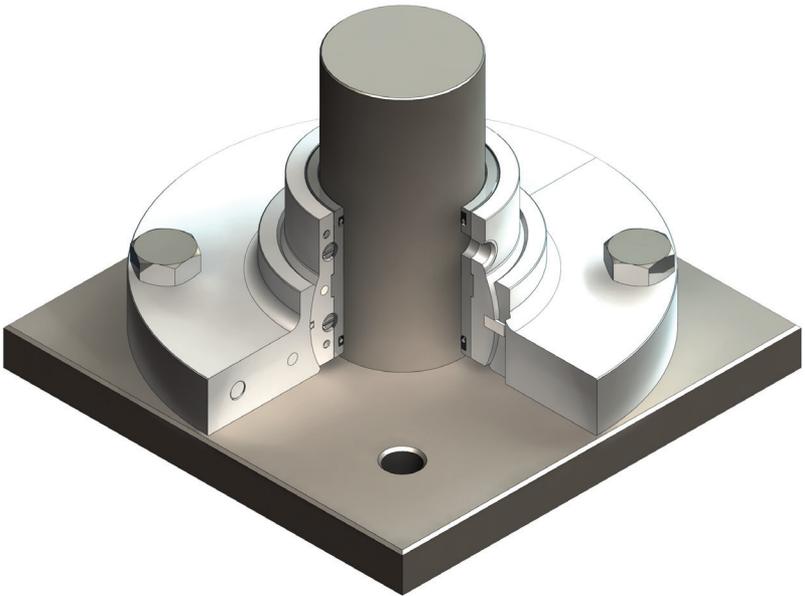




# *Installation Instructions*

## *XLC Series*

Self-aligning split bearing

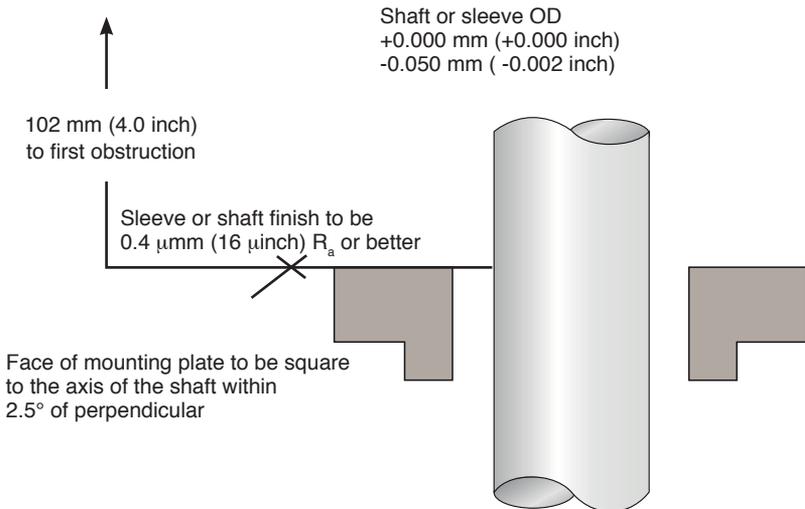


# 1 Equipment Check

- 1.1 Follow plant safety regulations prior to equipment disassembly:
  - Lock out motor.
  - Wear designated personal safety equipment.
  - Consult plant MSDS files for hazardous material regulations.
- 1.2 At the first installation of an XLC bearing disassemble fan shaft assembly in accordance with equipment manufacturer's instructions and remove upper bearing arrangement. Retain upper bearing mounting bolts and/or nuts for XLC bearing installation.
- 1.3 Check bearing assembly drawing for any modifications required to the equipment before installation and act accordingly.
- 1.4 Check shaft OD, distance to the first obstruction, and bearing housing bolting to ensure they are dimensionally within the tolerances shown on the bearing assembly drawing. Check bolt length to ensure adequate thread engagement for the actual bearing housing.
- 1.5 Thoroughly inspect and clean the mounting plate and shaft or shaft sleeve. Inspect for corrosion or any defects. Remove all burrs, nicks or scratches, and sharp edges from the shaft and/or sleeve in the bearing area. Remove sharp edges from keyways and threads. Replace worn shaft or shaft sleeve.
- 1.6 Check equipment requirements as described in Figure 1. Any reading greater than what is allowed must be brought within specifications.

## Mounting Requirements

Figure 1



- Maximum shaft runout at mounting plate = 0.05 mm (0.002 inch) FIM
- Maximum dynamic shaft deflection at mounting plate = 0.05 mm (0.002 inch) FIM

- 1.7 Check mounting plate bolt holes and bolt circle to ensure they are the same as shown on the assembly drawing.
- 1.8 Inspect individual bearing components for any significant notches, scratches, or dings. The wiper seals, WR600 insert, and spherical surfaces of the metallic components should be kept clean and free of debris.
- 1.9 Handle the XLC bearing with care; it is manufactured to precise tolerances. The bearing surfaces are of special importance and should be kept perfectly clean at all times.
- 1.10 Tools needed for installation: An open-end wrench and torque wrench sized for the gland bolt nuts, a flat head screw driver, and hex head wrenches sized for the bearing housing and carrier cap screws.

