



Rex® SHURLOK® Adapter Mount 6000 Series Installation Instructions

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FORM

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⚠ 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).

WARNING! These instructions should be read entirely and followed carefully before attempting to install or remove Rex roller bearings. Failure to do so can result in improper installation which could cause bearing performance problems as well as serious personal injury.

NOTICE: If the operating RPM is above the RPM stated in Table 7, clearances must be adjusted. Refer to clearance adjustment procedure on page 5.

BEARING MOUNTING PROCEDURE

TABLE OF CONTENTS

| | |
|--|---|
| 1. Bearing Mounting Procedure..... | 1 |
| 2. Auxiliary Cap Installation 1 15/16 - 4 15/16..... | 6 |
| 3. Auxiliary Cap Installation 5 7/16 - 6 15/16..... | 8 |

INSTALLATION — ONE FIXED AND ONE EXPANSION UNIT

1. Inspect shaft size (see Shaft Tolerance **Table 1**). Shaft must be correct size. Clean shaft and mounting surface as needed.
2. Loosen setscrews in locknut then rotate locknut counterclockwise until there is about one thread left before sliding bearing on shaft. The Locknut Sleeve assembly should not be removed from bearing. If this happens refer to **comment 2** in the Additional Installation Comments.
3. Slide the bearings on the shaft to their intended positions and loosely bolt the housings to the structure. Where shimming is required, use full shims across the housing base, not just at the bolt holes.
4. Tighten the Adapter Assembly of the Fixed Bearing First — Make sure the shaft is locked so as not to rotate. Hand tighten the locknut then use a hooktype spanner wrench to bring the locknut to a snug fit. Snug fit is defined when the locknut has been tightened enough to remove the clearance between the shaft, adapter sleeve and inner ring. This is almost like a dead stop when applying pressure to the spanner wrench.
 - If the adapter sleeve begins to slip around the shaft, then retain the sleeve using a second hook-type spanner wrench. Engage the second spanner wrench into the split area of the adapter sleeve. Position the wrench in the opposing direction of the first spanner wrench that is engaged in the locknut (**Figure 1**). Continue tightening until the adapter sleeve will no longer slip around the shaft.
5. Mark the position of the locknut relative to the shaft with a grease pencil or dark marker at the top of the locknut, sleeve and shaft (**Figure 2**).

6. Begin to tighten the locknut using one of these methods:
 - The special SHURLOK style-wrench installation tool (**Table 2**) with a ½ or ¾" drive breaker bar
 - The special SHURLOK impact-style installation tool (**Table 2**) and a hammer
 - A soft steel drift pin and a hammer.
 - A chain wrench.
7. Tighten the locknut clockwise the required revolutions as shown in **Table 3**. When tightening the locknut, be sure to check the sleeve to make sure it does not turn on shaft.
8. Tighten the two set screws to the recommended seating torque from **Table 4**. If one of the set screws is lined up with the slot in the adapter sleeve, tighten the locknut clockwise until the set screw clears the slot.
9. Tighten the Expansion Bearing - Center the expansion bearing cartridge in the housing. Tighten the bearing to the shaft following the same procedure for the fixed bearing.
10. Align the bearings and secure to mounting structure.

INSTALLATION — TWO FIXED UNITS

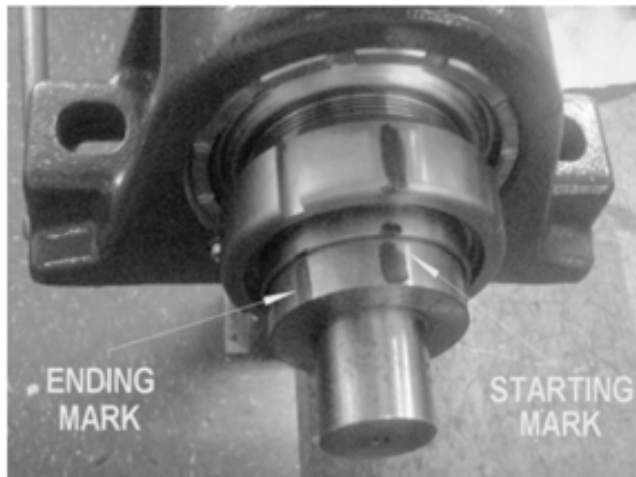
If you are installing two fixed pillow block units, tighten the mounting bolts of the first unit, and then install it as shown in the INSTALLATION section. Install the second bearing as normal, and then tighten its mounting bolts last.

If you are installing two fixed flange units, tighten the mounting bolts of the first unit and install as normal. Snug up the mounting bolts on the second unit. Now go through the **INSTALLATION** procedure to take out the adapter assembly looseness for the second bearing, **step 4**.

