AIRWORTHINESS ALERT

LAA/AWA/19/22
27th November 2019

Jodel DR100 (Series) Aircraft

Inspection of the Tubular Frame of the Front Seats

During the preparations for an instructional flight in a Jodel DR1050, the front/starboard seat's tubular structure failed in such a way that the seat's base separated from the seat's back. The tubular-framed front seats, used on the Jodel three and four seater aircraft, have a history of cracking at this point, though this is the first time LAA Engineering has seen a complete failure of the seat frame.

In this particular failure case, the owner suggests that recent problems with the braking system of the aircraft may have contributed to the seat's failure as, to gain access to the brake pedal area to carry out adjustments, the engineer may have inadvertently put an extra (and unusual) load on the seat back. Also, the front seats on the DR100 (Series) Jodel aircraft enjoy fore and aft movement to accommodate different leg lengths; the owner commented that this seat was becoming stiff to move and the extra force required to move the seat into a comfortable position may have also contributed to the failure.

Following a seat failure in the 1960s, Bureau Veritas, the aircraft's certifying organisation, issued an Airworthiness Directive (AD 66-26-30) requiring an inspection of the tubular structure of the seat each 100 hrs. or annually, whichever occurred first. This AD directed inspectors to a specific point on the frame (where the webbing attaches via a steel hook); in this case, this is where the failure occurred. During a more recent occurrence, cracking has also been seen in the area where the lap-strap attaches to the frame.

LAA Engineering has recently published Airworthiness Information Leaflets (AILs) affecting all DR100 types. The AILs reminds both owners and LAA Inspectors of the importance of carrying out the requirements of AD 66-26-30 at the defined inspection points, and introduces a requirement to widen the inspection area to include the whole of the bend area which forms the transition between the seat's base and the seat's back.

The Jodel DR100 as a generic aircraft type has an interesting history, and this is reflected in the various LAA type designators. Currently there are four types of three and four seaters operating under an LAA Administered Permit to Fly. The Jodel DR100 (series),[LAA type 929], which includes DR100A and DR 105A aircraft. The replica Jodel 250 [LAA Type 299]. The factory-built Jodel DR100 (Series aircraft) and amateur-built examples, which include DR1050, DR1051, DR1050-M, DR1051-M, DR1050-M1 and DR1051 M1 types which are covered under LAA Type 845 (factory-built) and 304 (amateur-built) respectively.

LAA/MOD/304/001 Issue 1 may be downloaded HERE.

LAA/MOD/929/001 Issue 1 may be downloaded HERE.

LAA/MOD/845/001 Issue 1 may be downloaded HERE.

LAA/MOD/299/001 Issue 1 may be downloaded HERE.

BV AD 66-26-30 (reformat) may be downloaded HERE.

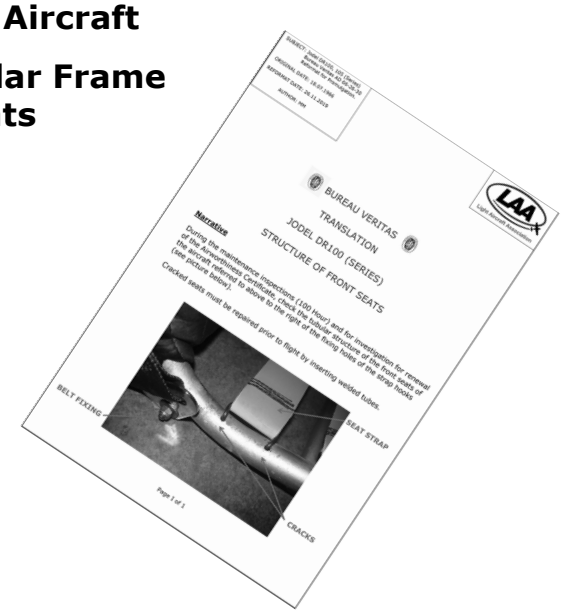

Fig 1. In the 1960s the French authorities employed Bureau Veritas (BV) to oversee certification and continuing airworthiness matters; that's why many of the early Airworthiness Directives issued for French aircraft of that period bear the BV Logo. Because of this recent seat failure event involving a Jodel, the LAA has reformatted the relevant BV AD and have widened the required inspection area by issuing an Airworthiness Information Leaflet

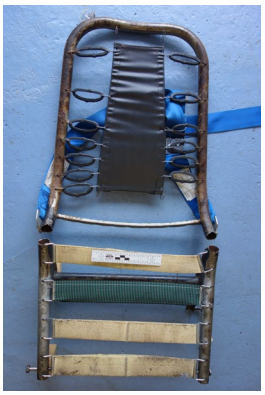

Fig 2. (Left) shows the seat as it was removed from a Jodel 4 seat aircraft (a DR1050).

Note that the seat has failed in a place described in the BV AD written over thirty years previously.

Fig 3. (Right) LAA Engineers looked at a seat from a Jodel 1050 that was being repaired locally, not really expecting to find a problem – as you can see from this photo, we found the seat frame cracked.