



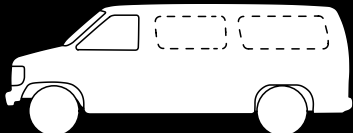
Ford Motor Company

DO NOT DESTROY: THIS MANUAL IS REQUIRED BY
LAW. KEEP UNTIL THE VEHICLE IS COMPLETED BY
THE FINAL STAGE MANUFACTURER.

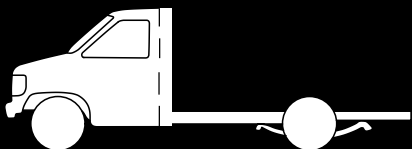
2004 E-SERIES INCOMPLETE VEHICLE MANUAL

Incomplete Vehicle Types For This Manual

**INCOMPLETE
E-SERIES
VANS &
WAGONS**



**E-SERIES
CUTAWAY
& CHASSIS
CAB**



**E-SERIES
BASIC
CHASSIS**



May, 2003
▽4C2S-19A268-AA

U.S. & CANADA MOTOR VEHICLE SAFETY STANDARDS (APPLICATION BY VEHICLE TYPE)

Standard Number	Title of Standard	Bus (Not School Bus)	School Bus	Truck (Not Walk-In Van)	MPV	Truck (Walk-in Van)	(1) Equip.
101	Control Location, Identification and Illumination	X	X	X	X	X	
102	Transmission Shift Lever Sequence, Starter Interlock & Transmission Braking Effect	X	X	X	X	X	
103	Windshield Defrosting & Defogging Systems	X	X	X	X	X	
104	Windshield Wiping and Washing Systems	X	X	X	X	X	
105	Hydraulic and Electric Brake Systems	X	X	X	X	X	
106	Brake Hoses	X	X	X	X	X	X
108	Lamps, Reflective Devices & Associated Equipment	X	X	X	X	X	X
108.1	Headlamps (Canada only)	X	X	X	X	X	
110	Tire Selection and Rims (U.S. only)	X	X	X	X	X	X
111	Rearview Mirrors	X	X	X	X	X	
113	Hood Latch Systems	X	X	X	X	X	
114	Theft Protection			X(2)	X(2)		
115	Vehicle Identification Number (Canada only)	X	X	X	X	X	
116	Hydraulic Brake Fluids	X	X	X	X	X	X
118	Power Operated Window, Partition, and Roof Panel Systems			X(2)	X(2)	X(2)	
119	New Pneumatic Tires for Vehicles Other Than Passenger Cars						X
120	Tire Selection and Rims for Motor Vehicles Other Than Passenger Cars	X	X	X	X	X	X
124	Accelerator Control Systems	X	X	X	X	X	
131	School Bus Pedestrian Safety Devices		X				
135	Light Vehicle Brake Systems	X(10)	X(10)	X(10)	X(10)	X(10)	
201	Occupant Protection in Interior Impact	X(2)(9)	X(2)(9)	X(2)	X(2)	X(2)(9)	
202	Head Restraints	X(2)	X(2)	X(2)	X(2)	X(2)	
203	Impact Protection for the Driver from the Steering Control System	X(2)	X(2)	X(2)	X(2)		
204	Steering Control Rearward Displacement	X(3)	X(3)	X(3)	X(3)		
205	Glazing Materials	X	X	X	X	X	X
206	Door Locks and Door Retention Components			X	X	X	
207	Seating System	X	X	X	X	X	
208	Occupant Crash Protection	X(6)(5)	X(6)(5)	X(6)(5)	X(6)(5)	X(6)(5)	X
209	Seat Belt Assemblies	X	X	X	X		
210	Seat Belt Assembly Anchorages	X	X	X	X	X	
210.1	User-Ready Tether Anchorages for Restraint Systems (Canada only)	X(8)	X(8)	X(8)	X(8)		
210.2	Lower Universal Anchorage Systems for Restraint Systems and Booster Cushions (Canada only)	X(8)	X(8)	X(8)	X(8)		
212	Windshield Mounting	X(2)	X(2)	X(2)	X(2)		
213	Child Restraint Systems	X	X	X	X	X	X
214	Side Impact Protection	X(2)(7)	X(2)	X(2)(7)	X(2)(7)		
217	Bus Window Retention and Release	X	X				
219	Windshield Zone Intrusion	X(2)	X(2)	X(2)	X(2)		

(Continued on Page 1)

U.S. & CANADA MOTOR VEHICLE SAFETY STANDARDS (APPLICATION BY VEHICLE TYPE)

(Continued from Inside Front Cover)

Standard Number	Title of Standard	Bus (Not School Bus)	School Bus	Truck (Not Walk-In Van)	MPV	Truck (Walk-in Van)	(1) Equip.
220	School Bus Rollover Protection		X				
221	School Bus Body Joint Strength		X				
222	School Bus Passenger Seating and Crash Protection		X				
225	Child Restraint Anchorage Systems	X(8)	X(8)	X(8)	X(8)	X(8)	
301	Fuel System Integrity	X(2)	X	X(2)	X(2)	X(2)	
301.1	LPG Fuel Systems (Canada only)	X	X	X	X	X	
301.2	CNG Fuel Systems (Canada only)	X	X	X	X	X	
302	Flammability of Interior Materials	X	X	X	X	X	
303	Fuel System Integrity of CNG Vehicles (U.S. only)	X(2)	X	X(2)	X(2)	X(2)	
304	CNG Fuel Container (U.S. only)						X
PART 565.4	Vehicle Identification Number (U.S. only)	X	X	X	X	X	
1106	Noise Emissions (Canada only)	X	X	X	X	X	

(1) Applicable to Equipment for use on applicable vehicle types.

(2) Applicable to vehicles with a GVWR of 4536 kg [10,000 lb] or less.

(3) Applicable to vehicles with a GVWR of 4536 kg [10,000 lb] or less and an unloaded vehicle weight of 2495 kg [5500 lb] or less.

(4) Applicable to vehicles with a GVWR of 2722 kg [6000 lb] or less.

(5) Injury criteria required for vehicles with a GVWR of 3856 kg [8500 lb] or less and an unloaded vehicle weight of 2495 kg [5500 lb] or less except, in U.S., walk-in van-type trucks and vehicles designed to be sold exclusively to the U.S. Postal Service and, in Canada, vehicles manufactured for operation by persons with disabilities.

(6) Injury criteria is optional for some vehicles where they are not required.

(7) Dynamic Performance Requirements apply to MPV, truck or a bus with a GVWR of 2722 kg [6000 lb] or less.

(8) Tether anchors and latch/ISO Fix lower anchors that are installed voluntarily or by regulation must comply with this Standard.

(9) The requirements of section S6 of Standard Number 201 (United States) do not apply to buses with a GVWR more than 3860 kg [8510 lb] and walk-in van type trucks.

(10) Applicable to vehicles with a GVWR of 3500 kg [7716 lb] or less.

INTRODUCTION

Information in this manual is furnished pursuant to United States and Canadian safety regulations or, in some cases where the information is not required by regulation, is furnished for the convenience of intermediate or final stage vehicle manufacturers. Incomplete vehicles manufactured for sale or importation into the U.S., are specially equipped for the United States. The descriptions and statements contained in the manual relate only to motor vehicle safety standards issued under the National Traffic and Motor Vehicle Safety Act of 1966 as amended.

An incomplete vehicle manufactured for sale or importation into Canada is specially equipped for Canada. This vehicle conforms to the applicable Canadian Motor Vehicle Safety Standards (CMVSS) on the date of manufacture printed on the cover of this manual. Requirements unique to vehicles for use in Canada are identified in the Statements of Conformity and the "Canadian Vehicles", page 55.

The Emission Certification Information section of this manual contains information regarding conformity to exhaust emission regulations of the United States, Canada, and the State of California and fuel economy regulations of the United States.

This manual should not be relied upon with respect to compliance with any regulation of the Federal Highway Administration or regulations issued pursuant to the Occupational Safety and Health Act (OSHA) or any other federal, state, or local regulations governing the performance or construction of motor vehicles (except for those requirements shown under the heading "Warranty and Maintenance," page 57, "Emission Control Information Label," page 58 and "Unleaded Gasoline Label," page 57). It is the responsibility of the final stage manufacturer to determine applicability and comply with any federal, state, or local requirements not detailed in this manual.

IMPORTANT:

UNITED STATES VEHICLES

Ford Motor Company has endeavored, whenever possible, to state the specific conditions under which an incomplete vehicle may be completed to conform to each applicable Federal Motor Vehicle Safety Standard. These specific statements are intended to aid subsequent stage manufacturers in avoiding instances of inadvertent noncompliance to particular standards.

Note that the final responsibility for the compliance of the completed vehicle rests with the final stage manufacturer who is required by law to certify, as prescribed by Section 567.5 of Title 49, Code of Federal Regulations, that the completed vehicle conforms to all applicable Federal Motor Vehicle Safety Standards and that all applicable federal, state and California emission/noise standards are conformed with.

Ford Motor Company does not make any representation as to the appropriateness of modifications for any particular application other than expressly stated herein. Intermediate and final stage manufacturers must exercise proper engineering judgment to determine if a modification is appropriate for their specific application.

IMPORTANT:

UNITED STATES AND CANADIAN VEHICLES

Alterations to a chassis cab or an incomplete vehicle by someone other than Ford Motor Company, or damage in transit, may affect compliance statements that are furnished in this manual, or representations that are printed on the label that may be affixed to a chassis cab vehicle.

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GENERAL INFORMATION

Information in this section is provided pursuant to Part 568 of Title 49, Code of Federal Regulations. "Vehicles Manufactured in Two or More Stages." Part 568 specifies that final stage manufacturers must complete vehicles in compliance with all applicable Federal Motor Vehicle Safety Standards, and Section 6 of the Canadian Motor Vehicle Safety Regulations (CMVSR), Vehicles Manufactured in Stages. Section 6.6 of the CMVSR provides labeling requirements for vehicles that are to be sold in Canada.

Each Chassis Cab (see definition on page 7) manufactured by Ford has a label affixed to the driver-door lock pillar that identifies the following:

- The specific Federal Motor Vehicle Safety Standards to which the Chassis Cab conforms, as of the date of manufacture.
- The specific Federal Motor Vehicle Safety Standards to which the Chassis Cab will conform when completed as specified in this manual.
- The date of manufacture (month/year) of the Chassis Cab by Ford Motor Company

DIRECTIONS

STATEMENTS OF CONFORMITY

The Statements of Conformity section, which begin on page 9 of this manual, lists the Federal Motor Vehicle Safety Standards in effect on the date of manufacture of this incomplete vehicle that are applicable to the type(s) of completed vehicles into which this incomplete vehicle may be manufactured. This date is shown on the label affixed to the cover of this manual. These statements, in most cases, apply to specific types of incomplete or completed vehicles and identify GVWR and UVW weight ranges.

The incomplete vehicle type is identified by the 5th, 6th, and 7th digits of the Vehicle Identification Number (VIN); see page 5. The completed vehicle types to which this incomplete vehicle may appropriately be completed is printed on the label, under the heading "May Be Completed As," that is affixed to the cover of this document. The Completed Vehicle Types charts on page 6 identifies how various incomplete vehicles with an Optional Prep Packages or a Trim Code, may be completed.

Each statement of conformity is identified by a safety standard number located at the left margin. Because there may be multiple statements of conformity for each safety standard, use care to select the appropriate statement. Unique CMVSS requirements will be identified at the conclusion of the representations for a particular safety standard.

Compliance statements provided in this manual are of the three following types:

- Type I** • A statement that the vehicle, when completed, will conform to the standard if no alterations are made in identified components of the incomplete vehicle.
- Type II** • A statement of specific conditions of final manufacture under which the incomplete vehicle manufacturer specifies that the completed vehicle will conform to the standard.
- Type III** • A statement of conformity with the standard is not substantially affected by the design of the incomplete vehicle, and that the incomplete vehicle manufacturer makes no representation as to conformity with the standard.

IMPORTANT:

To rely on the compliance representations in this manual, the incomplete vehicles must be completed as one of the completed vehicle types designated on the label affixed to the cover of this manual, and must not exceed the specified GVWR, GAWRs, or the Unloaded Vehicle Weight limits when specified in this manual.

VEHICLE SPECIAL ORDER (VSO) VEHICLES

VSO vehicles can be identified by a six digit number with the letters VSO below the digits in the lower right corner of the Incomplete Vehicle Label which is affixed to the driver-door lock pillar. See the sample label on page 5.

The Statements of Conformity section of this manual includes compliance representations for certain VSO vehicles. These vehicles are identified in the charts on page 6. Other VSO vehicles may require additional Statements of Conformity which will be in the Supplement Section of this manual.

FORD TRUCK ASSISTANCE

Throughout this manual you will find references to information found in the *Ford Truck Body Builders' Layout Book*. Additional Design Recommendations and specifications are also provided to assist subsequent stage manufacturers in completing chassis cab and incomplete vehicles. To obtain a free copy of this publication on CD-ROM or to receive an order form for additional CD-ROM's or books please visit our website at www.fleet.ford.com/truckbbas/. Under Publications select Body Builders Order Forms. All dealer requests can be handled online. All other U.S. orders should be faxed to (734) 713-2971. Canadian orders should be faxed to (905) 670-0844.

The Ford Truck Body Builder Advisory Service may be consulted regarding information contained in this manual.

- Call (877) 840-4338
- Fax (313) 594-2633
- E-Mail bbasqa@ford.com or at the BBAS website – www.fleet.ford.com/truckbbas/

Include your name, company and telephone number with all inquiries. If requesting written materials, include your mailing address.

VEHICLE DESCRIPTION

INCOMPLETE VEHICLE MANUAL COVER

The cover of this manual identifies the three incomplete vehicle configurations for which compliance representations are contained in this manual. Also, a label is affixed to the cover which includes the Vehicle Identification Number (VIN) for the specific vehicle to which this manual belongs. The label identifies the following information which pertains only to the vehicle with the corresponding VIN.

- The GVWR.
- The front and rear GAWRs.
- Tire and wheel size.
- Cold tire inflation pressure (kPa/PSI).
- Completed vehicle type(s) into which the incomplete vehicle may be manufactured.
- Optional prep package when the vehicle is so equipped.

INCOMPLETE VEHICLE LABEL

All E-Series incomplete vehicles manufactured by Ford Motor Company will have an incomplete vehicle label affixed to the driver-door lock pillar, except Basic (Stripped) Chassis. The incomplete vehicle label for the Basic (Stripped) Chassis is affixed to the front structure. The sample labels, shown below, are typical of that provided.

The 5th, 6th, and 7th digits of the Vehicle Identification Number (VIN) will identify the incomplete vehicle type. These three digits are used in the Completed Vehicle Types charts on page 6.

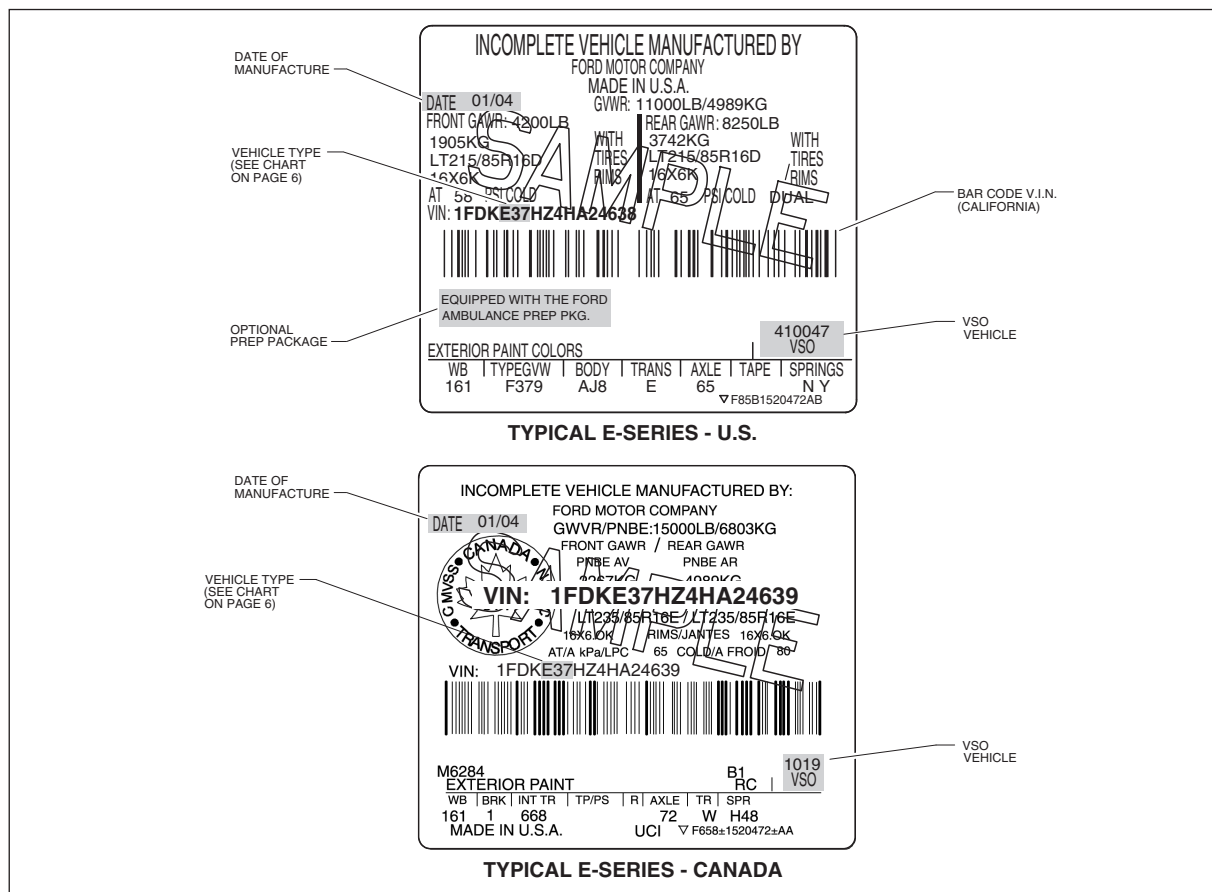
California Air Resources Board (CARB), requires a Vehicle Identification Number (VIN) Label having a non-contact, bar-code, reading wand capability. The bar-code directly below the VIN on the incomplete vehicle label, when provided, will comply with this regulation. See page 58 for location and other requirements.

The Canadian Motor Vehicle Safety Act and Regulations require installation of an incomplete vehicle certification label with the National Safety mark on it on vehicles manufactured for sale in Canada. A label representative of those installed by Ford assembly plants is shown below.

OPTIONAL PREP PACKAGES

Incomplete vehicles produced by Ford Motor Company, in some instances, are equipped with Optional Prep Packages. These include the Ambulance Prep, School Bus Prep, Motorhome Prep, and Shuttle Bus Prep. The completed vehicle type charts on page 6 will identify incomplete vehicles and the optional prep packages or trim codes that may be required by Ford if final stage manufacturers wish to rely on the Statements of Conformity or, in some cases, preserve the Ford new vehicle warranty.

If an incomplete vehicle is equipped with an optional prep package, both the incomplete vehicle label affixed to the vehicle and the label on the front of this manual will identify the Prep Package.



INCOMPLETE VEHICLE LABELS

COMPLETED VEHICLE TYPES

5TH, 6TH, 7TH VIN DIGIT	INCOMPLETE VEHICLES	COMPLETE VEHICLES					
		TRUCK	TRUCK (WALK-IN VAN)	MPV	MPV (AMBULANCE)	BUS (NOT SCHOOL BUS)	SCHOOL BUS
E-Series							
C35	E-350 Chassis Cab	X					
C45	E-450 Chassis Cab	X					
E11	Incomplete E-150 Wagon	X		6			
E14	Incomplete E-150 Regular Van	X		5			
E24	Incomplete E-250 Regular Van	X		5			
E31	Incomplete E-350 Super Duty Wagon	X		6		6	
E34	Incomplete E-350 Super Duty Regular Van	X		5	1		
E35	E-350 Super Duty Cutaway	X		3	1	4	2
E39	E-350 Super Duty Basic (Stripped) Chassis		X				
E45	E-450 Super Duty Cutaway	X		3	1	4	2
E49	E-450 Super Duty Basic (Stripped) Chassis		X				
S24	Incomplete E-250 Extended Van	X		5			
S31	Incomplete E-350 Super Duty Extended Wagon	X		6		6	
S34	Incomplete E-350 Super Duty Extended Van	X		5	1	5	

IMPORTANT:

Ford Motor Company makes no representation that the completed vehicle types listed above are the only vehicle types appropriate for the incomplete vehicles listed. However, if a unit is completed as a vehicle type other than as listed above, the Statements of Conformity may not be applicable.

(1) Ambulance Prep Package.

(2) School Bus Prep Package.

(E-350 available on 9600 lb GVWR SRW, and 11,500 lb GVWR DRW only).

(3) Motorhome Prep Package.

(4) Shuttle Bus Prep Package.

(5) Recreational Van.

(6) Center Aisle Seat Prep Package

DEFINITIONS

The following definitions are from Title 49, Code of Federal Regulations, Part 571.3 except 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 manual only. Some terms are followed by an abbreviation that is used throughout this manual.

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 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-D). 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.

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 (source: Ford Motor Company).

Bus – a motor vehicle with motive power, except a trailer, designed for carrying more than 10 persons.

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.*

Chassis Cab – an incomplete vehicle, with completed occupant compartment, that requires only the addition of cargo-carrying, work performing, or load-bearing components to perform its intended function.

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 (∇). (source: Ford Motor Company)

Cutaway Chassis (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 vehicle; (chassis tornque).*

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 of 10,000 pounds or less, 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.

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.*

Final Stage Manufacturer – a person or company who performs such manufacturing operations on an incomplete vehicle that it becomes a completed vehicle.

Forward Control – a vehicle configuration in which more than half of the engine length is rearward of the foremost point of the windshield base and the steering wheel hub is in the forward quarter of the vehicle length.

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.

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

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

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.

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.*

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.

Incomplete Vehicle (Canada) – *(a) a vehicle 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 or company who manufactures an incomplete vehicle by assembling components none of which, taken separately constitute an incomplete vehicle.

DEFINITIONS

Intermediate Manufacturer – a person or company, other than the incomplete vehicle manufacturer or the final stage manufacturer, who performs manufacturing operations on an incomplete vehicle.

Multipurpose Passenger Vehicle (MPV) – a motor vehicle with motive power, except a 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.

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 low-speed vehicle, a golf-cart, a passenger car, a truck or a vehicle imported temporarily for special purposes.

Prescribed Class (Canada) – a class of vehicle listed in Schedule III or the class of incomplete vehicle prescribed under subsection 4(1.1); (*catégorie réglementaire*).

Seating Reference Point – the manufacturer's design reference point which:

- Establishes the rearmost normal design driving or riding position of each designated seating position in a vehicle;
- Has coordinates established relative to the designed vehicle structure;
- Simulates the position of the pivot center of the human torso and thigh; and
- Is the reference point employed to position the two dimensional templates described in SAE Recommended Practice J826. "Manikins for Use in Defining Vehicle Seating Accommodation," November, 1962.

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:

- 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;
- 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;
- Simulates the position of the pivot center of the human torso and thigh; and
- 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.

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. (source: Ford Motor Company)

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.

School Bus (Canada) – a bus designed or equipped primarily to carry students to and from school.

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

Truck – a motor vehicle with motive power, except a trailer, designed primarily for the transportation of property or special purpose equipment.

Truck (Canada) – a vehicle 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.

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 vehicle and load drawn, and includes a vehicle designed to accept a fifth-wheel coupling but does not include a crane-equipped breakdown vehicle.

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.

Unloaded Vehicle Weight (Canada) – the weight of a vehicle equipped with containers for the fluids necessary for the operation of the vehicle filled to their maximum capacity but without cargo or occupants.

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. (source: 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 1 700 mm can enter the occupant compartment in an upright position by a front door.

STATEMENTS OF CONFORMITY

The following Statements of Conformity apply to vehicles that are produced for sale or importation into the United States or Canada. The term "Incomplete Vehicle Types" in these statements refers to the three types of the vehicles illustrated on this manual's cover and listed in the chart on page 6.

The number preceding each Statement of Conformity refers to the number designation for a Part or a Section of Part 571 of the Federal Motor Vehicle Safety Standard.

The statements provided for each safety standard number are appropriate compliance representations for each Canadian safety standard number if this incomplete vehicle, identified by the VIN on the front of the document, was manufactured by Ford Motor Company for sale or use in Canada, except as may be noted at the conclusion of each safety standard number.

PART

565.4 The statement below is applicable to all incomplete vehicle types except the Basic (Stripped) Chassis:

This vehicle, when completed, will conform to Part 565.4, Vehicle Identification Number, if the vehicle identification number mounted on the top of the instrument panel is not removed, altered, or modified and no actions are taken by the subsequent stage manufacturer that would obstruct the readability of the Vehicle Identification Number mounted on the top of the instrument panel.

565.4 The statements below are applicable to the following incomplete vehicle types:

- **E-Series Basic (Stripped) Chassis**

This vehicle, when completed, will conform to Part 565.4, Vehicle Identification Number, if:

- The E-Series vehicle identification number printed on the label affixed to the cover of this manual is mounted and displayed in accordance with the requirements of this Standard.

101 The statements below are applicable to the following incomplete vehicle types when equipped with a driver seat:

- **Chassis Cab**
- **Incomplete E-Series Van or Wagon**
- **Cutaway**

This vehicle, when completed, will conform to Standard 101, Controls and Displays if:

- The controls, displays, and their identifications supplied by Ford Motor Company are not removed, relocated, altered, or modified.
- The components, wiring, and power supply installed by Ford Motor Company to illuminate any control, display, or their identification are not removed or altered so as to affect lighting performance.
- Components added to the vehicle do not obstruct the driver's ability to operate or visually locate the controls, displays, and their identifications.
- The driver-seat is not replaced, relocated, or modified other than for the addition of seat trim.

Any controls, displays, and illumination added to this vehicle must conform to the requirements of this Standard.

101 The statements below are applicable to the following incomplete vehicle types with no driver-seat:

- **Incomplete E-Series Van**
- **Cutaway**

This vehicle, when completed will conform to Standard 101, Controls and Displays if:

- The Seating Reference Point (see definition on page 8) and the seat back torso angle of the driver-seat when completed or installed by a subsequent stage manufacturer are located as shown in the Figure C page 32, for E-Series type vehicles.
- The controls, displays, and their identifications supplied by Ford Motor Company are not removed, altered, or relocated.
- The components, wiring, or power supply installed by Ford Motor Company to illuminate any control, display, or their identification are not removed or altered so as to affect lighting performance.
- Components added to the vehicle do not obstruct the driver's ability to operate or visually locate the controls, displays, and their identifications.

Any controls, displays, and illumination added to this vehicle must conform to the requirements of this Standard.

101 The statement below is applicable to the following incomplete vehicle types:

- **E-Series Basic (Stripped) Chassis**

Conformity with Standard 101, Controls and Displays, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

102 The statements below are applicable to all incomplete vehicle types except the Basic (Stripped) Chassis:

This vehicle, when completed, will conform to Standard 102, Transmission Shift Lever Sequence, Starter Interlock, and Transmission Braking Effect, if no alterations or adjustments are made to:

- Automatic Transmission - the transmission, shift cable, transmission outer shift lever, shift cable bracket, vacuum tubes, vacuum pump system, brake-shift interlock system, the starter interlock system, and wiring circuit from the interlock switch to the power source.
- Manual and Automatic Transmission - the clutch-ignition interlock system (if equipped), transmission shift decal, knob, or transmission indicator dial identification.

If an auxiliary transmission is added to this vehicle, it must conform to the requirements of this Standard.

