



SUBJECT: Empennage Trim Fitting And Mounting Hardware Replacement Instructions - from Mooney Aviation Company's Service Bulletin M20-313.

MODELS/ SN AFFECTED: ALL Mooney M20B - M20C - M20D , M20E - M20F - M20G - M20J - M20K M20L, M20M, M20R, M20S, M20TN

TIME OF COMPLIANCE: **MANDATORY BEFORE NEXT FLIGHT -**

INTRODUCTION: This service bulletin is to repair the trim filler plate mounting (stacked with the trim fitting and trim hinge) when found to be positioned incorrectly as referenced in Service Bulletin M20-313. **The attached compliance card needs to be filled out and returned to Mooney Aviation Company upon completion of this Service Bulletin M20-314.**

INSTRUCTIONS: **Read entire procedures before beginning work.**

NOTE:

All work to be done in accordance with AC43.13-2B (or current revision).

- 1.1. Turn master switch - OFF.
- 1.2. Remove LH and RH empennage fairing.
- 1.3. Remove empennage assembly per applicable MAC Service and Maintenance Manual, (refer to Chapter 53). Stow empennage onto a cradle making sure assembly is properly secure to perform the work described in this service bulletin.
- 1.4. Remove LH inspection panel on empennage assembly.
- 1.5. Using an appropriate die grinder, carefully grind off the existing Huck Bolt heads (10 qty) to the surface on Trim Fitting (p/n 410025-000).
- 1.6. Carefully remove (drive) all Huck Bolt fasteners (10 qty) using a drift punch and discard hardware.

CAUTION:

Take care when removing existing Huck Bolt fasteners - do not distort existing holes or drive an oversize punch through holes.

- 1.7. Inspect empennage bulkhead and attachment tee (p/n 410026-000) for damage and/or cracks. If stress related damage and/or cracking is found, affected parts must be replaced. These parts are not included in the service bulletin kit M20-314-001 and will need to be ordered separately. If no damage is found proceed to 1.8
- 1.8. Using the new parts from the M20-314-001 kit, stack components: Trim Fitting (p/n 410025-000) Hinge (p/n 410020-027) and Filler Plate (p/n 410020-013) then match drill all components to existing structure, refer to Figure M20-314-1.
- 1.9. Inspect bulkhead holes. Hole diameters that exceed the maximum allowable diameter for HL2086-5-(X) fasteners should use the oversize HL2086-6-(X) fasteners. Refer to the applicable MAC Service and Maintenance Manual Section 51-10-00 and 51-10-01 for hole and fastener replacement specifications.
- 1.10. Secure new parts with new (4 qty) Hi-Lok (p/n HL2086-5-6) and (6 qty) Hi-Lok (p/n HL2086-5-5) fasteners into place as required. The orientation of hardware is reversed for ease of installation, refer to Figure M20-314-1.

**NOTE:**

The Hi-Lok fasteners found in the M20-314-001 kit also include oversize hardware if required - standard size HL2086-5-(X) and oversize HL2086-6-(X). Refer to manufacturers instructions on installation of the Hi-Lok fasteners as required.

- 1.11. Visually inspect all 10 Hi-Lok fasteners to insure they are properly secured (use an inspection mirror for lower bolts), assembly should not move on bulkhead.
- 1.12. Reinstall Empennage Assembly per applicable MAC Service and Maintenance Manual refer to Chapter 53 with new mounting hardware found in the M20-314-001 Service Bulletin kit, see Figure M20-314-1.
- 1.13. Verify rigging of the flight controls and trim system per applicable MAC Service and Maintenance Manual.
- 1.14. Reinstall LH inspection panel on empennage assembly.
- 1.15. Reinstall LH and RH empennage fairing.
- 1.16. Complete log book entry.

NOTE:

Fill out compliance card and send by MAIL or FAX to Mooney Aviation Company as indicated on the attached Compliance Card (see to Figure M20-314-2)

- 1.17. Return aircraft to service.
- 1.18. Procedure complete.

WARRANTY: Mooney Aviation Company, Inc. will warrant labor 16 hours when corrective action is done in accordance with procedures of this Service Bulletin for aircraft currently covered under the Mooney Aviation Company, Inc. factory warranty program.

