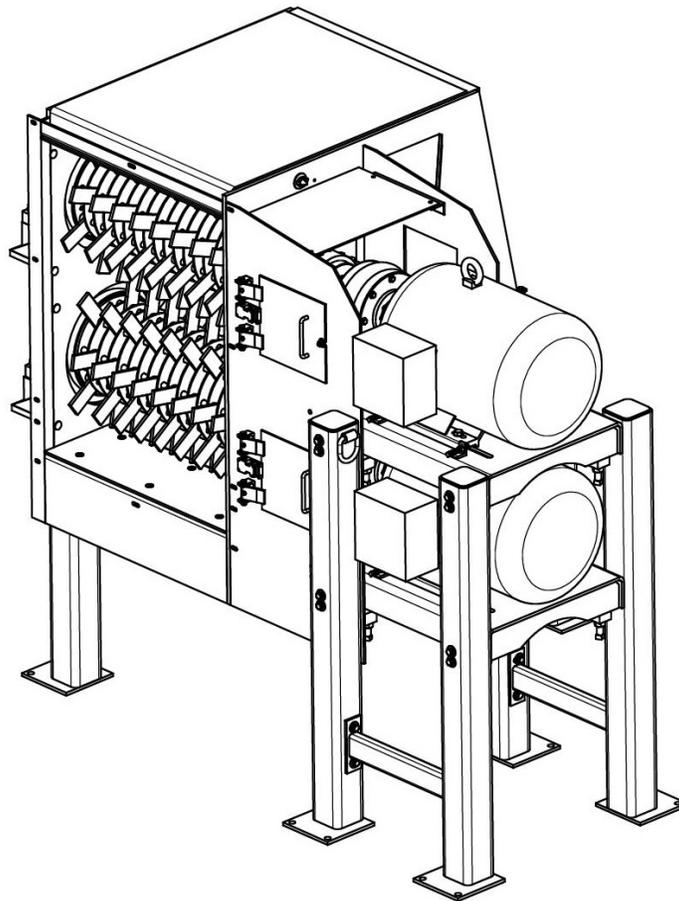




GRINDER G240-26 MANUAL



WARREN & BAERG MANUFACTURING, INC.

Warren & Baerg Manufacturing, Inc.
39950 Road 108, Dinuba, California 93618
Telephone: 559-591-6790 | Fax: 559-591-5728
email: info@warrenbaerg.com | website: www.warrenbaerg.com

Table of Contents

Description	Section-Page
General Information.....	1
Disclaimer.....	1-1
Warranty.....	1-2
System Description.....	1-3
Contact Information.....	1-4
Safety.....	2
General Safety Precautions.....	2-1
Warning Labels and locations.....	2-2
Special Hazards.....	2-4
Basic Instructions.....	3
Installation.....	3-1
Commissioning.....	3-2
Normal Use.....	3-3
Maintenance.....	4
General Maintenance Information.....	4-1
Bearing Information.....	4-3
Rexnord Link-Belt Mounted Roller Bearings Installation Manual.....	4-4
Hammer Installation and Replacement.....	4-12
Screen Replacement.....	4-14
Motor Instructions.....	4-15
Coupler Flange Installation.....	4-16
Flexible Element Installation.....	4-18
Cylinder Rotation.....	4-19
Adjustments.....	4-20
Data Sheets.....	5
Materials Composition.....	5-1
Manufacturers Data Sheets and Certificates.....	5-2
Miscellaneous.....	6
Temperature Sensor for Bearings.....	6-1

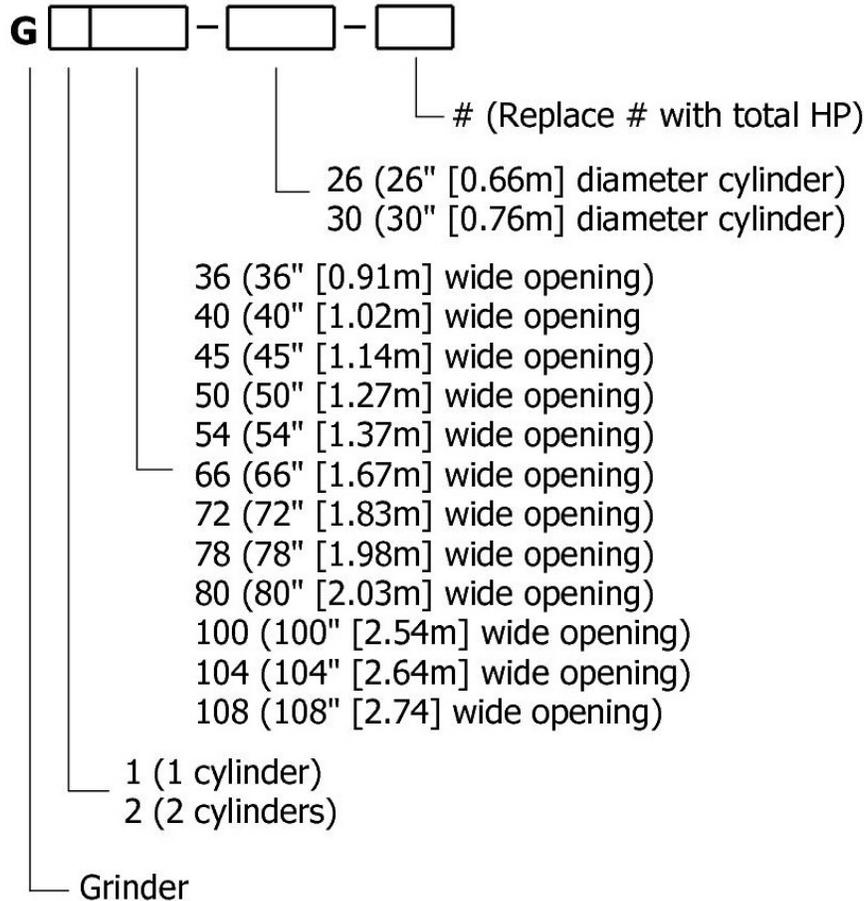
All information, illustrations and specifications contained in this operations manual for the Warren & Baerg Grinder is based on the latest information available at the time of publication. Warren & Baerg Manufacturing, Inc. reserves the right to make additions and/or corrections at any time.

Warren & Baerg Manufacturing, Inc. ("W&B") warrants its products to be free from defects in workmanship and material for new equipment for a period of one year after the delivery to the Buyer. In the event a defect in workmanship or material appears within the warranty period, W&B will repair or, at its option, replace the defective part if the part is returned to the W&B factory in Dinuba, California, freight prepaid. This warranty is in lieu of all other warranties, expressed or implied, including but not limited to the implied warrants of merchantability or fitness for any particular purpose. There are no warranties that extend beyond the face hereof. Except to the extent required by law, W&B will not in any event be liable for any special, incidental, or consequential damages arising from or in connection with the ownership, use, or operation of its products.

System Description

General Information

The Warren & Baerg Grinder is designed and manufactured to grind or shred baled agricultural materials. It may be fitted with different screens allowing it to produce particles as small as 1/4" (6.4mm) up to fiber lengths as long as 7" (177.8mm). The production capability ranges from 5 TPH to 60 TPH depending upon horsepower and screen size. Below you will find the Grinder model numbering system and a description of your specific system.



EXAMPLE:

G136-26-150 would signify a Grinder that has an opening 36" (0.91m) wide, with one 26" (0.66m) diameter cylinder, and has a total of 150 HP.

Specifications:

Equipment Type:.....Grinder (Industrial)
Equipment Model:.....G240-26-400
Opening Dimensions:.....41" [1.04m] wide x 53-1/2" [1.36m] tall
Cylinders:.....(2) two 26" diameter cylinders
Motors:.....(2) Motors, WorldWide Electric, Model PEWWE200-9-449TBB, 200 hp, 900 RPM, 230/460 VAC / 60 Hz, 3-Phase, 449T TEFC Frame, Ball Bearings

For information about all other Warren & Baerg products, please contact us using one of the following methods:

Online Services:

Website: www.warrenbaerg.com

E-mail: info@warrenbaerg.com

Telephone Assistance:

(559) 591-6790

Fax:

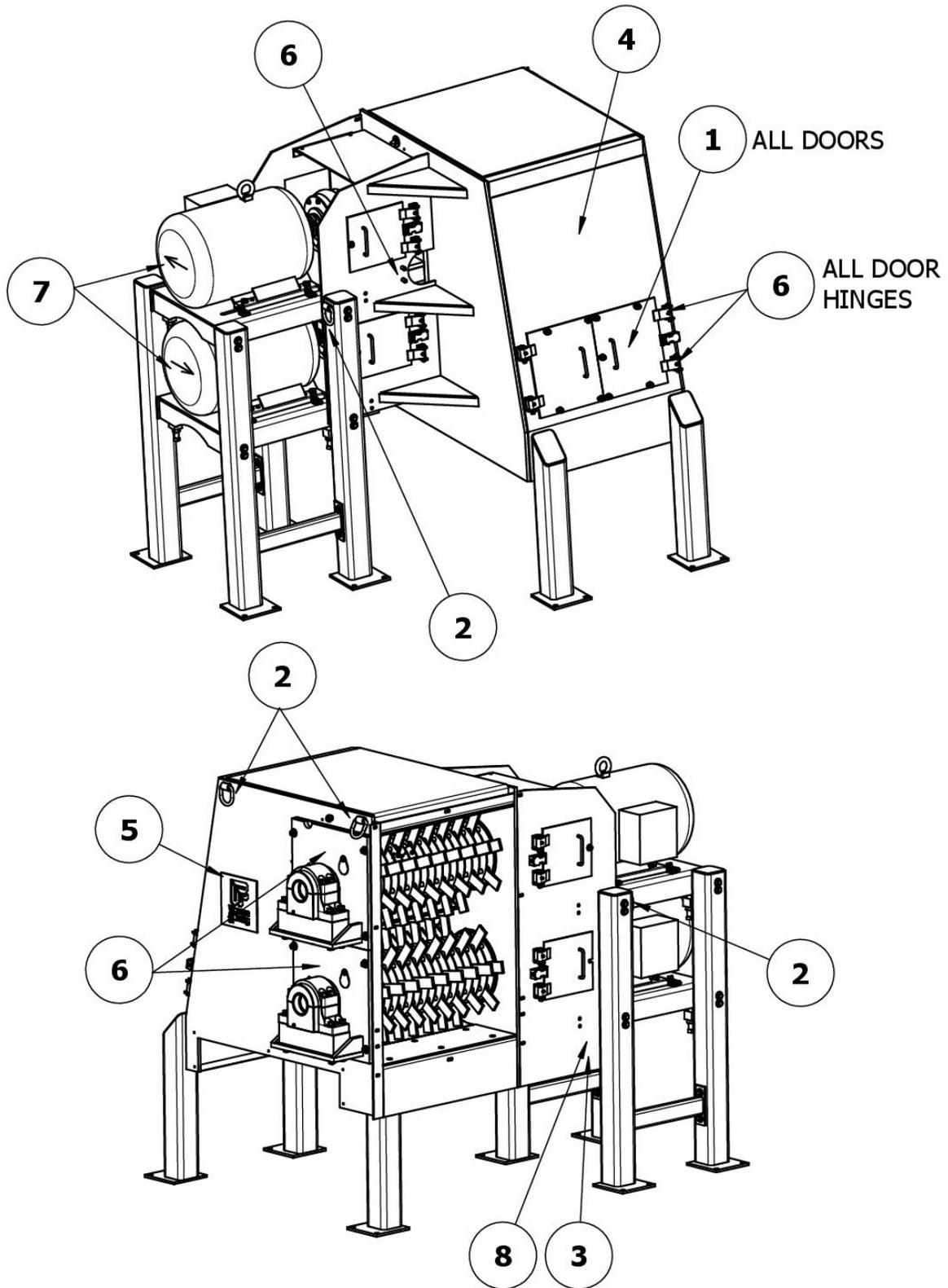
(559) 591-5728

Mail:

Warren & Baerg Manufacturing, Inc.
39950 Road 108
Dinuba, CA 93618
USA

While operating the Grinder there are certain precautions that should be considered at all times:

1. Keep all guards and access panels in place while in operation.
2. Never stand on equipment while equipment is in operation.
3. Wear eye protection when in close vicinity to the equipment.



