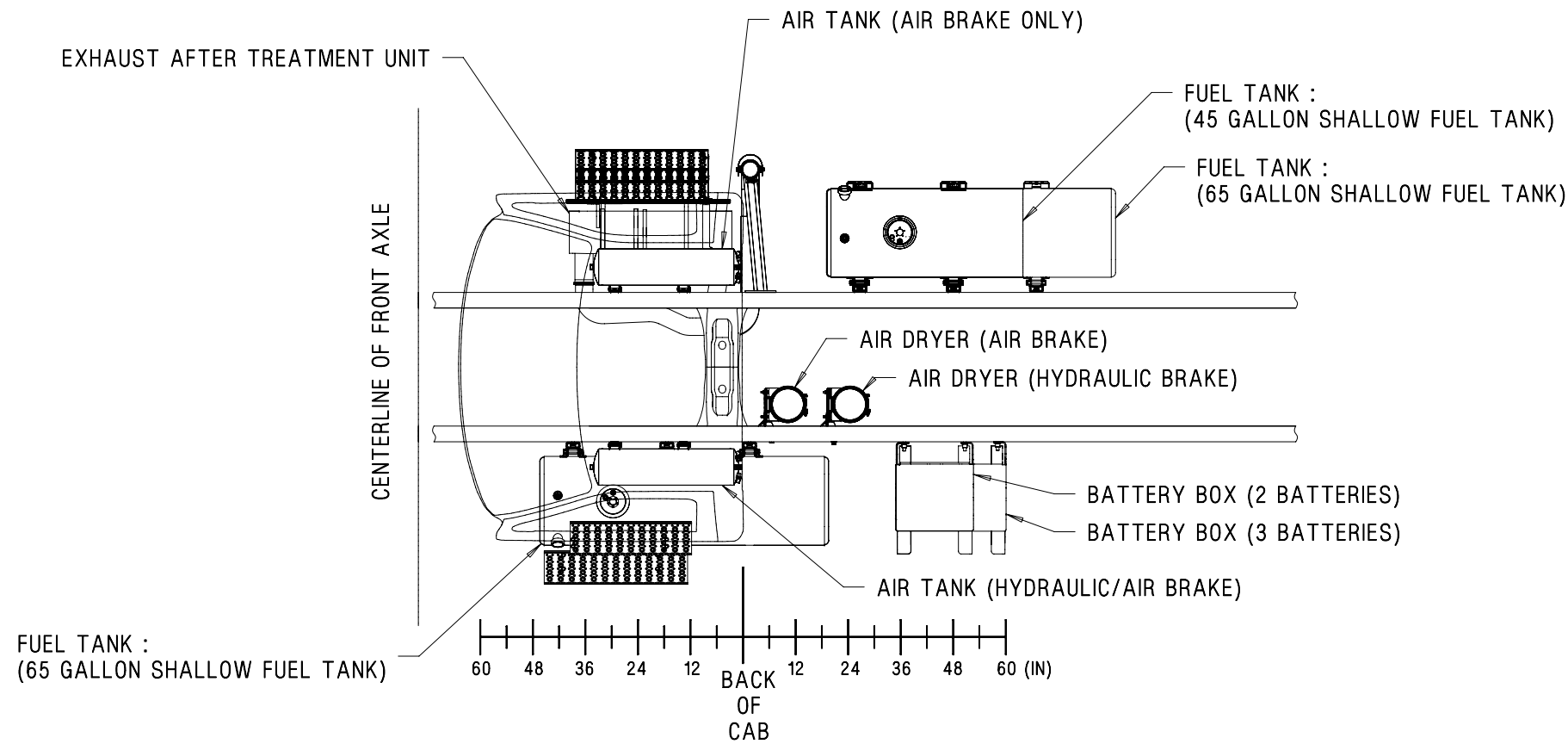


AVAILABLE WITH F650PL/F650/F750

REGULAR CAB WITH BACK OF CAB RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 65 OR DUAL 65/45, 65/65 SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

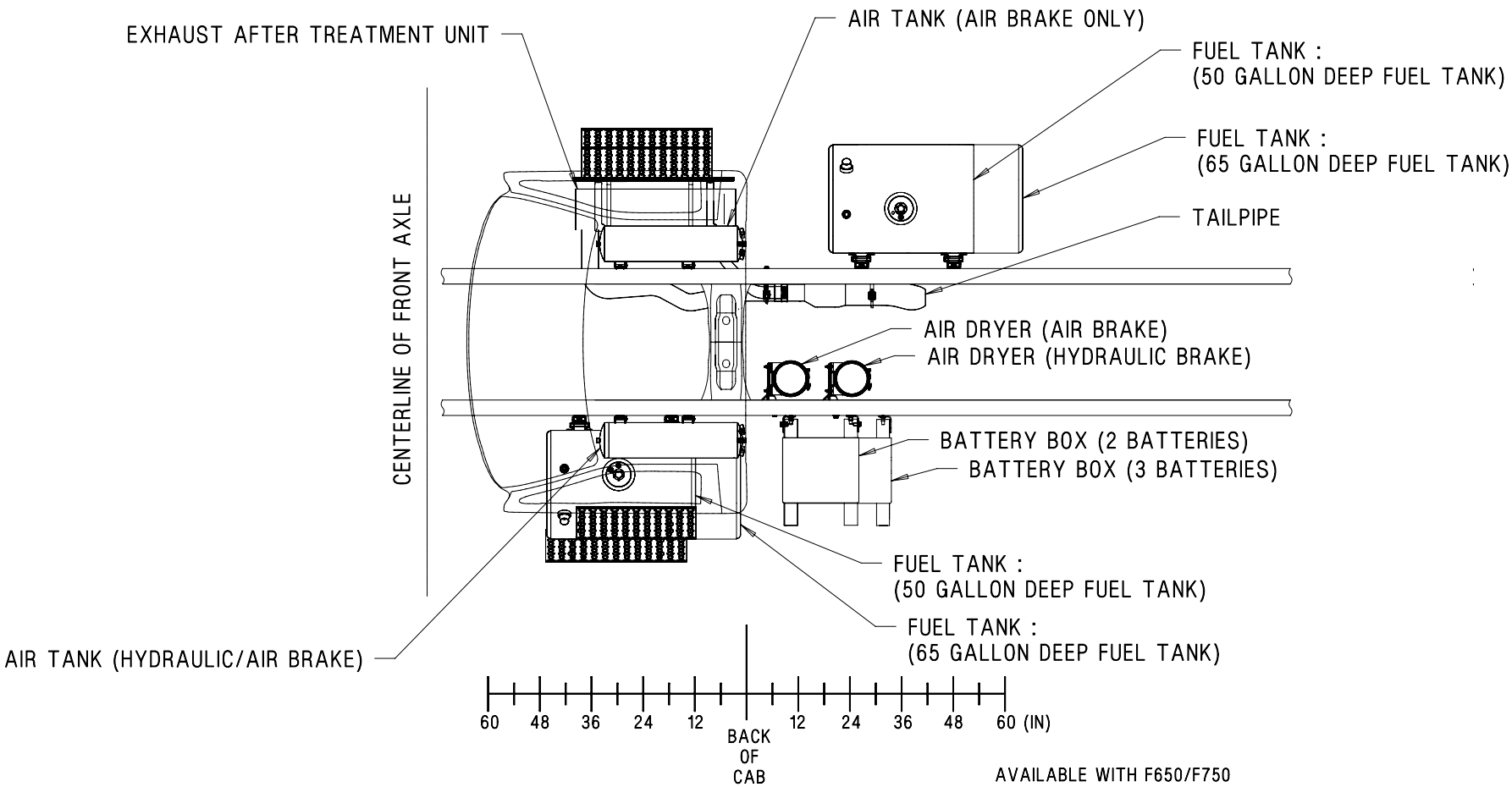


AVAILABLE WITH F650PL/F650/F750

REGULAR CAB WITH BACK OF CAB RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 65 OR DUAL 65/45, 65/65 SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

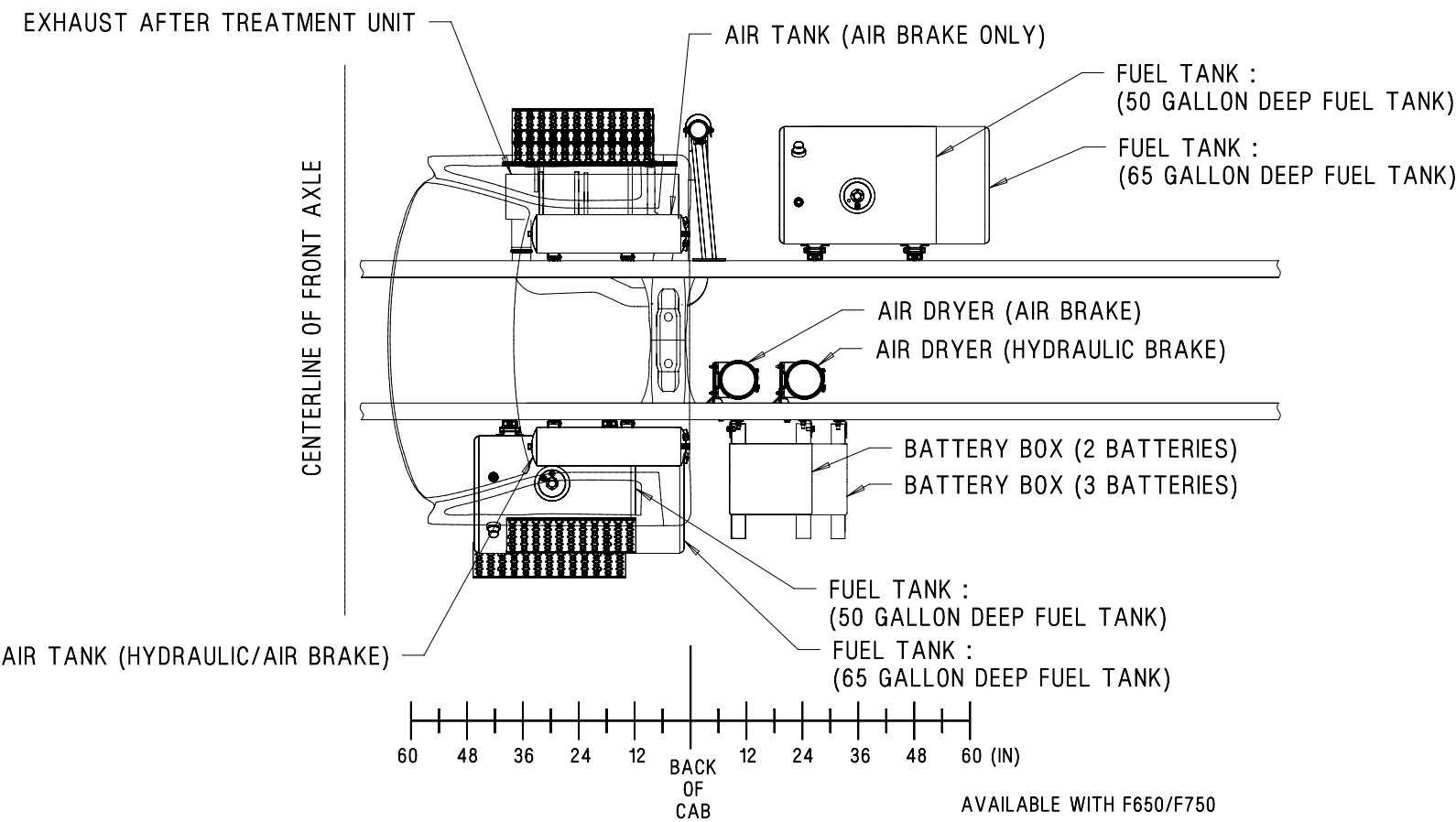
2008
MODEL YEAR



REGULAR CAB WITH BACK OF CAB RIGHT SIDE HORIZONTAL EXHAUST AND WITH DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

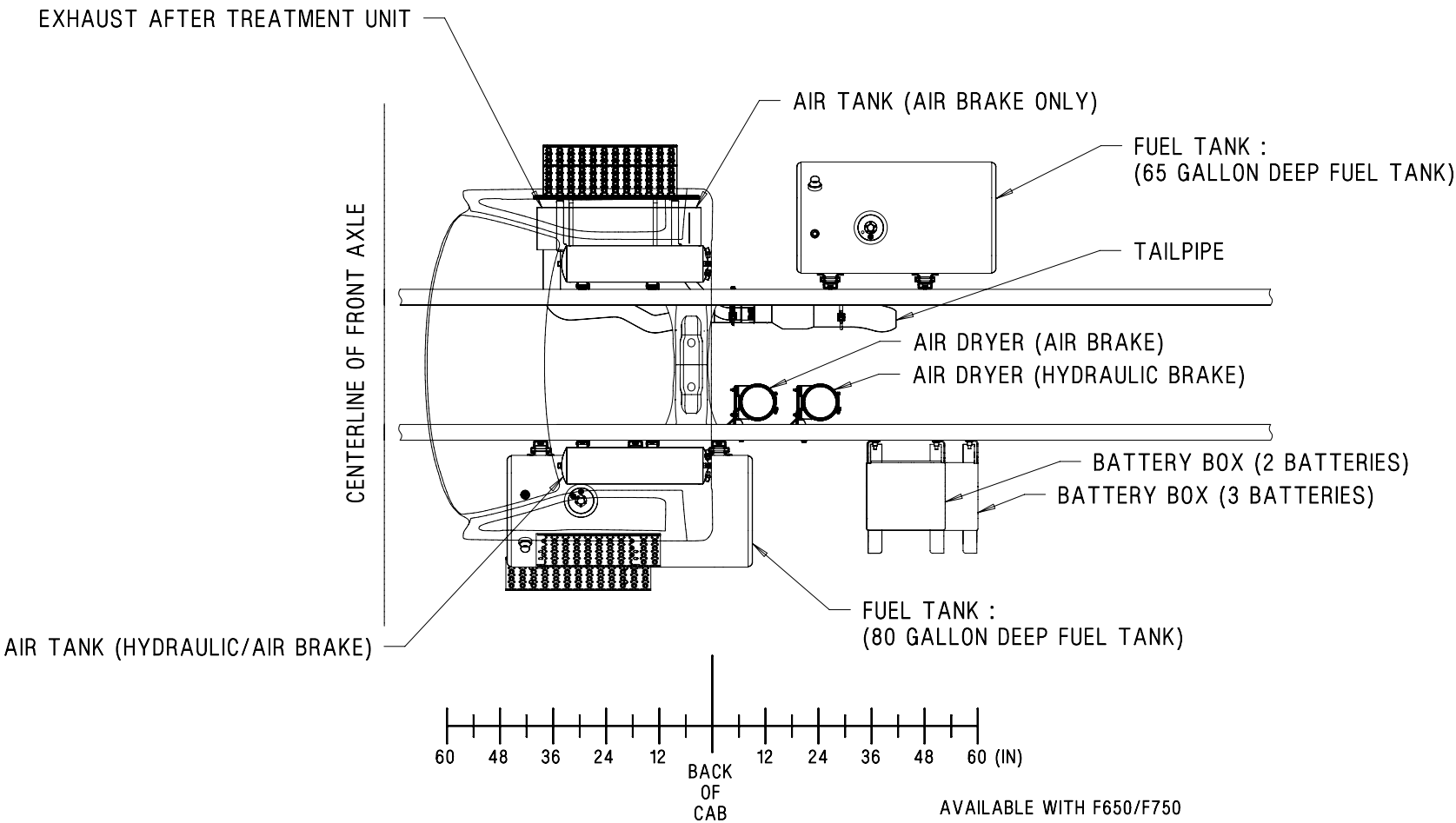
2008
MODEL YEAR



REGULAR CAB WITH BACK OF CAB RIGHT SIDE VERTICAL EXHAUST AND WITH DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

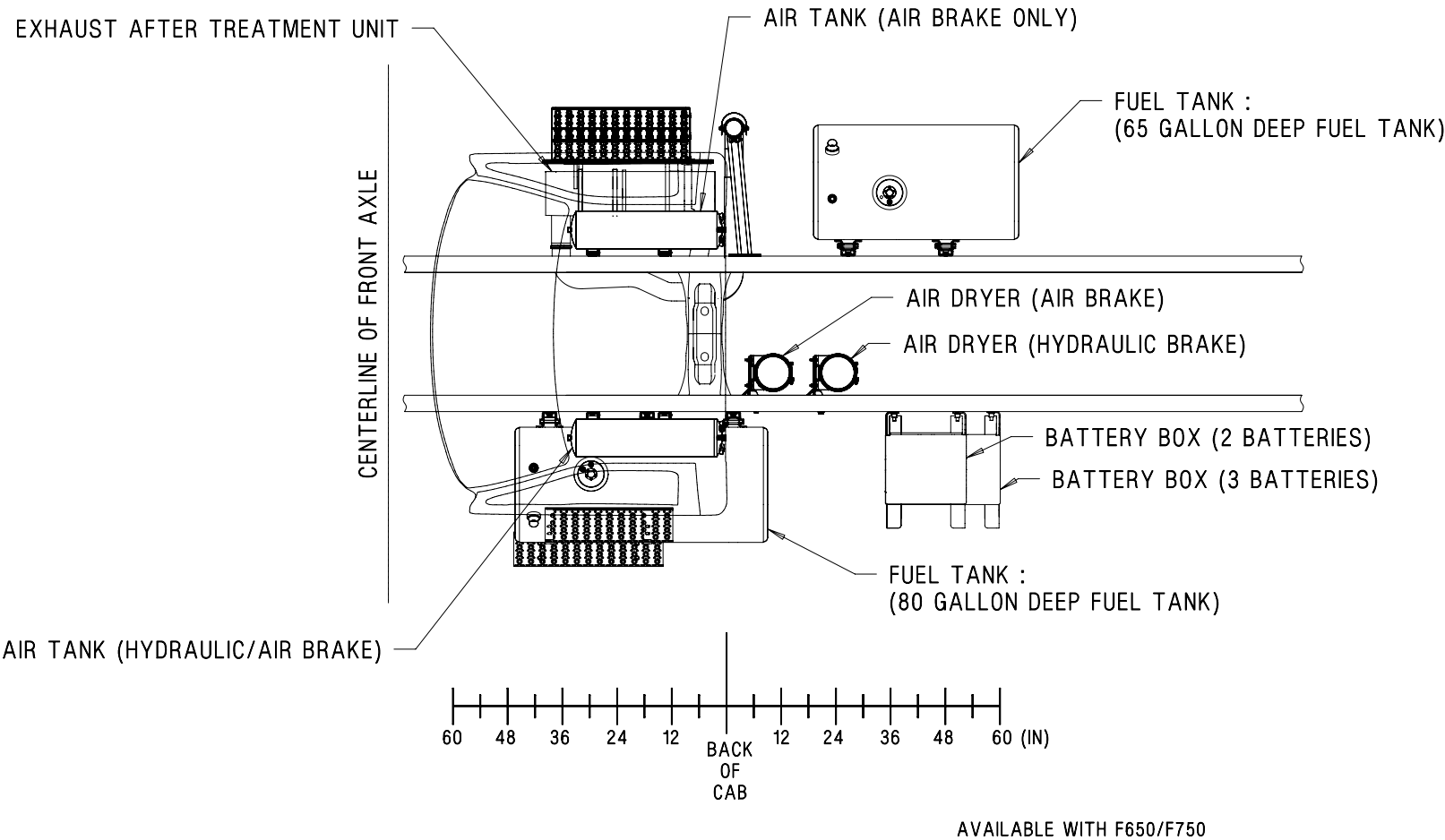
2008
MODEL YEAR



REGULAR CAB WITH BACK OF CAB RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 80 OR DUAL 80/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

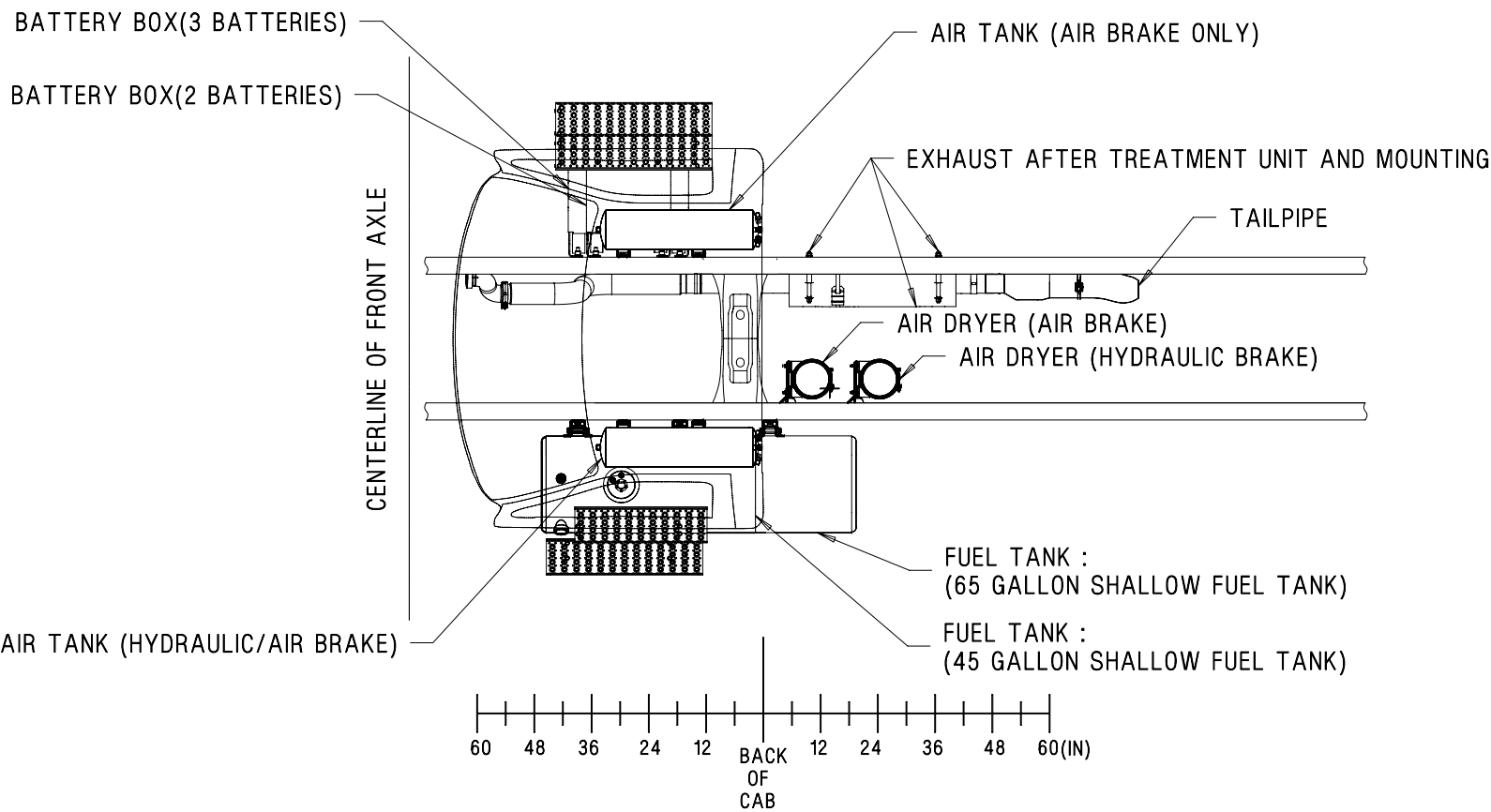
2008
MODEL YEAR



REGULAR CAB WITH BACK OF CAB RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 80 OR DUAL 80/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

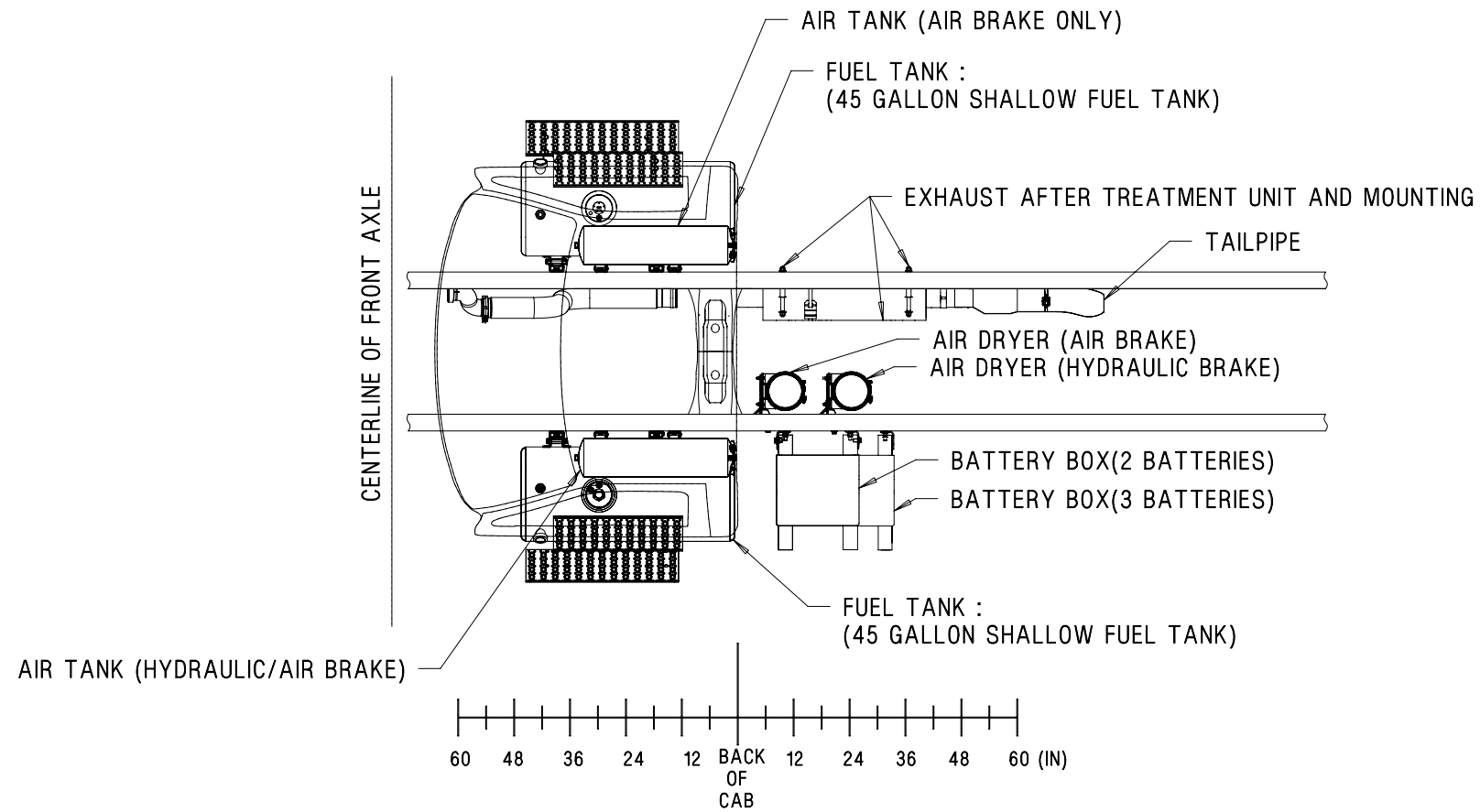


AVAILABLE WITH F650PL/F650/F750

REGULAR CAB WITH BACK OF CAB RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 45, 65 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

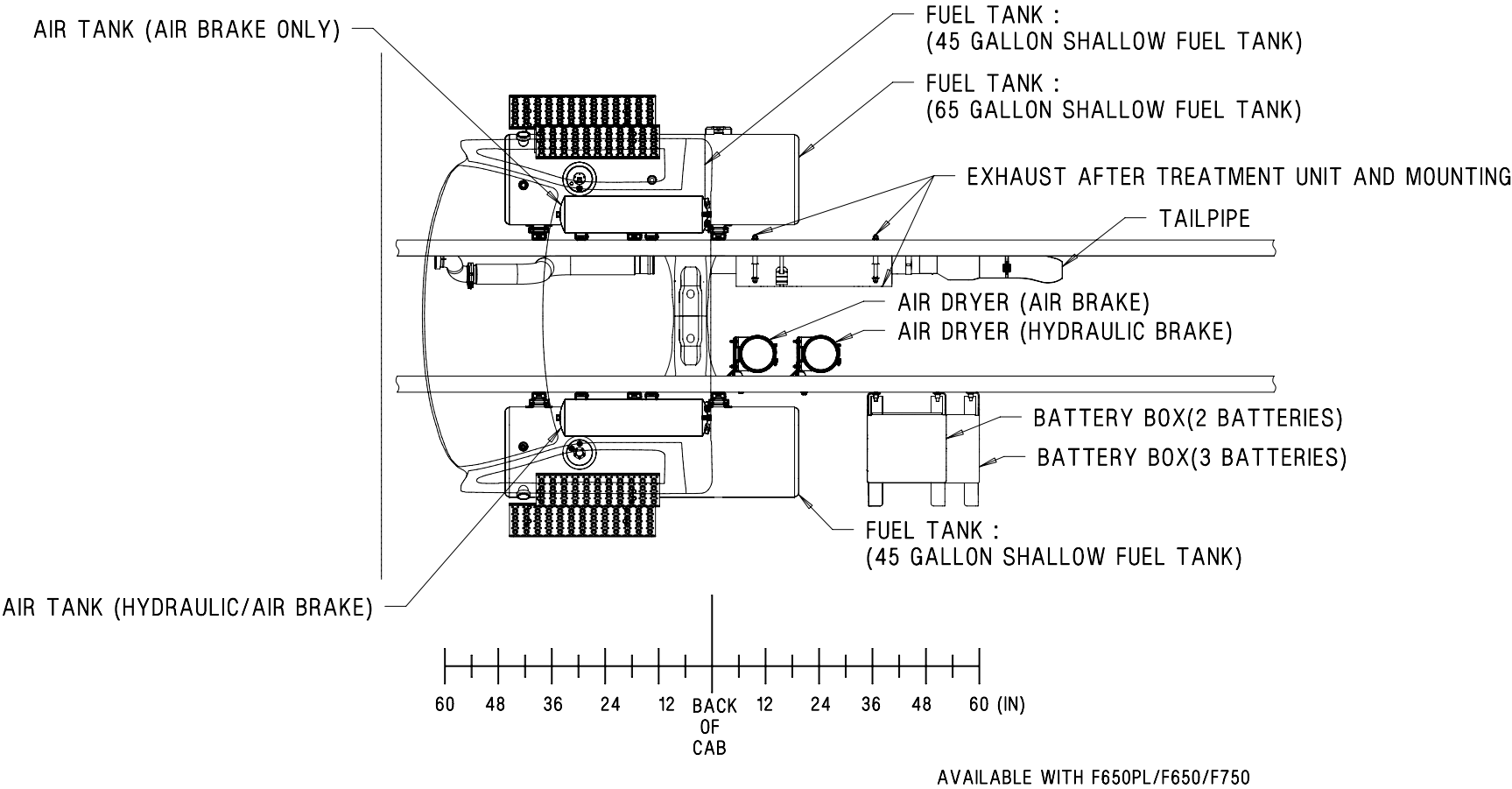


AVAILABLE WITH F650PL/F650/F750

REGULAR CAB WITH BACK OF CAB RIGHT SIDE HORIZONTAL EXHAUST AND WITH DUAL 45/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

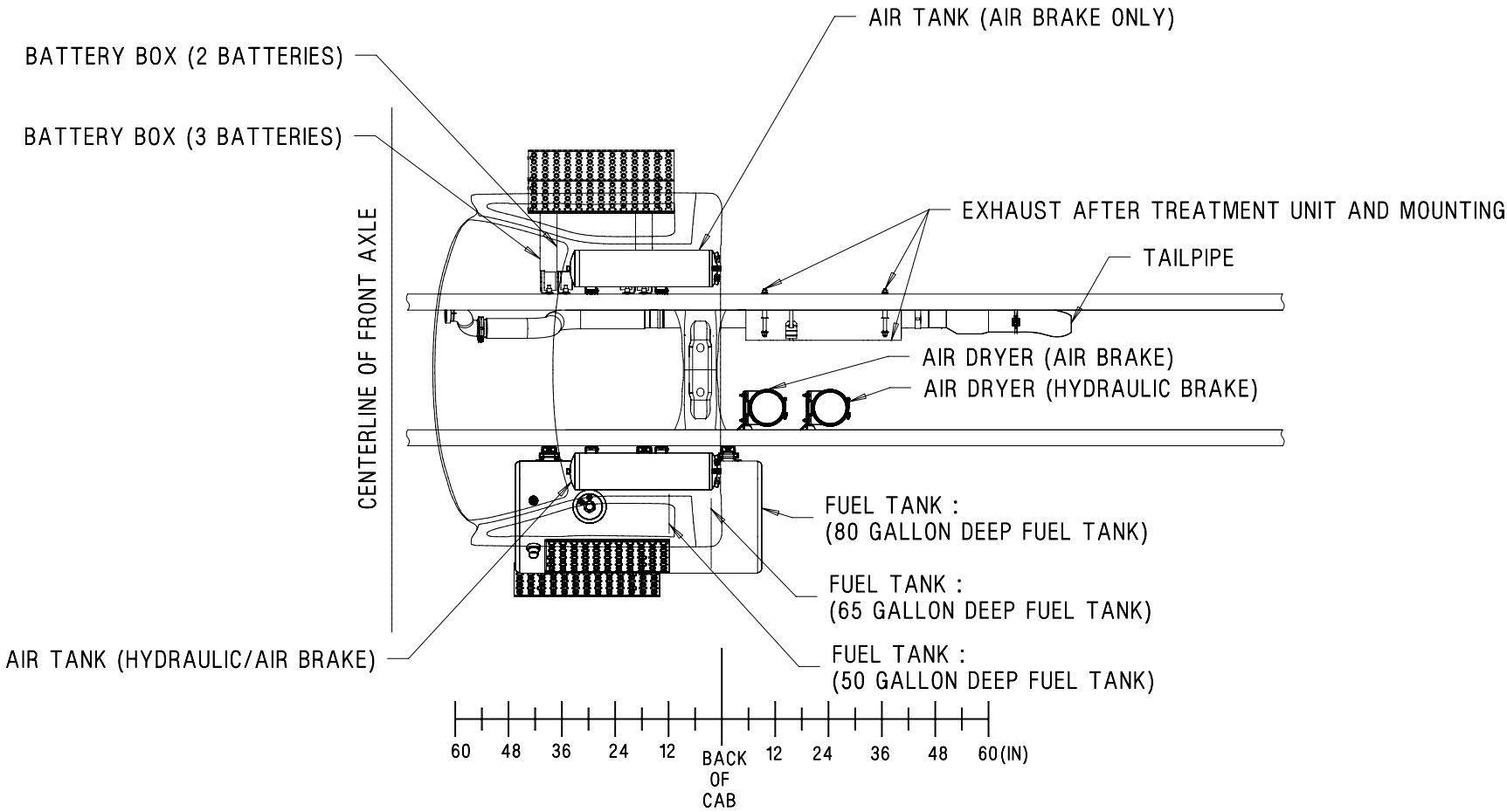
2008
MODEL YEAR



REGULAR CAB WITH BACK OF CAB RIGHT SIDE HORIZONTAL EXHAUST AND WITH DUAL 45/45, 65/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

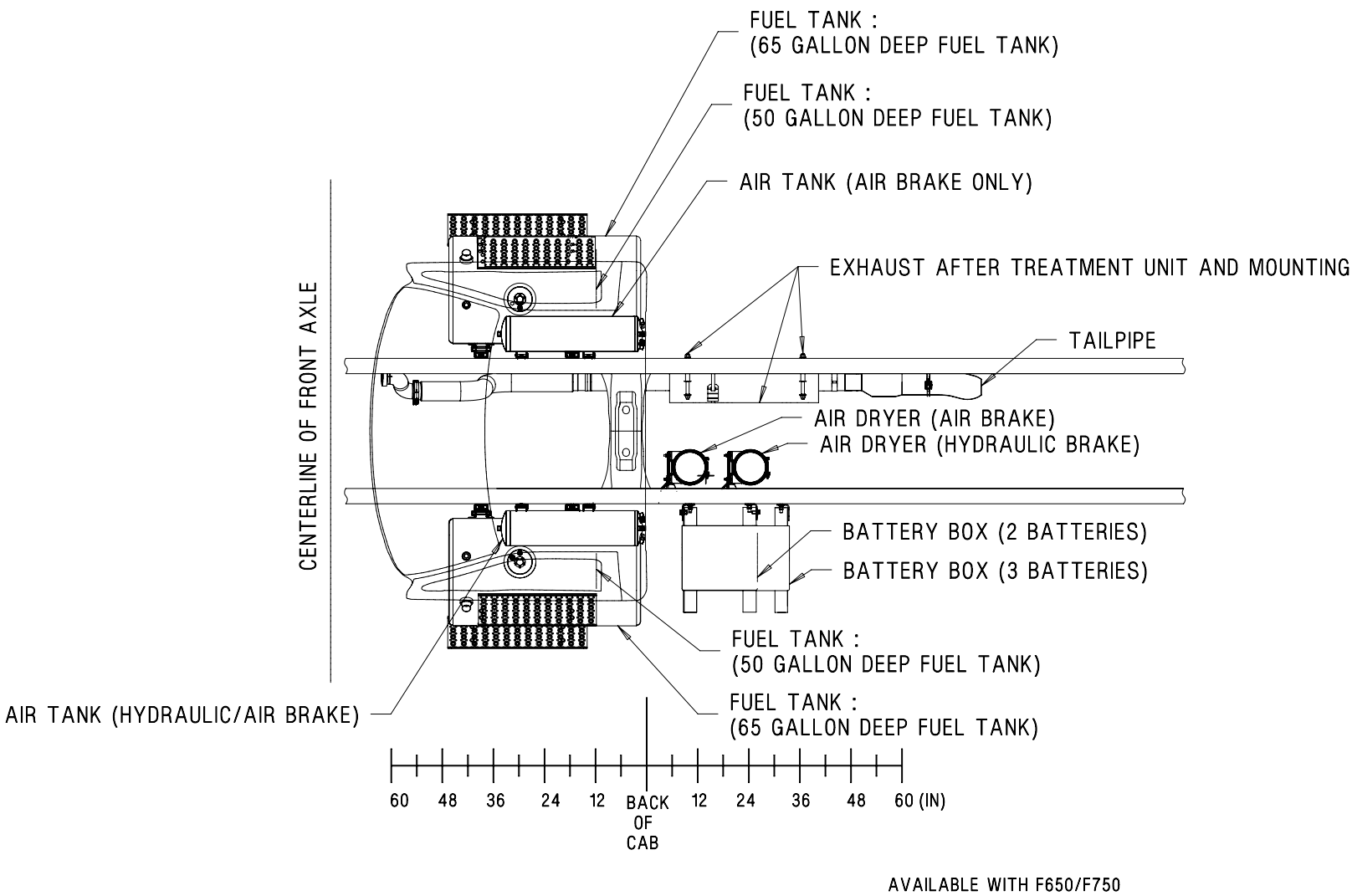


AVAILABLE WITH F650/F750

REGULAR CAB WITH BACK OF CAB RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 50, 65, OR 80 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

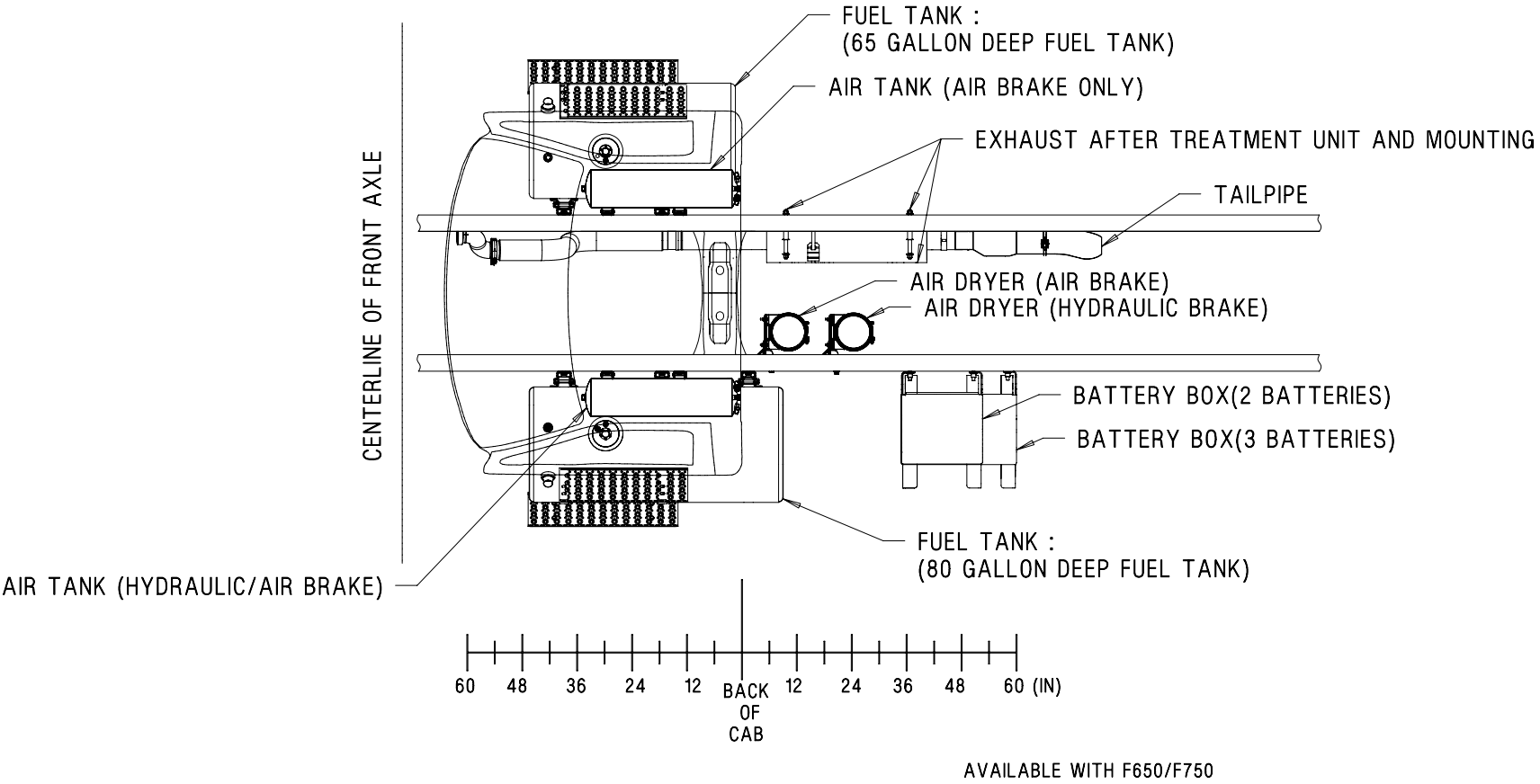
2008
MODEL YEAR



REGULAR CAB WITH BACK OF CAB RIGHT SIDE HORIZONTAL EXHAUST AND WITH DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

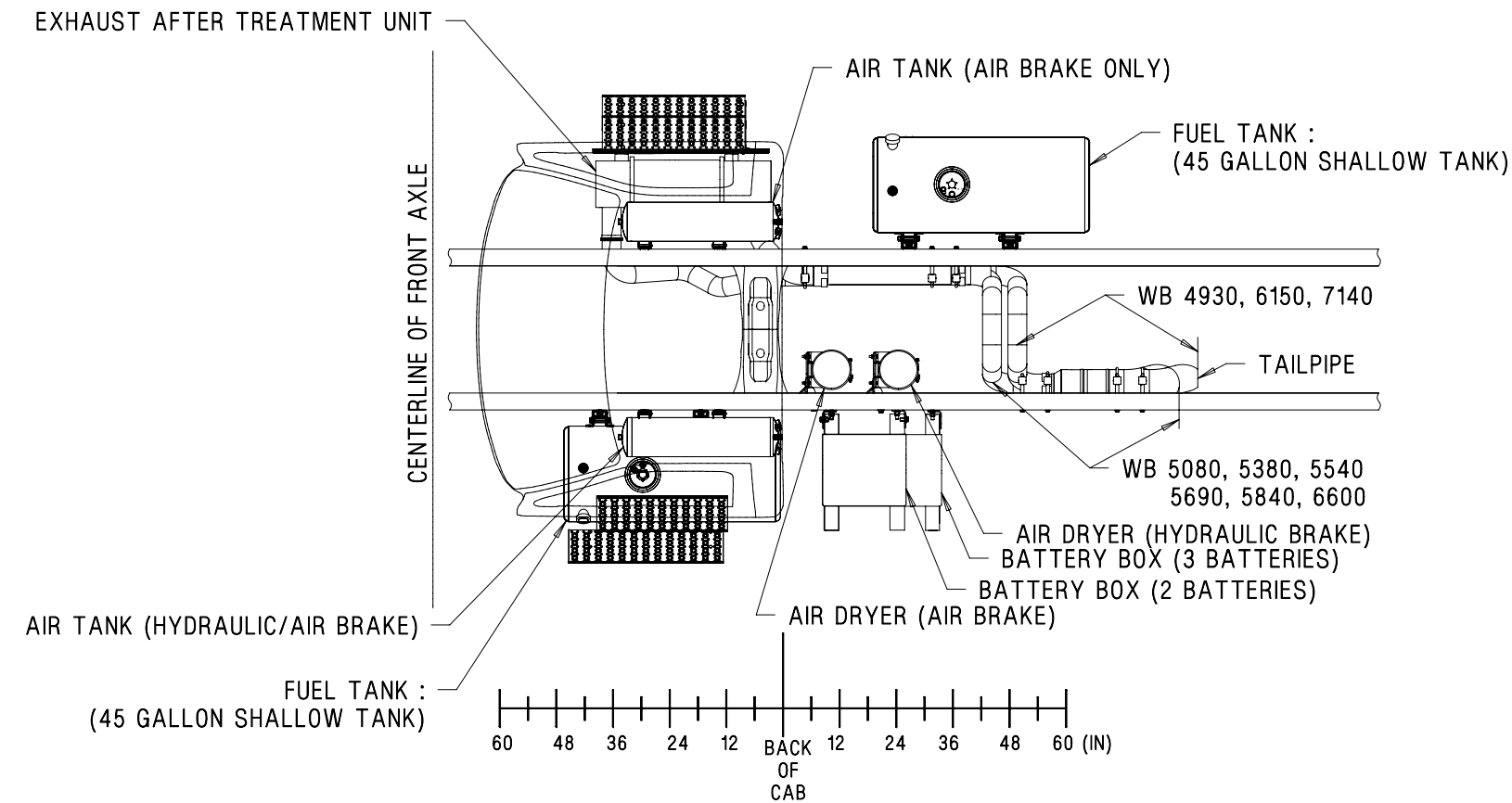
2008
MODEL YEAR



REGULAR CAB WITH BACK OF CAB RIGHT SIDE HORIZONTAL EXHAUST AND WITH DUAL 80/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

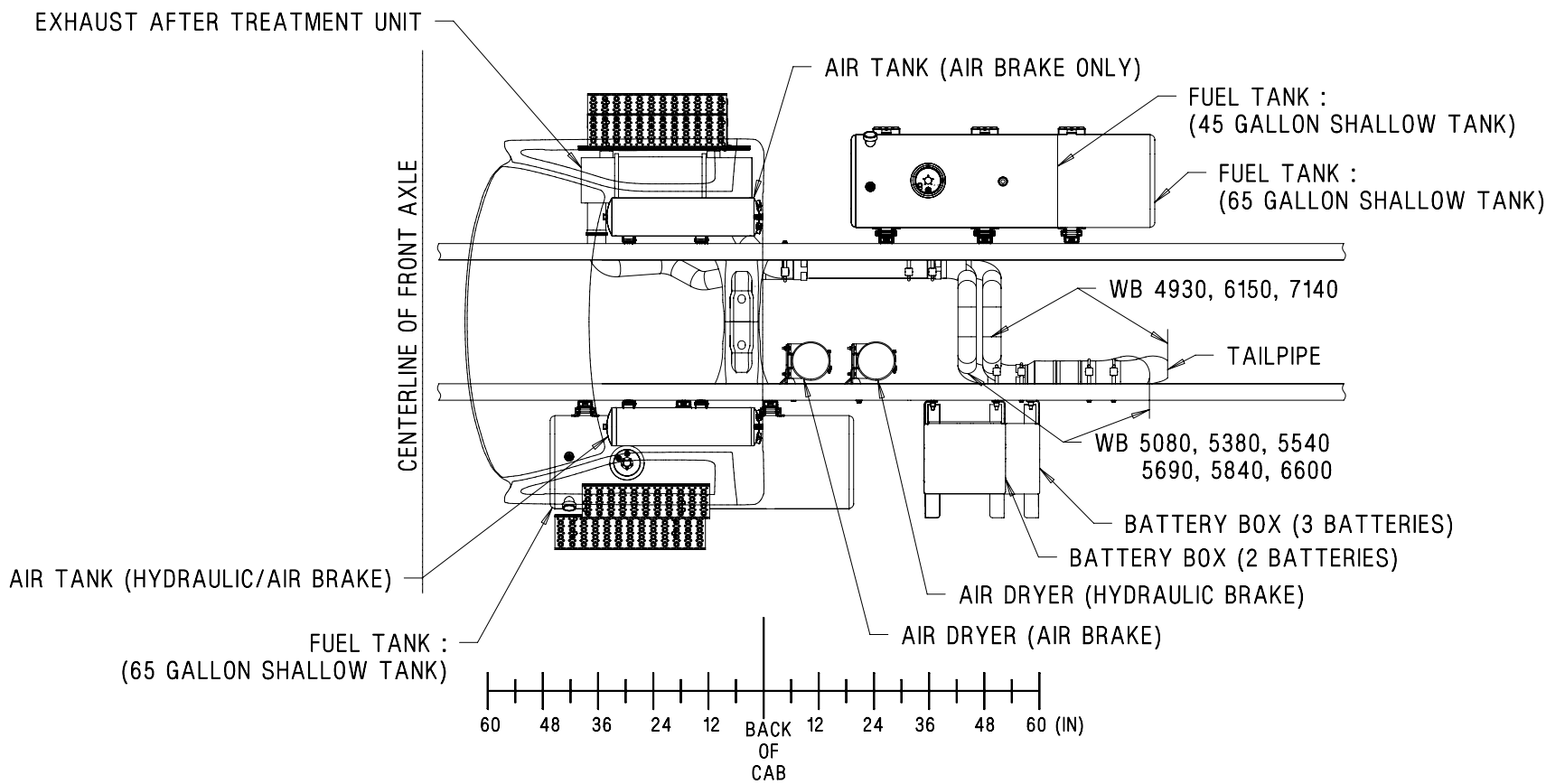


AVAILABLE WITH F650PL/F650/F750
NOT AVAILABLE WITH WB 3400 THRU 4620

REGULAR CAB WITH LEFT SIDE TAILPIPE AND WITH SINGLE 45 GALLON OR DUAL 45/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

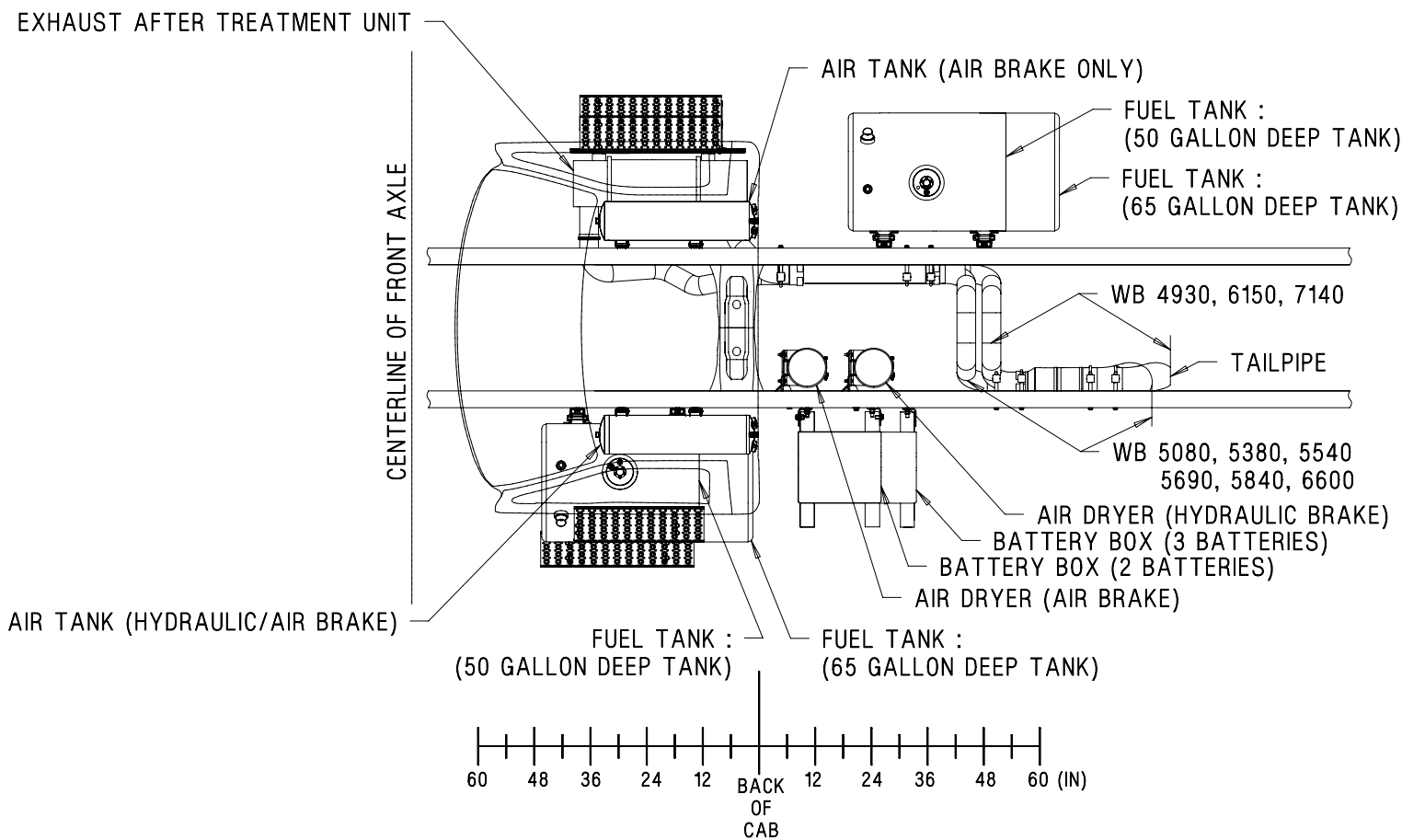


AVAILABLE WITH F650PL/F650/F750
NOT AVAILABLE WITH WB 3400 THRU 4620

REGULAR CAB WITH LEFT SIDE TAILPIPE AND WITH SINGLE 65 GALLON OR DUAL 65/45, 65/65 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

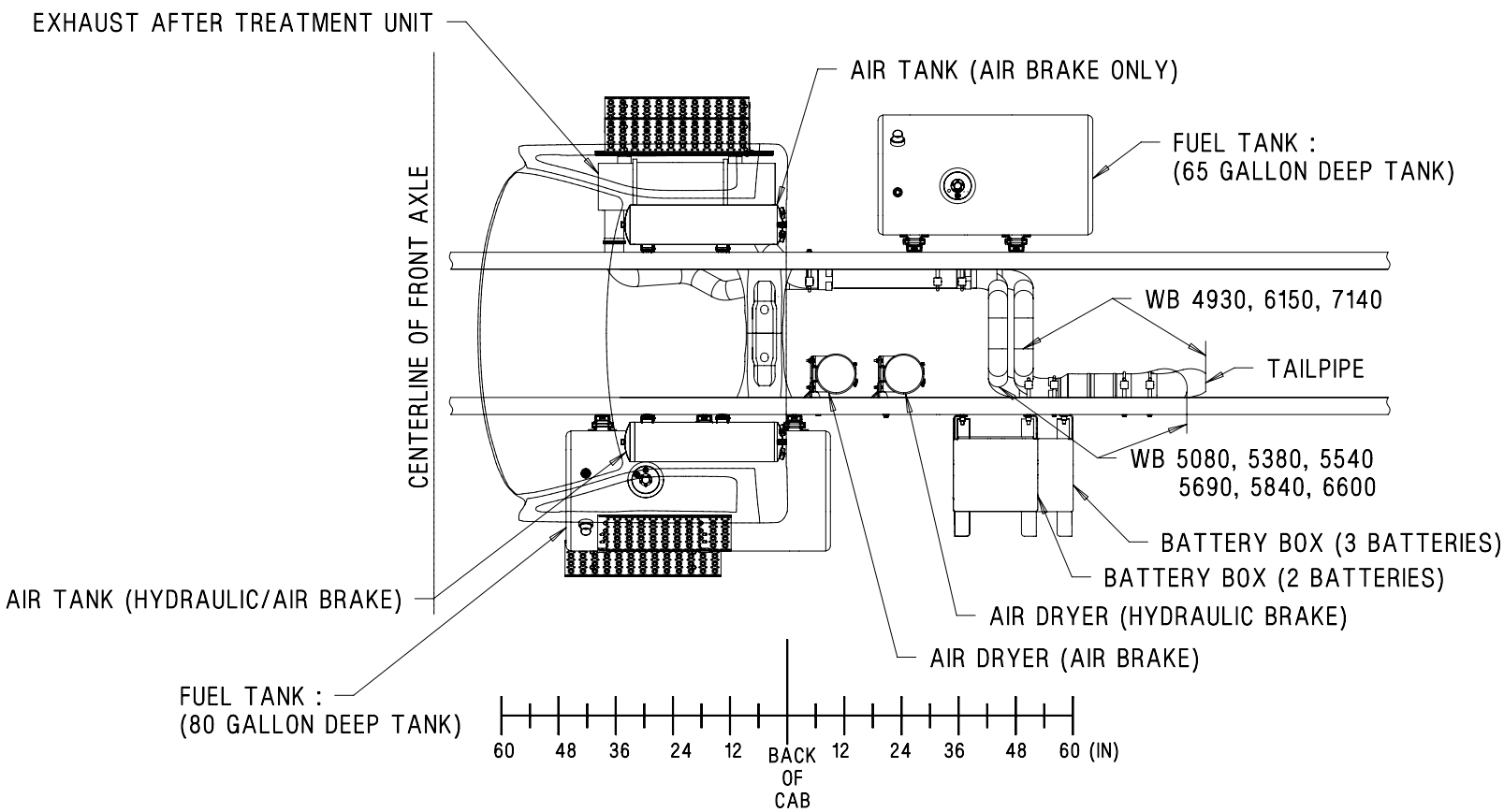


AVAILABLE WITH F650/F750
NOT AVAILABLE WITH WB 3400 THRU 4620

REGULAR CAB WITH LEFT SIDE TAILPIPE AND WITH SINGLE 50, 65 GALLON OR DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

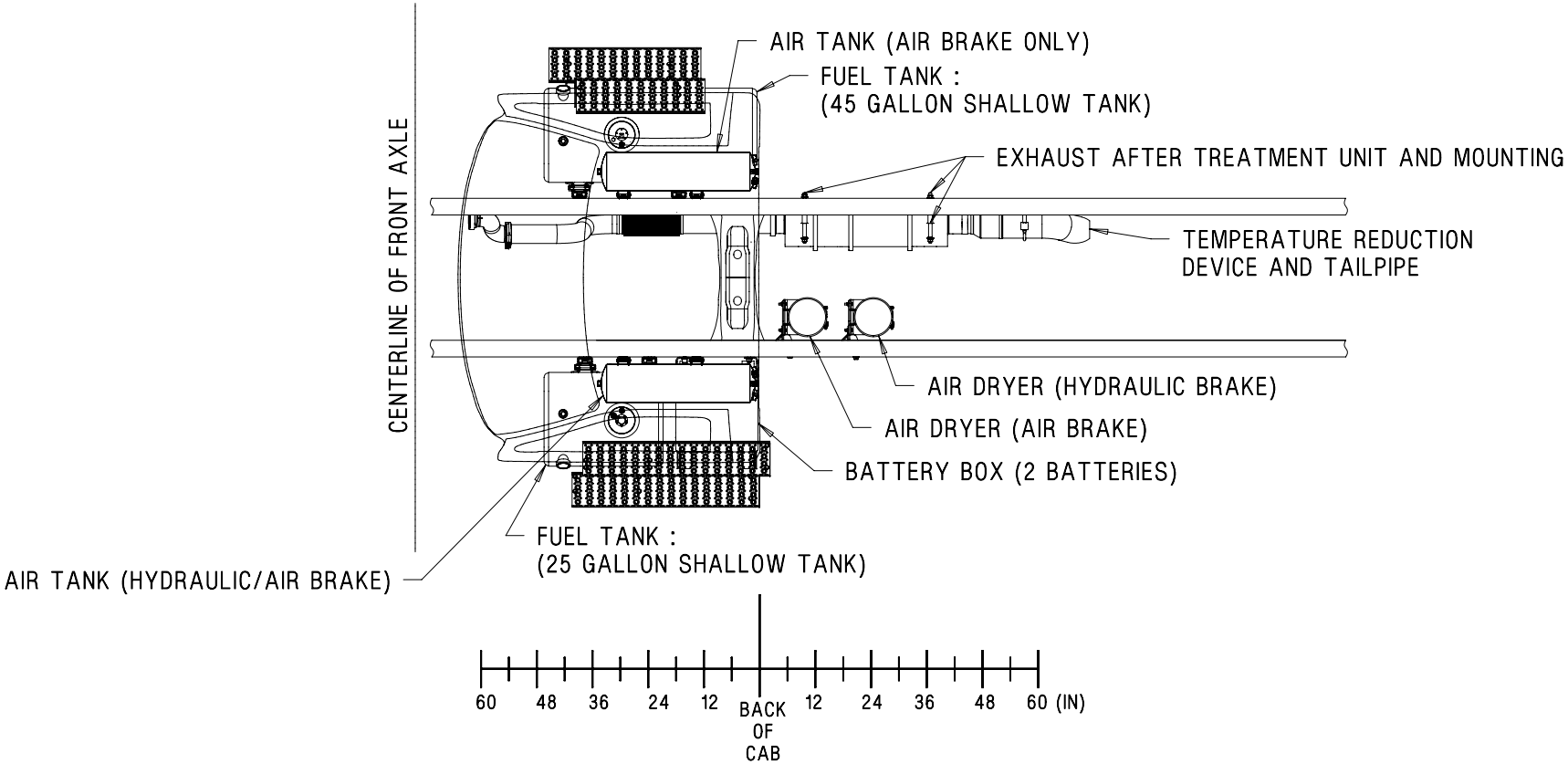


AVAILABLE WITH F650/F750
NOT AVAILABLE WITH WB 3400 THRU 4620

REGULAR CAB WITH LEFT SIDE TAILPIPE AND WITH SINGLE 80 GALLON OR DUAL 80/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
REGULAR CAB

2008
MODEL YEAR

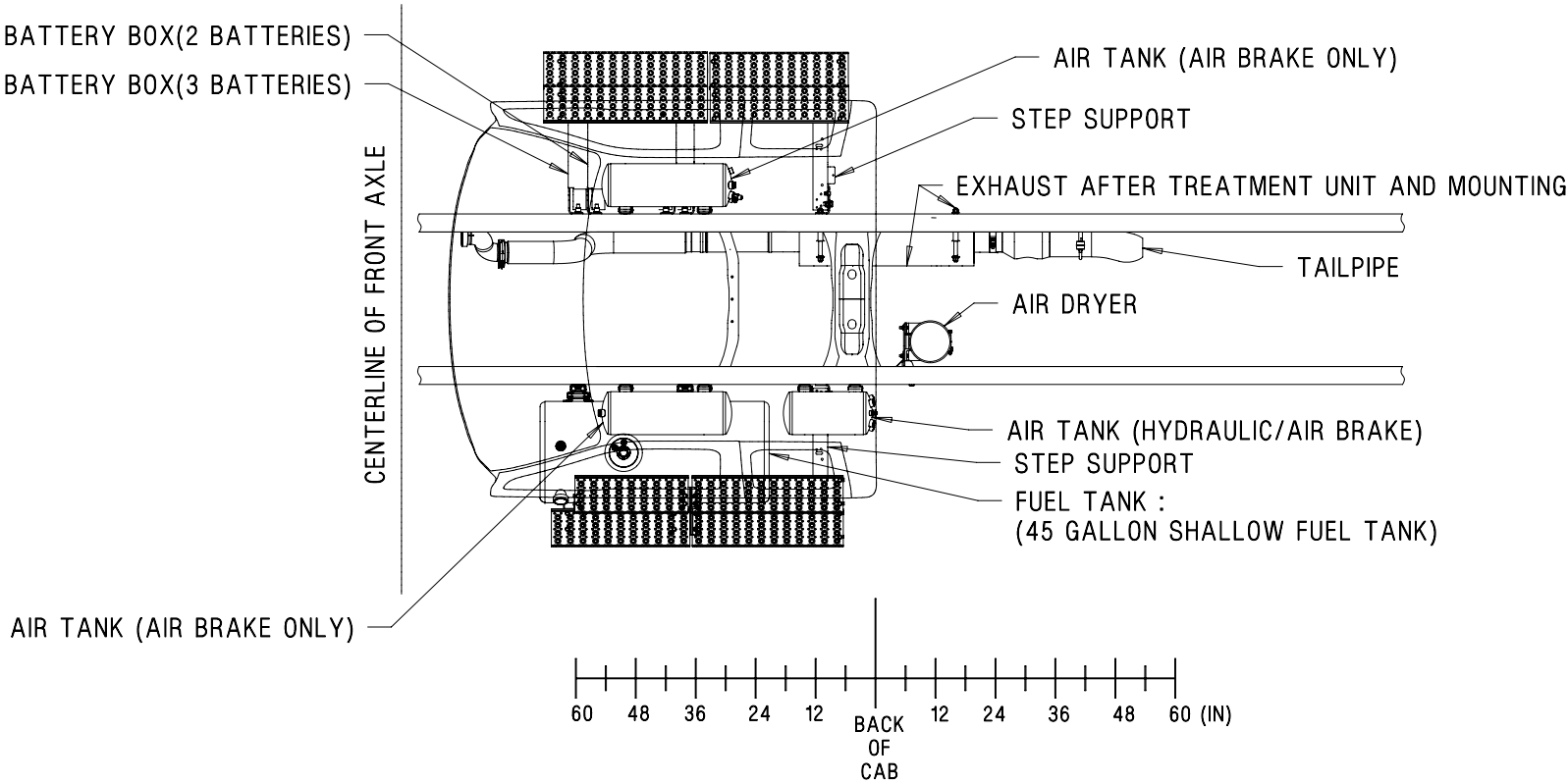


AVAILABLE WITH F650/F750

REGULAR CAB WITH BACK OF CAB RIGHT SIDE HORIZONTAL EXHAUST AND WITH DUAL 25/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

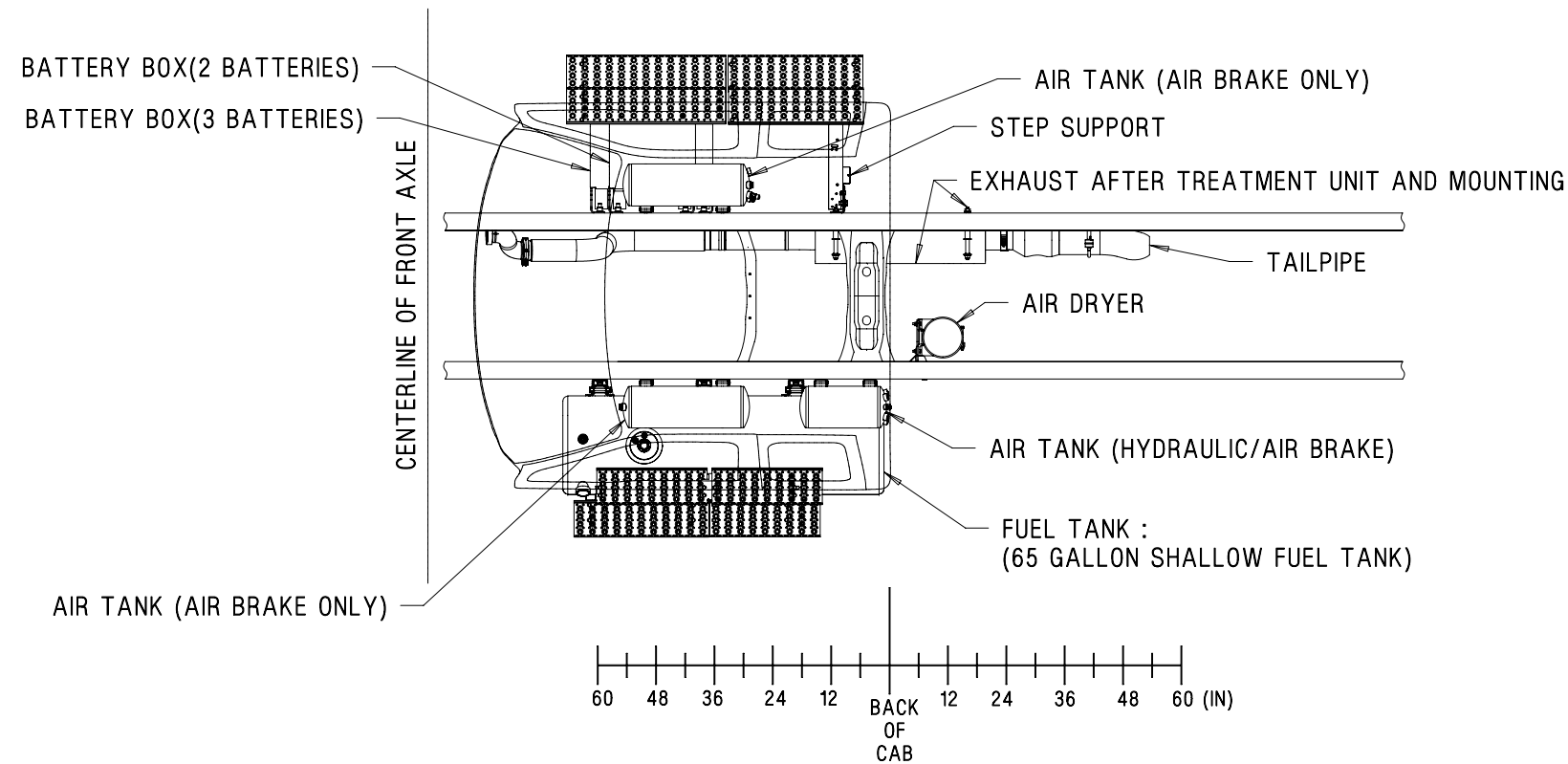


AVAILABLE WITH F650PL/F650/F750

SUPER CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH SINGLE 45 GALLON SHALLOW FUEL TANK AND WITH RIGHT SIDE BATTERY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

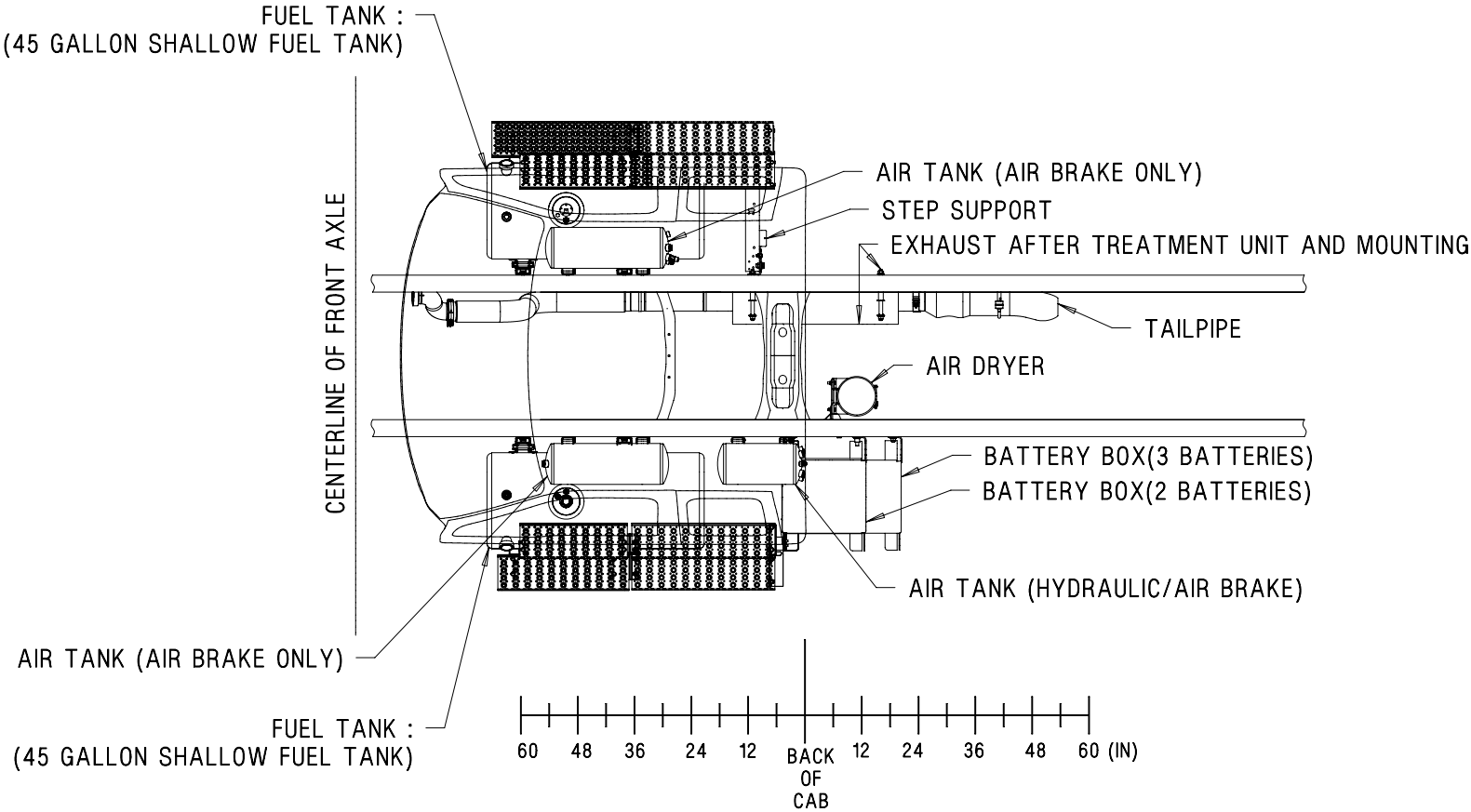


AVAILABLE WITH F650PL/F650/F750

SUPER CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH SINGLE 65 GALLON SHALLOW FUEL TANK AND WITH RIGHT SIDE BATTERY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

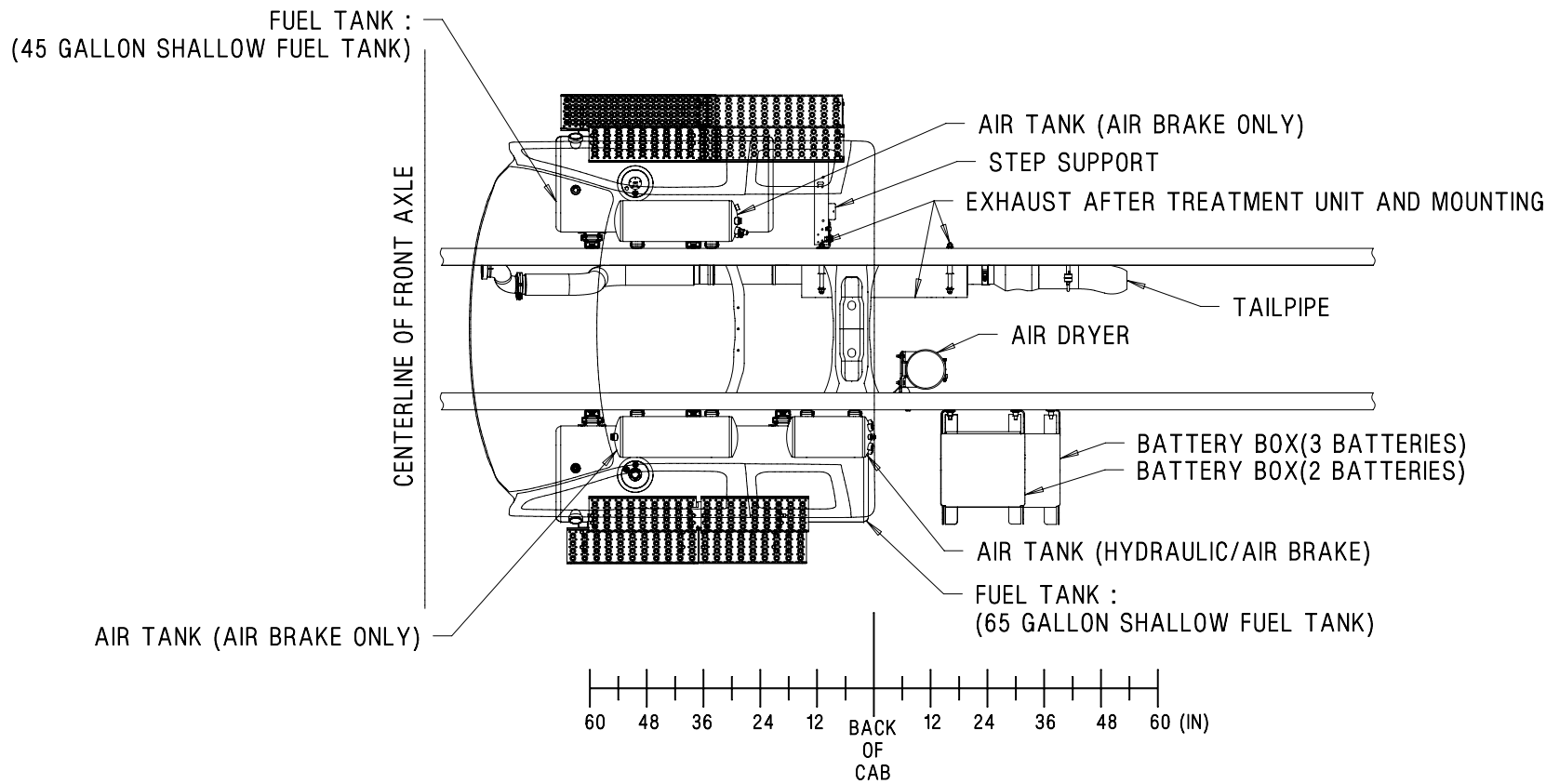


AVAILABLE WITH F650PL/F650/F750

SUPER CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH DUAL 45/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

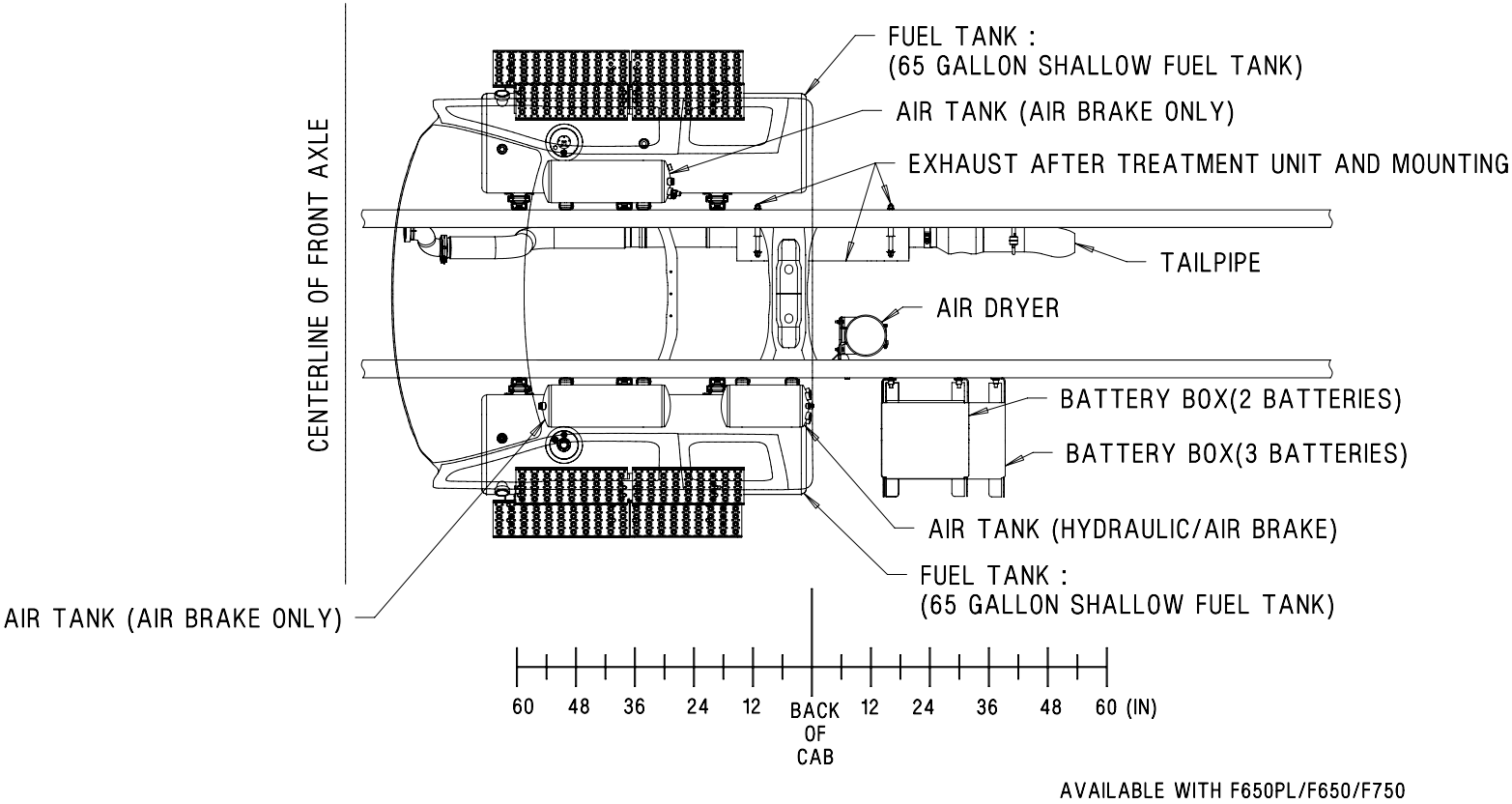


AVAILABLE WITH F650PL/F650/F750

SUPER CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH DUAL 65/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

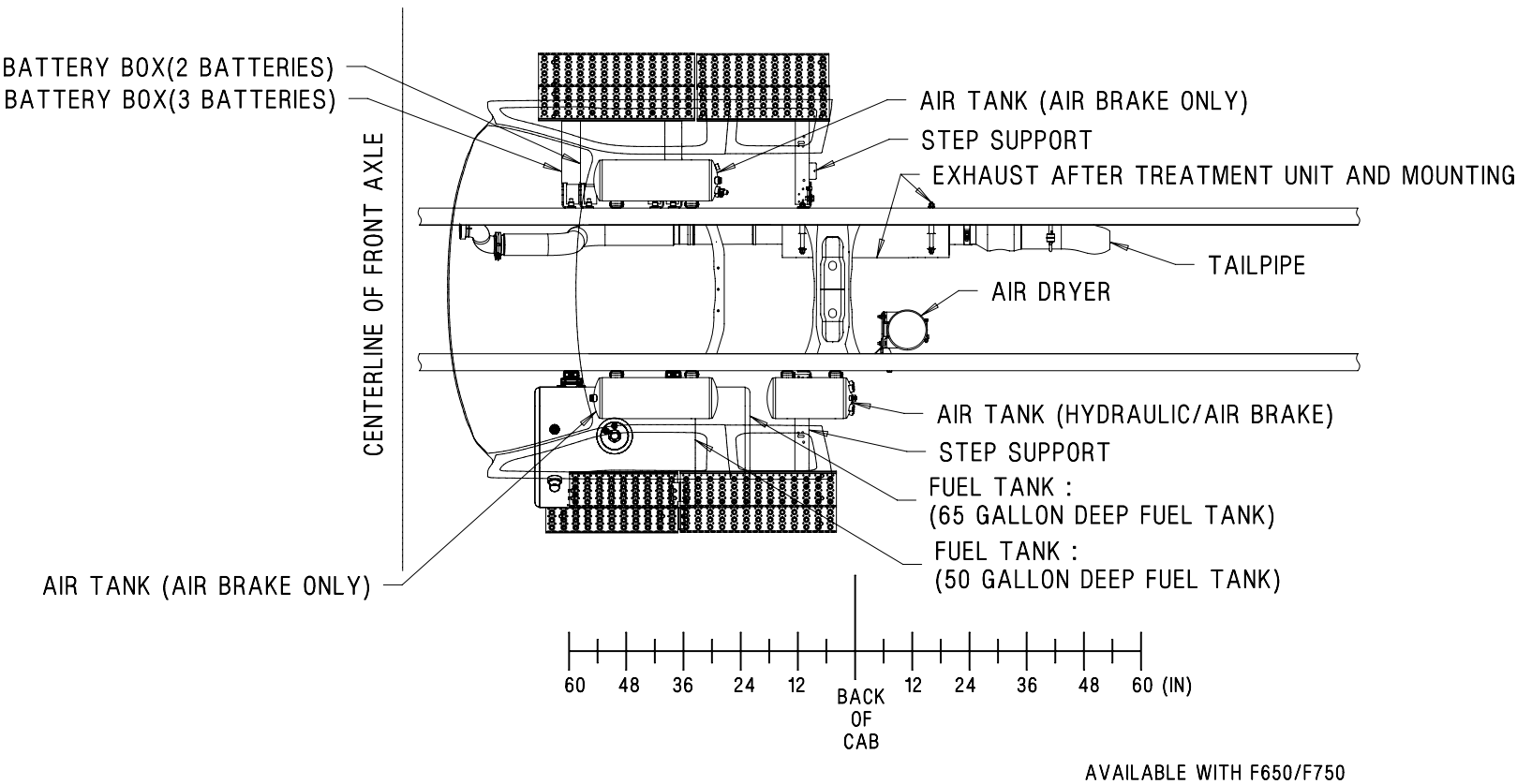
2008
MODEL YEAR



SUPER CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH DUAL 65/65 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

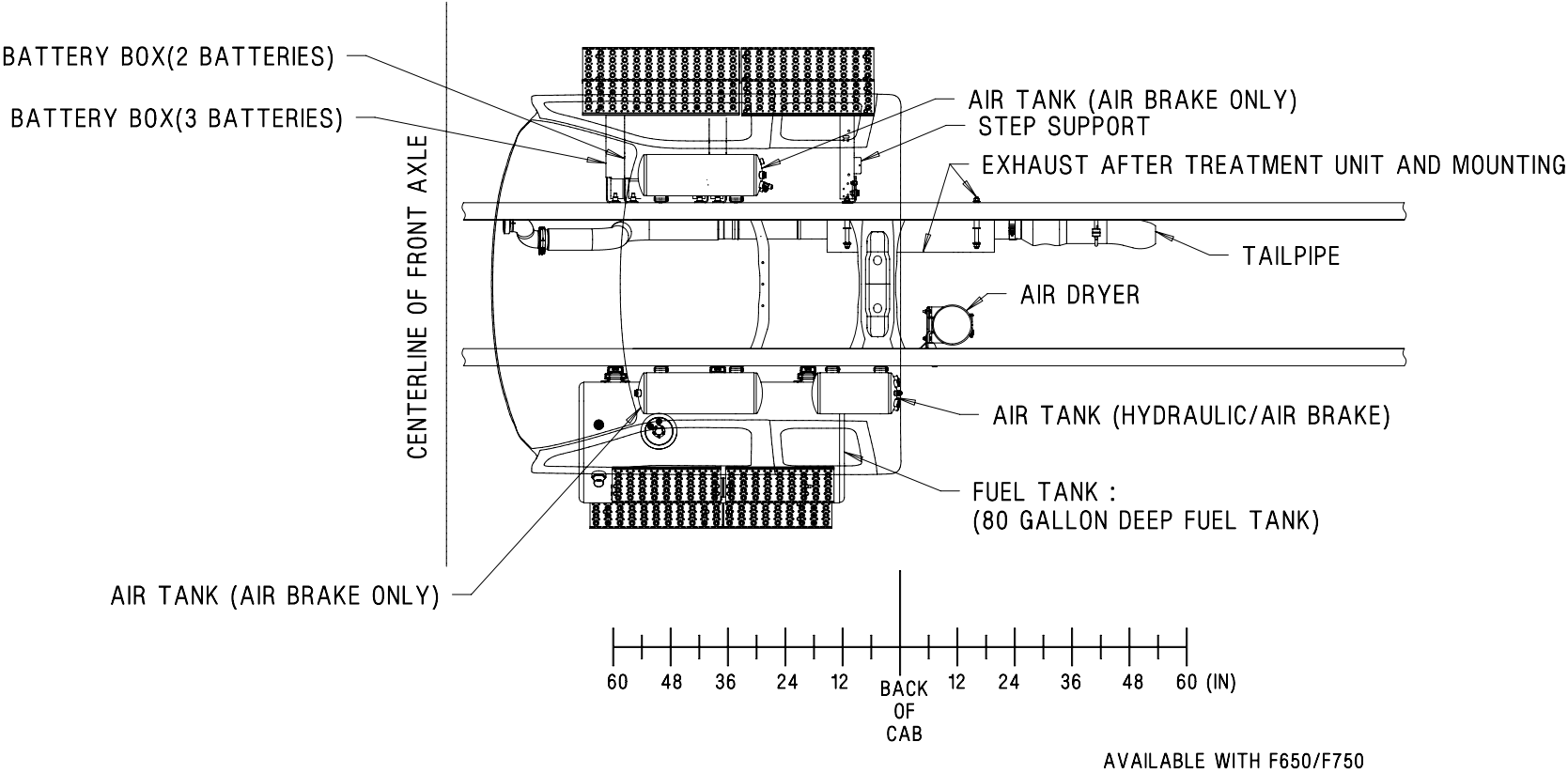
2008
MODEL YEAR



SUPER CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH SINGLE 50, 65 GALLON DEEP FUEL TANK AND WITH RIGHT SIDE BATTERY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

