



Ball Bearings Installation Instructions

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FORM

787755, PS-740-0001

MCM-10511-BW-EN

Revised

Sept. 2024

⚠ DANGER

Indicates a hazard which, if not avoided, will result in serious injury or death.

⚠ WARNING

Indicates a hazard which, if not avoided, could result in serious injury or death.

⚠ CAUTION

Indicates a hazard which, if not avoided, could result in minor or moderate personal injury.

NOTICE

Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

GENERAL SAFETY INSTRUCTIONS

⚠ WARNING

- Read and understand the information in this section and in this manual completely before installing, operating or maintaining this equipment. Failure to follow this instruction could result in severe injury or death.
- Disconnect and lock out power before installation and maintenance. Working on or near energized equipment can result in severe injury or death.

- Do not operate equipment without guards in place. Exposed equipment can result in severe injury or death.

⚠ CAUTION

- Perform periodic inspections. Equipment may fail prematurely and could become unsafe if not properly inspected and maintained. Failure to follow this instruction could result in mild or moderate personal injury.

Housed Bearing Mounting Procedure

All Units

- Inspect shaft size (see Shaft Tolerance Table 1). Shaft must be to correct size. Clean shaft and mounting surface as needed.

Table 1 - Shaft Tolerance

Set Screw and Eccentric Cam Mount	Tolerance Nominal to:	Concentric Collar Mount	Tolerance Nominal to:
1/2 - 2" 20 - 50mm	-0.0005" -0.013mm	1/2 - 2" 20 - 50mm	-0.0030" -0.0076mm
2 1/4 - 2 7/16" 55 - 65mm	-0.0010" -0.025mm	2 1/4 - 2 7/16" 55 - 65mm	-0.0040" -0.102mm

Recommended shaft tolerances are generally satisfactory for loads up to 15% of C (see load ratings in catalog). High load applications will require a press fit to the shaft.

- Position bearings on the shaft, applying all driving pressure to the face of the inner ring. Do NOT strike or exert pressure on housing or seals.
- Where shimming is required - use full shims across the housing base - not just at the bolt holes. Position and loosely bolt housing to mounting base.
- Establish the final shaft position. Align bearings by hand or rubber mallet if required. Bolt units down.
- Lock bearing to the shaft.

Set Screw Lock Units

Tighten the set screws on the bearing to the proper tightening torque which can be found in Set Screw Torque Table 2. Alternate torquing the screws to prevent unequal loading. See comment 8 in ADDITIONAL INSTALLATION COMMENTS.

Eccentric Cam Lock Units

Slide collar over the shaft until it rests over the cam of the inner ring. ROTATE THE COLLAR IN THE DIRECTION OF NORMAL SHAFT ROTATION UNTIL SNUG. Utilizing a hammer and punch, rotate the collar until tight. Tighten set screws securely. Utilize torque values from Set Screw Torque Table 2. See comment 8 in ADDITIONAL INSTALLATION COMMENTS.

Concentric Lock Units

Hold collar against inner ring shoulder. Tighten capscrew to recommended torque in table 3. Verify collar is fitting square against inner ring, see figure 1.

Table 2 - Set Screw and Eccentric Cam Lock

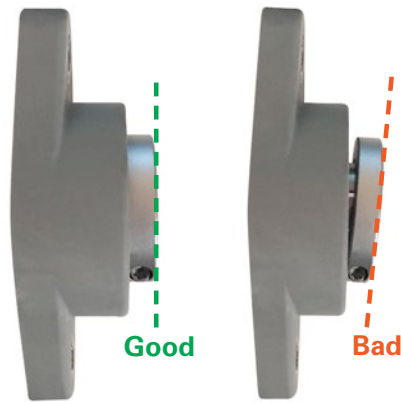
Set Screw Size*		Hex Size		Tightening Torque	
				(In-Lbs)	(N-M)
#10	-	3/32	-	35	4
1/4	M6 x 1	1/8	3 mm	85	10
5/16	M8 x 1.25	5/32	4 mm	165	19
3/8	M10 x 1.5	3/16	5 mm	300	34
7/16	-	7/32	-	450	51

*Set screw lock units use fine thread screws. Eccentric cam lock units use coarse thread screws. Metric bore set screw lock units use metric screws.

