2005 Ford Truck “What’s New” Guide

The purpose of this guide is to provide some advance insight into 2005 model year Ford Truck product features that may assist final stage manufacturers and vehicle alteration companies in preparing their production process.

This guide is for reference only, reflecting information available as of May, 2004 and is subject to change without notice. It should be used in conjunction with other related Ford publications listed below. Methods to obtain these and other useful publications are described further in this manual.

- Ford Truck Body Builders Layout Book
- Incomplete Vehicle Manuals
- Ford Truck Quality Programs Guide Book
- Ford Truck Quality Programs Bulletins

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Body Builder Quality Programs

The following organizations are established to provide technical assistance to vehicle modifiers of Ford Truck chassis. They are part of the Special Vehicle Engineering Department within the Ford North American Truck Consumer Business Group.

• TRUCK BODY BUILDERS ADVISORY SERVICE
  Provides daily technical assistance for truck body builders (including F-Super Duty Class “A” (F-53) Motorhome Chassis)
  Phone: 877-840-4338
  Fax: 313-594-2633
  Web Site: www.fleet.ford.com/truckbbas
  E-Mail: bbasqa@ford.com

• MODIFIED VEHICLE ENGINEERING & QUALITY PROGRAMS
  Responsible for qualifying the engineering process control capability of final stage manufacturers under these Ford Truck Quality Programs:
  – Ambulance Quality Program
  – Motor Home & Transit Bus Quality Program
  – Conversion Van Quality Program
  – F-Series Quality Program
  – Adaptive Mobility Quality Program
  – Ship-Thru Program

Assembly Plant Job #1 Timing

<table>
<thead>
<tr>
<th>Vehicles</th>
<th>Assembly Plant</th>
<th>2005 Model Job #1</th>
</tr>
</thead>
<tbody>
<tr>
<td>• E-Series</td>
<td>Lorain Assembly Plant</td>
<td>8/02/04</td>
</tr>
<tr>
<td>• Super Duty F-Series (250–550)</td>
<td>Kentucky Truck Plant</td>
<td>7/19/04</td>
</tr>
<tr>
<td>• Super Duty F-Series (650–750)</td>
<td>Escobedo, Mexico</td>
<td>4/12/04</td>
</tr>
</tbody>
</table>
E-SERIES
VAN / CUTAWAY / STRIPPED CHASSIS
2005 MAJOR PRODUCT FEATURES

OVERVIEW
The 2005 Ford E-Series continues to build on its proven strengths as the leader in sales. Ford E-Series — America’s most trustworthy, versatile vehicle. Always there for our customers and their family or business needs with smart innovation and the right choices to get any job done.

FEATURES AND BENEFITS SUMMARY

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>TorqShift™ 5-speed automatic transmission is now available</td>
<td>New 5-speed transmission for improved performance and fuel economy</td>
</tr>
<tr>
<td>Tow/Haul with TorqShift™ transmission (5.4L/6.8L gasoline engines only)</td>
<td>Delays upshifts to reduce frequency of transmission shifting. Tow/Haul also provides engine braking in all forward gears when the transmission is in the “D” (Overdrive) position</td>
</tr>
<tr>
<td>Electronic Throttle</td>
<td>Enhanced electronic control of engine performance</td>
</tr>
<tr>
<td>Stationary Elevated Idle Control</td>
<td>The SEIC function has been incorporated into the PCM</td>
</tr>
</tbody>
</table>
**E-Series – Other Features and Benefits**

**Model/Trim**
- Maximum GCWR with Van and Wagon models with 6.8L gasoline engine and 4.10 axle ratio is now reduced to 17,700 lb. GCWR
- Chassis Cab model is deleted for 2005
- AutoVision rear seat entertainment systems are no longer available as an original equipment option

**POWERTRAIN**

**Gasoline Engines**
- Throttle cables used in 2004 and prior years have been eliminated. All engine use electronic throttle control
- Larger radiator with TorqShift™ 5-speed automatic transmission
- Throttle body revisions and modified air intake bodies on 4.6L/5.4L/6.8L gasoline engines
- Natural Gas Vehicle Option program is discontinued

**Emission Controls**
- Incomplete vehicle emission certification may be affected by changes in frontal area and unloaded vehicle weight. The VECI (Vehicle Emissions Control Information) label is located in the engine compartment

