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F53 Motorhome

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**Body Builders
Layout Book**

6

6

CLASS A MOTOR HOME CHASSIS MODEL LINEUP

2006
MODEL YEAR

SUPER DUTY F-SERIES CLASS A MOTOR HOME CHASSIS (F53)

MODEL	BODY CODE	STANDARD ENGINE liters	STANDARD TRANSMISSION	GVWR pounds	WHEELS inches	WHEELBASE inches		CURB WEIGHT ⁽¹⁾						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 MOTOR HOME CHASSIS	F53	6.8L V-10	5-Spd. TorqueShift®	15,700	19.5	178	†	1607	1590	3197	1420	1245	2665	5862	9835
					19.5	190		1685	1550	3235	1345	1335	2680	5915	9785
				18,000	19.5	178		1700	1580	3280	1395	1340	2735	6015	11,985
					19.5	190		1778	1540	3318	1320	1430	2750	6068	11,930
					19.5	208		1774	1600	3374	1334	1434	2768	6142	11,855
					19.5	228	†	1781	1640	3421	1393	1430	2823	6244	11,755
				20,500	19.5	208		1813	1585	3398	1386	1479	2865	6263	14,235
					19.5	228		1820	1625	3445	1445	1475	2920	6365	14,135
				22,000	19.5	178		1823	1575	3398	1350	1485	2835	6233	15,765
					22.5	190	†	1835	1594	3429	1386	1540	2926	6355	15,645
					19.5	208		1827	1611	3438	1403	1495	2898	6336	15,660
					22.5	228		1839	1630	3469	1439	1550	2989	6458	15,540

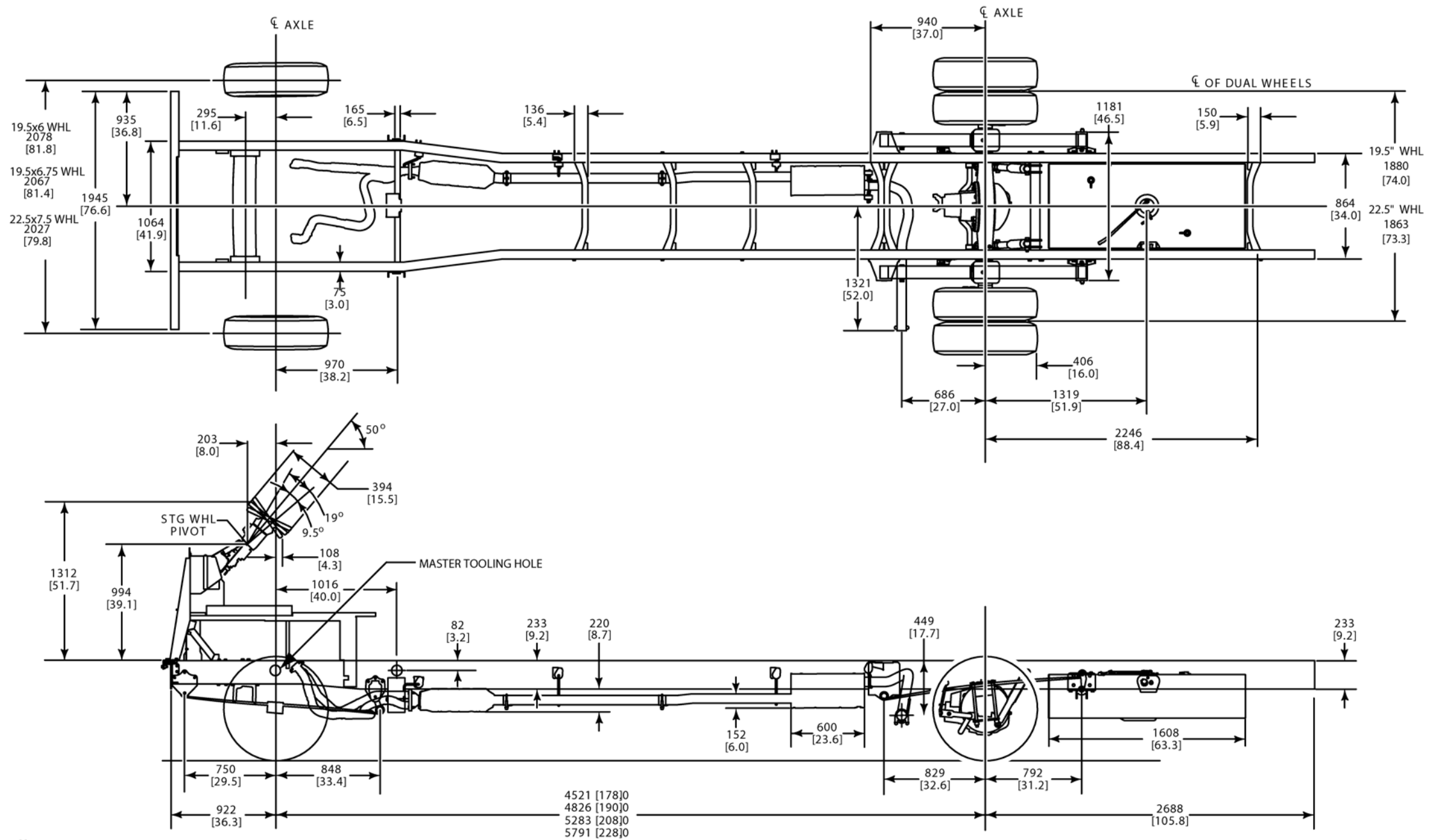
(1) Base curb weight is for standard equipment only.
† Calculated weights

