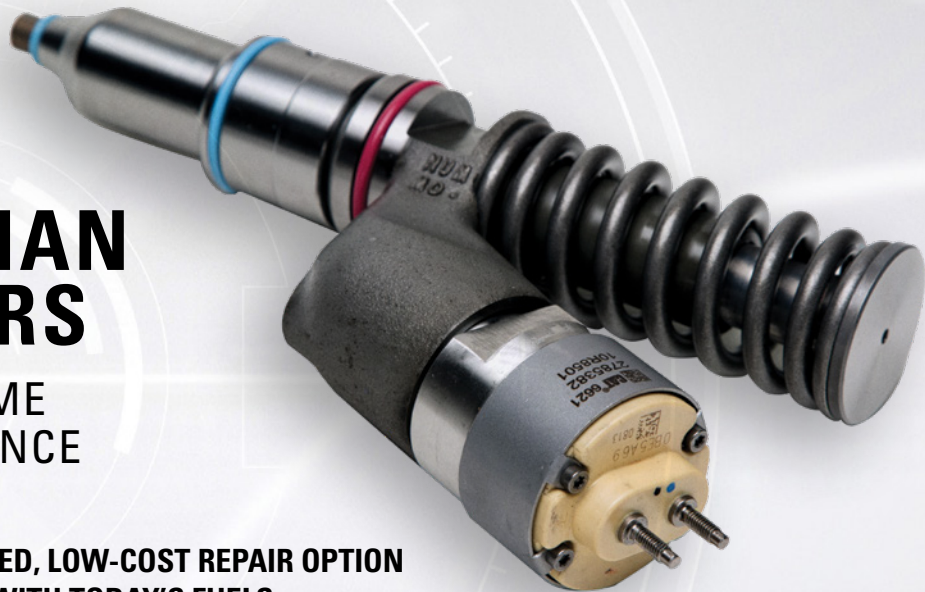


CAT® REMAN INJECTORS

INCREASE UPTIME AND PERFORMANCE

CATERPILLAR WARRANTIED, LOW-COST REPAIR OPTION DESIGNED TO PERFORM WITH TODAY'S FUELS



Get more wear life, fuel economy and overall performance.

When you need new injectors, choose the repair option developed specifically for your Cat® engine and today's low-sulfur, low-lubricity fuels. Cat Reman injectors feature coated plungers for increased wear resistance, include the latest engineering updates for like new performance and undergo extensive testing to ensure reliability. This gives you greater horsepower and fuel efficiency than with other brands.

With Cat Reman injectors, you get like new performance, same-as-new warranty and off-the-shelf availability — all at a fraction-of-new price. The result is less downtime and lower repair costs, helping you achieve reduced owning and operating costs over your engine's lifecycle.



INCREASED WEAR RESISTANCE



LIKE NEW PERFORMANCE & FUEL ECONOMY



REDUCED DOWNTIME





A CLOSER LOOK REVEALS THE CAT REMAN INJECTOR DIFFERENCE

Cat Reman injectors designed and tested to like new standards, helping you achieve lower owning and operating costs. Take a look at what we found when we put nine other injectors - three each from three different brands - through our own end-of-line tests.*

END-OF-LINE TEST RESULTS	CAT® REMAN INJECTORS			Brand 1 Injectors			Brand 2 Injectors			Brand 3 Injectors		
	#1	#2	#3	#1	#2	#3	#1	#2	#3	#1	#2	#3
Delivery 1	•	•	•		•	•	•				•	
Timing 1	•	•	•	•	•	•	•	•	•	•		
Delivery 2	•	•	•		•		•		•			•
Timing 2	•	•	•	•	•	•	•		•	•	•	•
PIP (Peak injection pressure)	•	•	•		•					•		
Leakage	•	•	•	•	•	•	•				•	
Overall	•	•	•		•							

*Testing was performed by Caterpillar in 2019

TOUGH TESTING MEANS PERFORMANCE YOU CAN COUNT ON

Every Cat Reman injector must pass the same rigorous end-of-line testing as Caterpillar's new injectors. This testing gauges fuel delivery, timing, peak injection pressure (PIP) and assembly leakage. Caterpillar's testing standards and specifications include:

- A fuel delivery versus timing range to prevent low power, misfires, poor fuel economy, high smoke levels and high exhaust temperatures.
- Stringent injector leakage specifications to prevent fuel-to-oil dilution and premature component wear.
- An electronic trim code designed to tune delivery and timing to meet strict emissions and performance standards.