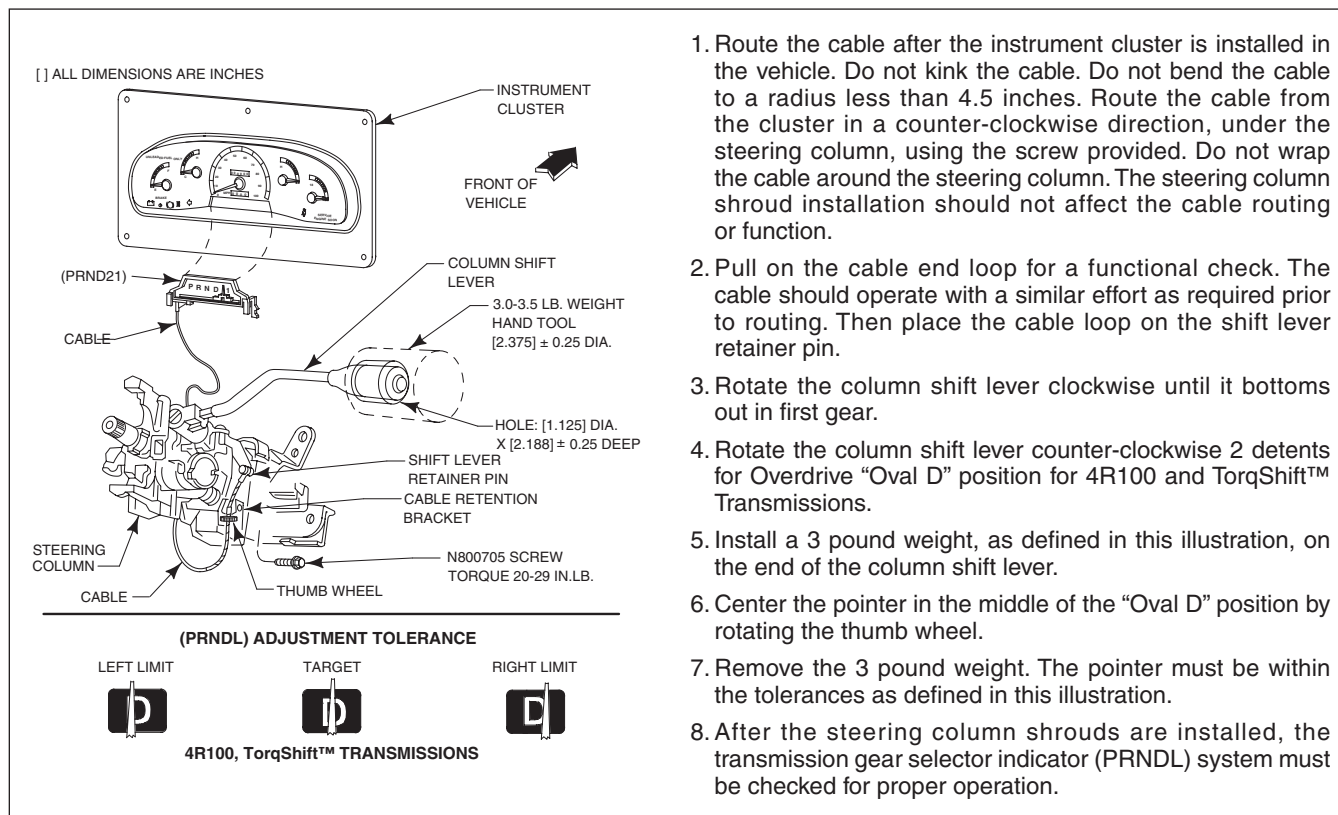
102 The statements below are applicable to the the following incomplete vehicle types:

• **E-Series Basic (Stripped) Chassis**

This vehicle, when completed, will conform to Standard 102, Transmission Shift Lever Sequence, Starter Interlock, and Transmission Braking Effect if:

- No alterations or adjustments are made to the transmission, shift cable, transmission outer shift lever, shift cable bracket, vacuum tubes, vacuum pump system, brake-shift interlock system, the starter interlock system, and wiring circuit from the interlock switch to the power source.
- The E-Series Basic (Stripped) Chassis is equipped with a temporary transmission gear selector indicator (PRNDL) which must be replaced with the cluster and transmission gear selector indicator (PRNDL) that is shipped with the vehicle in the dunnage box and must be installed and adjusted following the instructions and specifications shown in the figure below.

If an auxiliary transmission is added to this vehicle, it must conform to the requirements of this Standard.



INSTALLATION OF GEAR SELECTOR INDICATOR (PRNDL) FOR E-SERIES BASIC (STRIPPED) CHASSIS

103 The statement below is applicable to all incomplete vehicle types except the Basic (Stripped) Chassis:

This vehicle, when completed, will conform to Standard 103, Windshield Defrosting and Defogging Systems, if no alterations or adjustments are made to heater and blower assemblies, ducting, operating controls, electrical circuit from the blower assembly to the power source, windshield, coolant hoses from the radiator or engine to the heater, and if no obstructions are added that restrict or otherwise redirect the air flow from the defroster outlets to the windshield.

103 The statement below is applicable to the following incomplete vehicle types:

• **E-Series Basic (Stripped) Chassis**

Conformity with Standard 103, Windshield Defrosting and Defogging Systems, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

104 The statement below is applicable to all incomplete vehicle types except the Basic (Stripped) Chassis:

This vehicle when completed, will conform to Standard 104, Windshield Wiping and Washing Systems, if no alterations are made to the windshield, the windshield wiping and washing system, including the electrical circuit from the windshield wiping and washing motors to the power source, and if no obstructions are added that restrict or otherwise redirect fluid flow from the washer nozzles to the windshield.

104 The statement below is applicable to the following incomplete vehicle types:

• **E-Series Basic (Stripped) Chassis**

Conformity with Standard 104, Windshield Wiping and Washing Systems, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

105 INFORMATION

Incomplete 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.

Abbreviation definitions and a vehicle diagram to assist with the equations for the Standard 105 segment are shown on page 14.

NOTE: 105 is an example of a standard with conformity statements that contain minimum requirements for completed vehicle Unloaded Vehicle Weight (UVW, see definition on page 8). Maximum UVW requirements are also found in various sections of this manual (see especially Standards 212/219 and 301 and related table, Table A). Completed vehicles must meet UVW limits imposed by all applicable requirements.

105 The statements below are applicable to the E-Series cutaway when equipped with the School Bus Prep package and completed as a school bus:

This vehicle when completed, will conform to Standard 105, Hydraulic and Electric Brake Systems, if:

- 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
 - Wheelbase
- The E-350 SRW Unloaded Vehicle Weight (see definition on page 8) is not less than the minimum value of 2540 kg [5600 lb].
- The E-350/450 DRW minimum UVW must be at least the weights shown on the following chart:

MINIMUM UNLOADED VEHICLE WEIGHT (UVW) KILOGRAM [POUND]	
E-350 DRW	3673 [8100]
E-450 DRW	4128 [9100]

- The maximum GAWRs and GVWR, as identified on the cover of this document, are not exceeded.
- The transverse center of gravity is less than 50.8 mm [2.0 in] either side of the vehicle centerline for E-350 only.
- Service or parking brake pedal assembly operation must not be restricted by any alteration or added components.
- The horizontal and vertical center of gravity, of the completed vehicle at Unloaded Vehicle Weight, is within the minimum and maximum locations as defined in the following chart:

CENTER OF GRAVITY LOCATION DIMENSIONS FOR INCOMPLETE E-SERIES CUTAWAY WITH SCHOOL BUS PREP PACKAGE			
LOCATION	E-350 SRW mm[in]	E-350 DRW mm[in]	E-450 DRW mm[in]
Vertical Maximum(1)	302.0 [11.9]		
Horizontal Maximum(2)	2159.0 [85.0]		2718.0 [107.0]
Horizontal Minimum(2)	1651.0 [65.0]		

(1) Measured from top of frame at a point midway between the centerlines of the front and rear axles.

(2) Measured rearward from the centerline of the front axle.

105 The statements below are applicable to the following incomplete vehicle types if the GVWR is between 3500 kg [7716 lb] and 3629 kg [8000 lb]:

- **Incomplete E-Series Van or Wagon**

This vehicle, when completed, will conform to Standard 105, Hydraulic and Electric Brake Systems, if:

- 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
 - Wheelbase
- Any removal of a Ford body or chassis component is accompanied by the addition of equal weight.
- The maximum GAWRs and GVWR, as identified on the cover of this document, are not exceeded with the vehicle weight at Unloaded Vehicle Weight + 400 lb passenger load.
- The service or parking brake pedal assembly operation is not restricted by any alteration or added components.
- The horizontal center of gravity of the Second Unit Body (SUB) is rearward of L_{min}^{\dagger} for the appropriate vehicle description in the table below. 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 the E-Series seat travel and provide seatback clearance to obtain the torso angle as shown in Figure C page 32).

HORIZONTAL CENTER OF GRAVITY FORWARD LIMIT TABLE		
Vehicle	Wheelbase Millimeter [inch]	L_{min} Millimeter [inch]
E-250	3505 [138]	1524 [60]

- 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 + 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 for the completed vehicle at Unloaded Vehicle Weight + 400 lb passenger load must fall within the appropriate range determined from Table G, page 16. The value of CG_h (Equation B), which approximates the horizontal center of gravity of the completed vehicle, is used in Table G, 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 G.

EQUATION A

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

EQUATION B

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

105 (Continued Next Page)

$\dagger L_{min}$ = the minimum horizontal center of gravity of the SUB measured in inches rearward from the centerline of the front axle.

105 The statements below are applicable to the following incomplete vehicle types except when completed as a school bus, and if the GVWR is between 3629 kg [8000 lb] and 6373 kg [14,050 lb] inclusive:

- **Incomplete E-Series Van or Wagon**
- **E-Series Cutaway and Chassis Cab**
- **E-Series Basic (Stripped) Chassis**

This vehicle, when completed, will conform to Standard 105, Hydraulic and Electric Brake Systems, if:

- 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
 - Wheelbase
- No additional sound deadener or rust proofing material, that may be applied to the vehicle, can interfere with proper parking brake cable function.
- No part of add on equipment, i.e. toolboxes, flat bed attaching brackets, etc., can interfere with the movement of parking brake cables or air flow to rear brake assembly.
- Any removal of a Ford body or chassis component is accompanied by the addition of equal weight.
- E-Series Cutaways/Chassis Cab and Basic (Stripped) Chassis vehicles conform to the minimum SUB weights found in Table E, page 15.
- The maximum GAWRs and GVWR, as identified on the cover of this document, are not exceeded with the vehicle weight at Unloaded Vehicle Weight + Passenger Load (P). (See E-Series Passenger Load Table on this page.)
- The service or parking brake pedal assembly operation is not restricted by any alteration or added components.
- The SUB horizontal center of gravity must be at or forward of the rear axle centerline for the following vehicles:
 - E-250/350/450 Basic (Stripped) Chassis
 - E-350 Super Duty Cutaway (DRW)
 - E-450 Super Duty Cutaway
 - E-350/450 Chassis Cab

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 GVWR CGv (Equation C) must not exceed 48.0 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 G page 16. The value of CGh (Equation D), which approximates the horizontal center of gravity of the completed vehicle, is used in Table G to determine the vertical center of gravity limits for the completed vehicle. The value of CGv (Equation C) which approximates the vertical center of gravity of the completed vehicle must fall within the appropriate range determined from Table G.

EQUATION C

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

EQUATION D

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

E-SERIES PASSENGER LOAD TABLE

GVWR [lb]	P [lb]
0 - 7716	397
7717 - 10,000	400
10,001 - 19,000	500

105 (Continued on Page 16)

FMVSS 105 & 135 DEFINITIONS AND CALCULATION ILLUSTRATION FOR INCOMPLETE E-SERIES VEHICLES

L[†] = Horizontal distance in inches between the SUB center of gravity and the \mathcal{C} of the front axle.

P = Passenger load (See E-Series Passenger Load Table page 13).

CG_v = Vertical distance from the ground to the center of gravity [inches] of the completed vehicle.

CG_h = Horizontal distance from \mathcal{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 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 F, page 16).

CG_{hp} = Horizontal distance from the \mathcal{C} of the front wheels to the P [inches] (passenger load) (taken from Table D, page 16).

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].

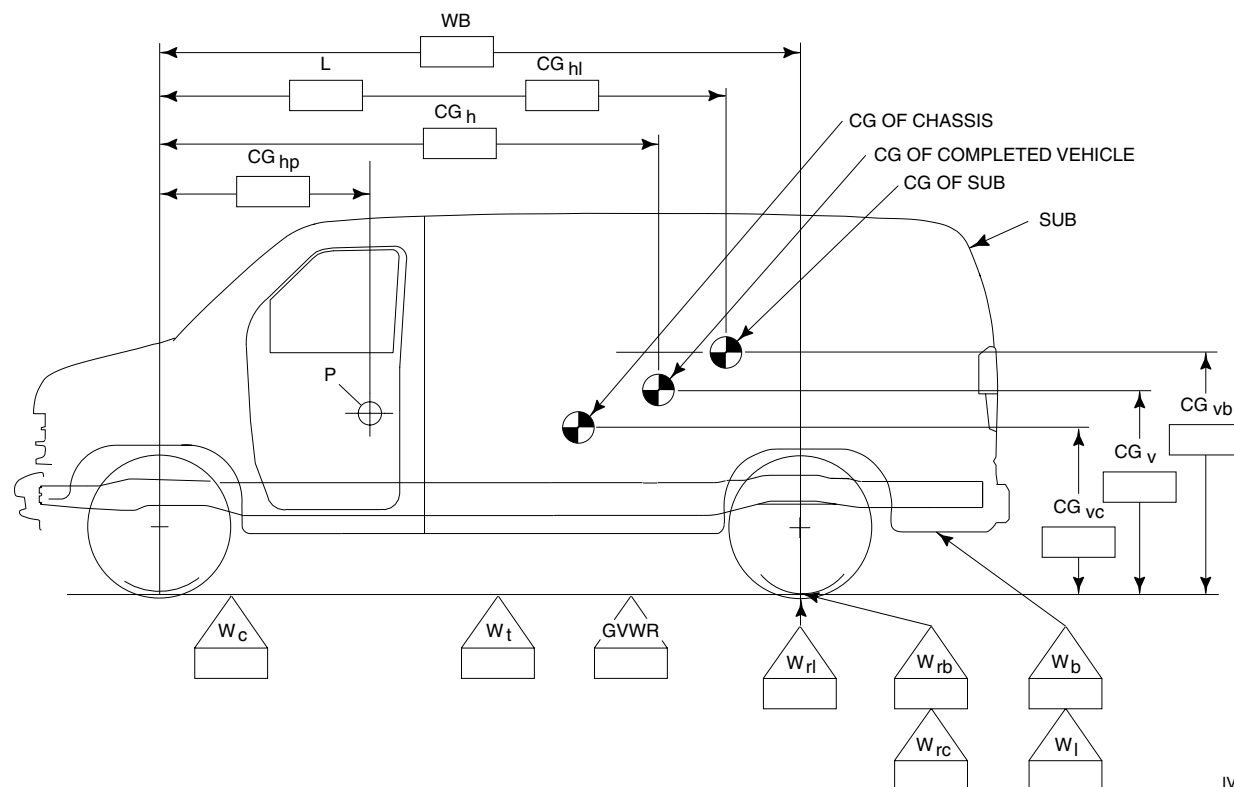
$$W_{rl} = \frac{(CG_h)W_l}{WB}$$

CG_{hl}[‡] = Horizontal distance from the \mathcal{C} of the front wheels to the cargo center of gravity [inches] (taken from Table C page 16). For many common vehicles, the CG_{hl} is not given in the table, then it may be estimated as the distance from the \mathcal{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/or 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.



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TABLE A
Maximum Unloaded Vehicle Weight (UVW) for Incomplete Gas/Diesel Vehicles once completed (2)(3)
This Information Does Not Apply To Vehicles Over 4536 kg [10,000 lb] GVWR

MODELS	WHEELBASE Millimeter [inch]	MAXIMUM UNLOADED VEHICLE WEIGHTS - Kilogram [pound]
INCOMPLETE E-SERIES VEHICLES		
E-150 Reg. Van	3505 [138]	2699 [5950](1)
E-150 Reg. Wagon	3505 [138]	2699 [5950](1)
E-250 Reg. and Ext. Van	3505 [138]	3130 [6900]
E-350 Reg. and Ext. Van	3505 [138]	3583 [7900]
E-350 Reg. and Ext. Wagon	3505 [138]	3583 [7900]
E-350 Cutaway	3505 [138]	3856 [8500]
E-350 Basic (Stripped) Chassis SRW	3505 [138]	3946 [8700]
E-350 Basic (Stripped) Chassis DRW	3505 [138]	3946 [8700]
E-350 Basic (Stripped) Chassis SRW	4013 [158]	3946 [8700]
E-350 Basic (Stripped) Chassis DRW	4013 [158]	3946 [8700]
E-350 Basic (Stripped) Chassis DRW	4470 [176]	3946 [8700]

(1) 2767 kg [6100 lb] When completed with 6 or less designated seating positions.

(2) Maximum unloaded vehicle weight values shown in this Table are limits for purposes of F/CMVSS conformity only. See Emission Certification information on page 56 for possible additional weight restrictions to meet emission requirements.

(3) Also applies to NGV vehicles for Standards 212/219 only.

TABLE E
MINIMUM SUB WEIGHT

Minimum unloaded vehicle weight for cutaways completed as school buses defined in 105 requirements on page 11.

MODELS	Kilogram [Pound]
E-350 Cutaway/Chassis Cab DRW 3505mm [138 in] WB	204 [450]
E-350 Cutaway/Chassis Cab DRW 4013mm [158 in] WB	238 [525]
E-350 Cutaway/Chassis Cab DRW 4470mm [176 in] WB	238 [525]
E-450 Cutaway/Chassis Cab DRW 4013mm [158 in] WB	238 [525]
E-450 Cutaway/Chassis Cab DRW 4470mm [176 in] WB	238 [525]
E-250 Basic (Stripped) Chassis SRW	771 [1700]
E-350 Basic (Stripped) Chassis DRW All WB	862 [1900]
E-450 Basic (Stripped) Chassis DRW All WB	998 [2200]

TABLE C

CG_{hl} = Horizontal distance from front axle cargo CG:

Model		WB (in)	CGhl (in)†
E-Series:			
Regular Van		138	116
†Extended Van or Extended Wagon		138	126
†Cutaway	(SRW)	138	121
	(DRW)	138	127
†Comm. Cab/Box Partition	(DRW)	158	134
	(DRW)	158	138
†RV	(DRW)	158	143
†Comm. No Partition	(DRW)	158	143
	(DRW)	158	143
†RV	(DRW)	176	153
	(DRW)	176	160

† 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 CL of the front wheel to the horizontal midpoint of the cargo area.

TABLE F

CGVC = Vertical distance ground to chassis CG
(Dimensions are inches)

E-150 & E-250 Van <8000 lb GVWR	= 28.5
E-250/350 SRW Van or Wagon >8000 lb GVWR	= 32.0
E-350 Cutaway/Chassis Cab	= 28.0
E-450 Cutaway/Chassis Cab	= 26.5
E-250 SRW Basic (Stripped) Chassis	= 25.0
E-350/450 Basic (Stripped) Chassis	= 26.5

TABLE D

CG_{hp} = Horizontal distance from front wheel CL to Passenger Load. (Dimensions are inches)

All E-Series† 48.5

† Except the E-Series Basic (Stripped) Chassis where the distance from the CL front axle to the H point of the driver must be measured.

TABLE G

CG_v = Vertical distance from the ground to the completed vehicle center of gravity [inch].

GVWR <8000 lb Use equation A & B, page 12

Place the CG_{hl} of the vehicle (from equation B) into the appropriate equations below to determine the allowable range of the CG_v . If the actual CG_v (from equation A) is within the range calculated, the center of gravity location is acceptable.

		Equation for CG_v Range	
Model	WB	Upper Limit	Lower Limit
E-150	138	$CG_v = 1.39 \times CG_{hl} - 46.9$	$1.39 \times CG_{hl} - 58.7$
E-250 7900 lb GVWR	138	$CG_v = 1.39 \times CG_{hl} - 47.1$	$1.39 \times CG_{hl} - 59.0$

GVWR > 8000 lb to <19000 lb Use equation C & D, page 13

Place the CG_{hl} 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.

		Equation for CG_v Range	
Model	WB	Upper Limit	Lower Limit
E-250 8600 lb GVWR	138	$CG_v = 1.27 \times CG_{hl} - 59.0$	$1.27 \times CG_{hl} - 77.5$
E-350 (SRW)	138	$CG_v = 1.27 \times CG_{hl} - 60.0$	$1.27 \times CG_{hl} - 80.0$
<9600 lb GVWR	158	$CG_v = 1.27 \times CG_{hl} - 69.5$	$1.27 \times CG_{hl} - 90.7$

106 The statement below is applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 106, Brake Hoses, if the brake hose assemblies supplied by Ford Motor Company are not removed, relocated, altered, or modified and if no brake hose assemblies are added.

108 In addition to the statements pertaining to particular incomplete vehicle types which follow on pages 18 and 19, the statements immediately below, concerning Standard 108 Lamps, Reflective Devices, and Associated Equipment are applicable to all incomplete vehicle types except the Basic (Stripped) Chassis:

No additional components may be added to the vehicle which require the use of tools to remove such components, for access to the headlamp aiming devices as provided by Ford Motor Company.

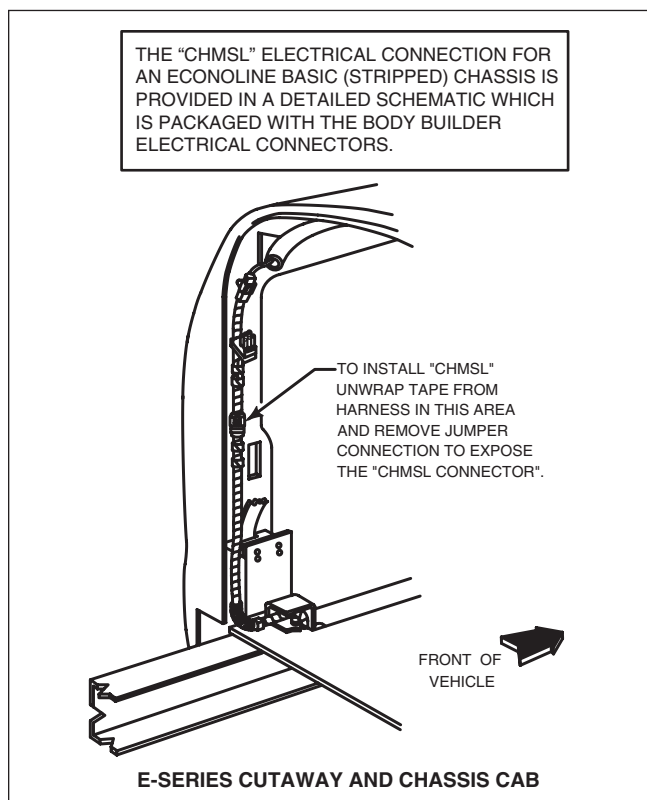
Daytime Running Lamps (DRL's); Light Trucks for sale or use in Canada are equipped with DRL's that meet the Canadian DRL requirements. As manufactured for Canada, the E-Series vehicles will meet the FMVSS 108 requirement for DRL's when DRL's are provided.

Conformity with Standard 108, S.12, Headlamp Concealment Devices, are not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

108 The statement below is applicable to the following vehicle with a GVWR of 4536 kg [10,000 lb] or less and a vehicle width less than 2032 mm [80.00 in]:

- Chassis Cab
- Cutaway

This vehicle, when completed, will conform to Standard 108, Lamps, Reflective Devices, and Associated Equipment. If a Center High Mounted Stop Lamp (CHMSL) is installed on a Cutaway or if the Chassis Cab CHMSL, when provided, is obstructed from the rear of the completed vehicle it must be replaced with a CHMSL that meets all the requirements of this standard and is connected to the electrical power source as provided by Ford Motor Company. See the figure below for circuit location.



**CENTER HIGH-MOUNTED STOP LAMP (CHMSL)
ELECTRICAL CONNECTOR LOCATION**

TABLE K (Reference Standard 108)		
	E-Series Completed As: Truck, MPV, Bus or School Bus	
	Width less than 2032 mm [80 in]	Width 2032 mm [80 in] or more
Headlamps	S	S
Tail Lamps	R/D	R/D
Stop Lamps	R/D	R/D
Center High Mounted Stop Lamp (CHMSL)	R	N
License Plate Lamps	R/D	R/D
Reflex Reflectors		
– Side Front	S	S
– SideRear	R	R
– Rear	R	R
Side Marker Lamps		
– Front	S	S
– Rear	R	R
Back-Up Lamps	R/D	R/D
Turn Signal Lamps		
– Front	S	S
– Rear	R/D	R/D
Turn Signal Operating Unit	S	S
Turn Signal Flasher (2)	S	S
Veh. Haz. Wrng. Oper. Unit	S	S
Veh. Haz. Wrng. Flasher	S	S
Identification Lamps		
– Front	N	R
– Rear	N	R
Clearance Lamps		
– Front	N	R(1)
– Rear	N	R
Parking Lamps	R	N
School Bus Lamps and Switches (School Buses only)	R	R
<i>S Required on completed vehicle and supplied with the incomplete vehicle</i> <i>R Required on completed vehicle and <u>not</u> supplied with the incomplete vehicle</i> <i>N Not required for completed vehicle</i> <i>D Required on completed vehicle and available as an option (either on vehicle or shipped in dunnage).</i> (1) <i>If a second unit body width is greater than 2032 mm [80 in] or higher than the cutaway or chassis cab body, additional clearance lamps may be required that comply with this standard.</i> (2) <i>Designed for two turn signal lamps per vehicle side (one front and rear). If additional lamps are required, replace the turn signal flasher with one having the correct lamp load rating</i>		

108 The statements below are applicable to the following incomplete vehicle types:

- Chassis Cab
- Cutaway

This vehicle, when completed, will conform to Standard 108, Lamps, Reflective Devices, and Associated Equipment, if all the required lighting equipment as indicated in Table K on this page (identified by the codes D, R and S) is designed and installed in accordance with the requirements of Standard 108 and the directions contained in this statement. Additionally, if the completed vehicle overall length is 9.14 meters [30 feet] or more, intermediate side marker lamps and reflex reflectors (not supplied by Ford Motor Company) are also required for compliance with Standard 108.

The items of equipment which are supplied by Ford Motor Company (identified by the code S in Table K, on this page) are designed and installed to conform to all the requirements of Standard 108. The completed vehicle will conform with these components if the subsequent stage manufacturer does not remove, relocate, alter, or modify such equipment or modify the power supply or wiring to such equipment, and does not complete the body in such a configuration as to impair the visibility and conformity to the photometric requirements of the installed lamps and reflective devices.

Specific requirements for lighting and associated equipment are listed by incomplete vehicle type in Table K on this page.

Lamps, reflective devices, and associated equipment necessary to complete the vehicle from an incomplete vehicle must conform to the equipment, locations, special wiring, visibility, photometric, and performance requirements of Standard 108 and to the applicable SAE standards or recommended practices referenced or sub-referenced in this Standard.

All electrical equipment added to the vehicle by subsequent stage manufacturers must conform to the wiring practices set forth in the Electrical Wiring Section of the Ford Truck Body Builders' Layout Book.

108 The statements below are applicable to the following incomplete vehicle types:

- Incomplete E-Series Van or Wagon

This vehicle, when completed, will conform to Standard 108, Lamps, Reflective Devices, and Associated Equipment, if the subsequent stage manufacturer does not:

- Remove, alter, replace, or relocate the lighting equipment installed on the incomplete vehicle
- Modify the power supply or wiring to such equipment
- Add any additional external lighting equipment
- Increase the overall width of the vehicle beyond that of the incomplete vehicle
- Complete, modify, or add components to the vehicle in such a manner as to impair the visibility and conformity to the photometric requirements of the installed lamps and reflective devices

108 (Continued Next Page)

108 The statement below is applicable to the E-Series Basic (Stripped) Chassis:

Conformity with Standard 108, Lamps, Reflective Devices, and Associated Equipment, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this standard. However, Ford Motor Company does represent that the items of lighting equipment, when provided in the E-Series dunnage box attached to the chassis, are designed to conform to the requirements of Standard 108.

108 Canadian Requirements:

The preceding statements for Standard 108 are appropriate compliance representations for CMVSS 108, Lighting, and CMVSS 108.1, Headlamps, if this vehicle is manufactured for sale or use in Canada, provided:

- No component of the Daytime Running Lamp (DRL) system is removed, relocated, or modified.

110 U.S. Requirements:

The statement below is applicable to incomplete vehicles with a GVWR of 4536 kg or less with a completion date starting

This incomplete vehicle does not conform to FMVSS 110. In order to comply, the manufacturer must affix a tire placard in accordance with S4.3 of FMVSS 110. The design of the placard is shown in the B-Pillar. See below for placard information and format requirements in S4.3.

TIRE INFORMATION	
ADDITIONAL INFORMATION	
Gross cargo should never exceed XXX kg or XXX lbs.	
FRONT: 2	REAR: 3
COLD TIRE INFLATION PRESSURE	
FRONT	200KPA, 29PSI
REAR	200KPA, 29PSI
COLD TIRE INFLATION PRESSURE	
FRONT	200KPA, 29PSI
REAR	200KPA, 29PSI
TIRE SIZE	
FRONT	P195 / 70R14
REAR	P195 / 70R14
TIRE SIZE	
FRONT	T125/70D15
REAR	420KPA, 60PSI

111 The statements below are applicable to the following incomplete vehicle types when equipped with a driver seat (including untrimmed seat) and a convex mirror on the passenger-side:

- Incomplete E-Series Van or Wagon

This vehicle, when completed, will conform to Standard 111, Rearview Mirrors, if:

- The mirrors and their mounts as supplied by Ford Motor Company are not removed, relocated, replaced, or altered, except as noted below.
- No structural modifications are made to the body which would affect the stability of the mirror mounts.
- Any modifications or additions made to this incomplete vehicle do not adversely affect the driver's view to the rear in the outside mirrors along both sides of the vehicle.
- The driver-seat is not replaced, relocated, or modified other than for the addition of seat trim.