Right-hand Grinder shown. Left-hand opposite.

Warning Labels and Locations

Safety

Item	Qty.	Image	Part No.	Description
1	5		DCL 1756	Fingers In Blades (4 in 1) (Top left, CCW: Do Not Operate With Guard Removed, No Maintenance While Machine In Use, Lockout, Hand Entanglement/Rotating Blades)
2	4		DCL 1722	Lift Point
3	1		DCL 1744	Serial Plate
4	1		Varies by Equip Color	W & B Decal
5	1		DCL 1750	W & B Weld-On Plate (12 x 12")
6	14		DCL 1742	Grease
7	2		DCL 1626	Rotation Sticker, Left and Right
8	1		---	QC Passed Label

The Grinder Cylinders rotate at extremely high speeds. As such it is absolutely imperative that the operator **never** operate the Grinder with any access panels or doors open or loose. Failure to do so could result in severe injury or death.

To install the Grinder:

1. Using the four lift points, lift the Grinder and install the (7) leg extensions
 - a. Caution: Do not stand under the Grinder while it is being lifted.
2. Move the Grinder into place and level it using 1/4" shims.
3. Secure the Grinder to the floor using anchor bolts.
 - a. Caution: Before drilling for anchor bolts, check with facility personnel for any underground electrical or plumbing that may create unsafe conditions.
4. Wire in the motor and any safety switches according to the diagrams found on the terminal boxes.
 - a. Note: All electrical work must be carried out by a qualified electrician.

Before starting the system for the first time confirm all of the following:

1. All equipment is installed per instructions.
2. All fluid levels are correct.
3. All electrical components are wired in a properly grounded.
4. All anchor bolts are installed and securely fastened.
5. All maintenance and access covers are in place and clamped or bolted shut.
6. All flange bolts are in place and securely fastened.

Once the above have been verified, jog each piece of equipment to ensure proper wiring.

Notes:

1. Care must be taken during the first hour of operation to ensure that the components are properly functioning. Should there be any problems the system must be shut down immediately to allow corrections and to avoid damage to persons or equipment.
2. Never start the equipment under load.
3. Always ensure that the equipment is not being worked on by others before starting the system.

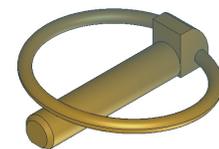
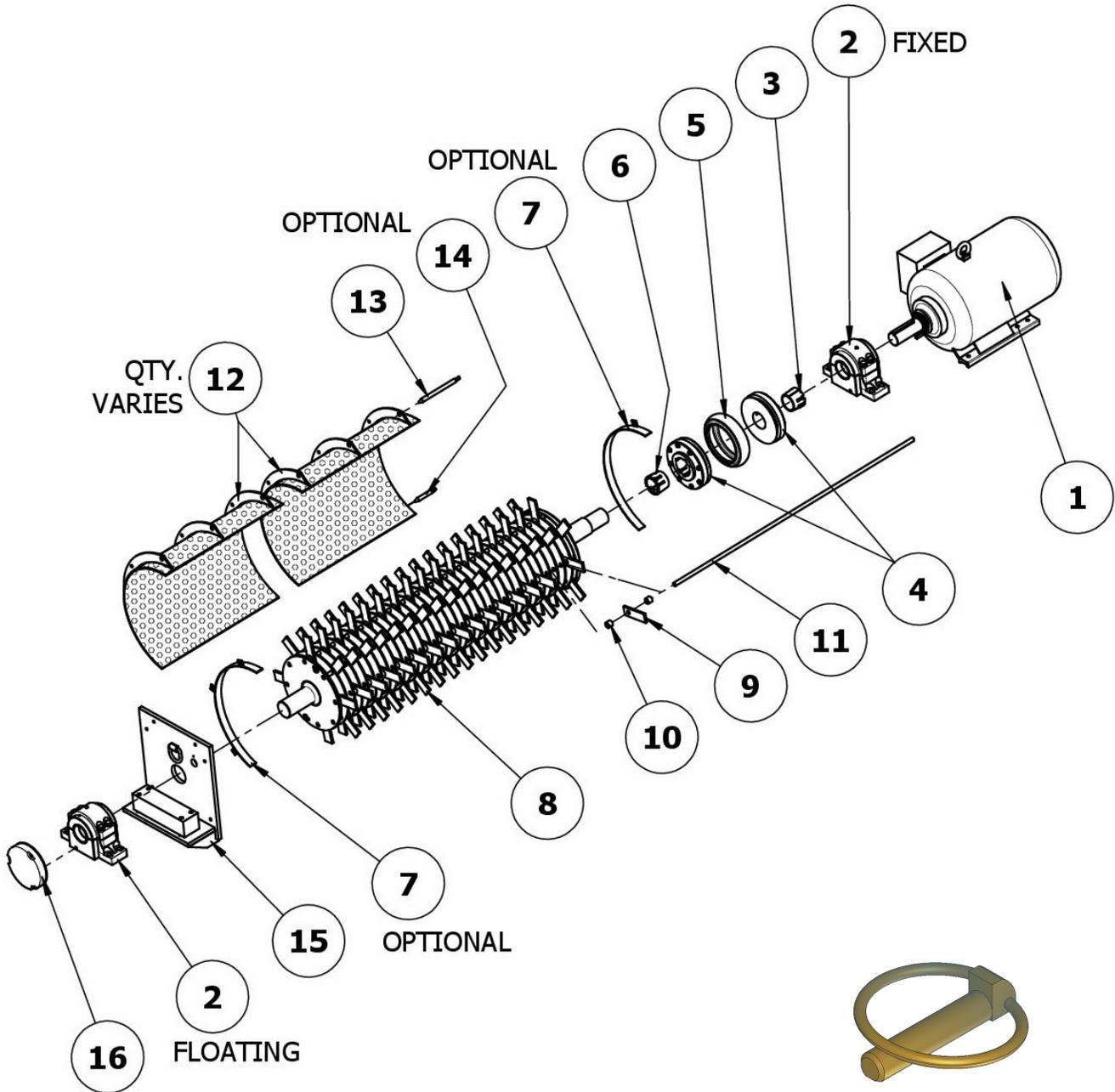
The system is now ready to start.

The Grinder is part of a larger system controlled by either a PLC or a simple relay system. Under normal operating conditions the user shall allow the control panel equipment to control the Grinder and other components. It is important to follow the basic safety guidelines as outlined in section 2 during the operation and maintenance of this equipment.

Cylinder Shutdown Characteristics:

The allowable safety time for cylinder to stop rotating is approximately 5 minutes.

When used properly, the Grinder requires very little maintenance. However, as with all equipment of this type, it is important to follow a standard maintenance schedule to inspect hammers, bearings, and motors. Below is a diagram showing the maintenance points along with a description of all replaceable parts. On the following pages you will find information on maintenance intervals and lubrication instructions.



Lynch Pin Part of
Item #13 & 14

General Maintenance Information

Maintenance

Item No.	Qty.	Part No.	Description
1	2	5906	WorldWide Electric Motor, Model PEWWE200-9-449TBB, 200 hp, 900 RPM, 230/460 VAC / 60 Hz, 9 Phase, 449T TEFC, Ball Bearings
2	2	1018	Bearing, 4-Bolt Pillow Block, 4-7/16 Dia, Fixed
		786TIS	Meggitt-Wilcoxon Temperature Sensor (Not Shown)
		R6GSL-0-J9T3A-16-FT	Meggitt-Wilcoxon Pigtail for Sensors (Not Shown)
	2	1018	Bearing, 4-Bolt Pillow Block, 4-7/16 Dia, Floating
		786TIS	Meggitt-Wilcoxon Temperature Sensor (Not Shown)
		R6GSL-0-J9T3A-16-FT	Meggitt-Wilcoxon Pigtail for Sensors (Not Shown)
3	2	WB 2122	Taper Lock Bushing #3535 3-5/8" (Dodge 117233)
4	4	WB 2119	Hub, Paraflex, PX-140 011134
5	2	WB 2123	Element, Paraflex, #3535, Dodge #PX140 011114
6	2	WB 2122-3.93	Taper Lock Bushing #3535 3-15/16" (Dodge 117703)
7 OPT	---	Not Provided	Skirt, Screen, Cylinder, 26" Dia. ¹
8	2	5317	Cylinder, Gx40-26, Assembly, Industrial
9	72	5273	Hammer, Gxxx-26, Fixed
10	8	MX 3026-.50	Bushings, Hammer, 1" ID x .50"
	8	MX 3026-.75	Bushings, Hammer, 1" ID x .75"
	136	MX 3026-1.25	Bushings, Hammer, 1" ID x 1.25"
			Kit: Qty (1) MX 3026-240
11	16	MX 5906	Rod, Hammer, G240
12	---	Not Provided	Screen, Grinder ¹
13	---	Not Provided	Bar, Screen (w/ Lynch Pin)
	---	Not Provided	Pin, Lynch, 5/16 x 1-9/16
14 OPT	---	Not Provided	Bar, Screen (w/ Lynch Pin)
	---	Not Provided	Pin, Lynch, 5/16 x 1-9/16
15	2	5377	Idle Bearing Mount, Assembly
16	2	3001	End Closure, Bearing, LB68726R

¹ Other screen sizes available, call Warren & Baerg for sizes available for the G240 Grinder

Bearing Lubrication Instructions

Average Operation - The bearings have been greased at the factory with a lithium base grease and are ready to run. They must be lubricated according to manufacturers' recommendations.

