

## INSTRUCTIONS

# ASSEMBLY & INSTALLATION PROCEDURE FOR 56C TO DUAL-FACE ADAPTER

### Objectives:

1. To correct shaft runout, concentricity, and perpendicularity issues of 56C frame motors that do not meet MTH standards but do meet NEMA standards.

Feature Tolerance	NEMA Tolerance	MTH Tolerance
—	.004”	.002”
<i>f</i>	.004”	.002”
~	.002”	.001”

Table 1: Tolerance Comparison

2. Retrofit 56C frame motors for adaptability to fit MTH’s product line(s).
3. Provide 316SS shafts.

### Assembly Procedure for 56C to Dual-Face Adapter: (Also see Chart 1)

1. Install 1/4-28 SHSS into shaft sleeve making sure not to encroach on the inside diameter of the sleeve to avoid interference with the motor shaft during installation.
2. Press bearing onto shaft sleeve using an arbor press and an appropriate piece of stock making sure not to damage the bearing. The bearing must seat against the shoulder for proper alignment.
3. Secure endbell in vise or appropriate fixture. It should be possible to install the shaft assembly with firm thumb pressure. If not, tap bearing/shaft assembly into bore of endbell very gently being sure to keep all appropriate faces oriented correctly with respect to each other.
4. Secure bearing using the two sets of 10-32 UNF SHCS’s, washers and nuts to prevent axial translation of the shaft.

**Installation Procedure for 56C to Dual-Face Adapter:** (Also see Chart 1)

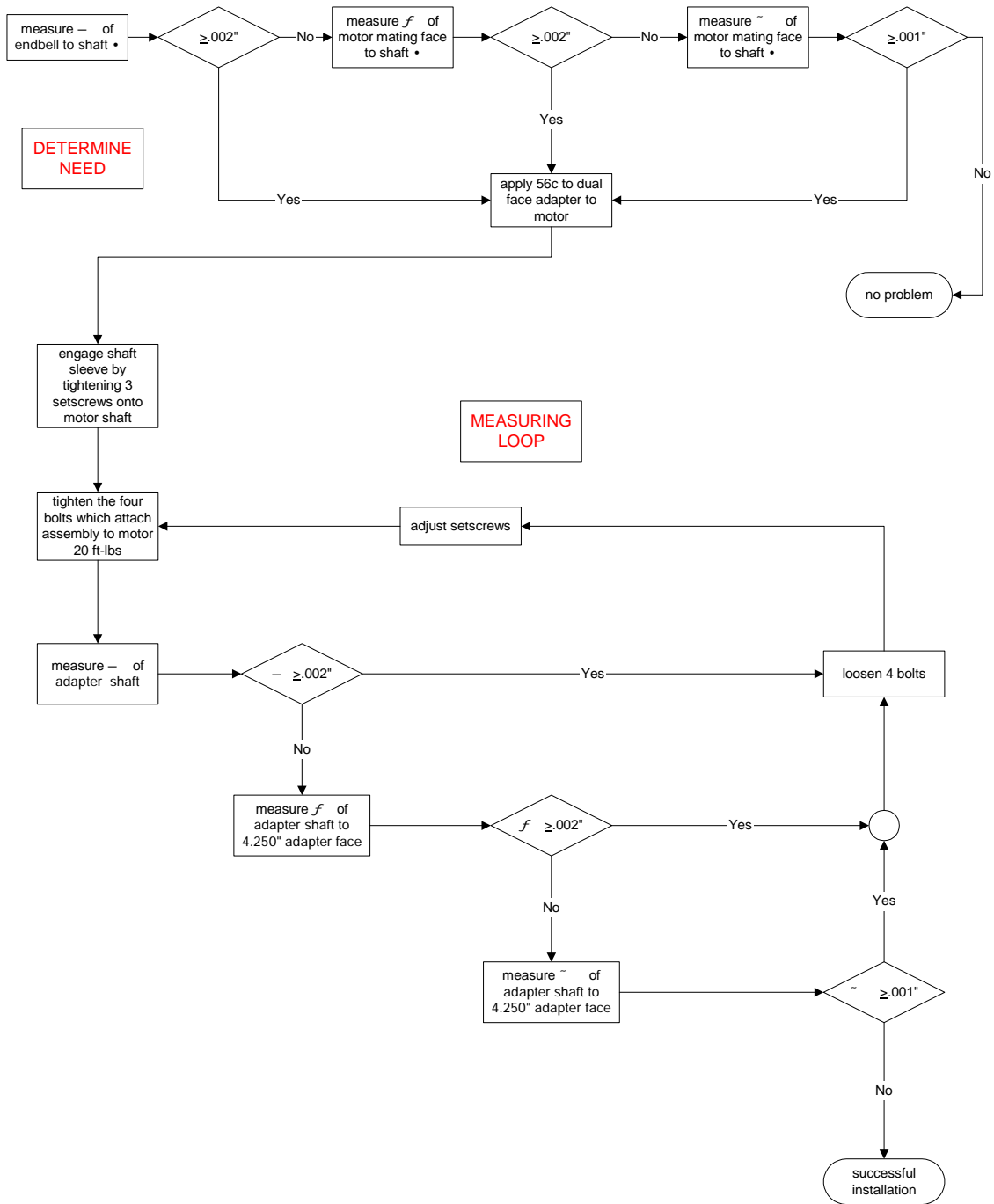
<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
15-3869-01-101	1/4-28UNF SHSS	3
15-4298-01-101	3/8-24UNF SHSS	3
20-4731-01-080	10-32UNF NUT	2
23-1022-01-080	DRIVE KEY	1
23-1487-01-080	SLEEVE KEY	1
24-1735-01-647	BALL BEARING, #304	1
33-3173-10-080	3/8-16UNC x 1.25 SHCS	4
33-5008-08-080	10-32UNF x 1.00 SHCS	2
41-4733-01-080	#10 WASHER	2
88-5010-01-104	SLEEVE, SHAFT	1
101-5026-01-080	ENDBELL, ADAPTER	1