GVW [lbs]	15,700		18,000		20,500		22,000	
AXLE LOCATION	FRONT	REAR	FRONT	REAR	FRONT	REAR	FRONT	REAR
GAWR [lbs]	6000	11,000	7000	11,000	7000	13,500	7500	14,500
AXLE RATING [lbs]	7000	11,000	7000	11,000	7000	13,500	7500	14,500
TIRES 225/70R19.5 (@ 80 PSI)	6390	12,000	*	*	*	*	*	*
TIRES 245/70R19.5 (@ 80 PSI except as noted)	*	*	7280	13,660	7280	13,660	7780	14,620@ 90 psi
TIRES 235/80R22.5 (@ 90 PSI)	*	*	*	*	*	*	8280	15,060
SPRINGS COMBINED @ GROUND [lbs]	7000	11,000	7000	11,000	7000	13,500	7500	14,500
NUMBER OF LEAVES	2	3	2	3	2	3	2	3
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 MOTOR HOME CHASSIS (F53) CHASSIS DIMENSIONS

2006
MODEL YEAR



BB0319-2005

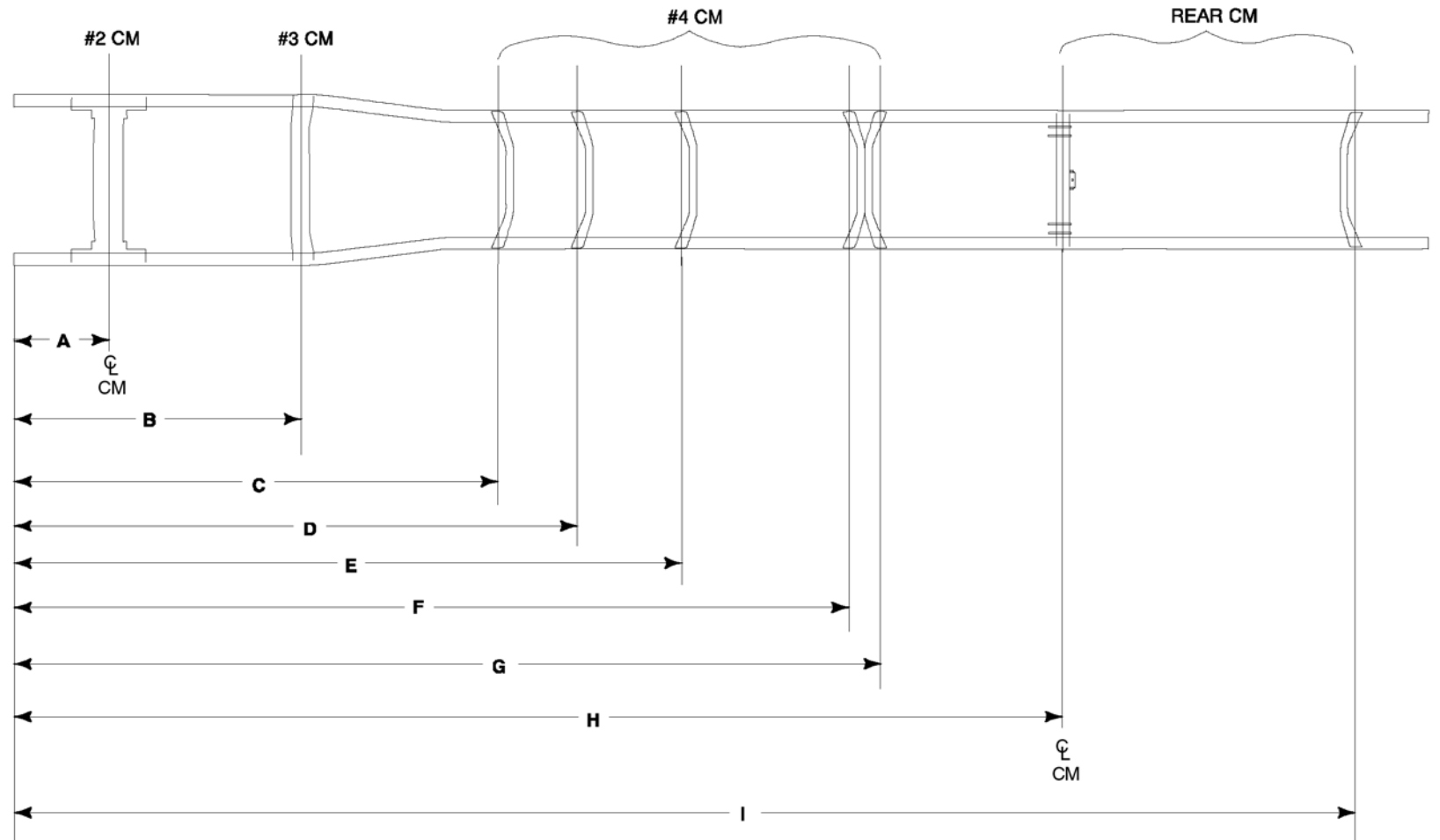
NOTE — [] DIMENSIONS ARE INCHES.

F-SUPER DUTY CLASS A MOTOR HOME CHASSIS (F53) FRONT CROSSMEMBER (CM) LOCATIONS

2006
MODEL YEAR

DIM.	178" WB	190" WB	208" WB	228" WB
A	551 [21.7]	551 [21.7]	551 [21.7]	551 [21.7]
B	1815 [71.5]	1815 [71.5]	1815 [71.5]	1815 [71.5]
C	NA	NA	3002 [118.2]	3282 [129.2]
D	NA	NA	NA	4004 [157.6]
E	3385 [133.3]	3436 [135.3]	4147 [163.3]	4655 [183.3]
F	4432 [174.5]	4737 [186.5]	5194 [204.5]	5702 [224.5]
G	4656 [183.3]	4960 [195.3]	5418 [213.3]	5926 [233.3]
H	5778 [227.5]	6083 [239.5]	6540 [257.5]	7048 [277.5]
I	7618 [299.9]	7923 [311.9]	8380 [329.9]	8888 [349.9]

MEASUREMENTS TAKEN FROM FRONT EDGE OF LOWER FLANGE OF RAIL.

