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BEARING MOUNTING PROCEDURE

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

INSTALLATION — ONE FIXED AND ONE EXPANSION UNIT

1. Inspect shaft size (see shaft tolerance table, **Table 1**). Shaft must be to 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

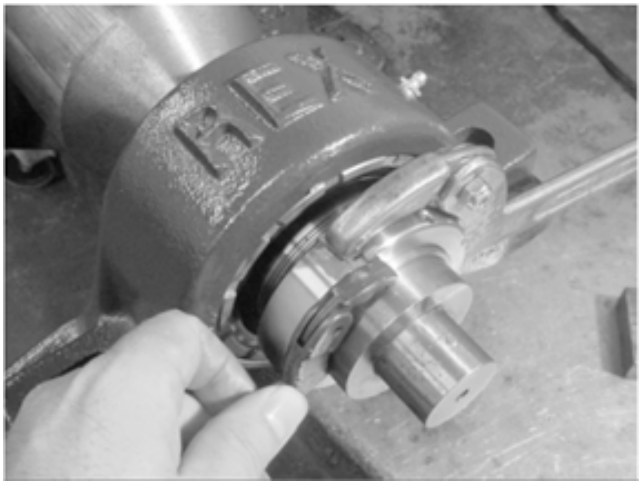

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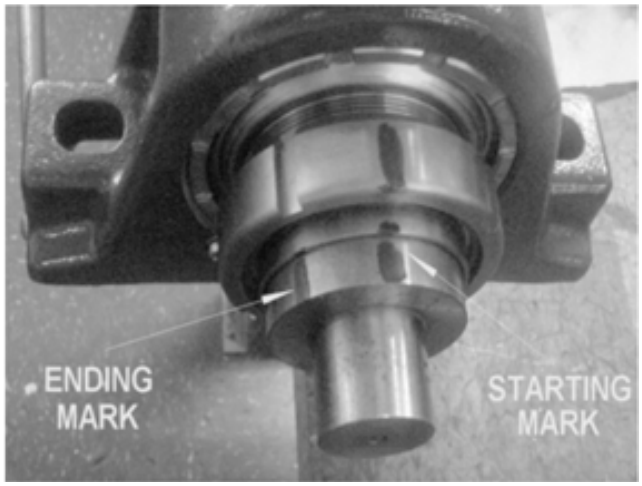
Figure 2 — Position of Locknut relative to shaft



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

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Figure 4 — Wrench

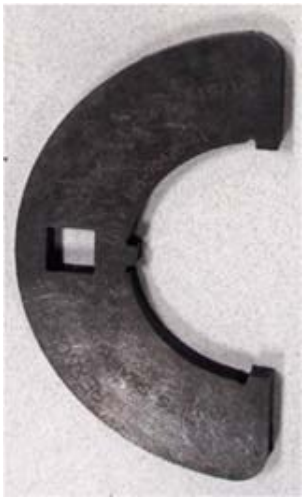

Figure 5 — Impact Style

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.)
1 7/16	87 - 92
1 11/16	
1 15/16	
2 3/16	
2 3/8 - 2 7/16	
2 11/16 - 2 15/16	165 - 185
3 3/16 - 3 7/16	
3 11/16 - 3 15/16	290 - 325
4 3/16 - 4 7/16	
4 15/16	
5 7/16	460
5 15/16 - 6 15/16	680

Figure 6 — Exploded view Rex Shurlok

Table 5 — Shim Stock Thickness for Two Fixed Flange Units

Shaft Size Range (in)		Shim Stock (in)
From	To	
1 7/16	1 11/16	.042
1 15/16	2 3/16	.063
2 3/8	2 15/16	.070
3 3/16	3 15/16	.080
4 3/16	4 7/16	.094
4 15/16	5 7/16	.100
5 15/16	6 15/16	.109

Table 6 — Recommended Lubrication Schedule

SHAFT SIZE-INCHES	GREASE WT. REQUIRED (OZ)		RECOMMENDED NUMBER OF MONTHS BEWEEN RELUBRICATION* (BASED ON 24/7 OPERATION)				
Shurlok 6000 Series	To Lube Rebuilt Units	To Relube Units	Relube Interval				
			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 ¾	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				

Table 8 — Locknut Torque Limit

Shaft Size (in)	Torque Limit (lbs.- ft)
1 7/16	95
1 11/16	115
1 15/16	145
2 3/16	205
2 3/8 - 2 7/16	315
2 11/16 - 2 15/16	395
3 3/16 - 3 7/16	480
3 11/16 - 3 15/16	510
4 3/16 - 4 7/16	580
4 15/16	660
5 7/16	1330
5 15/16	1505
6 7/16 - 6 15/16	1600