BETTER COMPONENTS FOR LONG-TERM DURABILITY

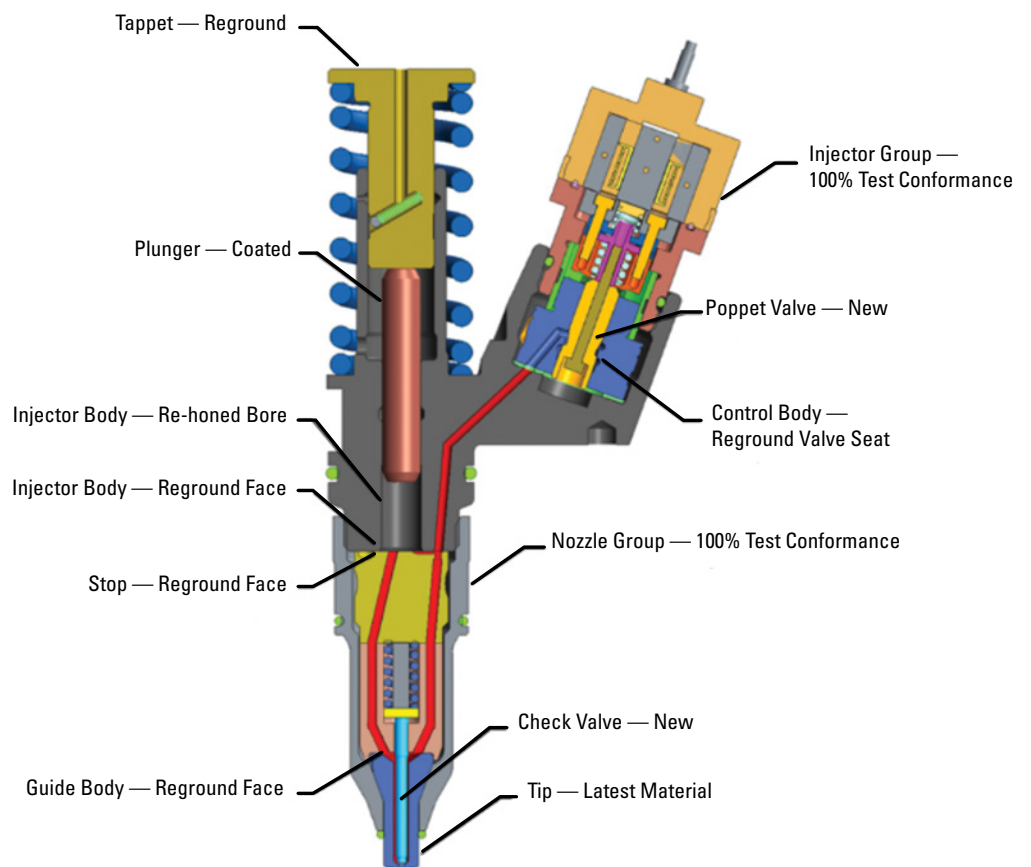
Cat Reman injectors are remanufactured using the latest remanufacturing procedures. They contain coatings that are critical for today's low-sulfur fuels. These steps help prevent decreased injector performance, premature wear and reduced engine and injector life.

 Caterpillar Design Standards

COMPONENT COMPARISON	Plunger	Body Sealing Face	Stop Sealing Face	Body Guide Sealing Face	Tip Material	Tappet Surface	Control Body Valve Seat	Control Valve	Check Guide	Cat Nozzle Group Specs
CAT REMAN INJECTORS	Coated	Reground	Reground	Reground	Current	Reground	Reground	New	New	Yes
Brand 1 Injectors	Uncoated	Clean & Reuse	Clean & Reuse	Clean & Reuse	Current & Non-Current	Reground	New, Clean & Reuse	New, Clean & Reuse	Clean & Reuse	No
Brand 2 Injectors	Coated	Clean & Reuse	Clean & Reuse	Clean & Reuse	Current & Non-Current	Reground	Clean & Reuse	Clean & Reuse	Clean & Reuse	No
Brand 3 Injectors	Uncoated	Reground, Clean & Reuse	Clean & Reuse	Clean & Reuse	Current & Non-Current	Clean & Reuse	Clean & Reuse	Clean & Reuse	New	No

STRICT SALVAGE PROCESSES FOR LIKE NEW PERFORMANCE

These critical components inside Cat Reman injectors are either new or remanufactured to ensure they can withstand the high pressures and meet the tight performance requirements of today's engines.





SAVING YOU TIME AND MONEY

WHAT ARE THE BENEFITS OF CHOOSING CAT REMAN INJECTORS?

Cat Reman injectors are tested and designed to minimize problems such as:

- **Low power and smoke** caused by heavy wear on sealing surfaces, early-hour wear and scratches on the check guide, low PIP, low nozzle-tip flow and high nozzle-tip leak
- **Misfires** caused by armature-to-solenoid contact
- **High exhaust temperatures** caused by post injections
- **Fuel in the exhaust** caused by post injections and high nozzle-back leak
- **Exhaust in the fuel system** caused by high nozzle-tip leak
- **Fuel-to-oil dilution and seized plungers** caused by uncoated plungers, wear and scratches on plungers and high injector leakage

GET FULL CREDIT FOR YOUR CORE

Our flexible core acceptance criteria help you get more for your money.

You receive full credit even for a core¹ with a:

- Broken or missing spring
- Cracked or missing tip
- Broken tappet
- Damaged hold-down-clamp lands

¹Additional guidelines may apply.
Contact your authorized Cat dealer for more information.

CONTROL YOUR REPAIR COSTS

Cat Reman injectors are available off the shelf, and with new O-rings preinstalled, they're ready for installation right out of the box — reducing your downtime. They're priced at a fraction of the cost of new parts and come with a same-as-new, 12 month warranty² that covers:

- Repairs at any authorized Cat dealer (not limited to the original selling or servicing dealer)
- Parts and installation labor² to replace defective parts, when performed by an authorized Cat dealer
- Resultant damage² caused by a covered component to other Cat engine components
- Replacement of engine oil, coolant and filters if contaminated during a failure of a covered component²

²Limitations may apply. For complete details about the applicable Caterpillar Limited Warranty, contact an authorized Cat dealer.

YOUR DEALER IS STANDING BY

The Cat dealer network stocks a broad line of Cat Reman parts and components. With 21 Global Caterpillar Parts Distribution centers and more than 2,300 authorized Cat locations, most components are available and ready to install, lowering your downtime and maintaining productivity.

Contact your local authorized Cat dealer today.