Table 2: Bill of Material

1. Measure runout, concentricity, and perpendicularity of motor to be fitted with assembly to determine if it is required. Record for baseline reference. If out of tolerance (see Table 1) begin procedure outlined below.
2. Install sleeve key on motor shaft.
3. Stand motor on end and slide adapter assembly onto motor, engaging shaft sleeve with motor shaft.
4. Rotate endbell to desired position: recommended holes @ 0° and 180° and setscrews @ 30°, 150°, and 270°
5. Tighten 3/8-16UNC SHCS's to 20 ft-lbs in order to attach assembly to motor. Make sure 3/8-24UNF SHSS are not extending past mating plane of endbell so no interference occurs.
6. Tighten 1/4-28UNF SHSS's onto motor shaft to attach sleeve.
7. Measure concentricity of installed assembly using appropriate measuring devices and techniques. Record. If out of tolerance, adjust the endbell following outline below until within tolerance.
  - a) Loosen the 3/8-16UNC SHCS's.
  - b) Use rubber mallet and tap endbell slightly in logical direction.

- c) Tighten the 3/8-16UNC SHCS's to 20 ft-lbs as per MTH standard.
  - d) Remeasure to ensure concentricity has been brought within acceptable tolerances. If not repeat steps 6a)-d) until it is.
8. Once concentricity is achieved, perpendicularity of the shaft centerline to the 4.250" adapter face is next. Measure the feature parameter using appropriate measuring devices and techniques. Record. If within tolerance may skip to step 8. otherwise continue.
- a) Loosen the 3/8-16UNC SHCS's
  - b) Make an educated guess as to which of the adjusting 3/8-24UNF SHSS's should be adjusted. The adjustment of the 3/8-24UNF SHSS's may cause a change in the concentricity, thus this must be rechecked.
  - c) Tighten the 3/8-16UNC SHCS's to 20 ft-lbs as per MTH standard.
  - d) Remeasure to ensure concentricity and perpendicularity have been brought within acceptable tolerances. If not repeat steps 6. and 7. until they are.
9. Once concentricity and perpendicularity are achieved, total runout of the shaft is next. Measure the feature parameter using appropriate measuring device and technique. Record, if within tolerance, the installation is complete. Otherwise, go on to next step.
- a) Loosen the 3/8-16UNC SHCS's
  - b) Make an educated guess as to which of the adjusting 3/8-24UNF SHSS's should be adjusted. The adjustment of the 3/8-24UNF SHSS's may cause a change in the concentricity or perpendicularity, thus these must be rechecked.
  - c) Tighten the 3/8-16UNC SHCS's to 20 ft-lbs as per MTH standard.

Remeasure to ensure total runout of shaft has been brought within acceptable tolerances. If not repeat steps 6.-8. until all features are within tolerance. This completes installation. Failure to bring assembly within all recommended operating tolerances will result in sub par pump performance.



**CHART 1: 56C TO DUAL FACE ADAPTER APPLICATION PROCEDURE**