NAPA ECHLIN®

DIESEL

MORE DIESEL, MORE POWER

THOUSANDS OF DIESEL PARTS,
HUNDREDS OF DIESEL CATEGORIES

About NAPA® Echlin® Diesel

The Evolving Diesel Engine

Diesel engines have come a long way since the mid-90s. The key to diesel's evolution has been the advancement of new clean diesel technologies. Today's advanced renewable diesel fuels along with advancements in diesel engine and emissions control technologies have resulted in creating near-zero emissions across all applications. Plus, these fuels enhance diesel performance, maintain efficiency over other energy sources, and ensure long-term suitability for sustainability goals.

2.9B

Gallons of diesel saved by heavy-duty diesel trucks from 2007 to 2015

11%
2020

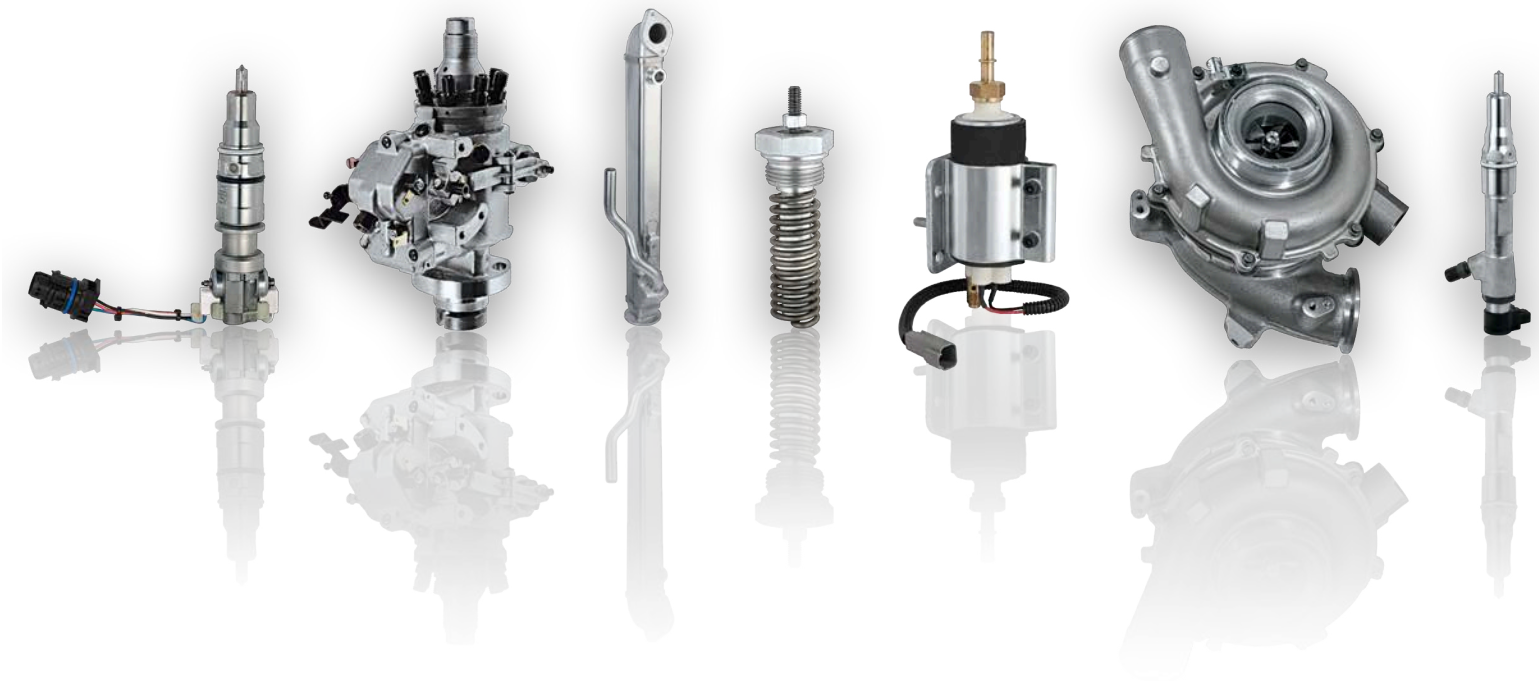
Expected diesel share of U.S. Passenger Car/ Light Truck market by 2020

19%

Percentage of new light vehicles that will use diesel engines

The Most Comprehensive Diesel Program in the Marketplace

To account for the burgeoning diesel market, NAPA® Echlin® has fully invested in diesel. Today, NAPA® Echlin® Diesel offers thousands of diesel parts in hundreds of unique diesel categories, and we're a basic manufacturer in most of them. NAPA® Echlin® Diesel is committed to supplying professional technicians with comprehensive coverage for genuine diesel parts, which is evident from our extensive offering of new and quality-remanufactured products.



We Have the Diesel Market Covered

Thousands of Diesel Parts, and Hundreds of Diesel Categories

Here's just a sample of our offering:

- Air Intake Heater
- Canister Purge Solenoid
- Canister Purge Valve
- Canister Vent Solenoid
- EGR Control Solenoid
- EGR Cooler
- EGR Valve Mounting Gasket
- EGR Valve Pressure Feedback Sensor
- Emission Fluid Injection Nozzle
- Emission Fluid Temperature Sensor
- Emissions Fluid Pump
- Engine Belt Tensioner
- Exhaust Back Pressure Sensor
- Exhaust Gas Temperature Sensor
- Fast Idle Temperature Switch
- Fuel / Water Separator Sensor
- Fuel / Water Separator Valve
- Fuel Filter Housing
- Fuel Heater
- Fuel Injection Control Module
- Fuel Injection Control Pressure Sensor
- Fuel Injection Driver Module
- Fuel Injection Harness
- Fuel Injection Heat Shield
- Fuel Injection Pump - New
- Fuel Injection Pump - Remanufactured
- Fuel Injector - New & Reman
- Fuel Injector Line
- Fuel Injector Rail
- Fuel Injector Return Hose
- Fuel Injector Seal Kit
- Fuel Injector Sleeve
- Fuel Line O-Ring Kit
- Fuel Pressure Regulator
- Fuel Pressure Regulator O-Ring
- Fuel Pressure Regulator Upgrade Kit
- Fuel Pressure Relief Valve
- Fuel Pressure Sensor
- Fuel Pressure Warning Light Kit
- Fuel Rail Supply Line
- Fuel Shut-Off Solenoid
- Fuel Transfer Pump
- Glow Plug
- Glow Plug Control Sensor
- Glow Plug Controller Connector
- Glow Plug Indicator Relay Connector
- Glow Plug Relay Connector
- Glow Plug Temperature Sensor
- Glow Plug Wiring Harness
- High Pressure Oil Pump
- High Pressure Oil Pump Hose
- High Pressure Oil Pump Seal Kit
- High Pressure Oil Rail Ball Installation Tool
- High Pressure Oil Rail Ball Tube
- High Pressure Oil Rail Seal Kit
- Horizontal Fuel Conditioning Module
- Injection Pump Installation Kit
- Injection Pump Supply Line
- Injector Pump Driver Relocation Kit
- Injector Pump Module
- Intake Air Temperature Sensor
- Oil Cooler Gasket Kit
- Oil Cooler Kit
- Throttle Position Sensor
- Transmission Oil Temperature Sensor
- Turbocharger - New & Reman
- Turbocharger Actuator
- Turbocharger Speed Sensor
- Vacuum Pump
- Valve Cover Gasket
- Valve Cover Gasket with Harness
- Vertical Fuel Conditioning Module

Superior Medium-Duty Diesel Coverage

Genuine Diesel Parts for Vehicle Classes 4, 5, and 6

CLASS 4 14,001 to 16,000 lbs

CLASS 5 16,001 to 19,500 lbs

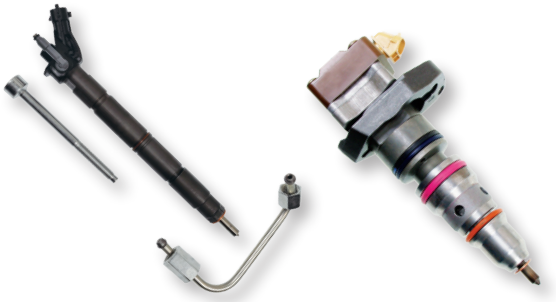
CLASS 6 19,501 to 26,000 lbs

Medium-duty vehicles belong to vehicle classes 4, 5, and 6. These three classes consist of any vehicle with a Gross Vehicle Weight Rating (GVWR) between 14,001 and 26,000 pounds, which is the total combined weight of the truck, including all passengers, fuel, fluids, and payload. These vehicles include everything from parcel delivery trucks to bucket trucks and school buses. NAPA® Echlin® is proud to provide an extensive offering of premium replacement parts for these medium-duty applications.