Figure 1 — Wrench positioning to prevent sleeve from slipping



Figure 2 — Position of Locknut relative to shaft



After reaching a snug fit for the locknut, loosen the mounting bolts enough to allow for housing movement away from the mounting base. Housing movement should equal the required shim stock thickness shown in **Table 5**. Now complete the installation of the second bearing. Once the second bearing has been mounted, place shim stock underneath each bolt pad between the housing base and the structure. Place the shim stock adjacent to each bolt on two sides about the shaft of the bolt to allow for uniform pressure under each bolt pad. Tighten housing mounting bolts to complete the installation.

ADDITIONAL INSTALLATION COMMENTS

1. Position housings for accessibility of grease fittings.
2. The adapter assembly is shipped inside the bearing. The adapter components do not need to be removed. If you should happen to remove the adapter sleeve from the bearing during installation, you must align the adapter sleeve slot with its mating spline in the inner ring bore as shown in the **Figure 3**.
3. 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.
4. Avoid direct hammer blows to the bearing and its components by using a soft drift or block.
5. Do not coat the shaft & bearing bore with grease or oil to facilitate assembly.
6. 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.
7. **For Auxiliary Cap Installation, see pages 6-9.**

Figure 3 — If sleeve is removed from inner ring align spline with slot in sleeve to reinstall



TABLE 1 — Recommended Shaft Tolerance

| Nominal Shaft Sizes (inches) | Commercial Shaft Tolerance (Cold Finished Steel, Low Carbon) | Recommended Shaft Tolerances |
|------------------------------|--|------------------------------|
| 1 7/16 - 1 15/16 | +.000-.003" | +.000-.003" |
| 2 3/16 - 3 15/16 | +.000-.004" | +.000-.004" |
| 4 3/16 - 5 15/16 | +.000-.005" | +.000-.005" |
| 6 7/16 - 6 15/16 | +.000-.006" | +.000-.006" |

TABLE 2 — SHURLOK® Installation Tools

| Bearing Size | Wrench Style Part Number (Figure 4) | Impact Style Part Number (Figure 5) |
|---------------|-------------------------------------|-------------------------------------|
| 107 | N6107-SPN | N6107-IMP |
| 111 | N6111-SPN | N6111-IMP |
| 115 | 105-90420-11 | 105-90425-11 |
| 203 | 105-90420-21 | 105-90425-21 |
| 206, 207 | 105-90420-31 | 105-90425-31 |
| 211, 212, 215 | 105-90420-41 | 105-90425-41 |
| 303, 307 | 105-90420-51 | 105-90425-51 |
| 311, 315 | 105-90420-61 | 105-90425-61 |
| 403, 407 | 105-90420-71 | 105-90425-71 |
| 415 | 105-90420-81 | 105-90425-81 |
| 507 | N/A | 105-90425-91 |
| 515 | N/A | 105-90426-11 |
| 607, 615 | N/A | 105-90426-21 |

Figure 4 — Wrench



Figure 5 — Impact Style



TABLE 3 — Minimum and Maximum Locknut Adjustment

| Shaft Size Range (in) | | Minimum Locknut Adjustment (Turn) | Maximum Locknut Adjustment (Turn) |
|-----------------------|---------|-----------------------------------|-----------------------------------|
| From | To | | |
| 1 7/16 | 4 7/16 | 1 | 1 1/4 |
| 4 15/16 | 5 7/16 | 7/8 | 1 1/8 |
| 5 15/16 | 6 15/16 | 3/4 | 1 |

TABLE 4 — Set Screw Tightening Torque

| Shaft Size (in) | Seating Torque (in-lbs./N-m) |
|-------------------|------------------------------|
| 1 7/16 | 87-92/10-10.4 |
| 1 11/16 | |
| 1 15/16 | |
| 2 3/16 | |
| 2 3/8 - 2 7/16 | 165-185/18.6-20.9 |
| 2 11/16 - 2 15/16 | |
| 3 3/16 - 3 7/16 | |
| 3 11/16 - 3 15/16 | |
| 4 3/16 - 4 7/16 | 290-325/32.8-36.7 |
| 4 15/16 | |
| 5 7/16 | |
| 5 15/16 - 6 15/16 | |
| | 460/52 |
| | 680/77 |

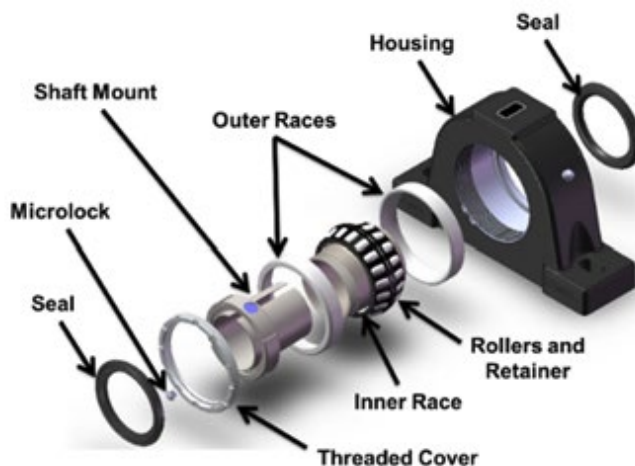
TABLE 5 — Shim Stock Thickness for Two Fixed Flange Units

| Shaft Size Range (in) | | Shim Stock (in/mm) |
|-----------------------|---------|--------------------|
| From | To | |
| 1 7/16 | 1 11/16 | .042/1.10 |
| 1 15/16 | 2 3/16 | .063/1.60 |
| 2 3/8 | 2 15/16 | .070/1.80 |
| 3 3/16 | 3 15/16 | .080/2.00 |
| 4 3/16 | 4 7/16 | .094/2.40 |
| 4 15/16 | 5 7/16 | .100/2.50 |
| 5 15/16 | 6 15/16 | .109/2.80 |

