

# Form-Flex<sup>®</sup>

## Single Flex Coupling

### Installation and Maintenance Instructions

#### Type BH - All Sizes, All Classes

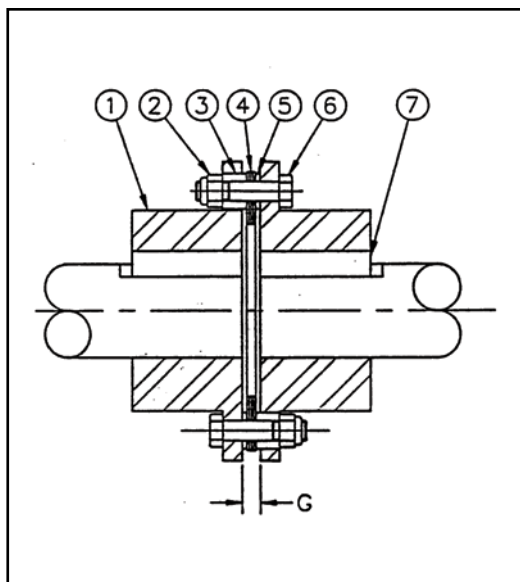


FIGURE 1

#### PARTS LIST

- 1) HUB (2)
- 2) NUT (6)
- 3) THICK WASHER (6)
- 4) FLEX ELEMENT (1)
- 5) THIN WASHER (6)
- 6) BOLT (8)
- 7) KEY (NOT INCLUDED)

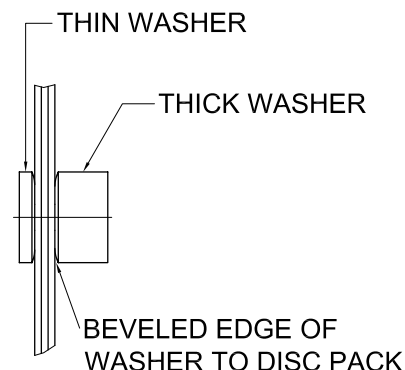


FIGURE 2

Proper care in installing and aligning will permit couplings 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 after initial alignment. To ensure longer life, re-check alignment after a short period of actual running.

In general, coupling life is increased when shafts are 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.

#### ASSEMBLY

- 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 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 flush to the shaft end. Position each hub so that the small diameter end of the hub is away from 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" 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 the coupling using Figure 1 and 2 as a guide. Torque the fasteners to the values in Table 2. The curved face of the element washer should face the flex disc as shown in Figure 2.

# ALIGNMENT

1. After preliminary alignment and complete assembly, secure a dial indicator to one hub as shown in Figure 3 and indicate the face of the other hub as shown. The method of mounting the indicator is optional.
2. Rotate the coupling to find the minimum indicator reading. Set the indicator for zero reading.
3. Again rotate the coupling 360° to check the misalignment.
4. Adjust the connected equipment until the indicator reading is within the maximum T.I.R. shown in Table 3. NOTE: The closer to zero misalignment the better the service that can be expected.

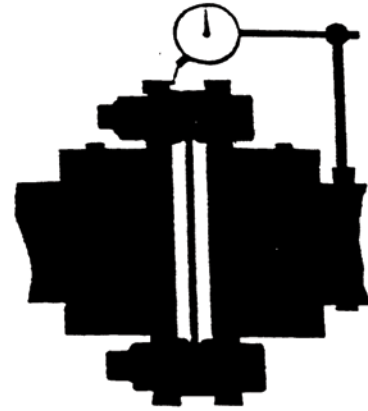


FIGURE 3

**TABLE 1 - FLANGE TO FLANGE, DIMENSION "G" - INCHES**

|      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|
| SIZE | 33   | 38   | 43   | 48   | 53   | 58   | 63   | 68   |
| G    | .29  | .34  | .47  | .50  | .52  | .56  | .60  | .85  |
| +/-  | .010 | .010 | .010 | .010 | .010 | .015 | .015 | .015 |

**TABLE 2 - NUT TIGHTENING TORQUE (Lightly oiled threads on stainless fasteners)**

|       |    |    |    |    |    |     |     |     |
|-------|----|----|----|----|----|-----|-----|-----|
| SIZE  | 33 | 38 | 43 | 48 | 53 | 58  | 63  | 68  |
| FT*LB | 8  | 17 | 40 | 40 | 60 | 120 | 120 | 200 |

**TABLE 3 - TOTAL INDICATOR READINGS (Inches)**

|       |      |      |      |      |      |      |      |      |
|-------|------|------|------|------|------|------|------|------|
| SIZE  | 33   | 38   | 43   | 48   | 53   | 58   | 63   | 68   |
| TIR * | .024 | .030 | .034 | .039 | .041 | .046 | .052 | .056 |

\*Equivalent to 3 deg per flex element. Lower T.I.R. readings will provide better alignment of shafts and longer service life.

IMPORTANT: To insure long life, re-check alignment after a short period of actual running. At this time, re-torque bolts & nuts to values in Table 2.

## REPLACEMENT PARTS

To order replacement parts it is necessary to furnish the complete part number(s) and the required part(s). Order must be placed with your distributor.

**Rotating equipment is potentially dangerous and should be properly guarded. The user should check for all applicable safety codes in his area and provide a suitable guard.**

### WARNING



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



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