Operation in Presence of Dust, Water, or Corrosive Vapors - Under these conditions you may choose to modify your greasing schedule as you see fit for your specific application and conditions

High Speed Operation – For bearings operated at high speed, such as the ones installed on your grinder, too much grease will cause overheating. Should the bearing be over greased the grease will purge through the bearing seals. For the correct amount of grease that the bearing will take and recommended grease intervals please consult bearing manufacturers recommendations at the end of this section.

Operating Temperature – Bearing housing temperatures approaching 280°F is cause for alarm usually signaling improper lubrication. High bearing housing temperatures with no grease showing at the seals, particularly if the bearing seems noisy, usually indicates too little grease. High bearing housing temperature with signs of grease purging out the seals is an indication of over greasing.

Note: *If safety permits, it is best to relubricate the bearings with the recommended amount while they are running.*

Bearing Inspection and Replacement

Bearing Inspection - The bearings must be inspected at least weekly or as often as they are lubricated. Check to ensure that the fasteners holding the bearing housings in place are secure and that the bearing mounts have not sustained any noticeable damage. It is also recommended that temperature readings of the bearing housings be taken also (must be taken after the machine has been running for at least 30-minutes) as an increase in bearing housing temperature is an indication of a possible problem. As much as safety allows, check the sound of the bearings while in operation (they should run nearly silent).

Replacement - If the bearings are continuously running at or above 280°F and/or they will not hold grease they must be replaced as soon as possible. These are signs of impending bearing failure. Refer to the included information from the bearing manufacturer regarding procedures for bearing removal and installation.

Please refer to the following pages for Rexnord Bearing Installation Guide and Lubrication information.

Link-Belt® Split Housed Mounted Roller Bearings

INSTALLATION INSTRUCTIONS Series 6600, 6800, & 6900 (pg 1-5) Series 7600, 7800, & 7900 (pg 6-8)

Bearing Mounting Procedure

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

ADAPTER MOUNTED UNITS (6600, 6800, & 6900)

1. Inspect shaft size (see shaft tolerance table, Page 2, Table 3). Shaft must be to correct size. Clean shaft and mounting surface as needed.
2. Position housing base onto mounting surface. Snug down mounting bolts.
3. Slide on seal, adapter assembly, bearing, and second seal onto the shaft in the correct order. If "B" felt seals are used, hold until step 8.
4. Locate the bearing and sleeve snugly on the shaft in the desired position. Fixed bearings are located with the bearing face opposite the locknut up against the housing shoulder. Expansion bearings are usually centered in the housing seat between the shoulders to allow for shaft expansion or contraction. A shaft with a pair of bearings normally has one fixed and one expansion pillow block. The fixed unit is usually located adjacent to the drive. The fixed bearing takes any thrust loads. In locating, take into account that tightening correctly will move the bearing further up the tapered sleeve. Do not tighten locknut beyond finger tight at this time.
5. Measure the initial built in clearance across the top of both sets of rollers as shown in Figure 1. It must be possible to remove shim by pulling straight out.
6. Using a spanner wrench, tighten the locknut until snug (Figure 2). Hold the adapter sleeve from turning until firmly seated. Using a soft steel bar and a hammer, drive against the face of the locknut as shown to relieve the thread pressure (Figure 3). Retighten the locknut and repeat until the correct adjustment specified in CLEARANCE REDUCTION TABLE (Table 1) is achieved.

9. Force grease in one side of the bearing until it comes out the other side all the way around. Fill grease reservoir on both sides to the bottom of the shaft. See LUBRICATION INFORMATION on page 2 for more information.
10. For oil lubricated bearings, apply non-hardening gasket compound to cap surfaces which contact the base (Not needed for grease lubrication). Tighten cap nuts or bolts securely. Bolts should be fully tightened with a torque wrench to values in Table 2 on page 2. Where bearings are to be periodically removed, use 75% of these values. Use oil only on the bolt threads.
11. With the mounting bolts snug, check the alignment and freedom of rotation. **"B" seals:** Visually check the clearance between the shaft and the bore of the seal. This clearance is small and can be visually checked for uniformity all the way around the seal. **"R" or "H" seals:** Measure the distance between the outside diameter of the seal and the diameter of the housing counterbore in three places. Be sure that each measurement is taken 90 degrees from the previous measurement. All three measurements should be uniform to insure proper alignment. See Figure 4. Align by shimming or shifting as necessary. Use large area shims to avoid distorting the housing and pinching the bearing. Appropriate use of stop bars against faces or ends of feet opposite the direction of load or vibration to avoid shifting of the housing is recommended. Dowel pins can be equally effective if properly used. This is especially important where loads are not directly down through the base. Finally, tighten or torque mounting bolts securely. Up to SAE Grade 5 mounting bolts can be used, properly torqued, to mount cast iron housings (See table 2A on page 2). Up to SAE Grade 8 mounting bolts can be used, properly torqued, to mount cast steel housings (see table 2B on page 2).

Table 1: CLEARANCE REDUCTION TABLE (All values in inches)C3 Bearing

Pillow Block Range		Radial Unmounted Clearance		Final Operating Clearance		Clearance Reduction	
From	To	Min	Max	Min	Max	Min	Max
6823	6828	.0024	.0031	.0012	.0021	.0010	.0012
6831	6835	.0030	.0037	.0014	.0025	.0012	.0016
6839	6843	.0037	.0047	.0017	.0031	.0016	.0020
6847	6856	.0043	.0055	.0019	.0037	.0018	.0024
6859	6867	.0053	.0067	.0025	.0047	.0020	.0028
6871	6880	.0063	.0079	.0028	.0053	.0026	.0035
6883	6887	.0071	.0091	.0032	.0061	.0030	.0039
6895	68104	.0079	.0102	.0036	.0071	.0031	.0043
68111	68115	.0087	.0114	.0036	.0079	.0035	.0051
68120	68128	.0098	.0126	.0043	.0087	.0039	.0055
66135	66144	.0106	.0138	.0047	.0095	.0043	.0059
66151	68168	.0118	.0154	.0051	.0107	.0047	.0067
66175	66176	.0130	.0169	.0055	.0118	.0051	.0075
6923	6927	.0024	.0031	.0012	.0021	.0010	.0012
6931	6935	.0030	.0037	.0014	.0025	.0012	.0016
6936	6943	.0037	.0047	.0017	.0031	.0016	.0020
6947	SAF307	.0043	.0055	.0019	.0037	.0018	.0024
315	403	.0053	.0067	.0025	.0047	.0020	.0028
407	500	.0063	.0079	.0028	.0053	.0026	.0035
503	507	.0071	.0091	.0032	.0061	.0030	.0039
SAF22634	515	.0079	.0102	.0036	.0071	.0031	.0043

7. Bend a tang of lockwasher into slot of locknut. If tang does not line up, tight locknut until closest tang lines up.
8. If felt seal halves are not fastened to the cap with adhesive this should be done. Dry the seal grooves in both sides of the cap to remove oil and preservative. Apply a good quality rubber cement evenly to both the seal O.D. and the housing seal bore. Do not get adhesive on the felt. When adhesive dries to slight tackiness, install the seal halves in the cap. Install the other halves in the base before the shaft is in place, then wet the felts with oil. The shaft holds seals in place for complete drying. Do not operate until adhesive is set.

ADDITIONAL INSTALLATION COMMENTS

1. Cap and base are machined as matched unit and are not interchangeable. The machined split line on base is marked and should be matched to corresponding cap.
2. If outer rings become misaligned, do not force back into position. Instead, carefully work back by turning and sliding.
3. For installation of D5 see page 4. For installation of D8 Sealing arrangements see page 5

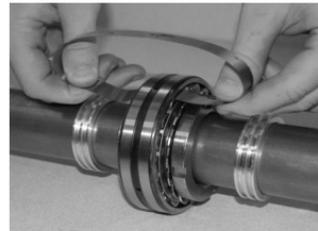


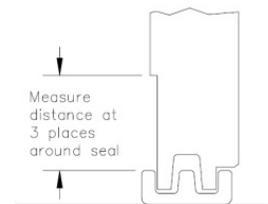
Figure 1) Measuring Initial Clearance



Figure 2) Tighten Until Snug



Figure 3) With a soft steel bar, tap on face of locknut



Multi-labyrinth Seal

Figure 4) Checking Alignment



Rexnord Industries Corp.
Bearing Group

For Tech Support, Phone: 317-273-5781
For Tech Support, Email:
Bearing.tech.support@rexnord.com

10-11-12
Page 1 of 8
BR3-004

Link-Belt® Split Housed Mounted Roller Bearings

INSTALLTION INSTRUCTIONS Series 6600, 6800, & 6900

Table 2A: Recommended Housing Cap Bolt Tightening Torque

Cast Iron Housing			
Series 6800/6600	Tightening Torque (lb-ft)	Series 6900/SAF22600	Tightening Torque (lb-ft)
6823-6840	45-50	6923-6932	45-50
6841-6852	90-100	6933-6944	90-100
6853-6868	160-180	6945-6948	160-180
6869-6872	280-330	22618	90-100
6873-68104	400-430	22620-22622	160-180
68105-68115	630-700	22624-22626	160-180
68117-68128	800-890	22628-22630	220-250
66129-66144	630-700	22632	320-350
66145-66168	800-890	22634	450-500
66169-66176	1400-1500	-	-

Table 2B: Recommended Housing Cap Bolt Tightening Torque

Cast Steel Housing			
Series 6800	Series 6600	Tightening Torque (lb-ft)	
		Load Directed into Base	Load Directed into Cap
6839-6840	-	50-65	80-110
6841-6848	-	100-130	160-220
6853-6864	-	170-230	300-400
6869-6872	-	280-370	490-650
6873-6880	-	410-550	730-970
6883-68104	-	580-780	1030-1370
68105-68116	66129-66144	820-1100	1450-1940
68117-68128	66B151-66168	1430-1900	2530-3370
	66169-66176	1400-1550	2530-3370

Table 3: Recommended Shaft Tolerance

SHAFT TOLERANCE TABLE – INCHES				
Nominal Shaft sizes (inches)		Commercial Shaft Tolerance* (Cold Finished Steel, Low Carbon)	RECOMMENDED SHAFT TOLERANCES*	
Over	Incl.		Adapter Mounting	Press Fit Mounting
1 7/16	2	+0.000 -0.003	+0.000 -0.003	Consult Rexnord
2 1/16	4	+0.000 -0.004	+0.000 -0.004	
4 1/16	6	+0.000 -0.005	+0.000 -0.005	
6 1/16	13	+0.000 -0.006	+0.000 -0.006	

*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.

