KOP-FLEX®

MAX-C® TYPE "UB" RESILIENT COUPLINGS

FORM
6007CPE
Revised
November 2015

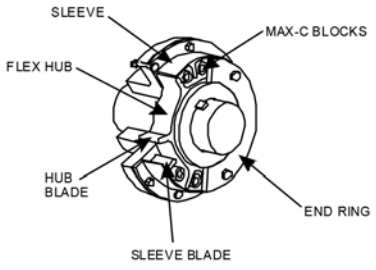
⚠ WARNING

- Read and follow all instructions carefully.
- Disconnect and lock-out power before installation and maintenance. Working on or near energized equipment can result in severe injury or death.
- Do not operate equipment without guards in place. Exposed equipment can result in severe injury or death.

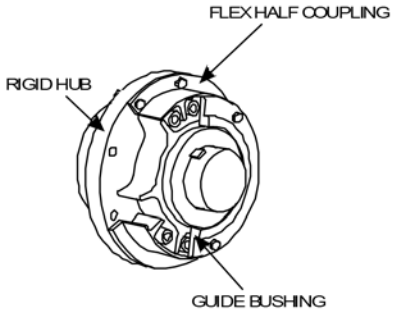
⚠ CAUTION

- Periodic inspections should be performed. Failure to perform proper maintenance can result in premature product failure and personal injury.

IDENTIFYING FEATURES



FLEX-RIGID
SHAFT TO SHAFT
FIGURE 1



FLOATING SHAFT
IDENTICAL TO FLEX RIGID
BUT WITH GUIDE BUSHINGS
FIGURE 2

ASSEMBLY

These instructions apply specifically to Couplings described in KOP-FLEX Engineering Data Sheet 6015.

1. MOUNT FLEX & RIGID HUBS

   a. Place an END RING over the shaft end on which the flex half coupling is to be mounted. (Floating shaft cou- plings will have guide bushings installed in end ring.)

   b. Clean the shaft and coat it with a suit- able anti-galling lubricant, such as ANTI-SEIZE.

   c. Expand HUB in oven until bore is substantially larger than the shaft diameter. Straight bored hubs are normally bored for an interference fit of approxi- mately 0.0005 in/in of shaft diameter. (For most values of interference, this will require a hub temperature of about 300°1). Install KEYS with a tight fit on sides and a slight clearance over or under the key. Remove HUB from oven and position quickly on shaft, with hub end flush with shaft end.

Note: Ensure that the end ring end of the hub is mounted away from the shaft end.

d. Taper Bored Hubs—

Micrometer Method: Calculate $G = \frac{d}{D} \times I$

where, G = Diametral Growth of hub body diameter

d = Diameter at small end of the bore

D = Hub body diameter. (Actual measurement with an external micrometer.)

I = Total Diametral Interference required.

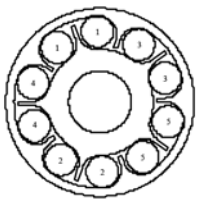
Set micrometer to D + G. Draw hub onto shaft until hub body diameter equals D + G, as checked with the micrometer at 90° to keyway(s).

Draw Method: Mount the cold hub hand tight on the shaft and tap lightly with a soft mallet to establish initial snug fit. Draw hub up an additional distance to obtain the desired interference fit for the connection. (The required amount of axial movement is dependent upon the bore diameter and taper angle.)

Install the hub retention means provided with the shaft and secure.

NOTE: Interference fit requirements in excess of 0.0005 in/in of bore diameter should be referred to KOP- FLEX for approval.

2. PLACE EQUIPMET IN POSITION Place SLEEVE into position over FLEX HUB and move equipment into place. Separate hubs by dimension 'C', Table A. (For flywheel mounted assemblies, carefully guide SLEEVE into rabbet in flywheel or adapter plate and attach.) Install flange bolts and tighten to proper installation torque.
3. ALIGN EQUIPMENT (See Fig. 4.) Attach END RING to SLEEVE using caution in guiding rabbeted diameter into place. Move equipment laterally and jack or shim vertically until gap 'X' between the END RING and the FLEX HUB is of uniform dimension when measured with a feeler gage, and until surface 'Y' is flush with surface 'Z' when a straight edge is placed across the two surfaces. (Where electric motors, generators or thrust bearings are involved, axial position of the rotor or bearing should be controlled while positioning equipment.)
4. INSTALL MAX-C RESILIENT BLOCKS After the equipment has been aligned as described above, and with the end ring supported over the shaft, insert the blocks in pairs using a nonmetallic hammer. See end view of Figure 3 for proper installation sequences.



