



BENDER CCP

ENGINEERED ROTATING EQUIPMENT SPECIALISTS



UNICO MECHANICAL

ENGINEERED ROTATING EQUIPMENT SPECIALISTS



STEAM TURBINE REPAIR SERVICES



**Bender CCP is a premier provider of
Steam Turbine Repair and On-Site
services in North America and Europe.**

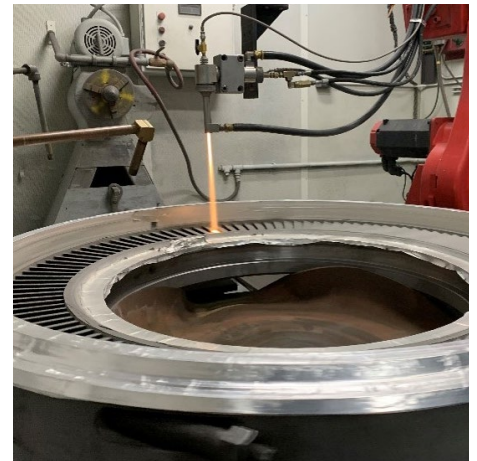
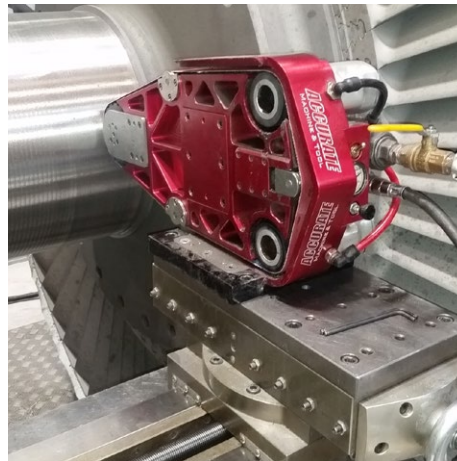


Steam Turbine Repair Services

Our team brings more than 40 years of expertise to customers in Power Generation, Hydropower, Ship Repair, Aerospace, Petrochemical and other industries. Bender CCP utilizes the most advanced repair and manufacturing practices on-site or at one of our five facilities that span the Pacific coast. Bender CCP is dedicated to completing each job, large or small, to the highest standards of quality that every job requires!

Some of our capabilities:

- Line Boring
 - Coupling Boring
 - Milling, Flange Facing
 - Stud Removal
 - Bore Plug Removal
 - Journal Grinding
 - Collector Ring Grinding
 - Single Point Threading
 - Pump/Motor Foundation Machining
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Top: Micro polishing vibration probe area
Bottom: Repair facility for all types of diaphragms

Top: Performing diaphragm dishing checks
Bottom: Journal Grinding

Top: Three new stage of blades being installed on a MHI rotor
Bottom: Thermal Spraying diaphragm partitions with Chromium Carbide

In-Place Machining

Bender CCP provides In-Place machining to industries from power generation to oil and gas, to metal forging.

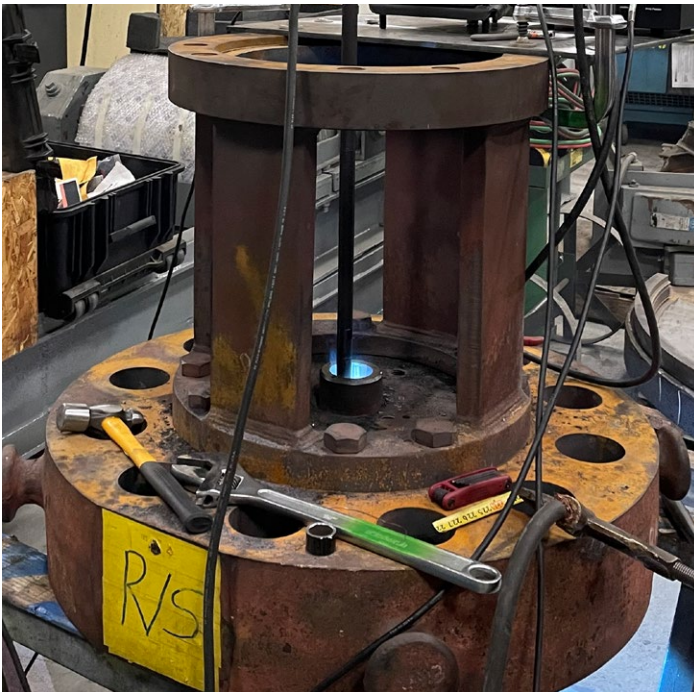
Our capabilities are extensive as we have the knowledge base to design any machine tool necessary to complete the most difficult projects.