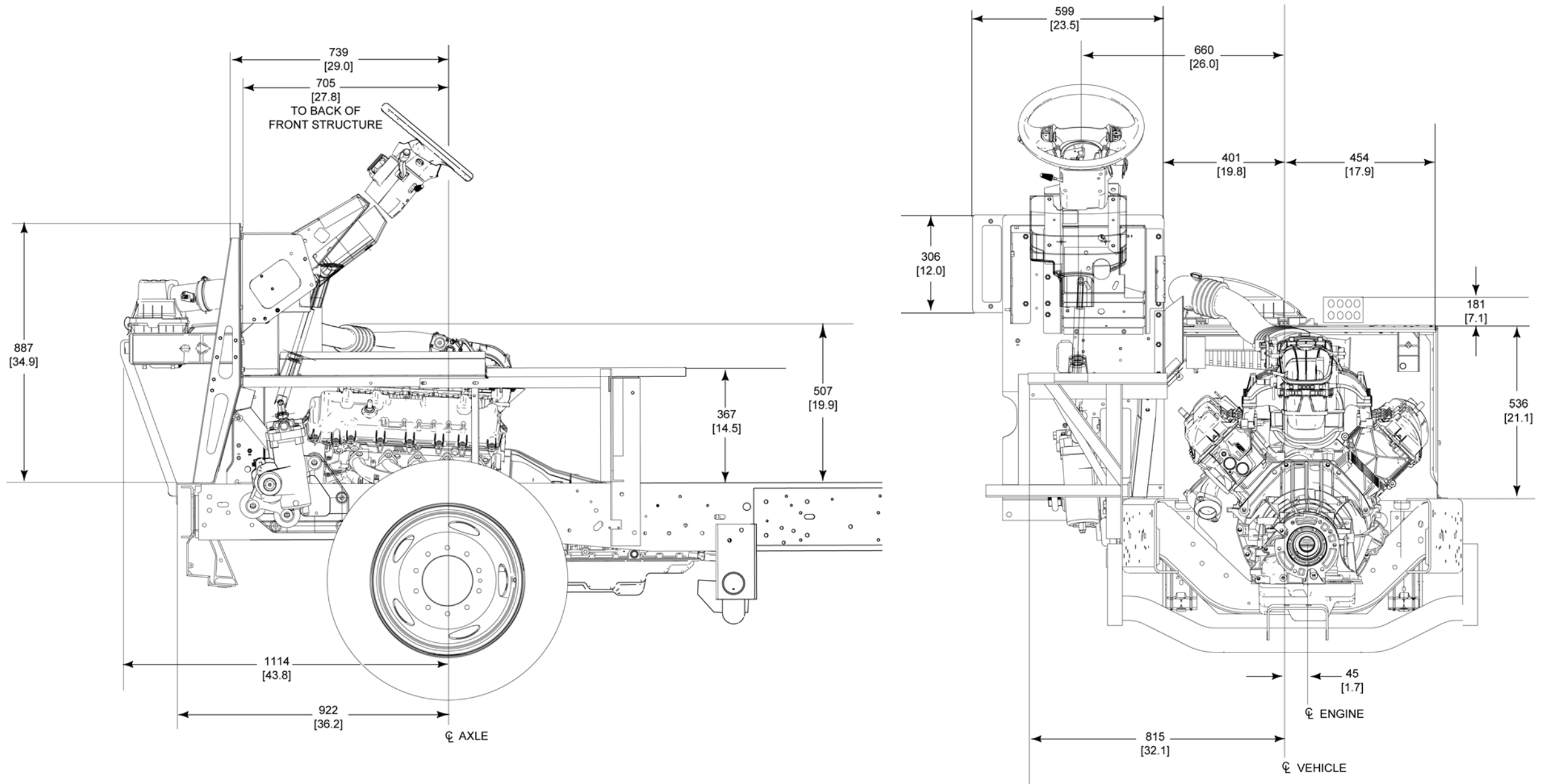


BB0316-2005

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 MOTOR HOME CHASSIS (F53) FRONT STRUCTURE