If any alteration blocks the rear field of view through the inside mirror, Standard 111 may require that the vehicle have a flat glass mirror on the passenger side.

111 The statements below are applicable to the incomplete E-Series Van with no driver-seat when equipped with a convex mirror on the passenger-side:

This vehicle, when completed, will conform to Standard 111, Rearview Mirrors, if:

- The mirrors and their mounts as supplied by Ford Motor Company, are not removed, relocated, replaced, or altered.
- No structural modifications are made to the body which would affect the stability of the mirror mounts.
- The Seating Reference Point (see definition on page 8) and the seat back torso angle of the driver-seat installed or completed by the subsequent stage manufacturer are located as shown in Figure C page 32 corresponding to the particular incomplete vehicle type.
- Any modifications or additions made to this incomplete vehicle do not adversely affect the driver's view to the rear in the outside mirrors along both sides of the vehicle.

If any alteration blocks the rear field of view through the inside mirror, Standard 111 may require that the vehicle have a flat glass on the passenger side.

111 The statement below is applicable to the following incomplete vehicle types when not equipped with outside mirrors:

- Chassis Cab
- Cutaway
- E-Series Basic (Stripped) Chassis
- Incomplete E-Series Van

Conformity with Standard 111, Rearview Mirrors, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

111 The statements below are applicable to the Cutaway when equipped with outside mirrors:

Conformity with the stability requirements of Standard 111, Rearview Mirrors, is not substantially affected by the design of this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with stability requirements of this Standard. However, except for the stability requirement, this vehicle, when completed, will conform to Standard 111, Rearview Mirrors, if:

- The outside mirrors and their mounts, as supplied by Ford Motor Company, are installed in accordance with the instructions that accompany them and they are not relocated, replaced, or altered.
- The Cutaway with the School Bus Prep Package is completed as a school bus and any outside mirrors (not provided by Ford Motor Company) are installed in conformity with the requirements of Standard 111 for school buses.

- 111 The statements below are applicable to the following incomplete vehicle types when equipped with a flat glass mirror on the passenger-side:**

- Chassis Cab
- Incomplete E-Series Van

This vehicle, when completed, will conform to Standard 111, Rearview Mirrors, if:

- The mirrors and their mounts as supplied by Ford Motor Company are not removed, relocated, replaced, or altered.
- No structural modifications are made to the body which would affect the stability of the mirror mounts.
- Any modifications or additions made to the incomplete vehicle must not adversely affect the driver's view to the rear in the outside mirrors along both sides of the vehicle.

- 113 The statement below is applicable to all incomplete vehicle types except the Basic (Stripped) Chassis:**

This vehicle, when completed, will conform to Standard 113, Hood Latch Systems, if the hood latch system as provided by Ford Motor Company is not removed or altered.

- 113 The statement below is applicable to the following incomplete vehicle types:**

- E-Series Basic (Stripped) Chassis

Conformity with Standard 113, Hood Latch Systems, is not substantially affected by the design of this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this Standard.

- 114 The statements below are applicable to all incomplete vehicle types except the Basic (Stripped) Chassis when completed as either a MPV or a Truck with a GVWR of 4536 kg [10,000 lb] or less:**

This vehicle, when completed, will conform to Standard 114, Theft Protection, if the following components, to the extent provided by Ford Motor Company, are not removed, relocated, altered, or modified in any way:

- Steering column locking mechanism system
- Ignition key/transmission shift interlock locking system
- Ignition key-locking system
- Key warning buzzer system

If any of the above components are added to the vehicle they must conform to the requirements of this Standard.

- 114 The statement below is applicable to the following incomplete vehicle types:**

- E-Series Basic (Stripped) Chassis

The Basic (Stripped) Chassis is designed by Ford Motor Company to be completed as a walk-in van type vehicle. Walk-in vans are exempt from the requirements of Standard 114, Theft Protection. See walk-in van definition, on page 8.

- 115 Canadian Requirements:**

The statements for Part 565.4 are appropriate compliance representations for CMVSS 115, Vehicle Identification Number, if this incomplete vehicle was manufactured for sale or use in Canada.

- 116 The statement below is applicable to all incomplete vehicle types:**

This vehicle, when completed, will conform to Standard 116, Motor Vehicle Brake Fluids, so long as any brake fluid added or replaced conforms to the DOT 3 specifications of the standard and contaminants are not introduced into the hydraulic brake system.

- 118 The statement below is applicable to all incomplete vehicle types not equipped with power windows when completed as either a MPV or a Truck with a GVWR of 4536 kg [10,000 lb] or less:**

Conformity with Standard 118, Power Operated Window, Partition, and Roof Panel Systems, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard. If any power operated window, partition, or roof panel systems are installed by subsequent stage manufacturers, they must conform to the requirements of Standard 118.

- 118 The statement below is applicable to all incomplete vehicle types equipped with power windows when completed as either a MPV or a Truck with a GVWR of 4536 kg [10,000 lb] or less:**

This vehicle, when completed, will conform to Standard 118, Power Operated Window, Partition, and Roof Panel Systems, if the power operated windows, motors, wiring, and key and switch activation systems, where provided by Ford Motor Company, are not removed, relocated, altered, or modified in any way. If additional power operated window, partition, or roof panel systems are installed by subsequent stage manufacturers, they must conform to the requirements of Standard 118.

- 119 The statement below is applicable to all incomplete vehicle types:**

All tires supplied by Ford Motor Company are in full conformity with Standard 119, New Pneumatic Tires for Vehicles Other than Passenger Cars.

If additional tires are installed or the existing tires are replaced by subsequent stage manufacturers, they must conform to the requirements of Standard 119.

- 120 The statement below is applicable to all incomplete vehicles except for the Basic (Stripped) Chassis:**

This vehicle, when completed, will conform to the tire and rim selection requirements of Standard 120, Tire Selection and Rims for Motor Vehicles Other Than Passenger Cars, if the tire and rim assemblies and the Incomplete Vehicle Label that is affixed to the vehicle are not removed, altered, or replaced.

- 120 The statements below are applicable to the following incomplete vehicle types:**

- E-Series Basic (Stripped) Chassis

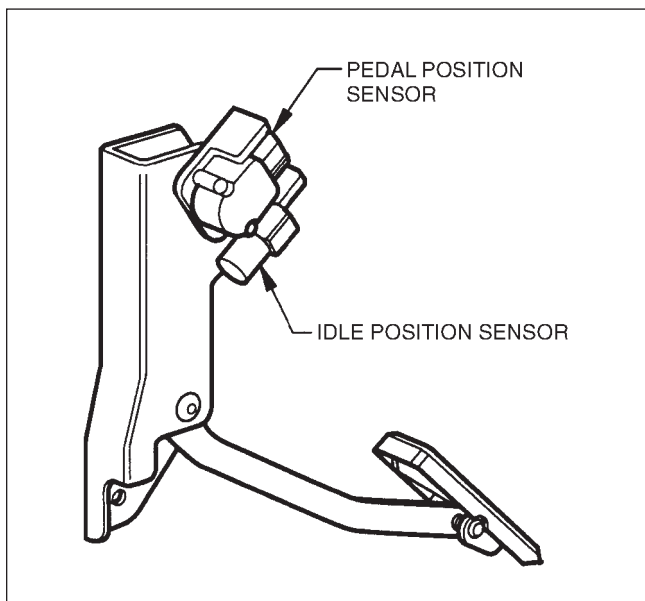
This vehicle, when completed, will conform to the tire and rim selection requirements of Standard 120, Tire Selection and Rims for Motor Vehicles Other Than Passenger Cars, if:

- The tire and rim assemblies, are not removed, altered, or replaced.
- The final stage manufacturer must, in accordance with the requirements of Standard 120 and Part 567 of Title 49 Code of Federal Regulations, affix a label to the completed vehicle indicating tire size, rim size, cold inflation pressure, and the gross axle weight ratings. This information is provided on the label that is affixed to the cover of this manual for E-Series vehicles.

124 The statements below are applicable to all incomplete vehicle types:

This vehicle, when completed, will conform to Standard 124, Accelerator Control Systems, if:

- No alterations are made to the accelerator control rod, bellcranks, cables, springs, guides, accelerator pedal, mounting hardware, adjustable pedal mechanism, or other components of the accelerator control system as installed by Ford Motor Company.
- No equipment is added or existing equipment modified which would restrict operation of the accelerator control system.
- Vehicles equipped with electronically controlled 6.0L DI Turbo Diesel have no alterations made to the Pedal Position Sensor and all associated hardware and wiring. See the figure below for component identification.



ELECTRONIC ACCELERATOR CONTROL

131 The statement below is applicable to the Cutaway when equipped with the School Bus Prep Package and completed as a school bus:

Conformity with Standard 131, School Bus Pedestrian Safety Devices, is not substantially affected by the design of this incomplete vehicle. Accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

135 The statements below are applicable to the following incomplete vehicle types if the GVWR is 3500 kg [7,716 lb] or less:

• **Incomplete E-Series Van or Wagon**

This vehicle, when completed, will conform to Standard 135, Light Vehicle Brake Systems, if:

- 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
 - Wheelbase
- Any removal of a Ford body or chassis component is accompanied by the addition of equal weight.
- The maximum GAWRs and GVWR, as identified on the cover of this document, are not exceeded with the vehicle weight at Unloaded Vehicle Weight + 400 lb passenger load.
- The service or parking brake pedal assembly operation is not restricted by any alteration or added components.
- The horizontal center of gravity of the Second Unit Body (SUB) is rearward of L_{min}^{\dagger} for the appropriate vehicle description in the table below. 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 the E-Series seat travel and provide seatback clearance to obtain the torso angle as shown in Figure C page 32).

HORIZONTAL CENTER OF GRAVITY FORWARD LIMIT TABLE		
Vehicle	Wheelbase Millimeter [inch]	L_{min} Millimeter [inch]
E-150	3505 [138]	1473 [58]
E-250	3505 [138]	1524 [60]

$^{\dagger}L_{min}$ = the minimum horizontal center of gravity of the SUB measured in inches rearward from the centerline of the front axle.

- 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 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 for the completed vehicle at Unloaded Vehicle Weight + 400 lb passenger load must fall within the appropriate range determined from Table G, page 16. The value of CG_h (Equation B), which approximates the horizontal center of gravity of the completed vehicle, is used in Table G, 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 G.

EQUATION A

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

EQUATION B

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

201 The statements below are applicable to incomplete vehicles with a GVWR of 4536 kg [10,000 lb] or less, but excluding the Basic (Stripped) Chassis:

This vehicle, when completed, will conform to Standard 201, Occupant Protection in Interior Impact, (excluding US Requirements Section S6 addressed separately) if the following components, as provided by Ford Motor Company, are not removed, relocated, altered, or modified in any way:

- Instrument panel
- Interior compartment doors
- Sun visors
- Arm rests

Seat backs of front seats installed by Ford Motor Company are designed to meet the seat back requirements of Standard 201. The seat mounted armrest on an untrimmed front seat must be completed so as to meet the requirements of this Standard.

If any of the above mentioned components (including front seats) are added to the incomplete vehicle by a subsequent stage manufacturer, these components must conform to the requirements of Standard 201 where applicable. When front seats are installed on an Incomplete E-Series Van or Cutaway the installed seat must be located within the dimensional specifications for the Seating Reference Point and the torso angle as specified in Figure C page 32.

Because conformity of a completed vehicle to the seat back requirements of this standard is dependent upon the location of a seat installed by a subsequent stage manufacturer to the rear of another seat, Ford makes no representation as to compliance of a completed vehicle to the seat back requirements if such a seat is installed.

If a vehicle is equipped with a Passenger Side Air Bag Delete Option a RH passenger seat should never be installed. If such a seat is installed Ford makes no representation as to the compliance of the completed vehicle to Standard 201.

201 The statement below is applicable to the following incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

• **E-Series Basic (Stripped) Chassis**

Conformity with Standard 201, Occupant Protection in Interior Impact, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this standard.

201U U.S. Requirements (Section S6):

The statements below are applicable to incomplete vehicles with a GVWR of 4536 kg [10,000 lbs] or less, excluding buses with a GVWR more than 3860 kg [8510 lbs] and the Basic (Stripped) Chassis completed as a walk-in van type truck (which are exempt from the requirement):

This vehicle when completed, will conform to Standard 201U, *Occupant Protection in Interior Impact - Upper Interior head Impact Protection*, if the following components as provided by Ford Motor Company, are not removed, relocated, altered, modified or additions added to the:

- A, B, Rear, or other Pillar and Trim, and Assist Handles
- Seat Belt 'D'-Rings/Adjusters and 'D'-Ring Covers
- Front or Rear Header and Trim
- Side Rails and Trim
- Upper Roof and Trim

If any of the above components are added to the incomplete vehicle by a subsequent stage manufacturer, these components must conform to the requirements of Standard 201U where applicable.

202 The statements below are applicable to the following incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

- Chassis Cab
- Incomplete E-Series Van or Wagon when equipped with front seats
- Cutaway when equipped with front seats

This vehicle when completed, will conform to Standard 202, Head Restraints, if:

- No alterations are made to the head restraints, the seat assemblies and their anchorages, the floor pan, or floor pan reinforcements.
- The added seat trim, on vehicles equipped with untrimmed front seats, is installed so that the physical dimension requirements for the head restraint, in this Standard, are met.

Any front outboard passenger seat, added to a cutaway equipped with the School Bus Prep Package and when completed as a truck, MPV, or bus (not school bus), must conform with the requirements of this Standard.

202 The statement below is applicable to the following incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

- Incomplete E-Series Van with no front seats
- Cutaway with no front seats
- E-Series Basic (Stripped) Chassis

Conformity with Standard 202, Head Restraints, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

203 The statement below is applicable to all incomplete vehicle types except the Basic (Stripped) Chassis if the GVWR is 4536 kg [10,000 lb] or less:

This vehicle, when completed, will conform to Standard 203, Impact Protection for the Driver from the Steering Control System, if the steering control system is not removed, relocated, altered, or modified in any way and no components or attachments are added to the steering control system that can catch the driver's clothing or jewelry during normal driving maneuvers.

203 The statement below is applicable to the following incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

- E-Series Basic (Stripped) Chassis

The Basic (Stripped) Chassis is designed by Ford Motor Company to be completed as a walk-in van type vehicle. Walk-in vans are exempt from the impact requirements of Standard 203, Impact Protection for the Driver from the Steering Control System. See walk-in van definition, on page 8.

203 Canadian Requirements:

The preceding statements for FMVSS 203 are appropriate compliance representations for CMVSS 203, Driver Impact Protection, if this incomplete vehicle was manufactured for sale or use in Canada. In such a case, the Basic (Stripped) Chassis will comply if no components or attachments are added to the steering control system that can catch the driver's clothing or jewelry during normal driving maneuvers.

204 INFORMATION

Refer to the Design Recommendation section of the *Ford Truck Body Builders' Layout Book* for Second Unit Body Attachment information that may aid in designing second unit bodies and their attachments to be compatible with E-Series vehicles.

204 The statements below are applicable to all incomplete vehicle types except the Basic (Stripped) Chassis if the GVWR is 4536 kg [10,000 lb] or less and the Unloaded Vehicle Weight, when completed, is 2495 kg [5,500 lb] or less:

This vehicle, when completed, will conform to Standard 204, Steering Control Rearward Displacement, if:

- No components are added which could influence the rearward displacement of the steering column.
- The steering column, steering intermediate and coupling shaft, steering wheel, steering gear, steering linkage, related structural components, and attaching hardware, as installed by Ford Motor Company, are not removed, relocated, altered, or modified in any way.
- No alteration or modifications are made to the body chassis, drivetrain, or front suspension from the B-pillar forward.

204 The statement below is applicable to the following incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less and the Unloaded Vehicle Weight, when completed, is 2495 kg [5,500 lb] or less:

- E-Series Basic (Stripped) Chassis

The Basic (Stripped) Chassis is designed by Ford Motor Company to be completed as a walk-in van type vehicle. Walk-in vans are exempt from the requirements of Standard 204, Steering Control Rearward Displacement. See walk-in van definition, on page 8.

205 The statement below is applicable to all incomplete vehicle types, except the Basic (Stripped) Chassis:

This vehicle, when completed, will conform to Standard 205, Glazing Materials, if no alterations to or replacements of the installed glazing materials are made and if additional glazing materials installed by a subsequent stage manufacturer conforms to the requirements of Standard 205.

205 The statement below is applicable to the following incomplete vehicle types:

- **E-Series Basic (Stripped) Chassis**

Conformity with Standard 205, Glazing Materials, is not substantially affected by the design of this incomplete vehicle: accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

206 The statements below are applicable to all incomplete vehicle types except the Basic (Stripped) Chassis, when completed as a Truck:

This vehicle, when completed, will conform to Standard 206, Door Locks and Door Retention Components, if no alterations or adjustments are made to the door, door pillar structure, door locks, door latches, striker plates, hinges, and attaching hardware as installed by Ford Motor Company.

Any door added to this vehicle by a subsequent stage manufacturer must be equipped with door locks and door retention components that conform with this Standard.

206 The statement below is applicable to the following incomplete vehicle types, when completed as a Truck:

- **E-Series Basic (Stripped) Chassis**

Conformity with Standard 206, Door Locks and Door Retention Components, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

207, 208, 209, and 210 INFORMATION

For additional information to assist in designing seats, seat belt systems, and seat belt anchorages that comply with Standard 207, 208, 209, and 210 applicable to Incomplete E-Series Van and Cutaway vehicles with no front seats provided by Ford Motor Company, refer to the Design Recommendation section of the Ford Truck Body Builders' Layout Book for Seat and Lap & Shoulder Belt System information that is in addition to the statements which follow.

207 The statements below are applicable to the following incomplete vehicle types when equipped with trimmed front seats:

- **Chassis Cab**
- **Incomplete E-Series Van or Wagon**
- **Cutaway**

This vehicle, when completed, will conform to Standard 207, Seating Systems, if no alterations are made to the seat assemblies, their anchorages, the floor pan, or floor pan reinforcements. Any seating system added to this vehicle must conform to applicable requirements of this Standard. When the Cutaway is completed as a school bus, see Standard 222 also.

If the front seat attaching hardware is removed for any reason, it must be reinstalled to the specifications in the Figures for E-Series on page 31.

The Incomplete E-Series Recreational Van or the Incomplete E-Series Wagon may have additional anchorages for rear seats other than the front driver and passenger seats. These locations apply to specific hardware and designated seating positions used in Ford completed vehicles. If these anchorages are used without the appropriate Ford seats, seat belt systems, and hardware, Ford Motor Company makes no representation as to conformity with this Standard.

207 (Continued Next Page)

207 (Continued)

207 The statements below are applicable to the following incomplete vehicle types when equipped with untrimmed front seats:

- **Incomplete E-Series Van**
- **Cutaway**

This vehicle when completed, will conform to Standard 207, Seating Systems, if:

- No changes or modifications are made to the front seat frames, latches, hardware, and padding.
- The weight of each completely trimmed front seat does not exceed the value in Table L on this page.
- No modifications are made to the floor pan in the area of the front seat attachments.
- The front seat and seat belt anchorages are not relocated.

If the front seat attaching hardware is removed for any reason, it must be reinstalled to the specifications in the Figures for E-Series on page 31.

Any seating systems added to this vehicle must conform to the applicable requirements of this Standard.

The Incomplete E-Series Recreational Van may have additional anchorages for rear seats other than the front driver and passenger seats. These locations apply to specific hardware and designated seating positions used in Ford completed vehicles. If these anchorages are used without the appropriate Ford seats, seat belt systems, and hardware, Ford Motor Company makes no representation as to conformity with this Standard.

207 The statements below are applicable to the following incomplete vehicle types with no front seats:

- **Incomplete E-Series Van**
- **Cutaway**
- **E-Series Basic (Stripped) Chassis**

Conformity with Standard 207, Seating Systems, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

The Cutaway, when equipped with seat delete option, will include both front seat pedestals, pretensioner restraint systems, seat tracks, and a temporary driver's seat. The pretensioner restraint system is attached to the seat track. Therefore, the completed seat assembly must comply with the requirements of Standard 207 and 210.

The Incomplete E-Series Recreational Van may have additional seat anchorages. These locations apply to specific hardware and designated seating positions used in Ford completed vehicles. If these anchorages are used without the appropriate Ford seats, seat belt systems, and hardware, Ford Motor Company makes no representation as to conformity with this Standard.

**TABLE L
E-SERIES COMPLETED UNTRIMMED SEAT WEIGHT**

DESCRIPTION	MAX. WEIGHT (lb)	
	DRIVER-SIDE	PASSENGER-SIDE
E-Series Captain's Chair - Manual Tracks	59.0	61.0
E-Series Captain's Chair - Manual Tracks - Manual Lumbar	62.0	68.0
E-Series Captain's Chair - Power Tracks - Manual Lumbar	68.0	N/A

208 NOTE

An RCM (crash sensor and restraints control module) is located under the driver's seat. Care must be used to avoid damage to the RCM and sensor wiring during removal or reinstallation of the driver's seat. Refer to Figure E on page 33.

208 The statements below are applicable to the Incomplete E-Series Wagon and Van when equipped with trimmed front seats option if the GVWR is 3856 kg [8,500 lb] or less and the Unloaded Vehicle Weight, when completed, is 2495 kg [5,500 lb] or less:

This vehicle, when completed, will conform to Standard 208, Occupant Crash Protection, if:

- The Unloaded Vehicle Weight exceeds 2166 kg [4775 lb] for the E150 and 2268 kg [5000 lb] for the E250.
- The steering column, steering intermediate and coupling shaft, steering wheel, steering gear, steering linkage, related structural components, and attaching hardware, as installed by Ford Motor Company, are not removed, relocated, altered, or modified in any way.
- No components are added which could influence the rearward displacement of the steering column.
- The seat belt components installed by Ford Motor Company are not removed, relocated, or altered. If the seat belt components are temporarily removed for any reason, they must be reinstalled to the specifications as shown in Figure A on page 30.
- Front seats that have been removed for final manufacture are reinstalled to the specifications as shown in the Figures on page 31.
- The seat belt warning system, as originally installed, is not removed, replaced, modified, or altered in any way.
- Window or roof modifications do not exceed the defined cut out areas shown in the Figures on pages 34, 35, and 36.
- No compressible material is installed between front seat assembly and the floor pan.
- No additional components or modifications are made to the areas defined at the Occupant Protection Zone shown in Figure D on page 32.
- The Air Bag Supplemental Restraint System as originally installed (see Figure E on page 33), is not removed, relocated, altered, or modified in any way.
- The Air Bag Supplemental Restraint System Information Labels that are affixed to the front sun visors are visible, and not altered, modified, or removed. If the Air Bag Supplemental Restraint System Information Labels are not affixed to the front visors but shipped in dunnage, the following is necessary to meet Standard 208:
 - The information label must be permanently affixed to each visor in an upright position readable from the driver's or passenger's seating position.
 - If the label is not visible when the visor is stored (up position), an Air Bag Alert Label shall be placed on the visible surface of the visor as specified in Section 4.5.1(c) of Standard 208.
- No alteration or modifications are made to the body, chassis (including front bumper), drivetrain, body mounts, or front suspension from the B-pillar forward.

- Any front overhead console installed on an Incomplete E-Series is configured as follows:

- Front header (full width) overhead consoles may extend down no more than 2 inches as measured from the Ford installed headliner† and extend rearward no more than 6 inches as measured from the midpoint between the Ford installed sun visor inboard retaining clips (vehicle centerline).
- Center roof mounted consoles may extend down no more than 3 inches as measured from the Ford installed headliner† and width is limited to 8 inches (4 inches either side of the vehicle centerline).
- All overhead consoles are designed and manufactured to provide friendly surfaces on all sides and edges which could be contacted by an occupant.

Any seat belt assemblies added to a vehicle must conform to the applicable requirements of this Standard.

208 The statements below are applicable to the incomplete E-Series Van when equipped with untrimmed front seats option if the GVWR is 3856 kg [8,500 lb] or less and the Unloaded Vehicle Weight, when completed, is 2495 kg [5,500 lb] or less:

This vehicle, when completed, will conform to Standard 208, Occupant Crash Protection, if:

- The Unloaded Vehicle Weight exceeds 2166 kg [4775 lb] for the E150 and 2268 kg [5000 lb] for the E250.
- The steering column, steering intermediate and coupling shaft, steering wheel, steering gear, steering linkage, related structural components, and attaching hardware, as installed by Ford Motor Company, are not removed, relocated, altered, or modified in any way.
- No components are added which could influence the rearward displacement of the steering column.
- The seat belt components installed by Ford Motor Company are not removed, relocated, or altered. If the seat belt components are temporarily removed for any reason, they must be reinstalled to the specifications for the appropriate vehicle type shown in Figure A on page 30.
- Front seats that have been removed for final manufacture are reinstalled to the specifications for appropriate vehicle type as shown in the Figures on page 31.
- The seat belt warning system, as originally installed, is not removed, relocated, altered, or modified in any way.
- The completed front seats are within the Seating Reference Point specifications in Figure C on page 32.
- Window or roof modifications do not exceed the defined cut out areas shown in the Figures on pages 34, 35, and 36.
- No compressible material is installed between front seat assembly and the floor pan.
- No additional components or modifications are made to the areas defined as the Occupant Protection Zone shown in Figure D on page 32.

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† The Headliner Plane is defined on Figure G3 page 36, for vehicles without the Ford headliner.

208 (Continued)

- The Air Bag Supplemental Restraint System as originally installed (see Figure E on page 33), is not removed, relocated, altered, or modified in any way.
- The Air Bag Supplemental Restraint System Information Labels that are affixed to the front sun visors are visible, and not altered, modified, or removed. If the Air Bag Supplemental Restraint System Information Labels are not affixed to the front visors but shipped in dunnage, the following is necessary to meet Standard 208:
 - The information label must be permanently affixed to each visor in an upright position readable from the driver's or passenger's seating position.
 - If the label is not visible when the visor is stored (up position), an Air Bag Alert Label shall be placed on the visible surface of the visor as specified in Section 4.5.1(c) of Standard 208.
- After the front seats and B-pillar trim are installed, the seat belt system components must comply with:
 - Adjustment requirements specified by s7.1 as these requirements apply to seat belt fit, to the intersection of the upper torso belt with the lap belt, and to child seat lockability, and
 - Latch mechanism requirements specified by s7.2 as these requirements apply to the accessibility of seat belt components, and
 - Latch plate access, retraction, seat belt guides, and hardware requirements specified by s7.4 as these requirements apply to comfort and convenience requirements of the seat belt system.
- The seat hardware including the seat back frames are free of sharp edges to prevent damage to the seat belt webbing during an impact.
- Do not obstruct the E-Series seat belt path in the area of "Point A" (Figure C, page 32). All seat belt contactable surfaces must be free of burrs, parting lines, sharp edges, or any other impediment that could impair or damage the seat belt in load bearing situations.
- No alteration or modifications are made to the body chassis (including front bumper), drivetrain, body mounts, or front suspension from the B-pillar forward.
- Any front overhead console installed on an Incomplete E-Series is configured as follows:
 - Front header (full width) overhead consoles may extend down no more than 2 inches as measured from the Ford installed headliner† and extend rearward no more than 6 inches as measured from the midpoint between the Ford installed sun visor inboard retaining clips (vehicle centerline).
 - Center roof mounted consoles may extend down no more than 3 inches as measured from the Ford installed headliner† and width is limited to 8 inches (4 inches either side of the vehicle centerline).
 - All overhead consoles are designed and manufactured to provide friendly surfaces on all sides and edges which could be contacted by an occupant.

Any seat belt assemblies added to this vehicle must conform to the applicable requirements of this Standard.

208 The statements below are applicable to the Incomplete E-Series Van with **seat delete option**, if the GVWR is **3856 kg [8,500 lb] or less** and the **Unloaded Vehicle Weight, when completed, is 2495 kg [5,500 lb] or less**:

A seat delete option includes (does not delete) front seat pedestals, front seat tracks, front seat belt and buckle assemblies mounted to the seat tracks, restraint system, and fasteners, and comes with a temporary transit seat. Because the permanent seats to be installed by a subsequent stage manufacturer are critical to the performance of the completed vehicle and to the dynamic test requirements of Standard 208, Occupant Crash Protection, conformity to this Standard is not substantially affected by the design of this incomplete vehicle.

Ford offers the following information and guidelines to assist subsequent stage manufacturers who choose to install front seat assemblies in Incomplete E-Series Van vehicles.

