

The Repair Instruction No. 315-45/1 is part of the Service Bulletin TM 315-45 and contains the mandatory replacement of the elevator lever No. 103-3523 for TWIN ASTIR and TWIN ASTIR TRAINER during the 3000 hours inspection.

Material:

- elevator lever 103-3523 (Alu sheet)
- 1 Hotellier ball 282M,
- 1 Hotellier quick-lock R 1241
- glass fabric WL 8.4548.60 (Interglas 92110)
- glass fabric WL 8.4551.60 (Interglas 92125)
- resin, SHELL GE 162
- hardener BAKELITE SL or SHELL Epikure 113 or BASF Laromin C260
- filler, cotton flocks (Type FL 1 f)
- gel-coat, white, No. 03-69 066
- hardener, No. 07-20510

Tools: standard set of tools

Procedure:

1. Remove horizontal stabilizer, refer to the Flight Manual.
2. Dismantle elevator from stabilizer by removing the roll-pins from hinges (mark the head of each hinge pin with a small groove using a file, towards the upper surface).
3. Tape each hinge pin onto the stabilizer near its corresponding hinge to avoid interchange during assembly.

Note: If the pins are corroded or damaged, replace pins.

4. Weigh the elevator and note the weight.
5. Jig up elevator with the upper surface facing upwards, support tips and centre accordingly, so that the hinge line is straight and the elevator is fixed in this position, to prevent moving or twisting while being repaired.
6. Make up a pattern to locate the position of the elevator lever. The centre of the new Hotellier ball hole must be in the same position to the elevator and hinge, as the removed lever.
7. Cut open top surface and vertical false spar web, just outside the dimension of the elevator lever.
8. Carefully remove elevator lever from the lower surface without damaging the fabric. Ensure the leading edge of the elevator is not damaged during lever removal.
9. If required, repair any damaged fabric, according to the Repair Instructions in the MM.

10. Splice elevator top surface and elevator spar web 30mm wide after ensuring that the new elevator lever will pass through the opening.
 11. Install new elevator lever using the pattern manufactured in step 6. If necessary grind the wood of the rib level with the inner shell.
 12. Attach elevator lever in position with a mixture of resin/hardener and cotton flocks.
 13. Close up the web and the upper shell, using the following layer sequence:
 - 2 layers WL 8.4548.60 (Interglas 92110) diagonal
 - 2 layers WL 8.4551.60 (Interglas 92125) diagonal
 - 2 layers WL 8.4551.60 (Interglas 92125) normal
 - 1 layer WL 8.4551.60 (Interglas 92125) normal (additional)
- Note: All lamination and paint work must be performed according to the Repair Instruction in the MM.
14. Allow repaired area to harden.
 15. Carefully grind edges of the fabric without damaging the fabric.
 16. Paint the repaired area.
 17. Secure Hotellier ball and counter with self-locking nut.
 18. Weigh elevator to ensure the aircraft's C.G. is not effected. Check the elevator static moment. It should be 25,8 kpcm \pm 12%, refer to MM page 17.
 19. Install elevator with new roll-pins. Eliminate any side play with washers.
 20. Rig horizontal stabilizer and check free movement of the elevator. Check and adjust elevator deflection if required, refer to MM page 13.
 21. Perform a flight test.

The replacement of the elevator lever must be certified in the logbook by an authorized inspector.