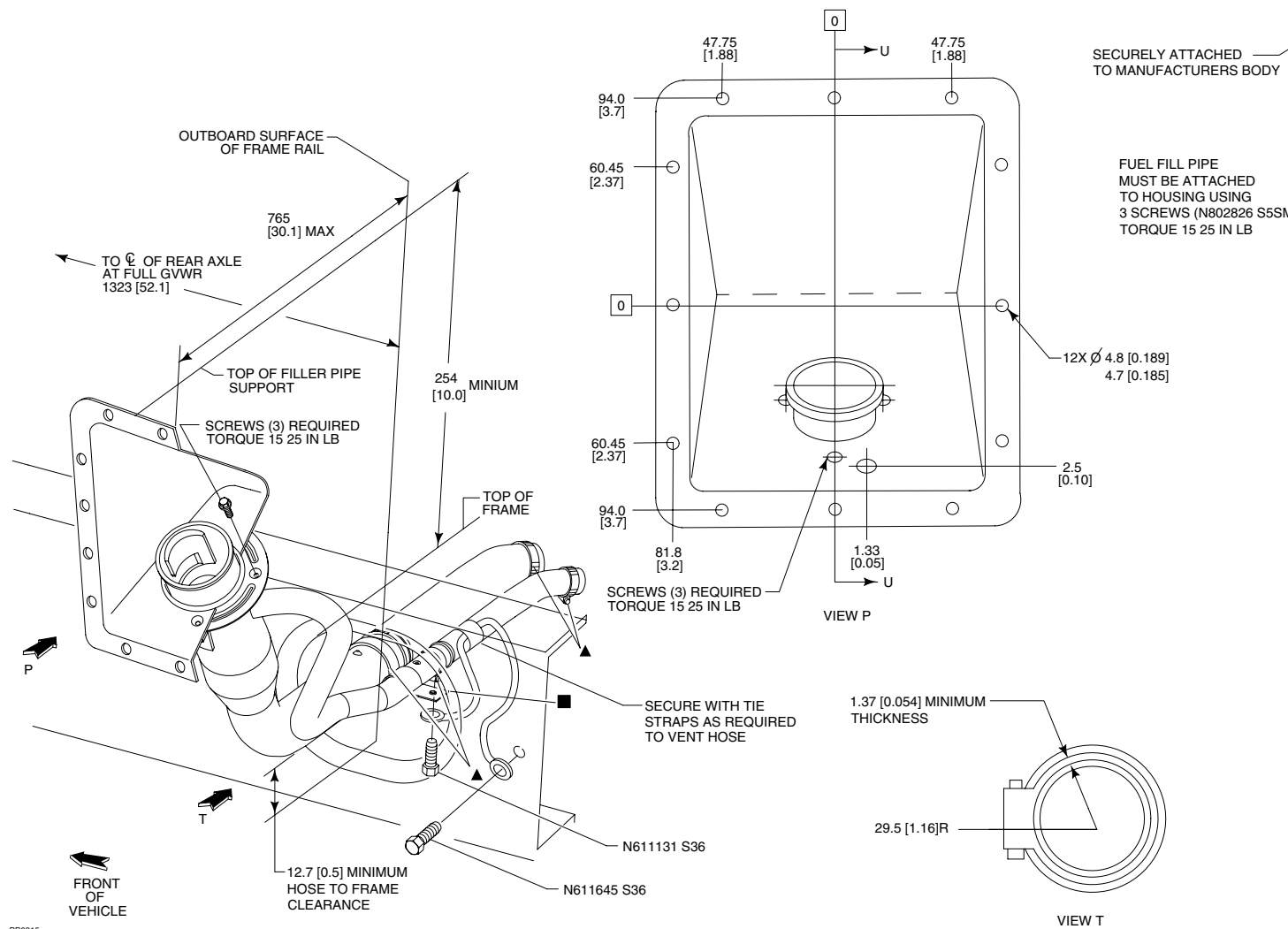
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MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

