ZERO-MAX

6Fxx Floating Shaft Six Bolt Composite Disc Coupling

Installation Instructions For Floating Shaft 6Fxx CD® Composite Disc Couplings

Tools Required

- Calibrated torque wrench with sockets for coupling hex nuts and hub set screws or clamp collar screws
- Open end wrench for coupling hex bolts
- Shaft alignment tools
- Cleaning cloth
- Caliper

- These instructions are for standard series couplings with normal running conditions. Special couplings may have different instructions or drawings.
- Inspect hub bores, shafts and keyways making sure there are no burrs. Clean hub bores and shafts.The key (if used) should have a snug side to side fit with a small clearance on top. Install the key(s) on the shafts. Standard CD coupling clamp and set screw hubs are supplied with slight clearance fit (see catalog). Install hubs on shafts. Place one of the hubs flush with end of shaft. Tighten hub to shaft: If hub is set screw style (Figure 1), see Table 3 on page 3 for proper tightening torque. If installing clamp hub (Figure 2) see assembly details on page 3.
- The equipment must sit flat on its base and be properly mounted before aligning shafts. Adjust hub axial spacing to proper "C" dimension (diagram 1, page 2). **Note: C=(2*E)+center member length or DBSE (Distance Between Shaft Ends).** If possible, the shafts should not extend beyond the inside hub face. Move the center member between the hub ends and support with blocks or a nylon strap.
- Install one disc pack between the center member and one of the hubs. Three bolts connect the disc pack to the hub and center member (6 bolts total). Insert the bolts thru the holes of hub/center member and hand tighten. **Repeat procedure for other end.**

  Note: As a guide, the disc pack width dimension "E" should be within tolerance shown in Table 1 on page 2. This dimension is suggested for initial installation and has additional capacity for operation over time. The axial spacing of the shaft should be positioned so that the disc packs are flat and parallel to the mating surfaces under normal operation conditions. There should be a minimal amount of waviness in the disc pack when viewed from the side.
- After adjusting axial spacing to proper dimensions, tighten second hub to the shaft to the proper tightening torque.
- Align the shafts within the limits for angular misalignment specified in Table 2 on page 2. Multiply the number in the table by the hub diameter to get angular misalignment specification. See diagrams 2 for recommended measurement method. For best alignment results, use a laser alignment tool or dial indicator (always rotate the hub on which the indicator is mounted). If not available, a straight edge and feeler gauge can be used.
- Align the shafts within the limits for parallel misalignment specified in Table 2 on page 2. Multiply the number in the table by the DBSE (C dimension) to get parallel misalignment specification. See diagram 3 for recommended measurement method. For best alignment results, use a laser alignment tool or dial indicator (always rotate the hub on which the indicator is mounted). If not available, a straight edge and feeler gauge can be used.
- Tighten the locknuts per tightening torque specifications in Table 1 on page 2. Tighten the locknuts of hub first, then those of the center member to approximately ½ the stated torque value. Next repeat the process but tightening to the full torque value in Table 1. **It is also recommended to apply torque on the locknut, not the bolt.** Repeat procedure for the other end of coupling.
- Re-check and tighten all fasteners after several hours of operation to ensure proper tightening.

  Note: Aligning the shafts as closely as possible at the time of initial installation will reduce noise and allow the coupling extra capacity for misalignments and loads which will occur during operation over the life of the connected equipment. Installing and operating the coupling at higher degrees of misalignment is possible (see catalog), but will reduce the life of the composite disc pack. Contact Zero-Max with additional questions.

  Note: Coupling and shaft alignment should be checked periodically due to foundation settling, equipment shifting, etc. Alignment should be re-checked after the first several hours of operation.

Caution: Rotating equipment is potentially dangerous and should be properly guarded. It is the responsibility of the machine builder, user, or operator to follow all applicable safety codes and provide a suitable guard. Make sure the machine is "locked out" and cannot be accidentally started during installation or maintenance of coupling.

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C=(2+E)+Center Member Length

