Instruction Manual for Dodge® Bearings with Replaceable Split Bronze Bushings

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.

Installation

This manual applies to various types of Dodge bronze bushed bearings using precision split replaceable bushings. The construction employed permits quick and convenient bushing replacement if wear should make that necessary.

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.

Installation of Bearings Fitted with Bushings

1. The shaft journal surface must be equal to that of commercial steel shafting (about 32 micro inches), without nicks and burrs and the shaft diameter within the tolerance of +0.000/-0.002. The shaft must be straight.
2. Position bearing, when possible, so that grease groove is opposite to most heavily loaded surface of bearing bore. Direction of load should not be closer than 30 degrees to grease grove or closer than 30 degrees to the joint between cap and base.
3. Remove cap from base of bearing and brass locking spool. Clean shaft and bore of bearing. Coat bore with grease.

   CAUTION: Rust preventatives and solvents can be toxic and/or flammable. Follow directions and safety procedures recommended by their manufacturers.

4. Assemble bearing on shaft. Reinstall brass locking spool before replacing cap on base. Torque cap bolts to value listed in table(s).
5. Line up bearings accurately with shaft by using a feeler gage or shim stock. This will ensure clearances at the joints are equal at all four corners. Torque bearing mounting bolts to value given in table(s). Maintain proper bearing alignment for uniform distribution of load under all operating conditions.
6. Ambient temperature should not exceed 300 degrees Fahrenheit. If the shaft transmits heat from a source such as an oven, the shaft temperature at the bearing should not exceed 300 degrees Fahrenheit.
7. Bearings should be protected against adverse operating conditions.
8. Normal running loads must not exceed ratings shown in load tables (see catalog). Starting and occasional peak loads should not exceed ratings by more than 100%.

Lubrication

Bearings are designed for grease lubrication using a pressure lubrication fitting. In placing a new bearing in operation, add grease until it shows at both ends of bearing. During the run-in period while shaft is seating in bearing, it is especially necessary to provide frequent and ample lubrication. Add grease frequently, each time adding grease until there is little or no discoloration of the grease forced out of the ends of the bearing.

After the run-in period, a regular schedule of greasing should be set up. The required lubrication period of a bearing depends upon speed, load and other conditions of the particular installation and can best be determined by observation. Add grease at each lubrication fitting until a little grease is forced out at ends of bearing.

Table 1 - Recommended Grease Properties (if not otherwise specified)

Grease base	Grease Melting Point F°	Water Resistance
Calcium	130-220	Good
Sodium	325-375	Poor
Lithium	360-570	Good
Bentonite	Non-melting	Excellent
Aluminum	475-500	Excellent

Table 2 - Split / Rigid Bronze Bearings Bolt Torque Value

Bearing Size	Mounting Bolt		Bearing Cap Bolt	
	Size	Torque (IN-LB)	Size	Torque (IN-LB)
1-15/16, 2-3/16	5/8	1200	1/2	420
2-7/16	5/8	1200	5/8	900
2-11/16	3/4	2100	5/8	900
2-15/16, 3-7/16, 3-15/16	3/4	2100	3/4	1560
4-7/16, 4-15/16	7/8	2040	7/8	1500
5-7/16	1	3000	1-1/8	3240
5-15/16, 6-1/2	1-1/8	4200	1-1/8	3240
7	1-1/4	6000	1-1/4	4560
7-1/2, 8	1-3/8	8040	1-1/4	4560

Table 3 - Angle Bronze Bearings Bolt Torque Values

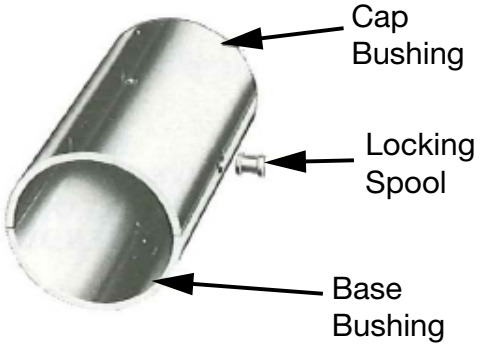
Bearing Size	Mounting Bolt		Bearing Cap Bolt	
	Size	Torque (IN-LB)	Size	Torque (IN-LB)
1-15/16, 2-3/16	1/2	600	1/2	420
2-7/16, 2-11/16, 2-15/16	5/8	1200	5/8	900
3-7/16, 3-15/16	3/4	2100	3/4	1560
4-7/16, 4-15/16	7/8	2040	7/8	1500
5-7/16	1	3000	1	2280
5-15/16	1-1/8	4200	1-1/8	3240
6-1/2	1-1/8	4200	1-1/4	4560
7	1-1/4	6000	1-1/4	4560
8	1-3/8	8040	1-1/4	4560