F-SUPER DUTY CLASS A MOTOR HOME CHASSIS (F53) FUEL FILLER PIPE INSTALLATION

2006
MODEL YEAR

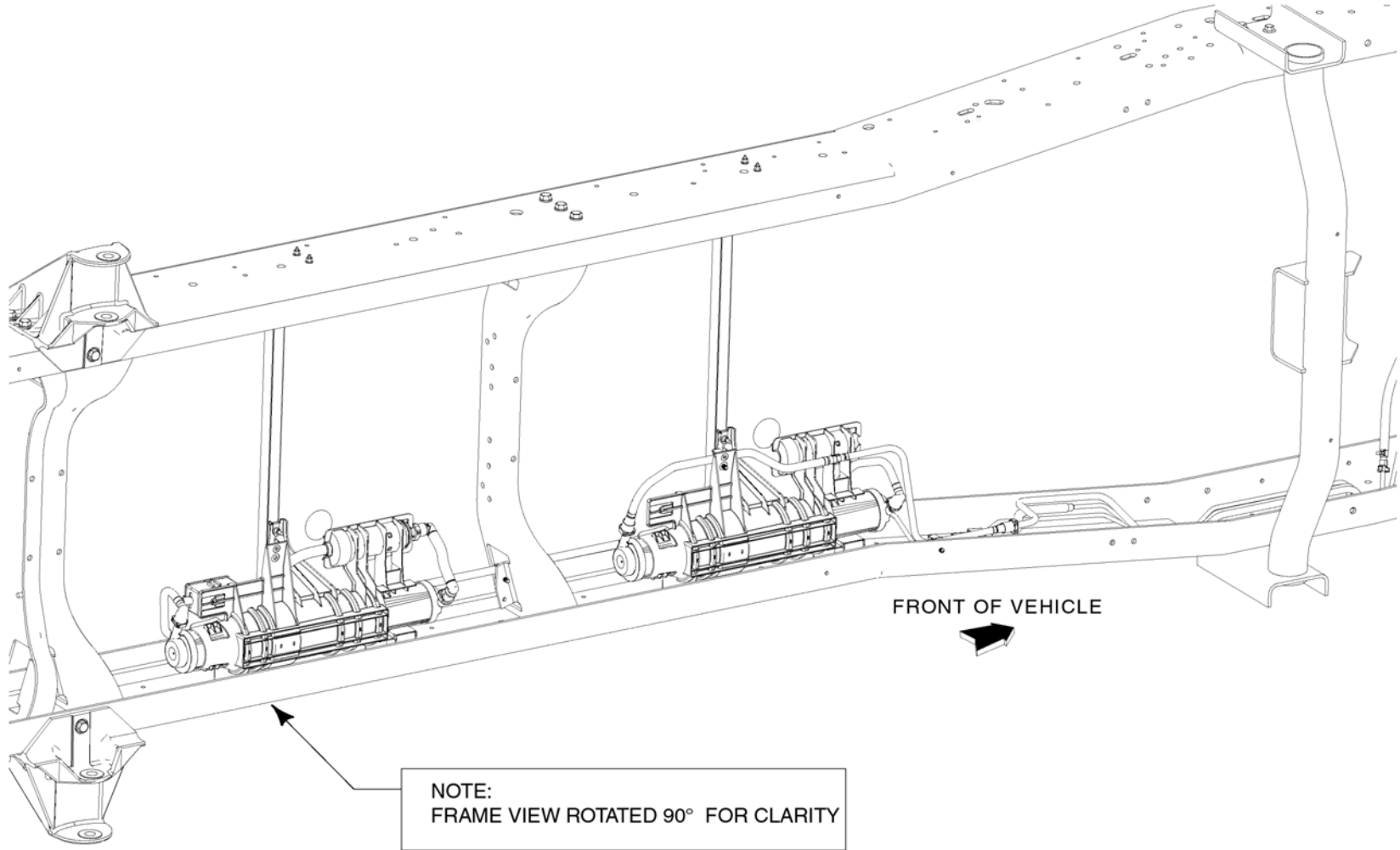


- * WORM GEAR DRIVEN HOSE CLAMP STRUCTURAL BRACKET AND BLIND RIVETS ARE NOT PROVIDED BY FORD MOTOR COMPANY
 - DIMENSIONS USING HOSE AS SUPPLIED BY FORD MOTOR COMPANY
 - ▲ WORM GEAR DRIVEN HOSE CLAMPS TORQUE 2.8-4.0 NEWTON METERS (25-35 IN LBS)
 - WORM GEAR DRIVEN HOSE CLAMP * MUST FIT SECURELY OVER A 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.

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.

F-SUPER DUTY CLASS A MOTOR HOME CHASSIS (F53) FUEL SYSTEM EVAPORATIVE EMISSIONS — 178" & 190" WB

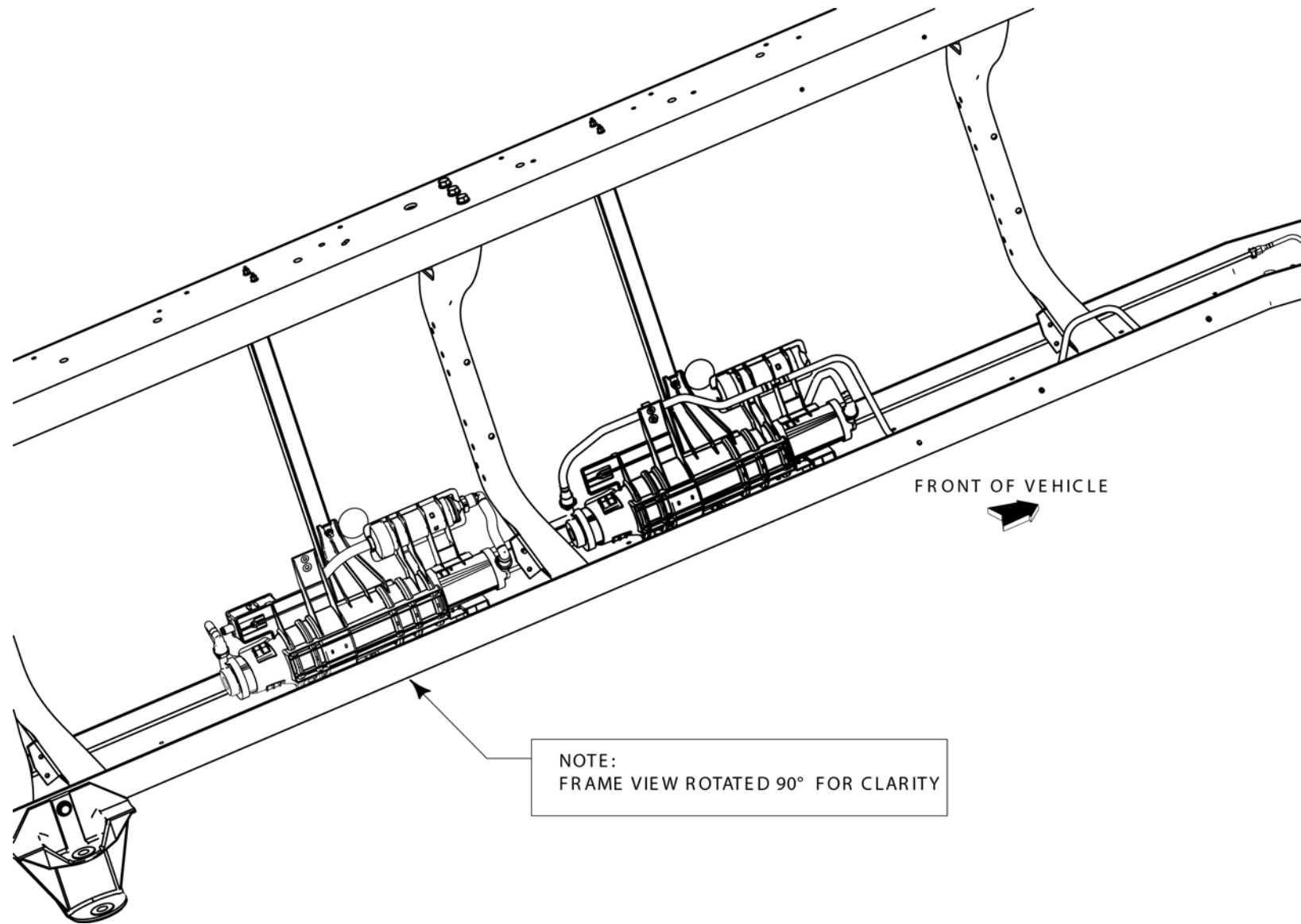
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MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