TABLE 6 — Recommended Lubrication Schedule

| SHAFT SIZE-INCHES | GREASE WT. REQUIRED (OZ) | | RECOMMENDED NUMBER OF MONTHS BETWEEN RELUBRICATION* (BASED ON 24/7 OPERATION) | | | | |
|---------------------|--------------------------|-----------------|---|--------|--------|-------|-------|
| | To Lube Rebuilt Units | To Relube Units | Relube Interval | | | | |
| SHURLOK 6000 Series | | | 6 Mths | 4 Mths | 2 Mths | 1 Mth | 2 Wks |
| 1 7/16 | 0.6 | 0.30 | 1000 | 1550 | 2400 | 3800 | 5250 |
| 1 11/16 - 1 3/4 | 0.8 | 0.40 | 870 | 1350 | 2100 | 3300 | 4450 |
| 1 15/16 | 0.9 | 0.45 | 700 | 1100 | 1700 | 2700 | 4050 |
| 2 3/16 | 1.1 | 0.55 | 630 | 1000 | 1500 | 2400 | 3650 |
| 2 3/8 - 2 7/16 | 1.5 | 0.65 | 580 | 910 | 1400 | 2250 | 3300 |
| 2 11/16 - 2 15/16 | 2.8 | 1.20 | 460 | 730 | 1100 | 1800 | 2800 |
| 3 3/16 - 3 7/16 | 3.7 | 2.00 | 410 | 640 | 1000 | 1550 | 2400 |
| 3 11/16 - 3 15/16 | 6.9 | 2.90 | 350 | 550 | 850 | 1350 | 2050 |
| 4 3/16 - 4 7/16 | 8.4 | 3.25 | 300 | 470 | 740 | 1150 | 1850 |
| 4 15/16 | 14.3 | 5.00 | 280 | 440 | 680 | 1050 | 1600 |
| 5 7/16 | 22.1 | 8.40 | 50 | 100 | 300 | 500 | 1000 |
| 5 15/16 | 25.3 | 13.50 | 50 | 100 | 300 | 500 | 1000 |
| 6 7/16 - 6 15/16 | 30.0 | 15.00 | 50 | 100 | 300 | 500 | 1000 |
| | | | Shaft Speed in RPM | | | | |

Figure 6 — Rex® SHURLOK® Exploded View



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TABLE 7 — Adjustment Table (AXIAL AND RADIAL CLEARANCES) 6000

| Size Code | STANDARD FACTORY ADJUSTMENT (Average Speed and Temperature) | | RECOMMENDED ADJUSTMENT HIGH SPEEDS | | CLEARANCE ADJUSTMENT INCHES PER 15 DEGREES | |
|-----------|--|--------------------------------|---------------------------------------|-------------------------------|---|-------|
| | 6000 SERIES | STANDARD DEGREES ADJUST. | SPEED OVER | HIGH SPEED DEGREES ADJUST. | RADIAL | AXIAL |
| 4 | 1 7/16 | 65 | 2000 | +15° | .0008 | .0026 |
| 5 | 1 11/16 | 70 | 1500 | +30° | .0008 | .0027 |
| 6 | 1 15/16 | 105 | 1500 | +15° | .0007 | .0026 |
| 7 | 2 3/16 | 75 | 1250 | +15° | .0009 | .0034 |
| 8 | 2 3/8 - 2 7/16 | 80 | 1250 | +15° | .0008 | .0034 |
| 9 | 2 11/16 - 2 15/16 | 100 | 1250 | +15° | .0009 | .0035 |
| 10 | 3 3/16 - 3 7/16 | 125 | 1000 | +15° | .0009 | .0034 |
| 11 | 3 11/16 - 3 15/16 | 150 | 1000 | +15° | .0008 | .0034 |
| 12 | 4 3/16 - 4 7/16 | 100 | 750 | +15° | .0013 | .0052 |
| 13 | 4 15/16 | 115 | 750 | +15° | .0013 | .0052 |
| 14 | 5 7/16 | 120 | 500 | +30° | .0013 | .0053 |
| 15 | 5 15/16 | 150 | 500 | +30° | .0012 | .0053 |
| 16 | 6 7/16 - 6 15/16 | 180 | 500 | +45° | .0011 | .0052 |

NOTICE: There is a risk of premature wear on components if proper lubrication practices are not followed.

