

# INSIDE SEALING



## 6.0L POWER STROKE® HEAD GASKET

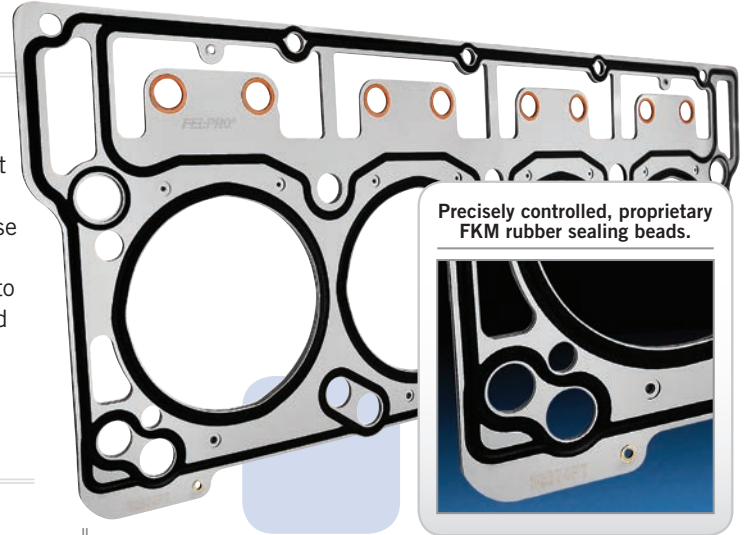
**FEL-PRO® INTRODUCES LONG-AWAITED SOLUTION TO CHRONIC SEALING ISSUES FACING ENGINE PROFESSIONALS**

### SITUATION:

The 6.0L Power Stroke® diesel engine was used in more than 700,000 Ford Super Duty trucks and Econoline vans manufactured between 2003 and 2010. Many owners of these vehicles experienced head gasket failures and resulting engine damage caused by leakage of combustion gases into the cooling system. Various media reports have attributed these problems to stretched torque-to-yield head bolts and insufficient clamp loads. Regardless of the reasons, 6.0L Power Stroke engines are known to be “tough on head gaskets.” Many engine professionals who have utilized OE-style replacement gaskets in their repairs have encountered repeat failures.

### FEL-PRO® SOLUTION:

Following thousands of hours of design, materials formulation, prototyping and testing, Federal-Mogul has introduced two innovative Fel-Pro® PermaTorque® MLS multi-layer steel head gaskets that stand up to the demands of 6.0L Power Stroke engines, providing the long-lasting, trouble-free sealing professionals demand. These gaskets include an advanced new embossment design that creates increased spring force and robust sealing contact under extreme loads. Each gasket also features precisely controlled thicknesses of proprietary FKM rubber in all critical sealing areas. Both gaskets are designed to accommodate overbore. As an additional, exclusive benefit, these PermaTorque MLS gaskets incorporate a patent-pending oversize guide hole for the pushrods, which eliminates premature pushrod wear and oil contamination.



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#### 2003-2010 Ford 6.0L V8 Diesel Turbo (Power Stroke)

OE technology: Conventional multi-layer steel  
Fel-Pro solution: **PermaTorque® MLS**  
#26374PT 18mm dowel pin applications  
#26375PT 20mm dowel pin applications

#### Other Fel-Pro® Solutions for These Engines

- Head Set
- Conversion Sets
- Head Bolts (Long & Short)
- Dowel Pins
- Intake Manifold Gasket Sets
- Exhaust Manifold Gasket Sets
- Upper & Lower Oil Pan Gaskets
- Rear Main Seal
- Valve Cover Gaskets & Sets
- Valve Stem Seal Sets
- Timing Cover Set

Check [www.FMe-cat.com](http://www.FMe-cat.com) for complete product listings.

# A LOOK INSIDE THE 6.0L POWER STROKE®



John Gurnig

## By John Gurnig Field Test Technician

No one can accuse the engineers who designed the 6.0L Power Stroke® of not being bold; this engine was revolutionary in many respects. It

offered exceptional power, lightning-quick turbo response and surprisingly good fuel economy. Unfortunately, it also presented early owners with a variety of reliability issues, particularly in true “work truck” applications, where heavier loads and increased combustion pressures and temperatures pushed the engine beyond its capabilities.

The good news is that, with the enhanced component designs developed in recent years, and – most important – field-proven new Fel-Pro® PermaTorque® MLS head gaskets, engine rebuilders and truck owners can be confident that the 6.0L Power Stroke will provide the reliability that was expected upon its introduction a decade ago.

The following are some common issues that have been reported in the field:

### Keep EGR Valves Clean; Watch the Cooler



Figure 1

Carbon contamination of the EGR valves (see Fig. 1) is one of the most common issues encountered on this engine. Once a valve is clogged, it can stick in

the open position, causing a noticeable drop in power. The same contamination issue can affect the EGR cooler, leading to more serious consequences. These coolers are also prone to leakage, introducing coolant into the exhaust stream.

### Turbo Lag



Figure 2

As noted above, this engine provides excellent turbo response...when everything is operating correctly. This is made possible by a “variable geometry turbo” design utilizing vanes (Fig. 2) to continually adjust the volume of the turbo housing. Keep these vanes clean of soot, either by removing and cleaning the turbo unit or, better yet, by periodically running the engine at full throttle.

### FICM Replacement

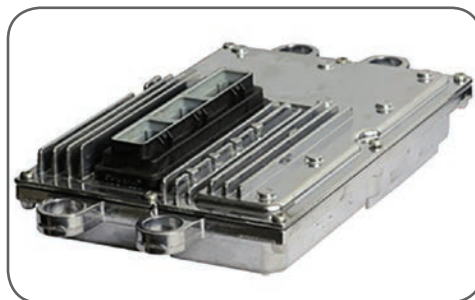


Figure 3

The fuel injection control module, located on the driver’s-side valve cover, is reportedly sensitive to heat and vibration, both of which are in ample supply in this engine compartment. Many techs swear by the quality and value

of units that have been professionally rebuilt (Fig. 3)...as long as they come with a warranty.

### Coolant Leaks



Figure 4

Yes, the obvious source of a coolant leak is a blown head gasket, which, in this engine, has happened with great frequency for many owners over the past decade. But don’t overlook the easy causes – one is a cracked degas bottle (Fig. 4).

### Consider a Stud Kit



Figure 5

New Fel-Pro PermaTorque MLS head gaskets and T-T-Y head bolts (important: never, ever re-use T-T-Y bolts) will provide excellent reliability in this engine. In cases when power-adding modifications have been made, consider swapping out conventional head bolts with a high-quality aftermarket stud kit (Fig. 5). This will significantly increase clamp load and sealing strength in extreme conditions.

*John Gurnig runs the Fel-Pro Field Test Garage in Skokie, Ill.*