



FAA APPROVED *C. Long*

Page 1 of 5

DATE: 2/1/96

SERVICE BULLETIN NO. 12

Rev'd: 10/9/98

REV'D: DEC 02 1998

SUBJECT: Aileron Control Cables.

AIRCRAFT AFFECTED: All Maule Models **except** M-4's, M-4C's, M-4S's, M-4T's, M-4-180's, M-4-210's, M-4-210C's, M-4-220C's and M-4-220S

COMPLIANCE: Before next flight.

PURPOSE: The object of this inspection program for the aileron cables is to detect a possible incorrect routing of cable over the wing strut attach brackets and to correct routing if necessary. No field reports of incorrect cable routing have been received, however, anytime a wing has been removed or cables changed, the possibility exists. An aileron cable may in time become frayed and weakened if allowed to rub continually on a strut bracket. This Service bulletin provides an inspection procedure and, if required, provides correction procedures.

INSTRUCTIONS:

1. Remove Inspection Hole Cover located on underside of both wings, aft of rear spar and outboard of wing strut attach brackets. Using a flashlight, visually inspect the routing of the upper and lower aileron cables. If aileron cables are free from brackets and installation appears correct, no further action is required. Reinstall inspection hole covers in underside of wings. (See Details A and B)

If a cable is routed over bracket, proceed to step 2.

2. If aileron cable is incorrectly routed over a wing strut bracket, replace cable before further flight:
 - a. Relieve tension of aileron cable using turnbuckle located over cabin through zipper.
 - b. At aileron horn, cut cable end and remove thimble and nicopress sleeve. To facilitate pulling cable through wing, the following is recommended. Tape ends of new and old cable with 5/8" masking tape. Butt old and new cable ends together and wrap cables tightly with 2" tape. Check if securely connected (for pull through wing) by attempting to pull cables apart lightly. Also, using a shrink tube to connect ends is recommended.
 - c. In cabin, through zipper, pull old aileron cable (with new cable attached at other end) carefully through until approximately 12" is left at aileron.
 - d. Install cable end to aileron horn on aileron using new thimble and nicopress oval sleeve.
 - e. In cabin, with control wheels in neutral, fasten bar to both wheels to hold them on center.

EXPERIENCE THE PERFORMANCE
2099 Georgia Hwy. 133 South~Moultrie, GA 31768
Tel: 912-985-2045~Fax: 912-890-2402

SERVICE BULLETIN NO. 12

- f. Though zipper, thread cable eyes of turnbuckle into barrel until approximately four threads are showing. This should provide adequate adjustment for tensioning the cables. Pull the cable as tight as possible by hand and connect to the turnbuckle with the thimble and nicopress sleeve. Be sure that the cable is properly routed. (See Detail C for cable routing and turnbuckle locations.)
9. Adjust ailerons to streamline position by placing a straight edge on the bottom of the wing chordwise at the inboard end of the aileron. The gap between the aileron and the straight edge must be zero to ¼ inch. The ailerons may be taped to the wing tip to hold them temporarily in this position. Adjust the turnbuckles to a cable tension of 15 to 25 lbs. (It is preferable to be close to the 25 pound limit to allow for new cable stretch.)
- h. Untape the ailerons and remove the bar from the control wheels. Check both ailerons for full travel which is 20° ±1° up and down. The turnbuckles may be adjusted, if required, to put the travel within limits. However, the amount removed from one turnbuckle must be added to the other turnbuckle in order to maintain correct cable tension. Recheck cable tension after final adjustments are made and correct if necessary. No more than three threads should be exposed on either side of the turnbuckle. Safety all turnbuckles after adjustments are completed.

CAUTION: During cable installation and after completion, ascertain that the cables are not over the strut attach bracket and are properly routed through the fairleads and around the pulleys. Also, check for proper direction of aileron movement with control wheel.

- i. Reinstall inspection hole covers.

