

Power Train Rebuild



The power train is the heart of your truck. It comprises all components from the radiator through to the final drive or wheel station. During a Power Train Rebuild all components are inspected, repaired and overhauled and the required product updates carried out. Parts are inspected for potential salvage and/or reuse. Multiple rebuilds can be completed on the same machine.

A Power Train Rebuild is a cost-effective way to maximize the multiple lives that are designed in to your Cat® truck. It enables you to restore like-new performance, incorporate critical engineering improvements, enhancements and technology updates. Power Train Rebuild can bring your truck to current machine production status and safety standards, with features that may not have been previously available on your truck. It increases asset availability and greatly extends the productive life of your truck.

Designed to be rebuilt

Cat power train components are built to be rebuilt. You will gain maximum life and value if you take advantage of this built-in reusability.

Parts are divided into three levels. Each level has a different rate and expectation of wear. To ensure you get full value out of your truck you need to understand the different levels and plan your maintenance and repairs accordingly.



Level 1 parts are designed to wear and protect mating parts. 100% replacement is recommended during rebuilds. They include anti-friction bearings, seals, gaskets and thrust washers.

*Highest availability.
Lower cost.*



Level 2 parts are slower wearing and designed with reusability in mind. They include plates, friction discs, gears and shafts.

*Typically readily available.
Higher cost.*



Level 3 parts are designed to last the life of the truck and are replaced only after a catastrophic failure. They include cases, housings and major castings.

*Not readily available.
Much higher cost.*

What happens during a Power Train Rebuild?

Every power train rebuild follows the same 7-step process.



Step 1. Inspection/Evaluation

Power train rebuilds involve up to 200 tests and inspections. To begin with, fluid analysis, visual inspections, and maintenance procedure reviews are carried out to determine a customized rebuild plan and an accurate cost estimate.



Step 2. Disassembly

The power train is disassembled. All Level 1 parts, hoses, belts, seals, gaskets, bearings, knobs, wiring, switches and gauges are replaced with new parts. Remaining Level 2 and 3 parts are inspected and measured against strict reusability guidelines. Any parts that don't meet the guidelines are either replaced with new or Cat Reman parts, or reconditioned to meet specifications.



Step 3. Engineering Updates

Improvements introduced after the original date of manufacture are incorporated.



Step 4. Power Train Parts Inspection

The engine, fuel system, transmission, torque converter, differential, final drives and radiator are inspected, reconditioned and updated with new or qualified parts. Each component is thoroughly bench-tested before reinstallation.





Step 5. Reassembly

All critical torques, clearances and pressure settings are maintained and recorded. Engine wiring harnesses are always replaced. Other wiring is replaced on full machine rebuilds only.



Step 6. Performance Testing and Adjusting

Rigorous testing ensures quality control. Standard tests include: turbocharger boost, throttle response, stall speed rpm, transmission and steering clutch response, plus hydraulic and pilot relief valve pressures. Contamination control procedures recommended by Caterpillar are implemented to maximize system cleanliness.



Step 7. Customer Evaluation

The rebuild process is complete only when the customer is satisfied with the performance of the power train in its working environment.

Guaranteed to Last



Genuine new and Reman parts are backed by our **12-MONTH WARRANTY**, so you can feel confident selecting a repair option through your Cat dealer.

Additionally, if one of the genuine Cat new or Reman parts used in your repair is proved to be defective and the cause of any resultant damage, not only would the Cat new or Reman part be replaced, but any resultant damage to other Cat parts would also be covered. Competitors typically only warranty the part they replace regardless of whether or not the part has caused resultant damage.

7 Elements of Effective Power Train Systems Management



Training, scheduling and record keeping are the most important elements in Power Train Management. Ask your Cat dealer for help.

Preventive Maintenance

A good preventive maintenance program can help to prevent small problems from becoming major failures, maximize equipment life, increase resale value, improve profits and save money.

S•O•SSM Fluid Analysis

Considers maintenance, operating practices, component condition, oil condition and cleanliness, water rate plus water fuel and glycol tests with a view to making an expert diagnosis and delivering useful advice.

Inspections

Visual, operational and technical inspections can help to identify small problems before they become major failures.

Repair Management

Encompasses planned indicators and problem indicators as well as repair options that ensure the best value and lower owning and operating costs.

Training

An effective ongoing training program will help ensure your people operate and maintain your power train systems, which will help you lower costs by reducing the chance of failure.

Scheduling

Develop a simple schedule that will ensure maintenance inspections and planned repairs are carried out on time to help prevent failure.

Record Keeping

Document power train history by detailing component life and cost information. This will help you pin point problems before they cause costly failures.

