



ATEX — In order for this coupling to meet the ATEX requirements, it is mandatory to precisely follow these installation instructions along with the included supplement form 0005-08-49-01. This supplement outlines the ATEX requirements. If the operator does not

adhere to these instructions, conformity is immediately invalidated.

WARNING: *Because of the possible danger to person(s) or property from accidents which may result from improper use or installations of products, it is extremely important to follow the selection, installation, maintenance and operational procedures. All rotating power transmission products are potentially dangerous and can cause serious injury. They must be properly guarded in compliance with OSHA, ANSI, and any other local or governmental standards for the speeds and applications in which they are used. It is the responsibility of the user to provide proper guarding. For ATEX requirements the guard must have a minimum of ½ inch (12.7 mm) radial clearance to the coupling major diameter "A" (See Figure 1) and allow for good ventilation.*

1. **Purpose** — These instructions are intended to help you to install, align, and maintain your THOMAS coupling.
2. **Scope** — Covered here will be general information, hub mounting, alignment, assembly, locknut tightening, disc pack replacement, and part numbers.
3. **General Information** — The coupling, as received, has a fully assembled center member consisting of a center member, two adapters, disc packs, and hardware with the disc pack hardware factory-tightened and ready for field use. We recommend that you do not disassemble the center member assembly of this coupling unless you are replacing disc packs. Examine the assembly to assure there is no visible damage. If hubs are mounted to center assembly, remove the cap screws that attach the hubs to the adapters of the center member assembly and remove both hubs.
4. **Hub Mounting**

- A. **General** — Clean the hub bores and shafts. Remove any nicks or burrs. If the bore is tapered,

check for good contact pattern. If the bore is straight, measure the bore and shaft diameters to assure proper fit. The key(s) should have a snug side-to-side fit with a small clearance over the top, and the corners must be chamfered.

- B. **Straight Bore** — Install the key(s) in the shaft. If the hub is an interference fit, heat the hub in an oil bath or oven until the bore is sufficiently larger than the shaft. 350°F is usually sufficient. An open flame is not recommended. However, if flame heating is necessary use a very large rose bud tip to give even heat distribution. A thermal heat stick will help determine the hub temperature. **DO NOT SPOT HEAT THE HUB OR DISTORTION MAY OCCUR.** With the hub expanded slide it quickly up the shaft to the desired axial position. A pre-set axial stop device can be helpful.

- C. **Straight Bore Slip Fit** — Install the key(s) in the shaft. Install the set screw(s) in the hub making sure they do not protrude into the keyway or the bore. Now slide the hub on the shaft to the desired axial position. The set screw(s) which hold the hub in place are tightened, using a torque wrench, to the values shown in Table 1A.

NOTE: Never use two set screws with one on top of the other.

- D. **Taper Bore** — Put the hub on the shaft without the key(s) in place. Lightly tap the hub on the shaft with a soft hammer. This will assure a metal-to-metal fit between shaft and hub. This is the starting point for the axial draw. Record the position between shaft end and hub face with a depth micrometer. Mount a dial indicator to read axial hub movement. Set the indicator to "0." Remove the hub and install the key(s). Heat the hub in an oil bath or oven until the bore is sufficiently larger than the shaft. 350°F is usually sufficient. An open flame is not recommended. However, if flame heating is necessary, use a very large rose bud tip to give even heat distribution. A thermal heat stick will help determine the hub temperature. **DO NOT SPOT HEAT THE HUB OR DISTORTION MAY OCCUR.**

