

ACCIDENT

Aircraft Type and Registration:	Skystar Kitfox MK5, G-LESZ	
No & Type of Engines:	1 Rotec R2800 piston engine	
Year of Manufacture:	2003	
Date & Time (UTC):	2 July 2009 at 1230 hrs	
Location:	Swanborough Farm, East Sussex	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Damage to both wings, fin rudder stabilizer and elevators, rear end of fuselage, propeller broken, engine pushed back and tubes around cockpit distorted	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	79 years	
Commander's Flying Experience:	22 hours (of which 22 were on type) Last 90 days - 40 minutes Last 28 days - 0	
Information source:	Aircraft Accident Report Form and photographs submitted by the pilot	

Synopsis

After touching down from a normal approach, the pilot was unable to prevent the aircraft from veering to the left and colliding with a hedge. Although no defects could be found with the tailwheel assembly, it is possible that, on takeoff, the wheel had disengaged from its detent connecting it to the rudder and that a misaligned operating spring had foreshortened the tailwheel controls, biasing the wheel to the left

History of the flight

A few yards after touching down after an uneventful test flight, the aircraft began to drift to the left. The pilot

was unable to contain the drift, despite application of full right rudder and as much right brake as he dared. An attempt to increase rudder effectiveness with a brief burst of power had no effect as the aircraft continued to veer left towards the boundary hedge. Consideration was given by the pilot at this stage to switching off the magnetos, but to do so would have entailed letting go of the throttle, with attendant risk that the spring-biased control to the Bing carburettor would revert to its 'failsafe' full throttle position. This idea was discarded, and the aircraft ran into the hedge at an oblique angle.

As the left wing struck the hedge, the aircraft yawed violently to the left, causing the whole nose section to bury itself briefly in the hedge, before sliding backwards into the hedge where it came to rest. The hedge was dense and comprised mainly hawthorn, with embedded tree trunks about four inches in diameter, a barbed wire fence supported on three inch diameter wooden posts, and a wire netting fence also supported on three inch diameter wooden posts. As a consequence, the aircraft suffered significant damage.

Although the pilot suffered whiplash, he was otherwise uninjured and, after all movement had ceased, was able to extract himself unaided. There was no fire.

Aircraft examination

Photographs taken shortly after the accident with the aircraft in situ, showed the aircraft's wheel tracks diverging left towards the hedge. In photographs taken of the aircraft during its takeoff and subsequent approach to land, it was possible to discern that the tailwheel was offset to the left from the time it become airborne, Figure 1, but even after detailed inspection, the pilot was unable to offer any explanation for the offset.

Subsequent discussion of the issue at his local LAA Strut meeting produced a consensus opinion that the tailwheel offset most probably had something to do with the springs in the tailwheel operating linkage. After some experimentation at home, the pilot found that it was possible for the disconnect links in the tailwheel operating horn to become displaced and shorten the effective length of the associated tailwheel control, producing an offset tailwheel with the rudder in the neutral position. Figures 2 and 3 respectively illustrate the implicated link in its normal and displaced positions.

The pilot considered the tension induced in the affected spring to be insufficient alone to break the tailwheel out of its 'detented' straight-ahead position, and it was not possible to confirm that such a condition had



Figure 2

Normal position

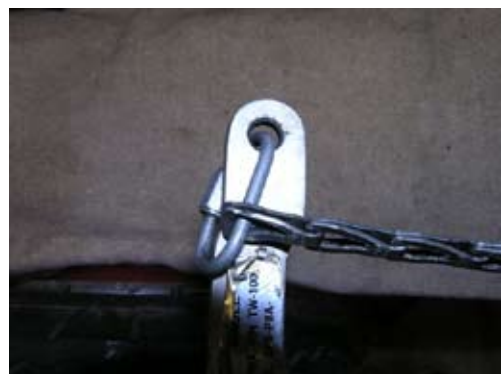


Figure 3

Displaced position



Figure 1

G-LESZ on takeoff, with the tailwheel apparently displaced slightly to the left

caused the accident. It is conceivable, however, that with the link displaced in this way, an operational side force on the wheel kicking it left as just as it lifted off, could potentially have broken it out of its detent, and maintained a left offset thereafter.

The pilot reported that the tailwheel assembly in question was of a generic type in widespread use on light and microlight aircraft.