

British Gliding Association Aircraft Modification

Mandatory

Number: 035/02/2003	Issue: 1
------------------------	-------------

Date: 19 February, 2003

- Subject: Safety modifications to flight control systems
- Applicability: Aviastroitel Me7 and AC4 series all serial numbers
- Accomplishment: Part 1 and 2 – Before next flight
- Reason: Serious concerns over the design and airworthiness of some of the flight control systems following an incident during the flight testing of a variant of the type. Reference is also made to BGA Inspections 032/09/2002 and 034/01/2003
- Instructions: Part 1.
Inspect the Air Brake and Ailerons as follows:
Check if the Air Brake paddle arms are made from round metal tube or rectangle composite material.
Check the aileron inner and outer hinge pins to see if a split pin is used to retain the aileron.
If Composite Air brake arms are used or split pins not fitted – Part 1 limitations apply
1. The Vne is reduced to 87 knots (161 kph). Aerobatics and Cloud Flying are Prohibited.
 2. The cockpit placards must be amended accordingly.
 3. The Airspeed indicator red line or band must be changed to read Vne at 87 knots. It is permissible to paint the red line or band on the glass provided an index line to the case is also painted to verify that the glass has not moved.
 4. Please return the C of A document to the BGA for amendment.
 5. Record compliance or non applicability with **BGA Mod 035/02/2003 issue 1, Part 1** in the glider logbook.

Continued.

Issued by - The British Gliding Association Ltd, Kimberley House, Vaughan Way, Leicester, LE1 4SE, U.K.
Note: Mandatory modifications must be recorded in the aircraft log book, unless specified, and certified by an appropriately rated BGA inspector.
Alternative methods of compliance will be considered providing an equal level of safety is accomplished. Contact BGA for authorisation.

Part 2.

Important note: If at any time during the modification process it is noticed that either bracket is dis-bonding, the bracket must be removed and rebonded in accordance with standard procedures.

1. Ensure BGA Inspections 032/09/2002 and 034/01/2003 have been accomplished and recorded in glider logbook.
2. Carry out modifications to the Aileron bell crank bracket located in the fuselage centre section R/H side below the aileron control tubes in accordance with modification instructions "A".
3. Carry out modifications to the Air Brake bell crank bracket located on the fuselage centre section rear bulkhead forward face in accordance with modification instructions "B" or "C" as applicable.
4. With the glider rigged carry out a close inspection of all control runs in the fuselage centre section to ensure that there are no fouls between the existing components or newly installed hardware.
5. Record compliance with **BGA Mod 035/02/2003 issue 1, Part 2 A and B or C** in the glider log book.

Approved By
Jim Hammerton, Chief Technical Officer

Issued by - The British Gliding Association Ltd, Kimberley House, Vaughan Way, Leicester, LE1 4SE, U.K.

Note: Mandatory modifications must be recorded in the aircraft log book, unless specified, and certified by an appropriately rated BGA inspector.
Alternative methods of compliance will be considered providing an equal level of safety is accomplished. Contact BGA for authorisation.



BGA Mandatory Modification 035/02/2003 issue 1 Modification Instructions "A"

Attachment of Aileron Bellcrank bracket located in centre section fuselage R/H side.

Refer to Figure 1

1. Remove bellcrank pivot bolt and withdraw bellcrank to provide access to bracket attachment screws.
2. Remove upper and lower attachment self-tapping screws.
3. Drill 6mm holes for attachment bolts. It is recommended that an assistant hold a suitable piece of wood against the fuselage external skin to prevent drill break out when drilling through the outer gel coat.
4. Install suitable aircraft grade 6mm pan head screws with an 18mm o/d min. penny washer under the head from the outside. Install plain washers and new self-locking nuts on the inside. Ensure inside washers are clear the remaining self-tapping screw head, scallop washers if necessary. All hardware used must be of aircraft grade steel and plated.
5. Tighten sufficiently to secure but not so that the composite structure is crushed. 1½ complete threads must protrude through the nut.
6. Refit bellcrank and any other components removed for access.
7. Carry out duplicate inspection of refitted aileron control components.

Alternative attachment hardware and method.

- The 6mm pan head screws may be replaced with a hex head bolts.
- The 6mm pan head screws may be replaced with a 6mm countersunk screws provided that a tinnerman type countersunk washer is also used in place of the outside penny washer.
- The countersunk washer must be at least 18mm o/d and have the same angle countersink as the screw (90° or 100°). A suitable countersink tool will also be required. It is permissible to locally manufacture a countersunk washer. The purpose of the washer is to spread the load over a larger area and prevent indentation of the screw head.
- When countersinking the composite skin ensure that only the minimum amount of material is removed to accept the screw and countersunk washer.
- Trim finishing countersunk washers are not acceptable. Only flat tinnerman or solid washers are to be used.
- Any previously installed hardware that does not comply with the minimum requirements as stated above may only continue to be used after approval from the CTO.

