

ReNEWed® Variable Geometry Turbochargers for Optimal Boost and Performance

MODELS: INTERNATIONAL® DT466, HT570 (2004 EMISSIONS)

Turbochargers, like many other engine components, have changed significantly with EPA emissions requirements. To provide the proper amount of charged air at the right time, turbochargers have ventured away from a simple wastegate (the valve that diverts exhaust gases away from the turbine wheel) to variable geometry designs.

WHAT DOES THIS MEAN FOR YOU?

With all of these new complexities, remanufacturing techniques have become even more important. Continue reading to learn more about some of the key features of the ReNEWed® remanufactured turbochargers and how they'll benefit you.



HOW VANES OPTIMIZE PERFORMANCE

The exhaust side of the turbocharger now contains vanes designed to manipulate the volume of the turbine housing, which controls turbocharger boost through the various engine duty cycles.

The vanes close to allow the vehicle to get up to speed from a dead stop and open to allow maximum exhaust flow during heavy load situations.

VALIDATION AND TESTING PROCEDURES ENHANCE DURABILITY

Each Variable Geometry Turbocharger (VGT) assembly is high-speed balanced at 100,000 RPMs to improve performance, minimize noise and vibration as well as ensure engine compliance with emissions regulations.

TESTING VALIDATES PERFORMANCE

An 18-month field test was completed by operating these turbochargers on customer vehicles in a high-corrosion environment. Dynamometer durability testing was also conducted to validate the turbochargers' performance. More than 20 critical performance metrics were measured during the test including boost pressure, exhaust gas temperature, horsepower, torque and oil pressure to ensure that our turbochargers met our rigorous OEM standards.

REBUILT VS. ReNEWed®

Don't confuse the two. Turbocharger rebuilding is usually done in a local shop — and standards vary widely. Rebuilders do not have access to engineering prints or design improvements. Many times, rebuilders replace only obviously worn or broken parts and simply clean and reuse what's left. As engines become more advanced with continuing emissions requirements, local rebuilders will have an even more difficult time trying to keep up with significant technology changes and tight tolerances. You can trust ReNEWed® products, which are backed by OEM engineering and manufacturing processes, to give you the peace of mind you need to keep your business growing.

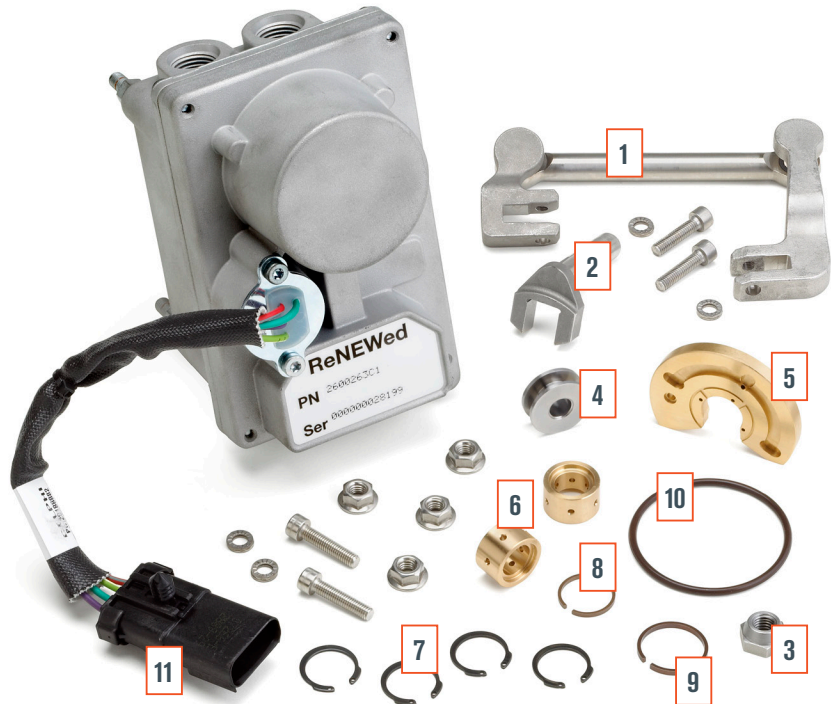
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HIGH-WEAR COMPONENTS REPLACED WITH 100% NEW

We know which components are subject to high degrees of wear and tear. Rather than reusing parts from other turbochargers, we replace these high-wear components with new ones.

- 1 VGT LINKAGE
- 2 VGT PIVOT SHAFT
- 3 COMPRESSOR WHEEL NUT
- 4 THRUST COLLAR
- 5 THRUST BEARING
- 6 JOURNAL BEARING
- 7 BEARING RETAINING RINGS
- 8 COMPRESSOR OIL SEAL RING
- 9 TURBINE OIL SEAL RING
- 10 O-RING
- 11 VGT ACTUATOR (ReNEWed®)



CORROSION RESISTANT SURFACE TREATMENT

All critical surfaces receive a patented Corrosion Resistant Surface Treatment (CRST), which resists corrosion and material pitting caused by exposure to sulfuric exhaust gases from the Exhaust Gas Recirculation (EGR) system. This surface treatment is superior to the original design and will help ensure a long useful life.

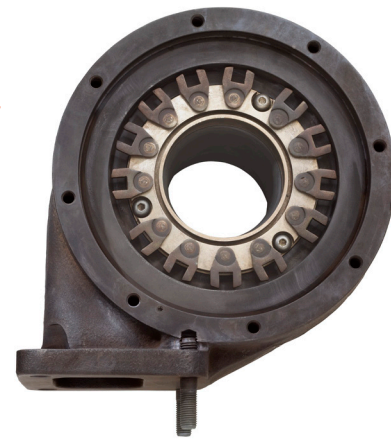
ORIGINAL

FAILED TURBINE HOUSING
WITHOUT CRST TREATMENT
WITH VISIBLE CORROSION
AND PITTING
(VANE ASSEMBLY REMOVED)



ReNEWed®

TURBINE HOUSING
WITH CRST TREATMENT
(VANE ASSEMBLY INCLUDED)



COMPONENT PARTS CLEANED AND INSPECTED

A multipoint component inspection is completed for 100% of the remanufactured parts to ensure proper tolerances. After inspection, each part is thoroughly cleaned, with critical variable geometry vane components cleaned ultrasonically and all other parts cleaned in an environmentally friendly soda blast. High-precision measurement is used on critical components and surfaces to improve turbocharger durability.

ReNEWed® MONEY IN YOUR POCKET. RELIABILITY IN YOUR TRUCK.

For more information, contact your International dealer or call 1.800.44.TRUCK or visit www.navistarpartsandservice.com.

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