More Than 265 Diesel Engine Management SKUs Medium-Duty Trucks

MD Diesel Fuel Injectors

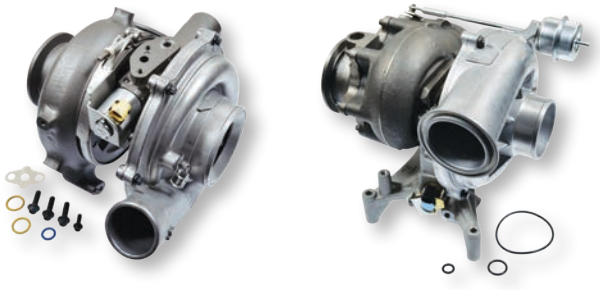
94 SKUs AVAILABLE



New Remanufactured

MD Diesel Turbochargers

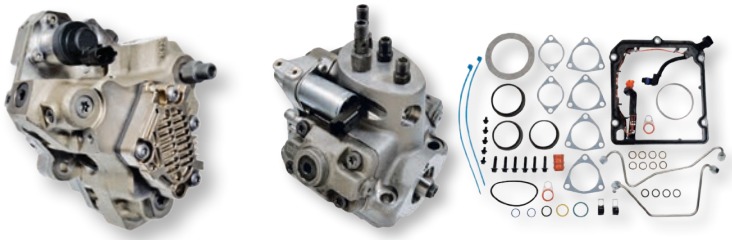
19 SKUs AVAILABLE



New Remanufactured

MD Diesel Fuel Injection Pumps

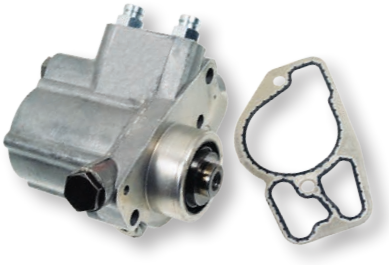
20+ SKUs AVAILABLE



New Remanufactured

MD Diesel High Pressure Oil Pumps

20+ SKUs AVAILABLE



Remanufactured

NEW Diesel Fuel Injectors

Introducing NAPA® Echlin® Diesel 100% NEW Fuel Injectors

NAPA® Echlin® Diesel is proud to offer a line of 100% NEW Diesel Fuel Injectors, which includes NEW OE-production fuel injectors for 4.5L, 6.0L, 6.4L, and 7.3L Ford® Power Stroke® diesel engines as well as Navistar DT465, DT530, DT570, and HT570 and Maxxforce 5, 7, 9, 10, and DT.

What makes NAPA® Echlin® Diesel NEW Fuel Injectors the best

Extensive engineering and manufacturing expertise coupled with high-precision equipment means NAPA® Echlin® Diesel NEW Fuel Injectors include the latest engineering enhancements to match the OE injector. NAPA® Echlin® Diesel NEW Fuel Injectors are built for the highest levels of precision and consistency, which delivers uncompromising quality, performance, and fuel economy.

OE standards, precision engineering and fully integrated capabilities set NAPA® Echlin® Diesel apart

- 100% all-new OE-replacement unit includes the latest engineering enhancements to match the OE injector
- Undergoes extensive dynamometer, hot gas test stand, and diesel emissions testing to ensure proper performance
- Product of OE-production design, development, engineering, and manufacturing processes, including sub-micron machining and complex assembly systems

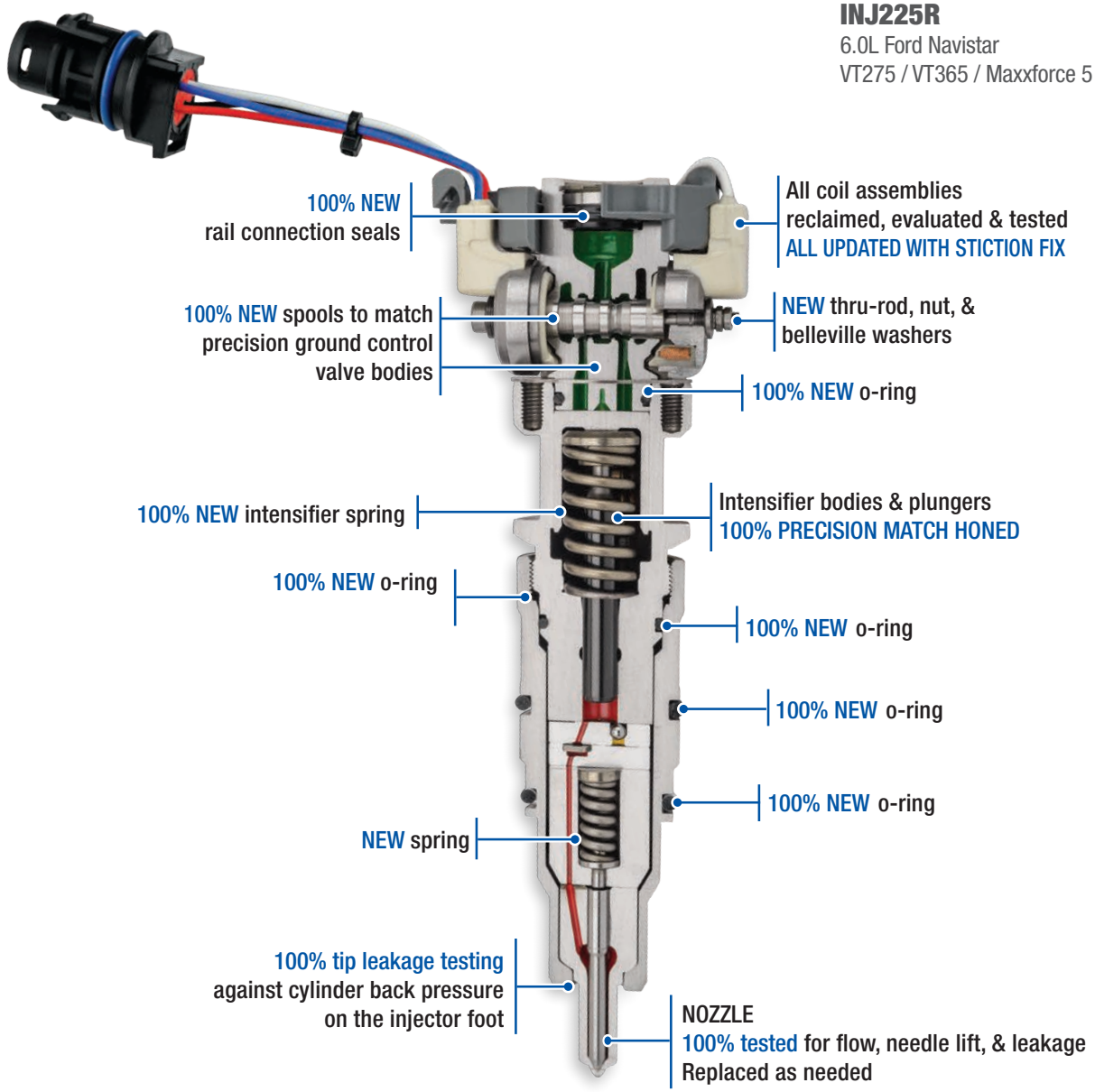
Diesel Fuel Injectors (HEUI) - Remanufactured

The Product of a Superior Remanufacturing Process

The Hydraulic Electronic Unit Injector (HEUI) system uses high-pressure engine oil instead of a camshaft to control the injection of fuel. Unlike a conventional fuel system, where fuel injection pressures increase proportionally with engine speed, the HEUI system works with the ECM to electronically control injection independent of engine speed.

To ensure continued performance and reliability, all NAPA® Echlin® Diesel Fuel Injectors are the product of an exhaustive remanufacturing process at a TS16949, ISO9001, and ISO14001-certified facility. For an example of what goes into our remanufactured injectors, take a look at our INJ225R:

INJ225R
6.0L Ford Navistar
VT275 / VT365 / Maxxforce 5



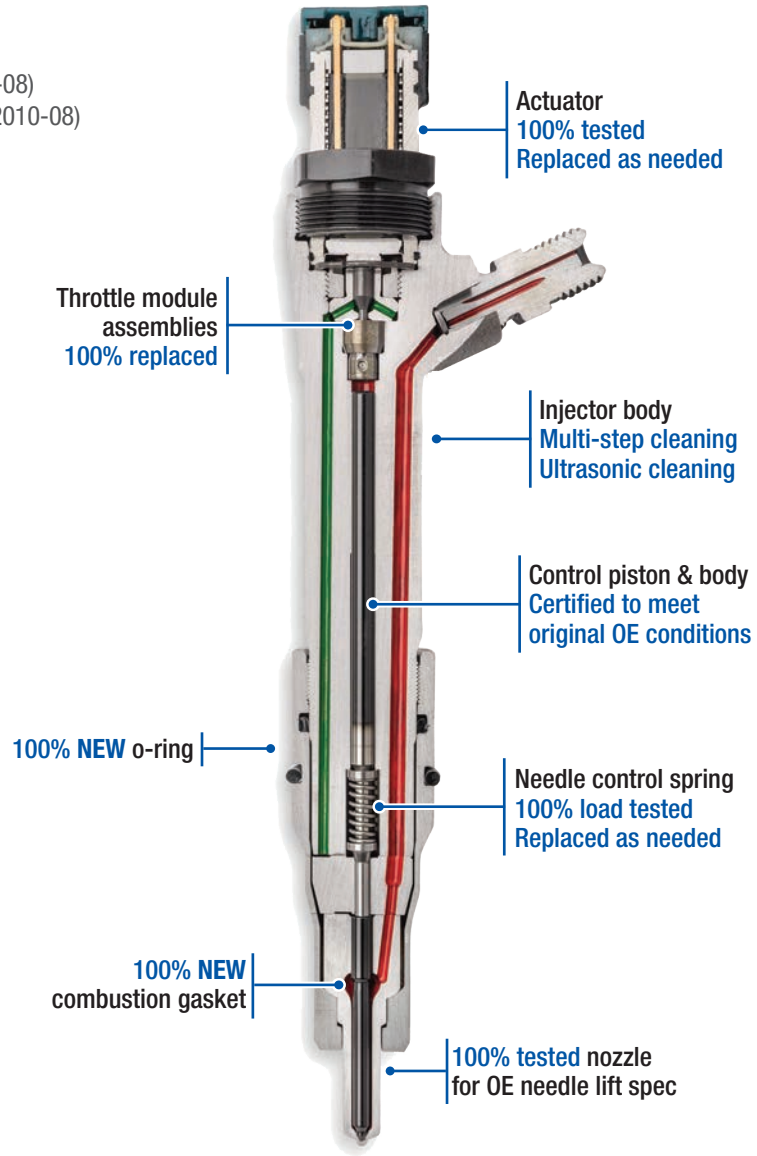
Diesel Fuel Injectors (CRI) - Remanufactured

The Product of a Superior Remanufacturing Process

Named after the shared high-pressure rail that supplies cylinders with fuel, the Common Rail Injection (CRI) system is an advanced technology for diesel engines. For conventional diesel injection systems, fuel pressure needs to be generated for each individual injector. For Common Rail systems, pressure generation and injection are separate, meaning the fuel is constantly available at the required pressure for injection.

To ensure superior performance and reliability, all NAPA® Echlin® Diesel Fuel Injectors, including Common Rail Injectors (CRI), undergo an exhaustive remanufacturing process at a TS16949, ISO9001, and ISO14001-certified facility. To see what goes into our remanufactured CRI injectors, take a look at our INJ230R:

INJ230R
Ford F Pickups (2010-08)
International Trucks (2010-08)



Diesel Parts for Contaminated Ford® 6.7L Engines

Due to a design flaw, the Ford® Power Stroke® 6.7L diesel engine is prone to contamination, which damages the entire fuel system. We're proud to offer premium replacements for parts throughout the fuel system that are affected by contamination.

Diesel Fuel Injector Rail

DFR200
Ford F-Series Super Duty Trucks (2016-11)
VIO Over 833,000

Diesel Fuel Injector Rail

DFR201
Ford F Pickups (2016-11)
VIO 865,000

Diesel Fuel Injector (Remanufactured)

INJ235R
Ford F Pickups (2016-11)
VIO 585,000

Diesel Fuel Injector (Remanufactured)

INJ236R
Ford F Pickups (2016-11)
VIO 585,000

Diesel Fuel Injector (Remanufactured)

INJ240R
Ford F Pickups (2018-14)
VIO 760,000

Diesel Fuel Injector (Remanufactured)

INJ241R
Ford F Pickups (2018-16)
VIO 710,000

Diesel Fuel Transfer Pump

DTP217
Ford F Pickups (2016)
VIO Over 132,000

Diesel Injection Pump Supply Line

PSL230
Ford F Pickups (2014-11)
VIO Over 506,000

Diesel Fuel Rail Supply Line

FSL200
Ford F Pickups (2016-11)
VIO Over 833,000

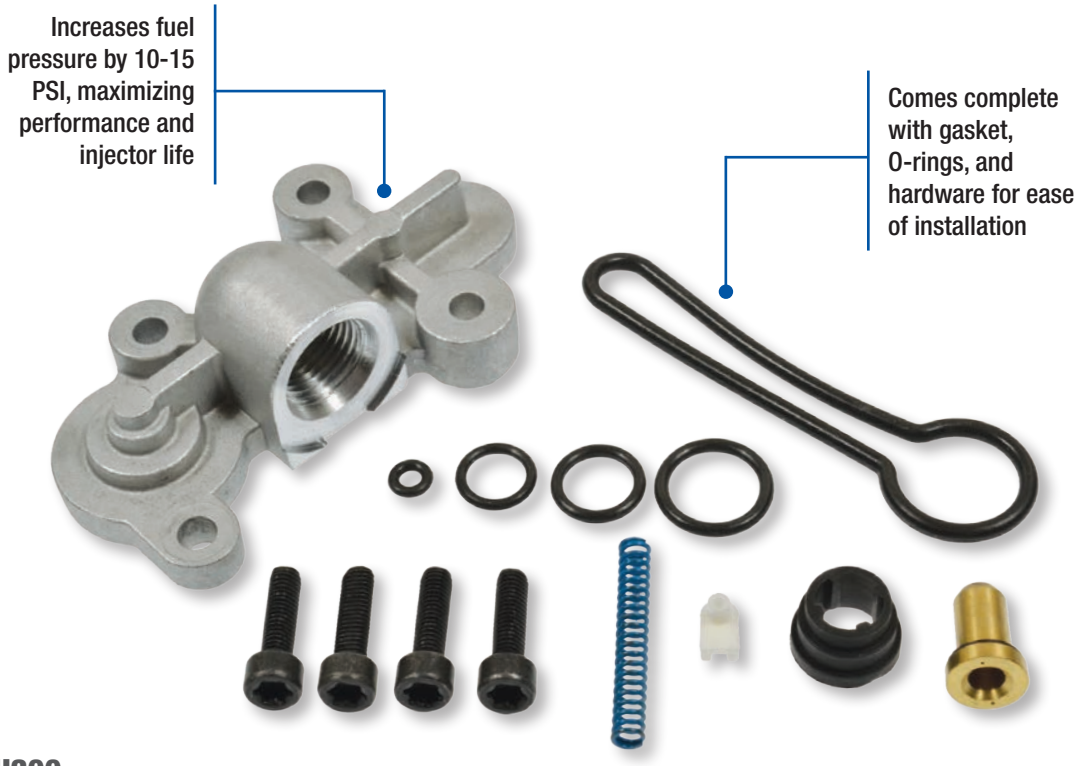
Diesel Fuel Injector Return Hose

FRL200
Ford F Pickups (2016–11)
VIO Over 833,000

‘Blue Spring’ Fuel Pressure Regulator Upgrade Kit

Complete Kit for Ford 6.0L Trucks

A weakened stock spring can cause hard starting, stalling, poor fuel mileage, and poor acceleration. As a result, the drop in fuel pressure caused by the weakened spring can damage the injector. To make repair easier, our Fuel Pressure Regulator Kit includes everything you need to reseal the fuel filter housing: our blue spring, O-rings, and all the necessary hardware.



FPU200
6.0L Ford Trucks (2007-03)
VIO Over 725,000

Increased Pressure

Once installed, our blue spring will increase fuel pressure by 10-15 psi, eliminating potential for injector damage

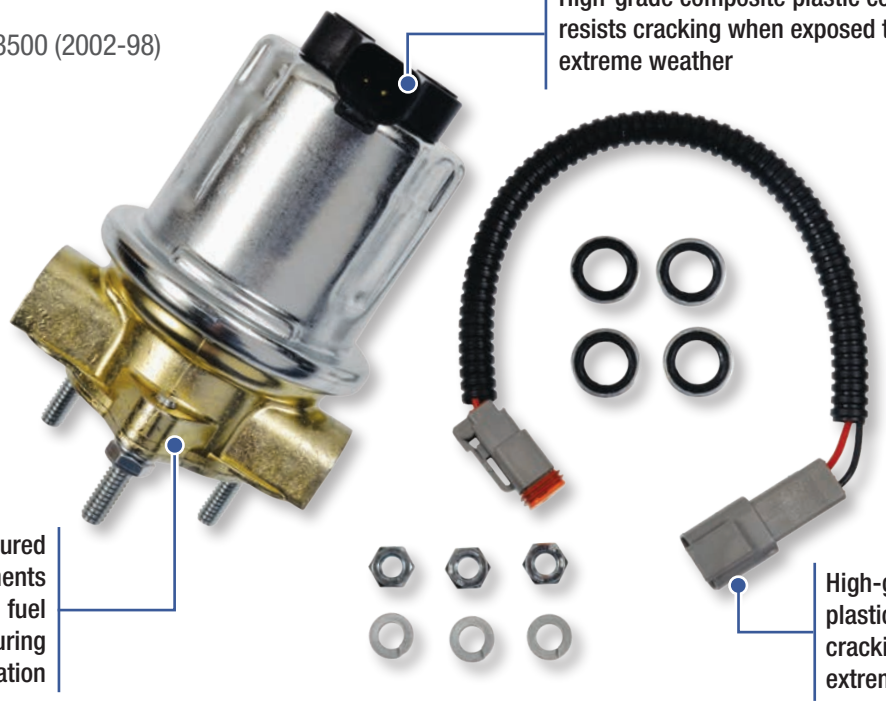
Diesel Fuel Transfer Pump - New

Don't Let a Faulty Fuel Transfer Pump Ruin Your New Fuel Injection Pump

The fuel injection pump can fail if the fuel transfer pump (a.k.a. lift pump) doesn't supply enough fuel pressure. To protect the longevity of your replacement fuel injection pump, it is highly recommended that you also replace the fuel transfer pump.

