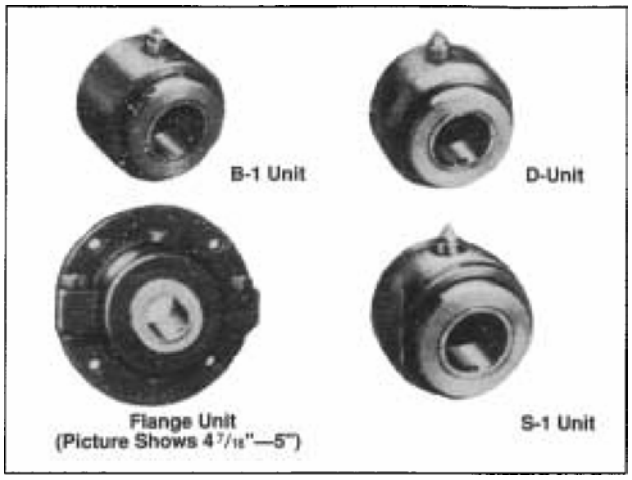
INSTRUCTION MANUAL FOR
3 3/16" to 5" Bore
DODGE® DOUBLE-INTERLOCK®
FLANGE, B-1, S-1 AND D BEARING UNITS



INSTALLATION INSTRUCTIONS

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.

1. Clean shaft and bore of bearing. Lubricate with light coat of oil or anti-seize compound.
2. Slip bearing in position noting step 3.
3. **Expansion Bearings:** Bolt outer housing to support. Expansion-type outer housing should be located so inner unit can move freely in either direction. Outer housing shims provide a proper fit and must not be removed.
   Non-Expansion Bearings: Loosen cap bolts in outer housing a little so inner unit is free to align in outer housing. The hold-down bolts should be loose in the bolt holes. If the bolts are tight in the bolt holes, the unit should be moved slightly on the shaft to provide looseness. This will help prevent preloading or inducing an initial thrust on bearings. Tighten nut on holddown bolts. Retighten cap bolts. Outer housing shims provide a proper fit and must not be removed.
4. Tighten setscrews to the torque values shown on Table #1.
5. **The effort required to turn the shaft should be the same before and after bolting bearings to the support.**

REPLACING A UNIT IN A PILLOW BLOCK

A. Match cap and base of each outer housing before removing cap. When reassembling pillow blocks make sure match marks on caps and bases match.
B. **Fit each unit to its outer housing before putting on shaft.**
C. 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.
D. 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 size of the pillow blocks.
E. The "snug" fit becomes a matter of judgment. A "loose or slopppy" fit may allow a unit mount 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.
F. Install bearinqs per steps 1 to 4 above.

TABLE 1

Setscrew Torque	
Size	**In.-Lbs.**
1/2	620
5/8	1325

TABLE 2

Bolts Tightening Torque, Ft..-lbs.	
Size	**Torque, Ft.-Lbs.**
3/4–10	175
7/8-9	170
1-8	250
1 7/8-7	350

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" on back page. If excess grease in the bearing causes overheating, it will be necessary to remove grease fitting (also drain plug when furnished) to permit excess 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.

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 failsafe device must be an integral part of the driven equipment beyond the speed reducer output shaft.

www.baldor.com **www.ptplace.com** **www.dodge-pt.com** **www.reliance.com**

Baldor Electric Company Headquarters
P.O. Box 2400, Fort Smith, AR 72902-2400 U.S.A., Ph: (1) 479.648.5792, Fax (1) 479.648.5792, International Fax (1) 479.648.5895
DODGE/Reliance Division
6040 Ponders Court, Greenville, SC 29615-4617 U.S.A., Ph: (1) 864.297.4800, FAX: (1) 864.281.2433

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This material is not intended to provide operational instructions. Appropriate instruction manuals and precautions should be studied prior to installation, operation or maintenance of equipment.

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", on first page. 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.

Average 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 lubricating periods as dictated by experience. See "High Speed Operation" and "Operating 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 Guide

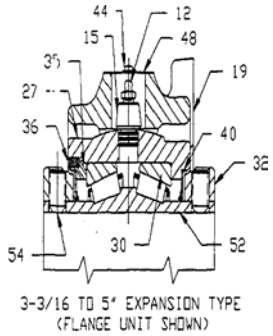
Read Preceding Paragraphs Before Establishing Lubrication Schedule.

