



NUMBER: S.I. M20-67
DATE: 10-12-83

SUBJECT: IMPROVEMENT OF ENGINE COMPARTMENT TEMPERATURE DISTRIBUTION, M20K.

MODELS/S/N AFFECTED: MOONEY M20K, S/N 25-0001 thru 25-0738.

TIME OF COMPLIANCE: At next inspection or maintenance action.

INTRODUCTION: Reports of deteriorated cowl snubbers and paint on engine mount have been received. This Service Instruction is issued to modify this installation on above serial numbered aircraft.

INSTRUCTIONS:

1. Remove top and bottom cowling per M20K Service and Maintenance Manual.
2. Remove the old J-7444-30 cowl snubbers (mounts) from the crossover tube of engine mount (see Figure 1). Save the attaching bolts, nuts, washers and shims for attachment of new J-7444-34 cowl snubbers (mounts) and heat shield P/N 600337-1.
3. Inspect the paint on engine mount tube and gusset plate located directly aft of engine exhaust crossover stack. The gusset on left, front side of engine (on the right when facing engine from front) has been most affected by exhaust temperatures. (See Figure 1).
4. If the paint has deteriorated on any portion of the engine mount, the mount should be wire brushed down to clean metal, degreased, and painted with high temperature paint, P/N 641-550, available through Mooney Marketing and Service Centers.
5. Install new J-7444-34 cowl snubbers and heat shield P/N 600337-1 with existing hardware. The shield should be mounted with the curved portion forward and down per Figure 1.
6. The shims, P/N 650229-1 (Ref. Fig. 1), that were installed on original snubber installation may not be required on the modified installation due to thickness of the heat shield now installed. When snubbers and shield have been installed, place lower and upper cowling into position and observe through the cowl flap area with an inspection mirror to determine if shims are required to obtain approximately 1/8 (.125) inch compression of snubbers. Remove cowling and install shims as necessary to obtain proper compression.
7. Remove sheet metal heat shield, P/N 650234-1 or 650237-1 from front of landing light box and lower cowling front face. Drill out all rivets and remove the old heat shield.
8. Clean top and side surface of landing light cavity molded into the lower cowling just ahead of metal light box. Glue the aluminized material (650238-1), aluminized side up, to this portion of the cowling using P/N 8001 (3-M) glue. Follow instructions on 3-M glue label for application and cure time. (See Fig. 2).
9. Fill rivet holes in front portion of lower cowling by installing MS20426A4 (MS20426A5 if holes enlarged) soft, flush head rivets in each hole. A back up washer can be used on the bucked head if necessary to prevent cracking of cowl. Sand the flush heads to contour and refinish cowling as necessary.
10. Install MS20470AD4 or ADS rivets, as needed, to secure the doubler to the flange of the metal light box from where the aft flange of heat shield was originally attached. (See Figure 2).
11. Reinstall lower and top cowling per M20K Service and Maintenance Manual. Connect and secure cowl flaps, actuating arms and landing light connections.
12. Enter Compliance note in aircraft log book.
13. Warranty, labor and parts consideration:
 - (a) Aircraft within original 6 month warranty period on date of this publication - parts and 1.6 hours will be allowed. Warranty claim must be filed by Mooney Marketing Centers or Service Centers prior to 6 months from Service Instruction date.

REFERENCE DATA: N/A

PARTS LIST: Kit Part Number SI M20-67-1.

QTY	PART NO.	DESCRIPTION
2	J-7444-34	Mount, Cowl Snubber
1	600337-1	Shield, Heat
1	650238-1	Shield, Aluminized Material
10	MS20426A4-3	Rivets, (Soft)
10	MS20470AD4-4	Rivets
10	MS20470ADS-4	Rivets

Kit Part Number SI M20-67-2.

