



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.

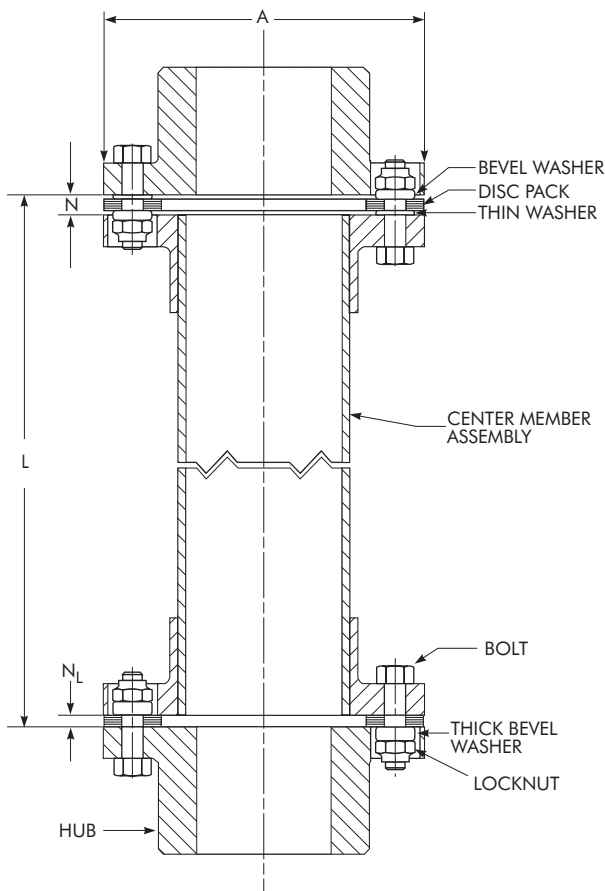


Figure 1

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 torqued. Examine the parts to assure there is not visible damage. If coupling is assembled, remove the bolts 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 can be made of thin wall stainless steel, steel, or composite material, and may be easily damaged. Use care when handling.

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.

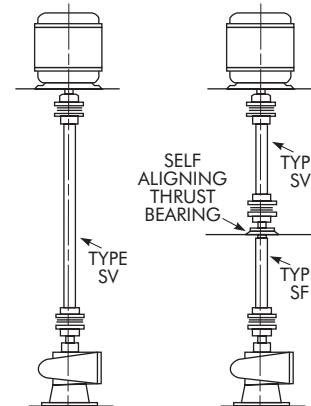


Figure 2

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 hubs expanded, slide it up the shaft to the desired axial position. A pre-set axial stop device can be helpful.

C. **Clamp Style/Shrink Disc** — This coupling is sometimes supplied with a clamp style hub or a hub equipped with a shrink disc. This allows for ease in making the final axial adjustment. See the certified print or specific instruction for this hub.

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 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.

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: $L = N + N_L + \text{Center Member Length}$

C. Rough Alignment — Adjust the equipment so that the coupling hub flanges are horizontally level. Use a plumb line. Attach one end of the string to the center of the driver shaft using an eye bolt. If shaft is not tapped, a strap clamped across the hub face may have to be used. Now extend the plumb line string down so that the point of the plumb bob is just above the center of the driven equipment shaft enter. Move the driver horizontally to get the plumb bob as close to the shaft center as possible. See Figure 3.

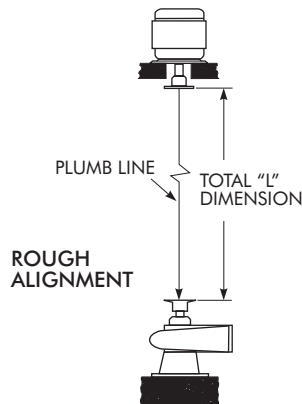


Figure 3

D. Angular Alignment — As the SV coupling is usually quite long, it is suggested to use the “Across the disc pack” procedure to correct the angular misalignments. See Figures 4, 5, and 6.