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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.	STANDARD RADIAL CLEARANCE	STANDARD AXIAL CLEARANCE	SPEED OVER	HIGH SPEED DEGREES ADJUST.	HIGH SPEED RADIAL CLEARANCE	HIGH SPEED AXIAL CLEARANCE	RADIAL	AXIAL
4	1 7/16	65	.0031-.0037	.0110-.0130	2000	80 (+15°)	.0037-.0043	.0131-.0151	.0008	.0026
5	1 11/16	70	.0037-.0045	.0128-.0156	1500	95 (+25°)	.0045-.0053	.0156-.0183	.0008	.0027
6	1 15/16	105	.0041-.0049	.0157-.0188	1500	115 (+10°)	.0049-.0057	.0188-.0218	.0007	.0026
7	2 3/16	75	.0039-.0047	.0150-.0180	1250	85 (+10°)	.0047-.0055	.0180-.0210	.0009	.0034
8	2 3/8 - 2 7/16	80	.0040-.0048	.0163-.0196	1250	95 (+15°)	.0048-.0056	.0196-.0228	.0008	.0034
9	2 11/16 - 2 15/16	100	.0052-.0064	.0211-.0259	1250	120 (+20°)	.0064-.0076	.0260-.0307	.0009	.0035
10	3 3/16 - 3 7/16	125	.0064-.0076	.0257-.0304	1000	140 (+15°)	.0076-.0088	.0304-.0352	.0009	.0034
11	3 11/16 - 3 15/16	150	.0072-.0088	.0306-.0373	1000	170 (+20°)	.0084-.0100	.0357-.0423	.0008	.0034
12	4 3/16 - 4 7/16	100	.0075-.0091	.0306-.0371	750	115 (+15°)	.0091-.0107	.0371-.0435	.0013	.0052
13	4 15/16	115	.0087-.0105	.0362-.0436	750	135 (+20°)	.0105-.0123	.0436-.0510	.0013	.0052
14	5 7/16	120	0094-.0113	.0381-.0457	500	145 (+25°)	.0113-.0132	.0457-.0533	.0013	.0053
15	5 15/16	150	.0110-.0133	.0480-.0578	500	180 (+30°)	.0133-.0156	.0579-.0677	.0012	.0053
16	6 7/16 -6 15/16	180	.0122-.0150	.0569-.0697	500	220 (+40°)	.0150-.0178	.0697-.0825	.0011	.0052

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 inquires on other acceptable greases, please consult your local Rexnord representative or the 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 (page 3)**. 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.

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.

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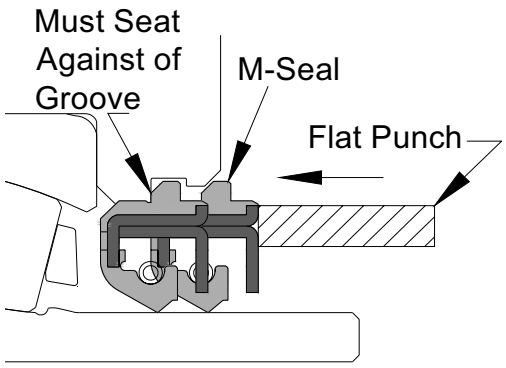
DISASSEMBLY OF BEARING INSERT:
REF FIGURE 6 — PAGE 3

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 loose 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 — PAGE 3

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. **CAUTION**: *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 (page 4)**

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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)

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** to the right.

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.

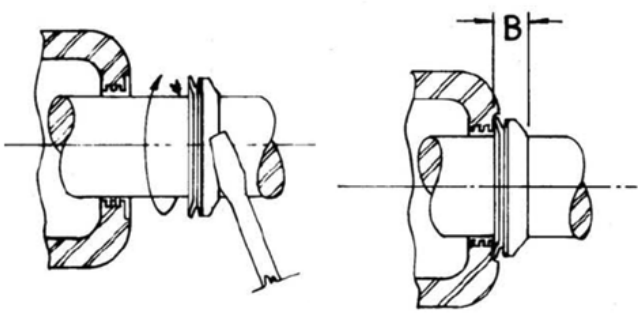

Table 9 — V-ring Distance

Shaft Size	"B"	Tolerance
Thru 1 ½"	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

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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 ½". 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.

Size Code	Tap Drill	Thread UNC-2B	FIXED HOUSINGS EXPANSION HOUSINGS			CANNOT DRILL ZAS, ZEPS, OR ZBS EXPANSION HOUSINGS			No. of Holes	Angle Between Holes
			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

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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

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 1)**. 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 1)** 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 past this point until you have read steps 9 and 10.**
9. Mark the shaft — Using a marker draw a line on the shaft behind the heel of the seal **(Figure 2).** 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 3**. **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 the heel and the inside edge of the line drawn on the shaft. Rotate the shaft and repeat the process until the required distanced 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).

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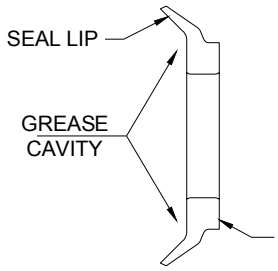

FIGURE 1

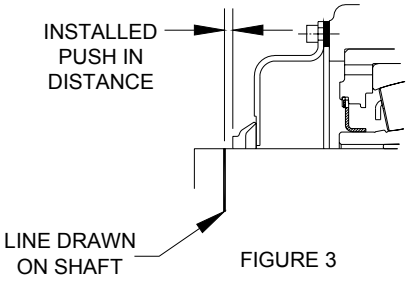

FIGURE 3

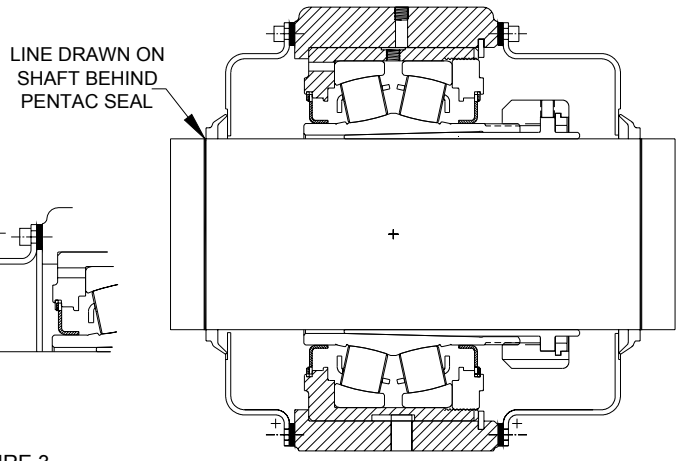

FIGURE 2

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	Glycosis	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 Rexnord Engineering Group			

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