



Gulfstream American

SERVICE BULLETIN NO. 163
"FAA (DER) APPROVED"

DATE:

SUBJECT: AILERON TORQUE TUBE INSPECTION AND MODIFICATION

SERIALS AFFECTED: AA5A-0176 thru AA5A-0805, AA5B-0302 thru AA5B-1078 and all Spares stock of Part No. 5202035-505 shipped from the factory between May, 1976 and January, 1979.

TIME OF COMPLIANCE: Within the next twenty-five (25) hours of operation

GENERAL

The aileron torque tube assembly, Part No. 5202035-505, contains two joints that require inspection (REFER TO FIGURE 1). The torque tube assembly extends inboard from the aileron and may be separated from the aileron by removing attach hardware through access holes in the aileron skin at the inboard end. Ailerons on affected aircraft requiring inspection may be identified by visually inspecting for these access holes. On aircraft on which ailerons do not have these access holes, the aileron torque tube is an integral part of the aileron and thus is not affected by this Service Bulletin.

Referring to Figure 1, the aileron torque tube assembly requiring inspection consists of a tube, Part No. 5202035-11 (11), an inboard sleeve, Part No. 5202035-6 (16), and an outboard sleeve, Part No. 5202035-11 (17). These sleeves (16 and 17) are to be assembled to the tube (11) with bonding agent or rivets and bonding agent. This Service Bulletin is intended to provide the necessary instructions for inspection of the assembly joints to verify that assembly was completed with bonding agent or rivets and bonding agent. If, however, assembly was with rivets only, modification must be accomplished in accordance with the instructions provided in Service Kit SK-144.

PROCEDURE

A.) Aileron/torque tube removal (REFER TO FIGURE 1)

- (1) Remove wing tip as described in Chapter 57 of AA-5 series Maintenance Manual.
- (2) Remove plugs (1) from inboard end of aileron (2). Remove nut (3), washer (4) and bolt (5).

PROCEDURE - Continued

- (3) Remove nuts (12), washers (13), and bolts (14) from wing. Note installation, if installed, of spacers (18) and shims (19). Mark position of control stop (9) and aileron hinge (10), then remove from wing. Disconnect ground terminal.
- (4) Pull aileron outboard in order to remove from inner torque tube assembly.
- (5) Remove interior trim per Chapter 25 of AA-5 series Maintenance Manual to gain access to the aileron control horn.
- (6) Remove nut (6) and washer (7) from bolt (8) which secures control horn (15) to torque tube assembly. Remove bolt.
- (7) Pull aileron torque tube assembly outboard to remove it from the aircraft.

B.) Torque tube inspection

- (1) Visually inspect both inboard and outboard torque tube joints for assembly with bonding agent or rivets and bonding agent. When inspecting to see if a joint is bonded, it may be possible to see bonding agent around the circumference of the joint, where the tube and sleeve mate. If joint is not bonded, proceed with modification in accordance with Service Kit SK-144.
- (2) If unable to visually determine if joint was assembled with rivets and bonding agent, rivets must be removed as per instructions in Service Kit SK-144.

With rivets removed, attempt to separate tube from sleeve by hand twisting.

- (a) If unable to separate, reinstall rivets (Part No. CR3242-5-4 supplied in Service Kit SK-144) as per instructions in Service Kit SK-144.
- (b) If able to separate, joint must be modified in accordance with instruction in Service Kit SK-144.

PROCEDURE - Continued:

- (3) Upon completion of inspection and, if necessary, modification, torque tube can be returned to service.

NOTE

Above procedure must be accomplished on each aileron/torque tube assembly affected and on aileron torque tubes supplied from factory Spares stock as indicated.

C.) Aileron/torque tube installation

NOTE

When installing aileron torque tube, it is possible that it may catch on the ribs in the flap as the tube is pushed through. A guide such as the one indicated in the AA-5 series Maintenance Manual, Section 27-1-1, Page 403, Figure 402, may be helpful in preventing this.

- (1) Slide aileron torque tube through flap until it extends into the fuselage.
- (2) Position torque tube assembly in control horn (15) until the holes align.
- (3) Secure with bolt (8), washers (7) and nut (6).
- (4) Insure that spacer (18) on inboard end is reinstalled as noted during removal. Slide aileron on to torque tube sleeve (17) until attach hole aligns.
- (5) Secure with bolt (5), washer (4), and nut (3). Install plugs (1).
- (6) Insure that spacer (18) on outboard end of aileron and shim (19) are reinstalled as noted during removal. Position aileron hinge (10) and control stop (9) as marked during removal.
- (7) Secure with bolts (14), washers (13), and nuts (12). Connect ground terminal.
- (8) Check aileron rigging and adjust as required as described in Chapter 27 of AA-5 series Maintenance Manual.