**Transmissions**
- TorqShift™ 5-speed electronic automatic transmission (includes “Tow/Haul” Mode) is available with 5.4L engine in E-350 and with 6.8L engine in E-350/E-450 models and with 6.0L diesel engine
- 4R70E 4-speed electronic automatic transmission is standard with 4.6L engine applications
- 4R75E 4-speed electronic automatic transmission is standard with 5.4L engine applications (under 8600 lb. GVWR)
- TorqShift™ 5-speed automatic transmission required new routing of transmission oil cooler lines
- Unique radiator with TorqShift™ 5-speed electronic automatic transmission
E-Series – Other Features and Benefits - continued

- **FUNCTIONAL CHANGES**
  - **Electrical**
  - PCM (Powertrain Control Module) and Electronic Engine Control system is utilizing CAN (Controller Area Network) architecture for 2005 models with both gasoline and diesel engines. This provides communication between the engine, transmission and instrument cluster.
  - New PCM wiring harnesses
  - Electronic Throttle Control eliminates the need for Throttle and Cruise Control cables
  - APCM (Auxiliary Power Control Module) option is deleted. Its function is incorporated into the PCM using a new strategy for elevated idle and battery charge protection.
  - SEIC (Stationary Elevated Idle Control) is standard only on over 8500 lb. GVWR, all powertrains.
  - Builder interface instructions will be provided in a forthcoming Body Builders Layout Book.

![PCM (Powertrain Control Module) location in engine compartment](image1)

![Electronic Throttle Control – Pedal Sending Unit](image2)

![APCM (Auxiliary Power Control Module) deleted for 2005](image3)
E-Series – Other Features and Benefits - continued

Fuel System

• The SFPDM (Sealed Fuel Pump Delivery Module) has been relocated for 2005. It has moved from the front to the rear of the frame. The position of the SFPDM is critical. The electrical harness should not be modified and the module should not be relocated.

• The 2005 fuel system now uses an EVMV (Electronic Vapor Management Valve). It was vacuum activated in 2004. The PCM regulates the purge of vapors from the canister to the engine.
EXTERIOR CHANGES

Tires/Wheels
• White wheels are now available in response to customer demand on all Stripped Chassis and Cutaway models

INTERIOR CHANGES

Instrument Panel
• New Instrument Cluster is required for CAN. The instrument cluster used in 2004 is not interchangeable with the 2005 cluster
• “Cruise” indicator is no longer included in the instrument cluster

Racks and Bins
• New “Quiet-Flex” composite Racks and Bins option (31Q) is now available for all 2005 model year E-Series Vans. They are constructed of a combination of steel and composite materials. Shelves are constructed of high-density composite material and ends are constructed of steel. Previously available steel Racks and Bins option (31G) continues to be offered. Both attach to the body in the same manner

Seating
• Seat fabric changes ‘freshen’ the interior appearance

Sealing
• New passenger and driver front door lip seals reduce wind noise and NVH
F-250/350/450/550 SUPER DUTY
2005 MAJOR PRODUCT FEATURES

OVERVIEW
The new 2005 Ford F-Series Super Duty reinforces the “Built Ford Tough” image of the F-Series and continues to meet the needs of a multitude of commercial vocations, as well as personal use towing customers. Ford F-Series combines the attributes of power, capability, breadth and depth of product choices and new customer features to drive the changes for 2005. For increased performance they include a higher torque rating for the 6.0L diesel engine, and a 5.4L or 6.8L gasoline engine with 3-valve design for improved aspiration and power.

FEATURES AND BENEFITS SUMMARY

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>6.0L Power Stroke® diesel engine torque is increased from 560 lb.-ft. to 570 lb.-ft., and 5.4L and 6.8L gasoline engines have three valves per cylinder</td>
<td>Power and performance is enhanced with both gasoline and diesel engines</td>
</tr>
<tr>
<td>TorqShift® 5-speed automatic transmission incorporates Tow/Haul feature and is now available with both gasoline and diesel engines</td>
<td>Improved transmission durability at full power operation when fully loaded and/or hauling a trailer</td>
</tr>
<tr>
<td>New, tough front end appearance with new grille, headlamps and front bumper</td>
<td>Bold front end styling for “stand-out” appearance</td>
</tr>
<tr>
<td>Monobeam coil spring front suspension on 4x4 F-250/350</td>
<td>Improved ride, handling and turning radius</td>
</tr>
<tr>
<td>Integrated trailer brake controller is available</td>
<td>An industry first factory installed trailer brake controller option</td>
</tr>
<tr>
<td>New instrument cluster</td>
<td>Includes enhanced message center on Lariat and boost gauge with diesel engines</td>
</tr>
<tr>
<td>Increased GAWR, GVWR, GCWR ratings</td>
<td>Higher maximum trailer tow and payload ratings on most models</td>
</tr>
</tbody>
</table>
F-250/350/450/550 Super Duty – Other Features and Benefits

