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, 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 the coupling is assembled, remove the bolts, locknuts, and washers that attach the hubs to the disc packs. Remove both hubs. Leave the disc packs attached to the center member assembly.

   NOTE: The center spool of the center member assembly may be made of thin wall stainless steel or steel.
4. **Hub Mounting**
   A. **General** — Clean the hub bores and shafts. Remove any nicks or burrs. If the bore is tapered, check for a 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 hub temperature. **DO NOT SPOT HEAT THE HUB OR DISTORTION MAY OCCUR**. With the hub expanded, slide it 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 setscrew(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 setscrew(s) which hold the hub in place are tightened, using a torque wrench, to the values shown in Table 1A. **NOTE**: Never use two setscrews with one on top of the other.
   D. **Taper Bore** — Put the hub on the shaft without key(s) in place. Lightly tap 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 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.
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.

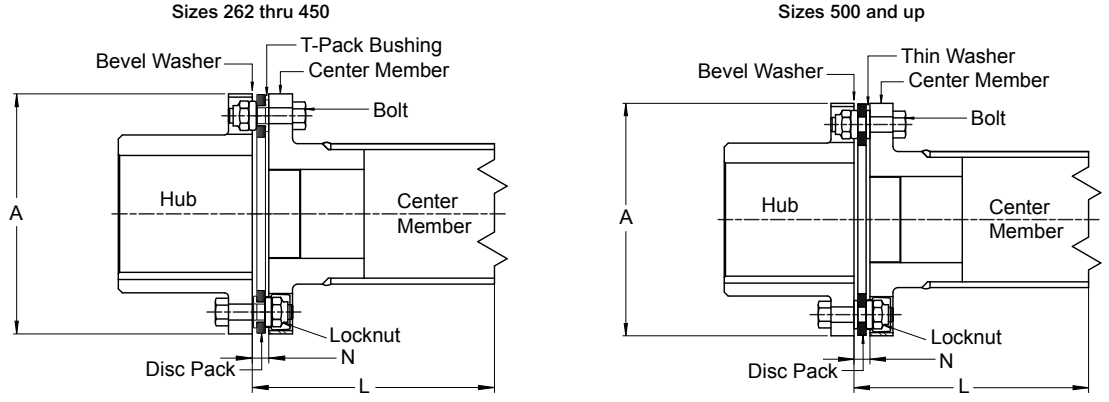

FIGURE 1

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.

NOTE: L = 2N + Center Member Length.

C. **Laser Alignment is an Option —** If not available proceed with dial indicator.

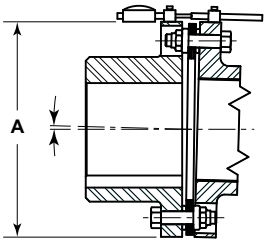

FIGURE 2

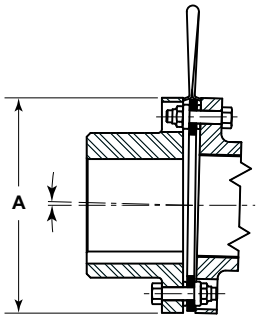

FIGURE 3

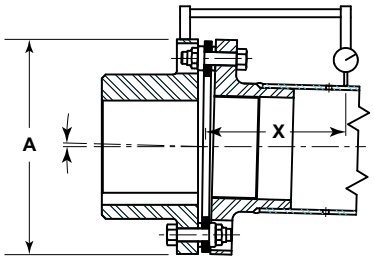

FIGURE 4

D. **Angular Alignment** — As the SN coupling is usually quite long, it is suggested to use the "Across the disc pack" procedure to correct the angular misalignment at each end. See Figure 2, 3, and 4.

NOTE: In order to use this procedure, the coupling must be fully assembled, See Section 6, Final Assembly.

The method shown in Figure 4 is preferred because axial movement of the shafts during the alignment process does not affect the results. Rigidly mount a dial indicator on the shaft or hub reading out on the center tube a convenient distance "X". (Center of flex joint to position on the center member tube where readings are taken.) Compensate for indicator set-up sag. Rotate the assembly. Adjust the equipment by shimming and/or moving so that the indicator is within .001 inch per inch of distance X. If the method shown in Figure 2 or 3 is chosen, use .001 inch per inch of hub flange diameter as the limit. Repeat above for both ends until coupling is aligned. This procedure will correct the shaft angular and shaft parallel offset misalignments.

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 the above shaft misalignment tolerances. However, close alignment at installation will provide longer service with smoother operation.

6. **Final Assembly**

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

NOTE: All bolt threads should be lubricated. A clean motor oil is recommended for steel bolts. See Note 1 below Table 1 for stainless steel fasteners.

A. If the coupling arrived assembled, the disc packs are still attached to the center member assembly. Remove the disc packs from the center member.

B. With the hubs mounted and the span length "C" set, proceed to put the center member into place between the two hubs. Care should be taken when handling the center member as the tube can be damaged. Support the center member at both ends on wood blocks, with nylon straps from a hoist, or some other convenient way. It may help to support the end not being worked on with bolts through the center member flange bolt holes. This will hold the parts in line at that end.

C. Install the disc pack. Rotate the hub or center member so that the hub bolt holes line up with the center member flange clearance holes. If the coupling was assembly balanced, also align the match marks. Start a bolt through a loose washer. **The radius side of the washer should always be against the disc pack.** Hold the disc pack in one hand slip it down between the two flanges so that the bushing heads in the pack line up with the bolt holes in the flanges as shown in figure 1. Slide the bolt and washer through the clearance hole in one flange, into the bushing, and through the bolt hole of the opposite flange. Make sue all the parts pilot on the body round area of the bolt. Install a locknut onto the bolt but do not tighten it as this time..