Table 4: GREASE LUBRICATION INFORMATION

LUBRICATION TABLE (HORIZONTAL SHAFT APPLICATION)					
6800/6600 Series Shaft size in Inches	To Relubricate Units	RECOMMENDED NUMBER OF MONTHS BETWEEN RELUBRICATION* (BASED ON 24/7 OPERATION)			
		Relube Interval			
		6 Months	4 Months	2 Months	1 Month
1 7/16 – 1 1/2	0.15 oz.	2400	3600	5000	5500
1 11/16 – 1 3/4	0.15 oz.	2200	3300	4500	5000
1 15/16 – 2	0.20 oz.	2200	3000	4000	4500
2 3/16 – 2 1/4	0.40 oz.	1700	2500	3400	3800
2 7/16 – 2 1/2	0.40 oz.	1450	2200	3000	2400
2 11/16 – 2 3/4	0.45 oz.	1350	2000	2800	2300
2 15/16 – 3	0.60 oz.	1300	1900	2600	3000
3 3/16 – 3 1/4	0.85 oz.	1200	1800	2400	2700
3 7/16 – 3 1/2	1.15 oz.	1100	1650	2200	2300
3 11/16 – 4	1.60 oz.	1000	1500	1950	2100
4 3/16 – 4 1/4	2.15 oz.	900	1350	1850	1900
4 7/16 – 4 1/2	2.80 oz.	840	1250	1700	1800
4 15/16 – 5	3.20 oz.	780	1150	1600	1700
5 3/16 – 5 1/4	4.00 oz.	730	1100	1500	1600
5 7/16 – 5 1/2	5.10 oz.	680	1000	1400	1500
5 15/16 – 6	6.10 oz.	640	970	1300	1400
6 7/16 – 6 1/2	6.40 oz.	610	910	1200	1300
6 15/16 – 7	7.70 oz.	570	860	1100	1200
7 3/16 – 7 1/4	11.70 oz.	550	820	1000	1100
7 1/2 – 8	13.40 oz.	500	750	900	1000
		Shaft Speed in RPM			
Clean and Repack Interval		5 Years	3 Years	2 Years	1 Year

LUBRICATION TABLE (HORIZONTAL SHAFT APPLICATION)					
6900/SAF22600 Shaft size in Inches	To Relubricate Units	RECOMMENDED NUMBER OF MONTHS BETWEEN RELUBRICATION* (BASED ON 24/7 OPERATION)			
		Relube Interval			
		6 Months	4 Months	2 Months	1 Month
1 7/16 – 1 1/2	0.35 oz.	1325	2100	3150	4200
1 11/16 – 1 3/4	0.55 oz.	1200	1900	2850	3800
1 15/16 – 2	0.65 oz.	1075	1800	2700	3600
2 3/16 – 2 1/4	0.95 oz.	925	1500	2250	3000
2 7/16 – 2 1/2	1.30 oz.	800	1300	1950	2600
2 11/16 – 2 3/4	1.60 oz.	750	1250	1875	2500
2 15/16 – 3	1.80 oz.	700	1150	1725	2300
3 3/16 – 3 1/4	2.15 oz.	650	1100	1650	2200
3 7/16 – 3 1/2	3.10 oz.	600	1000	1500	2000
3 11/16 – 4	4.15 oz.	550	900	1350	1800
4 3/16 – 4 1/4	5.80 oz.	500	800	1200	1600
4 7/16 – 4 1/2	6.70 oz.	450	750	1125	1500
4 15/16 – 5	8.45 oz.	425	700	1050	1400
5 3/16 – 5 1/4	11.00 oz.	400	650	975	1300
5 7/16 – 5 1/2	13.00 oz.	375	625	950	1250
5 15/16 – 6	15.50 oz.	350	575	850	1150
		Shaft Speed in RPM			
Clean and Repack Interval		5 Years	3 Years	2 Years	1 Year

Grease lubrication is recommended wherever conditions in Table 4 exist. For conditions which are not completely covered in Table 4 consult Rexnord Bearing Division. A reputable lubricant manufacturer should be consulted to confirm the lubricant selection and application.

Relubrication After Running – Relubrication of units in service should be through the fitting or hole in the center of the unit when bearings with lube holes and grooves are used as normally supplied. The amount of grease used should be enough to purge old grease from the bearing only (not the entire pillow block) and form a cushion of grease adjacent to the bearing face.

High Speed Operation – Consult Table 4 for a guide to correct greases and frequency of relubrication. High speed bearings will not operate satisfactory when packed full of grease. As relubrication will eventually fill the housing cavities, it may be necessary to remove the cap periodically, clean out the old lubricant and repack with the original amount.

* Additional bearing protection or special seal may be required. Consult Rexnord Bearing Division.

** Suggested starting interval for maintenance program. Check grease condition for oiliness and dirt and adjust greasing frequency accordingly. Watch operating temperatures. Sudden rises may show need for grease or indicate over lubrication on higher speed applications. Rexnord Bearing Division, cannot be held responsible for performance of individual batches of grease. Changes in lubricant specifications, performance, and lubricant guarantees are the responsibility of the lubricant manufacturer.

- Operating temperature limited to -40 to +225°F
- "Dirty," Corrosive or Wet environments require more frequent re-lube
- D8 seal limit is 1500 surface feet per minute
- B felt seal limit is 800 surface feet per minute
- Reduce lubrication intervals by half for vertical shaft applications

Link-Belt® Split Housed Mounted Roller Bearings

INSTALLTION INSTRUCTIONS Series 6600, 6800, & 6900

Oil Lubrication

Oil Cup or Oil Bath Lubrication – Oil cups can be applied for use as a self-contained oil bath system. Oil bath lubrication is not recommended for speeds above the catalog oil speed limits, where excessive oil churning or misting occurs, or where there is air flow across the housing, which will pull oil out through the seals due to different pressures.

Oil levels are controlled by sight gages, oil cups, etc. These should be used in conjunction with a vent or breather cap. Proper static oil levels are shown in Table 5. Cups or sight gages should be carefully marked.

Circulating Oil Lubrication (See page 8) – Oil circulation systems can be used under a wider variety, or under more extreme operating conditions than any other lubrication method. They are especially valuable for high speed and high temperature service to provide better lubrication and cooler operation.

A complete circulation system includes the use of pressure pump, a heat exchanger (or a method of cooling oil), an adequate sump, a filter to remove particles over 20 micron in size and safety devices such as pressure and temperature warning devices and filter bypasses. It is also best to tap oversize drain holes in the housing or to provide a suction pump to positively remove oil from the housing. Oil should be removed from both sides of the housing, but where speeds are not high one side may be sufficient.

Oil Viscosity – The required viscosity for good lubrication depends on starting temperatures, operating temperatures, and speed. The recommended viscosity level for bearings operating within catalog speed limits is between 100 and 150 Saybolt seconds (SSU) at operating temperature for oil exit temperature on circulating systems. Slow speed heavily loaded bearings require much higher viscosities. Consult Rexnord Bearing Division.

Where starting temperatures are very low compared to operating temperatures, heaters may be necessary to provide oil flow in the lines or to provide adequate lubrication at start-up.

Maintenance and Lubrication:

Oil cup or oil bath systems require close attention because of the limited amount of oil in the system. Frequent changing of oil is necessary in these systems to avoid lubricant breakdown. Oil circulating systems, properly equipped with safety devices, require minimum attention after they are once satisfactorily adjusted. Frequency of changing the oil in the system depends upon the severity of the operation and size of the reservoir. Also, summer and winter grades of oil may be required, to stay within the recommended viscosity limits for good lubrication.

Table 5 – Static Oil Level

Block Number	A	D	L		Block Number	A	D	L		Block Number	A	D	L	
			High	Low				High	Low				High	Low
			Inches					Inches					Inches	
6823, 6824	2 1/4	7/16	1 9/32	1 3/8	6887	6 11/16	1	4 15/32	4 21/32	6935	3 1/2	3/4	2 1/32	2 5/32
6827, 6828	2 1/2	9/16	1 3/8	1 5/8	6895, 6896	7 1/16	1 1/8	4 3/4	4 15/16	6939, 6940	4	3/4	11/32	2 1/2
6831, 6832	2 3/4	9/16	1 7/32	1 5/8	68103	7 1/2	1 1/8	4 3/32	5 9/32	6943	4 1/4	7/8	15/32	2 5/8
6835, 6836	3	1/2	1 27/32	1 15/16	68111, 68112	7 7/8	1 1/4	5 1/4	5 7/16	6947	4 1/2	7/8	2 23/32	2 13/16
6839	3 1/4	5/8	2 1/32	2 1/4	68115	8 1/4	1 3/8	5 9/16	5 3/4	22618	4 3/4	1 3/32	2 25/32	2 31/32
6843	3 1/2	3/4	2 3/16	2 9/32	68120-68128	9 1/2	2 1/2	6 5/32	11/32	22620	5 1/4	1	3 1/8	3 5/16
6847, 6848	3 3/4	13/16	2 3/16	2 15/32	66135-66144	8 1/4	1 3/8	5 15/16	6 1/8	22622	6	1 1/4	3 15/32	3 21/32
6851	4	3/4	2 15/32	2 5/8	66B151, 66B152	9 1/2	1 1/2	6 15/16	7 1/8	22624	6 5/16	1 3/16	3 25/32	3 31/32
6855, 6856	4 1/2	7/8	2 25/32	2 15/16	66159, 66160	9 1/2	1 1/2	6 15/16	7 1/8	22626	6 11/16	1 1/16	4 3/32	4 9/32
6859-6864	4 15/16	7/8	3 1/16	3 7/32	66167, 66168	9 1/2	1 1/2	6 15/16	7 1/8	22628	7 1/16	1 3/16	4 3/8	4 9/16
6867	5 1/4	1	3 5/16	3 1/2	66175, 66176	12	2 7/8	7 17/32	7 23/32	22630	7 1/2	1 3/16	4 11/16	4 7/8
6871, 6872	6	1 1/4	3 9/16	3 3/4	6923, 6924	2 3/4	11/16	1 7/16	1 17/32	22632	7 7/8	1 5/16	4 31/32	5 5/32
6879, 6880	6	1 1/16	3 7/8	4 1/16	6927	3	9/16	1 19/32	1 11/16					
6883	6 5/16	1 1/16	4 5/32	11/32	6931, 6932	3 1/4	13/16	1 23/32	1 13/16					



Rexnord Industries Corp.
Bearing Group

For Tech Support, Phone: 317-273-5781
For Tech Support, Email:
Bearing.tech.support@rexnord.com

10-11-12
Page 3 of 8
BR3-004

Link-Belt® Split Housed Mounted Roller Bearings

INSTALLTION INSTRUCTIONS D5 Seal Arrangement

PENTAC D-5 SEALING SYSTEM

1. Before installing the bearing, slide 1st rubber PenTac Seal on shaft. If hard to do so, coat shaft and seal bore with a thin layer of oil. If oil is used, the shaft must be wiped clean.
2. Pack the grease cavity of the rubber seal with grease using a flexible putty knife. See Figure 5 for reference.
3. Assembly bearing referring to ADAPTER MOUNTED UNITS page 1-2.
4. Slide on second rubber PenTac seal. Repeat steps 1 and 2.
5. Slowly push each seal so the lip rests lightly against the housing. You can be sure by seeing a slight flex in the lip seal.
6. Use a marker and mark the shaft right behind the heel of the seal. Refer to figure 6.
7. Push the seal in by distance given in Table 6 (figure 7).

