

# For the Trenches

TIPS & NEWS FOR EQUIPMENT OWNERS AND OPERATORS

## A Second Go-around – Certified Rebuilds

*Do you have a productive, trusted older machine that is the right one for your needs, your site and your business – but it is beginning to show wear and tear? Instead of automatically assuming you need to trade it for a newer one, or, thinking that repairing or overhauling one or two components at a time will be more cost-effective, take a minute to examine the rebuild option.*



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### What exactly is the rebuild option and when does it make sense to choose it?

“Certified rebuild” is a process developed and certified by the machine manufacturer and implemented by selected dealers. High-quality equipment is actually built to be rebuilt, and those owners who first choose this option for one or two of their larger machines, usually end up

having rebuilds performed for more of their fleet when the benefits of this option hit home!

There are generally two types of rebuild program options offered by dealers, a complete machine rebuild and a powertrain rebuild. We’ll focus on the powertrain rebuild.

A certified powertrain rebuild will restore your machine to like-new performance. Yes, like-new, and actually the manufacturer who has certified the rebuild will issue a new guarantee and extended powertrain coverage.

The process includes automatic replacement of approximately 3,000 parts including hoses, belts, seals, gaskets, bearings, knobs, wiring, switching and gauges. Only new, original equipment parts are used to complete the rebuild, and, it’s worthwhile saying it again, a certified rebuild is performed only by selected dealers which are approved by the manufacturer as having the facilities, the equipment and the trained staff required to complete this complex and demanding program.

We’ll get into details later, looking at all the steps involved in this process, but now we want to talk about when it makes sense to go rebuild. You should consider this option for a large or medium size machine that has given you many hours of top performance and fits your requirements as far as size, power, features and operator-friendliness. Smaller machines are not good candidates. Why?

On a larger machine, you can save up to 75% of the cost of a new machine by having a powertrain rebuild; you’ll get parts warranties and extended coverage, and the performance of your machine is going to be at least as good as the performance of when it was new, if not better, since any critical improvements that have been made to that model since it was originally manufactured, will be incorporated into your machine at the time of the rebuild. The rebuild is also a good opportunity to easily and cost-effectively perform any needed emissions upgrades. And when all is said and done, this is a machine your operators know and are comfortable with. On a smaller machine, the cost difference does not make it worthwhile to choose the rebuild option; it tends to be more cost effective to trade for a newer model, or maybe a returned-from-rent machine.

A good time to look at the rebuild option is when the first component is due for overhaul or major repair. Typically that will be the engine, and there will be a lot of “external” symptoms such as loss of power, high oil consumption, water pump leaks, head gasket leak, skipping...that will let you know that the time has come.

The common temptation is to save by just taking care of one or two components at a time, the ones that are causing trouble, but this can actually have the opposite results, and is probably the cause behind the misconception that a rebuilt machine is never the same as a new one. Why is that so?

If you think about it, there are five systems in an engine; Exhaust; Air intake; Cooling; Fuel; Powertrain. When you take care of just one or two systems, the machine’s components will be “out of balance”. A lot more will be asked from the other systems that have not been fixed, and they will be much more likely to fail.

### How long is the certified rebuild process, and what does it cover?

**1) Inspection and evaluation.** Usually a certified powertrain rebuild takes between four and six weeks and it begins with an inspection and evaluation stage, where the specific needs of that machine are determined. A certified rebuild includes more than 200 tests and inspections.

**2) Disassembly.** Then the machine is completely disassembled and as explained above, approximately 3,000 parts will be replaced.

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Before Certified Rebuild



After Certified Rebuild

**3) Reconditioning.** This phase addresses equipment needs such as frames, which will be straightened, welded and reinforced if necessary; replacement of worn linkage pins and shaft bearings, hydraulic systems returned to their original levels of performance, meeting ISO 18/15 levels, and replacement of electronic control modules.

**4) Engineering updates.** Critical improvements that have been made to this particular machine model since original manufacturing will be incorporated at this point.

**5) Powertrain tests.** Engine, fuel system, transmission, torque converter, differential, final drives and radiator are disassembled, inspected, reconditioned and updated. Before re-installation, each component is bench-tested.

**6) Reassembly.** Critical torques, clearances and pressure settings are recorded and maintained during reassembly. All engine wiring including engine wiring harnesses is replaced.

**7) Performance testing.** Among the tests performed are turbocharger boost, throttle response, stall speed rpm, transmission and steering clutch response, and hydraulic and pilot relief valve testing. Instrument and operational testing are also conducted to ensure field performance levels match those in the shop.

**8) Repainting.** A rebuilt machine will not only perform like new, it will look like new!

**9) Recertification.** The machine is recertified, entitling the owner to a like-new standard warranty.

**10) Customer evaluation.** The rebuild process cannot be considered complete until the machine operators are satisfied with the performance of the rebuilt machine in its working environment.

Now that you have an overview of what a certified powertrain rebuild is, what it covers and what are some of its benefits, you may want to talk to your equipment dealer or dealers to find out more about their certified rebuild capabilities and programs. ■

**Milton** 

*This article is part of a series of articles designed to help equipment owners and operators lower owning and operating costs. Other article topics include:*

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Machine Evaluations • Getting the Most from Your PSSR  
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