Table 3 - Concentric Collar Lock

Shaft Diameter (Inch)	Collar Sizes	Screw Thread	TORX Size	Tightening Torque (In-Lbs)
1/2 - 1 1/4R	C-12, 16, 19	#10-24	T27 / 27IP	85
1 1/4 - 1 3/4	C-23, 24, 27	1/4-20	T30 / 30IP	160
1 15/16 - 2 3/16	C-31, 35	5/16-18	T45 / 45IP	350
2 7/16	C-39	3/8-16	T50 / 50IP	650

Figure 1 - Capscrew tightening on a concentric collar lock bearing



Additional Installation Comments

1. Position housings for accessibility of grease fittings.
2. Spot drill or mill flats on shaft for increased holding power of set screws or ease of removal.
3. When an eccentric load condition exists, position set screws directly opposite from eccentric weight.
4. Shaft shoulders are recommended to support vertical shafts and high thrust loads. The shoulder diameter should not exceed the outside diameter of the inner ring.
5. When pillow blocks are mounted on an inclined plane or the work force is parallel with the base, either lateral bolts or welded stop blocks should be used to prevent shifting.
6. Avoid direct hammer blows to the bearing and its components by using a soft drift or block.
7. Coat the shaft & bearing bore with grease or oil to facilitate assembly.
8. If an Allen wrench is used as a torque wrench, place a length of pipe over the long end and pull until the wrench begins to twist.

Lubrication Information

Standard bearings come pre-lubricated from the factory with NLGI Grade 2 EP (extreme pressure) grease with a lithium complex thickener. It can be used for high loads, and in some cases at temperatures as low as -40°F or as high as +225°F. For high speeds, other special service conditions, or for inquiries on other acceptable greases, please consult Regal Rexnord Application engineering. Oil lubrication is not recommended.

Automatic Lubrication System

A variety of automatic re-lubrication systems are available for use with ball bearings. Key considerations are:

1. NLGI grade of grease used, consistent with system layout.
2. An amount/frequency combination necessary to replenish the grease.

Mixing Of Greases

Mixing of any 2 greases should be checked with the lubricant manufacturer. If the grease bases are different they should never be mixed.

Relubrication

Bearings should be re-lubricated at regular intervals. The frequency and amount of lubricant will be determined by the type of service. General guidelines for re-lubrication frequency and amount are based upon average application conditions. See Lubrication Table 4. Oil lubrication is not recommended.

At high temperatures, greases tend to degrade more rapidly and thus require fresh grease more frequently. In general, small amounts of grease added frequently provide better lubrication. When equipment will not be in operation for some time, grease should be added to provide corrosion protection. This is particularly important for equipment exposed to severe weather.

Table 4 - Lubrication

Shaft Size: Inches, Metric	To Lubricate Amount oz., grams	Recommended Number of Months Between Relubrication (Based on 24/7 Operation)			
		Relube Interval			
		6 Months	4 Months	2 Months	1 Months
1/2 - 1 20 - 25mm	0.06 1.7	3200	4800	7200	9600
1 1/16 - 1 7/16 30 - 35mm	0.15 4.3	2200	3400	5100	6800
1 1/2 - 1 3/4 40 - 45mm	0.23 6.5	1700	2600	4000	5300
1 7/8 - 2 3/16 50 - 55mm	0.26 7.4	1400	2100	3200	4300
2 1/4 - 2 7/16 60mm	0.28 7.9	1300	2000	3000	4000
Shaft Speed in RPM. Reduce lubrication intervals by half for vertical applications.					

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