



A Bosch Guide to
**Choosing the Right
Common Rail Injector**



BOSCH

Invented for life

The common rail system is a major advancement in diesel technology. Bosch launched its common rail system for passenger car diesel engines in 1997, which provides diesel engines with quieter performance, improved fuel economy, higher torque, and lower emissions.

Each individual engine cylinder houses a common rail injector. When one or more injectors need to be replaced, you may wonder what replacement options you have.

Make a Smart Choice

Bosch diesel fuel injectors fall into three categories:

► **Genuine OE Injectors**

Bosch injectors are the standard for the industry and provide superior performance and durability. Bosch injectors are manufactured to original equipment specifications.

► **Remanufactured Injectors**

Bosch's remanufactured injectors are produced at the same Bosch facility as their new injectors. All wearable parts and critical components are replaced with genuine Bosch parts, and the latest OE production technology is used. Bosch remanufactured injectors include all OE updates, so they can often be superior to the OE injectors that they replace.

► **Injectors from an Authorized Bosch Common Rail Field Repair Location**

Bosch Common Rail Injector authorized diesel service facilities have the necessary Bosch equipment and training to rebuild Bosch injectors locally with the assurance that each injector meets the OE performance requirements.

Bosch is standard equipment on many diesel engines today. Replacing your injectors with Bosch new, remanufactured or Bosch-authorized rebuilt injectors is a smart choice.

Testing Proves it

Bosch conducted an intense evaluation of non-authorized injectors available in the market. Our evaluation included testing on our EPS-815 test bench with Bosch patented Shot to Shot (SST) functionality including OEM (original equipment manufacturer) specifications. After the testing was performed, Bosch did an injector tear-down for inspection.

More than 50 percent failed, and presented a significant hazard to the engine if installed in a diesel common rail system. These hazards included:

- Loss of power
- Decreased fuel economy
- Failure to operate after a short period of time
- Increased Noise
- No start
- Smoke
- Engine damage
- Exhaust system damage

These injectors could operate for weeks or months before causing the engine and exhaust system to malfunction. One failed injector could lead to complete engine failure.

Did You Know? Bosch is the leading OE supplier of diesel fuel injectors for diesel passenger cars, SUVs, vans, and pickup trucks.

Non-OEM Approved Remanufactured Products

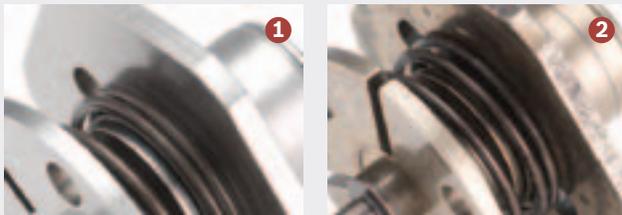
Not all remanufactured injectors are the same. The quality of any remanufactured injector depends on the remanufacturing process and components. During our testing process, we have found that many of the components removed from non-authorized injectors were outside of the original design specifications and some had corrosion and pitting, which compromises performance. (See photos)

You might get a great deal on these non-OEM approved products, but you are taking a huge risk that these injectors may not be better than the one you are trying to replace.

What Can I Do?

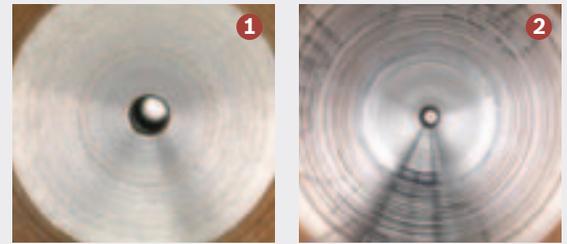
Make sure your vehicle is being serviced by a reputable shop. Ask about the fuel system components used on your diesel engine to ensure they are from a Bosch approved supplier.

Tear-down findings from Bosch testing process



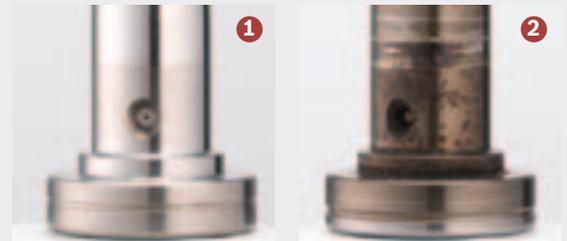
1 New Bosch armature **2** Competitor armature removed from a reman injector out of the box before installation. Note the varnishing and corrosion, which can lead to inconsistent operation.

Tear-down findings from Bosch testing process



1 Sealing surface for a new Bosch valve body.
2 Sealing surface of a competitor valve body that was taken from a reman injector out of the box before installation. The sealing surface has been reground to remove the wear. This treatment alters the sealing surface and overall injector performance.

Tear-down findings from Bosch testing process



1 New Bosch valve body **2** Competitor valve body removed from a reman injector out of the box before installation. The manufacturer inserted a used part that has discoloration, corrosion and pitting. This can cause friction during movement of the valve piston, which can compromise performance.

All Common Rail Injectors are not created equal

	Bosch Remanufactured Injectors	Authorized Bosch Common Rail Field Repair location	3rd Party Injectors
Produced with a mixture of new OE components and reconditioned OE components	●	●	?
End of line testing using the exact OE test specifications	●	●	?
Guaranteed to offer OE performance	●	●	?
Guaranteed to meet all emission specs	●	●	?
1 year, Unlimited Mileage Warranty	●	●	?
Injectors built with parts with known or proven reliability and durability	●	●	?
Continuous improvement, injector produced with the latest upgrades to components and specifications	●	▲	?
Nationwide Bosch warranty coverage	●	●	?
Built on a high speed, highly automated OE production line	●		
Built with Bosch-designed tooling, fixtures and test equipment		●	?

● Has this feature ▲ Depends on manufacturer ? Unknown



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