LUBRICATION INFORMATION

Standard bearings come pre-lubricated from the factory with Exxon Ronex MP grease. Exxon Ronex MP is an 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 your local Regal Rexnord™ representative or the Regal Rexnord Bearing Engineering Department. Oil lubrication is not recommended.

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 6**. 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. Reduce lubrication intervals by half in vertical shaft applications.

AUTOMATIC LUBRICATION SYSTEMS

A variety of automatic re-lubrication systems are available for use with Roller 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 2 greases should be checked with the lubricant manufacturer. If the grease bases are different, they should never be mixed.

BEARING REMOVAL FROM SHAFT

Back out the locknut setscrews, and then loosen the locknut in a counter-clockwise direction until the adapter assembly becomes completely loose. The bearing should slide freely along the shaft.

TABLE 8 — Locknut Torque Limit

| Shaft Size (in/mm) | Torque Limit (lbs-ft/N-m) |
|------------------------------|---------------------------|
| 1 7/16 / 35 | 95/129 |
| 1 11/16 / 40 | 115/156 |
| 1 15/16 / 45 | 145/197 |
| 2 3/16 / 50 - 55 | 205/278 |
| 2 3/8 - 2 7/16 / 60 | 315/427 |
| 2 11/16 - 2 15/16 / 65 - 75 | 395/536 |
| 3 3/16 - 3 7/16 / 80 - 85 | 480/651 |
| 3 11/16 - 3 15/16 / 90 - 100 | 510/692 |
| 4 3/16 - 4 7/16 / 110 | 580/787 |
| 4 15/16 / 115 - 125 | 660/895 |
| 5 7/16 | 1330/1804 |
| 5 15/16 | 1505/2040 |
| 6 7/16 - 6 15/16 | 1600/2170 |

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**DISASSEMBLY OF BEARING INSERT:
REF FIGURE 6.**

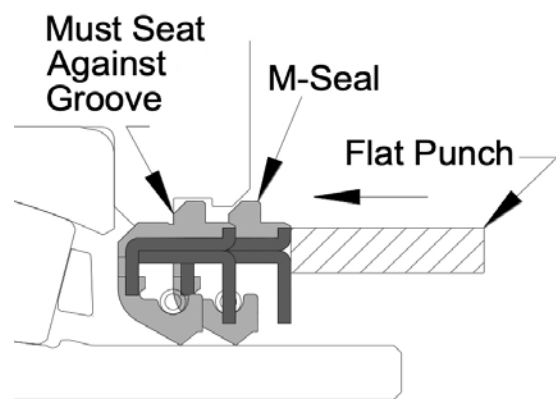
1. Remove shaft locking device (Locknut Sleeve Assembly).
2. Remove seals. Z, K and G are held in with snap ring. M is pressed in so it must be pried out with screwdriver.
3. Remove MICROLOCK screw and key. (Do not lose nylon washer).
4. Remove threaded cover by turning counter clockwise.
5. Place housing threaded cover side down on arbor press with spacer blocks under housing.
6. Place a soft metal bar or wood block on face of inner race and press bottom outer race and inner race assembly from housing.
7. To remove the back outer race, large bore bearings 4 7/16" thru 7" have drive pin holes. The back outer race of smaller size units may be removed with a bearing puller or hammer and drift.

**REASSEMBLY OF BEARING INSERT:
REF FIGURE 6**

1. Place housing threaded cover side up on arbor press with spacer blocks under housing.
2. Press in back outer race (wide face down) and seat against housing shoulder.
3. Loosen setscrews on locknut and remove the locknut sleeve assembly from the bearing unit.
4. Insert inner race — roller assembly and rotate to seat rollers against back outer ring.
5. Press in front outer race. Do not bottom out outer race on rollers.
6. Install threaded cover, turning clockwise until inner ring resists rotation or misalignment.
7. Back off threaded cover the required degrees per the **Clearance Adjustment Table 7 (page 4)** — align cover slot with the nearest counterbored hole in housing.
NOTE: 2 holes in housing are 15° apart and slots in threaded cover are 30° apart.
8. Install microlock key with nylon washer under the head of the screw.
NOTE: Expansion style units that utilize the microlock key incorporate a nylon patch setscrew, so the nylon washer is not included.
9. Using arbor press, press on inner race face on the side opposite the threaded cover to seat front outer race against threaded cover face.

Alternate method, turn housing over and rest the housing on supports so inner race on threaded cover side sits above table. Remove seal opposite threaded cover. Place a soft piece of steel or block of wood, which just fits over the face of the inner race, on the inner race face.

