

Instruction Manual for Dodge Imperial & ISAF Bearing

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see baldor.com for updated instruction manuals.

Note! The manufacturer of these products, Baldor Electric Company, became ABB Motors and Mechanical Inc. on March 1, 2018. Nameplates, Declaration of Conformity and other collateral material may contain the company name of Baldor Electric Company and the brand names of Baldor-Dodge and Baldor-Reliance until such time as all materials have been updated to reflect our new corporate identity.

WARNING: To ensure the 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.

WARNING: All products over 25 kg (55 lbs) are noted on the shipping package. Proper lifting practices are required for these products.

Inspection

Inspect shaft to ensure it is smooth, straight, clean, and within commercial tolerances.

Mounting

Install the Non-Expansion unit first.

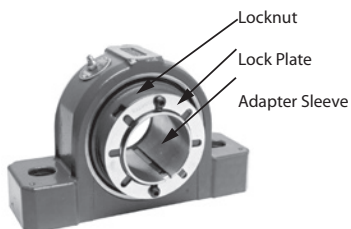


Figure 1

1. Remove lock plate located on the face of the locknut.
2. Turn locknut counter clockwise until bearing will freely slide onto the shaft.
3. Slide bearing to the desired position on the shaft.

NOTE: All Weight Must Be Removed from the Bearing When Obtaining The ZERO Reference Point*.

4. The "ZERO Reference Point" is defined as the point when the clearance between the adapter sleeve, shaft and bearing bore has been removed.

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 ABB nor are the responsibility of ABB. 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.

To reach the "ZERO Reference Point" rotate locknut clockwise, using both hands, as tight as possible. When mounting bearing with shaft sizes 3-15/16" and larger, the following TEST must be performed. As a test to insure you have reached the "ZERO Reference Point" tap on the O. D. of the nut with a hammer and attempt to rotate the nut using both hands. If the nut will not rotate then you have reached the "ZERO Reference Point" and you should proceed to step 5. If you can rotate the nut, using both hands, then you have not reached the true "ZERO Reference Point", and should repeat step 4A until "ZERO Reference Point" is obtained. When the "ZERO Reference Point" is reached, the bearing will not be able to move by hand axially on the shaft.

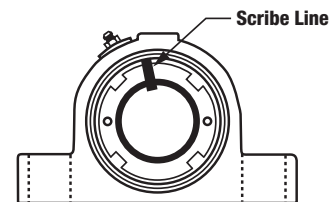


Figure 2

5. Scribe a line through the locknut face and adapter race.
6. Using a Spanner or Drift & Hammer, rotate locknut clockwise by the number of turns shown in Table 1.

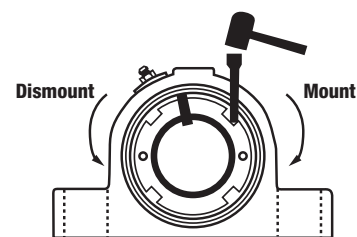


Figure 3

Table 1 - Locknut Rotation from "Zero Reference Point"

| Shaft Size (inches) | Locknut Rotation |
|---------------------|----------------------|
| 1-1/8 - 1 7/16 | 3/4 to 7/8 turn |
| * 1-1/2 | 3/4 to 7/8 turn |
| ** 1-1/2 | 7/8 to 1 turn |
| 1-5/8 - 2 | 7/8 to 1 turn |
| 2-3/16 - 3 | 1 to 1-1/4 turns |
| 3-3/16 - 4 | 1-1/4 to 1-1/2 turns |
| 4-7/16 - 4 1/2 | 1-1/8 to 1-3/8 turns |
| 4-15/16 - 5 1/2 | 1-3/8 to 1-5/8 turns |
| 5-15/16 - 6 | 1 to 1-1/4 turns |
| 6-7/16 - 7 | 1-1/8 to 1-3/8 turns |

* IMPERIAL IP & ISAF

** IMPERIAL IP With Type E Dimensioned Housing

7. Slide lock plate over shaft and align tang of lock plate with slot in adapter sleeve.
8. TIGHTEN NOT LOOSEN locknut until lock plate slots overlap the two threaded holes on the locknut face.
9. Insert and tighten button head screws to locknut face.
10. Bolt down pillow block or flange unit to the structure.

Install the Expansion Unit

1. Remove lock plate located on the face of the locknut.
2. Turn locknut counter clockwise until bearing will freely slide onto the shaft.
 - a. If Locknut Facing Outboard: Align housing mounting holes with substructure mounting holes and snug bolts. Push insert as far as possible in the direction of the fixed bearing.
 - b. If Locknut Facing Non-Expansion Bearing: Align housing mounting holes with substructure mounting holes and snug bolts. Position Expansion bearing insert in center of housing (NOTE: This is necessary because in the process of mounting, the bearing is being drawn toward the locknut.)

