



**American General  
Aircraft Corporation**

**SERVICE BULLETIN NO. 177**

DATE: September 11, 1991

SUBJECT: INSPECTION OF AILERON TORQUE TUBES

MODEL/SERIAL EFFECTIVITY: AG-5B 99998 & 10000 - 10073 (IMMEDIATE INSPECTION)  
All AA-5, AA-5A, AA-5B, & AG-5B aircraft (ANNUAL INSPECTION)

GENERAL:

The aileron torque tube assemblies (part no. 5202035-507) in some AG-5B aircraft have been found with excessive wear due to misalignment of the aileron torque tube to the flap torque tube. The wear occurs at the point where the flap torque tube is attached to the flap drive tube under the rear seat of the aircraft.

INSPECTION:

The areas in question should be inspected using the following procedure and if any wear has occurred then the torque tube must be repaired or replaced as outlined in the repair section of this service bulletin.

1. Remove rear seat back cushions, fold out rear seat bottom and remove canvas cover.
2. Examine the area indicated in Figure 1 for alignment of the two torque tubes and for any signs of flap drive bolt contact and wear. If the inside diameter of the flap torque tube is closer than 0.060 inches from the aileron torque tube or if any signs of bolt contact or wear are found then repair or replacement of the aileron torque tube becomes necessary.

REPAIR OR REPLACEMENT:

If the inspection of the aileron torque tube reveals any damage then the following procedure must be completed (refer to Figure 2). If the wear on the torque tube is deeper than 0.030 deep then the torque tube can not be repaired and must be replaced.

1. Remove wing tip as described in Chapter 57 of AA-5 series Maintenance Manual.
2. Remove plugs (12) from inboard end of aileron. Remove the nut (13), washer (14), and bolt (15) from the aileron torque tube.
3. Remove nuts (7), washers (6), and bolts (5) from wing and aileron bearing bracket. Remove control

stop (8), spacer (10), and shims (17) from the wing. Disconnect the ground terminal.

4. Remove aileron from the airplane by pulling it outboard.
5. Remove nut (1) and washer (2) from bolt which secures control horn to aileron torque tube assembly. Remove bolt (3).
6. Pull aileron torque tube assembly outboard and remove it from the aircraft.
7. Check the depth of the wear marks on the torque tube. If the marks are more than 0.030 inches deep then the torque tube must be replaced. If the marks are 0.030 inches deep or less then the damage may be smoothed out carefully by using a file and fine grit sandpaper. Caution: do not increase the depth of the damage beyond 0.030 inches during this process or the torque tube will have to be replaced.
8. Slide aileron torque tube through flap until it extends into the fuselage. Note: When installing aileron torque tube, it is possible that it may catch on the ribs or bearings 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, will prevent this.
9. Position torque tube assembly in control horn until the holes align. Secure with bolt (3), washers(2), and nut (1).
10. Insure that spacer(10) on inboard end is reinstalled as noted during removal. Slide aileron on to torque tube sleeve until the attach hole aligns. Secure with bolt (15), washer (14), and nut (13). Install plugs (12).
11. Insure that shim(s)(17) is installed between the rear spar and the aileron hinge bracket. Position control stop (8) on aft side of aileron hinge bracket (9) and attach them to the aircraft using bolts (7), washers (6), and nuts (5). Connect ground terminal.
12. Loosen the aileron and flap bearing bracket bolts inside fuselage and adjust the bearings as required to obtain a minimum clearance between the aileron and flap torque tubes of 0.160 inches.
13. Check aileron rigging and adjust as required as described in Chapter 27 of the AA-5 series Maintenance Manual.
14. Reinstall the wing tip as described in Chapter 57 of the AA-5 series Maintenance Manual.
15. Replace canvas cover and reinstall rear seat.

Record compliance in the aircraft logbook.

