

ROYERSFORD R2000 SERIES BEARING UNITS

Service Instructions – All Shaft Sizes

IMPORTANT – READ CAREFULLY

Correct selection for reliability requires that all loads, speeds, alignment, mountings, operating conditions and maintenance be properly considered. Housing should not be used under tension loads without adequate safeguards. Pillow Blocks are best suited to be used with radial loads passing through the base particularly when heavy or shock loads are encountered. When the load line falls outside the base, fastener and housing deflection or failure may occur. These conditions require designs using proper engineering principles applied to materials, fasteners, mounting, etc. with adequate safety factors.

INSTALLATION INSTRUCTIONS

NON-EXPANSION UNITS

1. Clean shaft and bore of the bearing. The shaft should be straight, free of nicks and burrs, and of the correct size. Burrs may be removed using emery cloth or fine file.
2. Lubricate shaft and bearing bore with grease or oil to facilitate assembly. Slip bearing(s) into position. When light press fit is required, press against the end of the inner ring. Do not strike or exert pressure on the housing or seals.
3. Bolt bearing to support, using shims if necessary so inner ring of bearing does not rub on seal carrier.
4. Determine final shaft position and tighten set screws in the lock collar(s) to recommended torque in one bearing only. Rotate the shaft slowly under load, if possible, to properly center the rolling elements. Then tighten the remaining set screws in the locking collars of the remaining bearing(s) to recommended torque.
5. Check shaft rotation after each bearing is tightened. If there is any strain, irregular rotational torque or vibration, it could be due to incorrect alignment, bent shaft or bent supports. Installation should be rechecked and corrections made where necessary.

EXPANSION UNITS

- 1, 2 & 3 Same as Non-Expansion Units.
4. Position the expansion bearing in the housing as follows: For normal expansion conditions. The bearing insert should be in the center of the housing. To accomplish this, move bearing insert to its extreme position, mark shaft, then move bearing insert $\frac{1}{2}$ of total expansion capacity.
5. Same as Non-Expansion Units.

NOTE: All expansion units have .100" capacity.

FIELD CONVERSION OF NON-EXPANSION BEARING INTO AN EXPANSION BEARING

In all bearing sizes, the non-expansion bearing can be converted into an expansion bearing by performing the following steps.

1. Remove snap ring from side opposite collar.
2. Press (DO NOT HAMMER) on inner ring on collar side of bearing until unit bottoms (insert will move .100")
3. Install bearing per Expansion Unit Instructions.

LUBRICATION INSTRUCTIONS

This bearing is factory lubricated with No. 2

consistency lithium based grease which is suitable for most applications. Extra protection may be required if the bearing is subjected to excessive moisture, dust or corrosive vapor. In these cases, the bearing should contain as much grease as speed will permit (a full bearing with slight leakage through the seals is the best protection against contaminant entry).

In extremely dirty environments, the bearing should be purged daily to flush out contaminants. For added protection, it is advisable to shroud the bearing from falling material.

HIGH SPEED OPERATION

At higher operating speeds, too much grease may cause overheating. In these cases, the amount of lubrication can only be determined by experience. If excess grease causes overheating, remove the grease fitting and run for ten minutes. This will allow the excess grease to escape. Wipe off the excess grease and reinstall the grease fitting.

In higher speed applications, a small amount of grease at frequent intervals is preferable to a large amount of grease at infrequent intervals. The proper volume and interval can best be determined by experience.

AVERAGE OPERATION

The following table is a general guide for normal operating conditions. Some situations may require a change in lubricating periods as dictated by experience. If the bearing is exposed to unusual operating conditions, consult a reputable grease manufacturer.

Lubrication Guide

Read Preceding Paragraphs Before Establishing a Lubrication Schedule

Suggested Lubrication Period in Weeks							
Hours run per day	1 to 250 rpm	251 to 500 rpm	501 to 750 rpm	751 to 1000 rpm	1001 to 1500 rpm	1501 to 2000 rpm	2001 to 2500 rpm
8	12	12	10	7	5	4	3
16	12	7	5	4	2	2	1
24	10	5	3	2	1	1	1

Tightening Torque for Set Screws

Shaft Size (inches)	Set Screw Size	Torque (in.-lbs.)	Permissible Axial Load (lbs.)
up to 2 3/16	3/8-24	250	515
2 7/16 to 3 1/2	1/2-20	620	900
3 11/16 to 4	5/8-18	1325	1200
4 7/16 to 5	5/8-18	1325	2400

WARNING – Possible danger exists to property or person(s) from accidents with improper use of products. Correct procedures must be followed in the design and use of equipment incorporating these products. This includes, but is not limited to, installation, maintenance and operational procedures, based on generally accepted engineering principles. Instructions must be followed and inspections made as required to assure safe operation under prevailing conditions. Some installations may require suitable safety devices and guards as specified in applicable safety codes; this is the sole responsibility of the equipment builder and user. Guards and safety devices are neither provided by Royersford, nor the responsibility of Royersford.

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