# INSTRUCTION MANUAL FOR
# 1-7/16” SLEEVOIL® Plain Pillow Block

These instructions must be read thoroughly before installing or operating this product.

**WARNING: Rust preventives and solvents can be toxic and/or flammable. Follow directions and safety procedures recommended by their manufacturers.**

**CAUTION: Liner assembly has critical machined surfaces which are easily damaged. Use care in handing to protect these surfaces. Liner parts should be placed on a soft, CLEAN surface.**

INSTALLATION

1. Check mounting structure making sure it is rigid, level and well supported. Inspect shaft to ensure it is smooth (32 micro-inch finish or better), within commercial tolerances and free of burrs or rough spots.
2. Disassemble and thoroughly clean all parts of the pillow block. Housing caps and liner caps are matched to their bases and are not interchangeable. Housing and liners should be interchanged as assemblies only.
3. Position housing base on pedestal so that oil gauge is in the position specified on the construction drawing. Do not tighten housing base to pedestal. Apply oil to the spherical seats in the housing base.
4. Set liner base in housing base and apply oil to liner bearing surface. NOTE: Liner has been machined to close tolerances. Scraping of bore is not recommended.
5. Apply oil to shaft in the bearing area and set shaft in place.
6. Check alignment of pillow block by noting clearance between housing and shaft at each end of the housing-clearance should be uniform within 1/32”. Shim bearing pedestal where possible, otherwise use full lengths shims under base as required. Alignment of pillow block should be as accurate as possible. The self-alignment feature of the unit is to compensate for normal shaft deflection and possible setting of the supports.
7. Place oil rings around outside of lower liner and over shaft. Peen screws to ensure that they are secure. Make sure rings rotate freely on shaft.
8. Thrust Collars, in a fixed unit, should now be installed. Remove clamp screws from thrust collars and clean cracked joint with wire brush. Back off set screws to clear inside of collar. Place one collar half on shaft so shaft flinger groove is next to liner base in the non-expansion (fixed) bearing. Rotate collar half around shaft and place other half in position. Bring halves together at joint, making sure match at joint is perfect and insert clamp screws. There should be no offset at collar face. Tap halves together and tighten 1/4-20 NC (Soc. Hex) clamp screws to recommended torque of 160 lb-in. Repeat above operation for opposite end of bearing. Assemble two collars on one bearing only. Tap collar up to face of lower liner allowing a total running clearance of .006”-.012”, then tighten 5/16-18 NC (Soc. Hex) set-screws to recommended torque of 140 lb-in.
   Collar should run parallel to end face of liner within .002”.
9. Apply oil to bearing surface of liner cap. Locate cap in place on lower liner making sure oil ring is free to rotate. The 1-7/16” SLEEVOIL liners have upper halves that are normally reversible on the lower half. By design, they are not doweled together and therefore not match-marked.

**WARNING: Because of the possible danger to persons(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 risk 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.**

Two modifications which require match-marking of these small PLAIN liners, 1-7/16” are:

A. When using full (Type II) Bronze Thrust Plates. (Since liners are doweled together and machined as an assembly, care must be used to ensure match marks are adjacent to each other and identical. The match marks will be on the Bronze Thrust Plate halves for b.t.p. face squareness after machining.) Since the liner halves are doweled together, a liner with Type II Bronze Thrust Plates is rigid and does not allow the upper half to self-align to the plunger screw. To compensate for this loss of self-alignment, a special plunger screw washer is required. This special loose washer must be positioned on the upper liner spherical seat and under the plunger screw to ensure alignment of liner bore to shaft in operation.

B. When Liners Have a Cylindrical Bore. (Since the location of the bore centerline to the liner dowels is then rigidly fixed, an upper liner reversed on a lower or interchanged halves from two different liners can severely change the clearances between shaft and liner bore.)