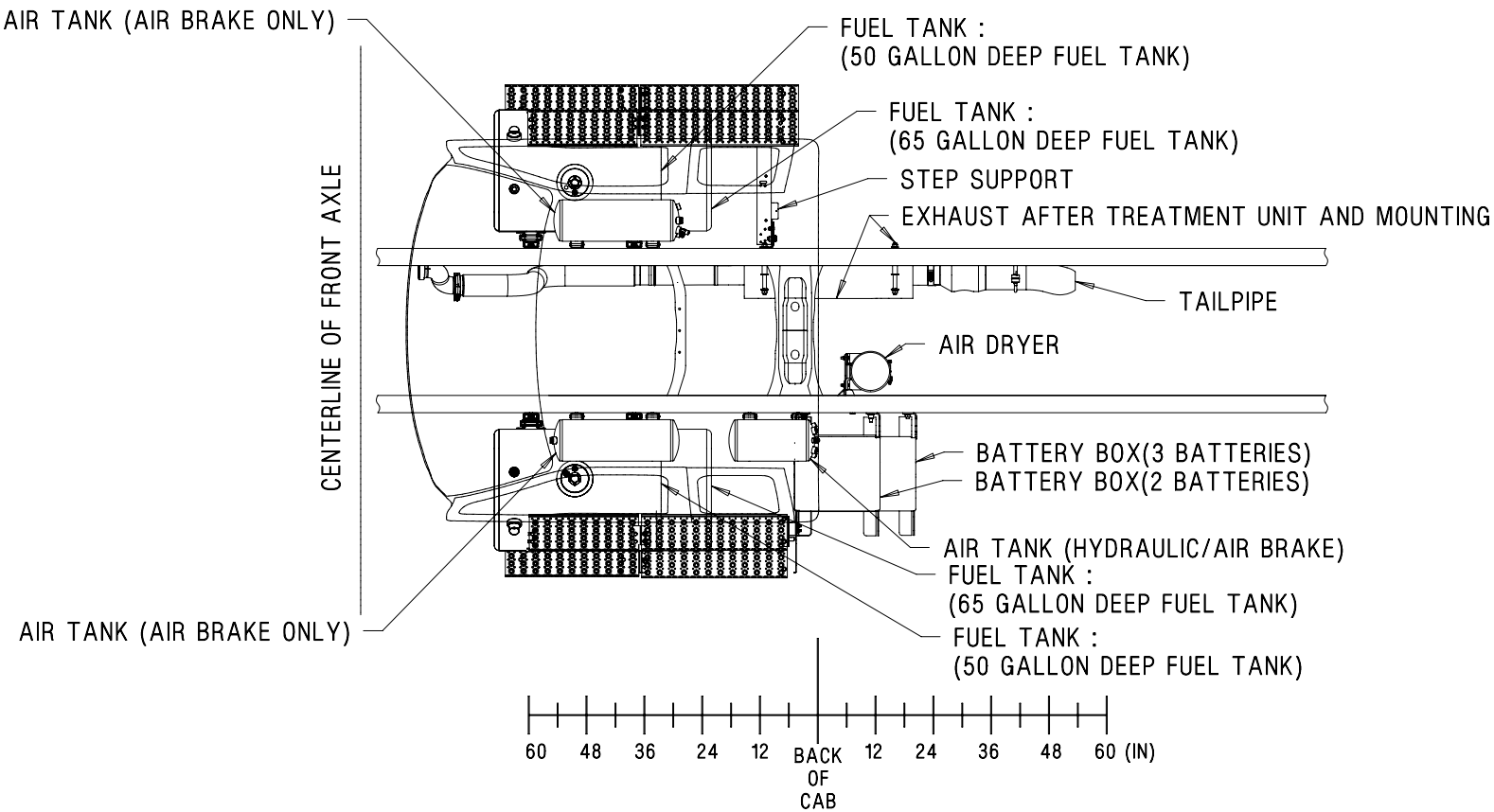
2008
MODEL YEAR



SUPER CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH SINGLE 80 GALLON DEEP FUEL TANK AND WITH RIGHT SIDE BATTERY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

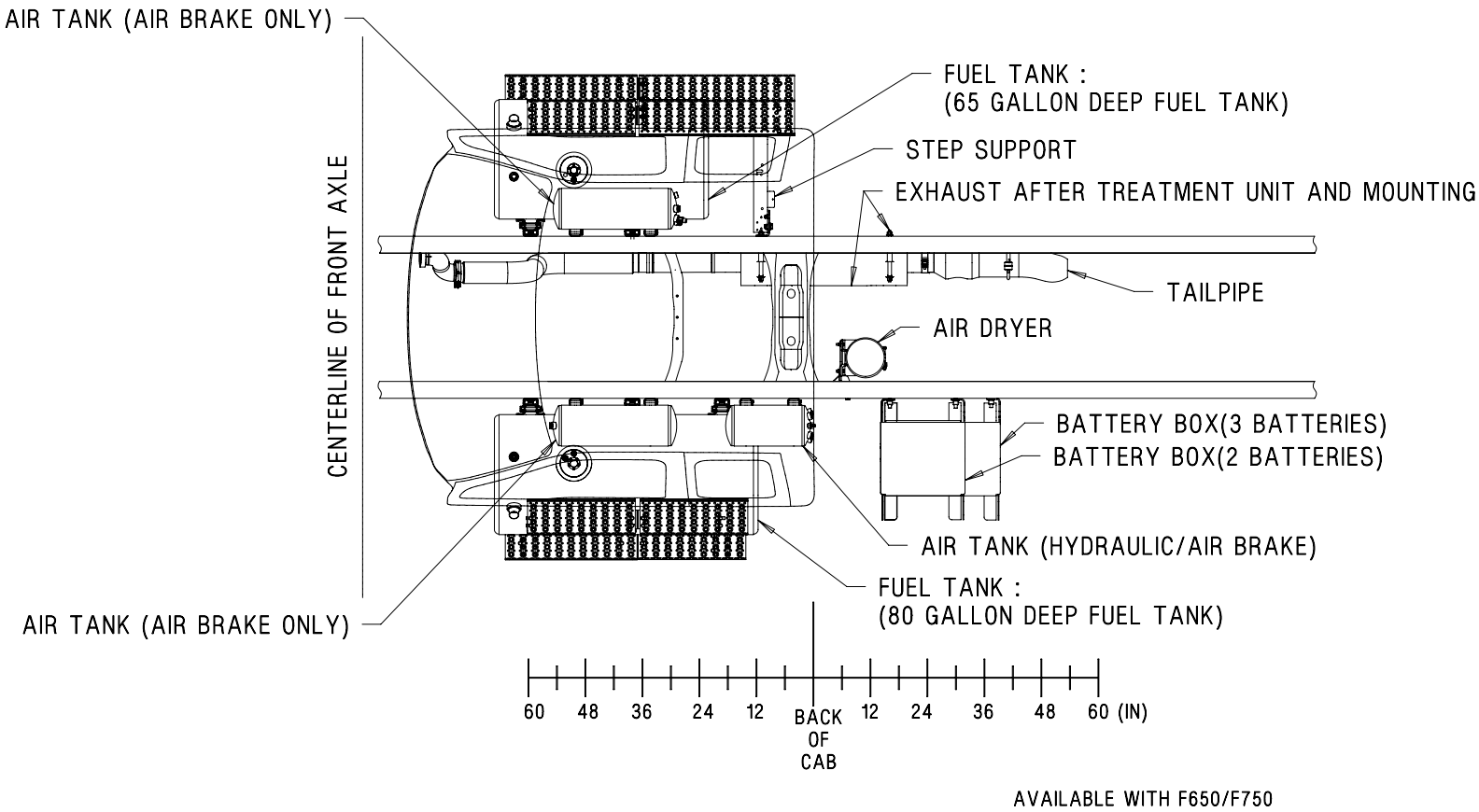


AVAILABLE WITH F650/F750

SUPER CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

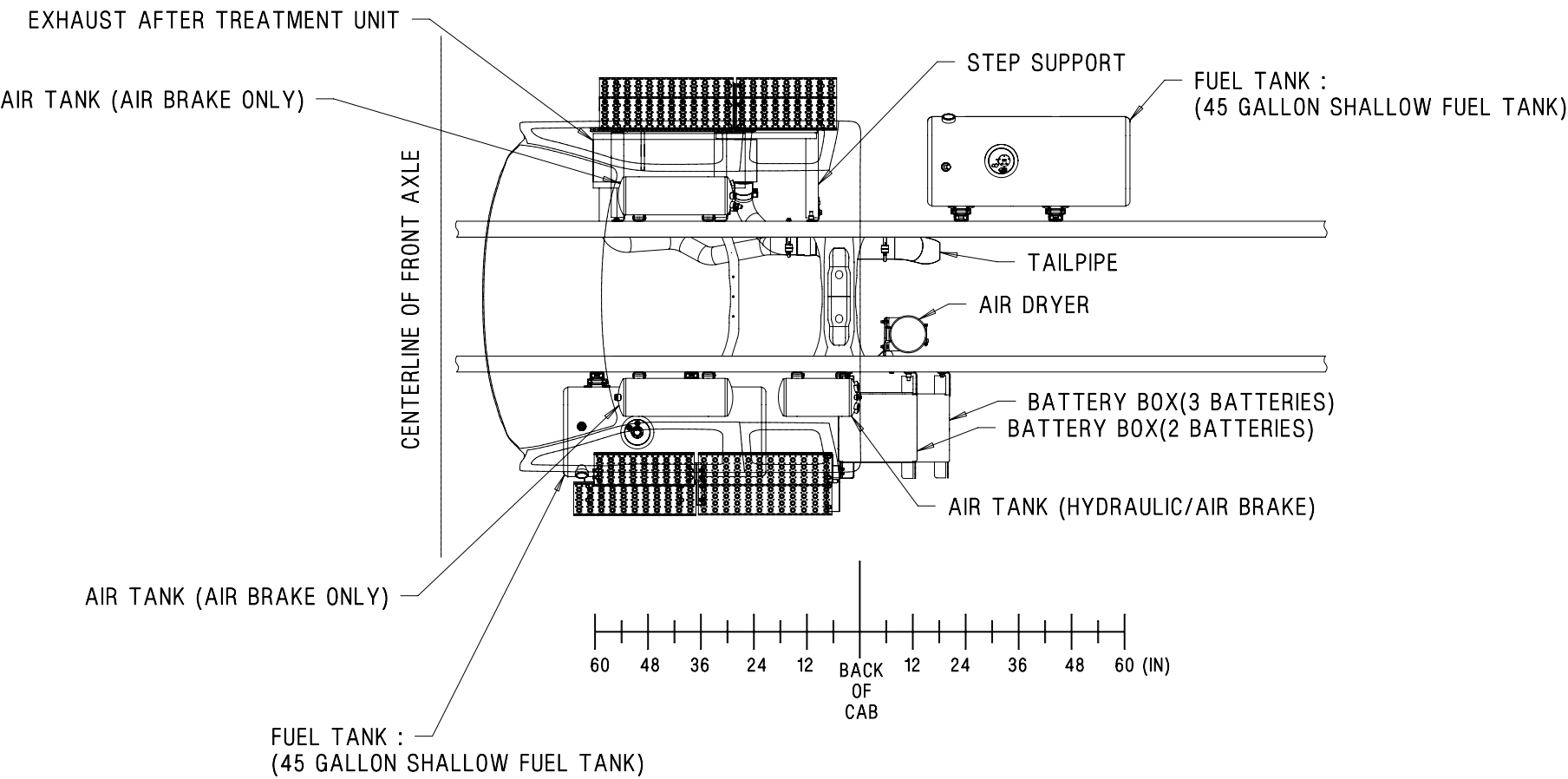
2008
MODEL YEAR



SUPER CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH DUAL 80/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

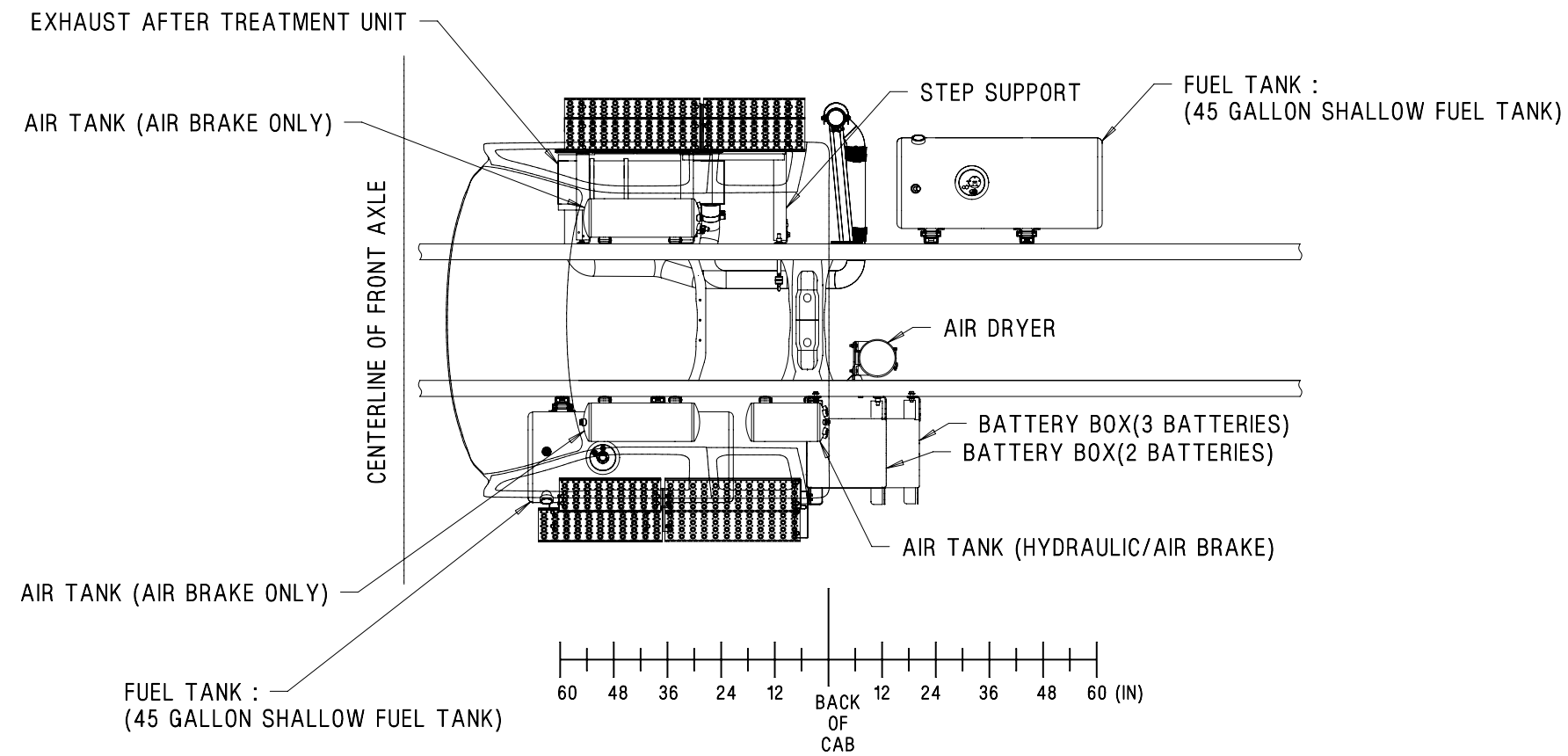


AVAILABLE WITH F650PL/F650/F750

SUPER CAB WITH RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 45 GALLON OR DUAL 45/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

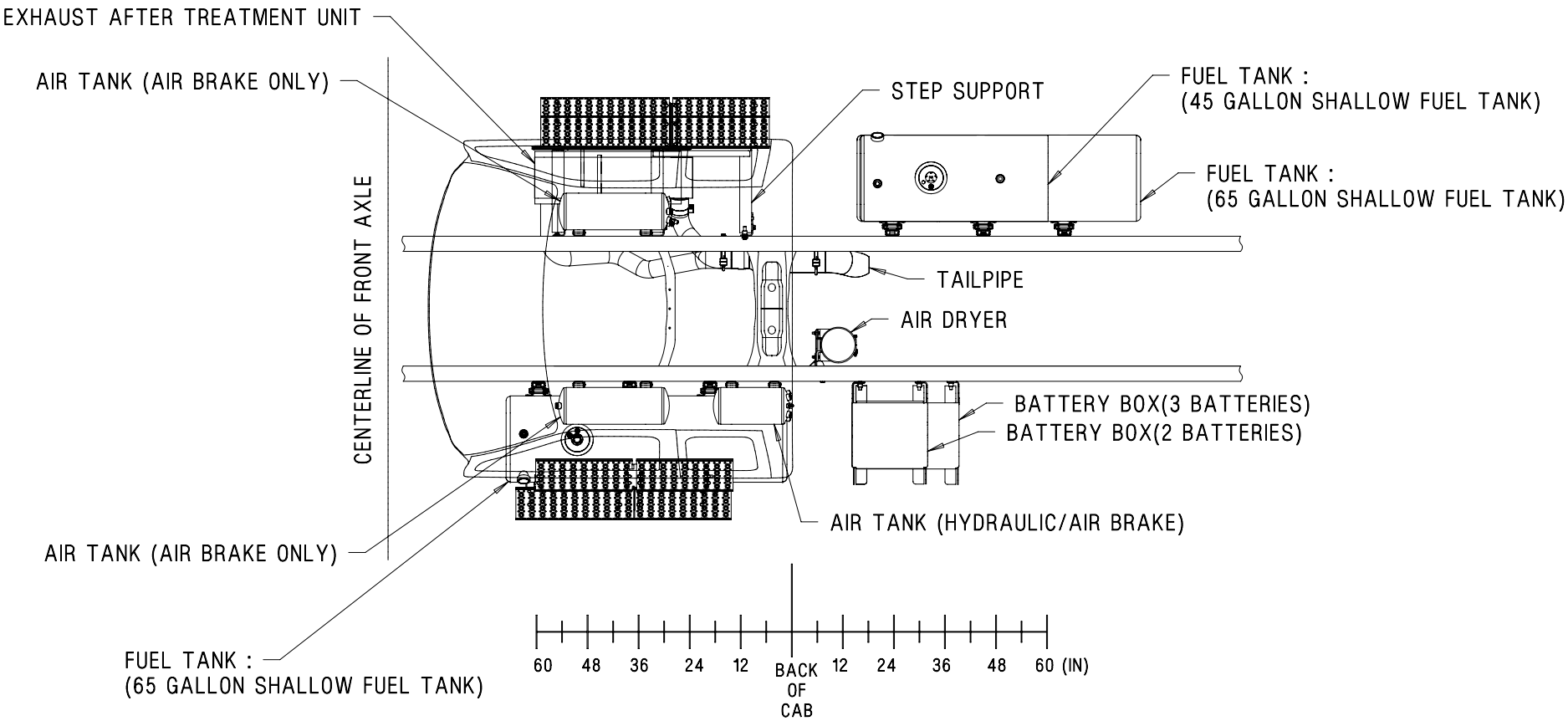


AVAILABLE WITH F650PL/F650/F750

SUPER CAB WITH RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 45 GALLON OR DUAL 45/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

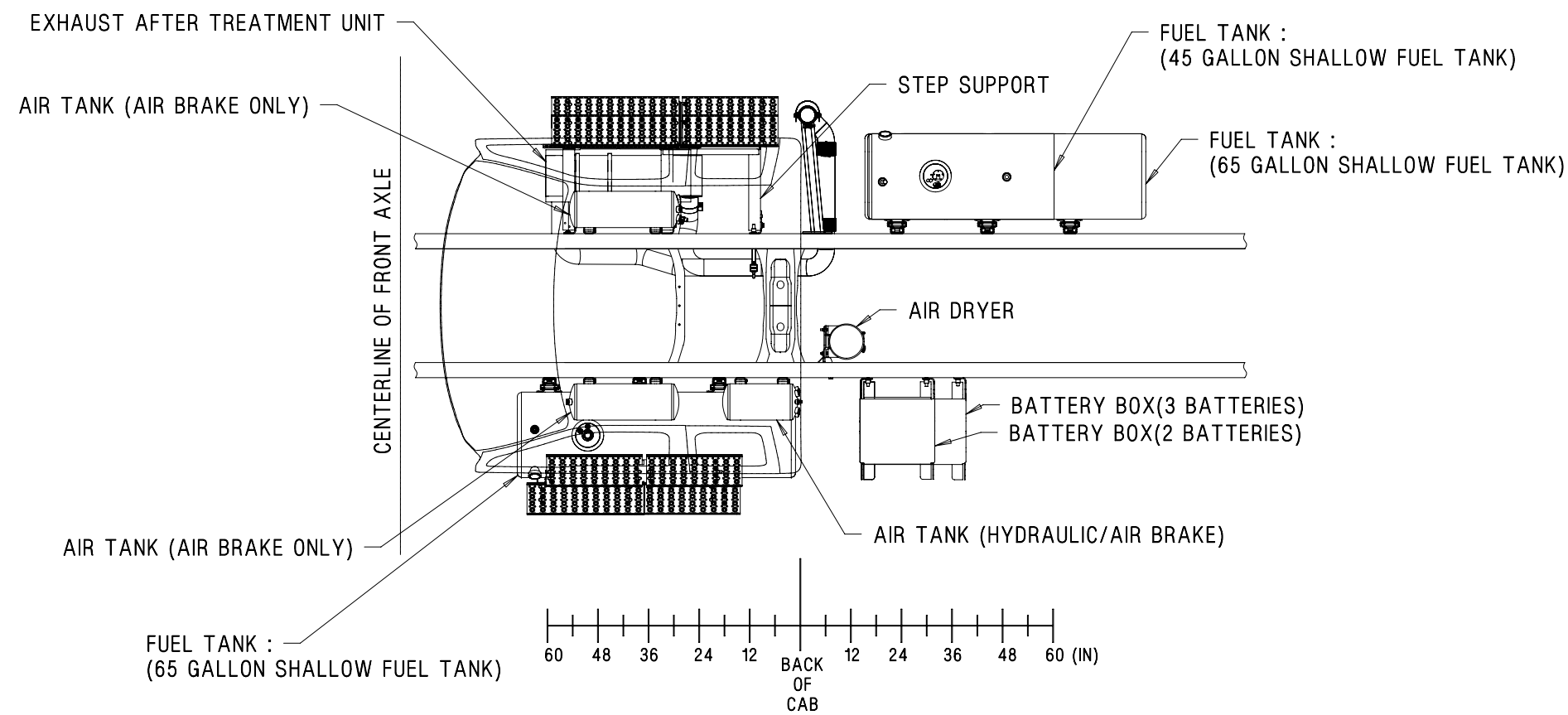


AVAILABLE WITH F650PL/F650/F750

SUPER CAB WITH RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 65 GALLON OR DUAL 65/45, 65/65 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

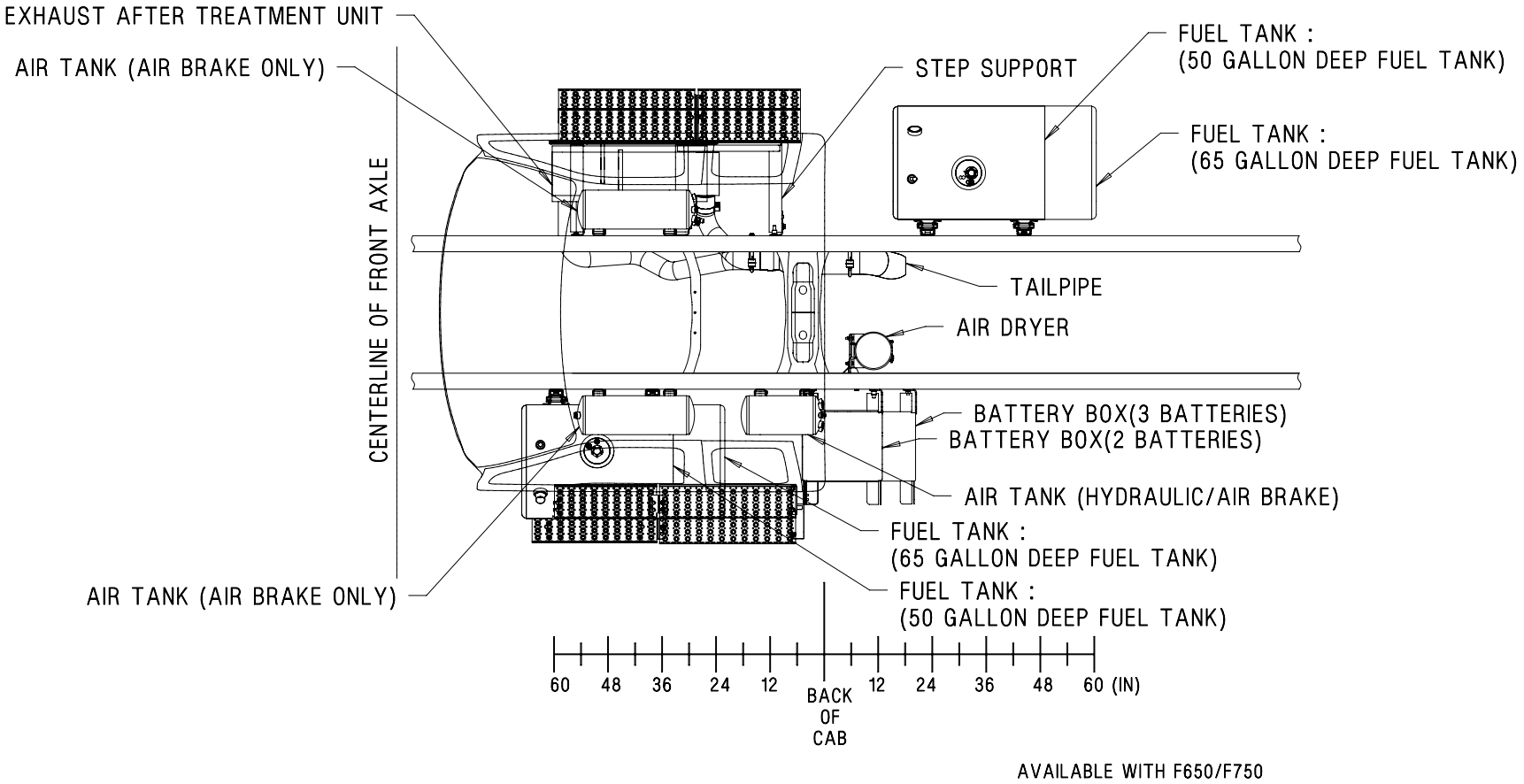


AVAILABLE WITH F650PL/F650/F750

SUPER CAB WITH RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 65 GALLON OR DUAL 65/45, 65/65 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

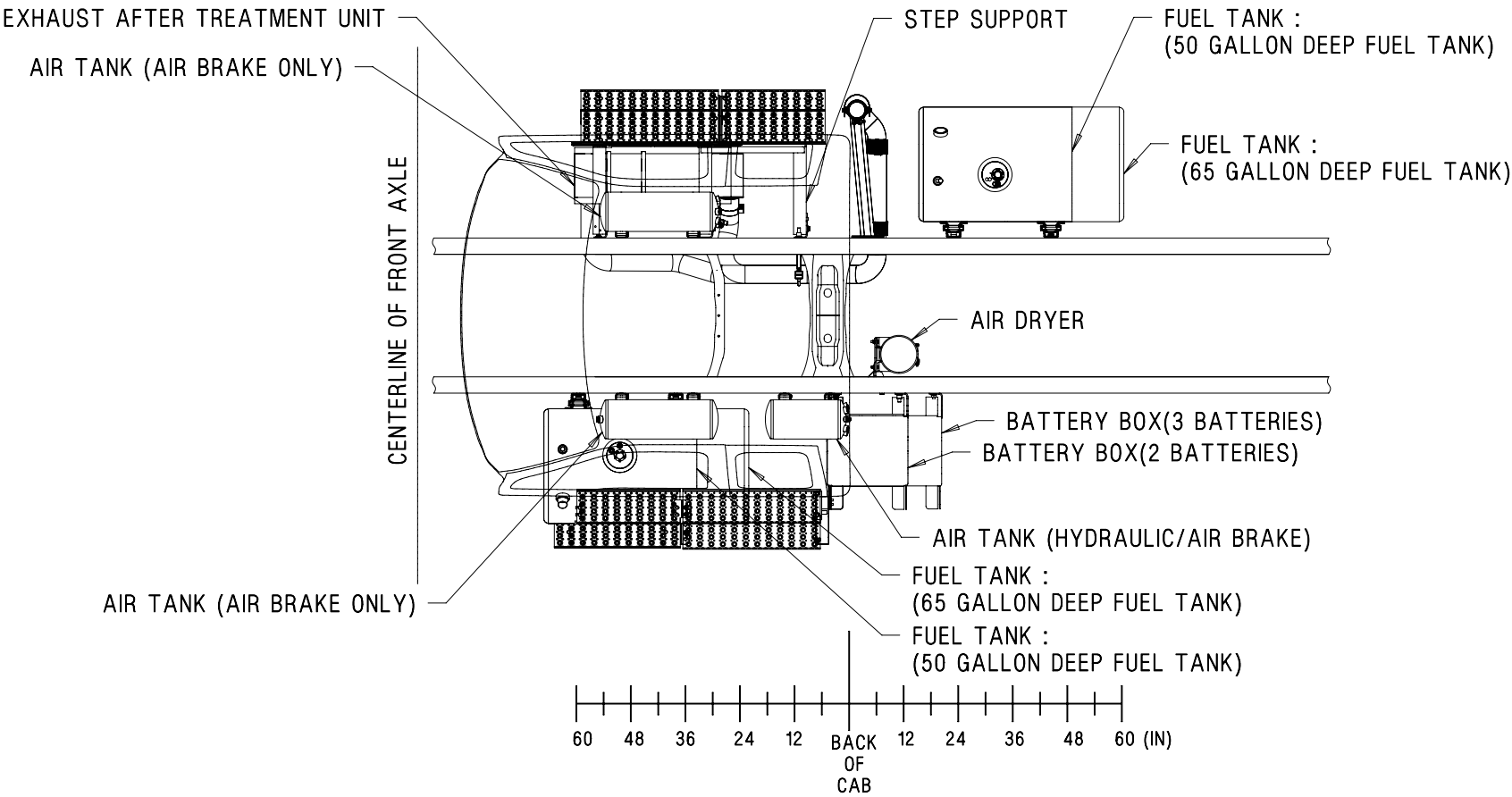
2008
MODEL YEAR



SUPER CAB WITH RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 50, 65 GALLON OR DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

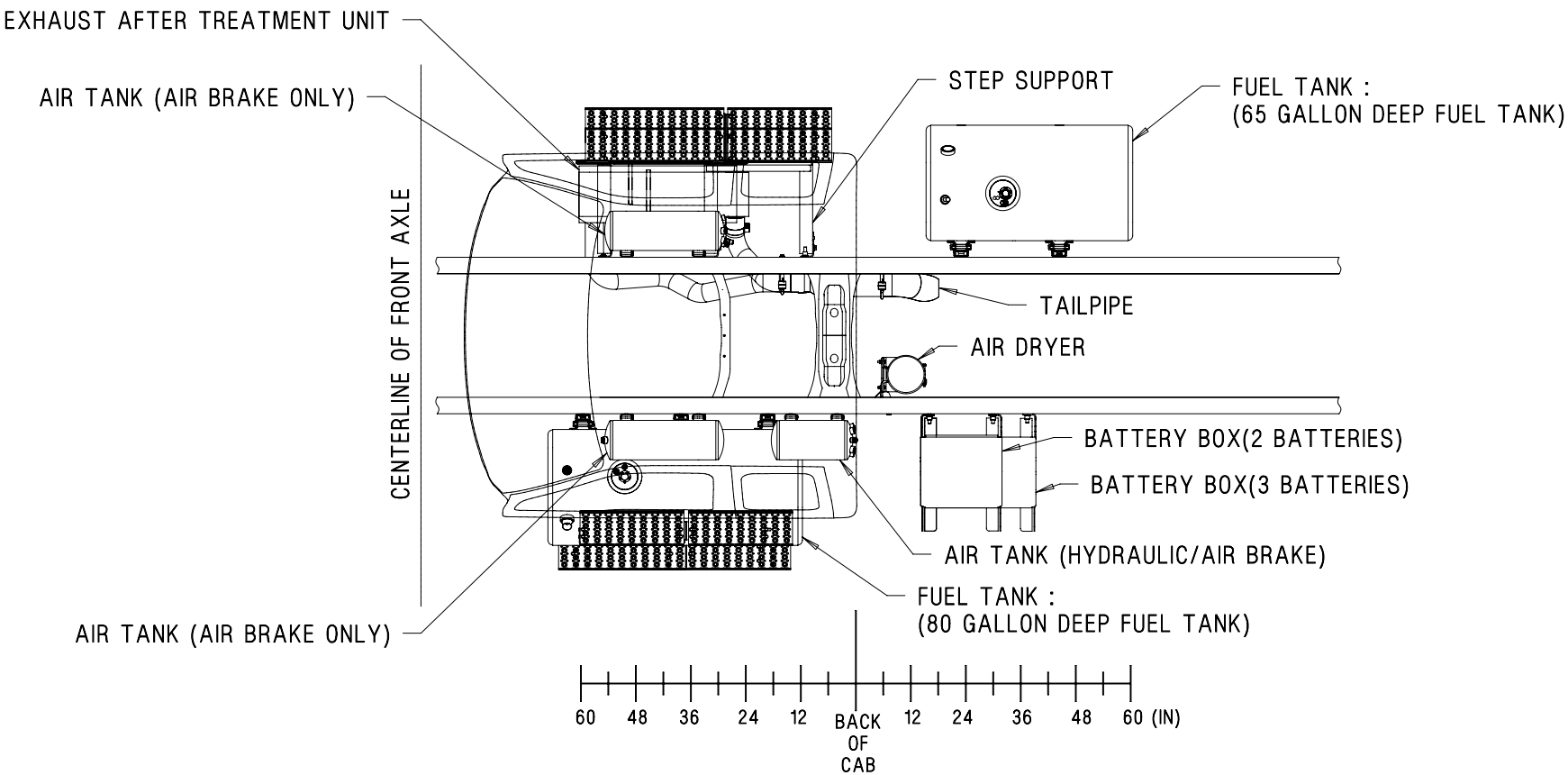


AVAILABLE WITH F650/F750

SUPER CAB WITH RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 50, 65 GALLON OR DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

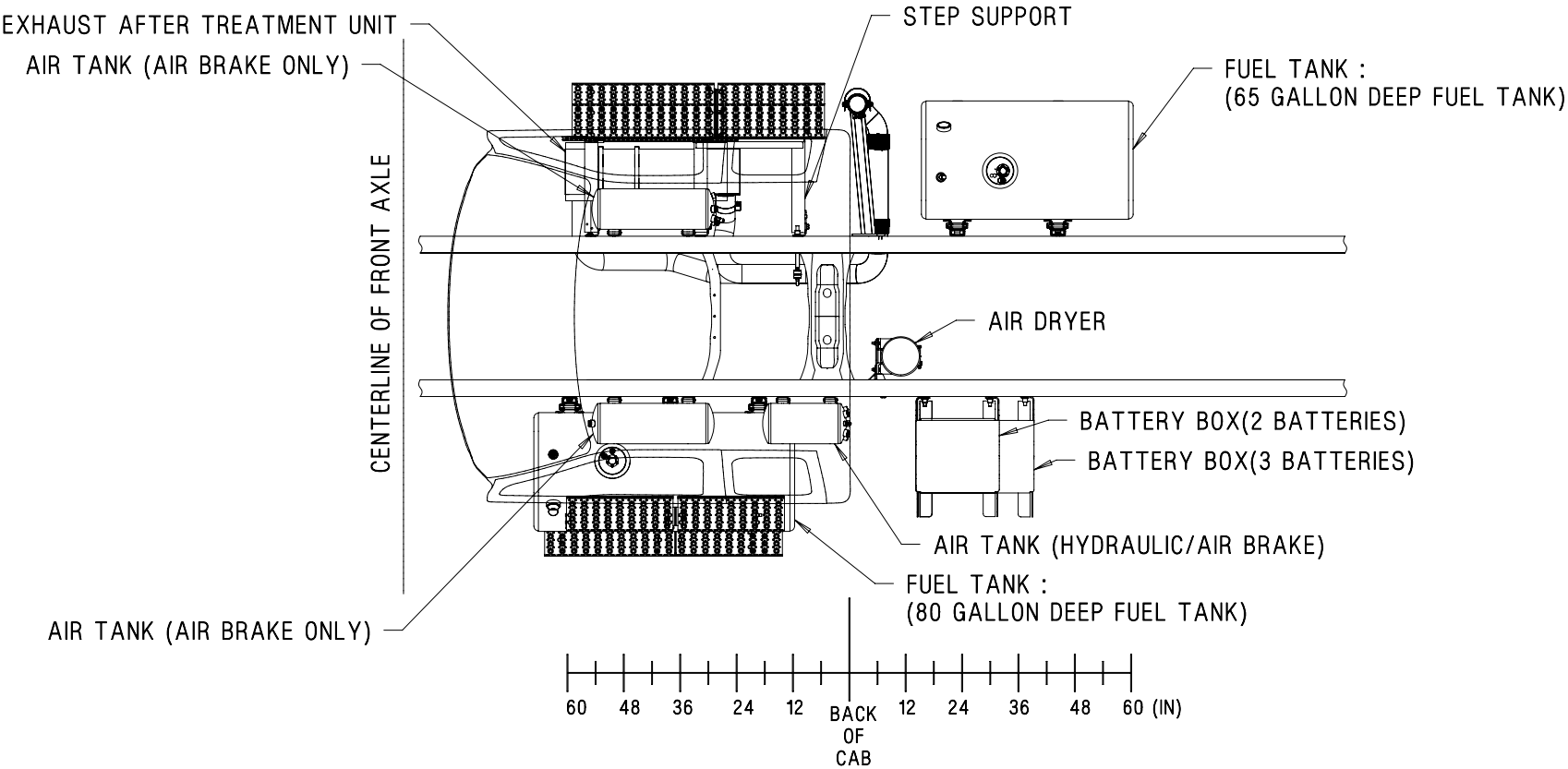


AVAILABLE WITH F650/F750

SUPER CAB WITH RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 80 GALLON OR DUAL 80/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

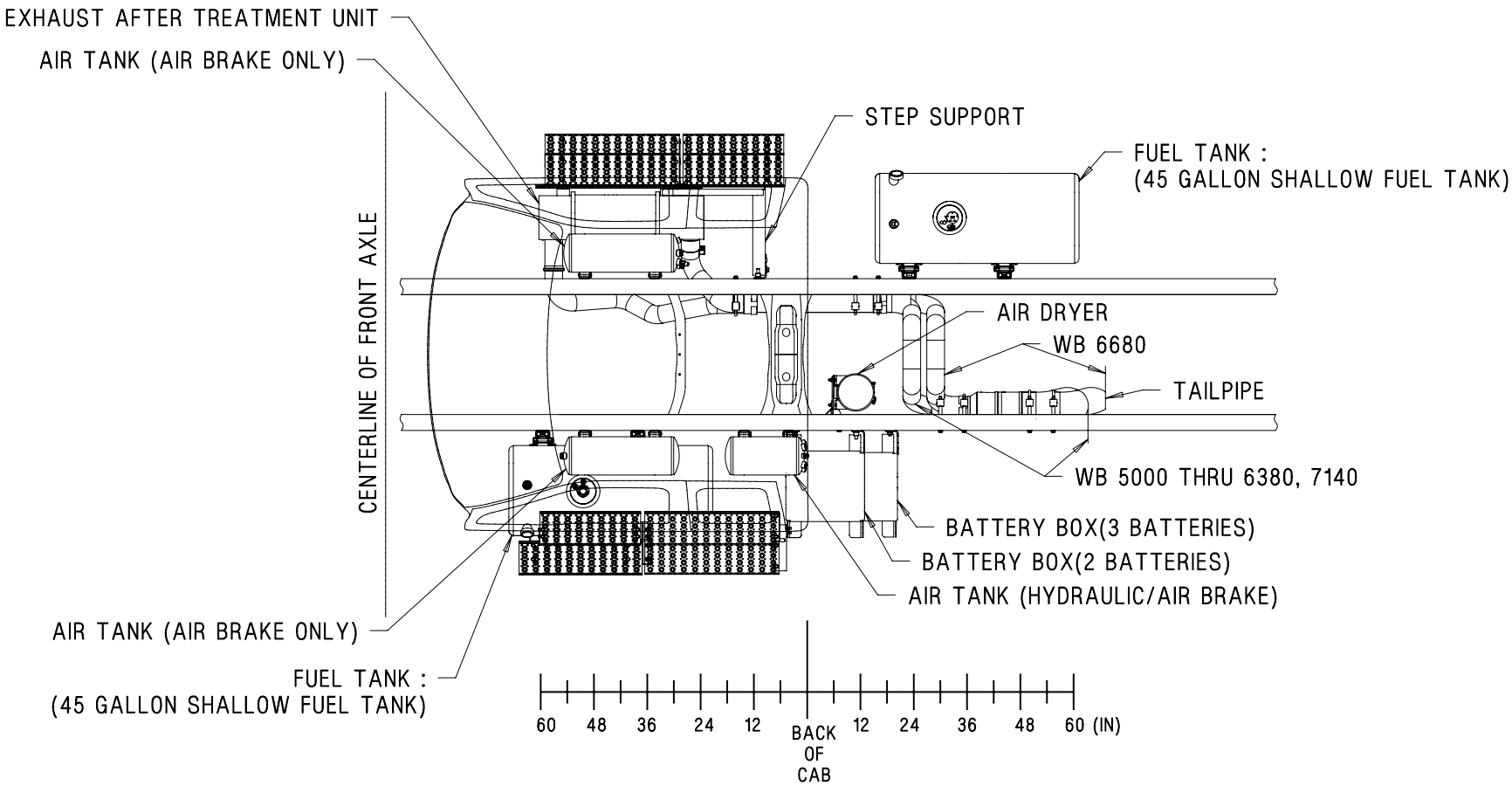


AVAILABLE WITH F650/F750

SUPER CAB WITH RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 80 GALLON OR DUAL 80/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

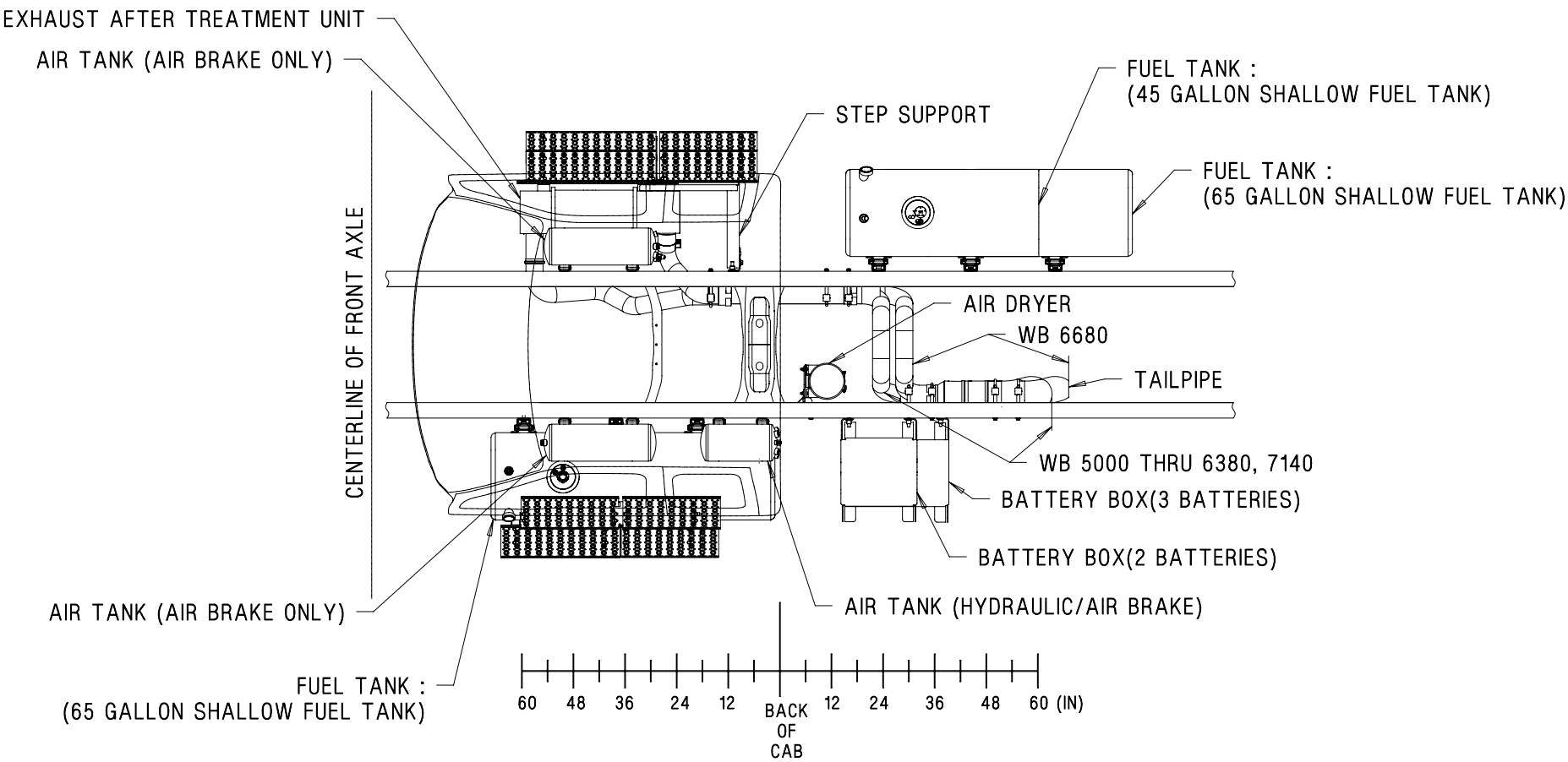


AVAILABLE WITH F650PL/F650/F750
NOT AVAILABLE WITH WB 3940, 4240, 4550

SUPER CAB WITH RSM UC EXHAUST A-T & WITH LSM T-P AND WITH SINGLE 45 GALLON OR DUAL 45/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

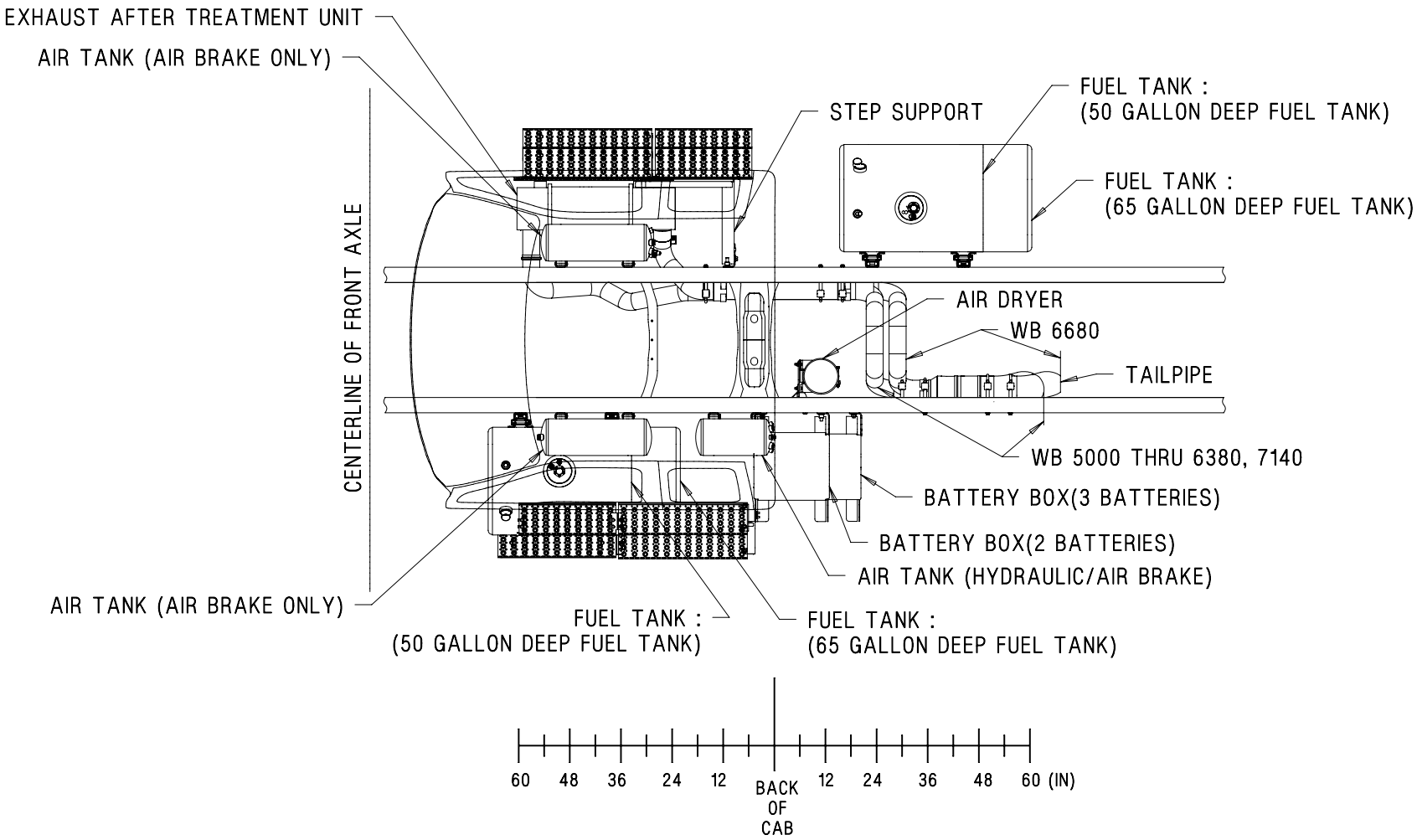


AVAILABLE WITH F650PL/F650/F750
NOT AVAILABLE WITH WB 3940, 4240, 4550

SUPER CAB WITH RSM UC EXHAUST A-T & WITH LSM T-P AND WITH SINGLE 65 GALLON OR DUAL 65/45, 65/65 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

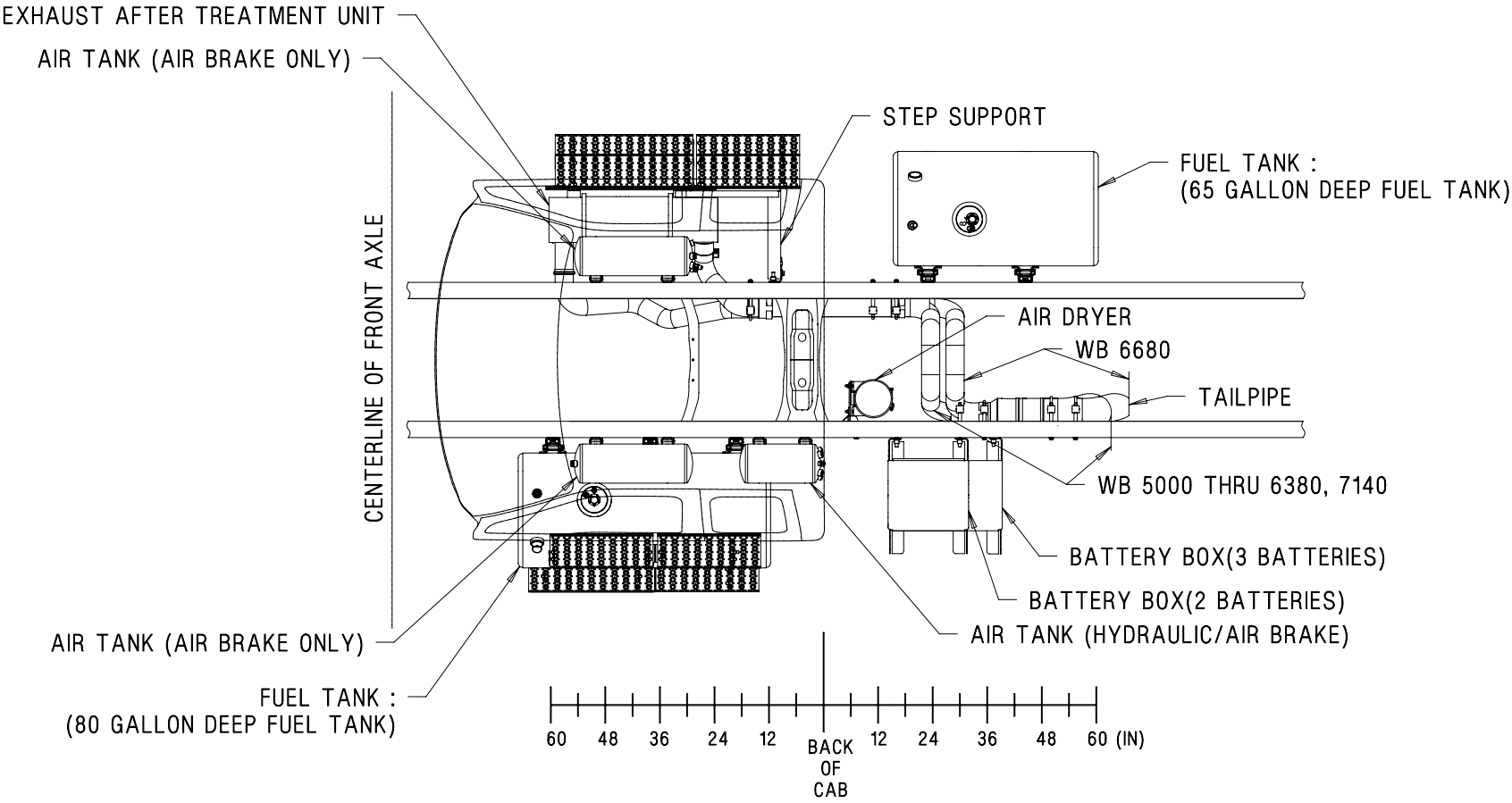


AVAILABLE WITH F650/F750
NOT AVAILABLE WITH WB 3940, 4240, 4550

SUPER CAB WITH RSM UC EXHAUST A-T & WITH LSM T-P AND WITH SINGLE 50, 65 GALLON OR DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
SUPER CAB

2008
MODEL YEAR

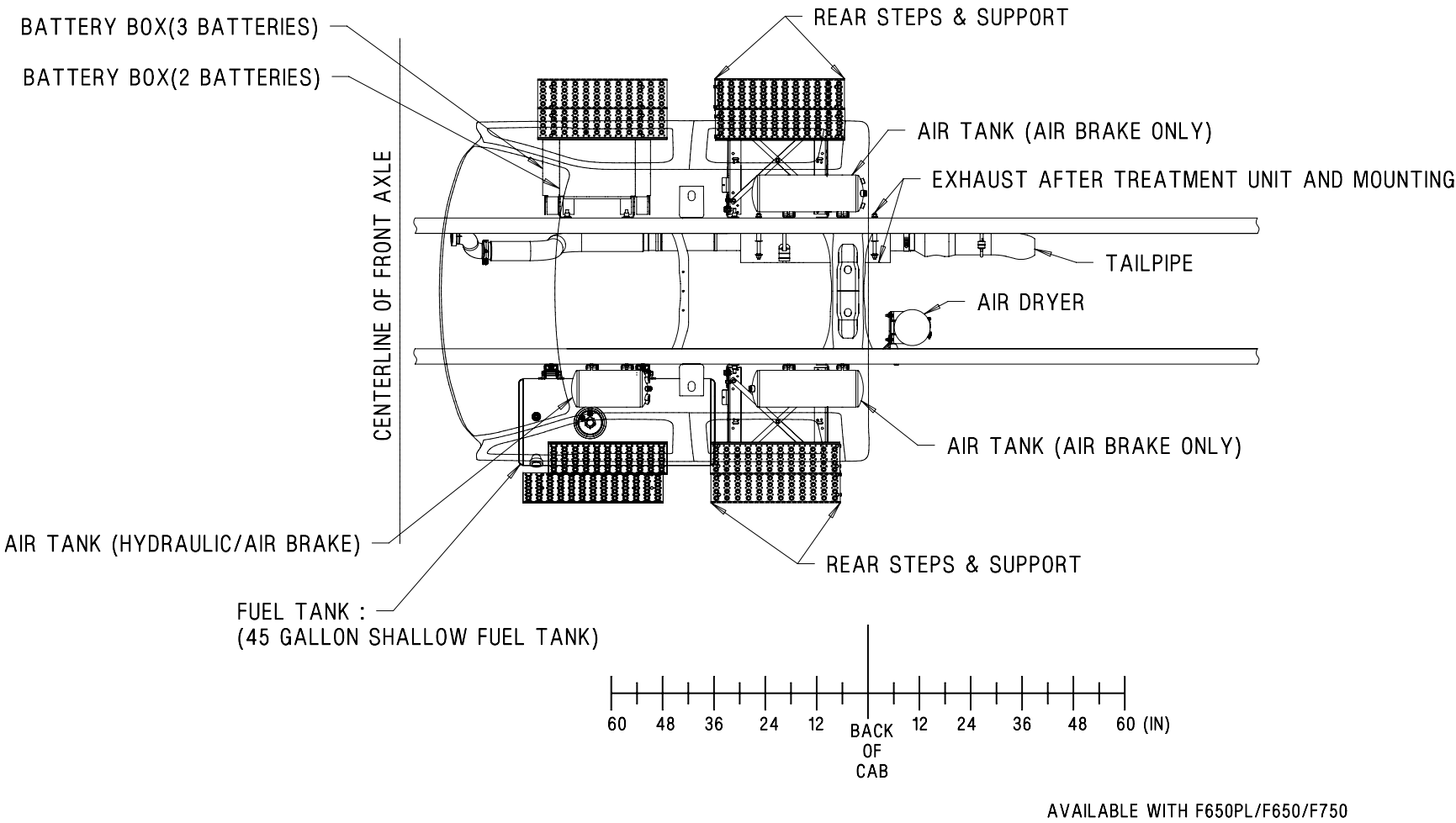


AVAILABLE WITH F650/F750
NOT AVAILABLE WITH WB 3940, 4240, 4550

SUPER CAB WITH RSM UC EXHAUST A-T & WITH LSM T-P AND WITH SINGLE 80 GALLON OR DUAL 80/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

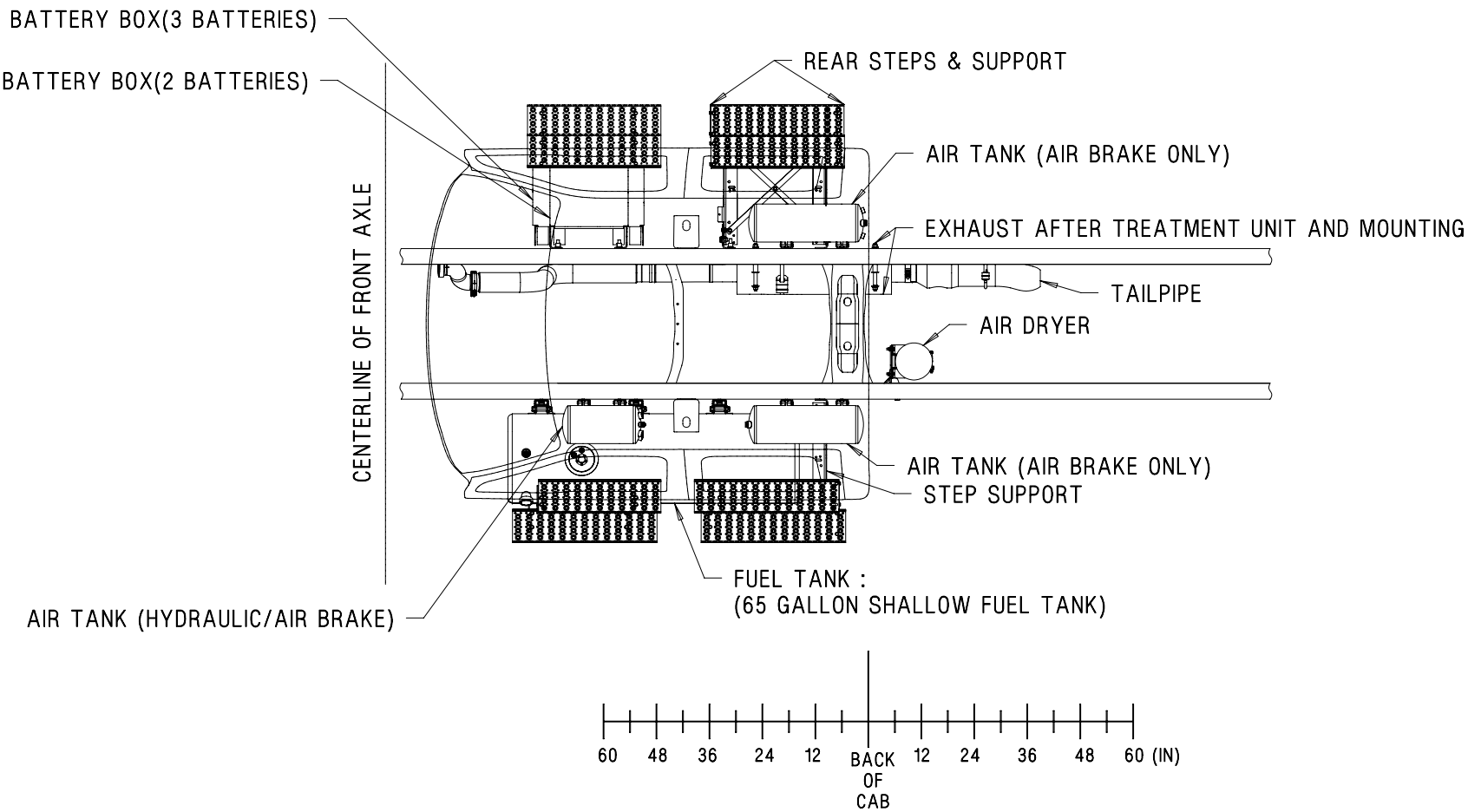
2008
MODEL YEAR



CREW CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH SINGLE 45 GALLON SHALLOW FUEL TANK AND WITH RIGHT SIDE BATTERY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

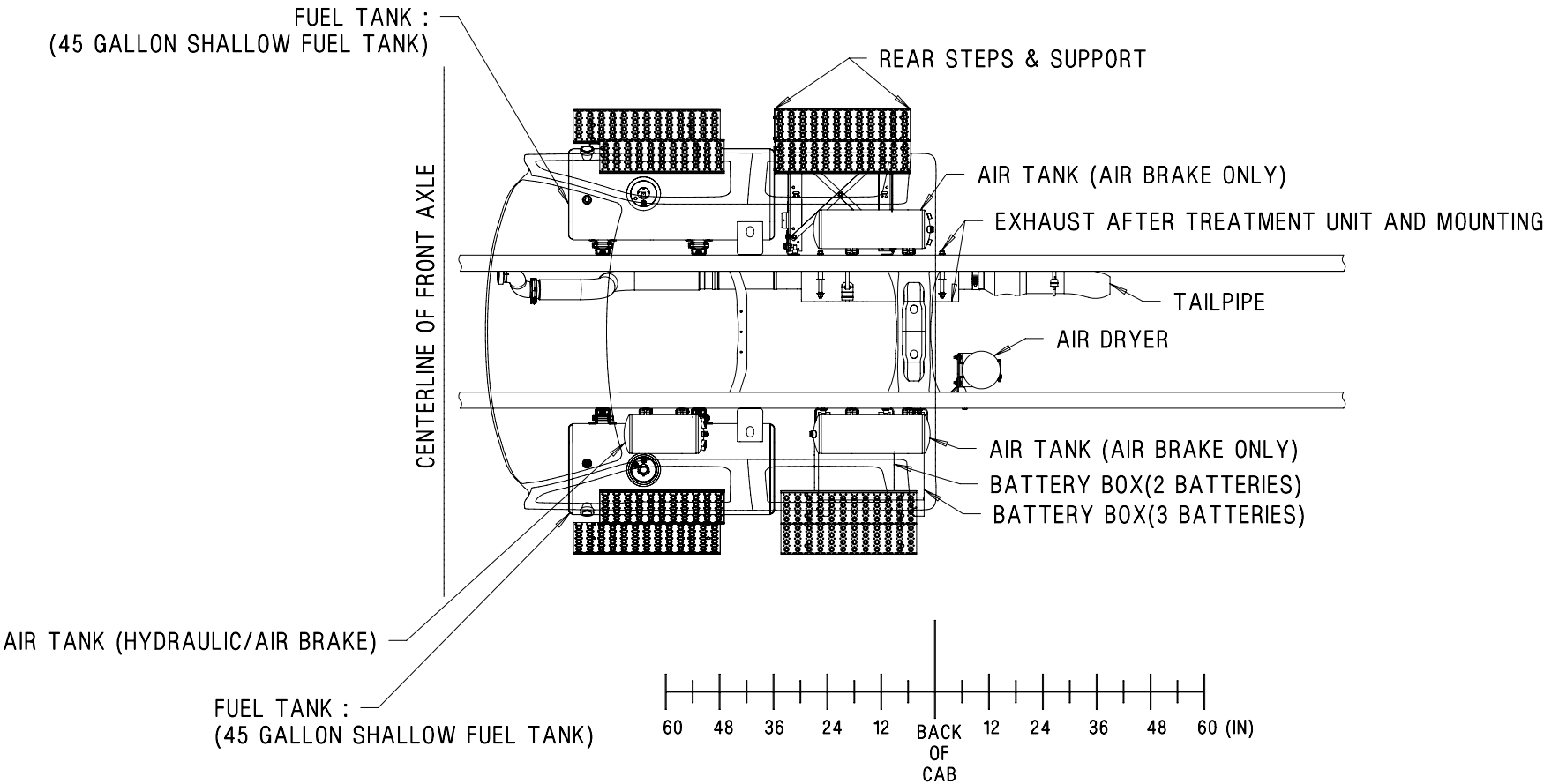


AVAILABLE WITH F650PL/F650/F750

CREW CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH SINGLE 65 GALLON SHALLOW FUEL TANK AND WITH RIGHT SIDE BATTERY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

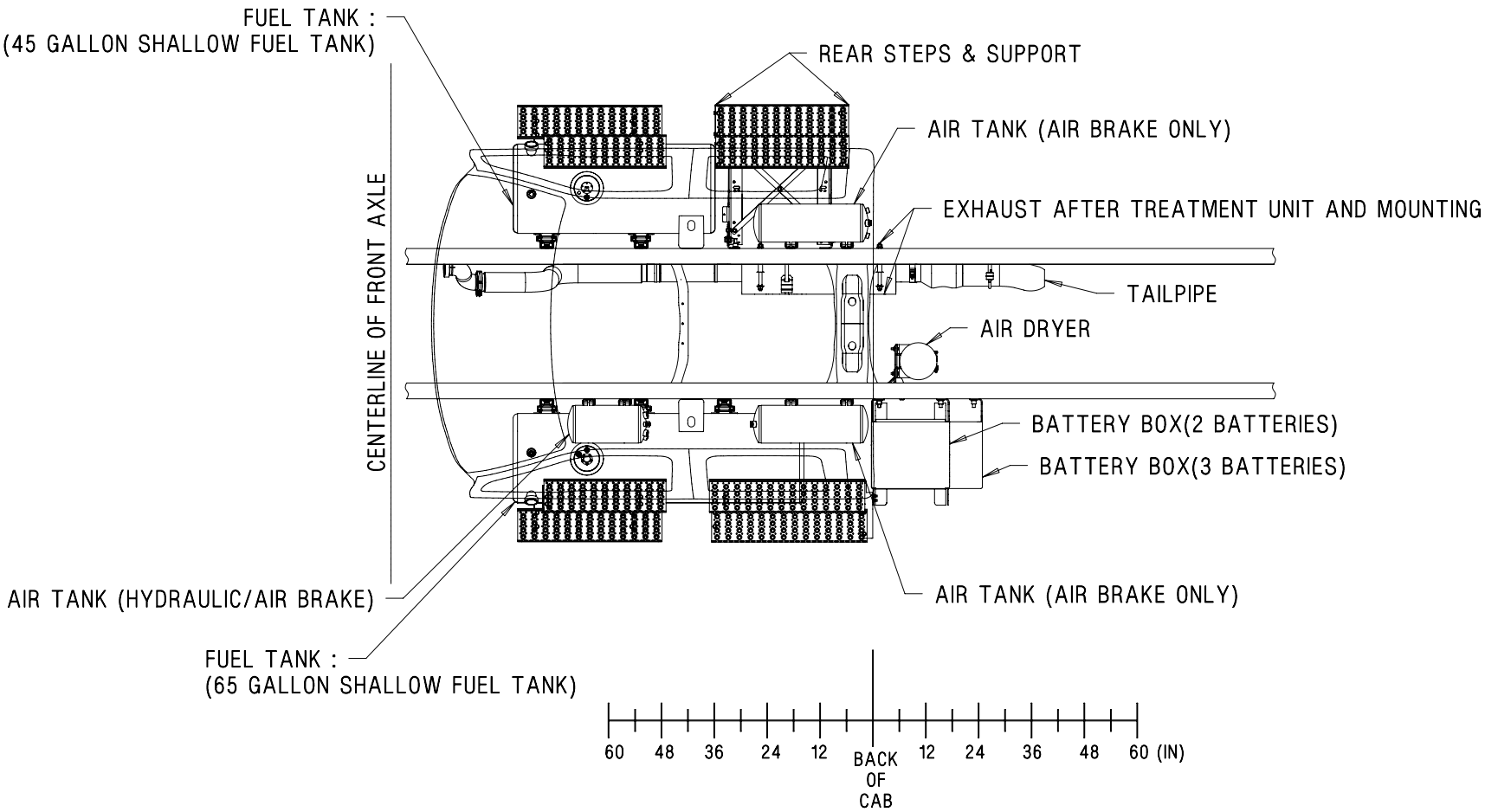


AVAILABLE WITH F650PL/F650/F750

CREW CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH DUAL 45/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

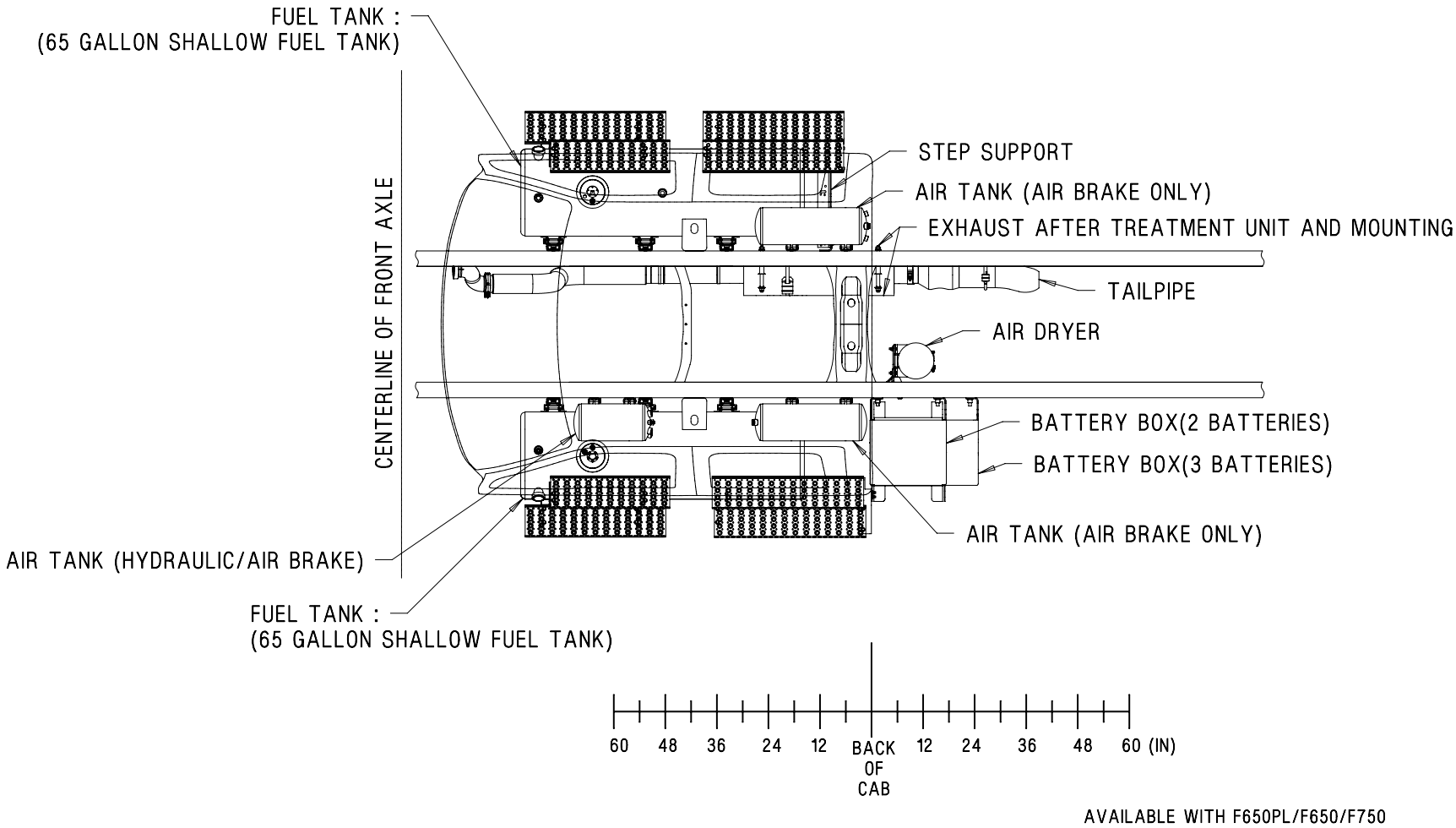


AVAILABLE WITH F650PL/F650/F750

CREW CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH DUAL 65/45 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

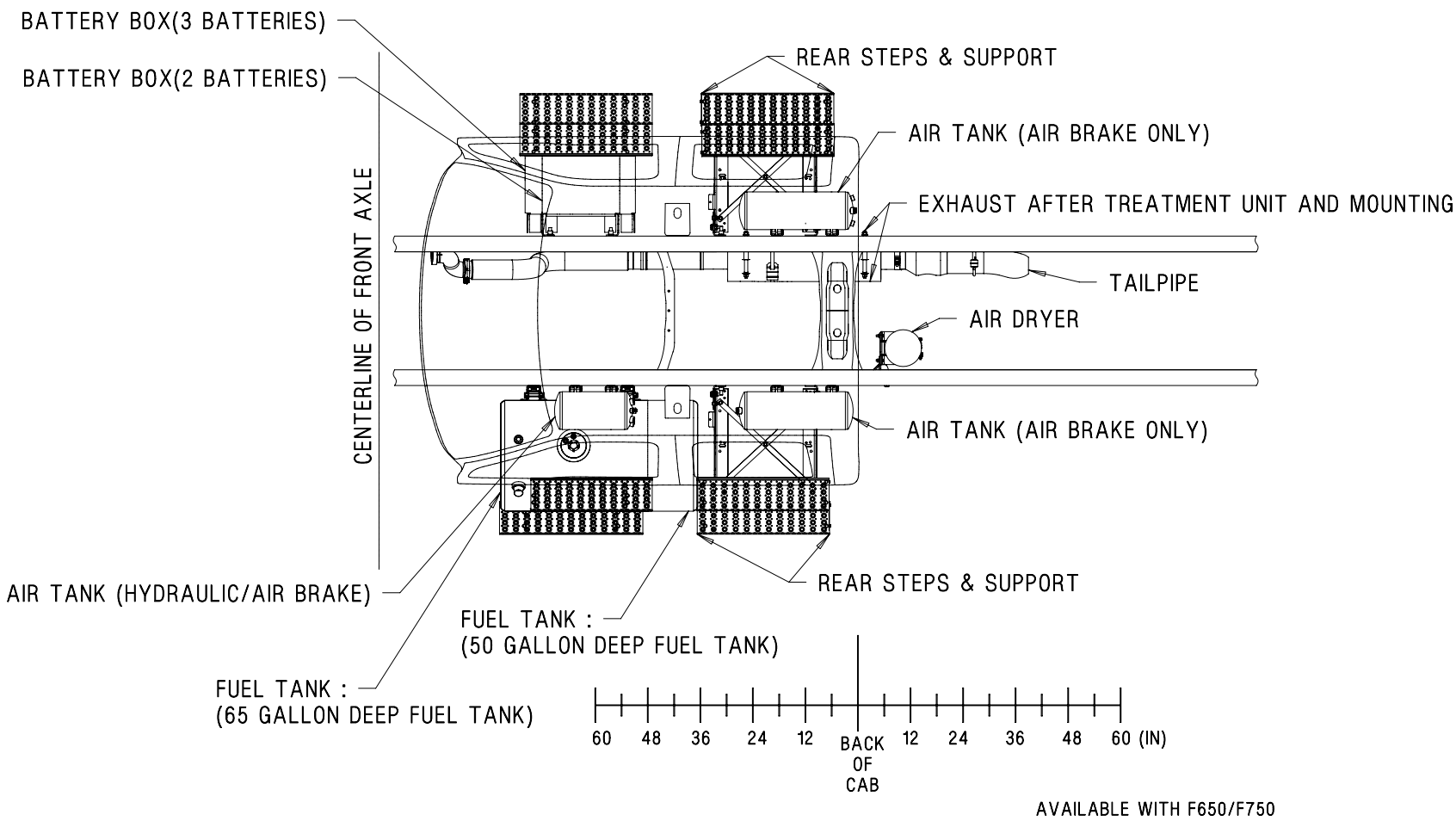
2008
MODEL YEAR



CREW CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH DUAL 65/65 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

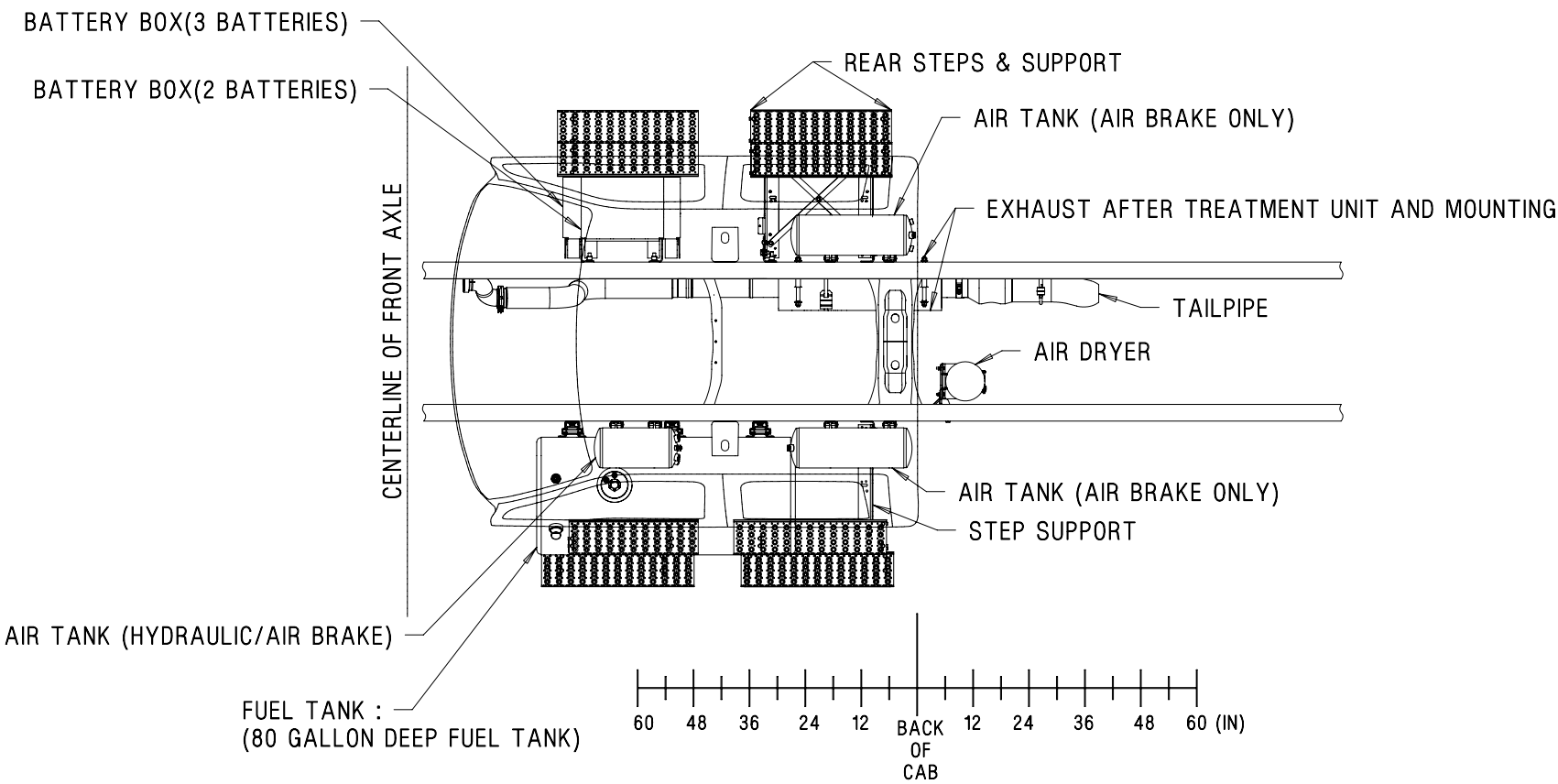
2008
MODEL YEAR



CREW CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH SINGLE 50, 65 GALLON DEEP FUEL TANK AND WITH RIGHT SIDE BATTERY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

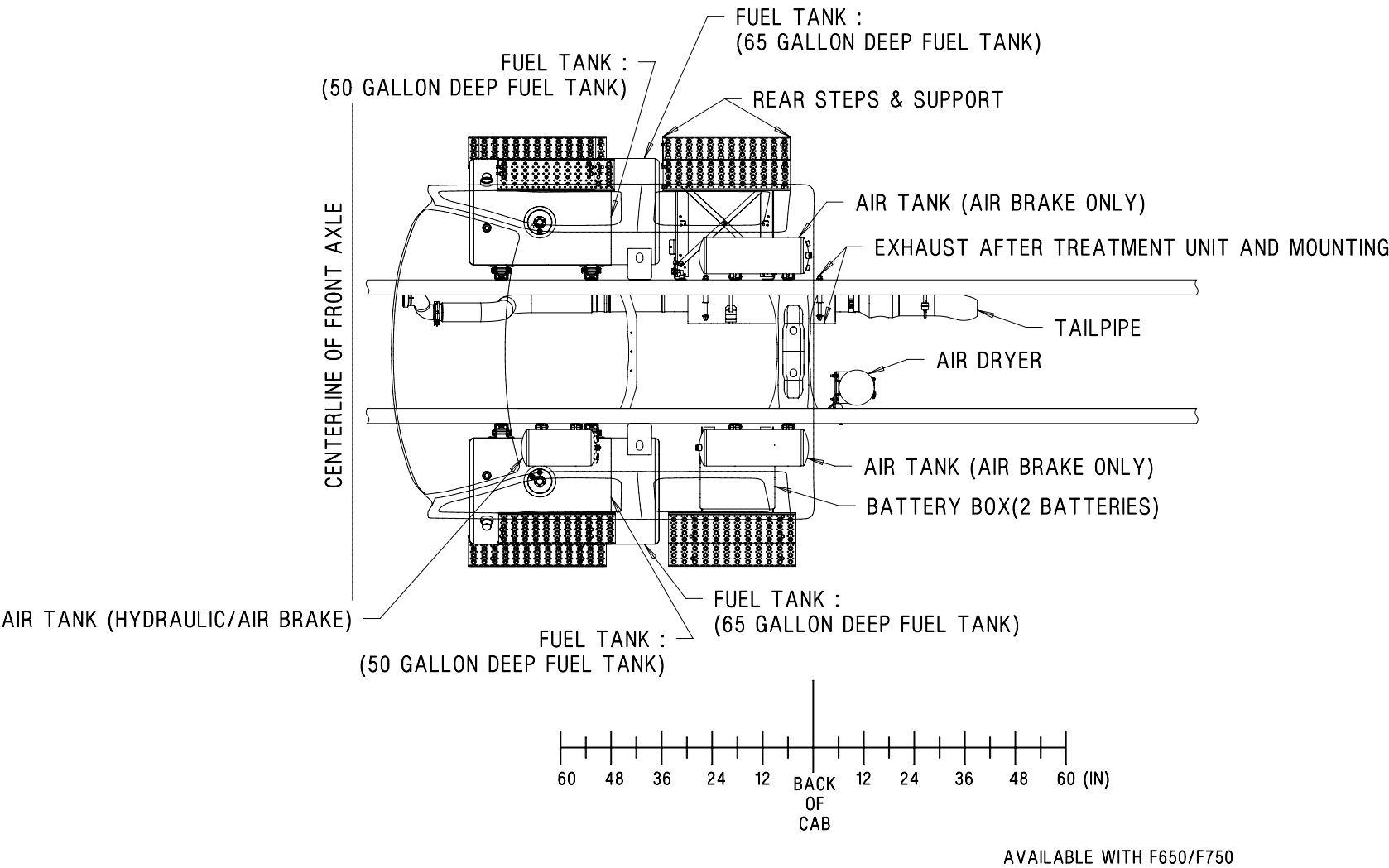


AVAILABLE WITH F650/F750

CREW CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH SINGLE 80 GALLON DEEP FUEL TANK AND WITH RIGHT SIDE BATTERY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

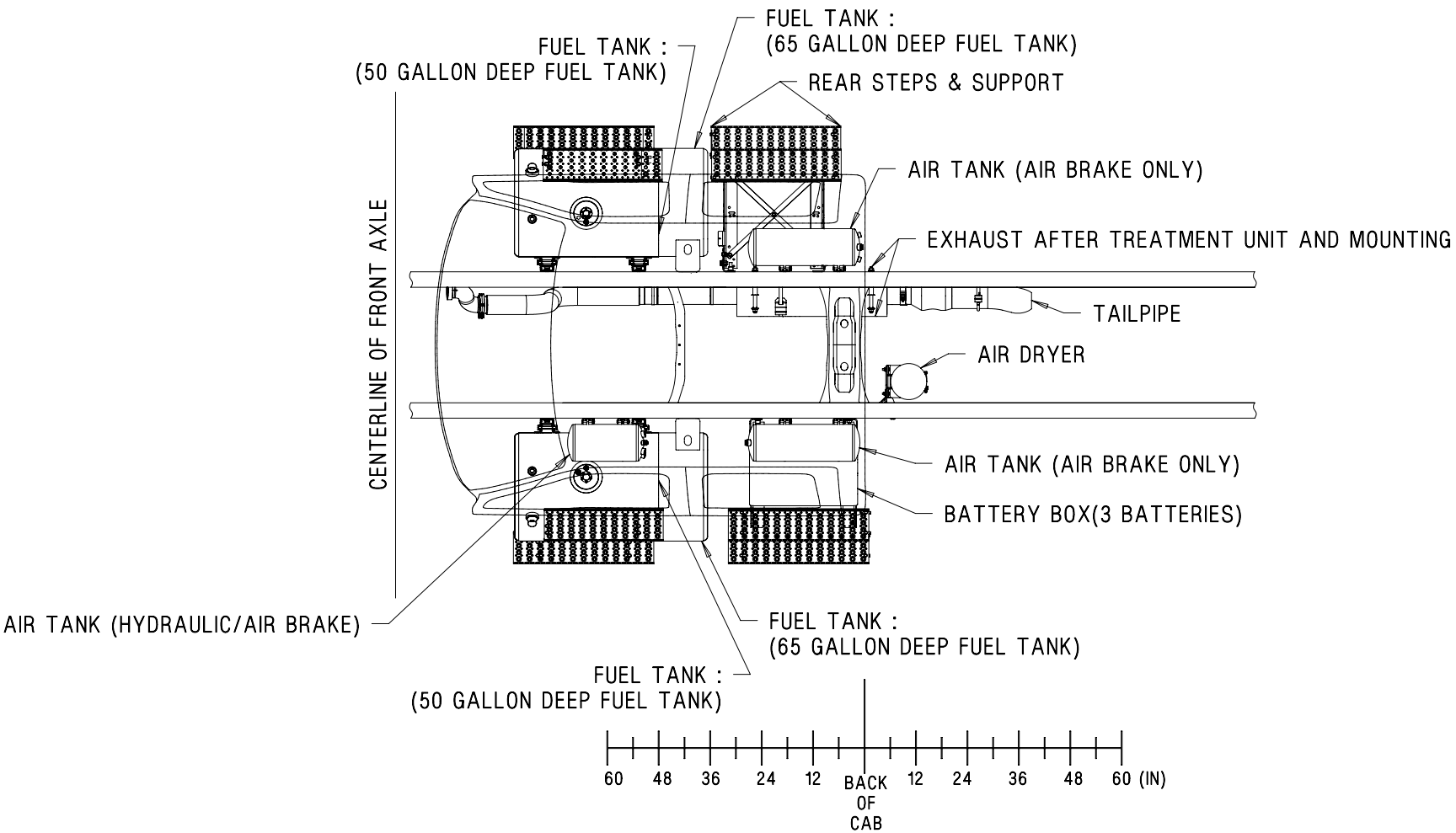
2008
MODEL YEAR



CREW CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS
WITH 2-BATTERY BOX BEHIND FUEL TANK