PROCEDURE - Continued

- (9) Install wing tip as described in Chapter 57 of AA-5 series Maintenance Manual.
- (10) Install interior trim as described in Chapter 25 of AA-5 series Maintenance Manual.

PARTS INFORMATION

The parts necessary for modification are contained in Service Kit SK-144; this Kit contains sufficient material to modify the two aileron torque tube assemblies per aircraft. This Kit may be obtained from your Gulfstream American Dealer or International Distributor at no cost.

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QUANTITY REQUIRED PER AIRCRAFT</u>
SK-144	SERVICE KIT	1

CREDIT INFORMATION

A labor allowance of 1.5 hours at the Gulfstream American Dealer/International Distributor's Prevailing Shop Rate will be available for each aileron torque tube inspected as outlined in this Service Bulletin.

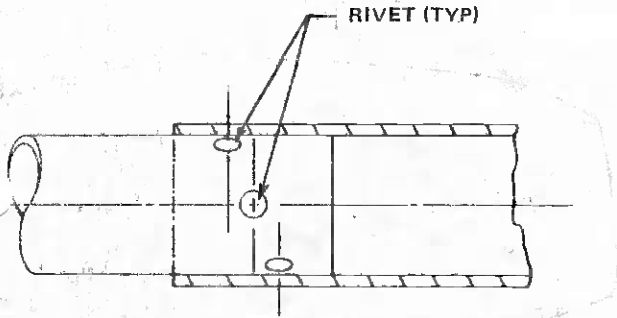
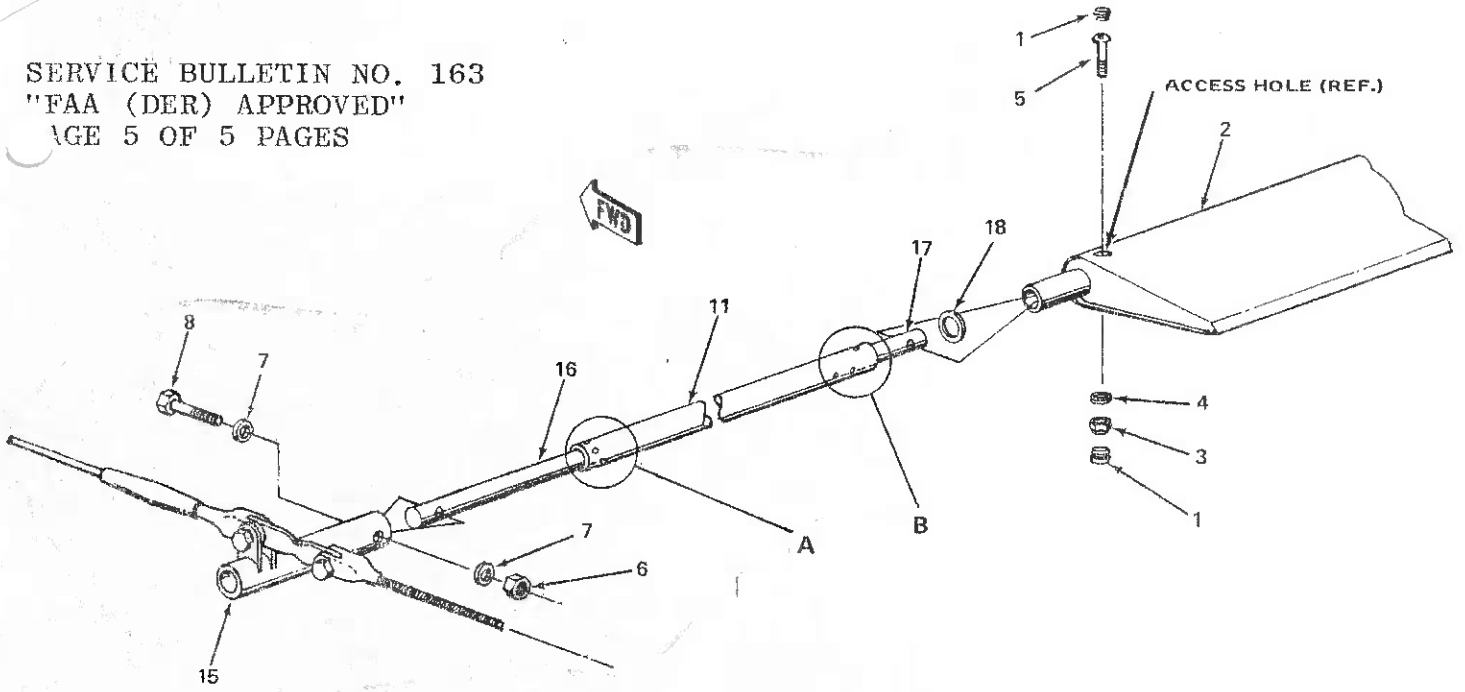
If modification is required, an additional labor allowance of up to .5 hour will be available for each aileron torque tube joint modified in accordance with Service Kit SK-144 (NOTE: There are two joints per aileron torque tube assembly).

