

Instruction Manual

DODGE SO Series Electric Clutch Couplings

These instructions must be read thoroughly before installation or operation.

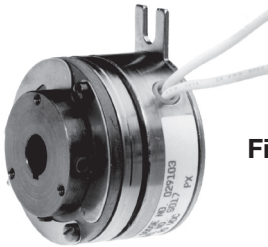


Figure 1

PREASSEMBLY INSPECTION

Step 1: All parts should be examined for any damage during the shipping and handling process. Measurements should be taken to ensure parts meet application requirements. All parts must be clean and free of any foreign material before attempting assembly.

ALIGNING THE SHAFTS

The two shafts should be concentric with each other within .003 T.I.R., and angular alignment should be within 1/2 degree.

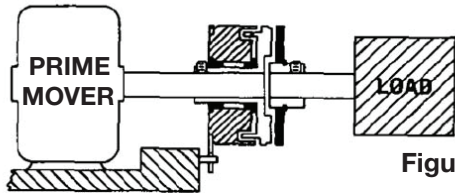


Figure 2

Step 2: Use a straight-edge to check if the shafts are aligned with each other. For a more precise indication of alignment, use a dial indicator (Figure 3).

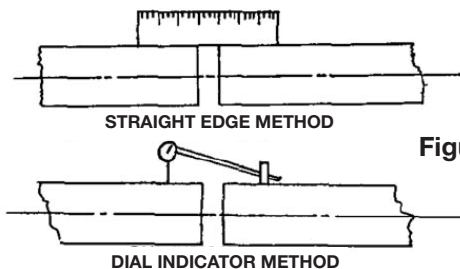


Figure 3

Step 3: Adjust the position of the hardware as required to achieve the correct alignment.

Step 4: To ensure the shafts stay in alignment, drill holes for tapered dowel pins through the mounting bases of the hardware and into the mounting surfaces.

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 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 risks 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 KEYS

Step 5: Install keys in respective shafts. Keys should fit keyseat with a tight fit on the sides and slight clearance over the key.

CLUTCH-COUPLING INSTALLATION

Step 6: Slide the rotor and field assembly onto the shaft.

Step 7: Tighten the set screws on the rotor and field assembly. See recommended tightening torques in Table 1.

Step 8: Pin anti-rotation tab on the field assembly. Do not bolt tab to a bulkhead as it may bind bearings.

Step 9: Slide the armature assembly onto the shaft.

Step 10: Tighten the set screws on the armature assembly. See recommended tightening torques in Table 1.

Step 11: Position the assembly on the shaft to achieve a normal operating air gap of .005" to .020".

Step 12: Wire the field to control power supply. DODGE power supplies are available with a wiring diagram showing the correct electrical connections.

Step 13: After unit has operated for a short period, recheck air gaps, set screw torques, etc.

NOTE: SO Electric Clutch Couplings are not pre-burnished and need to be "run-in" to develop rated torque. See recommended burnish procedure.

Table 1

Key Size	Recommended Tightening Torque (in-lbs)
#4	5.0
#5	9.5
#6	9.5
#8	19.4
#10	33.5
1/4"	78.0

BURNISHING PROCEDURE

For consistent engagement and full rated torque it may be necessary to burnish the clutch. Use the following procedure.

Burnishing is a wearing-in or mating process to ensure that the highest possible output torques will be obtained from the individual unit.

1. If possible, burnish units in their final application or location to ensure alignment of the mated parts.
2. If units cannot be burnished in final application, mount units in a test stand observing concentricity, alignment and air gaps.
3. Using a filtered DC power supply, energize unit at 100% of rated coil voltage for 5 seconds maximum (this assures proper armature engagement against field assembly). Then reduce voltage to 30%-40% of rated coil voltage.
4. Rotate one member of the clutch, either the rotor or armature, at suggested RPM (Table 2) while holding the other member stationary to obtain a forced slip while the unit is energized.



5. De-energize the unit after a three (3) minute forced slip.
6. Measure the static (or break away) torque of the unit with both friction members of the clutch stationary, at rated unit voltage.
7. Static torque of standard DODGE clutches after burnishing to the above procedure should be at their Catalog Rating. If the unit does not measure Catalog Rating. Repeat Step number 2 after a cool down period of five (5) minutes until unit comes up to the rated torque.

NOTES:

If clutch or brake is required to accelerate or decelerate a large inertia load, the normal slip that will occur when the load is engaged is frequently sufficient to cause the unit to become burnished. DODGE clutches typically will produce, 50%-90% of their rated torque "out-of-box" without burnishing. Customer should determine if "out-of-box" torques are adequate for application as torque will automatically improve with normal cycling (especially on high speed, high inertia load applications).

