CAUTION: Do not scrape, rebabbit, or otherwise alter this product. Such action adversely affects bearing performance and may result in damage or destruction of equipment.

WARNING: Only qualified personnel familiar with the construction and operation of this equipment and the hazards involved should install, adjust, operate and/or service it. Read and understand this manual in its entirety before proceeding. Failure to observe this precaution could result in severe bodily injury or loss of life.

INSTALLATION:
The modular design of this bearing allows the use of multiple types of liners and two or more bore sizes in the same housing.

Types of Liners

‘S’ — Standard liner (fixed or free) has symmetrical thrust faces for bidirectional rotation.

‘T’ — High thrust, non-expansion (fixed) liner has tapered land thrust faces which MUST be oriented with shaft rotation as this type of thrust surface is unidirectional; Used with external circulating oil lubrication only.

1. PRE-ASSEMBLY INSTRUCTIONS

Sleeve bearing performance is dependent on proper installation, lubrication and maintenance. Before assembling the bearing, read ALL instructions in this manual and follow all equipment manufacturers’ instructions.

DODGE SLEEVOIL PILLOW BLOCK NAMEPLATE

All SLEEVOIL housings and liners have nameplates attached to them. These nameplates have a six digit part number which fully identifies the housing and/or liner with any and all factory modifications to that part. Liner nameplate is pinned to the SLEEVOIL upper liner near an oil ring inspection hole. Housing nameplate is pinned to the housing foot parallel to the shaft.

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 risk to persons or property may be involved, a failsafe device must be an integral part of the driven equipment beyond the speed reducer output shaft.

WARNING: Rust preventives and solvents can be toxic and/or flammable. Follow directions and safety procedures recommended by their manufacturers. Failure to observe these precautions could result in bodily injury.

Check the mounting structure to ensure it is rigid, leveled, and well supported. Inspect the shaft to ensure it is smooth (32 rms or 0.8 microns finish or better), free of burrs or rough spots and clean. Position the housing base on the pedestal in the position specified on the construction drawing. Do NOT tighten the base to the pedestal.
2. INSTALLATION OF LOWER LINER AND SHAFT

Apply oil to the spherical seats of the housing base and to the spherical seats of the lower liner half. The lower liner half is identified by its continuous babbitted bore surface; the upper liner half has one or two oil ring slot(s) in the center of the babbitted bore.

Set lower liner in housing base so spherical seats of liner are aligned with spherical seats of base. Horizontal split of liner MUST align with horizontal split of housing for anti-rotation pins in upper liner to engage holes in housing cap. Take care that circulating oil inlets and thermocouple holes in liner and housing base are aligned.

Apply oil to the lower liner bore or to the shaft in liner area and CAREFULLY set the shaft in place, taking care not to damage the babbitted surface.

2.1 LABYRINTH SEAL

Attach lower half of each oil seal to housing base. Check possible alignment of oil seal by visually noting an equal clearance between seal and shaft at each end of the housing. The seals can be adjusted somewhat but MUST NOT contact the shaft at any point.

Re-shim pillow block, if necessary. Always shim under the bearing pedestal where possible; otherwise, use full length shims under base of pillow block.

NOTE: Remove lower half of each labyrinth seal from housing after this preliminary alignment to avoid damaging the lip of the labyrinth.

2.2 OIL DAM and COL (See page 11)

Oil Dam - Small rectangular piece of preformed sheet metal used to block off most of oil ring slot in upper liner; attaches to lower liner.

COL (Collector Oil Leaf) - Oil dam with an extended “finger” to stabilize oil rings; used for bores 6” and larger.

2.2.1 FOR BORES 2-15/16” through 5-7/16”

‘S’ liner: One oil dam on each side of the shaft (because shaft rotation can be either direction).

