


Form Flex® Axially Split Spacer Coupling Type BA and DA All Sizes Installation Instructions

P-5001-TBW
FORM 1170

BILL OF MATERIALS			
ITEM	PART NAME	QTY REQ'D	
		BA	DA
1	HUB	2	2
2	COUPLING BOLT	12	16
3	FLEX DISC	2	2
4	ELEMENT WASHER	24	32
5	COUPLING NUT	12	16
6	SPLIT SPACER	1	1
7	MOUNTING	24	32
8	ADAPTER	2	2

WARNING



ROTATING EQUIPMENT IS POTENTIALLY DANGEROUS AND MUST BE PROPERLY GUARDED. THE USER SHOULD COMPLY WITH APPLICABLE SAFETY CODES IN ACCORDANCE TO OSHA STANDARDS.

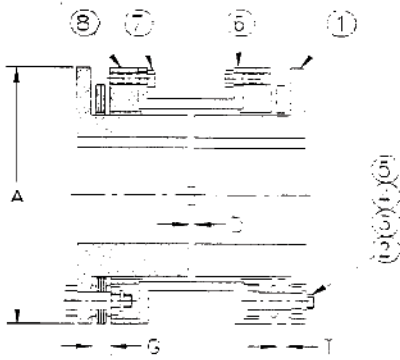


FIGURE 1

INSTALLATION DATA TABLE

LINE	DESCRIPTION	BA33	BA38	BA43	DA31	DA35	DA37	DA42	DA45	DA50	DA55	DA60	DA70
1	(A) COUPLING O.D. inches	4.69	5.87	6.70	7.81	8.69	9.69	10.50	11.31	12.88	14.44	16.00	18.25
2	(D) SHAFT GAP inches	0.12	0.12	0.12	0.19	0.25	0.25	0.25	0.31	0.31	0.38	0.38	0.38
3	(G) FLEX DISC GAP inches	0.33	0.40	0.48	0.44	0.54	0.69	0.69	0.75	0.96	1.04	1.10	1.40
4	(T) FLEX DISC THICKNESS inches	0.16	0.20	0.24	0.25	0.29	0.31	0.31	0.37	0.46	0.54	0.59	0.78
5	COUPLING NUT UNF THREAD SIZE	1/4	5/16	7/16	7/16	1/2	9/16	5/8	5/8	3/4	7/8	1	1 1/8
6	TIGHTENING TORQUE lb*ft Torque values for lubricated threads	9	17	45	40	70	95	125	150	210	320	450	575
7	MOUNTING FASTENER UNF SIZE	1/4	1/4	5/16	5/16	3/8	7/16	7/16	1/2	5/8	5/8	3/4	7/8
8	TIGHTENING TORQUE lb*ft torque values for lubricated threads	8	8	16	16	30	45	45	70	140	140	210	320
9	ALIGNMENT TIR inches	.010	.012	.014	.004	.004	.004	.005	.006	.006	.007	.008	.009

Proper care in installing and aligning will permit the coupling to operate to full capacity, compensate for angular misalignment and provide very good service life.

Shafts may become misaligned as a result of many natural and unavoidable causes. Heat, vibration, bearing wear, settling of foundations, etc., all tend to alter initial alignment. To ensure long life, recheck alignment after a short period of actual running.

In general, coupling life is increased when shafts are initially aligned carefully. If this is not done and a coupling is heavily stressed by torque or other forces, it will have little reserve left with which to accommodate misalignment stresses; and it might not provide the length of service intended. The closer the alignment TIR is to zero, the better the service life of the coupling.

INSTALLATION

- 1) A complete coupling should consist of the components shown in the Bill of Materials in figure 1. Examine the coupling to assure that no components are missing or damaged.
- 2) Inspect shafts and hubs to make sure they are free from burrs. Check for proper fit of the keys to the shafts and hubs. Check for proper fit of the keys to the hub and shaft keyways. Key edges should be chamfered to avoid interfering with radiused corners of the hub and shaft keyways. Keys should fit snugly side to side and about .010-.020" loose top and bottom.
- 3) Install coupling hubs with the flanged end away from the shaft end. Position each hub so that the small diameter end of the hub is flush to the end of the shaft.

Installing Interference Fitted Hubs

- a) Measure hub and shaft bores. The interference (hub bore - shaft diameter) should not exceed .001"/inch of shaft diameter.
- b) Heat the hub uniformly Use an oven, oil bath or similar process to provide uniform heating. Do not spot heat. Do not heat the hub above 600°F or distortion may occur. The temperature difference between the hub and shaft should be 160-180°F for each .001"/inch of interference.

c) After heating, quickly position the hub on the shaft with the key in place to assure proper alignment of the keyways.

