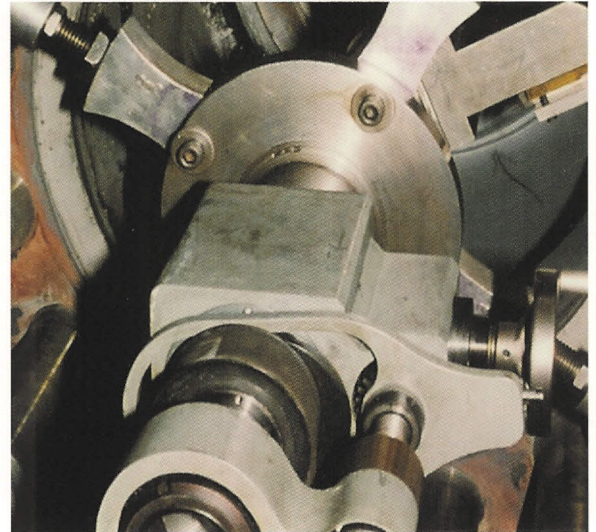


## **Valves and Valve Repair**

OTT provides repairs and upgrades for your valves and valve components. We provide reverse engineering and precision replacement part manufacturing of valve components for virtually all types of turbine valves. Orbital Tool Technologies maintains one of industry's most advanced valve repair equipment inventories. Utilizing trained, experienced personnel and some of industries most advanced equipment and repair processes, OTT can restore:

### **Main Steam Valves**

Governor / Control  
Throttle  
Main Steam Stop  
Reheat Stop  
Intercept



**Orbital Tool Technologies provides efficient and cost effective valve repairs.**

### **Valve reconditioning** including:

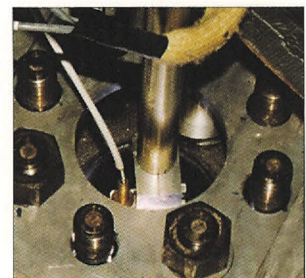
- Bonnet bore refurbishment
- Seat removal and replacement (reverse engineering and manufacturing)
- Auto deep hole TIG welding for seat overlays
- Stud removals and stud hole refurbishment
- Excavation of tree pan areas
- Anti-swirl dam refurbishment, manufacture and replacement
- Retaining ring bolt hole refurbishment

### **Butt weld modifications**

- Weld preps
- ASME Section IX weld repairs
- R-Stamp welding
- Flange face resurfacing
- Field machining processes for all sealing surfaces and fit areas
- Manual and automatic Hard Facing of seats and discs

**Orbital Tool Technologies' versatile computerized management and maintenance tracking database ensures you:**

- Detailed inspection reports
- Complete valve maintenance and service history
- Detailed and accurate parts replacement logging
- Itemization of obsolete and current parts
- Tracking of materials and valve parts
- Spare parts inventory
- Digital photos included in all reports



# Valves and Valve Repair

Continued

## Repairs

### Complete Valve Repair & Modification Capabilities

#### Valve Stem Replacement (for main stop, control, reheat, intercept and throttle valves)

- Perform dimensional and run out checks of new stems
- Remove discs from existing stems
- Blue check new stems to back seats, as required
- Check dimensions of discs for proper fit to new stems
- Reassemble discs to stems
- Reassemble stems to original crosshead, torque and blue check contact parameters
- Ensure proper contact, as required
- Drill and ream hole for crosshead to stem pin
- Perform final run out inspection on stem
- Fit new stem to crosshead pins

#### Valve Stem Bushing Replacement

- Remove old stem bushing(s) and blast clean bore(s)
- Weld repair peening groove
- Grind new stem bushing(s) for interference fit and install
- Hone bushing(s) to suit trybar
- Trybars manufactured by OTT when required

#### Valve Disc Repairs

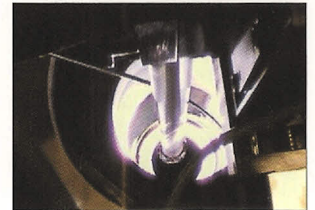
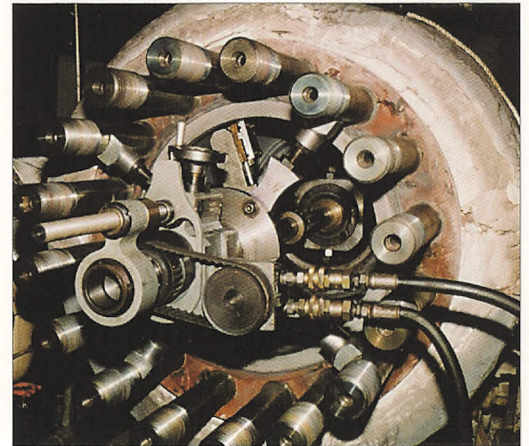
- Complete disc restorations
- Reverse engineering and manufacturing of new discs

#### Valve Seat Replacement

- Seat removal
- Complete seat restorations
- Reverse engineering and manufacturing of new seats
- Installations and seal welding

#### Valve Casings Inspections and Repairs

- Inspections and complete dimensional mapping
- Field machining process for all sealing surfaces and fit areas (including rethreading)
- Manual and automated weld repair and overlays
- NDE
- Pre-heat and stress relieving capabilities
- Stellite Hard-Facing Weld Repair
  - Restore valve disc stellite surface



**Our Business Revolves Around You**

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