2.2.2 FOR BORES 6” through 12”

‘S’ liner: One oil dam and one COL on each side of shaft. COLS must be diagonally across from one another.
### Table 1 - Oil Dam and COL to Shaft Clearance (Inches)

<table>
<thead>
<tr>
<th>Shaft Diameter</th>
<th>2-15/16</th>
<th>3-7/16</th>
<th>3-15/16</th>
<th>4-3/16</th>
<th>4-15/16</th>
<th>5-7/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tip of oil dam to shaft</td>
<td>5/32</td>
<td>5/32</td>
<td>1/8</td>
<td>1/8</td>
<td>1/8</td>
<td>1/8</td>
</tr>
<tr>
<td>Shaft Diameter</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Tip of oil dam to shaft</td>
<td>11/32</td>
<td>11/32</td>
<td>9/32</td>
<td>9/32</td>
<td>1/2</td>
<td>1/2</td>
</tr>
<tr>
<td>Tip of COL to shaft</td>
<td>1/4</td>
<td>5/16</td>
<td>5/16</td>
<td>5/16</td>
<td>13/32</td>
<td>5/16</td>
</tr>
</tbody>
</table>

### 3. INSTALLATION OF OIL RING (S)

Each ring is match marked and MUST NOT be interchanged. Place oil ring(s) around lower liner and shaft. Install and tighten four screws in each oil ring.

Oil dams can be adjusted, if necessary, to avoid contact with oil ring. Loosen screws and move dam; bend base of dam, if necessary, to obtain clearance in Table 1.

Oil shaft under oil ring(s). Make sure oil ring(s) rotate freely.

**FOR BORES 6” THROUGH 12”**: Narrow leaf of COL will contact oil ring inside wide groove as shown below. COL can be adjusted to align leaf with wide oil ring groove. Loosen screws and move COL; do NOT bend or distort COL. Tighten screws.

**NOTE**: Collar halves are match marked; do NOT assemble halves with different marks.

Tighten clamp screws to torque specified in Table 2. Collar faces MUST NOT be offset at split. Repeat for second collar.

Locate collars tight against shaft shoulders. This will allow 0.015 to 0.035 inch total running clearance between collars and liner thrust faces. Tighten set screws to torque specified in Table 2. Install and tighten jam screws on top of set screws.

### Table 2 - Torque Values for DODGE Split Thrust Collars (in.-lbs., ft.-lbs.)

<table>
<thead>
<tr>
<th>Shaft Size (inches)</th>
<th>2-15/16</th>
<th>3-7/16</th>
<th>3-15/16</th>
<th>4-3/16</th>
<th>4-15/16</th>
<th>5-7/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clamp Screw</td>
<td>(96) 8</td>
<td>(96) 8</td>
<td>(96) 8</td>
<td>(96) 8</td>
<td>(204) 17</td>
<td>(204) 17</td>
</tr>
<tr>
<td>Set Screw</td>
<td>(60) 5</td>
<td>(60) 5</td>
<td>(60) 5</td>
<td>(60) 5</td>
<td>(132) 11</td>
<td>(132) 11</td>
</tr>
</tbody>
</table>

### 4. NON-EXPANSION BEARINGS WITH DODGE SPLIT THRUST COLLARS (‘S’ LINERS ONLY)

Split thrust collars are available for ‘S’ liners only. Remove clamp screws from collars. Remove jam screws and back out set screws so they do not protrude into inside diameter of collar.
5. INSTALLATION OF UPPER LINER

Apply oil to faces of thrust collars next to liner and to shaft in journal area and to journal surface of upper liner.

Locate upper liner in place on lower liner, taking care to align dowel pins and match marks. (The upper liner has a recess(es) for the oil ring(s)). Make sure oil ring(s) rotate freely.

Install and tighten liner cap screws to torque listed in Table 3.

| Table 3 - Torque Values for Liner Cap Screws (in.-lbs.) ft.-lbs. |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|                  | 2-15/16 | 3-7/16 | 3-15/16 | 4-7/16 | 4-15/16 | 5-7/16 |
| **Shaft Size** (inches) | (58) 5 | (58) 5 | (58) 5 | (58) 5 | (114) 10 | (114) 10 |
| **Liner Cap Screw** |                  |                  |                  |                  |                  |                  |

Collars should run parallel to thrust faces of liner within .001 in. Tighten housing base to pedestal. See Table 4 for torque.

