Turbine Parts Repair Service

Refurbishment and supply of capital gas turbine components



Turbine Nozzles







Shrouds

Repair Technology





3D CAD Model

High Temperature Welding Tip Repair

EDM Machining

Transition Piece Repair



TBC Coated Transition Piece





Transition Piece 360 Inspection Fixture

Basic Scope of Work

Incoming Inspection Removal of coating by chemical/ mechanical processes Pre-weld heat treatment Weld repair indications Machine/Blend to reestablish contour and dimensions Post weld heat treatments Apply metallic/ceramic coatings **Final Inspection**





Turbine Services Products

Turbine Component Refurbishment (Blades, Vanes, TP's and Combustors for Aero-Derivative and Industrial Gas Turbines)

Fuel Systems (Fuel nozzles and accessories)

Coatings (high temperature application and axial compressors)

Parts Supply

Differentiators

Parts in inventory fully repair for immediate delivery

Fast turn around time (about half of the competition including OEM's)

State of the art equipment and processes.

Quality ISO 9000 Certified.

Highly Technically qualified engineering staff and production personnel

Inventory Virtualization



Turbine Services 7FA Repair Portfolio

Component	Qty/Sets	Process Status/Comment	
Row 1 Buckets	4	1 repair complete, 3 repair in process	
Row 2 Buckets	3	1 repair complete, 2 repair in process	
Row 3 Buckets	2	Repair complete	
Row 1 Nozzles	3	Repair complete	
Row 2 Nozzles	3	Repair complete	
Row 3 Nozzles	2	Repair complete	
Row 1 Shroud Blocks	2	1 repair complete, 1 repair in process	
Row 1 Shroud Tiles	2	Repair in process	
Row 2 Shroud Blocks	2	Repair complete	
Row 3 Shroud Blocks	1	Repair complete	
Combustion liner	4	2 repair complete (12K), 2 repair in process (24K)	
Combustion Caps	1	1 repair complete, 24K modofied	
Transition Piece	4	2 repair complete, 2 repair in process, all 12K	
Bullhorn brackets	1	Repair complete	
Flow sleeves	2	Repair complete	
Fuel Nozzle, DLN 2.6	3	2 repair complete , 1 repair in process dual fuel	

Turbine Services 501F Repair Portfolio

Component	Qty/Sets	Process Status/Comment
Row 1 Blade	3	Platform Repair Development
Row 2 Blade	2	HVOF/TBC Coating
Row 4 Blade	1	Repair Completed. Check Twist
Row 1 ring segment	4	Repairs Completed
Row 2 ring segment	3	Dimensional Repair
Row 3 ring segment	2	Honeycomb Braze
Row 4 ring segment	1	Repairs Completed
Row 2 Vane	3	Post braze EDM Hole Drill
Row 3 Vane	1	Weld Repair
Row 4 Vane	1	Repairs Completed
Combustion Basket	1	Repairs not Started
Transition Piece	4	TBC Coating
Inner Seal	10	Post braze Machining
Outer Seal	10	Post braze Machining
Fuel Nozzle (Support Housing and Pilot Nozzle)	1	Full Repair and Calibration Completed
Compressor Blades	1	Full Set of Compressor Blades

Finish Products



Fuel Nozzles Combustion Liners Transition Pieces Combustion Caps

Facility Non-Fuel Operating Costs

Major Maintenance Represents 30-35% of Non Fuel Operating costs



"The Relative Relationship of Material Non-Fuel Operating Costs"