



THIS BULLETIN DOES NOT CHANGE AIRCRAFT TYPE DESIGN

SERVICE BULLETIN M20-279 REVISION B

Date: January 14, 2002

SUBJECT: Mooney Aircraft Corporation, Inspection of EATON and AVIONIC PRODUCTS Landing Gear Actuators, MAC P/N 560254-501, -503, -505, And -507, (EATON and AVIONIC PRODUCTS P/N 102000-1, -2, -3, -4, -5, and -7 Landing Gear Actuators).

Rev. B: - Revised to include Eaton's current procedures.

MODELS/ S/N
AFFECTED: -M20C – S/N 20-1147 through 20-1185 and 20-0010 equipped with AVIONIC PRODUCTS or EATON P/N 102000-1, -2, -3, -4, -5, or –7 Landing Gear Actuator per MAC Drawing 940007 "Retrofit, Avionic Products/Plessey Electric Gear Actuator".

-M20E – S/N 21-1161 through 21-1180 and 21-0038 equipped with AVIONIC PRODUCTS or EATON P/N 102000-1, -2, -3, -4, -5, or –7 Landing Gear Actuator per MAC Drawing 940007 "Retrofit, Avionic Products/Plessey Electric Gear Actuator".

-M20F – S/N 22-1179 through 22-1291 except 22-1246, and 22-1293 through 22-1305 equipped with AVIONIC PRODUCTS or EATON P/N 102000-1, -2, -3, -4, -5, or –7 Landing Gear Actuator per MAC Drawing 940007 "Retrofit, Avionic Products/Plessey Electric Gear Actuator".

-M20J – S/N 24-0001 and ON equipped with AVIONIC PRODUCTS or EATON P/N 102000-1, -2, -3, -4, -5, or –7 Landing Gear Actuator.

-M20K – S/N 25-0001 and ON equipped with AVIONIC PRODUCTS or EATON P/N 102000-1, -2, -3, -4, -5, or –7 Landing Gear Actuator.

-M20L – S/N 26-0001 through 26-0041 equipped with AVIONIC PRODUCTS or EATON P/N 102000-1, -2, -3, -4, -5, or –7 Landing Gear Actuator.

-M20M – S/N 27-0001 and ON equipped with EATON P/N 102000-5, or –7 Landing Gear Actuator.

-M20R – S/N 29-0001 and ON equipped with EATON P/N 102000-5, or –7 Landing Gear Actuator.

-M20S – S/N 30-0001 and ON equipped with EATON P/N 102000-5, or –7 Landing Gear Actuator.

TIME OF
COMPLIANCE: **ONE TIME INSPECTION AT NEXT SCHEDULED MAINTENANCE, NOT TO EXCEED 100 FLIGHT HOURS**

INTRODUCTION: Mooney Aircraft received a report concerning failure of a landing gear actuator. This failure rendered the landing gear **inoperative** in both normal and emergency modes. Mooney Aircraft directs that all effected aircraft comply with EATON SERVICE INSTRUCTION SI102000-1-901 (Enclosure 1), which outlines the one time only inspection procedures to be performed and action taken, if necessary.

INSTRUCTIONS: **NOTE:** If it can be verified by logbook entry or aircraft inventory records that the aircraft does not have one of the landing gear actuators installed as referenced above, proceed to step 9 and comply with steps 9 and 11 only. Logbook entry should state " Complied with MAC Service Bulletin M20-279 of 4 Sept. 2001. Verified by document inspection that landing gear actuator was of a part number not affected by SB M20-279." If verification is not possible, proceed to step 1.