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

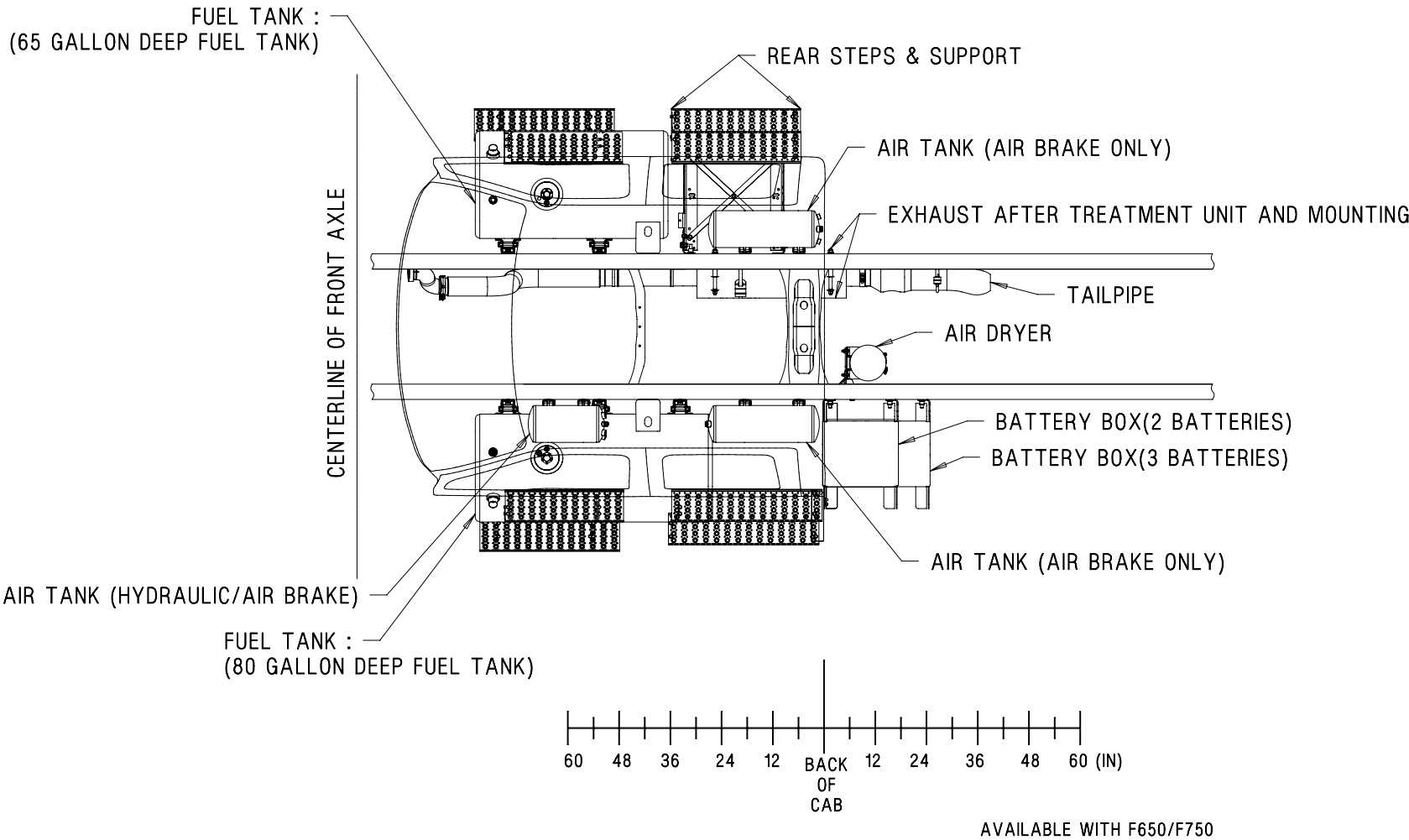


AVAILABLE WITH F650/F750

CREW CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS
WITH 3-BATTERY BOX BEHIND FUEL TANK

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

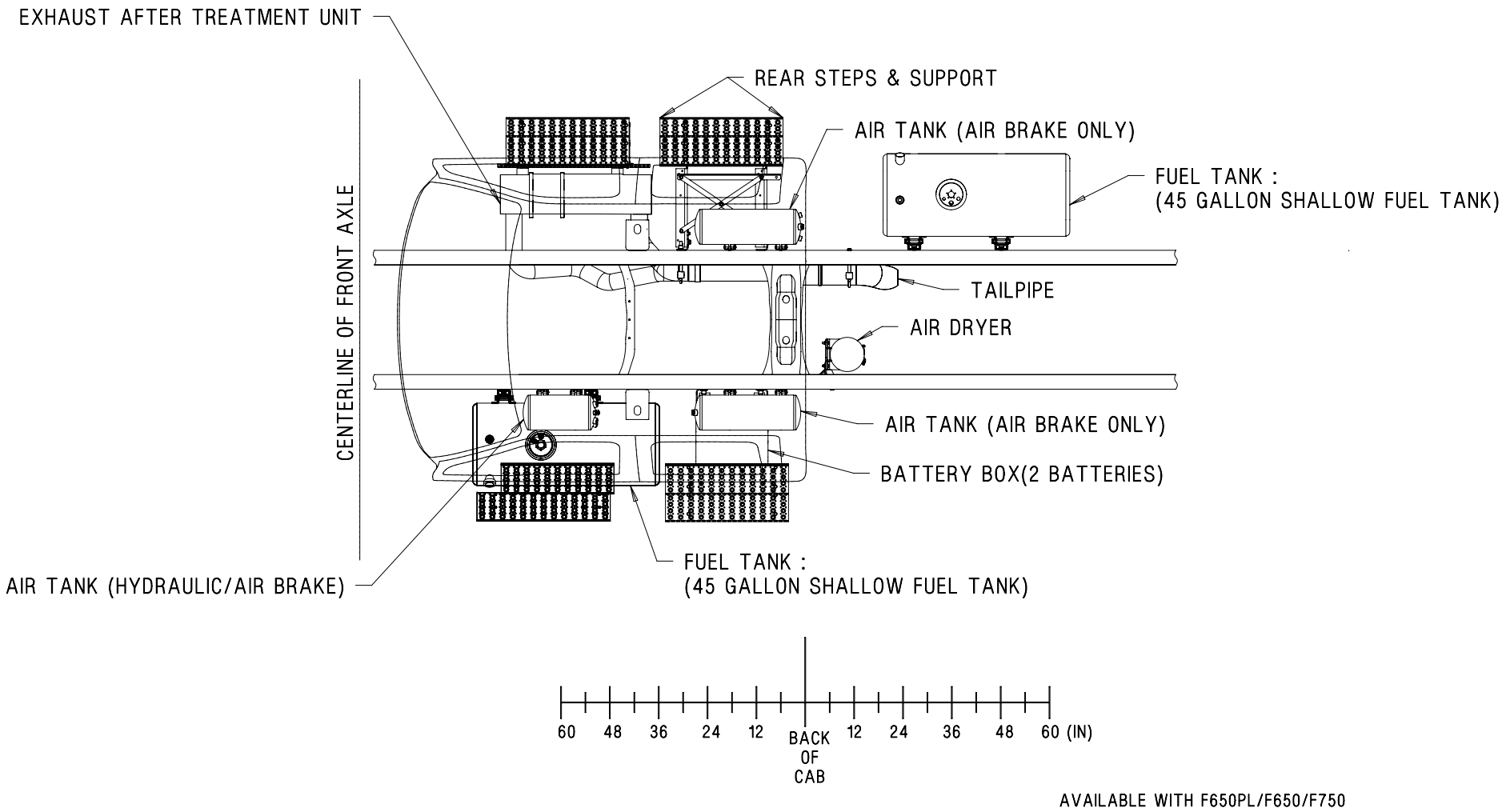
2008
MODEL YEAR



CREW CAB WITH RIGHT SIDE BACK OF CAB HORIZONTAL EXHAUST AND WITH DUAL 80/65 GALLON DEEP FUEL TANKS
WITH 2 & 3-BATTERY BOX BEHIND FUEL TANK

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

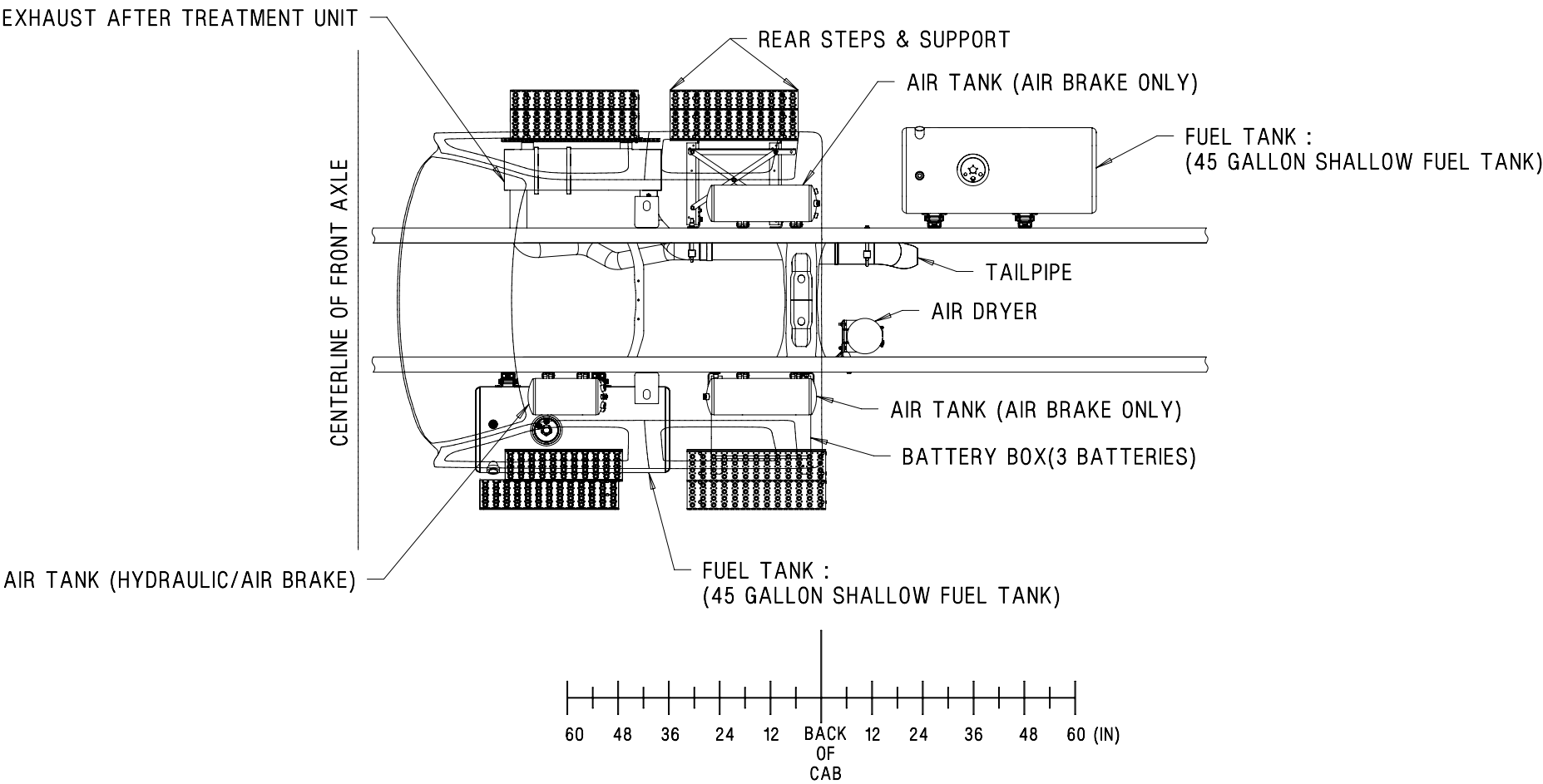
2008
MODEL YEAR



CREW CAB WITH RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 45 GALLON OR DUAL 45/45 GALLON SHALLOW FUEL TANKS WITH 2-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

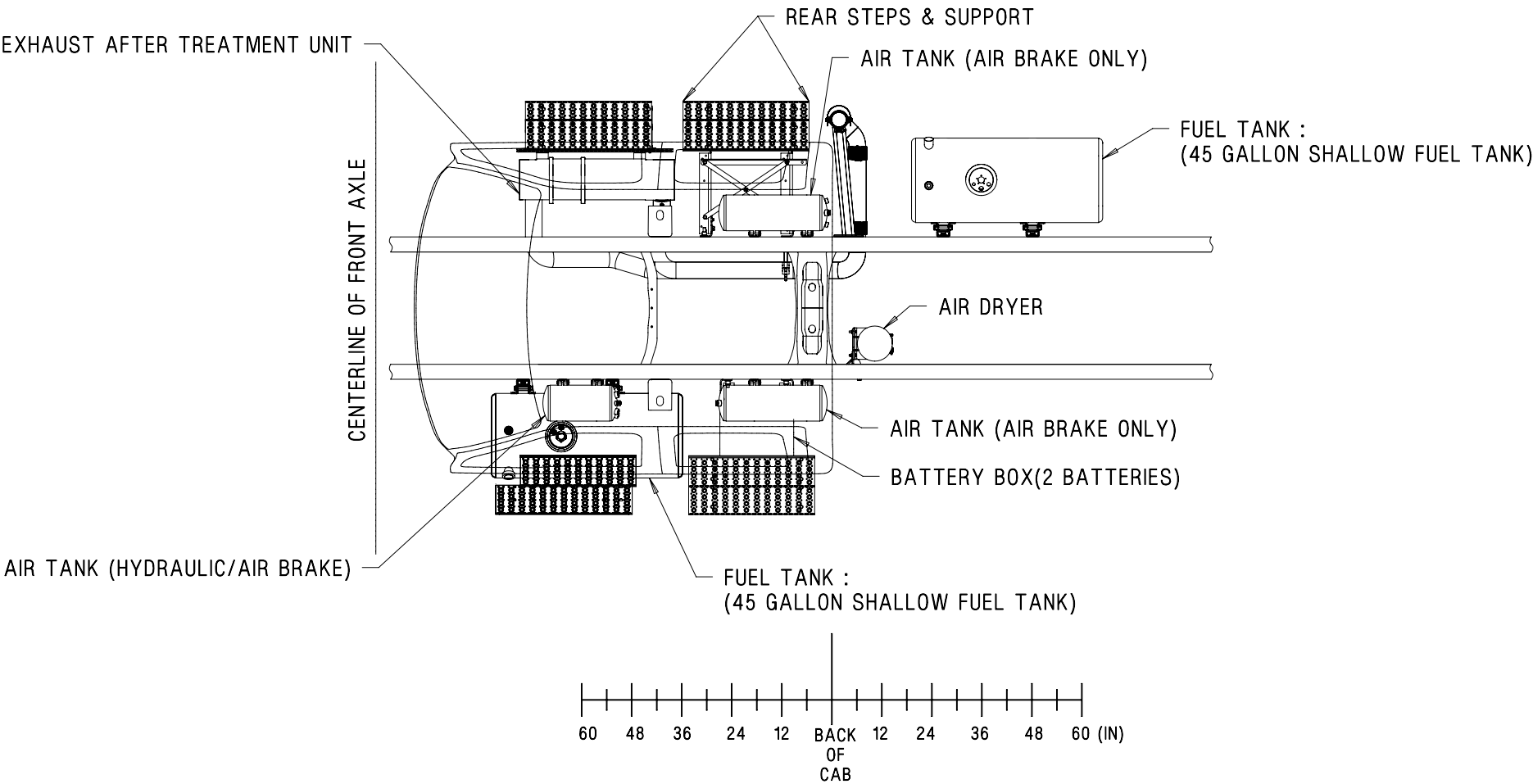


AVAILABLE WITH F650PL/F650/F750

CREW CAB WITH RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 45 GALLON OR DUAL 45/45 GALLON SHALLOW FUEL TANKS WITH 3-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

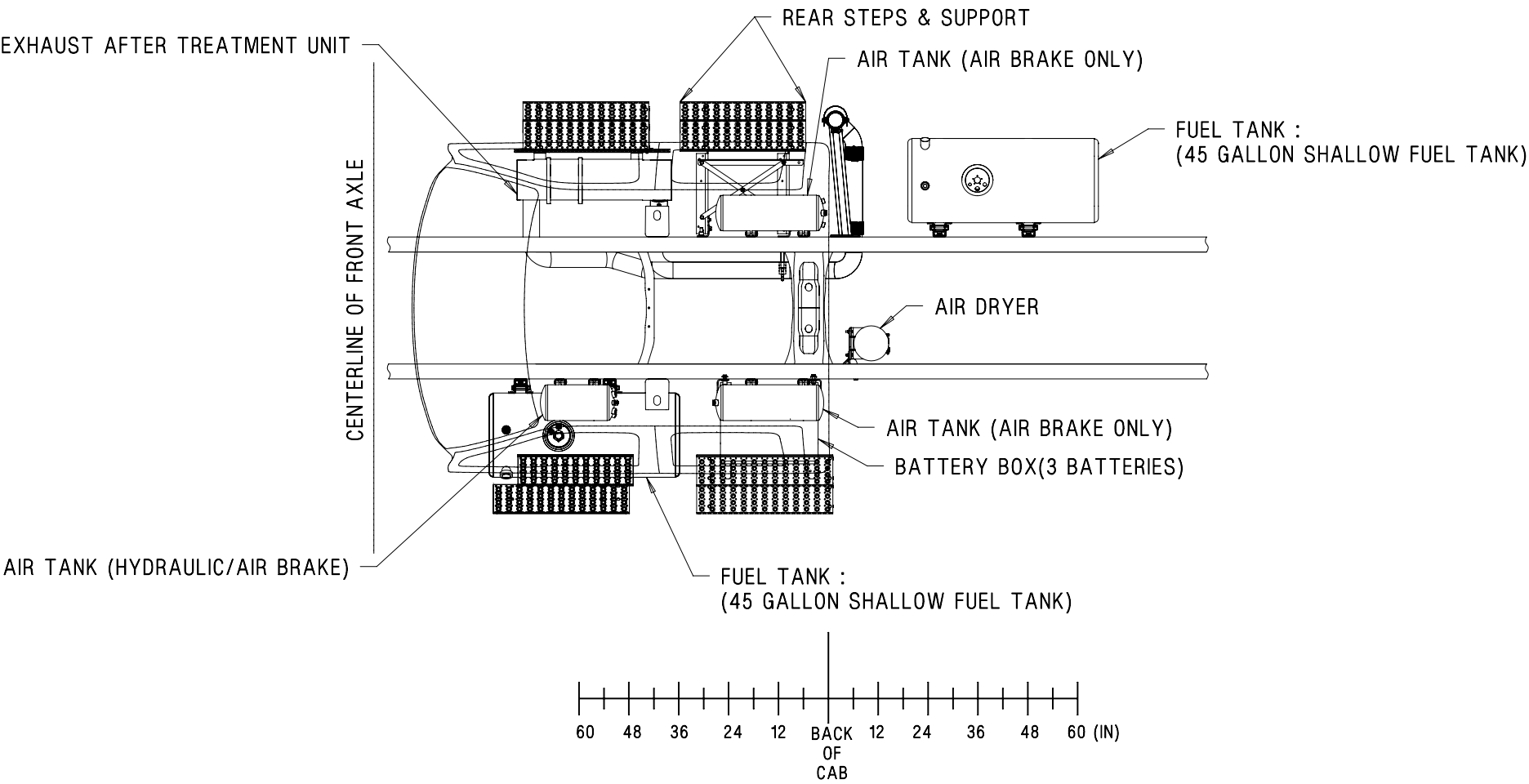


AVAILABLE WITH F650PL/F650/F750

CREW CAB WITH RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 45 GALLON OR DUAL 45/45 GALLON SHALLOW FUEL TANKS WITH 2-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

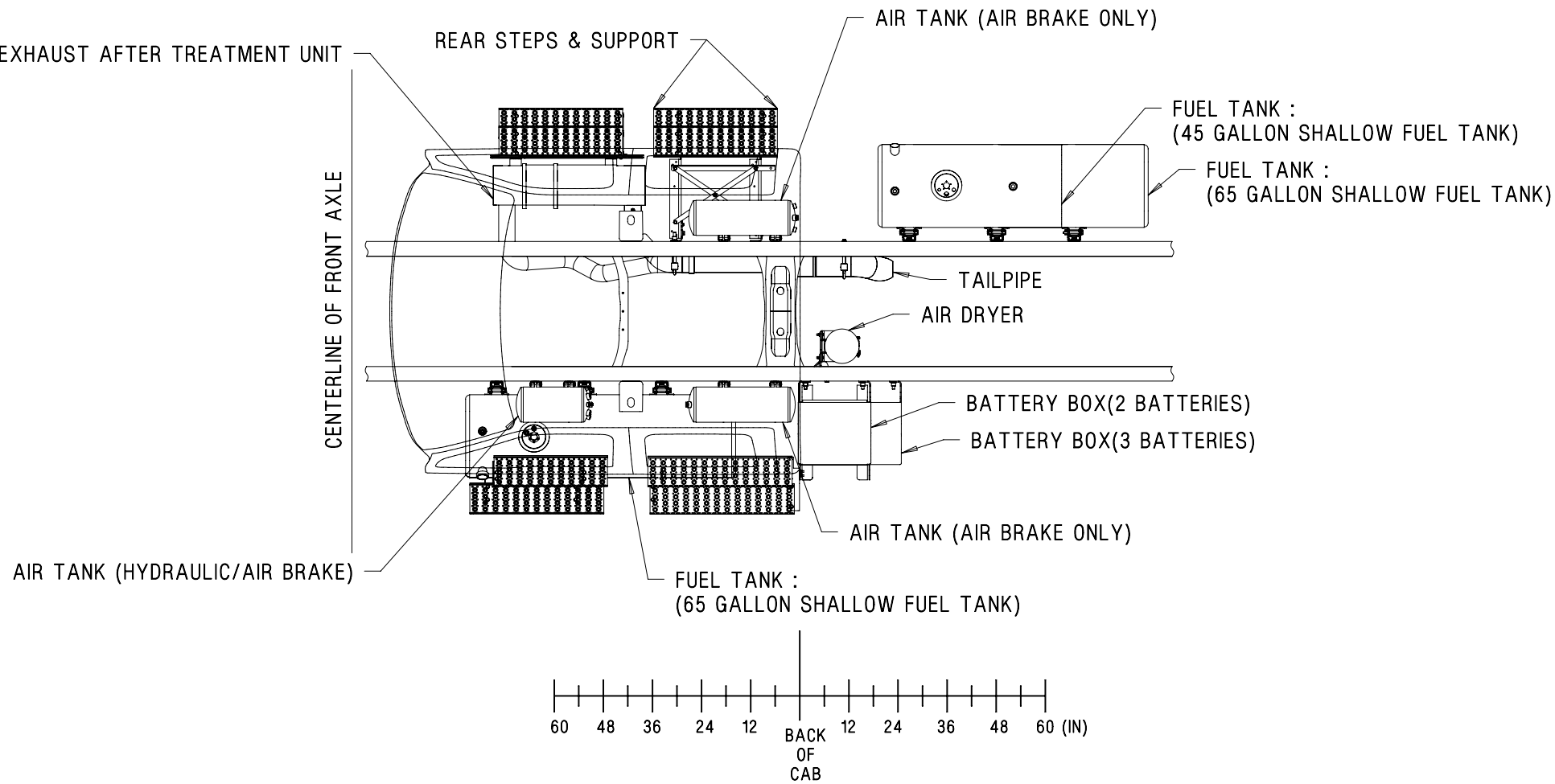


AVAILABLE WITH F650PL/F650/F750

CREW CAB WITH RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 45 GALLON OR DUAL 45/45 GALLON SHALLOW FUEL TANKS WITH 3-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

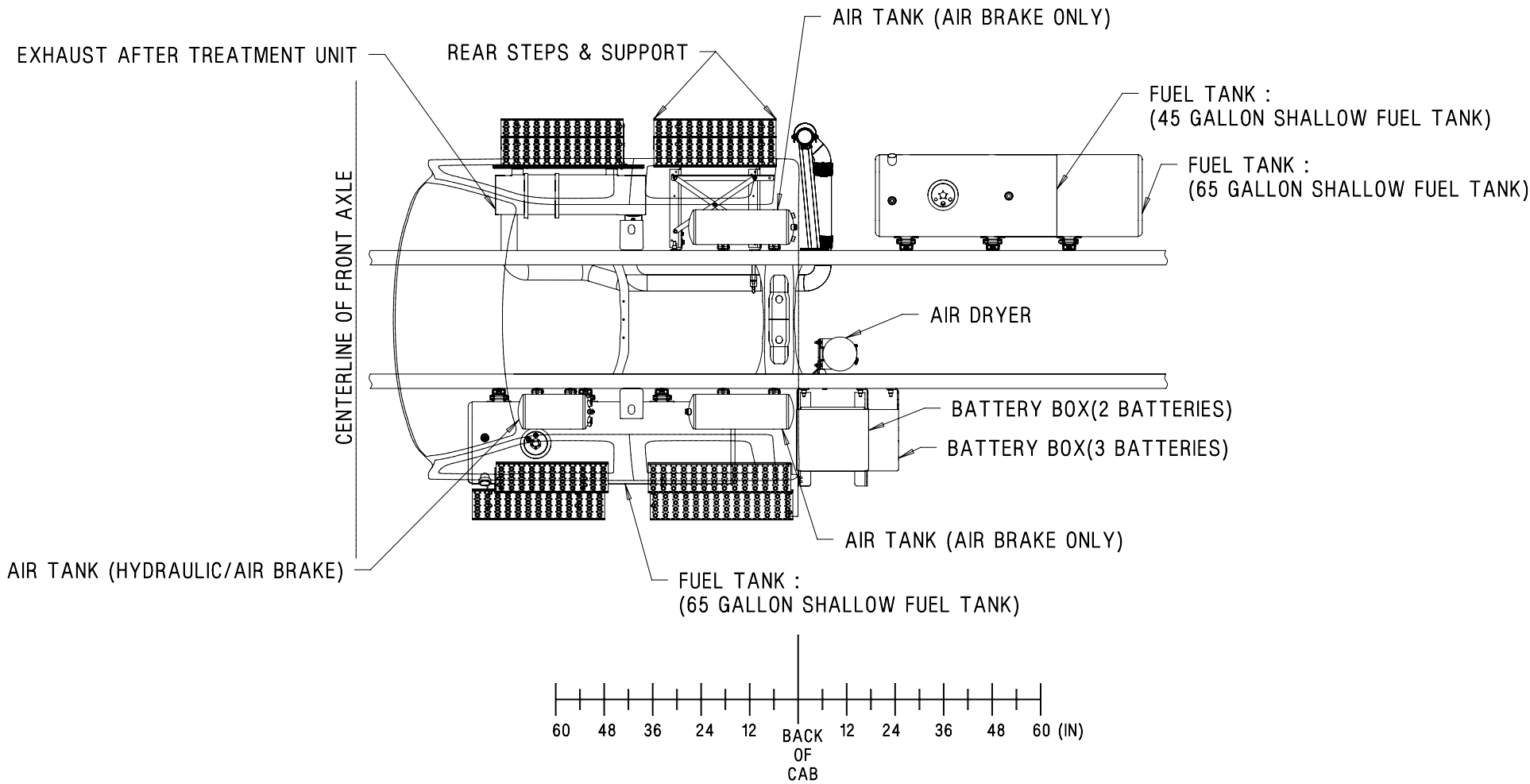


AVAILABLE WITH F650PL/F650/F750

CREW CAB WITH RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 65 GALLON OR DUAL 65/45, 65/65 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

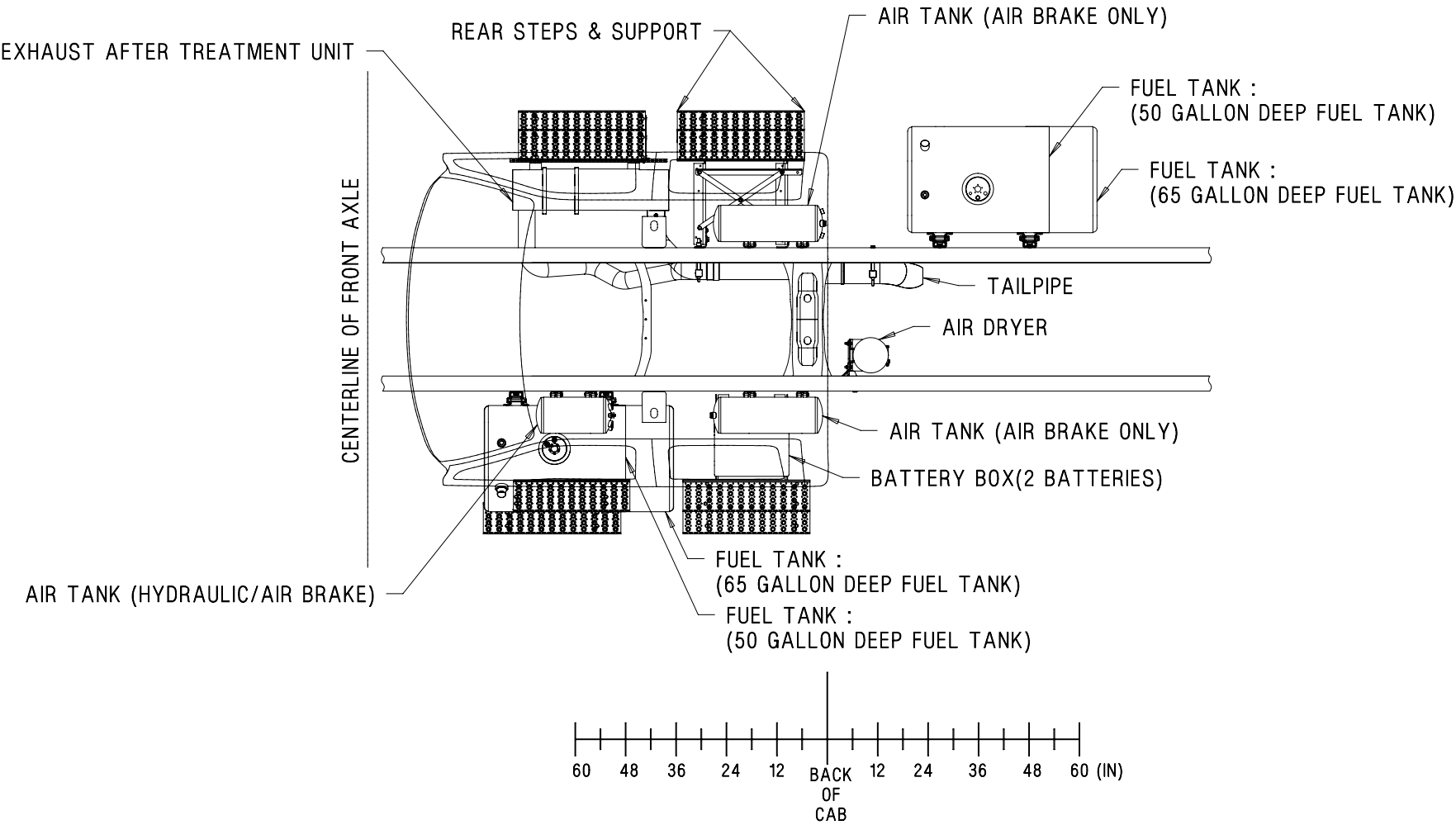


AVAILABLE WITH F650PL/F650/F750

CREW CAB WITH RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 65 GALLON OR DUAL 65/45, 65/65 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

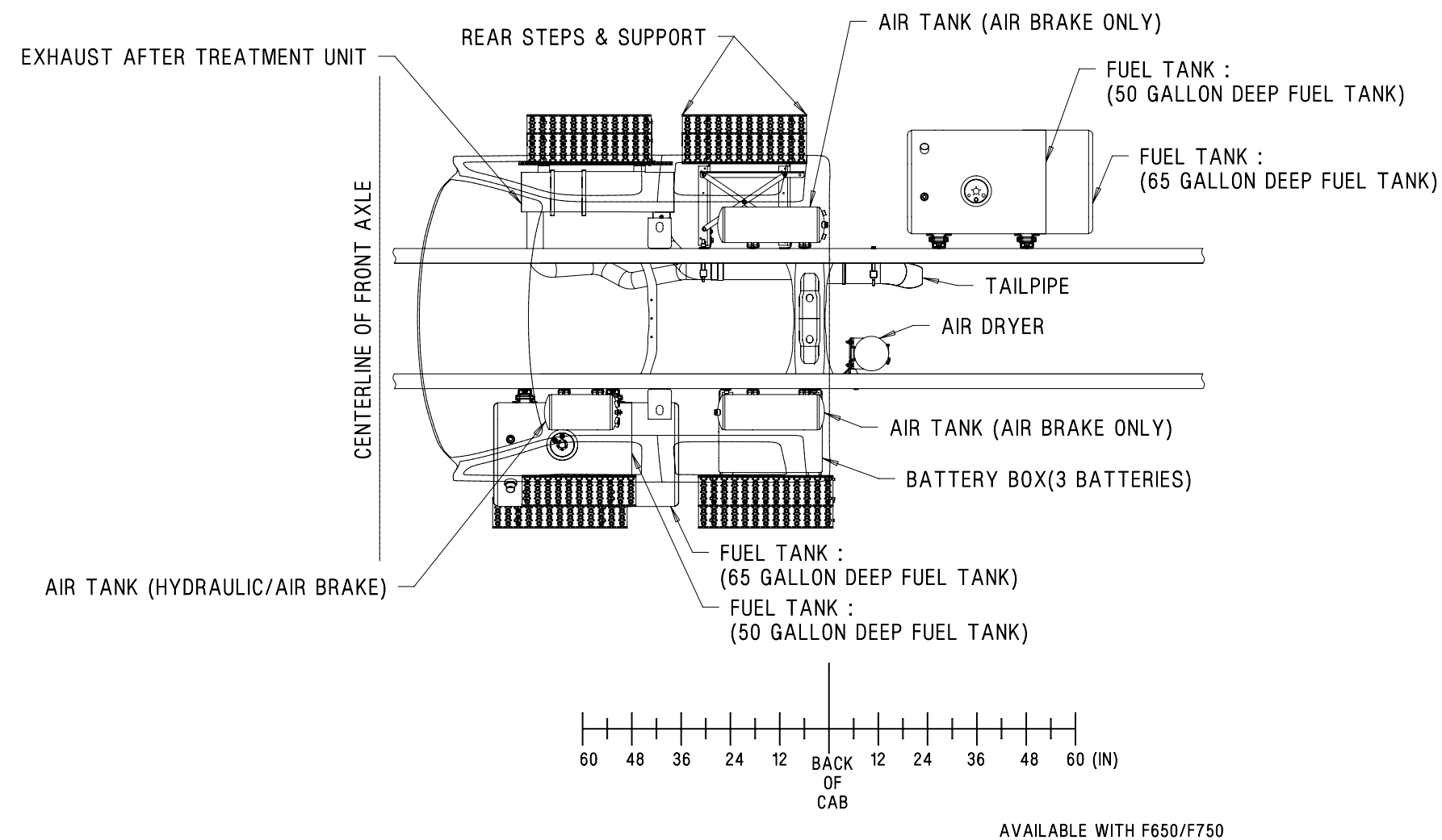


AVAILABLE WITH F650/F750

CREW CAB WITH RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 50, 65 GALLON OR DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS WITH 2-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

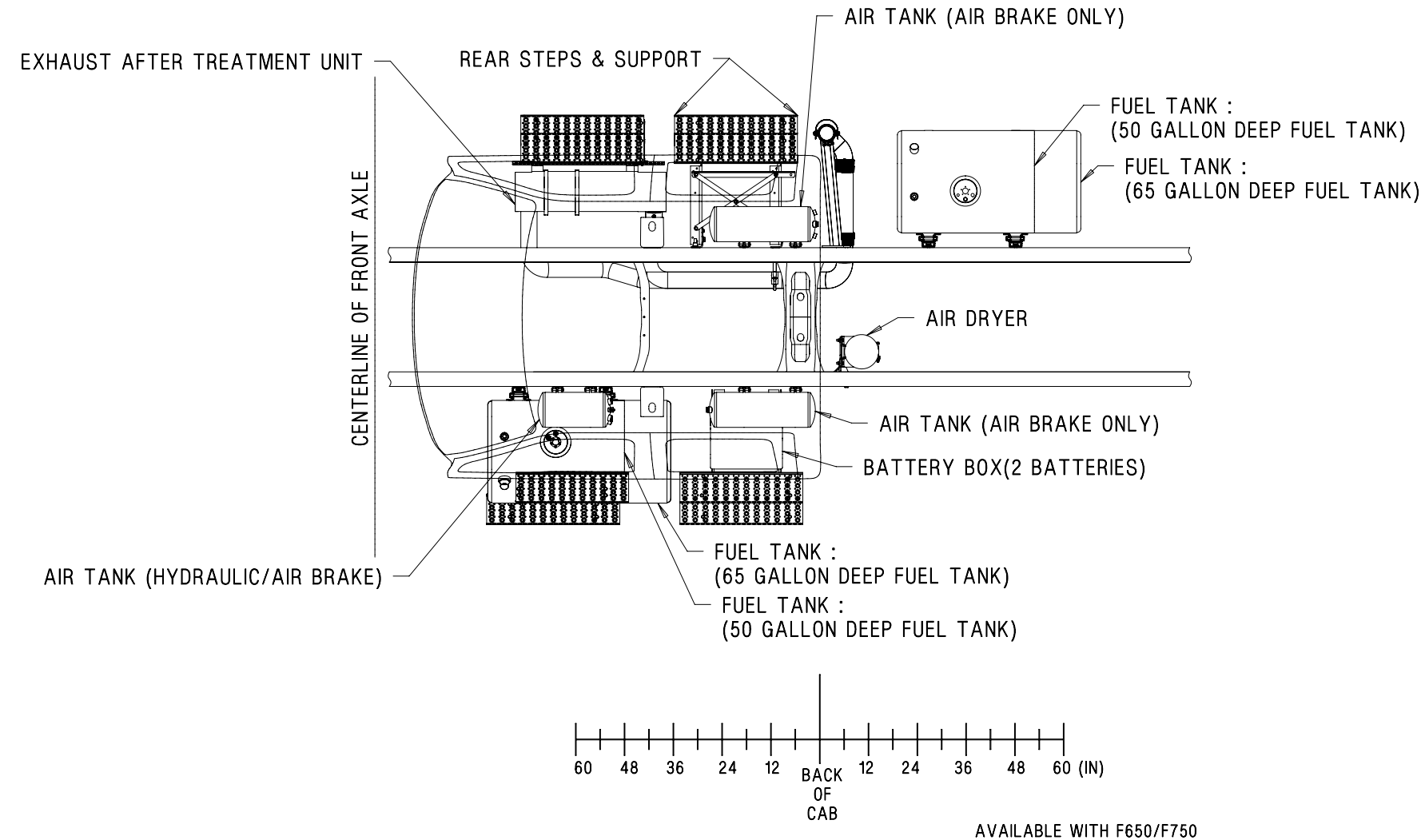
2008
MODEL YEAR



CREW CAB WITH RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 50, 65 GALLON OR DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS WITH 3-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

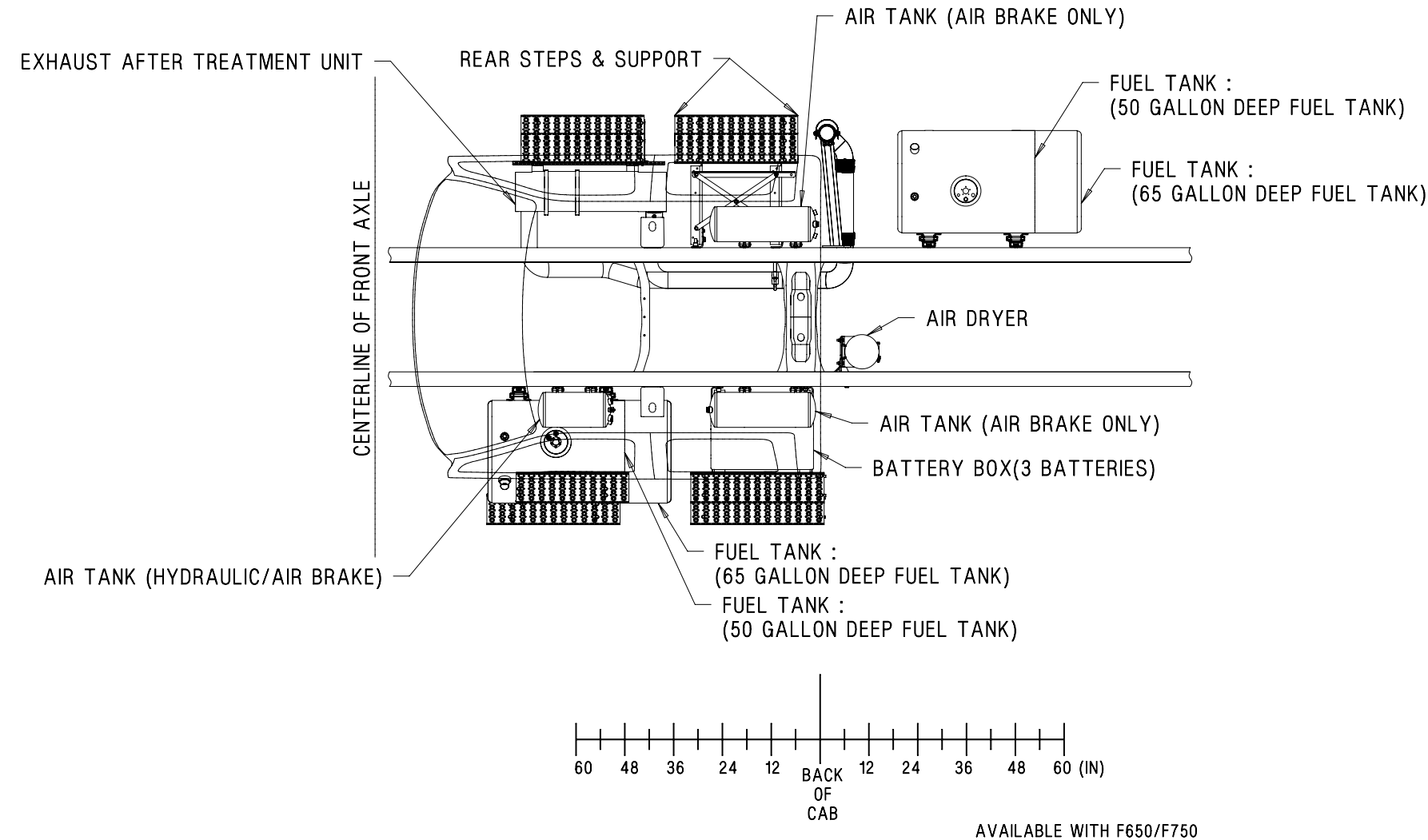
2008
MODEL YEAR



CREW CAB WITH RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 50, 65 GALLON OR DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS WITH 2-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

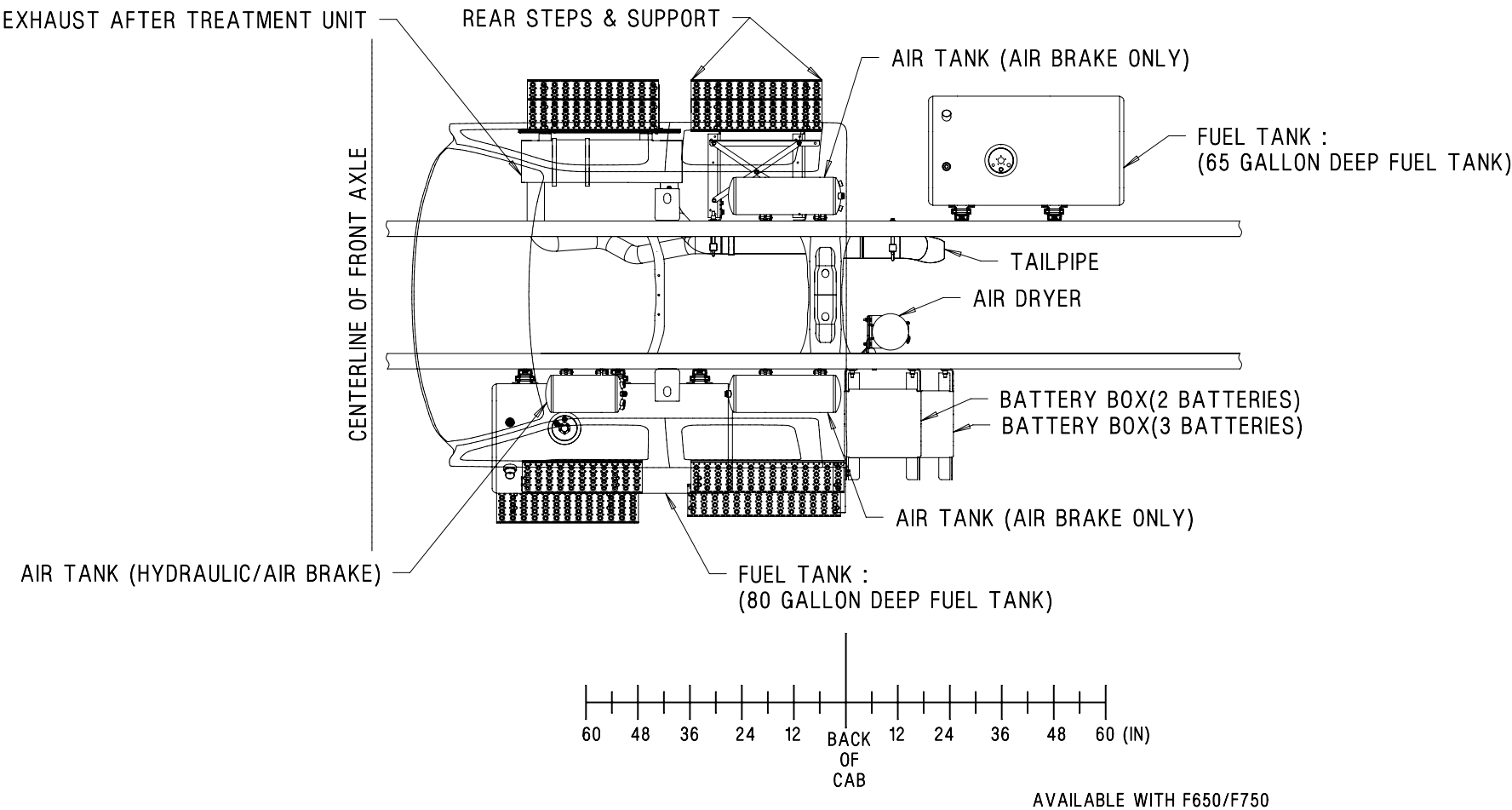
2008
MODEL YEAR



CREW CAB WITH RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 50, 65 GALLON OR DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS WITH 3-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

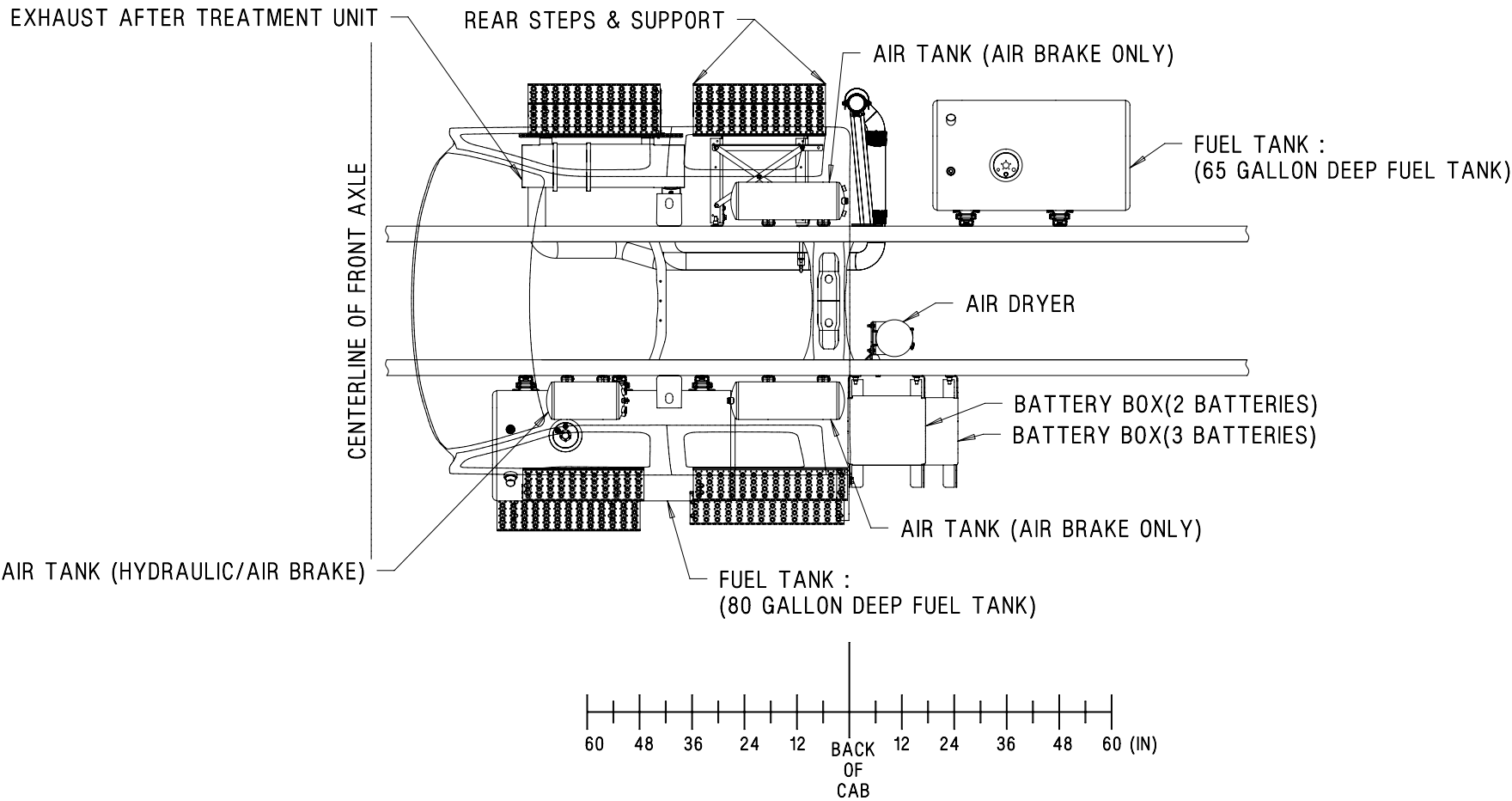
2008
MODEL YEAR



CREW CAB WITH RIGHT SIDE HORIZONTAL EXHAUST AND WITH SINGLE 80 GALLON OR DUAL 80/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

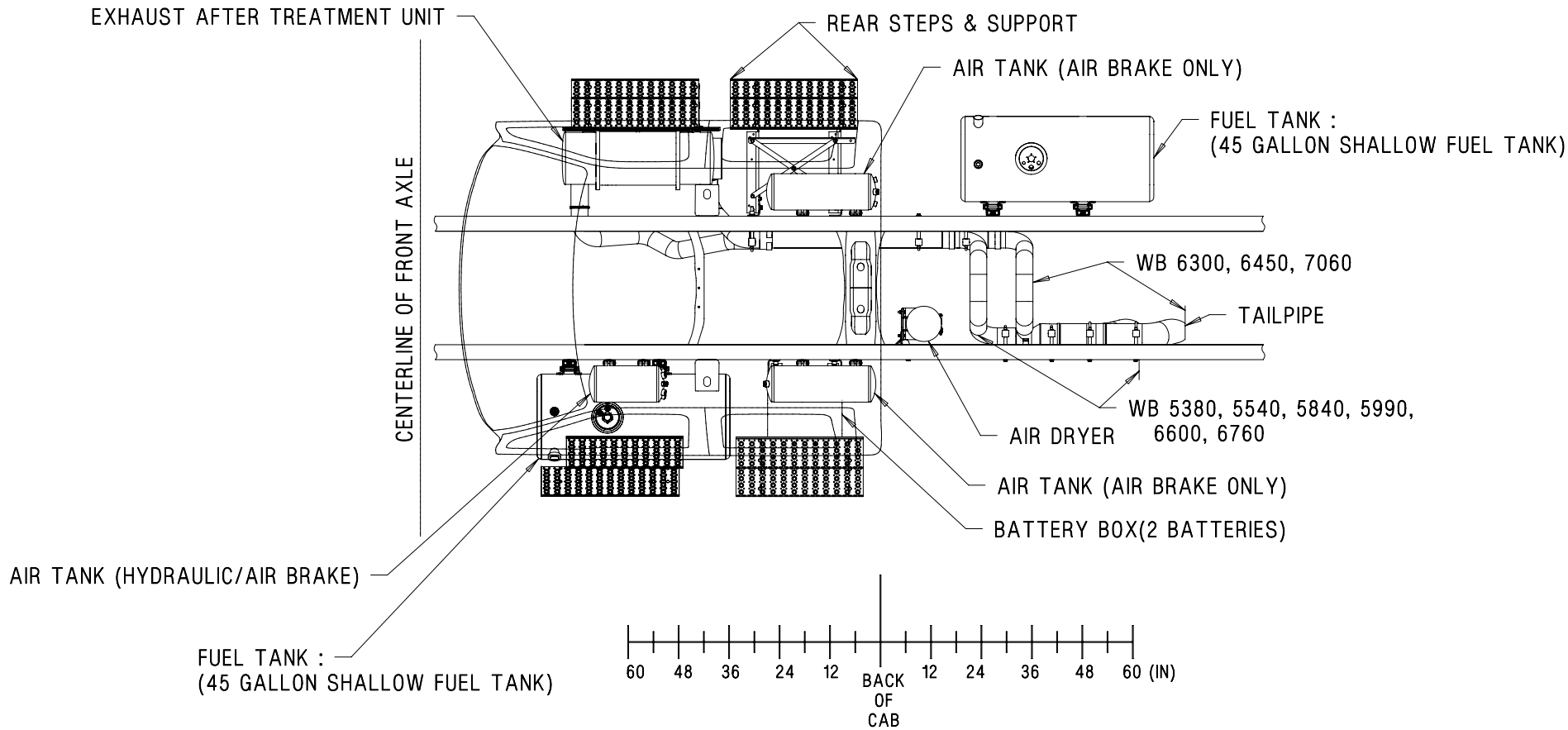


AVAILABLE WITH F650/F750

CREW CAB WITH RIGHT SIDE VERTICAL EXHAUST AND WITH SINGLE 80 GALLON OR DUAL 80/65 GALLON DEEP FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

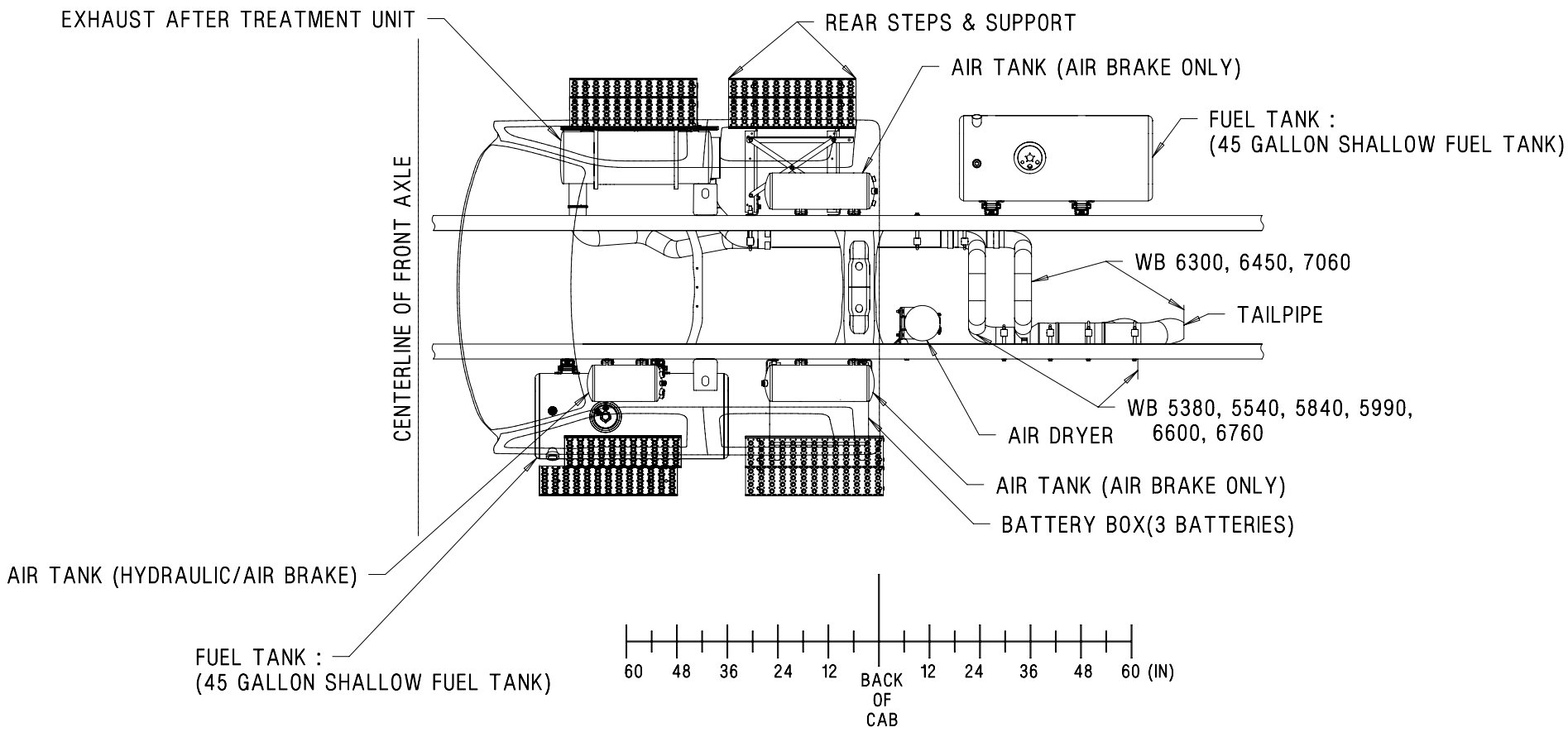


AVAILABLE WITH F650PL/F650/F750
NOT AVAILABLE WITH WB 4320, 4620, 4930

CREW CAB WITH LEFT SIDE TAIL PIPE AND WITH SINGLE 45 GALLON OR DUAL 45/45 GALLON SHALLOW FUEL TANKS
WITH 2-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR



AVAILABLE WITH F650PL/F650/F750
NOT AVAILABLE WITH WB 4320, 4620, 4930

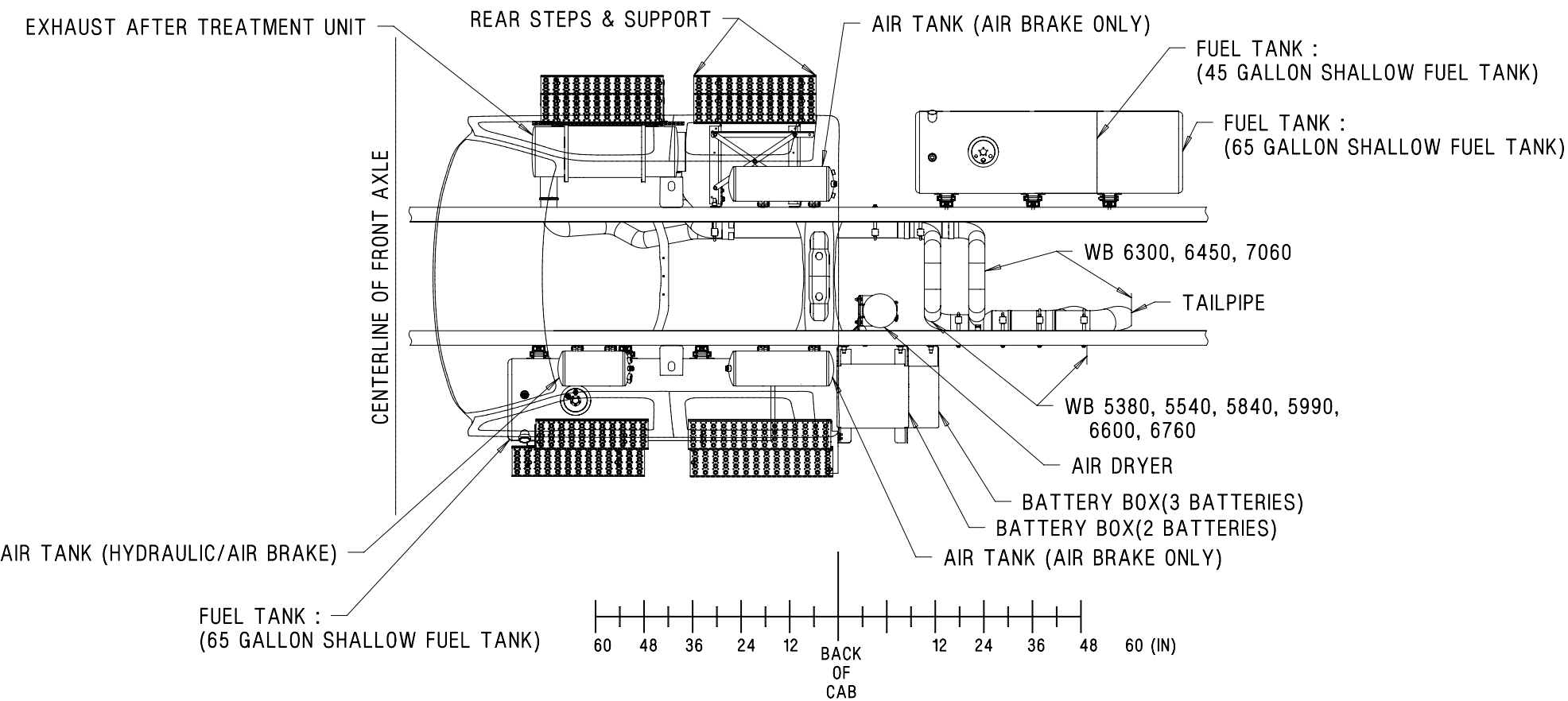
CREW CAB WITH LEFT SIDE TAIL PIPE AND WITH SINGLE 45 GALLON OR DUAL 45/45 GALLON SHALLOW FUEL TANKS
WITH 3-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

Page 291

F-650/750

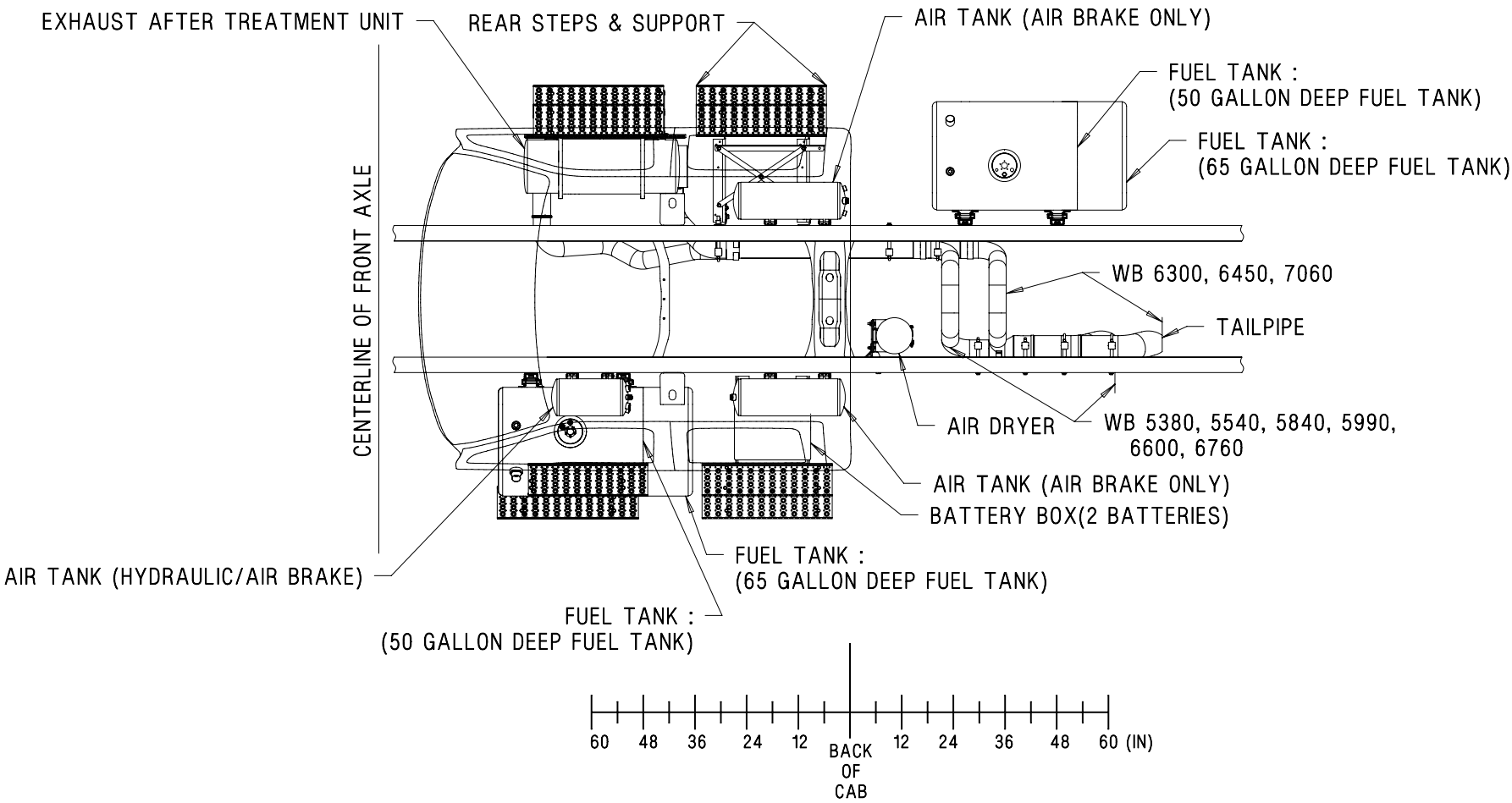


AVAILABLE WITH F650PL/F650/F750
NOT AVAILABLE WITH WB 4320, 4620, 4930

CREW CAB WITH LEFT SIDE TAIL PIPE AND WITH SINGLE 65 GALLON OR DUAL 65/45, 65/65 GALLON SHALLOW FUEL TANKS

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

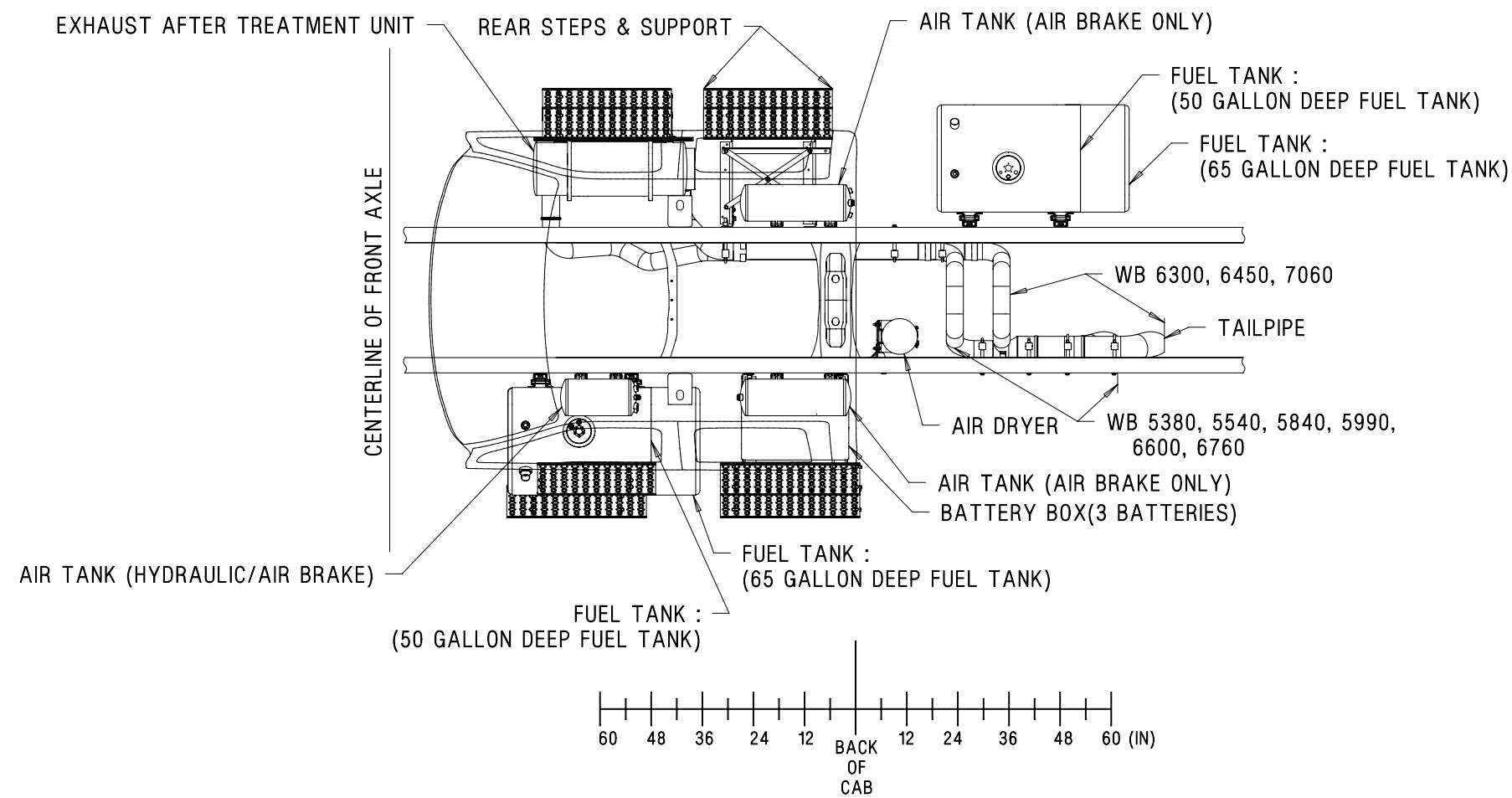


AVAILABLE WITH F650/F750
NOT AVAILABLE WITH WB 4320, 4620, 4930

CREW CAB WITH LEFT SIDE TAIL PIPE AND WITH SINGLE 50, 65 GALLON OR DUAL 50/50, 65/65 GALLON DEEP FUEL TANKS WITH 2-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

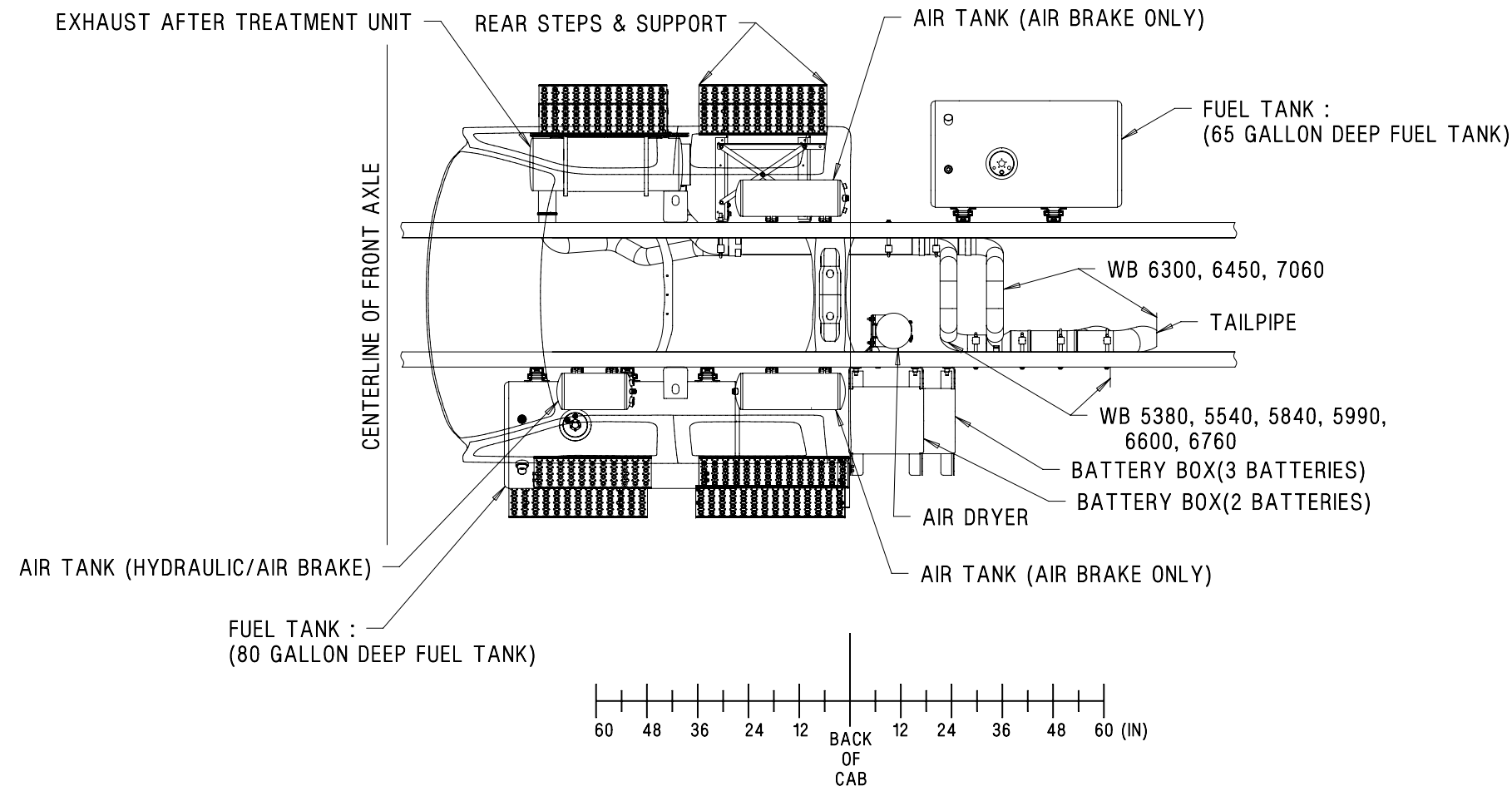


AVAILABLE WITH F650/F750
NOT AVAILABLE WITH WB 4320, 4620, 4930

CREW CAB WITH LEFT SIDE TAIL PIPE AND WITH SINGLE 50, 65 GALLON OR DUAL 50/50, 65/65 GALLON DEEP FUEL
TANKS WITH 3-BATTERY CAPACITY BOX

F-650/750 SUPER DUTY
FRAME COMPONENTS
CREW CAB

2008
MODEL YEAR

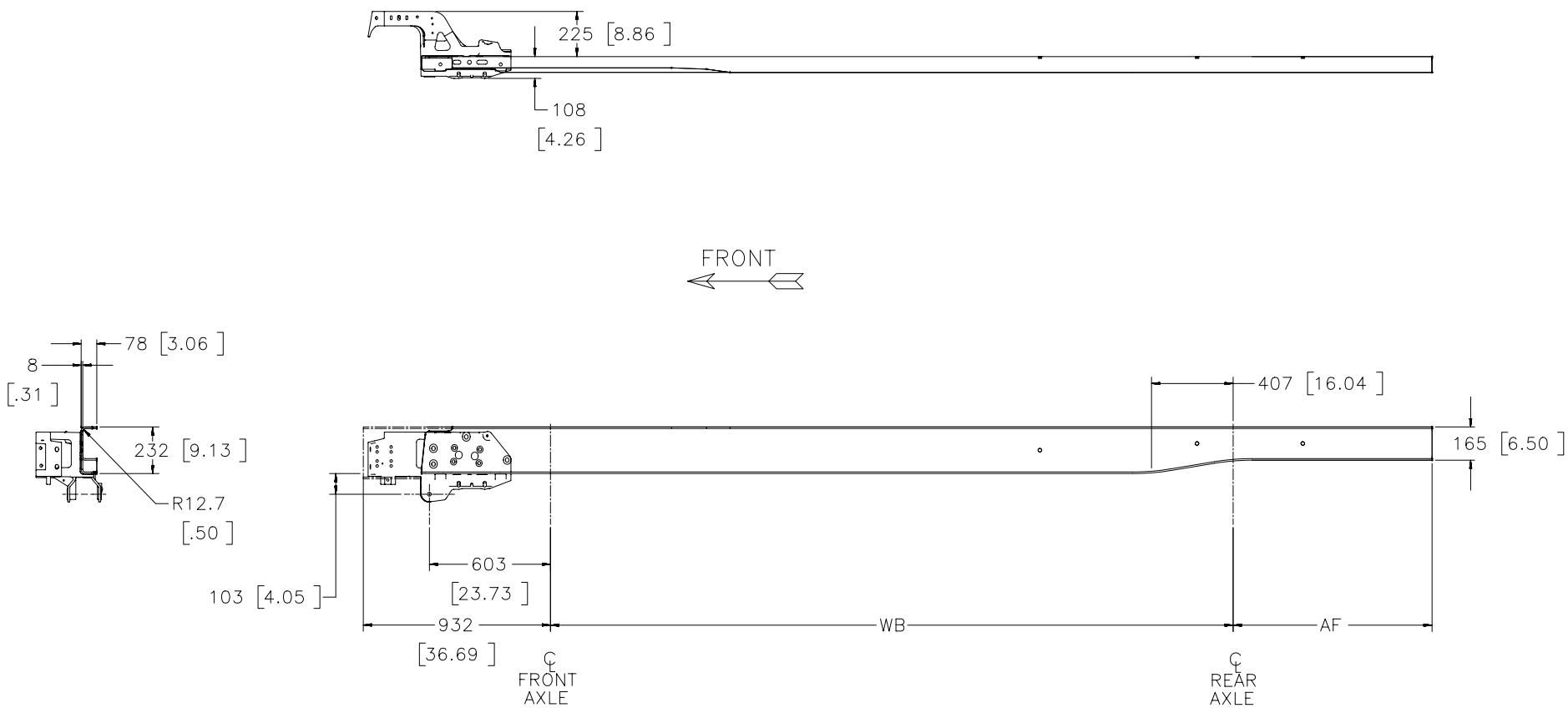


AVAILABLE WITH F650/F750
NOT AVAILABLE WITH WB 4320, 4620, 4930

CREW CAB WITH LEFT SIDE TAIL PIPE AND WITH SINGLE 80 GALLON OR DUAL 80/65 GALLON DEEP FUEL TANKS

F-650 SUPER DUTY ProLoader
FRAME

2008
MODEL YEAR



General Recommendations for Frame and Body Mounting:

Refer to the Design Recommendations section for applicable requirements and important notes. Particular attention should include sections relating to:

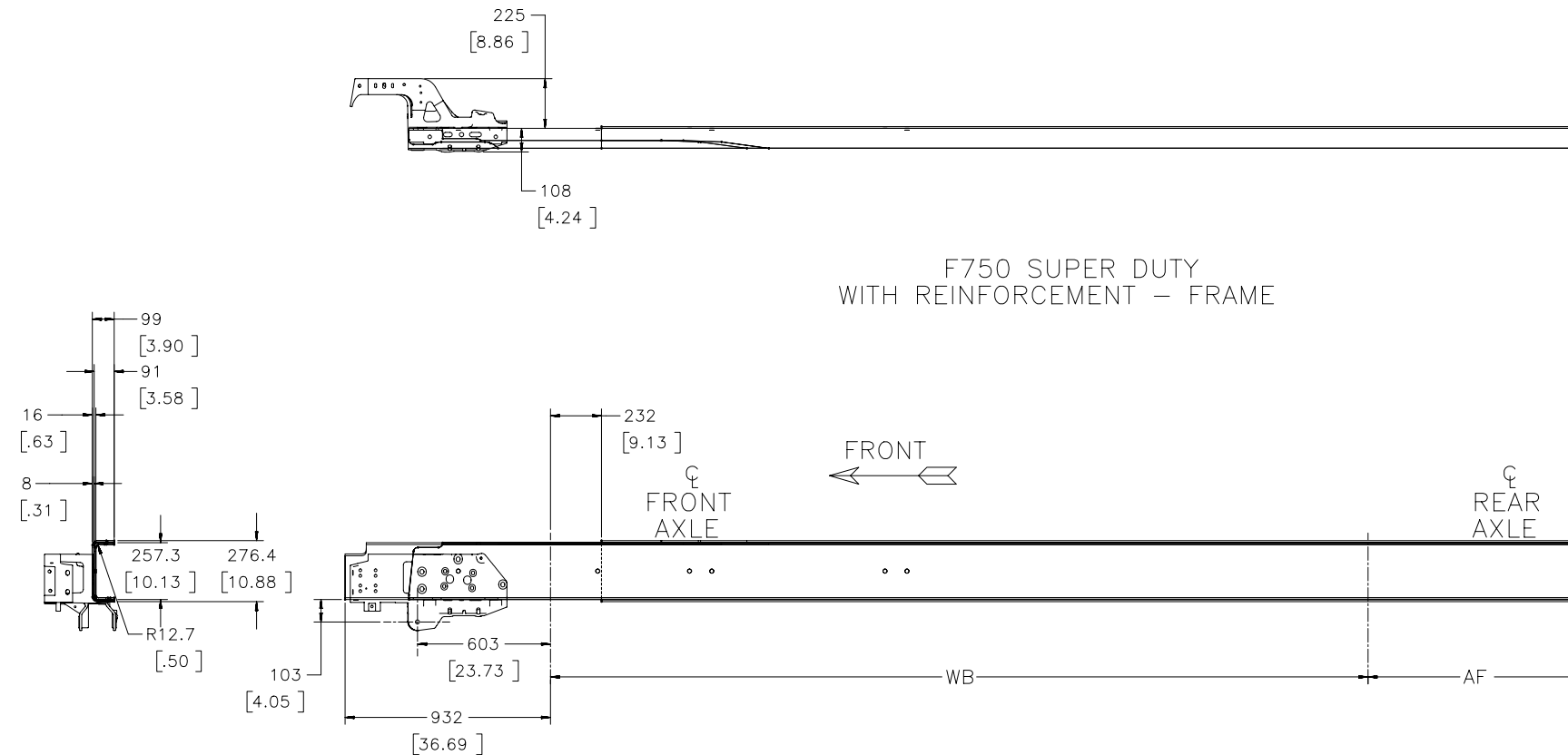
- Suspension and Steering System
 - Important note for Front End Alignment for final-stage manufacturer
- Frame
 - Refer to Bulletin Q-140 for frame modifications recommendation

On vehicles equipped with an Air Suspension System, verify that the settings are correct once the vehicle is completed by the final stage manufacturer. Refer to the applicable Ford workshop service manual for the complete procedure. NOTE: Since there are different frames and air suspension systems offered, verify that the procedure used is correct for the air suspension and frame type being worked on.

REGULAR CAB		SUPER CAB		CREW CAB	
WB mm [in]	AF mm [in]	WB mm [in]	AF mm [in]	WB mm [in]	AF mm [in]
3,400 [134]	990 [39]	3,940 [155]	990 [39]	4,320 [170]	990 [39]
4,010 [158]	1,600 [63]	4,550 [179]	1,600 [63]	4,930 [194]	1,600 [63]
4,620 [182]	1,910 [75]	5,160 [203]	1,910 [75]	5,540 [218]	1,910 [75]
4,930 [194]	1,910 [75]	6,070 [239]	2,060 [81]	6,450 [254]	2,440 [96]
5,540 [218]	2,060 [81]	—	—	—	—
6,150 [242]	2,540 [100]	—	—	—	—

THICKNESS SIDEMEMBER MM [IN]	SECTION MODULUS CUBIC INCH	TYPE FRAME	MAX GVWR LBS
8.0 [0.312]	10.74	9.125"	29,000

2008
MODEL YEAR



F-750 WITH REINFORCEMENT

REGULAR CAB		SUPER CAB		CREW CAB	
WB mm [in]	AF mm [in]	WB mm [in]	AF mm [in]	WB mm [in]	AF mm [in]
3,710 [146]*	990 [39]*	4,240 [167]*	990 [39]*	4,620 [182]*	990 [39]*
4,010 [158]	990 [39]	4,550 [179]	990 [39]	4,930 [194]	990 [39]
4,010 [158]	1,240 [49]	4,550 [179]	1,240 [49]	4,930 [194]	1,240 [49]
4,470 [176]	1,780 [70]	5,000 [197]	1,780 [70]	5,380 [212]	1,780 [70]
4,620 [182]	1,780 [70]	5,160 [203]	1,780 [70]	5,540 [218]	1,780 [70]
4,930 [194]	1,910 [75]	5,460 [215]	1,910 [75]	5,840 [230]	1,910 [75]
5,080 [200]	1,910 [75]	5,610 [221]	1,910 [75]	5,990 [236]	1,910 [75]
5,380 [212]	2,060 [81]	5,920 [233]	2,060 [81]	6,300 [248]	2,060 [81]
5,540 [218]	2,060 [81]	6,070 [239]	2,060 [81]	6,450 [254]	2,060 [81]
5,690 [224]	2,210 [87]	6,220 [245]	2,210 [87]	6,600 [260]	2,210 [87]
5,840 [230]	2,210 [87]	6,380 [251]	2,210 [87]	6,760 [266]	2,210 [87]
6,150 [242]	2,540 [100]	6,680 [263]	2,540 [100]	—	—
6,600 [260]	3,050 [120]	—	—	—	—

General Recommendations for Frame and Body Mounting:

- Suspension and Steering System
 - Important note for Front End Alignment for final-stage manufacturer
- Frame
 - Refer to Bulletin Q-140 for frame modifications recommendation

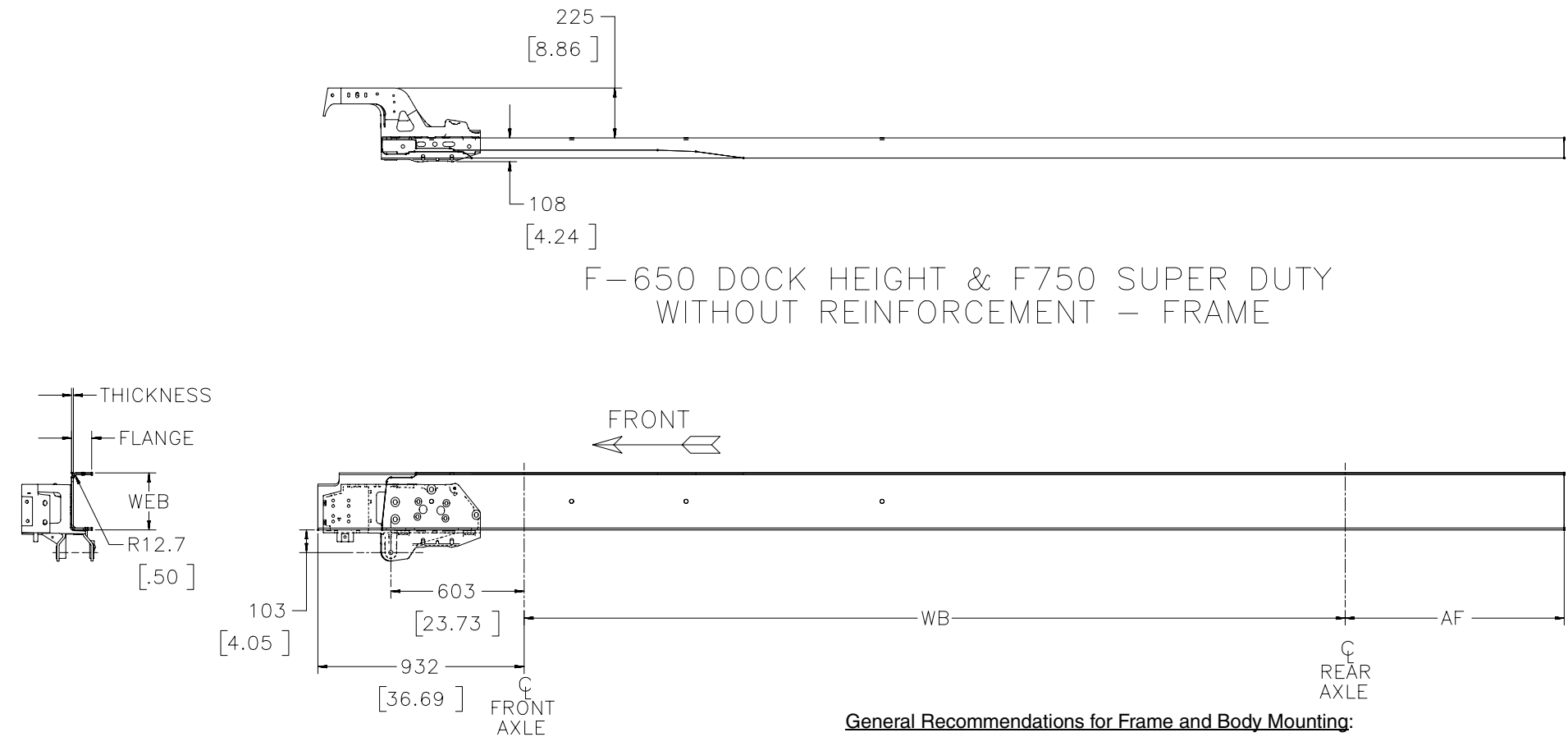
On vehicles equipped with an Air Suspension System, verify that the settings are correct once the vehicle is completed by the final stage manufacturer. Refer to the applicable Ford workshop service manual for the complete procedure. NOTE: Since there are different frames and air suspension systems offered, verify that the procedure used is correct for the air suspension and frame type being worked on.