- The completed front seat assemblies include the following Ford Motor Company components: Seat pedestal, seat tracks, restraint system, and all fasteners provided, and the fasteners are torqued to the specifications listed in Figure B on page 31.
- The completed front seat assemblies, when installed, will have the same location, construction, and spatial relationship to the seating system as provided by Ford Motor Company.
- The Unloaded Vehicle Weight exceeds 2166 kg [4775 lb] for the E150 and 2268 kg [5000 lb] for the E250.
- The steering column, steering intermediate and coupling shaft, steering wheel, steering gear, steering linkage, related structural components, and attaching hardware, as installed by Ford Motor Company, are not removed, relocated, altered, or modified in any way.
- No components are added which could influence the rearward displacement of the steering column.
- The seat belt components installed by Ford Motor Company are not removed, relocated, or altered. If the seat belt components are temporarily removed for any reason, they must be reinstalled to the specifications as shown in Figure A on page 30.
- The completed front seats are installed to the specifications as shown in the Figures on page 31.
- The seats, seating hardware, seat belt warning system, and all attaching hardware are installed in accordance with, and comply with, this Standard and Standard 207, Seating Systems.
- The completed front seats, when installed, are located within the dimensional specifications for the Seating Reference Point and the torso angle is positioned as specified in Figure C on page 32.
- Window or roof modifications do not exceed the defined cut out areas shown in the Figures on pages 34, 35, and 36.

208 (Continued Next Page)

† The Headliner Plane is defined on Figure G3 page 36, for E-Series vehicles without the Ford headliner.

208 (Continued)

- No compressible material is installed between front seat assembly and the floor pan.
- No additional components or modifications are made to the areas defined as the Occupant Protection Zone shown in Figure D on page 32.
- The Air Bag Supplemental Restraint System as installed by Ford Motor Company is not removed, relocated, modified, or altered in any way as shown in Figure E on page 33.
- The Air Bag Supplemental Restraint System Information Labels that are affixed to the front sun visors are visible and not altered, modified, or removed. If the Air Bag Supplemental Restraint System Information Labels are not affixed to the front visors but shipped in dunnage, the following is necessary to meet Standard 208:
 - The information label must be permanently affixed to each visor in an upright position readable from the driver's or passenger's seating position.
 - If the label is not visible when the visor is stored (up position), an Air Bag Alert Label shall be placed on the visible surface of the visor as specified in Section 4.5.1(c) of Standard 208.
- After the front seats and B-pillar trim are installed, the seat belt system components must comply with:
 - The seat belt buckle pretensioner, air bags, and electronic sensor module are bar coded with a unique serial number which is matched to the vehicle VIN. The completed vehicle must contain the same seat belt buckle pretensioner, air bags, and electronic sensor module that were installed by Ford Motor Company in the incomplete vehicle.
 - Adjustment requirements specified by s7.1 as these requirements apply to seat belt fit, to the intersection of the upper torso belt with the lap belt, and to child seat lockability, and
 - Latch mechanism requirements specified by s7.2 as these requirements apply to the accessibility of seat belt components, and
 - Latch plate access, retraction, seat belt guides, and hardware requirements specified by s7.4 as these requirements apply to comfort and convenience requirements of the seat belt system.
- The seat hardware including the seat back frames are free of sharp edges to prevent damage to the seat belt webbing during an impact.
- Do not obstruct the E-Series seat belt path in the area of "Point A" (Figure C, page 32). All seat belt contactable surfaces must be free of burrs, parting lines, sharp edges, or any other impediment that could impair or damage the seat belt in load bearing situations.
- No alteration or modifications are made to the body, chassis (including front bumper), drivetrain, body mounts, or front suspension from the B-pillar forward.

- Any front overhead console installed on an Incomplete E-Series is configured as follows:
 - Front header (full width) overhead consoles may extend down no more than 2 inches as measured from the Ford installed headliner† and extend rearward no more than 6 inches as measured from the midpoint between the Ford installed sun visor inboard retaining clips (vehicle centerline).
 - Center roof mounted consoles may extend down no more than 3 inches as measured from the Ford installed headliner† and width is limited to 8 inches (4 inches either side of the vehicle centerline).
- All overhead consoles are designed and manufactured to provide friendly surfaces on all sides and edges which could be contacted by an occupant.

Any seat belt assemblies added to this vehicle must conform to the applicable requirements of this Standard.

208 The statements below are applicable to the following incomplete vehicle types when equipped with untrimmed front seats or seat delete option and either the GVWR is over 3856 kg [8500 lb], or the Unloaded Vehicle Weight, when completed, is over 2495 kg [5500 lb]:

- Incomplete E-Series Van
- Chassis Cab
- Cutaway

A seat delete option includes (does not delete) front seat pedestals, front seat tracks, front seat belt and buckle assemblies mounted to the seat tracks, restraint system, and fasteners, and comes with a temporary transit seat.

This vehicle, when completed, will conform to Standard 208, Occupant Crash Protection, if:

- The seat belt components installed by Ford Motor Company are not removed, relocated, altered, or modified. If the seat belt components are temporarily removed for any reason, they are reinstalled to the specifications for E-Series shown in Figure A on page 30 and Figure B on page 31.
- After the front seats and B-pillar trim are installed, the seat belt system components comply with:
 - Adjustment requirements specified by s7.1 as these requirements apply to seat belt fit, to the intersection of the upper torso belt with the lap belt, and to child seat lockability, and
 - Latch mechanism requirements specified by s7.2 as these requirements apply to the accessibility of seat belt components, and
 - Latch plate access, retraction, seat belt guides, and hardware requirements specified by s7.4 as these requirements apply to comfort and convenience requirements of the seat belt system.
- No actions are taken which would impair the integrity of the seat belt systems and the seat belt warning system.

208 (Continued Next Page)

† The Headliner Plane is defined on Figure G3 page 36, for E-Series vehicles without the Ford headliner.

- The Air Bag Supplemental Restraint System as installed by Ford Motor Company (see Figure E on page 33) is not removed, relocated, modified or altered in any way. Ford technical bulletin procedures for relocating the floor-mounted restraints delete resistor and bracket may be followed for vehicles that have an option that deletes the front passenger restraint system.
- The Air Bag Supplemental Restraint System Information Labels that are affixed to the front sunvisors are visible and not altered, modified, or removed.

Any seat belt assemblies added to this vehicle must conform to the applicable requirements of this Standard.

208 The statement below is applicable to the following incomplete vehicles when equipped with Ford trimmed front seats and either the GVWR is over 3856 kg [8500 lb], or the Unloaded Vehicle Weight, when completed, is over 2495 kg [5500 lb]:

- Chassis Cab
- Incomplete E-Series Van or Wagon
- Cutaway

This vehicle, when completed, will conform to Standard 208, Occupant Crash Protection, if:

- The seat belts, seat belt warning system, and attaching hardware installed by Ford Motor Company are not removed, relocated, altered, or modified.
- No actions are taken which would impair the integrity of the belt and seat belt warning systems. (A seat belt warning system is not required for a vehicle with a GVWR over 4536 kg [10,000 lb] or for a bus).
- Any rear seats installed by Ford Motor Company that are temporarily removed for any reason are returned to their original location and condition in the vehicle.
- The Air Bag Supplemental Restraint System as installed by Ford Motor Company (see Figure E on page 33) is not removed, relocated, modified or altered in any way. Ford technical bulletin procedures for relocating the floor-mounted restraints delete resistor and bracket may be followed for vehicles that have an option that deletes the front passenger restraint system.
- The Air Bag Supplemental Restraint System Information Labels that are affixed to the front sunvisors are visible and not altered, modified, or removed. If the Air Bag Supplemental Restraint System Information Labels are not affixed to the front visors but shipped in dunnage, the following is necessary to meet Standard 208:
 - The information label must be permanently affixed to each visor in an upright position readable from the driver's or passenger's seating position.
 - If the label is not visible when the visor is stored (up position), an Air Bag Alert Label shall be placed on the visible surface of the visor as specified in Section 4.5.1(c) of Standard 208.

Any seat belt assemblies added to this vehicle must conform to the applicable requirements of this Standard.

208 The statement below is applicable to the following vehicle types:

• **E-Series Basic (Stripped) Chassis**

Conformity with Standard 208, Occupant Crash Protection, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity of this vehicle. Any seat belt assemblies added to this vehicle must conform to the applicable requirements of this Standard.

208 Canadian Requirements:

The preceding statements and supporting figures for FMVSS 208, on pages 26-36, are appropriate compliance representations for CMVSS 208, Occupant Restraint Systems in Frontal Impact, if this incomplete vehicle was manufactured for sale or use in Canada. In such a case, CMVSS 208 paragraphs (13), (14), and (15) are substituted for the reference to FMVSS 208 Section 7.1; CMVSS 208 paragraph (20) should be substituted for the reference to FMVSS 208 Section 7.2; and CMVSS 208 paragraphs (29), (30), (31), (32), (33), (34), (35), (36), (37), (38), (39), and (40) should be substituted for the reference to FMVSS 208 Section 7.4.

WARNING:

VEHICLES EXCEPT STRIPPED CHASSIS, INCLUDING THOSE OVER 3856 kg [8500 lb] GVWR AND/OR OVER 2495 kg [5500 lb] UVW ARE EQUIPPED WITH A FRONT ROW OCCUPANT SUPPLEMENTAL RESTRAINT SYSTEM (AIRBAG(S), WIRING, AND SENSORS INCLUDING AN RCM UNDER DRIVER'S SEAT) AND PYROTECHNIC BUCKLE PRETENSIONER(S). DELETE OF FRONT PASSENGER ACCOMMODATIONS INCLUDING RESTRAINTS, SEAT, AND PEDESTAL COUPLED WITH THE ADDITION OF DELETE RESISTORS IN THE SENSOR SYSTEM CIRCUITRY IS AVAILABLE ON SOME VEHICLES. MODIFICATIONS TO THE VEHICLE FORWARD OF OR NEAR THE CRASH SENSORS SHOWN IN FIGURE E PAGE 33 MAY EFFECT THE DEPLOYMENT OF THE AIRBAG(S) AND PRETENSIONER(S).

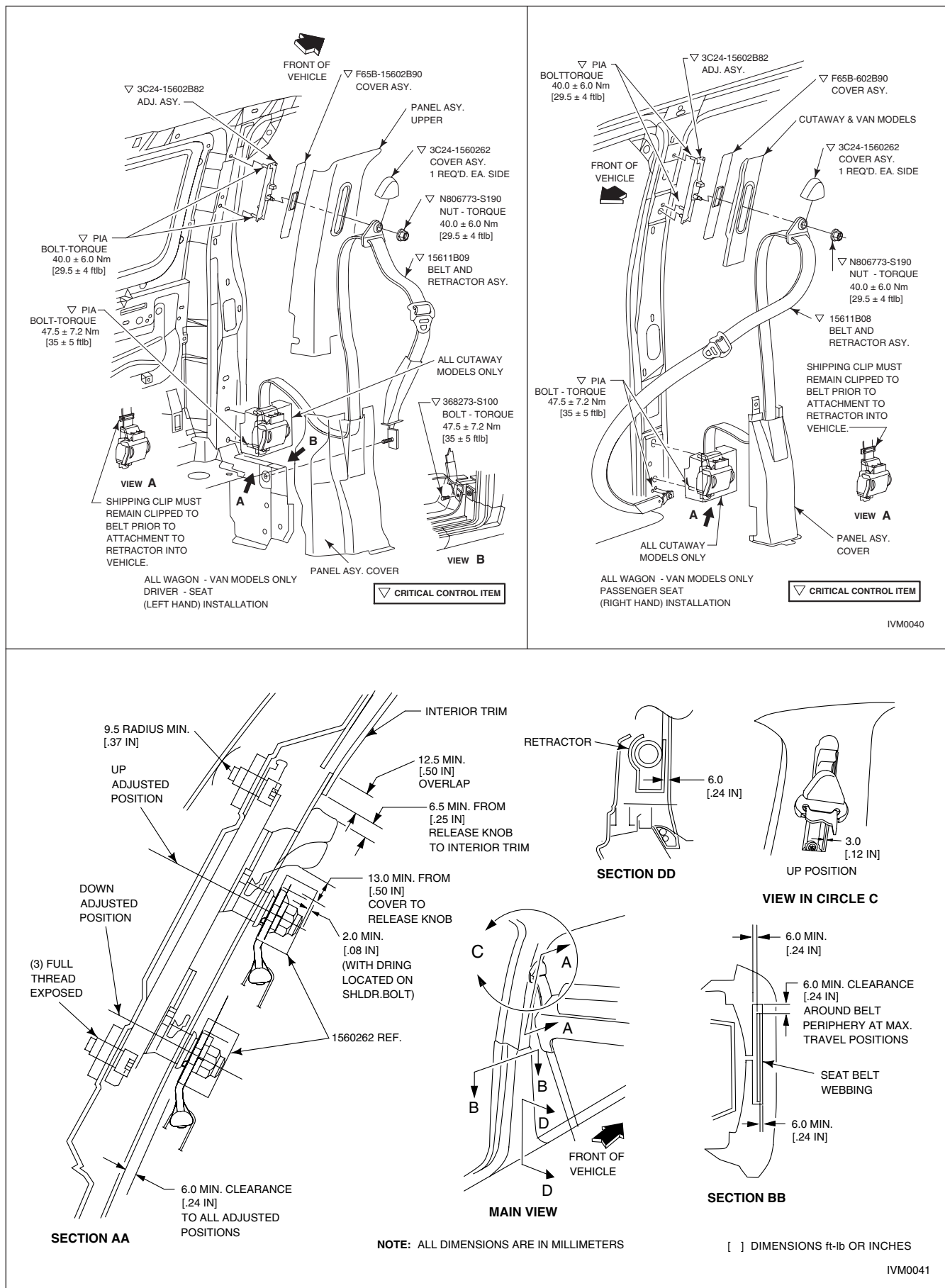


FIGURE A – E-SERIES FRONT SEAT RESTRAINT SYSTEM

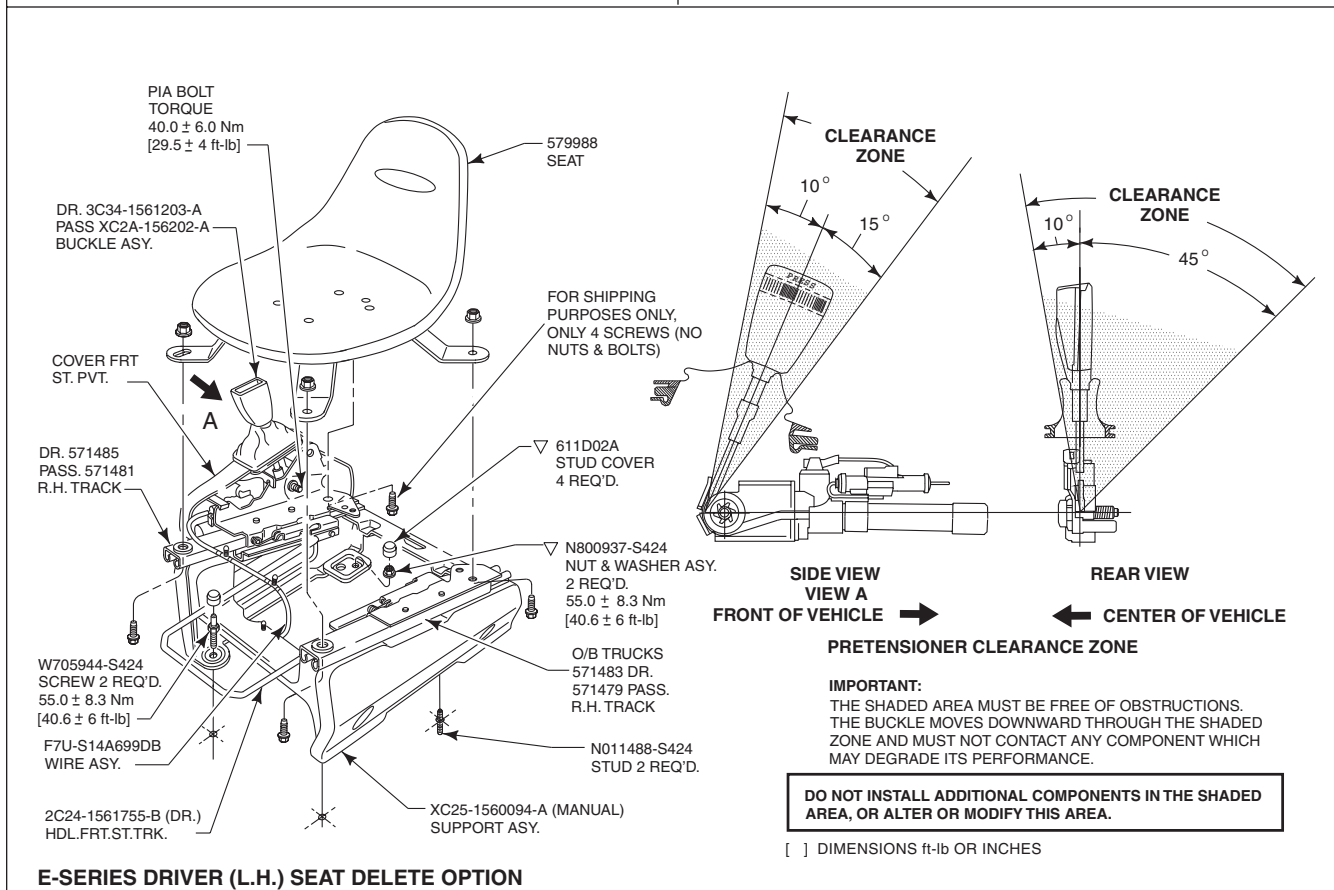
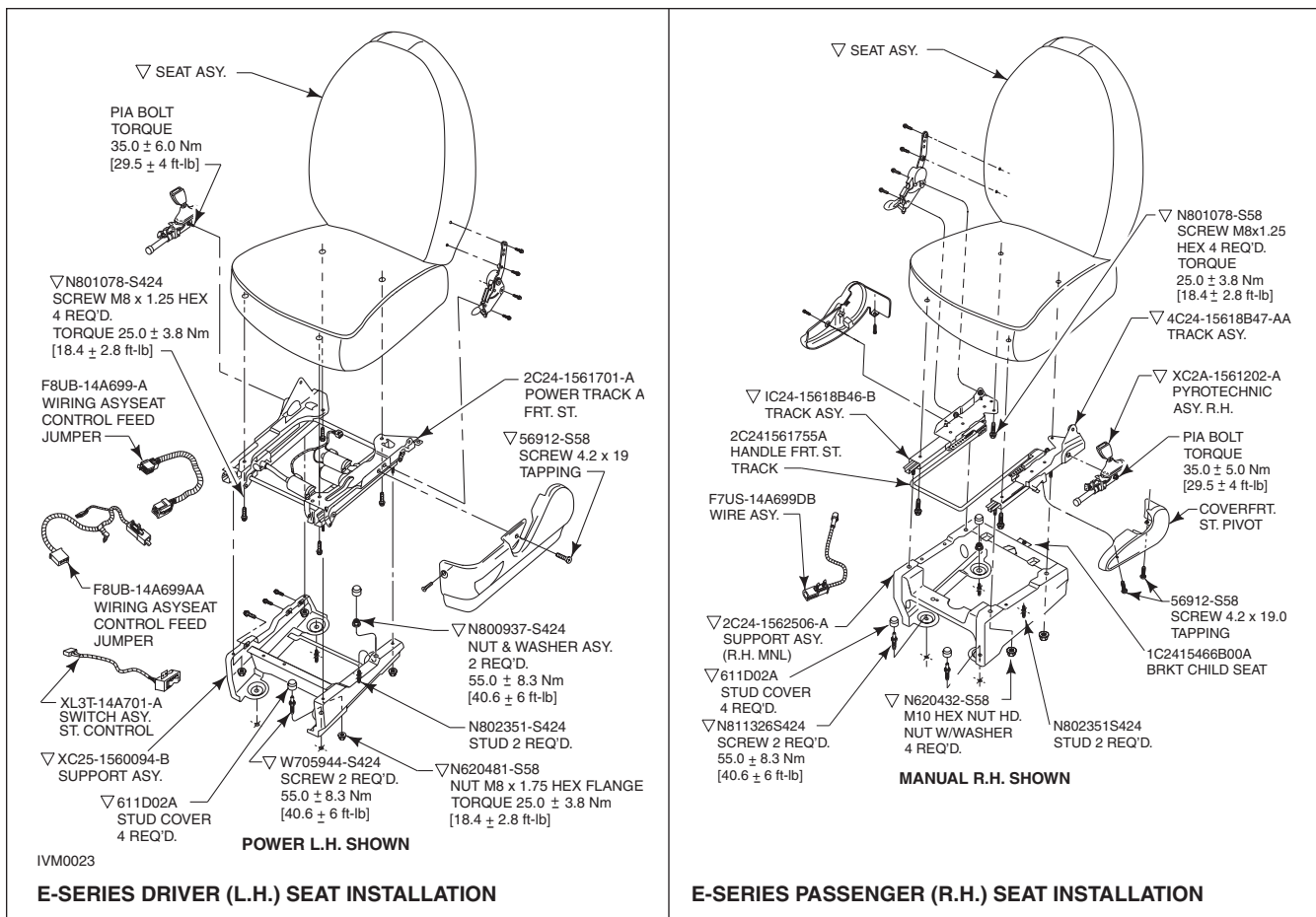


FIGURE B – E-SERIES FRONT SEAT INSTALLATION

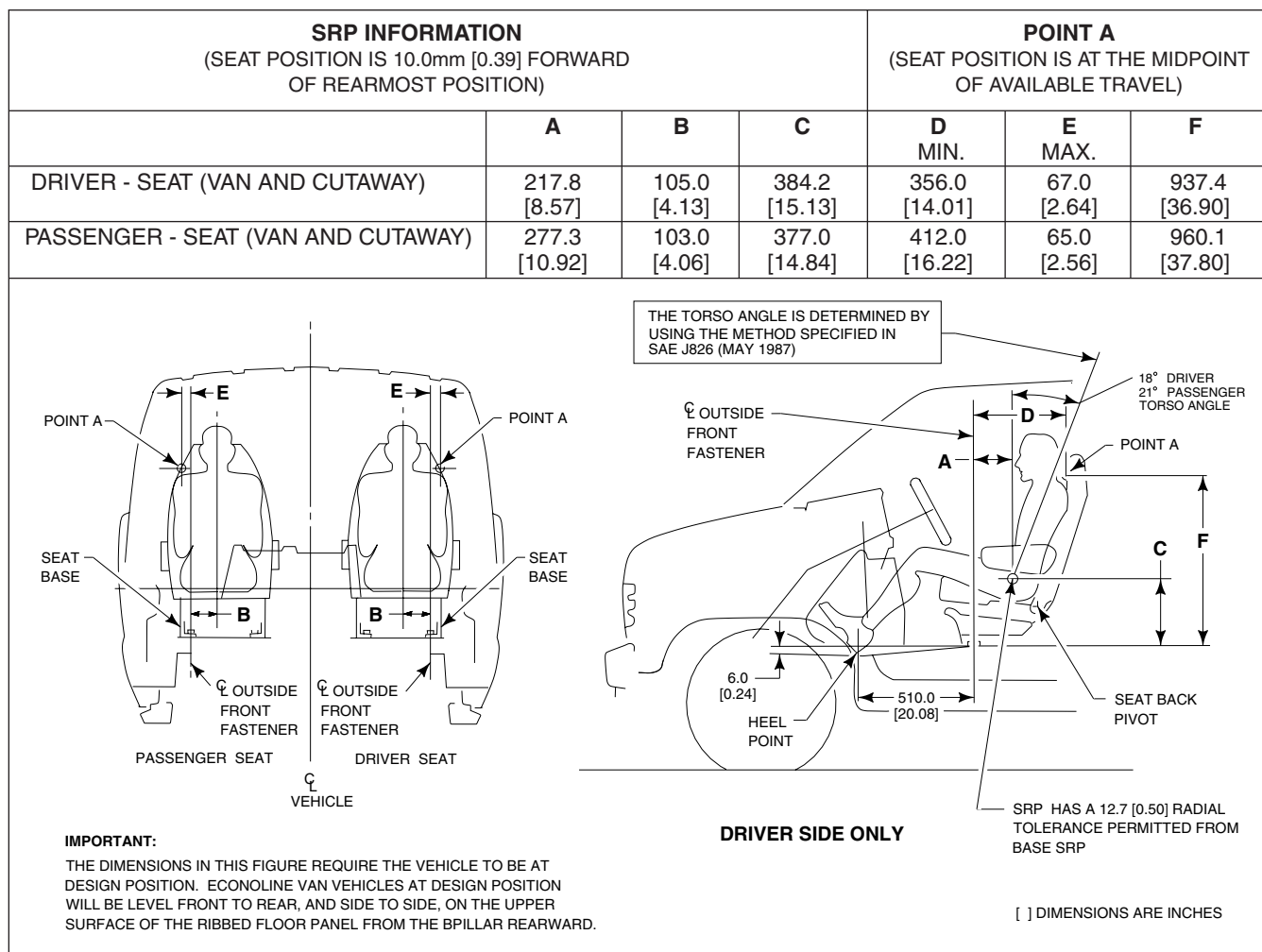


FIGURE C - E-SERIES SEATING REFERENCE POINT (SRP)

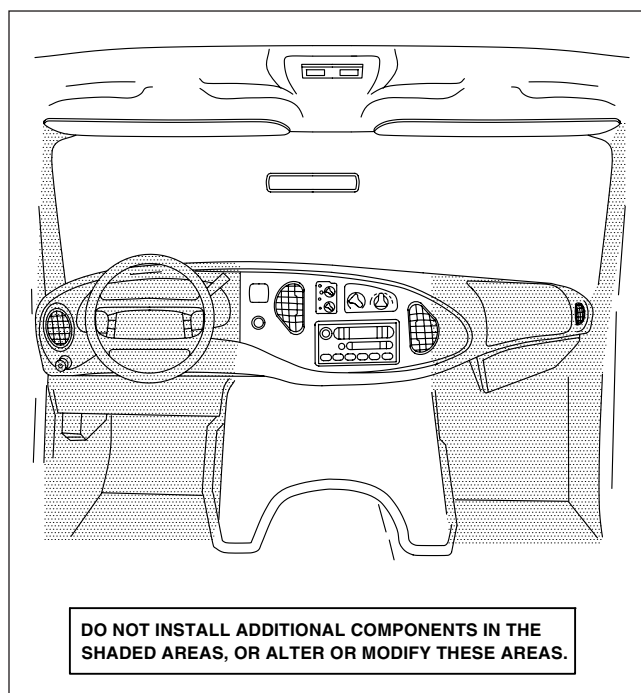


FIGURE D - E-SERIES OCCUPANT PROTECTION ZONE

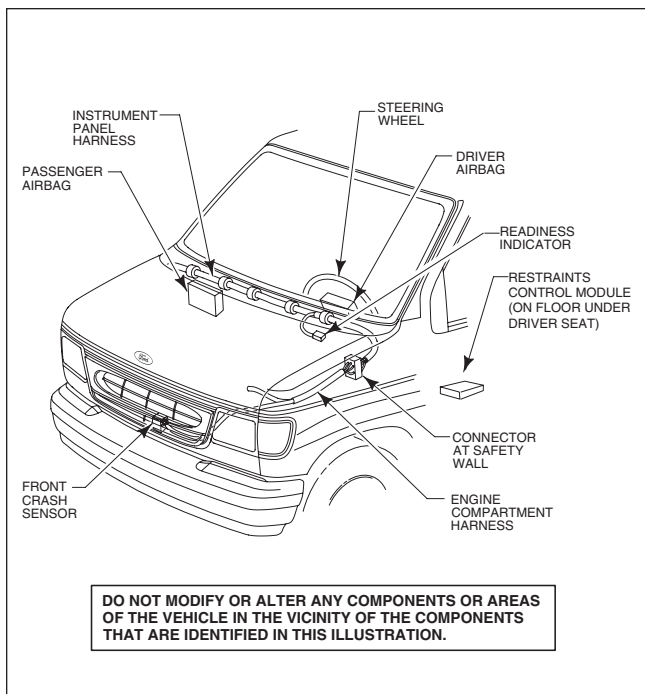


FIGURE E1 - E-SERIES SUPPLEMENTAL RESTRAINT SYSTEM (Air Bags, Sensors, and Wiring)

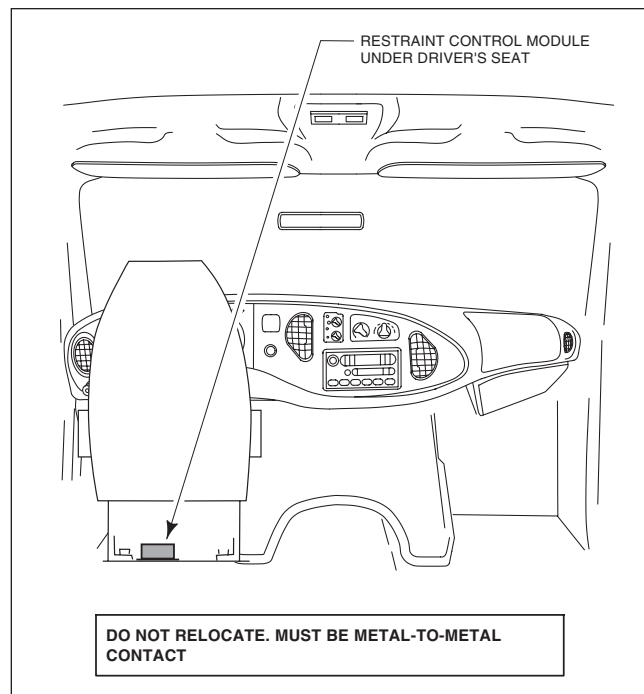


FIGURE E2 - E-SERIES RESTRAINT CONTROL MODULE

Sensor system also connected to pyrotechnic buckle pretensioners (not shown), which are assembled to the front seat pedestals. Passenger air bag and buckle pretensioner replaced by cover/delete resistor and bracket/delete resistor, respectively, on vehicles that have an option that deletes the front passenger restraint system.