REFERENCE DATA: 1. MAC Maintenance Manual (applicable A/C)
2. Hi-Lok Installation Instructions
3. Emergency Airworthiness Directive (AD) 2012-03-52

PARTS LIST: kit part number: M20-314-001

<u>Item</u>	<u>P/N</u>	<u>Description</u>	<u>Qty</u>
1.	HL2086-5-6	Hi-Lok	4
2.	HL2086-5-5	Hi-Lok	6
3.	HL2086-6-6	Hi-Lok (oversize to replace HL2086-5-6)	4
4.	HL2086-6-5	Hi-Lok (oversize to replace HL2086-5-5)	6
5.	410020-013	Filler Plate	1
6.	410020-027	Hinge	1
7.	410025-000	Trim Fitting	1
8.	480009-907	Pin, Hinge	1
9.	AN381-2-6	Pin, Cotter	2
10.	440019-000	Spacers	4
11.	AN5H-32	Bolt	1
12.	NAS1149F0563P	Washers	2
13.	AN310-5	Nut	1
14.	AN174-20A	Bolt	2
15.	NAS1149F0463P	Washers	2
16.	MS21044-N4	Nut	2
17.	N/A	Hi-Lok Installation Instructions (paper copy)	1

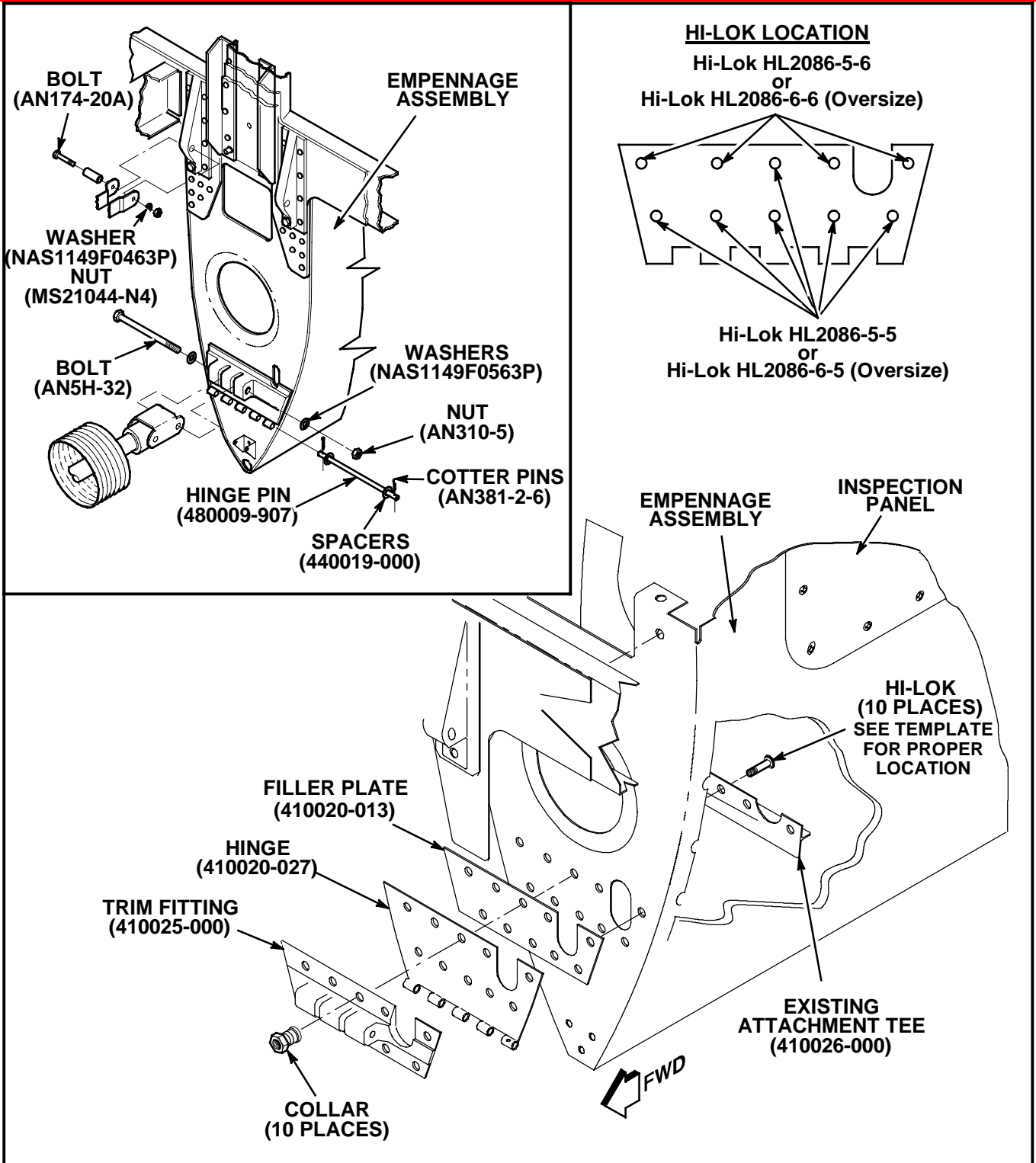


Figure SB M20-314-1 - EMPENNAGE TRIM FITTING AND MOUNTING HARDWARE



MOONEY AVIATION COMPANY
KERRVILLE, TEXAS 78028 - FAX 830-257-4635

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

PLACE
STAMP
HERE

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

SEND TO: (or FAX 830-257-4635)

**Mooney Aviation Company
165 Al Mooney Road North
Kerrville, TX 78028**

Figure SB M20-314-2 - Compliance Card