6. INSTALLATION OF HOUSING CAP

Position shims on each side of housing. Put a short strip of Plastigage (3 inches) on liner spherical ribs at top of each rib of liner and near the middle of spherical ribs.

**NOTE:** New housing shims are required with replacement liners.

Carefully set housing cap in place.

| Table 4 - Torque Value for Housing Hardware (in.-lbs.) ft.-lbs. |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| **Housing Size** | 3   | 4   | 5   | 6   | 8   | 10  |
| Housing to Pedestal Bolts | (2000) 167 | (3600) 300 | (4600) 383 | (8400) 700 | (11500) 958 | (15000) 1250 |
| Housing to Cap Bolts | (1560) 130 | (2280) 190 | (2280) 190 | (2280) 190 | (3240) 270 | (3240) 270 |

Recheck clearance (0.015 to 0.035 in. total) and parallelism (0.002 in max.) of thrust collars to liner faces.

**NOTE:** Align dowel pin and dowel pin hole in housing halves before lowering cap onto base.

Tighten housing cap bolts to torque specified in Table 4. Remove cap bolts and housing cap.
Compare the width of the deformed Plastigage with the inch scale on its wrapper. This indicates the clearance between housing and liner.

Shims provided are multiple layers of .002 inch thickness each. Separate and remove layers, per Table 5. Do this for both shims. This will provide a controlled interference fit between housing and liner (.003 to .004 in. interference desired).

### Table 5 - Clearance Measured, Shims Removed

<table>
<thead>
<tr>
<th>Clearance Measured (Inches)</th>
<th>Shims to Remove</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001</td>
<td>2</td>
</tr>
<tr>
<td>0.002</td>
<td>3</td>
</tr>
<tr>
<td>0.003</td>
<td>3</td>
</tr>
<tr>
<td>0.004</td>
<td>4</td>
</tr>
<tr>
<td>0.005</td>
<td>4</td>
</tr>
</tbody>
</table>

Align shims as required. CAREFULLY replace housing cap. Torque cap bolts to values specified in Table 4.

### 7. SEAL INSTALLATION

Apply sealant to seal mounting surfaces of housing.

Assemble each seal around shaft and torque clamp screws to value specified in Table 6. Align seals per values given in Table 6.

**NOTE:** Check the construction drawing for seal size and position as three different seal bore sizes can be used on any housing. Seals can be reversed depending on shaft configuration and spacing.

### Table 6 – Shaft to Seal Clearance (inches)

<table>
<thead>
<tr>
<th>Shaft Diameter</th>
<th>2-15/16</th>
<th>3-7/16</th>
<th>3-15/16</th>
<th>4-7/16</th>
<th>4-15/16</th>
<th>5-7/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom of Shaft to Seal</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Side of Shaft to Seal</td>
<td>0.003 – 0.006</td>
<td>0.003 – 0.006</td>
<td>0.004 – 0.007</td>
<td>0.004 – 0.007</td>
<td>0.005 – 0.008</td>
<td>0.005 – 0.008</td>
</tr>
</tbody>
</table>

**Shaft Diameter**

<table>
<thead>
<tr>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>12</th>
<th>14-1/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom of Shaft to Seal</td>
<td>0.002</td>
<td>0.002</td>
<td>0.002</td>
<td>0.002</td>
<td>0.003</td>
<td>0.003</td>
</tr>
<tr>
<td>Side of Shaft to Seal</td>
<td>0.006 – 0.009</td>
<td>0.007 – 0.010</td>
<td>0.008 – 0.011</td>
<td>0.009 – 0.012</td>
<td>0.010 – 0.013</td>
<td>0.012 – 0.015</td>
</tr>
</tbody>
</table>

### Table 7 - Torque Values for Seal Hardware (in. - lbs.)

<table>
<thead>
<tr>
<th>Housing Size</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clamp Screws</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>25</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Mounting Screws</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

Torque seal mounting screws to value given in Table 7.

Assemble well-nut, washer and screw

Install well-nut in drain hole on outer face of seal. Tighten screw until well-nut is tight in hole.
8. MISCELLANEOUS INSTRUCTIONS

Remove all unused pipe plugs, apply sealant and replace. Tighten securely. Install oil sight gauge in specified location.