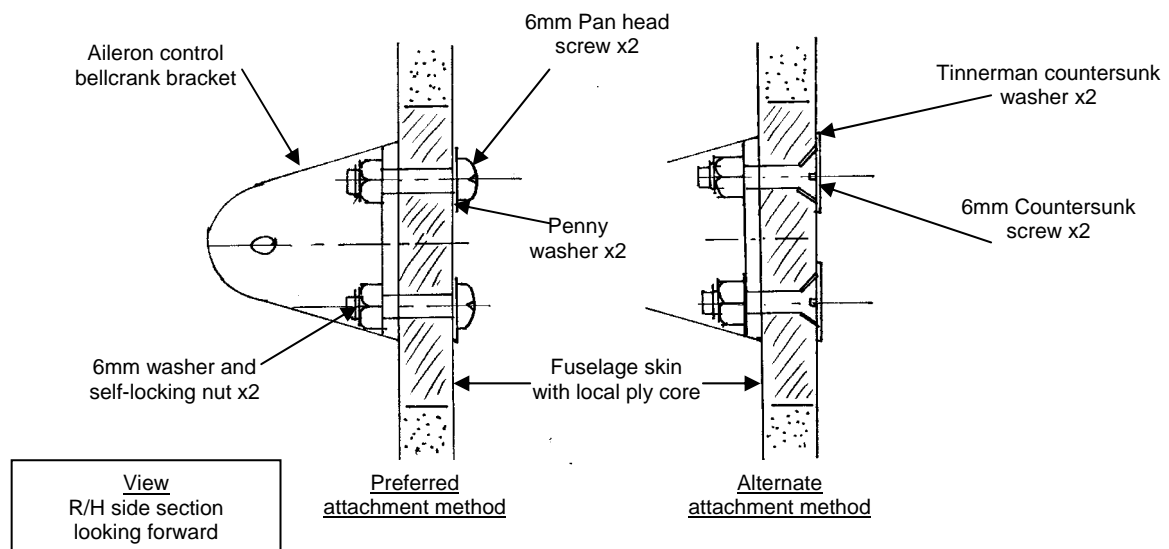


Figure 1



BGA Mandatory Modification 035/02/2003 issue 1
Modification Instructions "B"

Applicable to early ME7 aircraft with metal Air Brake brackets and reasonable access through rear bulkhead. For later aircraft see Modification Instructions "C"

Refer to Figure 2

Attachment of Air Brake bracket located on centre section rear bulkhead forward face.

Note: This attachment method may already be fitted to some aircraft.

1. Remove vertical pivot bolt on air brake bellcrank and withdraw bellcrank if necessary.
2. Remove the 4 corner retaining self-tapping screws.
3. Drill 5mm holes for the attachment bolt in the original self-tapping screw locations. If possible, hold a piece of wood against the rear face of the bulkhead to prevent drill break out and give a clean hole through the laminate.
4. Install a 5mm hex bolt with plain washer on the forward face and install an 18mm o/d min washer and new self-locking nut on the rear face at each of the four positions. All hardware used must be of aircraft grade steel and plated.
5. Tighten nuts sufficiently to secure but not so that the composite structure is crushed. 1½ complete threads must protrude through the nut.
6. Refit removed airbrake bell crank and any other removed components.
7. Carry out duplicate inspection of refitted airbrake controls.

Alternate attachment hardware and method.

- It is permissible, as access to the rear of the bulkhead is very restricted, to install the bolts from the rear.
- 6mm bolts may be used provided that minimum hole edge margins are maintained.
- Any previously installed hardware that does not comply with the minimum requirements as stated above may only continue to be used after approval from the CTO.