## 2 XLC Bearing Installation

2.1 The XLC bearing will come from the factory partially assembled without the wiper seals and O-rings installed. Partially disassemble the bearing for installation.

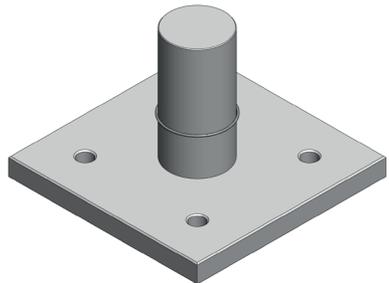
2.1.1 Unbolt the halves of the housing and set aside the cap screws for future use in assembly.

2.1.2 Unbolt the halves of the carrier assembly and set aside the cap screws for future use in assembly.



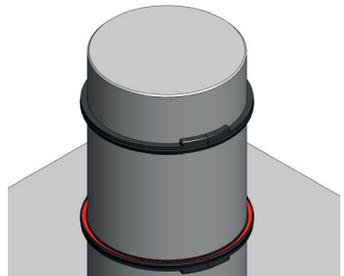
2.2 Join one ball and socket O-ring around the shaft.

2.2.1 Do not attempt to disconnect the O-ring. This will destroy the locking feature and make the O-ring unusable.



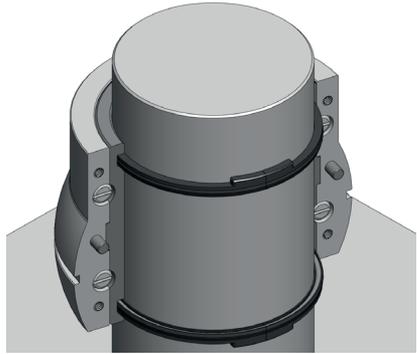
2.3 Place upper wiper jacket around shaft so the anti-rotation tab points up. Insert ball and socket O-ring into wiper jacket cavity from below.

2.3.1 Repeat step 2. 2. Place lower wiper jacket around shaft so the anti-rotation tab points down. Insert ball and socket O-ring into wiper jacket cavity from above.

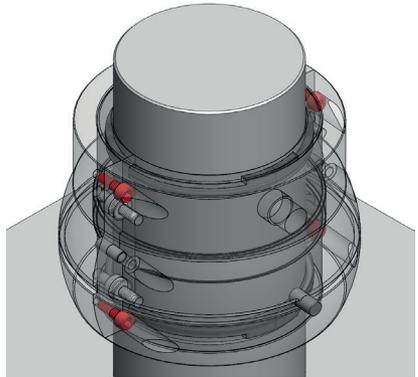


2.4 Align anti-rotation tabs of wiper seals vertically and space axially approximate distance to match ID of bearing. Position such that the lower wiper seal is 25 to 50 mm (1 to 2 inches) above the mounting plate.

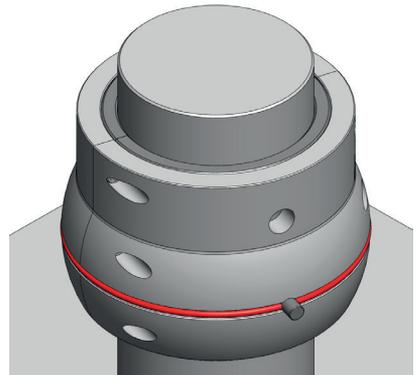
2.5 Place one half of carrier assembly onto shaft, ensuring that anti-rotation tabs are fully engaged to the ID of the bearing. *The spherical section of the carrier assembly should point down and the straight section of the carrier should point up.*



2.6 Join the mating half in the same orientation and secure bearing assembly by installing the four (4) cap screws. Tighten cap screws to a torque value of 2.3 N-m (20 in-lbs).

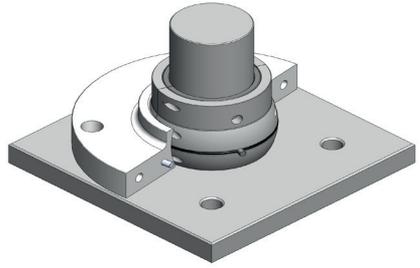


2.7 Apply a light coating of high temperature grease in the O-ring groove on the outside of the carrier assembly. Place O-ring cord in the groove so the two ends meet on either side of the anti-rotation pin. *The grease should hold the O-ring in place.*

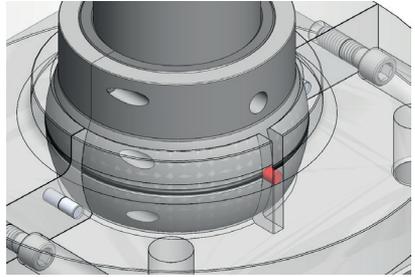


2.8 Using the same high temperature grease as above, coat both halves of the bearing housing in the spherical joint area.

