



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 proper 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 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" 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 torque, disc pack replacement, and part numbers.
3. **General Information** — The coupling, as received, may or may not be assembled. If assembled, the locknuts are not fully tightened. Examine the parts to assure there is no visible damage. If coupling is assembled, remove the bolts, locknuts, and washers that attach the hub(s) to the disc packs. Remove both hub(s). Leave the disc packs attached to the center member.

4. **Hub Mounting:**

- A. **General** — Clean hub bores and shafts. Remove any nicks or burrs. If 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 key(s) in the shaft. If the hub is an interference fit, heat the hub in an oil bath or oven until 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 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 up 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 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.** 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 preset 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.

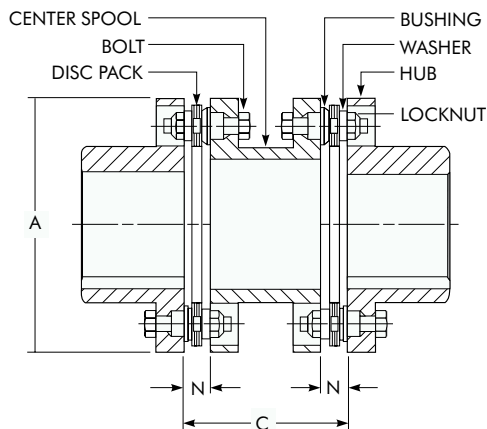
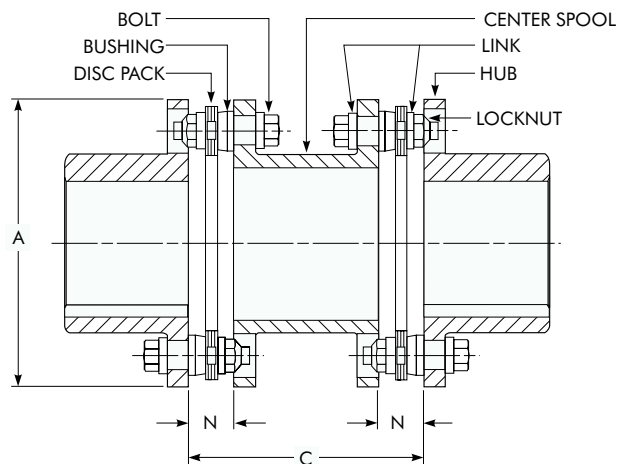


Figure 1 **SIZES 50 THRU 201**



SIZES 226 AND LARGER

5. **Shaft Alignment** — Move equipment into place.
- A. **Soft Foot** — The equipment must sit flat on its base. Any soft foot must be corrected now.
 - B. **Axial Spacing** — The axial spacing of the shaft 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 or hubs on their respective shafts to accomplish the above.

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 the values shown in Chart "A".
- 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. Indicator set-up sag must be compensated for. Rotate both shafts together. Adjust the equipment by shimming and/or moving so that the indicator reading is within .002" per inch of the axial length between flex elements. See Chart "A".

NOTE: If the driver or driven equipment alignment tolerances are more stringent than our recommendations, the driver or driven equipment tolerances 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.

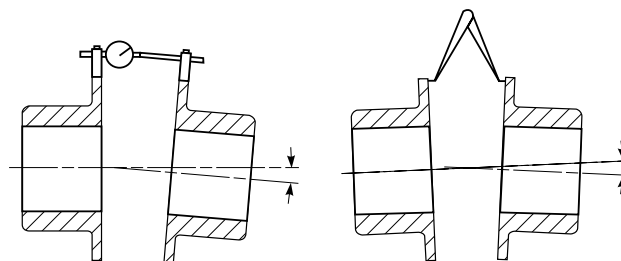


Figure 2

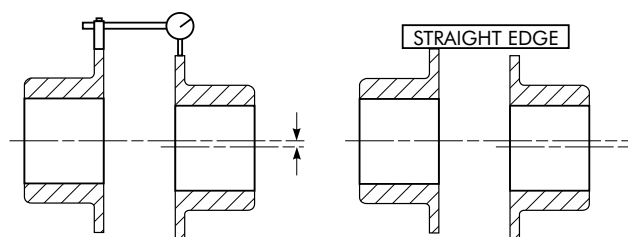


Figure 3

Chart A — Suggested Maximum Alignment Value

COUPLING SIZE	Total Indicator Reading (T.I.R.) (Inch)	
	Angular	Parallel
50	.004	.002" Per Inch of "C" Dimension
62	.005	
75	.006	
101	.007	
126	.007	
163	.009	
201	.010	
226	.012	
263	.014	
301	.016	
351	.018	
401	.020	
451	.024	

6. Final Assembly — With the coupling in good alignment, the bolts should easily fit through the holes in the flanges and the disc packs.

- A. If the coupling arrived assembled, the disc packs are still attached to the center spool. Before taking the disc packs off, first install one hub bolt through each disc pack and secure with a locknut. This will help when the pack is reinstalled later. If the coupling was shipped disassembled, the bolt through the pack is not required as the discs in the pack are factory-taped together.
- B. Now remove the bolts that hold the pack to the center spool. Start two bolts through the bolt holes in the center spool just far enough to put one of the disc packs over the bolts. On Sizes 226 and larger, a link must be put on the bolt first. Remove the disc pack alignment bolt. Now lift the center spool up into position. If the coupling is dynamically balanced, the center spool match mark must line up with the hub match mark.

It may help to support the other end of the center spool with a bolt through the spool flange and into the hub flange. Slide the two bolts through the disc pack, washer or link, into the clearance hole in the hub and secure with a locknut.

NOTE: All bolt threads should be lubricated. A clean motor oil is recommended.

