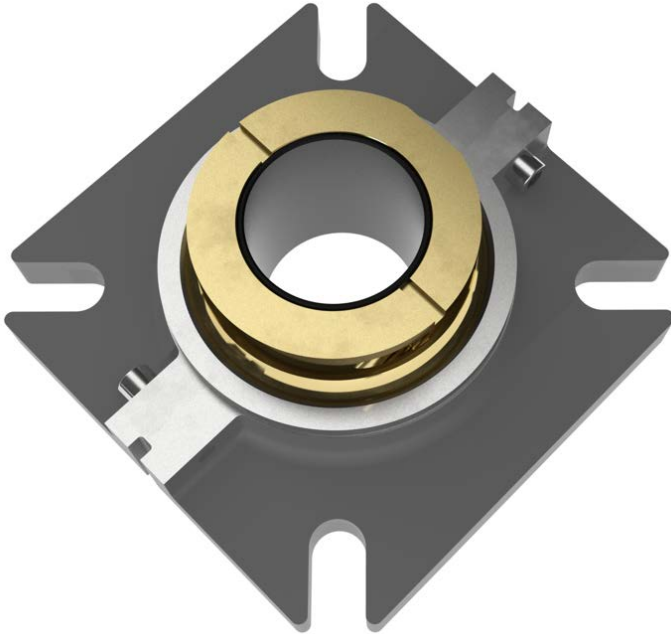




# *Installation Instructions*

## *XLC Generation 2*

Self-aligning split bearing

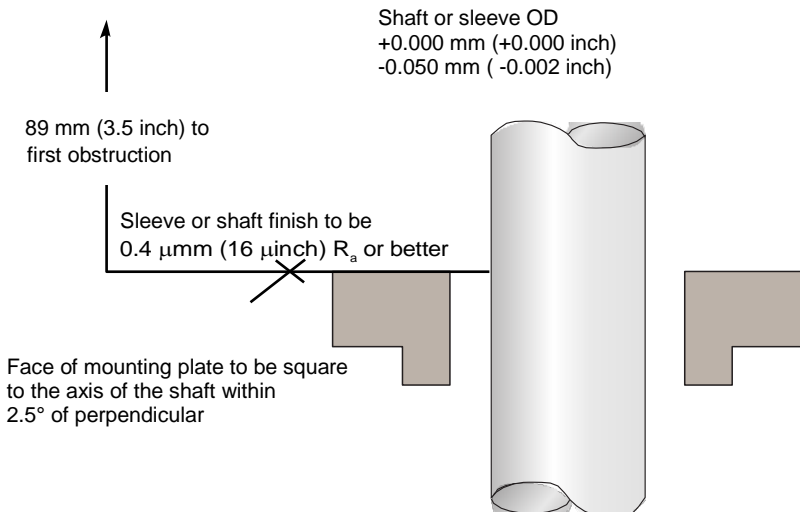


# 1 Equipment Check

- 1.1 Follow plant safety regulations prior to equipment disassembly:
  - Lock out motor.
  - Wear designated personal safety equipment.
  - Consult plant SDS 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. For XLC replacement or repair the fan shaft does not need to be removed due to the split design.
- 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

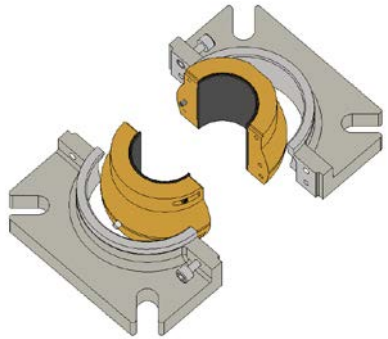
- 1.7 Check mounting plate bolt holes and bolt circle to ensure they are the same as shown on the assembly drawing.
- 1.8 Inspect individual bearing components for any significant notches, scratches, or dings. The composite bearing insert, and spherical surfaces of the metallic components should be kept 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, 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 fully assembled. Partially disassemble the bearing for installation.

2.1.1 Unbolt the halves of the housing. The cap screws are captive and should stay in the side they are inserted from.

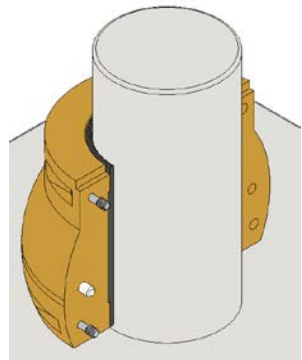
2.1.2 Unbolt the halves of the carrier assembly. The cap screws are captive and should stay in the side they are inserted from.



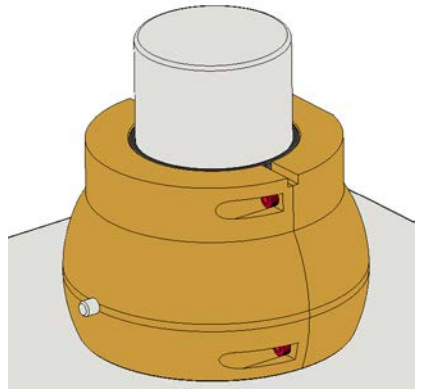
2.2 Place one half of carrier assembly onto shaft. *The spherical section of the carrier assembly should point down and the straight section of the carrier should point up.*



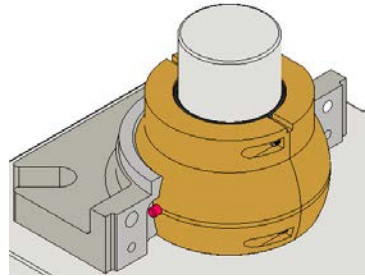
No grease or oil should be used during the installation of XLC Gen 2 bearings. The bearing insert is self-lubricating. The addition of external lubrication provides no additional benefit and can attract dirt and debris.



