Safety Mount® ISN Mounted Spherical Roller Bearing 30 to 85 mm

Instruction Manual

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

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.

REQUIRED TOOLS

- Allen wrench, size 4 metric
- Drift or spanner wrench
- Hammer
- Marker or grease pencil
- Micrometer or caliper
- Straight edge
- Torque wrench

INSPECTION

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

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 Dodge nor are the responsibility of Dodge. 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.

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

Typical commercial shaft tolerances

Shaft size in (mm)	Tolerance in (mm)
≤ 1-1/2 (40)	+0.000 (0.000) to -0.002 (0.051)
1-9/16—2-1/2 (45—60)	+0.000 (0.000) to -0.003 (0.076)
2-5/8—4 (65—100)	+0.000 (0.000) to -0.004 (0.102)
4-3/16—6 (110—150)	+0.000 (0.000) to -0.005 (0.127)
≥ 6-7/16 (150)	+0.000 (0.000) to -0.006 (0.152)

MOUNTING

Install non-expansion unit first

1. Remove lock plate located on the face of the lock nut.
2. Turn locknut counterclockwise 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.

   To reach the zero reference point, rotate locknut clockwise, using both hands, as tightly as possible. When the zero reference point is reached, the bearing will not be able to move by hand axially on the shaft.
5. Mark a line through the locknut face and adapter face.

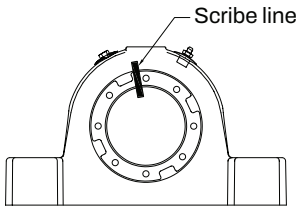

Figure 1

6. Using a spanner or drift and hammer, rotate locknut clockwise by the number of turns shown in Table 1.

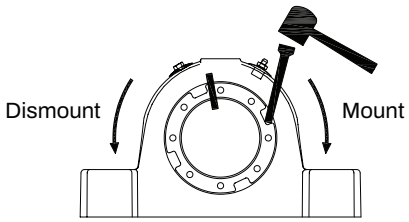

Figure 2

Table 1–Lock nut rotation from zero reference point

Shaft size		Lock nut rotation		
mm	inch	Basic bearing no.	Turns	Degrees
30—35	1-1/8—1-1/2	22208K	3/4 to 7/8	280 ± 25
40	1-5/8—1-3/4	22209K	7/8 to 1	330 ± 25
45—50	1-7/8—2	22210K	7/8 to 1	330 ± 25
55	2-3/16—2-1/4	22211K	1 to 1-1/4	405 ± 40
60	2-3/8—2-1/2	22213K	1 to 1-1/4	405 ± 40
65—75	2-11/16—3	22215K	1 to 1-1/4	405 ± 40
80—85	3-3/16—3-1/2	22218K	1-1/4 to 1-1/2	495 ± 40

NOTE: For medium-to-high loads or where vibration is present, the maximum rotation of the lock nut is recommended.

7. To install the lock plate, locate the adapter sleeve gap and the nearest screw hole. The patented and reversible single-bolt lock plate will easily install at any location on the bearing—no tapping or specific alignment adjustments is required.
8. Insert and tighten button head screw to locknut face.
9. Bolt down pillow block to the structure.

Install expansion unit

1. Remove lock plate located on the face of the locknut.
2. Turn locknut counterclockwise until bearing will freely slide onto the shaft.
   a. **If lock nut is facing away from the non-expansion bearing:** 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 lock nut faces the non-expansion bearing:** Align housing mounting holes with substructure mounting holes and snug bolts. Position expansion bearing insert in center of housing—this is necessary due to the bearing being drawn toward the locknut during the mounting process.

   NOTE: All weight must be removed from the bearing when obtaining the zero reference point.
3. Follow steps 4 through 10 found under "Install non-expansion unit first" section.

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 counterclockwise until bearing freely slides from the shaft (Figure 3).

FIELD CONVERSION OF A NON-EXPANSION BEARING INTO AN EXPANSION BEARING

1. Move snap ring opposite the collar side to the outermost snap ring groove.
2. Remove non-expansion nameplate and re-label as an expansion bearing.

GREASE LUBRICATION

Safety Mount ISN bearings are pre-packed with a NLGI #2 lithium complex grease. For relubrication, select a grease that is compatible with a #2 lithium complex grease. Relubricate in accordance with Table 2.

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 2–Relubrication intervals (in months, based on 12 hours per day at 66 °C / 150 °F)

Shaft size		Rpm								
mm	inch	250	500	750	1000	1250	1500	2000	2500	>3000
30—35	1-1/8—1-1/2	4	3	2	2	1	0.5	0.25	0.25	0.25
40	1-5/8—1-3/4	4	3	2	2	1	0.5	0.25	0.25	0.25
45—50	1-7/8—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—2-1/2	3	2	1.5	1	0.5	0.25	0.25	0.25	0.25
65—75	2-11/16—3	3	2	1.5	1	0.5	0.25	0.25	0.25	0.25
80—85	3-3/16—3-1/2	2.5	1.5	1	0.5	0.25	0.25	0.25	0.25	—

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