POWERTRAIN

Diesel Engine
- 6.0L diesel engine has increased torque rating from 560 lb.-ft. to 570 lb.-ft.
- Engine block heater is standard in AK, CO, MN, ND, SD, WI and WY. It is optional in remainder of the United States and Canada.

Gasoline Engines
- New 5.4L and 6.8L 3V Gasoline engines
- Projected power ratings:
  - 5.4L - 300 HP @ 5000 RPM / 365 lb.-ft. torque at 2500 RPM
  - 6.8L - 355 HP @ 4750 RPM / 455 lb.-ft. torque at 3250 RPM
- Larger radiator for the 5.4L and 6.8L engine assures proper dissipation of heat from engine coolant
- New water heated throttle body adapter for 6.8L engine
- Revised fan shrouds for gasoline engines
- Utilizes CAN engine/transmission, PCM and I/P Cluster
- Redesigned intake manifold for gasoline engines
- Under-hood plumbing is redesigned and utilizes a new layout with gasoline engines. Components are relocated for ease of maintenance (wire harness, vacuum lines, brake lines, power steering pump, etc.)
- Electronic Throttle Control incorporates a new accelerator pedal with gasoline engines
- Electronic Throttle Control is now used with both gasoline and diesel engines
• Belt(s) and belt routing change to accommodate relocated components (gasoline engines)

**Emission Controls**
• All new fuel system components to meet LEV-II regulations
• New evaporative emission regulations with gasoline engines (Part of LEV-II)
• Refer to LEV-II, Pages 23-25

**Fuel Tank Filler Kits**
- 4C34-9B149-AA Diesel Chassis Cabs mid-ship tank (19 gallons)
- 4C34-9B149-CA Diesel Chassis Cabs aft-of-axle tank (40 gallons)
- 4C34-9B149-EA Diesel Pick-up Box Delete
- 4C34-9B149-HA Diesel Service Kit
- 5C34-9B149-BA Gasoline Chassis Cabs mid-ship tank (19 gallons)
- 5C34-9B149-DA Gasoline Chassis Cabs aft-of-axle tank (40 gallons)
- 5C34-9B149-FA Gasoline Pick-up Box Delete (30.5 and 38 gal.)
- 5C34-9B149-GA Gasoline Service Kit

*F-250/350/450/550 Super Duty – Other Features and Benefits - continued*

*Image: Belt wrap information provided on radiator shroud label*
Transmission
• TorqShifter™ 5-speed automatic transmission is now available with both gasoline and diesel engines
• Tow/Haul mode is included with the TorqShifter™ transmission. Tow/Haul delays upshifts to reduce frequency of transmission shifting. Tow/Haul also provides engine braking in all forward gears when the transmission is in the “D” (overdrive) position

FUNCTIONAL CHANGES
Axles/Suspension
• Monobeam coil spring front suspension (4x2 and 4x4)
• Leaf spring front suspension is discontinued
• 7K Front Axle (F-450/550 models) provides wider front track
• Maximum 6K GAWR front axle (F-250/350 4x4 models)
• Specific front spring/GAWR can now be selected on Chassis Cab models with Heavy and Extra Heavy Service front suspension packages
• Pickup model front spring/GAWR remains computer selected except with Snow Plow Package

• Large, robust front radius arms (F-250 thru F-550)
• Increased front axle capacity allows installation of snow plows on F-450/550 4x2 models (Previously restricted to 4x4 models)
F-250/350/450/550 Super Duty – Other Features and Benefits - continued

- Smaller turning diameter with the new front axle and suspension
- Monobeam coil spring front suspension with up to 36% larger wheel cut angles significantly improve turning diameters

