

**SUBJECT:** Modification to induction air filter can/inlet air assembly and addition of baffle support.

**MODEL/S/N AFFECTED:** MOONEY M20M, Mooney TLS, S/N 27-0001 thru 27-0011

**TIME OF COMPLIANCE:** At owners discretion; recommended at next scheduled maintenance.

**INTRODUCTION:** The modifications covered in this Service Instruction will ensure that interference between the cowling and the addressed components will not exist. Some aircraft have experienced slight interference after several hours of operation due to components shifting slightly. It is recommended that these modifications be accomplished by aircraft owners at the next scheduled maintenance.

**INSTRUCTIONS:**

1. Remove upper and lower cowling according to M20M Service and Maintenance Manual, # 150, paragraph 71-10-00.
2. Remove filter can housing/induction air assembly from the two flexible air ducts. Retain clamps and any hardware removed.
3. Separate 670036-503 filter can housing assembly from 650151-501 fiberglass induction air assembly by removing screws and nutplates from both mounting flange areas. These screws and nutplates will not be reused. The filter can assembly will not be reused. It will be returned to Mooney Aircraft Service Parts Department for credit.
4. The 650151-501 fiberglass induction air assembly is to be modified as follows:
  - a. The aft flange (the one that has a joggle (break) from the center area to one end) is to be cut off and ground smooth, back to the wall of the fiberglass duct. This should be done carefully to ensure a smooth top edge for mating to the modified aluminum filter can assembly (SEE FIGURE SI M20-87-1).

**NOTE:**

**The flange that extends all the way across fiberglass duct is NOT the one to be ground smooth; this is the forward flange.**

5. The existing holes in fiberglass flange will require filling. Use Dion FR6604T resin (Koppers Co. INC., Bridgeville, PA.) (included in SI kit) or Laminac 4146A resin (American Cyanimid Corp., PO Box 350, Wakefield, MA, 01881) to accomplish this. Lay a piece of masking tape along top side of flange (that mates with aluminum filter can flange). Turn induction air assembly upside down and fill existing holes with above resin or equivalent. A single layer of lightweight fiberglass cloth should be bonded to this bottom side of flange. Mix resin and let cure per instructions enclosed in fiberglass sub-kit.
6. Position modified fiberglass duct assembly on filter can assembly securely. Drill 5 new holes in fiberglass flange, (forward end of filter can/inlet duct assembly) by using pilot holes in the aluminum flange; use pilot holes in the two aluminum tabs (aft end of filter can assembly) to locate rivet holes to be drilled into fiberglass duct wall. Use a Number 30 drill bit.
7. Disassemble components and deburr all holes.
8. Apply a continuous bead of PR-812 or PRO-SEAL 700 sealant approximately .06 inches high to all sealing flanges of 650151-501 induction air assembly before installing 670036-503 filter can assembly.
9. Reposition components and securely rivet filter can assembly and induction air assembly together using soft MS20470A4 rivets (9 places) included in kit (SEE FIGURE SI M20-87-1).

The filter can/induction air assembly is now ready for re-installation to flexible air ducts using original SAM 20-87. This step may be delayed until all other modification effort is completed, if desired.

The engine baffle installation is to be modified per the following steps (1 thru 5):

1. Drill three holes in right, vertical baffle (SEE FIGURE SI M20-87-2 for location of three new holes)., Use No.12 drill bit (.203 max. dia.).
2. Place 600425-059 support in position on right side of front, vertical and horizontal engine baffles (See FIGURE SI M20-87-3). Drill two holes in horizontal baffle using pilot holes in -059 support as guides.

**NOTE:**

**Make certain -059 support flanges are flat against both the vertical and horizontal baffles prior to drilling new holes.**

3. Remove -059 support from baffle assemblies and deburr all mounting holes.
4. Refer to FIGURE SI M20-87-2 for modification of lower vertical baffle. Trim and smooth as shown to relieve any cowling interference.
5. Reposition support and attach to both baffles using MS51958-63 screws, AN960-10 washers, and MS 21045L3 nuts (5 places).

All modification work should now be completed.

1. Make sure all removed components, hardware and ducts are in proper position and secured; re-install lower and upper cowling per S & M Section 71-10-00.
2. Enter compliance note into airframe logbook and return aircraft to service.

**WARRANTY:** Order repair parts kit through any current Mooney Service Center. Mooney Aircraft Corporation will allow up to 3.0 hours labor to accomplish the modifications of this SI if warranty claims and the old filter can assembly (670036-503) is returned to the Service Parts Department within 180 days from the issue date of this SI.