10. Install seals. **Z-Seal** — Place centering spring in seal groove with fingers facing up. Place U-shaped element on fingers. Place centering ring on element with raised tab face up. Install snap ring so the tab on centering ring is between ends of snap ring. **K & G-Seal** — Place seal into the seal groove with the raised tab sticking up. Install snap ring so that the tab is between the snap ring ends. **M-Seal** — Place seal into seal groove with spring facing out. A hammer and flat punch will be required. See illustration below. Go around seal face with punch until completely seated. Make sure seal is seated firmly. No snap ring is required with **M-Seal**.
11. Install shaft locking device (Locknut and sleeve assembly).
12. Lubricate bearing with amount of grease shown in **Lubrication Table 6**. Rotate inner ring assembly during lubrication to distribute grease in bearing.



CLEARANCE ADJUSTMENT (FOR HIGH SPEED AS NOTED IN TABLE 7)

1. Remove microlock assembly.
2. With soft steel drift pin/punch and hammer, rotate the threaded cover counter-clockwise the additional amount listed in the **Clearance Adjustment Table 7**.
NOTE: Each screw hole is separated by 15° and every threaded cover slot is separated by 30°.
3. Install microlock assembly with nylon washer (if included) under head of screw.
NOTE: If increase in degrees does not match up to listed change, always go to the higher setting that is possible.
4. Using arbor press, press on inner ring face on the side opposite the threaded cover to seat front outer ring against threaded cover face. Alternate method, turn housing over and provide support so inner race on threaded cover side sits above table. Remove seal opposite threaded cover. Place a soft piece of steel or block of wood, which just fits over the face of the inner ring, on the inner race face. Using a hammer, strike the block with several sharp blows. Inner ring assembly should rotate and misalign freely.
5. See **Clearance Adjustment Table 7**.

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AUXILIARY CAP INSTALLATION 1 15/16 - 4 15/16

AUXILIARY CAP INSTALLATION

The standard combinations of open and closed caps are identified with the following modifications to the bearing model number:

Prefix "A" — Two open auxiliary caps

Prefix "B" — Two auxiliary caps (open cap housing side and closed cap threaded cover side)

Suffix "A" — One open cap (threaded cover side)

Suffix "B" — One closed cap (threaded cover side)

NOTICE: It is required that auxiliary caps be used with pre-drilled and tapped housings only.

1. Position open caps such that the grease fitting will be in the most convenient location. Line up cap, gasket and in most cases a spacing ring with housing holes and bolt the cap in place.

NOTE: For closed caps ("B" suffix or prefix) no special alignment is required. Just bolt to housing.

2. The shaft should be lightly sanded and cleaned in the V-ring seal location to remove any loose dirt or rust.
3. Slide V-ring along the shaft by applying pressure and rotating shaft slowly, preferably by hand, in a direction away from point of tool. Tool should be lubricated to protect V-ring.
4. Adjust to obtain "B" dimension for optimum lip pressure (See **Table 9**.)
5. After the seal has been properly positioned it is recommended that SCOTCH-GRIP 847 be used to more effectively retain this position. A 1/16" to 1/8" bead of glue should be applied at the mating surface of the shaft and the seal (opposite the contacting lip side). Once this has been wiped to insure glue contact with both surfaces do not attempt to move the seal.
6. Care should always be taken to keep the glue away from the contact lip of the seal. Cleanup can be accomplished with methyl ethyl ketone or acetone. Scotch-Grip 847 is a fast-drying adhesive that will more securely retain the correct position of the V-ring seal. The machinery can be started within minutes of the glue application.
7. Once the caps are installed the caps can be filled with grease to provide a grease seal. The open cap should be purged with grease as often as practical keeping in mind that the cap cavity is unrelated to the bearing internal cavity. See the bearing installation instructions for bearing lubrication procedures.

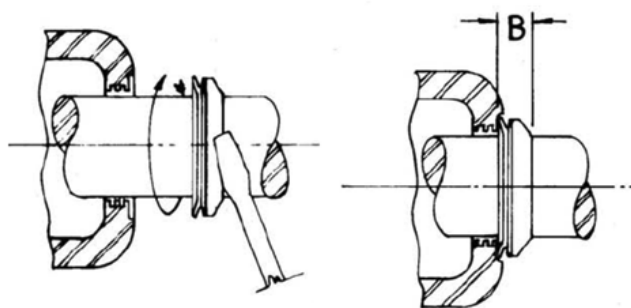


TABLE 9 — V-ring Distance

| Shaft Size | "B" | Tolerance |
|-------------------|-------|-----------|
| Thru 1 1/2" | 11/32 | ± 1/32 |
| 1 9/16" - 2 5/8" | 7/16 | ± 1/32 |
| 2 11/16" - 4 1/8" | 17/32 | ± 1/32 |
| 4 3/16" - 6" | 5/8 | ± 1/16 |
| 6 1/8" - 7" | 23/32 | ± 1/16 |

DRILLING AND TAPPING HOLES FOR AUXILIARY CAPS

Standard units are not pre drilled to accept auxiliary caps. The following is the housing drilling and tapping specifications for auxiliary cap mounting holes.

LOCATION OF HOLES

The holes are to be equally spaced and located at true position within a 0.010" diameter tolerance zone. The number of holes and angle between the holes are given in the table below.