As a high-quality replacement part, NAPA Echlin's 100% new Diesel Fuel Transfer Pump is designed to keep constant fuel flow from the vehicle fuel tank to the injection pump. The constant flow allows peak performance to remain consistent during vehicle operation.

DTP300 - NEW
Dodge Ram 2500, 3500 (2002-98)
VIO over 384,000



Tech Tip: Fuel transfer pump pressure should be 8-10 PSI during cranking and more than 5 PSI during vehicle operation.

Related Parts

If you also need a high-quality fuel injection pump for the job, NAPA® Echlin® offers two options: the IP309R and IP310R. Both injection pumps are remanufactured at a TS16949, ISO9001, and ISO14001 certified facility to ensure quality. Both parts also include O-ring seals for proper installation.


IP309R


IP310R

Diesel Fuel Injection Pumps - Remanufactured

Our Multi-Step Process Ensures Quality

Our Diesel Fuel Injection Pumps undergo a comprehensive remanufacturing process at our TS16949, ISO9001, and ISO14001 certified facility. Throughout the course of the multi-step process, the pumps and their components are completely disassembled, validated for reclamation, cleaned, inspected for conformity, reassembled, and thoroughly tested using factory-authorized performance specifications and test equipment.

IP600R
Volkswagen Beetle, Golf, and Jetta 1.9L w/ AT (2004-98)
VIO over 215,000

Based on our inspection, we replace the following components with new:

- Control, overflow, and solenoid-operated valves
- Supply pump
- Driveshaft
- Shutdown solenoid
- Advance piston
- Head and rotor
- Housing
- Positioner
- Internal seals

IP601R
Volkswagen Beetle, Golf, and Jetta 1.9L w/ MT (2004-98)
VIO over 49,000

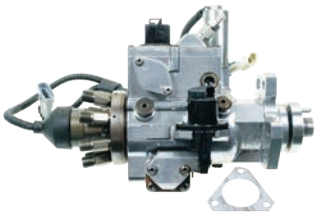
Tech Tip: For this repair, technicians are required to set the dynamic timing using the VW VAG-COM Software. When setting the dynamic timing, note that diagnostic trouble codes P1562/P1563 (quantity adjuster positioner lower/ upper limit reached) are most often associated with incorrect timing of this injection pump.

IP602R
Volkswagen Jetta and Passat 1.9L w/ AT (1998-96)
VIO over 60,000

Diesel Fuel Injection Pumps - Remanufactured

What Quality Remanufacturing Looks Like

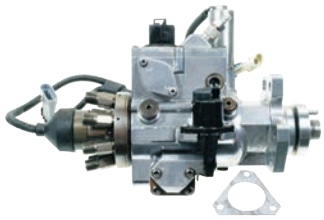
All NAPA® Echlin® Diesel Fuel Injection Pumps are the product of an exhaustive remanufacturing process at our TS16949, ISO9001, and ISO14001 certified facility. Throughout the course of the 10-step process, the pumps and their components are inspected, torn down and validated, cleaned, reassembled, and tested. With the detailed process in place, we can say with confidence that we provide the finest-quality Diesel Fuel Injection Pump.



IP134R
GM Pickups, Fullsize Vans, P Series Vans (2002-94)

IP140R
GM Pickups (2004-01)

IP141R
GM Pickups (2005-04)



IP142R
GM Pickups
Fullsize Vans (2007-06)
Hummer (2006)

IP200R
Ford F Pickups, E-Vans (1987-83)

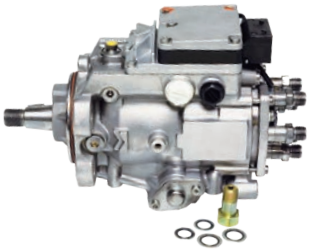
IP203R
Ford F Pickups, E-Vans (1992-88)

IP208R
Ford F Pickups, E-Vans (1994-89)

IP120R
Ford F Pickups, E-Vans (1994-92)

IP219R
Ford F Pickups (1994-93)

IP309R
Dodge Pickups (2002-00)



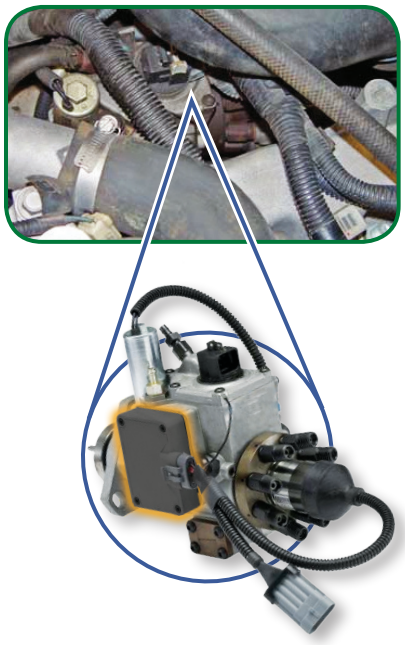
IP310R
Dodge Pickups (2002-98)

IP318R
Dodge Pickups (2007-03)

PMD Relocation Kit

On Stanadyne DS4 electronic fuel injection pumps used on all 1994-2002 6.5L GM trucks and vans, the OE pump-mounted driver (PMD) module is mounted directly to the diesel injection pump. This location creates two problems. The first is inefficiency. If a PMD module attached to a fuel injection pump needs to be serviced or replaced, you need to reach the fuel injection pump, which is an extremely time-consuming, labor-intensive repair. The second problem is that the location on the fuel injection pump subjects the PMD to excessive heat, a known cause of this high failure part.

Our PMD Relocation Kits provide a solution to both problems. If you install the kit upfront when installing the fuel injection pump, you'll save significant time when diagnosing and replacing the PMD module in the future. As for the heat-related failure, our remote-mount PMD Kit allows you to relocate the PMD, which will help improve service life because of increased airflow around the module, thereby keeping it cooler.



PMK110
GM & Hummer
6.5L Diesel (2004-94)

- Eliminates need to reach fuel injection pump when only PMD module needs service or replacement
- The PMK110 kit comes complete with a new PMD, relocation harness, aluminum heat sink, mounting hardware, and a #9 resistor
- Already have a functioning PMD? Our PMK111 kit provides only the components.

PMD Resistors #5 and #9

In addition to PMD Relocation Kits, we offer PMD Resistors separately: the #5 Resistor, which matches the stock settings, and the upgraded #9 Resistor, which promotes high performance settings and increased fuel flow.