19,000 lb. GVWR is now available on F-550 4x2 and 4x4 DRW Chassis Cabs

- Staggered rear shock absorbers provide improved ride quality on pickup models
- Chassis Cab models continue to use conventional shock absorber locations

Brakes
- Larger “Best In Class” brakes both front and rear
- F-250/350 - larger rotors, larger and stiffer calipers, larger parking brakes, upsized hydraulic master cylinder
- F-450/550 - larger rotors and stiffer calipers
- All - revised brake pad material for increased lining life
**Electrical**
- APCM (Auxiliary Power Control Module) is deleted. Its function is incorporated in the PCM (Powertrain Control Module) utilizing a new strategy for elevated idle and battery charge protection. Refer to Body Builders Layout Book for SEIC (Stationary Elevated Idle Control).
- Engine controls are CAN (Controller Area Network) architecture.
- Carryover 130 amp Alternator, common for gasoline engines.
- Ford is the first OEM to market an integrated Trailer Brake Controller option installed in the instrument panel. It is factory installed for control of electric trailer brakes.
- Optional upfitter switches are connected to electrical relays and operate in “IGNITION/RUN” mode.

**Exhaust**
- Additional heat shielding of exhaust and frame with more powerful, 3-valve gasoline engines.
- New exhaust system routing, catalysts, mufflers and hangers for gasoline engine models.
Fuel System (Gasoline Only)
- Fuel tank shape, material, lines and fill pipe have been redesigned for LEV-II
- Return fuel system is eliminated. There is no return fuel to the fuel tank
- Refer to LEV-II, pages 23-25 for details

- Larger LEV-II vapor canisters are mounted in various positions within the frame rails, depending upon GVW or model. Locations are determined by design considerations

- New SFPDM (Sealed Fuel Pump Delivery Module) for gasoline engines is mounted between the frame rails. The position of the SFPDM is critical. The electrical harness should not be modified and the module should not be relocated

Steering
- New steering gears designed to support new front axle with coil and shock suspension design
- The steering gear features provide for:
  - increased F/GWAR and payload
  - reduced turning radius
  - reduced parking effort
  - more precise feel
F-250/350/450/550 Super Duty – Other Features and Benefits - continued

**Tires/Wheels**
- New, larger 17” and 18” wheels and tires have new appearance and new style on F-250/350 models
- New tire sizes available are: LT245/75R17E, LT265/70R17E, LT275/70R18E, LT275/65R18E
- 19.5” wheels and tires on the 7000 lb. front axle are standard on F-450/550 Chassis Cabs (lug nut torque is unchanged)
- 20” wheels and tires are available with the Harley-Davidson Package (Late Availability)

**CHASSIS CHANGES**

**Frame**
- Upgraded Frame has greater load capability and accommodates the new front suspension design on both 4x2 and 4x4 models
- Frame continues in two (2) widths (wide or narrow). Wide frame is used with F-250 and F-350 pickup models, and the narrow frame is used with F-350 and F-450/550 Chassis Cab models

**EXTERIOR CHANGES**

**Body**
- Wired keyless entry button pad replaces prior wireless design

**Front End**
- Tough front end appearance with new grille, bumper and headlamps
- New one-piece Blocker Beam™. Refer to page 28 for details
- Standard fender moldings with integral mud flap on F-450/550 adds to the tough appearing front end and provides additional protection from wheel splash
15,000 lb. “Built Ford Tough” Hitch Receiver option

- A new heavy duty trailer tow package with a 2-1/2” receiver with a 15,000 lb. capacity is available on F-350/450/550 dual rear wheel models with 6.8L gasoline and 6.0L Power Stroke® diesel engines
- A 2-1/2”-to-2” adapter is provided. When used, the hitch capacity is reduced to 12,500 lb.
- A 12,500 lb. capacity trailer tow package with a 2” receiver is available on all SRW pickups and 5.4L F-350 DRW pickups

Glass (Carryover From Late 2004 Model Year)
- Optional power sliding rear window includes a dash mounted switch
INTERIOR CHANGES