The holes should be oriented so that one hole is 45° in the clockwise direction, based on the side of the housing being drilled, from the grease fitting hole except in the following cases:

- A. The minimum distance between centerline of the cap mounting holes and the centerline of the microlock holes shall be: 9/16" for size codes 4 through 8; 11/16" for size codes 9 through 10; and 7/8" for size codes 11 through 16. The minimum centerline distance between G-lock holes and cap mounting holes shall be 1/2". In cases where this occurs, the cap holes can be rotated in either direction to achieve minimum distance.
- B. Housings where the drawing specifies mounting hole location.

TABLE 10 — Specifications for Drilling and Tapping Housings for Auxiliary Cap Mounting Holes

| Size Code | Tap Drill | Thread UNC-2B | CANNOT DRILL ZAS, ZEPS, OR ZBS | | | No. of Holes | Angle Between Holes | | | |
|-----------|-----------|---------------|-----------------------------------|----------------------------|-------------------------|--------------|---------------------|---------------------------|----------------------------|-------------------------|
| | | | FIXED HOUSINGS EXPANSION HOUSINGS | | | | | | | |
| | | | Drill Depth +.125-.000 | Total Thread Depth Min. | Hole Location Radius | | | Drill Depth +.125-.000 | Total Thread Depth Min. | Hole Location Radius |
| 4 | #22 | 10-24 | .88" | .56" | 1.594" | .81" | .50" | 1.969" | 3 | 120 |
| 5 | #22 | 10-24 | .88" | .56" | 1.906" | .81" | .50" | 2.188" | 3 | 120 |
| 6 | #22 | 10-24 | .94" | .62" | 1.969" | .81" | .50" | 2.313" | 3 | 120 |
| 7 | #22 | 10-24 | .75" | .44" | 2.188" | .81" | .50" | 2.500" | 3 | 120 |
| 8 | #22 | 10-24 | .88" | .56" | 2.375" | .81" | .62" | 2.750" | 3 | 120 |
| 9 | #7 | ¼ - 20 | 1.00" | .75" | 2.813" | 1.00" | .62" | 3.250" | 3 | 120 |
| 10 | #7 | ¼ - 20 | 1.00" | .62" | 3.250" | 1.00" | .75" | 3.688" | 3 | 120 |
| 11 | #7 | ¼ - 20 | 1.00" | .62" | 3.813" | 1.00" | .62" | 4.406" | 3 | 120 |
| 12 | F | 5/16 - 20 | 1.00" | .62" | 4.234" | 1.00" | .62" | 4.750" | 4 | 90 |
| 13 | F | 5/16 - 20 | 1.00" | .62" | 4.938" | 1.00" | .62" | 5.750" | 6 | 60 |
| 14 | F | 5/16 - 20 | 1.12" | .75" | 5.750" | 1.00" | .62" | 6.188" | 6 | 60 |
| 15 | F | 5/16 - 20 | 1.00" | .62" | 6.188" | 1.00" | .62" | 6.562" | 6 | 60 |
| 16 | 5/16 | 3/8 - 16 | 1.12" | .75" | 6.813" | 1.12" | .75" | 7.281" | 6 | 60 |

AUXILIARY CAP INSTALLATION 5 7/16 - 6 15/16

The standard combinations of open and closed caps are identified with the following modifications to the bearing model number:

Prefix “A” – Two open auxiliary caps

Prefix “BA” – Closed Locknut side, Open Housing side

Prefix “AB” – Open Locknut side, Closed Housing side

Suffix “B” – One Closed Locknut side

Suffix “B66” – One Closed Housing side

Suffix “A” – One Open Locknut side

Suffix “A66” – One Open Housing side

NOTICE: It is required that auxiliary caps be used with pre-drilled and tapped housings only. Dimensions for drilling and tapping on page 5.

1. Remove auxiliary caps and gaskets from bearings or packaging.
2. Clean shaft with emery cloth and solvent then slide the inside PenTac D5 seal onto shaft. Make sure the lip of the D5 seal is facing towards the bearing. To allow the D5 to slide easier coat the bore of the seal with some oil. With extreme care, a small hammer can be used to impact the heel of the rubber seal member (**See Figure 7**). This should be done using light impact blows to the heel of the seal. Repeat these impact blows around the circumference of the heel as required. **DO NOT IMPACT THE SEAL LIP.** Wipe away the oil film on the shaft.
3. Slide the inside cap and housing gaskets onto shaft.
NOTE: ZPS and ZAFS expansion style pillow blocks require 2 gaskets per side.
4. Slide bearing onto shaft and mount per installation instructions supplied with bearing.
5. Slide remaining auxiliary cap, gaskets and D5 PenTac seal onto shaft. Refer to step 2 for sliding PenTac seal on Shaft.
6. Attach auxiliary caps and gaskets to housing using supplied cap screws. On open caps orient the cap so you have access to the grease fitting.
7. Fill the grease cavity (**Figure 7**) of the PenTac seals with grease.
8. Adjust the starting location of PenTac seal. With your thumb or the end of a flat head screw driver, push on the heel of seal in a direction parallel to the shaft. Slowly push the seal against the cap face until the lip just touches the face of the cap. You can be sure that the seal is just touching when there is a slight flex in the seal lip. Rotate the shaft and check that the seal lip is just touching completely around the circumference. **Do not push the seal past this point until you have read steps 9 and 10.**

