Sidewinder Elastomeric Coupling
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-out the power source before proceeding. Failure to observe these precautions could result in bodily injury.

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

COUPLING PARTS

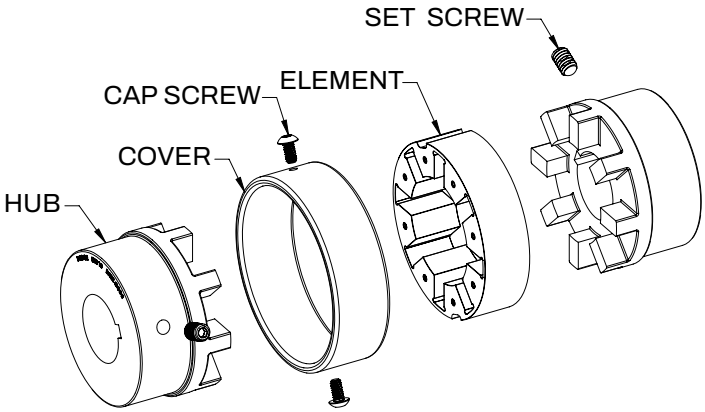


Figure 1 - Coupling Assembly

TOOLS REQUIRED

- Hex head wrench
- Torque wrench
- Alignment tool (e.g., a scale, straight edge, or caliper)
- Personal protection equipment (PPE)

INSTALLATION

Position cover

1. Inspect the shaft and remove any burrs or repair any damage.
2. Ensure the shaft is the correct size.

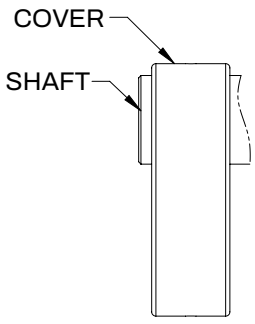


Figure 2 - Cover Positioned on a Shaft

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 ensure 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.

Hub installation

1. Install the hub onto the shaft following the appropriate steps for the style of hub used.

Interference fit hubs

1. Hubs may be oriented as seen in Figure 4. Depending on shaft spacing requirements, determine the best hub orientation using the DBSE dimension in Table 2.
2. If needed, hubs can be mounted with the shaft extending past the hub, flush, or recessed within the hub as seen in Figure 4.
3. Use a scribe to mark the desired hub location on shafts.
   a. Using an oven or oil bath, heat hubs evenly to 350 °F (204 °C). Do NOT exceed 450 °F (232 °C)
   b. An open flame or torch does not provide even heating and is NOT recommended
4. Slide heated hubs onto shafts and align with the scribed marks.
5. Allow the hubs to cool to room temperature before installing element halves.

Clearance fit hubs

1. Hubs may be oriented as seen in Figure 4. Depending on shaft spacing requirements, determine the best hub orientation using the DBSE dimension in Table 2.
2. If needed, hubs can be mounted with the shaft extending past the hub, flush, or recessed within the hub as seen in Figure 4.
3. When hubs are properly aligned, tighten set screws to the torque value given in Table 1.

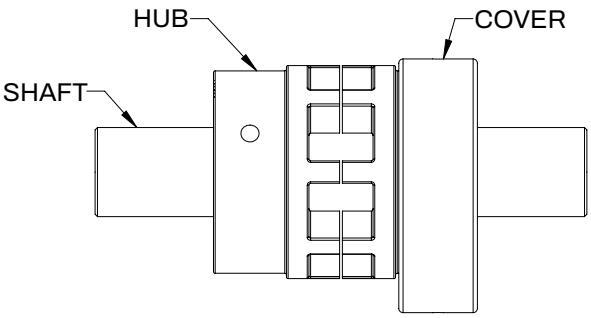
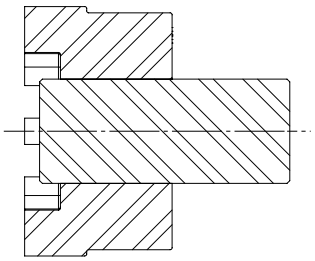
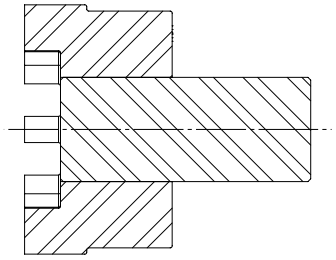