1 ea. 5 oz.	8001	Glue (3-M Co.)
	Tube	

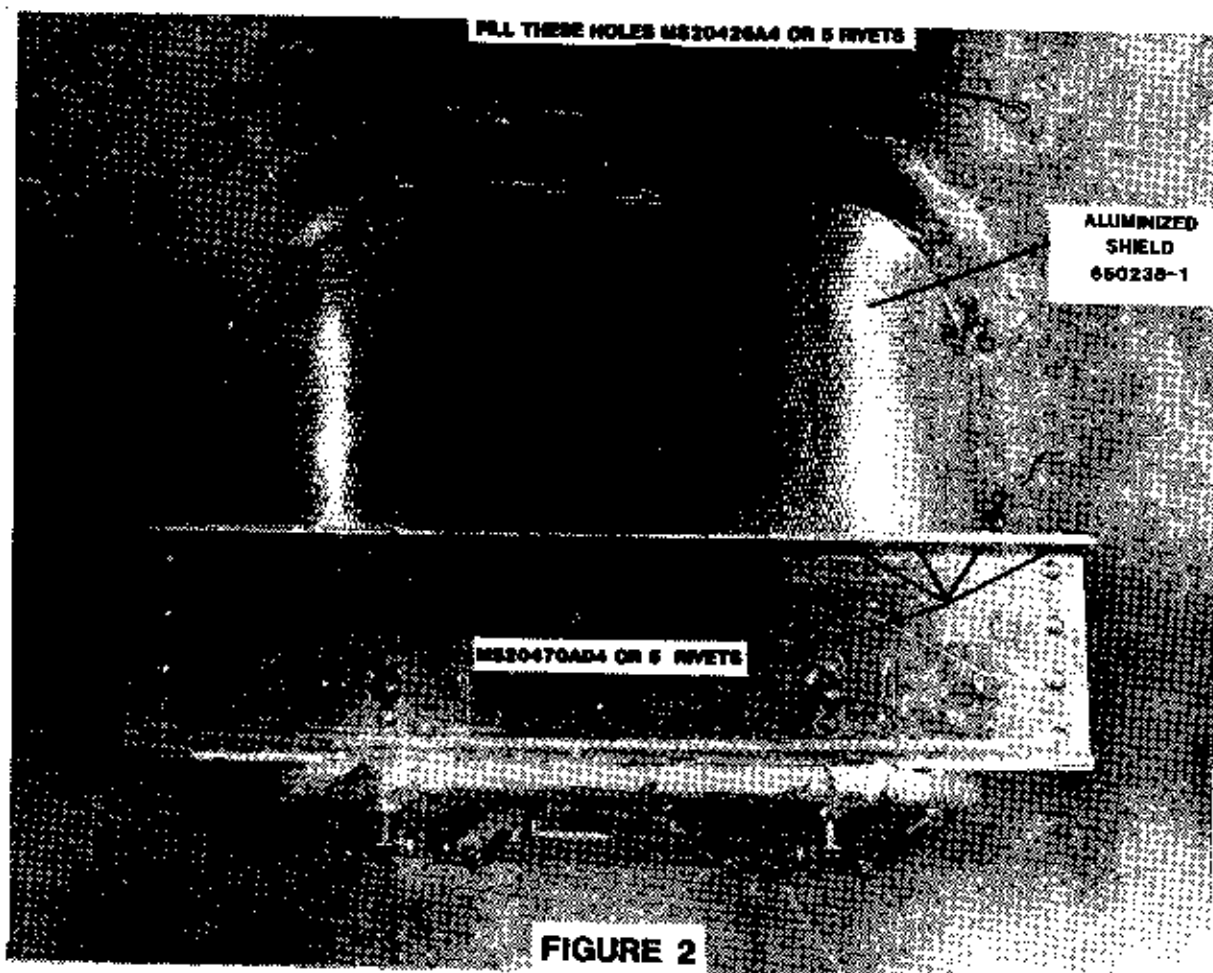
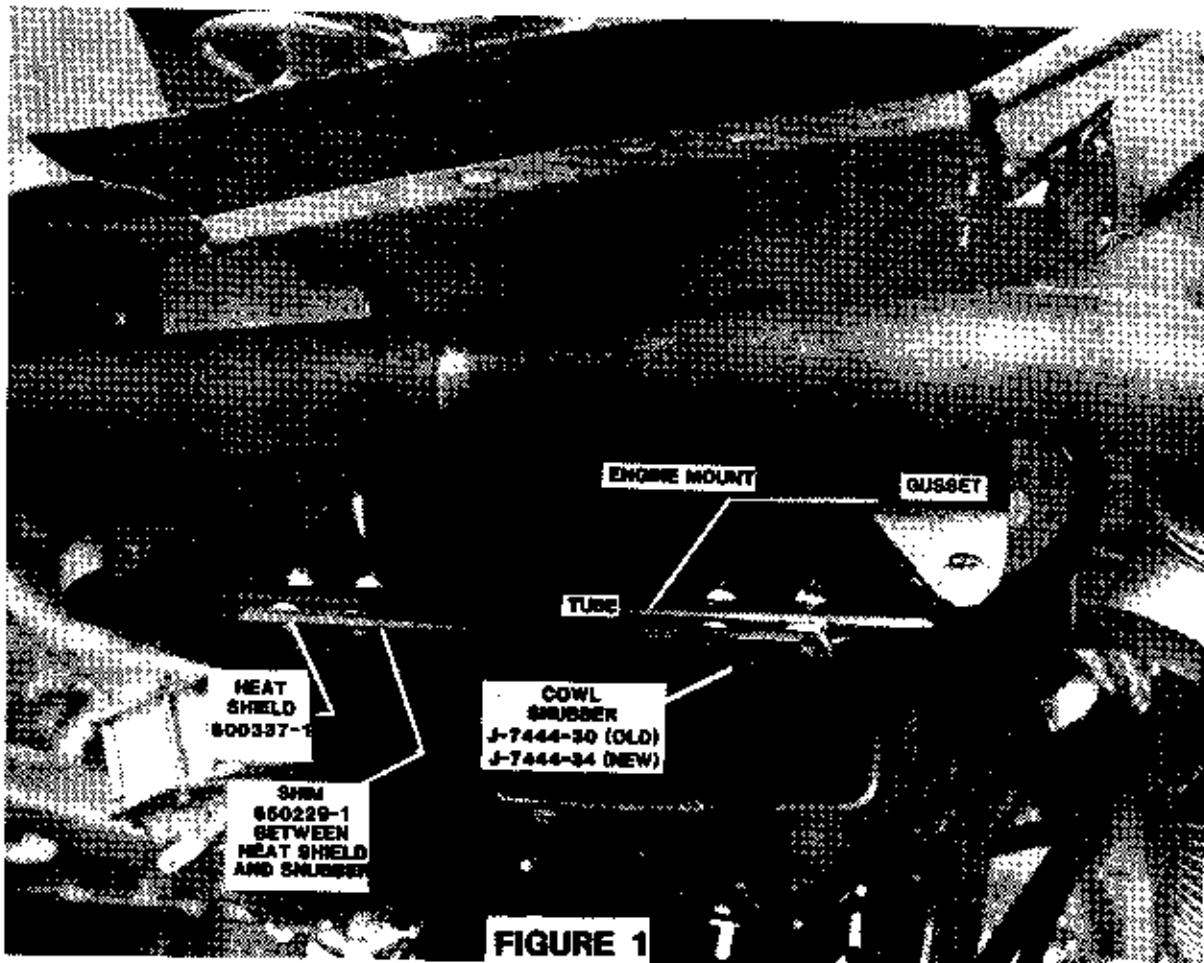
Kit Part Number SI M20-67-3.

