

AXIAL TURBOCHARGERS RECONDITIONING AND REPAIR

Being an expensive piece of equipment, turbocharger reconditioning is a cost-effective alternative to renewing partly or completely. At a fraction of the cost of new components, this allows the clients to maintain their turbochargers in good condition throughout the full service life. Apart from being cost effective, and for older turbocharger types often the only viable alternative to retrofitting a newer type, reconditioning is also less of a drain on the natural resources and thus more sustainable than just replacement with new components.

FOR AXIAL TURBOCHARGERS, PJ DIESEL OFFERS:

- More than 30 years specialist experience.
- Full reconditioning and repair workshop facilities.
- The Service Facility is authorised by Mitsubishi MET Japan, and Kompressoren Bau Bannewitz (KBB).
- Certified engineers.
- Fast turn-around on overhauls.
- Large stock of exchange units and parts with pay per use policy.
- 24 hours delivery availability (for in-stock units).
- No dependency on shore facility – all parts available on-site.

TURBINE BLADE AND NOZZLE RING REPAIR

When reconditioning turbochargers, the key competence is the ability to rebuild turbine blades, compressor wheels and nozzle rings.

Before repair, the turbine blades are dismantled, cleaned ultrasonically and accurately measured. An inspection by ultra-violet light is performed to detect possible fractures. Fractured blades are replaced with new ones. The turbine blades are then welded, using TIG (GTAW). After welding, the turbine blade is machined and ground back into its specified shape, inspected

for cracks using both ultra-violet light and dye penetrant inspection and the weight is verified. In order to achieve the correct weight distribution, a computer calculates the sequence in which the blades should be mounted on the rotor in preparation for the balancing.

A similar procedure is applied to recondition nozzle rings and compressor wheels.

BALANCING

In case of high-speed rotating components, balancing is of the essence – both for the sake of safety and time between overhauls.

At PJ Diesel, all turbochargers are balanced individually and checked for static and couple unbalance. After assembly, the complete unit is checked for dynamic unbalance.

Our Schenck balancing machines are capable of balancing rotors in two planes, from small dimensions up to 3000 mm length and 1200 mm diameter.

All balancing equipment is in accordance with ISO, API and MIL standards.



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