ADDITIONAL INSTALLATION COMMENTS

1. PenTac Seal is made of nitrile rubber and can be cleaned with certain solvents. Some solvents can cause damage to the seal. For questions on a specific solvent, contact Rexnord.
2. When sliding seal onto shaft, use light impact blows on the heel on the seal. Do not impact the seal lip.
3. If the bearing will experience extreme temperatures (>170°F) due to environment and system conditions, the "Push In" distance of 1mm should be used regardless of shaft speed.
4. If seal is pushed in too far, place a screwdriver between seal lip and housing. While maintaining pressure against the housing, rotate handle upward.

Table 6: DISTANCE TO PUSH SEAL INWARD

Shaft Size	Push in Distance 1 mm	Push in Distance 2 mm
1 7/16 - 1 1/2", 40mm	5300 > RPM > 2700	< 2700 RPM
1 11/16 - 1 3/4", 45mm	5000 > RPM > 2400	< 2400 RPM
1 15/16 - 2", 50mm	4500 > RPM > 2300	< 2300 RPM
2 3/16", 60mm	3800 > RPM > 2200	< 2200 RPM
2 7/16", 65mm	3400 > RPM > 2000	< 2000 RPM
2 11/16", 70mm	3200 > RPM > 1800	< 1800 RPM
2 15/16 - 3", 75mm	3000 > RPM > 1700	< 1700 RPM
3 3/16", 80mm	2600 > RPM > 1500	< 1500 RPM
3 7/16 - 3 1/2", 90mm	2200 > RPM > 1500	< 1500 RPM
3 11/16 - 4", 100mm	2000 > RPM > 1300	< 1300 RPM
4 3/16", 110mm	1900 > RPM > 1200	< 1200 RPM
4 7/16 - 4 1/2", 115mm	1800 > RPM > 1150	< 1150 RPM
4 15/16 - 5", 125mm	1700 > RPM > 1000	< 1000 RPM
5 3/16", 135mm	1600 > RPM > 950	< 950 RPM
5 7/16", 140mm	1500 > RPM > 950	< 950 RPM
5 15/16 - 6", 150mm	1300 > RPM > 850	< 850 RPM
6 7/16", 160mm	1300 > RPM > 800	< 800 RPM
6 15/16" - 7", 170mm	1200 > RPM > 750	< 750 RPM
7 3/16", 180mm	1100 > RPM > 700	< 700 RPM
7 1/2 - 8", 200mm	1000 > RPM > 650	< 650 RPM
8 7/16 - 9", 220mm	1000 > RPM > 550	< 550 RPM
9 7/16 - 10 1/2", 260mm	850 > RPM > 500	< 500 RPM

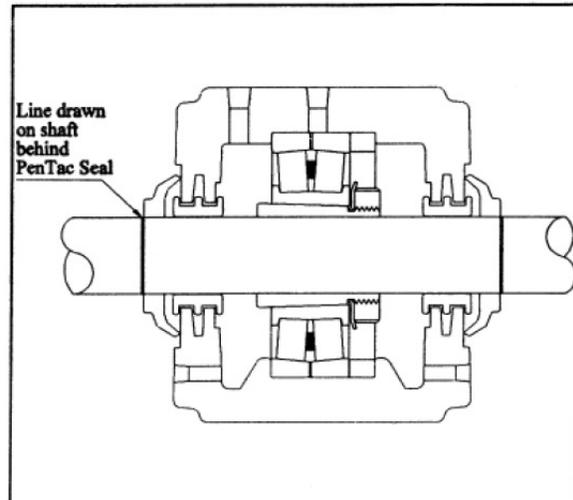


Figure 6: Complete assembly of D-5 PenTac showing reference line drawn on the shaft.

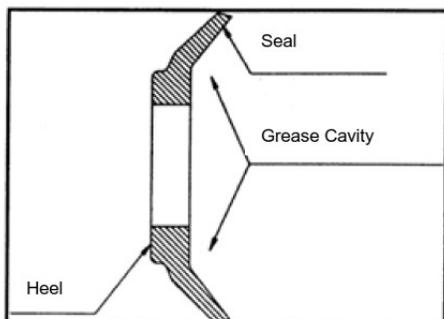


Figure 5: Cross section of rubber PenTac seal member

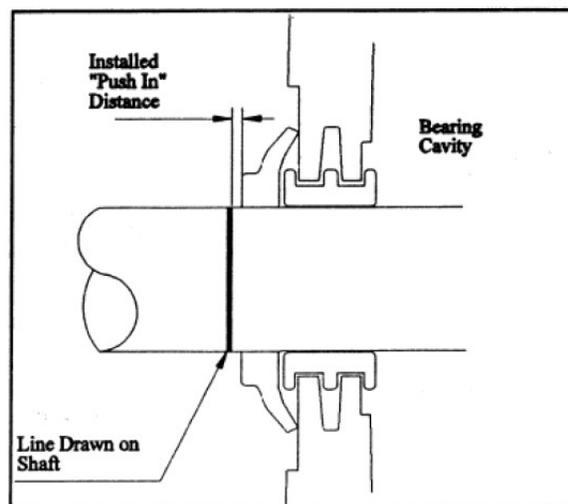


Figure 7: Installed "Push In" distance shown at the final installed position of the PenTac Seal.



Rexnord Industries Corp.
Bearing Group

For Tech Support, Phone: 317-273-5781
For Tech Support, Email:
Bearing.tech.support@rexnord.com

10-11-12
Page 4 of 8
BR3-004

Link-Belt® Split Housed Mounted Roller Bearings

INSTALLTION INSTRUCTIONS D8 Seal Arrangement

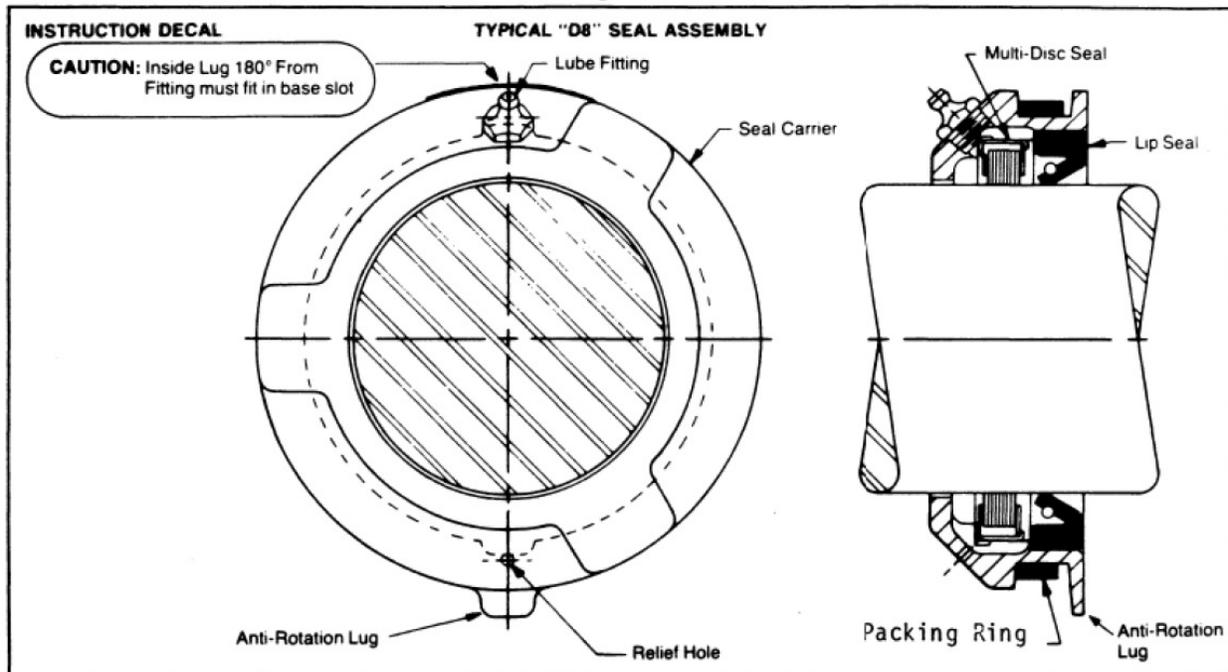
D8 (or D9) TACONITE SEALING SYSTEM

1. Before installing the bearing, slide 1st Seal Carrier on shaft.
2. Assemble bearing referring to ADAPTER MOUNTED UNITS page 1-2. Slide on 2nd seal carrier.
3. Seal carrier internal cavities should be fully packed with grease before assembly on shaft.
4. The packing ring in the seal carrier O.D. groove should be positioned in the middle to outboard half of the groove.
5. **The seal carriers must be rotated so that the carrier anti rotation tang fits into the slot provided in the housing base interior side wall.**

ADDITIONAL INSTALLATION COMMENTS

1. D8 and D9 Sealing systems require a specially machined groove in the housings. The taconite seals cannot be used with a standard LER ring housing groove.
2. As a starting point, a factor of 0.5 times the shaft diameter gives the approximate cubic inch volume of grease to flush one seal assembly.