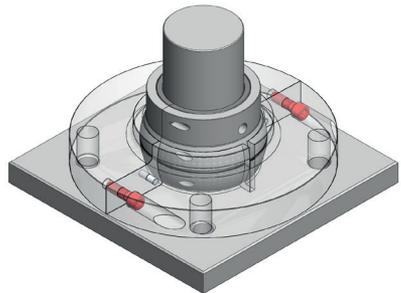
2.9 Slide the half of the housing without the pin slot around the carrier assembly. Align the housing split with the split in the carrier assembly. The flat side of the housing should point down.



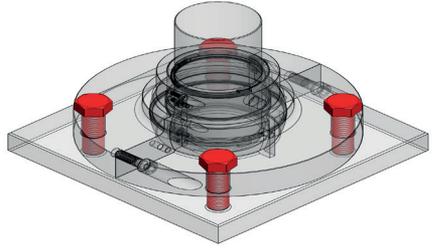
2.10 Place the other half of the housing around the carrier assembly. Orient the carrier assembly so that the pin enters the pin slot in the housing. Rotate the carrier assembly slightly and/or move it axially on the shaft to achieve alignment.



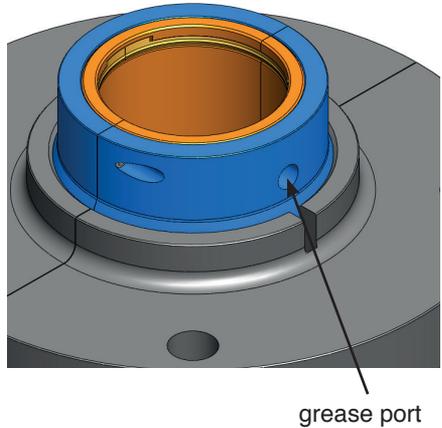
2.11 Secure the halves of the housing together using the two (2) cap screws. Tighten cap screws to a torque value of 27 N-m (20 ft-lbs). The halves should come together so there is full metal-to-metal contact in the joint. *The housing should grip the carrier tight enough to hold a fixed position, but moveable without requiring mechanical leverage.*



- 2.12 Slide and reposition the bearing assembly against the mounting flange. Secure the housing to the mounting flange using four (4) bolts. Tighten bolts to a torque value of 33 N-m (25 ft-lbs). Verify the metal-to-metal contact at the housing joint is unchanged from the previous step.



- 2.13 Inject high temperature grease directly into the grease port located on the carrier assembly. Fill with grease until grease is observed escaping from the bearing wiper seals. Install a flexible lubrication line to the carrier assembly grease port to enable greasing from the ground during operation.



### 3 Lubrication Instructions

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- 3.1 Before initial startup the bearing should be flooded with grease until grease is observed escaping from the bearing.
- 3.2 Additional lubrication (five pumps from a standard grease gun) should be added to the bearing at monthly intervals through the lubrication line.

### 4 Repair Instructions

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This product is a precision radial load support device. The design and dimension tolerances are critical to performance. Only parts supplied by Flowserve should be used to repair an XLC bearing. These are available from numerous Flowserve stocking locations. To order replacement parts, refer to the part code number and B/M number. A repair kit should be stocked to reduce repair time.

- 4.1 Five (5) components in the XLC Bearing are to be replaced during servicing: WR-600 insert, (2) wiper jackets, and (2) ball and socket O-rings. Other components are reusable but should be inspected for damage.
- 4.2 Disassembly of the bearing is the reverse of assembly.
- 4.3 The WR-600 insert is held in place by eight (8) screws, four (4) in each half. Remove these screws and separate the bearing insert from the bearing carrier.
- 4.4 Identify the half of the new bearing insert with the grease port and place it in the matching bearing carrier half so the ports in each piece are aligned. Torque screws to 1.7 N-m (15 in-lbs).
- 4.5 Repeat 4.4 with the halves that do not contain the grease port.
- 4.6 Inspect and resurface/replace shaft and/or sleeve before reassembly.

When repairs are not conducted at the customer's location, **decontaminate the bearing assembly** and return it to Flowserve, with an order marked "**Repair or Replace.**" **A signed certificate of decontamination** must be attached. **A Material Safety Data Sheet (MSDS) must be enclosed** for any product that came in contact with the bearing. The bearing assembly will be inspected and, if repairable, it will be rebuilt and returned in its original condition.



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