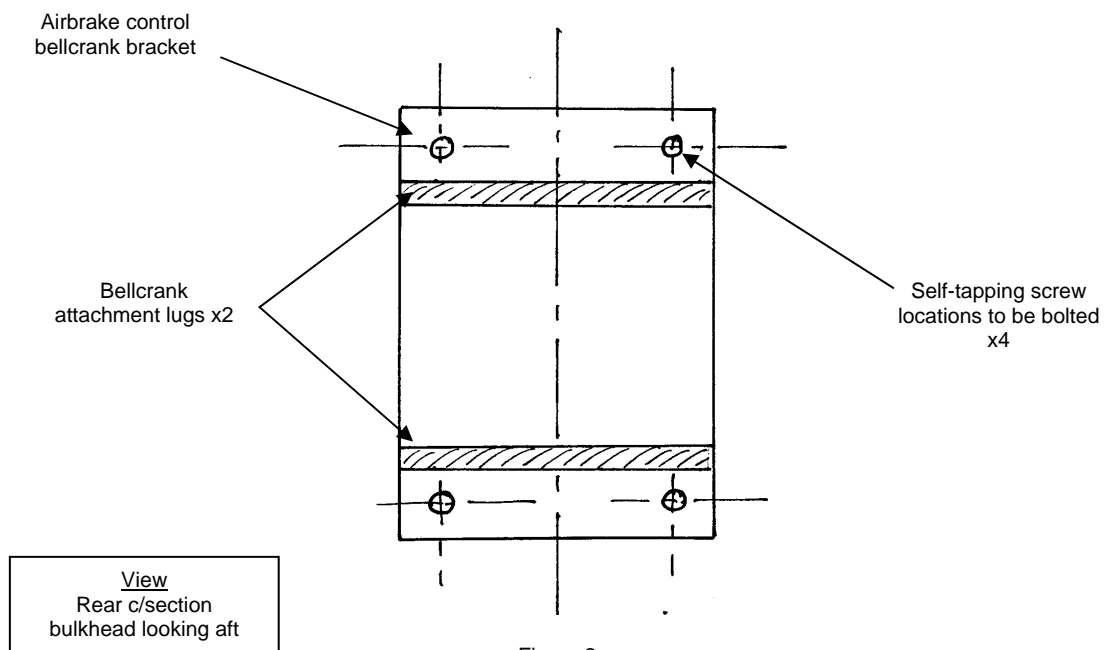


Figure 2



BGA Mandatory Modification 035/02/2003 issue 1
Modification Instructions "C"

Applicable to later ME7 and AC4 aircraft with Composite Air Brake brackets and limited access through rear bulkhead

Refer to Figure 3

Attachment of Air Brake bracket located on centre section rear bulkhead forward face.

1. Remove vertical pivot bolt on air brake bellcrank and withdraw bellcrank. To gain sufficient access the bellcrank may have to be removed completely.
2. Mark the centre of the bracket midway between the two lugs and centrally between the edges.
3. Drill 6mm hole for the attachment bolt. If possible, hold a piece of wood against the rear face of the bulkhead to prevent drill break out and give a clean hole through the laminate.
4. Install a 6mm hex bolt with 18mm o/d penny washer and install an 18mm o/d penny washer and new self locking nut. All hardware used must be of aircraft grade steel and plated.
5. Tighten nut sufficiently to secure but not so that the composite structure is crushed. 1½ complete threads must protrude through the nut.
6. Refit removed airbrake bell crank and any other removed components.
7. Carry out duplicate inspection of refitted airbrake controls.

Alternate attachment hardware and method.

- It is permissible, as access to the rear of the bulkhead is very restricted, to install the bolt from the rear.
- Any previously installed hardware that does not comply with the minimum requirements as stated above may only continue to be used after approval from the CTO.

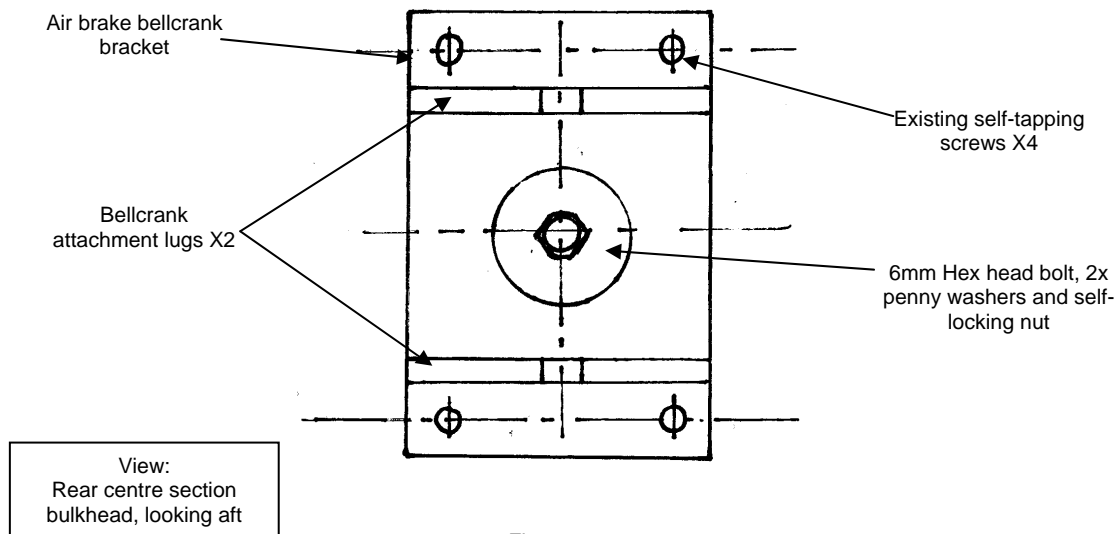


Figure 3