Figure 8



Rexnord Industries Corp.
Bearing Group

For Tech Support, Phone: 317-273-5781
For Tech Support, Email:
Bearing.tech.support@rexnord.com

10-11-12
Page 5 of 8
BR3-004

Link-Belt® Split Housed Mounted Roller Bearings

INSTALLATION INSTRUCTIONS Series 7600, 7800, & 7900

Direct Shaft Mount Units (7600, 7800, 7900)

1. Inspect shaft size. Clean shaft and mounting surface as needed.
2. Position housing base onto mounting surface. Snug down mounting bolts.
3. Slide on first seal. If "B" felt seals are used, hold until step 8.
4. Mount all inboard items on shaft. Coat shaft bearing seat with a mixture of white lead and oil or suitable solid lubricant. Start bearing squarely on shaft. Apply pressure to the inner ring only. A soft steel tube or pipe having an O.D. no larger than the inner ring shoulder may be used to press or tap the bearing into position. Bearings may be shrink fitted on the shaft by heating evenly in oil to 250°F max. Slip the thoroughly heated bearing onto the shaft and hold in position until it cools and shrinks on the shaft.
5. Install and tighten locknut and lockwasher or other holding device securely. A lockwasher tang must be bent over into a notch in the locknut or lockwire heads of capscrews holding the lock plate.
6. Check for freedom of rotation to ensure operating clearance has not been removed by shaft fit.
7. Force grease in one side of the bearing until it comes out the other side all the way around. Fill grease reservoir on both sides to the bottom of the shaft. See LUBRICATION INFORMATION on page 7, Table 8, for more information.
8. If felt seal halves are not fastened to the cap with adhesive this should be done. Dry the seal grooves in both sides of the cap to remove oil and preservative. Apply a good quality rubber cement evenly to both the seal O.D. and the housing seal bore. Do not get adhesive on the felt. When adhesive dries to slight tackiness, install the seal halves in the cap. Install the other halves in the base before the shaft is in place, then wet the felts with oil. The shaft holds seals in place for complete drying. Do not operate until adhesive is set.
9. For oil lubricated bearings, apply non-hardening gasket compound to cap surfaces which contact the base (Not needed for grease lubrication).
10. With the mounting bolts snug, check the alignment and freedom of rotation. **"B" seals:** Visually check the clearance between the shaft and the bore of the seal. This clearance is small and can be visually checked for uniformity all the way around the seal. **"R" or "H" seals:** Measure the distance between the outside diameter of the seal and the diameter of the housing counterbore in three places. Be sure that each measurement is taken 90 degrees from the previous measurement. All three measurements should be uniform to insure proper alignment. See Figure 9. Align by shimming or shifting as necessary. Use large area shims to avoid distorting the housing and pinching the bearing. Appropriate use of stop bars against faces or ends of feet opposite the direction of load or vibration to avoid shifting of the housing is recommended. Dowel pins can be equally effective if properly used. This is especially important where loads are not directly down through the base. Finally, tighten or torque mounting bolts securely. Up to SAE Grade 5 mounting bolts can be used, properly torqued, to mount cast iron housings (see table 7A). Up to SAE Grade 8 mounting bolts can be used, properly torqued, to mount cast steel housings (see table 7B).

ADDITIONAL INSTALLATION COMMENTS

1. Cap and base are machined as matched unit and are not interchangeable. The machined split line on base is marked and should be matched to corresponding cap.
2. If outer rings become misaligned, do not force back into position. Instead, carefully work back by turning and sliding.

Table 7A: Recommended Housing Cap Bolt Tightening Torque

Cast Iron Housing			
Series 7800	Series 7600	Series 7900	Tightening Torque (lb-ft)
7875	-	7945-7955	45-50
7880-7890	-	7965-7980	90-100
78100-78130	-	7985-22322	160-180
78140-78180	-	22324-22330	400-440
78190-78200	76240	22332-22334	630-700
78220	76280	-	800-890
-	76300	-	1400-1550

Table 7B: Recommended Housing Cap Bolt Tightening Torque

Cast Steel Housing**			
Series 7800	Series 7600	Tightening Torque (lb-ft)	
		Load Directed into Base	Load Directed into Cap**
7875	-	50-65	80-110
7880-7885	-	100-130	160-220
7890-78110	-	170-230	300-400
78120-78130	-	280-370	490-650
78140	-	410-550	730-970
78150-78180	76240	580-780	1030-1370
78190-78200	76280	820-1100	1450-1940
78220	76300	1430-1900	2530-3370
-	-	1400-1550	2530-3370

** Replace spring lockwasher with plain washer.

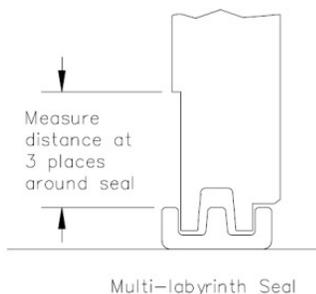


Figure 9:
Checking
Alignment



Rexnord Industries Corp.
Bearing Group

For Tech Support, Phone: 317-273-5781
For Tech Support, Email:
Bearing.tech.support@rexnord.com

10-11-12
Page 6 of 8
BR3-004

Link-Belt® Split Housed Mounted Roller Bearings

INSTALLATION INSTRUCTIONS Series 7600, 7800, & 7900

LUBRICATION INFORMATION Table 8

LUBRICATION TABLE (HORIZONTAL SHAFT APPLICATION)					
7800/7600 Series Shaft size	To Relubricate Units	RECOMMENDED NUMBER OF MONTHS BETWEEN RELUBRICATION* (BASED ON 24/7 OPERATION)			
		Relube Interval			
		6 Months	4 Months	2 Months	1 Month
75 mm	0.40 oz.	1450	2200	3000	3400
80 mm	0.45 oz.	1350	2000	2800	3200
85 mm	0.60 oz.	1300	1900	2600	3000
90 mm	0.85 oz.	1200	1800	2400	2700
100 mm	1.15 oz.	1100	1650	2200	2300
110 mm	1.60 oz.	1000	1500	1950	2100
120 mm	2.15 oz.	900	1350	1850	1900
130 mm	2.80 oz.	840	1250	1700	1800
140 mm	3.20 oz.	780	1150	1600	1700
150 mm	4.00 oz.	730	1100	1500	1600
160 mm	5.10 oz.	680	1000	1400	1500
170 mm	6.10 oz.	640	970	1300	1400
180 mm	6.40 oz.	610	910	1200	1300
190 mm	7.70 oz.	570	860	1100	1200
200 mm	11.70 oz.	550	820	1000	1100
220 mm	13.40 oz.	500	750	900	1000
		Shaft Speed in RPM			
Clean and Repack Interval		5 Years	3 Years	2 Years	1 Year

LUBRICATION TABLE (HORIZONTAL SHAFT APPLICATION)					
7900/SAF22300 Shaft size in Inches	To Relubricate Units	RECOMMENDED NUMBER OF MONTHS BETWEEN RELUBRICATION* (BASED ON 24/7 OPERATION)			
		Relube Interval			
		6 Months	4 Months	2 Months	1 Month
45 mm	0.35 oz.	1325	2100	3150	4200
50 mm	0.55 oz.	1200	1900	2850	3800
55 mm	0.65 oz.	1075	1800	2700	3600
60 mm	0.95 oz.	925	1500	2250	3000
70 mm	1.30 oz.	800	1300	1950	2600
80 mm	1.60 oz.	750	1250	1875	2500
85 mm	1.80 oz.	700	1150	1725	2300
90 mm	2.15 oz.	650	1100	1650	2200
100 mm	3.10 oz.	600	1000	1500	2000
110 mm	4.15 oz.	550	900	1350	1800
120 mm	5.80 oz.	500	800	1200	1600
130 mm	6.70 oz.	450	750	1125	1500
140 mm	8.45 oz.	425	700	1050	1400
150 mm	11.00 oz.	400	650	975	1300
160 mm	13.00 oz.	375	625	950	1250
170 mm	15.50 oz.	350	575	850	1150
		Shaft Speed in RPM			
Clean and Repack Interval		5 Years	3 Years	2 Years	1 Year

Grease lubrication is recommended wherever conditions in Table 8 exist. For conditions which are not completely covered in Table 8 consult Rexnord Bearings Division. A reputable lubricant manufacturer should be consulted to confirm the lubricant selection and application.

Relubrication After Running – Relubrication of units in service should be through the fitting or hole in the center of the unit when bearings with lube holes and grooves are used as normally supplied. The amount of grease used should be enough to purge old grease from the bearing only (not the entire pillow block) and form a cushion of grease adjacent to the bearing face.

High Speed Operation – Consult Table 8 for a guide to correct greases and frequency of relubrication. High speed bearings will not operate satisfactory when packed full of grease. As relubrication will eventually fill the housing cavities, it may be necessary to remove the cap periodically, clean out the old lubricant and repack with the original amount.

* Additional bearing protection or special sealing may be required. Consult Rexnord Bearing Division.

** Suggested starting interval for maintenance program. Check grease condition for oiliness and dirt and adjust greasing frequency accordingly. Watch operating temperatures. Sudden rises may show need for grease or indicate over lubrication on higher speed applications. Rexnord Bearing Division, cannot be held responsible for performance of individual batches of grease. Changes in lubricant specifications, performance, and lubricant guarantees are the responsibility of the lubricant manufacturer.

- Operating temperature limited to -40 to +225°F
- "Dirty," Corrosive or Wet environments require more frequent re-lube
- D8 seal limit is 1500 surface feet per minute
- B felt seal limit is 800 surface feet per minute
- Reduce lubrication intervals by half for vertical shaft applications



Rexnord Industries Corp.
Bearing Group

For Tech Support, Phone: 317-273-5781
For Tech Support, Email:
Bearing.tech.support@rexnord.com

10-11-12
Page 7 of 8
BR3-004

Link-Belt® Split Housed Mounted Roller Bearings

INSTALLATION INSTRUCTIONS Series 6600, 6800, & 6900 Series 7600, 7800, & 7900

CIRCULATING OIL LUBRICATION INFORMATION

Circulating Oil Lubrication— Oil circulation systems can be used under a wider variety, or under more extreme operating conditions than any other lubrication method. They are especially valuable for high speed and high temperature service to provide better lubrication and cooler operation.

A complete circulation system includes the use of pressure pump, a heat exchanger (or a method of cooling oil), an adequate sump, a filter to remove particles over 20 micron in size and safety devices such as pressure and temperature warning devices and filter bypasses. It is also best to tap oversize drain holes in the housing or to provide a suction pump to positively remove oil from the housing. Oil should be removed from both sides of the housing, but where speeds are not high one side may be sufficient. See Figure 10 for Schematic.

Oil Viscosity — The required viscosity for good lubrication depends on starting temperatures, operating temperatures, and speed. The recommended viscosity level for bearings operating within catalog speed limits is between 100 and 150 Saybolt seconds (SSU) at operating temperature for oil exit temperature on circulating systems. Slow speed heavily loaded bearings require much higher viscosities. Consult Rexnord Bearing Division.

Where starting temperatures are very low compared to operating temperatures, heaters may be necessary to provide oil flow in the lines or to provide adequate lubrication at start-up.

Maintenance and Lubrication:

Oil cup or oil bath systems require close attention because of the limited amount of oil in the system. Frequent changing of oil is necessary in these systems to avoid lubricant breakdown. Oil circulating systems, properly equipped with safety devices, require minimum attention after they are once satisfactorily adjusted. Frequency of changing the oil in the system depends upon the severity of the operation and size of the reservoir. Also, summer and winter grades of oil may be required, to stay within the recommended viscosity limits for good lubrication.