Hours Run per Day	Suggested Lubrication Period in Weeks					
	1 to 250 RPM	251 to 500 RPM	501 to 750 RPM	751 to 1000 RPM	1001 to 1500 RPM	Above 1500 RPM
8	12	12	10	7	5	4
16	12	7	5	4	2	2
24	10	5	3	2	1	1

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 complex-base grease which is suitable for normal operating conditions. Relubricate with lithium complex-base grease or a grease which is compatible with the original lubricant and suitable for roller bearing service. In unusual or doubtful cases the recommendation of a reputable grease manufacturer should be secured.

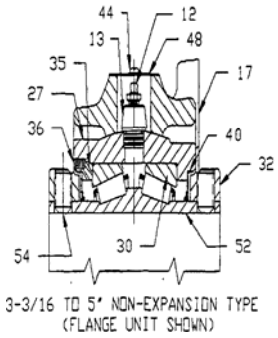
Special Operating Conditions—Refer acid, chemical, extreme or other special operating conditions to Baldor Electric Company Power Systems, Greenville, South Carolina.

Parts for 3–3/16" to 5" Double-Interlock® Bearings



3-3/16 TO 5" EXPANSION TYPE
(FLANGE UNIT SHOWN)

Reference	Name of Part	Required for One Assembly						Part Numbers			
		D Unit		S-1 Unit	B-1 Unit	Non-Expansion Flange Bearing	Expansion Flange Bearing	3–3/16–3–1/4 3–7/16–3–1/2	3–15/16 4	4–7/16 4–1/2	4–15/16 5
12	Lubrication Fitting	1		1	1	1	1	405015	405015	405015	405015
♦	B-1 Lube Stud	0		0	1	0	0	405010	405013	405013	405013
♦	D-Unit Lube Stud	1		0	0	0	0	405012	405012	405012	405012
♦	S-1 Lube Stud	0		1	0	0	0	405010	405018	405018	405018
13	Non-Expansion Lube Stud	0		0	0	1	0	405010	405018	405018	405011
15	Expansion Lube Stud	0		0	0	0	1	405010	405018	405012	405012
17	Non-Expansion Flange Bearing Housing	0		0	0	1	0	056194	056196	059298	059304
19	Expansion Flange Bearing Housing	0		0	0	0	1	056174	056176	059301	059307
♦	Unit Housing	0		0	1	0	0	060421	060422	060423	060424
♦	Unit Inner Housing	1		0	0	1 [x]	0	060451	060452	060453	060454
27	Inner Housing	0		1	0	1 [x]	1	060436	060437	060438	060439
30	Cup	2		2	2	2	2	403016	390779	390782	390785
32	Drive Collar (65º S.S. Angle)	2		2	2	2	2	060945	060946	060947	040059
35	Adjustment Nut	1		1	1	1	1	060490	060491	060492	060493
36	Adjustment Nut S.S.	1		1	1	1	1	400530	400530	400530	400530
40	Seal, Single Lip	2		2	2	2	2	061362	061363	061364	061365
42	DYNAFACE® Seal •	2		2	2	2	2	060107	060108	060109	060110
44	Nameplate Screw ▲	0		0	0	2	2	411001	411001	… . .	… …
♦	Lube Cover+	0		0	0	1	1	… …	… …	405063	405063



3-3/16 TO 5" NON-EXPANSION TYPE
(FLANGE UNIT SHOWN)

Reference	Name of Part	Part Number for Various Shaft Sizes									
		3–3/16	3–1/4	3–7/16	3–1/2	3–15/16	4	4–7/16	4–1/2	4–15/16	5
48	Nameplate†	403871	403871	403871	403871	403871	403871	403873	403873	403873	403873
♦	Housing Shim (.010" Thick)	427262	427262	427262	427262	427263	427263	427264	427264	427265	427265
52	Cone ■ (65º S.S. Angle)	389801	389802	389803	389804	389805	389806	389807	389808	389809	389[??]
54	Drive Collar Screw‡	400154	400154	400154	400154	400186	400186	400186	400186	400190	40[??]

♦ Not shown on drawing.
■ One required.
‡ Four required

\+ Lube cover used on Flange Bearing Sizes 4–7/16–5
† Nameplate used on Flange Bearing Sizes 3–7/16–4.
▲ Required on flange bearing sizes 3–3/16–4

[x] Below 4–7/16 N.E. Flange brg. uses S-1 Unit
Above 4" N.E. Flange brg. uses D-unit
* Includes parts listed immediately below marked

SHAFT TOLERANCES: $3^{3}/_{16}$" to 4" +.0000 = .0010
$4^{7}/_{16}$" to 5" +.0000 =.0015