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

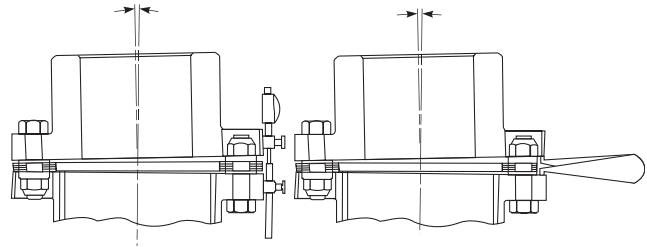


Figure 4

Figure 5

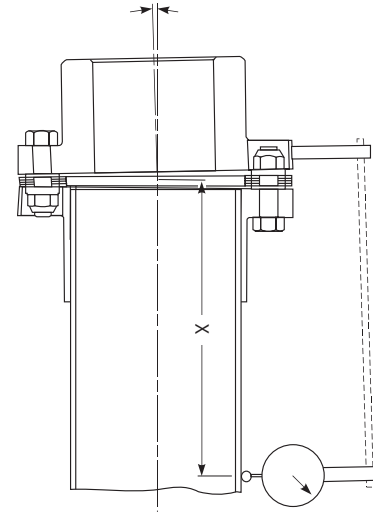


Figure 6

The method shown in Figure 6 is preferred because axial movement of the shafts during the alignment process does not affect the results. Rigidly mount a dial indicator on the adapter, reading out on the center tube a convenient distance “X”. Rotate the assembly. Adjust the equipment by shimming and/or moving so that the indicator is within .002 inch per inch of distance “X”. (Center of flex joint to position on center member tube where readings are taken.) If the method shown in Figures 4 and 5 is chosen, use .002 inch per inch of hub flange diameter as the limit. Repeat above for both ends until the coupling is aligned. This procedure will correct the shaft angular and shaft parallel offset misalignments. See Table 1.

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

- A. If the coupling arrived assembled, the disc packs are still attached to the center member assembly. Before taking the disc packs off, first install one hub bolt through the 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. With the hubs mounted and the span length “L” 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 on the bottom hub, and use stabilizing straps as necessary. Rotate the driver hub or center member so that the hub flange bolt holes line up with the center member flange clearance holes.
- C. Now install the disc pack into the top flex joint. See Figure 1. Slide the disc pack in between the two flanges lining up one hole in the pack with a bolt hole in the driver hub flange. Drop a bolt down through the flange bolt hole in the driver hub, washer (on Size 262 and larger); disc pack, center member clearance hole, another washer, and secure with a locknut. **The radius side of the washer should always be against the disc pack.**

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

Remove the alignment bolt from the disc pack, if used. Rotate the disc pack around until the rest of the holes line up with the hub flange holes. Repeat above for the remaining hub to disc pack bolts. Slightly tighten the locknuts. Do not fully tighten the locknuts at this time.

Install the remaining flex joint bolts by inserting them up through the center member hub flange bolt hole,

washer (on Size 262 and larger – the radius side of the washer should always be against the disc pack), disc pack, clearance hole in driver hub, another washer and secure with a locknut.

By the use of two “C” clamps across the top flex joint 180° apart compress the joint to the amount “N”. See Table 1. This should give the correct bottom flex joint clearance “N_L”. Now the locknuts can be slightly tightened. Do not fully tighten the locknut at this time.

- D. Now install the disc pack into the bottom flex joint. It may be necessary to tighten up a little on the two “C” clamps to give enough clearance between the bottom two flanges to install the disc pack. Rotate the driven hub or center member so that the hub flange bolt holes line up with the center member flange clearance holes. See Figure 1. Slide the disc pack in between the two flanges, lining up one hole in the pack with a bolt hole in the center member flange. Drop a bolt down through the bolt hole in the center member flange, disc pack, hub flange clearance hole, thick washer (the radius side of the washer should always be against the disc pack), and secure with a locknut. Remove the alignment bolt from the disc pack if used. Rotate the disc pack around until the rest of the holes line up with the center member flange bolt holes. Repeat above for the remaining center member to disc pack bolts. Slightly tighten the locknuts. Do not fully tighten the locknuts at this time.