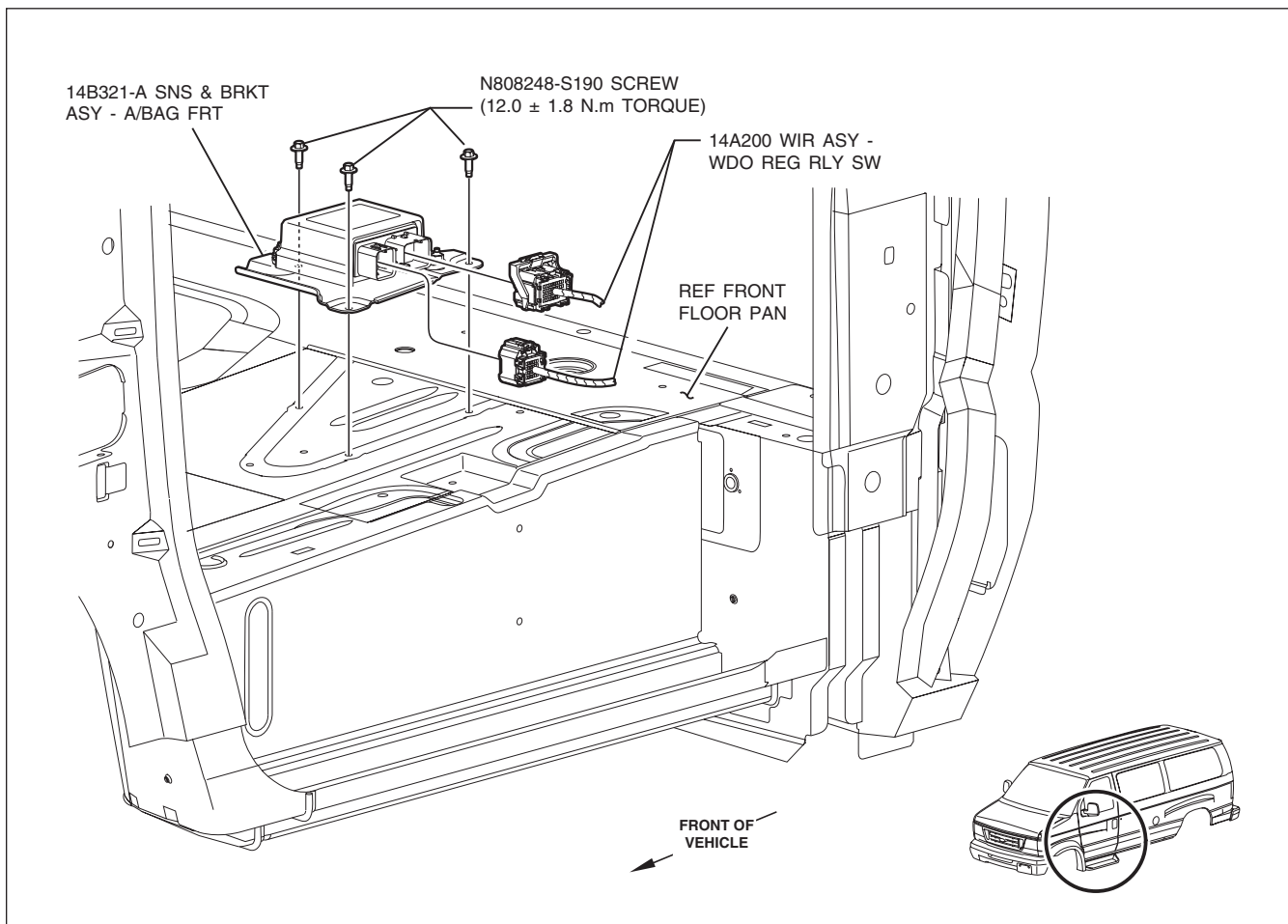


FIGURE E3 - E-SERIES RESTRAINT CONTROL MODULE

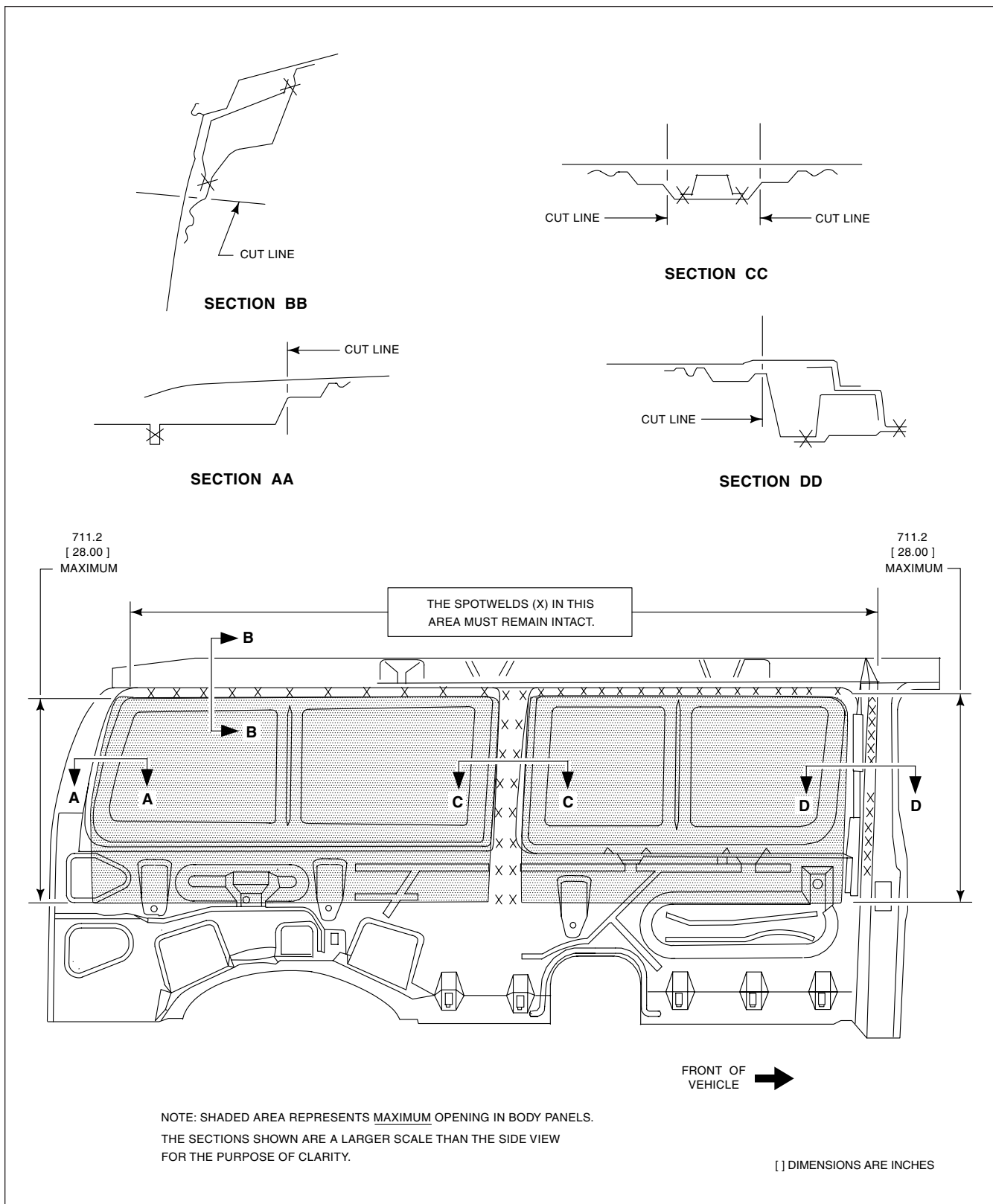


FIGURE G1 - BODY PANEL WINDOW REMOVAL AREA – E-SERIES (DRIVER SIDE – L.H.)

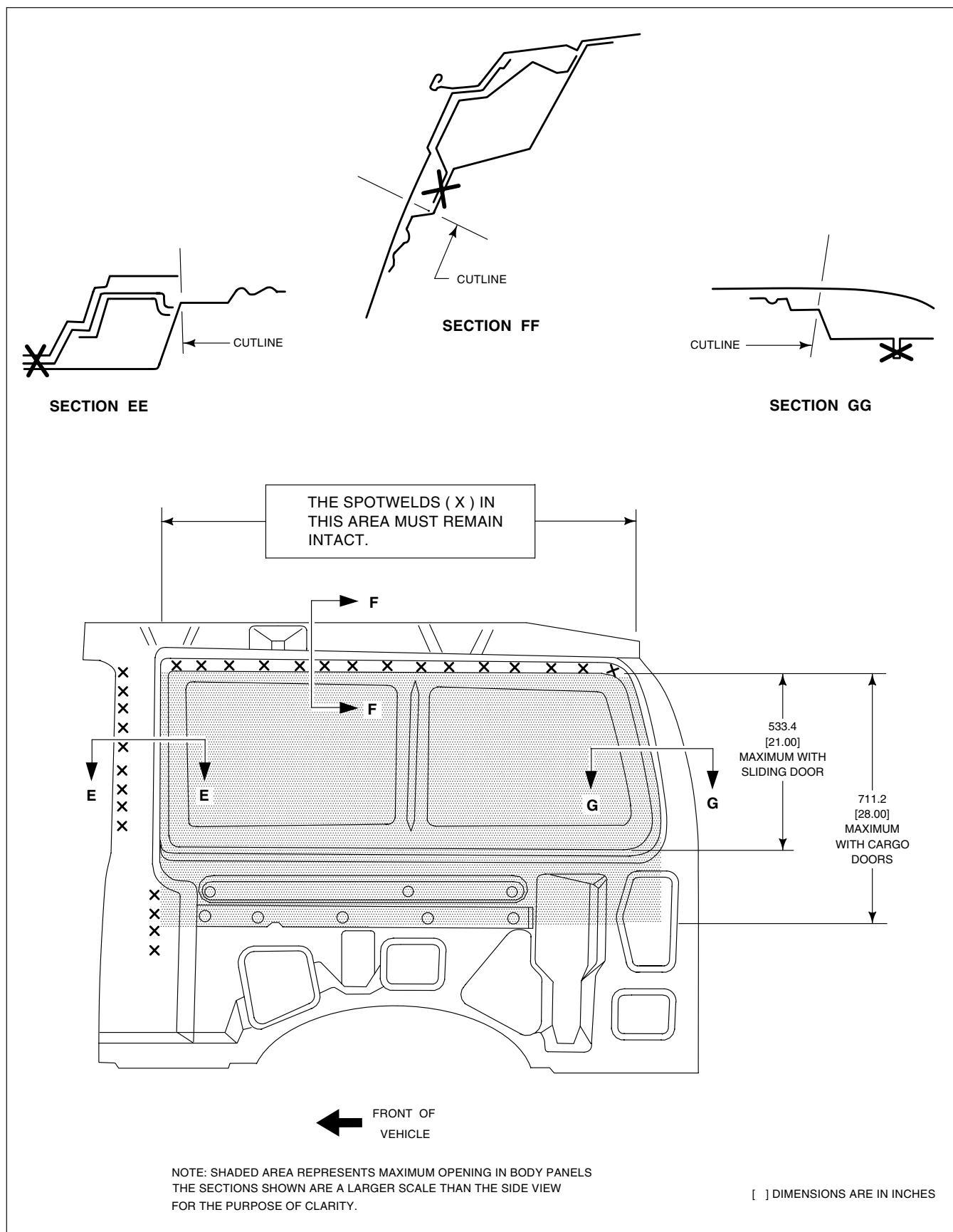


FIGURE G2 - BODY PANEL WINDOW REMOVAL AREA – E-SERIES (PASSENGER SIDE - R.H.)

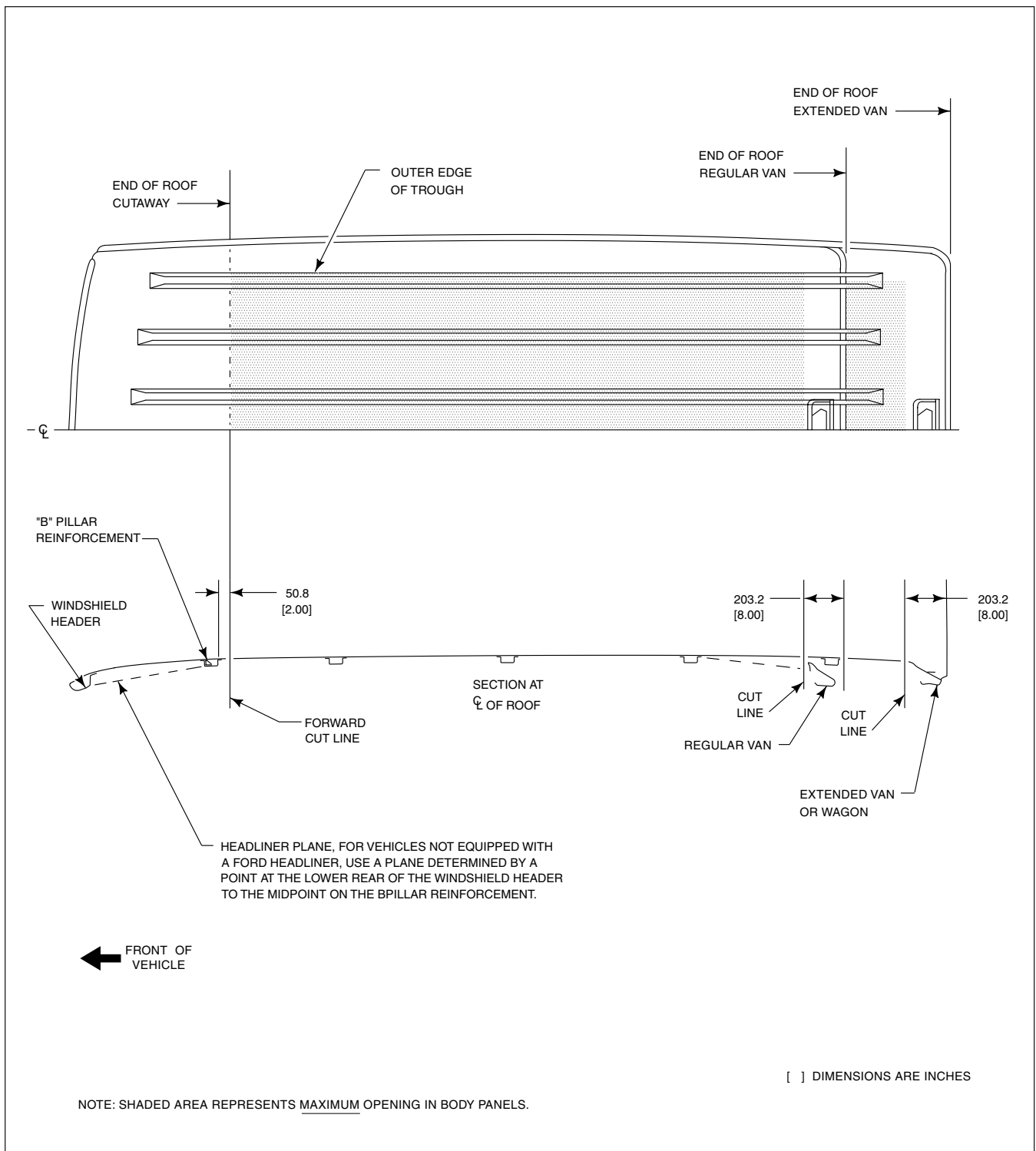


FIGURE G3 - ROOF PANEL REMOVAL AREA - E-SERIES

209 The statements below are applicable to the following incomplete vehicle types with front seat(s):

- Chassis Cab
- Incomplete E-Series Van or Wagon
- Cutaway

This vehicle, when completed, will conform to Standard 209, Seat Belt Assemblies, if:

- No alterations or replacements are made to the seat belt assemblies and attaching hardware.
- No action is taken that would impair the integrity of the seat belt system provided.

Any seat belt assemblies added to a vehicle must conform to the requirements of this Standard.

209 The statement below is applicable to the following incomplete vehicle types with no front seats:

- Incomplete E-Series Van
- Cutaway

Conformity with the pelvic restraint, upper torso restraint, release, adjustment, and webbing requirements of Standard 209, Seat Belt Assemblies as specified in s4.1 (b), (c), (e), (g), and (h), respectively, is not substantially affected by the design of this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with these requirements of Standard 209. However, Ford Motor Company represents that the seat belt assemblies provided by Ford Motor Company conform to the applicable single occupancy hardware, attachment hardware, strap, marking, installation instructions, usage and maintenance instructions, workmanship, webbing performance, hardware performance, and assembly performance requirements detailed in the remaining paragraphs of the standard not specified above, provided no alterations or replacements are made to the seat belt assemblies and attaching hardware, as provided by Ford Motor Company, and further provided that no action is taken by subsequent stage manufacturers to impair the integrity of the seat belt system provided. Any additional seat belt assemblies installed must conform to the requirements of this Standard.

209 The statement below is applicable to the following incomplete vehicle types:

- E-Series Basic (Stripped) Chassis

Conformity with Standard 209, Seat Belt Assemblies, is not substantially affected by the design of this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this Standard.

209 Canadian Requirements:

The preceding statements for FMVSS 209 are appropriate compliance representations for CMVSS 209, Seat Belt Assemblies, if this incomplete vehicle was manufactured for sale or use in Canada. In such a case, CMVSS 209 paragraphs (2) and (3), (4) and (5), (14), (15), and (7) are substituted for the reference to FMVSS 209 Sections 4.1(b), (c), (e), (g), and (h), respectively.

210 The statements below are applicable to all incomplete vehicle types except Basic (Stripped) Chassis:

This vehicle, when completed, will conform to Standard 210, Seat Belt Assembly Anchorages, if:

- No alterations are made to the front seat belt anchorages, front seat belt assemblies, floor pan, floor pan reinforcements, or body mounts.
- No alterations are made to the rear cab panel or roof for the Chassis Cab.
- E-Series window or roof modifications do not exceed the defined cut out areas shown in the Figures on pages 34, 35, and 36.

The Incomplete E-Series Van and Cutaway with no front seats must have completed front seats installed that conforms to the seat location criteria shown in Figure C on page 32.

The Incomplete E-Series Van, Wagon, and Cutaway must have a seat belt anchorage system installed for each additional designated seating position that conforms to the applicable requirements of this Standard.

The Incomplete E-Series Recreational Van or the E-Series Wagon may have additional seat belt anchorages for designated seating positions other than the front driver and passenger seats. Also, Chassis Cab vehicles may have additional seat belt anchorages for designated seating positions on optional seats not provided on incomplete vehicles. These locations apply to specific hardware and designated seating positions used in Ford completed vehicles. If these anchorages are used without the appropriate Ford seats, seat belt systems, and hardware, Ford Motor Company makes no representation as to conformity with this Standard.

The Incomplete E-Series Recreational Van, when equipped with the seat delete option, will include both front seat pedestals, pretensioner restraint systems, seat tracks, and a temporary driver's seat. The pretensioner restraint system is attached to the seat track, therefore, the completed seat assembly must comply with the requirements of Standard 210 and 207.

210 The statement below is applicable to the following incomplete vehicle types (Type III):

- E-Series Basic (Stripped) Chassis

Conformity with Standard 210, Seat Belt Assembly Anchorages, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representation as to conformity with this Standard.

210.1 Canadian Requirements applicable to all incomplete vehicle types with a GVWR of 3856 kg [8,500 lb] or less and an unloaded vehicle weight of 2495 kg [5500 lb] or less except Basic Stripped Chassis:

210.1 (Continued on Next Page)

210.1 (Continued)

This vehicle, when completed, will conform to Standard 210.1, User-Ready Tether Anchorages for Restraint Systems, if:

- No alternations are made to the front passenger seat tether anchorages and access to the anchorages is not restricted.

For the incomplete E-Series Van and Cutaway with no front seats:

- If a front passenger seat is installed, it must have the required tether anchor.
- If the E-Series is completed as a Multipurpose Passenger Vehicle (MPV) and a second forward facing row of designated seating is installed, for a total of five or fewer seating positions, at least two of the second row forward facing seats must have the required tether.
- If the E-Series is completed for certification as a Truck and a second row of designated seating is installed, then all of the second row seats must have tether anchors.
- If there are more than five designated seating positions, at least three of the forward facing seating positions to the rear of the first row must have the required tether.

210.1 Canadian Requirements applicable to the following incomplete vehicle types:

- **E-Series Basic (Stripped) Chassis**

Conformity with Standard 210.1, User-Ready Tether Anchorages for Restraint Systems, is not substantially affected by the design of these incomplete vehicles; accordingly, Ford Motor Company makes no representations as to conformity with this Standard.

210.2 Canadian Requirements:

The statement below is applicable to all incomplete vehicle types if the GVWR is 3856 kg [8,500 lb] or less, except Basic Stripped Chassis. It is also applicable to buses (including school buses) with a GVWR of 4536 kg [10,000 lb] or less:

This vehicle, when completed, will conform to Standard 210.2, Lower Universal Anchorage Systems for Restraint Systems and Booster Cushions, if:

- No alterations are made to the front passenger seat tether anchorages or LATCH lower anchors, and access to the anchorages is not restricted, and no alterations are made to the seat assemblies, their anchorages, the floor pan or floor pan reinforcements.

Because the addition of seats may change the number and/or location for lower anchors required by this Standard, Ford Motor Company makes no representations as to conformity with this Standard for any vehicle that has seats added by Intermediate or Final Stage Manufacturers.

210.2 Canadian Requirements:

The statement below is applicable to the following incomplete vehicle types:

- **E-Series Basic (Stripped) Chassis**

Conformity with Standard 210.2, Lower Universal Anchorage Systems for Restraint Systems and Booster Cushions, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representations as to conformity with this Standard.

212/ Note

219 The terms “body” or “body structure,” in the 212 and 219 statements that follow, include any equipment permanently attached to that body or body structure installed by the subsequent stage manufacturer as well as the basic body or body structure.

212/ INFORMATION

219 Refer to the Design Recommendations section in the *Ford Truck Body Builders' Layout Book* for Second Unit Body Attachment information to aid in designing second unit bodies and their attachments for compatibility with E-Series vehicles.

212/ The statements below are applicable to the following incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

- **Incomplete E-Series Van or Wagon**
- **Cutaway**

This vehicle, when completed, will conform to Standard 212 Windshield Mounting, and Standard 219, Windshield Zone Intrusion, if:

- The following windshield system components, related structural components, and hardware, as installed by Ford Motor Company, are not removed, relocated, altered, or modified in any way except as specified in this manual:
 - 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 and air cleaner assembly
 - Doors and hood mounting, hinging, and latching systems
 - Hood ornamentation
 - Bumper and bumper mounting system†
- No alteration or modification made to the incomplete vehicle as manufactured by Ford Motor Company and no components or structure installed by a subsequent stage manufacturer results in any loss of windshield retention (as defined in Standard 212) or any penetration of the inner surface of the windshield or intrusion into the protected zone (as defined in Standard 219) when the vehicle is impacted in any manner specified by applicable provisions of Standard 212 or Standard 219. Sections S6.1(b) and S7.7(b) of Standards 212 and 219, respectively, state vehicles are tested to a maximum Unloaded Vehicle Weight of 2495 kg [5500 lb].
- The completed vehicle's Unloaded Vehicle Weight does not exceed the value designated in Table A on page 15 corresponding to the vehicle's model and wheelbase.

† Temporary removal of the front bumper and front bumper mounting system during manufacture and reinstallation in accordance with the instructions provided in the *Ford Truck Shop Manual* should not adversely affect the compliance of a completed vehicle to Standards 212 and 219.

212/ 219 The statement below is applicable to the following incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

- **E-Series Basic (Stripped) Chassis**

The Basic (Stripped) Chassis is designed by Ford Motor Company to be completed as a walk-in van type vehicle. Walk-in vans are exempt from the requirements of Standard 212, Windshield Mounting, and Standard 219, Windshield Zone Intrusion.

212/ Canadian Requirements:

219 The preceding statements for FMVSS 212/219 are appropriate compliance representations for CMVSS 212, Windshield Mounting, and CMVSS 219 Windshield Zone Intrusion, if this incomplete vehicle was manufactured for sale or use in Canada. In such a case, CMVSS 212 and 219 paragraphs (5.1) and (8) are substituted for the reference to FMVSS 212 and 219 Sections 6.1(b) and 7.7(b) respectively.

213 The statement below is applicable to all incomplete vehicle types:

Conformity with Standard 213, Child restraint systems, is not substantially affected by the design of the incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this Standard. Any child restraint system that is added or incorporated into the design of a designated seating position must conform to the requirements of this standard.

214 The statements below are applicable to the following vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

- **Chassis Cab**
- **Incomplete E-Series Van or Wagon**

This vehicle, when completed, will conform to Standard 214, Side Impact Protection, if:

- No alterations, modifications, or replacements are made to the door, surrounding door structure, door hinges, door latches and strikers, or any attaching hardware as provided by Ford Motor Company.
- The Incomplete E-Series Van or Wagon roof or window modifications do not exceed the defined cut out areas shown in the Figures on pages 34, 35, and 36, respectively.

214 The statements below are applicable to the E-Series Cutaway if the GVWR is 4536 kg [10,000 lb] or less:

This vehicle, if equipped with both front doors as manufactured by Ford Motor Company when completed, will conform to Standard 214, Side Impact Protection, if no alterations, modifications, or replacements are made to the door, surrounding door structure, the entire roof structure, door hinges, door latches and strikers, or any attaching hardware provided by Ford Motor Company.

This vehicle if equipped with a driver-side door only when completed, will conform to Standard 214, Side Impact Protection, for that door only if no alterations, modifications, or replacements are made to the door, surrounding door structure, the entire roof structure, door hinges and strikers, or any attaching hardware provided by Ford Motor Company.

Any side door and surrounding body structure added to this vehicle, if a designated seating position is less than 254 mm [10 in] inboard of that door, must conform to the requirements of this standard.

214 The statement below is applicable to the following incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

- **E-Series Basic (Stripped) Chassis**

The Basic (Stripped) Chassis is designed by Ford Motor Company to be completed as a walk-in-van type vehicle. Walk-in vans are exempt from the requirements of Standard 214, Side Impact Protection. See walk-in van definition on page 8.

217 The statements below are applicable to the incomplete E-Series Van or Wagon when completed as a bus (not school bus):

This vehicle, when completed, will conform to Standard 217, Bus Window Retention and Release, if no alterations, modifications, or replacements are made to the doors, window glazing materials, window mounting systems, or the surrounding door structure as provided by Ford Motor Company.

Any windows, doors, additional components, or emergency exits added to this vehicle must meet the requirements of this Standard.

217 The statement below is applicable to the Cutaway when completed as a bus (including school bus):

Conformity with Standard 217, Bus Window Retention and Release, is not substantially affected by the design of this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this Standard other than that the front door windows will comply with the s5.1 requirements of this Standard if no modifications, alterations, or replacements are made to the window glazing materials, window mounting system, or the surrounding door structure as provided by Ford Motor Company.

217 Canadian Requirements:

The preceding statements for FMVSS 217 are appropriate compliance representations for CMVSS 217, Bus Emergency Exit and Window Retention and Release, when a vehicle is completed as a Bus (not School Bus) and if this incomplete vehicle was manufactured for sale or use in Canada. In such a case, CMVSS 217 paragraphs (2) and (2.1) are substituted for the reference to FMVSS 217 Section 5.1. When an E-Series Cutaway is completed as a School Bus, Ford Motor Company makes no representation as to conformity to this Standard.

