

0107

2 GENERAL INFORMATION

The following instructions will help you achieve a satisfactory installation of your Series M unit, ensuring the best possible conditions for a long and trouble free operation.

All units are tested and checked prior to despatch, a great deal of care is taken in packing and shipping arrangements to ensure that the unit arrives at the customer in the approved condition.

3 FITTING OF COMPONENTS TO EITHER THE UNIT INPUT OR OUTPUT SHAFT

Shaft diameters below 1.5 inches are held to limits of +0.0000 -0.0005

Shaft diameters of 1.5 and above are held to limits of +0.001-0.001

- Items (such as gears, sprockets, couplings etc) should not be hammered onto these shafts since this would damage the shaft support bearings.
- The item should be pushed onto the shaft using a screw jack device fitted into the threaded hole provided in the end of the shaft.
- Items being fitted may be heated to 177 / 212°F (80 / 100°C) to aid assembly further.

THREADED HOLE DETAILS

SIZE	No of Reductions	High Speed Shaft	Low Speed Shaft
M01	2, 3	1/4 UNF x .63 deep	1/4 UNF x .63 deep
M02	2, 3	1/4 UNF x .63 deep	1/4 UNF x .71 deep
M03	2, 3, 4, 5	1/4 UNF x .63 deep	1/4 UNF x .71 deep
M04	2	1/4 UNF x .63 deep	3/8 UNF x .86 deep
	3, 4, 5	1/4 UNF x .63 deep	3/8 UNF x .86 deep
M05	1	1/4 UNF x .63 deep	1/4 UNF x .63 deep
	2	1/4 UNF x .63 deep	3/8 UNF x .75 deep
	3, 4, 5	1/4 UNF x .63 deep	3/8 UNF x .75 deep
M06	1	1/4 UNF x .63 deep	1/4 UNF x .71 deep
	2	1/4 UNF x .63 deep	3/8 UNF x .75 deep
	3, 4, 5	1/4 UNF x .63 deep	3/8 UNF x .75 deep
M07	1	5/13 UNF x .63 deep	1/4 UNF x .71 deep
	2	5/13 UNF x .63 deep	5/8 UNF x 1.25 deep
	3	1/4 UNF x .63 deep	5/8 UNF x 1.25 deep
	4, 5	1/4 UNF x .63 deep	5/8 UNF x 1.25 deep

SIZE	No of Reductions	High Speed Shaft	Low Speed Shaft
M08	1	3/8 UNF x .87 deep	5/8 UNF x 1.25 deep
	2	3/8 UNF x .87 deep	3/4 UNF x 1.50 deep
	3	5/13 UNF x .63 deep	3/4 UNF x 1.50 deep
	4	1/4 UNF x .63 deep	3/4 UNF x 1.50 deep
	5	1/4 UNF x .63 deep	3/4 UNF x 1.50 deep
M09	2	1/2 UNF x 1.10 deep	3/4 UNF x 1.65 deep
	3	3/8 UNF x .87 deep	3/4 UNF x 1.65 deep
	4	1/4 UNF x .63 deep	3/4 UNF x 1.65 deep
	5	1/4 UNF x .63 deep	3/4 UNF x 1.65 deep
M10	2	5/8 UNF x 1.42 deep	3/4 UNF x 1.65 deep
	3	1/2 UNF x 1.10 deep	3/4 UNF x 1.65 deep
	4	5/13 UNF x .63 deep	3/4 UNF x 1.65 deep
	5	1/4 UNF x .63 deep	3/4 UNF x 1.65 deep
	M13	2, 3	3/4 UNF x 1.65 deep
4		5/13 UNF x .63 deep	1 UNF x 1.97 deep
5		1/4 UNF x .63 deep	1 UNF x 1.97 deep
M14	2, 3	3/4 UNF x 1.65 deep	1 UNF x 1.97 deep
	4	5/13 UNF x .63 deep	1 UNF x 1.97 deep
	5	1/4 UNF x .63 deep	1 UNF x 1.97 deep

4 WEATHER PROTECTION OF UNIT

All Series M units are provided with protection against normal weather conditions. Where units are to operate in extreme conditions, or where they are to stand for long periods without running, eg during plant construction, we should be notified when ordering so that arrangements for adequate protection can be made.