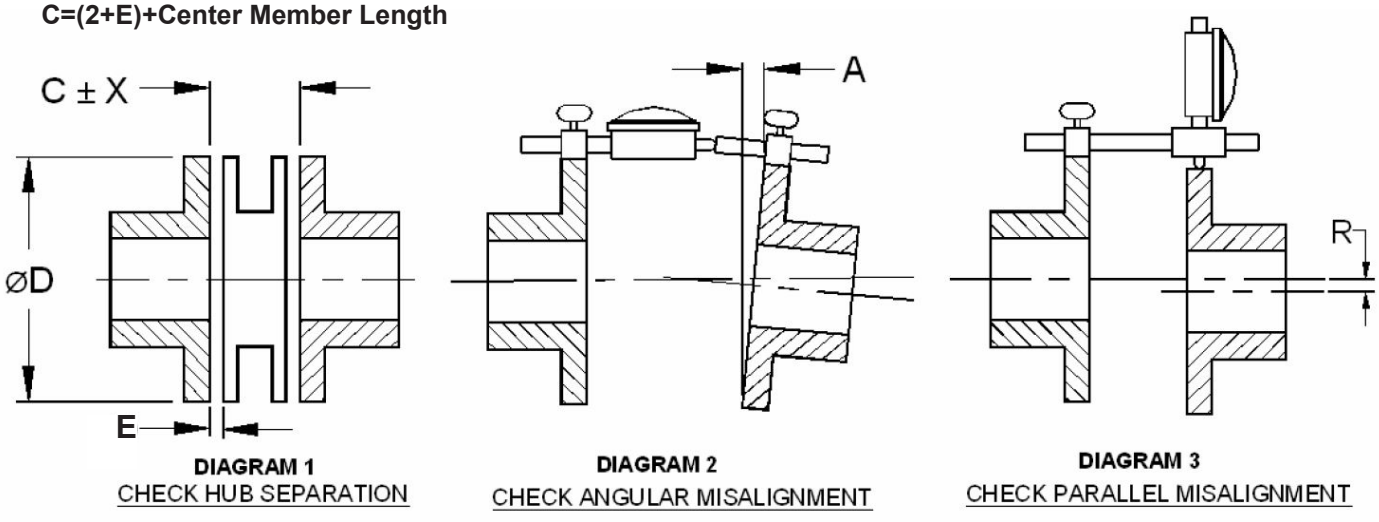

DIAGRAM 1
CHECK HUB SEPARATION

DIAGRAM 2
CHECK ANGULAR MISALIGNMENT

DIAGRAM 3
CHECK PARALLEL MISALIGNMENT

Table 1: Axial Spacing, Tightening Torque, and Dimension Specifications

Model	Separation and Misalignments E (see diagram 1)		Tightening Torque (dry values)		Outside Diameter Ø D	
	Inch	mm			Inch	mm
6F18	0.276 ± 0.010	7.01 ± 0.25	17-19 in-lb	205 Ncm	1.85	47.0
6F22	0.306 ± 0.012	7.77 ± 0.30	45-50 in-lb	540 Ncm	2.25	57.2
6F26	0.306 ± 0.015	7.77 ± 0.38	45-50 in-lb	540 Ncm	2.59	65.9
6F30	0.460 ± 0.017	11.68 ± 0.43	90-95 in-lb	10.5 Nm	3.00	76.2
6F37	0.522 ± 0.023	13.26 ± 0.58	225-235 in-lb	26 Nm	3.75	95.3
6F45	0.582 ± 0.030	14.78 ± 0.76	36-38 ft-lb	51 Nm	4.50	114.3
6F52	0.646 ± 0.037	16.41 ± 0.94	36-38 ft-lb	51 Nm	5.25	133.4
6F60	0.768 ± 0.043	19.51 ± 1.09	64-68 ft-lb	89 Nm	6.00	152.4
6F67	0.860 + 0.050	21.84 ± 1.27	64-68 ft-lb	89 Nm	6.75	171.5

Table 2: Angular and Parallel Misalignment Specifications

RPM Range	Angular Misalignment A (per inch of hub diameter)			Parallel Misalignment R (per inch of "C" dimension)		
	C = up to 30" (759mm)	C = 30" up to 60" (760mm to 1524mm)	C > 60" (1,525mm)	C = up to 30" (759mm)	C = 30" up tp 60" (760mm to 1524mm)	C > 60" (1.525mm)
0 - 500	0.016	0.014	0.011	0.017	0.014	0.011
500 - 1,000	0.014	0.011	0.008	0.014	0.011	0.008
1,000 - 1,500	0.011	0.008	0.006	0.011	0.008	0.005
1,500 +	0.006	0.005	0.003	0.005	0.004	0.003

Note: The above misalignment specifications are recommended values for installation.They allow for extra capacity from operation over time. Refer to the catalog for maximum allowable misalignment specifications.

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Figure 1: SetScrew Style Hub

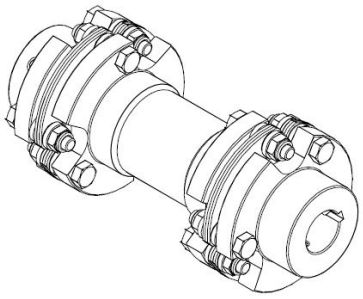


Table 3: Setscrew Torque Table

Screw Size	Hex Size	Torque (in lb)	Torque (Nm)
#10 - 32unf	0.094	36	4.1
1/4 - 20unc	0.125	87	9.8
3/8 - 16unc	0.188	290	33
1/2 - 13unc	0.250	620	70
3/4 - 10unc	0.375	2400	271
1" - 8unc	0.563	5000	564
Metric			
M5 x 0.8	2.5mm	35	4.0
M6 x 1.0	3mm	64	7.2
M8 x 1.25	4mm	150	17
M10 x 1.50	5mm	290	33
M12 x 1.75	6mm	480	54
M20 x 2.50	10mm	2100	237
M24 x 3.00	12mm	3860	440

Figure 2: Clamp Style Hub

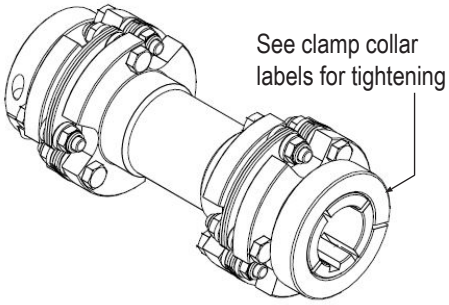
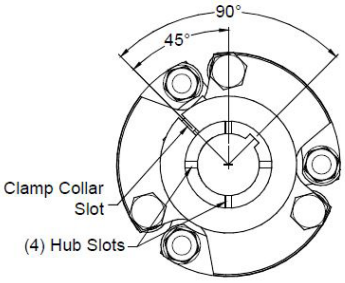


Figure 3: Clamp Slot Location



Clamp Hub Assembly

Before tightening the clamp collar screw(s), orient the clamp collar slot 90 degrees from the keyway centerline (See Figure 3). If there is no keyway, orient the clamp collar slot 45 degrees from one of the hub slots (See Figure 3). Tighten clamp screw(s) to tightening torque shown on clamp collar.

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