Audio
- New F-Super Duty radios for enhanced appearance and performance

Climate Control
- Two climate control systems are now available for 2005 F-Super Duty: Manual and EATC (Electronic Automatic Temperature Control). The EATC is available with new Lariat Luxury Package only
- Redundant EATC temperature and fan speed and audio controls on the steering wheel (available with new Lariat Luxury Package only)
Instrument Panel
- Upgraded instrument panel cluster and switches
- Upfitter switches available in the instrument panel for aftermarket applications
- Includes either a new standard Message Center or enhanced version with trip computer (included with Lariat Package only). Both include an engine hour meter which displays accumulated time the engine has been running
- Turbo Boost (PSI) gauge with 6.0L Power Stroke® diesel engine

Steering Wheel
- New Lariat steering wheel which includes redundant control switches for audio and EATC (Electronic Automatic Temperature Control)
The 2005 Ford F-650/F-750 Series of Super Duty Trucks supply the ruggedness, reliability and comfort demanded in the midrange diesel market. The F-650/F750 come in three factory built cabs; Regular Cab, SuperCab and Crew Cab. The three cab philosophy was built on the premise that customers should have a choice so that they can match an F-Series Super Duty Truck to their commercial applications. These are enhanced by range of GVWR’s from 22,000 lbs. to 33,000 lbs. and GCWR’s from 33,000 lbs. to 80,000 lbs.

**FEATURES AND BENEFITS SUMMARY**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
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</thead>
<tbody>
<tr>
<td>■ Allison Vocational Transmissions are Standard</td>
<td>Offer expanded, internal computer control capability, and improved warranty structure. They are available in 5-speed or 6-speed configurations</td>
</tr>
<tr>
<td>■ Optional Fuller FSO-8406A Manual Overdrive Transmission</td>
<td>Provides the inherent control of a 6-speed manual transmission while supplying overdrive in sixth gear</td>
</tr>
<tr>
<td>■ Enhanced appearance of XL Trim</td>
<td>Pride of ownership is increased with the inclusion of Chrome front bumper and grille</td>
</tr>
<tr>
<td>■ Standard GCWR is increased to 33,000lbs.</td>
<td>Increased truck-tractor capacity with standard equipment</td>
</tr>
</tbody>
</table>
F-650/750 Super Duty – Other Features and Benefits

**POWERTRAIN CHANGES**

- New Allison Vocational Automatic Transmissions replace previous Allison 2000 and MD Series transmissions
- Allison 2500RDS/WR 5-Speed Automatic Overdrive is the standard transmission in F-650PL (Pro Loader), F-650 Straight Frame and F-750 models
- Allison 3000RDS/CR 6-Speed Automatic Overdrive is the standard transmission in F-750S (Severe Service) model
- New Fuller FSO-8406A – 6 Speed Manual Overdrive Transmission is optional in F-650PL, F-650 Straight Frame and F-750

**FUNCTIONAL CHANGES**

**Brakes**

- Optional Automatic Drain Valve provides a single valve on the wet air tank
F-650/750 Super Duty – Other Features and Benefits - continued

**Tires/Wheels**
- 10R22.5G (14PR) Goodyear – G159 Radial front tires are standard in F-650 Straight Frame replacing 10R22.5F (12PR) Goodyear – G159 Radials
- 10R22.5G (14PR) Goodyear – G124 Radial rear tires are standard in F-650 Straight Frame replacing 10R22.5F (12PR) Goodyear – G124 Radials
- 245/75R19.5F (12PR) Goodyear – G647 RSA Radial tires are standard on both front and rear axles in F-650PL replacing 245/70R19.5G (14PR) Goodyear – G159 Radial tires on the front axle and 245/70R19.5G (14PR) Goodyear – G124 Radial tires on the rear axle

**EXTERIOR CHANGES**

**Front End**
- Chrome grille and headlight bezels are standard in XL Trim Level F-650PL, F-650 Straight Frame and F-750
- Chrome front bumper is Standard in XL Trim Level F-650PL, F-650 Straight Frame and F-750
- Exterior Sunshade Option is no longer available in E4 Bright Red color

**INTERIOR CHANGES**

**Climate Control**
- Manual air conditioning made standard in XL Trim level. A Delete Option is available for those who want a Heater only
Seating