Install two or more bolts through the hub bolt holes, disc pack, washer or link, into the clearance hole in the center spool and secure with a locknut. Make sure all parts pilot on the body ground part of the bolt. On Sizes 226 and up, install the remaining bolts in a similar manner.

- C. Now proceed to the other end of the coupling. Remove the support bolt if used. Line up the bolt holes in the center spool with the clearance holes in the hub. If coupling is dynamically balanced, align the hub match marks. Start a bolt through the bolt hole in the center spool. Holding the disc pack in one hand slip it down between the two flanges. Add the washer or link and a locknut. Remove the disc pack alignment bolt if used. Now pivot the pack around until it lines up with the rest of the bolt holes in the center spool. Install the rest of the bolts through the center spool bolt holes, disc pack, washer or link into the clearance hole and add a locknut. Make sure all parts pilot on the body ground part of the bolt. The remaining bolts can be put through the hub bolt holes, disc pack, washers or links, into the clearance holes in the center spool and add locknuts.

TABLE 1 — Locknut Tightening Torques

COUPLING SIZE	"A" Diameter Inch	Dimension "N" (Inch)		Axial Capacity Inch	Thread Size	Torque	
		Min	Max			Ft-Lb (In-Lb)	Nm
50	2.00	.250	.255	± .023	#6-40	(24)	2.7
62	2.44	.330	.335	± .028	#10-32	(36)	4
75	2.69	.340	.345	± .032	#10-32	(36)	4
101	3.22	.46	.47	± .038	#12-28	(96)	11
126	3.84	.51	.52	± .048	1/4-28	(156)	18
163	4.56	.51	.52	± .057	1/4-28	(156)	18
201	5.34	.60	.61	± .067	5/16-24	25	34
226	6.06	.95	.96	± .076	3/8-24	34	46
263	7.00	1.04	1.05	± .089	7/16-20	60	81
301	8.00	1.13	1.15	± .102	1/2-20	95	129
351	9.38	1.32	1.34	± .118	5/8-18	175	237
401	10.69	1.45	1.47	± .136	11/16-16	150*	203*
451	12.13	1.54	1.56	± .154	3/4-16	190*	258*

NOTE: 1. These torque values are approximate for steel bolts with lubricated threads. Modifications will be necessary for stainless steel. For stainless steel, the tightened torque must be reduced to 60% of the values shown. Bolt and locknut threads must also be liberally coated with molybdenum disulfide grease.

2. **Bolts should be held from rotating while the locknuts are tightened to the values shown.**

★ These locknuts are cadmium plated.

TABLE 1A — Set Screw Tightening Torque

Set Screw 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



D. Tighten the locknuts at this time. See Table 1 for torque values.

NOTE: With the coupling in good alignment the bolts will should easily fit through the holes in the flanges and the disc packs.

It is recommended that all locknuts be retightened after several hours of initial operation when ever possible.

E. For further help with the installation or alignment, consult Rexnord.

7. **Disc Pack Replacement** — If it becomes necessary to replace the disc packs or disassemble the coupling for any reason, it can be done as follows:

A. At one end of the coupling remove all locknuts and washers or links. Back out and remove all but one

bolt. It may be necessary to tap the ends of the bolts with a soft hammer to start them out. Pivot the disc pack out. Put one of the coupling bolts through the pack. Put the locknut on. This will keep the discs together and maintain the disc orientation for later reinstallation. Remove the last bolt and slide the pack out.

B. At the disassembled end, rotate the hub or center spool to align the bolt holes. Install a bolt through the bolt hole in the hub and center spool to support the center spool. Now disassemble the other end per "A" above being sure to support the center spool when taking out the last bolts. Remove the center spool.

C. Replace the pack(s) if required. Recheck alignment per Section 5. Reassemble per Section 6.

8. **For Replacement Parts** — See Table 2.

TABLE 2 — Part Numbers and Quantity Required

SIZE of DBZ-C	Hub Assembly	Center Spool Assembly One per Coupling		Disc Pack Two per Coupling		Parts Kit Consists of Washers or Links, Bolts, and Locknuts for one Coupling						
				Tomaloy	Stainless	Parts Kit	Washer or Link		Bolt		Locknut	
	Part No.	Part No.	Dim "C"	Part No.	Part No.	Part No.	Part No.	Qty	Part No.	Qty	Part No.	Qty
50	514402	...	...	710492	910492	...	...	...	210495	8	711738	8
62	114413	...	...	510601	710601	...	...	...	010525	8	011739	8
75	814424	...	...	710523	910523	...	...	...	010525	8	011739	8
101	216105	144440	3-1/2	910619	310619	016321	017097	8	411161	8	516503	8
126	816107	714447 314451 012741	3-1/2 4-3/8 5	910618	310618	216320	002161	8	510728	8	916504	8
163	616109	914458 214460 514462 814464 014612 260198	3-1/2 4 4-3/8 4-3/4 5 7	410954	610954	003632	002161	16	510728	16	916504	16
201	016111	714473 016866 014475 314447 018315	3-1/2 4-3/8 5 5-1/2 7	710624	910624	001951	002170	16	210721	16	316505	16
226	116113	003613 914484 214468 218317	4-3/8 5 5-1/2 7	010689	210689	001954	011874	16	010634	16	716506	16
263	216115	814493 114495 816257	5 5-1/2 7	920357	120357	001957	211875	16	410787	16	116507	16
301	516117	714502 014504	5-1/2 7	420359	620359	001959	411876	16	010655	16	516508	16
351	716119	614511	7-1/2	820361	020361	001961	711877	16	110733	16	316510	16
401	916121	214518	8	220363	420363	001963	011878	16	110240	16	716511*	16
451	116123	...	9-1/2	310646	510646	...	311879	16	710641	16	116513*	16

★ These locknuts are cadmium plated.