Note: Each housing base has two pre-drilled holes for doweling housing to pedestal.

9. LUBRICATION AND OPERATION

Fill pillow block with the amount of oil specified in Table 8.

<table>
<thead>
<tr>
<th>Housing Size</th>
<th>Oil Capacity in Gallons (Quarts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1-1/4 (5)</td>
</tr>
<tr>
<td>4</td>
<td>1-7/8 (7-1/2)</td>
</tr>
<tr>
<td>5</td>
<td>2-1/2 (10)</td>
</tr>
<tr>
<td>6</td>
<td>3-1/4 (13)</td>
</tr>
<tr>
<td>8</td>
<td>5-1/8 (20-1/2)</td>
</tr>
<tr>
<td>10</td>
<td>7-3/4 (31)</td>
</tr>
</tbody>
</table>

Drain, flush and refill with oil after 2 or 3 weeks of operation and approximately every 3 months thereafter for 24 hours-a-day service and every 6 months for 8-hours-a-day service. Periodically check oil visually for contamination between oil changes.

CAUTION: If heaters are used, they must be turned OFF when oil is removed from the bearing. Failure to observe this precaution could result in equipment damage.

NOTE: Bearings should NOT be stored outdoors before installation. For extended or outdoor storage, contact equipment manufacturer for special precautions against corrosion.

NOTE: Bearings (and shafts) allowed to set idle for extended periods after being run MUST be protected against corrosion. If the unit cannot be run for several minutes at least once a week, consult equipment manufacturer for special lubrication instructions.

9.1 Temperature

The bearing temperature will increase after start-up until its normal operating level is reached. Some fluctuation due to ambient temperature change is normal, but a drastic change MUST be investigated. Normal running temperature should not exceed 180°F. (Check with equipment manufacturer to see if another operating temperature has been specified.) Low ambient and operating temperatures can be as harmful to the bearing as high temperatures. A heater and thermostatic switch is required for such applications.

9.2 Minimum Temperature at Start-Up:

ISO 32 oil, 60°F
ISO 68 oil, 85°F
ISO 100 oil, 100°F

9.3 Vibration:

Any significant vibration or imbalance MUST be corrected. Check with equipment manufacturer for acceptable conditions.

9.4 Options Available:

- Heater and Thermostat:

  WARNING: When installing heater and thermostat, follow directions and safety procedures recommended by the manufacturer. Install wiring in accordance with the National Electrical Code and local codes. Failure to follow these precautions could result in bodily injury.

- Vibration Detector Kit

Oil film temperature in liner during operation should not exceed 180°F. If in doubt, consult equipment manufacturer.

Use high grade, high quality, well refined petroleum oils of the straight mineral type, with rust and oxidation inhibitor and antifoam agent only.
### RXT Replacement Parts

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>NO. REQ'D</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Modular Housing Assembly</td>
<td>1</td>
<td>Modular Housing Assembly</td>
</tr>
<tr>
<td>2</td>
<td>T-section Oil Ring</td>
<td>1,2</td>
<td>T-section Oil Ring</td>
</tr>
<tr>
<td>3</td>
<td>Inspection Cover</td>
<td>1</td>
<td>Inspection Cover</td>
</tr>
<tr>
<td>4</td>
<td>Housing Shim</td>
<td>2</td>
<td>Housing Shim</td>
</tr>
<tr>
<td>5</td>
<td>Housing Bolt</td>
<td>4</td>
<td>Housing Bolt</td>
</tr>
<tr>
<td>6</td>
<td>Dowel Pin</td>
<td>2</td>
<td>Dowel Pin</td>
</tr>
<tr>
<td>7</td>
<td>Oil Gage</td>
<td>2</td>
<td>Oil Gage</td>
</tr>
<tr>
<td>8</td>
<td>Seal</td>
<td>1</td>
<td>Seal</td>
</tr>
<tr>
<td>9</td>
<td>Thrust Collar (S Liner Only)</td>
<td>4</td>
<td>Thrust Collar (S Liner Only)</td>
</tr>
<tr>
<td>10</td>
<td>Screw</td>
<td>4</td>
<td>Screw</td>
</tr>
<tr>
<td>11</td>
<td>VW Plug</td>
<td>2</td>
<td>VW Plug</td>
</tr>
<tr>
<td>12</td>
<td>Oil Level Plug</td>
<td>2</td>
<td>Oil Level Plug</td>
</tr>
<tr>
<td>13</td>
<td>Circulating Oil Plug</td>
<td>4</td>
<td>Circulating Oil Plug</td>
</tr>
<tr>
<td>14</td>
<td>Thermostat Plug</td>
<td>4</td>
<td>Thermostat Plug</td>
</tr>
<tr>
<td>15</td>
<td>Reducer Bushing</td>
<td>1</td>
<td>Reducer Bushing</td>
</tr>
<tr>
<td>16</td>
<td>Eye Bolt</td>
<td>2</td>
<td>Eye Bolt</td>
</tr>
</tbody>
</table>