All work must be performed or authorized by a Gulfstream American Corporation Dealer/International Distributor. A completed Warranty Claim, Form GAA 740, must be submitted to the factory for credit allowance prior to September 30, 1979 for Domestic Dealers and October 31, 1979 for International Distributors.

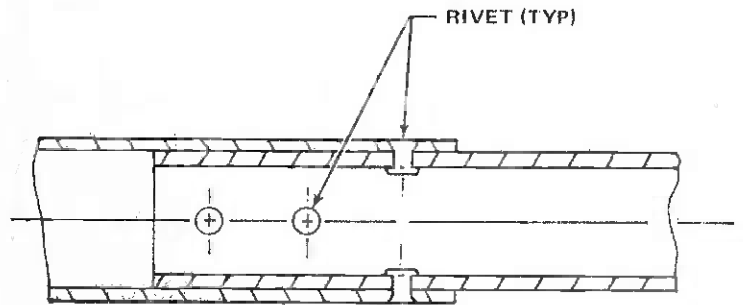
GULFSTREAM AMERICAN CORPORATION

R. E. Belles, Director
Light Aircraft Customer Service

REB:rjm



DETAIL A



DETAIL B

- 1. Plug
- 2. Aileron
- 3. Nut
- 4. Washer
- 5. Bolt
- 6. Nut
- 7. Washer
- 8. Bolt
- 9. Control Stop
- 10. Hinge
- 11. Aileron Torque Tube
- 12. Nut
- 13. Washer
- 14. Bolt
- 15. Control Horn
- 16. Inpd. Sleeve, Torque Tube Assy
- 17. Outpd. Sleeve, Torque Tube Assy
- 18. Spacers (A/R)
- 19. Shims (A/R)

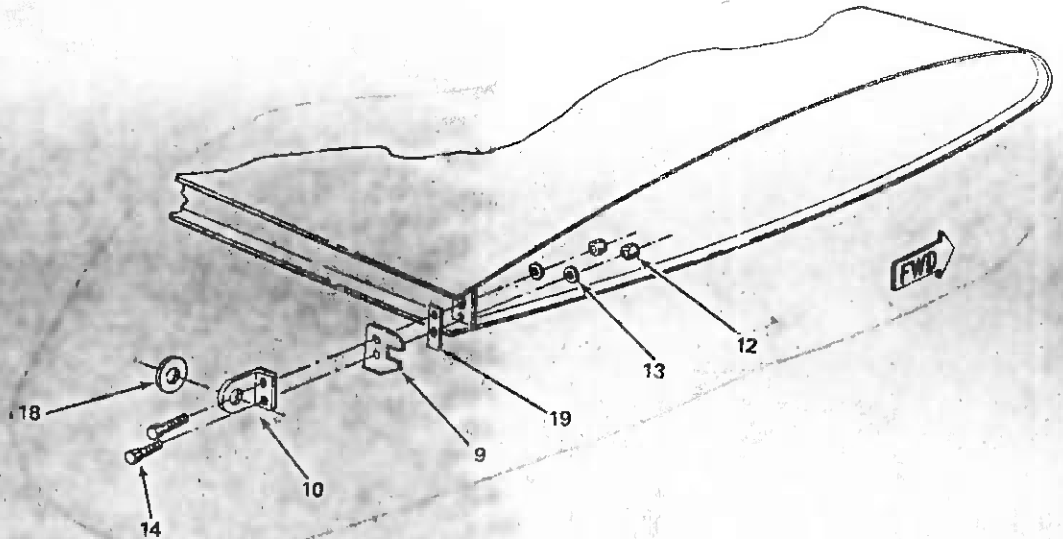


FIGURE 1