F-750 WITH REINFORCEMENT

THICKNESS REINFORCEMENT mm [in]	THICKNESS SIDEMEMBER mm [in]	SECTION MODULUS CUBIC INCH	TYPE FRAME	MAX GVWR LBS
8.0 [0.312]	8.0 [0.31]	29.84	10.125"	33,000

F-650 DOCK HEIGHT & F-750 SUPER DUTY
WITHOUT REINFORCEMENT — FRAME

2008
MODEL YEAR



REGULAR CAB		SUPER CAB		CREW CAB	
WB mm [in]	AF mm [in]	WB mm [in]	AF mm [in]	WB mm [in]	AF mm [in]
3,710 [146]*	990 [39]*	4,240 [167]*	990 [39]*	4,620 [182]*	990 [39]*
4,010 [158]	990 [39]	4,550 [179]	990 [39]	4,930 [194]	990 [39]
4,010 [158]	1,240 [49]	4,550 [179]	1,240 [49]	4,930 [194]	1,240 [49]
4,470 [176]	1,780 [70]	5,000 [197]	1,780 [70]	5,380 [212]	1,780 [70]
4,620 [182]	1,780 [70]	5,160 [203]	1,780 [70]	5,540 [218]	1,780 [70]
4,930 [194]	1,910 [75]	5,460 [215]	1,910 [75]	5,840 [230]	1,910 [75]
5,080 [200]	1,910 [75]	5,610 [221]	1,910 [75]	5,990 [236]	1,910 [75]
5,380 [212]	2,060 [81]	5,920 [233]	2,060 [81]	6,300 [248]	2,060 [81]
5,540 [218]	2,060 [81]	6,070 [239]	2,060 [81]	6,450 [254]	2,060 [81]
5,690 [224]	2,210 [87]	6,220 [245]	2,210 [87]	6,600 [260]	2,210 [87]
5,840 [230]	2,210 [87]	6,380 [251]	2,210 [87]	6,760 [266]	2,210 [87]
6,150 [242]	2,540 [100]	6,680 [263]	2,540 [100]	7,060 [278]**	2,540 [100]**
6,600 [260]	3,050 [120]	7,140 [281]**	3,050 [120]**	—	—

* Not Available on F-750 Severe Service

** Only Available on F-650 Dock Height

General Recommendations for Frame and Body Mounting:

Refer to the Design Recommendations section for applicable requirements and important notes. Particular attention should include sections relating to:

- Suspension and Steering System
 - Important note for Front End Alignment for final-stage manufacturer
- Frame
 - Refer to Bulletin Q-140 for frame modifications recommendation

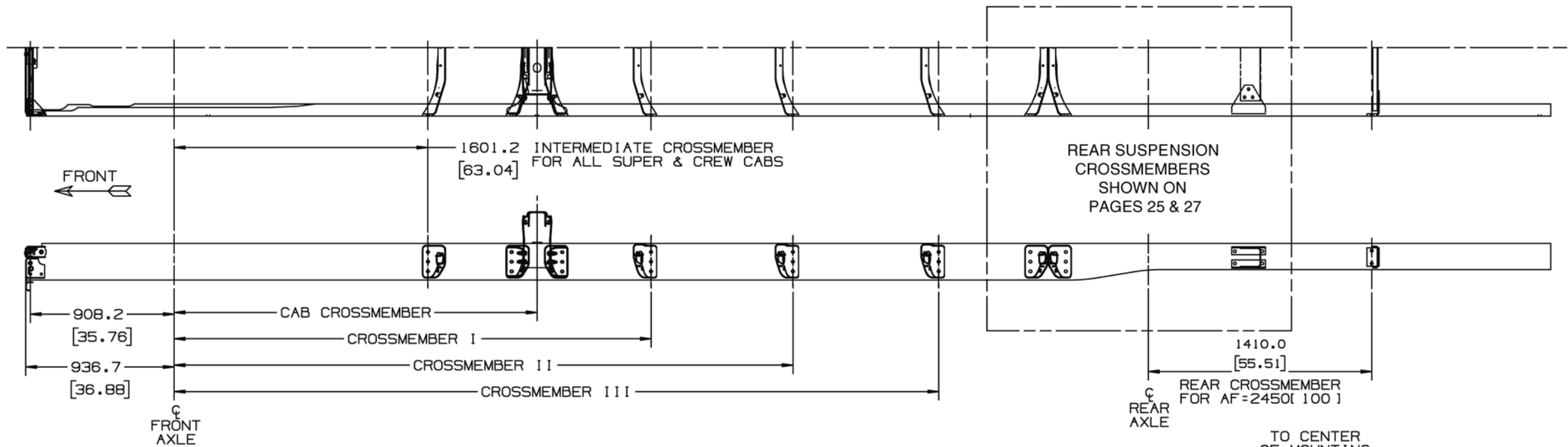
On vehicles equipped with an Air Suspension System, verify that the settings are correct once the vehicle is completed by the final stage manufacturer. Refer to the applicable Ford workshop service manual for the complete procedure. NOTE: Since there are different frames and air suspension systems offered, verify that the procedure used is correct for the air suspension and frame type being worked on.

	THICKNESS SIDEMEMBER mm [in]	WEB SIDEMEMBER mm [in]	FLANGE SIDEMEMBER mm [in]	SECTION MODULUS CUBIC INCH	TYPE FRAME	MAX GVWR LBS
F650 DH	8.0 [0.31]	231.8 [9.13]	77.8 [3.06]	10.74	9.125*	25,999
F650 DH	8.0 [0.31]	257.2 [10.13]	77.8 [3.06]	12.64	10.125*	33,000
F650 DH, F750 PD, F750 S	8.0 [0.31]	257.2 [10.13]	91.0 [3.58]	14.18	10.125*	33,000
F750 PD	9.5 [0.38]	260.4 [10.25]	78.5 [3.09]	15.14	10.250*	33,000
F750 PD, F750 S	9.5 [0.38]	260.4 [10.25]	91.7 [3.61]	16.98	10.250*	33,000
F750 PD, F750 S	11.1 [0.44]	263.5 [10.38]	94.1 [3.71]	20.11	10.375*	33,000

DH = Dock Height
PD = Pickup & Delivery
S = Severe Service

F-650 SUPER DUTY ProLoader
CROSSMEMBER DATA

2008
MODEL YEAR



CAB CROSSMEMBER

REGULAR CAB	1762 [69.4]
SUPER CAB	2290 [90.2]
CREW CAB	2658 [104.6]

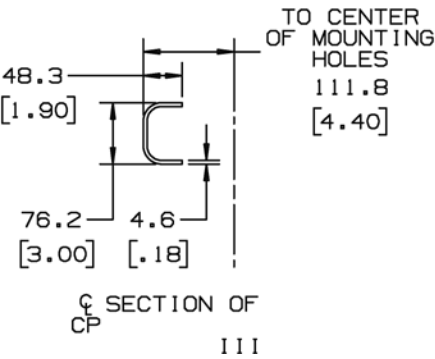
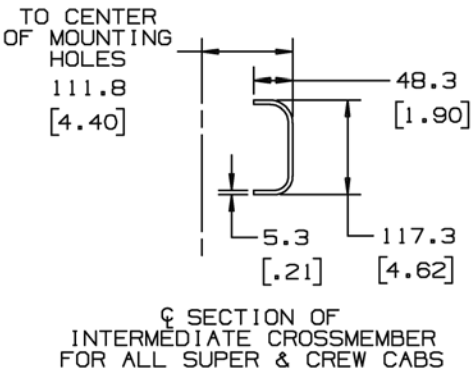
REGULAR CAB	CROSSMEMBER		
WB RANGE	I	II	III
3400	-	-	-
4010	2689 [105.9]	-	-
4620	2786 [109.7]	-	-
4930	3010 [118.5]	-	-
5540	2786 [109.7]	4130 [162.6]	-
6150	3010 [118.5]	4578 [180.2]	-

SUPER CAB

WB RANGE	CROSSMEMBER	
	I	II
3940	-	-
4550	3010 [118.5]	-
5160	3010 [118.5]	3682 [145.0]
6070	3010 [118.5]	4578 [180.2]

CREW CAB

WB RANGE	CROSSMEMBER	
	I	II
4320	-	-
4930	3458 [136.1]	-
5540	3906 [153.8]	-
6450	3458 [136.1]	4578 [180.2]



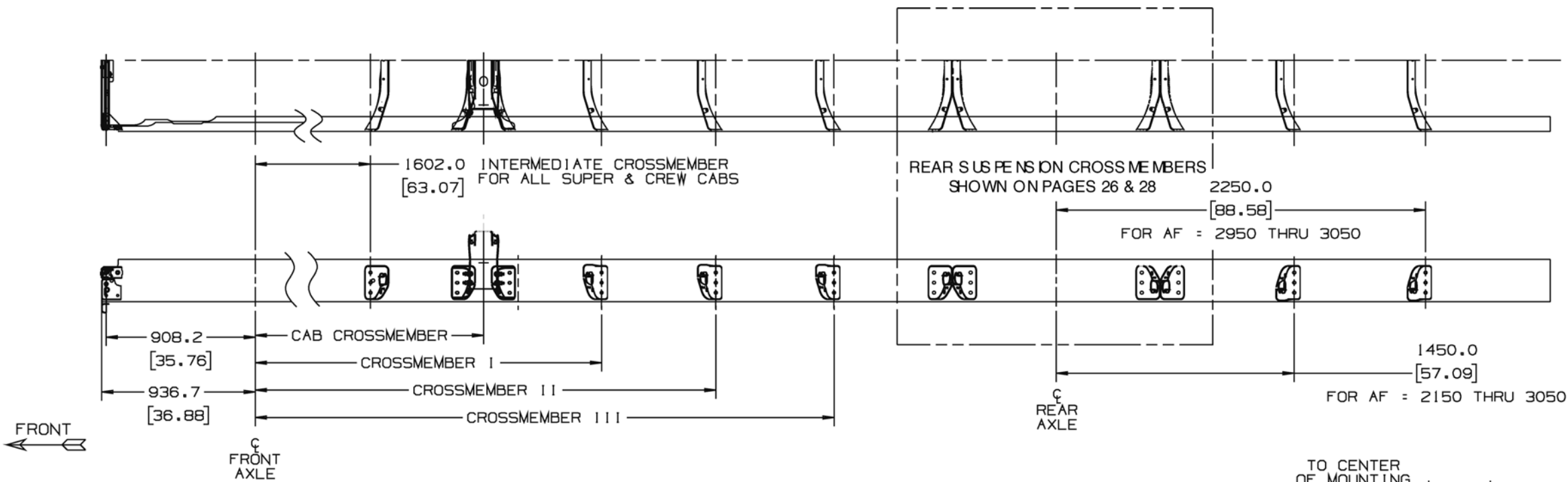
NOTE — [] DIMENSIONS ARE INCHES.

F-650 DOCK HEIGHT / F-750 SUPER DUTY
CROSSMEMBER DATA

2008
MODEL YEAR

Page 299

F-650/750



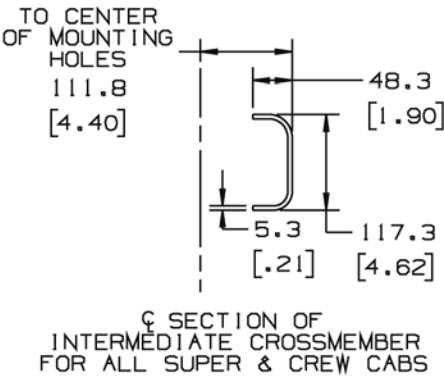
CAB CROSSMEMBER

REGULAR CAB	1762 [69.4]
SUPER CAB	2290 [90.2]
CREW CAB	2658 [104.6]

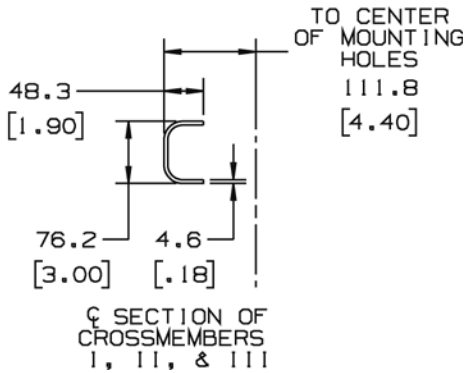
WB RANGE	CROSSMEMBER		
	I	II	III
3400	-	-	-
3710	2338 [92.0]	-	-
4010	2689 [105.9]	-	-
4470, 4620	2786 [109.7]	-	-
4930	3010 [118.5]	-	-
5080, 5380	2818 [110.9]	3682 [145.0]	-
5540, 5690, 5840	2818 [110.9]	4130 [162.6]	-
6150	3010 [118.5]	4578 [180.2]	-
6600	2818 [110.9]	3906 [153.8]	5026 [197.9]

WB RANGE	CROSSMEMBER		
	I	II	III
3940, 4240	-	-	-
4550	3010 [118.5]	-	-
5000, 5160	3010 [118.5]	3682 [145.0]	-
5460, 5610, 5920	3010 [118.5]	4130 [162.6]	-
6070, 6220, 6380	3010 [118.5]	4578 [180.2]	-
6680	3010 [118.5]	3906 [153.8]	5026 [197.9]
7140	3010 [118.5]	4130 [162.6]	5698 [224.3]

WB RANGE	CROSSMEMBER	
	I	II
4320, 4620	-	-
4930	3458 [136.1]	-
5380	3682 [145.0]	-
5540	3906 [153.8]	-
5840, 5990	4354 [171.4]	-
6300, 6450	3458 [136.1]	4578 [180.2]
6600, 6760	3906 [153.8]	5026 [197.9]
7060	4130 [162.6]	5250 [206.7]



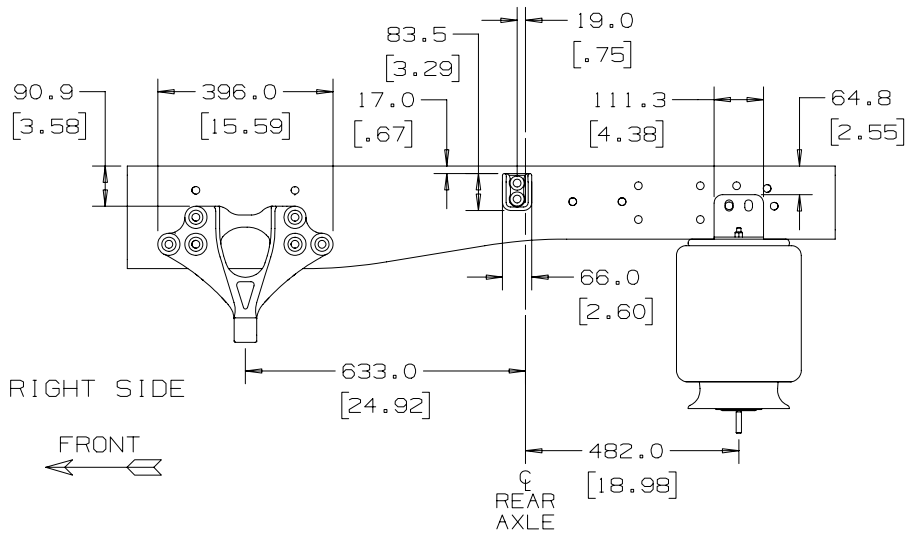
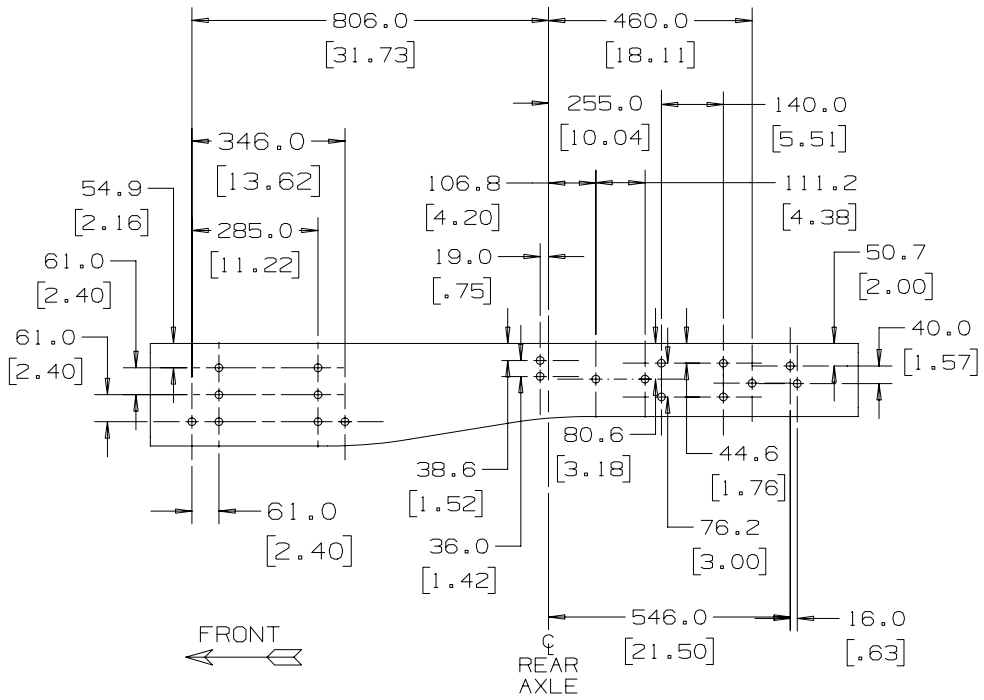
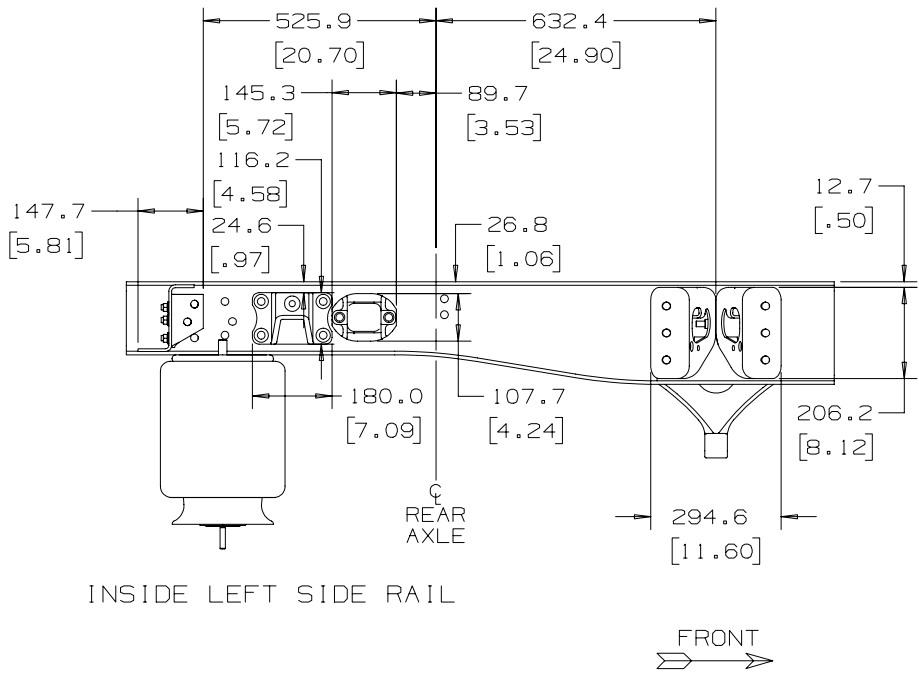
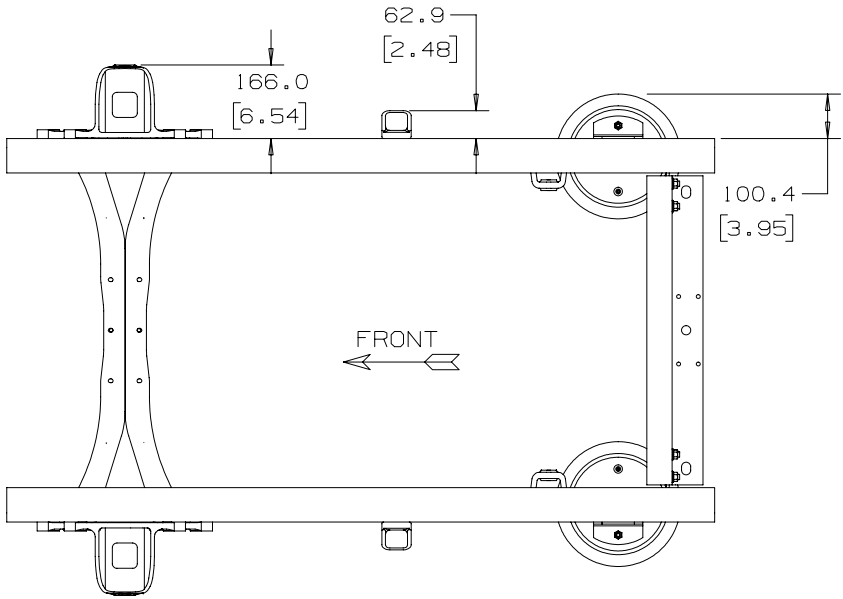
SECTION OF
INTERMEDIATE CROSSMEMBER
FOR ALL SUPER & CREW CABS



NOTE — [] DIMENSIONS ARE INCHES.

F-650 SUPER DUTY ProLoader
AIR SUSPENSION

2008
MODEL YEAR



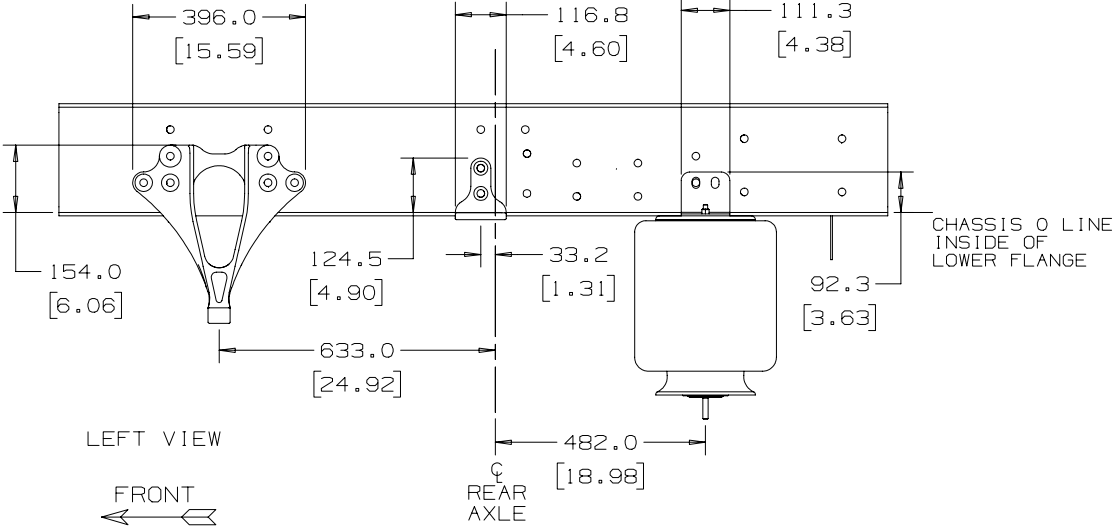
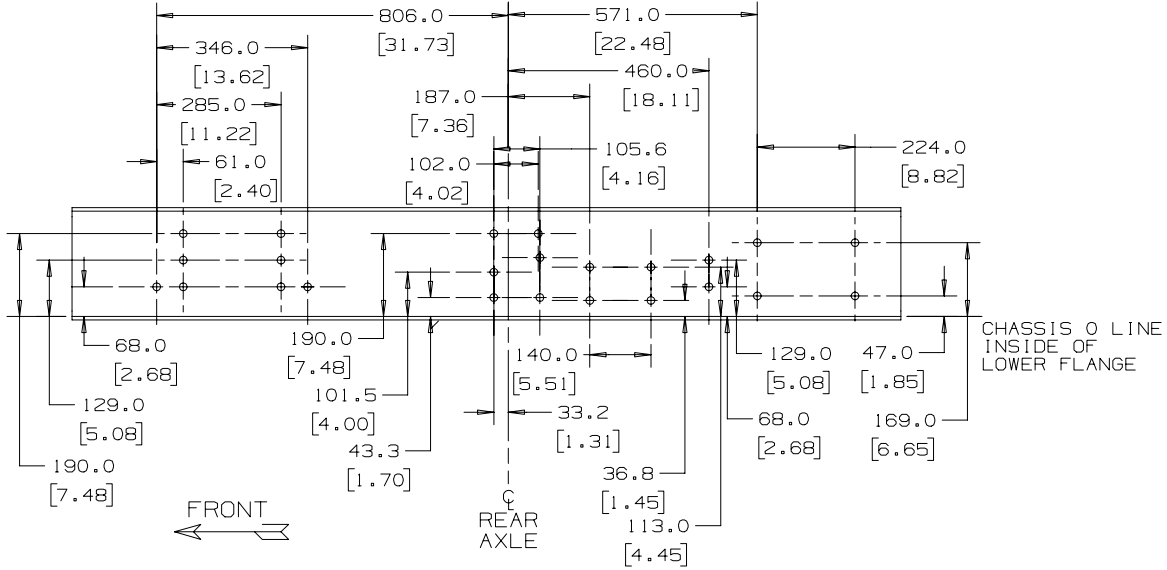
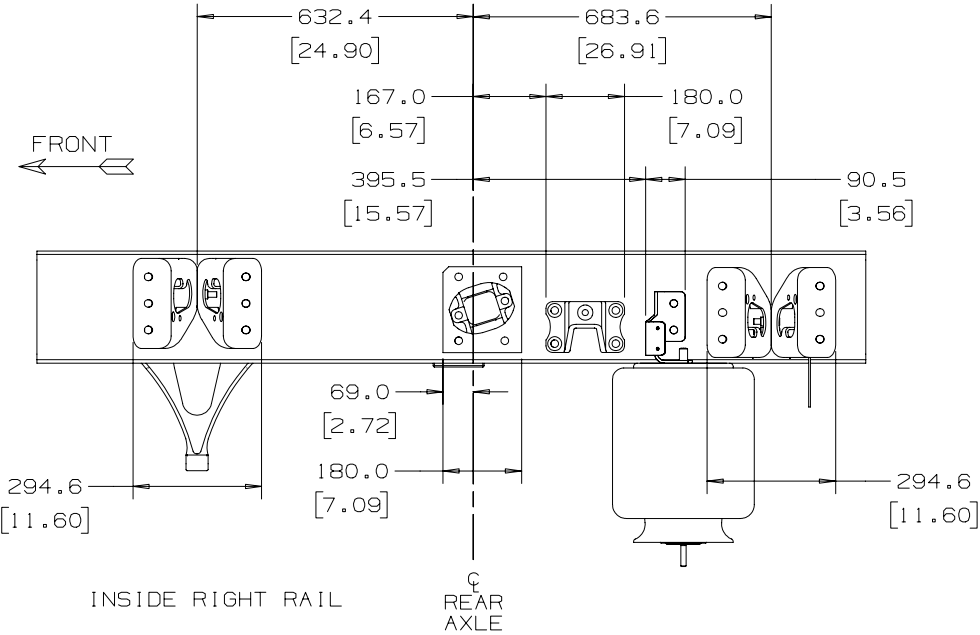
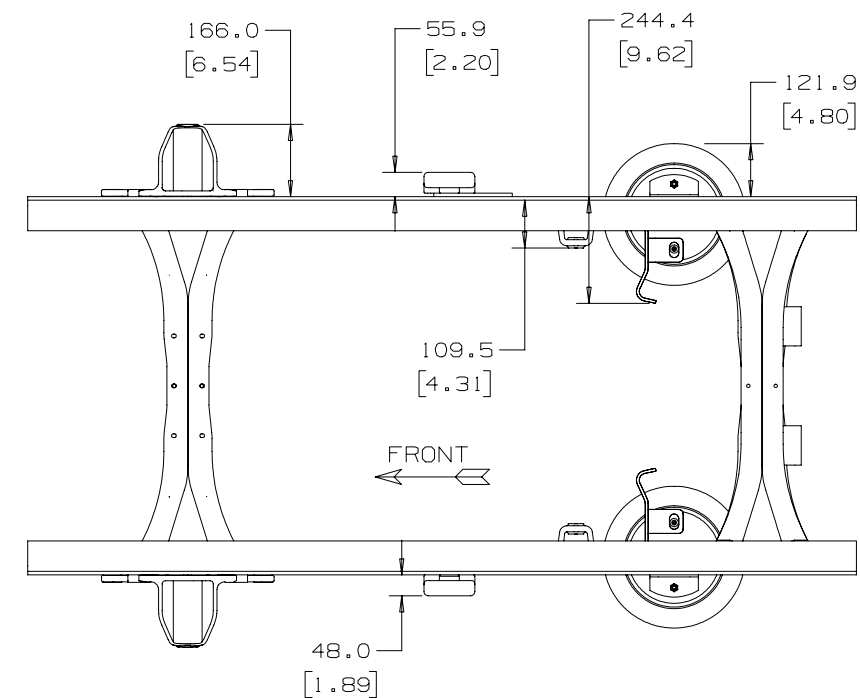
NOTE — [] DIMENSIONS ARE INCHES.

F-650 DOCK HEIGHT / F-750 SUPER DUTY
AIR SUSPENSION

2008
MODEL YEAR

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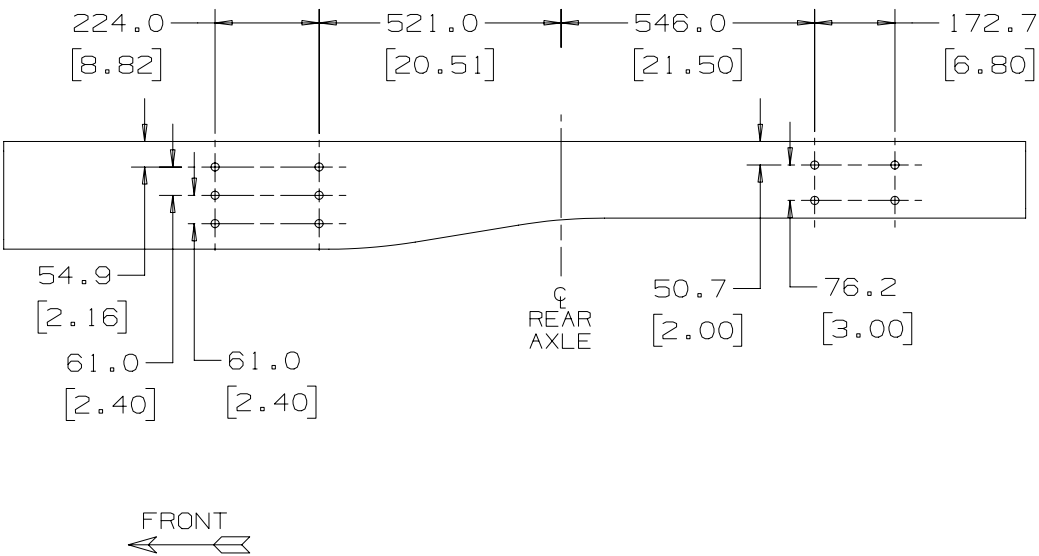
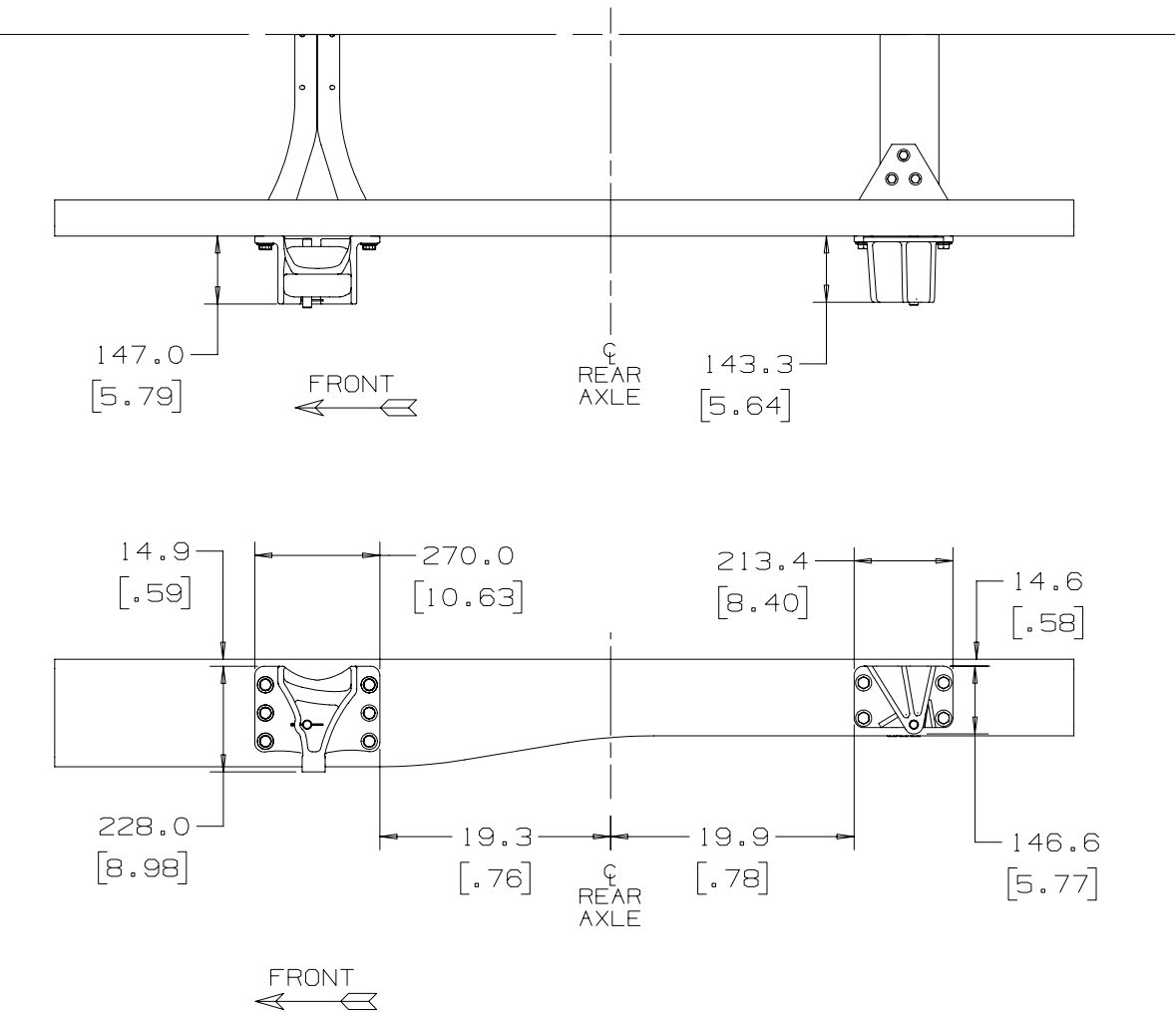
F-650/750



NOTE — [] DIMENSIONS ARE INCHES.

F-650 ProLoader
SPRING SUSPENSION

2008
MODEL YEAR



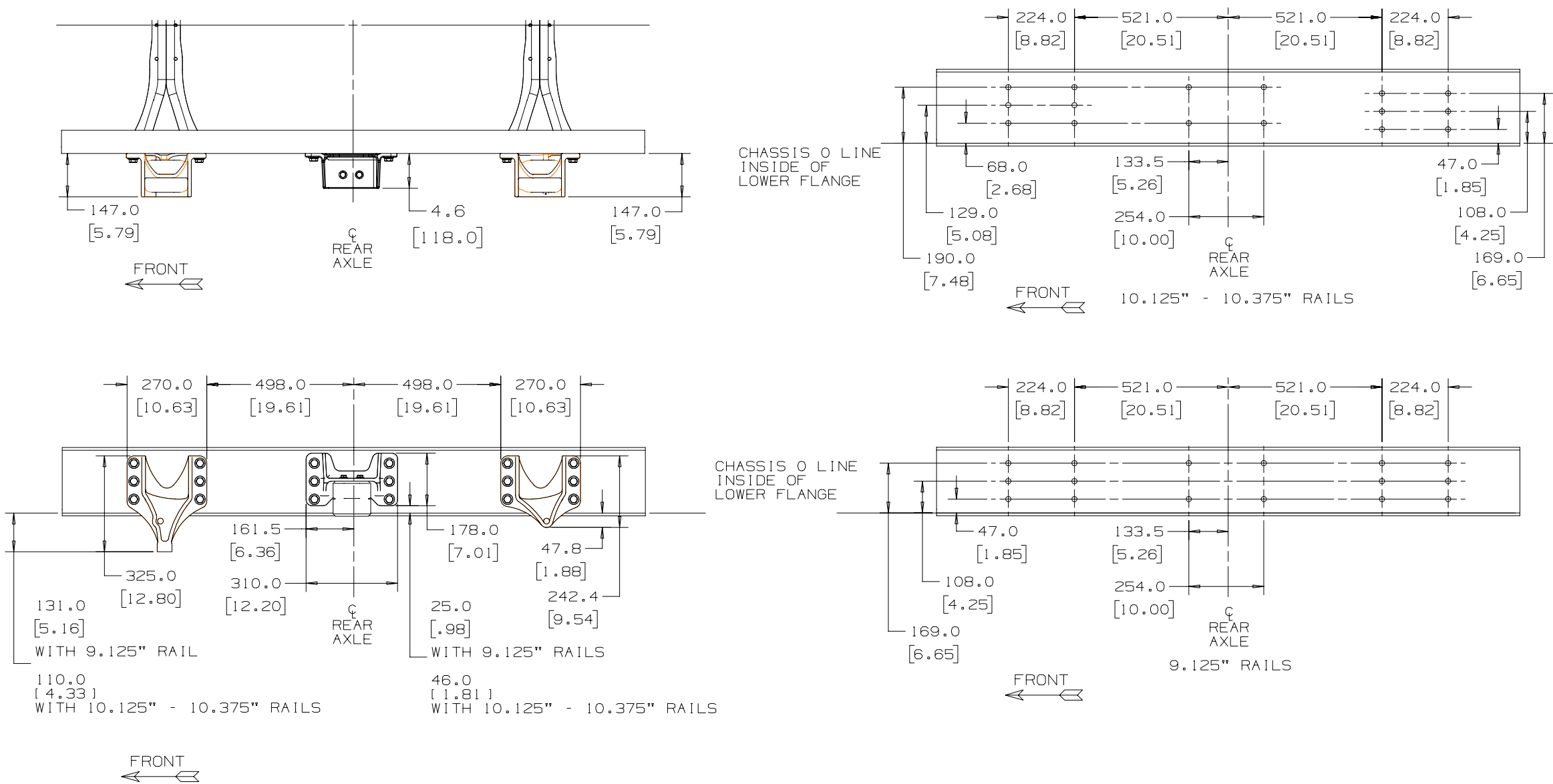
NOTE — [] DIMENSIONS ARE INCHES.

F-650 DOCK HEIGHT / F-750 SUPER DUTY
SPRING SUSPENSION

2008
MODEL YEAR

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F-650/750

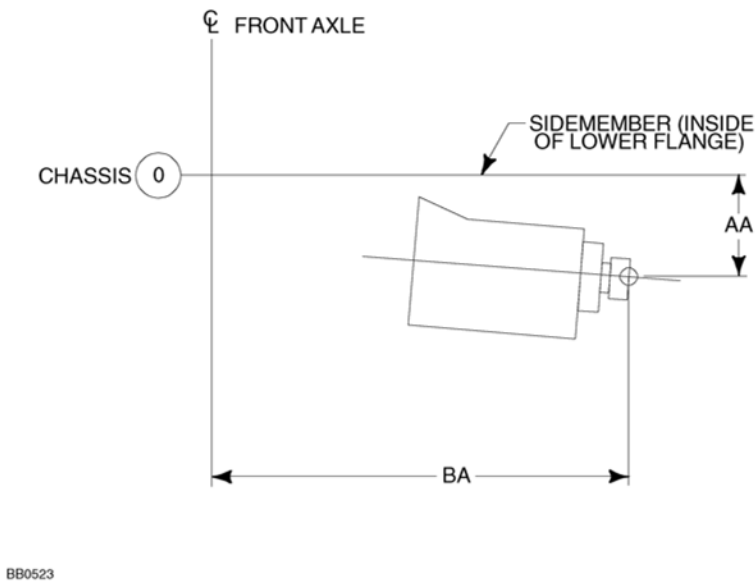


NOTE — [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY
U-JOINT LOCATION / SIZE
CAT C7

2008
MODEL YEAR

MAIN TRANSMISSION PTO			
ENGINE	MAIN TRANSMISSIONS	CENTERLINE OF U-JOINT	
		AA	BA
CAT C7	3000	40 [1.59]	1,491 [58.69]
	3500	41 [1.63]	1,503 [59.16]
	2500	34 [1.32]	1,407 [55.41]
	2200	34 [1.32]	1,407 [55.41]
	FS-5205A	26 [1.02]	1,313 [51.68]
	FS-5406A	29 [1.13]	1,350 [53.13]
	FS-6406A	31 [1.20]	1,371 [53.97]
	FSO-6406A	31 [1.20]	1,371 [53.97]
	FSO-8406A	31 [1.20]	1,371 [53.97]
	ES066-7B	45 [1.79]	1,553 [61.14]
	ES056-7B	44 [1.73]	1,534 [60.41]



TYPICAL TRANSMISSION

TRANS	U-JOINT	ENGINE
3000	SPL100	210 HP
	SPL140	230-300 HP
3500	SPL100	210 HP
	SPL140	230-300 HP
2500	SPL100	200-300 HP
2200	SPL100	200-300 HP
FS-5205A	SPL100	190-210 HP
FS-5406A	SPL100	190-210 HP
FS-6406A	SPL100	200-260 HP
	SPL140	210-250 HP
FSO-6406A	1710 or SPL140	210-250 HP
FSO-8406A	1710 or SPL140	275-300 HP
ES066-7B	SPL140	210-250 HP
ES056-7B	SPL100	207-210 HP

**F-650/F-750 SUPER DUTY
TRANSMISSION PTO INFORMATION
CAT & CUMMINS**

2008
MODEL YEAR

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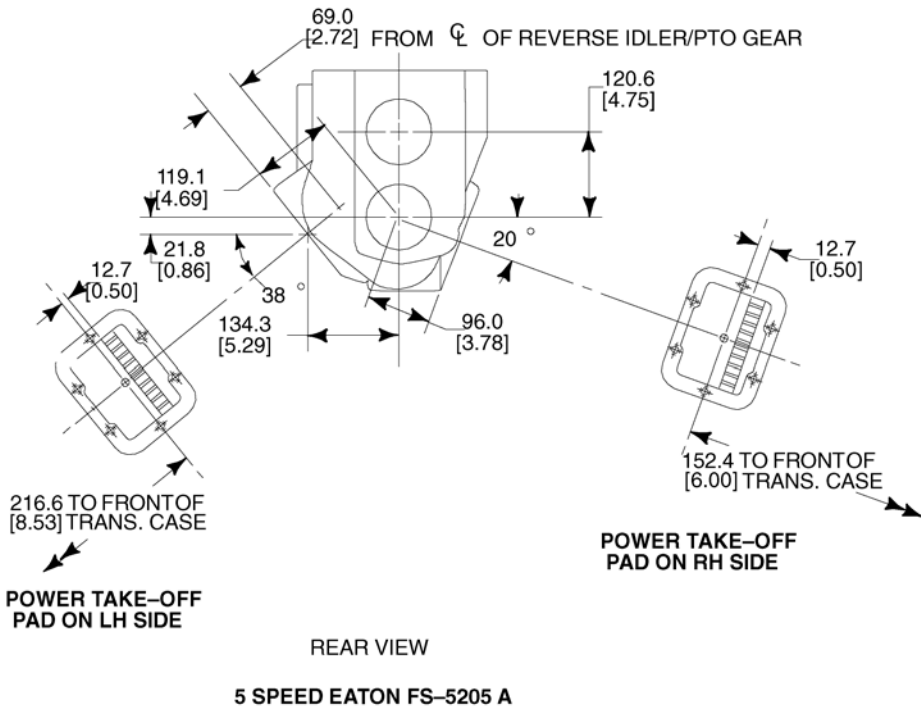
F-650/750

CLEARANCE FOR RECOMMENDED PTO OPENING		MAIN TRANSMISSION PTO	
LH	RH	ENGINE	MAIN TRANSMISSION
YES	NO	CAT & CUMMINS	ALLISON 3000
YES	NO		FS-5406A
YES	NO		FS-6405A
YES	NO		ES556-7B
YES	NO		ES066-7B
YES	NO		ALLISON 2000
YES	NO		FSO-6406A
YES	NO		FSO-8406A
YES	NO		FS-5205A
YES	NO		

NOTE:
CERTAIN PTO'S DO NOT CONFORM TO RECOMMENDED
S.A.E. ENVELOPES; THEREFORE A "NO CLEARANCE"
STATEMENT DOES NOT NECESSARILY PRECLUDE
INSTALLATION OF ALL PTO'S.

F-650/F-750 SUPER DUTY
POWER TAKE-OFF DATA

2007
MODEL YEAR

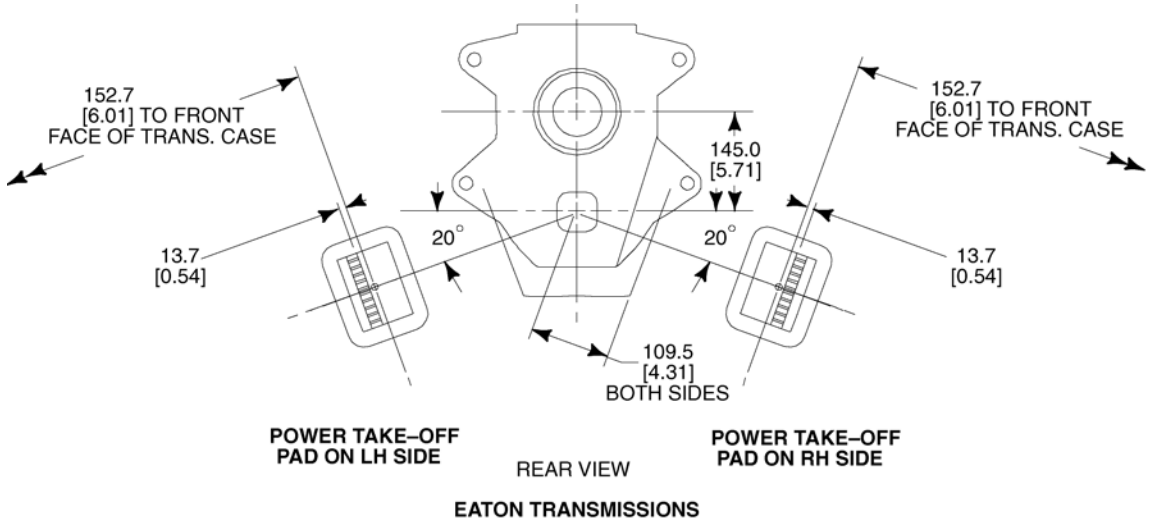


GEAR DATA	RIGHT SIDE	LEFT SIDE
	FS-5205A	FS-5205A
Number of Teeth	33	19
Diametral Pitch	7.0"	6.1"
Pitch Diameter	5.4884"	3.2880"
Pressure Angle	25°	25°
Helix Angle R.H.	31°	19°
RPM @ 1000 RPM of Engine	460	435

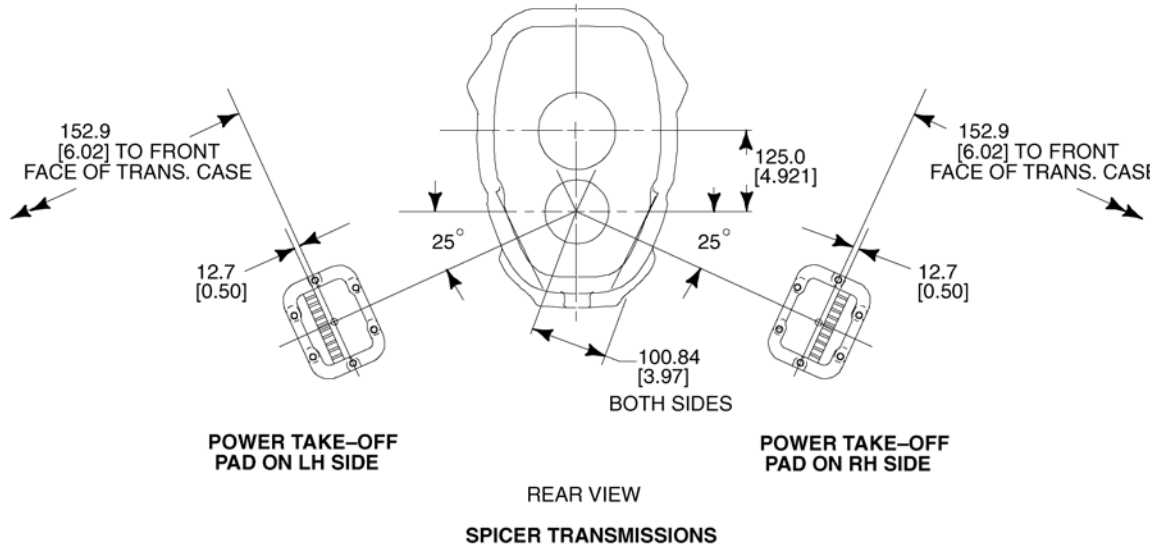
NOTE — [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY
POWER TAKE-OFF DATA

2008
MODEL YEAR



GEAR DATA	FS-5406A FS-6406A	FS0-6406A FSO-8406A
Number of Teeth	38	48
Normal Diametral Pitch	6.35"	7.00"
Pitch Diameter	6.454"	7.629"
Normal Pressure Angle	20°	23°
Helix Angle R.H.	22.0° R.H.	26° R.H.
RPM @ 1000 RPM of Engine	522	670



GEAR DATA	ES56-7B	ESO66-7B
Number of Teeth	34	
Normal Diametral Pitch	7.00"	
Pitch Diameter	5.1370"	5.1071"
Normal Pressure Angle	22.500°	17.500°
Helix Angle R.H.	19.000° R.H.	18.000°
RPM @ 1000 RPM of Engine	488	658

NOTE: THE INSTALLATION OF A TRANSMISSION SUPPORT IS REQUIRED WHEN A PTO IS INSTALLED ON A SPRICER TRANSMISSION ES56-7B OR ESO66-7B.

NOTE — [] DIMENSIONS ARE INCHES.

F-650/F-750 SUPER DUTY ALLISON TRANSMISSION

2008
MODEL YEAR

Up to date Allison Transmission data for body builders is available via the Internet or your Allison Dealer.

Find your nearest Allison Dealer at <http://www.allisontransmission.com> or call the Allison Help Line at 1-800-252-5ATD

Body Builder Information via the Internet.

To access information via the Internet, a body builder must have access to the Allison Extranet. A user ID and password for the Allison Extranet can be set-up by calling the Allison Technical Assistance Center at 1-800-252-5283. Once you have a user ID and password:

1. Access the Allison Transmission website at <http://www.allisontransmission.com>
2. Select Extranet and login.
3. Select "Tech Data Books"
4. Select either "1000 & 2000 Series" or "MD 3000 Series" depending on what was provided with your Ford vehicle
5. Power Take off information is in "Section F – Power Take Off (PTO) Provision"
6. Installation Drawings are listed in the individual manuals, but must be looked up under the "Installations Drawings" link on the "Tech Data Books" page.

F-650/F-750 SUPER DUTY ELECTRICAL WIRING CUSTOMER ACCESS CIRCUIT INSTALLATION

2008
MODEL YEAR

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F-650/750

WIRING INSTALLATION GUIDELINES

Although there are many points in the truck electrical system to connect additional circuits, certain connection points are recommended for reliability and convenience. This section defines the recommended connection points for each Ford Truck model and the maximum electrical loads allowable. CAUTION: Improper electrical tie-ins may affect vehicle operation (i.e., engine / transmission).

After all electrical or vehicle modifications, perform the on-board diagnostics procedures as described in the powertrain control/emissions diagnosis manual to clear all diagnostic trouble codes (DTC's). Road test vehicle and rerun the on-board diagnostics to verify that no DTC's are present. If DTC's are generated perform the appropriate diagnostic procedures and repairs. Vehicle operation (engine/transmission) may be affected if DTC's are not serviced.

Alternative connections or wiring practices are not recommended as certain modifications may result in other circuits becoming non-functional. Disconnect the battery negative (ground) cable and remove it from the battery carrier prior to any vehicle modification. Upon completion of body or equipment installation, all wiring should be checked for proper routing, etc. to preclude electrical shorts upon reinstallation of the battery negative cable.

Do not splice into the Powertrain System (ECM). Connecting to any component or wires or this system may adversely affect Engine/Transmission operation.

Listed below are recommended wiring installation guidelines.

1. Most taps are fused, having locations under the instrument panel, in the engine compartment, and on the frame.
2. The Ford starting and the charging system should not be altered.
3. The completed vehicle total electrical load must not exceed the maximum output of the alternator.
4. Do not route or attach electrical wires to fuel lines.
5. Engine compartment wiring must not be rerouted in any manner.

6. The electronic Powertrain Control Module (PCM) requires battery power to be supplied at all times so as to maintain the keep alive memory. Keep this in mind when installing load disconnect switches or solenoids.
7. The diesel engine requires two batteries wired in parallel for proper starting operation and must not be isolated.
8. Ford recommends that all additional under hood and underbody wiring:
 - be cross-linked polyethylene, or equivalent, high temperature insulation wire 125°C [257°F] minimum rating.
 - meet SAE specifications J1128 type SXL, GXL or TXL.
 - meet SAE J1127 type SGX or STX for battery cables.
 - be protected with nylon convoluted tubing.
 - be located so as to avoid or minimize restriction of airflow through the engine compartment, underbody and fuel system.
 - be of sufficient length to be properly routed, so as not to interfere with operating zones of such components as throttle or transmission linkage.
 - not be routed near the exhaust system or any other source of high heat; melted insulation can result in electrical shorts and system failure.
 - be routed away from hostile surfaces and sharp edges and be secured in its intended location.
 - be protected by rubber grommets when it passes through body or frame openings. Use customer access pass-thru circuits provided between cab and engine compartment and cab and frame (to avoid additional openings between passenger and engine compartments). Refer to page 265 Figures A and B for additional information.
 - be protected from electrical shorts by fuses or circuit breakers.
 - use load distribution chart for air/hydraulic brake vehicles when determining wire length and gauge; charts shown on page 264.

9. Interior wiring not exposed to high temperatures may be SAE approved, general purpose wire.
10. Ground the second unit body to the frame in at least two locations, and if required, add an additional frame to engine ground cable to improve the ground path to the battery.
11. Splicing into circuitry relating to the powertrain control systems is not acceptable because of the adverse effect on the electronic system operation.
12. Before welding to the body or chassis, disconnect the batteries, ABS models, and ECM. Note that disconnecting the batteries will result in a memory loss on electronic engine/ transmission controlled vehicles. The vehicle will require several miles of driving in various driving modes to restore its memory and regain optimum operating conditions. This includes knowledge of PTO capability on the automatic transmissions with PTO opening.
13. Electrical connections exposed to the elements should be appropriately protected.
14. Do not ground the body to the transmission or transmission crossmember.
15. Ignition circuit of any engine should not be altered.
16. Alternator circuit wiring must not be altered by cutting, soldering, or splicing.
17. Aero type headlamps are plastic and have protective coatings which can be damaged by solvents or tape. Refer to the *Owner Guide* for proper cleaning procedures.
18. Added wiring must have sufficient electrical capacity for the accessory load and must be protected by appropriate fuse or circuit breaker. The current draw must not cause the total loads to exceed capabilities of the base vehicle wiring.

RADIO FREQUENCY INTERFERENCE (RFI)

During modifications to the vehicle, manufacturers, service technicians, owners and users should take the necessary precautions to maintain the RFI integrity of components. (Both the United States and Canada have RFI regulation in effect). Precautionary procedures and components listed below are examples and do not necessarily represent a complete list.

1. All components required to suppress RFI emissions, which are removed during service, repair, or completion of the vehicle, must be reinstalled in the manner in which they were installed by Ford.
2. Do not modify or change any RF device in a manner not expressly approved by Ford Motor Company.
3. Electrical grounds on all components must be retained.
4. Metallic components installed on the body or chassis must be grounded to the chassis.
5. Electrical circuits added to the vehicle should not be installed near the high tension ignition components.
6. Only "static conductive" accessory drive belts should be used.
7. Fan, water pump, power steering and other belts should be of the OEM type or equivalent that will not build up a static electrical charge.
8. For any completed vehicle, additional measures may be needed to adequately suppress RFI emissions.
9. Shield on the injector wiring must remain installed.

F-650/F-750 SUPER DUTY — ELECTRICAL WIRING
CUSTOMER ACCESS CIRCUIT INSTALLATION

2008
MODEL YEAR

POWER TRAIN/DASH PANEL PASS-THRU

The Engine Compartment has two takeouts for customer access which are near the power distribution box. Figure A shows the location of each takeout and a table which defines each circuit's function, wire gage, and color.

Power Train circuits support engine electronic control module features (CAT C7 only). Power Train circuits terminate with a 12-way connector. The part number of this connector is 3549412C1 and its mating connector part number is 3576268C1.

Dash Panel Pass-Thru circuits are blunt cut and the ends are protected with heat shrink tubing.

Refer to the CAT C7 Applications and Installation Guide for wiring schematic configuration.

Figure B shows the location of the customer access circuits which are adjacent to the OBDII diagnostic connector in the center of the instrument panel; the circuits are labeled "Customer Access". These circuits are blunt cut and the ends are protected with heat shrink tubing.

- The bundle contains:
- six dash panel pass-thru circuits
 - vehicle speed
 - a dedicated run feed

The vehicle speed output is configured to 30,000 pulses/mile.

The dedicated run only feed is fused in the power distribution box (PDB) #102 by 20A. Figure C is a schematic of the circuit.

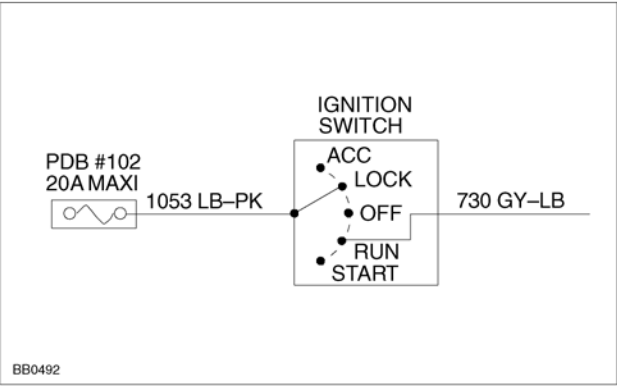


Figure C

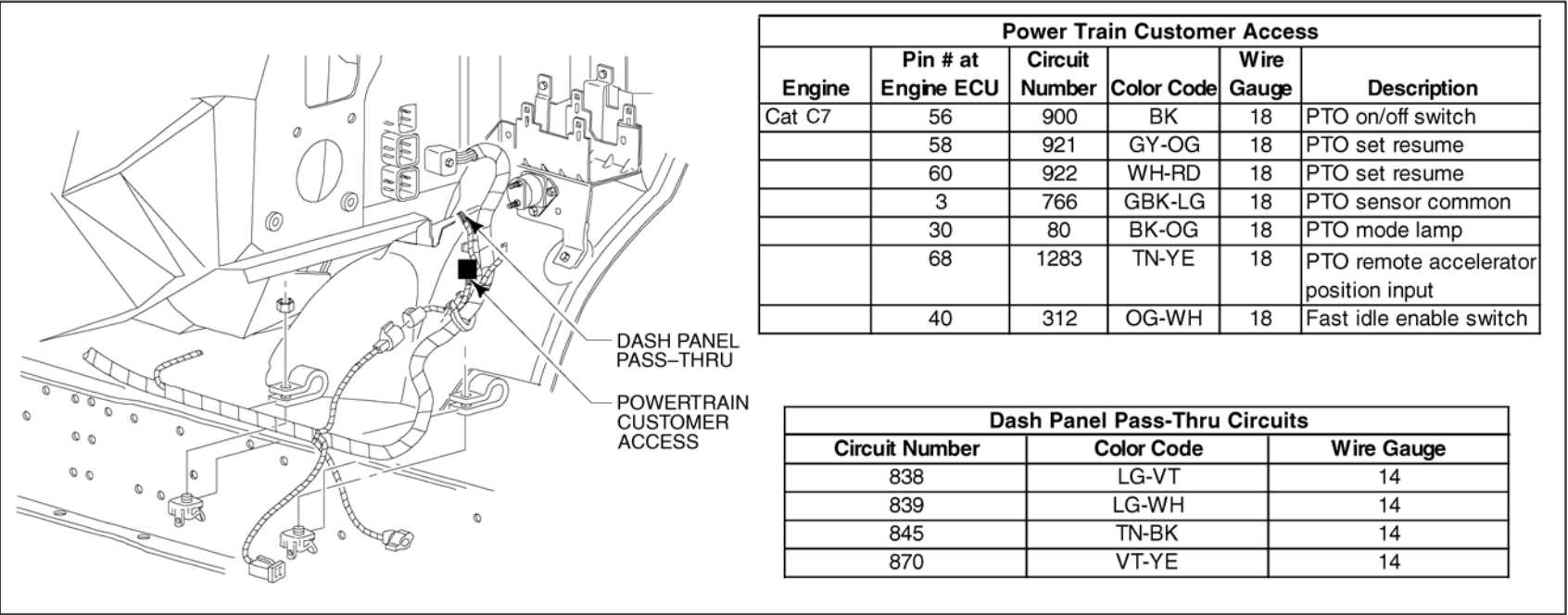


Figure A

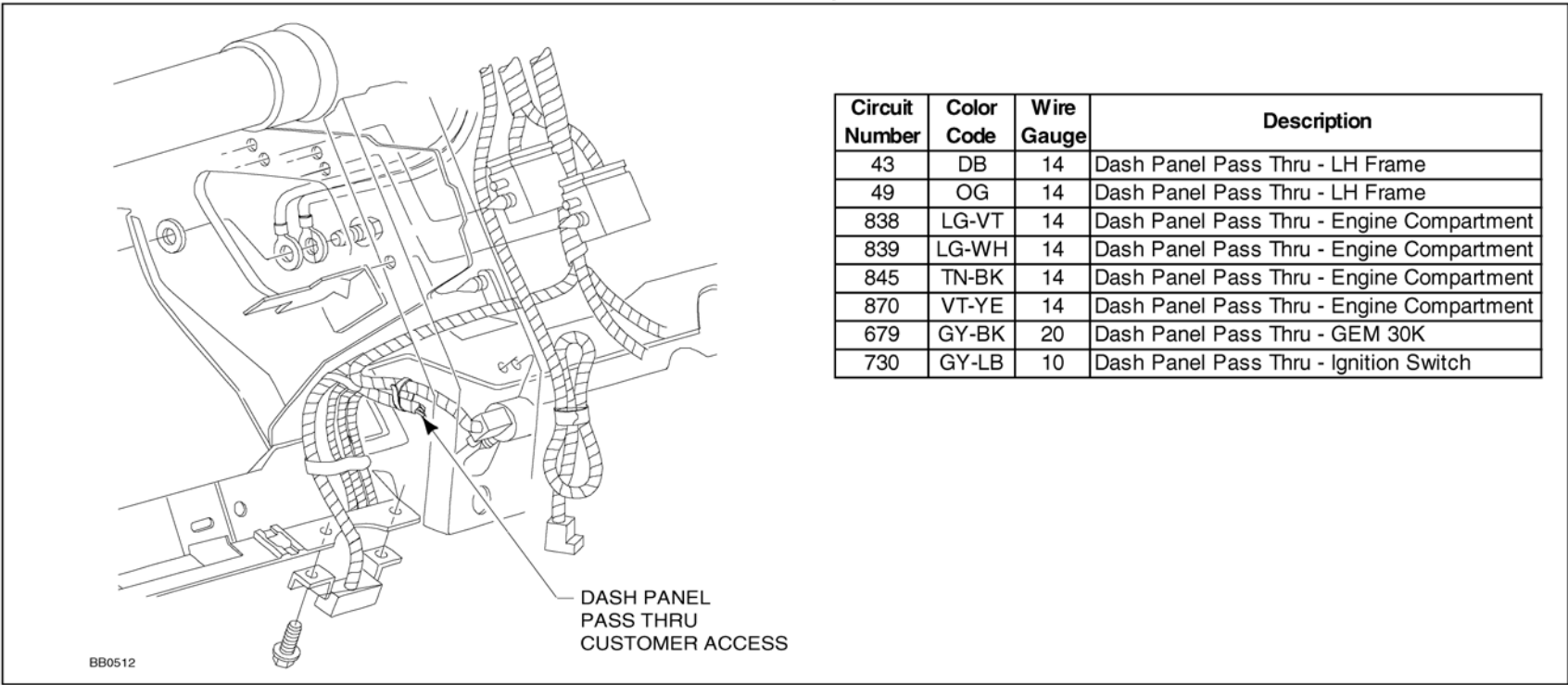


Figure B

F-650/F-750 SUPER DUTY ENGINE SPEED CONTROL FOR POWER TAKE-OFF (PTO) APPLICATIONS

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MODEL YEAR

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F-650/750

There are 3 different engine speed control features available for vehicle vocations:

- Preset Engine Speed Control
- Variable Engine Speed Control
- Mobile Variable Engine Speed Control

The first two features require a non-moving (stationary) vehicle for operation. The “Preset”feature always controls engine speed to a previously programmed value, while the “Variable”feature permits a desired engine speed to be selected via the in-cab or remote mounted switches. The “Mobile Variable”feature is the same as the “Variable”feature, with the exception that the vehicle can be moving or stationary during PTO operation.

Table 1 lists the programmable parameters that apply to these three PTO Engine Speed Control features. For each programmable parameter, this table shows the minimum and maximum permissible values that can be programmed, engineering units, and the resolution (increment) applicable for a particular parameter.

Table 1 — Programmable Parameter Attributes for PTO Engine Speed Control

Programmable Parameter Name	Programmable Parameter Attributes			
Master Diagnostic Tool Variable Name	Units	Lower Limit	Upper Limit	Increment
PTO: Power Take Off Mode	N/A	0	3	1
PTO: In-Cab Mode	N/A	0	3	1
PTO: In-Cab Control	N/A	0	1	1
PTO: Preset RPM 1 (Set)	RPM	LOW IDLE	GOVERNED SPEED	1
PTO: Preset RPM 2 (Resume)	RPM	LOW IDLE	GOVERNED SPEED	1
PTO: Max RPM	RPM	LOW IDLE	GOVERNED SPEED	1
PTO: RPM Ramp Rate	RPM/SEC	1	1500	1
PTO: Max VS	MPH	2	20	1

Preset Engine Speed Control

This feature provides two pre-determined engine speed settings (besides idle) for equipment operation. Preset Engine Speed Control satisfies the majority of the intended engine speed control applications. Use Preset Engine Speed Control when a constant engine speed is required to operate equipment.

Typical operation of this system requires the operator to perform the following steps:

1. activate the system
2. select the desired engine speed using the SET/COAST or RESUME/ACCEL switch. The SET/COAST switch requests one preset speed setting; the RESUME/ACCEL switch requests the other preset speed. Once one of these switches has been pressed, engine speed will begin ramping to the previously programmed engine speed setpoint.

The desired engine speed set-point can be field-programmed to any speed between low idle and governed engine speed. Preset Engine Speed Control operates only while the vehicle is stationary. Manipulation of cab located sensor inputs (i.e., Neutral safety, Service Brake, or Clutch Pedal) will cause the engine speed control to disengage.

Table 2 summarizes the operation of preset engine speed control. The columns are labeled with the switch being used. The first row discusses what happens when the switch contacts are momentarily closed. The second row discusses the effect of held switches (continuous contact) or multiple use of the same switch.

Table 2 - Preset Engine Speed Control Switch Use

	ON	OFF	SET/COAST	RESUME/ACCEL	BRAKE	CLUTCH
Single Press (Momentary Contact)	Enables engine speed control	Disables engine speed control	Sets the desired engine speed to the "Set" Switch RPM	Sets the desired engine speed to the "Resume" Switch RPM	Deactivates engine speed control and establishes a standby state. Engine speed returns to low idle rpm.	Deactivates engine speed control and establishes a standby state. Engine speed returns to low idle rpm.
Held Switch (Continuous Contact)	Enables engine speed control	Disables engine speed control	Same 1	Same 1	The change in brake status establishes the standby	The change in brake status establishes the standby

NOTE: 1 The held switch acts like the switch is being “hit”multiple times.

Operation of Preset Engine Speed Control

When control over engine speed is not needed outside the vehicle’s cab, the in-cab switches can be used to activate engine speed control and select the desired engine speed.

Press the CRUISE “ON”Switch to enable engine speed control. Note: This switch is located on the dash panel. See Figure 1. NOTE: There is no indication to the user that the Cruiser ON switch has been depressed. Next, select the desired engine speed using either the SET/COAST or the RESUME/ACCEL switch. The engine speed acceleration will be limited according to the value programmed for the parameter PTO RPM Ramp Rate. This acceleration limit should be programmed as required to minimize stress on auxiliary equipment drive links.

(Cont'd next page)

F-650/F-750 SUPER DUTY
ENGINE SPEED CONTROL FOR
POWER TAKE-OFF (PTO) APPLICATIONS

Engine speed will be reduced to idle by any of the following actions:

- CRUISE “OFF” switch is pressed
- Brake pedal is pressed
- Clutch pedal is pressed
- Automatic transmission is shifted out of neutral (NOT RECOMMENDED)

WARNING!
SHIFT OF AUTOMATIC TRANSMISSION FROM NEUTRAL TO FORWARD OR REVERSE GEAR WHILE OPERATING ANY PTO MODE IS NOT RECOMMENDED; VEHICLE MAY LURCH FORWARD WHEN TRANSMISSION IS PLACED IN GEAR DUE TO INCREASED POWER OUTPUT OF THE ENGINE WHICH IS OPERATING AT THE ELEVATED ENGINE SPEED.

Warning: To avoid sudden, unexpected vehicle movement and possible personal injury:

Always fully set the parking brake when using the Preset PTO Engine Speed Control Feature.

Do not abort the Preset Engine Speed Control Feature by shifting an automatic transmission from neutral gear into a forward or reverse gear.

Turn off the engine when you leave the vehicle. Never leave the vehicle unattended with the engine running.

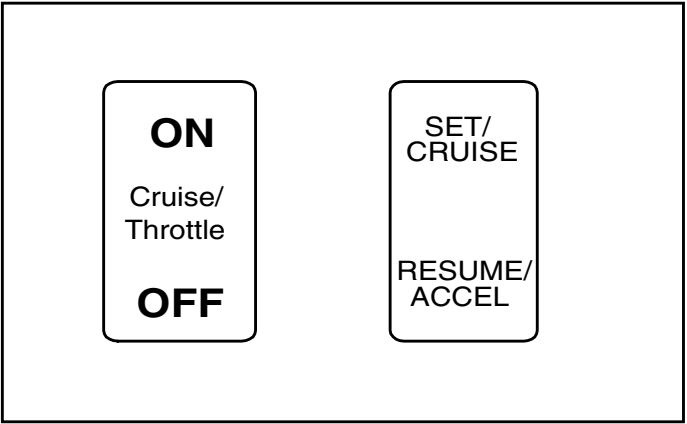


Figure 1 – (STANDARD) In-Cab Switches Located On Dash Panel

F-650/F-750 SUPER DUTY — ELECTRICAL WIRING
ALLISON 2000/2400 TRANSMISSION

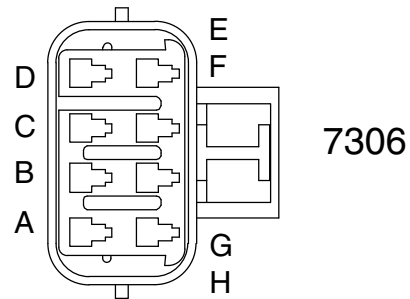
2008
MODEL YEAR

Revised 09-10-08

Body builder I/O connection for the Allison transmissions are located near the front dash panel between the engine and the driver's side wheel well. The table below gives the circuit and connector cavity information. See the vehicle circuit diagram book for a complete circuit diagram of the transmission wiring and for connector and terminal part numbers.

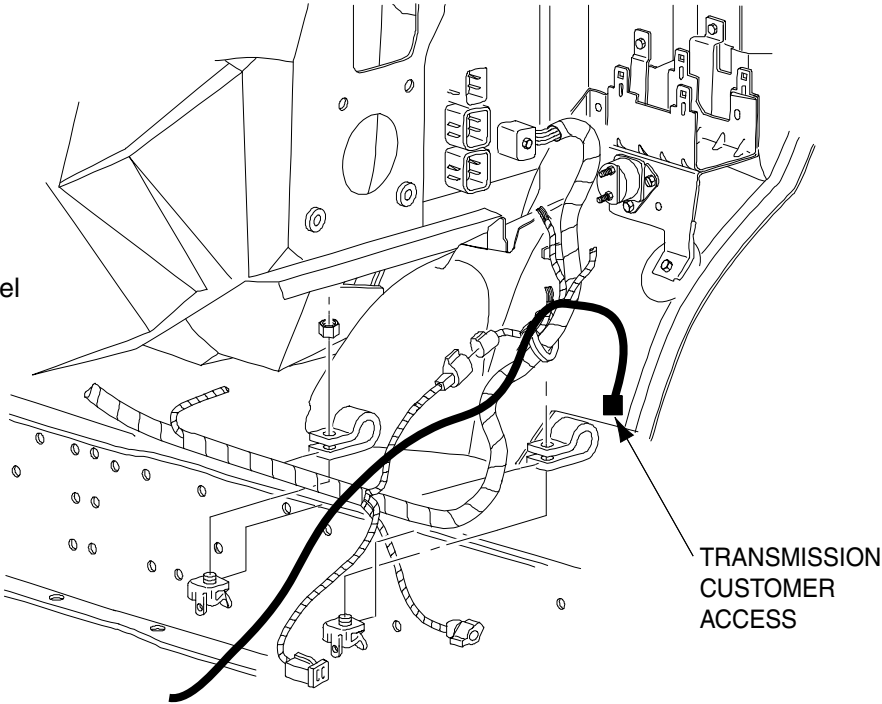
Cavity	Circuit Number	Color Code	Wire Gauge	Description
Connector Number 7306				
A	128	VT-YE	18	Signal return
B	143	LB-YE	18	PTO Enable Input
C	150	DG-WH	18	PTO Enable Output
D	353	LB	18	Non-Zero Crossing Speedo
E	101	GY-YE	18	Auxiliary Function Range Inhibit
F	123	RD	18	Automatic Neutral for PTO
G	145	GY-BK	18	Range Indicator
H	105	RD-WH	18	Output Speed Indicator

NOTE: See Allison technical manual for suggested circuit design.



Harness Connector
Viewed from Mating End

Connector is located near the front dash panel between the engine and the driver's side wheel well

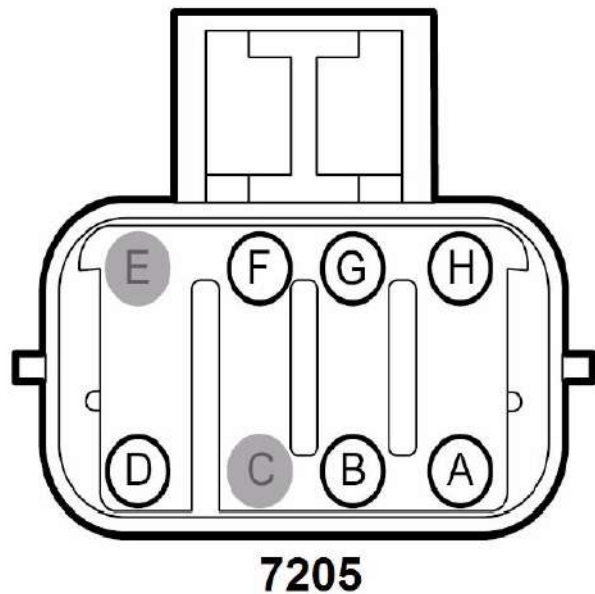


Connector 7306 has its mating connector attached filled with cavity plugs. To use connector, remove cavity plugs and use the following:

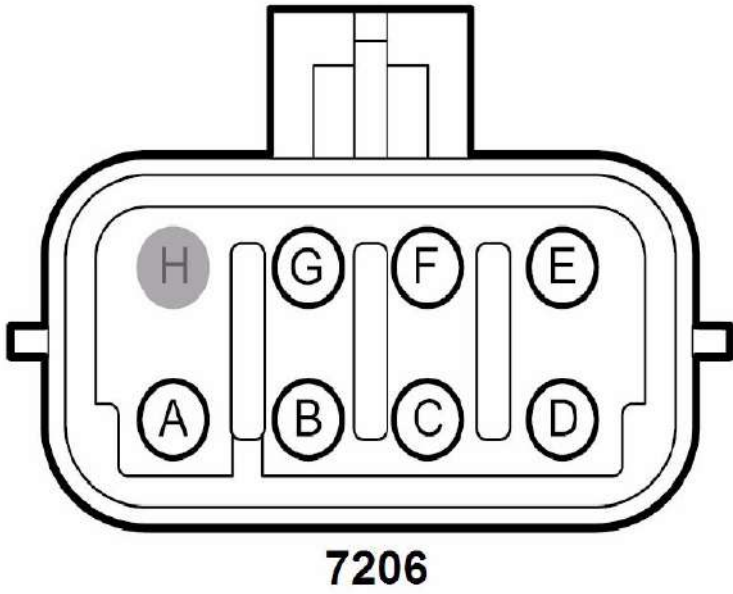
Mating Connector for 7306M	
Connector	Connector Lock
352874C1	352873C1
Terminals	Wire Gauge
1667742C1	16, 18, 20
Cavity Seals	Wire Gauge
1661872C1	16, 18, 20

F-650/F-750 SUPER DUTY — ELECTRICAL WIRING
ALLISON 3000 TRANSMISSION

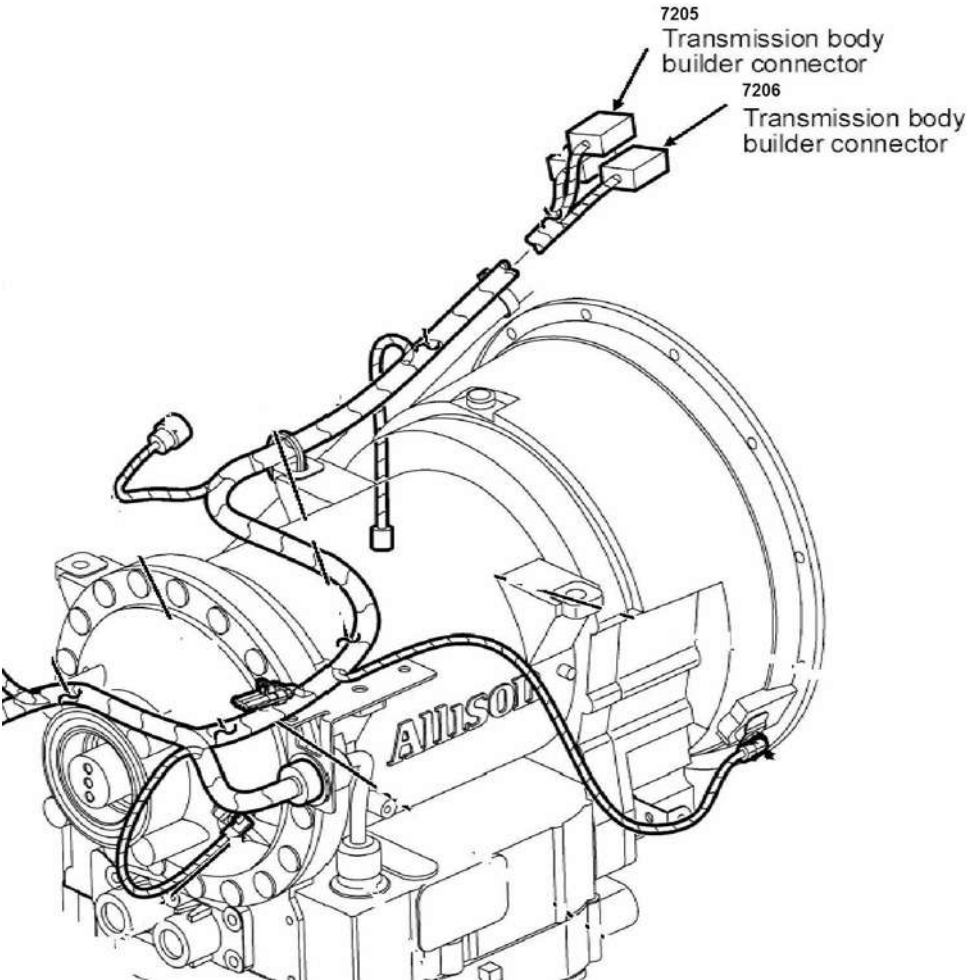
2008
MODEL YEAR
Revised 06-05-08



Pin	Circuit	Gauge	Circuit Function
A	128 (VT-YE)	18	SIGNAL RETURN
B	145 (GY-BK)	18	RANGE INDICATOR
C	*	*	not used
D	130 (RD-LG)	18	ENGINE OVERSPEED INDICATOR
E	*	*	not used
F	105 (RD-WH)	18	OUTPUT SPEED INDICATOR
G	164 (VT-LB)	18	SUMP TEMP INDICATOR (OUT)
H	162 (LG-RD)	18	SERVICE BRAKE STATUS (IN)



Pin	Circuit	Gauge	Circuit Function
A	101 (GY-YE)	18	AUX RANGE INHIBIT
B	117 (PK-BK)	18	NEUTRAL
C	128 (VT-YE)	18	SIGNAL RETURN
D	143 (LB-YE)	18	PTO ENABLE
E	142 (LB-RD)	18	AUX HOLD
F	122 (YE)	18	DIRECTION CHANGE ENABLE
G	123 (RD)	18	ENGINE LOAD
H	*	*	not used

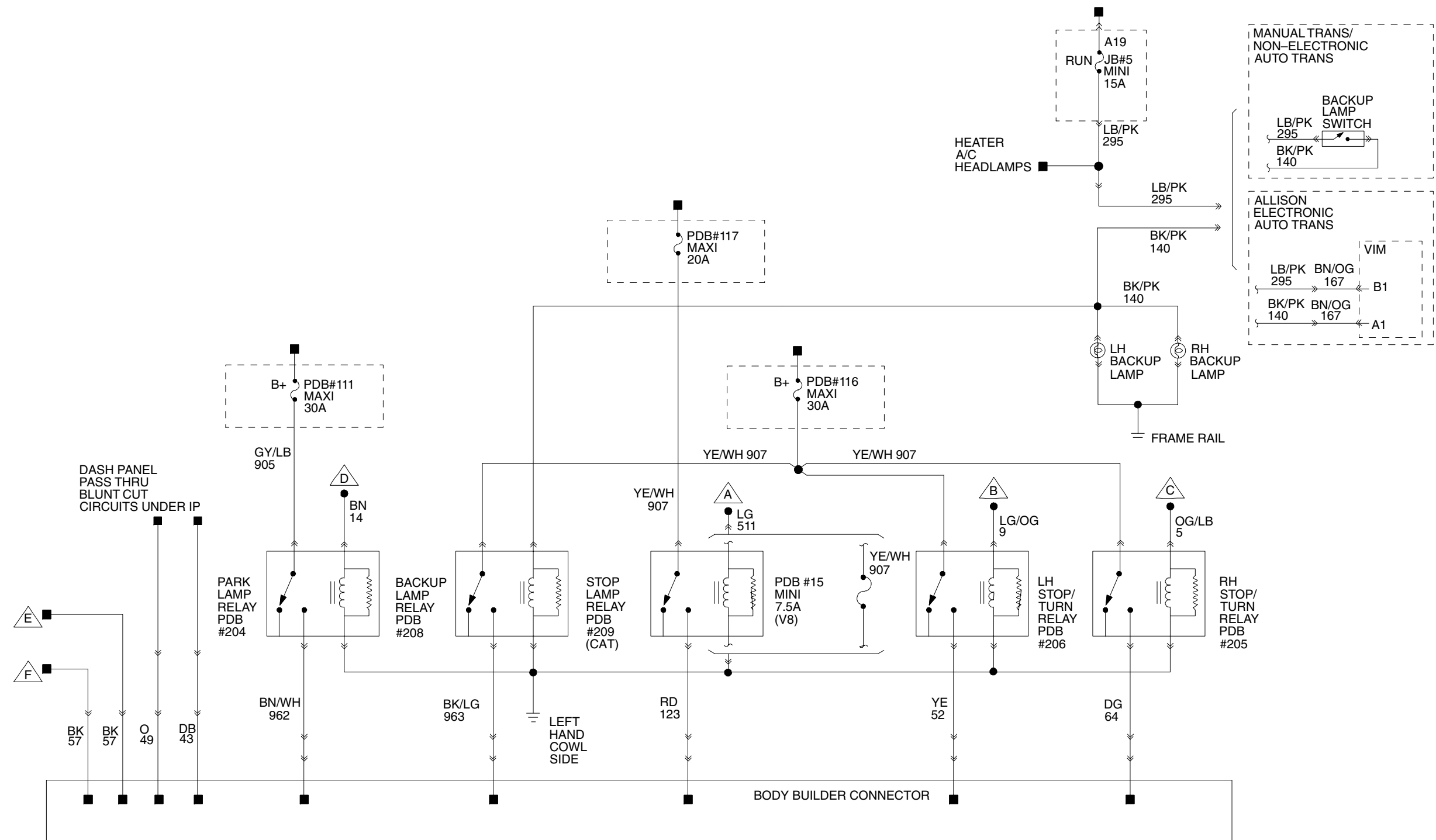


Connector 7205/7206 has its mating connector attached filled with cavity plugs. To use connector, remove cavity plugs and use the following:

Mating connector for 7205M/7206M	
Connector	Connector Lock
352874C1	352873C1
Terminals	Wire Gauge
1667742C1	16, 18, 20
Cavity Seals	Wire Gauge
1661872C1	16, 18, 20

F-650/F-750 SUPER DUTY
ELECTRICAL WIRING
TRAILER TOW SCHEMATIC (Continued)

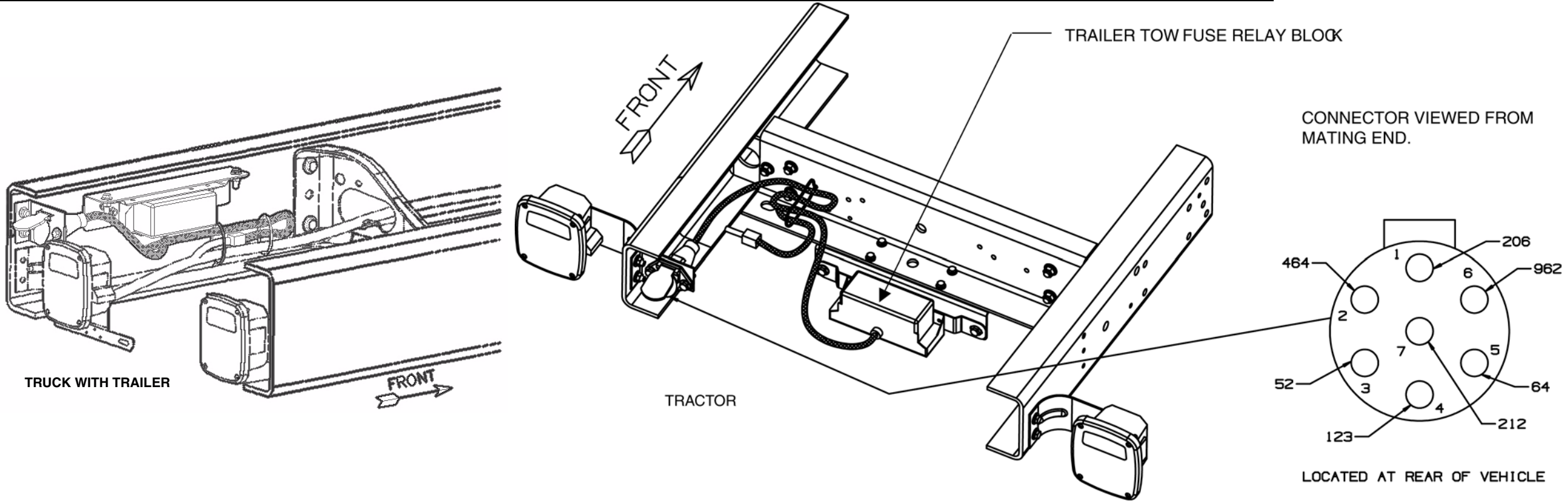
2008
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F-650/F-750 SUPER DUTY
TRAILER TOW CABLE

2008
MODEL YEAR

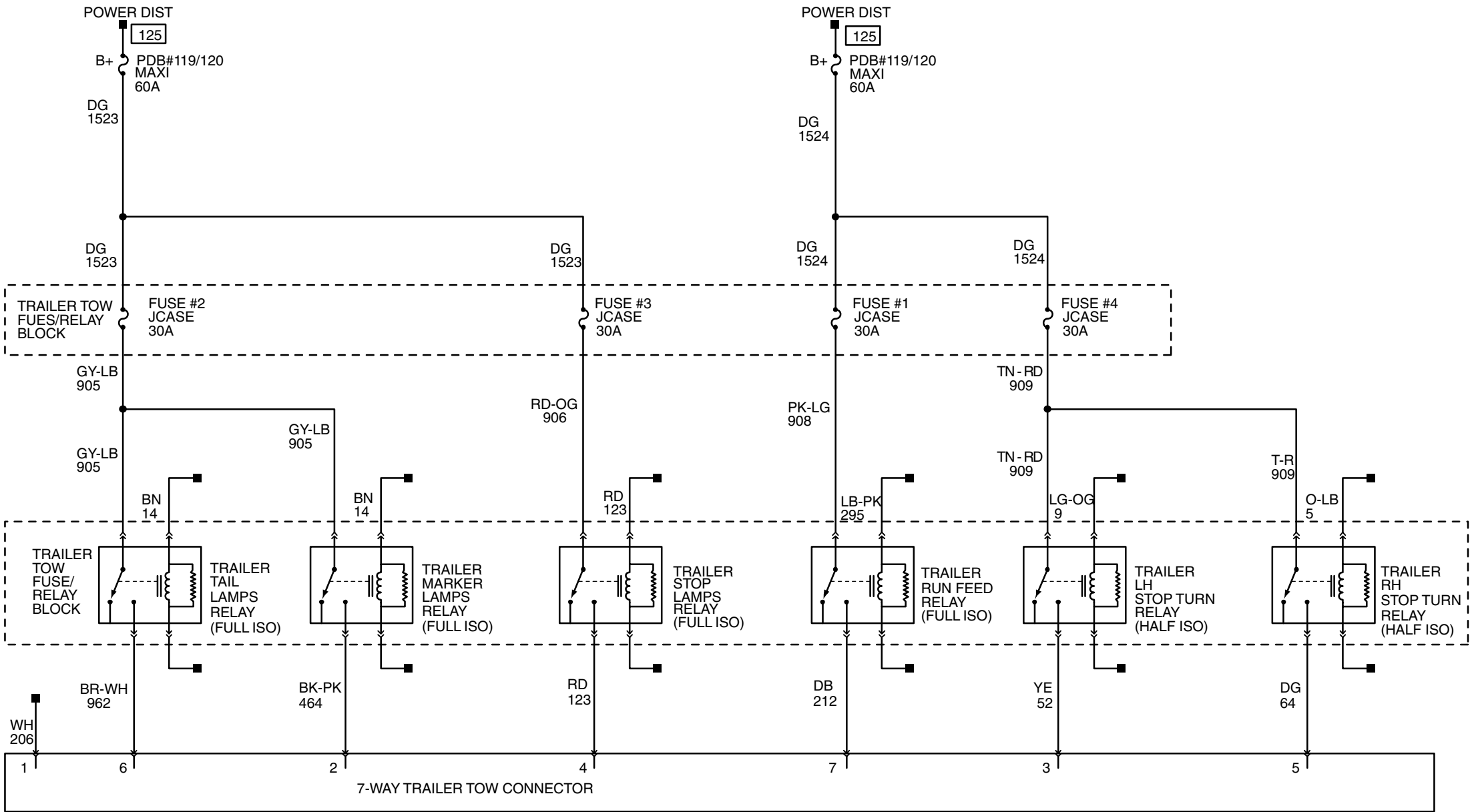
Circuit Description	Pin #	Location	Fuse Size Amps	Max Fuse Load By Body Builder	Harness	Type	Circuit #	Circuit Gage	Recommended Insulation
Ground	1				PT08-56349		206 (W)	8	GXL
Park lamp (Relay Output)	2	Fuse #2	30	Same	PT08-56349	Maxifuse	464 (BK/PK)	12	GXL
Left turn (Relay Output)	3	Fuse #4	30	Same	PT08-56349	Maxifuse	52 (YE)	12	GXL
Stop Lamp (Relay Output)	4	Fuse #4	30	Same	PT08-56349	Maxifuse	123 (RD)	12	GXL
Right Turn (Relay Output)	5	Fuse #3	30	Same	PT08-56349	Maxifuse	64 (DG)	10	GXL
Tail Lamps (Relay Output)	6	Fuse #2	30	Same	PT08-56349	Maxifuse	962 (BN/WH)	12	GXL
Trailer ABS Power, PLC (Air Brake Only). Electric Trailer Brake Controller Output (Hydraulic Brake Only)	7	Fuse #1	30	Same	PT08-54348	Maxifuse	212 (DB)	10	GXL



(cont'd next page)

F-650/F-750 SUPER DUTY
TRAILER TOW CABLE

2008
MODEL YEAR



F-650/F-750 SUPER DUTY
ELECTRICAL WIRING / GENERAL PRACTICES

2008
MODEL YEAR

This section provides instructions for the addition of electrical devices to the vehicle electrical system by body builders.