Note: All Weight Must be Removed from the Bearing when Obtaining the “ZERO Reference Point”.

3. Follow steps 4 through 10 found under mounting of the Non-Expansion bearing.

Dismounting

1. Remove weight off bearing via slings or jacks.
2. Remove mounting bolts from bearing.
3. Remove button head screws and lock plate from locknut.
4. (Figure 3) Rotate locknut counter clockwise until bearing freely slides from the shaft.

Successful operation is dependent upon adequate lubrication. Precaution should be taken during handling and recycling grease, oil or water glycol mixtures.

Field Conversion of a Non-Expansion Bearing into an Expansion Bearing

Imperial IP

1. Move snap ring opposite collar side, to the outmost snap ring groove.
2. Remove Non-Expansion nameplate and re-label as an Expansion bearing.

ISAF

1. Remove bearing cap.
2. Remove stabilizing ring.
3. Reassemble cap on base and torque cap bolts to values in Table 2.

Table 2 - Cap Bolt Torque for ISAF Grade 5 Bolts

| ISAF Shaft Size (inches) | 2 Bolt Base | | 4 Bolt Base | |
|--------------------------|-------------|----------------|-------------|----------------|
| | Bolt Size | Torque Ft-Lbs. | Bolt Size | Torque Ft-Lbs. |
| 1-7/16 - 1-11/16 | 3/8 - 16 | 24 - 30 | | |
| 1-15/16 - 2-3/16 | 7/16 - 14 | 40 - 50 | | |
| 2-7/16 - 2-1/2 | 1/2 - 13 | 60 - 75 | 1/2 - 13 | 60 - 75 |
| 2-11/16 - 3 | 5/8 - 11 | 120 - 150 | 5/8 - 11 | 120 - 150 |
| 3-3/16 - 3-1/2 | 3/4 - 10 | 208 - 260 | 3/4 - 10 | 208 - 260 |
| 3-11/16 - 4 | | | 3/4 - 10 | 208 - 260 |
| 4-7/16 - 4-1/2 | | | 7/8 - 9 | 344 - 430 |
| 4-15/16 - 7 | | | 1 - 8 | 512 - 640 |

Grease Lubrication

DODGE IP and ISAF bearings are pre-packed with NLGI #2 Lithium Complex grease. For re-lubrication select a grease that is compatible with a #2 Lithium Complex grease. Re-lubricate in accordance with Table 3.

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.

Table 3 - Re-Lubrication Intervals (Months) Based on 12 hours per day, 150° F M

| Shaft Size (inches) | RPM | | | | | | | | |
|---------------------|-----|-----|------|------|------|------|------|------|-------|
| | 250 | 500 | 750 | 1000 | 1250 | 1500 | 2000 | 2500 | >3000 |
| 1-1/8 to 2 | 4 | 3 | 2 | 2 | 1 | 0.5 | 0.25 | 0.25 | 0.25 |
| 2-3/16 to 2-1/4 | 3.5 | 2.5 | 1.5 | 1 | 0.5 | 0.5 | 0.25 | 0.25 | 0.25 |
| 2-3/8 to 3 | 3 | 2 | 1.5 | 1 | 0.5 | 0.25 | 0.25 | 0.25 | 0.25 |
| 3-3/16 to 3-1/2 | 2.5 | 1.5 | 1 | 0.5 | 0.25 | 0.25 | 0.25 | 0.25 | - |
| 3-11/16 to 4-1/2 | 2 | 1.5 | 1 | 0.5 | 0.25 | 0.25 | 0.25 | - | - |
| 4-15/16 to 5-1/2 | 1.5 | 1 | 0.5 | 0.25 | 0.25 | 0.25 | - | - | - |
| 5-15/16 to 6 | 1 | 0.5 | 0.5 | 0.25 | 0.25 | 0.25 | - | - | - |
| 6-7/16 to 7 | 1 | 0.5 | 0.25 | 0.25 | 0.25 | - | - | - | - |

ABB Motors and Mechanical Inc.

5711 R. S. Boreham Jr. Street
Fort Smith, AR 72901
Ph: 1.479.646.4711

Mechanical Power Transmission Support
Ph: 1.864.297.4800

new.abb.com/mechanical-power-transmission
baldor.com

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MN3009 (Replaces 499331)



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07/2018 Litho 25,000