1 Quart	641-550	Paint, Lacquer High Temp. (Pratt & Lambert)
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FIGURES/TABLES:

S.I. M20-67

DATE: 10-12-83



SUBJECT: Improvement of engine compartment temperature distribution for Mooney M20K aircraft with S.I. M20-67-1 kit installed.

MODELS/S/N
AFFECTED: Mooney M20K S/N 25-0001 thru 25-0738 with S.I. M20-67 installed:

TIME OF
COMPLIANCE: At earliest opportunity.

INTRODUCTION: The Raybestos material supplied in Kit No. S.I. M20-67-1 does not have the heat reflective capacity to accomplish the desired temperature improvement. In extreme environmental situations heat distribution may not be as desired.

An aluminum foil overlay is now available for lamination over the Raybestos material to increase the heat reflection capability of the installation.

- INSTRUCTIONS:
1. Remove upper and lower cowling. Disconnect cowl flap and landing light connections prior to removal of lower cowling.
 2. Clean any oil residue from the Raybestos material with Varsol. When oil is removed, clean the Varsol from the material and adjacent area by wiping with M.E.K. or equivalent. Wipe the area dry with a clean cloth. Do not allow the M.E.K. to dry by itself as this will leave Varsol or oily deposits on the surface.
 3. Peel the protective covering from the aluminum foil sheet and place carefully into position over Raybestos material. When located properly use a non-metallic squeegee to press the aluminum firmly down.
 4. The excess aluminum can either be trimmed at the base of the landing light cavity or allowed to extend onto the cowling area.

Instructions Cont.

5. Install lower cowling. Reconnect the landing light and the cowl flap connections. Install upper cowling.
6. Enter compliance note into log book and return aircraft to service.
7. Mooney Aircraft Corporation will allow up to 0.5 hours labor to accomplish this effort.

REFERENCE DATA : Service Instruction M20-67, dated 10-12-83.

PARTS LIST: Kit Part Number S.L. 84-4-1

QTY

1

PART NO.

1A8000 Macfoil

DESCRIPTION

Aluminum foil, (adhesive backed).

FIGURES/TABLES: N/A