219 See combined statements under “212/219” for all vehicle types.

220 The statements below are applicable to the Cutaway equipped with the School Bus Prep Package when completed as a school bus:

The Cutaway body structure as manufactured by Ford, does not meet the strength requirements of FMVSS 220, School Bus Rollover Protection; accordingly Ford Motor Company makes no representation as to conformity of the completed vehicle with this Standard.

221 The statements below are applicable to the Cutaway equipped with School Bus Prep Package when completed as a school bus:

This vehicle when completed, will conform to Standard 221, School Bus Body Joint Strength, if;

- No alterations or modifications are made to the body panel joints as manufactured by Ford Motor Company from the forwardmost point of the windshield rearward.
- The passenger first row seating reference point is located 762.0 mm [30.00 inch] or more, rearward of the back of the Cutaway body.

Any additional maintenance panels or body panel joints that are added to this vehicle must comply with the requirements of this regulation.

222 The statement below is applicable to the Cutaway equipped with the School Bus Prep Package when completed as a school bus:

Conformity with Standard 222, School Bus Passenger Seating and Crash Protection, is not substantially affected by the design of this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this Standard.

225 The statement below is applicable to all incomplete vehicle types if the GVWR is 3856 kg [8,500 lb] or less, except Basic Stripped Chassis. It is also applicable to buses (including school buses) with a GVWR of 4536 kg [10,000 lb] or less:

This vehicle, when completed, will conform to Standard 225, Child Restraint Anchorage Systems, if:

- No alterations are made to the front passenger seat tether anchorages or LATCH lower anchors, and access to the anchorages is not restricted, and no alterations are made to the seat assemblies, their anchorages, the floor pan, or floor pan reinforcements.
- For the incomplete E-Series Van and Cutaway with no front seats, if a forward facing front passenger seat is installed and there are no additional seating rows, it must have the required tether anchor and LATCH lower anchors.
- For the incomplete E-Series Van and Cutaway, completed with not more than two seats to the rear of the front row, the forward facing rear seats must have the required tether anchor, and a pair of LATCH lower anchors.
- For the incomplete E-Series Van and Cutaway, completed with three or more forward facing seats to the rear of the front seats, at least three of the forward facing rear seats must have the required tether, and two of those seats must also have a pair of LATCH lower anchors. If at least one of the forward facing rear seats is not outboard, at least one non-outboard forward facing seat must have a tether. If the vehicle has at least three rows of forward facing seats, at least one of the forward facing seats in the second row must have the tether anchor and a pair of LATCH lower anchors.

225 The statement below is applicable to the following incomplete vehicle types:

- **E-Series Basic (Stripped) Chassis**

Conformity with Standard 225, Child Restraint Anchorage Systems, is not substantially affected by the design of this incomplete vehicle; accordingly, Ford Motor Company makes no representations as to conformity with this Standard.

301 Note

The terms “body” or “body structure”, in the 301 statements that follow include not only the basic body or body structure but also any equipment permanently attached to that body or body structure installed by the subsequent stage manufacturer.

301 INFORMATION

The Unloaded Vehicle Weight of the completed vehicle may significantly affect its capability to meet the requirements of FMVSS 301. Completed vehicles manufactured by Ford that are tested to demonstrate compliance with FMVSS 301 are loaded pursuant to s7.1.6 of the Standard. The test weights of these vehicles comprise the Unloaded Vehicle Weights including the weights of all available regular production options plus the loads specified by s7.1.6. These test weights are less than the respective designated Gross Vehicle Weight Ratings. In addition to the specific statements below, refer to the Design Recommendation section of the Ford Truck Body Builders' Layout Book for Fuel System information to assist in designing fuel systems and the Second Unit Body Attachment recommendations for information to aid in designing second unit bodies and their attachments to be compatible with E-Series vehicles.

301 In addition to the statements pertaining to particular incomplete vehicle types which follow on pages 41-53, the statements immediately below, concerning Standard 301 Fuel System Integrity, apply to all incomplete vehicle types to be completed with a GVWR of 4536 kg [10,000 lb] or less or equipped with School Bus Prep Package and completed as a school bus.

- If the push connectors on nylon fuel lines are disconnected, they must be reconnected as shown in Figure H on this page and the retention clip must be discarded and replaced with a new clip as specified in Figure H.
- The special removal tool shown in Figure J on this page must be used to open push connectors installed on steel fuel lines if the lines need to be disconnected. The Ford Service Manual will reference the appropriate tool that is available from Ford Customer Service Division.
- 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 J on this page.
- When welding near fuel system components, all metallic components must be adequately shielded and protected from heat or weld splatter. All non-metallic components must be removed.

NOTE: Some incomplete vehicles are equipped with nylon fuel tubes. In the event that the tubes require repair or replacement, only Ford approved parts or their equivalents should be used.

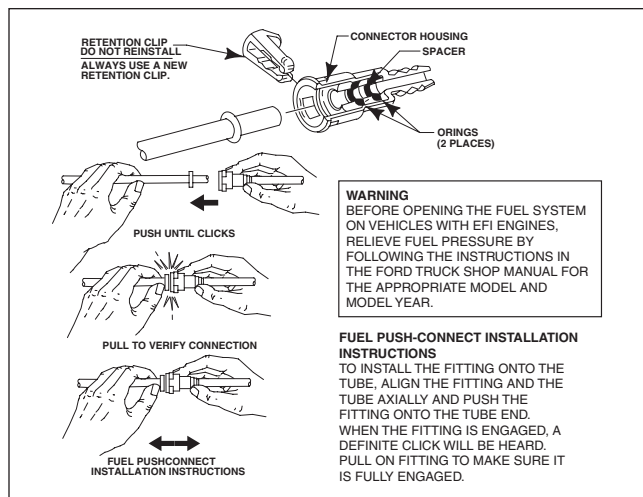


FIGURE H - NYLON FUEL LINE PUSH-CONNECT

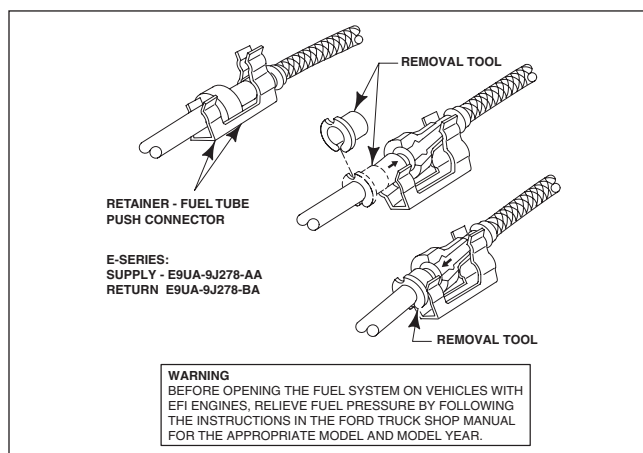


FIGURE J - FLEXIBLE FUEL LINE PUSH-CONNECT

301 The statements below are applicable to the following incomplete vehicle types if the vehicle GVWR is 4536 kg [10,000 lb] or less:

• Incomplete E-Series Van or Wagon

This vehicle, when completed, will conform to Standard 301, Fuel System Integrity, if:

- The following fuel system components, as installed by Ford Motor Company, are not to be removed, relocated, altered, or modified in any way:
 - Fuel tank and attachment hardware, including sending unit, vapor valve, fuel tank shield and in-tank electric fuel pump (all gasoline engine applications), and OBD II pressure transducer
 - Fuel filler cap, pipe, hose, and attachment hardware
 - Fuel lines, routing, and attachments
 - Vapor lines and carbon canister - (gasoline engine application)
 - Fuel pump
 - Fuel filter
 - Fuel water separator fuel filter/primer, fuel line heater, and injection pump - (diesel engine only)
 - Fuel shut off switch (Inertia switch)

301 (Continued Next Page)

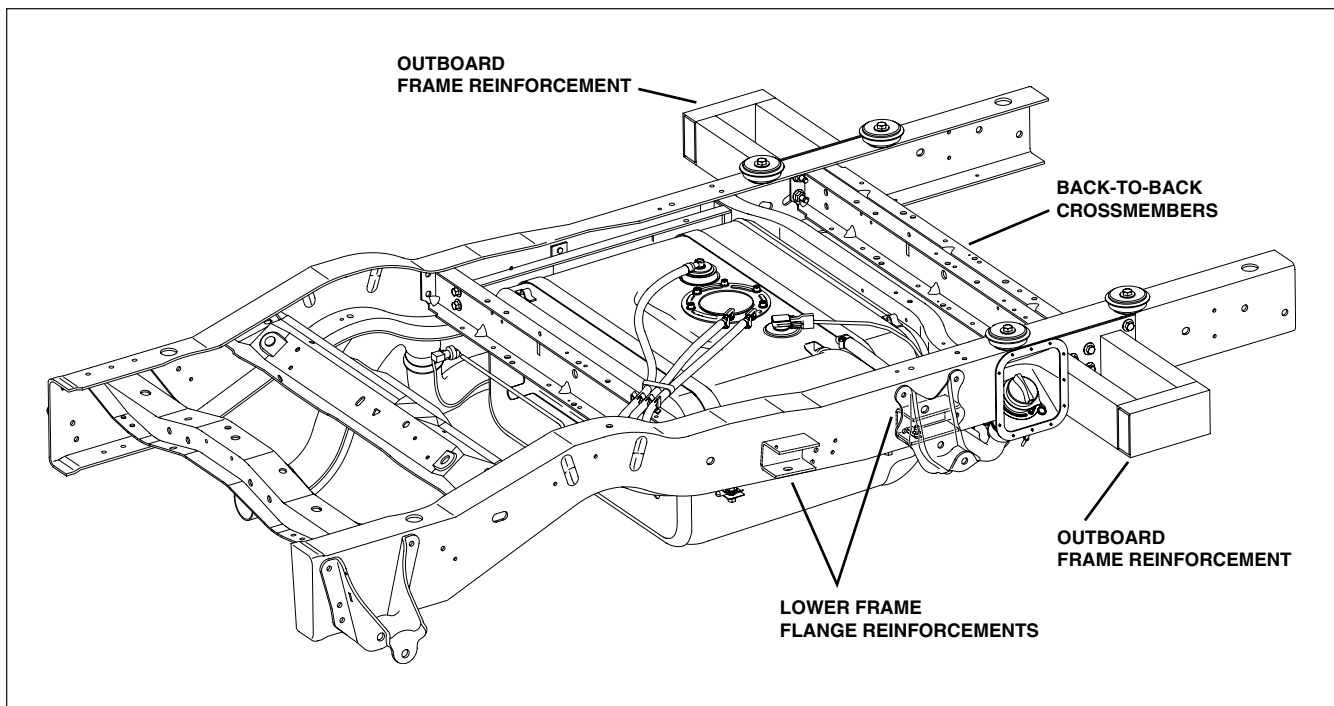


FIGURE I - E-SERIES CUTAWAY WITH GASOLINE ENGINE AND SCHOOL BUS PREPARATION PACKAGE

301 (Continued)

- No other alteration or modification made to the incomplete vehicle, as manufactured by Ford Motor Company, and no other components or structure installed by a subsequent stage manufacturer result in penetration, separation, or other damage to the fuel system or any portion thereof when the vehicle is tested in any manner specified by applicable provisions of Standard 301.†
- The completed vehicle's Unloaded Vehicle Weight does not exceed the value designated in Table A for E-Series on page 15 corresponding to the incomplete vehicle's model and wheelbase.

301 The statements below are applicable to the following incomplete vehicle types if the vehicle GVWR is 4536 kg [10,000 lb] or less:

- Cutaway
- E-Series Cutaway (SRW) with Diesel Engine and School Bus Preparation Package
- E-Series Cutaway (SRW) with Gasoline Engine and School Bus Preparation Package

This vehicle, when completed, will conform to Standard 301, Fuel System Integrity, if:

- The following fuel system components as installed by Ford Motor Company are not removed, relocated, altered, or modified in any way except as specified in the following representations:
 - Fuel tank(s) and attachment hardware, including sending unit, vapor valve, fuel tank shield, pressure transducer, and in-tank electric fuel pump
 - Fuel filler cap(s), pipe(s), hose(s), and attachment hardware

- Fuel lines, routing, and attachments
- Vapor line(s) and carbon canister - (gasoline engine application)
- Fuel pump
- Fuel filter
- Fuel water separator fuel filter/primer, fuel line heater, and injection pump - (diesel engine only)
- Fuel shut off switch (Inertia switch)
- The two Outboard Frame Reinforcements, two Lower Frame Flange Reinforcements, and two extra back-to-back crossmembers, all shown above, and all unique to the gasoline engine School Bus Package.

- No other alteration or modification made to the incomplete vehicle as manufactured by Ford Motor Company and no other components or structure installed by a subsequent stage manufacturer result in penetration, separation, or other damage to the fuel system or any portion thereof when the vehicle is tested in any manner specified by applicable provisions of Standard 301.†
- The completed vehicle's Unloaded Vehicle Weight does not exceed the value designated in Table A on page 15 corresponding to the model and wheelbase.

301 (Continued Next Page)

† Temporary removal of the front bumper and front bumper mounting system during manufacture and reinstallation in accordance with the instructions provided in the Ford Truck Shop Manual should not adversely affect compliance of the completed vehicle to Standard 301.

301 (Continued)

- The body installed by a subsequent stage manufacturer and the Ford installed fuel system components are located and mounted as follows:
 - The body is mounted securely and is so designed that when the completed vehicle is tested in any manner specified by applicable provisions of Standard 301,
 - (a) body components do not contact any fuel system component at any time (other than at the points where the fuel system is permanently attached to the body), and,
 - (b) body deformation or movement relative to the frame does not cause any fuel system component to be penetrated, disconnected, or otherwise damaged.
 - The rear end of the body (excluding the rear bumper) installed by a subsequent stage manufacturer does 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 completed vehicle is tested in any manner specified by applicable provisions of Standard 301.
 - The fuel filler cap(s), pipe(s), hose(s) and attachment hardware are installed as shown in Figure K page 44 for E-Series vehicles. All components must be securely retained to remain intact when the completed vehicle is tested in any manner specified by applicable provisions of Standard 301.

301 The statements below are applicable to the following incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

- **E-Series Basic (Stripped) Chassis**

Conformity with Standard 301, Fuel System Integrity, is not substantially affected by the design of this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this standard.

However, Ford Motor Company has tested completed vehicles incorporating a representative fuel system and frame assembly of a Basic (Stripped) Chassis in accordance with the procedures of Standard 301 at test weights specified by s7.1.6 of the Standard. The tested vehicles met the applicable requirements of Standard 301. This vehicle, when completed, is capable of compliance with FMVSS 301, if:

- The following fuel system components as installed by Ford Motor Company are not removed, relocated, altered, or modified in any way except as specified in the following representations:
 - Fuel Tank and attachment hardware, including sending unit, vapor valve, OBD II pressure transducer, fuel tank shield, and in-tank electric pump
 - Fuel filler cap, pipe, hose(s), and attachment hardware
 - Fuel lines, routing, and attachments
 - Vapor line(s) and carbon canister
 - Fuel Filter
- No other alteration or modification is made to the incomplete vehicle, as manufactured by Ford Motor Company, and no other components or structure installed by a subsequent stage manufacturer result in penetration, separation, or other damage to the fuel system or any portion thereof when the vehicle is tested in any manner specified by applicable provisions of Standard 301.[†]
- The completed E-Series has an Unloaded Vehicle Weight that does not exceed the value designated in Table A on page 15 corresponding to the model, and wheelbase.

[†] Temporary removal of the front bumper and front bumper mounting system during manufacture, and reinstallation in accordance with the instructions provided in the Ford Truck Shop Manual, should not adversely affect compliance of the completed vehicle to Standard 301.

- The body installed by a subsequent stage manufacturer and the Ford installed fuel system components are located and mounted as follows:
 - The body is mounted securely and is so designed that when the completed vehicle is tested in any manner specified by applicable provisions of Standard 301,
 - (a) body components do not contact any fuel system component at any time (other than at the points where the fuel system is permanently attached to the body), and,
 - (b) body deformation or movement relative to the frame does not cause any fuel system component to be penetrated, disconnected, or otherwise damaged.
- The rear end of the body (excluding the rear bumper) installed by a subsequent stage manufacturer does 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 completed vehicle is tested in any manner specified by applicable provisions of Standard 301.

- The E-Series Basic (Stripped) Chassis aft-of-axle fuel filler cap, pipe, hose(s), and attaching hardware are installed as shown in Figure K, below. All components must be securely retained to remain intact when the completed vehicle is tested in any manner specified by applicable provisions of Standard 301.

The Basic (Stripped) Chassis is equipped with a Fuel Shutoff Switch. The switch is located on the column support structure for E-Series and must not be relocated, altered, or modified in any way.

301 (Continued on Page 45)

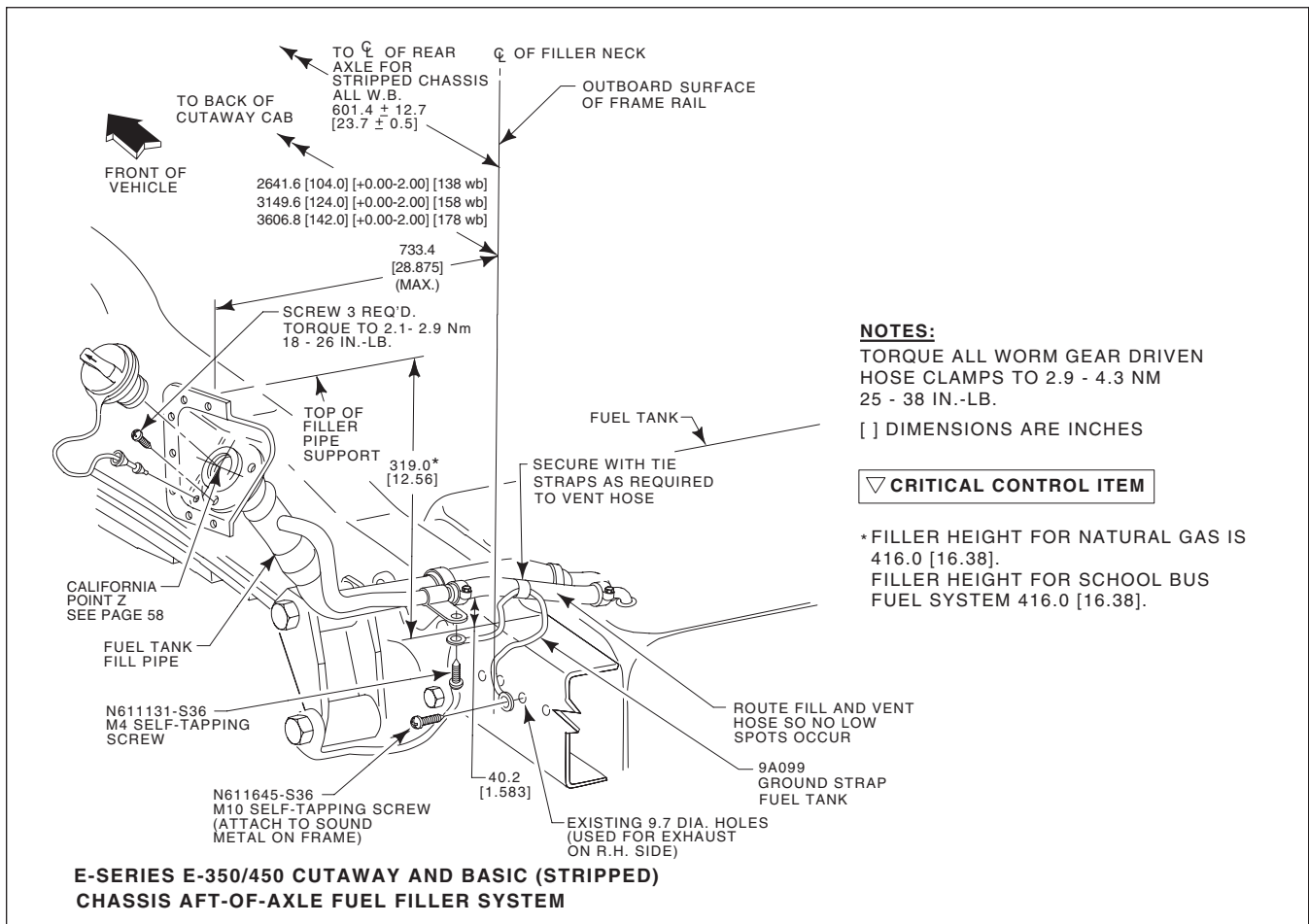


FIGURE K - E-SERIES CUTAWAY, CHASSIS CAB AND BASIC (STRIPPED) CHASSIS FUEL FILLER PIPE INSTALLATION

301 (Continued)

301 The statements below are applicable to the over 4536 kg [10,000 lb] GVWR E-350 DRW and E-450 Super Duty Cutaway when equipped with Diesel Engine and School Bus Prep Package and completed as a school bus:

This vehicle when completed will conform to Standard 301, Fuel System Integrity if:

- The following fuel components as installed by Ford Motor Company are not removed, altered, or modified in any way except as specified in the following representations:
 - Fuel tank and attachment hardware, including sender unit, vapor valve, and fuel tank shield
 - Fuel filler cap, pipe, hoses, and attaching hardware
 - Fuel pump
 - Fuel filter
 - Fuel water separator, fuel filter/primer, fuel line heater, and injection pump
 - Fuel shut-off switch (Inertia switch)
 - The two lower frame brackets on E-350 DRW
- The completed vehicle when loaded to the requirements of S7.1.6 (c) does not exceed the GVWR or GAWR's.
- The E-350 DRW and E-450 floor structure of the Second Unit Body and rear bumper are manufactured and installed to the specifications found in the Figures on pages 46 and 47 .
- The fill hoses, hose clamps, ground strap, and fuel sender unit must be installed to the specification on Figure K, page 44.
- No other alteration or modification made to the incomplete vehicle as manufactured by Ford Motor Company and no other components or structure installed by a subsequent stage manufacturer result in penetration, separation, or other damage to the fuel system or any portion thereof when the vehicle is tested in any manner specified by applicable provisions of Standard 301.†

301 Canadian Requirements:

The Canadian loading requirements are provided in Section 3.3 of **Test Method 301 Fuel System Integrity**, revised: February 8, 2001, and should be substituted wherever references to FMVSS 301 Section 7.1.6, loading requirements have been made in the statements of conformity for standard 301.

301.2 Canadian Requirements for all incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

The statement for Standard 303 is an appropriate compliance representation for CMVSS 301.2, CNG Fuel System Integrity, if the incomplete vehicle was manufactured for sale or use in Canada.

301.2 Canadian Requirements for the E-450 Cutaway with the dedicated Compressed Natural Gas (CNG) package:

The E-450 Cutaway with the dedicated CNG package will meet all of the requirements of Standard 301.2, CNG Fuel Systems Integrity, provided:

- The fuel tanks, fill valves, fuel lines, and shields as installed by Ford Motor Company, are not altered or moved in any way.
- The fuel filler is located in accordance with Figure K, page 44 (which has been drawn for a gasoline fuel system, but the filler location for natural gas is noted).

In addition, the E-450 Cutaway with the CNG package has been designed to allow two additional tanks to be installed in the body. With body mounted fuel tanks, compliance with Standard 301.2 is not substantially affected by the design of this incomplete vehicle; accordingly, if tanks are added, Ford Motor Company makes no representation as to conformity with this standard.

302 The statement below is applicable to all incomplete vehicle types except the Basic (Stripped) Chassis:

This vehicle, when completed, will conform with Standard 302, Flammability of Interior Materials, if no alterations are made to those components covered by the Standard which are installed by Ford Motor Company and all components covered by Standard 302, which are added to the incomplete vehicle by subsequent stage manufacturers meet the flammability requirements of the Standard.

302 The statement below is applicable to the following incomplete vehicle types:

• **E-Series Basic (Stripped) Chassis**

Conformity with Standard 302, Flammability of Interior Materials, is not substantially affected by the design of this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this Standard. However, Ford Motor Company does represent that the items covered by Standard 302 when provided, are manufactured to conform to the requirements of Standard 302.

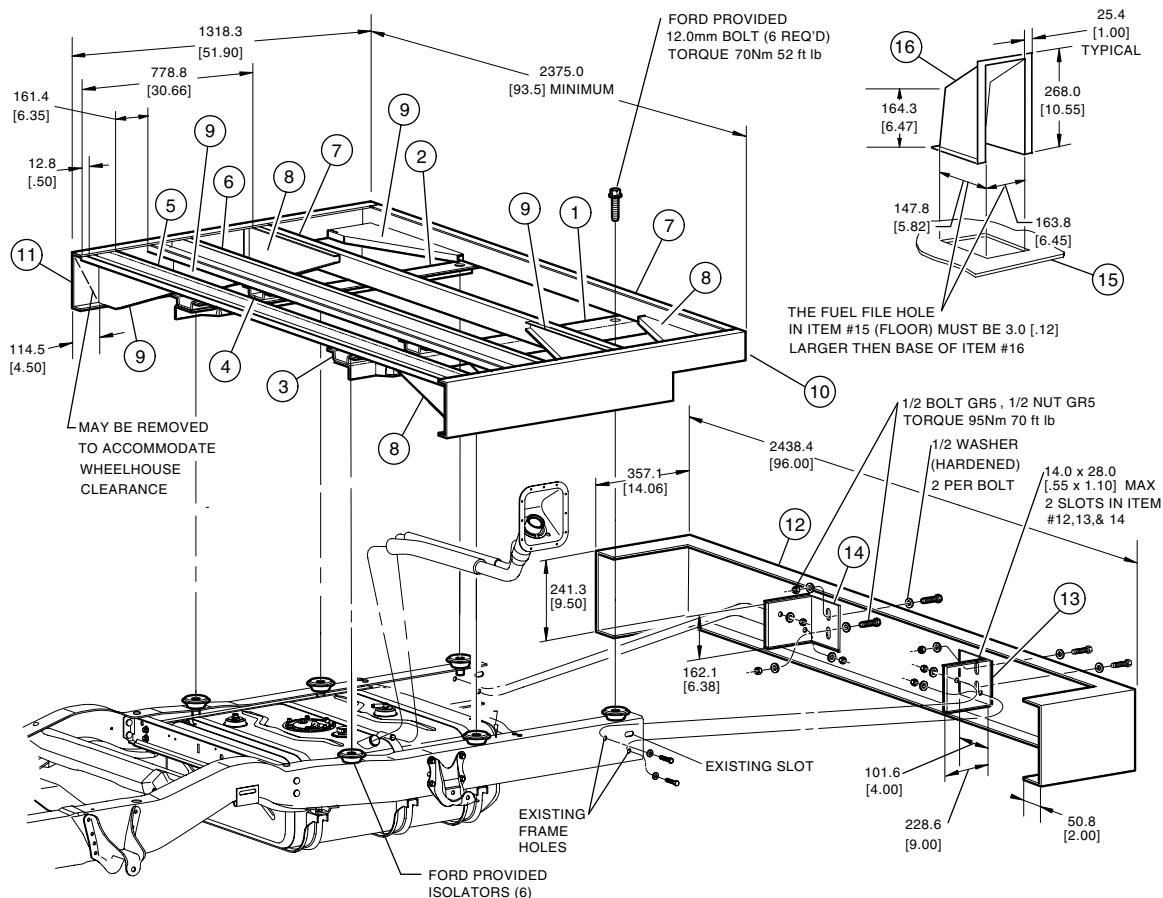
† Temporary removal of the front bumper and front bumper mounting system during manufacture and reinstallation in accordance with the instructions provided in the Ford Truck Shop Manual should not adversely affect compliance of the completed vehicle to Standard 301.

ITEM	PART NAME	MATERIAL	QUANTITY
1	SUPPORT – BODY ISOLATOR TO CROSS SILL L.H.	6.35mm [0.25] HRLC STEEL	1
2	SUPPORT – BODY ISOLATOR TO CROSS SILL R.H.	6.35mm [0.25] HRLC STEEL	1
3	BRACKET – SPACER FOR ISOLATOR SUPPORT TO FRONT CROSS SILL	6.35mm [0.25] HRLC STEEL	2
4	BRACKET – SPACER FOR ISOLATOR SUPPORT TO SECOND CROSS SILL	6.35mm [0.25] HRLC STEEL	2
5	SILL – FRONT CROSS	1.9mm [0.075] 14 GA. HRLC STEEL	1
6	SILL – SECOND CROSS	1.9mm [0.075] 14 GA. HRLC STEEL	1
7	SILL – THIRD & FOURTH CROSS	1.9mm [0.075] 14 GA. HRLC STEEL	2
8	GUSSET – CROSS SILL TO OUTER SUPPORT L.H.	1.9mm [0.075] 14 GA. HRLC STEEL	4
9	GUSSET – CROSS SILL TO OUTER SUPPORT R.H.	1.9mm [0.075] 14 GA. HRLC STEEL	4
10	SUPPORT – CROSS SILL OUTER L.H.	3.0mm [0.120] 11 GA. HRLC STEEL	1
11	SUPPORT – CROSS SILL OUTER R.H.	3.0mm [0.120] 11 GA. HRLC STEEL	1
12	BUMPER – REAR	4.7mm [0.187] HRLC STEEL	1
13	BRACKET – BUMPER TO FRAME L.H.	6.35mm [0.25] HRLC STEEL	1
14	BRACKET – BUMPER TO FRAME R.H.	6.35mm [0.25] HRLC STEEL	1
15	FLOOR	1.9mm [0.075] 14 GA. HRLC STEEL	1
16	HOUSING – FUEL FILL NECK	1.9mm [0.075] 14 GA. HRLC STEEL	1

BLIND RIVET FASTENERS

The components listed below must be attached together with a "Blind Rivet" fastener, 6.3 [.25] diameter with a shear strength of 3600 lb and tensile strength of 2000 lb, or equivalent weld. Each fastener will require a 6.91 [.272] to 6.63 [.261] dia. hole.