- Standard Front Driver Seat in XL Trim Level in all F-650/F750 is High Back with Integral Headrest, Folding/Reclining Back, Arm Rest, Non-Suspension, G-Grain Vinyl in all Cab Designs
- Seats provided with the Optional Leather Trim Package are now trimmed in Imola Leather in place of Nudo Leather in XLT Trim Level in F-650PL, F650 Straight Frame and F-750
- All Seats and Seat Trims are available in both XL and XLT Trim Levels (Except the Standard Seat Packages for the XL and XLT Trim Levels and the Leather Trimmed Seats included in the XLT Optional Leather Trim Package)
LEV-II EMISSION STANDARDS
Effective 2005 (Job #1) for
2005 F-250/350/450/550 Super Duty (Gasoline Engines)

LEV-II Fuel System Requirements

- LEV-II (Low Emission Vehicle II program) is based upon the California Air Resources Board (CARB) requirements, which recently changed the hydrocarbon emissions standard for gasoline engine vehicles
- Changed From: 2.0 grams/24 hours for 15 years or 50,000 miles
- Changed To: 1.0 gram/24 hours for 15 years or 150,000 miles
- Ford installs the same evaporative emission control system hardware on motor vehicles delivered for sale in Federal states as vehicles delivered for sale in California

WARNING: Any modifications to the LEV-II fuel system will require the modifier to certify compliance with LEV-II Emission Standards

Major Changes To Fuel Systems To Meet LEV-II Requirements

- Return fuel system eliminated. No return fuel to the fuel tank
- Quick connects with O-Ring (SAE style) are used in place of all vapor push-on joints
- Vapor generation and permeation reduced with Electronic Returnless Fuel System (ERFS)
- Larger volume canister design with bleed on the vent side. The carbon canister(s) have been relocated.
- Upgraded material for all lines and hoses (fuel, vapor, fill)
- Hard plastic vapor lines
- Upgraded corrosion resistance for 15 year/150,000 miles
- Dedicated purge lines from Electronic Vapor Management Valve (EVMV) to canister
- All components are helium leak checked prior to shipment
- All components used in the fuel system are capable of meeting the virtual leak specification using helium
- Fuel Tank Drain Plug has been eliminated
Major Changes to Fuel Filler Neck to meet LEV-II Requirements

In addition to upgraded material for all lines and hoses, the fuel filler neck and cap are revised to reduce vapor emission.

ORVR (Onboard Refueling Vapor Recovery)

The revised fuel filler neck with ORVR incorporates the following changes:

1. Fill neck vent line reduced in size and utilizes quick connect fittings. The revised vent line runs from the filler neck to a port on fuel pump/sending unit.

2. The plastic insert in the filler opening in pre-LEV-II years is eliminated. A metal insert is now welded in place to improve sealing of the filler pipe.

3. Filler neck is installed at the assembly plant.

4. The gasoline filler cap utilizes a quarter-turn design.
DURABILITY OF EVAPORATIVE SYSTEM
Ford will be required to honor the CARB regulations of 15-year/150,000 mile LEV-II emission requirements in California, and also in “Section 177” states that have adopted California’s regulations as allowed by Clean Air Act (CAA). The fuel system will be required to remain functional for at least 15 years/150,000 miles. This includes integrity against liquid or vapor leak, no increase in permeation above the normal, stabilized level, and no increase in breathing losses from the canister or air induction system.

TESTING
Ford automotive designs are validated for extended time by certain tests that accelerate the various wear and deterioration phenomena. These tests are conducted at several levels:

1. **Vehicle** – Certified to Government requirements
2. **System** – Fuel permeation rig test (20-40 week tests to ensure system has reached stabilization)
3. **Subsystem** – Supplier tests mating components to ensure no HC permeates through interfaces
4. **Components** – 100% leak check
5. **Materials** – All fuel related material is tested to ensure compliance with LEV-II requirements
6. **Mating Surfaces** – Dimensional tolerances are designed so the component/subassembly will pass the Virtual Leak Detection (VLD) specifications as long as it is within tolerance. Where the two mating surfaces are owned by different suppliers, both suppliers are required to independently verify the connection passes VLD requirements through the tolerance range, over the CARB temperature profile
7. **Leak Testing** - All assemblies are 100% helium leak checked before delivery to Ford’s final assembly plant

**BODY BUILDER RECOMMENDATIONS**

**Fuel Fill Modifications**
- Optional fuel system conversion kit in the dunnage box will continue to provide extended length of fuel filler hose and vent line. Builders using Ford provided materials and installation recommendations can assume LEV-II compliance. Any non-Ford components will require the modifier to certify compliance with LEV-II emission standards.

