

# MOONEY



## M20 SERIES

SERVICE INSTRUCTION M20-92

DATE: 1-15-92

**SUBJECT:** REPLACEMENT OF TORSION SPRING IN DRIVE CLUTCH ASSEMBLY OF GEC (PLESSEY) LANDING GEAR ACTUATORS, MOONEY P/N 880037-505 AND 880037-507.

SEE GEC (UK) AEROSPACE INC., SERVICE INSTRUCTION No. S1-11, DATED 12/17/91 or SUBSEQUENT REVISION.

**MODELS/ S/N'S AFFECTED:** MOONEY M20J, S/N 24-0001 THRU 24-TBA (WITH GEC [PLESSEY] ACTUATOR INSTALLED)  
MOONEY M20K, S/N 25-0001 THRU 25-TBA (WITH GEC [PLESSEY] ACTUATOR INSTALLED)  
MOONEY M20M, S/N 27-0001 THRU 27-TBA (WITH GEC [PLESSEY] ACTUATOR INSTALLED)  
MOONEY M20L, S/N 26-0001 THRU 26-TBA (WITH GEC [PLESSEY] ACTUATOR INSTALLED)  
AND ALL M20 SERIES AIRCRAFT RETROFITTED WITH SUBJECT ACTUATORS.

**TIME OF COMPLIANCE:** AT 1000 FLIGHT HOURS OR SCHEDULED MAINTENANCE JUST PRIOR TO REACHING 1,000 FLIGHT HOURS.

**INTRODUCTION:** There have been 2 reports of a malfunction of the torsion spring at 1200 and 1500 flight hours in GEC (Plessey) Model No. R5329M12-1 or R5329M24-1 (Mooney P/N 880037-505 and -507) landing gear actuators during operation in Mooney aircraft.  
This Mooney Service Instruction is to notify field maintenance personnel of the GEC (UK) Service Instruction, No S1-11, dated 12-17-91 which requires torsion spring replacement at 1,000 flight hours.

**INSTRUCTIONS:** SEE GEC SERVICE INSTRUCTION S1-11, DATED 12/17/91 or SUBSEQUENT REVISION.

**REFERENCE DATA:** SEE GEC SERVICE INSTRUCTION S1-11, DATED 12/17/91 or SUBSEQUENT REVISION.

**PARTS LIST:** SEE GEC SERVICE INSTRUCTION S1-11, DATED 12/17/91 or SUBSEQUENT REVISION.

**FIGURES/ TABLES:** SEE GEC SERVICE INSTRUCTION S1-11, DATED 12/17/91 or SUBSEQUENT REVISION.

GEC Service Instruction S1-11 and spring replacement kit are available from GEC (UK) Aerospace Inc., 110 Algonquin Parkway, Whippany, NJ 07981-1640, Telephone (201) 428-9898, FAX (201) 884-2277, Product Support Direct Telephone, (201) 428-8787



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Ref, SIM20-92

# SERVICE INSTRUCTION

SI-11

CHAPTER NAME- Landing Gear

MODEL- R5329M12-1 and R5329M24-1

PURPOSE- Replace torsion spring in drive clutch assembly every 1000 flight hours.

REASON- Two torsion spring failures reported at 1200 and 1500 flight hours.

CORRECTIVE ACTION-

Disassemble actuator as follows:

- 1) Using a razor or sharp knife slice through identification plate.
- 2) Remove eight bolts (1) and eight self-locking nuts (2) from fixed end fitting (3). Discard self-locking nuts.
- 3) Remove fixed end fitting (3). Leave retaining plate on opposite end on screw assembly.
- 4) Remove two bolts (4) and two self-locking nuts (5) that secure housings together. Discard self locking nuts.
- 5) Separate housings and remove pinion (6) with attached bearings.
- 6) Cut lockwire and remove two screws (7) and drive clutch assembly (8) with shims (9).

Disassemble drive clutch assembly as follows:

- 1) Remove spur clutch gear (10), clutch housing (11), and torsion spring (12). Discard torsion spring.
- 2) Clean all removed parts thoroughly.

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**CORRECTIVE  
ACTION-**

(cont.)

Re-assemble drive clutch assembly as follows:

NOTE: Lubricate shaft and screw spring with grease per Military Specification MIL-G-21164.

- 1) Install new torsion spring (12), identified with yellow pinion in ID with tab against stop.
- 2) Re-install clutch housing (11) and spur clutch gear (10).