Now pivot the pack around until it lines up the bushing heads with the rest of the bolt holes. Place a loose washer on each remaining bolt and install the bolts through the clearance holes, into the bushings, and through the bolt holes. The last bolt may be tight and require some light tapping on the head of the bolt to work it through the disc pack. Install a locknut on each bolt. The locknuts

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can be slightly tightened at this time. The disc pack, when installed, should look flat and parallel with the mating flanges.

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 hub. Install the rest of the bolts through the hub bolt holes, thin washer (if called for), disc pack, washer into the clearance hole of the center member flange, and add a locknut.

D. Now proceed to the other end of the coupling. Remove the support bolts, if used, and support the center member in one of the other ways. Using paragraph "6C" above, install the second disc pack.

E. Make the final coupling alignment check at this time.

F. Fully tighten the locknuts evenly and in an incremental and alternating fashion. See Table 1 for torque values.

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

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

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

Note: Sizes 262 through 425 and 500T use the Tpack unitized disc pack. The Tpack disc pack will replace the original Thomas round, non-unitized disc pack without modification to the coupling. Be sure to use the washers that are supplied with the Tpack replacement kit.

A. At one end of the coupling, remove all locknuts. Support the center member at this end. Back out and remove the bolts and loose washers. It may be necessary to tap ends of the bolts with a soft hammer to start them out. Slide the pack out while supporting the center member at this end.

B. Now disassemble the other end per 7A being sure to support the center member when taking out the last bolts. Remove the center member.

C. Replace parts as necessary. If an original Thomas round, non-unitized disc pack is being replaced, discard the washers that were removed with the bolts in Section 7A on Page 3. Recheck alignment per Section 5. Reassemble per Section 6.

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

TABLE 1 — Tightening Torques★ & Alignment Values

COUPLING SIZE	A Diameter (Inch)	Dimension "N" (Inch)		Axial Capacity (in)	Locknut			Alignment Total Indicator Reading (TIR)	
					Thread Size ‡	Torque			
		Min	Max			Ft-Lb	Nm	Angular (Inch)	Parallel (Inch)
262	6.69	.48	.49	± .043	3/8-24	30	41	.007	.001 Inch per inch of "X" dimension - See Figure 4
312	7.81	.51	.52	± .051	7/16-20	40	54	.008	
350	8.75	.54	.55	± .056	1/2-20	95	129	.009	
375	9.69	.60	.61	± .062	9/16-18	130	176	.010	
425	10.50	.63	.64	± .067	5/8-18	175	237	.011	
450•	11.31	.73	.75	± .072	11/16-16	150✱	203✱	.012	
500T	12.88	.79	.81	± .082	3/4-16	190✱	258✱	.013	
550T	14.44	.92	.94	± .092	7/8-14	255✱	346✱	.001	
600T	16.00	.99	1.01	± .102	1-14	335✱	454✱	.016	
700T	18.25	1.20	1.23	± .115	1-1/8-12	425✱	576✱	.018	
750T	19.81	1.26	1.29	± .125	1-1/4-12	560✱	759✱	.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 Rexnord. 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 tightened to the values shown.

✱ These locknuts are cadmium plated. Do not use any lubricants other than clean oil noted in Section 6. Consult Rexnord if unsure.

● Size 450 is currently not available with Tpack.

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

TABLE 2 — Part Numbers & Quantity Required

COUPLING SIZE	Hubs (No Bore)			Tpack™ Disc Pack (2 per Cplg)		Thin Washers			
	Steel	Zinc Plate	Stainless	Stainless	Tomaloy	Steel	Zinc Plate	Stainless	Qty
	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	
262	526624	726624	626624	586071	586058				
312	426630	626630	526630	586072	585913				
350	526636	626636	004968	586076	586059	Not Used on These Sizes			
375	026642	126642	003320	586077	586060				
425	226648	326648	003325	586078	586062				
450	326654	426654	003330	★	★	711655	911655	811655	16
500T	834415	010196	. . .	586081	586065	711460	811460	007363	16
550T	034416	. . .	. . .	586082	586066	311750	511750	411750	16
600T	234417	. . .	. . .	586083	586067	612127	055974	020492	16
700T	434418	. . .	. . .	586084	586068	511413	611413	. . .	16
750T	003126	. . .	. . .	586085	586069	111803	211803	. . .	16

★ Size 450 is currently not available with Tpack. Contact Rexnord for the standard SN instructions.

COUPLING SIZE	Bevel Washers				Bolts				Locknuts			
	Steel	Zinc Plate	Stainless	Qty	Steel	Zinc Plate	Stainless	Qty	Steel	Zinc Plate	Stainless	Qty
	Part No.	Part No.	Part No.		Part No.	Part No.	Part No.		Part No.			
262	002167	002169	022168	16	110717 †	110717	010717	16	716506	916506	816506	16
312	002165	002166	002565	16	910966 †	910966	002607	16	116507	316507	216507	16
350	019098	210967	110967	16	310968	510968	410968	16	516508	716508	616508	16
375	019100	010853	910853	16	210924	410924	310924	16	916509	116509	016509	16
425	910928	110928	010928	16	210929	410929	310929	16	316510	516510	416510	16
450	710916	910916	810916	16	010917	210917	110917	16	716511✱	916511	816511	16
500T	Not Used on These Sizes.				516095	616095	007362	16	116512✱	316512	516512	16
550T					716096	816096	020489	16	039125✱	. . .	020490	16
600T					916097	016097	020493	16	020253✱	. . .	020494	16
700T					116098	216098	. . .	16	020254✱	. . .	. . .	16
750T					316099	416099	. . .	16	020255✱	. . .	. . .	16

† Stocked only in zinc plate.
✱ These locknuts are cadmium plated.

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