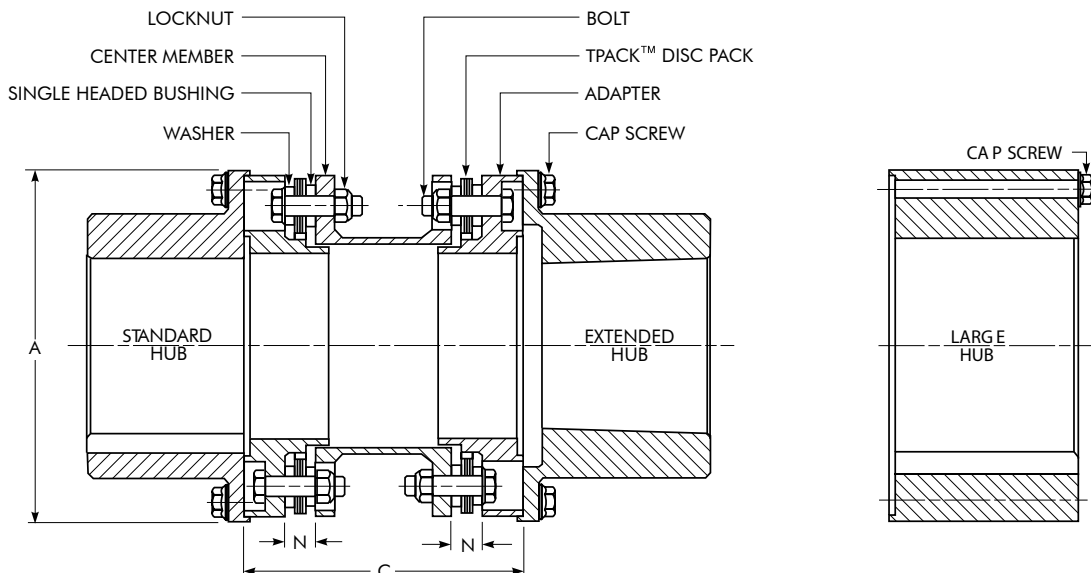


FIGURE 1

With the hub expanded, slide it quickly up the shaft to the “0” set point. Continue to advance the hub up the taper to the desired axial position. Use the indicator as a guide only. A pre-set axial stop device can be helpful. Check the final results with a depth micrometer. Install the hub retention device to hold the hub in place.

5. **Shaft Alignment** — Move equipment into place.
 - A. **Soft Foot** — The equipment must sit flat on its base. Any soft foot must now be corrected.
 - B. **Axial Spacing** — The axial spacing of the shafts should be positioned so that the disc packs (flexing elements) are not distorted when the equipment is running under normal operating conditions. This means there is a minimal amount of waviness in the disc pack when viewed from the side. This will result in a flexing element that is centered and parallel to its mating flange faces. Move the connected equipment to accomplish the above. Refer to the assembly drawing and the connected equipment installation procedures for specific axial spacing requirements.

NOTE: The disc pack is designed to an optimal thickness and is not to be used for axial adjustments by removing or adding individual discs.

As a guide, maximum and minimum values for dimension “N” are given. These dimensions are suggested for initial installation. Additional capacity is available to compensate for thermal and structural movement. Maximum axial capacity values for these couplings are also given. See Table 1 and Figure 1.

- C. **Laser Alignment is an Option** — If not available proceed with dial indicator method.
- D. **Angular Alignment** — Rigidly mount a dial indicator on one hub or shaft, reading the face of the other hub flange, as shown in Figure 2. Rotate both shafts together making sure the shaft axial spacing remains constant. Adjust the equipment by shimming and/or moving so that the indicator reading is within .001 inch per inch of coupling hub flange diameter. See Table 1.

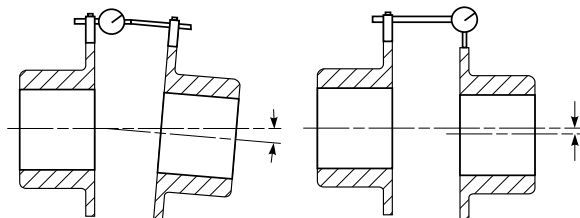


FIGURE 2

FIGURE 3

- E. **Parallel Offset** — Rigidly mount a dial indicator on one hub or shaft, reading the other hub flange outside diameter, as shown in Figure 3. Compensate for indicator set-up sag. Rotate both shafts together. Adjust the equipment by shimming and/or moving so that the indicator reading is within .001 inch per inch of the axial length between flex elements. See Table 1.

NOTE: If the driver or driven equipment alignment specification is tighter than these recommendations, that specification should be used. Also, be sure to compensate for thermal movement in the equipment.

The coupling is capable of approximately four times above shaft misalignment tolerances. However, close alignment at installation will provide longer service with smoother operation.

6. **Final Assembly** — This coupling has a factory assembled center member assembly. **We recommend that you do not disassemble the center member assembly unless you are replacing disc packs.**
 - A. The hubs are mounted, and the correct “C” dimension is set. Due to the hub-to-adapter piloting feature, the center member assembly must be compressed to allow it to fit between the two hubs.
 - B. On sizes 225 thru 750, use the compression cap screws provided by inserting them from the center member side and threading them into the adapter as shown in Figure 4. The compression cap screws are not the same screws as used to mount the hubs to the center member assembly. Table 2 shows the compression cap screw sizes. Compress both disc packs by tightening each cap screw by the same amount. **Be careful to compress both ends equally and only enough to allow the center member to fit between the hubs.**
 - C. Make sure that the adapter pilots and the hub