(Vehicles stored on site should have the positive battery cable disconnected to minimize “Dead battery” situation. This applies to both “incomplete” and “complete” vehicles in storage.)

After all electrical or vehicle modifications, perform the on-board diagnostics procedures as described in the powertrain control/emissions diagnosis manual to clear all diagnostic trouble codes (DTC's). Road test vehicle and rerun the on-board diagnostics to verify that no DTC's are present. If DTCs are generated perform the appropriate diagnostic procedures and repairs. Vehicle operation (engine/transmission) may be affected if DTC's are not serviced.

F/CMVSS, U.S. and Canadian RFI Requirements:

- 1. All Ford vehicles built and fully completed by Ford, comply with F/CMVSS No. 108, “Lamps, Reflective Devices and Associated Equipment” and other applicable F/CMVSS that affect electrical components.
- 2. Incomplete vehicles (i.e., Chassis Cab, Stripped Chassis, etc.) will conform to the F/CMVSS according to the provisions and conditions stated in the Incomplete Vehicle Manual (IVM) attached to each incomplete vehicle. Care must be taken that modifications do not conceal, alter or change components installed or provided by Ford Motor Company to achieve this conformance.
- 3. Devices that emit radio frequency (RF) energy, such as AM/FM radios and radio-controlled security systems, marketed for sale or use in the United States are subject to the rules and regulations of the Federal Communications Commission (FCC) 47 CFR Parts 2 and 15.

These rules specify the following conditions of operation:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

In addition, the FCC's Rules may require the device to be tested and found to comply with various RF interference emission limits before it may be marketed. The FCC establishes different limits according to the particular use and installation of RF devices. In some cases, a grant of equipment authorization from the FCC also must be obtained before any RF device may be marketed. Labelling with certain FCC information may also be required.

To insure continued compliance with the FCC's requirements, the owner, user, custom manufacturer, or service technician must not modify or change the RF device in a manner not expressly approved by Ford Motor Company. Such modifications could void the authority to operate the device.

- 4. All vehicles manufactured in Canada or for sale or use in Canada are subject to the Canadian “Regulations for the Control of Interference to Radio Reception,” SOR/75-629, Canada Gazette Part II, Vol. 109, No. 21, November 12, 1975, as amended by SOR/77-860, Canada Gazette Part II, Vol. 111, No. 21, November 9, 1977, by SOR/78-727, Canada Gazette Part II, Vol. 112, No. 18, September 27, 1978, and by SOR/80-915, Canada Gazette Part II, Vol. 114, No. 23, December 10, 1980. Violation of these regulations is punishable by fine or imprisonment. Ford-built incomplete vehicles other than stripped chassis are designed and manufactured to be capable of meeting the regulatory requirements or such modifications thereof as may be authorized by the Canadian Department of Communications.

However, because Ford has no control over how an incomplete vehicle is completed by subsequent stage manufacturers, Ford does not represent that the completed vehicle incorporating the Ford-built components will comply with applicable requirements.

Routing & Clipping:

- 1. It is strongly recommended that wiring in areas of heavy rework, or in areas where welding operations are to be performed, be removed prior to the rework operations and reinstalled after the rework is completed. If vehicle is equipped with an Electronic Engine Control System ECM / ECV Module must be disconnected before any electrical welding is performed, otherwise module damage may result. If wire removal is not practical, the wires must be shielded from damage due to the rework and welding heat. All components and wiring should be reinstalled as closely as possible to the way it was installed before removal.

- 2. Wire routings of newly installed components or wire routing revisions of the Ford harnesses necessitated by reworks must conform to the following:

- Wires routed through holes in sheet metal or castings must have the hole edges protected by a grommet.
- Wires should be routed to avoid metal edges, screws, trim fasteners and abrasive surfaces. When such routings are not possible, protective devices (shields, caps, etc.) must be used to protect the wires and when wires must cross a metal edge the edge should be covered with a protective shield and the wiring fastened within 3 inches on each side of the edge.
- Wires must be routed to provide at least 3 inches clearance to moving parts, unless positively fastened or protected by a conduit.
- Existing heat shields, insulation, and wire shielding/ twisting must be maintained.
- Wire routings should avoid areas where temperatures exceed 180 F and a minimum clearance of 6 inches should be maintained from exhaust system components. Where compliance with this requirement is not possible, high temperature insulation and heat shields are required.
- When wiring is routed between two members where relative motion can occur, the wiring should be secured to each member, with enough wire slack to allow flexing without damage to the wire.
- Wiring to all circuit components (switches, relays, etc.) in exposed locations must provide a drip loop to prevent moisture from being conducted into the device via the wire connection.
- Routing wires into areas exposed to wheel wash should be avoided. When such routings cannot be avoided, adequate clipping or protective shields are required to protect the wires from stone and ice damage.
- The wire retainers and grommets installed by the assembly plant are usually designed to accommodate only the Ford-installed wires. Additional wiring or tubing should be retained by additional clips. When added wires or tubes are routed through sheet metal panels, new holes, with proper wire protection and sealing, must be used.
- All wiring connections to components of the factory-installed system must be accomplished by using the proper mating wire termination. (Connections on studs and ground connections must use eyelet terminations, connections to female bullets must terminate in male bullets, etc.)

Splice/Repair:

When necessary to splice wire for repair or circuit length revisions, the following guide should be followed:

- Wire ends should be stripped making sure that individual conductor strands are not damaged.
- When soldering, make sure an adequate mechanical joint exists **before** applying solder. Use only rosin core solder — **never** acid core.
- For crimp joints, use butt-type metal barrel fasteners and a proper tool (such as Motorcraft crimp tool S-9796) specifically designed for this type of work.
- Splice joints must be adequately sealed and insulated. Adhesive lined heat shrink tubing is highly recommended to cover soldered and bare, metal barrel, crimp joints. Quality electrical tape can be used inside the vehicle but is not recommended for an outside environment.
- Seal the ends of insulated barrel crimp devices with a silicone grease when in an outside environment.
- The most durable splice joint will be bare metal barrel crimped, flow-soldered and covered with adhesive lined heat shrink tubing. Use this type of joint as often as possible.

Circuit Protection:

- 1. Modification to existing vehicle wiring should be done only with extreme caution and consideration of effects on the completed vehicle electrical system. Anticipated circuitry should be studied to ensure that adequate circuit protection will exist and that feedback loops are not created.
- 2. Any added circuitry must be protected either by a base vehicle fuse or breaker, or by a similar device installed by the body builder.
- 3. When adding loads to a base vehicle protected circuit, make sure that the total electrical load thru the base vehicle fuse or breaker is less than 80% for fuses in the passenger compartment and 60% for fuses underhood or under body of the device rating to prevent nuisance fuse blows.
- Total **current** draw is the sum of the base vehicle circuit current requirement (measured with an ammeter) and the anticipated add-on components current requirements.
- **Never** increase the rating of a factory installed fuse or circuit breaker.
 - For added lamp loads, the “Bulb Chart” on the next page will aid in determination of common lamp current draws.

F-650/F-750 SUPER DUTY
ELECTRICAL WIRING / GENERAL PRACTICES

2008
MODEL YEAR

If the **total** electrical load on a factory circuit, after the addition of electrical equipment, is less than 88 % of the fuse or circuit breaker protection rating in that circuit or less than the capacity of some limiting component (Switch, Relay, etc.), the items to be added can be connected directly to that circuit.

If the total electrical load to be added on a factory circuit exceed the value of the circuit protection, or the value of some limiting component, the items to be added **cannot** be added directly to the circuit.

Added electrical devices exceeding the current capabilities of the factory wiring system must be controlled through the use of a relay or switch. The coil of the relay can be fed from the factory wiring (now acting as a signal circuit) with the added wiring providing the power feed to the added electrical device through the relay power contacts. (The relay selection is important and depends on current requirements, number of cycles expected in the relay lifetime, whether the relay is to be operated intermittently or for long periods of time, and whether the relay is exposed to weather conditions or is installed in a protected area. When the current requirements of a circuit exceed the capacity of an available relay, more than one relay can be used if the circuit is wired to split the load).

The factory wiring should not be used as a power feed to the relay power contacts or switches. Battery power is to be supplied from the starter motor solenoid positive terminal for added circuits requiring a maximum of 30 Amps or directly from the battery positive terminal for added circuits requiring greater than 30 Amps of current.

Caution — Never use the stud on the underhood fuse panel as a junction point.

Circuit protection (fuses or circuit breakers) must be provided for all added wiring. The protection device rating should not exceed the current requirements for the add-on components and should be installed as close to the point as possible.

WIRE GAGE:

1. When adding wiring, the wire gage size should be determined as follows:

Where wire is spliced to extend a circuit, the added wire should have a gauge at least that of the circuit being lengthened.

Where wire is being added to feed add-on devices, the **Wire Gage Table** on this page should be used. (note: Current capacity of a given wire varies with temperature and type of insulation. The table, however, represents generally accepted values as a guide).

2. All added underhood or underbody wiring should have a thermoset insulation (such as Hypalon or Cross-linked polyethylene).

SAE specifications J1128 type SXL, GXL or TXL.

SAE specifications J1127 type SGX or STX for battery cables.

WIRE GAGE TABLE

WIRE GAGE	MAXIMUM CURRENT CAPACITY (PLASTIC INSULATED COPPER WIRE)
20	10 Amps
18	15 Amps
16	20 Amps
14	25 Amps
12	30 Amps
10	40 Amps

BULB CHART

BULB TRADE NUMBER	CANDLE POWER	CURRENT @ RATED VOLTAGE	BULB TRADE NUMBER	CANDLE POWER	CURRENT @ RATED VOLTAGE
90	6	0.58 Amps @ 13.0V	1196	50	3.00 Amps @ 12.5V
94	15	1.04 Amps @ 12.8V	1445	0.7	0.14 Amps @ 14.4V
97	4	0.69 Amps @ 13.5V	1815	1.4	0.20 Amps @ 14.4V
97A	3	0.69 Amps @ 13.5V	1816	3	0.33 Amps @ 13.0V
105	12	1.00 Amps @	1891	2	0.24 Amps @ 14.0V
161	1	0.19 Amps @ 14.0	1892	0.75	0.12 Amps @ 14.0V
168	3	0.35 Amps @ 14.0V	1893	2	0.33 Amps @ 14.0V
194	2	0.72 amps @ 14.0V	1895	2	0.27 Amps @ 14.0V
211-2	12	0.97 amps @ 12.8	4000	37.5, 60 Watts	3.14, 5.04 Amps @ 12.8V
212-2	6	0.74 Amps @ 13.5V	4001	26,000	3.14 Amps @ 12.8V
214-2	4	0.50 Amps @ 13.5V	4405	50,000	2.58 Amps @ 12.8V
561	12	0.97 Amps @ 12.8V	4412	35 Watts	2.74 Amps @ 12.8V
582	6	0.74 Amps @ 13.5V	4414	18 Watts	1.41 Amps @ 12.8V
631	6	0.63 Amps @ 12.8V	H6054	35, 65 Watts	2.94, 5.46 Amps @ 14.0V
1076	32	1.80 Amps @ 12.8V	4415	35 Watts	2.73 Amps @ 12.8V
1156	32	2.10 Amps @ 12.8V	4416	30 Watts	2.34 Amps @ 12.8V
1157	32	2.10 Amps @ 12.8V	4435	75,000	2.34 Amps @ 12.8V
1157	3	0.59 Amps @ 14.0V	6015	27,500 Low 30,000 Hi	4.10, 4.97 Amps @ 12.8V
1157 NA	24	2.10 Amps @ 12.8V	6014	27,500 Low 30,000 Hi	4.20, 4.97 Amps @ 12.8V
1157 NA	2.2	0.59 Amps @ 14.0V	6112	40, 50 Watts	3.10, 3.91 Amps @ 12.8V
1178	4	0.69 Amps @ 13.5V	1295	50	3.0 @ 12.5
1195	50	3.00 Amps @ 12.5V	563	4	0.50
904	4	0.69 Amps @ 13.5	37	0.5	0.09 @ 14.0
906	6	0.69 Amps @ 13.0	2162	0.5	0.1 @ 14.0
912	12	1.0 Amps @ 12.8			
89	6	0.58 Amps @ 13.0			
1095	4	0.51 Amps @ 14.0			

F-650/F-750 SUPER DUTY
POWERTRAIN CONTROL SYSTEM APPLICATION

ELECTRICAL:
Guidelines for Powertrain Control System Application

SYSTEM:
ECM (Engine Control Module) wires shall not be in the same bundle as other high-current non-ECM circuits (e.g., tachometer wire from coil to TFI, power seat/door lock/window, horn, alternator reg.) for a distance of more than 20 inches.

COMPONENTS:
BOO Brake on/off Switch: Supplies the processor a signal for converter clutch operation. A connection here may have an adverse effect on transmission operation. Refer to the Trailer Tow Section on page 272.

CAUTION Any connection to the ECM-V system (i.e., wiring, components) or alterations to the system may adversely affect vehicle operation (transmission and/or engine).

BARO Barometer: Must be physically in a higher location than the intake manifold and angled with the vacuum nipple at least 4 degrees downwards. BARO has no vacuum line.

APS Throttle Position Sensor: Supplies a throttle position signal to the ECM processor. Do not tap into or splice any wire to the TP sensor.

VSS Vehicle Speed Sensor: Similar to the engine speed signal, must not be altered. Do not tap into or splice any wire to the VSS. If an additional vehicle speed signal is required.

SPEEDOMETER
The vehicle speedometer receives the calibrated speed signal (square wave) from the **GEM** through Circuit 679 (GY/BK). The speed input to the **GEM** is provided by the (Speed Sensor) in the transmission through Circuit 353 (LB) and Circuit 676 (PK/O). The square tooth tone wheel in the transmission is attached to the ring gear. A variable reluctance sensor is mounted to the rear transmission housing with a precise air gap with respect to the tone wheel. These two components make up the VSS (Speed Sensor). The trans case has a fixed mounting boss for the variable reluctance sensor and therefore the air gap is non-adjustable.

TONE RING SIZE
All factory tone wheels have 16 teeth for every rear axle ratio offered. If the rear axle is changed, the **GEM** must be reconfigured to reflect the correct vehicle speed. The tone ring size parameter is a required input when reconfiguring the **GEM**.

Calculating Tone Ring Size

CONSTANT = axle ratio x 16.

If CONSTANT is a two digit number, then the tone ring size is prefaced by 000 plus CONSTANT.

Example:
If axle ratio = 4
Then constant = 4 x 16 = 64
Tone Ring Size = 00064

If CONSTANT is a three digit number, then the tone ring size is prefaced by 00 plus CONSTANT.

Example:
If axle ratio = 7
Then constant = 7 x 16 = 112
Tone Ring Size = 00112

F-650/F-750 SUPER DUTY
POWERTRAIN CONTROL SYSTEM APPLICATION

2008
MODEL YEAR

TIRE SIZE

If the tires are changed, it is necessary to configure the GEM to reflect the correct vehicle speed.

The tire manufacturer may be able to provide the revolutions per mile value.

If the tire make and size are not listed, the tire revolutions per mile can be calculated.

Position the vehicle on level ground, load with the standard weight for the specific application, and inflate the tires to the recommended pressure (ensure that the tires are cold). Measure the rear tire height from the ground to the top of the tire in inches. Ensure an accurate reading to the nearest 1/8 inch. Divide 20,168 by the tire height in inches to get the tire revolutions per mile.

EXAMPLE: Measured tire height = 33 inches. $20168/33 = 611$ Rev/Mile

Once the tire revolutions per mile value is known, proceed to the GEM Configuration.

REQUIRED TOOLS - GEM CONFIGURATION

Rotunda New Generation Star (NGS) Tester.

Ford Service Function (FSF) Program Card Version 3.2 or newer.

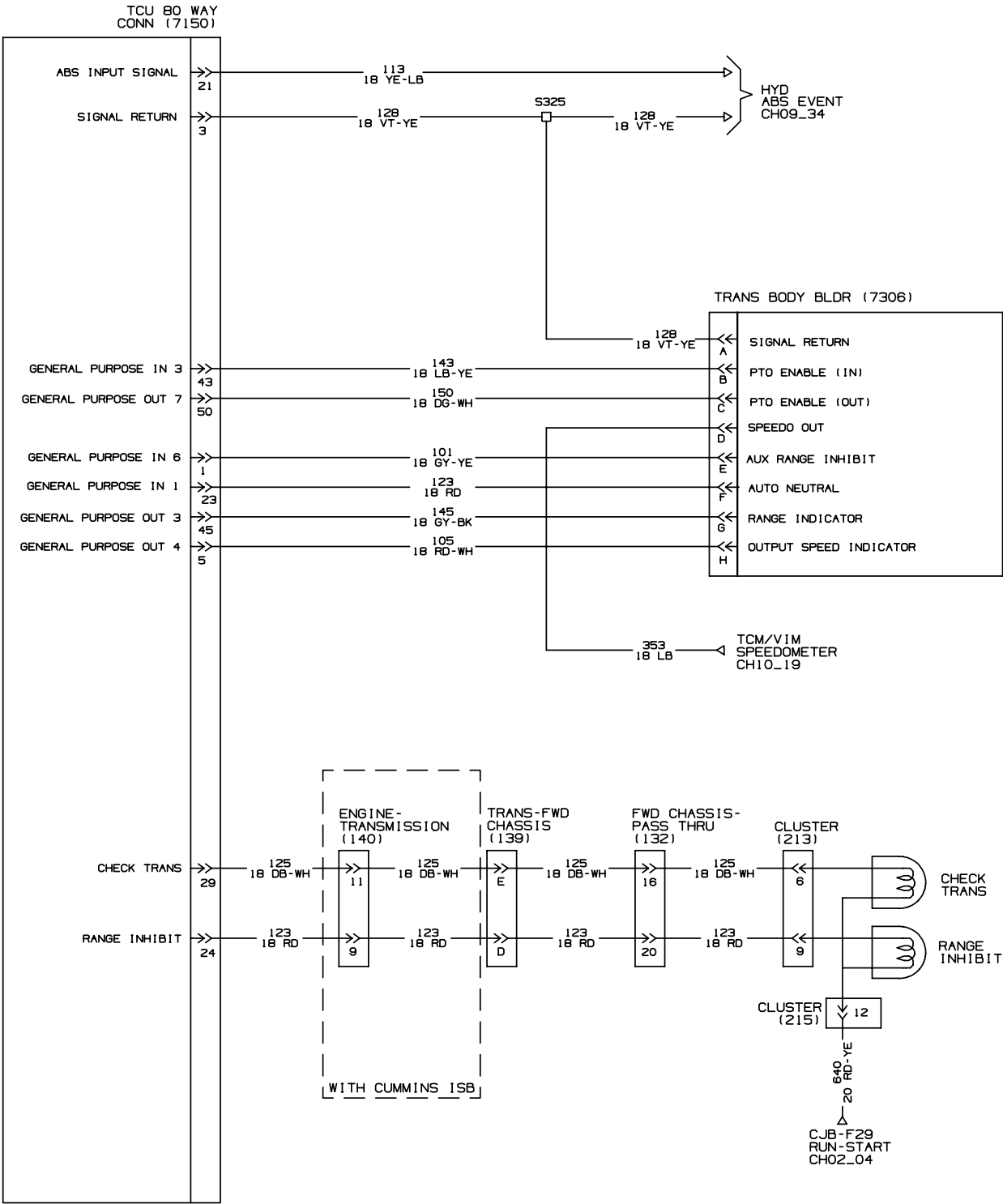
The Rotunda New Generation Star (NGS) Tester and the Ford Service Function (FSF) Program Card can be obtained from Hickok Electrical Instrument Company by contacting (216) 541-8060 Extension 225. If your company has an account with Rotunda, contact Rotunda - OTC Division at 1-800-533-5338.

GEM CONFIGURATION

1. Ensure that all harness connectors are connected to the module that requires configuration.
2. Plug the NGS tester into the data link connector located below and to the right of the steering column.
3. Actuate the ignition switch to the RUN position (engine off).
4. Insert the Ford Service Function (FSF) Program Card into the Rotunda New Generation Star (NGS) Tester.
5. Highlight LANGUAGE and press trigger to select.
6. Highlight SERVICE BAY FUNCTIONS and press trigger to select.
7. Highlight module GEM and press trigger to select.
8. Highlight TIRE SIZE/AXLE RATIO CONFIG and press trigger to select.
9. Select TIRE SIZE by pressing the trigger button. Use the dial to select the custom revolutions/mile entry and press the trigger button. Enter two zero's using the number buttons and enter the 3-digit revolutions/mile value for the desired tire using the number buttons. See Tire Size Section for input parameter.
10. Using the dial, select TONE RING SIZE and press the trigger button. Use the dial to select the rear axle ratio and press the trigger button. If the rear axle ratio is not present, use the dial to select #of teeth and press the trigger button. Enter the TONE RING SIZE of the desired axle ratio using the number buttons. See Tone Ring Size Section for input parameter.
11. Using the dial, select OPTION and press the trigger button. Use the dial to select N/A and press the trigger button.
12. Using the dial, select VEHICLE and press the trigger button. Use the dial to select F650/750 and press the trigger button. If option is not present, select F250/350.
13. Press done (numeric 8 button) and the module will be programmed with the above data entered. To reprogram, repeat the above procedure.

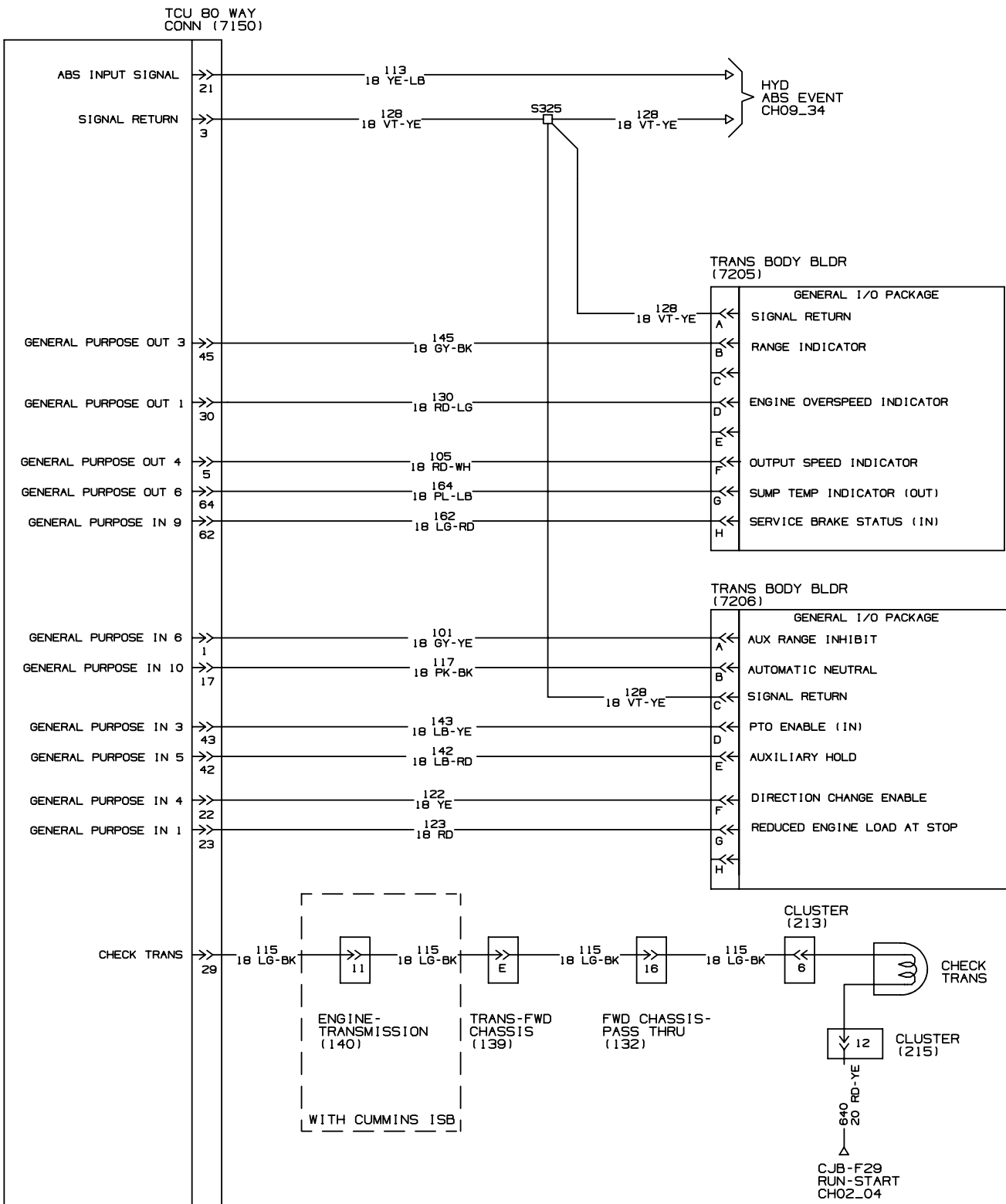
TRANSMISSION CUSTOMER ACCESS CIRCUITS
ALLISON 2000

2008
MODEL YEAR



TRANSMISSION CUSTOMER ACCESS CIRCUITS
ALLISON 3000 SERIES

2008
MODEL YEAR

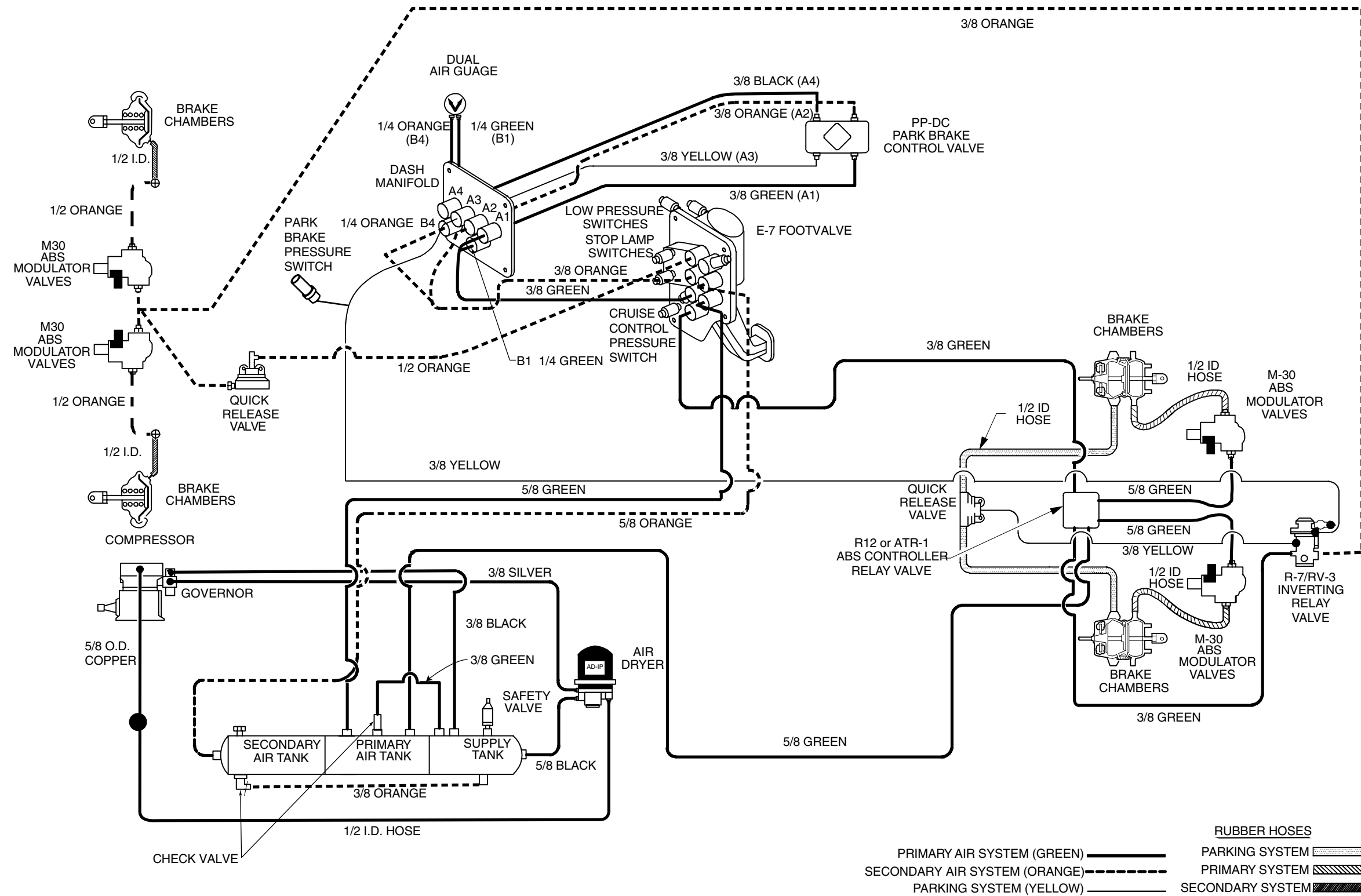


F-650/F-750 SUPER DUTY AIR BRAKE SYSTEM SCHEMATIC WITH ABS AND CRUISE CONTROL

2008
MODEL YEAR

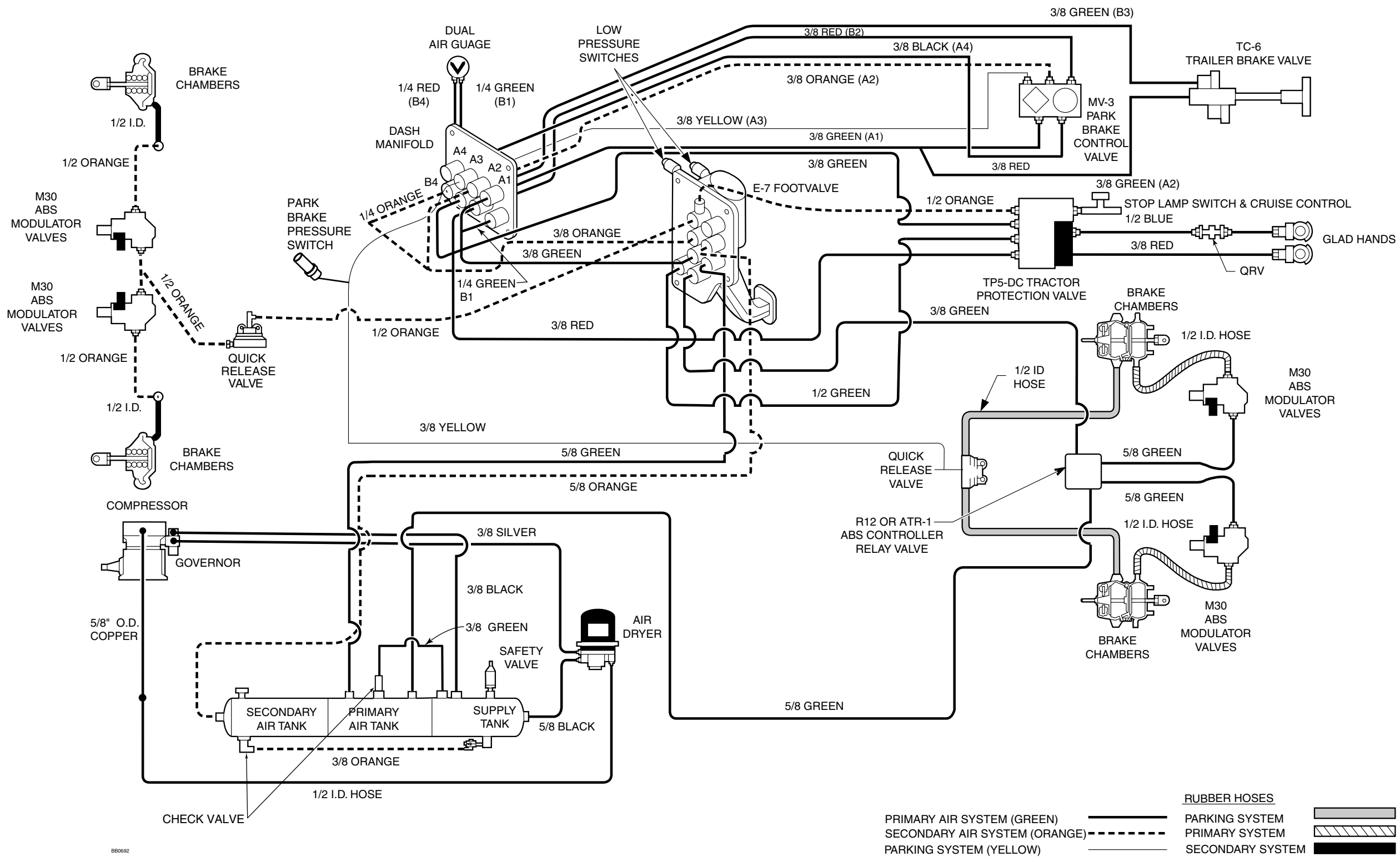
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F-650/750



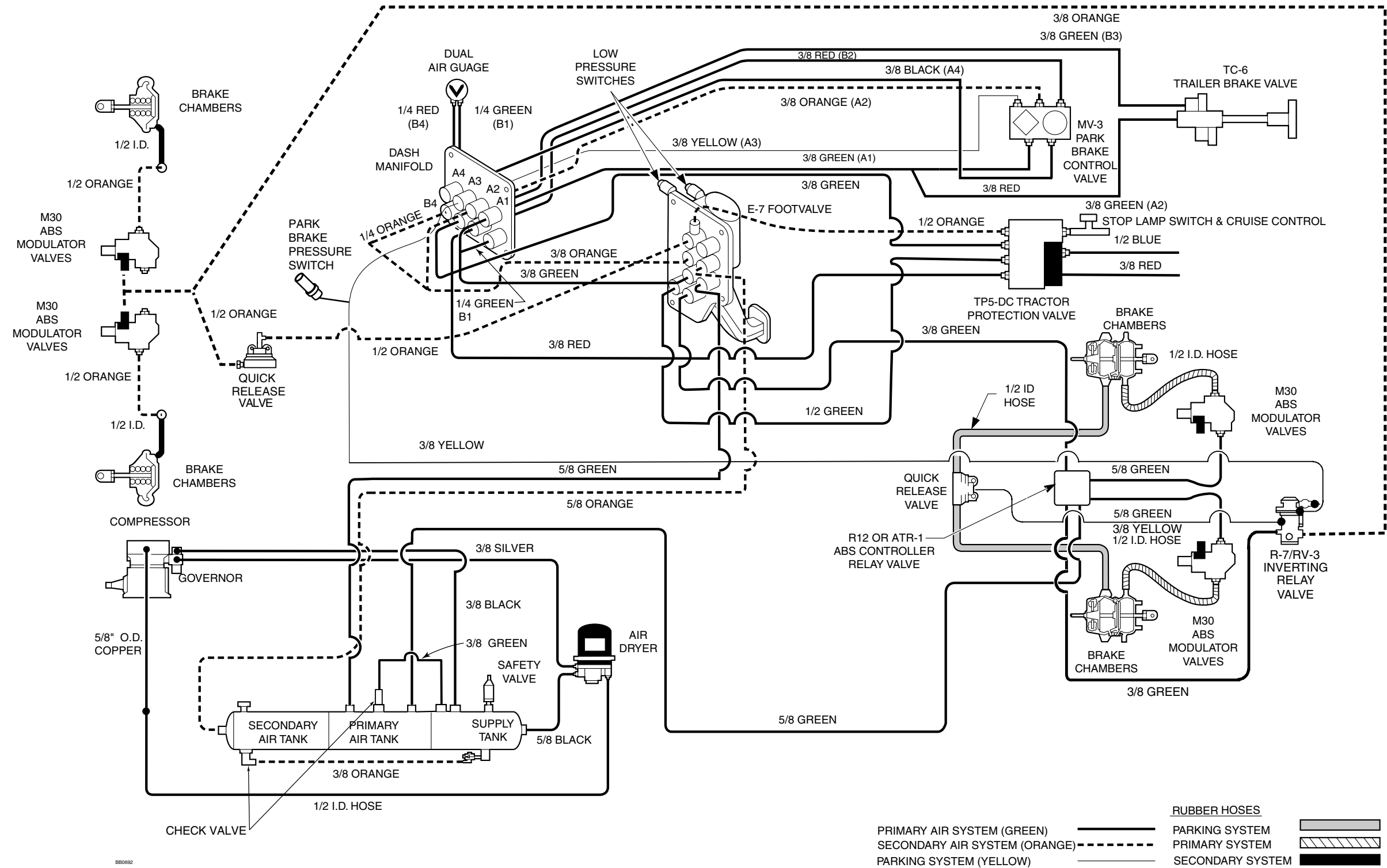
F-650/F-750 SUPER DUTY
AIR BRAKE SYSTEM SCHEMATIC
WITH ABS AND TRACTOR PACKAGE

2008
MODEL YEAR



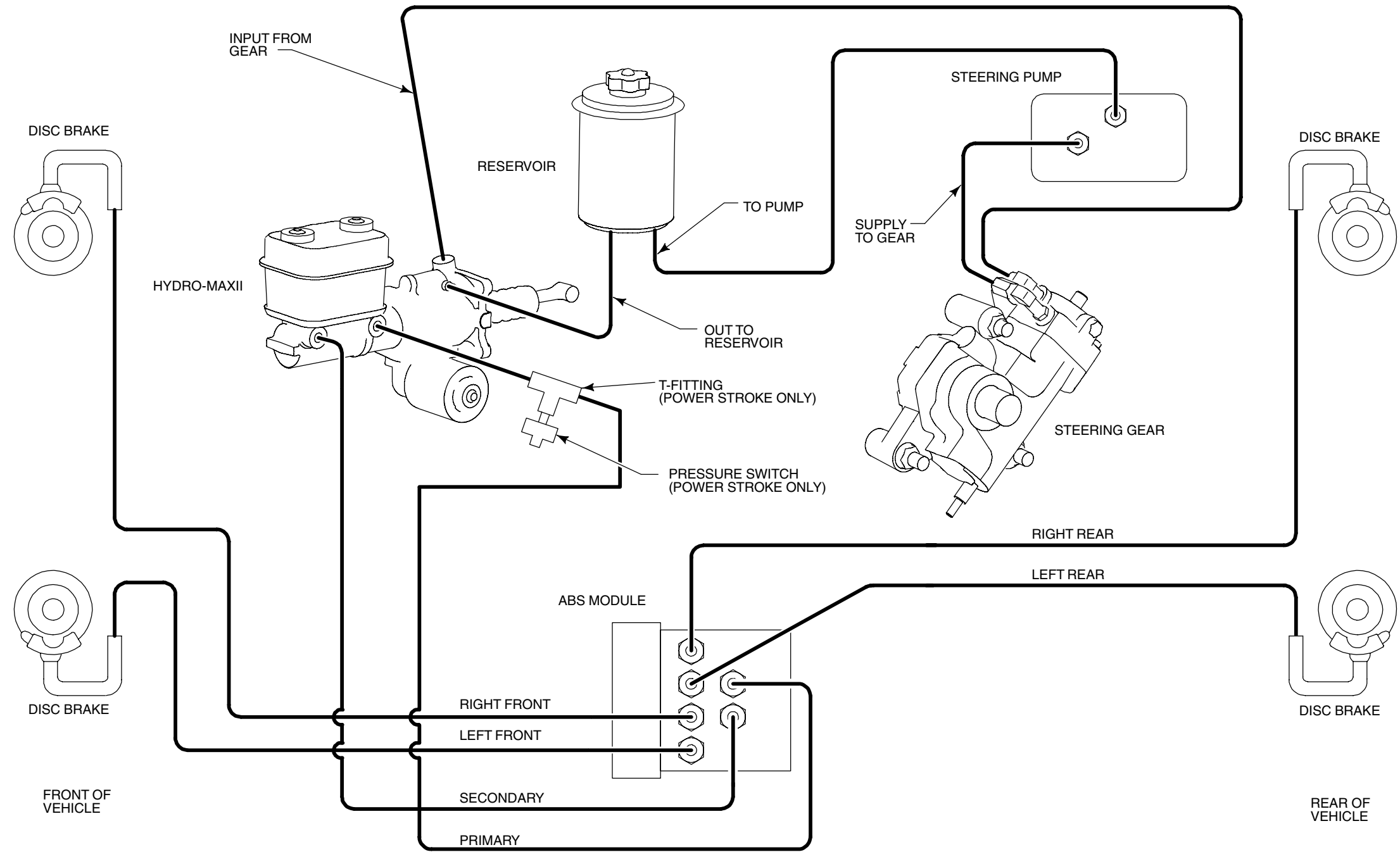
F-650/F-750 SUPER DUTY
AIR BRAKE SYSTEM SCHEMATIC
WITH ABS AND TRAILER PACKAGE

2008
MODEL YEAR



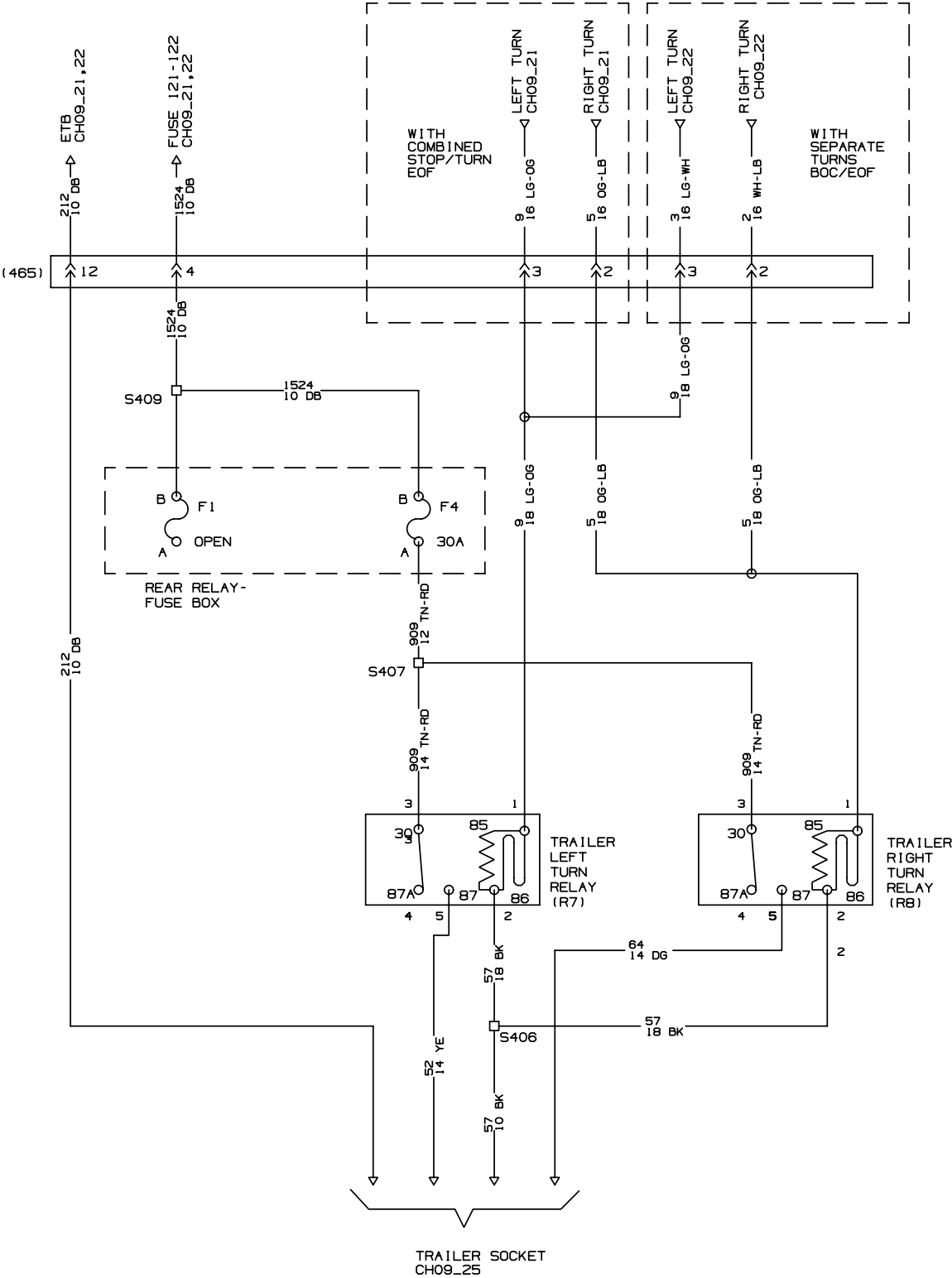
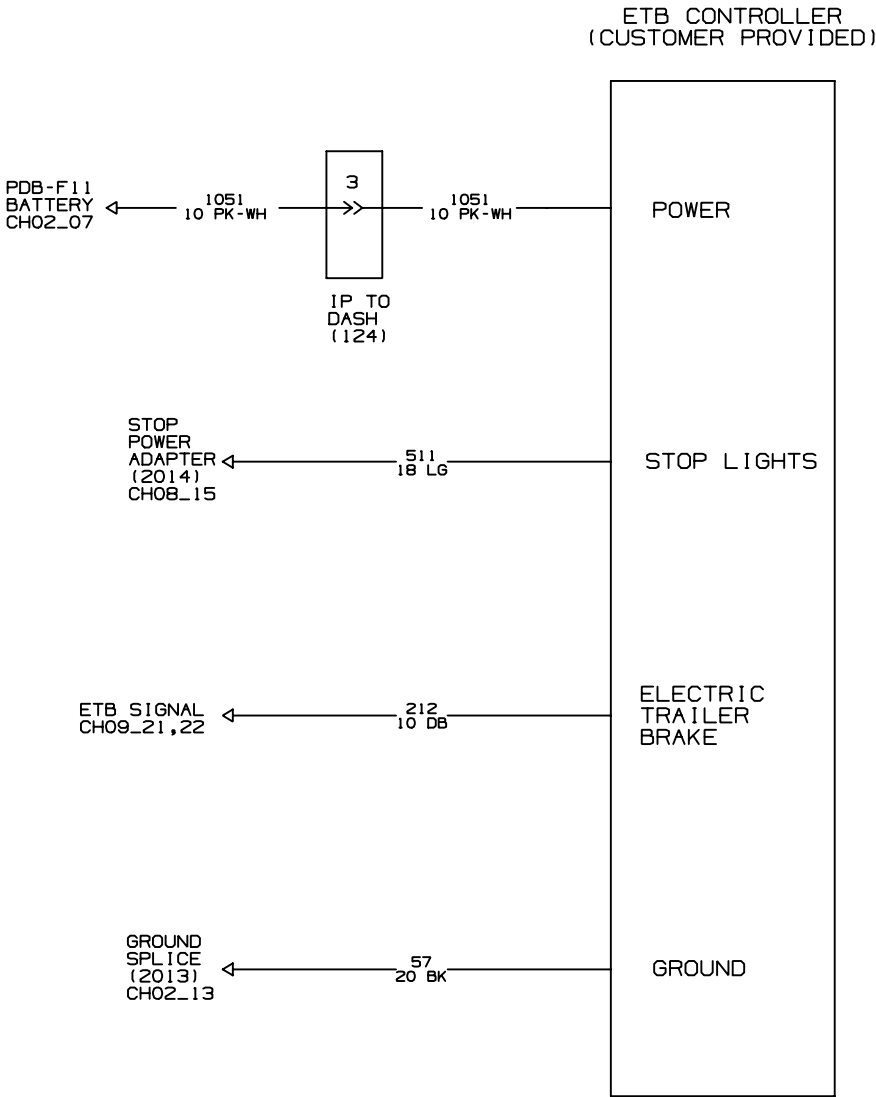
F-650/F-750 SUPER DUTY
HYDRAULIC BRAKE SYSTEM SCHEMATIC

2008
MODEL YEAR



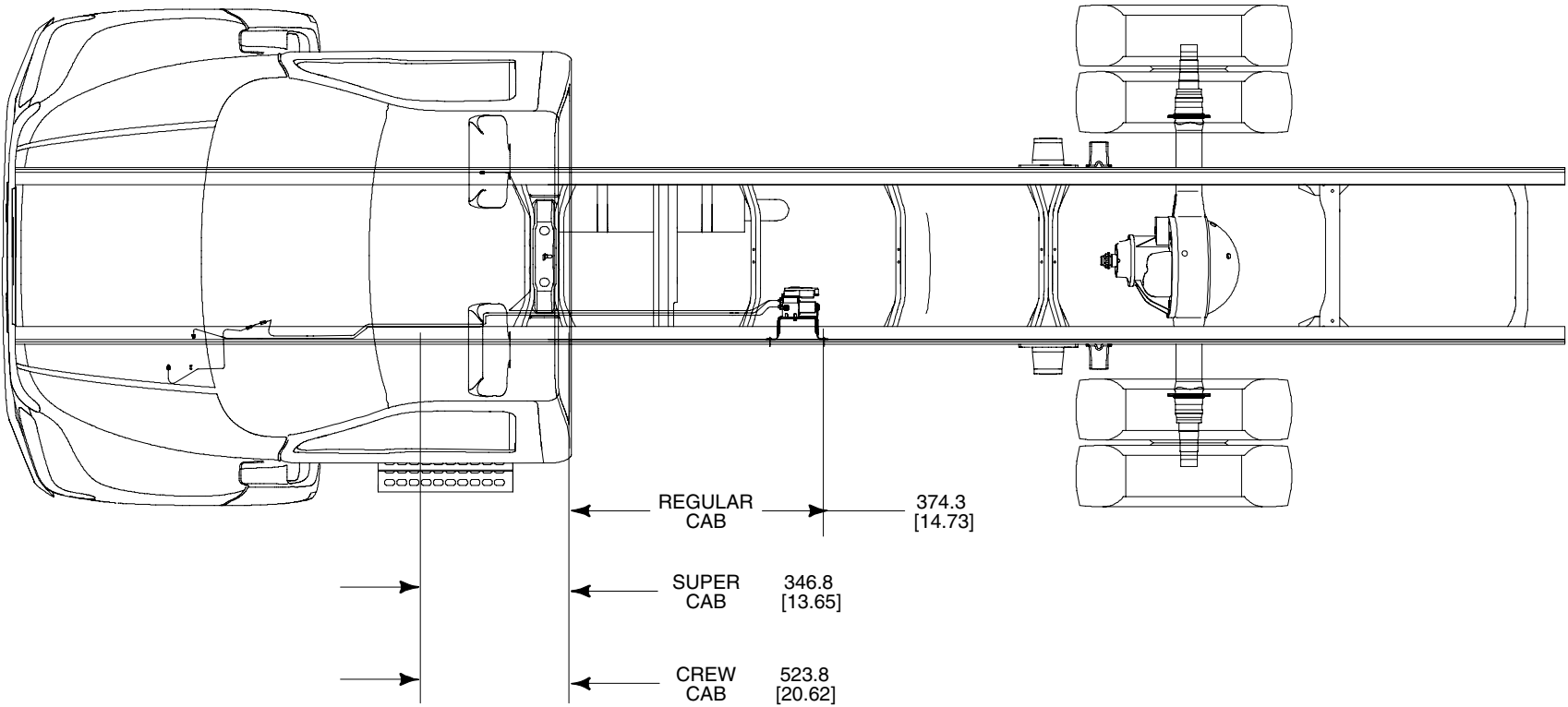
HYDRAULIC BRAKE VEHICLES WITH
ELECTRIC TRAILER BRAKES

2008
MODEL YEAR



F-650/F-750 SUPER DUTY
TYPICAL HYDRAULIC ABS MODULE LOCATION

2008
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

F-150 4X4 SNOWPLOW INSTALLATION

2008

MODEL YEAR

Minimum Required Equipment

- Regular Cab 4x4 144.5" WB, 8.0' pickup box, or SuperCab 4x4 163.0" WB, 8.0' pickup box.
- Snowplow Prep Package (Option Code 63A), includes:
 - FGAWR upgrade to 4300 lbs. (4300 lb. spring rating)
- Heavy Duty Payload Package (Option Code 627), includes:
 - 8200 lb. GVWR
 - 4050 lb. FGAWR (4050 lb. spring rating)
 - 4800 lb. RGAWR (4900 lb. spring rating)
 - Rear axle: capacity upgrade to 5300 lb. and 10.5" dia. ring gear, 4.10 ratio, limited-slip not included but available.
 - Frame upgrade (0.150" rail thickness)
 - 17" x 7.5" J 7-lug steel wheels
 - LT245/70R X 17D BSW all-season tires (5)
 - Unique powertrain control strategy maintains 5.4L engine cooling-fan engagement at highway speeds with the snowplow blade raised. The 4.2L and 4.6L engines, and the 5.4L engine without the Snowplow Prep Package, do not have this strategy, and may over-heat when driving at highway speeds with the snowplow blade blocking air-flow.
 - Upgraded Radiator and Auxiliary Transmission Cooler
 - Battery upgrade to 72 amp-hr. / 650 CCA
- 5.4L 3-valve V8 engine, 4R75E automatic transmission
- Fuel tank, 35.7 gallon (135L) capacity

Warranty

The Ford New Vehicle Limited Warranty applies to vehicles with snowplows installed in accordance with these guidelines. Consult your Ford dealer or the *Owner Guide* for any further questions.

Completed Vehicle Weight

Recommended weight limits:

- Regular Cab 695 lbs. (645 lbs. removable plow assembly + 50 lbs. permanently attached hardware)
- SuperCab 535 lbs. (485 lbs. removable plow assembly + 50 lbs. permanently attached hardware)

These snowplow weight limits are based upon a vehicle built with maximum buildable Ford option content, driver plus one front seat passenger, 150 lbs. each, 800 lbs. of ballast weight rearward of the rear axle, and additional assumptions for commercially available snowplow assembly weights and mounting location

The vehicle must not be operated when over-loaded. A vehicle is over-loaded when the weight of the completed vehicle with aftermarket equipment installed, plus driver, passengers, and cargo, exceeds either the FGAWR, RGAWR, or GVWR established by Ford Motor Company and displayed on the Safety Compliance Certification Label

The addition of ballast weight placed rearward of the rear axle may be required to prevent exceeding FGAWR, and provide good vehicle braking and handling. The ballast should be attached securely to the vehicle with consideration for the normal driving dynamics of snowplowing, and occupant safety in accidents.

For Ford completed vehicles of 10,000 GVWR or less, the weight of permanently attached aftermarket equipment must not exceed the Total Accessory Reserve Capacity (T.A.R.C.) displayed on the Safety Compliance Certification Label to maintain the compliance representation that came with the Ford-built vehicle. Exceeding T.A.R.C. will require recertification. This applies only to the permanently attached equipment, such as the snowplow frame mounting hardware, and not to the removable portion of the snowplow blade assembly.

Front End Wheel Alignment and Headlight Aim

Front end wheel alignment (toe) and headlight aim may require readjustment after installation of snowplow equipment. Failure to reset front wheel alignment may cause premature uneven tire wear. If required, reset to chassis manufacturer's specifications found in the *Ford Shop Manual*.

Electrical Connections

Installation of any inductive load devices such as electric motors, or electric clutches for clutch pumps, must not be connected to Ford vehicle wiring or fuse panels. Power for such devices should be taken directly from the battery or starter motor relay power terminal. Control of these devices should be achieved via relays. No direct current path should exist between Ford vehicle wiring and the installed load that is not filtered by the battery. These recommendations are intended to eliminate or minimize any induced reverse voltage into the Ford circuitry.

SUPER DUTY F-250/350/450/550

SNOWPLOW INSTALLATION MINIMUM

REQUIRED AND RECOMMENDED EQUIPMENT

2008
MODEL YEAR

Page 330 SNOWPLOW

The Super Duty F-Series vehicles tabled below are available for snowplow usage.

Minimum Required Equipment

- Snowplow Package includes:
 - Front spring/GAWR upgrade (refer to the Weight Ratings charts for specific spring/GAWR selection for each model)
 - Unique fan clutch with higher disengagement speed (6.4L V-8 Diesel)
 - 140 amp., 2100 watt alternator (6.4L V-8 Diesel)
- Plow and attaching hardware weight limits as tabled below.

Recommended Equipment (not required)

- All-terrain tires and roof clearance lights (optional with SRW pickup models)

Standard Equipment

- Front and rear stabilizer bar (rear standard on Chassis Cab and DRW pickup models)
- Roof clearance lights (standard on Chassis Cab and DRW pickup models).
- Steering damper
- Engine oil cooler, auxiliary automatic transmission oil cooler and maximum capacity engine coolant radiator are standard
- All available axle ratios are acceptable
- Available with manual and automatic transmission. When snowplowing, operate automatic transmission with gearshift lever in normal D (Overdrive) position and Tow/Haul OFF.

Completed Vehicle Weight

Snowplow weights (maximum recommended): Refer to the tables below.

The vehicle must not be operated when over-loaded. A vehicle is over-loaded when the weight of the completed vehicle with aftermarket equipment installed, plus driver, passengers, and cargo, exceeds either the FGAWR, RGAWR, or GVWR displayed on the Safety Compliance Certification Label.

The addition of ballast weight placed rearward of the rear axle may be required to prevent exceeding the FGAWR, and provide good vehicle braking and handling. The ballast should be attached securely to the vehicle with consideration for the normal driving dynamics of snowplowing, and occupant safety in accidents.

For Ford completed vehicles of 10,000 lb. GVWR or less, the weight of permanently attached aftermarket equipment must not exceed the Total Accessory Reserve Capacity (TARC) displayed on the Safety Compliance Certification Label to maintain the compliance representation that came with the Ford built vehicle. Exceeding TARC may require re-certification. This applies only to the permanently attached equipment, such as the snowplow frame mounting hardware, and not to the removable portion of the snowplow blade assembly.

Front End Wheel Alignment and Headlight Aim

Front end wheel alignment (toe) and headlight aim may require readjustment after installation of snowplow equipment. Failure to reset front wheel alignment may cause premature uneven tire wear. If required, reset to chassis manufacturer's specifications found in the *Ford Shop Manual*.

Electrical Connections

Installation of any inductive load devices, such as electric motors or electric clutches for clutch pumps, must not be connected to Ford vehicle wiring or fuse panels. Power for such devices should be taken directly from the battery or starter motor relay power terminal. Control of these devices should be achieved via relays. No direct current path should exist between Ford vehicle wiring and the installed load that is not filtered by the battery. These recommendations are intended to eliminate or minimize any induced reverse voltage into the Ford circuitry.

Pickup ⁽¹⁾ Driver and One Passenger			Models			
			F250 ⁽²⁾	F350 ⁽²⁾ 17" SRW	F350 ⁽²⁾ 18" SRW	F350 ⁽²⁾ DRW
Regular Cab	137.0"	5.4L V8	125/1100	125/900	125/900	100/750
		6.8L V10	100/750	100/750	100/750	125/900
		6.4L V8 Diesel	125/900	125/900	125/900	125/900
Super Cab	141.8"	5.4L V8	100/750	100/750	100/750	
		6.8L V10	100/750	100/750	100/750	
		6.4LL V8 Diesel	125/900	125/900	125/900	
	158.0"	5.4L V8	125/900	125/900	125/900	125/900
		6.8L V10	125/900	125/900	125/900	125/900
Crew Cab	156.2"	6.4L V8 Diesel	100/750	100/750	100/750	100/750
		5.4L V8	125/1100	125/900	125/900	125/900
		6.8L V10	125/1100	125/900	100/750	100/750
		6.4L V8 Diesel	125/1100	100/750	100/750	100/750
	172.4"	5.4L V8	125/900	125/900	125/900	125/900
		6.8L V10	100/750	100/750	100/750	100/750
		6.4L V8 Diesel	100/750	100/750	100/750	100/750

(1) = Includes Pickups ordered with Pickup Box Delete option.

(2) = 100 / 750 = Maximum 100 lb. of permanently-attached hardware / Maximum 750 lb. of removable plow blade and hardware. The plow and hardware weight limits shown are based upon a vehicle with maximum buildable Ford option content and 150 lb. for the driver and one front seat passenger.

(3) = Snowplow Prep Package, Option Code 86M, available for both 4x2 and 4x4 modles.

Chassis Cab Driver and One Passenger			Models				
			F350 ⁽²⁾ 0-10,000 lb GVWR SRW	F350 ⁽²⁾ Over 10,000 lb GVWR SRW	F350 ⁽²⁾ DRW	F450 ⁽²⁾ (3)	F550 ⁽²⁾ (3)
Regular Cab	140.8" WB 60" CA	5.4L V8	125/900	125/900	125/1100		
		6.8L V10	125/900	125/900	125/1100	125/1100	125/1100
		6.4L V8 Diesel	125/900	125/1100	125/1100	125/1100	125/1100
	164.8" WB 84" CA	5.4L V8			125/1100		
		6.8L V10			125/1100	125/1100	125/1100
		6.4L V8 Diesel			125/1100	125/1100	125/1100
	188.8" WB 108" CA	6.8L V10				125/1100	125/1100
		6.4L V8 Diesel				125/1100	125/1100
	200.8" WB 120" CA	6.8L V10				125/1100	125/1100
		6.4L V8 Diesel				125/1100	125/1100
Super Cab	161.8" WB 60" CA	5.4L V8	125/900	125/1100	125/1100		
		6.8L V10	125/900	125/1100	125/1100	125/1100	125/1100
		6.4L V8 Diesel	100/750	125/900	100/900	125/1100	125/1100
	185.8" WB 84" CA	5.4L V8			125/1100		
		6.8L V10			125/1100	125/1100	125/1100
		6.4L V8 Diesel			100/900	125/1100	125/1100
Crew Cab	176.2" WB 60" CA	5.4L V8	125/1100	125/1100	100/1100		
		6.8L V10	125/900	125/1100	100/1100	125/1100	125/1100
		6.4L V8 Diesel	100/680	100/750	100/900	125/1100	125/1100
	200.2" WB 84" CA	5.4L V8	125/1100	125/1100	100/1100		
		6.8L V10				125/1100	125/1100
		6.4L V8 Diesel				125/1100	125/1100

Model Not Available

POWER TAKE-OFF (PTO) APPLICATIONS

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Revised 06-09-08

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SEIC / PTO
OVERVIEW

- **SEIC strategy**
 - Provides elevated engine speed to drive auxiliary commercial equipment such as hydraulic pumps, generators, air compressors; or maintain vehicle battery charge under extreme electrical demands.
 - Standard in all PCM's for Super Duty F-Series light truck, and E-Series, over-8500 lb. GVWR, all powertrains.
 - Replaces the Auxiliary Powertrain Control Module (APCM) used with 2004 model year and prior diesel engines.
- **Blunt-cut wires to access SEIC, and customer access for VSO, CTO, PARK, PARK-NEUTRAL signals**
 - F-Series: Located in the cabin, tagged and bundled above the parking brake assembly. Pass-thru wires are in the same bundle.
 - E-Series: In the engine compartment, tagged and bundled with the large harness running below the windshield/cowl. Remove some of the plastic harness tape where the harness exits its plastic support gutter above the engine air induction tube to reveal the blunt-cut wires.
 - The final stage manufacturer or up-fitter is required to supply the customer interface or controller.
 - Further detailed in the "Circuit Descriptions" section.
- **Blunt-cut wires to access the four optional up-fitter switches**
 - Available as an option on Super Duty F-Series only, Option Code 66S.
 - May be used as a PTO activation switch.
 - Located in the cabin, above the parking brake pedal assembly. Remove the PDJB for easy access.
 - Further detailed in the "Circuit Descriptions" section.
- **Transmission PTO gear and port**
 - Available for Super Duty F-Series & E-Series 6.0L only.
 - Standard with M6OD 6-speed manual transmission.
 - Available for TorqShift 5-speed automatic transmission by ordering "Transmission Power Take Off Provision", Option Code 62R.

VOCABULARY / DEFINITIONS

PTO Applications: Includes all forms of mechanical power, using the vehicle powertrain as the source, including transmission side-mounted PTO, split-shaft PTO, crankshaft PTO, and FEAD-mounted clutch-pumps, air compressors, and generators.

SEIC: Stationary Elevated Idle Control (PCM Strategy). Blunt-cut wires provided for customer access.

PCM: Powertrain Control Module

FEAD: Front End Accessory Drive (belt and pulley drive system)

Clutch-Pump: A type of PTO that is driven by the vehicle engine crankshaft through the FEAD pulley system.

VSO: Vehicle Speed Out. Blunt-cut wire provided for access (see "Circuit Descriptions"). 8000 pulses per mile, 2.2 Hz per mile-per-hour.

TPO: Throttle Position Out. Customer access not available.

ECT: Engine Coolant Temperature

CTO: Clean Tach Out. An engine speed signal. Blunt-cut wire provided for access (see "Circuit Descriptions").

VPWR: Battery voltage signal only, not intended to carry high current load.

BCPIL / BCPSW: Battery Charge Protection – Illumination (Lamp) / Switch

Intermittent Duty Usage: Ten (10) minutes or less of continuous operation.

Continuous Duty Usage: Greater than 10 minutes or less of continuous operation.

Change-of-State: Part of the Gas engine SEIC strategy only. If any condition is met that disables SEIC, the operator is required to turn off the PTO switch and back on again before SEIC will allow elevated idle to return.

TRO_PN, TRO_P: Transmission Range Output, indicating either combination PARK or NEUTRAL, or PARK-ONLY

GENERAL RECOMMENDATIONS AND WARNINGS

Vehicle used as a stationary power source

Ford trucks are designed principally to provide vehicle motivation and short-term auxiliary power needs. Power activation of hydraulic or mechanically driven devices such as wrecker lift, snowplow blade lift and movement, power tailgate lift, or dump body lift, are a few examples. The variety of factors such as air circulation available, temperature environment, vehicle maintenance level, and other existing conditions, combined with the range of auxiliary horsepower and torque demands that may be placed upon a vehicle in power take-off usage, make it difficult to assess the ultimate performance of a vehicle subjected to extended duration usage as an auxiliary power source. The guidelines in this book are intended to assist the PTO equipment installer with avoiding inadvertent vehicle performance and safety concerns. These guidelines should not be considered all inclusive, and it is the responsibility of the PTO equipment installer to choose and install a PTO system that the vehicle operators will be able to use in a safe manner, and with the necessary precautions to ensure safe operation and customer satisfaction. Additional transmission fluid may be required with the addition of the transmission-mounted PTO.

1. The final stage manufacturer is responsible for alerting the user to proper maintenance. PTO usage may require using the Ford "severe-duty" vehicle maintenance schedules, including transmission fluid changes. May require even more frequent schedule if PTO is in "continuous duty".
2. Route PTO hydraulic lines and hoses away from the vehicle exhaust system.
3. Diesel engines are recommended over gas engines for stationary PTO operation of extended duration.

4. Do not block air flow circulation to the engine coolant radiator, engine, and transmission oil cooler.
5. The following are some maximum temperatures monitored by the PCM. The aftermarket PTO system designer or installer should consider adding a sensor to monitor these for the purpose of aborting the PTO operation to protect against vehicle powertrain damage. Some PTO suppliers may offer temperature monitors for this purpose.
 - a. Maximum Engine Coolant Temperature (ECT): 230° F
 - b. Maximum Engine Oil Sump Temperature: 284° F
 - c. Maximum Transmission Oil Temperature (TOT): 250° F
 - d. Maximum Catalyst Temperature: varies (not intended for aftermarket monitoring).

If any of the above temperatures are exceeded then "de-clutch" the auxiliary load of the PTO operation and return the vehicle engine speed to base engine idle. Allow the temperature to stabilize at a lower level before re-engaging PTO operation. Gas engine strategy uses these to abort SEIC (return engine to base idle speed and unlock automatic transmission torque converter).

6. The blunt-cut wires related to SEIC go directly back to pins on the PCM. Care should be taken with any aftermarket circuitry connecting with these, or neighboring, to prevent feeding those modules with any unwanted, threatening signals or voltages. Unwanted vehicle behavior and/or PCM damage may result.
7. Both gas and diesel powertrains are calibrated to accept up-fitter commands through the SEIC wiring only, which are battery-voltage commands only, no CAN messaging. Any alternate method to obtain stationary elevated idle control may result in unpredictable or inconsistent engine speed or stalling.

POWER TAKE-OFF (PTO) APPLICATIONS

2008
MODEL YEAR

PRODUCT DESCRIPTIONS

"Transmission Power Take-Off Provision" (Option Code 62R): This Option, available for F-Series only, provides a unique TorqShift 5-speed automatic transmission with an internal PTO drive gear and access port in the transmission case. A unique PCM is not included nor required.

Automatic Transmission Fluid Temperature Gauge: Beginning with 2002 model year a Transmission Fluid Temperature Gauge is included with the instrument cluster of Super Duty F-Series, automatic transmission only, signaled by the Transmission Oil Temperature (TOT) sensor. A complete description can be found in the vehicle's Owner Guide. In brief below describes the meanings of the needle readings to help the operator monitor PTO operation.

Cold Range: 50° F or less.

White Area: Normal operating range of 51° F to 248° F.

Yellow Area: Warning: Stop driving the vehicle or remove auxiliary loads at the earliest convenience. Typically, leave the engine running at base idle speed and allow to cool into the normal range before starting to drive or operate the PTO. The transmission fluid is not over-heated, but operating in the Yellow Range for extended periods of time may cause internal transmission damage.

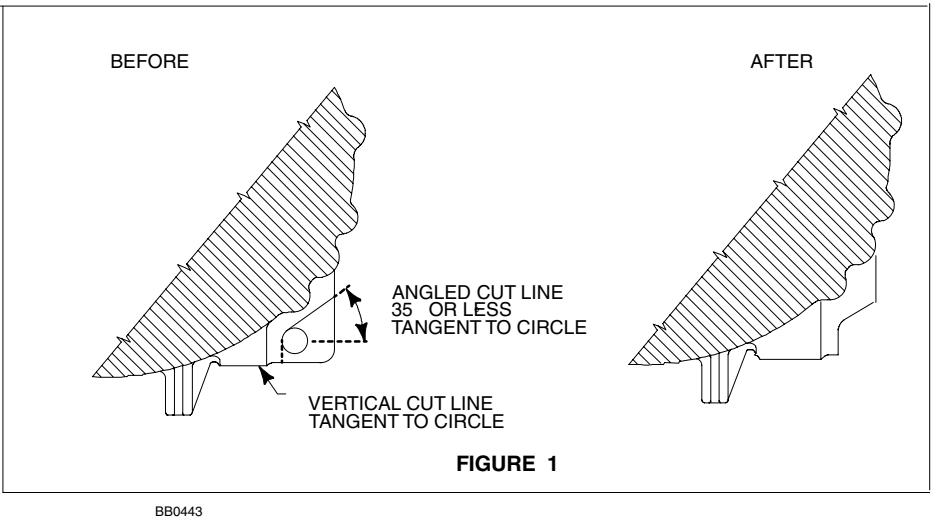
Red Area: The transmission fluid is over-heating. Stop the vehicle, do not drive, and allow to cool into the normal operating temperature range. If the gauge continues to show high temperatures then see your Ford dealer.

For readings in the Red and Yellow areas make sure that snow or debris is not blocking airflow to the radiator and transmission fluid cooler, that cooler lines are not kinked or restricted, and that vehicle load capacities or PTO duty cycles are not excessive.

SEIC (Stationary Elevated Idle Control): New for 2005 model year, this feature is included in the powertrain control strategy of all F250/350/450/550 and E250/350/450, over-8500 lb GVWR, all powertrains. It replaces the APCM (Auxiliary Powertrain Control Module) previously included with Ford "Auxiliary Idle Control Kit" Option Codes 96P (F-Series) and 961 (E-Series). For a stationary vehicle it allows the operator to elevate engine idle speed to operate a transmission-mounted PTO, or engine FEAD-mounted clutch-pump, air compressor, or generator; or be used to help keep the vehicle battery charged. SEIC uses CAN messaging internally. It is activated by the up-fitter by applying discrete voltage signals to a wire bundle located in the F-Series cabin above the parking brake release handle, and in the E-Series engine compartment. The up-fitter will need to complete the circuits as described herein, and provide the customer interface (i.e. buttons, LCD read-out for engine speed, PTO switch, etc.). Note: The F-Super Duty light truck offers four relayed rocker switches on the instrument panel for the up-fitter to use. Ramp-up rate is fixed and approximately 200 rpm/sec for diesel engine and 400 rpm/sec for gas engine.

PTO Control (For automatic transmission-mounted PTO only): This is PCM strategy within the SEIC feature that automatically looks for and recognizes whether the vehicle has a TorqShift automatic transmission with a side-mount PTO ("Transmission PTO Provision", Option Code 62R), and makes the internal PTO gear function by commanding the torque converter to lock at 1200 rpm minimum speed. The PTO gear is splined directly to the transmission torque converter turbine shaft. When all of the vehicle safety enablers are met, and the engine speed is commanded by the operator to at least 1200 rpm, then the strategy automatically commands the torque converter to lock at 1200 rpm to deliver engine torque to the PTO gear (actual lock-up begins at approximately 1050 rpm), and elevates the transmission hydraulic line pressure to 150 psi nominal for the aftermarket PTO to use to hold its engagement clutch. NOTE: Applying battery voltage to the Diesel "PTO" or Gas "PTO-Mode" wires is what the transmission looks for to initiate these commands. Failing to do so may show up as low or oscillating hydraulic line pressure and low or no aftermarket PTO torque or pump flow output. Any attempt to operate the aftermarket PTO at elevated idle without these commands may result in under-capacity PTO clutch wear, resulting in rapid contamination of transmission fluid and internal transmission damage. This applies to both stationary and mobile automatic transmission PTO operations.

The M60D manual transmission case will require a slight modification to package PTO pumps that are mounted directly to the PTO and facing rearward. Refer to Figure 1 for instructions on removing a small tab on the case to obtain clearance for the pump.



Instructions for removing M60D case tab (for PTO clearance)

A section of the aluminum tab may be removed as indicated above. Use a mechanical tool only, such as a die grinder. DO NOT use a flame torch of any kind to remove aluminum transmission case material.

- NOTES** — M60D USES ALL METRIC FASTENERS EXCEPT FOR COOLER LINES.
— DO NOT SCALE DRAWINGS.
— PTO OPENING IS A STANDARD 6 BOLT SAE #J704B.

POWER TAKE-OFF (PTO) APPLICATIONS
CIRCUIT DESCRIPTIONS — SEIC — F250/350/450/550

2008
MODEL YEAR

Revised 06-02-08

F-250/350/450/550 – Diesel Engine PCM		
Circuit Intent	Wire Tag	Description
INPUT (VPWR)	PTO	PCM Pin C1-30 Circuit No. CE912 Wire Color: Yellow / Green <ul style="list-style-type: none">• Applying vehicle battery voltage to this wire begins SEIC process.• Signals TorqShift™ transmission to enter SEIC strategy.• Verifies safety enablers.• Turns off OBD and other emission-related monitoring.• Elevates engine speed to target found at PTO-RPM circuit.• Invokes the PTOC circuit when safety enablers are met.• Looks for the target engine speed requested at the PTO_RPM circuit using a resistor or POT.
OUTPUT	PTO_OK	PCM Pin C2-54 Circuit No. CE326 Wire Color: Blue / White <ul style="list-style-type: none">• A low-side driver, changing from "open-circuit" to "ground" indicating that the engine is ready for the PTO operation to begin, and that a PTO load may be applied.• Intended for powering a PTO indicator lamp, or turn on a relay coil (not to exceed 1 amp).• LED lights require adding a resistor in series.
INPUT (resistor)	PTO_RPM	PCM Pin C1-27 Circuit No. CE914 Wire Color: Green <ul style="list-style-type: none">• Add a resistor or potentiometer to obtain fixed or variable engine target speed.• Combine in circuit with PTO-VREF and PTO-RTN.• Speed range available: 1200 rpm to 2400 rpm
Reference Voltage	PTO_VREF	PCM Pin C1-20 Circuit No. LE434 Wire Color: White / Brown <ul style="list-style-type: none">• A 5-volt reference, buffered against shorts to ground or power, used to complete the resistor circuit for engine speed selection.
PCM Ground	PTO_GND	PCM Pin C1-21 Circuit No. RE327 Wire Color: Gray / Violet <ul style="list-style-type: none">• A ground reference, buffered, used to complete the resistor circuit for engine speed selection.
INPUT (VPWR)	BCPSW	PCM Pin C1-43 Circuit No. CE926 Wire Color: Purple / Brown <ul style="list-style-type: none">• Applying vehicle battery voltage to this wire begins BCP.• Engine speed is sent to 900 rpm when all safety enablers are met, regardless of the degree of battery charge.• After 900 rpm, BCP regulates engine speed based upon the degree of battery charge, up to 2400 rpm maximum.
OUTPUT	BCHPL	PCM Pin C2-45 Circuit No. CE140 Wire Color: Brown <ul style="list-style-type: none">• A low-side driver, changing from "open-circuit" to "ground" indicating that BCP is in effect.• Intended for powering an indicator lamp.

F-250/350/450/550 – Gas Engine PCM		
Circuit Intent	Wire Tag	Description
INPUT (VPWR)	PTO	PCM Pin C2-26 Circuit No. CE912 Wire Color: Yellow / Green <ul style="list-style-type: none">• Applying vehicle battery voltage to this wire begins SEIC process.• Signals TorqShift™ transmission to enter SEIC strategy.• Verifies safety enablers.• Turns off OBD and other emission-related monitoring.• Elevates engine speed to 900 rpm "standby" speed if it finds an "open-circuit" at PTO-RPM_Select.• Invokes the PTOIndicator circuit when safety enablers are met.• Looks for the target engine speed requested at the PTO_RPM_Select circuit using a resistor or potentiometer.
OUTPUT	PTO_OK	PCM Pin C2-42 Circuit No. CE326 Wire Color: Blue / White <ul style="list-style-type: none">• A low-side driver, changing from "open-circuit" to "ground" indicating that the engine is ready for the PTO operation to begin, and that a PTO load may be applied.• Intended for powering a PTO indicator lamp, or turn on a relay coil (not to exceed 1 amp).• LED lights require adding a resistor in series.
INPUT (resistor)	PTO_RPM	PCM Pin C2-07 Circuit No. CE914 Wire Color: Green <ul style="list-style-type: none">• Add a resistor or potentiometer to obtain fixed or variable engine target speed.• Combine in circuit with PTO-ENGAGE.• Speed range available: 910 rpm to 2400 rpm
INPUT (VPWR)	PTO_Engage	PCM Pin C2-09 Circuit No. CE924 Wire Color: Blue / Green <ul style="list-style-type: none">• Applying vehicle battery voltage to this wire signals the PCM that the PTO load is being applied.• Also used to complete the resistor circuit for engine speed selection.

NOTE — FOR PASS THRU CIRCUITS - REFER TO THE ELECTRICAL SECTION OF THIS BOOK.

POWER TAKE-OFF (PTO) APPLICATIONS
CIRCUIT DESCRIPTIONS — CUSTOMER ACCESS SIGNALS &
BATTERY VOLTAGE SOURCES (VPWR) — F250/350/450/550

2008
MODEL YEAR

Revised 06-05-08

F-250/350/450/550 (VPWR)

Circuit Intent	Wire Tag	Description
Ignition Hot-in-RUN		Circuit no. CBP44 Wire Color: Purple • A fused 10 amp circuit. • Found: Blunt-cut & taped, on the harness behind the Diagnostic Link Connector.
Ford upfitter switches: Ign-Hot-ACC	Aux-1 Aux-2 Aux-3 Aux-4	[30-amp] Circuit No. CAC05 Wire Color: Yellow [30-amp] Circuit No. CAC06 Wire Color: Green / Brown [10-amp] Circuit No. CAC07 Wire Color: Violet Green [15-amp] Circuit No. CAC08 Wire Color: Brown *Found: above and to the right of parking brake release handle by the relay pack.

F-250/350/450/550 - Diesel Engine PCM		
Customer Access Signal Circuits		
Circuit Intent	Wire Tag	Description
OUTPUT PARK-Only	TRO-P	TCM Pin C1-27 Circuit No. CLS05 Wire Color: Blue / Gray
OUTPUT NEUTRAL-Only	TRO-N	TCM Pin C1-30 Circuit No. CET21 Wire Color: Green / White
OUTPUT Vehicle Speed	VS_OUT	PCM Pin C1-32 Circuit No. VMC05 Wire Color: Purple / Orange
OUTPUT Engine Speed	CTO	PCM Pin C1-19 Circuit No. CE913 Wire Color: Blue

F-250/350/450/550 - Gas Engine PCM		
Customer Access Signal Circuits		
Circuit Intent	Wire Tag	Description
OUTPUT PARK-Only	PARK	PCM Pin C2-46 Circuit No. CLS05 Wire Color: Blue / Gray
OUTPUT NEUTRAL-Only	NEUTRAL	PCM Pin C2-22 Circuit No. CET21 Wire Color: Green / White
OUTPUT Vehicle Speed	VS_OUT	PCM Pin C2-01 Circuit No. VMC05 Wire Color: Purple / Orange
OUTPUT Engine Speed	CTO	PCM Pin C2-25 Circuit No. CE913 Wire Color: Blue

NOTE — FOR PASS THRU CIRCUITS - REFER TO THE ELECTRICAL SECTION OF THIS BOOK.

POWER TAKE-OFF (PTO) APPLICATIONS
CIRCUIT DESCRIPTIONS — SEIC — E250/350/450

2008
MODEL YEAR

Revised 06-02-08

E-250/350/450 – Diesel Engine PCM		
Circuit Intent	Wire Tag	Description
INPUT (VPWR)	PTO	PCM Pin C1-12 Circuit No. 0828 Wire Color: Purple / Lt. Blue <ul style="list-style-type: none">• Applying vehicle battery voltage to this wire begins SEIC process.• Signals TorqShift™ transmission to enter SEIC strategy.• Verifies safety enablers.• Turns off OBD and other emission-related monitoring.• Elevates engine speed to target value found at PTO-RPM circuit.• Invokes the PTOC circuit when safety enablers are met.• Looks for the target engine speed requested at the PTO_RPM circuit using a resistor or potentiometer.
OUTPUT	PTOC	PCM Pin C2-15 Circuit No. 0239 Wire Color: White / Orange <ul style="list-style-type: none">• A low-side driver, changing from "open-circuit" to "ground" indicating that the engine is ready for the PTO operation to begin, and that a PTO load may be applied.• Intended for powering a PTO indicator lamp, or turn on a relay coil (not to exceed 1 amp). LED lights require adding a resistor in series.
INPUT (resistor)	PTO_RPM	PCM Pin C1-06 Circuit No. 2246 Wire Color: Orange / Yellow <ul style="list-style-type: none">• Add a resistor or potentiometer to obtain fixed or variable engine target speed.• Combine in circuit with PTO-VREF and PTO-RTN.• Speed range available: 1200 rpm to 2400 rpm
Reference Voltage	PTO_VREF	PCM Pin C1-44 Circuit No. 2245 Wire Color: Orange / Red <ul style="list-style-type: none">• A 5-volt reference, buffered against shorts to ground or power, used to complete the resistor circuit for engine speed selection.
PCM Ground	PTO_GND	PCM Pin C1-32 Circuit No. 2247 Wire Color: Orange / Black <ul style="list-style-type: none">• A ground reference, buffered, used to complete the resistor circuit for engine speed selection.
INPUT (VPWR)	BCPSW	PCM Pin C1-09 Circuit No. 2248 Wire Color: Purple / Lt. Green <ul style="list-style-type: none">• Applying vehicle battery voltage to this wire begins BCP.• Engine speed is sent to 1200 rpm when all safety enablers are met, regardless of the degree of battery charge.• After 1200 rpm, BCP regulates engine speed based upon the degree of battery charge, up to 2400 rpm maximum.
OUTPUT	BCPIL	PCM Pin C2-16 Circuit No. 0076 Wire Color: Lt. Green / White <ul style="list-style-type: none">• A low-side driver, changing from "open-circuit" to "ground" indicating that BCP is in effect.• Intended for powering an indicator lamp.

E-250/350/450 – Gas Engine PCM		
Circuit Intent	Wire Tag	Description
INPUT (VPWR)	PTO_Mode	PCM Pin C3-26 Circuit No. 2242 Wire Color: Orange <ul style="list-style-type: none">• Applying vehicle battery voltage to this wire begins SEIC process.• Signals TorqShift™ transmission to enter SEIC strategy.• Verifies safety enablers.• Turns off OBD and other emission-related monitoring.• Elevates engine speed to 900 rpm "standby" speed if it finds an "open-circuit" at PTO-RPM_Select.• Invokes the PTOIndicator circuit when safety enablers are met.• Looks for the target engine speed requested at the PTO_RPM_Select circuit using a resistor or potentiometer.
OUTPUT	PTO-IND	PCM Pin C3-42 Circuit No. 2244 Wire Color: Orange / Lt. Blue <ul style="list-style-type: none">• A low-side driver, changing from "open-circuit" to "ground" indicating that the engine is ready for the PTO operation to begin, and that a PTO load may be applied.• Intended for powering a PTO indicator lamp, or turn on a relay coil (not to exceed 1 amp). LED lights require adding a resistor in series.
INPUT (resistor)	PTO_RPM	PCM Pin C3-07 Circuit No. 2246 Wire Color: Orange / Yellow <ul style="list-style-type: none">• Add a resistor or potentiometer to obtain fixed or variable engine target speed.• Combine in circuit with PTO-ENGAGE.• Speed range available: 910 rpm to 2400 rpm
INPUT (VPWR)	PTO_Engage	PCM Pin C3-09 Circuit No. 2243 Wire Color: Orange / White <ul style="list-style-type: none">• Applying vehicle battery voltage to this wire signals the PCM that the PTO load is being applied.• Also used to complete the resistor circuit for engine speed selection.

NOTE — FOR PASS THRU CIRCUITS - REFER TO THE ELECTRICAL SECTION OF THIS BOOK.

POWER TAKE-OFF (PTO) APPLICATIONS
CIRCUIT DESCRIPTIONS — CUSTOMER ACCESS SIGNALS &
BATTERY VOLTAGE SOURCES (VPWR) — E250/350/450

2008
MODEL YEAR

Revised 06-02-08

E-250/350/450 (VPWR)

Circuit Intent	Wire Tag	Description
Hot-at-all-times	(no tag)	Circuit no. 1507 Wire Color: White / Red <ul style="list-style-type: none">• A fused 30 amp circuit.• Found: at 4-pin connector above the brake master cylinder, part of Modified Vehicle Wiring.
Ignition Hot-in-RUN	(no tag)	Circuit no. 0049 Wire Color: Orange <ul style="list-style-type: none">• A fused 30 amp circuit.• Found: at 4-pin connector above the brake master cylinder, part of the Modified Vehicle Wiring.

E-250/350/450 – Diesel Engine PCM

CUSTOMER ACCESS SIGNAL CIRCUITS

Circuit Intent	Wire Tag	Description
OUTPUT PARK-Only	TRO_P	PCM Pin C1-07 Circuit No. 1857 Wire Color: Yellow / White
OUTPUT NEUTRAL-Only	TRO-N2	PCM Pin C1-03 Circuit No. 0463 Wire Color: Red / White
OUTPUT PARK or NEUTRAL	(Feature not Available)	
OUTPUT Vehicle Speed	VSO	PCM Pin C1-22 Circuit No. 0679 Wire Color: Gray / Black
OUTPUT Engine Speed	CTO	PCM Pin C1-01 Circuit No. 0648 Wire Color: White / Pink

E-250/350/450 – Gas Engine PCM

CUSTOMER ACCESS SIGNAL CIRCUITS

Circuit Intent	Wire Tag	Description
OUTPUT PARK-Only	PARK_OUT	PCM Pin C3-46 Circuit No. 1857 Wire Color: White / Orange
OUTPUT NEUTRAL-Only	(Feature not Available)	
OUTPUT PARK or NEUTRAL	PRK_NEU	PCM Pin C3-22 Circuit No. 0463 Wire Color: Red / White
OUTPUT Vehicle Speed	AFT STD	PCM Pin C3-01 Circuit No. 0679 Wire Color: Gray / Black
OUTPUT Engine Speed	CTO	PCM Pin C3-25 Circuit No. 0648 Wire Color: White / Pink

NOTE — FOR PASS THRU CIRCUITS - REFER TO THE ELECTRICAL SECTION OF THIS BOOK.