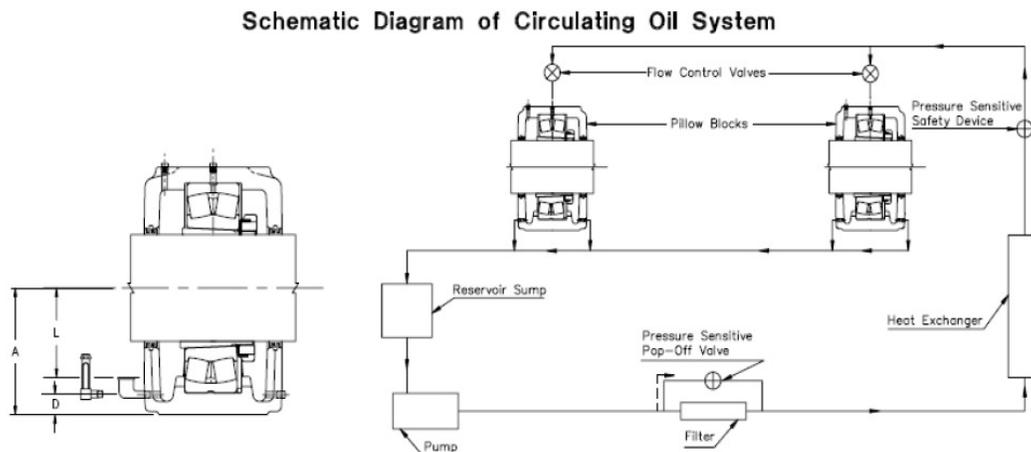


Figure 10

A. IT IS EXPRESSLY AGREED THAT THE FOLLOWING WARRANTY IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESSLY IMPLIED OF STATUTORY. INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION OR LIABILITY ON OR PART OF ANY KIND OR NATURE WHATSOEVER.

No representative of ours has any authority to waive, alter, vary, or add to the terms hereof without prior approval in writing, to our customer, signed by an officer of our company. It is expressly agreed that the entire warranty given to the customer is embodied in this writing. This writing constitutes the final expression of the parties agreement with respect to warranties, and that it is a complete and exclusive statement of the terms of the warranty.

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 f.o.b. 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 us 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.

B. It is expressly agreed that our liability for any damage arising out of or related to this transaction, or the use of our Products, whether in contract or in tort, is limited to the repair or replacement of the Products, or the parts thereof by use, or to a refund of the proportionate purchase price. We will not be liable for any other injury, loss, damage, or expense, whether direct or consequential, including but not limited to use, income, profit, production, or increased cost of operation, or spoilage of or damage to material, arising in connection with the sale, installation, use of, inability to use, or the replacement of, or late delivery of, our Products.



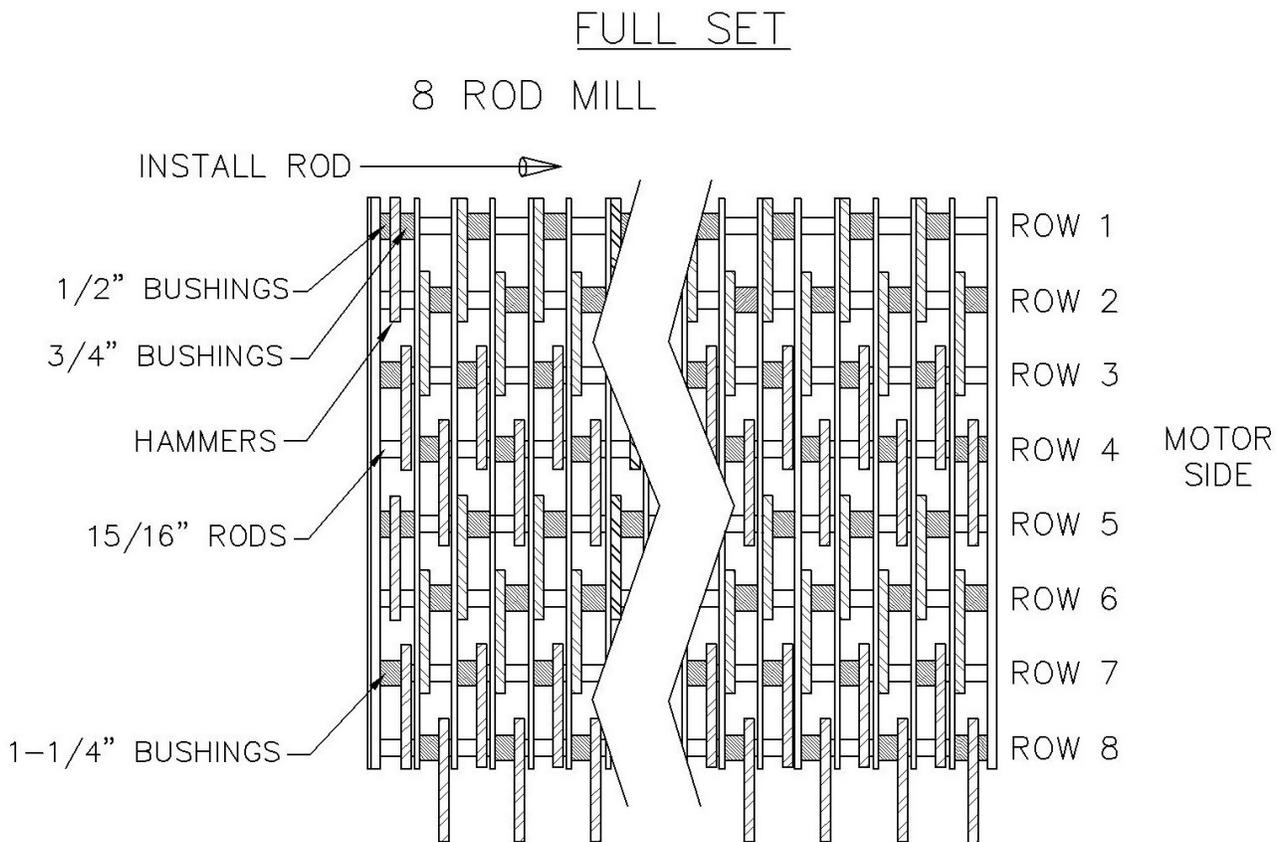
Rexnord Industries Corp.
Bearing Group

For Tech Support, Phone: 317-273-5781
For Tech Support, Email:
Bearing.tech.support@rexnord.com

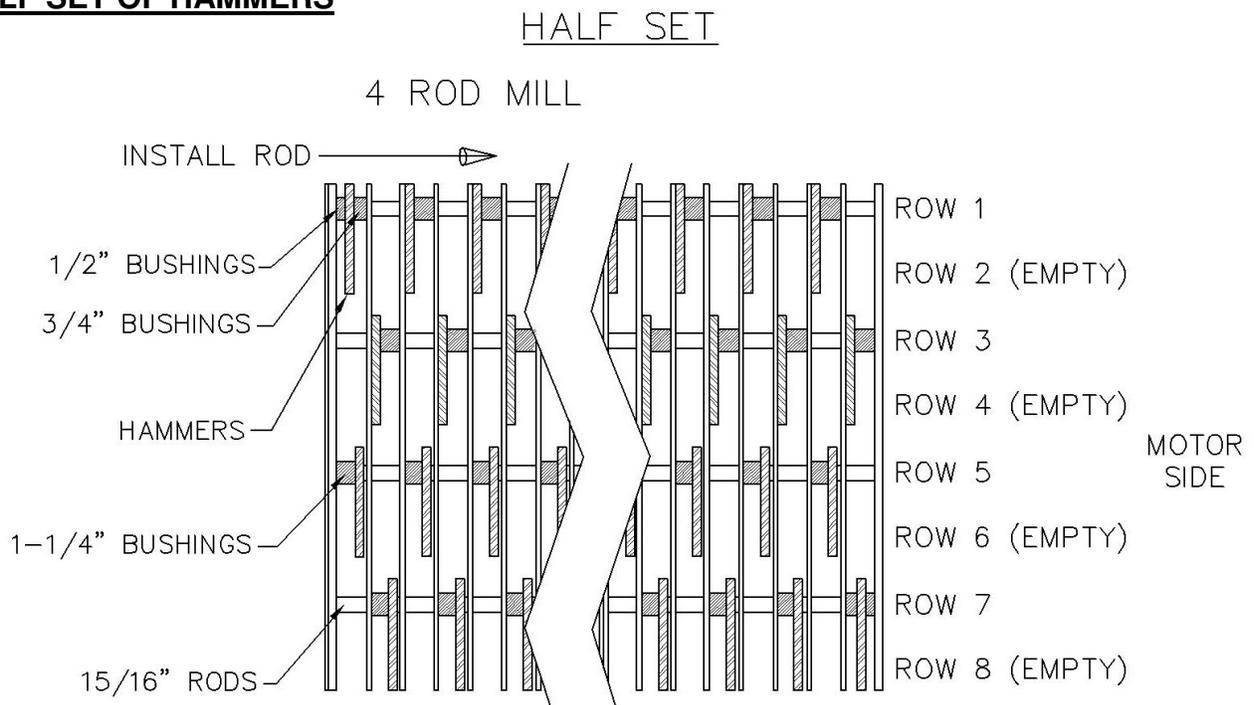
10-11-12
Page 8 of 8
BR3-004

- STEP 1** **Caution: Turn Off and Lock Out** the power source to the Grinder before servicing the equipment.
- STEP 2** Access the hammers from the infeed side of the Grinder
- STEP 3** Locate the access hole to loosen the lock plate on the side of the Grinder opposite the motor.
- STEP 4** After locating the access hole, rotate the cylinder to find two bolts in slotted holes
- STEP 5** Loosen the two bolts and rotate the lock plate to the opposite side of the slot.
- STEP 6** Re-tighten the bolts after moving the lock plate. This will hold the plate in position while removing the rods and hammers.
- STEP 7** Remove the rods and hammers while being careful not to lose any of the spacers.
- Note: There are two access holes on the motor side through which a punch may be inserted to aid in the removal of the rods.
- STEP 8** Install the new hammers, rods, and spacers according to the instructions found below and the diagram on the next page.
- Note: Each hammer manufacture has different color coding for hammer configurations, refer to literature provided each time you receive hammers for proper hammer placement to ensure proper cylinder balance is maintained.
- Begin installing on the side opposite the electric motor.
- A. Position the first hammer and bushing in the first opening and slide the rod in.
 - B. Skip the next opening and install the second hammer and bushing in the third opening.
 - C. Continue every other opening according to the diagram
 - D. Rotate the cylinder to the second hole.
 - E. Skip the first opening and install the first hammer and bushing in the second opening.
 - F. Continue every other opening according to the diagram
 - G. Repeat for the rest.
- STEP 9** Rotate the locking plate to the original position and retighten the bolts.