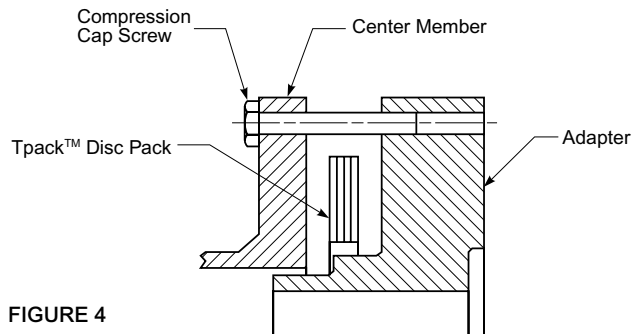


FIGURE 4

flange faces are free from foreign material, nicks and burrs to allow for proper pilot seating. Place the compressed center member between coupling hubs, lining up the tapped holes in the adapter with the holes in the hub. If the coupling was assembly balanced, also align the match marks. Remove the center member compression cap screws, allowing the adapters to engage with the pilot diameters of the coupling hubs.

NOTE: All flanged head cap screw threads should be lubricated. A clean motor oil is recommended.

Now insert the flanged cap screws provided through the hub flange and into the mating threaded holes in the adapter. Tighten each cap screw evenly and in an incremental and alternating fashion to the required torque as listed in Table 1.

NOTE: Make sure all compression cap screws are removed from the center assembly.

- D. For further help with the installation or alignment consult Rexnord.
- E. It is recommended that all flanged cap screws be retightened after several hours of initial operation whenever possible.

7. **Disc Pack Replacement** — If it becomes necessary to replace the disc pack, it can be done as follows:

NOTE: The Series 71-8 center member locknuts are factory-tightened by Rexnord. On center members where the spacer lengths are short and wrench access is limited, special wrenches are used to tighten the locknuts. Consult Rexnord for assistance in obtaining special wrenches.

A. Remove the center member assembly by removing all cap screws, compressing the center member assembly (as described in Section 6), and dropping it out from between the hubs. There are jacking screw holes in each hub to help free the pilot between hub and adapter. Take the center assembly to your repair shop.

B. Remove all locknuts, bolts, washers, and disc packs. Special wrenches may be required. Clean up the two adapters and the center spool, removing any nicks or burrs (See Figure 1).

NOTE: The match marks, if provided, must be in-line to retain balance.

NOTE: All bolt threads should be lubricated. A clean motor oil is recommended. Also see Footnote ★ below Table 1.

Install the new disc packs to the adapters first so that the bushing heads in the pack line up with the bolt holes in the adapter flanges as shown in Figure 5A. Insert the bolts through the adapter bolt holes and disc pack bushings. The last bolt may be tight

