

# POWER STROKE V8

## TURBO DIESEL

# 6.0L Power Stroke Diesel

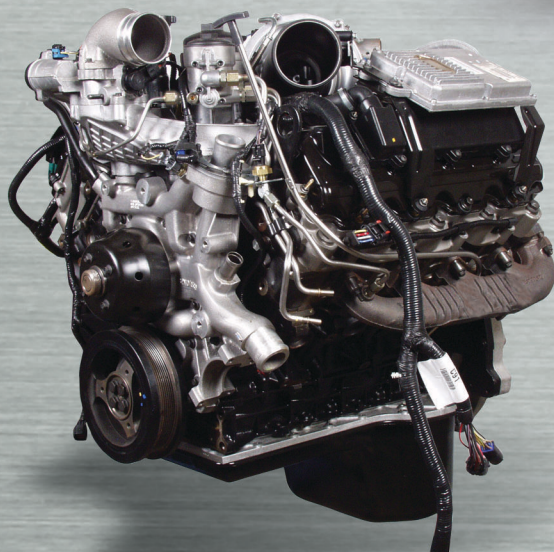
## Direct Injection Turbocharged Diesel Engine



F-Series Super Duty Truck



E-Series Econoline Van



6.0L Power Stroke Diesel

## New 2004 F&E Series Super Duty

Features, Descriptions,  
Unique Service Procedures  
and General Diagnostics



# FORWARD

This publication is intended to provide technicians and service personnel with an overview of technical advancements in the 6.0L *POWER STROKE*® Diesel Engine. The information contained in this publication will supplement information contained in available service literature.

## IMPORTANT SAFETY NOTICE

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all motor vehicles, as well as, the personal safety of the individual performing the work. This manual provides general directions for accomplishing service repair work with tested, effective techniques. Following the directions will assure reliability. There are numerous variations in the procedures; techniques, tools, parts for servicing vehicles and the skill of the individual doing the work. This manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this manual must first establish that they do not compromise their personal safety or the vehicle integrity by their choice of methods, tools or parts.

The following list contains some general **WARNINGS** that you should follow when you work on a vehicle.

Always wear safety glasses for eye protection.

Use safety stands whenever a procedure requires you to be under the vehicle.

Be sure that the ignition switch is always in the **OFF** position, unless otherwise required by the procedure.

Never perform any service to the engine with the air cleaner removed and the engine running unless a turbocharger compressor inlet shield is installed.

Set the parking brake when working on the vehicle. If you have an automatic transmission, set it in **PARK** unless instructed otherwise for a specific service operation. If you have a manual transmission, it should be in **REVERSE** (engine OFF) or **NEUTRAL** (engine ON) unless instructed otherwise for a specific service operation.

Operate the engine only in a well-ventilated area to avoid the danger of carbon monoxide.

Keep yourself and your clothing away from moving parts when the engine is running, especially the fan, belts, and the turbocharger compressor.

To prevent serious burns, avoid contact with hot metal parts such as the radiator, turbocharger pipes, exhaust manifold, tail pipe, catalytic converter and muffler.

Do not smoke while working on the vehicle.

To avoid injury, always remove rings, watches, loose hanging jewelry, and loose clothing before beginning to work on a vehicle. Tie long hair securely behind the head.