F-SUPER DUTY CLASS A MOTOR HOME CHASSIS (F53) FUEL SYSTEM EVAPORATIVE EMISSIONS — 208" WB

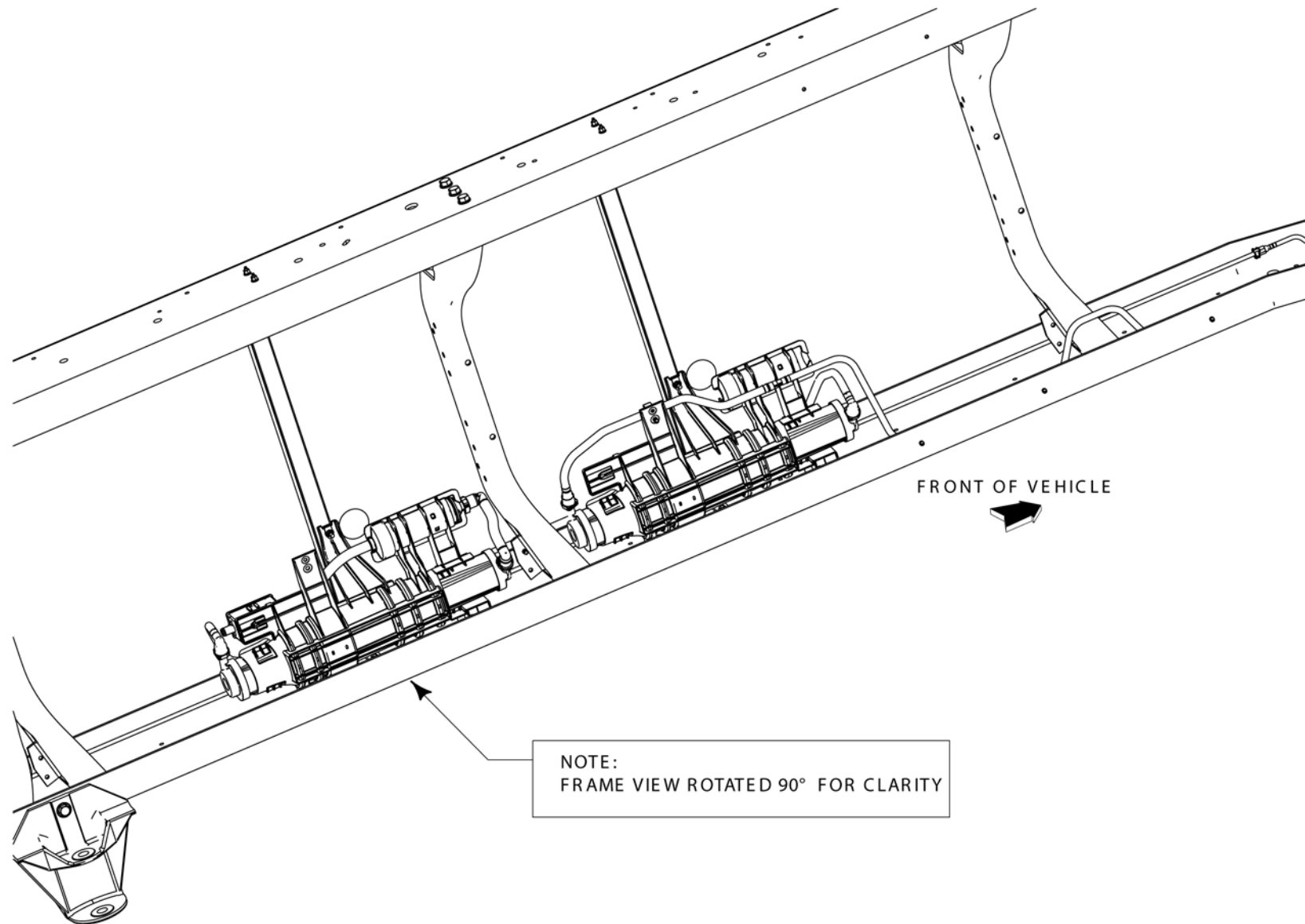
2006
MODEL YEAR



NOTE — [] DIMENSIONS ARE INCHES.

F-SUPER DUTY CLASS A MOTOR HOME CHASSIS (F53) FUEL SYSTEM EVAPORATIVE EMISSIONS — 228" WB

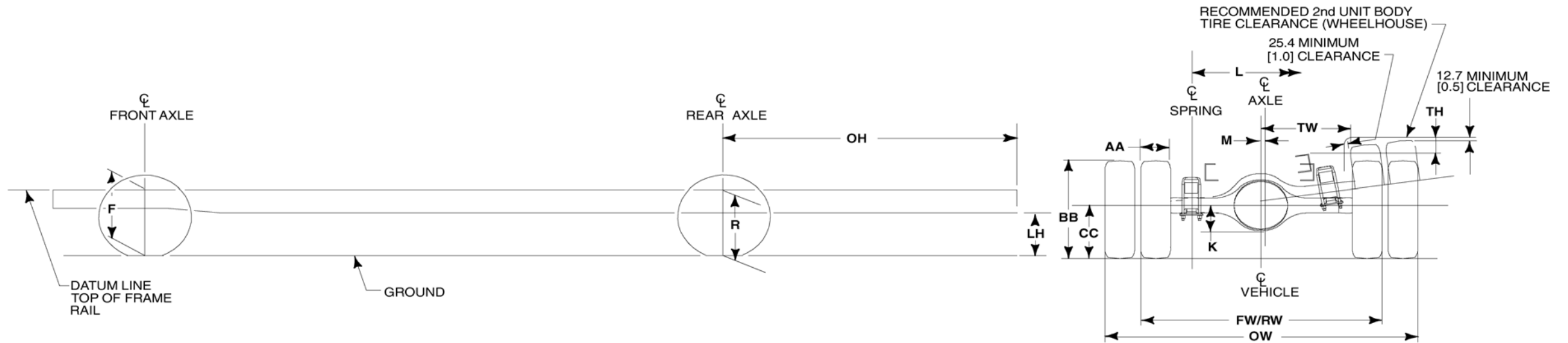
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MODEL YEAR