10. Tighten housing base to pedestal. Torque 5/8” bolts to 1200 lb-in.
11. Thread dust seal and seal spring into groove at end of housing base and around shaft. Hook ends of spring together; taking care not to overstress spring when stretching. Permanent set can cause loss or working load and looseness on shaft; resulting in oil leakage during operation. If unit is furnished with auxiliary seals, install a second seal on each end. If using End Closure, neoprene discs should be installed at this time. Consult construction drawing for type of seal recommended.
12. We have replaced Sleevoil housing gaskets with 515 Gasket Eliminator. Apply Gasket Eliminator to Sleevoil housing base along outer contour of joint. Loosen plunger screw and locate housing cap on base taking care not to damage dust seals or gasket material. To reduce chances for leakage, a non-hardening sealant must be used under cap bolts. Tighten housing bolts to 240 lb-in. The plunger screw must be loose until the housing bolts have been tightened. These SLEEVOIL plain housings have match marks permanently stamped on them beginning June 1988. These match marks permanently ensure that parts stay paired and critical orientation of assemblies is maintained.

**Cap Loaded Bearings:** If shaft must be held down to install cap, tighten plunger screw to recommended torque of 250 lb-in. with shaft held down. Mark position of plunger screw. Loosen plunger screw one complete turn and loosen shaft hold down. Then tighten plunger screw while tightening shaft hold-down until plunger screw is tightened to the mark. Do not over-tighten shaft hold-down as this can misalign the bearing. Remove shaft hold-down and tighten plunger screw locknut. Note: Do not tighten plunger screw on accompanying base loaded bearing until cap loaded bearing has been installed and hold-down removed.

**Base Loaded Bearings:** Tighten plunger screw to recommended torque of 250 lb-in. and tighten locknut.

**IMPORTANT: Check and re-torque plunger scew to the specified torque after 24 hours of initial start-up and then check periodically as required.**

13. The oil level gauge may be located any distance from the pillow block by the use of a coupling and pipe of the desired length. The extended pipe must be supported so that it remains straight and perfectly level. Use a spirit lever-do not guess. Use pipe sealer on all connections.
14. Remove all pipe plugs and flush liner bore and housing thoroughly with solvent or cleaner. Reinstall pipe plugs using pipe sealer. Tighten securely.

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15. Each housing base has predrilled holes for doweling bearing to base plate.

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# LUBRICATION and OPERATION

Since the satisfactory operation of the pillow block depends almost entirely on the oil film being maintained between the shaft and liner bearing surface, it is recommended that a high grade straight mineral oil with rust and oxidation (R & 0) inhibitors and anti-foam agents be used. Check equipment specifications for specific recommendations of oil viscosity by equipment manufacturer. Oil viscosity is determined by the equipment manufacturer and normally specified on the construction drawing or in the operating manual. Otherwise, see Table 1. Information regarding qualities and properties of specific oils should be referred to the lubricant manufacturer.

### Table 1-Recommended Oil Viscosity

| Ambient °F At Start-Up | Speed | SAE/ISO Oil Required |
|---|---|---|
| Below -10° | All | Consult Equipment Manufacturer |
| -10° to 32° | All | SAE 10/ISO 32 |
| 32° to 70° | Low | SAE 20/ISO 68 |
| | High | SAE 10/ISO 32 |
| Above 70° | Low | SAE 10/ISO 68 for Light Loads<br>SAE 20/ISO 68 for Heavy Loads |
| | High | |

Use high grade, high quality, well refined petroleum oils of the straight mineral type, with rust and oxidation inhibitor and anti foam agent only.

Approximate viscosity:
SAE 10-183 SUS at 100°F; 46 SUS at 210°F
SAE 20-348 SUS at 100°F; 57 SUS at 210°F
SAE 30-489 SUS at 100°F; 65 SUS at 210°F
ISO 32 -158 SUS at 100°F; 44 SUS at 210°F
ISO 68 -335 SUS at 100°F; 55 SUS at 210°F
IS0100-495 SUS at 100°F; 66 SUS at 210°F

Fill the pillow block with oil to the top of the center circle in the oil gauge. After placing into operation, remove inspection covers and check to make sure oil rings are bringing up oil. Operation should be checked frequently during the first few days. After some running of base loaded bearings only, loosen plunger screw 114 turn, then retighten. This will allow the liner to align with the shaft. For cap loaded bearings, follow installation procedure. If noise develops, check alignment of housing, collar runout, plunger screw and all operating parts. Check all points and make sure all screws and nuts are tightened after several days operation.

## Parts for 1-7/16" SLEEVOIL Plain Pillow Blocks

Note: The two-digit numbers are for reference only.

