THIS BULLETIN IS FAA APPROVED FOR ENGINEERING DESIGN

SERVICE BULLETIN M20-310A
Date: August 31, 2010

SUBJECT: Mooney M20S, M20R, AND M20TN - Throttle Control Bracket Mounting Position

MODELS/ SN AFFECTED:
Mooney M20S Eagle Aircraft (Serial Numbers 30-0063 thru 30-0065)
Mooney M20R Ovation Aircraft (Serial Numbers 29-0280 thru 29-0519)
Mooney M20TN Acclaim and Type-S Aircraft (Serial Numbers 31-0001 thru 31-0128)

TIME OF COMPLIANCE: WITHIN NEXT 10 FLIGHT HOURS

INTRODUCTION: There has been reported occurrences of incorrect mounting of the throttle control bracket (p/n 660171-1) on Mooney Airplanes listed above. This will require an inspection and corrective action taken, if found to be installed incorrectly. The attached compliance card needs to be filled out and returned to Mooney Airplane Company upon completion of this Service Bulletin M20-310.

INSTRUCTIONS: Read entire procedures before beginning work.

1.1. Turn master switch - OFF.

1.2. Through oil fill door or through LH air inlet verify if the throttle control bracket p/n 660171-1 is mounted as shown in figure SB M20-310-1 or figure SB M20-310-2.

1.3. If the bracket is mounted as shown in figure SB M20-310-2, the mounting is correct and no corrective action is required.

1.4. If the bracket is mounted as shown in figure SB M20-310-1, the mounting is incorrect and corrective action will be required by following steps 1.5 thru end of SB M20-310.

1.5. Remove top cowling per instructions provided in Chapter 71-10-00 of applicable MAC aircraft Service & Maintenance Manual.

1.6. Locate throttle control bracket p/n 660171-1 as shown in figure SB M20-310-1. Make sure Throttle is in OFF (back) position. Mark location of gear warning switch to striker assembly with a “Sharpie” or marker (for re-assembly).

1.7. M20S & M20R - Remove throttle control heim mounting bolt p/n AN3-11, washer p/n NAS1149F0332P, (2) spacer p/n 550017-5 and (2) washers p/n 913025, lock nut p/n AN310-3 and cotter pin p/n MS24665-132 as shown in figure SB M20-310-1. This should allow bracket to rotate for accessing cable mounting hardware.

1.7a. M20TN - Remove LH overboost valve and tube assembly, by loosening (2) clamps p/n 629163-6 shown in figure SB M20-310-3.

1.7b. M20TN - Remove #6 air induction tube assembly, by loosening clamp p/n 629163-6 and remove cable ties, (3) mounting flange nuts, (3) lock washers and (3) flat washers shown in figure SB M20-310-3. Do not discard hardware, they will be reused during re-assembly.

NOTE: Cap off all induction tubes openings to prevent any FOD from entering the air intake system.

1.7c. M20TN - Carefully remove old gasket from air intake manifold surface.

1.7d. M20TN - Remove throttle control heim mounting nut p/n AN310-3, (2) washers p/n 913025, (2) spacer p/n 550017-5, and cotter pin p/n MS24665-132 as shown in figure SB M20-310-1. This should allow bracket to rotate for accessing cable mounting hardware.

1.8. Remove (2) straps p/n MS21315-5 and (4) mounting screws p/n MS35206-244, (4) lock washers p/n MS35338-42, (4) lock nuts p/n MS21045-08 and plate p/n 660171-007.

NOTE: If required, remove “Cable Clamps” and flip both halves - thick p/n 660017-003 (on top) thin p/n 660017-005 (on bottom) as shown in Fig M20-310-2.
1.9. Rotate Bracket p/n 660171-1 clockwise 180° direction, make sure gear warning switch cable does not catch or bind on existing brackets.