#### Liner Bore Size
- 2-1/2" 3-1/2" 3-5/16" 4-1/2" 5-7/16" 6" 7" 8" 9" 10" 12"

#### Seal Bore Size
- 0.215 0.307 0.407 0.315 0.407 0.600 0.415 0.507 0.800 0.600 1.000 1.200 1.450

#### RXT Parts Diagrams

1. **Seal**
   - 134860 (1)
   - 134861 (1)
   - 134862 (1)
   - 134863 (1)
   - 134864 (1)
   - 134865 (1)
   - 134866 (1)
   - 134867 (1)
   - 134869 (1)
   - 134870 (1)
   - 134871 (1)
   - 134872 (1)
   - 134873 (1)
   - 134874 (1)
   - 134875 (1)
   - 134876 (1)

2. **Shoulder Screw**
   - 4 | 470974 (1)
   - 4 | 470975 (1)
   - 4 | 470976 (1)
   - 4 | 470977 (1)
   - 4 | 470978 (1)

3. **Well Nut**
   - 4 | 46543 (1)
   - 4 | 46543 (1)
   - 4 | 46543 (1)
   - 4 | 46543 (1)
   - 4 | 46543 (1)

4. **Washer**
   - 4 | 419065 (1)
   - 4 | 419065 (1)
   - 4 | 419065 (1)
   - 4 | 419065 (1)
   - 4 | 419065 (1)

5. **Housing Bolts (S Liner)**
   - 4 | 410105 (14)
   - 4 | 410105 (18)
   - 4 | 410105 (22)
   - 4 | 410105 (26)
   - 4 | 410105 (30)

6. **Inspection Cover**
   - 4 | 430017 (1)
   - 4 | 430017 (1)
   - 4 | 430017 (1)
   - 4 | 430017 (1)
   - 4 | 430017 (1)

7. **Heater Plug**
   - 4 | 430012 (1)
   - 4 | 430012 (1)
   - 4 | 430012 (1)
   - 4 | 430012 (1)
   - 4 | 430012 (1)
Pillow Block Assembly

1. Inspection cover
2. Eye bolt
3. Housing cap – top half
4. Upper liner – top half
5. Anti-rotation pin
6. Housing base – lower half
7. Housing cap bolts
8. Housing spherical seat
9. Circulating oil inlet hole (2 each side)
10. Thermocouple/RTD hole (one each side)
11. Base foot mounting holes
12. Vibration detector hole
13. Housing drain hole
14. Circulating oil drain hole or oil level gauge
15. Oil sump heater hole
16. Same as 14
17. Housing shim
18. Housing match mark - base
19. Aluminum labyrinth seal
20. Aluminum labyrinth seal
21. Lower liner – bottom half
22. Trapezoidal oil rings
23. Liner match mark - lower
24. Liner match mark - upper
25. Liner cap screws
26. Housing match mark - cap
27. Housing cap bolts
28. Thermostat hole
29. Circulating oil holes
30. Liner thrust face (S-type)
31. Name plate
32. Weep hole
33. Collector oil leaf
34. Oil dam
Labyrinth Seal Assembly