CD® Power-Series Composite Disc Coupling

Installation Instructions For Shrink Disc Hub x Adaptor Mount DoubleFlex Couplings

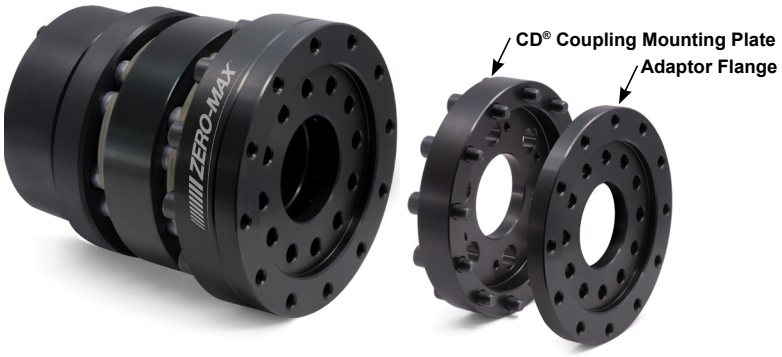


Illustration 1

Tools Required

- Calibrated torque wrench
- Hex socket set
- 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.
- When initially mounting the coupling, the misalignment may be one and one half times the maximum permissible misalignment shown in the catalog. Inspect hub bores and shafts, making sure there are no burrs. Clean hub bore(s) and shafts thoroughly. **They must be free of burrs and grease during installation or the hub will not transmit the maximum slip torque.** Standard shrink disc hub bores are supplied with slight clearance fit (see catalog).
- Remove screws holding the CD Coupling mounting plate to the Adaptor Flange (see Illustration 1).
- Consult mating equipment manufacture's installation guide before installing and tightening fasteners. If mating equipment manufacturer's instructions differ from these instructions, use the mating equipment manufacturer's instructions. Contact Zero-Max if questions.
- Inspect mating equipment flange for any rust, oil, etc. Clean and deburr as needed.
- Install CD coupling Adaptor Flange on mating equipment's flange. Flange faces to be flush to each other and bolt holes to be lined up before installing fasteners.
- Install socket head cap screws hand tightening initially. **Do not apply lubricant to the screw threads.** Tighten fasteners half turn in a continuous "star" or "crisscross" sequence until fasteners reach tightening torque. After each fastener has been tightened to the proper torque, repeat tightening sequence at tightening torque.
- The contact surfaces between the shrink disc outer ring, hub and fasteners are greased at the factory. Hubs and outer rings to be relaxed before installation, if necessary loosen screws by several turns.
- Install shrink disc hub onto shaft. It is recommended that the ends of the shaft be flush with the end of each hub. At the minimum the shaft should extend past the hub clamp slot and extend into one third of the hub flange (non-slotted) area. If the shaft extends past the hub face verify there is enough clearance between shaft and disc pack and the shaft (and key,if applicable) will not contact the disc pack during operation. **Do not tighten hub to shaft at this point.**
- Adjust hub separation to dimension "C" specified in the Table on page 3. Tighten shrink disc hub to the shaft by tightening three of the screws by hand making sure the outer ring inner face and the face of the hub flange are parallel, adjusting as needed. Hand-tighten the remaining screws.
- Using a properly calibrated torque wrench, set to 5% higher than the specified torque (see Table on page 3), start tightening the locking screw closest to the clamp slot and moving in a direction away from the clamp slot tightening the screws in a circular pattern, using no more than a quarter turn for each screw. Repeat this circular pattern until a quarter turn can no longer be achieved on any screw while verifying the outer ring face and hub flange face are parallel. If there is sudden movement of the outer ring during tightening, the outer ring may not be parallel to the hub causing binding.
- Verify the outer ring face and hub flange are parallel and apply the 5% over torque for two more complete times around the pattern.
- Reset the torque wrench to the correct tightening torque (see Table on page 3), Check that none of the fasteners turn at this tightening torque value. If they turn, reset the torque wrench to the higher torque and repeat previous step.
- Align the shaft and flange within the limits for axial, parallel, and angular misalignment specified on the Table on page 3. For best alignment results, use a laser alignment tool or dial indicator. If not available, a straight edge and feeler gauges can be used.
- **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 coupling at higher degrees of misalignment is possible (see catalog ratings), but will generally reduce the life of the composite disc pack.
- **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 accidently started during installation or maintenance of coupling.**

13200 Sixth Avenue North, Plymouth, MN 55441-5509
Phone 763.546.4300 ■ Fax 763.546.8260 ■ TOLL FREE 1.800.533.1731 ■ www.zero-max.com

Shrink disc hub removal

- Verify axial movement of shrink disc outer ring(s) are not restricted. Axial movement is needed to properly remove hub assembly.
- Loosen, but do not remove, all locking screws gradually in sequentially in a circular pattern. Turn each locking screw a quarter turn at a time several times. The outer ring may come loose from hub taper. If not, remove two screws and thread them into the two threaded holes next to the clearance holes.
- Tighten the two screws evenly and sequentially, and a quarter turn at a time, until the shrink disc outer ring is completely disengaged from hub taper.
- Once the hub and shrink disc are completely loosened the locking screws may be removed if desired.

Shrink disc hub reinstallation

In relatively clean operating conditions, the shrink disc hub assembly can be reused without prior cleaning or re-lubrication. Shrink disc hub assemblies that are dirty or have been removed more than once may require thorough cleaning and re-lubrication. Relubricate using Molykote G Rapid + paste, Molykote D-321 R or equivalent.

Repeat installation instructions after checking lubricant condition.

⚠ Warning

Do not remove locking screws until it can be verified outer ring and hub are fully disengaged from tapers. Failure to do so may result in permanent injury or death.