CAUTION: Take proper safety precautions when handling heated hubs to avoid burning or other injuries.

d) Allow the hub to cool to a safe handling temperature before proceeding with the installation.

4) Assemble flex discs, coupling bolts and nuts and element washers to each hub before moving the equipment into position. The curved face of the element washer should face the flex disc as shown in figure 2.

NOTE: Flex discs are intended for use as complete sets. Individual blades are not ships that can be added or removed to adjust coupling length. Doing so can lead to a coupling failure which could cause serious personal injury or damage to connected equipment. The full disc thickness is shown on line 4 of the INSTALLATION DATA TABLE.

Torque nuts to the proper value shown on line 6 of the INSTALLATION DATA TABLE.

5) Move the equipment into position. Set the shaft gap to the D dimension shown in line 2 of the INSTALLATION DATA TABLE. Bring the equipment into approximate good alignment so that the split spacer may be installed without visibly distorting the flex discs.

6) Install the split spacer using the mounting fasteners. Hold the spacer halves firmly against the adapter pilot ring and snug all the mounting fasteners. See figure 3. Fasteners may be lubricated with light machine oil or a Moly-based anti-seize lubricant. Do not add lock washers. The threaded holes in the adapters are tapped with a self locking thread form.

7) After all of the mounting fasteners have been snugged, torque them to the value shown on line 8 of the INSTALLATION DATA TABLE.

ALIGNMENT

1) Attach a dial indicator to one shaft. Place the indicator pointer on either face of the adapter flange closest to that hub as shown in figure 4.

2) After zeroing the indicator, turn the coupling one full revolution. The total indicator reading (TIR) should be less then the values shown on line 9 of the INSTALLATION DATA TABLE. The reading should be as close to zero as possible to minimize the reaction forces applied to the connected equipment in operation.

3) Repeat steps 1 and 2 for the opposite end of the coupling.

4) Check the flex disc gap, dimension G in figure 1 as listed on line 3 of the INSTALLATION DATA TABLE.

5) OTHER INSTALLATION ISSUES.

a) Right angle gearboxes should be dowelled in place. They tend to counter-rotate in operation. Recheck alignment after dowelling the gearbox.

b) Pre-stretching or misaligning the coupling in the cold condition to allow for thermal growth is permitted. Thermal growth allowances should be based on actual measurements taken while the equipment is running in the hot condition.

c) If you are using alignment methods other then the one outlined here. use the following alignments limits:

Parallel offset: .002"/inch from hub flange to hub flange.

Angular offset: .002"/inch of flange diameter.

REPLACING FLEX DISCS

If necessary, flex discs are hardware may be removed and replaced without disturbing the connected equipment.

1) Remove the spacer mounting fasteners and the split spacer.

2) Loosen the coupling nuts and remove the hardware from one end of the coupling. Slide the adapter to one side as shown in figure 5. Remove and replace the flex discs as shown.

3) Reassemble and torque the nuts as instructed in the installation section.

4) Repeat steps 2 and 3 for the flange on the opposite end of the coupling.

5) Reinstall the spacer as instructed in the installation section.

REPLACEMENT PARTS

Replacement parts are available from TB Wood's Incorporated through your local distributor. Double repair kits consist of two sets of flex discs, coupling bolts and nuts, element washers and spacer mounting fasteners.

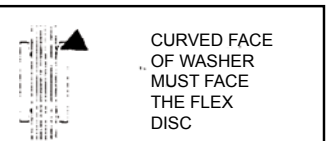


FIGURE 2

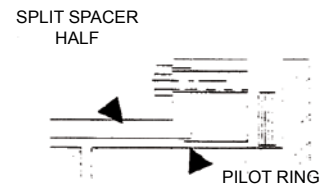


FIGURE 3

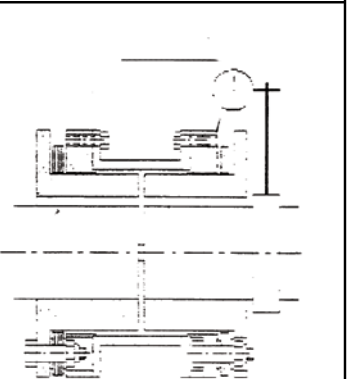


FIGURE 4

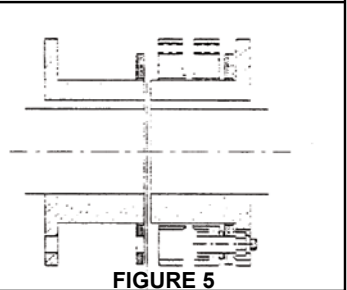


FIGURE 5



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