5 INSTALLATION

5.1 MOTORIZED AND REDUCERS (SIZES 01, 02, 03, 04, 05, 06 & 07)

Motorized and Reducer types of sizes 01, 02, 03, 04, 05, 06 & 07 are supplied ready filled with the appropriate amount of lubricant for the mounting position identified in the original order. (If the unit is to be mounted in a different position to that originally intended then the amount of lubricant in the unit will require amending

- See Lubrication Section 6 for the revised quantities
- Sizes M04 to M07 have several oil fill and drain plugs to cater for all mounting positions. See page 21 for plug positions.

MOTORIZED AND REDUCERS (SIZES 08, 09, 10, 13 & 14)

Motorized and Reducer types of sizes 08, 09, 10, 13 & 14 are shipped less oil, for the customer to fill on site once installed. The different mounting positions are indicated on page 20 with the appropriate oil fill quantities in Lubrication Section 6. The units have several oil fill and drain plugs to cater for all mounting positions. See page 21 for plug positions.

5.2 FIXING TO CUSTOMER EQUIPMENT

Fixing gear unit flange facings or feet to the customer's equipment use screws to ISO grade 8.8 minimum.

Torque tighten to:-

Screw Size	Tightening Torque							
	Holding Down Bolts / Output Flange Bolts			Motors to Gearhead				
M6	88	lbf.in	7.3	lbf.ft	88	lbf.in	7.3	lbf.ft
M8	220	lbf.in	18.3	lbf.ft	160	lbf.in	13.0	lbf.ft
M10	450	lbf.in	37.5	lbf.ft	325	lbf.in	27.0	lbf.ft
M12	750	lbf.in	62.5	lbf.ft	570	lbf.in	47.0	lbf.ft
M16	1770	lbf.in	147.5	lbf.ft	1330	lbf.in	110.0	lbf.ft
M20	3100	lbf.in	258.3	lbf.ft	2300	lbf.in	190.0	lbf.ft
M24	5400	lbf.in	450	lbf.ft	-			
M30	10800	lbf.in	900	lbf.ft	-			
M36	19000	lbf.in	1585	lbf.ft	-			

5.3 MOTOR CONNECTIONS

TOMAINS

Connection of the electric motor to the mains supply should be made by a qualified person. The current rating of the motor will be identified on the motor plate, and correct sizing of the cables to electrical regulations is essential.

MOTOR TERMINAL CONNECTION

Circuit diagrams for the correct wiring of the motor terminal box are included on page 22 of this document if the motor is of Textron Power Transmission plating. Alternatively if the motor is supplied separately or if fitted with a motor from a different manufacturer, then this should have appropriate documentation provided with it.

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5.4 FOOT-MOUNTED UNITS

The following procedure is recommended for all foot mounted units.

Foot mounted units are supplied either as free standing units, or if required, mounted on a standard baseplate with a foot mounted motor correctly aligned and connected by a Textron Power Transmission flexible coupling.

- a) Clean shaft extensions and ventilator when fitted.
- b) Secure unit, or baseplate if fitted to a rigid foundation using heavy duty bolts to ISO grade 8.8 minimum.
- c) Ensure baseplate is not distorted
Note: Units not supplied on baseplates should if possible be mounted on the same bedplate as the prime mover.
- d) Align unit (see pages 23 and 24)
Note: It is important to ensure when aligning unit on baseplate that all machined mounting points are supported over their full area.
If steel packings are used these should be placed either side of the foundation bolt as close as possible. During the finale bolting ensure the unit or baseplate is not distorted this will cause strains in the gear case resulting in errors of alignment of shafts and gearing.
- e) For units mounted on bedplates after alignment select any two diagonally opposite feet, drill ream and dowel in position.
- f) Fit guards in accordance with the factory acts.
- g) Check motor wiring for correct direction of rotation this is important when a backstop device is fitted.
- h) Fill gear unit with oil (if not factory filled) as detailed in Section 6.

5.5 REPLACEMENT OF OIL SEALS

- a) Clean and drain the unit.
- b) Remove any equipment from the outputshaft such as couplings and remove the output key.
- c) Remove the old seal
- d) Smear oil seals with grease (NLGI Grade 2 grease).
- e) Fit replacement seal on a seal guide, slide it along the shaft and press the seal into the housings.
- f) Fill with the correct amount of an approved lubricant, see Lubrication Section 6.