- Both resistors are engineered to fine-tune fuel delivery to your preference

#5

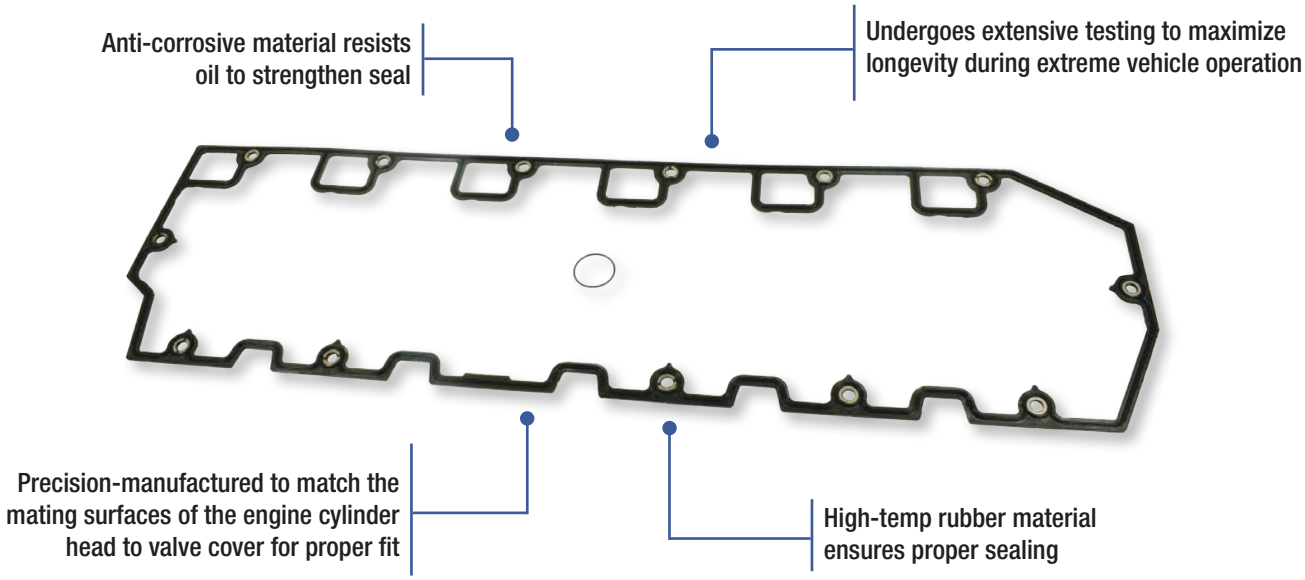
PMR110
GM & Hummer 6.5L
Diesel (2004-94)

#9

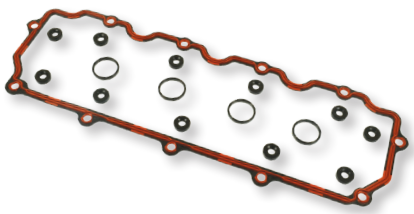
PMR111
GM & Hummer 6.5L
Diesel (2004-94)

Diesel Valve Cover Gaskets

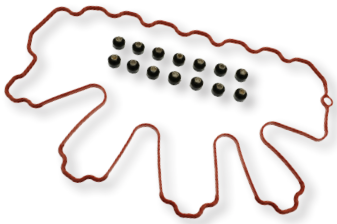
The valve cover gasket attaches the valve cover to the engine. Together, the cover and gasket seal the top of the engine and prevent oil leaks. Extreme engine temperatures can cause the gasket to wear out, leading to leaks and potential engine damage. We offer a line of Diesel Valve Cover Gaskets for an array of applications.



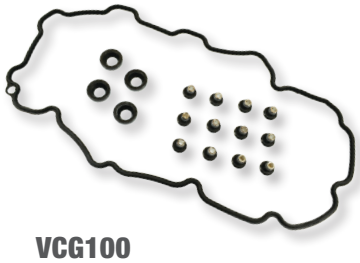
VCG400
International Trucks (03-96)



VCG202
Ford E-350 (2010-04), F-250SD & F-350SD (2007-03), F-450SD/F-550SD

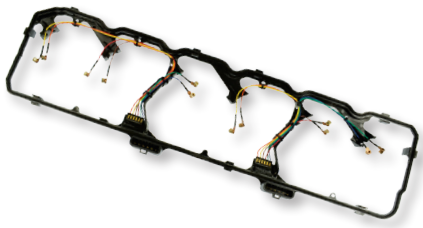


VCG101
GM C4500/C5500 (2009-04), GM Vans (2010-06), GM Pickups (2010-04)

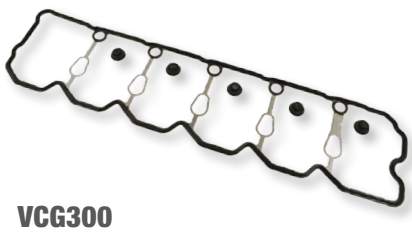


VCG100
GM Pickups (2004-01), GM C4500/C5500 (2004-03)

VCG200
Ford Pickups/Vans (1997-94), International (1997-94)

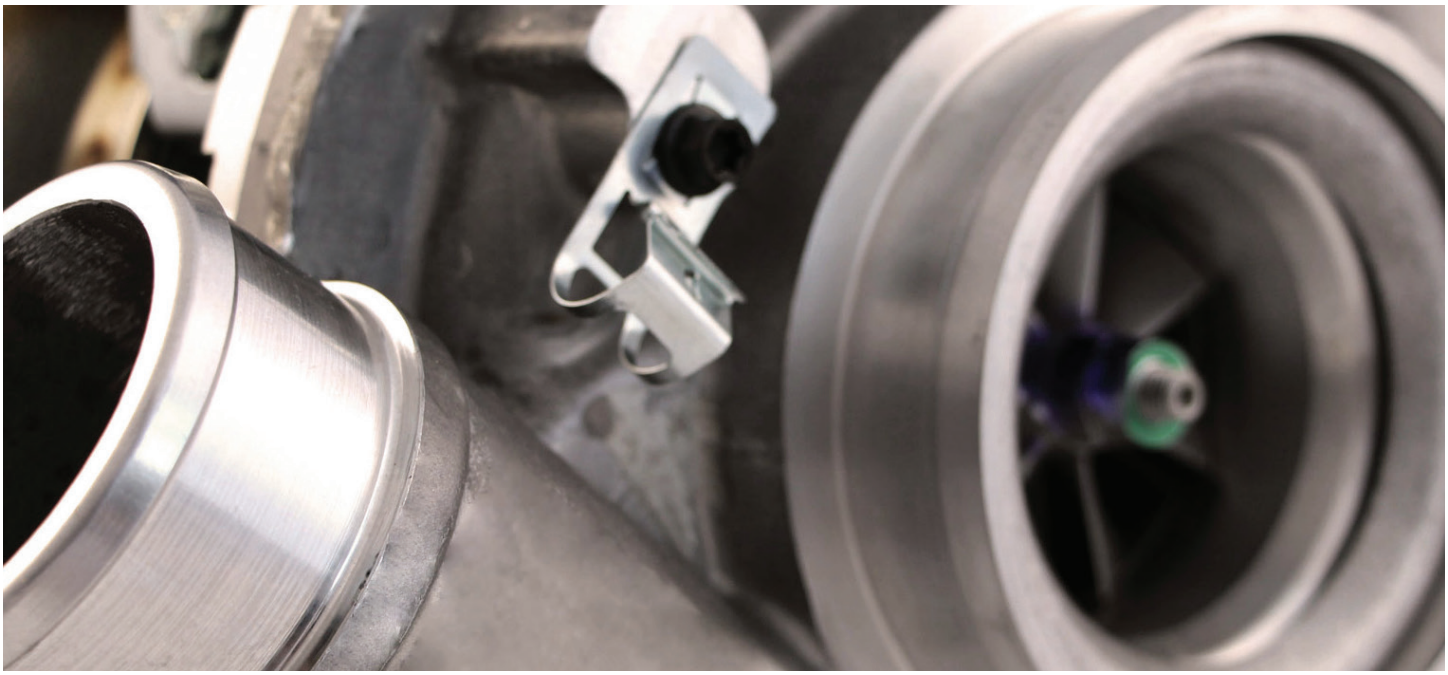


VCG302
Dodge Ram 2500/3500 (2010-06), Ram 2500/3500/4500/5500 (2013-11)



VCG300
Dodge Ram 2500/3500 (2002-1998)

Premium Diesel Turbochargers



The Upward Trend in Turbocharger Coverage

Vehicle manufacturers are adding turbochargers at a double-digit rate. The industry has seen rapid growth in gasoline-powered cars utilizing turbos, but the main consumers of turbochargers are diesel cars and trucks.

Why Turbo?

Turbochargers help increase available oxygen content inside the engine. This additional oxygen is needed to achieve or maintain acceleration in diesel engines at higher RPMs. Providing you with premium replacements, we've performed extensive research to determine the numbers you'll need to compete in this rapidly growing market.

Comprehensive Turbocharger Coverage

NAPA® Echlin® is proud to supply professional technicians with the coverage they need for domestic and import applications. With more than 50 diesel SKUs covering over 6 million VIO, our line features both 100% new OE-quality turbochargers as well as quality-remanufactured turbochargers with OE-quality components.

Domestic Turbochargers

More than 40 new and remanufactured turbochargers for domestic diesel applications.

Import Turbochargers

10 new turbochargers for import diesel applications. And more on the way.

In addition to our strong diesel coverage, NAPA® Echlin® offers a line of new and remanufactured turbochargers for gasoline engines.

NAPA® Echlin® TRB220R, TRB223R, and TRB225R
Turbochargers include electro hydraulic control valves. The OES doesn't.