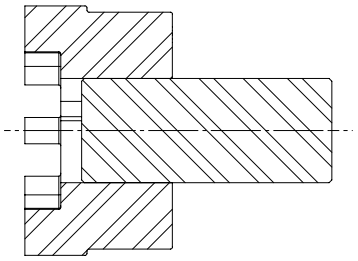
Figure 3 - Proper Hub Installation



Shaft extended past the hub
(Without contacting other shaft)



Shaft flush with the hub



Shaft recessed in the hub
(Requires 80 percent key seat and shaft engagement)

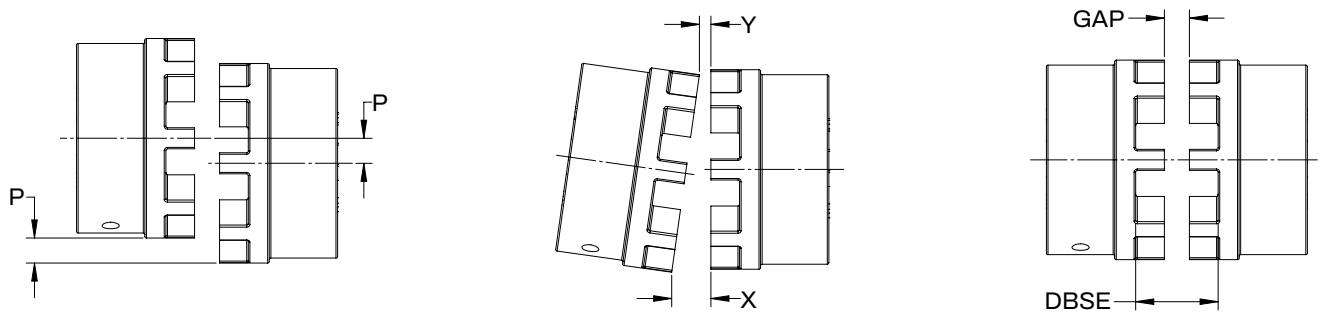
Figure 4 - Hub Mounting Options

Table 1–Set Screw Installation Torque for Clearance Fit Hubs

Bore size (in)	Set screw size	Allen wrench size (in)	Torque (lb-in)	Torque (N-m)
0.5000—0.5625	10-24NC	1/16	36	4
0.6250—0.8750	1/4-20NC	1/8	87	10
0.9375—1.2500	5/16-18NC	5/32	165	19
1.3125—1.7500	3/8-16NC	3/16	290	33
1.8125—2.7500	1/2-13NC	1/4	620	70
2.8125—3.2500	5/8-11NC	5/16	1,325	150
3.1250—4.0000	3/4-10NC	3/8	2,400	271

Gap and hub alignment

1. Hubs should be aligned using scales, straight edges, or calipers. Dial indicators, laser alignment tools, or other precision alignment equipment can be used but are not required. Ensure the values in Table 2 are met.



Parallel misalignment **Angular misalignment** **Normal gap**

Figure 5 - Types of Misalignment and Normal Gap

Table 2–Alignment Limits

Size	Distance between shaft ends (DBSE)	Parallel (P)	Angular (X-Y)		Normal gap	Max speed
	(in)	Max (in)	Max (degrees)	Max (in)	(in)	(rpm)
5R	0.78	0.04	1	0.044	0.078	4,500
10R	0.94	0.04	1	0.052	0.078	4,500
20R	1.26	0.08	1	0.070	0.078	4,500
30R	1.42	0.08	1	0.081	0.078	4,500
40R	1.85	0.08	1	0.103	0.188	3,600
50R	2.39	0.08	1	0.131	0.188	3,000
60R	2.97	0.08	1	0.157	0.188	2,500
70R	3.31	0.08	1	0.186	0.188	2,100
80R	3.82	0.08	1	0.225	0.250	1,800

NOTES:

1. Angular misalignment is dimension "X" minus "Y". Parallel misalignment is distance "P" between the hub center lines.
2. The "DBSE" dimension tolerance is +/- 10 percent of "Normal Gap" listed. Hubs can be mounted for shorter than standard DBSE lengths, as long as shaft ends do not extend into the "Gap" and keys do not extend beyond the barrel of the hub into tooth space. Stake key(s) in place for an interference fit without set screw. Overhanging hubs is not recommended.