POWER TAKE-OFF (PTO) APPLICATIONS

2008
MODEL YEAR

Revised 06-05-08

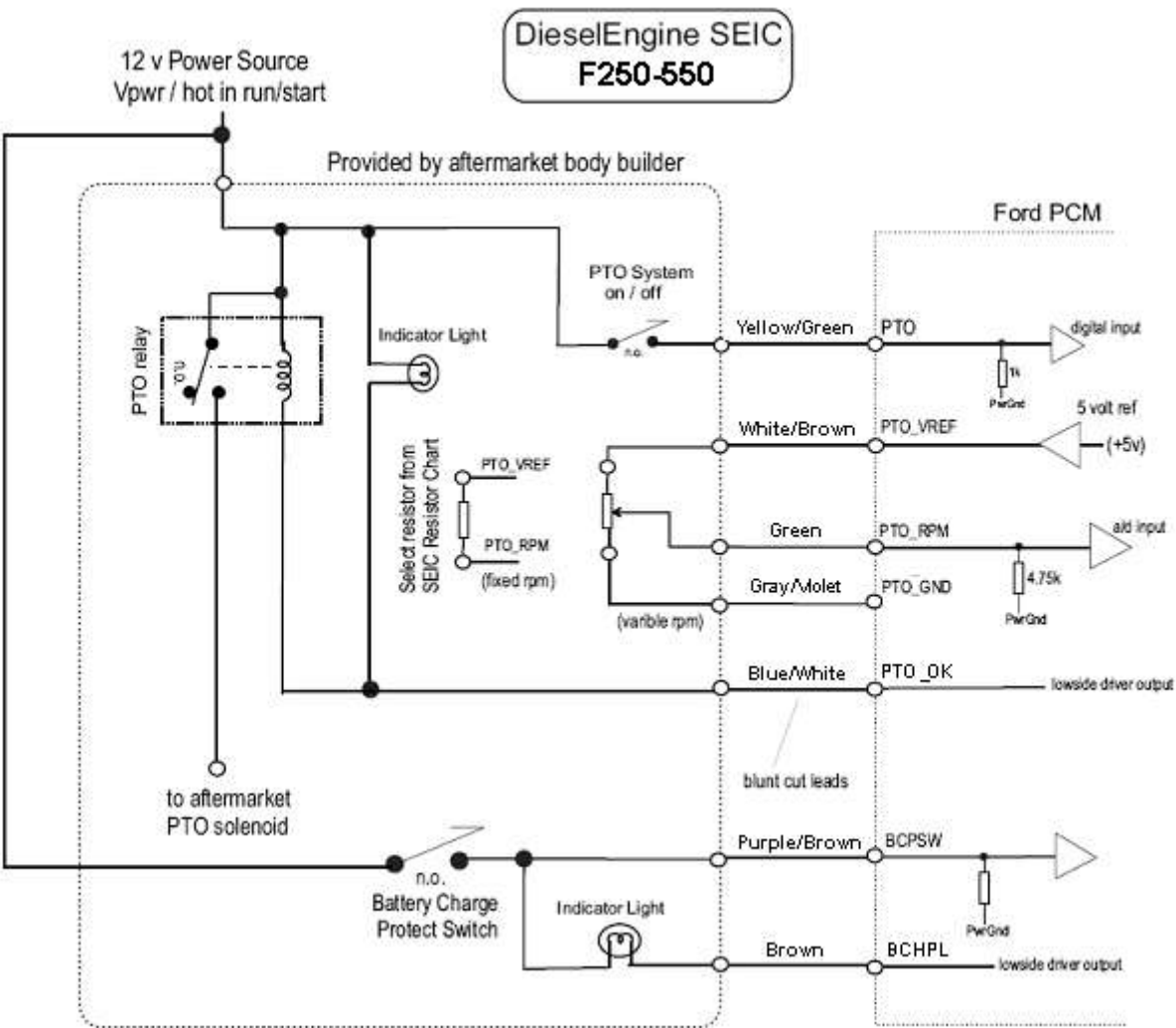
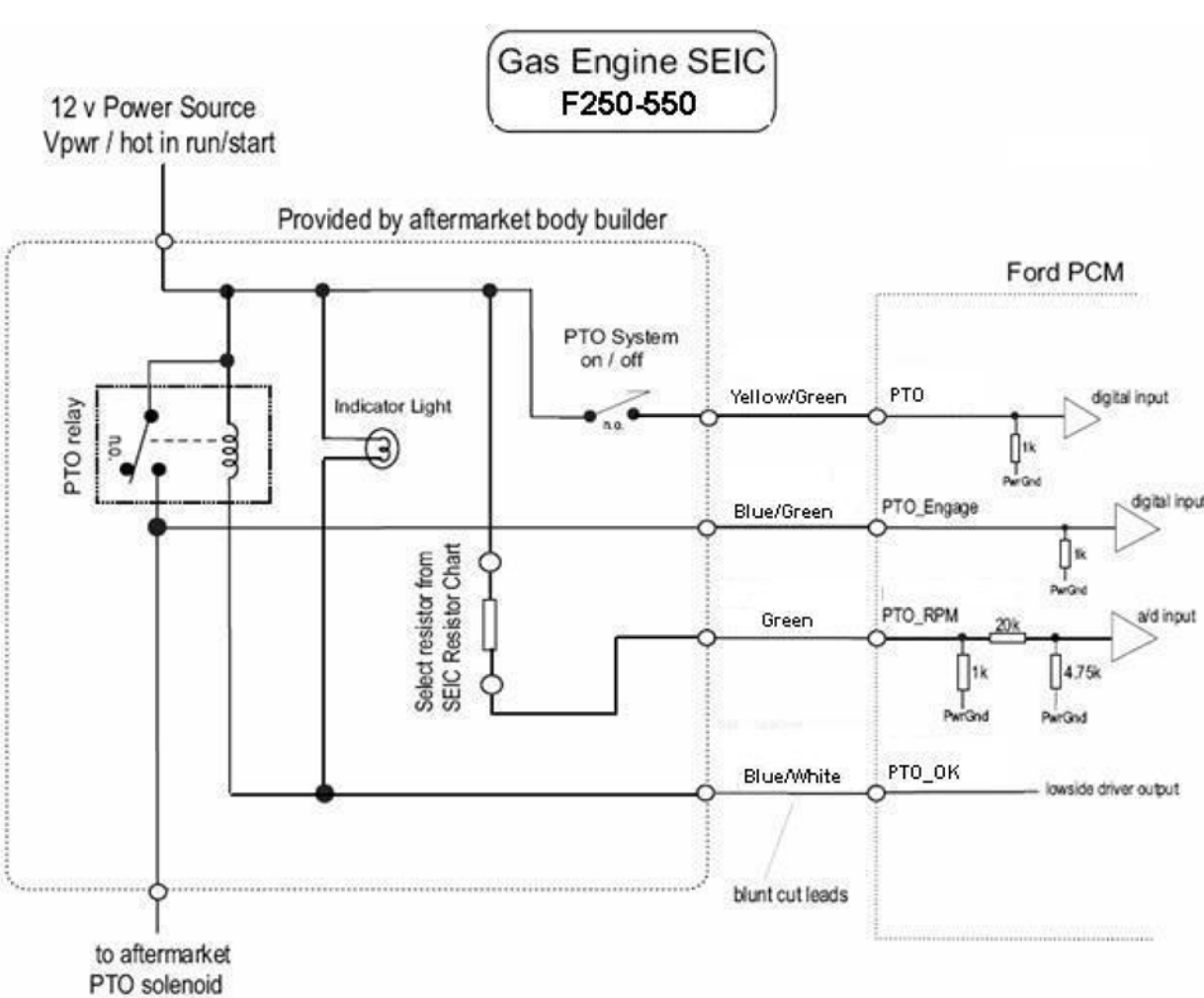
RESISTOR CHARTS

Gas Engine		
Engine Target Speed (RPM)	Resistor (Ohms) (5%, 1/4 Watt)	Voltage (volts)
650 (Base)		
900	Open Circuit*	0.00
912	3.9K	
1024	2.7K	3.61
1056	2.2K	4.18
1184	1.8K	4.80
1264	1.5K	5.39
1440	1.0K	6.76
1536	820	7.43
1648	680	8.06
1712	560	8.70
1792	470	9.25
1904	380	9.89
1936	330	10.27
2000	279	10.75
2064	220	11.20
2128	180	11.60
2160	150	11.90
2208	120	12.23
2256	100	12.46
2320	0 (closed circuit)	13.77

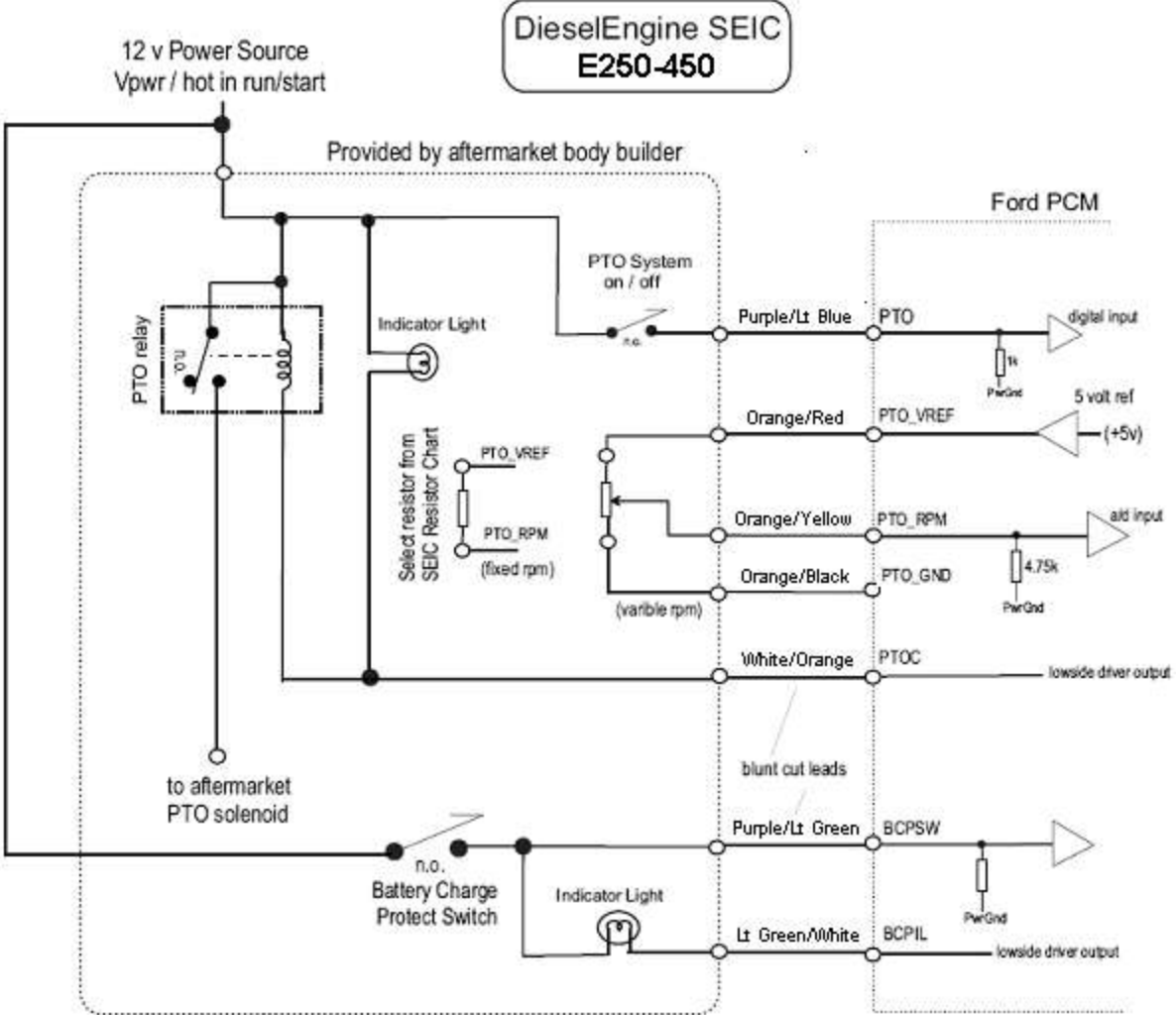
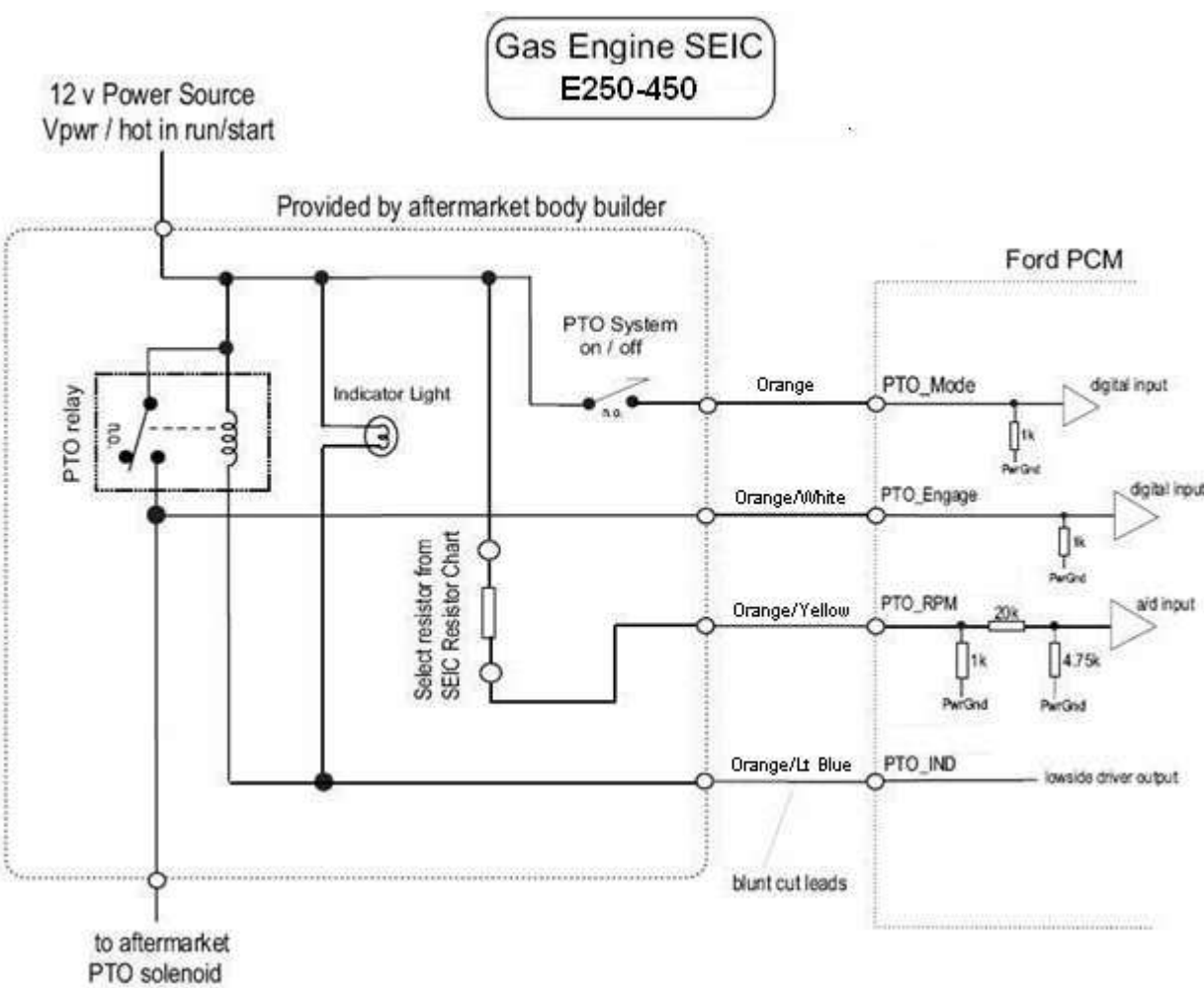
* TorqShift automatic transmission only; manual transmission requires a resistor.

Diesel Engine		
Engine Target Speed (RPM)	Resistor (Ohms) (5%, 1/4 Watt)	Voltage (volts) (± 0.0875 v)
680 (Base)		
1200	Open Circuit	
1200	43K	
1260	27K	0.6875
1320	22K	0.8875
1380	16K	1.0875
1440	13K	1.2875
1500	11K	1.4875
1560	9K	1.6875
1620	7.5K	1.8875
1680	6.2K	2.0875
1740	5.6K	2.2875
1800	4.7K	2.4875
1860	3.9K	2.6875
1920	3.3K	2.8875
1980	2.7K	3.0875
2040	2.4K	3.2875
2100	2.0K	3.4875
2160	1.6K	3.6875
2220	1.3K	3.8875
2280	1.0K	4.0875
2340	750	4.2875
2400	510	4.4875

POWER TAKE-OFF (PTO) APPLICATIONS



POWER TAKE-OFF (PTO) APPLICATIONS



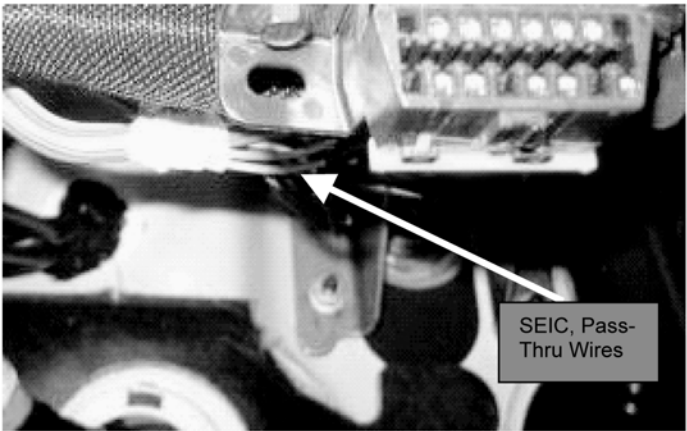
POWER TAKE-OFF (PTO) APPLICATIONS WIRING LOCATIONS

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Revised 06-02-08

F250/350/450/550
Cabin / Instrument Panel

- Blunt-cut access wires for SEIC, "Customer Access" signal circuits for CTO, VS_OUT, PARK, TRO_N, and 4 pass-thru wires, are bundled together at the harness above the parking brake pedal assembly behind the data link connector.



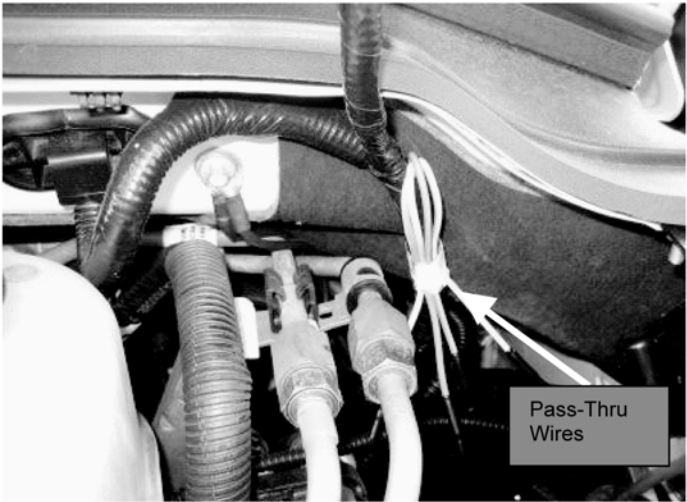
F250/350/450/550
Cabin / Instrument Panel

- Blunt-cut access wires for the 4 optional "Upfitter Switches" are taped on a harness near the relay pack that can be found beneath the instrument panel and to the left of the steering column.



F250/350/450/550
Engine Compartment

- The 4 blunt-cut pass-thru wires are found in the harness below the cowl, just outboard of the brake master cylinder, as shown.



POWER TAKE-OFF (PTO) APPLICATIONS

WIRING LOCATIONS

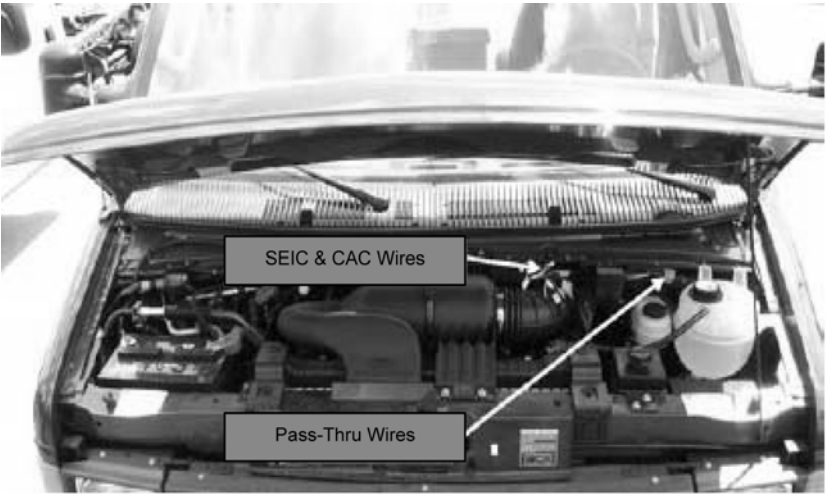
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SEIC / PTO

E250/350/450 Engine Compartment

- Blunt-cut access wires for SEIC, and the “Customer Access” signal circuits for CTO, VSO, PARK, PARK-NEUTRAL, are with the large harness running below the windshield/cowl. Remove some of the plastic harness tape where the harness exits its plastic support gutter above the engine air induction tube to reveal the blunt-cut wire.
- The two pass-thru wires are part of the same modified vehicle wiring kit as prior years. Located at the 4-pin connector in the harness below the cowl, outboard of the brake master cylinder, as shown. Mating pigtail connector, 4C24-14A411, found in dunnage. Opposite ends located above driver-side kick-panel.



POWER TAKE-OFF (PTO) APPLICATIONS

General System Behavior

- To guarantee full advertised torque capability at the automatic transmission PTO gear, and through the aftermarket PTO clutch, the transmission torque converter must be locked, and the hydraulic line pressure serving the aftermarket PTO clutch must be elevated. Applying battery voltage to the PTO circuit is the signal to the transmission to enter SEIC strategy and command these two important functions. This applies to both stationary and mobile PTO operations.
- If an SEIC disabler occurs:
 - GAS engines will require a "change-of-state", meaning the operator is required to turn off voltage to the "PTO-Request" circuit, and back on again to re-invoke SEIC and PTO operation.
 - DIESEL engines do not require a "change-of-state" at the "PTO" circuit. Once the disabling condition is removed, the strategy re-invokes SEIC after approximately 3 seconds, automatically returning the engine speed back to what was commanded by the operator prior to the disabling condition.
- Battery Charge Protection (BCP): A diesel-only function. When it is switched on the engine speed goes immediately to 1200 rpm (900 rpm, 6.4L), and stays there even if the battery is fully charged. From this state it uses system voltage as well as ambient air temp., engine oil temperature information to raise engine speed higher to maintain a certain battery charge. Maximum engine speed in BCP mode is 2400 rpm. The BCPSW circuit may be wired to circuit to Ignition-Hot-in-Run to make it "automatic" for ambulance. Park-Brake-Set is one of the enablers of BCP.
- If the Transmission Oil Temperature (TOT) sensor reaches 240°F, then TorqShift torque converter may disengage, preventing torque to be delivered to the transmission PTO gear.
- SEIC/PTO strategy function in the PCM is not affected by the loss of vehicle battery electrical power.
- SEIC Ramp Rate (fixed, not programmable):
 - Gas engines: 400 rpm/second
 - Diesel engines: When first applying battery voltage to the PTO circuit the PCM directs the engine to go to the initial target that it sees at the RPM circuit at 200 rpm/second (1200 rpm if there is no resistor in the RPM circuit - open circuit). If resistance is subsequently changed at the RPM circuit then the ramp rate to this second speed target is virtually instantaneous (as fast as the diesel engine can get there).
- Correlation between engine speed and resistor values:
 - The external voltage source that the aftermarket PTO system designer uses to command SEIC through the "PTO" or "PTO-Request" circuits must be the same as that used by the PCM internally for predictable SEIC function. Reasoning is that a fully-charged vehicle battery fluxuates with ambient temperature.
 - The correlation will be better for diesel engines since the diesel engine SEIC system offers buffered PCM voltage and ground circuits to complete the resistor circuits for engine speed, while the gas engine system forces the SEIC circuit installer to use chassis voltage and ground.

- If there is a high electrical demand on the chassis battery, such as from aftermarket inverters or generators, etc., the actual elevated idle engine speed may vary with that demand for any given resistance in the SEIC circuit. More so for gas engine systems than diesel since gas uses chassis battery voltage as a reference.
- GAS Engine Only:
 - Normal base engine calibration allows approximately +/-50 rpm fluxuation. If any factory vehicle accessories are used during SEIC, e.g. a/c, defroster, etc., then that fluxuation may increase to approximately +/-100 rpm or more.
 - The sudden loss of aftermarket PTO hydraulic pressure during SEIC/PTO operation, like a ruptured hose, may send SEIC engine speed to near 3000 rpm. It is recommended that a hydraulic pressure switch linked to SEIC/PTO be added to disable SEIC/PTO when a hose ruptures.
 - Because of a service brake circuit characteristic at engine-start, invoking SEIC may cause the diagnostic error code FFG_BOO to get flagged (recorded in the PCM). To avoid this, simply tap the service brake pedal sometime after engine-start and prior to invoking SEIC. Once the code is set, SEIC may not be available until it is erased.
 - Gas engines require a "change-of-state" at the PTO-Mode and PTO-Engage circuits whenever a disabler turns off SEIC (remove battery voltage signal and re-apply).
 - For aftermarket remote engine start-stop: a change-of-state is required to get SEIC to function again.

SEIC ENABLE-DISABLE CONDITIONS

Vehicle Conditions to Enable SEIC (all are required)	Vehicle Conditions that Disable SEIC (any one required)	Gas Engine	Diesel Engine
Parking brake applied.	Parking brake disengaged.	Yes	Yes
Foot off of service brake	Depressing service brake	Yes ¹	Yes ²
Vehicle in PARK (automatic trans.)	Vehicle taken out of PARK	Yes	Yes
Foot off of clutch (manual trans.)	Clutch depressed	Yes	Yes ²
Foot off of accelerator pedal		Yes	Yes
Vehicle speed is 0 mph (stationary)		Yes	Yes
Brake lights functional	Brake light circuit disconnected	Yes	Yes
Engine at a stable base idle speed		Yes	Yes
	Transmission Oil Temperature (TOT) Limit exceeds 240 degrees F.	Yes ¹	No
	Engine Coolant Temperature Limit (ECT)	Yes ¹	No
	Catalyst Temperature Limit	Yes ¹	No

1: A "change-of-state" at the "PTO-Request" circuit is required to re-invoke SEIC. When a disabler is seen by the PCM the "PTO-Indicator" circuit changes from "ground-source" to "open-circuit". After approximately 3 seconds SEIC drops out, returning the engine speed to base idle. For vehicle-stationary operation, the automatic transmission torque converter unlocks as engine speed proceeds below 1200 rpm. To re-initiate SEIC the operator must turn off the aftermarket PTO switch (removing command voltage to the "PTO-Mode" circuit) and turn it back on again.

2: SEIC is automatically re-activated after approximately 3 seconds after the disabling condition is removed.

POWER TAKE-OFF (PTO) APPLICATIONS

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TRANSMISSION SPECIFICATIONS

		TorqShift 5-speed automatic	M6OD 6-Speed Manual HD
Transmission Fluid Type ⁽¹⁾		Type D	Type H
Hydraulic Fluid Line Pressure ⁽¹⁾	At base engine speed:	50-60 psi	-----
	At 1200 rpm engine speed:	150 psi nominal ⁽²⁾	-----
Transmission Gear Ratios	Low	-----	5.79
	1 st	3.114	3.30
	2 nd	2.218	2.10
	3 rd	1.545	1.30
	4 th	1.000	1.00
	5 th	0.712	0.72
	Reverse	2.88	5.23
	Torque Converter	1.86	-----
PTO Drive Gear Function	All Forward Drive Gears ⁽³⁾ :	Yes	Yes
	Reverse ⁽³⁾ :	Yes	Yes
	Overdrive ⁽³⁾ :	Yes	Yes
	PARK (Stationary)	Yes	-----
	NEUTRAL (Stationary)	No	Yes
PTO Drive Gear Data	PTO Port	• LH (Driver Side) Only • Non-standard 6-bolt pattern • Requires Option Code 62R	• LH (Driver Side) Only • Standard 6-bolt pattern • Available Standard
	Gear Torque Rating	250 lb-ft	250 lb-ft
	Gear Ratio	3.09	5.79 (Low)
	Number of gear teeth	121	39
	Diametral Pitch		9.2364
	Pitch Diameter	215.985 mm	132.568 mm
	Normal Pressure Angle	17.989°	20°
	Angle and Hand of Helix	Spur	36° RH
	Gear RPM at 1000 Engine RPM	1000	590
	Pitch Line Diameter Velocity @ 1000 Engine RPM	2226 ft/min	806 ft/min
Aftermarket PTO Model Series ⁽⁴⁾	Chelsea Technical Service: (662) 895-1052, chelseatech@parker.com	246	442
	Muncie Customer Service: 1-800-FOR-PTOS, info@munciepower.com	4x2: FR62 or FR64 4x4: FR64 only	TG
Torque Converter – Minimum lock-up speed (vehicle stationary – in PARK or NEUTRAL)		1200 rpm ⁽⁵⁾	-----
Internal Transmission Fluid Temperature Monitor		Yes	No

Footnotes:

(1) Affects the "holding power" of the aftermarket PTO clutch.

(2) Requires battery voltage applied to "PTO" (diesel engine) or "PTO-Mode" (gas engine) circuit, engine at 1200 rpm, and torque converter locked.

(3) Vehicle road speed must be greater than zero.

(4) Consult the PTO manufacturer for more complete detail.

(5) Although actual lock-up occurs above 1050 rpm, and unlocks below 950 rpm, drawing full torque from the PTO gear is not intended below 1200 rpm engine speed.

POWER TAKE-OFF (PTO) APPLICATIONS

GUIDELINES FOR SPECIFIC APPLICATIONS

FEAD-Mounted Auxiliary Equipment:

1. An auxiliary crankshaft bearing support is required on all modular gas engine applications where the clutch-pump is drawing greater than 5-hp from the engine crankshaft pulley. This further applies to all tangentially-mounted auxiliary aftermarket equipment in general.
 - a. A "spider" bracket kit can be obtained for this purpose by contacting DewEze Manufacturing, 151 E. Hwy. 160, Harper, Kansas, 67058. Toll-free phone: (800) 835-1042, or fax: (316) 896-7129. It provides up to 70 lb-ft of torque at the clutch-pump. Part Numbers: (6.8L) XC2E-7275-BB, (5.4L) XC2E-7275-AB.
2. Always maintain the clearance relationship between the Ford OEM fan, radiator, and shroud to help maintain optimum engine cooling performance.
3. Always consider engine roll and body/frame torsion when packaging clearances.
4. Restrict FEAD-PTO application to 5.4L and 6.8L gas, and 6.0L diesel engines.
5. Temperature monitoring of powertrain fluids as discussed earlier in this section is recommended.
6. Avoid the use of aftermarket "power chips" in the engine powertrain control system. These boost engine power by dumping fuel, which heats the engine, turning on the cooling fan 100%, resulting in accelerated FEAD belt and tensioner wear-out.
7. Belt spans greater than 250 mm require a pulley or tensioner support within the span.

Split-Shaft PTO: Light truck automatic transmissions from Ford are not prepared for split-shaft PTO operation. The electronic control strategy is affected, and the powertrain has not been fully qualified for the higher horsepower and extended duration usage typical of this application. However, a PTO on the side of a transmission, sharing hydraulic fluid with the transmission, poses a higher temperature threat to the transmission than split-shaft PTO for any given horsepower demand. In any event, temperature monitoring and control of the transmission fluid is highly recommended.

Combination PTO/Snowplow/Salt-Spreader/Dump Vehicles:

The powertrain is designed to perform satisfactorily in a mobile operation at full GVWR, assuming no additional torque and horsepower demands are placed upon it other than the normal OEM accessories. Adding transmission-mounted PTO operation to this condition may exceed the capabilities of the powertrain, and premature transmission damage may occur, typically from transmission fluid over-heating. Combination vehicles operating transmission-mounted PTO in a mobile condition may require the total vehicle weight be restricted below GVWR to compensate for the additional PTO horsepower demand.

Automatic transmission PTO operation below torque converter lockup speed:

A typical application is aerial man-lifting using vehicle engine speeds below torque converter lockup speed of 1200 rpm to move the bucket slowly. The aftermarket PTO clutch is engaged electrically, but there may be insufficient hydraulic line pressure serving that clutch. The following threats may be present as a result:

- a. Additional slippage of the aftermarket PTO clutch causing clutch debris to contaminate the transmission fluid.
- b. Transmission and aftermarket PTO clutch slippage accelerating transmission fluid heat build-up.
- c. Bucket movement may vary or stall due to a wide variation or fluctuation in torque output to the aftermarket PTO.
- d. Diesel engine damage due to coking caused by extended time running at low idle speed with light loads.

The likelihood of these treats actually occurring, and the protection against them, is the responsibility of the final stage manufacturer, who has the best knowledge of the customer's usage and aftermarket PTO system design. However, since the duty cycle is typically short, and using only 2 to 3 gallons per minute pump output, the likelihood of any concern is rare. It is recommended in this application to change the automatic transmission fluid and filter more often, and drive the diesel engine at highway speeds for 10 minutes or more to remove any coke deposits forming.

ELECTRICAL WIRING

CUSTOMER ACCESS CIRCUITS

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Revised 06-05-08

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ELECTRICAL

- Super Duty F-Series and selected E-Series Super Duty vehicles are equipped with a number of conveniently located electrical wiring taps. Most taps are fused, having locations under the instrument panel, in the engine compartment, and at the rear of the frame. Illustrations, schematics and a wiring harness for Trailer Tow is provided in a cardboard box shipped with each vehicle. The circuits at the rear of the frame are provided to support trailer wiring requirements or the Second Unit Body (SUB) additions. The E-Series and Super Duty F-Series Circuit charts have a brief description of each circuit function, wire gauge, color code and electrical schematic.
- The Ford starting and the charging system should not be altered.
- The completed vehicle total electrical load must not exceed the maximum output of the alternator.
- Do not route or attach electrical wires to fuel lines.
- Engine compartment wiring must not be rerouted in any manner.
- The 6.4L diesel engine requires two batteries wired in parallel for proper starting operation and must not be isolated. Do not modify the Glow Plugs Power Circuits.
- Ford recommends that all additional underhood and underbody wiring:
 - be cross-linked polyethylene, or equivalent, high temperature insulation wire 125° C [257° F] minimum rating.
 - meet SAE specifications J1128 type SXL, GXL or TXL.
 - meet SAE J1127 type SGX or STX for battery cables.
 - be protected with nylon convoluted tubing.
 - be located so as to avoid or minimize restriction of airflow through the engine compartment, underbody and fuel system.
 - be of sufficient length to be properly routed, so as not to interfere with operating zones of such components as throttle or transmission linkage.
 - not be routed near the exhaust system or no other source of high heat; melted insulation can result in electrical shorts and system failure.
 - be routed away from hostile surfaces and sharp edges and be secured in its intended location.
 - be protected by rubber grommets when it passes through body or frame openings. Use customer access pass-thru circuits provided on Super Duty F-Series to avoid additional openings between passenger and engine compartments.
 - be protected from electrical shorts by fuses or circuit breakers.
 - be routed at least 38 mm [1.5 in] away from engine.
- Interior wiring not exposed to high temperatures may be SAE approved, general purpose wire.
- Ground the second unit body to the frame in at least two locations, and if required, add an additional frame to engine ground cable to improve the ground path to the battery.
- Splicing into circuitry relating to the powertrain control systems is not acceptable because of the adverse effect on the electrical system operation.
- Batteries must be disconnected before welding to body and chassis components. Note that disconnecting the batteries will result in a memory loss on electronic engine/ transmission controlled vehicles. The vehicle will require several miles of driving in various driving modes to restore its memory and regain optimum operating conditions.
- Electrical connections exposed to the elements should be appropriately protected.
- Do not ground the body to the transmission or transmission crossmember.
- Ignition circuit of any engine should not be altered.
- Alternator circuit wiring must not be altered by cutting, soldering or splicing.
- Some head lamps are plastic and have protective coatings which can be damaged by solvents or tape. Refer to the *Owner's Guide* for proper cleaning procedures.
- For convenience Super Duty F-Series has (4) 14 ga. blunt-cut pass-thru circuits located in the cabin within a bundle above the parking brake pedal and found in the engine compartment in a harness below the cowl, just outboard of the brake master cylinder. E-Series also has (2) 12 ga. pass-thru circuits located in the cabin above the driver-side kick-panel in a 6-pin connector (F7UB-14A41-B) and found in the engine compartment at the 4-pin connector (F4UB-14A411-A) in a harness below the cowl, outboard of the brake master cylinder. These circuits provide an unfused means to interface wiring between the cabin and the engine compartment without drilling through the dash panel. Refer to Quality Bulletin Q-108 and the Customer Access Circuits charts for further information regarding pass-thru circuits.
- Center High Mounted Stop Lamp (CHMSL) wiring taps are provided on E-Series Super Duty Cutaway/Stripped Chassis and Super Duty F-Series Chassis Cab vehicles.
- Electrical bulbs are listed in the *Owner's Manual* Bulb Chart. Check for the "DOT" marking on the bulb base which means the bulb meets U.S. "DOT" standards. Bulbs without the "DOT" marking or that produce different colors other than the original bulbs as listed in the bulb chart, may affect the lamps light output, aim, glare and your safety; in addition, such bulbs may burn out early or damage the lamp.
- Super Duty F-Series vehicles are equipped with a clean tachometer output (CTO) wiring tap. The tap is designated circuit **CE913 (BU)** and is located under dash near the parking brake pedal. This tap should be used if a tachometer signal is required. The signal is digital and requires a digital tachometer. The signal pulse rate is half the number of engine cylinders per revolution (i.e., 4 for 5.4L gas, 6.4L Diesel, and 5 for 6.8L gas). E-Series vehicles are also equipped with CTO wiring tap. The tap is designated circuit 648 (WH/PK) and is located under hood near the PCM connector.
- Super Duty F-Series vehicles **are also** equipped with **a** vehicle speed out (VSO). The VSO tap is designated circuit **VMC05 (VT/OG)**. **The tap is** located under dash near the parking brake pedal. The VSO tap signal frequency is 2.22 times the vehicle speed in miles per hour.

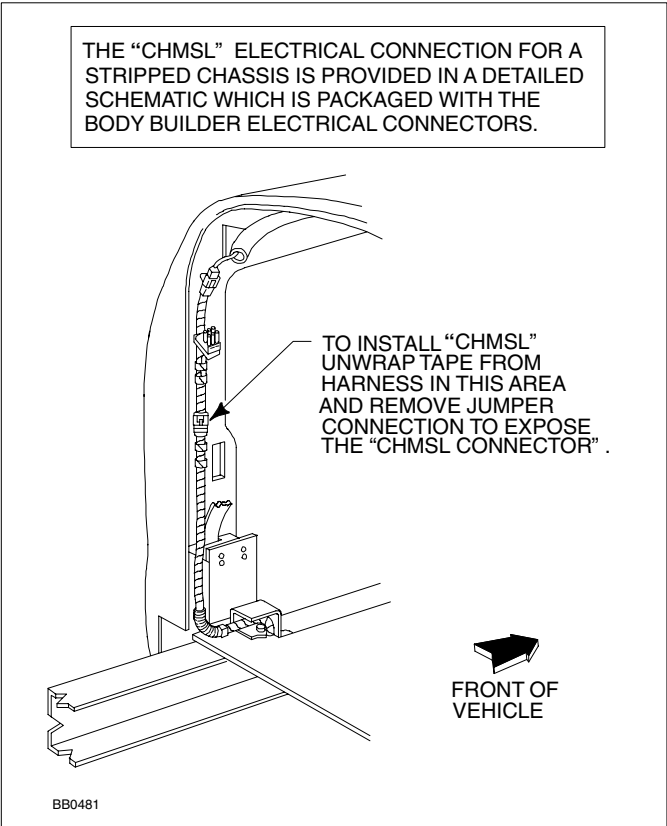
E-SERIES ELECTRICAL WIRING
CUSTOMER ACCESS CIRCUITS

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MODEL YEAR

Circuit Number	Color Code	Wire Gauge	Functional Description
14	BR	14	Marker lamp feed to electric brake controller
43	DB	12	Electric tailer brake controller to trailer
49	O	10	Relay feed ignition run
22	LB/BK	12	Trailer brake controller or B+ feed
52	Y	18**	Fused left hand stop/turn
64	DG	18**	Fused right hand stop/turn
206	W	14*	Ground
511	LG	18	Center high mount or lamp feed stop
962	BR-W	14	Relay feed marker lamps
963	BK-LG	12	Relay feed backup lamps
867	DB	12	Customer pass thru circuits
868	GY-R	12	Customer pass thru circuits
53	BK-LB	18	Courtesy lamps
54	LG-Y	18	Courtesy switch feed
3	LG/W	18	Left turn signal
2	W/LB	18	Right turn signal

* 10 for 7-pin Trailer Tow Connector

** 14 for 7-pin Trailer Tow Connector



E-SERIES SUPER DUTY
CUTAWAY/STRIPPED CHASSIS

E-SERIES TRAILER TOW WIRING

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ELECTRONIC BRAKE CIRCUITS

			RECOMMENDED MAX ALLOWABLE		
			WIRE LENGTH (feet)		
CIRCUIT COLOR	CODE	DESCRIPTION	14 AWG	12 AWG	10 AWG
Dark Blue	DB	Trailer Electric Brake	50	50	50
Orange	O	Trailer Battery Feed	N/A	20	35
Yellow	Y	Trailer LH Turn/Stop Lamp	50	50	50
Dark Green	DG	Trailer RH Turn/Stop Lamp	50	50	50
White	W	Trailer Ground	N/A	N/A	10 GA only
Brown-White	BR-W	Trailer Run Lamps	50	50	50
Black-Light Green	BK-LG	Trailer Back-Up Lamps	50	50	50

ELECTRONIC BRAKE CIRCUITS

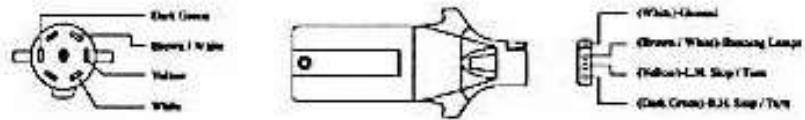
Dark Blue	DB	Trailer Electric Brake
Brown	BR	Vehicle Tail Lamp and Marker Lamp
Red	R	Vehicle Control Feed
Light Green	LG	Vehicle Brake Signal
White	W	Trailer Ground

VEHICLE CIRCUIT

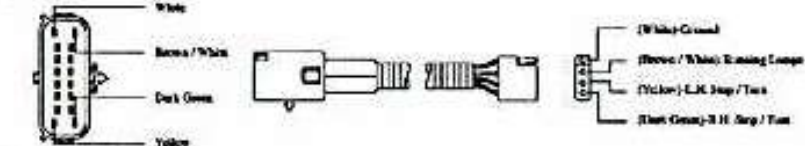
Orange-Light Blue	O-LB	Vehicle RH Rear Turn Signal
Light Green-Orange	LG-O	Vehicle LH Rear Turn Signal
Black-Pink	BK-PK	Vehicle Back-Up Lamp Feed
Yellow	Y	Vehicle Battery Feed
White-Purple	W-P	Vehicle Fuse Accessory Feed
Gray-Yellow	GY-Y	Vehicle Accessory Feed at RUN

FORD SERVICE ALTERNATIVES AVAILABLE AT YOUR FORD DEALER
(NOT SUPPLIED WITH TRAILER KIT)

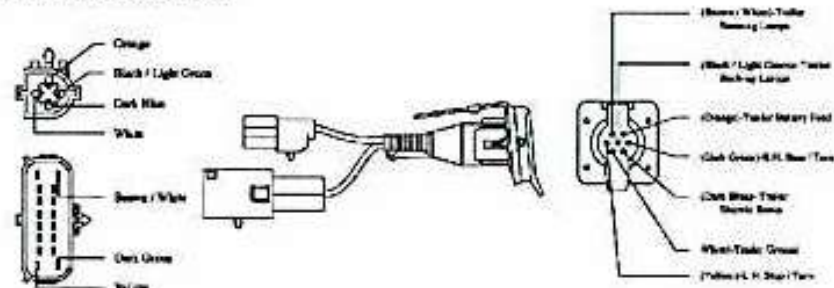
CLASS II To CLASS I



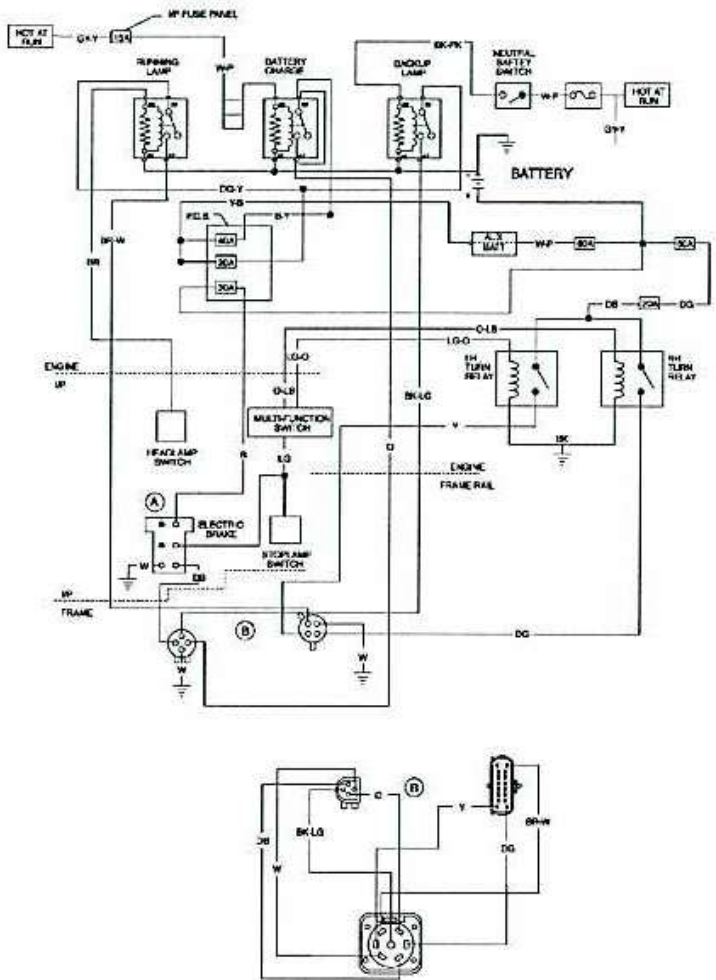
CLASS I



CLASS II With PIN Terminals

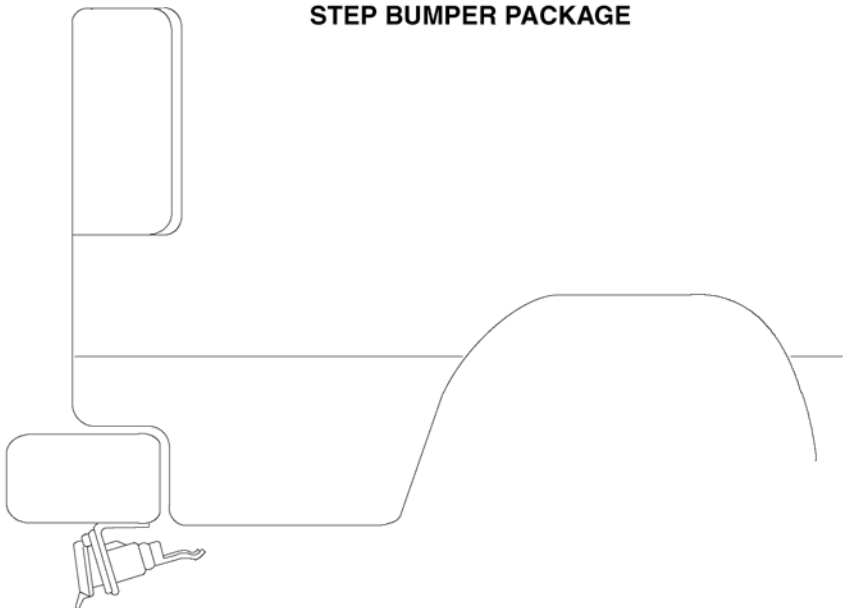


CLASS II - IV TRAILER TOW SCHEMATIC



E-SERIES TRAILER TOW WIRING

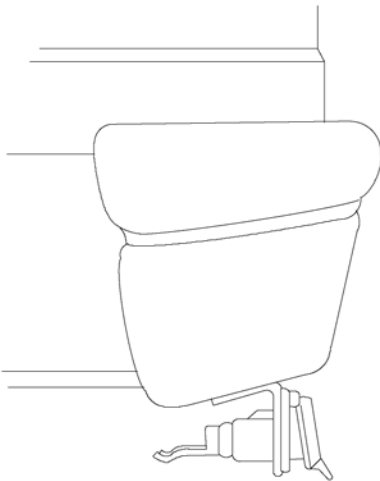
2008
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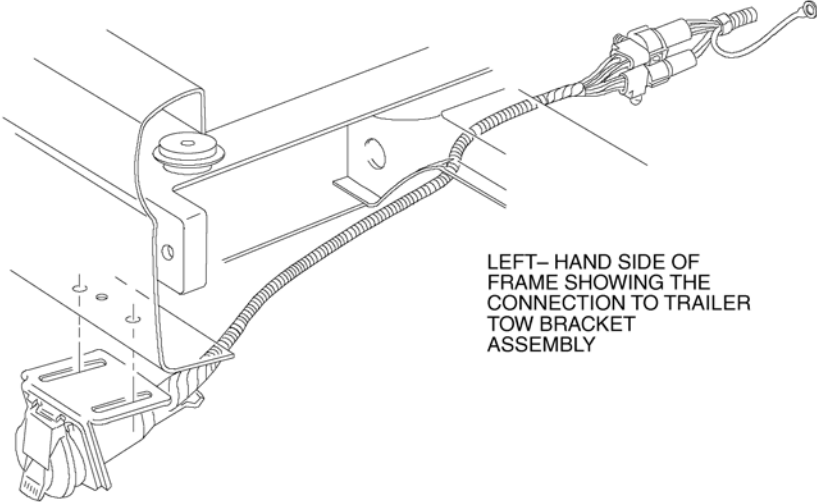
STEP BUMPER PACKAGE

SLIDE TRAILER TOW BRACKET ASSEMBLY TO THE MOST FORWARD POSITION IN VEHICLE. FAILURE TO DO SO MAY RESULT IN BRACKET DAMAGE. THIS APPLIES TO VEHICLES WITH OR WITHOUT A HITCH. THIS NOTE APPLIES TO BOTH THE CONTOUR AND STEP BUMPER PACKAGES.

CONTOUR BUMPER PACKAGE

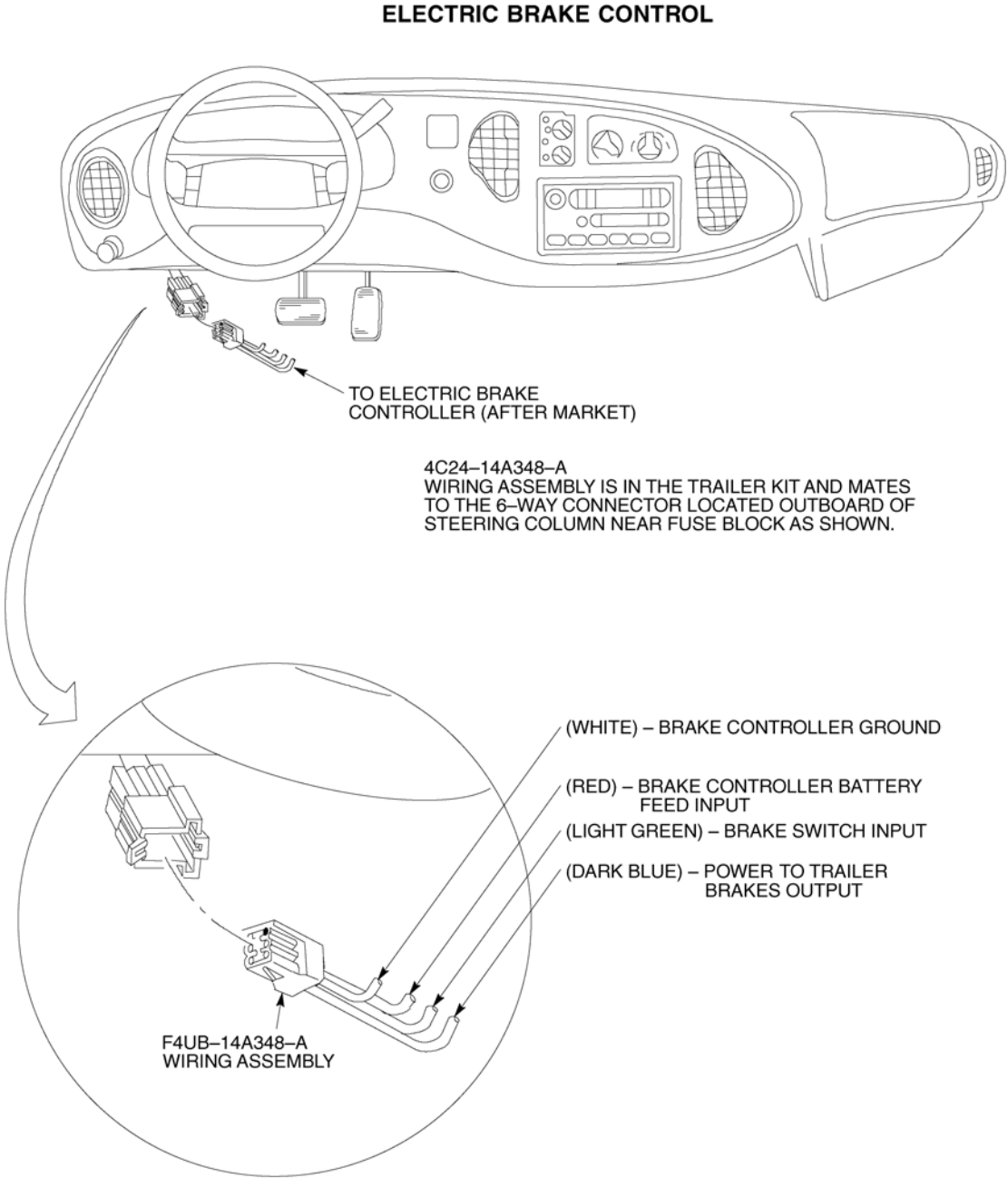


FRAME CONNECTIONS



LEFT- HAND SIDE OF FRAME SHOWING THE CONNECTION TO TRAILER TOW BRACKET ASSEMBLY

CHECK TRAILER LIGHTS AFTER INSTALLATION TO DETERMINE IF THEY FUNCTION CORRECTLY. DO NOT OPERATE THE VEHICLE WITH A TRAILER IF A PROBLEM EXISTS.



ELECTRIC BRAKE CONTROL

TO ELECTRIC BRAKE CONTROLLER (AFTER MARKET)

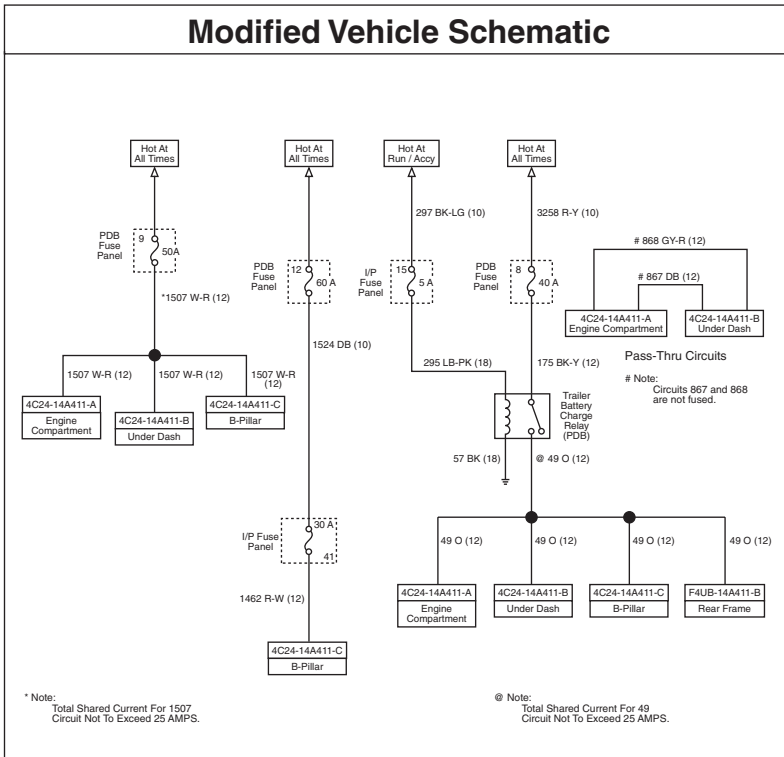
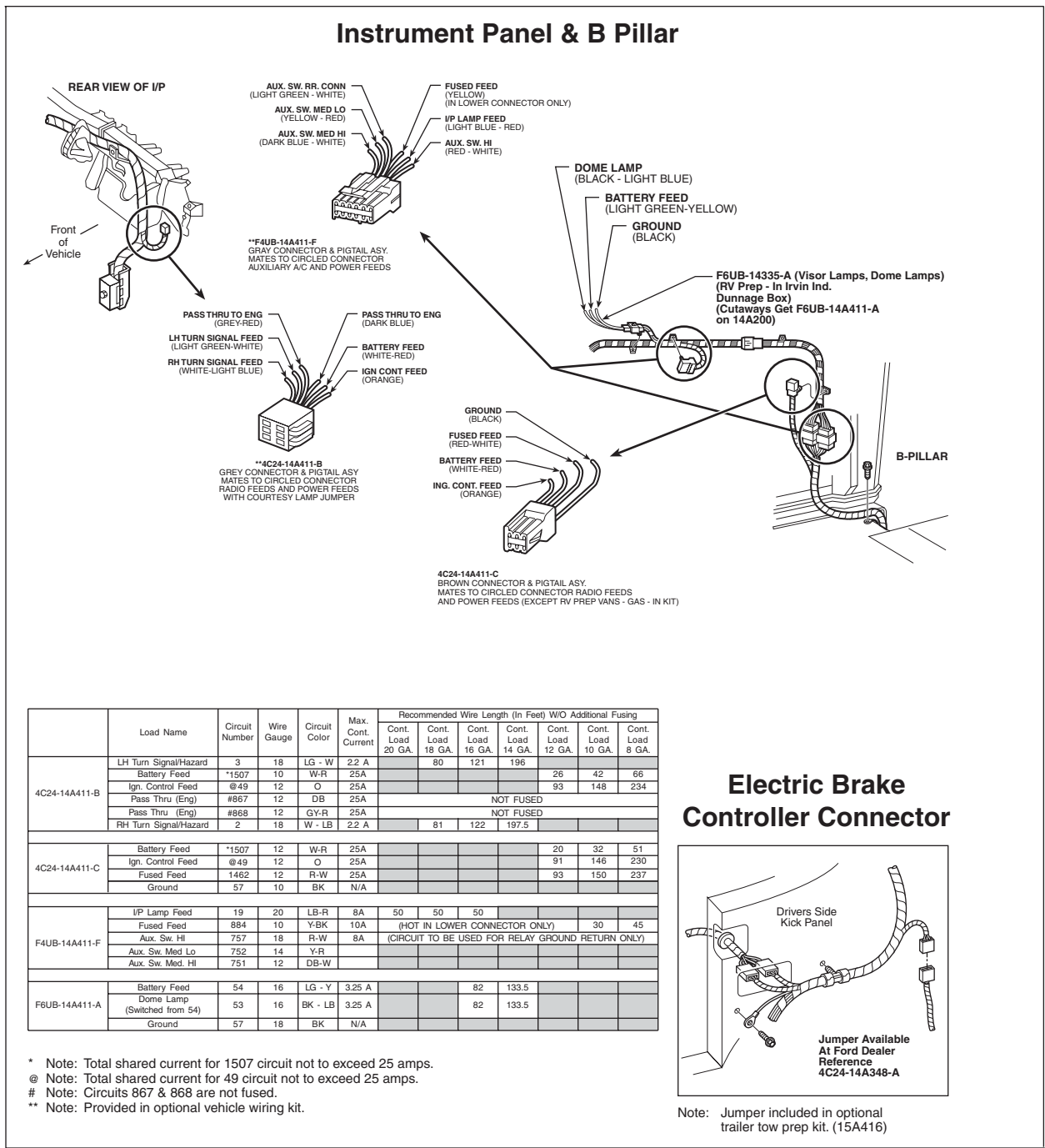
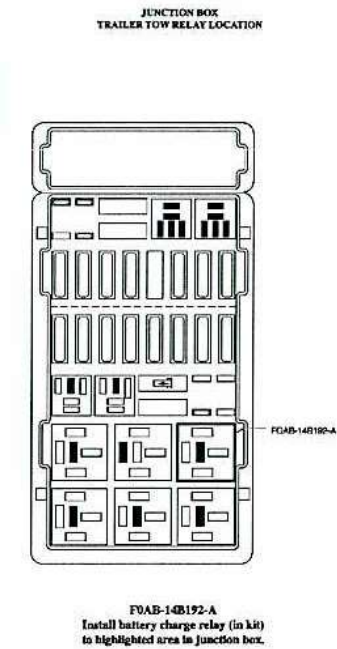
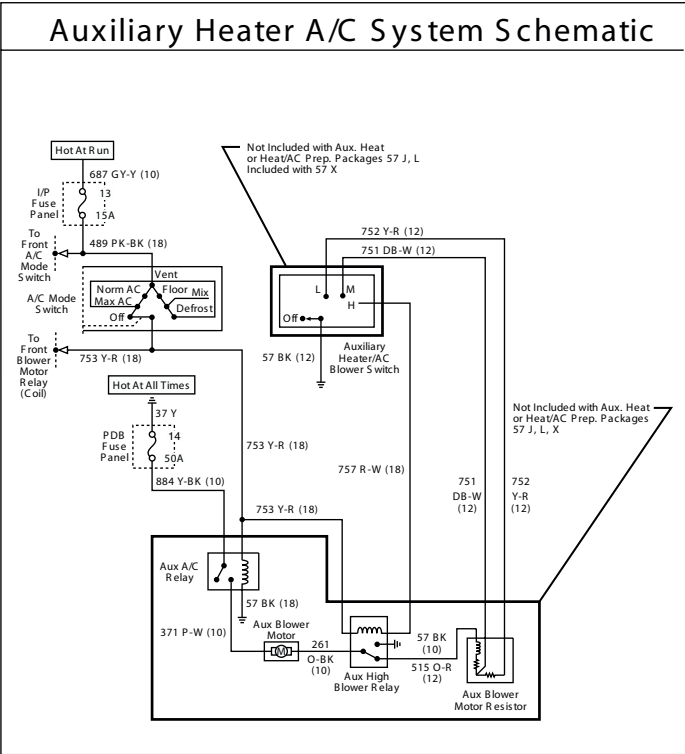
4C24-14A348-A WIRING ASSEMBLY IS IN THE TRAILER KIT AND MATES TO THE 6-WAY CONNECTOR LOCATED OUTBOARD OF STEERING COLUMN NEAR FUSE BLOCK AS SHOWN.

F4UB-14A348-A WIRING ASSEMBLY

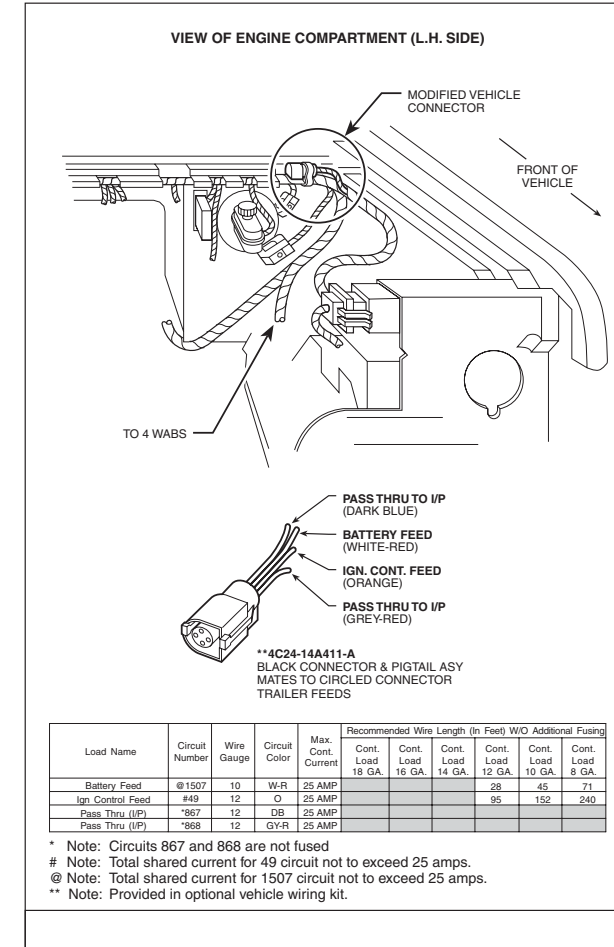
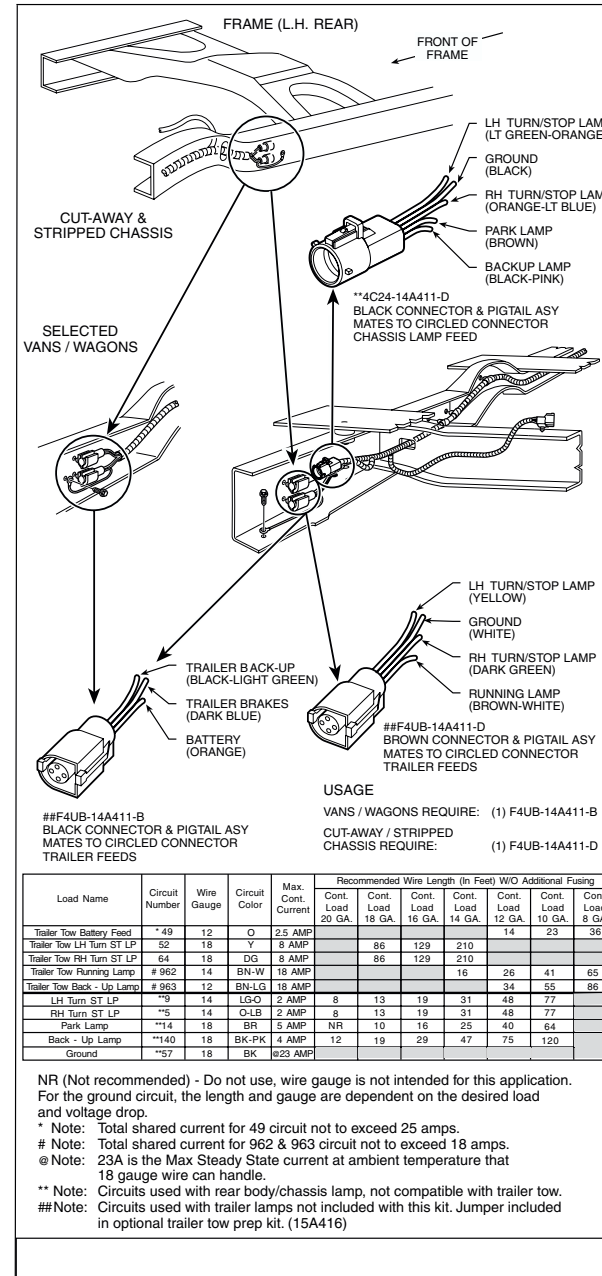
THE BRAKE CONTROLLER BATTERY FEED INPUT IS FUSED TO 30A IN THE ENGINE COMPARTMENT'S DISTRIBUTION BOX.

E-SERIES TRAILER LAMP PLUG AND WIRING

2008
MODEL YEAR



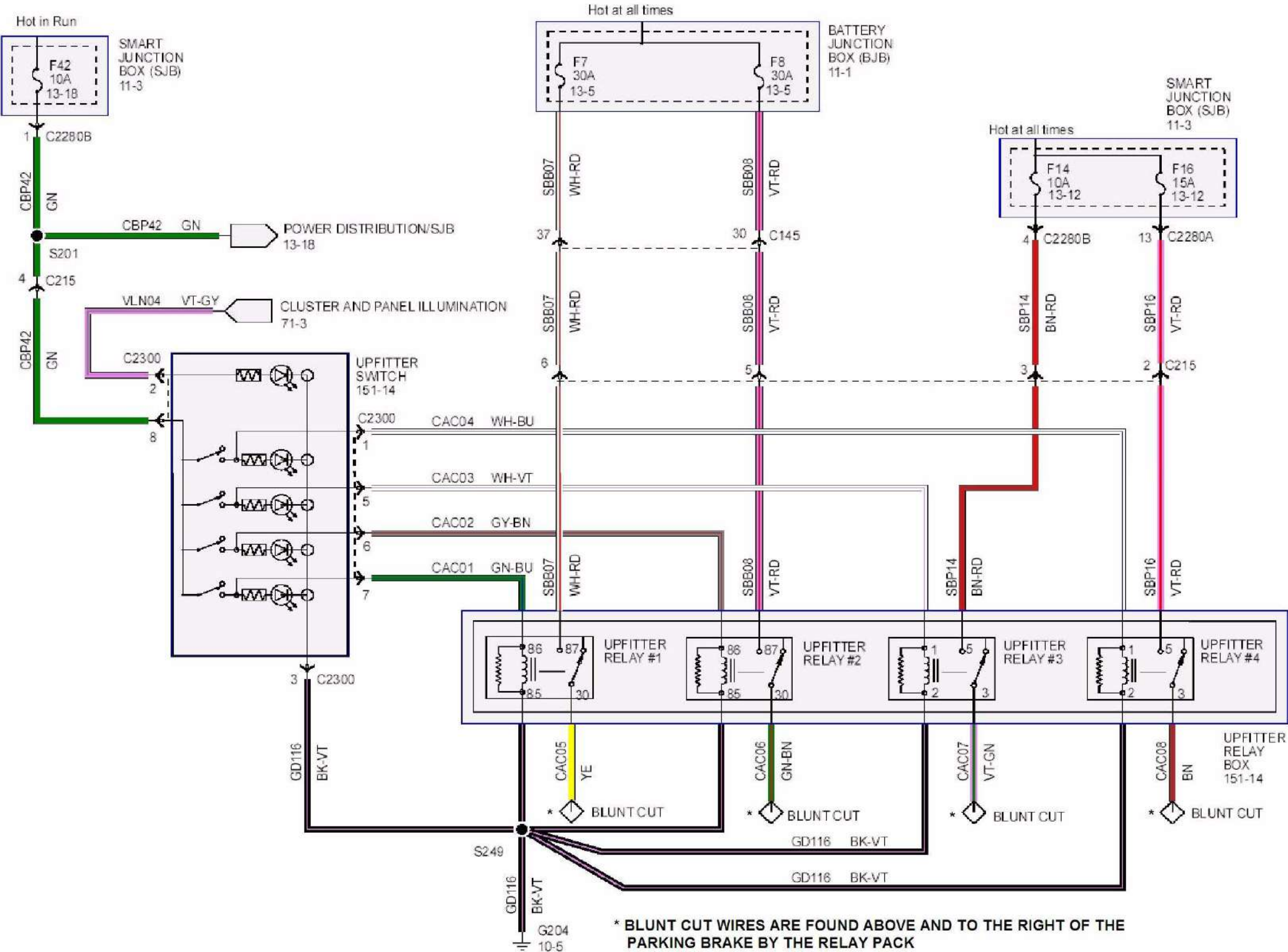
2008
MODEL YEAR



**SUPER DUTY F-SERIES
ELECTRICAL WIRING
CUSTOMER ACCESS CIRCUITS**

2008
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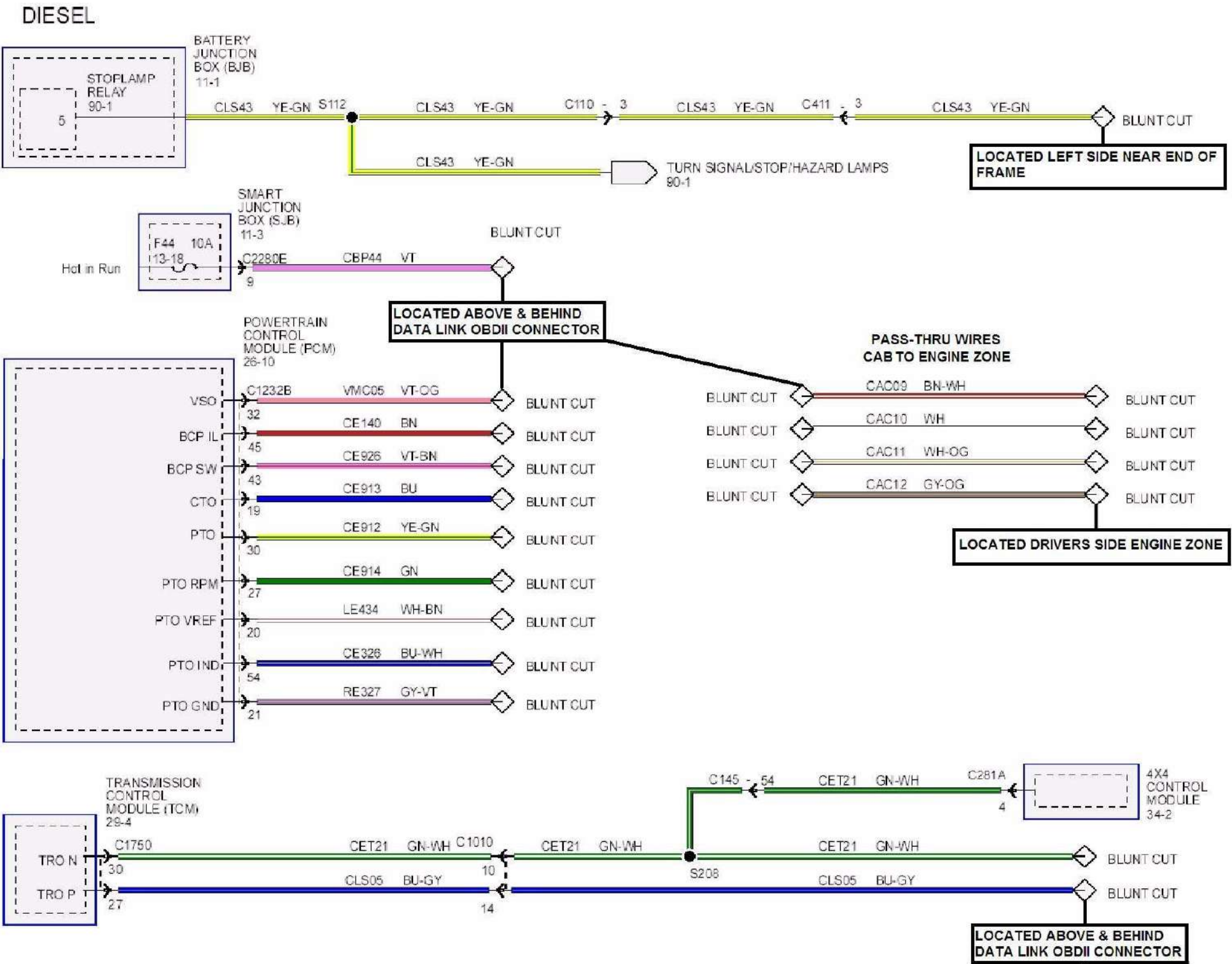
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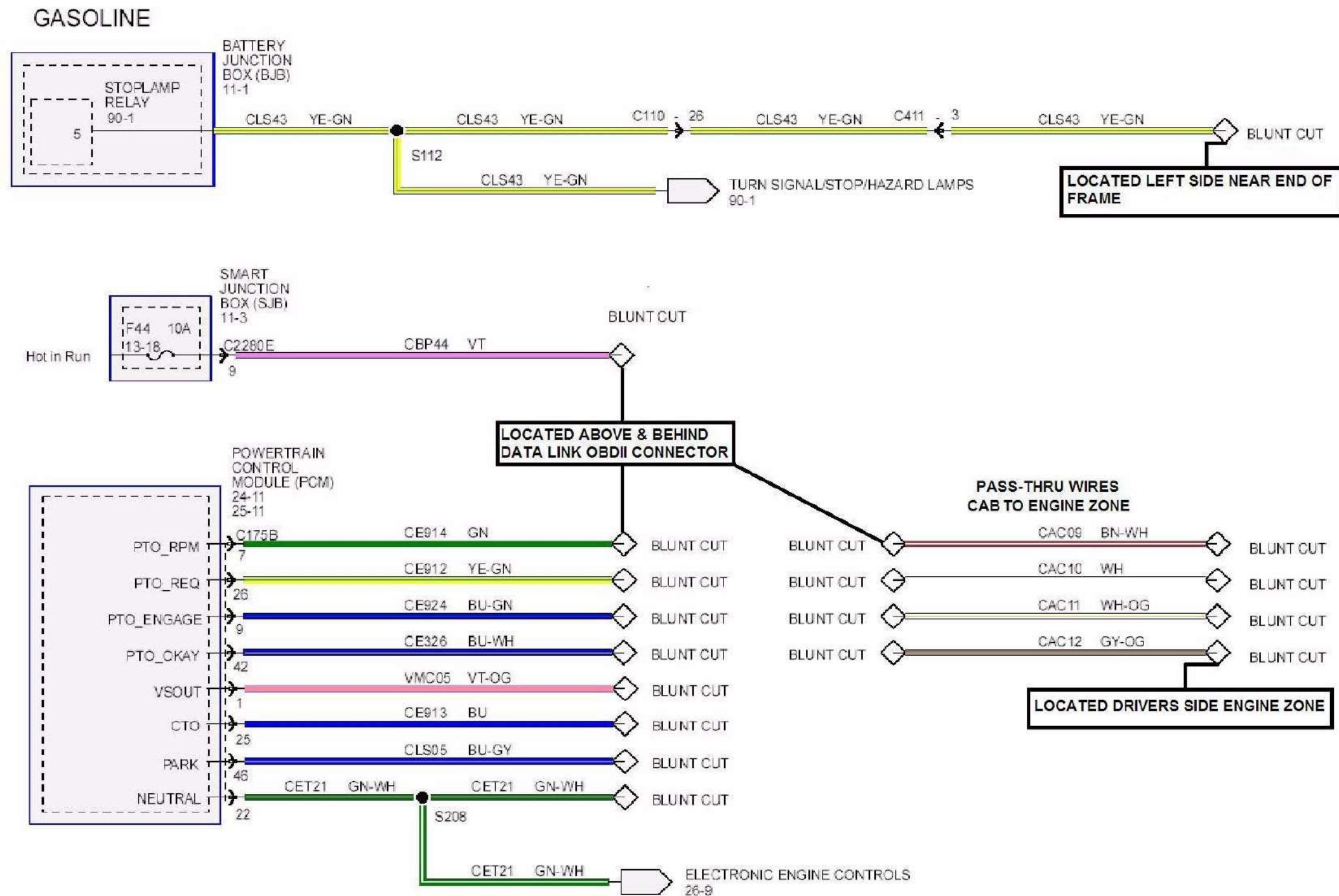
**SUPER DUTY F-SERIES
ELECTRICAL WIRING
CUSTOMER ACCESS CIRCUITS**

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Revised 06-05-08



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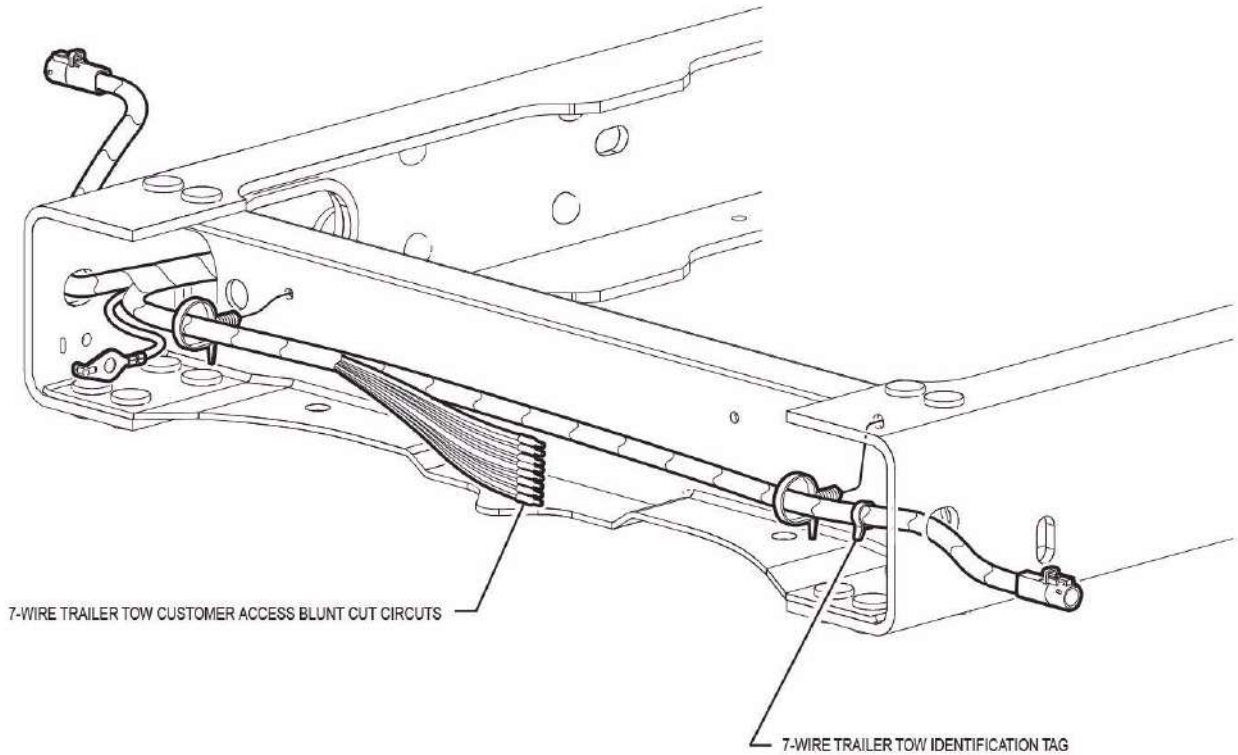
SUPER DUTY F-SERIES
ELECTRICAL WIRING
CUSTOMER ACCESS CIRCUITS — TRAILER TOW

Page 349c ELECTRICAL

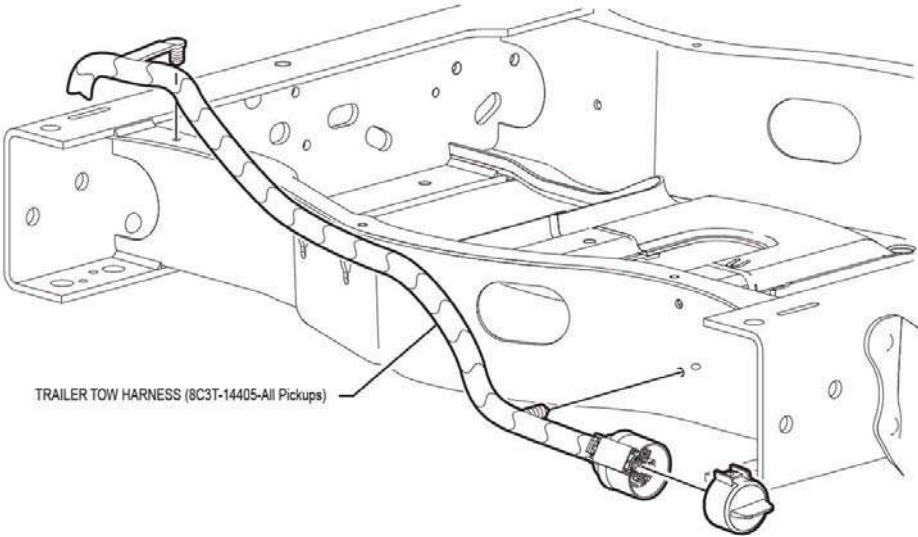
2008
MODEL YEAR

Revised 06-05-08

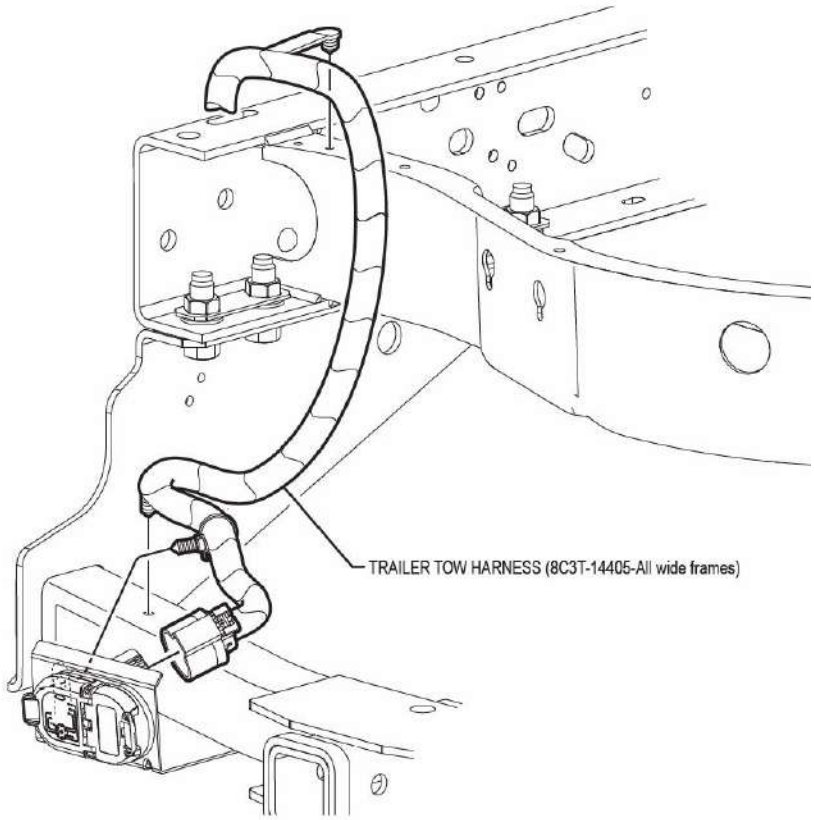
F-Super Duty F-350, F-450, F-550 Chassis Cabs



F-Super Duty F-250, F-350 Pickups with Box Delete



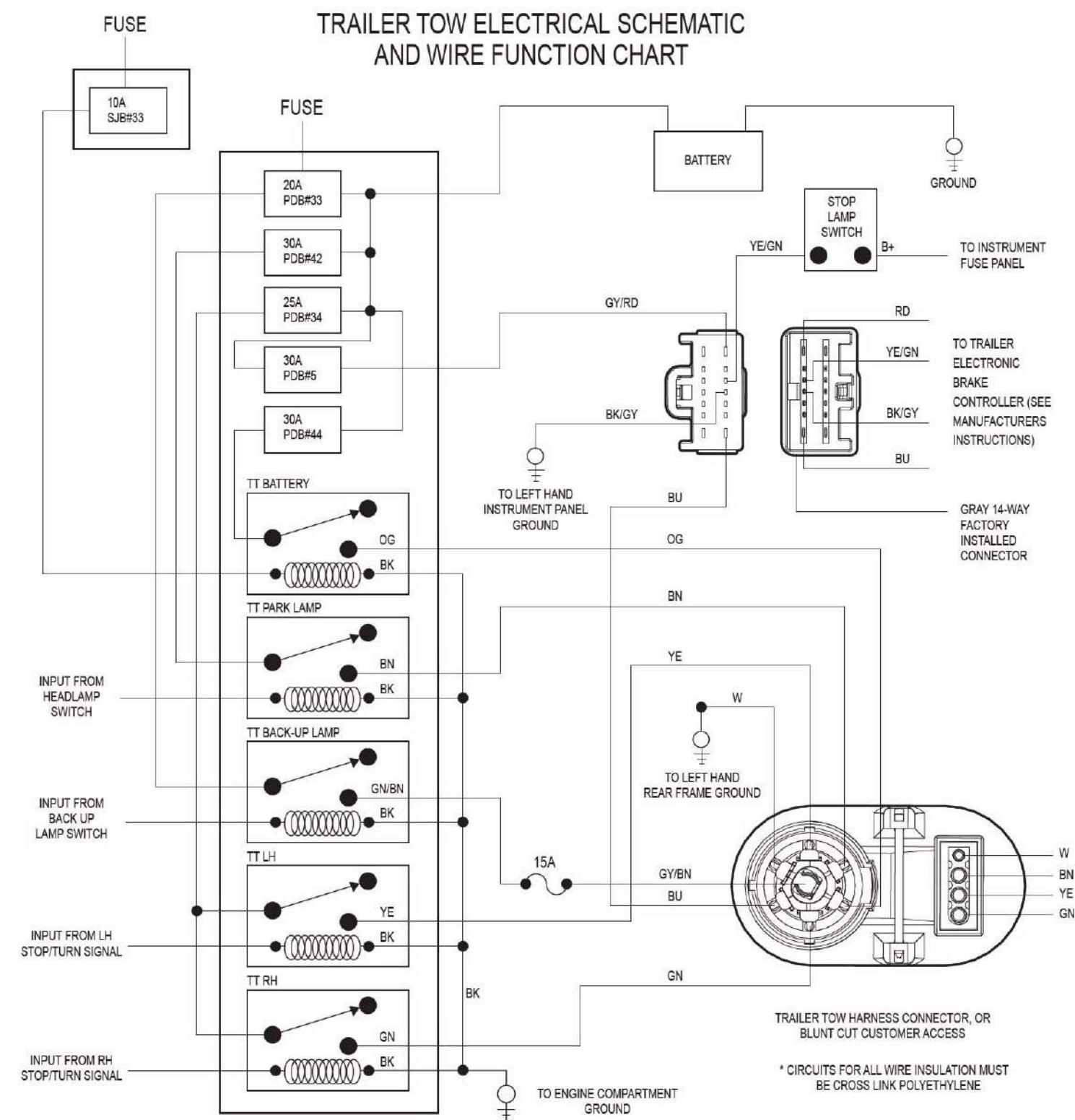
F-Super Duty F-250, F-350, F-450 Pickup (Reference)



Color Codes	Wire Color Codes Description	Wire Function	Maximum Allowable Current	Maximum Trailer Wire Lengths		Minimum Wire Gauge
				Regular Cab	Chassis Cab	
BK/GY	Black/Gray	To Right Hand inner cowl Ground				
BU	Blue	Trailer electric brake feed (output from electric brake)	21	42.5 ft	39 ft	12
BN	Brown	Trailer running lamps	15.5A	52 ft	49 ft	16
GY/BN	Gray/Brown	Trailer Back Up Lamps	Combined	59 ft	55.5 ft	16
GY/RD	Gray/Red	Trailer Electric Brake Control				
GN	Green	Trailer right stop/turn lamp	5.8	219.5 ft	219.5 ft	12
GN/BN	Green/Brown	Backup Relay to Fuse				
OG	Orange	Trailer battery feed (hot with key in run only)	21	49 ft	49 ft	12
RD	Red	Trailer electric brake control feed				
WH	White	Ground				
YE	Yellow	Trailer left stop/turn lamp	5.8	219.5 ft	219.5 ft	12
YE/GN	Yellow/Green	Stop lamp feed to brake control				

ELECTRICAL WIRING
SUPER DUTY F-SERIES — TRAILER TOW
SECOND UNIT BODY WIRING TAP SCHEMATIC

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Revised 06-06-08



ELECTRICAL WIRING

GENERAL PRACTICES

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ELECTRICAL

This section provides instructions for the addition of electrical devices to the vehicle electrical system by body builders.