**Fuel Lines/Vent Lines**
- All fuel/vent lines should be OE quality and utilize double O-ring connectors. Fuel lines should meet OE permeability specifications.

**Carbon Canister Relocation**
- Carbon Canister and fuel tank vent lines are part of the LEV-II fuel system. The final stage manufacturer is responsible to certify any modification made to the fuel system for LEV-II compliance.

**LEV-II Supplier Contacts:**
The following companies are a partial list of approved suppliers who can provide products or services to assist builders that modify fuel system components.

**Fuel Filler Neck**
Shelby Enterprises, Inc.
Jennifer Dedenbach
586-752-4552, Ext. 234
Pat O’Connell
586-255-2365, Ext 216
www.shelbyenterprises.com

**Fuel Line/Vapor Line Extensions**
TI Automotive
Dianah Foster
586-598-4567
George Manolias
586-598-4423
www.tiautomotive.com

**Fuel System/Component Test Facilities**
TSG Testing Services Group
Doug Hughes
810-245-1600
www.tsglabs.com
ELECTRICAL CHANGES

ALTERNATORS

Alternator performance is dependent upon operating temperatures and rotational speed. Analysis of alternator speed versus output amperage performance charts indicates a 100° F rise in alternator operating temperature from an initial temperature of 80° F will result in an approximate 10% reduction in output at rated speed. Current draw analysis should consider and allow for this characteristic.

Operating Temperature       Output Amperage

(+) 100° F   (–) 10%

3G Gasoline
12 Volt – 130 amps

6G Diesel
12 Volt – 110 amps

VR42 Dual Upper - Diesel
12 Volt – 140 amps

4G Dual Lower - Diesel
12 Volt – 120 amps
**ELECTRICAL CHANGES**

**CAN (Controller Area Network) (Gas version)**

**Models**
- E-Series and F-150/250/350/450/550 Series

**Description**
- A high-integrity serial data communications system
- Data rates of up to 1 Megabits per second
- Excellent error detection and confinement capabilities
- Complies with International Standard: ISO J2284
- Fewer wires provide weight reduction with increased durability
- CAN utilizes 4 wire system

**Usage**
- PCM can control actuators approximately 10 times faster than previous system

**OVERVIEW SUMMARY**

- PCM can control actuators approximately 10 times faster than previous system
- A high-speed electrical architecture is utilized by the PCM to control the engine, transmission and instrument cluster.
- Instrument Panels can not be interchanged between 2004 and 2005 models
- Requires unique diagnostics test equipment
- APCM function is now incorporated within the PCM
- ABS, Truck Control Security Module and Restraint Control System remain conventional ISO architecture
BlockerBeam™ Revised
The BlockerBeam™ is now welded to its frame mounting brackets, making a one-piece assembly. The new one-piece assembly is attached to the frame with removable fasteners.

Snowplow/Super Duty F-Series
Snowplow Prep Package (Option Code 86M) is offered on more models:

a. All cab styles with diesel engine
b. All F-450 and F-550 Models with 4x2 in addition to 4x4
c. Includes a unique fan clutch for diesel engine applications only. It provides improved engine cooling performance when the plow blade blocks airflow through the radiator during highway driving. (Snow plowing duty is not affected)

SEIC (Stationary Elevated Idle Control)
APCM (Auxiliary Powertrain Control Module) and the associated Auxiliary Idle Control Option (Option Code 96P for F-Series, or 961 for E-Series) are no longer available.

a. The SEIC (Stationary Elevated Idle Control) features of the APCM are included in the PCM (Powertrain Control Module) of all F-250/350/450/550 and E-Series over 8500lb. GVWR
b. Upfitter interface is a set of blunt-cut wires above parking brake release handle
c. Upfitters will need to provide their own user interface
d. PCM strategy will include BCP (Battery Charge Protection) for diesel engines only. To obtain BCP with Gasoline engines, the up-fitter will need to design a separate external circuit, interfacing with the SEIC circuitry and the alternator
e. Refer to Body Builders Layout Book for further details about SEIC
2005 REGULATORY CHANGES

FMVSS 110

Effective September 1, 2004 Final Stage
Manufacturers will be required to include the label shown here. This label is required on all vehicles with a GVWR of 10,000lbs. or less. The label or “placard” must be located on the driver’s side B-pillar. NHTSA has issued a final rule that describes the size, color, location and required information of the label. The Owner’s Guide must explain the contents of the label.