Please fill in the attached compliance card and return it to:  
American General Aircraft Corp.  
P.O. Box 5757  
Greenville, MS 38703

FAA Approval of this Service Bulletin has been granted.

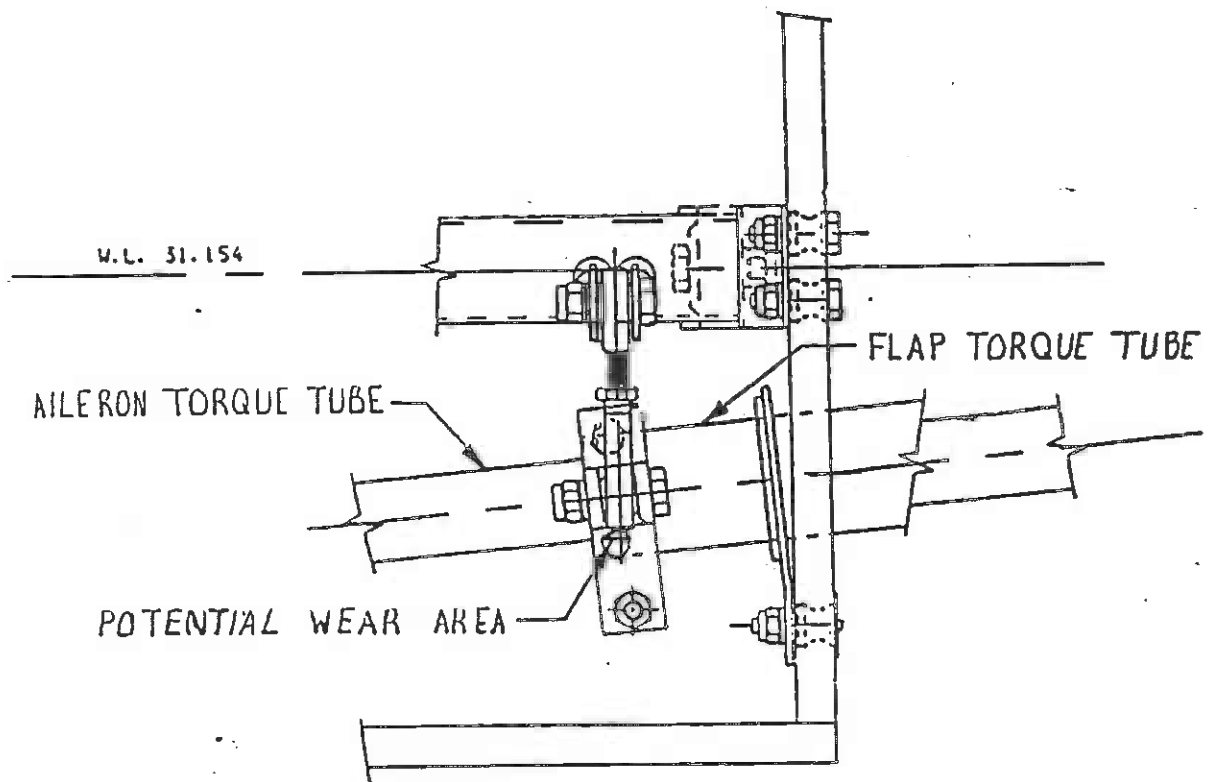
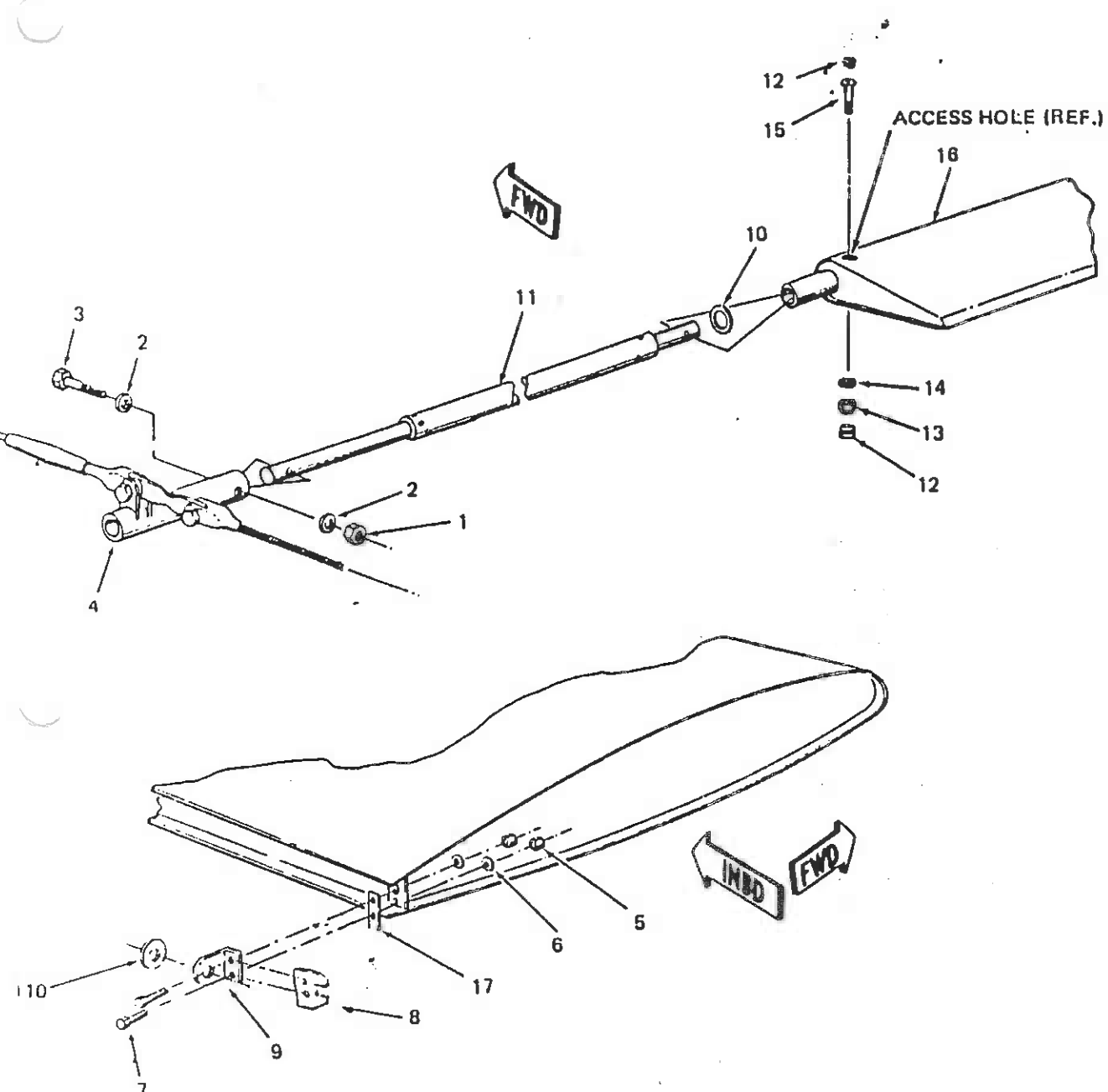


FIGURE 1



- |                    |                         |
|--------------------|-------------------------|
| 1. NUT             | 10. SPACERS             |
| 2. WASHER          | 11. AILERON TORQUE TUBE |
| 3. BOLT            | 12. PLUG                |
| 4. CONTROL HORN    | 13. NUT                 |
| 5. NUT             | 14. WASHER              |
| 6. WASHER          | 15. BOLT                |
| 7. BOLT            | 16. AILERON             |
| 8. CONTROL STOP    | 17. SHIMS               |
| 9. BEARING BRACKET |                         |

FIGURE 2