PARTS TO BE FASTENED	NUMBER OF FASTENERS	SPACING/LOCATION
Item 5 to 15	48 Estimated	101.6mm [4.00] centers on frt and rr flange – 50.8mm [2.00] stagger frt and rr flange
Item 6 to 15	48 Estimated	
Item 7 to Item 15	47 Estimated	50.8mm [2.00] Centers
Item 5 to Items 8 or 9	6	101.6mm [4.00] Centers
Item 6 to Items 8 or 9	6	101.6mm [4.00] Centers staggered top to bottom of cross-sill
Item 7 to Items 8 or 9	6	101.6mm [4.00] Centers staggered top to bottom of cross-sill
Items 8 or 9 to Items 10 or 11	3 on vertical side of item 10 or 11, 1 on bottom flange	3 fasteners are 76.2mm [3.00] Centers
Item 16		50.8mm [2.00] Centers



ITEM	PART NAME	MATERIAL	QUANTITY
1	SUPPORT BODY ISOLATOR TO CROSS SILL L.H.	6.35mm [0.25] HRLC STEEL	1
2	SUPPORT BODY ISOLATOR TO CROSS SILL R.H.	6.35mm [0.25] HRLC STEEL	1
3	BRACKET SPACER FOR ISOLATOR SUPPORT TO FRONT CROSS SILL	6.35mm [0.25] HRLC STEEL	2
4	BRACKET SPACER FOR ISOLATOR SUPPORT TO SECOND CROSS SILL	6.35mm [0.25] HRLC STEEL	2
5	SILL FRONT CROSS	1.9mm [0.075] 14 GA. HRLC STEEL	1
6	SILL SECOND CROSS	1.9mm [0.075] 14 GA. HRLC STEEL	1
7	SILL THIRD & FOURTH CROSS	1.9mm [0.075] 14 GA. HRLC STEEL	2
8	GUSSET CROSS SILL TO OUTER SUPPORT L.H.	1.9mm [0.075] 14 GA. HRLC STEEL	4
9	GUSSET CROSS SILL TO OUTER SUPPORT R.H.	1.9mm [0.075] 14 GA. HRLC STEEL	4
10	SUPPORT CROSS SILL OUTER L.H.	3.0mm [0.120] 11 GA. HRLC STEEL	1
11	SUPPORT CROSS SILL OUTER R.H.	3.0mm [0.120] 11 GA. HRLC STEEL	1
12	BUMPER REAR	4.7mm [0.187] HRLC STEEL	1
13	BRACKET BUMPER TO FRAME L.H.	6.35mm [0.25] HRLC STEEL	1
14	BRACKET BUMPER TO FRAME R.H.	6.35mm [0.25] HRLC STEEL	1
15	FLOOR	1.9mm [0.075] 14 GA. HRLC STEEL	1
16	HOUSING FUEL FILL NECK	1.9mm [0.075] 14 GA. HRLC STEEL	1

BLIND RIVET FASTENERS

The components listed below must be attached together with a "Blind Rivet" fastener, 6.3 [.25] diameter with a shear strength of 3600 lb and tensile strength of 2000 lb, or equivalent weld. Each fastener will require a 6.91 [.272] to 6.63 [.261] dia. hole.

PARTS TO BE FASTENED	NUMBER OF FASTENERS	SPACING/LOCATION
Item 5 to 15	48 Estimated	101.6mm [4.00] centers on frt and rr flange – 50.8mm [2.00] stagger frt and rr flange
Item 6 to 15	48 Estimated	101.6mm [4.00] centers on frt and rr flange – 50.8mm [2.00] stagger frt and rr flange
Item 7 to Item 15	47 Estimated	50.8mm [2.00] Centers
Item 5 to Items 8 or 9	6	101.6mm [4.00] Centers
Item 6 to Items 8 or 9	6	101.6mm [4.00] Centers staggered top to bottom of crosssill
Item 7 to Items 8 or 9	6	101.6mm [4.00] Centers staggered top to bottom of crosssill
Items 8 or 9 to Items 10 or 11	3 on vertical side of item 10 or 11, 1 on bottom flange	3 fasteners are 76.2mm [3.00] Centers
Items 16		50.8mm [2.00] Centers

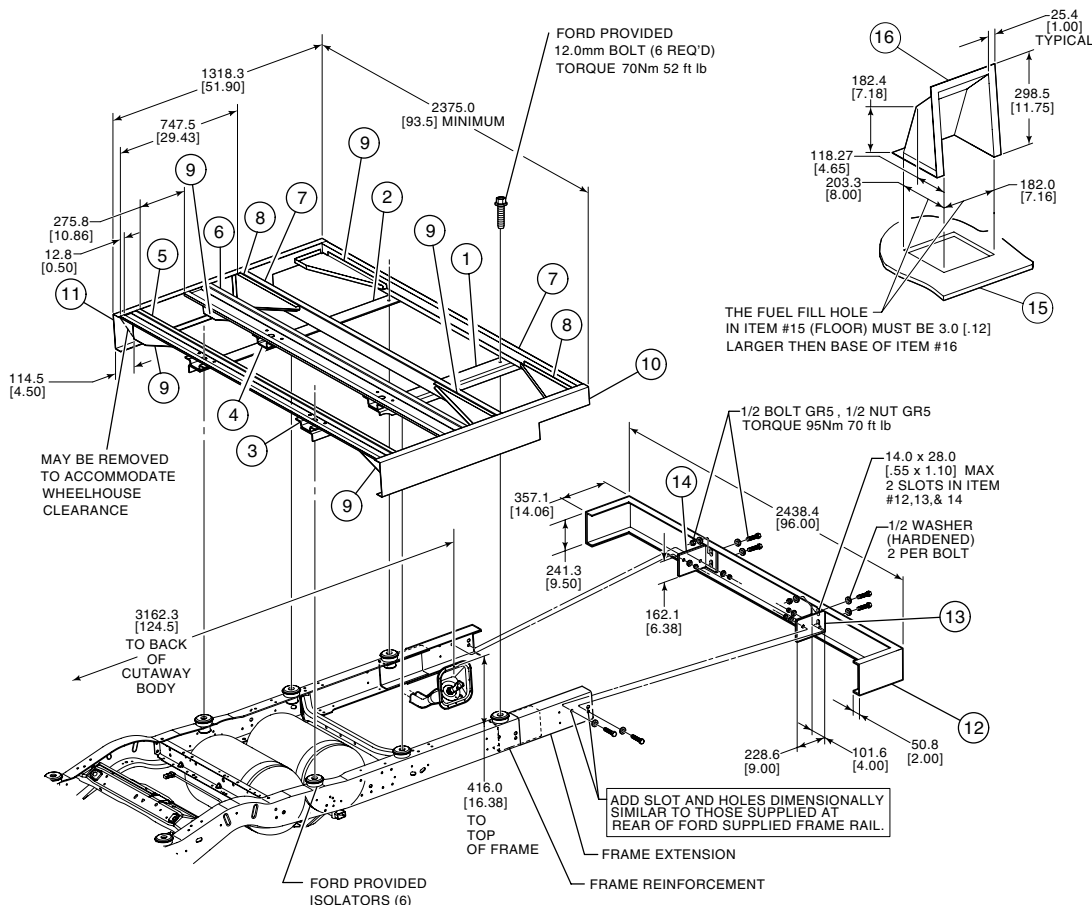


FIGURE P3 - E-SERIES SCHOOL BUS CNG FUEL SYSTEM AND FLOOR STRUCTURE – AFT AXLE – 158 AND 176 INCH WHEELBASE

BOTH ENDS OF ITEMS #5,6,AND 7 CROSS SILLS MUST BE WELDED COMPLETELY TO ITEM #10 LEFTSIDE AND ITEM #11 RIGHTSIDE. ALL CROSSSILLS ARE SHOWN WITH OUTSIDE ENDS THAT WILL ACCOMMODATE A FLUSH FLOOR JOINT WHEN COMPLETED.

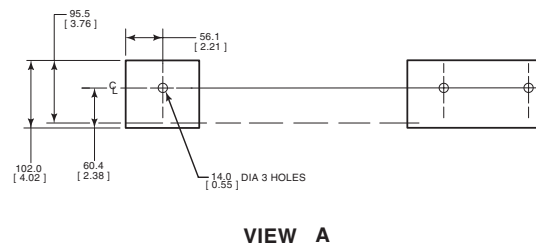
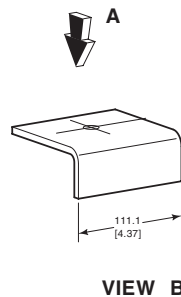
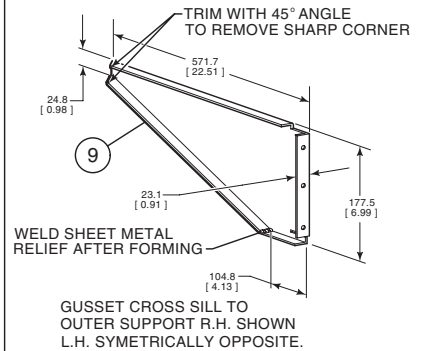
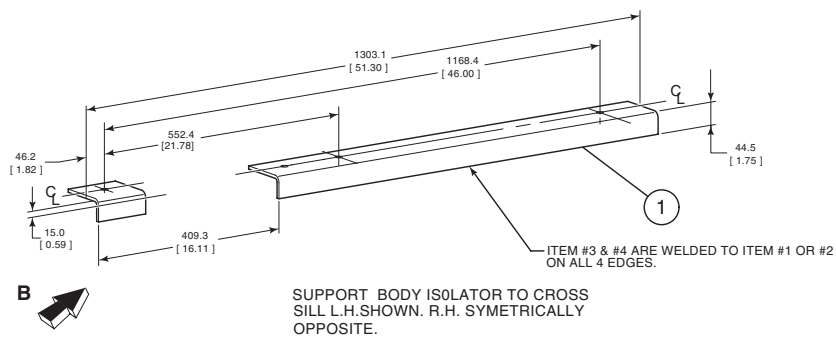
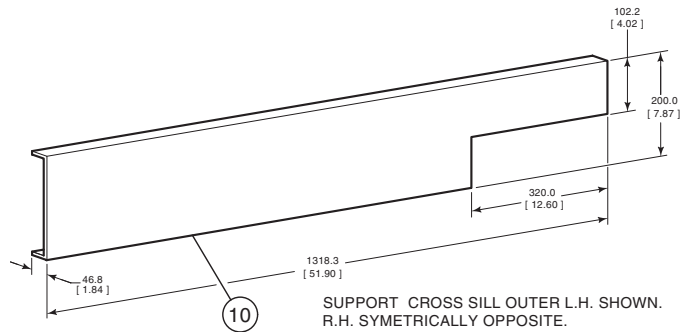
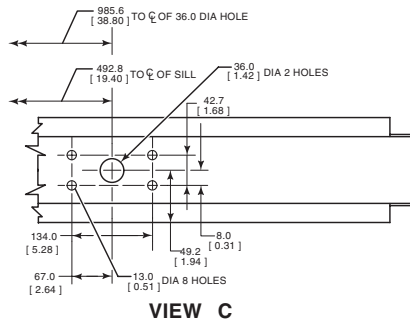
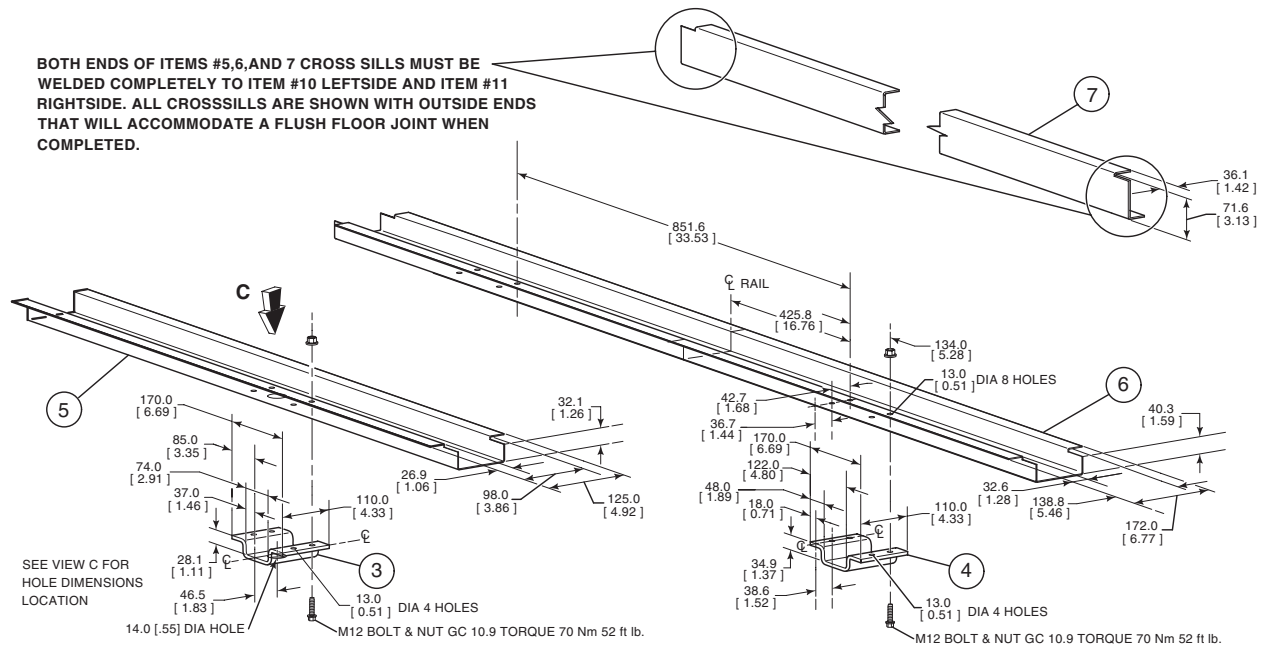


FIGURE P4 - E-SERIES CNG SCHOOL FLOOR STRUCTURE - AFT AXLE - 158 AND 176 INCH WHEELBASE

ITEM	PART NAME	MATERIAL	QUANTITY
1	SUPPORT RAIL R.H.	6.35mm [0.25] HRLC STEEL	1
2	SUPPORTRAIL L.H.	6.35mm [0.25] HRLC STEEL	1
3	RISER BRACKET	6.35mm [0.25] HRLC STEEL	6
4	FRONT CROSS	1.9mm [0.075] HRLC STEEL	3
5	MIDDLE CROSS	1.9mm [0.075] HRLC STEEL	2
6	GUSSET L.H.	1.9mm [0.075] HRLC STEEL	5
7	GUSSET R.H.	1.9mm [0.075] HRLC STEEL	5
8	OUTER SUPPORT	3.0mm [0.120] HRLC STEEL	2
9	FLOOR (NOT SHOWN)	1.9mm [0.075] HRLC STEEL	1

BLIND RIVET FASTENERS

The components listed below must be attached together with a "Blind Rivet" fastener, 6.3 [.25] diameter with a shear strength of 3600 lb and tensile strength of 2000 lb, or equivalent weld. Each fastener will require a 6.91 [.272] to 6.63 [.261] dia. hole.

PARTS TO BE FASTENED	NUMBER OF FASTENERS	SPACING/LOCATION
Items 4 to Items 9	48 Estimated	101.6mm [4.00] centers on frt and rr flange – 50.8mm [2.00] stagger frt and rr flange
Items 4 or 5 to Items 6 or 7	6	101.6mm [4.00] Centers
Item 6 to Items 8 or 9	6	101.6mm [4.00] Centers staggered top to bottom of cross-sill
Items 6 or 7 to Items 8	3 on vertical side of item 8, 1 on bottom flange	3 fasteners are 76.2mm [3.00] Centers

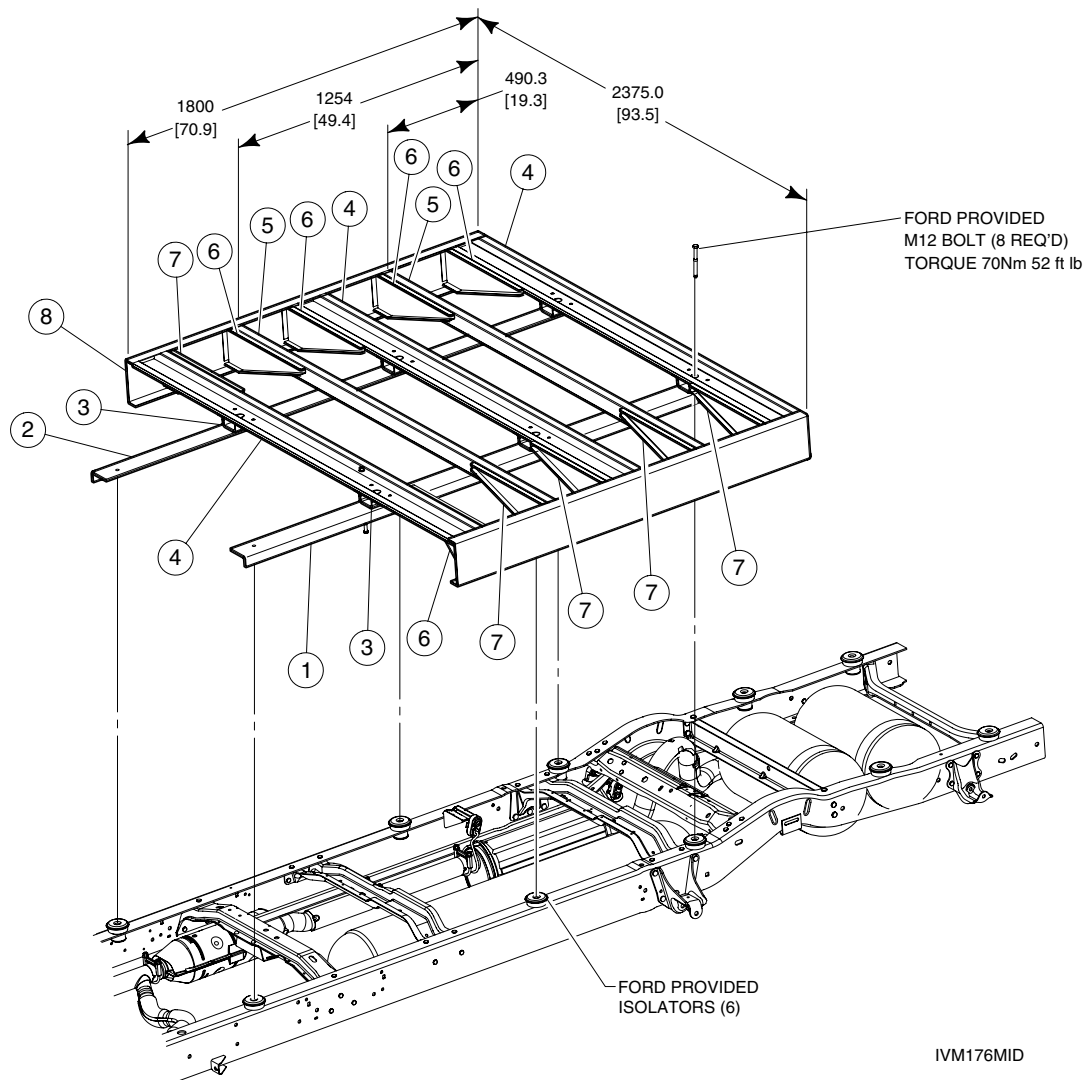
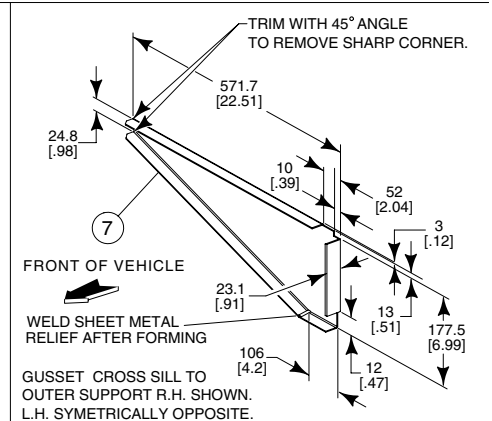
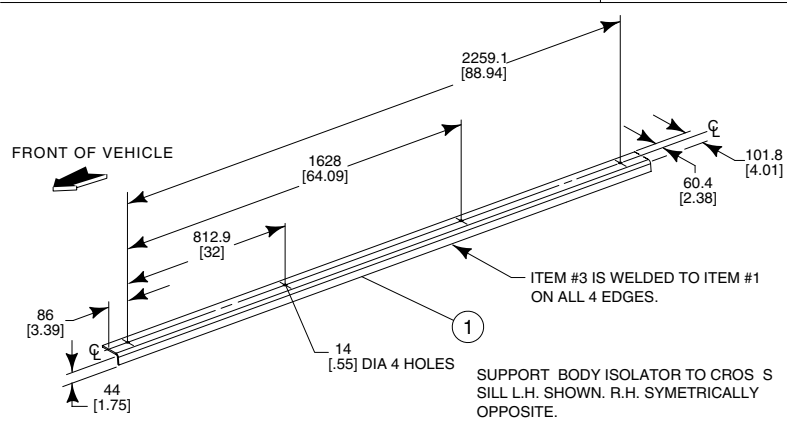
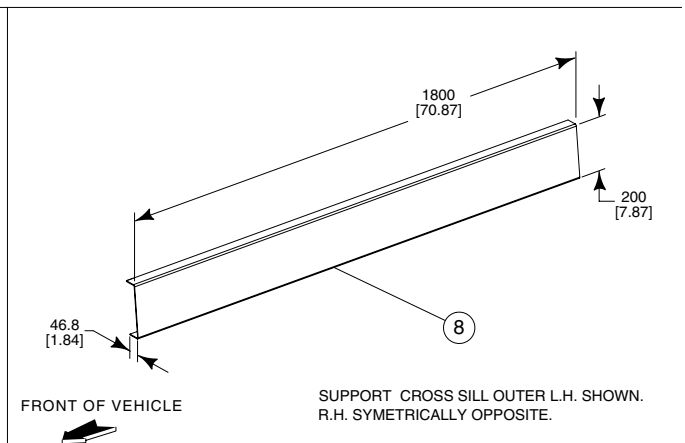
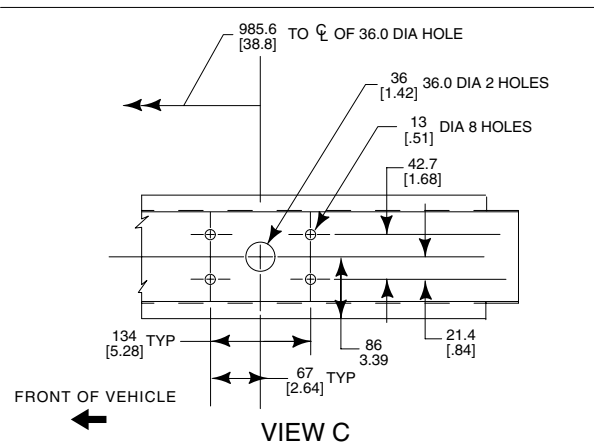
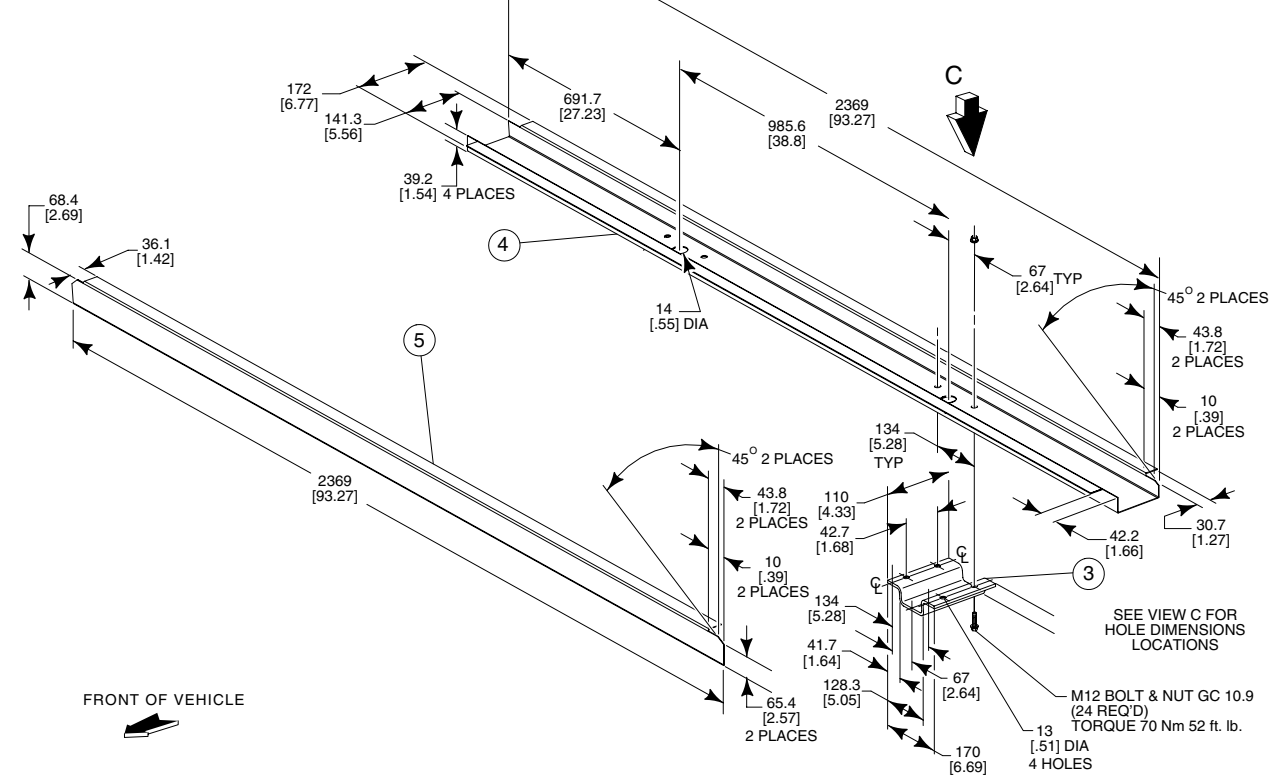


FIGURE P5 - E-SERIES CNG MIDSHIP TANK SCHOOL BUS FUEL SYSTEM AND FLOOR STRUCTURE - 176 INCH WHEELBASE

BOTH ENDS OF ITEMS #4 AND #5 CROSS SILLS MUST BE WELDED COMPLETELY TO ITEM #8 LEFTSIDE AND ITEM #11 RIGHTSIDE. ALL CROSSSILLS ARE SHOWN WITH OUTSIDE ENDS THAT WILL ACCOMMODATE A FLUSH FLOOR JOINT WHEN COMPLETED.



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FIGURE P6 - E-SERIES SCHOOL BUS CNG FUEL SYSTEM AND FLOOR STRUCTURE - 176 INCH WHEELBASE

ITEM	PART NAME	MATERIAL	QUANTITY
1	SUPPORT RAIL R.H.	6.35mm [0.25] HRLC STEEL	1
2	SUPPORTRAIL L.H.	6.35mm [0.25] HRLC STEEL	1
3	RISER BRACKET	6.35mm [0.25] HRLC STEEL	6
4	FRONT CROSS	1.9mm [0.075] HRLC STEEL	3
5	MIDDLE CROSS	1.9mm [0.075] HRLC STEEL	2
6	GUSSET L.H.	1.9mm [0.075] HRLC STEEL	5
7	GUSSET R.H.	1.9mm [0.075] HRLC STEEL	5
8	OUTER SUPPORT	3.0mm [0.120] HRLC STEEL	2
9	FLOOR (NOT SHOWN)	1.9mm [0.075] HRLC STEEL	1

BLIND RIVET FASTENERS

The components listed below must be attached together with a "Blind Rivet" fastener, 6.3 [.25] diameter with a shear strength of 3600 lb and tensile strength of 2000 lb, or equivalent weld. Each fastener will require a 6.91 [.272] to 6.63 [.261] dia. hole.