1. Place aircraft on jacks.
2. Remove the one piece belly skin on M20C, E, F, J and K aircraft, and the forward belly skin on M20M, R and S aircraft.
3. Refer to the applicable MAC Service & Maintenance Manual, SECTION 32-30-0 to locate landing gear actuator. Check part number to see if actuator is referenced by this Service Bulletin. If not, proceed to steps 8, 9, and 11.
4. Refer to the applicable MAC Service & Maintenance Manual, SECTION 32-30-05 on procedures for removing and installing the actuator. (MAC SI M20-52, Revision A or B can also be referred to for removal and installation of the actuator), and remove actuator.
5. Comply with Enclosure 1 (EATON SERVICE INSTRUCTION SI102000-1-901).
6. Re-install actuator in accordance with procedures in the applicable MAC Service & Maintenance Manual, SECTION 32-30-05. Verify Landing Gear Rigging and proper operation is in accordance with all of SECTION 32-30-00 procedures.
7. Test landing gear operation by cycling gear several times. Allow @ 1 minute between cycles to avoid overheating motor.
8. Remove electrical power, reinstall belly skins per MAC Service and Maintenance Manual, and remove aircraft from jacks.
9. Return aircraft to service after Logbooks entries have been completed.
10. Perform functional test flight to ensure normal landing gear and warning system operation (extension and retraction). Perform tests in both normal and emergency extension modes.
11. Add CAUTION note to the aircraft POH per the instructions in Paragraph II of this bulletin.
12. No further action is required after compliance with this one time Service Bulletin.

NOTE: While EATON 102000 Landing Gear SERVICE INSTRUCTION SI102000-1-901 of September 24, 2001 only recommends replacement of the Clutch (No-Back) Spring if the aircraft is approaching 1000 hours since compliance with MAC Service Instruction M20-52, Mooney Aircraft Corporation recommends replacement of the spring while the actuator is disassembled. MAC is supplying (1) Eaton P/N 102053 Clutch (No-Back) Spring to be installed at the time of compliance of this SB. The installation of the new Clutch (No-Back) spring in conjunction with compliance with this SB fulfills the 1000 hour inspection requirement set forth in MAC Service Letter 98-2 Revision A or B, MAC Service Instruction M20-52 Revision B, or MAC Service Bulletin M20-266A Revision A dated 1 December, 1998. This Service Bulletin does not supercede, cancel, or modify in any way SUBSEQUENT required 1000 hour inspections. Compliance with the above referenced Service Bulletin/Letter will be due 1000 hours from the time of compliance with SB M20-279.

WARRANTY:	Mooney Aircraft Corporation recommends that the effected aircraft be taken to an authorized Mooney Service Center for removal, inspection, installation, testing and documentation. It is estimated that compliance with this Service Bulletin should take no longer than 5.5 man hours. Service Bulletin compliance performed in conjunction with other maintenance actions should reflect a corresponding decrease in billable hours. At this time, Eaton Corporation intends to provide the 1020MODKIT-1 parts kit to the customer through Mooney Aircraft Corporation Parts Department.
REFERENCE DATA:	Enclosure 1: EATON 102000 Landing Gear SERVICE INSTRUCTION SI102000-1-901 of September 24, 2001.
PARTS LIST:	KIT: (1) P/N 1020MODKIT-1; (1) P/N 102053 Spring, (No-Back) Clutch
FIGURE/TABLES:	Reference Enclosure 1

- II. Cut along outline, punch holes and place in AIRPLANE FLIGHT MANUAL, Section 7, LANDING GEAR, as page facing **WARNING SYSTEM** paragraph:

MOONEY
M20C/E/F/J/K/L/M/R/S

SECTION VII
AIRPLANE AND SYSTEM DESCRIPTION

Addendum to: **LANDING GEAR**

WARNING SYSTEM

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~CAUTION~  
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The absence of any of the above described indications in their Normal sequence may represent a potential failure in the Landing Gear or Indicator system. The floor mounted visual gear position Indicator presents a mechanical indication of gear status. The Visual gear position indicator shall be verified to be in the **DOWN** Position (indicator marks aligned with the word **DOWN** fully visible) prior to **ALL** landings.

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