FMVSS 301

FMVSS was revised for 2005 model vehicles. This standard now requires the fuel system to maintain integrity in either of the following test situations:
• Rigid barrier impact at 20mph at 90 degree angle
• Deformable barrier impact at 33.5mph at 27 degree angle

FMVSS 403

This standard specifies requirements for platform lifts used to assist persons with limited mobility in entering or leaving a vehicle. The purpose of this standard is to prevent injuries and fatalities to passengers and bystanders during the operation of platform lifts installed in motor vehicles.

FMVSS 404

This standard specifies requirements for vehicles equipped with platform lifts. The purpose of this standard is to prevent injuries and fatalities to passengers and bystanders during the operation of platform lifts installed in motor vehicles.

NOTICE
These are brief summery overviews of the standards. Builders should refer to NHTSA Federal Register for complete details.
# Truck Body Builders Advisory Service Website

(http://www.fleet.ford.com/truckbbas)

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<tr>
<th>Function</th>
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<tr>
<td><strong>Hot Off The Press:</strong></td>
<td>Lists links to latest up-to-date publications available to body builders</td>
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<td><strong>Truck Support Contacts:</strong></td>
<td>Lists frequently requested phone and fax numbers</td>
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<tr>
<td><strong>Body Builder’s Layout Book:</strong></td>
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[Image of Truck Body Builders Advisory Service Website]
OBTAINING PUBLICATIONS

Ford Truck Body Builders Layout Book
Order and access via www.fleet.ford.com/truckbbas.

Incomplete Vehicle Manual

Ford Recreation Vehicle and Trailer Towing Guide
The guide covers cars and light trucks, and includes trailer and camper weight ratings and the list of vehicles suitable for flat-towing. A copy can be obtained by contacting the Ford RV Information Service at (800) 245-7343, leave name and shipping address, or Fax to (248) 936-3300. This guide can also be accessed via the web at www.fleet.ford.com/truckbbas under “publications”.

Service Publications
The “Ford Technical Publications Catalog” list the service publications available, and includes pricing, an order form, and a mailer. Contact Helm, Inc. at 800-782-4356. Useful publications include “Truck Wiring Diagrams” and the “Service Specifications” book.

Body Builder Quality Bulletins
Body Builder Quality Bulletins provide key information to assist body builders in interfacing with a Ford chassis. Access the bulletins via the web at www.fleet.ford.com/truckbbas

Ford Truck Quality Program Guidelines
This manual provides guidelines for final stage manufacturer modifying Ford products. It also includes an introduction to process controls, quality controls, customer support and management practices. Access the guidelines via the web at www.fleet.ford.com/truckbbas.
IMPORTANT PHONE NUMBERS AND WEBSITES

INTENDED FOR GENERAL USERS & CUSTOMERS OF COMPLETED VEHICLES

Ford Customer Assistance
Customer Assistance Center: 800-392-3673
Roadside Assistance Center: 800-241-3673
Web Site: www.ford.com

Ford RV (Customer Assistance Center)
To locate the nearest RV service center: 800-444-3311

INTENDED FOR FINAL STAGE MANUFACTURERS & VEHICLE MODIFIERS

Ford Truck Body Builders Advisory Services (BBAS) – including F-Super Duty Class “A” (F-53) Motorhome Chassis
Truck: 877-840-4338
Fax: 313-594-2633
Web Site: www.fleet.ford.com/truckbbas
E-Mail Address: bbasqa@ford.com

List of Ford Pool Accounts and Qualified Vehicle Modifiers
www.fleet.ford.com/truckbbas
Click on “Specialty vehicles” on the navigation bar and select the desired vehicle type.

Ford Alternative Fuels Information
Vehicle models available, list of authorized Ford dealers, and Leaf & Road Newsletter.
877-ALT-FUEL
(877-258-3835)

Ford Component Sales
734-523-5702
Fax: 734-523-5917

Vehicle Special Order, VSO Fleet Sales
1-800-34-FLEET
Select #4