

SERVICE BULLETIN SB/EUR/019 ISSUE 1
EV-97 Eurostar Amateur Kit and Factory Built Aircraft
Cracking of the rear fuselage bulkhead

Date: 12 July 2016

Classification: Essential

Background:

During routine inspection, sheered rivets and cracks have been found in the rear fuselage bulkhead on which the front tail plane attachment pins are located.

Nature of Defect:

Sheered rivets and cracks running across the rear fuselage bulkhead below the attachment pins. Cracks and sheered rivets can occur on both sides effectively separating the front attachment of the tail plane from the lower fuselage (see Figure 1) . This may be caused by normal service and/or ground handling the tail plane. As a result of this defect the design of the bulkhead was changed in late 2013 (figure 2).



Figure 1 View from rear when the tail plane is removed showing cracked rear fuselage bulkhead.

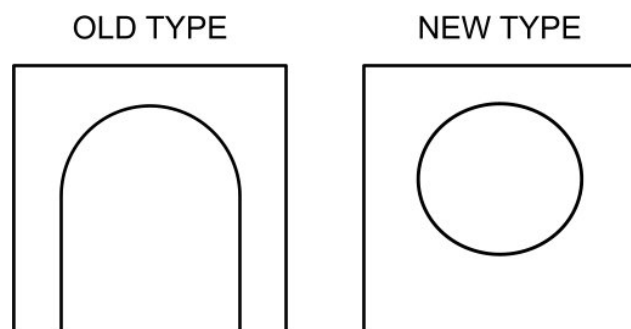


Figure 2

Airworthiness Implications:

Cracks and sheered rivets may result in the failure of the integrity of the tail plane attachment resulting in either the loss of the tail plane or loss of control during flight. **If a crack is found, the aircraft must not be flown. Please inform Light Sport Aviation as soon as possible.**

Aircraft Affected:

All amateur kit and factory built aircraft manufactured prior to the date of this bulletin. Types are:

- Aerotechnik EV-97 TeamEurostar UK
- Aerotechnik EV-97 Eurostar
- Aerotechnik EV-97A Eurostar
- Aerotechnik EV-97 Eurostar SL
- Aerotechnik EV-97 Eurostar SL Microlight.

Materials Required (If tail plane is removed)

Split pins [2 of 1.6x12mm, 2 of 2x20mm]

Inspection Schedule

At 1000 airframe hours or greater, perform initial inspection before next flight.

At less than 1000 airframe hours, perform initial inspection at the next scheduled maintenance.

Re-occurring inspection must be carried out on all affected aircraft every 100 airframe hours after the initial inspection or annually whichever comes first.

Inspection Required:

The area to be inspected may be accessed by four methods :

- a. Removal of rear fuselage floor access panel (All affected aircraft).
- b. Removal of the tail cone (EV-97 Eurostar SL and EV-97 Eurostar SL Microlight).
- c. Borescope to view the area (All affected aircraft).
- d. Removal of the horizontal tail plane (All affected aircraft).

a. REMOVAL OF REAR FUSELAGE FLOOR ACCESS PANEL.

Remove the four screws attaching the rear access panel to the fuselage (figure 3). With a bright torch or a borescope view the front of the rear fuselage bulkhead and inspect for cracks. An inspection mirror may also be used. Alternatively a digital camera may be inserted into the inspection hole to take a photograph of the inspection area (figure 4). The image can then be inspected in and around the area indicated by the red circles for any deformation, cracks and sheered rivets (figure 5). After inspection re-attach the access panel cover.



Figure 3



Figure 4



Figure 5

Figure 5 shows the view from the front through the rear fuselage floor inspection hatch using a digital camera. In bright light it may be necessary to cover the hole in which the elevator push rod runs to produce a sharp image of the area under inspection.

b. *REMOVE THE TAIL CONE* (EV-97 Eurostar SL and EV-97 Eurostar SL Microlight only).

Remove the tail cone (figure 6) by removing the six screws attaching it to the fuselage and using a bright torch or borescope, view the area under inspection. Inspect the area in and around the red circles for any deformation, cracks and sheered rivets (figure 1 and figure 5). After inspection, refit the tail cone.



Figure 6

c. *USING A BORESCOPE*

Insert a borescope through the hole in which the elevator push rod runs (figure7) to view the inspection area (figure 1 and figure 5).



Figure 7

d. REMOVE THE HORIZONTAL TAIL PLANE.

The tail plane should only be removed to confirm the presence of cracks and/or sheered rivets if after performing any of the other inspection methods, cracks are suspected.

Remove the elevator push rod split pin, nut and bolt (figure 8). Detach the trim cable on the top and bottom of the elevator (figure 9). Mark the position of the adjuster (a). Loosen the adjuster and remove the split pin (b), and withdraw the pin (c). Remove the split pins and M8 castle nuts attaching the stabilizer to the empennage (figure 8) and gently pull the stabilizer off the front locator pins.

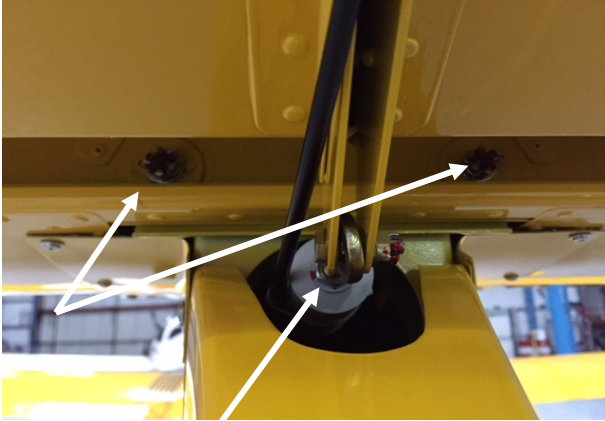


Figure 8

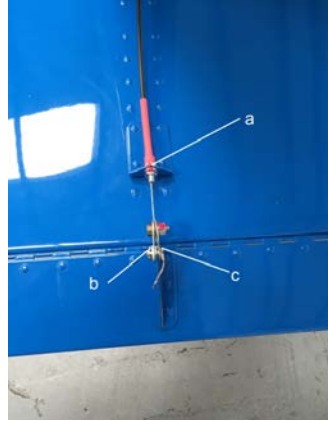


Figure 9

Inspect the area in and around the red circles for any deformation, cracks and sheered rivets (figure 1 and figure 5).

REPLACE THE HORIZONTAL TAILPLANE

Replace the stabilizer making sure that the two front pins are correctly located. Replace the M8 castle nuts and washers. Fit new split pins (2x20mm). Re-attach the elevator push rod and fit a new split pin (1.6x12mm). Reconnect the trim cable and replace the split pin (1.6x12mm).

Notification & Recording

FOR AIRCRAFT ON THE BMAA REGISTER:

The inspection and subsequent reassembly of primary controls are affected in this bulletin. A dual inspection (which can be by a BMAA Inspector with category "H"- All Metal Structures) of the finished job will be necessary if the horizontal tail plane is removed. Please notify Light Sport Aviation of any findings as soon as possible and record compliance with this bulletin in the aircraft log book. Keep a copy of this bulletin in the aircraft records.

FOR AIRCRAFT ON THE LAA REGISTER:

The inspection and subsequent reassembly of all the inspected parts must be completed to the satisfaction of a suitably qualified LAA Inspector. Worksheets and log book entries must be raised and signed by the inspector confirming compliance with this bulletin. If a crack is found please notify Light Sport Aviation and LAA Engineering as soon as possible.

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