

LAA/AWA/16/06  
28<sup>th</sup> October 2016

## Aerotechnik EV-97 Eurostar

### Visual Inspection of Main Spar Caps

On the 24<sup>th</sup> June 2006, a Danish registered EV-97 Eurostar aircraft suffered an in-flight structure failure of the port wing whilst flying in mountainous terrain; this accident led to a thorough examination of the materials used in the construction of the main wing spar. Following checks on all UK registered EV-97 aircraft in 2010, a small number of spar caps were found to be under-strength, these wings went back to the manufacturer in the Czech Republic to have their spar caps replaced.

On the 18<sup>th</sup> September 2016, a UK registered, BMAA administered EV-97 Teameurostar UK crashed in Built Wells, Powys, whilst on a cross-country flight between Sandbach and Swansea; both the pilot and his passenger were killed in the accident. Close examination of the port wing has revealed that this wing failed in approximately the same place and in a similar manner to the earlier failure of the Danish aircraft.

Because of the above incidents, the owner of a reasonably high-hour EV-97 example decided to take a look at the wing spar on his aircraft. Initially he did this using a camera, feeding it between the wing and the fuselage after removing the wing fillet; worried about what he saw, he investigated further by removing the wings. He reported his findings to LSA, the UK manufacturer and distributor of factory – built EV-97 aircraft, who alerted other high hour (BMAA) users, one of whom has discovered abnormalities in the wing spar that need further investigation before the aircraft can be released back to service. Because of these two findings, LSA has written to all EV-97 owners registered on their database asking them to visually check their wings; a copy of this letter can be found [HERE](#).

The LAA has issued an Airworthiness Information Leaflet (AIL) (LAA/MOD/315/001 issue 1) requiring all owners of LAA administered EV-97 aircraft to perform visual checks on their aircraft and furnish LAA engineering with the results of these checks: this AIL can be found [HERE](#).

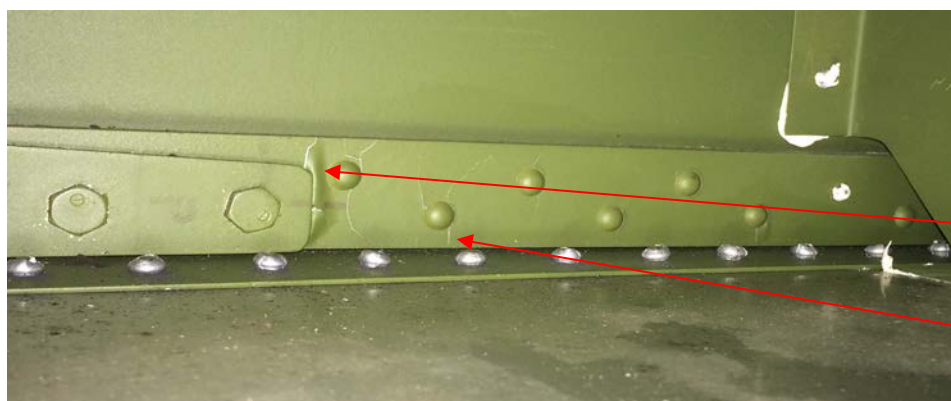


Fig. 1. EV-97 – Lower Spar Cap.

This example, from a 3500 flying time example, clearly shows a problem with the paint's attachment to the metal. Two issues are present and need further investigation.

1. Blistering between the steel attachment fitting and the Spar Cap.
2. Cracking in the paint finish which emanates from the Spar Cap attachment rivets.

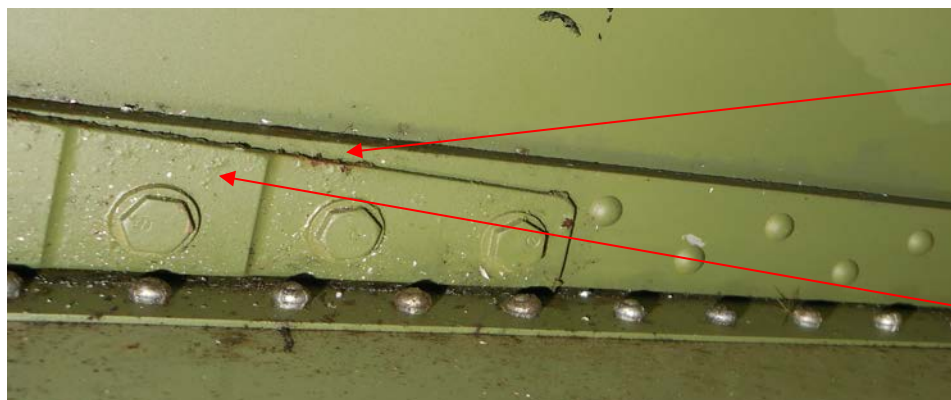


Fig. 2. EV-97 – Lower Spar Cap II.

This example, from a low hour example (< 350 hrs.), shows worrying signs of corrosion. Take note of:

1. What appears to be rust on the surface of the steel bracket and the Spar Cap.
2. Uneven paint finish, indicative of underlying corrosion.