

# Instruction Manual For DODGE® SPECIAL DUTY BEARINGS 8-1/16 " to 12" Bore

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

**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.**

## INSTALLATION:

### To Locate Bearing On Shaft:

1. Shaft should be within commercial tolerances, straight, smooth and clean. Apply a coating of light oil or other rust inhibitor to the shaft in the bearing area.
2. Loosen setscrews in the adapter nuts to prevent damage to threads on adapter.
3. Slide bearing to desired position on the shaft. If necessary to expand adapter, loosen adapter nut at small end of adapter and tap on end of this nut. Small end of adapter is at the end of the bearing with brass nameplate.
4. Do not bolt outer housing to support until bearing is tightened on shaft.
5. Block up shaft to remove weight from bearing.

### To Tighten Bearing on Shaft:

1. Loosen (turn counterclockwise two or three turns) adapter nut at large end of adapter. Make sure this nut does not touch end of spacer ring during tightening operation.
2. Tighten (turn clockwise) with barring rod or spanner wrench adapter nut at small end of adapter. Check other nut periodically to see that it is loose, as in Step 1.
3. When considerable effort is required to turn adapter nut, discontinue use of barring rod or spanner wrench and use micro-mount screws in end of adapter nut. Tighten all screws in small increments (to ¼ turn), alternating around shaft, to recommended torque using a torque wrench (¾-10 to 2000 in.-lb. and 7/8-9 to 2340 in.-lb.). During this tightening operation check large end adapter nut to see that it is loose, as in Steps 6 and 7.
4. After reaching recommended torque in micromount screws, back these screws off and tighten adapter nut with barring rod or spanner wrench until it is tight against spacer ring and cone. Tighten adapter nut setscrew onto adapter.

**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.**

5. Tighten (turn clockwise) using barring rod or spanner wrench adapter nut at large end of adapter until it is tight against end of spacer ring and cone. Tighten setscrew in this nut onto adapter. Adapter split should be sealed with silicone.
6. Check hold-down bolts in outer housing to see they are loose and free (if too tight, an excessive thrust load could be imposed on bearing, thereby damaging it). If bolts are very tight, it may be advisable to loosen adapter to move slightly on shaft.
7. **Expansion Bearing:** Inner unit should be located with unit housing in center of outer housing so unit can move freely in either direction. Do not remove shims between cap and base of outer housing. Tighten hold-down bolts. Loosen cap bolts in outer housing so unit is free to align in outer housing.  
**Non-Expansion Bearing:** Loosen cap bolts in outer housing so unit is free to align in outer housing. Tighten hold-down bolts. Retighten cap bolts.
8. After a short run, make sure adapter is tight:
  - Loosen setscrews
  - Loosen hold-down bolts
  - Perform Steps 5 through 12

### To Remove Bearing from Shaft

1. Loosen setscrews in both adapter nuts and hold-down bolts. Block up shaft, if possible, to remove weight from bearings.
2. Loosen (turn counterclockwise) adapter nut at small end of adapter using barring rod or spanner wrench.
3. Tighten micro-mount screws in adapter nut at large end of adapter. Tighten screws evenly, alternating around shaft, until adapter loosens on shaft.

### Replacing a Unit in a Pillow Block

1. Match mark cap and base of each outer housing before removing cap.
2. Fit each unit to its outer housing before putting on shaft.
3. Add or remove shims between cap and base as required to obtain "snug" fit of unit in outer housing with cap bolts drawn down securely.
4. Check fit by prying against lubrication stud in unit through the lubrication hole in housing cap with a screwdriver or small pinch bar, depending upon the size of the pillow blocks.
5. The "snug" fit becomes a matter of judgment. A "loose or sloppy" fit may allow a unit amount to move in its outer housing, thus wearing the mating surfaces. Too "tight" a fit will not allow the unit to move and compensate for misalignment and for shaft deflection caused by belt pull and dead weight.
6. When reassembling pillow blocks, make sure match marks (Step 1) on caps and bases match.
7. Loosen hold-down bolts on outer housings when tightening units on shaft. With the units tightened on the shaft the hold-down bolts on the outer housings should be loose in bolt holes before tightening nuts on hold-down bolts. If the bolts are tight in bolt holes, unit should be moved slightly on shaft to provide looseness. This will help prevent preloading or inducing an initial thrust on bearings.

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# LUBRICATION INSTRUCTIONS

## Storage or Special Shutdown

If exposed to wet or dusty conditions or to corrosive vapors, extra protection is necessary: Add grease until it shows at the seals; rotate the bearing to distribute grease; cover the bearing. After storage or idle period, add a little fresh grease before running.

## High Speed Operation

In the higher speed ranges too much grease will cause overheating. The amount of grease that the bearing will take for a particular high speed application can only be determined by experience—see “Operating Temperature” below. If excess grease in the bearing causes overheating, it will be necessary to remove grease fitting (also drain plug when furnished) to permit excess grease to escape. The bearing has been greased at the factory and is ready to run. When establishing a relubrication schedule, note that a small amount of grease at frequent intervals is preferable to a large amount at infrequent intervals.

## Operation in Presence of Dust, Water or Corrosive Vapors

Under these conditions the bearing should contain as much grease as speed will permit, since a full bearing with consequent slight leakage is the best protection against entrance of foreign material. In the higher speed ranges too much grease will cause overheating—see “High Speed Operation” above. In the lower speed ranges it is advisable to add extra grease to a new bearing before putting into operation. Bearings should be greased as often as necessary (daily if required) to maintain a slight leakage at the seals.

## Normal Operation

This bearing has been greased at the factory and is ready to run. The following table is a general guide for relubrication. However, certain conditions may require a change of lubrication periods as dictated by experience. See “High Speed Operation” and “Operation in Presence of Dust, Water or Corrosive Vapors” above.

## Operating Temperature

Abnormal bearing temperature may indicate faulty lubrication. Normal temperature may range from “cool to warm to the touch” up to a point “too hot to touch for more than a few seconds” depending on bearing size and speed, and surrounding conditions. Unusually high temperature accompanied by excessive leakage of grease indicates too much grease. High temperature with no grease showing at the seals, particularly if the bearing seems noisy, usually indicates too little grease. Normal temperature and a slight showing of grease at the seals indicate proper lubrication.

## LUBRICATION CODE

Read preceding paragraphs before establishing lubrication schedule.

| Hours Run Per Day | Suggested Lubrication Period In Weeks |                |
|-------------------|---------------------------------------|----------------|
|                   | 1 to 250 RPM                          | 251 to 500 RPM |
| 8                 | 12                                    | 10             |
| 16                | 12                                    | 7              |
| 24                | 10                                    | 5              |

## Kind of Grease

Many ordinary cup greases will disintegrate at speeds far below those at which DODGE bearings will operate successfully if proper grease is used. DODGE bearings have been lubricated at the factory with No. 2 consistency lithium base grease which is suitable for normal operating conditions. Relubricate with lithium base grease or a grease which is compatible with original lubricant and suitable for roller bearing service. In unusual or doubtful cases the recommendation of a reputable grease manufacturer should be secured.

## Special Operating Conditions

Refer acid, chemical, extreme or other special operating conditions to Baldor•Dodge product support.



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