Figure 7

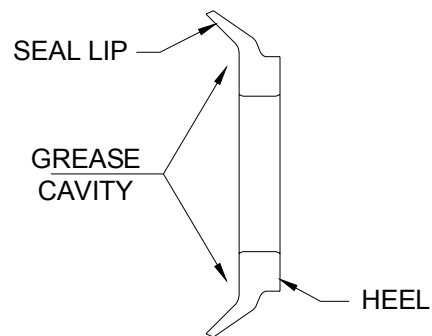


Figure 8

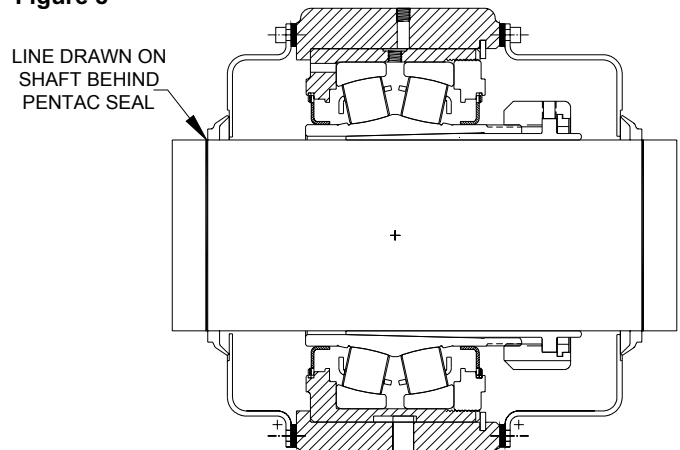
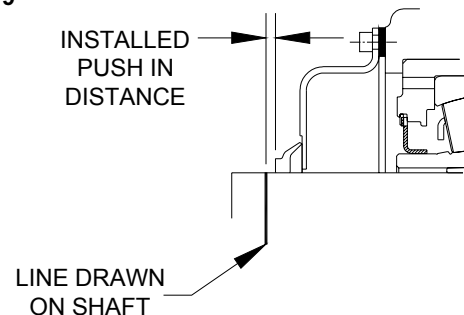


Figure 9



9. Mark the shaft — Using a marker draw a line on the shaft behind the heel of the seal (**Figure 8**). Be sure that the mark is drawn the entire circumference of the shaft. The inside edge of the line should be at the outside edge of the heel of the seal. The line will be used for reference during the final positioning of the seal.
10. Position PenTac seal against face of auxiliary cap. For most applications, the seal is pushed in 2mm (.080") into the cap. This is referred to as the push in distance in **Figure 9**. **For applications >170°F the push in should be reduced to 1mm (.040").** Push the seal against the cap face by applying pressure to the heel of the seal in a direction parallel to the shaft. This can be done using your thumb or applying pressure with a flat blade screwdriver against the heel. Measure the distance between the outside of

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the heel and the inside edge of the line drawn on the shaft. Rotate the shaft and repeat the process until the required distance is obtained. A final check should be performed while rotating the shaft to assure uniform installation. **If the required distance is exceeded** a simple technique can be used to back the seal away from the cap. Insert a flat, medium blade screwdriver perpendicular to the cap counterbore face just above the seal lip. Be careful not to pinch the seal lip. While maintaining pressure against the cap, rotate the handle of the screwdriver. This will pry back the seal lip slightly. Push the screwdriver blade downward into the seal cavity. With the screwdriver in an orientation perpendicular to the shaft, push the screwdriver handle against the cap applying pressure to the inside of the seal. Repeat this process while slowly rotating the shaft until the seal is completely backed away from the cap. Now repeat steps 8, 9 and 10 to relocate the seal.

11. Cleanup and alignment check. Once both seals have been installed to their final operating position, take a cloth and wipe away any excess grease which may have purged during installation. Visually check the distance between the outside diameter of the seal and the counterbore of the cap. The distance should be uniform around the entire circumference of the seal to assure proper alignment of the bearing unit. Make any adjustments to the system to obtain proper alignment.
12. Once the caps are installed the caps can be filled with grease to provide a grease seal. The open cap should be purged with grease as often as practical keeping in mind that the cap cavity is unrelated to the bearing internal cavity. See the bearing installation instructions for bearing lubrication procedures.

