



NUMBER: S.I. M20-62

DATE: 10-13-82

**SUBJECT:** REPLACEMENT OF COLE-HERSEE, STARTER SOLENOID WITH CUTLER-HAMMER, P/N 6041H105A  
**MODELS AFFECTED:** Mooney Model M20K S/N 25-0681 thru 25-0719 and any M20 series aircraft that have had a Cole-Hersee solenoid installed in place of the original Prestolite.

**TIME OF COMPLIANCE:** At the next scheduled maintenance or sooner at owners discretion.

**INTRODUCTION:** There have been reports of the contacts sticking closed on Cole-Hersee starter solenoids on Mooney M20K airplanes. This causes power transmission to the starter when the master switch is turned on. The propeller will rotate but the engine will not start if magneto switch is off. It is recommended that the Cole-Hersee solenoid be replaced with the improved solenoid.

#### INSTRUCTIONS:

#### CAUTION

Exercise extreme caution in the area of the propeller when energizing the electrical system.

- a) Pull AUX, BUS and IGN-TACH, CIG LTR circuit breakers, or disconnect battery.
- b) Disconnect electrical wiring from the four (4) terminals of the Cole-Hersee solenoid. The solenoid is located on the cockpit side of firewall forward of the co-pilot seat on M20K and M20J. Earlier model aircraft have solenoid located on engine side of firewall, outboard side of pilots footwell.
- c) Remove solenoid from the firewall by unscrewing (2) AN3-3A bolts or MS35206-263 screws from nut plates.
- d) Retain ground wire (21PS10A18) to use with new solenoid.
- e) Drill out rivets attaching upper nut plate, see drawing 940020, and remove nut plate. Clean up burrs and debris.
- f) Enlarge rivet hole per drawing 940020 for mounting new solenoid.
- h) Plug the lower (old) mounting hole with AN3-3A bolt and AN960-10 washer per drawing no. 940020.
- i) Secure solenoid, P/N 6041H105A, with (2) AN3-3A bolts, (1) AN970-4 washer, (4) AN960-10 washer and (2) AN365-1032 nuts in the new location per drawing no. 940020.

NOTE: Place ground wire, 21PS10A18, under bolt head per 940020 drawing.

- j) Seal any holes or openings in firewall with Proseal 700 sealant per drawing 940020.
- k) Ream holes in wire terminals to accept 3/8" posts on solenoid.
- l) Connect the electrical wires to terminal posts on new solenoid per drawing 940020. Relative position of wires will change very little from replacement of the old solenoid with the new solenoid.
- m) Verify that no interference is present between new wiring location and any other components or structure.
- n) Check system for normal operation and return aircraft to service.
- o) Enter compliance note into log book.

**REFERENCE DATA:** Drawing 940020, Cutler-Hammer Solenoid Retrofit

**PARTS LIST:** Order 940020-501 Kit.

**FIGURE/TABLES:** See Drawing 940020.