Do not prolong burnish beyond a three (3) minute duration. Long burnish time will cause excessive heat build-up at the friction faces resulting in poor performance.

Care must be taken to prevent contamination of the friction faces with oil or dirt particles during the burnishing process.

Table 2

Unit Size	Slip RPM $\pm 10\%$	Standard Static Torque Rating (in-lbs)
08	250	2.5
11	250	6.0
15	190	10.0
17	160	15.0
19	150	25.0
22	130	50.0
26	60	80.0
30	50	125.0
45	30	250.0

Table 3

Unit Size	Complete Clutch-Cplg. Part No.	Volts DC	Bore (in.)	Replacement Part Numbers		
				Field Assy.	Rotor Assy.*	Arm. Hub
S0-26	029000	90	3/16	024071	024081	025290
	029001		1/4		024080	025291
	029002	24	3/16	024073	024081	025290
	029003		1/4		024080	025291
S0-11	029004	90	1/4	024171	024182	025391
	029005		5/16		024181	025392
	029026	24	1/4	024173	024182	025391
	029007		5/16		024181	025392
S0-15	029008	90	5/16	024271	024283	025492
	029009		3/8		024282	025493
	029010	24	5/16	024173	024283	025492
	029011		3/8		024282	025493
S0-17	029012	90	5/16	042371	024383	025492
	029013		3/8		024382	025493
	029014	24	5/16	042373	024383	025492
	029015		3/8		024382	025493
S0-19	029016	90	3/8	024471	024484	025693
	029017		1/2		024483	025694
	029018	24	3/8	024473	024484	025693
	029019		1/2		024483	025694
S0-22	029020	90	3/8	024571	024584	025793
	029021		1/2		024583	025794
	029022	24	3/8	025073	024584	025793
	029023		1/2		024583	025794
S0-26	029024	90	1/2	024671	024685	025894
	029025		5/8		024684	025895
	029026	24	1/2	024673	024685	025894
	029027		5/8		024684	025895
S0-30	029028	90	1/2	024771	024685	029802
	029029		5/8		024686	025995
	029031	24	1/2	024773	024685	029802
	029032		5/8		024686	025995
S0-42	029034	90	1/2	024871	024885	029803
	029035		5/8		024886	026095
	029036		3/4		024887	026096
	029037		7/8		029806	029804
	029038		1		029807	029805
	029039	24	1/2	024873	024885	029803
	029040		5/8		024886	026095
	029041		3/4		024887	026096
029042	7/8		029806		029804	
029043		1		029807	029805	

* Rotor Assembly includes the bearing.

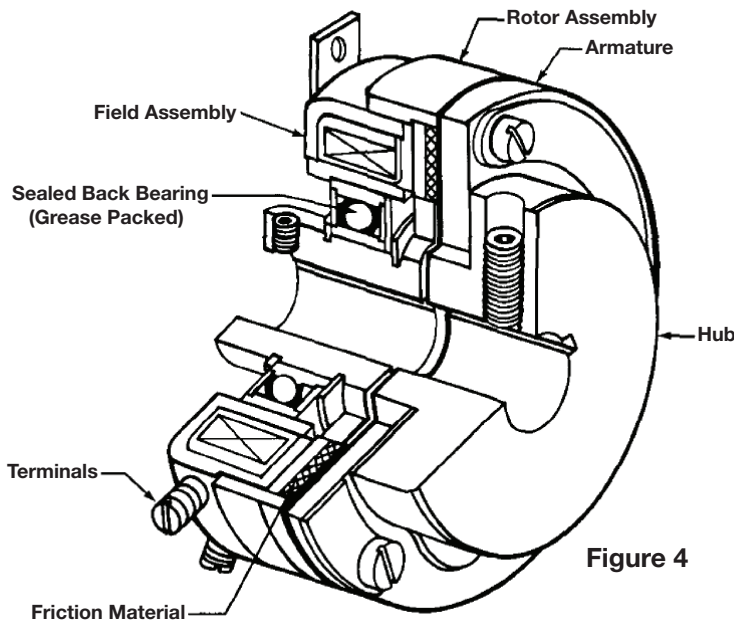


Figure 4



World Headquarters

P.O. Box 2400, Fort Smith, AR 72902-2400 U.S.A., Ph: (1) 479.646.4711, Fax (1) 479.648.5792, International Fax (1) 479.648.5895

Dodge Product Support

6040 Ponders Court, Greenville, SC 29615-4617 U.S.A., Ph: (1) 864.297.4800, Fax: (1) 864.281.2433

www.baldor.com