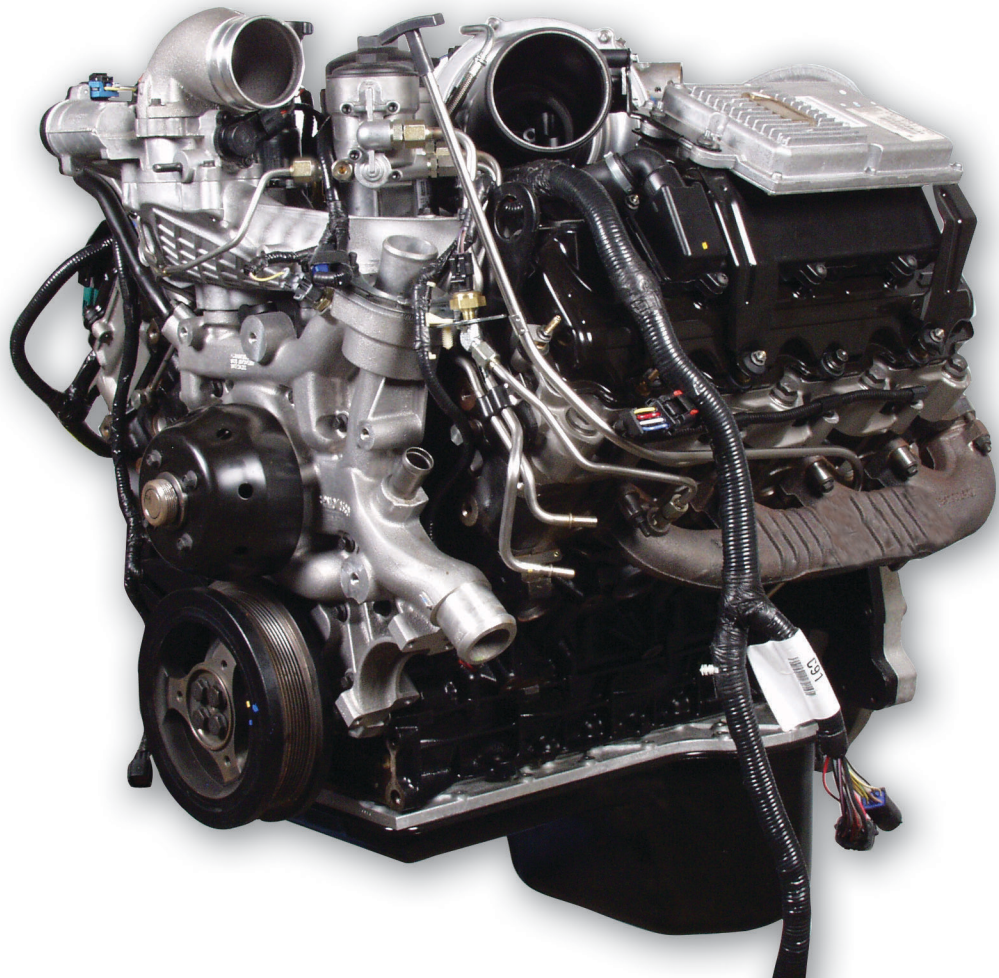
Keep hands and other objects clear of the radiator fan blades.

# *6.0L POWER STROKE®*

## TABLE OF CONTENTS

<b>OVERVIEW</b> .....	<b>5</b>
Features .....	6
Horsepower & Torque .....	6
<b>COMPONENT LOCATION</b> .....	<b>7</b>
Features .....	10
<b>RUNNING 2003 CHANGES</b> .....	<b>13</b>
Turbocharger Oil Supply Line .....	13
Wiring Harness .....	14
<b>AIR MANAGEMENT</b> .....	<b>17</b>
External Mounted Crankcase Breather .....	18
Intake Manifold .....	19
EGR Throttle Plate .....	19
<b>FUEL MANAGEMENT</b> .....	<b>23</b>
Wavy High Pressure Oil Rail .....	24
ICP Sensor .....	26
DLC Coated Injector Plunger .....	27
<b>ELECTRICAL COMPONENTS</b> .....	<b>29</b>
Sensors .....	29
Actuators .....	31
<b>ECONOLINE 6.0L</b> .....	<b>33</b>
Component Location .....	34
Lubrication System Features .....	37
Fuel System Features .....	40
<b>SERVICE TIPS/DIAGNOSTICS</b> .....	<b>43</b>
<b>APPENDIX</b> .....	<b>53</b>





1

# **6.0L** **POWER STROKE® V8**

**DIRECT INJECTION**  
**TURBOCHARGED**  
**DIESEL ENGINE**

# 6.0L POWER STROKE® DIESEL

## 6.0L Power Stroke® Engine

- This Publication is not intended to replace the Service Manual but to introduce the updates to the 6.0L Power Stroke® engine.

## New 6.0L Engine Features

- Due to more stringent federal emissions standards, the 6.0L Power Stroke® engine has undergone many updates during the 2004 model year.
- The 6.0L Power Stroke® engines are manufactured at two locations: Indianapolis Engine Plant in Indianapolis, Indiana and International Diesel of Alabama in Huntsville, Alabama. The serial number breaks for the updated 2004 6.0L engines are 6155637 for Indianapolis built engines and 0094580 for Huntsville built engines.
- The beginning production date for the updated 2004 Power Stroke® engine was on September 29, 2003.

## Horsepower and Torque

- Horsepower and torque will remain unchanged throughout the 2004 model year on F-Series Super Duty trucks.
- The 6.0L Power Stroke® engine creates 325 HP at 3300 RPM and 560 ft/lb of torque at 2000 RPM.

## 6.0L Power Stroke®

# Direct Injection Turbocharged Diesel Engine

- 2003 Mid-Year Improvements
- 2004 Running Changes and Updates
- 2004 6.0L Econoline
- Updated 6.0L Engine Specifications

## Update Features

- EGRT (Exhaust Gas Recirculation Throttle Plate)
- Redesigned High-Pressure Oil Rail and Delivery System
- Redesigned EGR Cooler
- DLC Coating on Injector Plunger

## Horsepower and Torque

