

# Instruction Manual for Adapter Mounted Dodge® ISN Unitized Spherical Roller Bearings

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see [baldor.com](http://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.

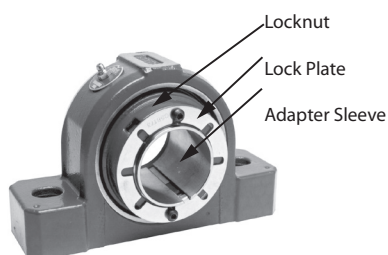
**WARNING:** All products over 25 kg (55 lbs) are noted on the shipping package. Proper lifting practices are required for these products.

## Inspection

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

## Mounting

### Installation of the Non-Expansion Unit

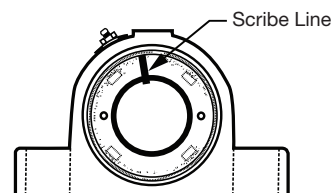


1. Remove lock plate located on the face of the lock nut.
2. Turn locknut counter clockwise until bearing will freely slide onto the shaft.
3. Slide bearing to the desired position on the shaft.

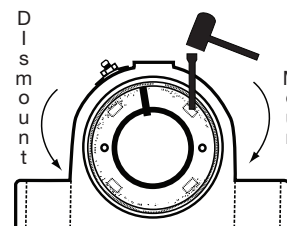
**WARNING:** Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, 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 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.

**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.
  - a. To reach the “ZERO Reference Point” rotate locknut clockwise, using both hands, as tightly as possible. When mounting bearings with shaft sizes 90mm 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 “ZERO Reference Point”, and should repeat step 4a until “ZERO Reference Point” is obtained.
5. Scribe a line through the locknut face and adapter face.



6. Using a Spanner or Drift and Hammer, rotate locknut clockwise by the number of turns shown in Table 1.



7. Slide lock plate over shaft and align tang of lock plate with slot in adapter sleeve.
8. TIGHTEN, DO 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 on to the structure.

**Table 1 - Locknut Rotation from “Zero Reference Point”**

Shaft Size		Locknut Rotation		
mm	inch	Basic Bearing No.	Turns	Degrees
30 to 35	1-1/8 to 1-1/2	22208K	3/4 to 7/8	280 ± 25
40	1-5/8 to 1-3/4	22209K	7/8 to 1	330 ± 25
45 to 50	1-7/8 to 2	22210K	7/8 to 1	330 ± 25
55	2-3/16 to 2-1/4	22211K	1 to 1-1/4	405 ± 40
60	2-3/8 to 2-1/2	22213K	1 to 1-1/4	405 ± 40
65 to 75	2-11/16 to 3	22215K	1 to 1-1/4	405 ± 40
80 to 85	3-3/16 to 3-1/2	22218K	1-1/4 to 1-1/2	495 ± 40
90 to 100	3-11/16 to 4	22220K	1-1/4 to 1-1/2	495 ± 40
110	4-7/16 to 4-1/2	22222K	1-1/8 to 1-3/8	450 ± 40
115 to 125	4-15/16 to 5	22226K	1-3/8 to 1-5/8	540 ± 40
135	5-7/16 to 5-1/2	22228K	1-3/8 to 1-5/8	540 ± 40
140 to 150	5-15/16 to 6	22232K	1 to 1-1/4	405 ± 40
160 to 170	6-7/16 to 7	22236K	1-1/8 to 1-3/8	450 ± 40

**Installation of 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 the Installation of the Non-Expansion Unit.

**Dismounting**

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

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

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

**Grease Lubrication**

Dodge ISN bearings are pre-packed with a NLGI #2 Lithium Complex grease. For re-lubrication, select a grease that is compatible with a #2 Lithium Complex grease. Relubricate in accordance with Table 2.

**Table 2 Re-Lubrication Intervals (in Months)  
(Based on 12 hours per day, 150° F (66° C) Max)**

SHAFT SIZE		RPM								
mm	inch	250	500	750	1000	1250	1500	2000	2500	>3000
30 to 35	1-1/8 to 1-1/2	4	3	2	2	1	0.5	0.25	0.25	0.25
40	1-5/8 to 1-3/4	4	3	2	2	1	0.5	0.25	0.25	0.25
45 to 50	1-7/8 to 2	4	3	2	2	1	0.5	0.25	0.25	0.25
55	2-3/16 -2-1/4	3.5	2.5	1.5	1	0.5	0.5	0.25	0.25	0.25
60	2-3/8 to 2-1/2	3	2	1.5	1	0.5	0.25	0.25	0.25	0.25
65 to 75	2-11/16 to 3	3	2	1.5	1	0.5	0.25	0.25	0.25	0.25
80 to 85	3-3/16 to 3-1/2	2.5	1.5	1	0.5	0.25	0.25	0.25	0.25	--
90 to 100	3-11/16 to 4	2	1.5	1	0.5	0.25	0.25	0.25	--	--
110	4-7/16 to 4-1/2	2	1.5	1	0.5	0.25	0.25	0.25	--	--
115 to 125	4-15/16 to 5	1.5	1	0.5	0.25	0.25	0.25	--	--	--
135	5-7/16 to 5-1/2	1.5	1	0.5	0.25	0.25	0.25	--	--	--
140 to 150	5-15/16 to 6	1	0.5	0.5	0.25	0.25	0.25	--	--	--
160 to 170	6-7/16 to 7	1	0.5	0.25	0.25	0.25	--	--	--	--

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