In-Place Machining Capabilities

- Line Boring
- Flange Facing 5" – 18'
- Stud hole Oversizing
- Portable VBM
- Journal Grinding
- Spherical Seat Machining

Turbine Rotor Repairs On-site or at one of our facilities

- Incoming inspections and repair recommendations
- Faro arm inspection
- Blade and bucket replacement
- Erosion shield replacement
- Tie wire repairs and replacement
- Re-establish high low gland seal areas
- Journal and thrust face grinding
- Thrust face grinding
- Coupling hole line boring
- Blast cleaning and NDE



Welding bore of turbine valve to re-establish bushing fit



Performing PMI analysis prior to starting repair work

Stationary Steam Path Repairs for all OEM turbines On-site or at one of our facilities

- Incoming and repair recommendations
- Reverse engineering and parts manufacturing
- Major diaphragm partition repairs using Inco82 or 410SS filler material
- Faro arm inspection
- Blade replacement, shroud manufacturing and installation
- Complete major diaphragm restoration, horizontal joints, packing and radial spill strip hook fit repairs, root radial integral spill strip repair

Main Turbine Valve Repairs

- Disassemble, inspect clean, inspect, and provide repair recommendations
- Stem and bushing removal and installation
- Weld repairs
- Parts manufacturing

Turbine Case / Main Turbine Valve / Steam Chest Repairs

- Laser tracker inspection
 - Packing case repairs and manufacturing
 - Outer and inner shell repairs and all In-Place machining
 - Turbine case repairs and in-place machining
 - Stud hole weld repairs and oversizing up to 8"
 - Stud removal and replacement
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Providing some of the most experienced In-Place Machinists across a wide range of industries.



Removal of Studs Oversizing to an 8" Diameter



Partial List of Component Overhauls:

- Turbine Rotors
- Diaphragms
- Main Turbine Valves
- Turbine Cases
- Blade Rings
- Packing Carriers and Glands
- Spherical Bearing Seats
- Hydro Turbine Components

Partial List of Services:

- Machining and Grinding
- Thermal Spray Surface Restoration
- Welding
- Fabrication
- Cavitation Repair
- Resurfacing of Worn Faces
- Dimensional Restoration
- Parts Manufacturing
- Geometric Measurement
- Lubeless Modifications

CERTIFICATIONS & QUALIFICATIONS

<p>Quality Management System</p>	<ul style="list-style-type: none"> • ISO 9001-2015 QMS Certified: Certification • NAVSEA Standard Item 009-04 Compliant • QMS Audit Compliant - Part of San Diego Ship Repair Association
<p>Safety Management System</p>	<ul style="list-style-type: none"> • OHSAS 18001 Compliant
<p>Welding and NDT</p>	<ul style="list-style-type: none"> • Level III Examiner oversight • NAVSEA SWRMC approved IAW MIL-STD-248 • Qualified & Certified American Welding Society (AWS), American Society of Mechanical Engineers (ASME), Boiler and Pressure Vessel Code (BPVC) and NAVSEA MIL-STD-248
<p>HVOF Thermal Spray</p>	<ul style="list-style-type: none"> • NAVSEA Approved Facility and Procedures - MIL-STD-1687-A and MIL-STD-2138 for Thermal Spray Repairs and New Component manufacturing • American Bureau of Shipping (ABS) Approved Facility and Procedures
<p>The Society for Protective Coatings (SSPC)</p>	<ul style="list-style-type: none"> • Corporate Member, Council of Facility Owners (CFO) • NBPI Certified Coatings Inspector
<p>National Association Corrosion Engineer (NACE)</p>	<p>Level III Certified Coatings Inspector</p>



323-232-2371
benderccp.com



707-745-9970
unicomechanical.com

SHOP LOCATIONS: Benicia, CA • Corona, CA • Kent, WA • San Diego, CA • Vernon, CA