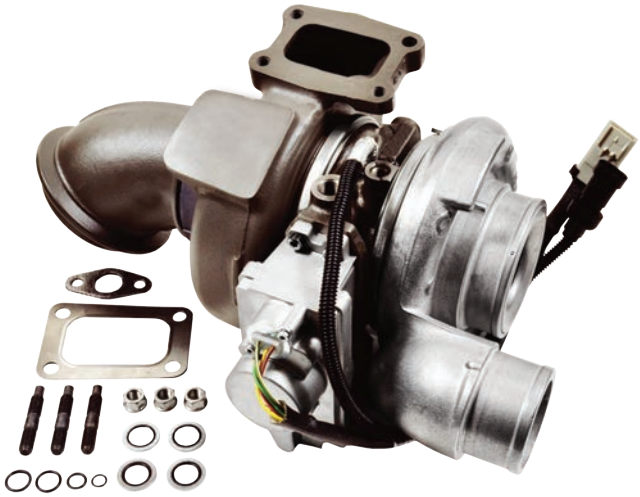
Ford 6.0L applications

Ford Motorcraft turbochargers do not include an electro hydraulic control valve. Instead, the valve is sold separately as an additional part. Giving you a quicker install, our units include a new OEM electro hydraulic control valve attached to them. Plus, they come with a complete hardware kit. Once installed, our units will provide maximum performance because they're remanufactured with components from our meticulously culled core deposit.

TRB220R
Ford Trucks (2004-03)

TRB223R
Ford Trucks (2005-04)

TRB225R
Ford Trucks (2007-05)



TRB338R
Dodge 6.7L Diesel
Dodge Ram Trucks (2010-07)
Ram Trucks (2012-11)

NAPA® Echlin® TRB338R

This Turbocharger is already pre-programmed to communicate with the ECM, unlike the competitor.

Competitor reman units require a "flash" to the actuator in order to communicate with the ECM, a step that can only be performed at a Cummins or Dodge Truck dealer. Helping you cut out the dealer, our unit includes a pre-programmed actuator and exhaust elbow. Like the turbocharger units above, our TRB338R is remanufactured with components from our meticulously culled core deposits and comes with a complete hardware kit for a quicker installation.

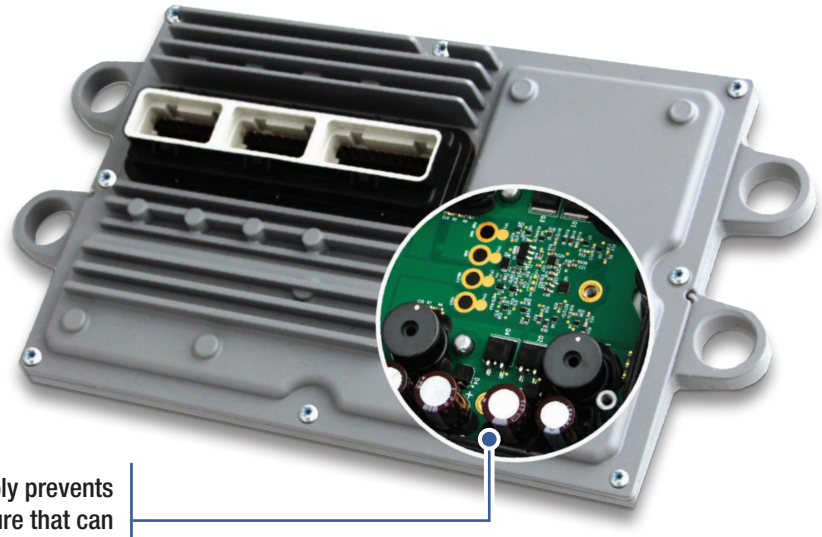
Diesel Fuel Injection Control Modules

Don't Tolerate Rough Running on Cold Starts

On the Ford® 6.0L Power Stroke® engine, the Fuel Injection Control Module (FICM) supplies 48 volts to the two injector solenoids. A voltage drop will lead to improper oil flow regulation and fuel injector function. During cold starts, when oil is thickest, the injector solenoids draw more current. The excessive current draw can damage the FICM's capacitors, causing them to drop out and lower the voltage supply. A common symptom is rough running on cold startups followed by normal engine operation. Although truck owners often tolerate the condition, it may lead to injector damage and even a crank no-start.

To help prevent serious damage to engines, we're proud to offer a line of Diesel Fuel Injection Control Modules. Each one is remanufactured using our upgraded 100% NEW Power Supply Module. Take our FCM200, for example:

FCM200
Ford F-Series
Super Duty Trucks & Excursion
(2004-03)
VIO Over 333,000



Upgraded Power Supply prevents heat-related failure that can occur in competitors' units

Tech Tip:
Make sure the correct voltage is coming out of the FICM when the job is complete. Also, to extend the longevity of your FICM repair or replacement, it is good practice to replace the fuel injectors, too.

How to Identify a Faulty FICM…

- Monitor a scan data PID called FICM_MPWR. If the data is lower than 48 volts, you likely have a faulty FICM.
- Make sure the PID FICM_VPWR and FICM_LPWR both indicate battery voltage. If sufficient voltage is not available to the FICM, it can't do its job.
- Expect plenty of DTCs set for injector circuit voltage errors.

…and Make Sure Glow Plugs Aren't the Problem

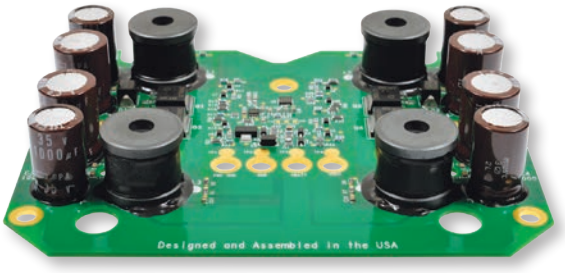
FICMs and glow plugs can both cause hard start or rough running on a cold engine. Here's one way to tell the difference:

- If there's white smoke coming out of the exhaust after a long crank, the problem is likely the glow plugs.
- If there's no smoke, it's likely the FICM.

Powered by Our Upgraded FICM Board

The Ford Fuel Injection Control Module (FICM) contains two modules: a power module and a logic module. On select Ford trucks, the low-quality electronics on the OE and other aftermarket FICM power modules can overheat and lead to failure. Another common cause of failure with OE units is vibration.

Designed from the ground up at our state-of-the-art manufacturing facility, our Fuel Injection Control Module (FICM) Power Supply surpasses its counterparts in quality.

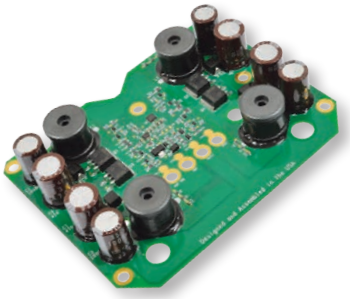


FCM203
Ford 6.0L Diesel Trucks (2010-01)
VIO Over 800,000

- Re-engineered circuit board layout
- Higher-quality electronics reduce excess heat
- Four large coils on the circuit board that exceed OE specifications
- Gold-plated contacts for greater energy transfer
- Built-in load dump protection for reduced high-voltage interference
- No programming necessary
- 100% New
- Designed and manufactured in the U.S.A.
- Eliminates need to replace both power and logic modules
- Components epoxied in place to help prevent vibration-related failures

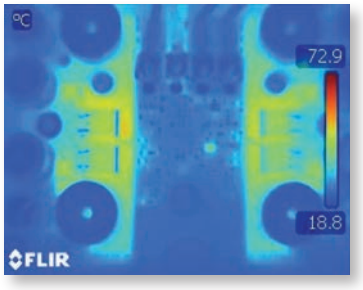
Featuring a re-engineered layout, the circuit board is constructed with higher-quality electronics that protect critical components from excess heat. For proof, look at these thermal images. They were taken 1 minute after the modules were loaded during a cold-start simulation. Blue indicates cooler temperatures. Red indicates hotter.

As you can see, our Fuel Injection Control Module Power Supply distributes heat more evenly, keeping diodes and other critical components cooler and preventing the failure that can occur in competitors' units.

