



# Odyssey™ Elastomer Spacer Coupling

Installation and  
Alignment Instructions  
FORM 1658-01  
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**KOP-FLEX®**  
Emerson Power Transmission

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	<p style="text-align: center;"><b>⚠ WARNING</b></p> <p>High voltage and rotating parts may cause serious or fatal injury.</p> <p>Turn off power to install or service.</p> <p>Operate with guards in place.</p> <p>Read and follow all instructions.</p>	
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## General

Inspect both the driving and driven shafts for burrs and dirt. Use appropriate measures to clean and dress these areas. Make sure keys fit properly with the shafts and hubs. Make sure equipment shafts are at the proper separation. Clearance bores with setscrews are the standard. For interference fits refer to the "Alternate Installation Procedure" section.

## Installation Procedure - Clearance Fit and Bushing Mounted Hubs



**1** Mount both hubs on the shafts and secure only one in place with the setscrew or bushing (refer to the bushing manufacturer's manual for additional instructions). Slide the other hub up the shaft until the shaft end protrudes past the hub face by about 1/8". Do not secure this hub.



**2** Insert the spacer between the hubs and pull the unsecured hub up to mate with the spacer flange. Engage the pilot connections and tighten the setscrew, or bushing, to secure the hub on the shaft.



**3** Insert a phillips screwdriver (or similar size rod) in a radial hole in the spacer OD and rotate the spacer until an arrow on the element aligns with a bolt hole in the hub. Use a flat screwdriver inserted in a face slot in the hub to prevent the hub from turning if necessary. Install fasteners hand-tight. Repeat for the other hub. Use a torque wrench to tighten all fasteners (see Table 1).



**Table 1 Flange Bolt Tightening Torque**

Coupling Size	Bolt Size	Tightening Torque-Dry (1)	
		ft-lb	Nm
112 138 162 188	M5	6	8
212 238 288	M6	10	14
338 388	M8	23	31

- (1) "Dry" (or "non-lubed") refers to fasteners as they are packaged, with a light coating to prevent rust.
- (2) Fastener sets contain extra bolts.



## Alternate Installation Procedure - Interference Fit Hubs

Heat the hub to expand the bore; 300 deg. F (150 deg. C) is sufficient for most standard interference fits (0.0005 inch/inch). Contact KOP-FLEX for higher interference rates. **CAUTION: DO NOT allow temperature to exceed 600 deg. F (300 deg. C). An oven is recommended.** Place hub in the proper position on shaft and hold in place as it cools. Repeat for the other hub.



**1a** Slightly insert one end of the spacer between the hubs. For larger sizes (212 and larger), insert a flat screwdriver into the face slot of the hub at the opposite end as shown above. Twist the screwdriver slightly to compress the spacer to allow it to slide past the rigid pilot. Small sizes can be compressed and installed by hand.



**2a** At this point, the spacer can be "snapped" into the hub pilot connections by pushing on the spacer tube. Small sizes can be assembled with relatively little effort, while larger sizes may require slightly more force.



**3a** Insert a Phillips screwdriver (or similar size rod) in a radial hole in the spacer OD and rotate the spacer until an arrow on the element aligns with a bolt hole in the hub. Use a flat screwdriver inserted in a face slot in the hub to prevent the hub from turning if necessary. Install fasteners tight. Repeat for the other hub. Use a torque wrench to tighten all fasteners (see Table 1).

## Alignment

**Exact values and procedures for aligning equipment are normally specified by equipment manufacturers.**

The ODYSSEY™ coupling is capable of withstanding large amounts of misalignment. However, good initial alignment to the minimum possible values will promote optimum machinery performance and eliminate potential operating problems. After securely tightening the foundation bolts, the hub separation and alignment should be rechecked and adjusted as necessary.

**Table 2 Recommended Alignment Tolerances**

Cplg. Size	C <sub>typ</sub> Typical Hub Separation (inches)	Offset (1) Alignment Tolerance based on C <sub>typ</sub> (inches)	Angular Alignment Tolerance measured at hub pilot dia. (inches)	Axial Alignment Tolerance (inches)
112 138 162	3.50	0.020 0.020 0.020	.060 .070 .080	+/- .015
188 212 238	5.00	0.030 0.030 0.030	.090 .100 .120	+/- .015
288 338 388	7.00	0.040 0.040 0.040	.140 .160 .190	+/- .030

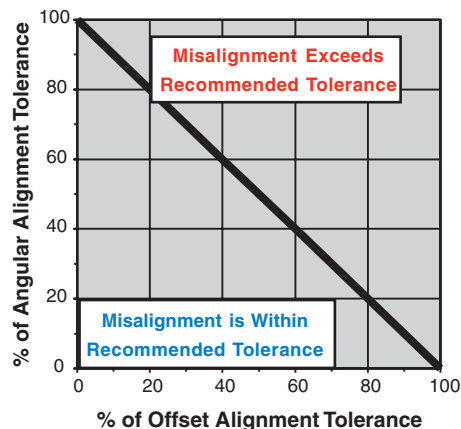
(1) For other hub separations, calculate Offset Alignment Tolerance by:

$$\text{Offset Alignment Tolerance} = \text{Chart Value} \times C_{\text{actual}} / C_{\text{typ}}$$

Total Misalignment is the combination of both Offset and Angular Misalignment. Use the chart above to determine whether the combined misalignment conditions fall within the recommended alignment tolerances (left of the line). Coupling alignment should be checked periodically. Even when a coupling is well aligned at installation, subsequent settling of foundations, shifting of equipment, etc., may cause the alignment to deteriorate.

## Spacer Removal

The spacer can be removed without disturbing the hubs. Remove all flange fasteners. Insert a flat screwdriver in a hub face slot at each end of the spacer. Twist both screwdrivers slightly and pull until the spacer "pops out" of hub pilots. Grasp the spacer tube and carefully pull until the spacer is completely removed.



**⚠ WARNING** Disconnect all power before adjusting units