

## Zenair CH601-XL

The Dutch Civil Aviation Authority has this week issued a directive which grounds the Zenair CH601-XL in Holland, following reports of a number of in-flight wing failures with the type.

Our Airworthiness team are currently working to establish how the version of the CH601-XL previously operating in Holland compares with the version approved in the UK and to obtain details of the accidents. We have advised our own CAA that as far as we are concerned there is no evidence at present to ground the type in the UK.

For the time being the LAA stance on the issue is that:

1. The Zenair CH601-XL model as cleared by the LAA in the UK has been shown to meet normal category (i.e. as opposed to aerobatic) airframe strength requirements both by calculation and by load testing which provides proof of the integrity of the airframe.
2. In common with many other sports aircraft, the CH601-XL exhibits relatively light 'stick force per g'. The stick forces needed to pitch the aircraft are not great, albeit in excess of the normal certification minimum values providing the aircraft is correctly loaded within the allowable cg range.
3. In addition, the aircraft has a relatively wide speed range (cruise speed three times the stall speed) which means that it might be tempting to operate it at airspeeds above  $V_a$  where excessive pitch control inputs could generate sufficient forces in the wings and other airframe parts to cause structural damage or failure. Strong turbulence must also be avoided at airspeeds above  $V_{no}$ , the normal operating limit, as this also could result in structural damage or break-up.
4. Loading the aircraft outside of the permitted aft cg limit, e.g. by carrying too much weight in the cockpit or in the rear baggage compartment, would further reduce the stick force per g and so make the aircraft more sensitive in pitch and more easily over-stressed.
5. Due to the above it is essential that pilots understand and observe the speed and manoeuvre envelope of the aircraft, and to operate only within the permitted weight and cg limits. As with most high-performance kitplanes, 'banking and yanking' at airspeeds above the manoeuvring speed could easily lead to structural failure.

For more details on the subject of structural limitations and the need to observe structural and weight and balance limits please refer to the article on the subject by Francis Donaldson in *Light Aviation* magazine's 'Engineering Matters' supplement of September 2008, or talk to your local LAA coach.

Zenair Europe has recently issued advice in their AD ZE-2008-01 (available from [www.zenairulm.com/Home](http://www.zenairulm.com/Home)) advising owners to check control system cable tensions before further flight. We are not mandating this action at the current time, but consider it appropriate advice for owners to follow.

Further updates on the situation will appear on the LAA website and registered owners of CH601-XL aircraft will be contacted individually as and when specific instructions become available.

LAA Engineering  
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