PARTS TO BE FASTENED	NUMBER OF FASTENERS	SPACING/LOCATION
Items 4 to Items 9	48 Estimated	101.6mm [4.00] centers on frt and rr flange – 50.8mm [2.00] stagger frt and rr flange
Items 4 or 5 to Items 6 or 7	6	101.6mm [4.00] Centers
Item 6 to Items 8 or 9	6	101.6mm [4.00] Centers staggered top to bottom of cross-sill
Items 6 or 7 to Items 8	3 on vertical side of item 8, 1 on bottom flange	3 fasteners are 76.2mm [3.00] Centers

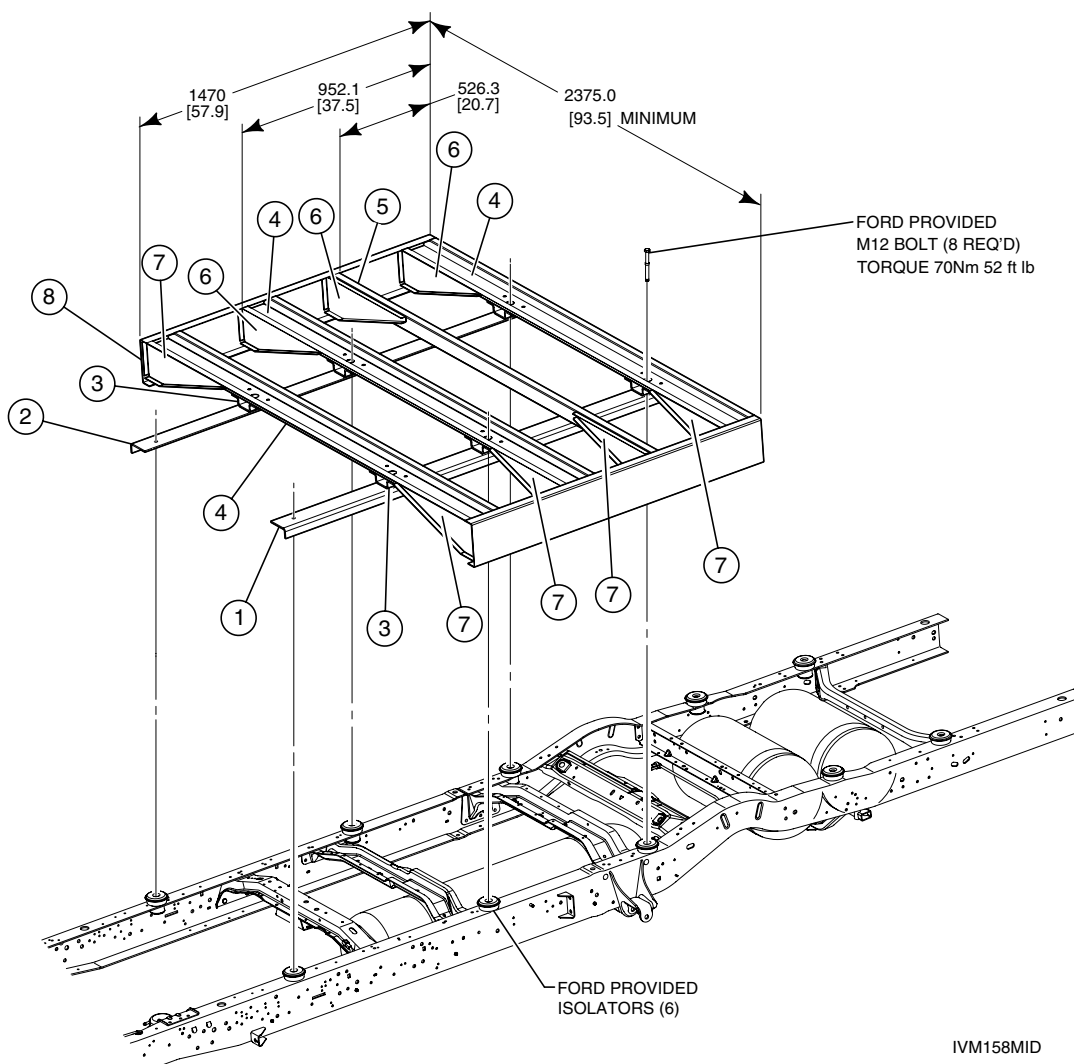
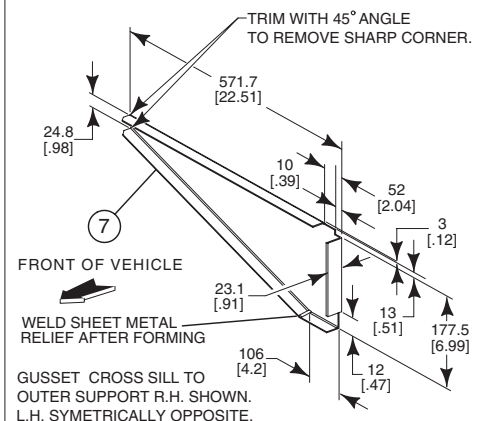
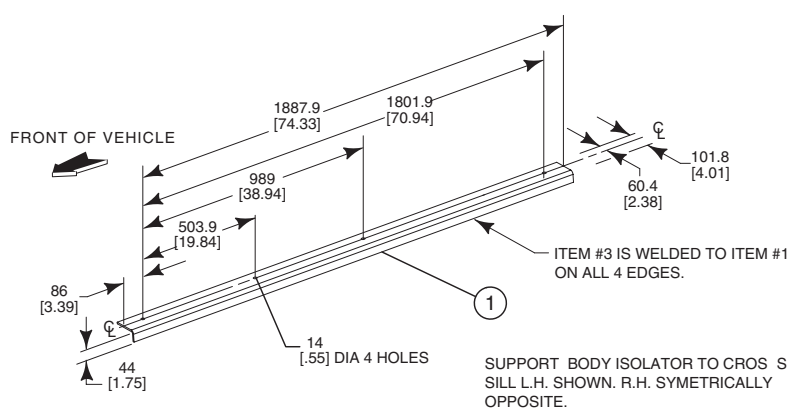
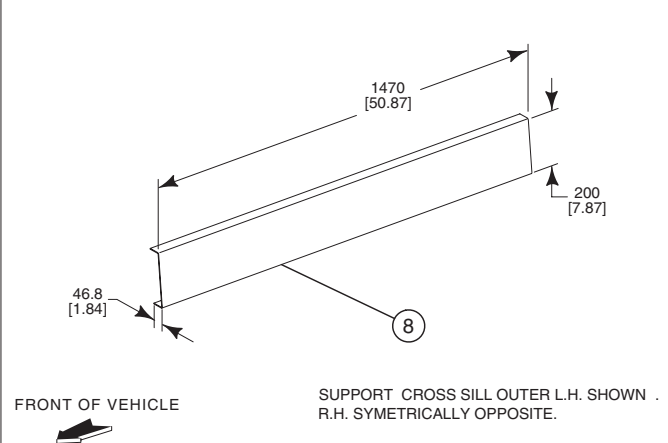
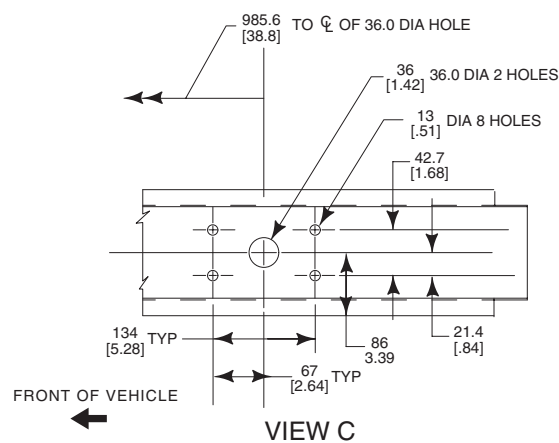
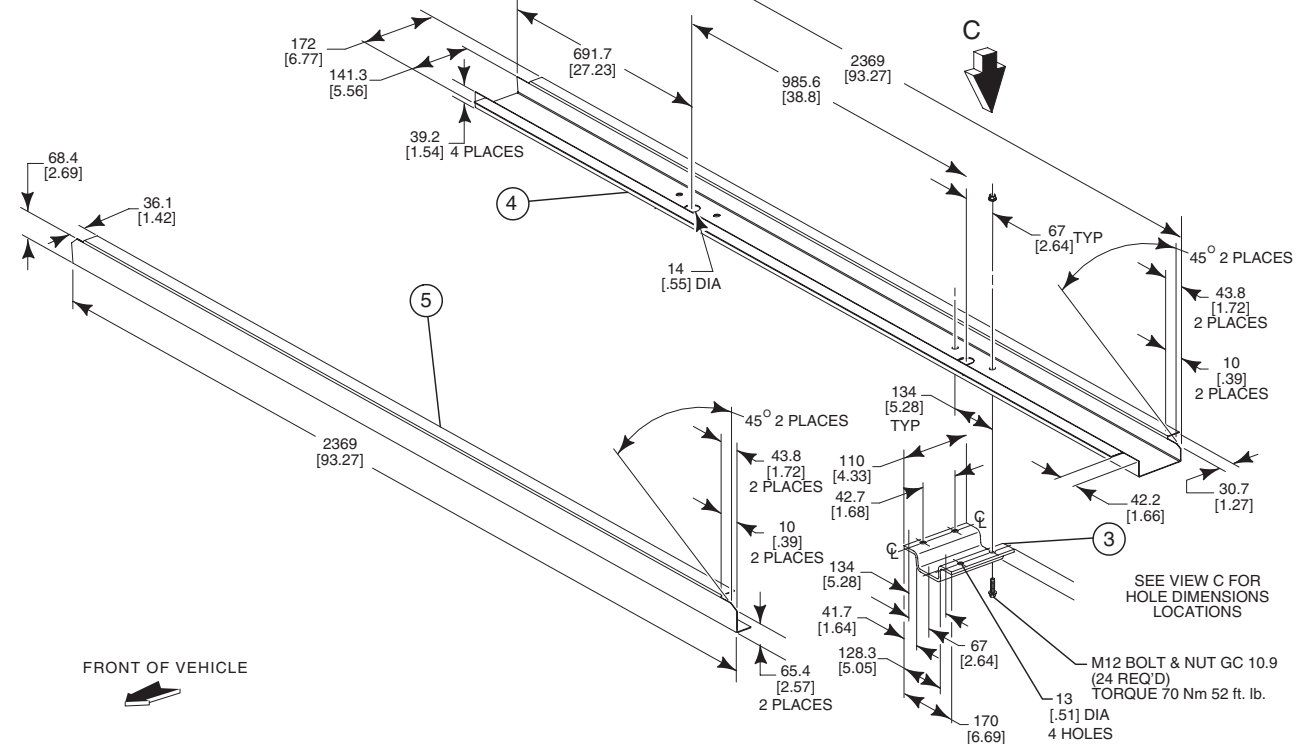


FIGURE P7 - E-SERIES CNG SCHOOL BUS MIDSHIP FUEL SYSTEM AND FLOOR STRUCTURE - 158 INCH WHEELBASE

BOTH ENDS OF ITEMS #4 AND #5 CROSS SILLS MUST BE WELDED COMPLETELY TO ITEM #8 LEFTSIDE AND ITEM #11 RIGHTSIDE. ALL CROSSSILLS ARE SHOWN WITH OUTSIDE ENDS THAT WILL ACCOMMODATE A FLUSH FLOOR JOINT WHEN COMPLETED.



IVM158MID2

FIGURE P8 - E-SERIES CNG SCHOOL BUS MIDSHIP FLOOR STRUCTURE - 158 INCH WHEELBASE

303 U.S. Requirements:

The statement below is applicable to all incomplete vehicle types if the GVWR is 4536 kg [10,000 lb] or less:

Conformity with Standard 303, Fuel System Integrity of Compressed Natural Gas Vehicles, is not substantially affected by the design of this incomplete vehicle; accordingly Ford Motor Company makes no representation as to conformity with this Standard.

303 U.S. Requirements:

The statements below are applicable to the E-450 Cutaway when equipped with the Compressed Natural Gas (CNG) package and School Bus Prep Package, and is completed as a school bus:

This vehicle when completed will conform to Standard 303, Fuel System Integrity if:

- The following fuel components as installed by Ford Motor Company are not removed, altered, or modified in any way except as specified in the following representations:
 - Fuel tank and attachment hardware, including sender unit, and fuel tank shield
 - Fuel filler valves, pipes, hoses, and attaching hardware
 - Fuel shut-off switch (Inertia switch)
- The completed vehicle when loaded to the requirements of S7.1.6 (c) does not exceed the GVWR or GAWR's.
- The floor structure of the Second Unit Body and rear bumper are manufactured and installed to the specifications found in Figures P3-P8 on pages 48-53.
- The fill hoses, hose clamps, and fuel sender unit must be installed to the specification on Figure K, page 44 (which has been drawn for a gasoline fuel system, but the filler location for natural gas is noted).
- No other alteration or modification made to the incomplete vehicle as manufactured by Ford Motor Company and no other components or structure installed by a subsequent stage manufacturer result in penetration, separation, or other damage to the fuel system or any portion thereof when the vehicle is tested in any manner specified by applicable provisions of Standard 303.†

304 U.S. Requirements:

The statement below is applicable to all incomplete vehicle types:

All compressed natural gas tanks supplied by Ford Motor Company are in full conformity with Standard 304, Compressed Natural Gas Fuel Container.

For tanks not supplied by Ford Motor Company, conformity is not substantially affected by the design of this incomplete vehicle; accordingly, Ford makes no representation as to conformity with this Standard.

1106 Canadian Requirements:

The statements below are applicable to the following incomplete vehicle types with GVW ratings of 4536 kg [10,000 lb] or less:

- Chassis Cab
- Incomplete E-Series Van or Wagon
- Cutaway

These vehicles, when completed, will conform to Standard 1106, Noise Emissions, Section 2, if noise control devices or elements of design are not modified removed or rendered inoperative. Examples of such devices or elements of design are:

- Fender apron absorbers, fender apron barriers, underbody noise shields and acoustic absorption material.
- Engine speed governor or electronic control intended to control maximum engine speed.
- Engine air duct, air intake choke or silencer, air cleaner and air cleaner element.
- Exhaust system components including the catalyst inlet pipe, muffler, outlet pipe, resonator and diffuser.
- Engine cooling fan and cooling fan clutch.

1106 Canadian Requirements:

The statements below are applicable to the following incomplete vehicle types with GVW ratings of more than 4536 kg [10,000 lb]:

- Chassis Cab
- Incomplete E-Series Van or Wagon
- Cutaway

These vehicles, when completed, will conform to Standard 1106, Noise Emissions, Section 4, if noise control devices or elements of design are not modified removed or rendered inoperative. Examples of such devices or elements of design are:

- Fender apron absorbers, fender apron barriers, underbody noise shields and acoustic absorption material.
- Engine speed governor or electronic control intended to control maximum engine speed.
- Engine air duct, air intake choke or silencer, air cleaner and air cleaner element.
- Exhaust system components including the catalyst inlet pipe, muffler, outlet pipe, resonator and diffuser.
- Engine cooling fan and cooling fan clutch.

† Temporary removal of the front bumper and front bumper mounting system during manufacture and reinstallation in accordance with the instructions provided in the Ford Truck Shop Manual should not adversely affect compliance of the completed vehicle to Standard 303.

CANADIAN VEHICLES

(Vehicles to be completed for sale or use in Canada)

VEHICLE IDENTIFICATION

Refer to the Vehicle Description section of this manual on page 5, for additional information. Incomplete vehicles produced by Ford Motor Company require, for certain applications, optional Prep Packages or trim codes which are listed on the Completed Vehicle Types charts on page 6.

DAYTIME RUNNING LAMP (DRL)

Compliance representations for CMVSS 108, Lighting and CMVSS 108.1, Headlamps, are on page 19. The following items are also required for CMVSS 108 and 108.1 compliance:

- The DRL module circuits are not to be altered.
- DRL module is not to be repositioned.
- The E-Series Basic (Stripped) Chassis is not to be equipped with more than two headlamps when equipped with a DRL module as provided by Ford Motor Company.

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/CSA-C108.4-M92". Violation of these regulations is punishable by fine or imprisonment. This Ford-built incomplete vehicle (if other than a Basic (Stripped) Chassis) was 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 this 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.

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 completed vehicle, additional measures may be needed to adequately suppress RFI emissions. Affected components could include spark plugs, ignition wires, ignition coil, ground straps, ignition component shields, accessory drive belts, instrument voltage regulator suppressor assembly, and ignition coil 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 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 of the OEM type or equivalent that will not build up a static electrical charge.
- Engine compartment 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.

EMISSION CERTIFICATION INFORMATION

CAUTION:

U.S.:

2004 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 CAN NOT BE SOLD IN THE STATES THAT REQUIRE FEDERALLY CERTIFIED VEHICLES AND VEHICLES CERTIFIED TO FEDERAL STANDARDS CAN 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."

CANADA:

IF THE COMPLETED VEHICLE IS INTENDED FOR SALE OR USE IN CANADA, THE INTERMEDIATE OR FINAL STAGE MANUFACTURER MUST INSURE THAT THE INCOMPLETE VEHICLE IS ORDERED THROUGH A CANADIAN DEALER OR IS ORDERED FROM FORD MOTOR COMPANY WITH THE APPROPRIATE CANADIAN MARKET OPTION CODE. FAILURE TO DO SO MAY RESULT IN AN INCOMPLETE VEHICLE THAT IS BUILT WITH AN EMISSIONS SYSTEM AND LABELING THAT ARE NOT IN COMPLIANCE WITH THE REQUIREMENTS OF THE CANADIAN ENVIRONMENTAL PROTECTION ACT.

EXHAUST EMISSIONS AND FUEL ECONOMY

Most incomplete vehicle(s) offered by the Ford Motor Company for 2004 model year will be in the >3856 kg [8,500 lb] classification. Generally, the medium/heavy duty engines used in these vehicles will be certified to Federal, Canadian, or California exhaust and evaporative emissions requirements for medium/heavy duty engines.

MEDIUM DUTY PASSENGER VEHICLES (MDPV)

EPA has adopted separate emissions standards and requirements for MDPVs beginning in 2004. A MDPV is defined as a heavy-duty vehicle with a GVWR under 10,000 lbs. designed primarily for the transportation of persons (with seating for up to 12 persons, or up to 9 persons rearward of the drivers seat). E-Series vehicles ordered with the RV-Prep package are certified to MDPV standards and may be converted to MDPVs without requiring additional emission certification.

FRONTAL AREA AND WEIGHT RESTRICTIONS:

All 4.6L and some 5.4L E-Series Vans and Wagons are certified to complete light duty <3856 kg [8500 lb] protocol and require vehicle weight and frontal area restrictions. Complete 5.4L and 6.8L Vans and Wagons certified to California >3856 kg [8500 lb] Medium Duty Vehicle (MDV) protocol also have vehicle weight and frontal area restrictions. Modifiers that add weight to a vehicle or increase the frontal area of a light-duty/MDV vehicle prior to sale and delivery to the ultimate purchaser, may be required to re-certify the vehicle for

IMPORTANT:

It is the responsibility of the body builder, installer, or subsequent stage manufacturer to ensure that the maximum completed vehicle curb weight and frontal area specified by Ford are not exceeded. If these restrictions are exceeded, or if the vehicle is modified such that it will not comply with applicable emission standards throughout its useful life, the body builder, installer, or subsequent stage manufacturer will be considered a manufacturer for purposes of complying with U.S. Federal, California, or Canadian exhaust and evaporative emission requirements, and Federal fuel economy standards, labeling, and certain other requirements.

compliance with applicable federal or California emission standards. Refer to guidance under "Emission Control Modifications" in the Ford "Body Builders Layout Book". The 5.4L, 6.0L Diesel and 6.8L engines used in Strip Chassis, Cutaways, and Chassis Cabs (incomplete vehicles) are certified to heavy-duty engine (>3856 kg or 8500 lb) protocol and therefore are not limited by weight and frontal area restrictions in terms of emissions certification. To determine if your vehicle is certified to light-duty or MDV protocol, refer to the Emissions Control Information decal which is located in the engine compartment.

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 elsewhere in this manual. Additional emissions certification information is contained in the *Ford Truck Body Builders' Layout Book* for the model year and type of this incomplete vehicle.

HIGH ALTITUDE REQUIREMENTS

United States Environmental Protection Agency regulations for the 2004 model year do not contain unique emission certification requirements for trucks that will be sold or delivered to customers for principal use above 1,219 m [4,000 ft.].

EMISSION CONTROL HARDWARE

Any body builder, installer, or subsequent stage manufacturer must also assure that all emission control hardware furnished with incomplete vehicles is on the vehicle and is operational and that applicable instructions for incorporating such hardware into the completed vehicle's electrical or mechanical systems are strictly followed.

Further, to avoid any question of certification coverage, approval of any modification or use of an engine or vehicle which may render inoperative any of the emission control components must be obtained from the United States Environmental Protection Agency by the manufacturer making such modification or use prior to distribution, sale, offering for sale, introduction, or delivery for introduction of the subject vehicle into U.S. commerce. Additionally, the manufacturer making such modification or use must obtain approval from the California Air Resources Board if the new vehicle will be delivered for sale or use in the State of California.

IMPORTANT:

For purposes of Government Regulation, a body builder, installer, or any subsequent manufacturer may be considered a manufacturer.

UNLEADED GASOLINE LABEL

Regulations no longer require the manufacturer to affix permanent labels reading “Unleaded Gasoline Only” or “Unleaded Fuel Only” to vehicles destined for sale in the United States or Canada. Such labels may however be required for vehicles sold into other markets. It is the responsibility of the body builder, installer, or any subsequent manufacturer to properly label vehicles for the market in which they are sold.

EXTERIOR NOISE

New vehicles which have a gross vehicle weight rating in excess of 4536 kg [10,000 lb], include a partially or wholly enclosed operator's compartment, and are manufactured for use in the United States, must comply with U.S. Environmental Protection Agency's exterior noise emission regulations for medium and heavy trucks (40 CFR Part 205, Subpart B) which establish a noise emission limit of 80 dB (A).

However, the Basic (Stripped) Chassis as built by Ford is too incomplete to constitute a regulated vehicle and Ford does not represent that it complies with those regulations. With respect to the Basic (Stripped) Chassis, it is the responsibility of the subsequent stage manufacturer of that vehicle at the time it first conforms to the regulatory definition of “vehicle” to comply with the requirements imposed upon manufacturers by these regulations.

TAMPERING WITH NOISE CONTROLS

Federal law prohibits the removal or rendering inoperative by any person, other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into such vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use. Federal Law also prohibits the use of such vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below:

- Removal of fender apron absorbers, fender apron barriers, underbody noise shields, or acoustical absorptive material.
- Removal of or rendering inoperative the engine speed governor so as to allow engine speed to exceed manufacturer's specifications.
- Removal or modification of air duct, air intake choke or silencer, air cleaner, or air cleaner element.
- Removal of, or rendering inoperative, exhaust system components including the catalyst inlet pipe, muffler, outlet pipe, resonator, or diffuser.
- Removal of the fan shroud. Removal of or rendering inoperative the fan clutch.

New vehicles manufactured for sale in Canada must comply with applicable provisions of Canada Motor Vehicle Safety Standard 1106, Noise.

Additional noise emissions information is contained in the *Ford Truck Body Builders' Layout Book*.

WARRANTY AND MAINTENANCE

A copy of the appropriate *Ford Truck Owners Guide and Warranty Facts Booklet* must be installed in every vehicle prior to sale to the ultimate purchaser in order to provide emission systems warranty information and maintenance schedules. It also provides, where required by EPA noise control regulations for vehicles having GVWR over 4536 kg [10,000 lb], noise emissions warranty information, instructions for maintenance, use, and repair of vehicle noise emission control systems, a maintenance record format, and list of prohibited tampering acts.

EVAPORATIVE EMISSIONS

All 2004 Federal light and heavy duty trucks and all California vehicles with gasoline engines are required to comply with evaporative emissions requirements established by the Environmental Protection Agency or the California Air Resources Board. Production fuel systems supplied on incomplete 2004 model year trucks manufactured by Ford Motor Company comply with these requirements. **If the subsequent stage manufacturer adds to or modifies the fuel system in any manner, it becomes the responsibility of the modifier to assure compliance with the applicable regulations.** Refer to the Design Recommendation section of the *Ford Truck Body Builders' Layout Book*, for additional Fuel System Evaporative Emissions information.

MALFUNCTION INDICATOR LIGHT (MIL)

The “Malfunction Indicator Light” is used to indicate malfunctions of the Electronic Engine Control System and certain emissions-related components. For all incomplete vehicles, except Basic (Stripped) Chassis (which is not equipped with an instrument panel), it is Ford installed and operational.

The E-Series Basic (Stripped) Chassis vehicles, 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 “Malfunction Indicator Light (MIL)”. It should be recognized that this light is a requirement of emission certification.

OZONE DEPLETING SUBSTANCE (ODS)

The Clean Air Act of 1990, Section 611 requires any product (i.e., completed vehicle) containing or manufactured with any Class I Ozone Depleting Substance on, or after May 15, 1993 must be identified with a “clearly and conspicuously attached label.”

Ford Motor Company has eliminated Class I ODS from its manufacturing processes. All 2004 Ford Truck incomplete vehicles will not have Class I ODS content.

Manufacturers, including subsequent stage manufacturers, are required to label their products if the product, including any component (whether manufactured by that manufacturer or not), contains a Class I ODS or if the manufacturer used a Class I ODS in the manufacturing of the product. In the case where Ford provides a label saying the incomplete vehicle contains a Class I ODS that information must be placed on the product warning label. (See EPA regulation on wording, placement, size, and combining labels.) In Canada consult the appropriate Provincial or Territorial Ministry of Environment.

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 the 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. For Canadian requirements consult Section 1100 8 (1) (d) (i), (ii), & (iii), as applicable.

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 installed per the figure on page 44 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 254mm [10 in] radius cylinder which has its axis parallel to the ground at point “Z” (Figure K on page 44 illustrates a typical point Z). The cylindrical zone uses the axis described above, starts at the outer most surface of the Ford supplied fuel filler housing, and projects outward (away from the frame). The fuel pipe housing component is shown on the referenced figures and is attached to the aftermarket body via 3/16 inch diameter rivets.

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 being destroyed or defaced, 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 6350 kg [14,000 lb] GVWR or less, the label shall not be affixed to any equipment which is easily detached from the vehicle. As used in these specifications, readily visible to the average person shall mean that the label shall be readable from a distance of 460 mm [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 Basic (Stripped) Chassis type vehicles will conform to this standard.
- Basic (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.

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 typical vehicle environment conditions in the area where the label is attached for the vehicle’s total expected life. 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), under hood temperatures, steam cleaning, and paints or paint solvents.

† Vehicle Emission Control

RADIO FREQUENCY INTERFERENCE (RFI)

The ignition system on your vehicle (if other than a Basic (Stripped) Chassis) has been designed to be capable of compliance with RFI requirements established by the Canadian government. 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 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.

While there are currently no RFI regulations in the United States specifically applicable to automotive ignition systems, all Ford Light 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 emissions levels to a minimum.

Additional RFI information is contained on page 55 of this manual.

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 Communication (FCC), including 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. RF devices particularly, if not properly installed, may adversely affect the operation of the vehicle. 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 has no control over the operation or manufacture of such systems or their installation, Ford cannot assume responsibility for any adverse effects or damage if this equipment is used.

SUPPLEMENTS

REFERENCE INFORMATION

FORD TRUCK BODY BUILDERS LAYOUT BOOK

Throughout this manual you will find references to information found in the *Ford Truck Body Builders' Layout Book*. Additional Design Recommendations and specifications are also provided to assist subsequent stage manufacturers in completing chassis cab and incomplete vehicles. To obtain a free copy of this publication on CD-ROM or to receive an order form for additional CD-ROM's or books please visit our website at www.fleet.ford.com/truckbbas/. Under Publications select Body Builders Order Forms. All dealer requests can be handled online. All other U.S. orders should be faxed to (734) 713-2971. Canadian orders should be faxed to (905) 670-0844.

FORD SERVICE PUBLICATIONS

Many Ford Service Publications pertain to a specific Model Year and vehicle types. The following publications are a few of many manuals which are available from Helm Incorporated; call: 1-800-782-4356

- Ford Truck Shop Manuals
- Ford Towing Manual
- Ford Electrical & Vacuum Trouble Shooting Manual
- Ford Wiring Diagram

FORD TRUCK BODY BUILDER ADVISORY SERVICE

The Ford Truck Body Builder Advisory Service may be consulted regarding information contained in this manual. Call 1-877-840-4338 or e-mail bbasqa@ford.com for assistance or Fax inquiries to (313) 594-2633 accompanied with a cover sheet indicating "Attention to: Ford Truck Body Builder Advisory Service," along with your name, address and telephone number.



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