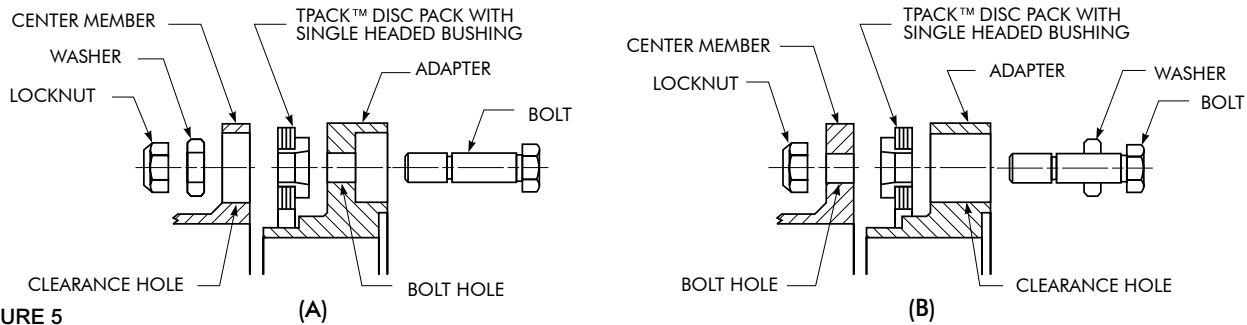


FIGURE 5

TABLE 1 — Tightening Torques ★, Dimensions & Alignment Values

COUPLING SIZE	A (in.)	N (in.)		Axial Capacity (in)	Locknut			Cap Screw			Alignment Total Indicator Reading	
		Min	Max		Thread Size ‡	Torque		Thread Size	Torque		Angular (in.)	Parallel (in.)
						ft-lb	Nm		ft-lb	Nm		
225	5.97	.52	.53	±.036	5/16 - 24	25	34	1/4 - 28	10	14	.006	.001 Inch per Inch of axial length between flex elements
262	6.88	.60	.61	±.043	3/8 - 24	34	41	5/16 - 24	20	27	.007	
312	8.00	.63	.64	±.051	7/16 - 20	60	54	5/16 - 24	20	27	.008	
350	8.94	.73	.74	±.056	1/2 - 20	95	129	3/8 - 24	37	50	.009	
375	9.94	.78	.79	±.062	9/16 - 18	130	176	3/8 - 24	37	50	.010	
425	10.75	.81	.82	±.067	5/8 - 18	175	237	7/16 - 20	58	79	.011	
450	11.56	.90	.91	±.072	3/4 - 16	190 ★	203 ★	7/16 - 20	58	79	.012	
500	13.12	.97	.99	±.082	3/4 - 16	190 ★	258 ★	1/2 - 20	90	122	.013	
550	14.69	1.04	1.05	±.092	7/8 - 14	255 ★	346 ★	5/8 - 18	180	244	.015	
600	16.38	1.10	1.11	±.102	1 - 14	335 ★	454 ★	5/8 - 18	180	244	.016	
700	18.56	1.21	1.22	±.115	1-1/8 - 12	425 ★	576 ★	3/4 - 16	315	427	.019	
750	20.12	1.27	1.28	±.125	1-1/4 - 12	560 ★	759 ★	3/4 - 16	315	427	.020	

★ These torque values are approximate for steel bolts with lubricated threads. The locknuts are prevailing torque type and some resistance will be felt. If galling is suspected, immediately stop and contact the Factory. Modification will be necessary for stainless steel. For stainless steel the tightening torque must be reduced to 60% of the values shown. Stainless steel bolt and locknut threads must also be liberally coated with molybdenum disulfide grease.

‡ Bolts should be held from rotating while the locknuts are torqued to the values shown.

★ These locknuts are cad plated. Do not use any lubricants other than clean oil noted in Section 7-B. Consult Factory if unsure.

TABLE 1A — Set Screw Tightening Torque

Setscrew Thread Size	Torque in-lb	Torque ft-lb	Torque Nm
1/4-20	66	6	7
1/4-28	76	6	9
5/16-18	132	11	15
5/16-24	144	12	16
3/8-16	240	20	27
3/8-24	276	23	31
1/2-13	600	50	68
1/2-20	660	55	75

and require some light tapping on the head of the bolt to work it through the disc pack. Install a washer onto each bolt. The radius side of the washer must always be against the disc pack (note: some models have washers that have a radius on both sides). Make sure all the parts pilot on the body ground area on the bolt. Apply a clean motor oil to the bolt threads and install a locknut on each bolt, but do not tighten the locknuts, yet.

Place a washer on each remaining bolt as shown in Figure 5B. The radius side of the washer must always be against the disc pack (note: some models have washers that have a radius on both sides).

- C. Slightly tighten all locknuts making sure the pack is not distorted and all the bolts are fully seated. Now tighten each locknut to the torque values shown in Table 1.
 - D. Proceed to install the center member assembly as outlined in Section 6.
 - E. It is recommended that all locknuts be retightened after several hours of initial operation when ever possible.
8. For spare replacement parts, see Table 2.

TABLE 2 — Part Numbers & Quantity Required

COUPLING SIZE	TPack™ Stainless Disc Pack (Qty = 2)	TPack™ Disc Pack Joint Hardware						Flanged Head Cap Screws		Compression Cap Screws Socket Head or Hex Head	
		Bolts		Locknuts		Washers		Part No.	Qty	Size	Qty
		Part No.	Qty	Part No.	Qty	Part No.	Qty				
225	587228	917831	16	316505	16	617789	16	586161	32	#10-24 x 1.25 Lg.	8
262	587233	007209	16	716505	16	007210	16	586162	32	#10-24 x 1.25 Lg.	8
312	586993	117793	16	116507	16	582710	16	586162	32	1/4-20 x 1.50 Lg.	8
350	587242	017844	16	516508	16	817789	16	586163	32	1/4-20 x 1.50 Lg.	8
375	587247	217795	16	916509	16	917789	16	586163	32	5/16-18 x 2.00 Lg.	8
425	587252	117847	16	316510	16	587617	16	586164	32	5/16-18 x 2.00 Lg.	8
450	587257	217849	16	116512 ★	16	583331	16	586164	32	5/16-18 x 2.00 Lg.	8
500	587262	310968	16	116512 ★	16	587263	16	586165	32	3/8-16 x 2.50 Lg.	8
550	587268	210921	16	039125 ★	16	587269	16	586167	32	3/8-16 x 2.50 Lg.	8
600	587274	910923	16	020253 ★	16	587275	16	586167	32	7/16-14 x 2.75 Lg.	8
700	586084	110936	16	020254 ★	16	587282	16	586168	32	1/2-13 x 3.25 Lg.	8
750	586085	811080	16	020255 ★	16	587288	16	586168	32	1/2-13 x 3.25 Lg.	8

★ These locknuts are cadmium plated.