FULL SET OF HAMMERS



HALF SET OF HAMMERS



Changing the screens **requires minimum two people**. One person will work inside the grinder on the discharge side and the other will work outside removing the Screen Rods and taking the Screens out the inlet side of the Grinder.

Top Screen Removal

- STEP 1** Outside Person: Remove the lynch pins (19), top rod (13), and center rod (13).
- STEP 2** Inside Person: Lift the screens individually. The screens can be passed over the top of the cylinder and out the front of the grinder or handed out the rear access doors to someone on the outside.
- STEP 3** Outside Person: Retrieve the screens and remove it from the Grinder.

Bottom Screen Removal

- STEP 1** Outside Person: Remove the bottom rod (13).
- STEP 2** Inside Person: Lift the screens individually. The screens can be passed over the top of the cylinder and out the front of the grinder or handed out the rear access doors to someone on the outside.
- STEP 3** Outside Person: Retrieve the screens and remove it from the Grinder.

Installing the Screens

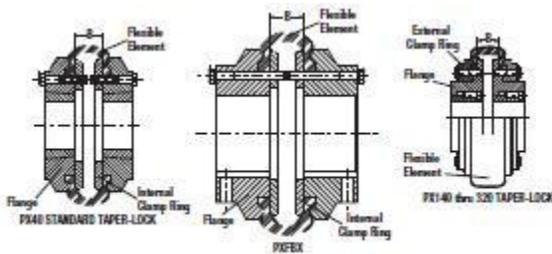
Reverse of the installation procedure.

Please refer to the attached motor manuals for information on servicing and inspecting the Grinder motor.

FLANGE INSTALLATION

These instructions must be read thoroughly before installation or operation.

WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.



Install in the following sequence:

1. For the TAPER-LOCK[®] flange, install bushing in the flange per bushing instructions.
2. Check the axial float of the shafts. Position the shafts at the mid-point of the float. Where Limited End Float is required or Sleeve Bearings are used, consult DODGE for application assistance.
3. Referring to Figure 1 and Table 1, observe the “B” dimension for the coupling size being installed. Mount and position the flanges on the shafts so that dimension “B” is achieved when the shafts are in their final position. **Note: Be sure the Grinder Cylinders are in vertical alignment before adjusting the Coupling Flange.** See Adjustment section for adjusting the Grinder Cylinders.

For the TAPER-LOCK flange, secure the flange assembly to the shaft per Steps 4 and 5 in the bushing instructions. For the clearance fit straight bore (FBX) flange, tighten the set screws to values listed in Table 2. Align flanges using precision equipment such as dial indicators or laser equipment.

If precision equipment is not available, scales, straight edges, and calipers can be used as less accurate means of alignment. If using a scale or calipers, refer to Figure 3 and check the angular misalignment by measuring dimension “B” at four places 90° apart. Adjust the equipment until the four measurements do not vary more than value “C” in Table 1. If using a straight edge, check the parallel offset by laying the straight edge across the outside diameter of the flanges in four places 90° apart. The gap between the flange and straight edge should not exceed 1/32”. To achieve maximum coupling performance, align the coupling as accurately as possible during initial installation.

WARNING: Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable

safety devices or procedures, as may be desirable, or as may be specified in safety codes should be provided, and are neither provided by Baldor Electric Company, nor are the responsibility of Baldor Electric Company. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risks to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

- Remove any anti-rust lubricants or oil from the grooved side of the clamp rings. Loosen but do not remove clamp ring screws until only one or two threads are engaged and proceed to element installation.

Table 1

Coupling Size	Clamp Ring Screw Wrench Torque (lb-in)	Distance between Flanges B (in)	Total Difference See Figure 8 (below) C (in)
PX120	1080	2-1/16	1/32
PX140	1080	2-1/16	1/32

Note: Verify set screw size prior to tightening.

Table 2

Set Screw Size	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8
Installation Torque (lb-in)	87	165	290	430	620	620	1325	2400	5200

FLEXIBLE ELEMENT INSTALLATION

Install in the following sequence:

1. Clean flange mounting area as well as flexible element seats with a solvent, such as Xylene (Xylol), to remove grease, oil, wax, and dirt from surfaces. A diluted soapy water solution may be applied to aid with element installation.
2. Wrap flexible element around flanges as shown in Figure 4. Make sure beads of element are fully worked down upon the seats. To ensure proper seating, rap around the tire's outside diameter with a small mallet until split is closed. Make sure element is evenly centered on the flanges.
3. Hold split of flexible element closed as shown in Figure 5. Tighten (finger tight) one or two screws 180° from split. Using both hands, knead the tire pulling it toward the split. Hold split closed and tighten (finger tight) next two screws farthest from the split. Repeat the procedure on all remaining clamp ring screws. Use a torque wrench to tighten each clamp ring screw in succession to the torque specified in Table 1. Using a torque wrench, recheck all clamp ring screw torque values before coupling operation.
4. **Optional Procedure:** Hold split of flexible element closed as shown in Figure 5. Tighten (finger tight) one or two screws 180° from split. Using both hands, knead the tire pulling it toward the split. Hold split closed and tighten (finger tight) next two screws in a star or cross pattern as shown in Figure 6. Repeat the procedure on all remaining clamp ring screws. Use a torque wrench to tighten each screw to the torque specified in Table 1. Using a torque wrench, re-check all clamp ring screw torque values before coupling operation.



Figure 3

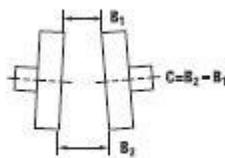


Figure 8

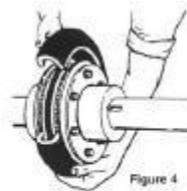


Figure 4



Figure 5



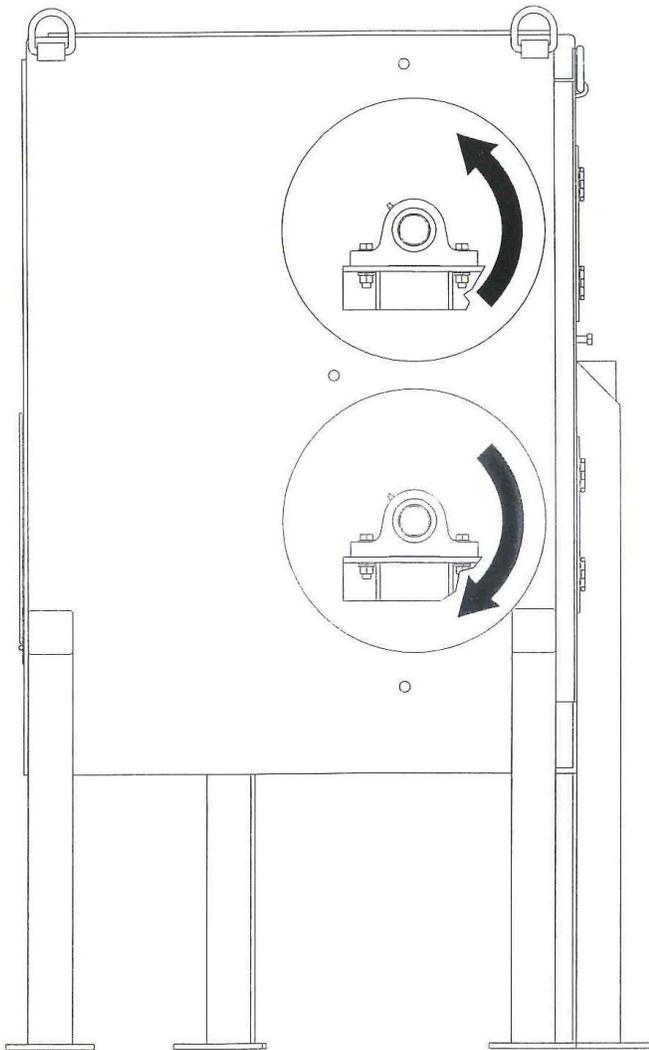
Figure 6

FLEXIBLE ELEMENT REPLACEMENT

Loosen all clamp ring screws. Grasp one end of flexible element at the split and peel off the flanges. Clean clamping parts with a solvent, such as Xylene (Xylol), to remove grease, oil, wax, and dirt from surfaces. Check to see that only one or two threads of each clamp ring screw are engaged. Re-align flanges and install new flexible element according to Flange Installation Section & Flexible Element Section. When replacing clamp ring screws and washers, use only SAE Grade 8 or ISO Class 10.9 screws and hardened washers.

WARNING: The metal components of the coupling that clamp the flexible element will operate properly only if the screws are tightened properly. Tightening one screw to full torque before proceeding to the next screw may cause excessive clamp ring or flange deflection. To prevent clamp ring and flange deflection, the screws must be evenly and gradually tightened to full torque.

IDLE SIDE



TOP CYLINDER ROTATING
UPWARD ON INFEED SIDE

← BALE INFEED

BOTTOM CYLINDER
ROTATING DOWNWARD
ON INFEED SIDE

The Grinder is comprised mainly of mild steel.

On the following pages you will find the manufacturers information for:

1. Motors
2. Bearings
3. Para-Flex Couplers
4. Safety Switches
5. Temperature Sensor w/Accelerometer

For Operating Instructions and additional information, refer to following manufacturers' website:

BEARINGS:

Rexnord Roller Bearings PLB6871FR Installation Instructions

<http://www.rexnord.com/sites/Process/Pages/ProductPage.aspx?platformkey=1&businessunitkey=42&nodekey=178576>

Link to online video (YouTube) for bearing installation:

https://www.youtube.com/watch?v=Y0UYLZu3T3w&feature=em-share_video_user

PARAFLEX COUPLER:

Dodge Para-Flex Coupler Hub & Element Installation Manual

<https://www.ptplace.com/images/Baldor/pdf/499710.pdf>

SAFETY SWITCH AND ACTUATOR (KEY)

Schmersal Switch and Actuator (Key) Operating Instructions

http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns16/bedien/en/mrl_bns16_en.pdf

TEMPERATURE SENSOR WITH ACCELEROMETER

Meggitt-Wilcoxon Model 786T-IS

https://buy.wilcoxon.com/amfile/file/download/file_id/530/product_id/461/

Temperature Sensor for Bearings

For each bearing, a Temperature Sensor with accelerometer has been provided.

To install:

1. Remove the set screw installed at bearing manufacture. Typically found on front face of bearing in lower corner.
2. Insert the threaded adapter included with temperature sensor.
3. Attach the Temperature sensor to the threaded adapter.