

**SUBJECT: ENGINE MOUNT INSPECTION AND REPAIR OR REPLACEMENT**

MODELS AFFECTED: All Mooney M20C, M20D, M20E, M20F and M20G aircraft with 400 or more hours time in service as listed below:

M20C - 1852, 1940 thru 3466, 670001 thru 700091, 20-0001 thru 20-1156

M20D - 101 thru 260

M20E - 101 thru 1308, 670001 thru 700061, 21-0001 thru 21-1165

M20F - 660003 thru 700072, 22-0001 thru 22-1207

M20G - 680001 thru 700006

INTRODUCTION: There have been instances where tubular engine mounts have cracked at the upper left and lower right ends of the lower diagonal cross-member. The purpose of this bulletin is to provide instructions for inspection and repair or replacement of these tubular engine mount assemblies.

TIME OF COMPLIANCE: Compliance required within the next 50 hours time in service after the date of this Service Bulletin or before the accumulation of 450 hours time in service, whichever occurs later, unless already accomplished within the last 50 hours time in service and thereafter at intervals not to exceed 100 hours time in service from the last inspection.

INSTRUCTIONS: Remove cowl and visually inspect entire engine mount for cracks. Particularly note the juncture of the diagonal cross-member at both the lower right firewall attachment saddle and the upper left attachment to the engine mount ring. (Left and right as viewed facing forward, Ref. Fig. 1) Proceed as follows:

NOTE: COMPLIANCE WITH MOONEY S.B. M20-175, DATED 11-18-69 IS REQUIRED PRIOR TO ACCOMPLISHMENT OF THIS S.B.

1. If cracks are detected, accomplish the following before further flight:
 - (A) Mounts which have cracks in the two specific areas mentioned above which extend no more than $\frac{1}{2}$ of the tube circumference may be repaired per this bulletin or the mount may be replaced.
 - (B) Cracks in other areas require mount replacement with new revised mount.
2. If no cracks are detected, the following options may be followed:
 - (A) Return the mount to service, however, repetitive inspections every 100 hours must be observed.
 - (B) Repair engine mount per this bulletin.
 - (C) Replace engine mount with new revised mount.

NOTE: If either items 1(A), 1(B), 2(B) or 2(C) are accomplished, repetitive inspections beyond normal maintenance practice may be discontinued.

ENGINE MOUNT REPLACEMENT:

Below are listed the new revised engine mount part numbers and model applications.

Mooney P/N 590000-509 Engine Mount

Model Application: M20C - 1852 and 1940 thru 670149; M20D - 101 thru 260; M20E - 101 thru 399 and 401 thru 469

Mooney P/N 590000-511 Engine Mount

Model Application: M20E -400, and 470 thru 670062; M20F - 660003 thru 680206

Mooney P/N 590000-513 Engine Mount

Model Application: M20E 690001 and on M20F 690001 and on

Mooney P/N 590000-515 Engine Mount

Model Application: M20C - 680001 and on; M20G - 680001 thru 700006

Ref: Mooney M20 Series Service & Maintenance Manual - paragraphs 3-7 through 3-10 for engine removal and replacement.

ENGINE MOUNT REPAIR: The engine mount repair consists of the addition, by welding, of two flat gussets at each end of the lower diagonal cross-member. These gussets may be ordered from your local Mooney Service Center (Service Kit #M20-192-1) or fabricated locally per attached actual size drawing (see Fig. 2).

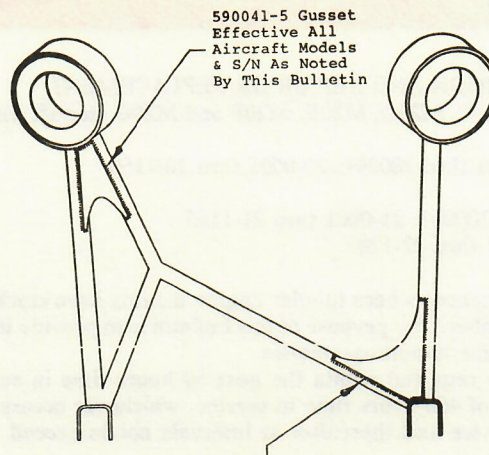
Repair the mount as follows:

1. Remove engine and engine mount from the aircraft. (Ref. Mooney M20 Series Service and Maintenance Manual - paragraphs 3-7 through 3-10).
2. Refer to Fig. 1 and remove paint from mount in two areas to be welded. Close cracks by welding.
3. Fit gussets into place per Fig. 1 and arc or heliarc weld in accordance with recommendations set forth in AC-43.13-1A Chapter 2, Section 2. NOTE: Mount and gussets are 4130N steel)
4. Clean, re-prime, and re-paint bare areas of mount assembly.
5. Re-install mount, engine and cowling per Service and Maintenance Manual.

M20-192-1 Kit:

Upper Gusset (P/N 590041-5)	(1)
Lower Gusset (P/N 590041-3)	(1)
Lower Gusset (P/N 590041-1)	(1)

Please fill out the enclosed Compliance Card and return to Mooney Aircraft.



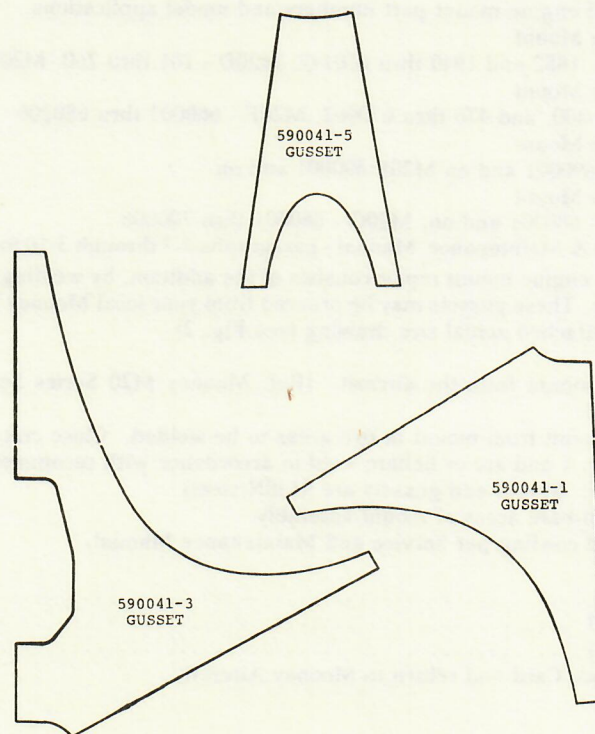
590041-3 Gusset

Effective: M20C S/N 1852, 1940 thru 670149
M20D S/N 101 thru 260
M20E S/N 101 thru 670062
M20F S/N 660003 thru 680206

590041-1 Gusset

Effective: M20C S/N 680001 thru 20-1156
M20E S/N 690001 thru 21-1165
M20F S/N 690001 thru 22-1207
M20G S/N 680001 thru 700006

FIGURE 1.
(View Looking Forward)



Gusset Material is 4130 Steel - Condition 'N'
(.050" Thick)

FIGURE 2
(Parts as shown are
full scale.)