Order parts by the six-digit part numbers in the Parts list. Each six-digit number is complete identification of the part or assembly.

These SLEEVOIL plain housings and SLEEVOIL liners have nameplates attached beginning June 1998 containing a six-digit part number which fully identifies the housing and/or liner. Liner nameplates are pinned to the SLEEVOIL liner cap near an oil ring inspection hole. Housing nameplates are pinned to the housing foot parallel to the shaft. Refer to these part numbers when ordering replacement parts

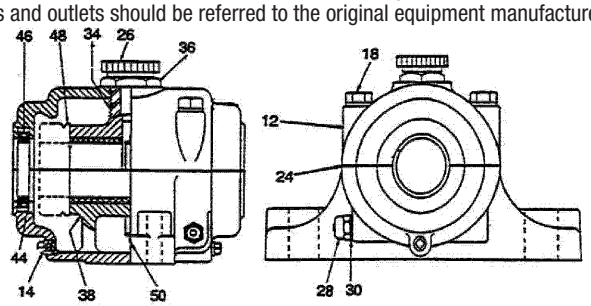
## Oil Maintenance Schedule

Drain, flush, and refill with oil after 2 to 3 weeks of initial break-in operation. Since the satisfactory operation of the bearing depends entirely on an oil film being maintained between the shaft and the bearing liner surface, it is recommended that an oil analysis be performed at these regular intervals.

- Every 3 months for 24 hour/day service
- Every 6 months for 8 hour/day service

Acceptability of oil should be referred to the lubricant manufacture. If oil quality is acceptable then repeat this procedure in 3 month intervals. Visually check oil for contamination between oil analysis checks. Oil service life depends upon several factors such as ambient conditions, operating temperature and frequency of bearing starts and stops. It is recommended that the oil be changed at least once per year for unfiltered static applications. Removing contaminants through the use of either the OLF (Oil Level and Filtration) Unit or a circulating oil system can extend oil service life. Consult equipment manufacturer for more information. Maintain oil level above bottom of center circle at all times while unit is in operation.

Oil film temperature in liner during operation should not exceed 180°F. If in doubt, consult equipment manufacturer.
Any Question on installation, maintenance, or arrangement of coolant connection inlets and outlets should be referred to the original equipment manufacturer.




| Reference | Name of Part | No. Req'd. | Part Number | Reference | Name of Part | **No. Req'd.** | **Part Number** |
|---|---|---|---|---|---|---|---|
| 12 | Non-Exp. Pil Blk | 1 | 134214 | 30 | Oil Gauge Gasket | 1 | 418110 |
| | Exp. Pil Blk | 1 | 132983 | 34 | Plunger Screw | 1 | 422392 |
| | Modular Hsg. | 1 | 132940 | 36 | Plunger Screw Nut | 1 | 133368 |
| | Housing Mach. | 1 | 133800 | 38 | Liner Assembly ❷ | 1 | 133203 |
| 18 | A Housing Bolt❸ | 4 | 411079 | | Dust Seal Kit | | 389820 |
| 14 | Drain Plug | 2 | 430008 | 44 | A Dust Seal❸ | 2 | 133600 |
| ❻ | Oil Level Plug | 1 | 430012 | 46 | A Seal Retainer❸ | 2 | 133180 |
| 24 | A Gasket Eliminator❸ | 2 | 427359 | 48 | Thrust Collar | 2 | 133245 |
| 26 | Inspection Cover | 1 | 405005 | 50 | Oil Ring | 1 | 130063 |
| | Nameplate | 1 | 404550 | ❻ | End Cover ❹ | 1 | 133980 |
| 28 | Oil Gauge | 1 | 430127 | ❻ | Split End Plate ❺ | ❺ | 133123 |
| | | | | ❻ | End Plate Cap Screw | 4 | 417041 |

❶ Includes housing cap and base and parts listed immediately below marked "❸".
❷ Includes liner and cap base.
❸ Parts marked ❸ are furnished with the assemblies under which they are listed.
❹ Neoprene disc for use, when desired, on installations where shaft does not extend through housing.
❺ Auxiliary plate for bolting to one or both ends of housing where conditions are extremely dirty and outdoor installations. Requires one additional dust seal and seal spring per end plate.
❻ Not shown on drawing.

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