F-SUPER DUTY CLASS A MOTOR HOME CHASSIS (F53)

AXLE/TIRE/VEHICLE HEIGHT DATA

2006
MODEL YEAR



BB0317

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 Motor Home Chassis (F53)	4521 [178.0]	15,700	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]	2310 [90.9]	270 [10.6]	638 [25.1]												
	4826 [190.0]			719 [28.3]	779 [30.7]	577 [22.7]													2688 [105.8]	177 [7.0]	1079 [42.5]	24 [1.0]	254 [10.0]	810 [31.9]	391 [15.4]	2327 [91.6]	1848 [72.8]	2407 [94.8]	283 [11.1]	638 [25.1]
	4521 [178.0]	18,000	245/70R19.5	719 [28.3]	779 [30.7]	577 [22.7]	2688 [105.8]	214 [8.4]	1079 [42.5]	24 [1.0]	254 [10.0]	810 [31.9]	391 [15.4]	2327 [91.6]	1848 [72.8]	2407 [94.8]	283 [11.1]	638 [25.1]												
	4826 [190.0]			719 [28.3]	779 [30.7]	577 [22.7]													2688 [105.8]	214 [8.4]	1079 [42.5]	24 [1.0]	254 [10.0]	810 [31.9]	391 [15.4]	2327 [91.6]	1848 [72.8]	2407 [94.8]	283 [11.1]	638 [25.1]
	5283 [208.0]			719 [28.3]	779 [30.7]	577 [22.7]													2688 [105.8]	214 [8.4]	1079 [42.5]	24 [1.0]	254 [10.0]	810 [31.9]	391 [15.4]	2327 [91.6]	1848 [72.8]	2407 [94.8]	283 [11.1]	638 [25.1]
	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]	254 [10.0]	810 [31.9]	391 [15.4]	2327 [91.6]	1848 [72.8]	2407 [94.8]	283 [11.1]	638 [25.1]												
	5283 [208.0]			719 [28.3]	779 [30.7]	577 [22.7]													2688 [105.8]	214 [8.4]	1079 [42.5]	24 [1.0]	254 [10.0]	810 [31.9]	391 [15.4]	2327 [91.6]	1848 [72.8]	2407 [94.8]	283 [11.1]	638 [25.1]
	5283 [208.0]	22,000	245/70R19.5	719 [28.3]	779 [30.7]	577 [22.7]	2688 [105.8]	214 [8.4]	1079 [42.5]	24 [1.0]	254 [10.0]	810 [31.9]	391 [15.4]	2327 [91.6]	1848 [72.8]	2407 [94.8]	283 [11.1]	638 [25.1]												
	5791 [228.0]			719 [28.3]	779 [30.7]	577 [22.7]													2688 [105.8]	214 [8.4]	1079 [42.5]	24 [1.0]	254 [10.0]	810 [31.9]	391 [15.4]	2327 [91.6]	1848 [72.8]	2407 [94.8]	283 [11.1]	638 [25.1]
	5791 [228.0]			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]	2414 [95.0]	221 [8.7]	640 [25.2]

(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 MOTOR HOME CHASSIS (F53)

BODY AND SPECIAL EQUIPMENT

INSTALLATION PRECAUTIONS

2006
MODEL YEAR

Page 10

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 motor home 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

- 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 frame flange is not recommended; welding to the vertical side web is preferred.

- The frame for the motor home 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. Motor home 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; engine compartment 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. The requirement of keeping the temperature rise for inlet air to 30° F (@ 110° F ambient) will insure that engine performance and cooling will not be adversely affected.

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

- The 245/70Rx19.5F (18,000 lb, 20,500 lb and 22,000 lb GVWR) and the 225/70Rx19.5F (15,700 lb GVWR) are the only tires approved for the 19.5" steel wheels F-Super Duty Class A Motor Home Chassis (F53).
- The 235/80R22.5 XRV LRG Michelin tire (22,000 lb GVWR) is the only tire approved for the 22.5" aluminum/steel wheels.

ELECTRICAL

All wiring additions and revisions should comply with procedures described in the "Electrical Wiring, General Practices".

NOTE: 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 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.

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).

F-SUPER DUTY CLASS A MOTOR HOME CHASSIS (F53) BODY AND SPECIAL EQUIPMENT INSTALLATION PRECAUTIONS (Continued)

2006
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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. Batterie(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 motor home front-end design. Component temperature limitations should not be exceeded (See table below).

F-SUPER DUTY CLASS A MOTOR HOME CHASSIS (F53) 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 motor home 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 Motor Home 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 MOTOR HOME CHASSIS (F53) BODY AND SPECIAL EQUIPMENT INSTALLATION PRECAUTIONS (Continued)

2006
MODEL YEAR

1. ADDING LIGHT OR ELECTRICAL DEVICES

Although there are many points in the truck 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 Motor Home Chassis (F53) 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

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 Large Bulb	194

2. LIGHTS CONTROLLED BY HEADLAMP SWITCH

The headlamp switch on the F-Super Duty Class A Motor Home Chassis (F53) 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.