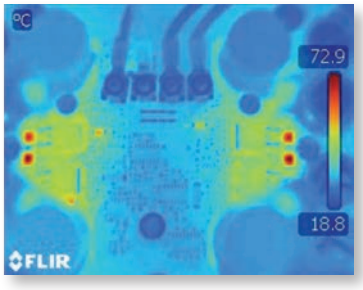


Our Module

Competitor's Module



Our Module



Competitor's Module

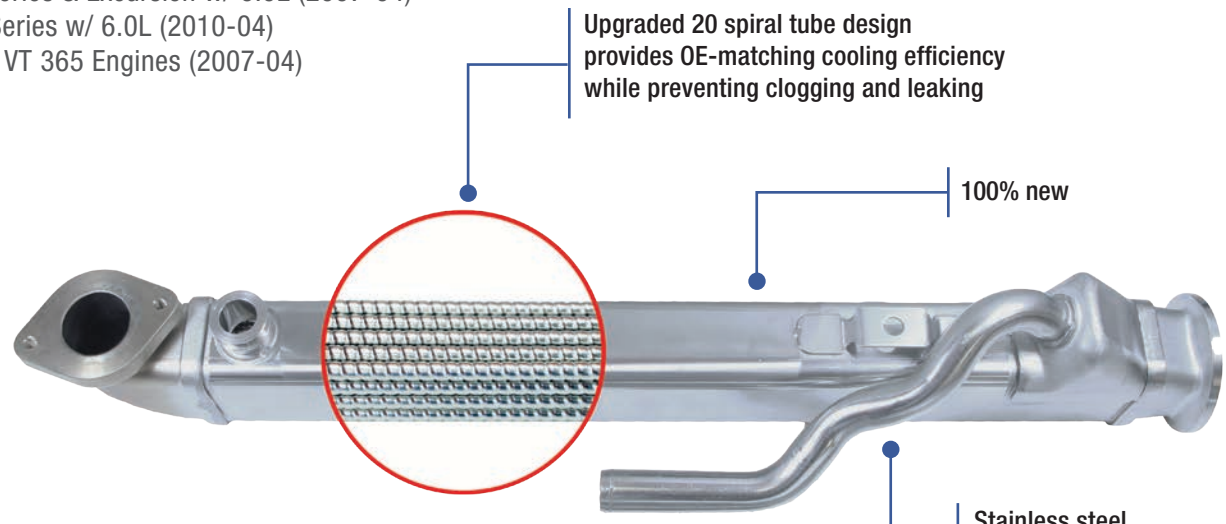
Diesel EGR Cooler Kits

Not All EGR Coolers Are Designed the Same

EGR coolers use engine coolant to reduce exhaust gas temperatures before the gas is recirculated through the intake system. Reducing exhaust gas temperatures is critical for reducing NOx emissions. Plus, engines that run with higher EGR temperature don't adequately cool the combustion, which can reduce the life expectancy of the EGR valve, engine valves, and head gaskets.

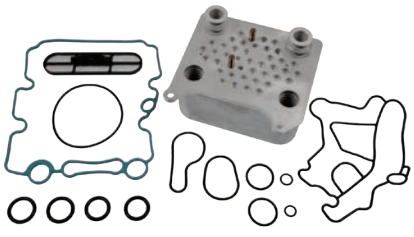
Not all EGR coolers are the same. The original equipment EGR cooler's fin-and-tube-style design is prone to clogging and leaking. Additionally, many aftermarket EGR coolers feature various tube designs that do not provide the necessary cooling. Providing a superior alternative to both designs, NAPA® Echlin® is proud to offer a Diesel EGR Cooler Kit with an upgraded 20 spiral tube design. Take a look at our EGC202, for example:

EGC202
Ford F Series & Excursion w/ 6.0L (2007-04)
Ford E-Series w/ 6.0L (2010-04)
Navistar VT 365 Engines (2007-04)



Comes with intake manifold gaskets, seals, and hardware for a complete EGR cooler install

Tech Tip: When replacing an EGR cooler, experts recommend inspecting and servicing the oil cooler, too.



OIL202 - Diesel Oil Cooler Kit
Ford Pickups (2007-03)
Ford Vans (2010-04)
International (2012-03)

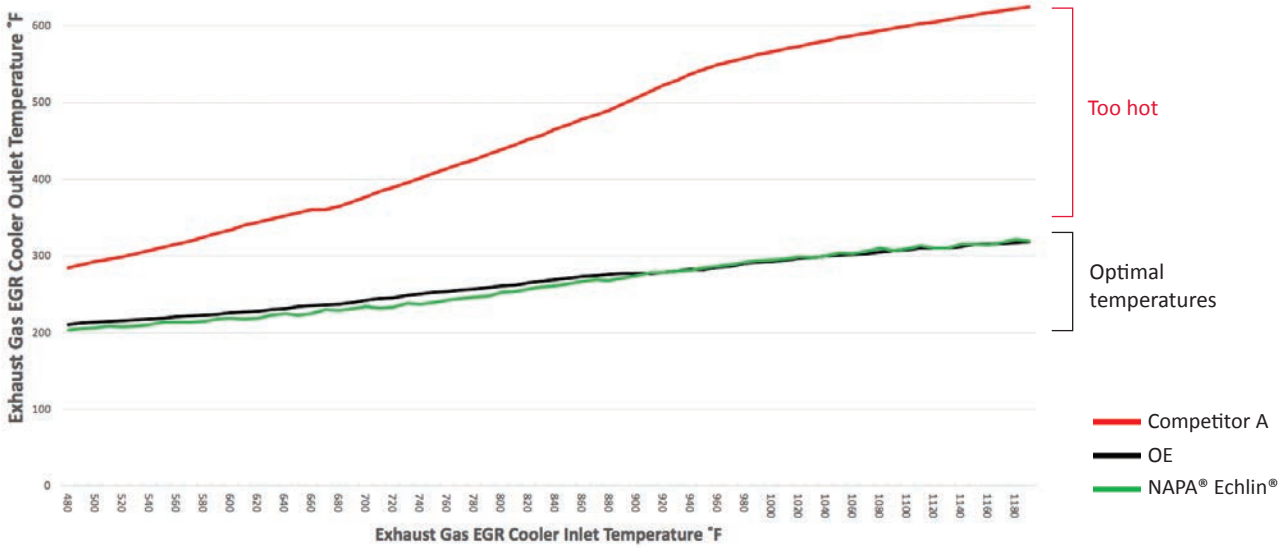
The Benefits of a 20 Spiral Tube Design

The OE EGR cooler features a tube-and-fin-style design that is prone to clogging from soot and to internal leaks from fractures caused by overheating. To address the design flaw, our EGR cooler features a 20 spiral tube construction that resists soot clogging and prevents leaks to maintain proper system flow and pressure. Plus, our design provides the same cooling efficiency as the OE design.

NAPA® Echlin® EGC202
Design: 20 spiral tubes
Effect: Provides OE-matching cooling efficiency while resisting soot clogging and maintaining necessary system flow and pressure

OE
Design: Fin-and-tube
Effect: Although this design is efficient, it's prone to soot clogging and internal leaks from fractures caused by overheating

Competitor A
Design: 6 straight tubes
Effect: The straight tubes are less efficient than spiral tubes, which create even hotter exhaust gas temperatures



Tested to Ensure OE Cooling Efficiency

Most aftermarket suppliers fail to adequately test their EGR coolers for proper performance. We subject our EGR Coolers to 100% factory testing for air and water leaks. To see how our EGC202 Diesel EGR Cooler performs against both the OE and our aftermarket competitors, see the results of our heat exchange test above. Note that vehicles with exhaust gas temperatures not in the optimal temperature range are at risk of failing NOx emissions inspections.

Diesel High Pressure Oil Pumps

The High Pressure Oil Pump (HPOP) delivers high pressure oil to the fuel injectors, which operate hydraulically. To ensure superior performance, our Diesel High Pressure Oil Pumps are the product of an in-depth remanufacturing process that includes inspection, tear down and validation, cleaning, reassembly, and testing. For example, take a look at our HPP218R:

HPP218R
Ford F Pickups, E-Vans, & Excursion (2010-05)
International Trucks (2008-04)

All component parts are pre-qualified for reclamation or replacement during disassembly to maximize performance

Rigorously cleaned during multi-step process before reassembly to remove all oil and debris

Comes complete with gasket kit for ease of installation

Dynamically tested on custom hydraulic test bench to ensure reliability

Dirty Oil and Other Issues Found in The Competition's Pumps

We disassembled and inspected diesel high pressure oil pumps from the competition. Here's what we found:

- Paint on areas of housing that are subject to engine oil
- Reused core components including check valve assemblies, check springs, plunger return springs, and camshaft followers
- Rust in check valve assembly bores, stuck check balls in the housing, and dirty oil in pumps

Dirty Oil Found in the Competition's Pumps

All NAPA® Echlin® Diesel High Pressure Oil Pumps are the product of an exhaustive remanufacturing process at our TS16949, ISO9001, and ISO14001 certified facility. Throughout our process, our pumps and components are inspected, torn down and validated, cleaned, reassembled, and tested, so you can install our part with confidence. Take the process for our HPP218R, for example:

Camshaft followers

We inspect all camshaft followers and replace them with new wherever required.

Drive gear

We inspect and clean each drive gear before reusing.

High-pressure discharge fitting

We install 100% new, updated high-pressure discharge fittings and torque them to factory specifications and the correct orientation to prevent leakage.

Bearings

We perform a 100% inspection of both front and rear bearings. If the core bearings are bad, we replace them with 100% new bearings that are the product of a line boring/honing process.

