

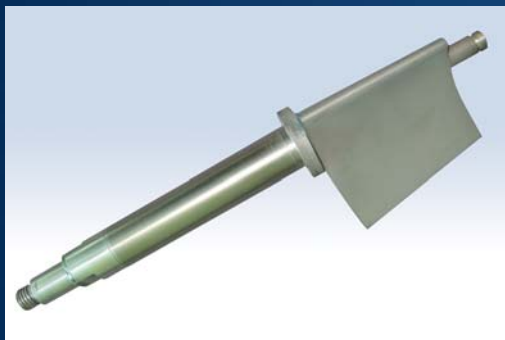
GE PGT10 PGT16

Advanced Repairs available only from Liburdi Turbine Services

The Liburdi Advanced Repair Program offers:

- Extended Reliable Service Life
- Reduced Maintenance Expenses
- Component Upgrades to Address Design Deficiencies

The Advanced Repairs developed by Liburdi are being used by oil & gas companies worldwide to fully restore critical turbine components at a fraction of the cost of new replacement parts; maintaining or improving component integrity while creating significant savings for the operator.



Liburdi Advanced Bucket Repairs for PGT10, PGT16

Stage 1 Turbine Bucket Repairs and Upgrades

- Full coating strip and replace with oxidation/corrosion resistant Platinum Aluminide coatings
- FSR® Full Solution Rejuvenation® heat treatment process to fully restore alloy strength
- Bucket tip repairs with special oxidation resistant weld alloy

Stage 2 Turbine Bucket Repairs and Upgrades

- Full coating strip and replace with oxidation/corrosion resistant Platinum Aluminide coatings
- FSR® Full Solution Rejuvenation® heat treatment process to fully restore alloy strength
- Bucket shroud z-notch restored with hardface weld alloy
- Shroud lift repaired to restore shroud alignment and engagement

Stage 3, 4 Turbine Bucket Repairs and Upgrades

- Full coating strip and replace with oxidation/corrosion resistant Aluminide coatings
- FSR® Full Solution Rejuvenation® heat treatment process to fully restore alloy strength
- Bucket shroud z-notch restored with hardface weld alloy

Advanced Nozzle and Combustor Repairs for PGT10, PGT16

Turbine Nozzle Repairs and Upgrades

- Full coating strip and replace with upgraded oxidation/corrosion resistant coatings
- Proprietary LPM® high strength powder metallurgy process used to repair crack damage.
- LPM® repair materials are higher strength than the original casting material and outperform conventional weld repairs
- LPM® to restore airfoil thickness and dimensions – not possible with conventional weld repairs



Combustor Repairs and Upgrades

- Full strip and replacement of all coatings
- Combustor Liners receive matching strength weld repair of crack damage
- Transition Piece Upgrade includes enhanced impingement cooling design, reinforced walls, full Thermal Barrier Coating (replaces the original partial coating), and diffusion aluminide coating of external walls - to prevent future wall thinning and distortion.

LPM® Powder Metallurgy is a unique process developed and patented by Liburdi Engineering Limited. It is a high strength superalloy alternative to welding and diffusion brazing, and as such has been used extensively with a proven track record for over a decade for Industrial and Aircraft gas turbine components - for both advanced repairs and new part manufacturing. LPM® re-construction techniques strengthen critical high stress areas, and permit precise control when restoring airfoil wall thickness and throat area harmonics.

Liburdi's extensive experience with heat treatment processes, combined with its unique stripping and coating capabilities, ensures that every repaired component meets or exceeds the original equipment performance and durability requirements in future service.

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