



SA PERFORMANCE

Reman Versus Rebuild

What is the difference?

In the event of a failure with a rotary screw air compressor, a question is posed between the end user and servicing contractor as to whether a new compressor should be purchased, the airend should be remanufactured by the original equipment manufacturer (OEM), the airend should be remanufactured by an independent specialty machine shop, or the airend should be rebuilt by a local firm.

The longstanding tradition of equipment reuse is a key component to a circular economy as it reduces raw material and energy use to give worn products additional service life. If the decision is to bring the existing compressor back into service, the chosen machine shop will need to determine root cause of failure and address the work that needs to be completed in bringing the air end back into service. The terms “remanufactured” and “rebuilt” are used synonymously in the air compressor industry, but the work that is actually being performed by the machine shop as part of their standard operating procedures is what defines the difference between these two services.

The Federal Trade Commission Rules and Regulations clearly depict the importance of differentiation amongst rebuilders and remanufacturers in industry. Full definition from Section 20.3 available at:

<https://www.govinfo.gov/content/pkg/FR-2014-07-14/pdf/2014-16294.pdf>

Rebuilding Process

The rebuilding process typically consists of airend tear-down, replacement of bearings/seals/O-rings, replacement of worn or broken parts, cleaning, reassembly and in most cases painting. The labor performed during this rebuild process is typically field service technicians with gaps in customer service requirements being fully utilized by performing shop work. In the process, serviceable parts are reused if within the manufacturer’s acceptable wear limits. These used components will still function properly and do not need replacing at the time of rebuilding, but the existing wear causes hot spots and increased friction which will eventually cause premature failure not anticipated as a result of just replacing the bearings and elastomers within the airend. To an end customer, the fully assembled rebuilt airend looks nearly identical to a remanufactured airend, with the expectation of performance and longevity being the same.

Independent Specialty Remanufacturing Process

Specialty remanufacturers are those select companies whose core business is the re-manufacturing of used equipment and do not compete against other service contractors by servicing end user’s equipment, or the sale of parts/new equipment. Remanufacturing an airend is a more comprehensive process where the unit is disassembled, cleaned, inspected, and each component is checked against the original manufacturer’s specification. The unit is then reassembled per original manufacturer’s specification and painted. With each component being replaced or refurbished per OEM specification, it is ensured the finished airend will match or exceed its original performance once it is placed back into service and contains no worn parts.

Beyond this standard work, the remanufacturing process also performs any necessary machine work, rotor balancing and resetting of clearances within the housing.

(continued next page)

A good example of refurbishing machine work of a major component from the air end is if the bearing race spins on the rotor shaft causing it to gall. You can repair the shaft journal using a metalizing process and then turn the shaft back down to OEM specification. Below: Shaft repair using Thermarch spray coating system. Work performed by Simple Air End Solutions.



Even after the shaft is returned to OEM specification, it should still be balanced to ensure it will meet or exceed factory quality. Below: Rotor balancing using the IRD balancing machine. Work performed by Simple Air End Solutions.



OEM Remanufacturing Process

It is a common misconception that OEM remanufactured compressors are in fact remanufactured by the same organization that is assembling new units for placement into industry. In many cases, the remanufacturing process is being performed by a separate third-party firm under contract with the OEM. Some manufacturers go as far as receiving the airend, claim after evaluation that it cannot be remanufactured and destroy the core. This forces the distributor to inform the customer they must buy an entirely new compressor. Very few air compressor manufacturers have the equipment and ability to remanufacture an air end in-house. Those that do possess this capability, charge exorbitant prices for this service.

Pricing

Pricing is always a consideration in determining how to proceed with service work on an air compressor. Below is actual pricing from a major compressor manufacturer compared to an independent specialty remanufacturer and rebuilder.

Model # - Ingersoll Rand EPI100			
OEM New	OEM Reman	Independent Specialty Remanufacturer ¹	Rebuild
\$15,275	\$11,503	\$6,092	*

* Rebuild price has a very wide range depending on who rebuilds, and what work is included.

(1) Independent Specialty Reman price is provided by our sister company, Simple Air End Solutions.

Conclusion

Independently specialty remanufactured units are functionally identical to those being remanufactured through the OEM and meet the same stringent standards as new equipment. In many cases, a rebuild is a less expensive shortcut to the process that puts the customers long-term satisfaction with their service provider at risk. When making a choice between a remanufactured and a rebuilt air end, it is important to assess the pros and cons of both services before a decision is made.