Re-assemble actuator as follows:

- 1) Install shims (9) and clutch drive assembly (8) into ball bearing of motor housing. Secure with screws (7). Torque screws 18 to 22 in-lb. Lockwire screw (7) to screw (7).
- 2) Install pinion (6) with attached ball bearings into slot of motor assembly.
- 3) Coat all gears and fill cavity between housings with grease per Military Specification MIL-G-81322.
- 4) Install housings together by lining up ball bearings and slot of drive clutch assembly. Do not use force to join housings.
- 5) Install two bolts (4) and two new self-locking nuts (5) to secure housings together. Torque bolts 60 to 75 in-lb.
- 6) Install fixed end fitting (3) and line up with retaining plate on jackscrew end. Install eight bolts (1) and eight new self-locking nuts (2). Torque bolts 60 to 75 in-lb.
- 7) After testing of actuator apply a coat of F-1000 sentry seal across face of self-locking nuts (5) and bolt threads (4), and the four middle self-locking nuts (2) and bolt threads (1).

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### CORRECTIVE ACTION-

(cont.)

- 8) Transfer all information from old to new nameplate and install new nameplate onto actuator. Add onto last line of nameplate S-I-11-A, mark each succeeding clutch torsion spring replacement thereafter with next consecutive letter.

Example: S-I-11-A,B etc.

### Parts Required:

Kit E10439 or E10440

Cost of Kit: \$18.50  
 Price firm through 1 April, 1992.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty</u>
22NM-02 (V72962)	Nut, Self-locking	10
5630903	Spring, Torsion (with some yellow primer on ID)	1
* 6023302-26	Plate, Identification	1
@ 6023302-27	Plate, Identification	1

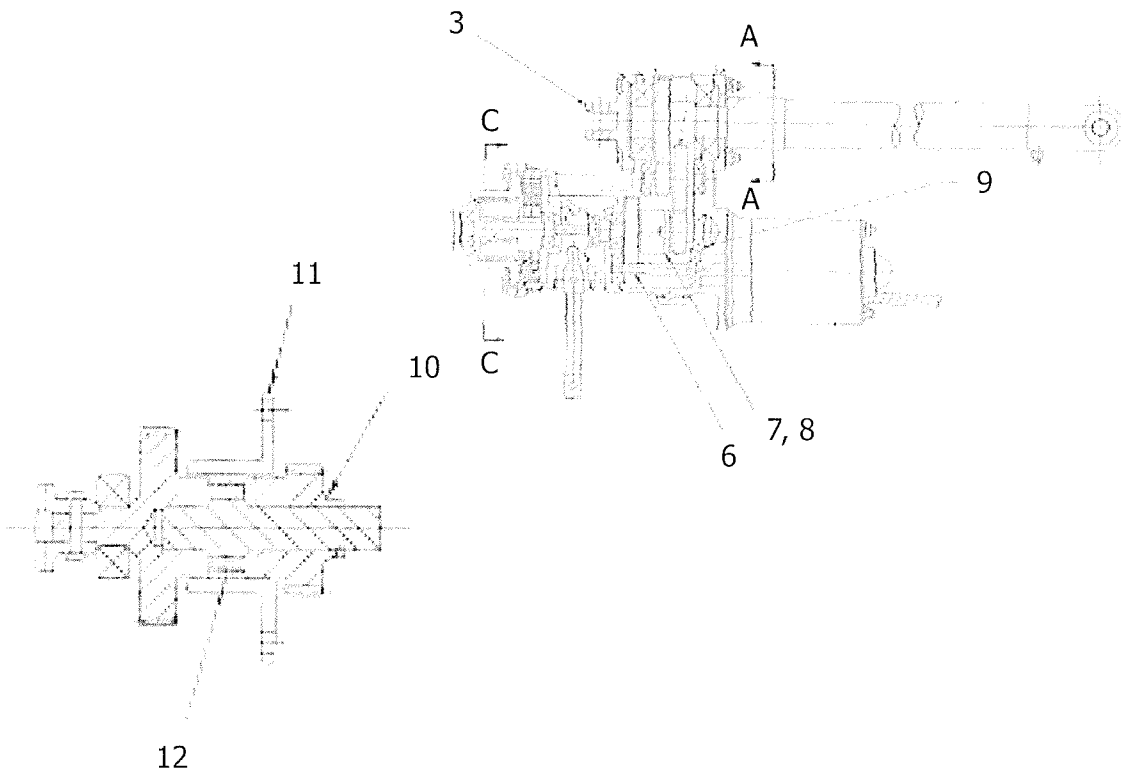
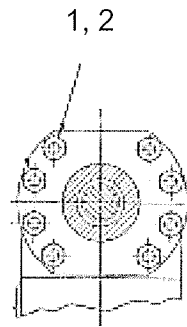
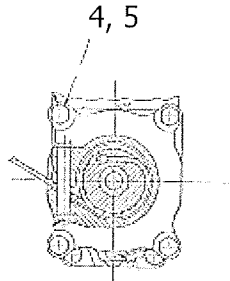
- \* Part of E10439 only (R5329M12-1)  
 @ Part of E10440 only (R5329M24-1)

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