Table 4 - Lubrication Fittings

Bearing Size	Required Reducer	Qty. Required	Grease Fitting	Qty. Required
1-15/16	430087	1	405015	1
2-3/16	430086			
2-7/16				
2-11/16				
2-15/16				
3-7/16	430081			
3-15/16				
4-7/16				
4-15/16				
5-7/16		2		2
5-15/16				
6-1/2				
7				
7-1/2				
8				

Table 5 - Replacement Bronze Bushings and Locking Spools

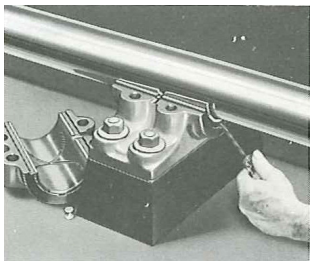
Shaft Size	Bushings Sets		Locking Spools
	Part No.	Weight	Part No.
1-15/16	005055	1.70	005050
2-3/16	005056	2.10	
2-7/16	005057	2.50	
2-11/16	005058	3.10	
2-15/16	005059	3.60	
3-7/16	005060	4.90	
3-15/16	005061	9.70	005051
4-7/16	005062	14	
4-15/16	005063	15	
5-7/16	005064	18	005052
5-15/16	005065	21	
6-1/2	005066	28	005053
7	005067	33	
7-1/2	005117	37	
8	005068	42	



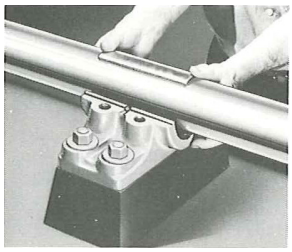
Replacing Bronze Bushings

Dodge precision bushings can be conveniently replaced even without moving shaft from bearing base or moving base from its support. The following instructions show how this can be accomplished.

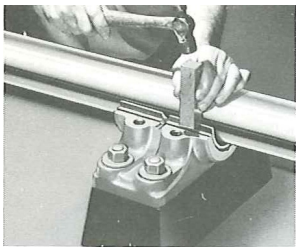
1. Remove bearing cap and brass locking spool. Wipe grease and dirt from cap, base and shaft so that replacement bushings can be installed properly. Raise shaft slightly. Pry bushing loose from base as illustrated. Also pry bushing loose from cap.



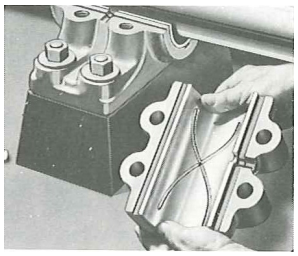
2. Hold base bushing against shaft, rotate bushing and remove. Make sure that the housing base is free of dirt. Apply grease to bore of replacement base bushing (without grease groove) and roll in place, positioning notch for locking spool with notch in base.



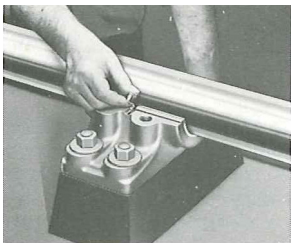
3. Center the bushing lengthwise in the bearing base. Tap into position, being careful not to damage the bushing.



4. Center the replacement cap bushing (with grease groove) in bearing cap positioning notch for locking spool with notch in cap.



5. Lower the shaft. Put brass locking spool in place. This prevents all movement of bushings. Apply grease to bore of cap bushing. Install cap on base with notch in cap fitting over the locking spool. Torque cap bolts to value given in table (s). Bushing will seat when cap is bolted down.



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