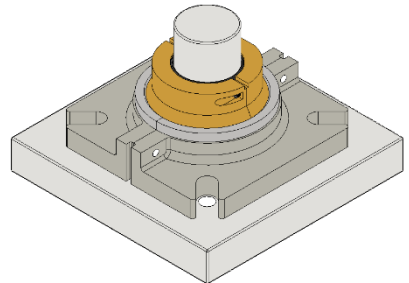
- 2.3 Join the mating half in the same orientation and secure carrier assembly by installing the four (4) cap screws. Tighten cap screws to a torque value of 2.3 N-m (20 in-lbs).



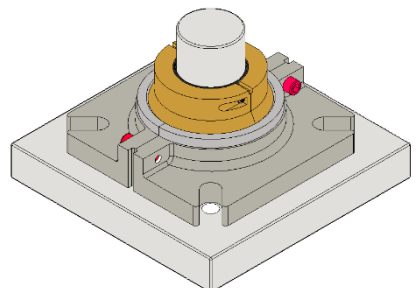
- 2.4 Slide the half of the housing around the carrier assembly. Align the pin in the carrier with the slot machined into either side of the split face of the housing.



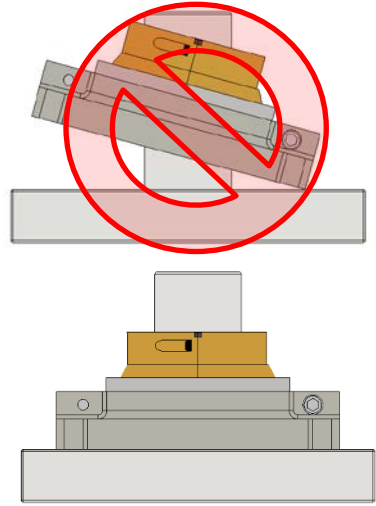
- 2.5 Place the other half of the housing around the carrier assembly. Ensure the pin in the carrier remains in the machined slot at the split face of the housing halves.



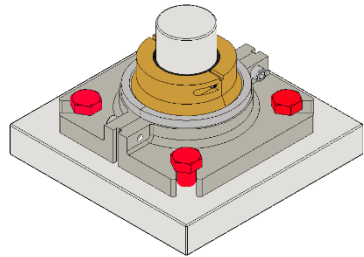
- 2.2 Secure the halves of the housing together using the two (2) cap screws. Lightly tighten cap screws until there is full metal to metal contact between halves.



- 2.2 Ensure the housing is sitting flat on the mounting surface and start but do not tighten the 4 flange bolts before tightening the two cap screws from the previous step to a torque value of 27 N-m (20 ft-lbs). *The housing should grip the carrier tight enough to hold a fixed position. It may require some light taps with a plastic dead blow hammer to move the ball and socket, and allow the housing to sit flat on the mounting surface.*



- 2.2 Tighten the 4 flange 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.



### 3 Repair Instructions

---

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.

- 3.1 The composite insert is the only component in the XLC Bearing replaced during servicing. Also included is a small tube of glue. Other components are reusable but should be inspected for damage.
- 3.2 Disassembly of the bearing is the reverse of assembly.
- 3.3 The composite insert is held in place to the carrier by a small dab of glue in order to ease installation. After being in service for a period of time this glue may or may not still be effective at holding the insert to the bronze carrier. It may be necessary to separate the bearing insert halves from the bearing carrier using a small pry tool.
- 3.4 Identify the spot faced hole in the new composite insert and align it with the pin protruding from the carrier. A small dab of glue on the outer surface of the insert will hold it in place to ease installation of the carrier around the shaft.
- 3.5 Repeat 3.4 with the bronze carrier half that does not have an anti-rotation pin. After placing a small dab of glue on the insert, install it in the bronze carrier making sure the split face of both parts stay flush with each other. The other half also includes a spot face to keep the alignment of the inset halves correct. The spot face should be closest to the spherical end of the carrier.
- 3.6 Inspect and resurface/replace shaft and/or sleeve before reassembly and be sure equipment meets specifications outlined in section 1.
- 3.7 Start installation from 2.2 and proceed.

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 Safety Data Sheet (SDS) 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.



TO REORDER REFER TO  
B/M # \_\_\_\_\_  
F.O. \_\_\_\_\_

FIS214eng REV 12/18 Printed in USA

**To find your local Flowserve representative  
and find out more about Flowserve Corporation,  
visit [www.flowserve.com](http://www.flowserve.com)**

Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation, and maintenance of Flowserve products. The purchaser/user should read and understand the Installation Instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application.

While the information and specifications contained in this literature are believed to be accurate, they are supplied for informative purposes only and should not be considered certified or as a guarantee of satisfactory results by reliance thereon. Nothing contained herein is to be construed as a warranty or guarantee, express or implied, regarding any matter with respect to this product. Because Flowserve is continually improving and upgrading its product design, the specifications, dimensions and information contained herein are subject to change without notice. Should any question arise concerning these provisions, the purchaser/user should contact Flowserve Corporation at any one of its worldwide operations or offices.

© Flowserve Corporation (2019)

**USA and Canada**

Kalamazoo, Michigan USA

Telephone: +1 269 381 2650

**Europe, Middle East, Africa**

Etten-Leur, The Netherlands

Telephone: +31 765 028 200

**Asia Pacific**

Singapore

Telephone: +65 6544 6800

**Latin America**

Mexico City

Telephone: +52 55 5567 7170