Operation and Maintenance: During initial startup of the machinery a small amount of grease will purge from the seal lip. This is completely normal. If you are filling the caps with grease that will supply enough lubrication for the seal. If the caps are not filled than during equipment idle periods or routine maintenance the PenTac seal should be repacked with fresh grease. If the bearing unit operates at very high speeds and or experiences high temperature the seal lip should just be touching the cap face or pressed in slightly. By doing this the seal will be utilized primarily as a flinger. Never press seal against face of cap more than the 2mm (.080).

RETROFITTING BEARING TO INCLUDE END CAP

1. Remove microlock assembly.
2. With soft steel drift pin/punch and hammer, rotate the existing threaded cover counter-clockwise to remove completely.
3. Install the new threaded cover, turning clockwise until inner ring resists rotation or misalignment.
4. Back off threaded cover the required degrees per Clearance Adjustment **Table 7**. Align cover slot with the nearest counter bored hole in housing.

NOTE: Each screw hole is separated by 15° and every threaded cover slot is separated by 30°.

5. Install microlock key with nylon washer under the head of the screw.
6. Turn housing over and provide support so inner race on threaded cover side sits above table. Place a soft piece of steel or block of wood that just fits over the face of the inner ring. Using a soft blow hammer, strike the block with several sharp blows, inner ring assembly should rotate and misalign freely.
7. Install o-ring over threaded cover. The o-ring should be seated at the base of the threaded cover and will overlap the head of the setscrew (**Figure 10**).

Figure 10 — Proper O-Ring Installation



8. Press cap over threaded cover. Using a rubber mallet apply force to the cap to properly seat cap over the threaded cover. Some deformation of the cap around the microlock assembly is to be expected (**Figure 11**).

Figure 11 — Cap Installation



* For standard loose fit outer rings.

** For press fit outer rings which are designated with an "R" in Rex® spherical roller bearing part numbers, please call Regal Rexnord™ Engineering.

*** Cannot install on some expansion units.

TABLE 11 — Chemical Compatibility

| Compatible Chemicals | | Non-Compatible Chemicals | |
|----------------------|------------------|--------------------------|-----------------------|
| Acetamide | Ethyl Chloride | Acetaldehyde | Esters |
| Acetylene | Ethylene | Acetic Acid | Ethers |
| Ammonium Nitrate | Freon 12 | Acetone | Ethyl Acetate |
| Amyl Borate | Fuel Oil | Ammonia gas | Formic Acid |
| Barium Chloride | Gasoline | Amyl Acetate | Hydraulic Acid |
| Benzine | Glycolis | Aniline | Hydrogen Peroxide |
| Borax | Greases | Benzene | Ketones |
| Boric acid | Hexane | Benzyl Alcohol | Methyl Chloride |
| Butane | Hydraulic Oil | Benzyl Chloride | Naphthalene |
| Butyl Alcohol | Kerosene | Bleach Solutions | Nitric Acid |
| Calcium Chloride | Methane | Brake Fluid | Ohenal |
| Calcium Hydroxide | Methyl Alcohol | Bromine | Phosphoric Acid |
| Coolants | Mineral Oil | Butadiene | Pine Oil |
| Denatured Alcohol | Mineral Spirits | Butyl Acetate | Propylene |
| Detergent Solvents | Naptha | Carbolic Acid | Pydraul |
| Engine Oil | Perchlorethylene | Carbon Tetrachloride | Skydrol |
| Ep Lubes | Propane | Chlorine Gas | Sodium Hydroxide Sol. |
| Ethane | Turpentine | Chlorobenzane | Styrene |
| Ethyl Alcohol | | Chloroform | Sulfuric Acid |
| | | Chromic Acid | Toluene |
| | | Creosol | Trichlorethylene |
| | | Diacetone | Trichlorethylene |
| | | Dicresol | Xylene |

Fluid not listed contact the Regal Rexnord™ Engineering Group

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We warrant to our customers that all Products manufactured by us will be free from defects in material and workmanship at the time of shipment to our customer for a period of one (1) year from the date of shipment. All warranty claims must be submitted to us within ten days of discovery of defects within the warranty period or shall be deemed waived. As to Products or parts thereof that are proven to have been defective at the time of shipment, and that were not damaged in shipment, the sole and exclusive remedy shall be repair or replacement of the defective parts or repayment of the proportionate purchase price for such Products or part, at our option. Replacement parts shall be shipped free of charge from our factory.

This warranty shall not apply to any Product which has been subject to misuse; misapplication, neglect (including but not limited to improper maintenance and storage); accident, improper installation, modification (including but not limited to use of unauthorized parts or attachments), adjustment, repair or lubrication. Misuse also includes, without implied limitation, deterioration in the Product or part caused by chemical reaction, wear caused by the presence of abrasive materials, and improper lubrication. Identifiable items manufactured by others but installed in or affixed to our Products are not warranted by use but, bear only those warranties, express or implied, given by the manufacturer of that item, if any. Responsibility for system design to insure proper use and application of Link-Belt Products within their published specifications and ratings rests solely with customer. This includes without implied limitation analysis of loads created by torsional vibrations within the entire system regardless of how induced.

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