

Aeroprakt A22L Foxbat

Modification Approval for changes to Rudder Anti-Balance Tab.

In November 2011 a serious rudder flutter event occurred to an A22L Foxbat aircraft which caused flight difficulties and minor damage to the airframe. In January 2012 another flutter event occurred which caused sufficient empennage damage to temporarily jam the tail surfaces which lead to loss of pitch authority.

Because of this serious loss of control event, all UK A22L Foxbat aircraft fitted with 'Bowden' cable operated rudder anti-balance tabs were grounded.

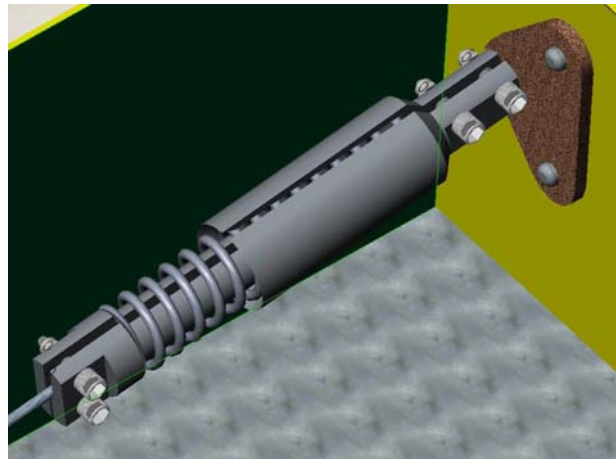


Diagram of Installed Rudder Centring Spring

After a full investigation by LAA Engineering it has been established that there are two most probable reasons for a flutter event of this type. The first is that the connection between the bottom rudder anti-balance tab and the trailing edge of the rudder was lost because of the failure of the attachment bolt. This failure meant that the Bowden cable tension was lost. The second reason was that a stiffness (and a slight restriction) in the anti-balance tab's hinge could have reduced the effectiveness of the return spring/hinge system; this latter issue was established as the reason for the November 2011 incident.

Two modifications have been proposed by members to remove this flutter risk and 'un-ground' the affected aircraft:

The first requires the removal of the anti-balance tab completely and rudder centring provided for by the fitment of centring springs; this modification has now been approved and the Approval Certificate (MOD APP 13311) can be downloaded [here](#).

The second modification, also now LAA Approved, requires the replacement of the Bowden cable with a push rod; the Approval Certificate (MOD APP 13310) can be downloaded [here](#).

Kits for both the approved modifications are available from the UK agent for Aeroprakt aircraft:

Ray Everitt,
Dragon Aviation,
Pencraig,
Llangynog,
Nr. Oswestry.
SY10 0HA.
01691 860792

dragon.aviation@hotmail.co.uk