

ROYERSFORD "TYPE E" BEARING UNITS

Service Instructions — 1-3/16" to 5" Shaft Sizes

IMPORTANT - READ CAREFULLY

Correct selection for reliability requires that all loads, speeds, alignment, mountings, operating conditions and maintenance be properly considered. Housings 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 and etc. with adequate safety factors.

INSTALLATION INSTRUCTIONS

Cleanliness — Clean shaft and bore of the bearing. Keep chips, dirt and water off all parts.

Handling — Slip bearing on shaft. Use of excessive force can damage parts.

Bolts — Mounting bolt tightness is important. Use proper torque for bolt size after alignment of bearing, using shims if necessary. The effort required to turn the shaft should be the same before and after bolts and set screws are tightened.

Drive Collars — Position the drive collars so they are flush with the ends of the Timken inner race. Tighten set screws firmly on shaft.

LUBRICATION AND OPERATING INSTRUCTIONS

Seals — Dual lip medium contact seals offer the advantage of a primary lip that prevents the loss of lubricant and a secondary lip for dirt and dust exclusion. Contact type seals will normally run warmer than a clearance type seal. ROYERSFORD "TYPE E" BEARING UNITS are provided with a pressure relief type grease fitting to prevent excessive lubrication. Grease escaping at the fitting indicates too much grease has been added. Continuing to add grease once it has begun to purge through the fitting may cause premature bearing failure.

Normal Operation — The bearing has been greased during manufacture and is ready to run. The following tables are a general guide for subsequent lubrication.

Suggested Lubrication Period in Weeks

| Hours Run Per Day | 1 | 251 | 501 | 751 | 1001 | 1501 | 2001 | 2501 |
|-------------------|-----|-----|-----|------|------|------|------|------|
| | to | to | to | to | to | to | to | to |
| RPM | 250 | 500 | 750 | 1000 | 1500 | 2000 | 2500 | 3000 |
| 8 | 12 | 12 | 10 | 7 | 5 | 4 | 3 | 2 |
| 16 | 12 | 7 | 5 | 4 | 2 | 2 | 2 | 1 |
| 24 | 10 | 5 | 3 | 2 | 1 | 1 | 1 | 1 |

Initial Lubrication Grease Charge

| Shaft Size | 1-3/16 - 1-1/4 | 1-3/8 - 1-7/16 | 1-1/2 - 1-11/16 | 1-3/4 - 2 | 2-3/16 | 2-1/4 - 2-1/2 | 2-11/16 - 3 | 3-3/16 - 3-1/2 | 3-15/16 - 4 | 4-7/16 - 4-1/2 | 4-15/16 - 5 |
|------------|----------------|----------------|-----------------|-----------|--------|---------------|-------------|----------------|-------------|----------------|-------------|
| Oz. | .3 | .6 | .8 | 1.0 | 1.3 | 1.3 | 2.0 | 3.0 | 5.0 | 6.0 | 9.0 |

The quantity of grease added at each lubrication interval should be approximately 10% of the initial charge. Relubrication of bearings, if possible, should be performed with bearings rotating, and should be discontinued when grease has purged through the fitting regardless of the quantity added.

Certain conditions can require a revised lubrication schedule as indicated by experience. See all paragraphs before establishing a lubrication period.

Type of Grease — Many ordinary greases will breakdown at speeds far below those at which Royersford Pillow Blocks equipped with Timken Bearings will operate successfully if proper grease is used. The factory uses a No. 2 consistency lithium base grease which is suitable for normal operating conditions. Relubricate with the same grease or one which is compatible with the original lubricant and suitable for roller bearing service. A reputable grease manufacturer should be consulted in doubtful or unusual cases for their recommendation.

Operating Temperature — Unusual bearing temperature may indicate faulty lubrication. Normal temperature would range from warm to touch, to a point too hot to touch depending on bearing size and speed and operating conditions. Unusually high temperatures coupled with excessive leakage of grease at the fitting indicates too much grease. High temperature with no grease showing at the fitting, particularly if bearing seems noisy, usually indicates too little grease. Normal temperature and no grease leakage indicates proper lubrication.

High Speed Operation — Too much grease in the higher speed ranges will cause overheating. The proper amount of grease can only be determined by experience - see "Operating Temperature" above. If overheating is caused by excessive grease it will escape at the grease fitting. Note that a small amount of grease at frequent intervals is preferable when establishing a lubrication schedule rather than a large amount at longer intervals.

Operation in Presence of Dust, Water or Corrosive Vapors — With these conditions present the bearing must contain as much grease as the speed will permit. A bearing with slight grease leakage is the most advantageous protection against the entrance of contaminants. With lower speed ranges it is suggested extra grease be added to a new bearing before being put into operation.

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 are the responsibility of Royersford.



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 **ROYERSFORD™ FOUNDRY & MACHINE CO., INC.**

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