Hub alignment and installation

1. Rotate both shafts until the hub teeth are properly aligned according to the orientation shown in Figure 6.
2. Using a calibrated torque wrench, secure each hub by tightening each set screws to the specified torque in Table 1, following the clockwise order shown in Figure 7.

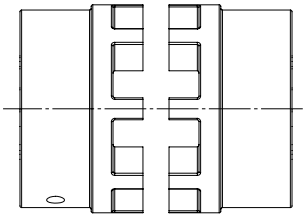


Figure 6 - Checking Hub Teeth are Aligned

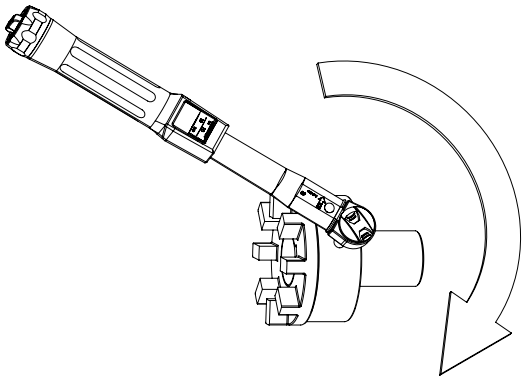


Figure 7 - Tightening Bolts with a Torque Wrench

Element installation

1. Spread apart the element so it will fit over the hub teeth and wrap the element between the two hubs. Ensure the element teeth are flush and have full contact with the hubs.
2. During the installation of a replacement element, it is recommended to replace the cover hardware to ensure the element and cover is secured.

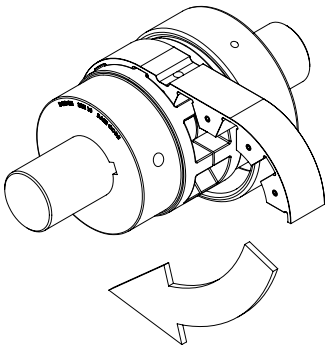


Figure 8 - Wrapping the Element Around the Hubs

Cover installation

1. Install the cover over the element with the fastener hole of the cover aligned with the slot on the element.

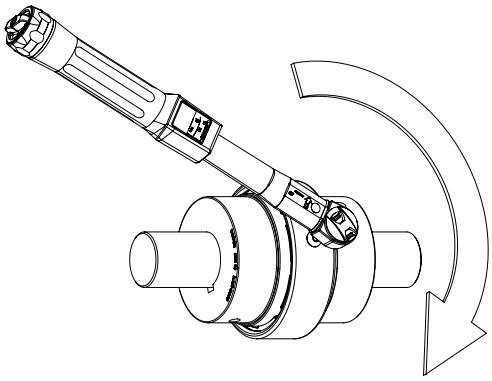


Figure 9 - Cover Being Installed Over the Element

Table 3–Bolt Installation Torque for Cover

Coupling size	Screw size	Head head key size	Steel cover	
			Tightening torque (lb-in)	Tightening torque (N-m)
5R	M4	M2.5	10	1
10R	M4	M2.5	10	1
20R	M6	M4	45	5
30R	M6	M4	45	5
40R	M8	M5	90	10
50R	M8	M5	90	10
60R	M10	M6	135	15
70R	M10	M6	135	15
80R	M10	M6	135	15

ADDITIONAL INSTRUCTION FOR SAFE INSTALLATION AND USE

1. All rotating parts should be guarded to prevent contact with foreign objects which could result in sparks, ignition, or damage to the coupling.
2. Couplings should be periodically inspected for normal wear, dust/dirt buildup, cracks or tears in the element assembly or any similar scenario that would impede heat dissipation.
3. Increasing levels of vibration and noise could indicate the need for inspection, repair or replacement of the coupling or element.
4. Electrical sparks are a source of ignition. To reduce the risk, proper electrical bonding and grounding is recommended.
5. Overloading may result in tearing or damage to the coupling element or other equipment. As a result, the coupling could become an explosion hazard. Damaged coupling components must not be operated in hazardous environments.
6. The coupling shall be suitably protected from falling objects.

Dodge Industrial, Inc.
1061 Holland Road
Simpsonville, SC 29681
+1 864 297 4800

4077-0525

MN4077 REV- 05/25