AIRWORTHINESS ALERT

LAA/AWA/19/02
11th January 2019

Jabiru Aircraft (All Marks)

The Use of Solid Tyres

LAA Engineering has just written to the owners of Jabiru UL-D Microlight aircraft asking them to check whether their aircraft have been fitted with solid infill tyres and letting them know that these solid tyres are not approved for use on their aircraft and they must not be used.

This Airworthiness Alert extends the coverage of this safety information to owners of all Jabiru aircraft owners.

We became aware that some Jabiru aircraft may be fitted with solid tyres after an incident that occurred in October 2018 where a nose undercarriage failed after a rather heavy landing; it was noted by the pilot, who was not the owner of the aircraft, that a solid tyre had been fitted after the incident and that the resulting reduction in suspension in the undercarriage system may have contributed to the undercarriage's failure.

Follow-up investigation has revealed that these solid tyres have been modified by a specialist after-market manufacturer for use on mobility scooters and are fitted to avoid the complications of a disabled user suffering a puncture. It was this attribute that persuaded the owner of the aircraft to fit them after discussions with a microlight instructor who had suffered similar problems.

This Alert serves to let owners of Jabiru aircraft know that these solid tyres are not approved for use on Jabiru aircraft for two principal reasons. Firstly, they offer no suspension whatsoever within the normal impact ranges expected during landing and therefore the undercarriage, as a system, becomes much less able to absorb the energy imparted during a heavier than normal landing.

The second reason is that a solid wheel and tyre assembly weighs approximately 1.2 Kg more than the pneumatic equivalent which may put the aircraft over its maximum allowable weight: this will be especially true for microlight version of this popular aircraft .

Fig. 1 The picture above shows the failed nose-undercarriage shock strut assembly; this strut has failed as a result of overload because of a heavy landing.

Fig. 2 This picture shows how the tyre looks when removed from the wheel assembly, note the very professional look to the inner infill core – and the fact that the tyre gives a maximum inflation pressure though, naturally, an inspector wouldn't find an inflation valve.