1.10. Loosely re-install plate p/n 660171-007, (2) straps p/n MS21315-5, (4) mounting screws p/n MS35206-244, (4) lock washers p/n MS35338-42 and (4) lock nuts p/n MS21045-08 as shown in figure SB M20-310-2.

1.11. Align gear warning switch with previously made marks on the striker assembly and tighten mounting hardware to secure throttle bracket 660171-1 to control cable. Operate throttle control through full range of travel; check for smooth operation and contact of gear warning switch, micro switch will make a “click” sound when activated.

1.12. M20S & M20R - Re-install throttle control heim mounting bolt p/n AN3-11, washer p/n NAS1149F0332P, (2) spacer p/n 550017-5 and (2) washers p/n 913025, lock nut p/n AN310-3 and cotter pin p/n MS24665-132. Make sure to orientate mounting bolt as shown in detail of figure SB M20-310-2.

1.12a. M20TN - Re-install throttle control heim, (2) washers p/n 913025, (2) spacer p/n 550017-5, mounting nut p/n AN310-3, and cotter pin p/n MS24665-132 as shown in figure SB M20-310-2.

NOTE:
Remove any (FOD prevention) caps, rags, plugs, etc. from the induction tube openings.

1.12b. M20TN - Re-install #6 air induction tube assembly, by installing new gasket p/n 649950, clamp p/n 629163-6 and, (3) mounting flange nuts, (3) lock washers and (3) flat washers. Torque mounting hardware per TCM M-18 Overhaul Manual. Replace any cable ties (if removed)

1.12c. M20TN - Re-install LH overboost valve and tube assembly, and tighten (2) clamps p/n 629163-6 shown in figure SB M20-310-3.

1.13. Verify gear warning switch activation instructions provided in Chapter 32-60-00 of applicable MAC aircraft Service and Maintenance Manual.

1.14. Re-install top cowling per instructions provided in Chapter 71-10-00 of applicable MAC aircraft Service & Maintenance Manual.

NOTE:
Fill out compliance card and send by MAIL or FAX to Mooney Airplane Company as indicated on the attached Compliance Card (ref Figure M20-310-4)

1.15. Complete log book entry.

1.16. Return aircraft to service.

1.17. Procedure complete

WARRANTY: Mooney Airplane Company, Inc. will warrant labor 1 hour for M20S & M20R or 2 hours for M20TN when corrective action is done in accordance with procedures of this Service Bulletin for aircraft currently covered under the Mooney Airplane Company, Inc. factory warranty program.

REFERENCE 1. MAC Maintenance Manual (applicable A/C)
DATA: 2. TCM M-18 Maintenance and Overhaul Manual

PARTS LIST: Mooney Airplane Company, Inc.,
Parts Kit P/N: M20-310-001 (M20S & M20R)

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Parts Kit P/N: M20-310-002 (M20TN)

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Figure SB M20-310-1 - INCORRECT THROTTLE CONTROL MOUNTING
If required, remove “Cable Clamps” and flip both halves – thick p/n 660017-003 (on top) thin p/n 660017-005 (on bottom)
Figure SB M20-310-3 - M20TN LH AIR INDUCTION TUBES
SERVICE (BULLETIN) (INSTRUCTION) NO. ___________ HAS BEEN COMPLIED WITH ON AIRCRAFT MODEL ___________ SERIAL NUMBER ___________

Tach. Time: ___________ N-Number ___________ (Reg. No.)
Owner: ___________ Date of Compliance: ___________
_________________________ Complied
_________________________ By: ______________________

Inspection Report: ________________________
_________________________ ______________________
_________________________ ______________________

Form 07-0001

MOONEY AIRPLANE COMPANY
ATT’N: TECHNICAL SUPPORT
165 Al Mooney Road, North
Kerrville, Texas 78028

SEND TO:
Mooney Airplane Company
165 Al Mooney Road North
Kerrville, TX 78028
OR FAX: (830) 257-4635

Figure SB M20-310-4 - Compliance Card