(Vehicles stored on site should have the negative battery cable disconnected to minimize “Dead Battery” situation. This applies to both “incomplete” and “complete” vehicles in storage.)

After all electrical or vehicle modifications, perform the on-board diagnostics as described in the powertrain control/emissions diagnosis manual to clear all diagnostic trouble codes (DTCs). Road test vehicle and rerun the on-board diagnostics to verify that no DTCs are present. If DTCs are generated perform the appropriate diagnostic procedures and repairs. Vehicle operation (engine/transmission) may be affected if DTCs are not serviced.

F/CMVSS, U.S. and Canadian RF Requirements:

1. All Ford vehicles built and fully completed by Ford, comply with F/CMVSS No. 108, “Lamps, Reflective Devices and Associated Equipment” and other applicable F/CMVSS that affect electrical components. Care must be taken that modifications do not conceal, alter or change components installed or provided by Ford Motor Company to achieve this conformance.
2. Incomplete vehicles (i.e., Chassis Cab, Stripped Chassis, etc.) will conform to the F/CMVSS according to the provisions and conditions stated in the *Incomplete Vehicle Manual* (IVM) attached to each incomplete vehicle.
3. Devices that emit radio frequency (RF) energy, such as AM/FM radios and radio-controlled security systems, marketed for sale or use in the United States are subject to the rules and regulations of the Federal Communications Commission (FCC) 47 CFR Parts 2 and 15.

These rules specify the following conditions of operation:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

In addition, the FCC’s Rules may require the device to be tested and found to comply with various RF interference emission limits before it may be marketed. The FCC establishes different limits according to the particular use and installation of RF devices. In some cases, a grant of equipment authorization from the FCC also must be obtained before any RF device may be marketed. Labeling with certain FCC information may also be required.

To ensure continued compliance with the FCC’s requirements, the owner, user, custom manufacturer, or service technician must not modify or change the RF device in a manner not expressly approved by Ford Motor Company. Such modifications could void the authority to operate the device.

4. All vehicles powered by spark ignition internal combustion engines (e.g., gasoline or liquid petroleum gas engines) and manufactured in Canada or for sale or use in Canada are subject to the Canadian “Regulations for the Control of Interference to Radio Reception,” SOR/75-629, Canada Gazette Part II, Vol. 109, No. 21, November 12, 1975, as amended by SOR/77-860, Canada Gazette Part II, Vol. 111, No. 21, November 9, 1977, by SOR/78-727, Canada Gazette Part II, Vol. 112, No. 18, September 27, 1978, and by SOR/80-915, Canada Gazette Part II, Vol. 114, No. 23, December 10, 1980. Violation of these regulations is punishable by fine or imprisonment. Ford-built incomplete vehicles other than stripped chassis are designed and manufactured to be capable of meeting the regulatory requirements or such modifications thereof as may be authorized by the Canadian Department of Communications.

However, because Ford has no control over how an incomplete vehicle is completed by subsequent stage manufacturers, Ford does not represent that the completed vehicle incorporating the Ford-built components will comply with applicable requirements.

Routing & Clipping:

1. It is strongly recommended that wiring in areas of heavy rework, or in areas where welding operations are to be performed, be removed prior to the rework operations and reinstalled after the rework is completed. If vehicle is equipped with a Powertrain Control Module (PCM), the PCM Module must be disconnected before any electrical welding is performed, otherwise module damage may result. If wire removal is not practical, the wires must be shielded from damage due to the rework and welding heat. All components and wiring should be reinstalled as closely as possible to the way it was installed before removal.
2. Wire routings of newly installed components or wire routing revisions of the Ford harnesses necessitated by reworks must conform to the following:
 - Wires routed through holes in sheet metal or castings must have the hole edges protected by a grommet.
 - Wires should be routed to avoid metal edges, screws, trim fasteners and abrasive surfaces. When such routings are not possible, protective devices (shields, caps, etc.) must be used to protect the wires and when wires must cross a metal edge the edge should be covered with a protective shield and the wiring fastened within 3 inches of the edge.
 - Wires must be routed to provide at least 3 inches clearance to moving parts, unless positively fastened or protected by a conduit.
 - Existing heat shields, insulation, and wire shielding/twisting must be maintained.

- Wire routings should avoid areas where temperatures exceed 180° F and a minimum clearance of 6 inches should be maintained from exhaust system components. Where compliance with this requirement is not possible, high temperature insulation and heat shields are required.
- When wiring is routed between two members where relative motion can occur the wiring should be secured to each member, with enough wire slack to allow flexing without damage to the wire.
- Wiring to all circuit components (switches, relays, etc.) in exposed locations must provide a drip loop to prevent moisture from being conducted into the device via the wire connection.
- Routing wires into areas exposed to wheel wash should be avoided. When such routings cannot be avoided, adequate clipping or protective shields are required to protect the wires from stone and ice damage.
- The wire retainers and grommets installed by the assembly plant are usually designed to accommodate only the Ford-installed wires. Additional wiring or tubing should be retained by additional clips. When added wires or tubes are routed through sheet metal panels, new holes, with proper wire protection and sealing, must be used.
- All wiring connections to components of the factory-installed system must be accomplished by using the proper mating wire termination. (Connections on studs and ground connections must use eyelet terminations, connections to female bullets must terminate in male bullets, etc.)

Splice/Repair:

When necessary to splice wire for repair or circuit length revisions, the following guide should be followed:

- Wire ends should be stripped making sure that individual conductor strands are not damaged.
- When soldering, make sure an adequate mechanical joint exists **before** applying solder. Use only rosin core solder — **never** acid core.
- For crimp joints, use butt-type metal barrel fasteners and a proper tool (such as Motorcraft crimp tool S-9796) specifically designated for this type of work.
- Splice joints must be adequately sealed and insulated. Adhesive lined heat shrink tubing is highly recommended to cover soldered and bare, metal barrel, crimp joints. Quality electrical tape can be used inside the vehicle but is not recommended for an outside environment.
- Seal the ends of insulated barrel crimp devices with a silicone grease when in an outside environment.
- The most durable splice joint will be bare metal barrel crimped, flow-soldered and covered with adhesive lined heat shrink tubing. Use this type of joint as often as possible.

Circuit Protection:

1. Modification to existing vehicle wiring should be done only with extreme caution and consideration of effects on the completed vehicle electrical system. Anticipated circuitry should be studied to ensure that adequate circuit protection will exist and that feedback loops are not created.
 2. Any added circuitry must be protected either by a base vehicle fuse or breaker, or by a similar device installed by the body builder.
 3. When adding loads to a base vehicle protected circuit, make sure that the total electrical load thru the base vehicle fuse or breaker is less than 80% for fuses in the passenger compartment and 60% for fuses under hood or under body of the device rating to prevent nuisance fuse blows.
- Total **current** draw is the sum of the base vehicle circuit current requirement (measured with an ammeter) and the anticipated add-on components current requirements.
 - **Never** increase the rating of a factory installed fuse or circuit breaker.
 - For added lamp loads, the “Bulb Chart” on page 166 will aid in determination of common lamp current draws.
 - It is the body builder’s responsibility to use sound engineering judgment when making any modifications to a vehicle, and the body builder is responsible for ensuring that all modifications made are appropriate for the intended vehicle application.

ELECTRICAL:

Guidelines for Powertrain Control System Application SYSTEM:

All Powertrain Control Module wiring, in particular the 12A581 and 14401, must be a minimum of 2 inches from secondary ignition coil wires and at least 4 inches from the distributor, ignition coil tower, and starter motor (and its wiring) as well as 4 inches from the alternator output wiring.

These clearances apply in particular to all PCM sensor and actuator pigtail wiring.

PCM wires shall not be in the same bundle as other high-current non-PCM circuits (e.g., tachometer wire from coil to Thick Film Ignition Module (TFI), power seat/door lock/window, horn, alternator reg.) for a distance of more than 20 inches.

ELECTRICAL WIRING

BULB CHART

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If the **total** electrical load on a factory circuit, after the addition of electrical equipment, is less than 80% of the fuse or circuit breaker protection rating in that circuit or less than the capacity of some limiting component (switch, relay, etc.), the items to be added can be connected directly to that circuit. For fuses located in the engine compartment, the electrical load should not exceed 60% of the fuse or circuit breaker protection rating.

If the total electrical load to be added on a factory circuit exceeds the value of the circuit protection, or the value of some limiting component, the items to be added **cannot** be added directly to the circuit.

- Added electrical devices exceeding the current capabilities of the factory wiring system must be controlled through the use of a relay. The coil of the relay can be fed from the factory wiring (now acting as a signal circuit) with the added wiring providing the power feed to the added electrical device through the relay power contacts. (The relay selection is important and depends on current requirements, number of cycles expected in the relay lifetime, whether the relay is to be operated intermittently or for long periods of time, and whether the relay is exposed to weather conditions or is installed in a protected area. When the current requirements of a circuit exceed the capacity of an available relay, more than one relay can be used if the circuit is wired to split the load).
- The factory wiring should not be used as a power feed to the relay power contacts or switches. Battery power is to be supplied from the starter motor solenoid positive terminal for added circuits requiring a maximum of 30 amps or directly from the battery positive terminal for added circuits requiring greater than 30 amps of current.

Caution — Never use the stud on the underhood fuse panel as a junction point.

Circuit protection (fuses or circuit breakers) must be provided for all added wiring. The protection device rating should not exceed the current requirements for the add-on components and should be installed as close to the point of tapped power as possible.

Wire Gage:

- When adding wiring, the wire gage size should be determined as follows:
 - Where wire is spliced to extend a circuit, the added wire should have a gauge at least that of the circuit being lengthened.
- When wire is being added to feed add-on devices, the **Wire Gage Table** on this page should be used. (Note: Current capacity of a given wire varies with temperature and type of insulation. The table, however, represents generally accepted values as a guide).

- All added underhood or underbody wiring should have a thermostat insulation (such as Hypalon or Cross-linked polyethylene).
SAE specifications J1128 type SXL, GXL or TXL.
SAE specifications J1127 type SGX or STX for battery cables.

WIRE GAGE TABLE

Wire Gage	Maximum Current Capacity (Plastic Insulated Copper Wire)
20	10 Amps
18	15 Amps
16	20 Amps
14	25 Amps
12	30 Amps
10	40 Amps

BULB CHART

BULB TRADE NUMBER	CANDLE POWER	CURRENT @ RATED VOLTAGE
67/97	4	0.69 A @ 13.5V
168	3	0.35 A @ 14.0V
192	3	0.33 A @ 13.0V
194	2	0.27 A @ 14.0V
211-2	12	0.97 A @ 12.8V
212-2	6	0.74 A @ 13.5V
578	9	0.78 A @ 12.8V
579	9	0.8 A @ 12.8V
904	4	0.69 A @ 13.5V
904NA	5.3	0.69 A @ 13.5V
906	6	0.69 A @ 13.5V
912	12	1.0 A @ 12.8V
916	2	0.54 A @ 13.5V
916NA	1.5	0.54 A @ 13.5V
921	21	1.4 A @ 12.8V
922	15	0.98 A @ 12.8V
1157A (major)	24	2.1 A @ 12.8V
1157A (minor)	2.2	0.59 A @ 14.0V
3057 (major)	32	2.1 A @ 12.8V
3057 (minor)	32	2.1 A @ 12.8V
3057K (major)	32	2.1 A @ 12.8V

BULB TRADE NUMBER	CANDLE POWER	CURRENT @ RATED VOLTAGE
3057K (minor)	2	0.48 A @ 14.0V
3155K	21	1.6 A @ 12.8V
3156 (P27W)	32	2.1 A @ 12.8V
3157 (P27/2W) (major)	32	2.1 A @ 12.8V
3157 (P27/2W) (minor)	3	0.59 A @ 14.0V
3157A (major)	24	2.1 A @ 12.8V
3157A (minor)	2.2	0.59 A @ 14.0V
3157K (major)	32	2.1 A @ 12.8V
3157K (minor)	3	0.59 A @ 14.0V
3456K	40	2.23 A @ 12.8V
3457AK (major)	30	2.23 A @ 12.8V
3457AK (minor)	2.2	0.59 A @ 14.0V
3457K (major)	40	2.23 A @ 12.8V
3457K (minor)	3	0.59 A @ 14.0V
3757AK (major)	24	2.1 A @ 12.8V
3757AK (minor)	2.2	0.59 A @ 14.0V
4057K (major)	32	2.23 A @ 12.8V
4057K (minor)	2	0.48 A @ 14.0V
4157K (major)	32	2.23 A @ 12.8V
4157K (minor)	3	0.59 A @ 14.0V
W5W	4	0.4 A @ 12.0V

HALOGEN BULB TRADE NUMBER	CANDLE POWER	WATTS @ RATED VOLTAGE
H1	117	55W @ 12.0V
H3	121	55W @ 12.0V
HB2 (9003) (low)	76	55W @ 12.0V
HB2 (9003) (high)	125	60W @ 12.0V
9005 (HB3)	135	65W @ 12.8V
9006 (HB4)	80	55W @ 12.8V
9007 (HB5) (low)	80	55W @ 12.8V
9007 (HB5) (high)	107	65W @ 12.8V
H13/9008 (low)	—	55W @ 12.8V
H13/9008 (high)	—	65W @ 12.8V
H7	125	55W @ 12.0V
H9	167	65W @ 12.0V
H11	107	55W @ 12.8V
H6054 (low)	—	55W @ 12.8V
H6054 (high)	—	65W @ 12.8V
9140	48	40W @ 12.8V
9145 (H10)	65	45W @ 12.8V

Although there are many points in the truck electrical system to connect additional circuits certain connection points are recommended for reliability and convenience. This section defines the recommended connection points for each Ford Truck model and the maximum electrical loads allowable. CAUTION: Improper electrical tie-ins may affect vehicle operation (i.e., engine, transmission).

After all electrical or vehicle modifications, perform the on-board diagnostics procedures as described in the powertrain control/emissions diagnosis manual to clear all diagnostic trouble codes (DTCs). Road test vehicle and rerun the on-board diagnostics to verify that no DTCs are present. If DTCs are generated, perform the appropriate diagnostic procedures and repairs. Vehicle operation (engine/transmission) may be affected if DTCs are not serviced.

Alternative connections or wiring practices are not recommended as certain modifications may result in other circuits becoming non-functional. Disconnect the battery negative (ground) cable and remove it from the battery carrier prior to any vehicle modification. Upon completion of body or equipment installation, all wiring should be checked for proper routing, etc. to preclude electrical shorts upon reinstallation of the battery negative cable.

Do not splice into the Powertrain System (PCM-V). Connecting to any component or wires to this system may adversely affect Engine/Transmission operation.

LIGHTS CONTROLLED BY HEADLAMP SWITCH

The head lamp switch used on the F-150, Super Duty F-Series and E-Series vehicles employs one main 30A maxi fuse for the head lamp system. The left- and right-hand low beam lamps are then fused individually using a 10A fuse located in the instrument panel fuse box the exterior lamps are fused using a 15A fuse while the interior lamps are fused using a 10A fuse located in the instrument panel fuse box. A connection to any circuit in the system controlled by the head lamp switch must be done using an auxiliary relay. A marker lamp relay circuit 962 for SUB additions is provided for convenience as standard equipment on chassis cabs, optional on pickups. Do not connect to other OEM wires.

ELECTRICAL WIRING
ADDING LIGHTS OR ELECTRICAL DEVICES

E-SERIES

- Rear Lights — Splice into circuit #14 (Brown) in crossover harness at rear of vehicle.
- Front Lights — Splice into circuit #14 (Brown) in engine compartment 12A581 wire assembly along right or left fender apron.

LIGHTS CONTROLLED BY STOP LAMP SWITCH AND TURN INDICATOR SWITCH

NOTE: Splicing into the stop lamp switch on vehicles with Electronically Controlled Transmissions can interfere with the proper functioning of PCM, speed control, and anti-lock brake electronic modules. This can:

- Affect EFI engine idle speed quality.
- Do not delete or deactivate the Center High Mount Stop Lamp unless it will be blocked by second unit body.
- Prevent the Powertrain Control Module torque converter clutch from applying at throttle openings less than half throttle.
- Deactivate anti-lock brake system operation
- Prevent the speed control from disengaging upon braking.

The stop lamp switch that is in use on Ford trucks is a mechanical switch operated by brake pedal. It is designed for maximum loads usually less than the fuse or circuit breaker in the circuit but ample for normal stop lamp loads. The maximum load is 15 amps. Under no circumstances are total loads in excess of this value permissible.

F-150, SUPER DUTY F-SERIES AND E-SERIES MODELS

Ford trucks are released with a mechanical stop lamp switch mounted on the brake pedal arm for E-Series (mounted on the pedal pin and master cylinder push rod for F-150 and Super Duty F-Series). This switch has a maximum allowable electrical load of 15 amps. If only stop lamp function is desired for the added lights, splice into the circuit #511 light green wire for E-Series. F-150 and Super Duty F-Series between the stop lamp switch and the turn indicator switch. This circuit is provided as standard equipment and is located at the rear of the vehicle.

If both turn signal and stop lamp function are desired for the added lights, splice into the tail lamp loom (circuit #64 dark green for F-150, Super Duty F-Series and E-Series right-hand lights and circuit #52 yellow for F-150, Super (See note below). These circuits are provided as standard equipment and are located at the rear of the vehicle.

NOTE:

- The turn signal switch used on some light trucks has a maximum rated current of 6.5 amps for right and left turning functions and 10.4 amps for stop lamp function. Do not exceed these values on the turn signals.

ADDED LIGHTS OR ACCESSORIES CONTROLLED BY ADDED SWITCHES

This section describes the connection points for added electrical accessories when these accessories are to be controlled by added switches not a part of the Ford-released vehicle. The added switches and wiring must have sufficient electrical capacity for the accessory load and must be protected by appropriate fuses or circuit breakers. Also, added current draw must not cause total loads to exceed capabilities of the base vehicle wiring.

WIPER DELAY MODULE - E-SERIES STRIPPED CHASSIS & F-53 MOTORHOME

The Wiper Delay Module is not internally protected for a continuous high current load greater than 9.0 amps and must be protected either internal to the wiper motor or via inline protection such as a properly sized circuit breaker. The existing 30 amp fuse in the fuse panel is sized for the maximum allowable inrush current and does not provide appropriate protection to the Wiper Delay Module.

RADIO FREQUENCY INTERFERENCE (RFI)

During modifications to the vehicle, manufacturers, service technicians, owners and users should take the necessary precautions to maintain the RFI integrity of components. (Both the United States and Canada have RFI regulation in effect). Precautionary procedures and components listed below are examples and do not necessarily represent a complete list.

- All components required to suppress RFI emissions, which are removed during service, repair, or completion of the vehicle, must be reinstalled in the manner in which they were installed by Ford.
- Do not modify or change any RF device in a manner not expressly approved by Ford Motor Company.
- Shields on distributor and ignition coil must remain installed.

- Replacement spark plugs, ignition wires, ignition coils, distributor caps and distributor rotor must be equivalent in their RFI suppression properties to original equipment.
- Electrical grounds on all components must be retained.
- Metallic components installed on the body or chassis must be grounded to the chassis.
- Electrical circuits added to the vehicle should not be installed near the high tension ignition components.
- Only “static conductive” accessory drive belts should be used.
- Fan, water pump, power steering and other belts should be of the OEM type or equivalent that will not build up a static electrical charge.
- For any completed vehicle, additional measures may be needed to adequately suppress RFI emissions.

CHECK ENGINE WARNING LIGHT

The check engine warning light is a device required on certain vehicles to indicate malfunctions of the Powertrain Control Module. For all vehicles except E-Series Super Duty Stripped Chassis (which is not equipped with a dashboard), if a warning light is required, it is Ford installed and operational. The light is also required for all gasoline powered E-Series Super Duty Stripped Chassis vehicles. The warning lamp is included in the supplied instrument cluster, located in the dunnage box. It should be recognized that this light is a requirement of Emission Certification.

If an alternate instrument cluster is utilized, the final stage manufacturer must install an operational light in the dashboard. This light must glow amber and display the acronym message, “SERVICE ENGINE SOON.”

Once the light has been completed by the final stage manufacturer, proper function can be determined by turning the key to the on position. The light should come on prior to engine cranking and go out when the engine starts. If the light does not come on as above, refer to Section 14 (Quick test step 7 — Diagnostics by Symptom) of Volume H (*Engine and Emission Diagnostic Manual*) of the *Car and Truck Service Manual* for diagnostic procedure.

NOTE: The final stage manufacturer is responsible for ensuring that final vehicle configuration meets all applicable regulatory requirements.

PICKUP BOX REMOVAL/ALTERATIONS DESIGN RECOMMENDATIONS

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Introduction

The following information is presented in three parts for vehicle alterers who intend to remove pickup boxes from certain Rangers and Super Duty F-Series pickup trucks, and install aftermarket second unit bodies on these vehicles. For vehicle alterers in California, see important information on page 360 concerning alteration of vehicles with a GVWR of 8500 lb or less for sale, registration, or use in California.

Part I details those Ranger and Super Duty F-Series pickup models that may be altered by removal of the pickup box and installation of aftermarket second unit bodies and indicates where specific questions should be directed. Part II provides information concerning the obligations and responsibilities of vehicle alterers with respect to United States and Canada Motor Vehicle Safety Standards (F/CMVSS). Part III provides information for vehicle alterers with respect to United States, California, and Canada exhaust emissions, evaporative emissions and RFI requirements, and California requirements with regard to fuel vapor recovery.

RANGER REGULAR CAB PICKUP BOX REMOVAL WILL AFFECT COMPLIANCE WITH THE DYNAMIC PERFORMANCE REQUIREMENTS OF F/CMVSS NO. 214 SIDE IMPACT PROTECTION FOR VEHICLES WITH A GVWR OF 2722 KG (6000 LB) OR LESS.

Vehicle alterers who intend to modify vehicles, as described above, may use the information and conditions provided herein to assist them in determining whether modified vehicles comply with applicable regulatory requirements. Alternatively, the vehicle alterer may desire to employ other limits or conditions than those provided herein. In any case, it is the responsibility of the vehicle alterer to assure compliance and certification of the altered vehicle to the applicable safety and/or emissions (including noise and RFI) requirements. Specific questions concerning compliance and/or certification to safety standards and emissions and fuel economy regulations should be directed to the vehicle alterer's legal counsel or the United States National Highway Traffic Safety Administration (FMVSS and Federal Fuel Economy Standards and requirements), the Canada Ministry of Transport (CMVSS, emissions, and noise regulations), the Canada Department of Communications (Canadian RFI regulations), the United States Environmental Protection Agency (EPA) (United States emission requirements) or the California Air Resources Board (California emissions and fuel vapor recovery requirements), and the vehicle noise emission control authorities, if any, in the state and locality in which the vehicle is sold.

If you have technical, product-related questions concerning some aspect of the vehicle alteration, a representative of Ford Motor Company will be happy to talk with you. Please contact your regional sales office or phone the Ford Truck Body Builders Advisory Service directly at 1-877-840-4338.

Models Available for Pickup Box Removal

The models listed in Table A, page 2361 (Super Duty F-Series) and Table A, page 362 (Ranger SuperCab), may be altered by removing the pickup boxes and installing aftermarket second unit bodies. For Ranger SuperCab vehicles available for pickup box removal, Ford Motor Company specifies that they shall be equipped with front and rear stabilizer bars. Limitations on the second unit bodies that may be installed, as well as other vehicle conditions, are also specified in Table A, pages 361-362 and in the Safety/Emissions section beginning on page 12.

PART II

Information Concerning United States and Canada Safety Standards

The vehicle alterer is responsible for certifying the altered vehicle pursuant to Title 49 of the Code of Federal Regulations Sections 567.7 and 568.8 in the United States, or pursuant to Section 9 of the Canadian Motor Vehicles Safety Regulations in Canada. As outlined in these requirements, the vehicle alterer must ascertain which F/CMVSS are affected by the alteration, and subsequently provide certification that the altered vehicle conforms to all affected safety standards. In the information that follows, Ford has endeavored to provide sufficient instructions and guidelines to the vehicle alterer for certifying that the vehicle conforms to all F/CMVSS affected by the vehicle alteration. Information pertaining to Certification Labeling Requirements for the altered vehicle is outlined in page 358.

Federal and Canadian Motor Vehicle Safety Standards Compliance

Conformity to the following FMVSS (FMVSS) and Canadian Motor Vehicle Safety Standards (CMVSS) are affected by the removal of the pickup box and rear bumper and installation of an aftermarket second unit body:

F/CMVSS No. 105 ⁽⁵⁾	— Hydraulic Brakes
F/CMVSS No. 108	— Lighting Equipment
F/CMVSS No. 111	— Rear view Mirrors
F/CMVSS No. 135 ⁽⁵⁾	— Light Vehicle Brakes
F/CMVSS No. 204 ⁽¹⁾	— Steering Control Rearward Displacement
F/CMVSS No. 208 ⁽²⁾	— Occupant Crash Protection
F/CMVSS No. 212 ⁽³⁾	— Windshield Mounting
F/CMVSS No. 214 ^{(3)/(4)}	— Side Impact Protection
F/CMVSS No. 219 ⁽³⁾	— Windshield Zone Intrusion
F/CMVSS No. 301 ⁽³⁾	— Fuel System Integrity

For Motor Company represents that, in the case of a Ranger SuperCab or Super Duty F-Series pickup truck listed in Table A, page 361 (Super Duty F-Series) and Table A, page 362 (Ranger SuperCab), this vehicle, as altered, will conform to the requirements of the previously listed safety standards, provided the vehicle is altered only by the removal of the pickup box (including optional equipment attached to the pickup box) and rear bumper (if so equipped), and the installation of an aftermarket Second Unit Body (SUB) in accordance with the following conditions:

1. The following lighting components must be designed and installed on the altered vehicle in accordance with the requirements of F/CMVSS No. 108, Lamps, Reflective Devices, and Associated Equipment.

Tail Lamps*	Rear Side Marker Lamps
Stop Lamps*	Front and Rear
License Plate Lamps*	Identification
Back-Up Lamps*	Lamps (for vehicles over
Rear Turn Signal Lamps*	80 inches in width)
Rear Side Marker Lamps*	Front and Rear Clearance
Rear Side Reflex Reflectors*	Lamps (for vehicles over
Reflectors*	80 inches in width)
	Center High Mounted Stop
	Lamp (if second unit body
	blocks view of the CHMSL
	on the back of the cab
	another CHMSL must be
	added)

The items of lighting equipment (including wiring and power supply) on the cab of the pickup truck must not be removed, modified, replaced, or altered. Further, the second unit body installed by the vehicle alterer must not impair the visibility and conformity to the photometric requirements of the lamps and reflective devices installed on the cab of the pickup truck.

2. The weight (in pounds) of the Second Unit Body (SUB) installed must be within the range specified in Tables A, pages 361-362 corresponding to the particular pickup truck model and not greater than the weight (in pounds) calculated using the following formula:
SUB WEIGHT LIMIT = Unloaded Vehicle Weight (UVW) – Original Equipment Manufacturer (OEM) Curb Weight + Pickup Box + Options Removed.

Super Duty F-Series

- Step Bumper – 74 lb.
- Pickup Box – see Table A, page 361
- Spare Wheel and Tire – see Table B, page 361

Ranger SuperCab

- Step Bumper – 37 lb.
- Pickup Box – see Table A, page 362
- Spare Wheel and Tire – see Table B, page 362

NOTES —

- (1) For vehicles with a GVWR of 10,000 lb or less and an unloaded vehicle weight of 5500 lb or less.
- (2) Injury criteria is applicable to vehicles with a GVWR of 8500 lb or less and an unloaded vehicle weight of 5500 lb or less.
- (3) Applicable to vehicles with a GVWR of 10,000 lb or less.
- (4) Dynamic Performance Requirements apply to MPV, Truck, or a Bus with a GVWR of 2722 Kg (6000lb) or less for FMVSS only.
- (5) Standard 135 applied to vehicles with a GVWR of 3500 Kg (7716 lb) or less. Standard 105 applies to vehicles with a GVWR over 3500 Kg (7716 lb).

* These lamps and reflectors are available from Ford in the form of rear lamp assemblies and are the same as those installed on Ford chassis cab models.

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Example

A vehicle alterer wants to remove the pickup box and rear step bumper from a Super Duty F-250 Regular Cab (4x4), 137-inch WB model with a 5.4L engine, 4R100 transmission, and air conditioning having a curb weight of 6200 lb and install a 600-pound Second Unit Body (SUB). First, Table A (on page 361) specifies that the maximum SUB weight is 1800 lb. Since the SUB weight is 600 lb, this condition is satisfied.

Second, the SUB weight must not exceed the SUB WEIGHT LIMIT calculated below:

SUB WEIGHT LIMIT = Maximum Complete Unloaded Vehicle Weight (UVW) minus the unloaded vehicle weight as delivered (OEM) curb weight plus pickup box weight removed plus weight of removed options.

$$= 6900 - 6200 + 380 + 74$$
$$= 1154 \text{ lb}$$

The 600 lb SUB is less than 1154 lb and, accordingly, may appropriately be installed as planned.

The vehicle alterer must either select a lighter weight SUB, reduce the OEM accessory weights for the vehicle, or both if the SUB is heavier than the maximum limit.

1. OEM Curb Weight includes Base Vehicle Weight (with full fuel), engine and transmission weight, and all OEM accessory weights ordered or installed (Refer to the appropriate *Truck Source Book* or the CD version of this publication for weight data).
2. Options removed include step bumpers or similar OEM options **permanently** removed from the vehicle.
3. The center of gravity height and overall height of the second unit body installed by the alterer must not exceed the values specified in Table A, pages 361-362 corresponding to the particular pickup model. Center of gravity height and overall height of the second unit body are measured from the top surface of the frame at the rear of the cab.
4. The altered vehicle's unloaded vehicle weight (see Definitions in Safety/Emission section) must not exceed the values designated in Table A pages 361-362 corresponding to the pickup truck's model and non-California engine-transmission combination.

5. These instructions must be followed in the vehicle alteration:

- The following components, as installed by Ford Motor Company, are not to be removed, relocated, altered, or modified in any way:
 - Steering column, steering shaft, steering wheel, and related structural components and attachment hardware
 - Windshield and windshield mounting system
 - Cab and front end structural components, including the roof, pillars, cowl, cowl reinforcements, hood, doors, fenders, hood restrictors and apron reinforcements, and frame and frame reinforcements
 - Radio antenna
 - Doors and hood mounting, hinging, and latching systems
 - Hood and fender ornamentation
 - Fuel tank and attachment hardware, including sending unit and vapor valve, fuel tank shield, and in-tank electric fuel pump (for gasoline engine only)
 - Fuel lines, routing, and attachments, excluding fuel filler cap, filler pipe, filler hose(s), and filler system attachment hardware, which must be removed and replaced
 - Vapor line(s) and carbon canister(s)
 - Fuel pump
 - Fuel filter and attachment
 - Air cleaner assembly
 - Safety belts
 - Front seat head restraints
 - Electrical grounds on all components (must be retained)
 - The Powertrain Control Module (PCM), and
 - Catalyst and Exhaust System.
- **Trailer hitch receiver (Super Duty F-Series)**

- Any alteration or modification made to the vehicle, as manufactured by Ford Motor Company, and any components or structure installed by the vehicle alterer must not result in steering column rearward displacement of more than 5 inches (as defined in F/CMVSS No. 204)⁽¹⁾; no modification to the Hydraulic Brake System that would affect compliance to F/CMVSS No 105 or 135⁽⁵⁾; an increase in injury potential for front outboard seating positions (as defined in F/CMVSS No. 208)⁽²⁾; any additional loss of windshield retention (as defined in F/CMVSS No 212)⁽³⁾; any change in the performance requirements of F/CMVSS 214⁽³⁾⁽⁴⁾; any penetration of the inner surface of the windshield or intrusion into the protected zone (as defined in F/CMVSS No. 219)⁽³⁾; or loss of fuel system integrity (as defined in F/CMVSS No. 301)⁽³⁾; when the vehicle is tested in any manner specified by applicable provisions of F/CMVSS Nos. 105⁽⁵⁾, 135⁽⁵⁾, 204⁽¹⁾, 208⁽²⁾, 212⁽³⁾, 214⁽³⁾⁽⁴⁾, 219⁽³⁾, and 301⁽³⁾, respectively.

NOTE: Federal Motor Vehicle Safety Standard (FMVSS) and Canadian Motor Vehicle Safety Standard (CMVSS) No 204 are not applicable to a vehicle with an unloaded vehicle weight greater than 5500 lb. F/CMVSS No. 208 injury criteria are applicable only to vehicles with a GVWR of 8500 lb or less and an unloaded vehicle weight of 5500 lb or less. Conformity to Federal Motor Vehicle Safety Standard (FMVSS) and Canadian Motor Vehicle Safety Standard (CMVSS) No. 212 and 219 for vehicles having a gross vehicle weight rating (as defined in 49 CFR, Part 571.3) no greater than 10,000 lb, is established for representative vehicles at a vehicle weight provided by Sections S6.1(b) and S7.7(b) of FMVSS No. 212 and 219, respectively, and provided by Sections 5.1 and 8 of CMVSS No. 212 and 219, respectively.

- The second unit body installed shall be mounted securely and so designed that when the altered vehicle is impacted in any manner specified by applicable provisions of F/CMVSS No. 212⁽³⁾ and 219⁽³⁾, second unit body deformation or movement relative to the frame does not result in any separation or loss of body attachment to the frame.
- The second unit body installed and the required fuel system components (identified below) shall be located and mounted as follows:

- The second unit body shall be mounted securely and is so designed that when the altered vehicle is tested in any manner specified by applicable provisions of F/CMVSS No. 301⁽³⁾:
 - (a) Second unit body components shall not contact any fuel system component (other than at the points where the fuel system is permanently attached to the second unit body) and
 - (b) Second unit body deformation or movement relative to the frame shall not cause any fuel system component to be penetrated, disconnected, or otherwise damaged.
- The rear end of the second unit body (excluding the rear bumper) installed shall not extend beyond (overhang) the rear edge of the vehicle frame or frame extension. Any extension of the vehicle frame must be constructed and attached so as to perform as a continuation of the vehicle frame when the altered vehicle is tested in any manner specified by applicable provisions of F/CMVSS No. 301⁽³⁾.
- See the Design Recommendations, Second Unit Body (SUB) attachment section of this book beginning on page 365 for additional information.
- The fuel filler cap, filler pipe, filler hose(s), and filler system attachment hardware for vehicles with diesel engines and for vehicles with gas engines shall be installed, as shown on Super Duty F-Series, page 118 and shall be securely retained to remain intact when the vehicle is tested in any manner specified by applicable provisions of F/CMVSS NO. 301⁽³⁾.

NOTES —

- (1) For vehicles with a GVWR of 10,000 lb or less and an unloaded vehicle weight of 5500 lb or less.
- (2) Injury criteria is applicable to vehicles with a GVWR of 8500 lb or less and an unloaded vehicle weight of 5500 lb or less.
- (3) Applicable to vehicles with a GVWR of 10,000 lb or less.
- (4) Dynamic Performance Requirements apply to MPV, Truck, or a Bus with a GVWR of 2722 Kg (6000lb) or less for FMVSS only.
- (5) Standard 135 applied to vehicles with a GVWR of 3500 Kg (7716 lb) or less. Standard 105 applies to vehicles with a GVWR over 3500 Kg (7716 lb).

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- The front end of the second unit body installed shall be located at least three inches rearward of the rearmost point of the cab on Super Duty F-Series, and at least 1.4 inches rearward of the rearmost point of the cab on Ranger SuperCab models.
- The vehicle, as produced by Ford, meets the Center High Mounted Stop Lamp (CHMSL) requirements of Standard 108, Lighting. Compliance to these criteria may be affected by the installation of a Second Unit Body (SUB), if the SUB blocks the view of the CHMSL mounted on the back of the cab. When this happens, the subsequent manufacturer must install a CHMSL on the SUB that meets FMVSS 108. An electrical feed for installation of a CHMSL on the SUB is provided and is located inside the rearmost crossmember near the end of the left frame rail on the Super Duty F-Series models. For the Ranger, directions are given in Ford Bulletin Q-28, CHMSL – Precautions and Guidelines for Adding or Locating.
- The vehicle, as produced by Ford, meets F/CMVSS No. 111. Compliance to F/CMVSS No.111 may be affected, however, by removal of the pickup box and installation of a Second Unit Body (SUB), even though the mirror system has not been altered. A discussion of compliance, with respect to each mirror type, follows:
 - Sail-Mounted Type Outside Mirror on Super Duty F-Series or Ranger Pickup. Provided the mirrors, driver's seat, and cab are not altered, the mirror system will continue to meet Standard No. 111. if the overall width of the Second Unit Body (SUB) is no wider than the pickup box, and if the view of the roadway behind the vehicle through the inside mirror is not totally blocked off. If the SUB blocks the view through the inside mirror, a flat glass mirror is required on the passenger's side in place of the convex mirror on vehicles to be sold in the United States. Vehicles for sale in Canada may be equipped with the convex mirror on the passenger's side when the SUB blocks the view through the inside mirror. If the SUB is wider than the pickup box, both the driver's side and passenger's side mirrors may have to be replaced with mirrors providing a wider view to the rear.
 - Trailer Tow Mirrors on Super Duty F-Series. These mirrors will continue to meet Standard No. 111, provided the mirrors, the driver's seat, and the cab are not altered.

- If the front bumper and bumper mounting system are removed temporarily, the front bumper and bumper mounting system must be reinstalled in accordance with the instructions provided in the *Ford Truck Service Manual*. If the front bumper and bumper mounting system are replaced, the replacement front bumper and bumper mounting system must not result in: steering column rearward displacement of more than 5 inches (as defined in F/CMVSS No. 204)⁽¹⁾; any increases in injury criteria (as defined in F/CMVSS No. 208)⁽²⁾; any additional loss of windshield retention (as defined in F/CMVSS No. 212)⁽³⁾; any penetration of the inner surface of the windshield or intrusion into the protected zone (as defined in F/CMVSS No. 219)⁽³⁾; or, loss of fuel system integrity (as defined in F/CMVSS No. 301⁽³⁾), when the vehicle is impacted in any manner specified by applicable provisions of those standards.

NOTE: The second unit body added by the vehicle alterer may have to conform to other safety standards as well. For example, any glazing used in the second unit body must conform to F/CMVSS No. 205, Glazing Materials. Additionally, if the second unit body is equipped with any passenger seating positions, the following safety standards may be applicable as well:

F/CMVSS No. 206	— Door Locks and Retention
F/CMVSS No. 207	— Seating Systems
F/CMVSS No. 208 ⁽²⁾	— Occupant Crash Protection
F/CMVSS No. 209	— Seat Belt Assemblies
F/CMVSS No. 210	— Seat Belt Anchorages
F/CMVSS No. 214 ⁽³⁾⁽⁴⁾	— Side Impact Protection
F/CMVSS No. 302	— Flammability of Interior Materials

With respect to the second unit body installed and the above-mentioned safety standards, it is the responsibility of the vehicle alterer to assure conformity with all applicable requirements.

It is the responsibility of the vehicle alterer to determine which other safety standards, if any, their vehicles must comply with.

NOTE: See statements for F/CMVSS No. 105 and 135, Hydraulic Brake implications of modifications/alterations to completed vehicles, including pickup box removal vehicles on pages 23-30 of the Safety/Emission section.

Certification Labeling Requirements

For altered vehicles in the United States, the vehicle alterer is required to affix an additional label containing the information shown on page 22 of the Safety/Emission section.

NOTE: The safety standard certification label, which is affixed to the driver's door latch pillar of the pickup truck, by Ford Motor Company must not be removed.

For altered vehicles in Canada, the vehicle alterer is required to affix a label containing the information shown on page 22 of the Safety/Emission section.

NOTE: A vehicle alterer may be a manufacturer according to the definition of manufacturer contained in the Canadian Motor Vehicle Safety Act.

PART III

Information concerning United States and Canada Exhaust Emissions, Evaporative Emissions, RFI and Noise, and California Fuel Vapor Recovery Requirements. Refer also to pages 13-21 of the Safety/Emission section.

A. Exhaust and Evaporative Emission Requirements

Ranger SuperCab completed trucks have been certified to the applicable U.S. Federal, California, or Canadian exhaust and evaporative emissions requirements. See page 16 for important information concerning alteration of vehicles with a GVWR of 8500 lb or less that is for sale, registration, or use in California. Federal law specifies that a light-duty truck is any vehicle with a GVWR of 8500 lb or less that has a vehicle curb weight of 6000 lb or less, and a basic vehicle frontal area of 45 square feet or less, which is designed primarily for transporting property (or is a derivative of such a vehicle), or is designed primarily for transporting persons and has a capacity of more than 12 persons, or is available with special features enabling off-street or off-highway operation and use.

All heavy-duty engines (in vehicles having a GVWR of more than 8500 lb for the United States and Canada) have been certified to the applicable U.S. Federal or Canadian exhaust or California exhaust and evaporative emissions requirements for heavy-duty engines. *It is the responsibility of the vehicle alterer to assure compliance of the altered vehicle with the applicable emission requirements.*

Ranger SuperCab and Super Duty F-Series pickup truck models listed in Tables A on pages 361-362, if altered by removal of the pickup box (including items attached to the pickup box), rear bumper (if so equipped), and installation of a second unit body, *may* not require recertification to applicable Federal, California, or Canadian emissions requirements if the following conditions are satisfied:

1. None of the engine emission control hardware furnished with the pickup truck is deleted, modified, or rendered inoperable. A listing of such hardware is provided in the Emission Control Modifications section on page 15 of the Safety/Emission section of this book.

NOTES —

- (1) For vehicles with a GVWR of 10,000 lb or less and an unloaded vehicle weight of 5500 lb or less.
- (2) Injury criteria is applicable to vehicles with a GVWR of 8500 lb or less and an unloaded vehicle weight of 5500 lb or less.
- (3) Applicable to vehicles with a GVWR of 10,000 lb or less.
- (4) Dynamic Performance Requirements apply to MPV, Truck, or a Bus with a GVWR of 2722 Kg (6000lb) or less for FMVSS only.

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Further, vehicles sold for principal use in high altitude areas must comply with the High Altitude Regulations.

1. A copy of the appropriate *Ford Truck Owner's Guide* and *Warranty Facts Booklet* is installed in the altered pickup truck prior to sale to the ultimate purchaser in order to provide emission systems warranty information and maintenance schedules. **Note:** Whether Ford Motor Company or the alterer is responsible for emission warranty claims depends on, among other things, whether the vehicle failed to comply with applicable warranty provisions because of modifications made by the alterer or because of the original design and manufacture of the vehicle.
2. The Super Duty F-Series fuel filler kit that is supplied with the vehicles ordered with pickup box delete option number 66D or available through Ford dealers, P/N F81Z-9B149-FA (gasoline) or -GA (diesel), must be installed as shown on pages 118 and 141. Filler system attachment hardware for Ranger SuperCab in kit 9B149 is installed as shown on page 363.
3. The alterer does not exceed the limitations listed on Safety/Emission page 15 under "Curb Weight and Frontal Area Restrictions".

Questions concerning requirements and policies, with respect to alterers of completed vehicles, should be directed to body builder's legal counsel, the Environmental Protection Agency, or the California Air Resources Board.

Note: If the weight of the altered vehicle exceeds the maximum unloaded vehicle weight specified in Table A pages 361-362, corresponding to the particular pickup truck model and engine combination, the vehicle alterer is required to certify the vehicle to: F/CMVSS 105 or 135⁽⁵⁾, Brakes; F/CMVSS No. 204⁽¹⁾, Steering Control Rearward Displacement; F/CMVSS No.212⁽³⁾, Windshield Mounting; F/CMVSS No. 214⁽³⁾⁽⁴⁾, Side Impact Protection; and F/CMVSS 219⁽³⁾, Windshield Zone Intrusion; and F/CMVSS No. 301⁽³⁾, Fuel System Integrity, in addition to compliance with any other F/CMVSS affected by the vehicle's alteration.

4. For a pickup truck have a GVWR of 10,000 lb or less and catalyst equipped. For vehicles other than those for sale, registration or use in California, the alterer does not add more than 500 lb to the maximum unloaded vehicle weight specified in Table A pages 361-362 corresponding to the particular pickup model.
 - (a) **IMPORTANT:** Some of the preceding conditions are based, in part, on statements made by C. N. Freed of the Environmental Protection Agency (EPA) in a letter of July 13, 1979 to M. H. McBride, legal counsel of the Recreation Vehicle Industry Association. That letter explained EPA's policy concerning alterers of complete 1980 and later model year light-duty trucks in the context of EPA's Advisory Circular No. 64 – a March 7, 1977 publication that provides guidance on the need for separate certification of vehicles modified after original manufacture, but prior to sale and delivery to the ultimate purchaser. The maximum second unit body weights provided in tables on pages 361-362 are calculated in accordance with the definition of "maximum vehicle weight" provided in the July 13, 1979 letter.

The referenced letter provides that alterers of complete light-duty trucks need not recertify such vehicles for emission control purposes if:

 - 1) the altered vehicles conform, in all material respects, to the design specifications in the original manufacturer's application for certification, and
 - 2) the weight of the altered vehicle, including the weight of fuel at nominal tank capacity, is no more than 500 lb above the "maximum vehicle weight."

The letter further states that no frontal area restrictions will apply to alterers who comply with conditions (a) and (b) above. Alterers who do not comply with these conditions will be considered manufacturers under the Clean Air Act and will be required to assure that the altered vehicles are certified.

Questions concerning EPA's policies, with respect to alterers of completed vehicles, should be directed to legal counsel or the Environmental Protection Agency.

- (b) **NOTE:** If the weight of the altered vehicle exceeds the maximum unloaded vehicle weight specified in Table A, corresponding to the particular pickup truck model and non-California engine-transmission combination, the vehicle alterer is required to certify the vehicle to: F/CMVSS No. 105 or 135, Brakes; F/CMVSS No. 204, Steering Control Rearward Displacement (if the unloaded vehicle weight is 5500 lb or less); F/CMVSS No. 208, Occupant Crash Protection (if the GVWR is 8500 lb or less and the unloaded vehicle weight is 5500 lb or less); F/CMVSS No.212, Windshield Mounting; F/CMVSS No. 214⁽³⁾⁽⁴⁾, Side Impact Protection; F/CMVSS No. 219, Windshield Zone Intrusion; and F/CMVSS No. 301, Fuel System Integrity, in addition to compliance with any other F/CMVSS affected by the vehicle's alteration.

See page 356 for important information concerning alteration of vehicles rated at 8500 lb GVWR or less, for sale, registration, or use in California.

B. High Altitude Emissions

United States Environmental Protection Agency regulations contain unique emission certification requirements for trucks that will be sold or delivered to customers for principal use above 4,000 feet (1219 meters). Certain new vehicles cannot be sold to customers who intend to use them principally at high altitudes. TO AVOID ANY QUESTION OF CERTIFICATION COVERAGE, ORDERS SHOULD SPECIFY WHETHER A HIGH ALTITUDE EMISSION SYSTEM OR A NON-HIGH ALTITUDE EMISSION SYSTEM IS REQUIRED.

C. California Fuel Vapor Recovery

California regulations require that vehicle fuel systems be designed to accommodate a new vapor-recovery fueling nozzle, including unobstructed access to the fill pipe. Fuel filler pipes, installed per Super Duty F-Series, pages 118 and 141, will comply with the "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks," referenced in Title 13 California Administrative Code, providing no part of the second unit body, as installed, intrudes within a 10-inch radius cylinder which has its axis parallel to the ground, passing through point "Z" and extends outward from the Ford fuel pipe housing component shown in the figure on Super Duty F-Series, pages 118 and 141. Fuel filler pipes, installed using the alternate bracket shown on the figures on Super Duty F-Series, pages 118 and 141, will comply with the above California vapor recovery regulations, provided the second unit body installed does not interfere with the access zone.

D. Radio Frequency Interference (RFI)

1. UNITED STATES RADIO FREQUENCY INTERFERENCE (RFI) INFORMATION

Devices that emit radio frequency (RF) energy, such as AM/FM radios and radio-controlled theft alarms, marketed for sale or use in the United States, are subject to the rules and regulations of the Federal Communications Commission (FCC) 47 C.F.R. Parts 2 and 15 (1992).

These rules specify the following conditions of operation:

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) The device must accept any interference received, including interference that may cause undesired operation.

In addition, the FCC's rules may require the device to be tested and found to comply with various RF interference emissions limits before it may be marketed. The FCC established different limits, according to the particular use and installation of RF devices. In some cases, a grant of equipment authorization from the FCC also must be obtained before and RD device may be marketed.

To ensure continued compliance with the FCC's requirements, the owner, user, custom manufacturer, or service technician must not modify or change the RF device in a manner not expressly approved by Ford Motor Company. Such modifications could void the authority to operate the device.

NOTES —

- (1) For vehicles with a GVWR of 10,000 lb or less and an unloaded vehicle weight of 5500 lb or less.
- (2) Injury criteria is applicable to vehicles with a GVWR of 8500 lb or less and an unloaded vehicle weight of 5500 lb or less.
- (3) Applicable to vehicles with a GVWR of 10,000 lb or less.
- (4) Dynamic Performance Requirements apply to MPV, Truck, or a Bus with a GVWR of 2722 Kg (6000lb) or less for FMVSS only.
- (5) F/CMVSS 135 is applicable to vehicles with a GVWR of 3500 Kg (7716 lb) or less. F/CMVSS 105 is applicable to vehicles with GVWR over 3500 Kg (7716 lb).

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2. CANADIAN RADIO FREQUENCY INTERFERENCE (RFI) INFORMATION

All vehicles powered by spark ignition engines (e.g., gasoline, natural gas, or propane engines) and manufactured in Canada or for sale or use in Canada, are subject to the Canadian “Regulations for the Control of Interference to Radio Reception” per Interference-Causing Equipment Standard (ICES-002) and applicable test method according to “CAN/CSE-C108, 4-M92”. Violation of these regulations is punishable by fine or imprisonment. Ford-built vehicles were designed and manufactured to be capable of meeting the regulatory requirements or such modifications, thereof, as may have been authorized by the Department of Communications. However, because Ford has no control over how an altered vehicle is completed by subsequent stage manufacturers, Ford does not represent that the completed vehicle, incorporating the Ford-built components, will comply with applicable requirements.

The following information is supplied to subsequent stage manufacturers to help them avoid increasing the RFI emissions of this vehicle in the course of completing it.

For any altered vehicle, additional measures may be needed to adequately suppress RFI emissions. Affected components could include spark plugs, electronic engine control module, ground straps, ignition component shields, accessory drive belts, and instrument voltage regulator suppressor assembly.

More specifically:

- All components required to suppress RFI emissions, which are removed during service, repair, or completion of the vehicle, must be reinstalled in the manner in which they were installed by Ford.
- Shields on ignition coil must remain installed.
- Replacement of spark plugs, ignition wires, and ignition coil must be equivalent in their RFI suppression properties to original equipment.
- Electrical grounds on all components must be retained.
- Metallic components installed on the body or chassis must be grounded to the chassis.
- Electrical circuits added to the vehicle must not be installed near the high voltage ignition components.

- Only “static conductive” accessory drive belts should be used. Fan, water pump, power steering, and other belts should be on the OEM type or equivalent that will not build up a static electrical charge.
- Engine component wiring must not be rerouted in any manner.
- The Powertrain Control Module (PCM) must not be relocated from the position as installed by Ford Motor Company.

E. Noise

Canadian Motor Vehicle Safety Standard (CMVSS) NO. 1106 prescribes maximum permissible noise levels of 83 dB(A) for “heavy-duty vehicles,” with a GVWR between 6001 and 10,000 lb, where such levels are measured in accordance with SAE Standard J986a, “Sound Level for Passenger Cars and Light Trucks” (July, 1972). Under the Canada Motor Vehicle Safety Standards, a “heavy-duty vehicle” is a bus, a Chassis Cab, a multipurpose passenger vehicle, or a truck having a gross vehicle weight rating of more than 6000 lb, but not a passenger car. However, Transport Canada’s tabulation of CMVSS indicates that CMVSS No. 1106 does not apply to incomplete vehicles as such.

A pickup truck listed in tables on pages 361-362, if altered only by the removal of the pickup box (including optional equipment attached to the pickup box) and rear bumper (if so equipped), is designed and built to conform to the applicable exterior noise emission limits of CMVSS NO. 1106 (1)(b). The alterer is, of course, responsible for determining that the vehicle, as altered, complies with CMVSS No. 1106.

WARNING — VEHICLE OPERATING TEMPERATURES

Some trucks of Ford Motor Company may exhibit high engine compartment and exhaust system temperatures in some operating modes. Components, including exhaust heat shielding systems, have been installed on some vehicles in our assembly plants in an effort to provide protection against such temperatures. Subsequent aftermarket installers/manufacturers are responsible for providing thermal protection (e.g., underbody heat shields) for any structure/equipment added to the vehicle, and should not remove any components/exhaust heat shielding installed on the vehicles by Ford. Also, the added structure/equipment should not restrict air circulation in the engine compartment or underbody. See applicable sections under “Ambulance Builders Guidelines” on page 382.

Any interior floor underlayment or insulation in the near vicinity of the exhaust system, without benefit of the Ford-provided heat shields, must be capable of withstanding 371° C and 482° C [900° F] in close proximity to the catalyst during normal operating conditions. Additionally, any under chassis-mounted component, within 4 inches of the exhaust system, must be compatible with these temperatures.

IMPORTANT INFORMATION CONCERNING ALTERATION OF VEHICLES WITH A GVWR OF 8500 LB OR LESS FOR SALE, REGISTRATION, OR USE IN CALIFORNIA

Ranger SuperCab pickup trucks, listed in Table A on page 362 and manufactured by Ford Motor Company for sale, registration, or use in California, can be altered by removal of the pickup box (including items attached to the pickup box) and rear bumper (if so equipped) and installation of a second unit body, if all of the following conditions are satisfied.

For additional information concerning noise control laws and regulations issued by the Federal (U.S.) Government, as well as some states and municipalities, see Vehicle Noise Regulations on pages 13-14 of the Safety/Emission section.

1. Conditions numbered 1, 2, 3, and 4 under Section A entitled “Exhaust and Evaporative Emission Requirements” (pages 356-357), and those under Section C, entitled “California Fuel Vapor Recovery”, as they apply to vehicles with a GVWR of 8500 lb or less.
2. The vehicle alterer does not increase the vehicle’s unloaded vehicle weight by more than 10% over the maximum curb weight (unloaded vehicle weight specified in tables on pages 361-362 corresponding to the particular pickup model), does not increase the frontal area by more than 10%, or does not provide a combination increase of weight plus frontal area of more than 14%.

NOTE: The maximum unloaded vehicle weight, specified in tables on pages 361-362 for California, is the curb weight – the basic curb weight plus the weight of options of greater than 33% installation rate.

NOTE: If the weight (in pounds) of the altered vehicle exceed the maximum unloaded vehicle weight specified in tables on pages 361-362, corresponding to the particular pickup truck model, the vehicle alterer is required to certify the vehicle to: F/CMVSS No. 105 or 135, Brakes; F/CMVSS No. 204, Steering Control Rearward Displacement (if the unloaded vehicle weight is 5500 lb or less); F/CMVSS No. 208 (if the unloaded vehicle weight is 55 lb or less); F/CMVSS No. 212, Windshield Mounting; F/CMVSS No. 219, Windshield Zone Intrusion; and F/ CMVSS No. 301, Fuel System Integrity, in addition to any other F/CMVSS to which conformity is affected by the vehicle’s alteration.

3. No axle ratio, tire size or tire type changes are made that would increase the drivetrain ratio by more than five percent.

Altered vehicles which do not satisfy these conditions may not be sold, offered, or delivered for sale, or registered in California, unless the altered vehicle is certified by the California Air Resources Board, pursuant to all applicable emissions requirements. The vehicle alterer is responsible for obtaining such certification. Questions regarding these requirements should be directed to your legal counsel or the California Air Resources Board.

SUPER DUTY F-SERIES
PICKUP BOX REMOVAL / ALTERATIONS
DESIGN RECOMMENDATIONS

2008
MODEL YEAR

TABLE A – SUPER DUTY F-SERIES MODELS AVAILABLE FOR PICKUP BOX REMOVAL

Body Style	Model	Drive	WB [in]	GVWR [lb]			Second Unit Body Limits			Maximum Complete Vehicle UVW [lb] ^{d/}	
							Weight		Max. Height ^{a/}		
				5.4L	6.8L	6.4L	Min [lb]	Max ^{b/c/} [lb]	Cg ^{c/} [in]	5.4L/6.8L Gasoline	6.4L Diesel
Regular Cab	F-250	4x2	137.0	8800	9000	9400	380	1800	17.6	6880	7350
	F-250	4x4	137.0	9000	9200	9600	380	1800	17.6	7280	7700
	F-350	4x2	137.0	10,100	10,300	10,700	380	1800	17.6	—	—
	F-350	4x4	137.0	10,500	10,700	11,100	380	1800	17.6	—	—
	F-350 DRW	4x2	137.0	11,800	12,000	12,400	420	3450	24.0	—	—
	F-350 DRW	4x4	137.0	12,000	12,200	12,600	420	3450	24.0	—	—
SuperCab	F-250	4x2	141.8	9000	9200	9600	340	1800	24.0	7200	7250
	F-250	4x4	141.8	9200	9400	9800	340	1800	24.0	7400	7550
	F-250	4x2	158.0	9200	9400	9800	380	1800	24.0	7300	7300
	F-250	4x4	158.0	9400	9600	10,000	380	1800	24.0	7500	7700
	F-350	4x2	141.8	10,100	10,300	10,800	340	1800	24.0	—	—
	F-350	4x4	141.8	10,600	10,800	11,200	340	1800	24.0	—	—
	F-350	4x2	158.0	10,400	10,600	11,000	380	1800	24.0	—	—
	F-350	4x4	158.0	10,800	11,000	11,400	380	1800	24.0	—	—
	F-350 DRW	4x2	158.0	12,200	12,400	12,800	420	3450	24.0	—	—
	F-350 DRW	4x4	158.0	12,400	12,600	13,000	420	3450	24.0	—	—
Crew Cab	F-250	4x2	156.2	9200	9400	9800	340	1800	24.0	7550	7550
	F-250	4x4	156.2	9400	9600	10,000	340	1800	24.0	7550	7550
	F-250	4x2	172.4	9400	9600	10,000	380	1800	24.0	7900	7950
	F-250	4x4	172.4	9600	9800	10,000	380	1800	24.0	7900	7900
	F-350	4x2	156.2	10,400	10,600	11,000	340	1800	24.0	—	—
	F-350	4x4	156.2	10,800	11,000	11,400	340	1800	24.0	—	—
	F-350	4x2	172.4	10,600	10,800	11,200	380	1800	24.0	—	—
	F-350	4x4	172.4	11,000	11,200	11,500	380	1800	24.0	—	—
	F-350 DRW	4x2	156.2	12,200	12,400	12,800	420	3450	24.0	—	—
	F-350 DRW	4x2	172.4	12,400	12,600	13,000	420	3450	24.0	—	—
	F-350 DRW	4x4	156.2	12,400	12,600	13,000	420	3450	24.0	—	—
	F-350 DRW	4x4	172.4	12,400	12,600	13,000	420	3450	24.0	—	—

^{a/} Vertical height measured from the top surface of the frame at the rear of the cab.
^{b/} Maximum Second Unit Body (SUB) weight for any model is the lesser of two values shown below:
• The value listed here or;
• The value determined by: SUB WEIGHT = MAX UVW – (OEM Wet Curb Weight) + Pickup Box + Options Removed.
Rear step bumper 74 lb
Spare tire and wheel assembly Table B
^{c/} Maximum SUB weights and center of gravity (CG) shown in this table are only allowable if F/CMVSS 105 criteria are satisfied per calculation Safety/Emission section of this book.
^{d/} Weight shown is maximum allowable for safety certification for vehicles with a GVWR less than or equal to 10,000 lbs.

TABLE B – SUPER DUTY F-SERIES TIRE AND WHEEL WEIGHTS

Wheel Size	Wheel (only) Weight [lb]
17x7.5 (Steel Wheel – F250/350 – SRW)	38.5
17x7.5 (Chrome Clad – F250/350 – SRW)	40.0
17x7.5 (Aluminum Wheel – F250/350 – SRW)	24.3*
17x6.5 (Steel Wheel – F350 – DRW)	40.0
17x6.5 (Aluminum Wheel – F350 – DRW)	25.1
18x8.0 (Steel Wheel – F250/350 – SRW)	45.0
18x8.0 (Aluminum Wheel – F250/350 – SRW)	27.6*
18x8.0 (Chrome Clad – F250/350 – SRW)	46.8
19.5 x 6.0 (Steel Wheel – F450/550 – DRW)	51.0
19.5 x 6.0 (Aluminum Wheel – F450/550 – DRW)	33.6
19.5 x 6.0 RW (Steel Wheel – DRW)	52.0
19.5 x 6.75 K (Steel Wheel – DRW) #	42.5
Tire Size	Tire Weight [lb]
LT245/75R17	53.8
LT265/70R17	55.4
LT275/65R18	55.0
LT275/70R18	59.2
225/70Rx19.5	58.0

* Average weight of all tire brands/type offered in that size
Motorhome

RANGER PICKUP BOX REMOVAL / ALTERATIONS
DESIGN RECOMMENDATIONS

2008
MODEL YEAR

TABLE A – RANGER SUPERCAB MODELS AVAILABLE FOR PICKUP BOX REMOVAL

Description	Model	Drive	WB [in]	GVWR [lb]	Second Unit Body Limits				Maximum Complete Vehicle UVWR [lb]
					Weight		Max. Height ^{a/}		
					Min [lb]	Max ^{b/c/} [lb]	Cg ^{c/} [in]	Overall [in]	
SuperCab	XL ^{d/}	4x2	126	4600	230	1000	11.5	39.75	3950
	XL ^{d/}	4x2	126	4920	230	1040	11.5	39.75	4150
	XLT ^{e/}	4x2	126	4760	230	960	11.5	39.75	3910
	XLT ^{e/}	4x2	126	5020	230	960	11.5	39.75	4070
	Edge ^{e/}	4x2	126	4840	230	680	11.5	39.75	3990
	XLT ^{e/}	4x4	126	5080	230	834	11.5	39.75	4208
	XLT ^{e/}	4x4	126	5260	230	833	11.5	39.75	4208

^{a/} Vertical height measured from the top surface of the frame at the rear of the cab.

^{b/} Maximum Second Unit Body (SUB) weight for any model is the lesser of two values shown below:

- The value listed here or;
- The value determined by: SUB WEIGHT = MAX UVW – (OEM Wet Curb Weight) + Pickup Box + Options Removed.

^{c/} Maximum SUB weights and center of gravity (CG) shown in this table are only allowable if F/CMVSS 135 criteria are satisfied per calculation Safety/Emission section of this book.

Rear step bumper 37 lb

Spare tire and wheel assembly..... Table B

^{d/} Models without rear jumpseats

^{e/} Models with rear jumpseats.

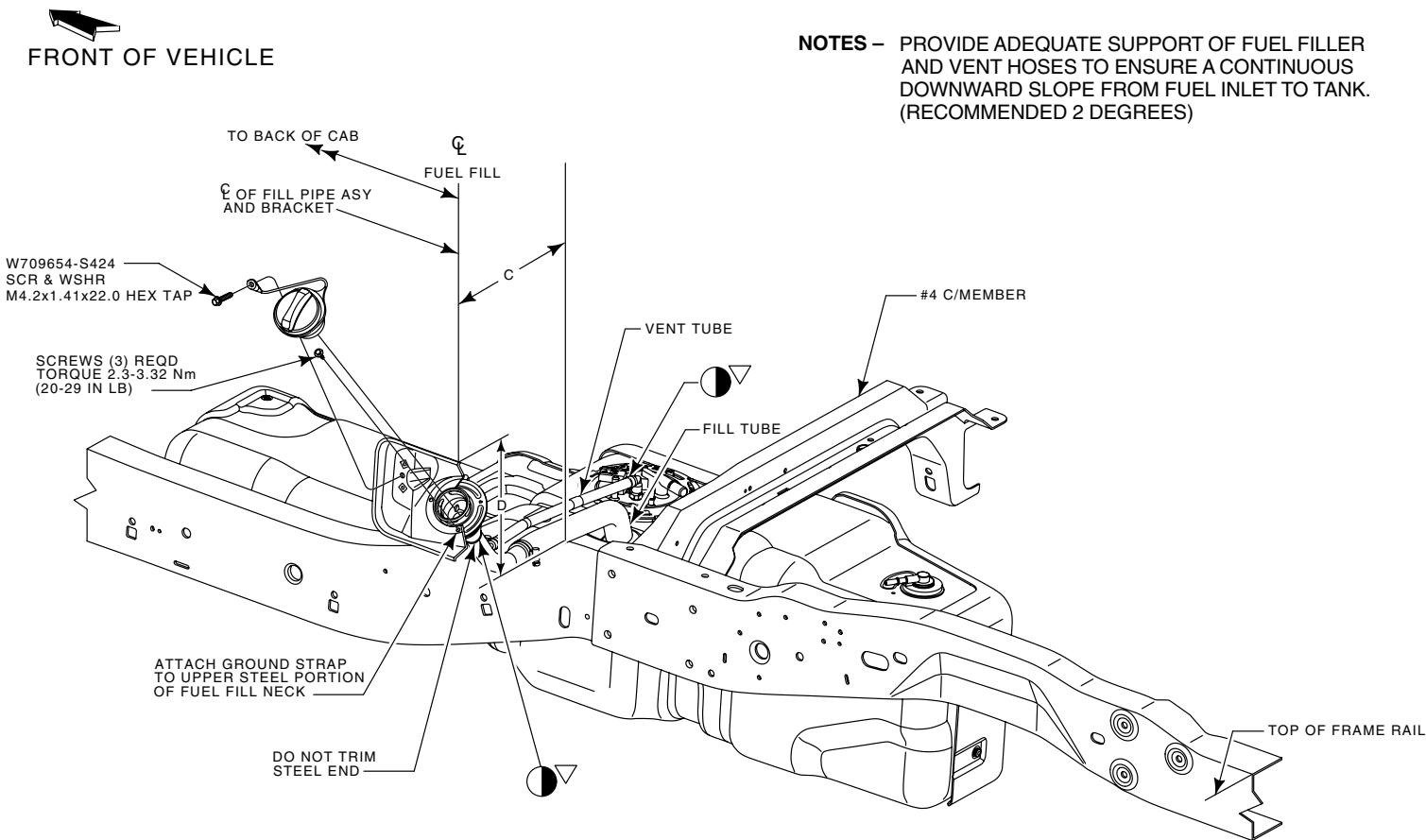
TABLE B – RANGER TIRE AND WHEEL DATA

Wheel Size		Wheel (only) Weight [lb]
15 x 6.0 JJ	(base argent steel)	20.4
15 x 7.0 JJ	(silver styled steel)	22.6
15 x 7.0 JJ	(silver aluminum)	14.5
15 x 7.0 JJ	(chrome steel)	23.9
16 x 7.0 JJ	(5-spokle cast aluminum)	16.2
15 x 7.0 JJ	(8-hole forged aluminum)	16.9
16 x 7.0 JJ	(5-spoke cast aluminum)	20.5
Tire Size		Tire Weight [lb]
P235/75R-15SL		28.2
P225/70R-15SL		24.1
P245/75R-16SL		30.8
31X10.5R15		43.2

PICKUP BOX REMOVAL / ALTERATIONS
RANGER FILLER PIPE LOCATION AND DIMENSIONS

2008
MODEL YEAR

Page 363 PICKUP BOX



BB0445 2004

DIM.		
A	SUPERCAB	198 [7.8]
C	SUPERCAB	443 [17.4]
D	SUPERCAB	224 [8.8]

USE COMPONENTS FROM FUEL FILL SYSTEM INSTALLED BY FORD. REMOVE FROM VEHICLE HOSES, CLAMPS AND CAP FOR USE WITH FILL PIPE KIT. USE NEW HOSES, PIPE, STEEL PORTION, TIE-WRAPS AND CLAMPS PROVIDED IN KIT TO CONNECT FUEL FILL SYSTEM FROM TANK TO UNIT BODY AS SHOWN. FUEL FILL AND VENT HOSES PROVIDED IN KIT MAY REQUIRE TRIMMING AS SHOWN IN FIGURE. THE RESULTING TRIMMED FILLER SYSTEM SHOULD PROVIDE A DIRECT DOWNWARD SLOPE TO THE FUEL TANK FROM THE METAL PIPE WHILE AVOIDING KINKS WHICH RESTRICT FUEL FLOW. ADDITIONAL SUPPORT MAY BE REQUIRED TO PREVENT SAGGING OR MIS-ORIENTATION. FAILURE TO DO SO WILL RESULT IN SPRAY OR SPIT-BACK DURING THE FUELING OPERATIONS.

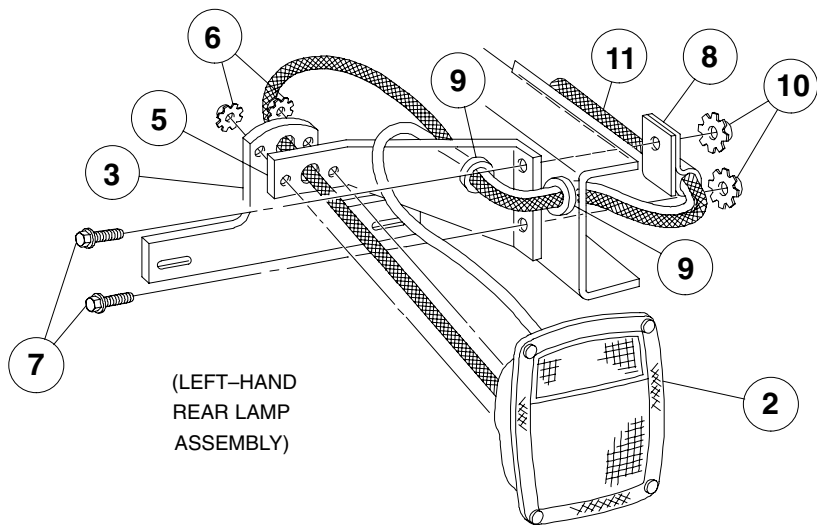
▽ CRITICAL CONTROL ITEM

● TORQUE ALL WORM GEAR DRIVEN HOSE CLAMPS TO 2.7-3.7 Nm 24-38 IN-LB

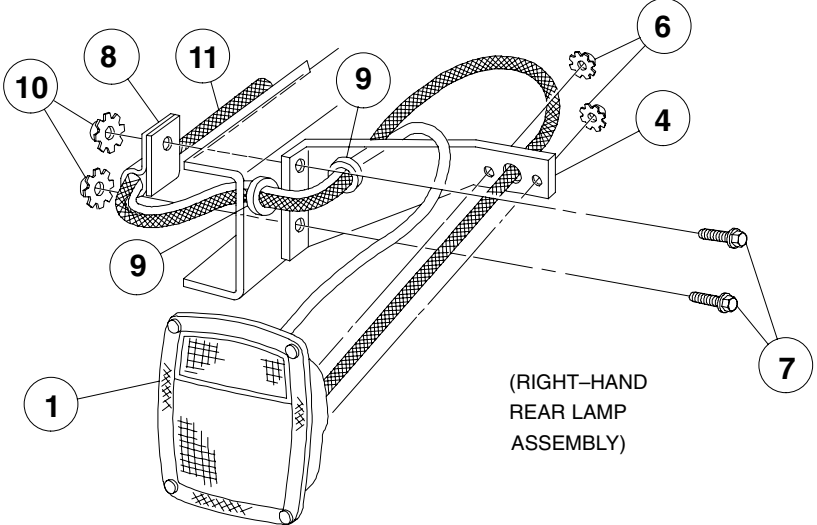
NOTE - [] DIMENSIONS ARE INCHES.

PICKUP BOX REMOVAL/ALTERATIONS
RANGER

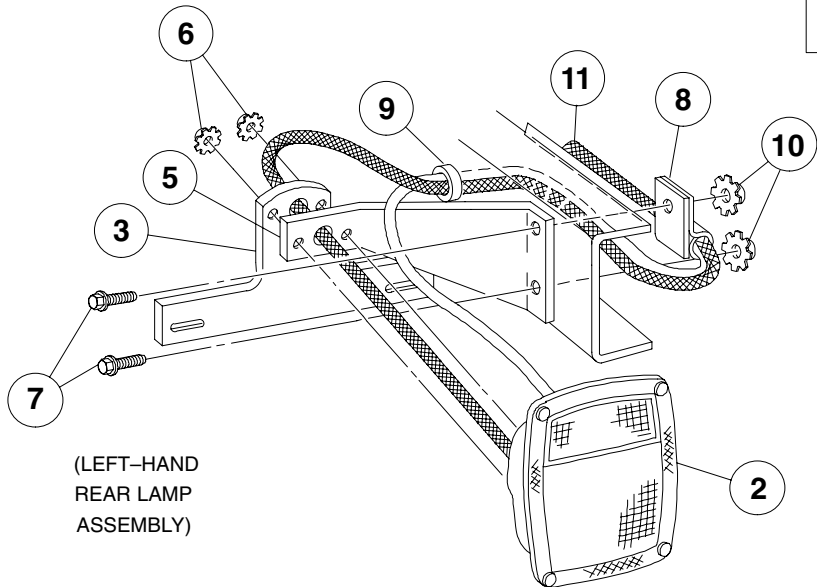
2008
MODEL YEAR



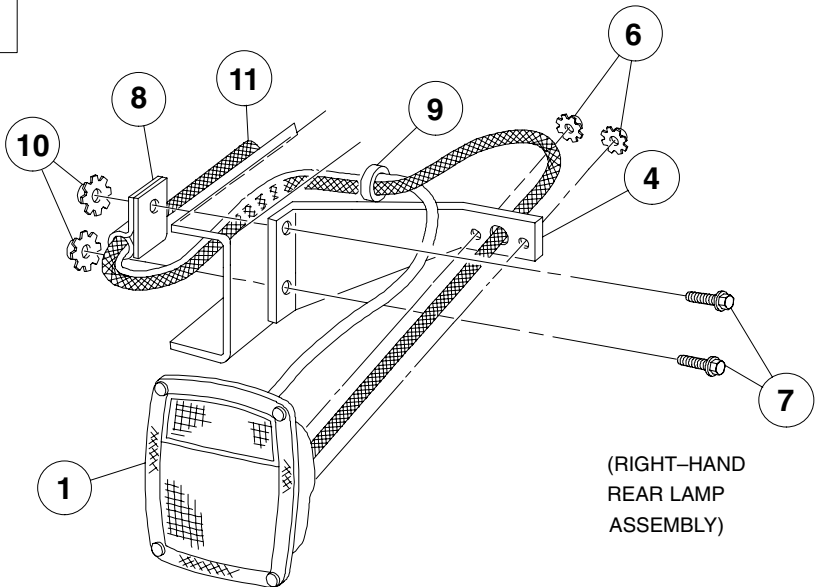
INSTALLATION FOR
RANGER
4 x 2 MODELS



NOTE:
WIRE HARNESS ROUTING
DIFFERENCES BETWEEN
4 x 2 AND 4 x 4 MODELS



INSTALLATION FOR
RANGER
4 x 4 MODELS



SERVICE PART NUMBERS

- | | |
|-----------------|--|
| 1. E4TZ-13404-C | RIGHT-HAND REAR LAMP ASSEMBLY |
| 2. E4TZ-13405-C | LEFT-HAND REAR LAMP ASSEMBLY |
| 3. C7TZ-13406-A | LICENSE PLATE BRACKET |
| 4. E0TZ-13470-C | RIGHT-HAND MOUNTING BRACKET |
| 5. E0TZ-13471-A | LEFT-HAND MOUNTING BRACKET |
| 6. 34659-S36M | NUT AND WASHER ASSEMBLY (4 REQUIRED)
(TORQUE TO 3-7 POUND-FEET) |
| 7. 55653-S36 | BOLT (4 REQUIRED) |

PART DESCRIPTION

SERVICE PART NUMBERS

- | | |
|-------------------|---|
| 8. 353473-S36 | CLIP (2 REQUIRED) |
| 9. 384646-S | GROMMET (4 REQUIRED FOR 4 x 2 MODELS;
2 REQUIRED 4 x 4 MODELS) (SPLIT LINE IN GROMMET
MUST BE AT TOP, IN VERTICAL POSITION) |
| 10. 34661-S36 | NUT AND WASHER ASSEMBLY (4 REQUIRED)
(TORQUE TO 12-20 POUND-FEET) |
| 11. E3TZ-13A409-A | WIRING HARNESS (CONNECT TO MAIN WIRING ASSEMBLY)
- RANGER ONLY |

PART DESCRIPTION

SECOND UNIT BODY MOUNTING

GENERAL INFORMATION

2008

MODEL YEAR

INFORMATION

The following recommendations are intended to assist in the design of second unit bodies and body mounting systems that will control second unit body movement with respect to the Ford supplied chassis when tested to the procedures specified in F/CMVSS 204⁽¹⁾, 208⁽²⁾, 212⁽³⁾, 214⁽³⁾⁽⁴⁾, 219⁽³⁾, and 301⁽³⁾. These recommendations are based on testing and analyses performed by Ford Motor Company.

Second Unit Bodies (SUB) and their body mounting systems may take many forms, and the following recommendations cannot cover all the possibilities. Strict adherence to these recommendations will not ensure that the completed vehicle will comply with F/CMVSS 204⁽¹⁾, 208⁽²⁾, 212⁽³⁾, 214⁽³⁾⁽⁴⁾, 219⁽³⁾, or 301⁽³⁾. The final stage manufacturer who installs a second unit body on the chassis is responsible for compliance to the above mentioned regulations. Accordingly, Ford Motor Company cannot represent that these recommendations are appropriate for every specific application of a second unit body, the body mounting system, or act of a subsequent stage manufacturer.

To verify compliance of a particular second unit body and selected body mounting system with F/CMVSS 204⁽¹⁾, 208⁽²⁾, 212⁽³⁾, 214⁽³⁾⁽⁴⁾, 219⁽³⁾, and 301⁽³⁾, the testing of a representative vehicle to the applicable procedures of the above regulations is recommended. Questions regarding compliance with F/CMVSS regulations should be directed to your legal counsel, the National Highway Traffic Safety Administration, or Transport Canada.

SECOND UNIT BODY STRUCTURES

The structural design and materials used in the construction of second unit bodies must be sufficient to help control collapse of the body and prevent disengagement from the chassis when tested in accordance with the specifications of F/CMVSS 204⁽¹⁾, 208⁽²⁾, 212⁽³⁾, 214⁽³⁾⁽⁴⁾, 219⁽³⁾, and 301⁽³⁾. Steel or aluminum structures are recommended, however, wood or composite materials may require additional reinforcements to provide the structural integrity required for actual crash testing. SUB structures should not exceed beyond (overhang) the end of the chassis (frame side members).

SECOND UNIT BODY FUEL SYSTEM COMPONENTS

SUB floor and bulkhead structures must accommodate the Ford fuel fill system and suggested design clearances. Fill neck locations and all F/CMVSS 301⁽³⁾ compliance representations for Super Duty F-Series and E-Series vehicles are in the Statements of Conformity section of the *Incomplete Vehicle Manual*. See additional Fuel System Design Recommendations.

SECOND UNIT BODY ELECTRICAL

Some electrical power sources are identified in the Design Recommendations and the F/CMVSS 108 compliance representations in the *Incomplete Vehicle Manual*. For wiring diagrams and additional information see Electrical Wiring pages in the Electrical Section.

HEADLIGHT ALIGNMENT

Headlight initial aim is set at the assembly plant, but may not be correct for your final vehicle configuration. Therefore, headlight aim verification after installation of the SUB is the responsibility of the final stage manufacturer, and should be part of the completed vehicle sign-off.w

UNDERBODY HEAT MANAGEMENT

- Underbody longitudinal or lateral air movement should not be restricted. Frame spacers designed by the intermediate and final stage manufacturer should provide for adequate airflow over the frame.
- No portion of the floor pan should drop below the body sills, nor should the underbody structure drop below the top surfaces of the number 3 and 4 crossmembers. These conditions can result in reduced airflow, pinched fuel lines or vapor hoses which can raise the temperature of underbody components and increase fuel system pressure.
- Any interior floor underlayment or insulation in the near vicinity of the exhaust system, without benefit of the Ford provided heat shields, must be capable of withstanding 371° C [700° F] (and 482° C [700° F] in close proximity to the catalyst) during normal operating conditions. Additionally, any under chassis mounted components within 101.6 mm [4 in] of the exhaust system must be compatible with these temperatures.

The subsequent stage manufacturer should also consider the following situations, which may have an adverse effect on heat management.

- Poor vehicle service or lack of maintenance
- Deviation from a 50/50 ethylene glycol based antifreeze (coolant) to water ratio
- Exceeding Ford GVW and GCW ratings
- Malfunctioning systems such as exhaust or engine
- Altering, changing, removing Ford engine fan and shroud
- Blocked radiator grille area (spare tire, bicycles, etc.)
- Use of throttle kickers.

- Second unit body exterior panels, tool boxes, running boards, structures, or skirting that extend below the bottom of the frame, may affect underbody temperatures. The final stage manufacturer should verify that underbody temperatures of the completed vehicle are compatible with all vehicle's components when under conditions that consider the projected vehicle duty cycle and vehicle loading.
- Full-width mudflaps should not be installed, as they restrict airflow under the vehicle and can also increase underbody temperatures.
- Added structure or equipment should not restrict air circulation in the engine compartment/underbody.
- Added body vents, especially powered vents, should be located away from the fuel filler and venting areas and exhaust to avoid fuel fumes and vapors entering the interior of the vehicle.
- Use of wood in construction should be eliminated where at all possible. If used, wood should be adequately protected from moisture and heat. Shields should be added if wood is installed near exhaust components.

NOTES —

- (1) For vehicles with a GVWR of 10,000 lb or less and an unloaded vehicle weight of 5500 lb or less.
- (2) Injury criteria is applicable to vehicles with a GVWR of 8500 lb or less and an unloaded vehicle weight of 5500 lb or less.
- (3) Applicable to vehicles with a GVWR of 10,000 lb or less.
- (4) Dynamic Performance Requirements apply to MPV, Truck, or a Bus with a GVWR of 2722 Kg (6000lb) or less.

SECOND UNIT BODY MOUNTING RANGER

2008
MODEL YEAR

RANGER SUB MOUNTING SYSTEM (BRACKET ATTACHMENT METHOD)

Shear plates are a method of SUB attachment that should minimize SUB movement under impact conditions. The following items are critical to the performance of this type of mounting system:

1. The SUB must be minimum 36.0 mm [1.40 in] from the back of the cab.
2. The frame to SUB spacers have a web dimension of 101.6 mm [4 in] minimum and the upper and lower flanges to be 57.0 mm [2.25 in], using 6.35 mm [0.25 in] HRLC steel. The spacer minimum length is 76.2 mm [3 in] for the front spacer and 152.4 mm [6 in] for the rear. These spacers will accommodate the recommended fuel filler pipe clearance provided they are installed 25.4 mm [1 in] or more from any fuel filler pipe. See Figure 1 on the next two pages for additional information.
3. Shear plate recommendations for a second unit body are:
 - 3/8 inch thick HRLC steel material, with a minimum of four fasteners for each shear plate, or two fasteners installed in the frame if the shear plate is welded to the SUB structure. Detailed shear plate design recommendations are shown in the sketches in Figure 1 on this page.
 - Hole size, location, and spacing are shown in the above mentioned sketches.
 - Three shear plates per side – one forward and two rearward of the rear axle.
 - Use 5/8 inch diameter, grade 8 bolts, nuts and washers, four per side to attach shear plates to the frame, see Figure 1. **DO NOT WELD THE SHEAR PLATES TO THE FRAME.**
 - Use 5/8 inch diameter, grade 8 bolts, nuts, and washers, four per side to attach shear plates to the SUB, or equivalent weld.
 - 105-220 ft-lb torque for 5/8 inch nuts
 - Direct the threaded end of bolt away from any fuel, brake, or electrical system component.

RANGER SUB MOUNTING SYSTEM (BRACKET ATTACHMENT METHOD)

This typical system design utilizes the existing eight (four per frame rail) pickup box mounting holes. The typical service body under-structure referenced uses 3 inch front and rear body cross sills. The height of the mounting system is governed by the clearance requirements of the midship fuel tank fuel filler to the front intermediate body cross sill. The mounting system depicted herein represents the minimum floor height achievable for a service body of conventional design.

Various service body designs (larger body cross sills or lower wheel house height) will dictate a higher mounting system in order to provide standard body to chassis (fuel filler and tire) clearances.

This suggested typical system is made up of eight (8) components and associated attaching hardware. A chart on this page and drawings of each component and their installation on the next 2 pages are typical of a service body installation.

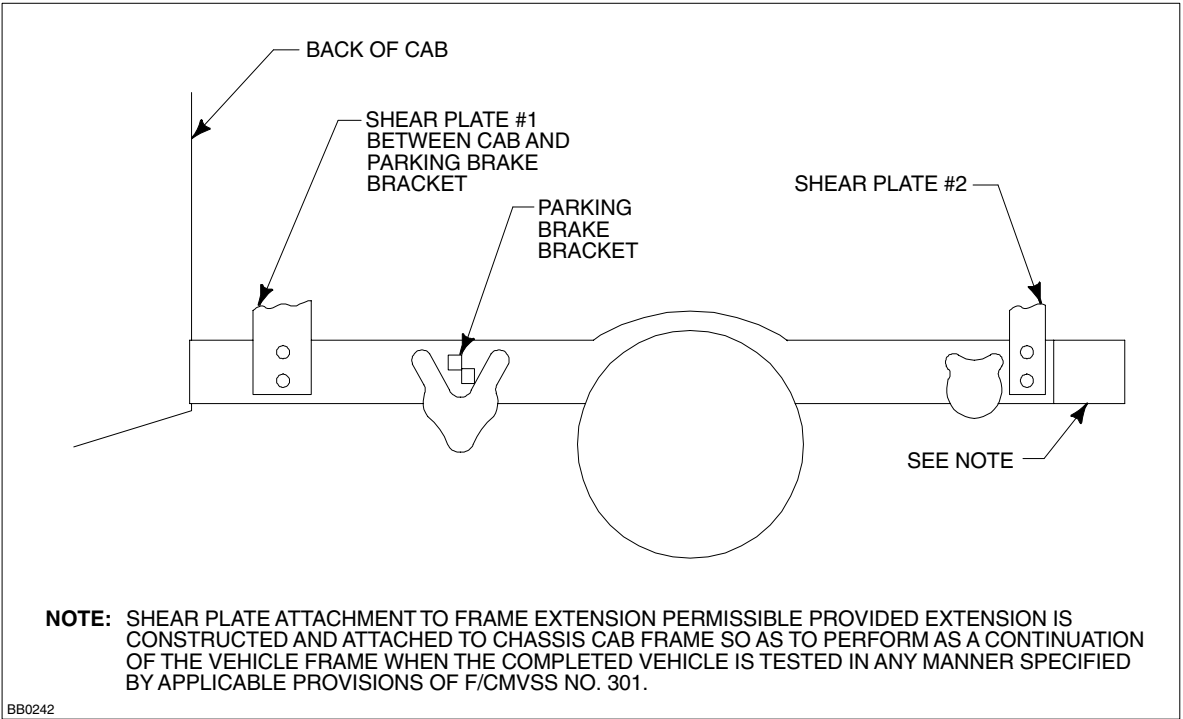
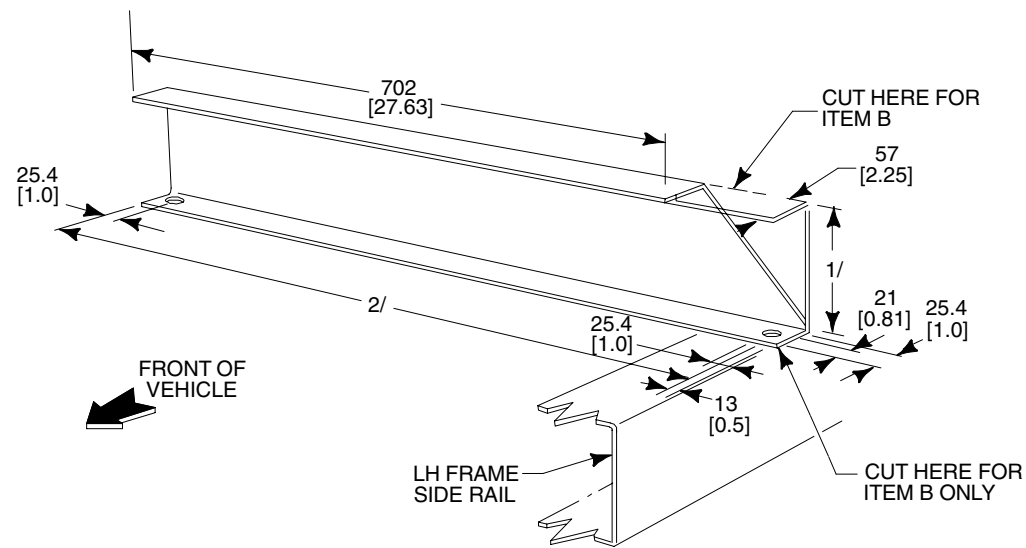


FIGURE 1 - TYPICAL RANGER SHEAR PLATE ATTACHMENT

COMPONENT DESIGNATION	COMPONENT DESCRIPTION	NOTES
Front Service Body Mount (Item A)	A 3" C section with outboard brace (restrainer). LH mount is a mirror image of the RH mount	Weld and bolt to underbody as specified, See Figure 1, Item A on page 191.
Mid-Front Cross Sill Service Body Mount (Item B)	A 4.66" C section 30.5" long	Locate on lower surface body floor by means of hole alignment to P/U box mounting holes in frame siderail upper flange. Weld to floor as specified, see Item B, on page 187.
Mid-Rear Service Body Mount (Item C)	A 3.06" C section 31.90" long	Locate with respect to P/U box mounting holes in frame siderail upper flange. Weld and bolt to rear cross sill of service body as specified, see Item C, on page 187.
Rear Service Body Mount (Item D)	A 1.81" C section. The LH mount is a mirror image of the RH mount.	Locate forward (4.125" C/L) hole with respect to P/U box mounting hole in frame siderail upper flange. Weld and bolt to rear cross sill of service body as specified, see Item D, on page 187.
Attaching Parts, <i>et.al.</i>	Use 0.62" diameter grade 8 bolts, nuts, and washers. Minimum length of 1.25" for bolts. Torque to 105-220 ft-lb.	Largest possible flat washers must be utilized on lower side of frame rail flange. Caution: Ensure that the flat washer does not interfere with frame bend radii.

