

0107

**6 LUBRICATION AND MAINTENANCE**

**6.1 LUBRICATION**

Gear units 01, 02, 03, 04, 05, 06 & 07 will be supplied filled with a quantity of EP mineral oil (TPT Grade 6E) appropriate to the intended mounting position (see page 20). However if, as requested, the unit is supplied without lubricant then the oil quantity required is obtained from Table 2. Gear units 08, 09, 10, 13 & 14 are supplied without lubricant. Recommended lubricants are listed in the Approved Lubricant scheme booklet.

**6.2 PERIODIC INSPECTION**

Check oil level every 3000 hours or 6 months whichever is sooner on sizes M04, 05, 06, 07, 08, 09, 10, 13 and 14 and if necessary top up with the recommended grade of lubricant.

**6.3 OIL CHANGES**

- Sizes 01, 02 and 03 units are lubricated for life.
- All other sizes of Series M will require an oil change:
  - 10,000 hours for mineral oil
  - 20,000 hours for synthetic oil

**6.4 TEMPERATURE LIMITATIONS**

The standard lubricant is suitable for operation in ambient temperatures of 32° to 95°F (0° to 35°C), outside of this consult Table 1 or Textron Power Transmission Application Engineers.

**TABLE 1 OIL GRADES**

LUBRICANT	AMBIENT TEMPERATURE RANGE		
	type E 23°F to 68°F (-5°C to 20°C)	32°F to 95°F (0°C to 35°C)	68°F to 122°F (20°C to 50°C)
EP Mineral Oil (type E)	5E (VG 220)	6E (VG 320)	7E (VG 460)
Polyalphaolefin based Synthetic with EP additive (type H)	5H (VG 220)	5H (VG 220)	6H (VG 320)

**6.5 GREASE LUBRICATION**

Where re-greasing points are provided add 2 shots monthly of NLGI 2 grade grease.

**6.6 VENTILATOR**

For units sizes M04 and larger a ventilator plug is supplied loose with each unit. Remove the filler plug as indicated on page 21 and fit the ventilator plug.

**6.7 LUBRICATION QUANTITIES**

**TABLE 2 LUBRICANT QUANTITY (Liters)**

Oil quantities are approximate, fill gearbox until oil escapes from level plug hole. Do not overfill as excess lubricant may cause overheating and leakage.

SINGLE REDUCTION					
Unit Size	M0512	M0612	M0712	M0812	
MOUNTING POSITION	1	0.3	0.6	1.2	2.5
	2	0.3	0.6	1.2	2.5
	3	0.3	0.6	1.2	2.5
	4	0.4	0.7	1.5	3.5
	5	0.4	0.6	1.2	2.5
	6	0.5	1.0	2.0	4.1

**CONVERSION TABLE**

Liters to US gallons = liters x 0.26

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DOUBLE REDUCTION AND FINAL STAGE QUADRUPLE AND QUINTUPLE REDUCTION													
Unit Size	M0122	M0222	M0322	M0422	M0522	M0622	M0722	M0822	M0921	M1021	M1321	M1421	
MOUNTING POSITION	1	0.7	0.75	0.75	1.5	1.5	2.0	2.6	3.7	10.5	11.0	17.0	24.0
	2	0.7	0.75	0.75	1.8	1.8	2.0	3.1	6.2	12.0	22.0	31.0	49.0
	3	0.7	0.75	0.75	1.6	1.6	1.8	2.8	5.4	12.0	22.0	31.0	49.0
	4	0.7	0.75	0.75	1.9	1.9	2.1	3.3	7.3	12.0	19.0	28.0	41.0
	5	1.0	1.45	1.45	1.9	1.9	2.1	3.2	6.4	16.8	32.0	47.0	72.0
	6	1.0	1.45	1.45	2.7	2.7	2.9	4.9	9.1	16.4	26.0	38.0	65.0

TRIPLE REDUCTION AND FINAL STAGE QUADRUPLE AND QUINTUPLE REDUCTION													
Unit Size	M0132	M0232	M0332	M0432	M0532	M0632	M0732	M0832	M0931	M1031	M1331	M1431	
MOUNTING POSITION	1	0.7	0.7	0.7	1.3	1.3	1.9	2.3	3.4	11.5	11.0	17.0	24.0
	2	0.7	0.7	0.7	1.6	1.6	1.8	2.9	6.0	11.5	23.0	33.0	50.0
	3	0.7	0.8	0.8	1.5	1.5	1.7	2.6	5.8	11.5	23.0	33.0	50.0
	4	0.7	0.8	0.8	1.9	1.9	2.1	3.3	7.9	11.5	20.0	30.0	43.0
	5	1.0	1.4	1.4	1.9	1.9	1.9	2.9	6.4	16.8	32.0	47.0	72.0
	6	1.1	1.5	1.5	2.5	2.5	2.7	4.7	9.3	16.5	27.0	40.0	67.0

PRIMARY STAGE QUADRUPLE REDUCTION (Quantities obtained from above double and triple for sizes indicated)											
Unit Size	M0342	M0442	M0542	M0642	M0742	M0842	M0941	M1041	M1341	M1441	
PRIMARY UNIT	M0122	M0322	M0322	M0322	M0322	M0522	M0522	M0722	M0722	M0722	
SECONDARY UNIT	M0322	M0422	M0522	M0622	M0722	M0822	M0921	M1021	M1321	M1421	

PRIMARY STAGE QUINTUPLE REDUCTION (Quantities obtained from above double and triple for sizes indicated)											
Unit Size	M0352	M0452	M0552	M0652	M0752	M0852	M0951	M1051	M1351	M1451	
PRIMARY UNIT	M0132	M0332	M0332	M0332	M0332	M0532	M0532	M0732	M0732	M0732	
SECONDARY UNIT	M0322	M0422	M0522	M0622	M0722	M0822	M0921	M1021	M1321	M1421	

## 7 STARTING UP

### 7.1 PRIOR TO STARTING UP

- a) ensure ventilator is fitted (M04 & above)
- b) check oil level (M04 & above) top up if necessary
- c) ensure all safety devices are in place (ie guards fitted)
- d) remove any safety devices fitted to prevent machine rotation

### 7.2 Starting up should be performed or supervised by suitably qualified personnel

Caution: any deviation from normal operating conditions, (increased temperature, noise, vibrations, power consumption etc) suggest a malfunction, inform maintenance personnel immediately.

## 8 NOISE

The range of Series M product satisfies a noise (sound pressure level) of 85 dB(A) or less when measured at 1 meter from the unit surface.

Measurements taken in accordance with AGMA 299.01 (B.S.7676 Pt1 : 1993) (ISO 8579-1 : 1993).

## 9 CLEANING

With the drive stationary periodically clean any dirt or dust from the gear unit and the electric motor cooling fins and fan guard to aid cooling.

Any further information or clarification required may be obtained by contacting Textron Power Transmission, Please see contact details at the back of this booklet.