
Shop Repairs to a Horizontal Barrel Centrifugal Pump

APPROVED: _____ DATE APPROVED: _____ DATE EFFECTIVE: _____
Maintenance Manager

PURPOSE This Procedure describes the shop repairs of a centrifugal pump (horizontal barrel). This procedure applies to all Maintenance personnel that perform or assist in this work and covers equipment brought into shop for repairs.

REFERENCES

- MATERIAL SAFETY DATA SHEETS
- Manufacturer's Service Manual
- MOC Form (if necessary)

SPECIAL EQUIPMENT Refer to proper MATERIAL SAFETY DATA SHEETS.

PREREQUISITE This procedure requires qualified craftsmen.

1. REVIEW this procedure with Maintenance crews to ENSURE all steps and cautions are clear and all hazards have been DEFINED. Match the proper MATERIAL SAFETY DATA SHEETS with the equipment service.
2. Use special precautions defined on MATERIAL SAFETY DATA SHEETS and verify operation of all safety showers and eyewashes near the work area to ENSURE they are in good working order.
3. Take proper steps to VERIFY that equipment to be worked is properly CLEAN and CLEAR of hazardous material.
4. WEAR proper protective equipment.

PROCEDURE SHOP REPAIR TO A HORIZONTAL BARREL CENTRIFUGAL PUMP

1. DISASSEMBLE pump completely. CLEAN all parts.
2. All critical fits such as bearing fit, bearing crush, sleeve fits, housing fits and clearances such as wear rings, throat bushings and bearings will be measured and fall inside the manufacturer's tolerances. REPAIR or REPLACE all necessary parts.
3. All runouts, concentricity, etc., will be checked and fall within the manufacturer's tolerances. REPAIR or REPLACE where needed.
4. Rotors will be balanced to proper tolerances.

Note: Balance Report to be attached to Repair Record.

5. Any part used in a repair will be designed for the intended use and will be CHECKED for dimensional integrity, surface finish or metallurgy.
6. Any material changes must be approved by a MOC Procedure.
7. Shop will VERIFY all water jackets/coolers are CLEANED and TESTED.
8. The Manufacturer's service Manual will be used assuring that the proper repair methods are used in the repair including specification and tolerances based on OEM specifications, industry standards or sound engineering judgment based on equipment history.
9. All pumps must be tested to VERIFY no leakage of seals, gaskets and fittings.
10. The proper repair records will be filled out by the shop making the repairs The facility will maintain records.

Note: Final equipment alignment and piping fit ups will fall within accepted tolerances.

END

Sample - www.industrydocs.org

CENTRIFUGAL PUMP REPAIR RECORD

Pump #: _____ Date: _____ WO: _____ Unit: _____
Manufacturer: _____ RPM: _____ Temp: _____

1. SHAFT
 - A. Run Out _____
 - B. Coupling Fit GOOD _____
BAD _____
 - C. Bearing Fit
 - 1) Thrust Bearing No. _____
Int. Fit _____
 - 2) Radial Bearing No. _____
Int. Fit _____
 - D. Throat Bushing
Bushings Clearance _____ (Max .025)
Corrective Action _____
2. BEARING HOUSING
 - A. Bearing to Housing Fits
 - 1) Thrust Bearing Clearance _____
 - 2) Radial Bearing Clearance _____
 - 3) Oil Throwers Concentricity _____ (Max .002)
 - B. Mic. Boss Fit
 - 1) Bearing Housing _____
 - 2) Head _____
Corrective Action _____
3. STUFFING BOX HEAD
 - A. Wear Ring Clearance
 - 1) Head Wear Ring _____
 - 2) Case Wear Ring _____
 - B. Mic. Boss Fit
 - 1) Case Boss Fit _____
 - 2) Head Box Fit _____
Corrective Action _____
4. Set Thrust _____ (Max - Packing: .003-.005 Seal: .001-.003)
5. Shaft Runout on Coup. End _____ (Max .002)
6. Shaft Runout on Imp. End _____ (Max .002)
7. Shaft Deflection _____ (Max .002)
8. Runout from Shaft to Bearing Housing Flange Boss _____ (Max .002)
9. Runout from Shaft to Bearing Housing Flange Face _____ (Max .002)
10. Runout from Shaft to Head Wear Ring _____ (Max .0035)
11. Runout on Imp. _____ (Max .003)
12. Seal Glang Throat Center to Shaft: Yes _____ No _____
13. Test Seal at _____ lbs. Test with _____
14. Date Completed _____
15. Completed by _____

COMMENTS _____