AVAILABILITY OF PARTS: The following parts required to perform this Service Bulletin, if necessary, may be ordered from the Parts Department of Maule Air, Inc.: (Express shipping is to be paid by customer)

<u>Quantity</u>	<u>Part No.</u>	<u>Item</u>	<u>Item No. on details</u>	
1	2003X,S:3-28	Cable - Bottom	(28)	(Return old cable for credit)
1	2003X,S:3-29	Cable - Top	(29)	
2	AN100-4	Thimble	(26)	
2	18-3-M	Nicopress Oval Sleeve	(27)	

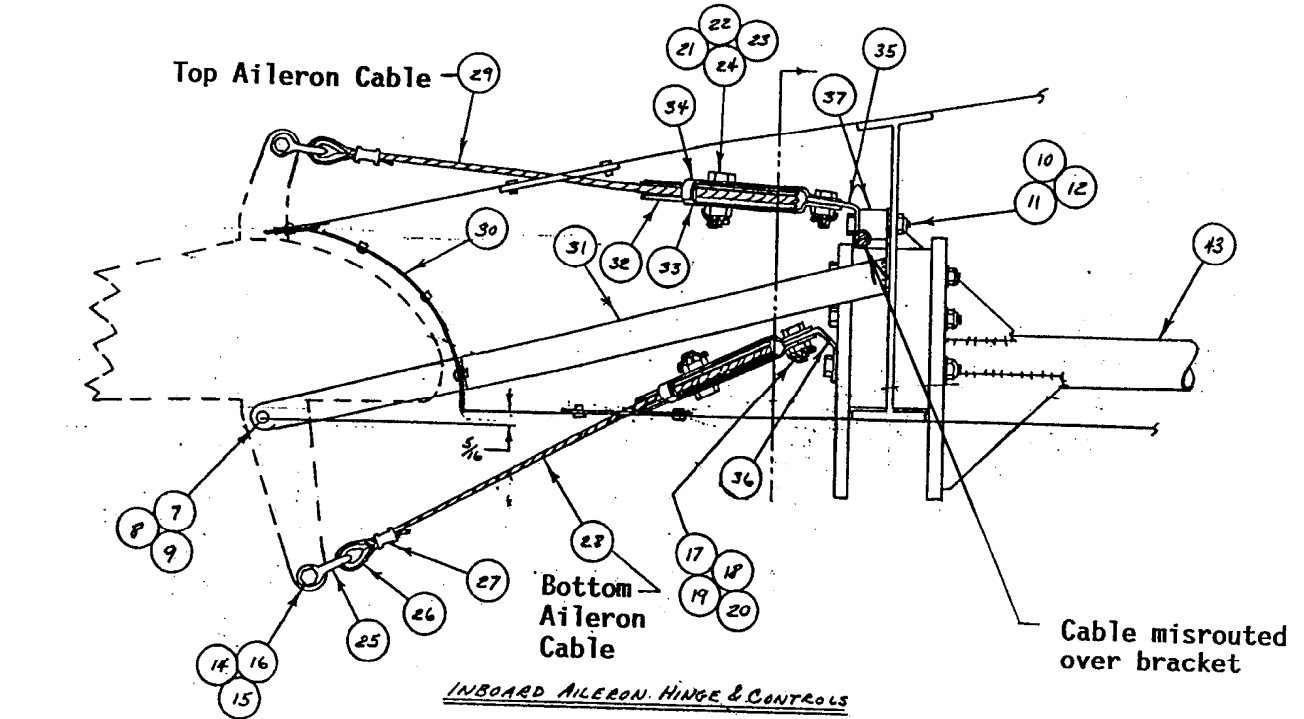
DOCUMENTATION

When completed, record compliance to this SB in Aircraft LogBook and return the completed Compliance Record Sheet (page 5) to Maule Engineering Records.