Cat Wheel Station Evolution and Maintenance



Cat wheel stations feature improvements that have significantly increased their durability.

These improvements are systems-based solutions. They are designed to be effective across applications and increase component life. Collectively, the improvements have enabled most miners to achieve 13 to 15,000 hour life from their wheel stations in almost any application. 18 to 20,000 hour life is not uncommon depending on application and maintenance. The improvements also enable more consistent planned component replacement intervals.

Your Cat dealer is trained to maintain the integrity of the Cat wheel station, and ensure you enjoy the full benefit of the latest design improvements.

Your dealer can provide you with more information regarding equipment modifications and upgrades.

The Cat Dealer Difference



When you work with a Cat dealer you benefit from their unparalleled expertise. Only Cat dealers offer you the capability and flexibility to design the best rebuild for your needs.

Cat dealers understand Cat components.

Cat components are built to be rebuilt and only Cat dealers are trained to rebuild Cat components so they can be rebuilt again and again.

Only Cat dealers have the required expertise to perform rebuilds to Caterpillar standards.

Caterpillar does not share its proprietary know-how regarding critical component wear limits with 3rd party repairers.

Cat dealers help you avoid full component replacements.

Cat dealers know the wear limits of Cat components, which means they replace the right parts at the right time. This reduces the risk of expensive full component replacements at or before the next rebuild.

Cat dealers manage the risk to minimize planned and unplanned downtime.

Only Cat dealers can rebuild your power train to a standard where it performs as good as new. That means more uptime for your truck, and your mining operation.

Cat dealers deliver the lowest operating cost per hour.

Cat dealers are proven to be the best in the industry when it comes to parts and service support.

Cat dealers only employ highly trained technicians.

Cat dealer technicians receive on-going training, they only use the latest Cat parts, and they follow Caterpillar reuse and salvage guidelines.

Cat Certified Rebuild or Dealer Rebuild?

Choose the Power Train Rebuild option that suits you best.

Cat Certified Power Train Rebuild

- New engine and transmission plates
- New parts warranty on all replaced parts
- Extended power train coverage

Dealer Rebuild

- Improve reliability and availability of your power train
- Range of parts replacement options: new, Reman, salvage or reuse

Full warranty and service coverage options



Every power train rebuild comes with a twelve-month parts warranty, which covers all major power train components and any extra components specifically included as part of a written agreement.

For Certified Power Train rebuilds, you can also choose an extended power train coverage.

- **1 year or 6,000 service hours**
- **3 years or 5,000 service hours**
- **2 years or 10,000 service hours**

Regardless of the level of rebuild you choose, if one of the genuine Cat new or Reman parts used in your power train rebuild proves to be defective, the part will be replaced and any resultant damage to other Cat parts will be covered.

The Cat Parts Difference

Cat parts are built to perform.

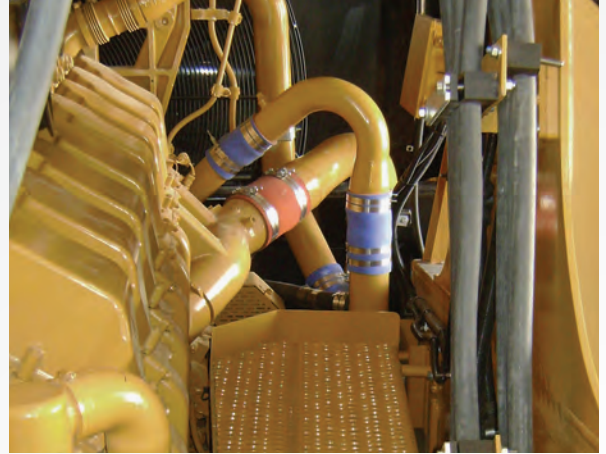
All Cat parts meet stringent specifications and are designed to operate as a system to deliver the production and efficiency customers expect.

Cat parts are built to work together.

Caterpillar design engineers match the right combination of dimensions, material, finish and manufacturing processes to each part to enable it to work and wear effectively with all other neighboring and dependent parts.

Cat parts are built to last.

Cat parts assure top performance over a long working life and are backed by the best support program in the industry.



Contact your Cat dealer or go to cat.com/mining to find out more about how Power Train Rebuilds can help your business move forward.

BUILT FOR IT.™

PEDJ0330 | © 2017 Caterpillar. All Rights Reserved. CAT, CATERPILLAR, BUILT FOR IT, their respective logos, "Caterpillar Yellow," and the "Power Edge" trade dress, as well as corporate and product identity herein, are trademarks of Caterpillar and may not be used without permission.