**PARTS LIST:** Kit P/N: SI M20-87-1

ITEM	P/N	DESCRIPTION	QTY
1	670036-9503	FILTER CAN ASSEMBLY (w/o filter)	1
2	MS20470A4-8	RIVET	10
3	600425-059	SUPPORT	1
4	MS51958-63	SCREW	5
5	AN960-10	WASHER	10
6	MS21045L3	NUT	5
7	PR-812	SEALANT	1
8	KIT 252	FIBERGLASS/RESIN KIT	1

FIGURES/TABLES: See below and next page

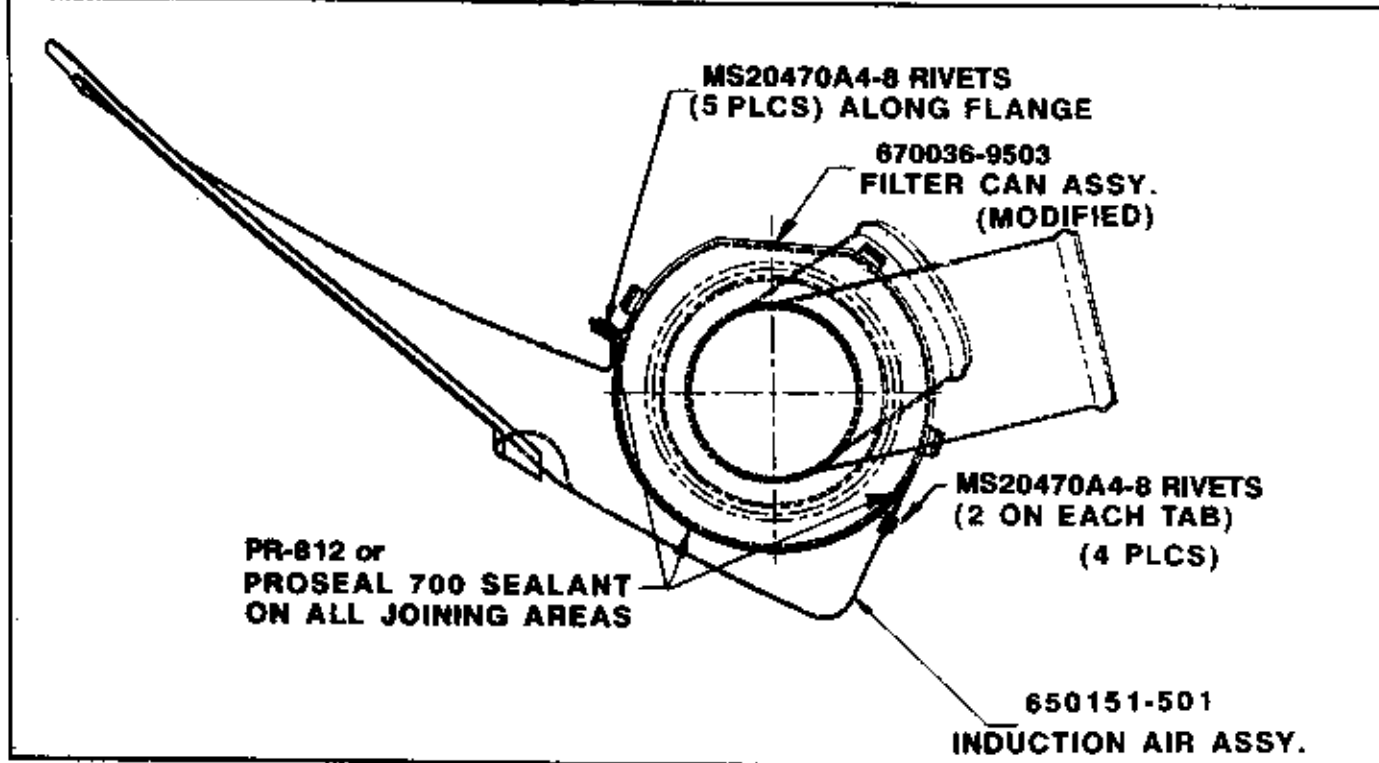


FIGURE SI M20-87-1

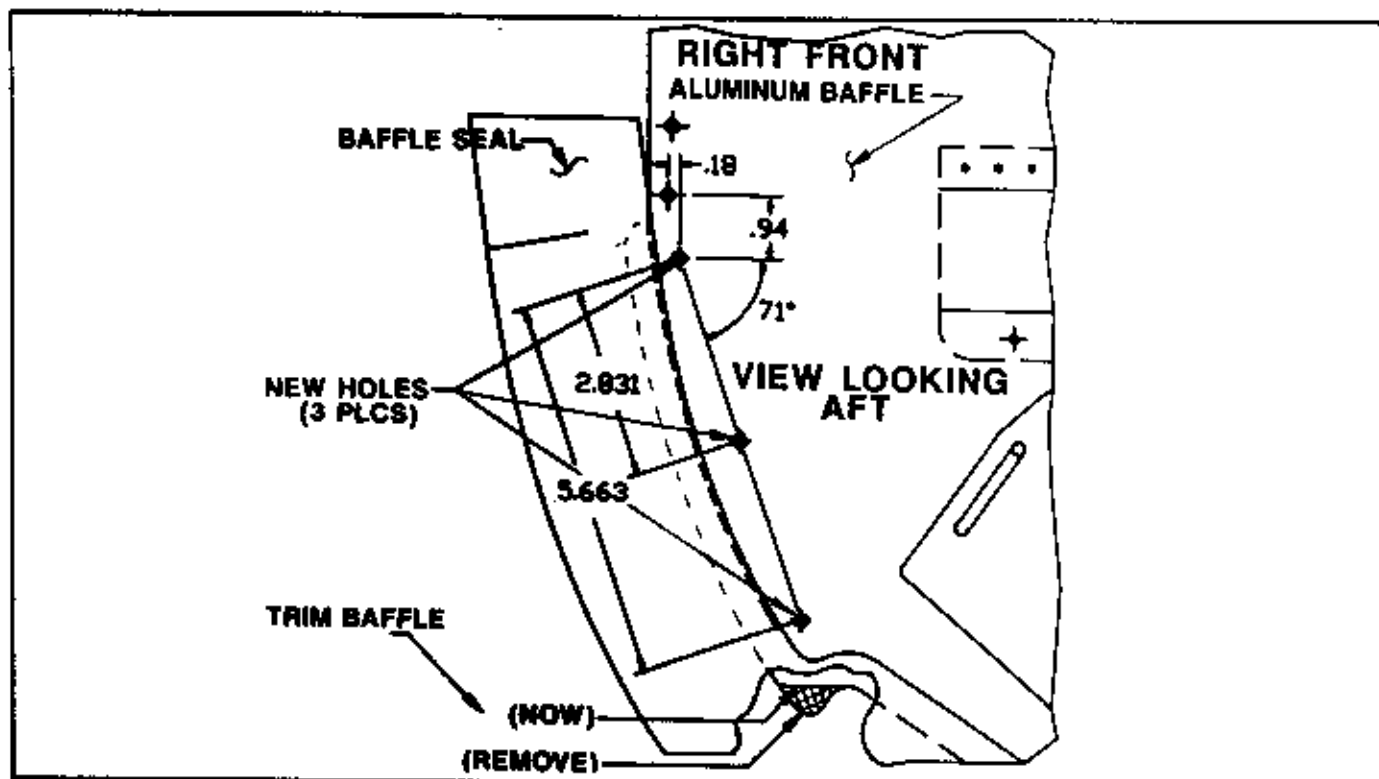


FIGURE SI M20-87-2

FIGURES/TABLES (con't.)

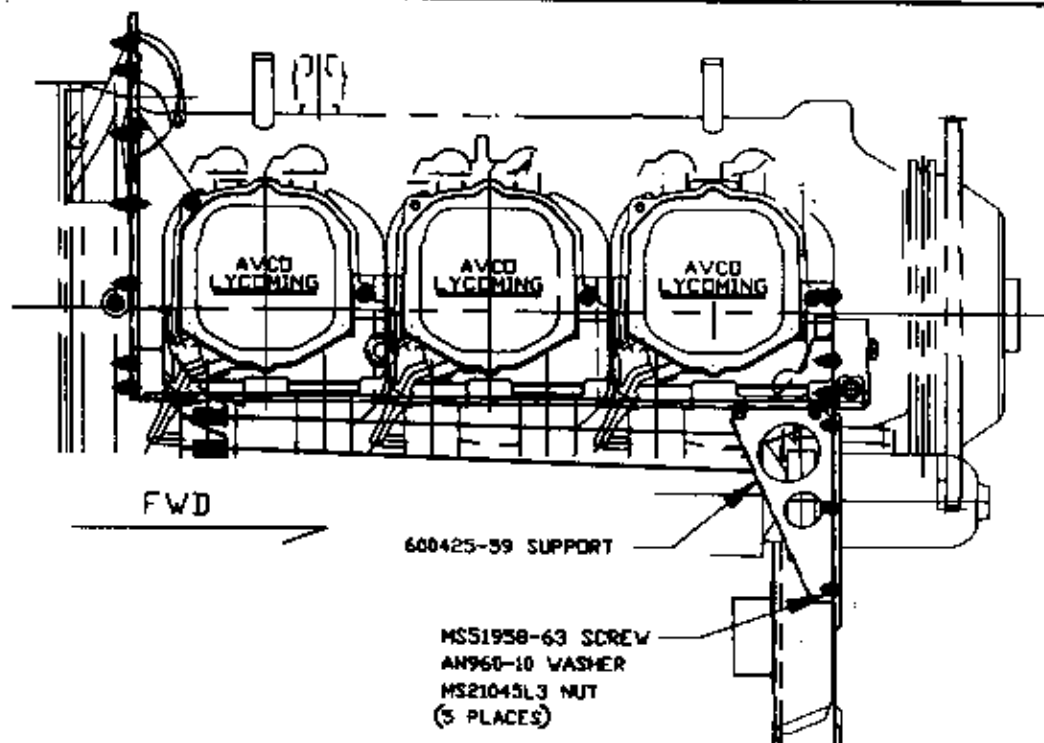


FIGURE SI M20-87-3