Install the remaining flex joint bolts by inserting them up through the bottom hub flange bolt hole, disc pack, clearance hole in center member flange, thick washer and secure with a locknut. **The radius side of the washer should always be against the disc pack.** Remove the two “C” clamps from the top flex joint and slightly tighten the locknuts in the bottom flex joint. Do not fully tighten the locknuts at this time.

TABLE 1 — Locknut Tightening Torques and Suggested Maximum Alignment Values

COUPLING SIZE	“A” Diameter (inch)	Dimension “N _L ” (inch)	Dimension “N” (inch)		Axial Capacity (inch)	Thread Size	Torque Ft-Lb (in-Lb)	Alignment Total Indicator Reading	
			Min	Max				Angular (inch)	Parallel
100	3.22	0.13	0.43	0.46	± .019	#12-28	(96)	.007	.002" per Inch of "X" Dimension
125	3.84	0.15	0.51	0.54	± .023	1/4-28	(156)	.008	
162	4.34	0.16	0.52	0.55	± .018	1/4-28	(156)	.009	
200	5.44	0.16	0.55	0.58	± .018	5/16-24	25	.011	
226	5.81	0.18	0.57	0.60	± .018	5/16-24	25	.012	
262	6.69	0.22	0.46	0.49	± .022	3/8-24	34	.013	
312	7.81	0.25	0.49	0.52	± .026	7/16-20	60	.015	
350	8.69	0.29	0.53	0.56	± .028	1/2-20	95	.017	
375	9.69	0.34	0.58	0.61	± .031	9/16-18	130	.019	
425	10.50	0.37	0.61	0.64	± .034	5/8-18	175	.021	
450	11.31	0.40	0.77	0.79	± .036	11/16-16	150*	.023	
500T	12.88	0.47	0.77	0.79	± .041	3/4-16	190*	.026	
550T	14.44	0.54	0.90	0.92	± .046	7/8-14	255*	.029	
600T	16.00	0.60	0.97	0.99	± .051	1-14	335*	0.032	
700T	18.25	0.70	1.19	1.22	± .058	1-1/8-12	425*	0.037	
750T	19.81	0.77	1.25	1.29	± .063	1-1/4-12	560*	0.040	
800T	21.50	0.84	1.32	1.35	± .068	1-3/8-12	740*	0.045	
850T	23.00	0.90	1.38	1.42	± .072	1-1/2-12	950*	0.046	
925T	25.00	1.00	1.48	1.52	± .078	1-5/8-12	1350*	0.050	

NOTE: 1. These torque values are approximate for steel bolts with lubricated threads. Modification will be necessary for stainless steel. For stainless steel, the tightening 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.



- E. Make the final coupling alignment check at this time.
 - F. Fully tighten the locknuts. See Table 1 for torque values.
It is recommended that all locknuts be retightened after several hours of initial operation.
 - 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:
- A. At the top end of the coupling, remove all the locknuts and washers. 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 supporting the center member at this end.

- B. Now disassemble the bottom end. First suspend the center member by the use of “C” clamps at the top end flanged joint. Compress the top gap “N” slightly to take the pressure off the lower disc pack.

Now proceed per “7A” being sure to support the center member when taking out the bolts. Remove the center member.

- C. Replace parts as necessary. Recheck alignment per Section 5. Reassemble per Section 6.