SECOND UNIT BODY MOUNTING RANGER

2008
MODEL YEAR



ITEMS B & C – RANGER MID-FRONT/REAR CROSS
SILL (TYPICAL) SERVICE BODY MOUNT

MATERIAL – SAE 1017, 0.25 INCH (3 GAGE) THICKNESS
WITH 0.50 INCH BENT RADII.

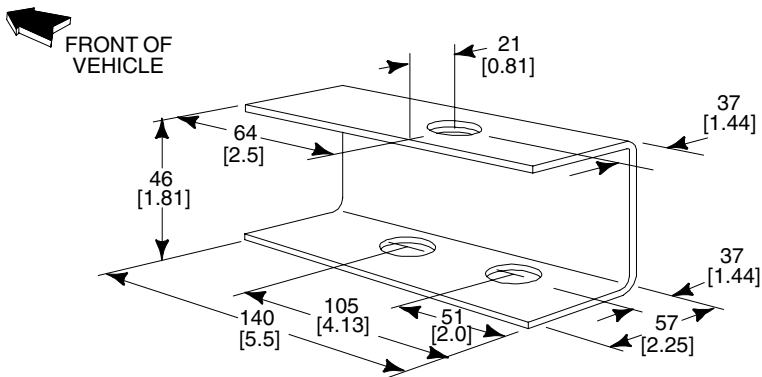
NOTES – ALL HOLE DIAMETERS 17.5 [0.687]

1/HEIGHT
ITEM B 118 [4.66]
ITEM C 78 [3.06]

2/LENGTH
ITEM B 822 [32.375]
ITEM C 810 [31.90]

WELD LEADING EDGE AND RADIUS OF UPPER FLANGE
(SIX 2 INCH LONG WITH 3 INCH SPACING 0.125 *
INCH FILLET) TO UNDERSIDE OF BODY FLOOR

* REFERENCE ONLY LEG OF FILLET SHOULD NOT
EXCEED 0.7 OF THE THICKNESS OF THINNEST
MATERIAL TO BE WELDED.



ITEM D – RANGER R.H. REAR (TYPICAL)
SERVICE BODY MOUNT

MATERIAL – SAE 1017, 0.25 INCH (3 GAGE) THICKNESS
WITH 0.50 INCH BEND RADII.

NOTES – ALL HOLE DIAMETERS 17.5 [0.687]

WELD REAR EDGE OF UPPER FLANGE
(2 INCH LONG 0.125 * INCH FILLET) TO
BODY #4 CROSS SILL AND USE 5/8 INCH
DIA. GRADE 8 BOLTS, NUTS, AND
WASHERS. (LH SYMMETRICALLY
OPPOSITE)

* REFERENCE ONLY, LEG OF FILLET
SHOULD NOT EXCEED 0.7 OF THE
THICKNESS OF THE THINNEST
MATERIAL TO BE WELDED.

SECOND UNIT BODY MOUNTING

E-SERIES CUTAWAY

2008
MODEL YEAR

Revised 06-25-08

E-SERIES SUPER DUTY CUTAWAY SUB MOUNTING SYSTEM

FORD OPTIONAL SPACERS

Ford provides optional SUB mounting spacers which will isolate the SUB from the frame. The SUB should be attached to these spacers using all the provided holes in the spacer with a suggested minimum 7/16-14 UNC grade 8 fastener. These fasteners should be directed away from any fuel system component or should not extend more than 25.4 mm [1.00 in] below the spacer flange. The location of these spacers is shown on page 37-43. The rubber isolators on the spacers are capable of 19.0 mm [0.75 in] movement in spherical zone from a static (design) position, which is the same for the isolators that mount the Cutaway body to frame. This will minimize squeaks, rattles and water or air leaks at the mounting surface of the SUB, to Cutaway body. The Ford optional spacers will accommodate the recommended fuel fill neck installation as shown on page 53, and a recommended 101.6 mm [4.00 in] minimum clearance between the frame and the bottom of the SUB (except at the rear axle kick-up area).

NON-FORD SPACERS

Vehicles not equipped with the Ford optional spacers have 34.8 mm [1.37 in] diameter holes on the upper flange of the frame sidemembers for body to frame isolators. The density/durometer, size and quantity of these isolators should be based on the SUB weight plus the projected payload of the completed vehicle, within the limits of the GAWRs and GVWR, as determined by the final stage manufacturer.

NO SPACERS

If the final stage manufacturer chooses to attach the SUB (or other components) to the frame by bolting or welding, the following restrictions are to be followed:

1. The frame rail flanges, including the flange bend radius, must not be drilled or welded upon. Also, flanges may not be cut/trimmed to provide clearance to added hardware or structure.
2. When bolting the SUB (or other components) to the frame, follow the guidelines of pages 371-373 (F-Series).

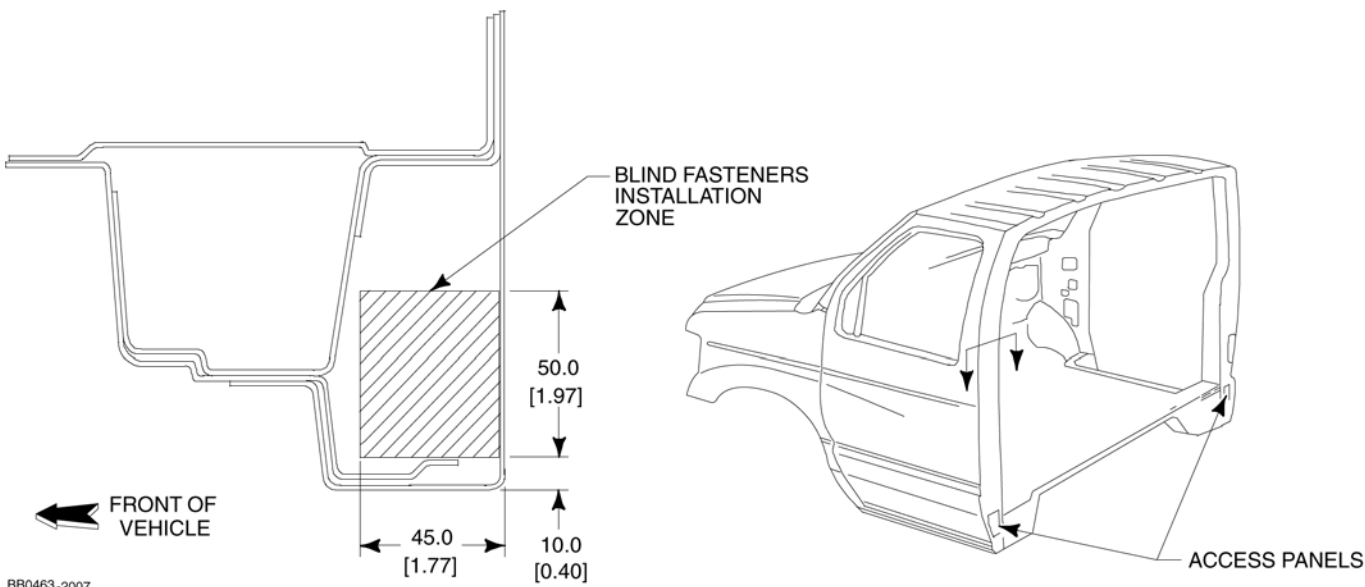
Note that hard mounting of the SUB to the frame and to the cutaway body may result in NVH and cutaway body durability issues.

NOTES

4470mm [176 in] wheelbase vehicles equipped with a 55-gallon fuel tank will require a 457 mm [18.00 in] minimum frame extension to provide for an adequate departure angle.

The attachment of the SUB to the Cutaway body should consider the following:

1. Blind installation of self-expanding nut type fasteners can be located in the zone as defined in the figure on this page, and should allow for functional expansion, and be equally spaced. The body edge flange may also be used for fasteners provided the center of the required hole is 1.5 times the hole diameter from the edge of the panel. These recommendations apply to both B-pillar attachment.
2. Removal of the access panel and fasteners at the lower area of the B-pillar will allow for flush mounting of the SUB. This opening should be completely covered and sealed from obvious climatic conditions.
3. Roof attachments should be equally spaced and are permitted on the flange provided. The center of the required holes should be 1.5 times the hole diameter from the edge of the flange.
4. Floor attachments should be equally spaced and are permitted on the flange provided. The center of the required holes should be 1.5 times the hole diameter from the edge of the panel.
5. Washers or doublers should be considered to increase the bearing surface under fasteners to increase joint integrity and to decrease sheet metal fatigue, squeaks, and rattles.
6. Gaskets or sealers installed between the Cutaway body and the SUB should consider the displacement and stabilization of such materials when clamped, and the effect on joint integrity.



E-SERIES SUPER DUTY CUTAWAY BODY TO SECOND UNIT BODY ATTACHMENT

NOTE — [] DIMENSIONS ARE INCHES.

Do not weld to the flanges of the side rail. Refer to the welding precautions in the Frame section on page 381.

SECOND UNIT BODY MOUNTING E-SERIES STRIPPED CHASSIS

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SECOND UNIT BODY MOUNTING

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SUPER DUTY F-SERIES SECOND UNIT BODY (SUB) MOUNTING TECHNIQUES FOR CHASSIS CAB (WIDE FRAME)

The intent of the illustrations shown on the following two pages is to offer an expanded range of Second Unit Body (SUB) mounting design recommendations for Super Duty F-Series trucks with a 1422 mm [56 in] Cab to Axle (CA) design.

SUB Mounting Techniques #1 and #2 for 56" CA with SUB weight 1800 lb or less

These SUB mountings were tested by Ford Motor Company and found to be capable of complying with F/CMVSS requirements. The sketches in Figures A and B on the following page depict the recommended SUB mounting techniques.

SUB Mounting Technique #3 for 56" CA with SUB weight 1800 lb or less

The third mount scheme is a top bolted mounting technique. This top bolted SUB mounting is recommended for the Super Duty F-Series pickup trucks with a 1422 mm [56 in] CA. This technique uses the existing pickup box mounting holes to mount a SUB weighing 1800 lb or less provided the SUB is mounted in a similar fashion to the Ford's pickup box. These mountings should use the same number of OEM fasteners and OEM locations. The sketch which is shown in Figure C on page 373 depicts this technique. Refer to page 117 of Super Duty F-Series section for mounting hole layout.

SUB Mounting Technique #4 for 56" CA with SUB weight 1800 lb or less

This technique embodies the Front and Rear Shear plate attachment as depicted in SUB Mounting Techniques #1 and #2, but requires addition of U-bolts for further attachment. Figures D and F on page 373 depicts this technique.

CHASSIS CAB (NARROW FRAME)

Figures E and F on page 373 show the SUB mounting design recommendations for Super Duty F-Series Trucks with a 60", 84", 108", or 120" Cab to Axle (CA). Pre-punched holes are provided to accommodate front shear plates as shown on pages 143-144 of the Super Duty F-Series section.

DETAILS OF THE SECOND UNIT BODY MOUNTING TECHNIQUES

The following SUB mounting design recommendations are methods of attachment intended to minimize SUB movement under crash situations. The following items are important factors in the performance of the system:

1. The forward most surface of the SUB is located at least 76.2 mm [3.0 in] behind the rearmost surface of the cab. Refer to the Statements of Conformity for F/CMVSS 212⁽¹⁾, 219⁽¹⁾, and F/CMVSS 301⁽¹⁾, in the *Incomplete Vehicle Manual*.
2. Spacers between the frame and SUB must provide adequate clearance to the fuel fill system on wide frame or pickup box delete models. Refer to the Statement of Conformity for F/CMVSS 301⁽¹⁾ of the *Incomplete Vehicle Manual* and the Design Recommendations for fuel fill systems on page 374-375 of this book.

3. The following are SUB mounting instructions for a SUB weight of 3960 kg [1800 lb] or less and a 56" CA:

The frame to SUB spacers must provide adequate space to allow a proper fuel filler pipe installation on pickup box delete models.

Technique #1; **front shear plate** attachment; use two, 5/8" diameter, grade 8 bolts, nuts, and washers in the OEM frame. One, 5/8" diameter, grade 8 bolt, nut, and washers with a 1/4" equivalent weld bead around three sides of the shear plate and the SUB mounting frame, skip welded at the shear plate corners. See Figure A, View A on page 372. **DO NOT WELD THE SHEAR PLATES TO THE OEM FRAME.**

Technique #1; **rear shear plate** attachment; use three, 5/8" diameter, grade 8 bolts, nuts, and washers in the OEM frame. One, 5/8" diameter, grade 8 bolt, nut, and washers with a 1/4" equivalent weld bead around three sides of the shear plate and the SUB mounting frame, skip welded at the shear plate corners. See Figure A, View B on page 372.

Technique #2; **front shear plate** attachment; use two, 5/8" diameter, grade 8 bolts, nuts, and washers in the OEM frame. Two, 5/8" diameter, grade 8 bolt, nut, and washers in the SUB mounting frame. See Figure B, View C on page 372.

Technique #2; **rear shear plate** attachment; use three, 5/8" diameter, grade 8 bolts, nuts, and washers in the OEM frame. Two, 5/8" diameter, grade 8 bolt, nut, and washers in the SUB mounting frame. See Figure B, View D on page 372.

Technique #3; **pickup box** attachment; use eight, 5/8" diameter, grade 8 flange nuts and bolts that utilize the existing pickup box holes in the top frame flanges. See Figure C on page 373.

Technique #4 (56" CA with SUB weight over 1800 lb) use same as Technique #1 except with addition of U-bolts as shown in Figure D on page 373.

For Super Duty F-Series Chassis Cab vehicles with a 60", 84", 108", or 120" CA, it is recommended that the front shear plate mounting holes, as provided on each chassis, be used. Use the same front and rear shear plate attachment as Technique #1 or #2 with a 5/8" diameter U-bolt spaced every 24 to 36 inches. See Figure E on page 373. When U-bolts are used, vertical spacers must be between the upper and lower frame flanges at each U-bolt to prevent collapse of the flanges. See Figure F on page 373. U-bolt torque must be checked every six months.

The following items are important factors in the performance of the system:

- The spacer should be secured in such a manner as to maintain retention during installation or during operational use and should have a slight taper which starts at the front of the SUB frame. See figures on page 372.
- Front shear plates should be angled forward approximately 45 to 60 degrees from the horizontal. Front shear plates should be a sufficient distance from the front of the SUB to allow for frame flexing, i.e., front shear plates should be placed behind the tapered section of the spacer.
- Use 5/8" diameter, grade 8 bolts, nuts, and washers that attach the shear plates to the OEM vehicle and SUB frame.
- 60-65 ft-lb torque for the 5/8" diameter, grade 8 bolts, nuts, and washers.
- Direct the threaded end of the bolts away from any fuel, brake or electrical system components.
- U-bolts or attaching hardware should not contact fuel, brake or electrical system components. A shear plate should be utilized if there is insufficient space for a u-bolt to be installed between the frame and fuel tank.

SECOND UNIT BODY MOUNTING SUPER DUTY F-SERIES

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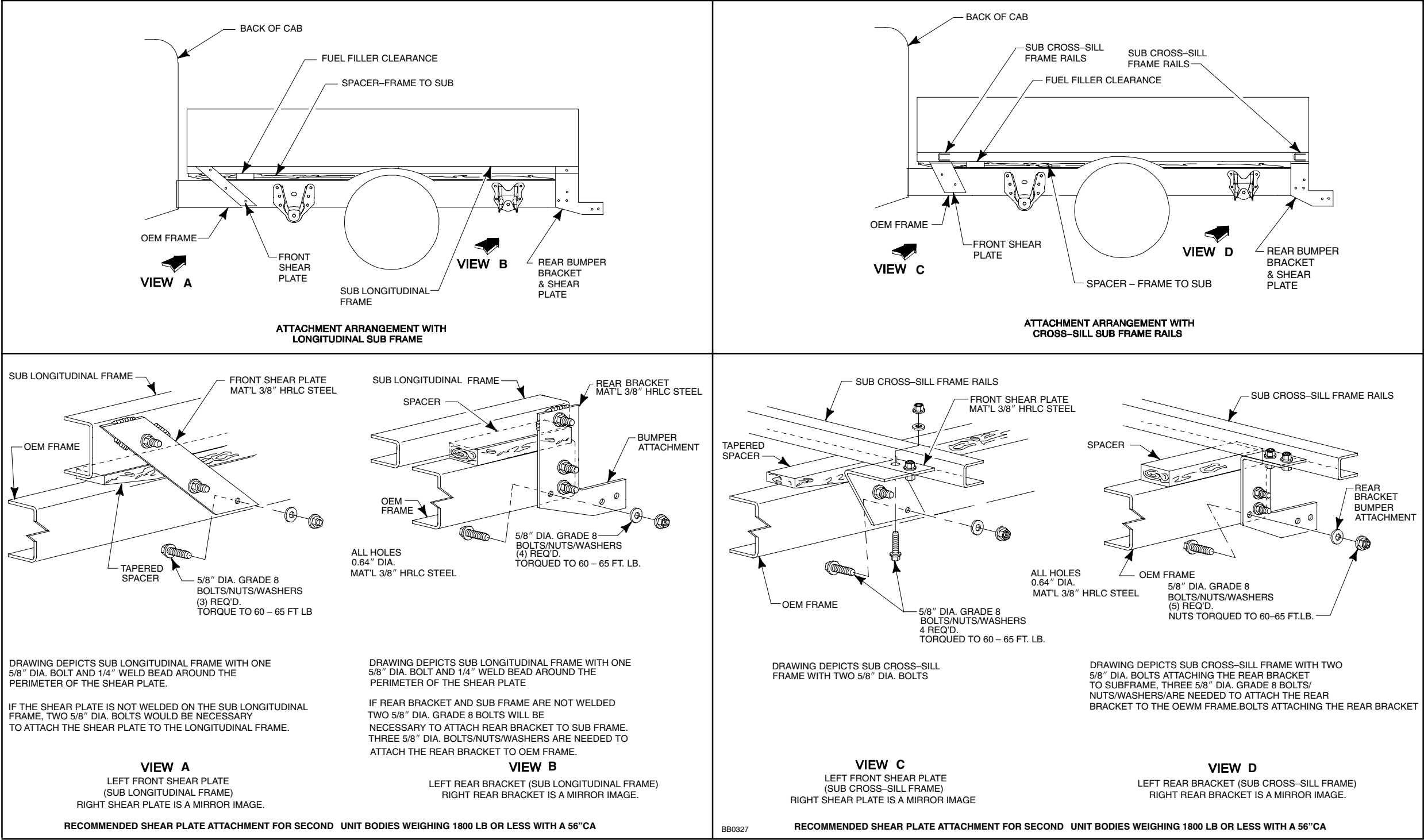


FIGURE A - SUPER DUTY F-SERIES SUB MOUNTING TECHNIQUE #1

FIGURE B - SUPER DUTY F-SERIES SUB MOUNTING TECHNIQUE #2

SECOND UNIT BODY MOUNTING SUPER DUTY F-SERIES

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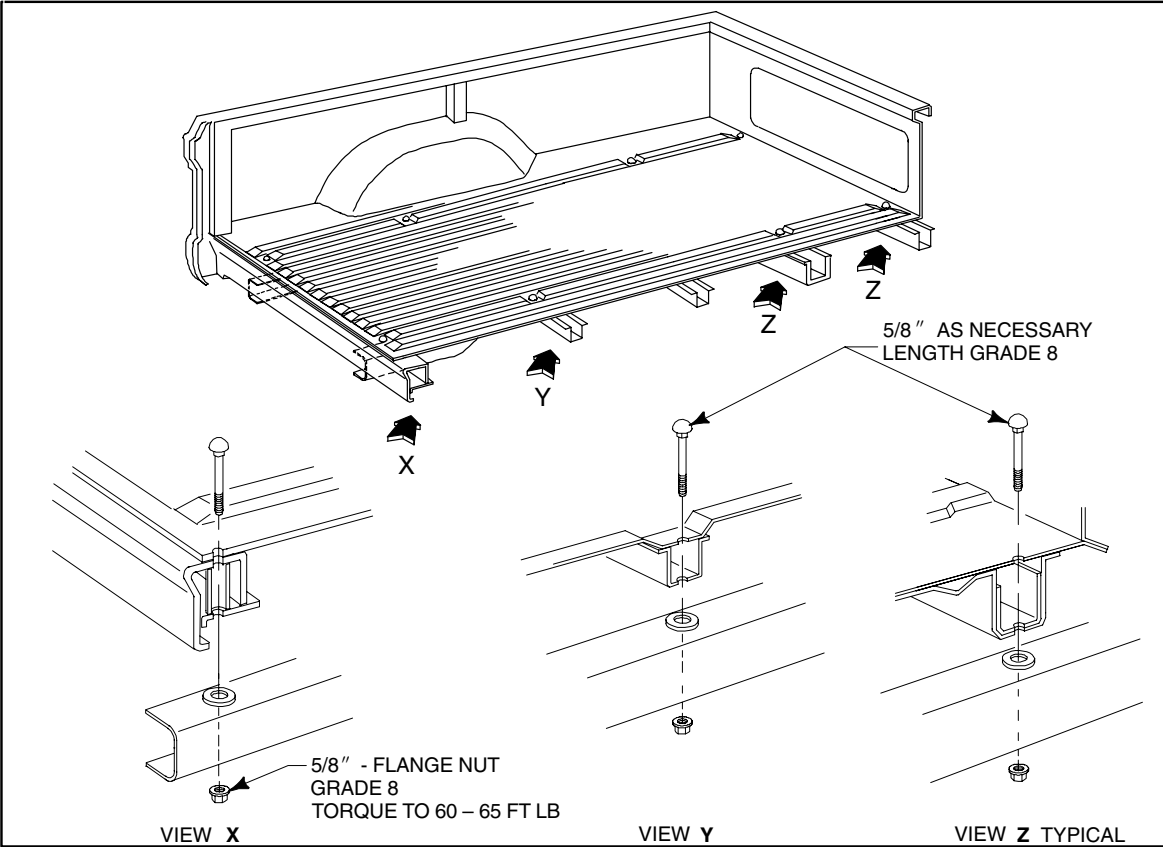


FIGURE C - SUPER DUTY F-SERIES SUB MOUNTING TECHNIQUE #3

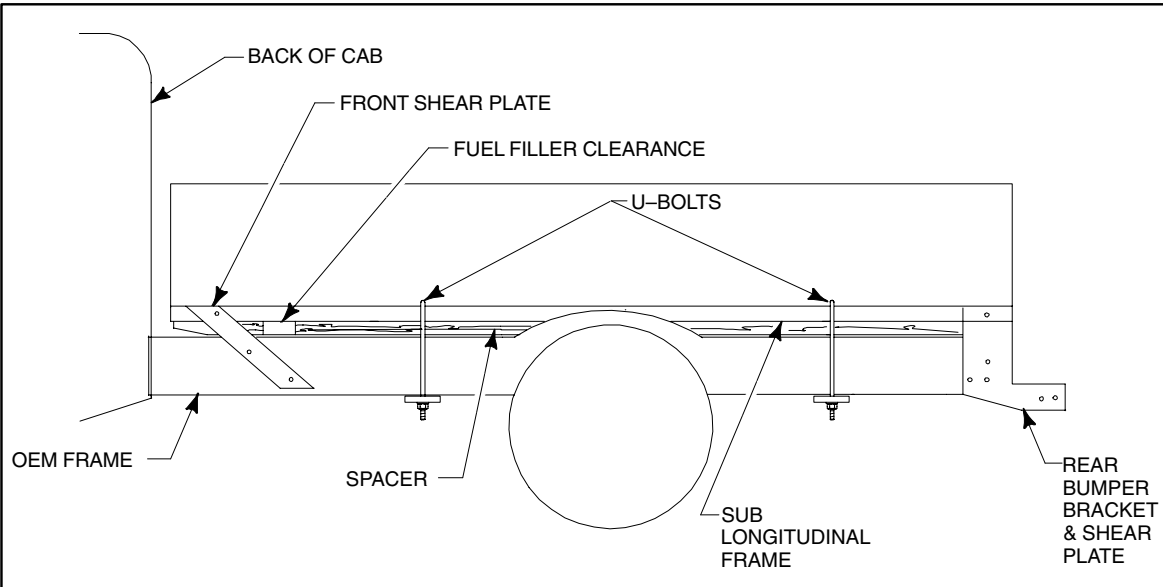


FIGURE D - SUPER DUTY F-SERIES SUB MOUNTING TECHNIQUE #4

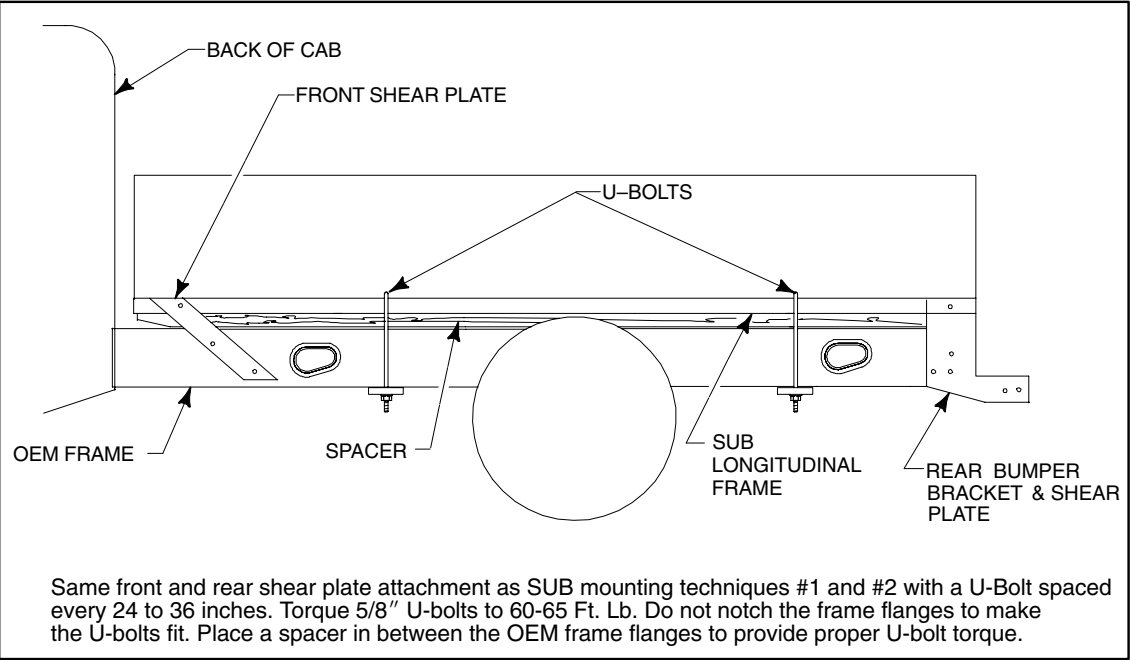


FIGURE E - SUPER DUTY F-SERIES SUB MOUNTING TECHNIQUE #4 FOR 60", 84", AND 120" CA CHASSIS CABS.

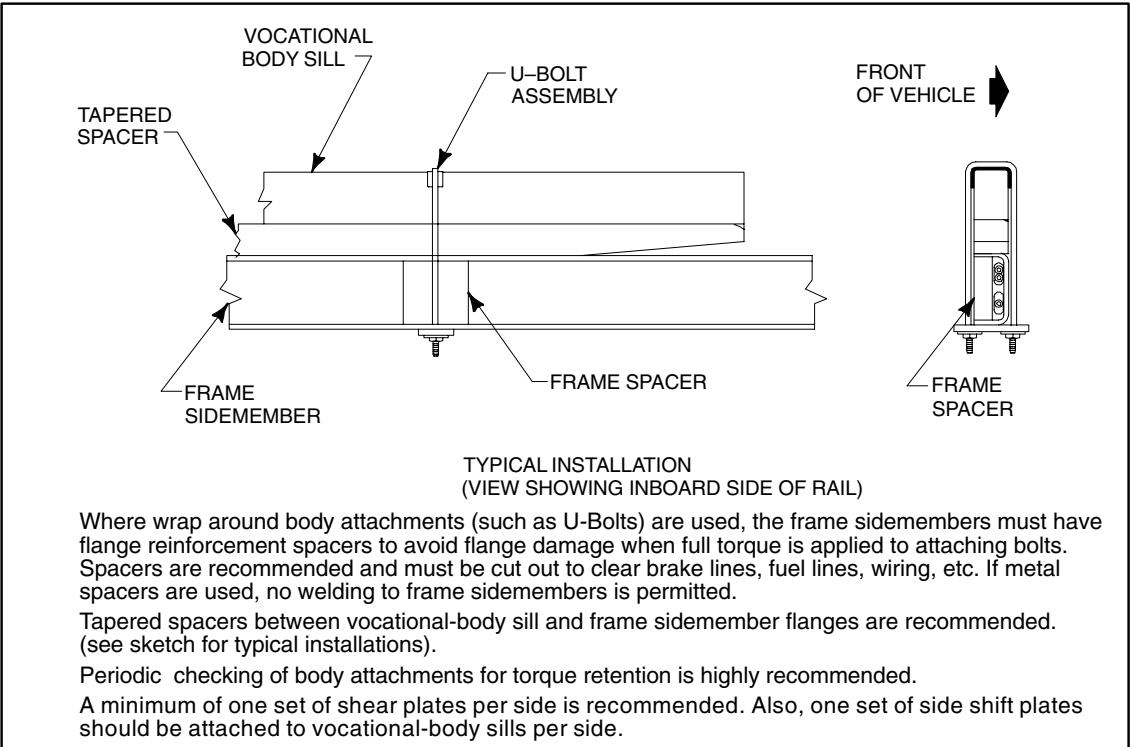


FIGURE F - SUPER DUTY F-SERIES SUB FRAME SPACER FOR U-BOLT.

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WARNING:

BEFORE OPENING THE FUEL SYSTEM ON VEHICLES WITH EFI ENGINES, RELIEVE FUEL PRESSURE BY FOLLOWING THE INSTRUCTIONS IN THE *FORD TRUCK SHOP MANUAL* FOR THE APPROPRIATE MODEL AND MODEL YEAR.

THE EVAPORATIVE EMISSION SYSTEM CONTAINS FUEL VAPOR AND CONDENSED FUEL VAPOR. ALTHOUGH NOT PRESENT IN LARGE QUANTITIES, IT STILL PRESENTS THE DANGER OF EXPLOSION OR FIRE.

WHEN WELDING NEAR FUEL SYSTEM COMPONENTS, ALL METALIC COMPONENTS SHOULD BE ADEQUATELY SHIELDED AND PROTECTED FROM HEAT OR WELD SPLATTER. ALL NON-METALLIC COMPONENTS SHOULD BE REMOVED.

REMOVAL OR REINSTALLATION OF ANY FORD FUEL SYSTEM COMPONENT SHOULD BE PERFORMED TO THE SPECIFICATIONS AND INSTRUCTIONS FOUND IN THE *FORD TRUCK SHOP MANUAL* FOR THE APPROPRIATE MODEL AND MODEL YEAR. (EXCEPT FOR E-SERIES VAN AFT-OF-AXLE TANK INSTALLATIONS, SEE THE FOLLOWING NOTE).

E-SERIES VAN AFT-OF-AXLE FUEL TANK

A Fuel System Modification Kit is available for some E-Series products for removing the midship fuel tank and adding an aft-of-axle fuel tank. This kit is distributed by:

Transfer Flow Inc.
1444 Fortress Street
Chino, California 95973
Phone: (800) 442-0056
Fax: (530) 892-0382

NOTE: The modifier is responsible for determining if the vehicle as modified with this kit meets applicable safety & emission regulations and is properly certified.

INFORMATION

The following recommendations are intended to assist in the design and completion of the fuel system capable of meeting the requirements of F/CMVSS 301. These recommendations are based on testing and analysis performed by Ford Motor Company.

Since completed vehicles may take many forms, this list of recommendations cannot cover all possibilities. Strict adherence to these suggestions will not ensure that the completed vehicle will comply with F/CMVSS 301. The responsibility for determining compliance to F/CMVSS 301 regulations is that of the final stage manufacturer.

Accordingly, Ford Motor Company makes no representations as to the appropriateness of any particular recommendation in its specific application to a particular design or act of intermediate or final stage manufacture.

To verify compliance with F/CMVSS 301, testing of representative vehicles to applicable F/CMVSS 301 procedures may be necessary. Questions regarding compliance with F/CMVSS regulations should be directed to your legal counsel, the National Highway Traffic Safety Administration, or Transport Canada.

Any alteration or modification of a vehicle's fuel or evaporative system may affect the vehicle's compliance with applicable federal and state emission laws, including on-board diagnostics (OBDII) and evaporative emissions requirements, and may also effect vehicle performance (driveability, idle quality, etc.). Vehicle modifiers are responsible for ensuring that a vehicle, as modified, complies with all applicable emissions regulations and for obtaining any necessary federal or state approval or certification relating to vehicle modification or sale of add-on or auxiliary parts.

A. NEW FUEL TANKS

1. The fuel tank should be designed with as few openings and connections as possible. Openings and connections generally should be located on the upper surface of the fuel tank.
2. Fuel tanks should be fitted with an evaporation control valve having the means to close if the vehicle is rotated about a longitudinal axis pursuant to F/CMVSS 301.
3. The tank should be of simple configuration minimizing sharp surface transitions and protrusions which may be required for attachment or function.
4. The tank should be strong enough to withstand instantaneous internal pressure imposed in the event of crash situations.
5. Hoses connected to the tank should be sufficiently flexible to permit small movements of the tank relative to fixed mounting surfaces, without rupture or disconnection of such hoses in the event of crash situations.
6. Emission regulations may require an OBDII fuel tank pressure sensor for the evaporative system. Any new fuel tank must be tested and comply with all emission regulations, including evaporative emissions.
7. Package new tank away from heat sources such as exhaust.

B. NEW FUEL TANK RETENTION SYSTEMS

1. The retention system should attach the fuel tank to the frame, between the frame rails, and below the body of the vehicle with sufficient clearance for normal body to frame movement under loaded conditions.
2. A retention system should restrict fuel tank movement in all possible directions to prevent contact or rupture with rigid or sharp objects, and the disconnection of fuel system tubes and hoses under crash conditions. Retention straps should avoid sharp edges and tank supports should be designed with fuel tank compatible surfaces and edges to the fuel tank.
3. System fasteners and attachments should be designed to retain the tank during deflections incurred in crash situations.

C. FUEL FILL SYSTEM

1. Fill system should be sufficiently flexible to prevent possible rupture or disconnection resulting from movement of the fuel tank relative to frame during crash situations. Use the original pickup truck filler if the fill location is similar to the original pickup truck location. For Ranger, user Ranger Fuel Fill Kit 9B149.
2. Any appliance or hardware attachments to the body in the area of a fuel system component should be designed, positioned, and secured so as not to impact any fuel system component during crash situations.
3. The fuel filler opening area of the body should provide adequate sealing from the vehicle interior because holes or cracks in this area may allow fuel vapors to enter the vehicle interior. Openings should be sealed with a product which is fuel resistant. See Figure A on this page.
4. The metal outer end of the fuel fill neck tube provided by Ford must be properly grounded to the chassis to dissipate any electrostatic charge that may be produced and so reduce the possibility of a spark during fueling. A fill neck support made of metal would provide a ground path if directly mounted on the chassis. If the filler neck support is made of plastic or other non-metallic material, a ground strap or wire must connect the metal end of the fuel filler neck and a metal chassis component.

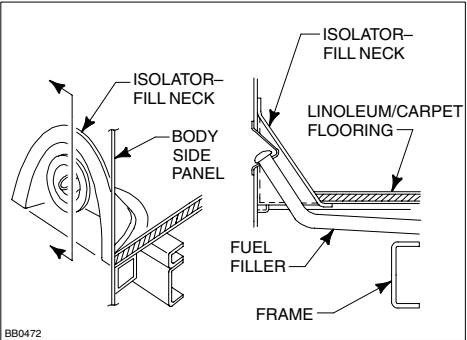


FIGURE A – BODY MOUNTED FUEL FILLER OPENINGS

5. Fill openings should be recessed, and caps, when installed, should be inside the normal body plane.
6. Whenever possible, the fill system should pass under the body rather than through it. Where passing through floors and sides, the fill system should be shielded and have adequate clearance to surrounding structure. Fuel Filler and Vent Hoses should maintain a minimum of one inch clearance to body and surrounding chassis components, except where the hoses and protective sleeve material pass through the designed frame opening.
7. Be sure that the fuel tank filler cap is the correct Ford designated part. Provide adequate hand clearance for cap installation and correct sealing of the cap to filler pipe.
8. The recommended horizontal and vertical locations for the fuel tank filler pipe is shown on page 51 (E-Series), pages 118 and 141 (Super Duty F-Series) and page 76 (Ranger).

SUPER DUTY F-SERIES FUEL FILLER KITS SERVICE PART NUMBERS	
Gas	5C34-9B149-GC
Diesel	6C34-9B149-HA

Other parts that can be ordered/purchased separately:

SERVICE PART NUMBERS	PART DESCRIPTION
E0TZ-9040-A	Support (unskirted body)
D702-9A095-A	Label – Unleaded Fuel
E432-9A095-A	Label – Diesel Fuel

DESIGN RECOMMENDATIONS

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C. FUEL FILL SYSTEM (CONT'D)

9. When installing accessories or equipment, avoid exposure of fuel and vapor hoses to surfaces with sharp edges (see Figure A on this page) or high temperature surfaces (near hot exhaust or coolant). Also avoid installations which result in the exposure of these lines to road debris or undercoating, except as specified on page 374.
10. Install or route fuel tank filler hoses and filler vent hoses as follows:
 - a. Avoid sags below the horizontal which allow fuel puddling (i.e., avoid sink traps). See Sink Traps in Figure A. Fuel trapped in low spots can be expelled when the cap is removed, even if the tank is nearly empty.
 - b. Avoid pinches or kinks, as they restrict fuel filling or venting. Hose length may require adjusting depending on second unit body width. See Kinked Fuel Fill System, Figure A.
 - c. Do not place adjacent hardware such that it may cut or otherwise damage the filler neck and vent hoses and cause fuel or vapor leakage (i.e., avoid unfriendly surfaces) see Hostile Surfaces, Figure A.
 - d. Keep the flow of fuel continuously downward from the inlet of the fuel filler pipe all the way to the tank.
 - e. The filler hose and vent hose must be clear of moving suspension components so as to prevent abrasion which can result in fuel leakage. They should maintain a minimum of 1 inch clearance to body and surrounding chassis components, except where the hoses and protective sleeve material pass through the designed frame opening.
 - f. Be certain that all clamps are secure and properly located.
 - g. The fuel filler and filler vent hoses should not contain fittings or connections other than those incorporated in the original design, nor should they be interconnected with each other in any way.
 - h. Ford released parts should be used.

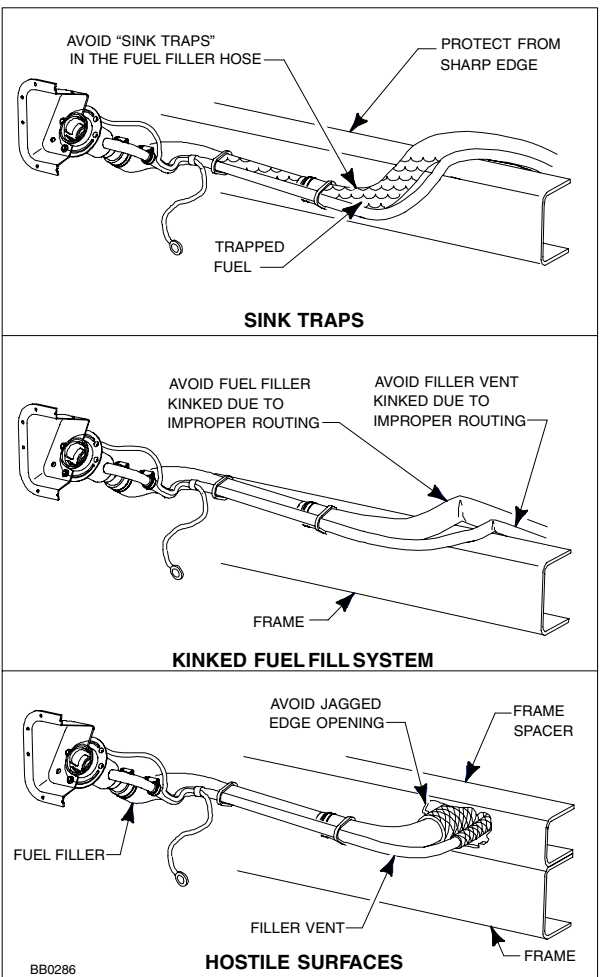


FIGURE A – FUEL FILL SYSTEM INSTALLATION CONDITIONS TO BE AVOIDED

D. FUEL TUBES, HOSES AND PUMPS

1. Do not reroute or change the attachment of fuel lines or fuel vapor hoses. Doing so may alter the vehicle's ability to comply with F/CMVSS 301, Fuel System Integrity, and may adversely affect vehicle performance by increasing the amount of heat absorbed by the fuel system or by restricting its venting.
2. Tubes and hoses should be routed away from and not attached to members that will move or deform during crash situations.
3. Tubes and hoses must be sufficiently flexible to avoid rupture or disconnection resulting from movement of the engine relative to the frame during crash situations.
4. Tubes and hoses should be routed away from hot regions and sharp objects and should be retained adequately to prevent movement into such regions or against such objects.
5. Do not add fuel or vapor line flow restrictors as they can cause engine fuel starvation or abnormally high fuel tank pressures.
6. Do not install auxiliary fuel pumps. This could cause the engine to run rich, producing additional exhaust heat.
7. The special removal tool shown in Figure C on the next page must be used to open push connectors installed on flexible fuel lines if the lines need to be disconnected. The appropriate tool is available from Ford Customer Service Division.
8. The push connectors on flexible fuel lines, if disconnected, must be reconnected by snapping them back into position and installing the appropriate retainer as shown in Figure C on the next page.

9. Avoid pinching or kinking of any fuel vapor hose. (See Figure B below).

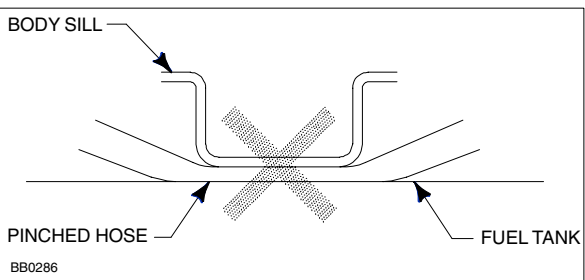


FIGURE B – FUEL VAPOR VENT LINES

10. Each of the fuel lines and fuel vapor hose retention clips provided by Ford must be used in original factory locations to prevent misplacement or movement of the lines.
11. Be certain that the vent valves on top of the fuel tanks are seated and secure; do not dislodge or damage them when mounting the second unit body. If they are unseated, fuel leakage may occur. If damaged, the vapor vent system may not function, resulting in increased fuel tank pressure.
12. If a fuel sender is removed for any reason, use a new gasket when it is reinstalled so as to prevent fuel leaks. Be certain the fuel sender is seated and secure on the top of each fuel tank. Do not step upon or place weight upon the sender during vehicle manufacture. See page 51.
13. Fuel filters installed in the fuel supply line must be of sufficient size to be nonrestrictive to fuel flow and placed so as to be protected from exposure to exhaust heat and physical damage. Ford replacement fuel filters are recommended. Filters are not to be installed in the fuel return line.
14. **Temporary shipping fuel lines are not to be reused.** They should be disposed of in an appropriate manner.
15. Fuel system components which are disconnected during manufacturing should be capped or plugged promptly to prevent possible contamination.
16. When welding near fuel system components, all metallic components must be adequately shielded and protected from heat or weld splatter. All nonmetallic components must be removed.

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E. FUEL SYSTEM ACCESS FOR AUXILIARY FUEL POWERED EQUIPMENT

Precautions similar to those described in this Fuel System section should be taken in the design and positioning of a fuel system for auxiliary fuel-powered equipment. The auxiliary fuel-powered equipment should be securely mounted so as to withstand forces during crash situations.

E-Series Super Duty Cutaway, Super Duty F-Series, and E-Series Super Duty Stripped Chassis aft-of-axle fuel tanks are equipped with an auxiliary fuel port in the fuel sender unit. The purpose is to provide a fuel supply for fuel powered accessories such as generator sets.

E-Series van vehicles may have an optional auxiliary fuel port which is located on the midship fuel tank sender unit.

Final Stage Manufacturers that utilize the auxiliary fuel port must install a check valve because of Onboard Fuel System Diagnostics (OBDII). The system may affect the vehicle's compliance with applicable Federal/State emissions laws. Additional information is available in Bulletin Q-42. To obtain a copy, log on to www.fleet.ford.com/truckbbas/ and select from the list under the "Bulletins" tab.

All auxiliary fuel ports have a safety cap which must remain in place until a fuel consuming accessory is installed.

E-Series van vehicles equipped with the auxiliary fuel port have a braided jumper hose which provides access without removing the fuel tank. A cap removal tool is provided on the jumper line immediately behind the cap and must be removed and reversed before it can be used to remove the cap.

A push connector F7UA-9J274-AA, available from your local Ford dealer, will attach to the auxiliary fuel port and accept a 1/4 inch hose and clamp. See page51.

ELECTRICAL SYSTEM

1. Refer to Bulletin Q-130, "General Electrical Practices", available at www.fleet.ford.com/truckbbas/ under the "Bulletins" tab.

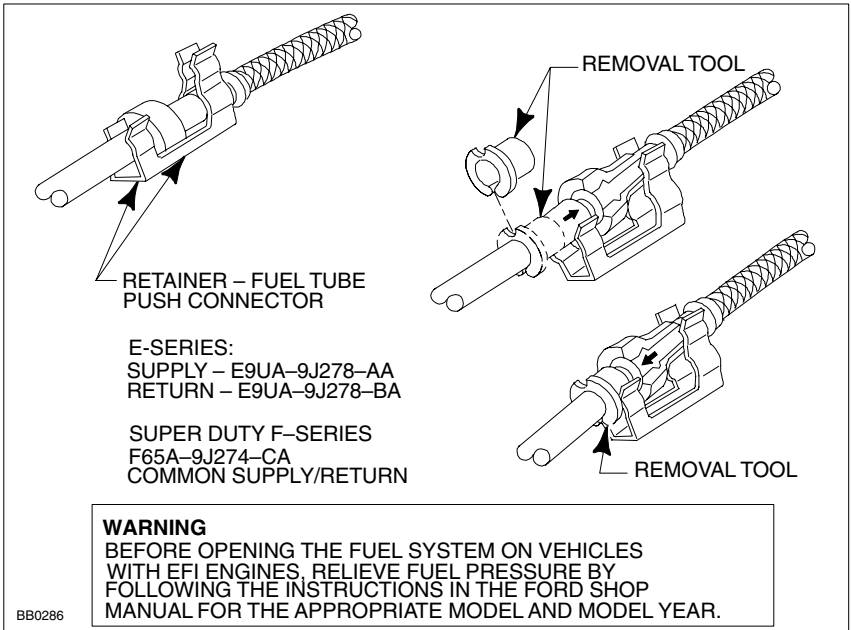


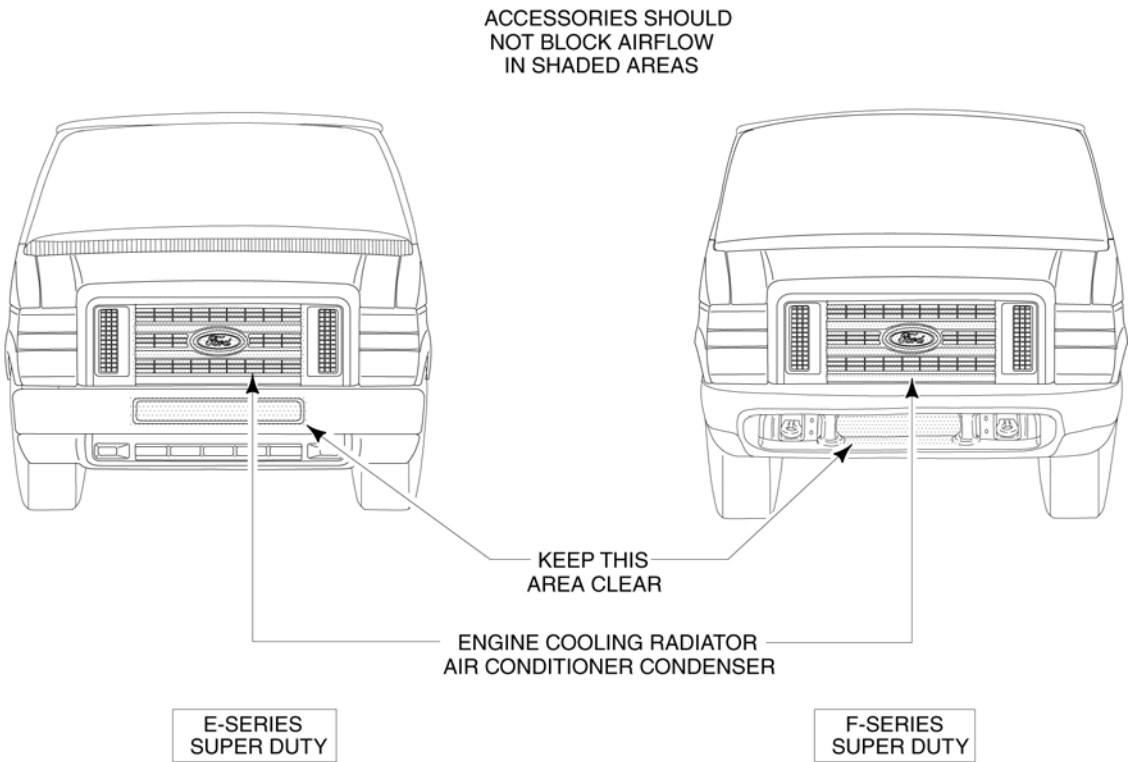
FIGURE C - FLEXIBLE FUEL LINE PUSH-CONNECT

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COOLING SYSTEM

- Equipment such as flashing lights and sirens, spare tires or any other accessories should not be installed in the grille area forward of the radiator or air cleaner air inlet. Doing so restricts proper air flow through the radiator and engine compartments. E-Series and Super Duty F-Series are illustrated in the figure below.
- For proper engine cooling, do not alter, change the locations of, or remove the original equipment fan, fan clutch, or shroud.
- Maintain a 50/50 mixture of ethylene glycol-based antifreeze-to-water ratio when adding or modifying the heater system or auxiliary heater system. A 60/40 antifreeze-to-water ratio may be necessary during winter months in very cold climates. For the remainder of the year, however, a 50/50 ratio should be maintained.
- Upper radiator hoses and heater hoses, which are added or replaces, should be EPDM-Kevlar composition. Lower radiator hoses should be EPDM-Rayon composition.
- The radiator and fan shroud should not be used as structural members and additional components should not be attached.
- Revisions to the Front End Accessory Drive System may affect the cooling system/component performance and are not recommended.
- Do not alter or modify the automatic transmission cooling system.
- The minimum radiator grille opening (excluding all grille parts) for the E-Series Stripped Chassis, to provide optimum cooling for the engine, is 300 sq. in.
- Equipment, hazardous materials markers, or placards must not obstruct the airflow to the radiator or the air cleaner inlet on the E-Series Super Duty Stripped Chassis.
- The E-Series Super Duty Stripped Chassis engine compartment must be designed to eliminate any air circulation restriction that would affect the air induction or cooling systems. An engine compartment must provide adequate flow-through ventilation to prevent local air temperature from exceeding recommended maximums.



CLIMATE CONTROL SYSTEM

- An Auxiliary Heater A/C Connector Package can be either standard or optional on E-Series vehicles for connecting auxiliary climate control systems to the Ford system. The following items are important for the maximum efficiency of the combined systems:
 - The connector tubes are under the floor directly below the driver's seat.
 - The heater supply tube is identified with a white paint dot and should be connected to the lowest connection port on the auxiliary heater core.
 - The A/C connector tubes have a 20 x 1.5-6g metric thread for high pressure and 24 x 2.0-6g metric thread for low pressure.
 - If the vehicle is equipped with the auxiliary heater-air conditioner, do not operate the front A/C system prior to the addition of an auxiliary system. The system oil could settle in the connector tubes and not provide lubrication to the compressor. See Bulletin Q-47. To obtain a copy, log on to www.fleet.ford.com/truckbbas/ and select from the "Bulletins" tab.
 - The Ford provided auxiliary blower switch requires an electric relay for high-speed blower operation. Additional detailed information is available in Bulletin Q-19. To obtain a copy, log on to www.fleet.ford.com/truckbbas/ and select from the "Bulletins" tab.
- R134-A charge A/C systems must use PAG-type lubricating oil YN-12-B, Ford part number F2AZ-19577-C. Always use the same refrigerant and lubricating oil as originally equipped by Ford.
- Maintain a 4% suspended oil ratio in the A/C system for proper compressor lubrication.
- E-Series A/C and Refrigerant Oil System are classified into the following (3) types:

A label stating the total refrigerant charge, type of refrigerant (R-134A), and type of compressor lubricant oil (PAG) used, should be affixed in a conspicuous place in the engine compartment.

A/C System	R-134A lb	PAG Oil oz
Front Only ⁽¹⁾	2.75	9 ^(a)
Front w/Prep Unit	2.75	13
Front & Aux. Unit	4.0	13

⁽¹⁾ Must add 1-oz Oil for each 4-oz of R-134A above Ford's charge.

- The A/C compressor will cycle during the defrost mode. A refrigerant shut-off valve for the auxiliary system may impair compressor lubrication.
- R-134A charged A/C systems should use barrier type A/C hose. Barbed fittings and external clamping may not be compatible with this type of hose. Swaged, permanent fittings on this type of hose are recommended.
- NEVER ATTACH ANY COMPONENT TO THE TRANSMISSION FILLER AND DIPSTICK TUBE.**
- Auxiliary heater and air conditioning systems hose routings must consider the following:
 - Dynamic engine roll or any system component which has an operating zone. Make sure there is adequate clearance (e.g., transmission downshift linkage, steering column shift linkage).
 - Do not route heater or A/C hoses directly over or near the exhaust system.
 - Do not route hoses by attaching to the engine.
 - Use only metallic "Y" and "T" type fittings or OEM approved materials.
 - Do not route hose in wheelhouse area.
 - Do not route by sharp edges or moving component parts. There must be shield protection from any potential abrasive source.
 - When routing in stone pickup area, lines should be protected by shields. Minimize use of concentric protective heater hose shields. Limit length of concentric hose shields to 305 mm [12 in] maximum.
- For additional information, refer to Bulletin Q-148, "Air Conditioning and Front End Accessory Drive (FEAD) Design Best Practices - E-Series and F-Series", available at www.fleet.ford.com/truckbbas/ under the "Bulletins" tab.

E-SERIES STRIP CHASSIS A/C PREP PACKAGE

- The E-350/450 Chassis, 5.4L and 6.8L engine with A/c prep package comes with a R-134a (non-CFC) air conditioning prep package for use with a Clutch Cycling Orifice Tube (CCOT) controlled A/C system. The package consists of a compressor, condenser and front-end accessory drive.
- Information on determining air conditioning refrigerant and lubricant quantities are outlined on the Ford Truck Quality Program Guidelines web site <http://www.fleet.ford.com/truckbbas/topics/guidebook.html>

DESIGN RECOMMENDATIONS

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EXHAUST SYSTEM

WARNING:

VEHICLE OPERATING TEMPERATURES

SOME TRUCKS OF FORD MOTOR COMPANY MAY EXHIBIT HIGH ENGINE COMPARTMENT AND EXHAUST SYSTEM TEMPERATURES IN CERTAIN OPERATING MODES. COMPONENTS, INCLUDING EXHAUST HEAT SHIELDING SYSTEMS, HAVE BEEN INSTALLED AS STANDARD EQUIPMENT ON SOME VEHICLES IN OUR ASSEMBLY PLANTS IN AN EFFORT TO PROVIDE THERMAL PROTECTION AGAINST SUCH TEMPERATURES. AFTERMARKET EQUIPMENT INSTALLERS OR INTERMEDIATE AND FINAL STAGE MANUFACTURERS ARE RESPONSIBLE FOR PROVIDING THERMAL PROTECTION (e.g., UNDERBODY HEAT SHIELDS) FOR ANY STRUCTURE OR EQUIPMENT ADDED TO THE VEHICLE AND SHOULD NOT REMOVE ANY COMPONENTS OR EXHAUST HEAT SHIELDING INSTALLED ON THE VEHICLE BY FORD.

1. Do not substitute exhaust system components or add to those furnished by Ford, except as noted in this section. Such a substitution or addition may adversely affect engine performance or emissions system effectiveness.
2. Do not change the position or routing of the exhaust system components. Such a change may affect the amount of heat transferred to body, chassis, or powertrain components, particularly fuel system components. Specifically, do not add dual exhausts or reroute exhaust components to the left side of the vehicle.
3. Do not remove or modify the existing shields. Ford underbody heat shields are installed on vehicles to provide heat protection for the vehicle floor and body mounting system, and must remain in place on the completed vehicle. (See Figure A.)

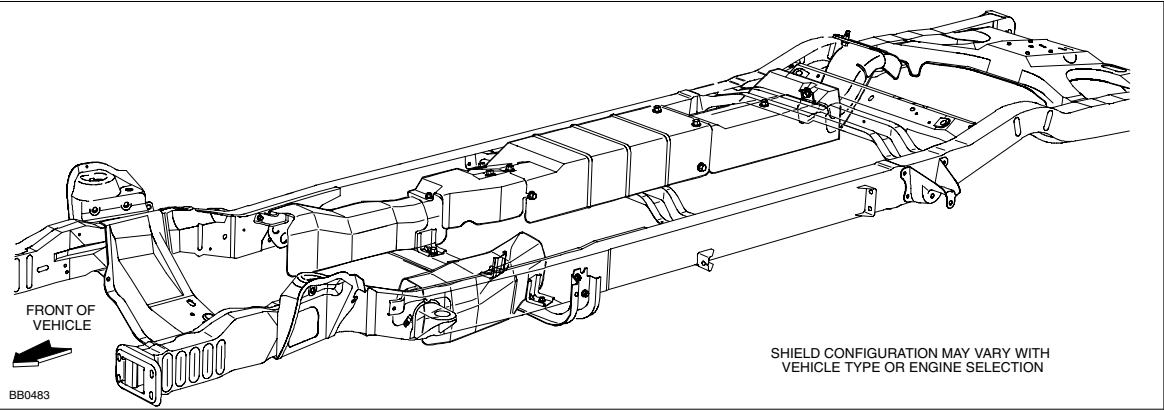


FIGURE A - UNDERBODY MOUNTED HEAT SHIELDS FOR VANS

4. Exhaust heat shields should be added by a body builder, and should extend far enough beyond the exhaust system components to protect underbody surfaces from heat radiated at any angle. Add shields over the muffler and exhaust pipe kick-up areas.
5. Do not remove Ford furnished exhaust clamps and hangers.
6. An additional exhaust hanger should be installed, if appropriate, to support extended tailpipe length necessitated by body dimensions.
7. Do not make a rigid connection between the exhaust system and the body.
8. Do not apply body undercoating on the fuel tank, fuel fill hose, or fuel fill vent hoses. The extra insulation on these components may cause excessive heat build-up or possible material incompatibility concerns. (See Figure B.)
9. Do not apply body undercoating within twelve inches of the are directly above the exhaust, on any components within twelve inches of the exhaust, or to any part of any exhaust system. Undercoating will smoke or burn if subjected to high heat. (See Figure B.)

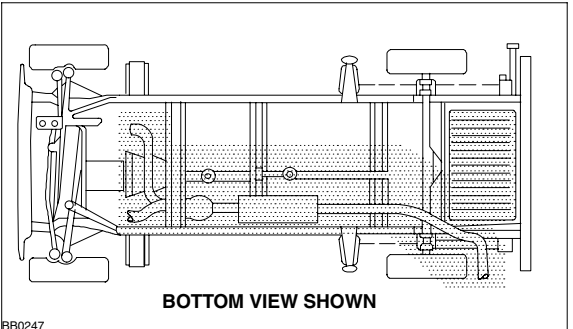


FIGURE B - DO NOT APPLY UNDERCOATING IN SHADED AREA

10. Extensions to the exhaust outlet pipe should direct exhaust away from the body to minimize the possibility of fumes entering the vehicle. Extensions should also protrude beyond the vertical body surface.
11. Install all underbody plumbing for heaters, air conditioners, and other accessories so that they are not installed against sharp surfaces or jagged edges. Protect from exhaust heat when routing.
12. Use only stainless steel for any exhaust system modifications or additions.
13. Exhaust system revisions should consider thermal expansion of materials and the affect on design clearances.

FORD BODY COMPONENTS

1. Modifications to doors, roof, or body side panels may have an affect on F/CMVSS 208, 210, 212, 214, 219, and 301 compliance. Refer to the Statements of Conformity section in the *Incomplete Vehicle Manual* for compliance representations.
2. Running boards or entry steps should use a mounting system that will attach only to the body. The Ford body to frame isolators allow body movement which may loosen fasteners. A combined frame and body mounting system may cause frame Noise, Vibration, and Harshness (NVH) transfer through such a mounting system into the body.
3. Use a butyl type sealer on trimmed body sheet metal panels to prevent corrosion.
4. Temporary mounting pads may eliminate chipping and scratches when accessories are installed.
5. Select materials which will not have a corrosive action with each other.
6. Additional fresh air vents should be located so that engine exhaust cannot be drawn into the vehicle.

7. When adding holes to the floor of the vehicle, consideration must be given to all components below the floor. The use of drill stops is recommended.
8. Fasteners added to the floor should not point at the fuel tank or should have an appropriate shield. Components with sharp edges should have an appropriate shield to eliminate the possibility of fuel tank penetration in crash situations.
9. Components added to the E-Series engine cover should allow for easy removal. Refer to the Statements of Conformity in the *Incomplete Vehicle Manual* or Figure A on page 10 of this book for Occupant Protection Zone requirements for the engine cover and other affected areas.
10. The E-Series engine cover seal requires that carpeting and insulation should be installed as shown in Figure C.
11. Power operated windows, a partition, or roof panel systems when added to a vehicle with a GVWR of 4536 [10,000 lb] or less must comply with the requirements of F/CMVSS 118, refer to the Statements of Conformity in the *Incomplete Vehicle Manual*.
12. When a Second Unit Body (SUB) or rear closure panel is attached directly to the cutaway body, difficulty may be experienced when closing doors due to air pressure build up. It is recommended that vent(s) be installed which will allow "ONE WAY" pressure release from the inside of the cab to the outside. Recommended minimum size of the venting is 36 square inches.

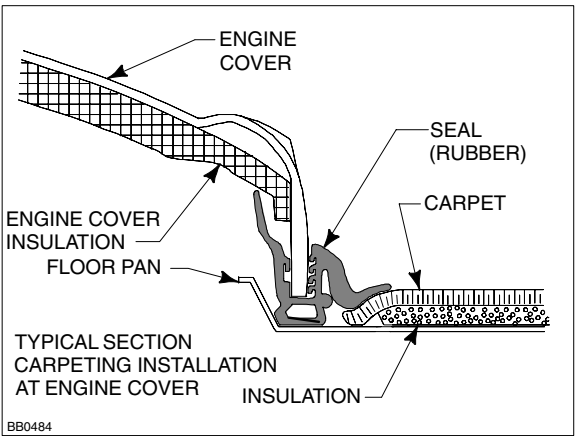


FIGURE C - E-SERIES ENGINE COVER SEAL

DESIGN RECOMMENDATIONS

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WHEELS AND TIRES

WARNING:
SOME AFTERMARKET WHEEL ASSEMBLIES MAY NOT BE COMPATIBLE WITH SOME VEHICLES AND SHOULD NOT BE USED. USE OF INCOMPATIBLE WHEEL ASSEMBLIES MAY RESULT IN WHEEL FRACTURES, SEPARATION, WITH THE POTENTIAL FOR AN ACCIDENT, AND INJURY TO OCCUPANTS. FORD RECOMMENDS THAT ONLY WHEEL ASSEMBLIES APPROVED AND RELEASED BY FORD MOTOR COMPANY FOR THE VEHICLE MODEL SHOULD BE USED.

WARNING:
RE-TORQUE ALL LUG NUTS TO SPECIFICATION. IT IS IMPERATIVE THAT THE DEALER RETORQUE ALL WHEEL LUG NUTS ON ALL VEHICLES PRIOR TO DELIVERY TO THE FINAL VEHICLE PURCHASER. DUAL REAR WHEEL VEHICLES MAY BE SHIPPED WITH THE OUTER REAR WHEELS REMOVED AND, THEREFORE, THE DEALER MUST ENSURE THAT THE LUG NUTS ARE RETORQUED TO THE PROPER SPECIFICATION BEFORE THE VEHICLE IS DELIVERED TO THE FINAL VEHICLE PURCHASER. IMPROPERLY TIGHTENED LUG NUTS COULD LOOSEN AND ALLOW THE WHEEL TO COME OFF WHILE THE VEHICLE IS IN MOTION, CAUSING LOSS OF CONTROL.

1. Use only wheels with the same load capacity, rim width, rim offset, and mounting configuration as those originally installed on the vehicle. Consult an authorized Ford dealer for correct wheel load capacity, size, and usage. Wheels used must conform to the F/CMVSS 120. The use of any wheel or tire, other than those originally installed on the vehicle as manufactured by Ford, may adversely affect load carrying capacity, handling, bearing life, ride, braking performance, speedometer/odometer accuracy, automatic transmission shift timing, and tire/wheel clearance of the body and chassis.

2. Use only replacement tires that are the same size, load index, speed rating and type (such as P-metric versus LT-metric or all season versus all-terrain) as those originally provided by Ford. The recommended tire and wheel size may be found on either the Safety Compliance Certification Label or the Tire Label which is located on the B-pillar or edge of the driver's door. If this information is not found on these labels, consult a Ford dealer. Use of any tire or wheel not recommended by Ford can affect the safety and performance of the vehicle, which could result in an increased risk of loss of vehicle control, vehicle rollover, personal injury and death. Additionally, the use of non-recommended tires and wheels could cause steering, suspension, axle or transfer case/power transfer unit failure. If you have questions regarding tire replacement, contact an authorized Ford dealer. Tires used must conform to FMVSS 119 (New Pneumatic Tires for Motor Vehicles) and FMVSS 139 (New Pneumatic Radial Tires for Light Vehicles) in the United States, or to the Motor Vehicle Tire Safety Regulations in Canada.

3. SRW vehicles must comply with FMVSS 138 (Tire Pressure Monitoring Systems). Reference Tire Pressure Monitoring System (TPMS) section in *Owner Guide*, *Ford Shop Manual* & FMVSS 139 (New Pneumatic Tires for Light Vehicles).

4. If you loosen or remove wheel lug nuts for any reason or have in your possession a vehicle at any of the mileage intervals listed in the Wheel Lug Nut Table below; check the lug nut torque and re-torque to the specifications as listed in the table. Follow the recommended Maintenance Procedure.

WHEEL LUG NUT TABLE				
	MILEAGE		WHEEL LUG NUT TORQUE	
VEHICLE TYPE	KM	MILES	Nm	Ft Lb
E-Series				
E-150/250/350 SRW	800	500	203	150
E-350/450 DRW	160	100	190	140
	800	500		
F-Series				
Super Duty F-250/350 SRW	800	500	203	150
Super Duty F-350/450/550 DRW	160	100	203	150
	800	500		

TIRE PRESSURE MONITORING SYSTEM

Single Rear Wheel (SRW) vehicles with a GVWR of 10,000 lbs (4356 kg) or less, as manufactured by Ford Motor Company, comply with FMVSS 138 Tire Pressure Monitoring System. Operational and wheel replacement information is provided in the vehicle's *Owner Guide* and *Ford Shop Manual*.

Note: The Tire Pressure Monitoring System (TPMS) is subject to interference from the addition of metallic structures between the wheel-mounted sensor transmitters and the on-board receiver. Additionally, TPMS is subject to interference from any added equipment or device that emits radio frequency (RF) energy.

The vehicle, when completed, will conform to Standard 138, Tire Pressure Monitoring Systems, if:

- No alterations are made to the tire pressure sensors, sensor cradles, sensor bands, wheels, tires, recommended tire pressures, electrical Body Security Module (E-Series) or Smart Power Distribution Junction Box (Super Duty F-Series), instrument cluster, instrument panel wiring, or software calibrations
- Wheel bases are not lengthened beyond 176 inches
- After the addition of any body structure, RF emitting equipment or RF emitting device, function of the Tire Pressure Monitoring System is validated in accordance with the information provided in the vehicle's *Owner Guide*

DESIGN RECOMMENDATIONS

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IMPORTANT:
The final-stage manufacturer is responsible for verifying that the front wheel toe is within Ford specifications on completed vehicles. The steering wheel clear vision (horizontal or level orientation of the steering wheel) should also be maintained when resetting wheel toe. These specifications are found in the General Suspension section of the *Ford Shop Manual*.

The weight of the body structure and its center of gravity location (both longitudinally and vertically), as well as the weight and positioning of the cargo load, are important to the handling of the completed vehicle. Subsequent stage manufactures should note that matching a body to a chassis in a manner appropriate for the intended use of the vehicle is the responsibility of the final-stage manufacturer. Following the representations in this book or the IVM Manual, with respect to center of gravity locations and body weights for compliance with Federal or Canada Motor Vehicle Safety Standards, is only part of the task of producing a completed vehicle that handles appropriately in service.

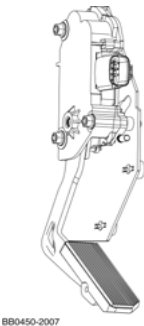
1. Front end alignment warranty policy for incomplete vehicles is based upon the completed vehicle remaining within OEM weight ratings, vehicle attitude, suspension and wheel/tire guidelines, and other characteristics affecting wheel alignment. Exceeding or modifying these restrictions may jeopardize related warranty.
2. Modifications made by subsequent stage manufacturers, particularly those that significantly affect vehicle ride heights, may cause vehicle control problems during excessively sharp turns or other abrupt steering maneuvers, possibly leading to rollover or other accidents that could result in death or serious injury.
The steering gear, intermediate shaft, coupling shaft, linkage, column, and steering wheel should not be altered or relocated. Steering linkage travel should not be restricted.
3. Ford front and rear GAWRs and GVWR must not be exceeded.
4. Front or rear suspension components should not be drilled, cut, welded, or relocated for any reason.
5. Welding to the frame in the steering gear area is not recommended.
6. If rear suspension spacers are used between the spring and axle seats to accommodate side-to-side variations, they should not exceed 3/8 inch. The spacers should not exceed the profile of the axle spring seat. Additional spacing may adversely affect driveline angles and axle system package clearance. Also affected are spring stress limits from excessive jounce travel.

7. Do not use any suspension component as a welding ground.
8. When welding or cutting near suspension components, shield and protect all springs and rubber components from heat penetration and welding splatter.
9. Any add-on device mounted on the steering column, shroud, multifunction switch, or gear selector lever, must not affect steering column angles, tilt mechanism (if so equipped), range of operation, or steering column mounting hardware. Any such device must not interfere with steering column collapse stroke travel during crash situations or air bag deployment.
10. Vehicles equipped with an air suspension system must verify that the settings are correct once the vehicle is completed by the final stage manufacturer. Refer to the applicable Ford truck workshop service manual for the complete procedure.

ENGINE

1. Refer to the Emission Control Modifications on Safety/Emission pages prior to making modifications to any engine component that could affect the emission certification.
2. The engine should not be operated with the hood up or removed. This may allow excessive unforced air to circulate that could adversely affect the cooling system.
3. Do not use manual throttle kickers

4. When using electric throttle kickers on gasoline engines, set the high idle RPM at as low as possible to obtain the required performance. The idle speed must be set when the engine is at normal operating temperature and under normal load. This RPM setting should be affixed to the vehicle and should be checked after the 2,000 mile brake-in engine tune up. This information should be provided to the purchasers. The addition of throttle kickers may affect electronic transmission operation.



5. An auxiliary crankshaft bearing support is required on all modular gas engines before a FEAD-mounted PTO can be installed. Refer to Power Take-Off Installations page for information.
6. Do not tap into the electrical circuits attached to the Accelerator Pedal Position Sensor (APP) on the accelerator control. Do not bypass the electrical circuits attached to the APP. See figure below for component identification.
7. Installation of a gasoline engine speed governor is permissible, provided the governor design is compatible with each respective throttle body for the individual engine application and it does not exceed specified engine maximum RPM. It must also meet all noise and engine emission requirements. Governor installations may affect electronically controlled transmissions. Contact Ford Truck Body Builders Advisory Service before installing.

DESIGN RECOMMENDATION

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DRIVELINE

- 1. Bulletin Q-14, "Guidelines for Modifying Truck Drivelines," is available on www.fleet.ford.com/truckbbas/. Any deviation from Ford specifications may adversely affect powertrain system operation including engine and transmission, or component reliability. Subsequent stage manufacturers or installers are responsible to maintain Ford specifications in the completion of such modifications.
- 2. Rear axle vent and hose, if installed, must not be bent, pinched, or obstructed so that normal "breathing" of the rear axle is provided.
- 3. On all rear axle assemblies, additional bracket bars or supports must not be welded to the axle assembly. Attachment of any equalizing-type trailer hitch or auxiliary suspension systems (springs) must not be attached to the rear axle assembly.

TRANSMISSION

- 1. The transmission oil filler tube and dipstick must not be altered by bending, lengthening, or shortening, and must be readily accessible in the engine compartment for checking lubricant level. **NEVER ATTACH ANY COMPONENT TO THE TRANSMISSION FILLER AND DIPSTICK TUBE.**
- 2. The installed engine angle must not be altered. The relative position of engine and transmission to shift linkage must not be altered.
- 3. Transmission vent must not be altered, pinched, or collapsed, and the vent opening must not be restricted or relocated.
- 4. Adequate tool clearance and suitable access openings for transmission adjustments must be provided. Transmission removal provisions must also be considered.
- 5. Transmission oil cooler lines should not be kinked, bent, or restricted. All oil cooler lines must be properly retained with adequate clips. The truck type external oil cooler must not be "boxed in", which would restrict adequate air circulation. Use only Ford factory coolers.

Some automatic transmissions are equipped with "Stand Alone" transmissions fluid coolers. Vehicles equipped with this new oil to air cooler (OTA) may not have a transmission fluid cooler in the radiator. The OTA is located in front of the radiator and will require replacement every time the transmission is reworked or replaced. The cooler lines and Cooler Bypass Valve (CBV) must also be cleaned and backflushed.

CAUTION:

FAILURE TO REPLACE THE OTA, BACKFLUSH THE COOLER LINES AND CBV MAY RESULT IN TRANSMISSION ASSEMBLY INTERNAL DAMAGE.

- 6. Transmission shift cable, transmission outer shift lever, and shift cable bracket must not be altered and must have provisions for adjusting tool clearance. A severe duty shift cable (booted) is available as a service part from a Ford Dealer, for Super Duty F-Series vehicles which experience extensive off-road use.
- 7. Some automatic transmissions may be equipped with a transmission cooler bypass system. The purpose of the cooler bypass valve is to allow some transmission fluid to bypass the transmission fluid coolers and return to the transmission sump during cold weather operation. This provides a faster transmission fluid warm up and increased lube flow during cold weather operation. Do not remove or modify this system or transmission damage may occur. Do not use the cooler bypass line as a fitting point. Vehicles equipped with transmission cooler bypass will NOT have a hot water feed circuit from the water pump to the radiator tank containing the transmission cooler.

CAUTION:

DO NOT USE THE COOLER BYPASS VALVE (CBV) AS A HANDLE. DAMAGE TO THE CBV AND TRANSMISSION MAY RESULT. THIS ALSO CAUSES LEAKS.

- 8. Transmission service identification tags must not be removed or destroyed. If the transmission is reworked or replaced, the tag should be attached to new transmission.
- 9. Electronically controlled automatic transmission wire harness routing location, wire harness locating clips, all heat shielding, and clearance to the exhaust must be maintained as installed from the assembly plant.
- 10. The manual transmission filler plug should not be obstructed, preventing easy checking of lube level or filling.

- 11. Body structures should not be less than 1.00 inch from the rectangular vent holes on the top surface of the manual transmission housing.
- 12. Bulletin Q-14 and Q-18 contain additional detailed information on modifications which may affect transmissions. To obtain a copy, log on to www.fleet.ford.com/truckbbas/ and select from the list of bulletins.

FRAME

WARNING:

FAILURE TO FOLLOW THE RECOMMENDATIONS BELOW MAY WEAKEN THE VEHICLE FRAME, WHICH COULD RESULT IN DEATH OR SERIOUS INJURY.

- 1. Holes that would weaken the frame sidemember should not be drilled in the frame. Holes are **not** to be drilled in the sidemember's top or bottom flange.
- 2. Holes to mount brackets, out-riggers, and supports, may be drilled in the vertical frame side rail web with the following restrictions:
 - Material between edge of hole and inside of upper or lower flange must not be less than 1.50 inch for low carbon steel (36,000 PSI yield).
 - The minimum edge distance between any two holes up to 0.625 inch diameter must be 1.00 inch. For larger than 0.625 inch diameter holes, the minimum edge distance must be 1.5 times the diameter of the largest hole.
 - 0.75 inch is maximum hole diameter.
 - Avoid close vertical succession of fasteners.
 - All attaching fasteners, including flat washers, must be of high strength steel (Grade 8).
- 3. When welding is performed anywhere on the vehicle, precautionary measures should be taken to prevent damage to electrical system wiring or components. Prior to welding, any parts which could be damaged by excessive temperatures should be removed or adequately shielded. Also, prior to welding, disconnect both batteries, and the PCM. The welding ground clamp should be positioned as close to the affected welding area as possible. Computer processors should be removed if welding is to be done within their close proximity. Welding cables should never be allowed to lay on, near, or across any electrical wiring or electronic component during welding. After welding, when parts are cool, carefully inspect wiring and electrical components for shorts or other damage which could draw excessive currents and possibly cause an electrical system short when the battery is reconnected.

- 4. Do not weld on frame flanges, including the bend radii.
- 5. When welding low carbon steel side rails (36,000 PSI yield strength), emphasis should be placed upon weld application techniques to avoid stress risers that may adversely affect frame operating stresses. When welding within 4 inches of any crossmember or suspension rivets, remove the rivets and replace with Grade 8 bolts and nuts.
- 6. Do not modify or alter the convoluted frame sections in the area behind the front bumper. Modifications or alterations could have an adverse effect on vehicle performance in a crash situation.
- 7. Wheelbase alteration and frame extension guidelines for E-Series Super Duty Cutaway are available in Bulletin Q-18 and for F-650/750 & LCF in Bulletin Q-140. Log on to www.fleet.ford.com/truckbbas/ and select from the list of bulletins. Any deviation from the original vehicle specification will become the responsibility of the subsequent stage manufacturer or installer. This may affect transmission operation and durability.
- 8. Recommend the use of OEM front tow hooks only. See *Ford Towing Manual* FCS-12141-00 for towing instructions.
- 9. To prevent collapse of the frame side rail flanges, when U-bolts are used for the attachment of bodies to the truck chassis, vertical spacer bars must be used between the upper and lower flanges at each U-bolt.
- 10. All E-Series Super Duty Cutaways or Stripped Chassis with a 176-inch WB and equipped with a 55-gallon fuel tank will require an 18-inch minimum frame extension to provide for an adequate departure angle fuel tank clearance.
- 11. School bus rear bumpers should meet the following recommended minimum specifications; height, 203.2 [8.00] under 10,000 lbs and 241.3 [9.50] over 10,000 lbs; 50.8 [2.00] upper and lower flange; 304.8 [12.00] wrap-around; 4.8 [.187] thick. See the *Incomplete Vehicle Manual* for additional information.

JACK

- 1. Jacks, if installed, must be stowed in an adequate location for customer access.

AMBULANCE BUILDER GUIDELINES

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A FORD VEHICLE IS SUITABLE FOR MANUFACTURE INTO AN AMBULANCE ONLY IF EQUIPPED WITH A FORD AMBULANCE PREPARATION PACKAGE. FORD URGES AMBULANCE MANUFACTURERS TO FOLLOW THE RECOMMENDATIONS FURNISHED IN THE *INCOMPLETE VEHICLE MANUAL*, (AND ANY PERTINENT SUPPLEMENTS), AND THE QUALIFIED VEHICLE MODIFIER (QVM) GUIDELINES.

USING A FORD VEHICLE WITHOUT THE FORD AMBULANCE PREPARATION PACKAGE TO PRODUCE AN AMBULANCE VOIDS THE FORD WARRANTY AND COULD RESULT IN ELEVATED UNDERBODY TEMPERATURES, FUEL OVER-PRESSURIZATION AND THE RISK OF FUEL EXPULSION AND FIRES.

VEHICLES EQUIPPED WITH FORD AMBULANCE PREPARATION PACKAGES HAVE LABELS LOCATED ON (THE INSIDE) DRIVER DOOR LOCK PILLAR THAT STATE THAT THE VEHICLE IS SO EQUIPPED.

INFORMATION

Ford urges careful consideration of the recommendations that follow. They are based on analyses of component and vehicle tests, actual service situations, and engineering judgments. Disregard of these recommendations may affect the durability, reliability, handling and performance characteristics of a completed vehicle and may elevate underbody temperatures and increase the potential for fire, or may affect the safety of the occupants in the event of an accident.

These recommendations are supplemental to U.S. and Canadian Motor Vehicle Safety compliance representations provided in the *Incomplete Vehicle Manual*. Additional information is also provided in this book and *Ford Truck Shop Manual* which may be helpful to subsequent stage manufacturers.

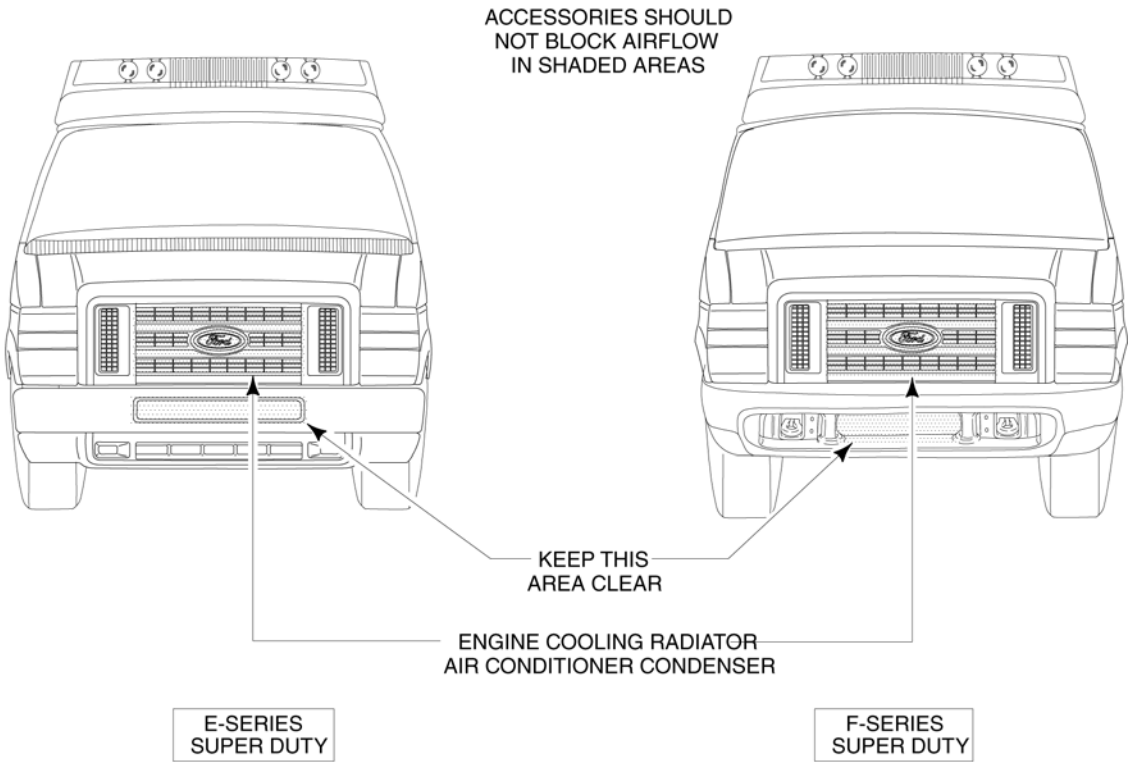
Subsequent stage manufacturers are encouraged to contact the Ford Truck Body Builder Advisory Service if they have any questions concerning these recommendations.

GUIDELINES

1. All Exhaust System and Underbody Heat Management statements in the SECOND UNIT BODY MOUNTING and DESIGN RECOMMENDATIONS sections apply to completed ambulance type vehicles.
2. Data concerning the effect of hood louvers is inconclusive. If a body builder chooses to add them, the opening should be directed rearward to avoid recirculating discharged hot air through the radiator.
3. To deal with higher electrical loads, Ford vehicles with the Ambulance Prep Package are equipped with dual alternators, dual batteries and heavy duty wiring to handle higher electrical loads. Added wiring should be of sufficient capacity to handle the higher current. The alternator should not be modified, altered or replaced.

4. Added Second Unit Body vents, especially powered vents, should be located away from the fuel filler, fuel venting areas and exhaust to avoid fuel fumes and vapors entering the interior of the vehicle.
5. Equipment such as flashing lights and sirens, spare tire, or any other accessories should not be installed in the grille area forward of the radiator or air cleaner air inlet. Doing so restricts proper airflow through the radiator and engine compartment. Lights, speakers, or sirens should not be mounted in the center area of the grille. Equipment should be mounted as far outboard as possible, not to exceed 90 square inches each or 180 square inches combined in area.
6. An ambulance is not to be used as a tow vehicle.

NOTE: The vehicle interior vent air enters the passenger compartment at the base of the windshield. Louvers may direct heated air or fumes toward this opening. Removal of the underhood insulation may affect Exterior Noise compliance. See the Exterior Noise information on Safety/Emissions.



NEW VEHICLE STORAGE GUIDELINES

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DESIGN

GENERAL

- Store vehicles in a dry, ventilated place; protect from sunlight if possible.
- If vehicles are stored outside, provide regular maintenance against rust and damage.
- Ensure chassis interior and dunnage box is not exposed to the weather and the potential damage that can occur.
- On cutaways and right-door delete models, ensure back panel plastic sheet is intact and temporary door (right-hand delete option) is in place when vehicles are stored outside or moved.
- Any chassis with an incomplete roof modification should not be stored outside unless appropriately protected.

BODY

- Wash vehicle thoroughly to remove dirt, grease, oil, tar, or mud from exterior surfaces, rear wheel housing, and underside of front fender.
- Periodically wash vehicles stored in exposed locations.
- Touch up exposed raw or primed metal to provide rust protection.
- Cover chrome and stainless steel parts with a thick coat of auto wax to prevent discoloration. Rewax as necessary when the vehicle is washed.
- Lubricate all hoods, door hinges and latches with a light grade oil.

CAUTION: Keep all rubber parts free from oil and solvents.

- Cover the interior soft trim to prevent fading, if stored in exposed location.
- Body Builders should review their vehicle receiving, storage and production handling procedures to assure the chassis interior and dunnage box are not exposed to the weather and the potential damage that can occur. On cutaway chassis, builders should verify that the back panel plastic sheet is intact and the temporary door (right-hand door delete option) are in place when vehicles are stored outside or moved. Any chassis with an incomplete roof modification should not be stored outside unless appropriately protected.

ENGINE

- Start the engine every 15 days and move the vehicle at least 25 feet. Run it at fast idle until it reaches normal operating temperature.
- Shift the transmission into all gears while engine is running at idle speed.

FUEL SYSTEM

- Regularly move vehicles short distances to mix fuel anti-oxidation agents.

NOTE: During extended periods, if vehicle is stored for 60 days or more, gasoline may deteriorate due to oxidation. This can damage rubbers and other polymers in the fuel systems such as fuel pressure regulator diaphragms and fuel line connector seals. It may also clog small orifices. Diesel fuel deterioration in the form of fuel separation, sludge formation, and bacterial growth can cause restrictions in fuel supply lines, filters and sticking of fuel injection systems components.

A commercially available gasoline fuel stabilizer (“Sta-Bil” or equivalent) should be added to gasoline-powered vehicles or a diesel fuel stabilizer (“Fire Prep 100” or equivalent) to diesel-powered vehicles whenever actual or expected storage periods exceed 60 days. The manufacturer’s instructions packaged with product should be followed. The vehicles should then be operated at an idle speed to circulate the additive throughout the fuel system.

A volatile, corrosion inhibitor (NOx Rust VCI 105" or equivalent) added to the fuel will protect the fuel tank inner surface from corrosion. Follow instructions packaged with product.

COOLING SYSTEM

- Maintain appropriate antifreeze protection against freezing temperatures.
- Only use coolant as recommended in your vehicle owners manual.

BATTERY

- Check and recharge as necessary.
- Keep connections clean and covered with light coat of grease.

BRAKES

- Make sure brakes and the parking brake are fully released.

TIRES

- Maintain recommended air pressures.

MISCELLANEOUS

- Verify that all linkages, cables, clevis pins, and levers under the vehicle are covered with grease to prevent rust.
- Move trucks at least 25 feet every 15 days to lubricate working parts and prevent corrosion.

TRANSMISSION

- Run engine to normal operating temperature.
- Shift the transmission into all gears with engine running at idle speed.
- Check fluid level and condition (no water contamination, etc.).
- Stripped Chassis vehicles – cover transmission to prevent water from entering through the vent.