CD® Power-Series Composite Disc Coupling

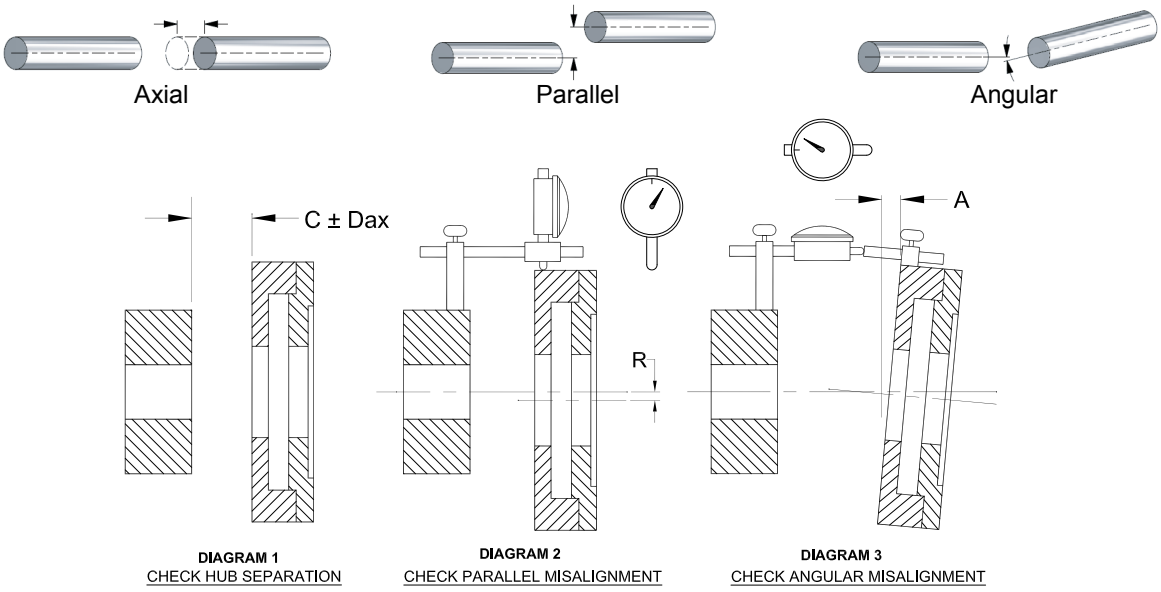


Table 1: Alignment and Assembly Specifications for Double-Flex Shrink Disc Hub x Adaptor Mount

	C±X Axial Separation and Misalignment	R Parallel Misalignment	A Angular Misalignment		Shrink Disc Fasteners		Disc Pack Socket Head Cap Screw			CD Mouting Plate to Adaptor Plate Socket Head Cap Screw		Adaptor Plate to Mating Equipment Flange Socket Head Cap Screw (See note 1)	
Model	**Inch (mm)**	**Inch (mm)**	**Inch (mm)**	**Angle (degrees)**	**Fastener Size**	**Tightening Torque**	**Wrench Size**	**Tightening Torque**	**ISO Flange Model**	**Wrench Size**	**Tightening Torque**	**Wrench Size**	**Tightening Torque**
8P55	1.142 ± 0.006 (29.00 ± 0.15)	0.0016 (0.041)	0.009 (0.24)	0.25	M5	71 in lbs (8 Nm)	2.5 mm	13 in lb (148 Ncm)	AM31	2.5 mm	16 in lb (180 Ncm)	4 mm	100 in lb (11.2 Nm)
8P67	1.332 ± 0.008 (33.83 ± 0.20)	0.0021 (0.053)	0.012 (0.29)	0.25	M5	71 in lbs (8 Nm)	3 mm	28 in lb (320 Ncm)	AM50	4 mm	80 in lb (9 Nm)	5 mm	171 in lb (19.3 Nm)
12P85	1.349 ± .006 (34.28 ± 0.15)	0.0015 (0.038)	0.010 (0.25)	0.17	M5	71 in lbs (8 Nm)	4 mm	59 in lb (7 Nm)	AM63	5 mm	140 in lbs (16 Nm)	5 mm	171 in lb (19.3 Nm)
12P105	1.836 ± .008 (46.63 ± 0.20)	0.002 (0.051)	0.012 (0.31)	0.17	M5	71 in lbs (8 Nm)	5 mm	119 in lb (13 Nm)	AM80	6 mm	325 in lb (36 Nm)	6 mm	34 ft lb (46 Nm)
12P140	2.232 ± 0.010 (56.69 ± 0.25)	0.0025 (0.064)	0.016 (0.41)	0.17	M8	27 ft lbs (36 Nm)	6 mm	298 in lb (34 Nm)	AM125	6 mm	325 in lb (36 Nm)	8 mm	68 ft lb (93 Nm)
12P165	2.664 ± 0.012 (67.67 ± 0.30)	0.003 (0.076)	0.019 (0.48)	0.17	M8	27 ft lbs (36 Nm)	8 mm	48 ft lb (65 Nm)	AM140	12 mm	150 ft lb (203 Nm)	14 mm	291 ft lb (395 Nm)
12P190	3.184 ± 0.014 (80.87 ± 0.35)	0.0036 (0.091)	0.022 (0.56)	0.17	M10	51 ft lbs (70 Nm)	10 mm	78 ft lb (105 Nm)	AM160	14 mm	230 ft lb (312 Nm)	17 mm	570 ft lb (773 Nm)

1: Tightening torques for screws in accordance with DIN 13-1 (coefficient of friction = 0.14)

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.

13200 Sixth Avenue North, Plymouth, MN 55441-5509
Phone 763.546.4300 ▪ Fax 763.546.8260 ▪ TOLL FREE 1.800.533.1731 ▪ www.zero-max.com