Check valve assembly

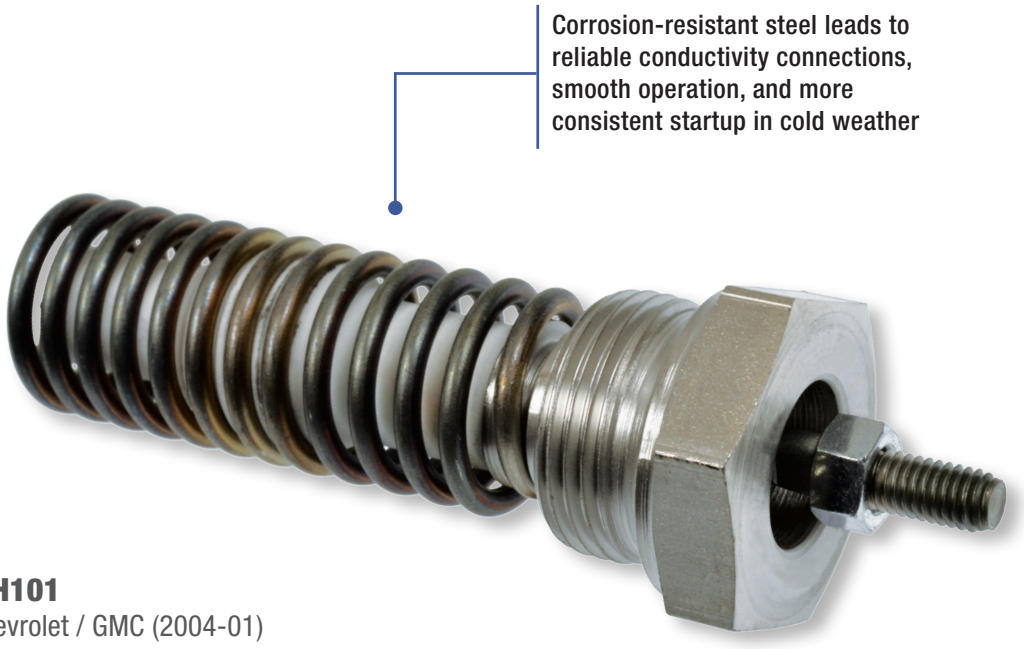
We reassemble every check valve assembly with new sleeves, plugs, check springs, and machine-lapped flanges and plates.

Housing

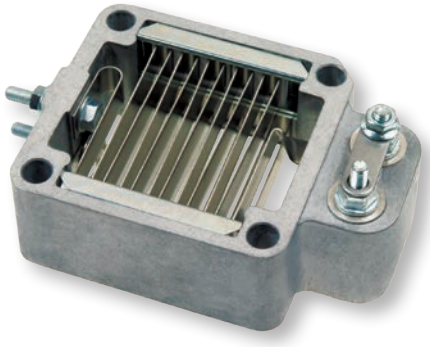
We paint the exposed topside of the pump to prevent rusting. We don't paint the rest of the housing to prevent exposing the engine oil to paint contamination.

Diesel Air Intake Heaters

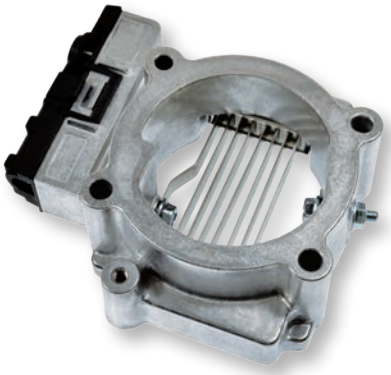
Before air enters the engine, the diesel air intake heater heats the air to aid startup in cold weather. To provide reliable parts for this category, we offer a line of Diesel Air Intake Heaters for several diesel applications. Each heater is designed and manufactured to ensure consistent startup in cold weather. Take a look at our AIH101, for example.



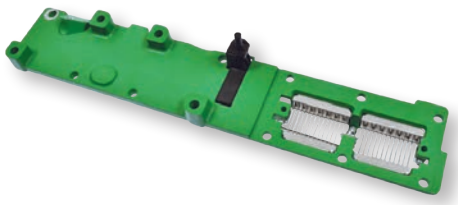
AIH101
Chevrolet / GMC (2004-01)



AIH304
Dodge Ram Trucks (2008-06)



AIH102
Chevrolet / GMC Trucks (2016-11)



AIH305
Dodge Ram Trucks (2014-07)

Exhaust Gas Temperature (EGT) Sensors

Our Line Features More Than 100 Parts for Diesel Applications

Exhaust Gas Temperature (EGT) Sensors monitor the engine's exhaust gas temperature. To provide coverage for this important category, we're proud to offer a growing line of EGT sensors—all designed and manufactured to stringent quality standards at a certified facility so you can install with confidence.

EXT205
Ford F250SD/F350SD,
F650, F750 (2017-15)

EXT501
Chevrolet Cruze (2015-14)

EXT706
BMW X5 (2017-14)

EXT806
Mercedes ML350, GL350 (2012-10)

Diesel Nitrogen Oxide (NOx) Sensors

A High-Failure Part That's Required for Emissions Regulations

- NOx sensors monitor the level of nitrogen oxide being emitted by a diesel vehicle to ensure compliance with emissions regulations
- Most engines feature two NOx sensors: an upstream and downstream sensor
- Common causes of failure include soot buildup on the sensor, ECU water intrusion, and/or damage to the cable, which will cause the check engine light to illuminate

DNX1001 - Upstream
Chevrolet & GMC Trucks w/
8 Cyl. 6.6L Engines (2014-10)

DNX1002 - Downstream
Chevrolet & GMC Trucks w/
8 Cyl. 6.6L Engines (2014-10)

Related Parts for 6.6L Duramax Engine

DFP100
Diesel Emissions
Fluid Pump

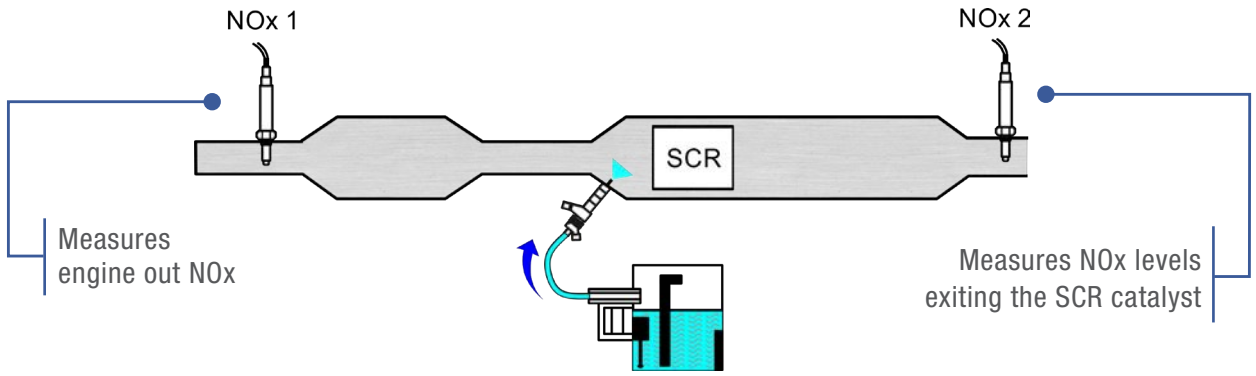
DEF100
Diesel Emission
Fluid Injection Nozzle

DTS100
Diesel Emissions Fluid
Temperature Sensor

EXT110
Exhaust Gas
Temperature Sensor

About NOx Sensors

Below is a diagram of a generic Selective Catalytic Reduction (SCR) system used on light-duty diesel passenger trucks. The assembly uses two NOx sensors: the first sensor (referred to as NOx sensor 1) is located near the turbo downpipe and measures engine out NOx. The second sensor (referred to as NOx sensor 2) measures NOx levels exiting the SCR catalyst.



The SCR assembly contains a catalyst brick that requires DEF, or diesel exhaust fluid, for activation. A PCM controlled pump and doser valve are used to meter DEF into the exhaust system upstream of the SCR brick. With the exhaust heat, the DEF will decompose into ammonia and carbon dioxide.

If too much DEF is injected into the exhaust, the SCR brick can become saturated with ammonia and some of it will exit the SCR assembly. This is called “ammonia slip”. To a NOx sensor, ammonia and NOx look the same. Ammonia slip will cause the downstream NOx sensor to report an incorrect amount of NOx in the exhaust stream.

How do you know if the NOx sensor is reporting NOx levels correctly?

While addressing SCR codes concerning DEF quality, NOx sensor failure, or SCR efficiency, it may be necessary to “burn out” saturated SCR bricks and run the onboard diagnostic again. This can be accomplished by performing a manual DPF regen. The heat produced during the manual regen will remove ammonia from the SCR bricks and allow for a more accurate onboard SCR system diagnostic.

NOx Sensor Repair Tips

- A degraded doser valve (DEF injector) may set NOx DTCs
- Be sure to test the doser valve before replacing NOx sensors
- After replacing a NOx sensor, be sure to check service information for any reset procedures
- NOx sensors can’t tell the difference between NOx and ammonia
- Performing a DPF regen will release ammonia from the SCR catalyst

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