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

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

- Affect EFI 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 TorquShift® equipped vehicle, please call the Truck Body Builders Advisory Service at 1-877-840-4338.

The F-Super Duty Class A Motor Home Chassis (F53) 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 Motor Home Chassis (F53) 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.

4. 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.

NOTE: For additional information on Electrical/Trailer Tow wiring and devices, please refer to the *Body Builder Wiring Supplement*.

5. 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 Motor Home Chassis (F53) has a separate wire to maintain Keep Alive Power to the 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.

A/C PREP PACKAGE

1. The F-Super Duty Class A Motor Home Chassis (F53) 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 that is shipped in the dunnage box and is located by the body builder.
2. Information on air conditioning refrigerant and lubricant quantities are shown in the *Ford Truck Quality Program Guidelines* binder.

F-SUPER DUTY CLASS A MOTOR HOME CHASSIS (F53) BODY AND SPECIAL EQUIPMENT INSTALLATION PRECAUTIONS (Continued)

2006
MODEL YEAR

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 (Run only)	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	16	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)	160	18	Dark Brown and White	Front Left Side of Dash Panel (Part of 14290)	F/P #31	10A
(Right)	161	18	Dark Green-Orange	Front Right Side of Dash Panel (Part of 14290)	F/P #25	10A
• Horn Feed	6	16	Yellow-Lt. Green	Front Side of Dash Panel (Part of 14290)	PDB #18	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 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

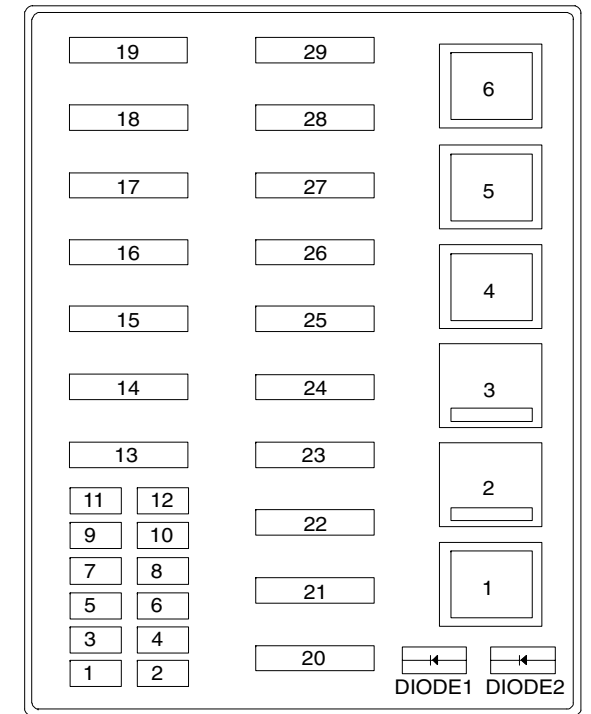
NOTES — 14A032, 14A318, 17B587, 14408, 13A840, AND 18A840 WIRE HARNESS ASSY ARE PROVIDED IN DUNNAGE BOX.
FUSE PANEL (F/P) IS LOCATED ON 14A032-A WIRE HARNESS PROVIDED IN DUNNAGE BOX.
POWER DISTRIBUTION BOX (PDB) IS LOCATED ON 12A581 WIRE HARNESS LOCATED IN ENGINE COMPARTMENT.

F-SUPER DUTY CLASS A MOTOR HOME CHASSIS (F53) BODY AND SPECIAL EQUIPMENT INSTALLATION PRECAUTIONS (Continued)

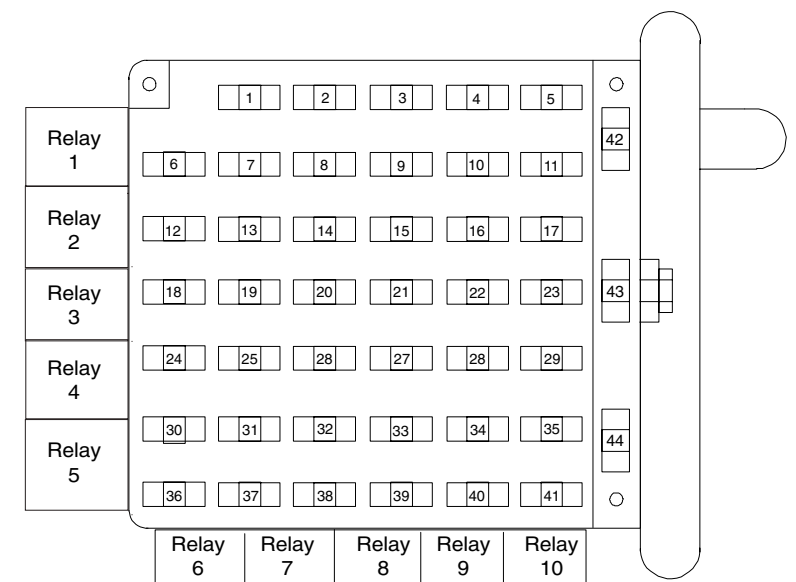
2006
MODEL YEAR

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 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			
• Wiper Motor Feed — High	58	14	White			
• Wiper Motor Feed — Ignition	65	14	Dark Green			
• Wiper Motor Feed — Low	56	14	Dark Blue-Orange			
• Wiper Motor Feed — Switch	28	14	Black-Pink Stripe			

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.



POWER DISTRIBUTION BOX



FUSE PANEL