ENDVIEW
FIGURE 3

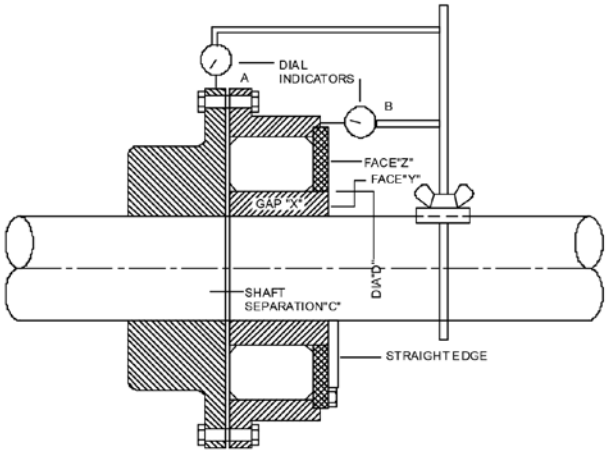


FIGURE 4

5. CHECK FINAL ALIGNMENT

Mount a dial indicator bracket on the flex half shaft with two dial indicators positioned as shown in Figure 4. Rotating the drive slowly, take readings at four points 90° apart and align as accurately as possible.

The two machines must be aligned within the tabulated values as shown in Table A.

Initial alignment should be as accurate as possible.

When alignment is completed, a final check with a straight edge should be made across the end ring and flex hub surfaces. If the difference exceeds the tabulated value, adjustment should be made by moving one of the machines axially.

TABLE A

CPLG SIZE	SHAFT SEP. "C"		ALLOWABLE INSTALLATION* MISALIGNIMENT LIMITS						BOLT TIGHTENING TORQUE VALUES			
			AXIAL** ±		RADIAL (INDICATOR "A")FIGURE 4		ANGULAR (INDICATOR "B") ±		CENTER FLANGE BOLTS (SEE NOTE)		END RING BOLTS	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	LB-FT	N-m	LB-FT	N-m
1.5	3/32	2.381	.010	.254	.006	.152	.006	.152	13	17.6	6	8.13
2.0	3/32	2.381	.010	.254	.006	.152	.007	.178	23	31.2	13	17.63
2.5	1/8	3.175	.015	.381	.008	.203	.008	.203	23	31.2	23	31.20
3.0	1/8	3.175	.015	.381	.008	.203	.010	.254	23	31.2	35	47.50
3.5	1/8	3.175	.015	.381	.008	.203	.012	.305	55	74.6	55	74.60
4.0	1/8	3.175	.015	.381	.010	.254	.014	.356	55	74.6	110	149.20
5.0	1/8	3.175	.015	.381	.010	.254	.016	.406	110	149.2	200	271.20
6.0	3/16	4.763	.020	.508	.015	.381	.020	.508	200	271.2	320	433.90
7.0	3/16	4.763	.020	.508	.015	.381	.020	.508	200	271.2	320	433.90

* INITIAL INSTALLATION SHOULD BE ALIGNED AS ACCURATELY AS POSSIBLE

** MISMATCH BETWEEN END RING FACE "Z" AND FLEX HUB FACE "Y"

NOTE: CENTER FLANGE BOLTS HAVE SPECIAL BODY DIAMETERS FOR TIGHT FIT IN THE JIG-REAMED BOLT HOLES— USE ONLY KOP-FLEX FURNISHED BOLTS FOR REPLACEMENT

6. ATTACH END RING

Carefully guide END RING into rabbet in SLEEVE, install bolts and tighten to proper installation torque. (END RING bolts to normally provided with Nylok inserts. Bolts should be inspected to ensure that these inserts are intact prior to attaching END RING.)

Maintenance

It is recommended that, during normal maintenance periods, the END RING be removed and the MAX-C BLOCKS be examined for evidence of cracking or splitting. The BLOCKS may also show some signs of permanent deformation, but unless there are signs of deterioration or destruction of the BLOCKS, this should not be considered cause for replacement. When replacement of the BLOCKS becomes necessary, the procedure for removal is the reverse of that described above for installation.

After removing the END RING, the BLOCKS can be levered out individually, or the SLEEVE can be jacked away from the RIGID HUB after flange bolts are removed, freeing all of the BLOCKS at once.

Once the BLOCKS have been removed, clean inner surfaces, insert new BLOCKS if required, and re-install END RING in accordance with installation instructions.

On floating shaft assemblies, the guide bushings can be replaced without moving connected equipment — instructions are furnished with the replacement bushings.

User Notice: The ratings of Kop-Flex's Type 'UB' coupling were established using the exceptional properties of the Kop-Flex MC elastomer. The use of any other material can severely alter the coupling performance. If replacement is ever necessary, the elastomer blocks must be replaced with Kop-Flex MC elastomer blocks. Kop-Flex also manufacturesotherrubber blocks for resilient couplings which are not intended for and should not be used in Type 'UB' couplings.

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