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

TABLE 2 — Part Numbers and Quantity Required

COUPLING SIZE	Hub (No Bore)			Bottom Hub (No Bore)			Disc Pack (Two per Coupling)		Thin Washers (Top Flex Joint Assembly)			Quantity
	Steel	Zinc Plate	Stainless	Steel	Zinc Plate	Stainless	Stainless	Tomaloy	Steel	Zinc Plate	Stainless	
	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	Part No.	
100	216105	416105	716242	002819	002860	002906	310619	810619	Hubs are supplied with bushings pressed in place on these sizes			
125	816107	016107	616282	826601	002865	002914	310618	910618				
162	216132	416132	316132	926608	002871	002922	310663	710663				
200	816132	016133	916133	126615	002876	002930	810664	610664				
226	416134	616134	516134	326622	002882	002962	610984	210984				
262	526624	726624	626624				210985	010985	014762	511399	411399	8
312	426630	626630	526630				210957	010957	017142	211674	111674	8
350	526636	626636	004968				010952	810952	019099	111767	011767	8
375	026642	126642	003320				610943	410943	019101	511677	411677	8
425	226648	326648	003325				010986	810986	019102	003752	811850	8
450	326654	426654	003330				410987	210987	711655	911655	811655	8
500T	834415	010196	...			Same as Top Hub	620735	420735	711460	811460	007363	16
550T	034416	...	...				310962	110962	311750	511750	411750	16
600T	234417	...	...				910959	710959	612127	712127	...	16
700T	434418	...	...				420803	031285	511413	611413	...	16
750T	003126	...	...				921021	721021	111803	211803	...	16
800T	...	...	...				220851	031285	911800	011800	...	16
850T	...	...	...				020793	820793	611402	013648	...	16
925T	...	...	...				020958	031287	812176	...	...	16

CPLG SIZE	Bevel Washers (Top Flex Joint Assembly)				Bolts				Locknuts				Thick Bevel Washers (Bottom Flex Joint Assembly)			
	Steel	Zinc Plate	Stainless	Qty	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.	Part No.	Part No.		Part No.	Part No.	Part No.	
100	511192	711192	611192	4	411161	611161	511161	8	516503	716503	616503	8	002823	002864	002909	4
125	002161	002163	002162	4	510728	710728	610728	8	916504	116504	016504	8	213855	413855	313855	4
162	002161	002163	002162	6	510728	710728	610728	12	916504	116504	016504	12	213855	413855	313855	6
200	002170	002171	211205	6	210721	410721	310721	12	316505	516505	416505	12	713822	002881	005348	6
226	002170	002171	211205	8	210721	410721	310721	16	316505	516505	416505	16	713822	002881	005348	8
262	002167	002169	002168	8	110717†	110717	010717	16	716506	916506	816506	16	812532	012532	912532	8
312	002165	002166	002565	8	910966†	910966	002607	16	116507	316507	216507	16	002843	002893	002928	8
350	019098	210967	110967	8	310968	510968	410968	16	516508	616508	616508	16	002847	002897	002932	8
375	019100	010853	910853	8	210924	410924	310924	16	916509	116509	016509	16	002851	002901	002936	8
425	910928	110928	010928	8	210929	410929	310929	16	316510	516510	416510	16	002854	002905	002940	8
450	710916	910916	810916	8	010917	210917	110917	16	716511*	916511	816511	16	002859	013741	...	8
500T					516095	616095	007362	16	116512*	316512	216512	16	610919	810919	710919	8
550T					716096	816096	...	16	039125*	616514	007297	16	910920	110920	010920	8
600T					916097	016097	...	16	020253*	...	...	16	047125	603262	...	8
700T					116098	216098	...	16	020254*	...	...	16	047116	...	...	8
750T					316099	416099	...	16	020255*	...	...	16	...	...	...	8
800T					616200	716200	...	16	020256*	...	...	16	...	...	...	8
850T					816201	916201	...	16	035069*	...	...	16	...	...	...	8
925T					016202	...	...	16	568940*	...	...	16	...	...	...	8

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