

# BEARING AND SEAL REFURBISHMENTS

BY MD&A Bearings, Seals & Hydraulics Division

MD&A Bearings, Seals & Hydraulics Division has been supporting customers in the area of bearings, oil seals, and hydraulic component refurbishments for over three decades.

Our greatest expertise resides in our ability to refurbish complex bearing and seal assemblies, utilizing a process that greatly reduces the time typically required for field fitting and alignment.

## SEAL RINGS

**WE OFFER MANUFACTURING AND REFURBISHMENT OF THE FOLLOWING:**

- Hydrogen Seals
- Oil Deflectors
- Bearing Seals
- MOP Seals
- Helix Seals
- Water Seals



Loyal repeat MD&A customers have expressed the need to shorten outage durations and reduce overall outage costs. In response, MD&A has developed a level of service designed to substantially reduce the manpower traditionally associated with the field fitting of critical seal assemblies.

Since 1984, MD&A has designed, manufactured, retrofitted, and repaired seals rings to correct operational issues such as excessive oil flow, excessive hydrogen consumption, and electrolysis.

MD&A maintains an inventory of custom bronze alloys, seal tooth material, garter springs, insulation, components, and body bolts to assure a time critical turnaround when required.

### MECHANICAL DYNAMICS & ANALYSIS

*For more information on this product or service please contact MD&A at 440-946-0082*

# BEARINGS

## TAPERED LAND THRUST BEARINGS

Troubleshooting the source of differential thrust bearing temperatures can be frustrating and costly especially if load reduction action is required. MD&A has earned the trust of many customers to design, manufacture and repair tapered land thrust bearings since 1984.

## GAS TURBINE BEARINGS

Gas turbines utilize optimized bearing designs with advanced features and specifications. MD&A has worked closely with gas turbine customers to jointly develop inspection and repair procedures to assure a smooth installation and long term reliability.

## SPHERICAL MOUNTING RESTORATION

The list of potential conditions contributing to unstable vibration trends can be endless. MD&A has helped many customers eliminate the variable of bearing mounting mechanical looseness by performing complete restoration of the spherical ball-ring fit.

## WE OFFER COMPLETE REFURBISHMENT OF THE FOLLOWING:

### Fixed Bore Journal Bearings

- Centrifugal casting
- Spherical Ball-Ring mounting restoration
- Insulated mounting ring restoration
- Instrumentation upgrades

### Tilt Pad Journal Bearings

- Complete assembly (support discs, alignment pad) reconditioning
- Predictable alignment techniques

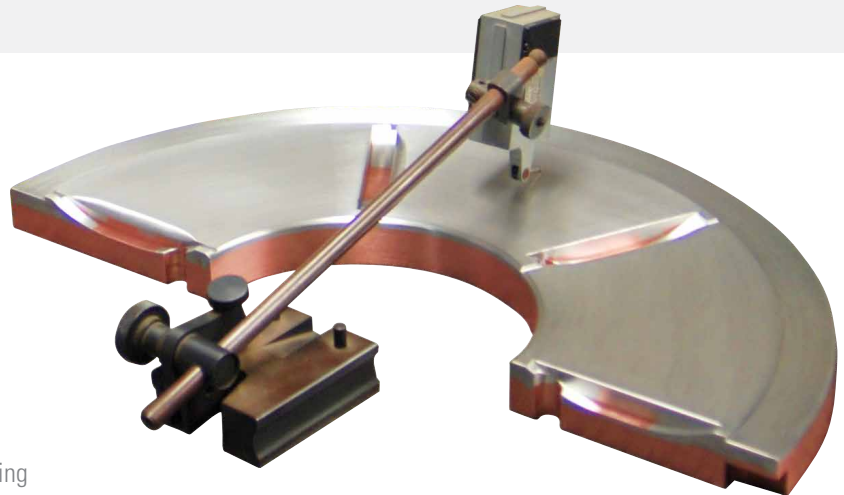
### Tapered Land Thrust Bearings

- Specialized fixtures / techniques for consistent profiles
- Filler shims

### Tilt Pad Thrust Bearings

- Complete assembly (leveling links, base rings, pivot buttons) reconditioning
- Predictable bump check shim sizing

### Associated Oil Deflectors



## MECHANICAL DYNAMICS & ANALYSIS

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