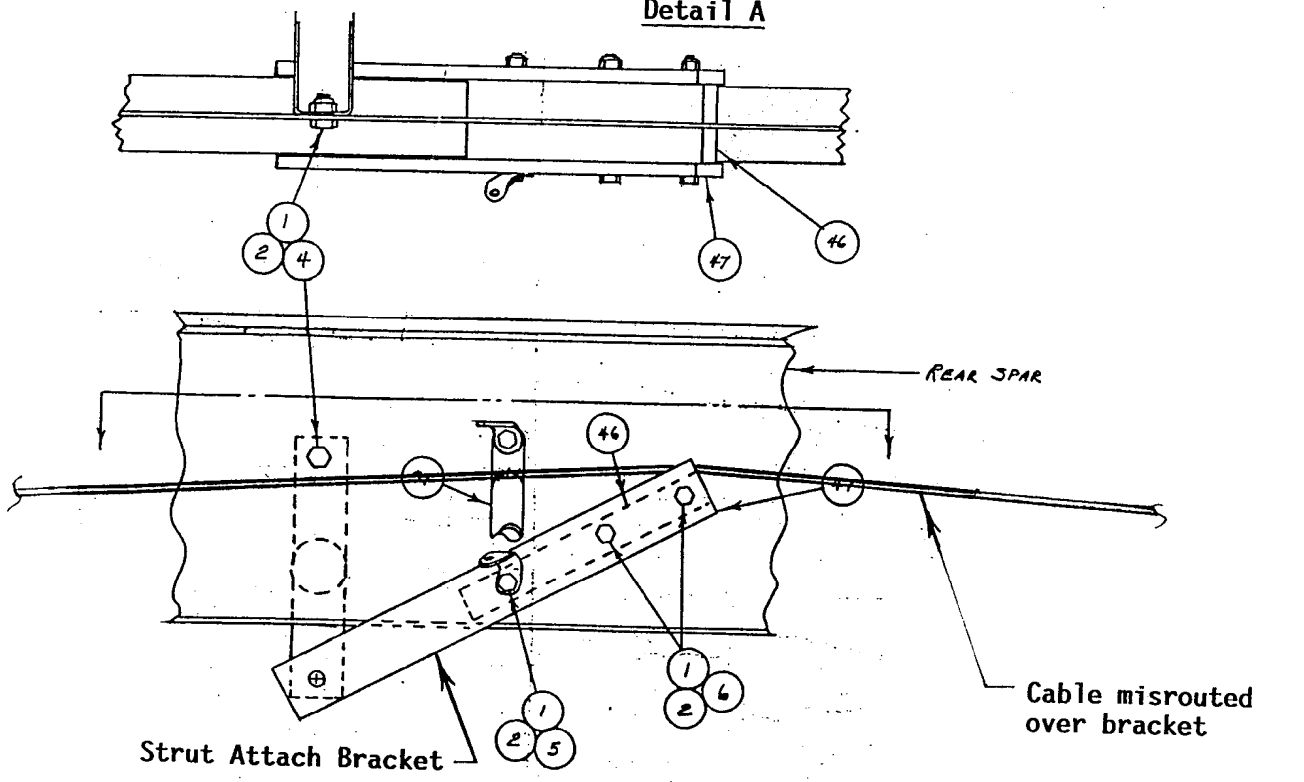
(Revision dated 3/13/98: effect added for M-4 and M-5 Models)

(Revision dated 10/9/98: deleted effect for all M-4 Series.

SERVICE BULLETIN NO. 12

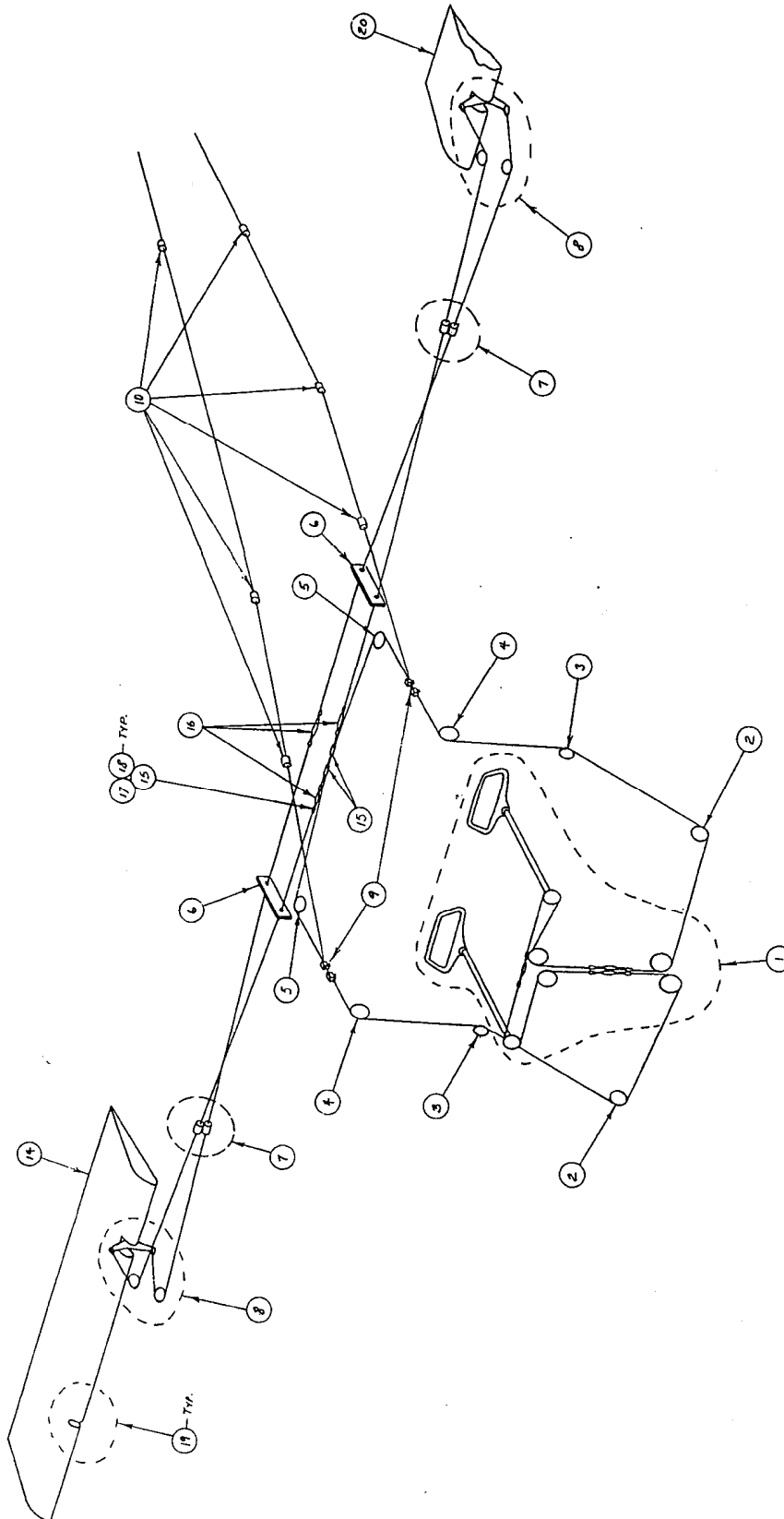


Detail A



STRUT ATTACH FITTING & COMPRESSION BRACE
REAR SPAR

Detail B



Detail C



SERVICE BULLETIN NO. 12

COMPLIANCE RECORD SHEET

Page 5 of 5
10/9/98

Aircraft Model _____

Aircraft Serial No. _____

Aircraft Registration No. _____

Action taken (check one):

- Accomplished Inspection procedure for possible incorrect aileron cable rigging as outlined in this Service bulletin and **found it to be satisfactory.**
- Accomplished Inspection procedure for possible incorrect aileron cable rigging as outlined in this Service bulletin and **found that one-or more had to be replaced.**

Aileron cable(s) was/were as follows: (Please check box, if applicable)

Left Upper Left Lower Right Upper Right Lower

Note: If you no longer own this aircraft, please forward this information to the present owner/operator and notify the factory of address/ownership corrections. Include aircraft model, serial number, current owner's name and address. Corrections should be directed to factory address below.

Owner's Name _____

Owner's Address _____

City _____ State _____ Zip _____

Certified by _____
Signature

Title _____
Owner, A & P, IA, etc.

Date performed _____

Please mail this Compliance Record to: Maule Air, Inc./Engineering Records /2099 Georgia Highway 133 South/Moultrie, GA 31768 USA