

## Denney Kitfox Mk 4, G-BZIB

<b>AAIB Bulletin No: 3/2004</b>	<b>Ref: EW/C2003/06/09</b>	<b>Category: 1.3</b>
<b>Aircraft Type and Registration:</b>	Denney Kitfox Mk 4, G-BZIB	
<b>No &amp; Type of Engines:</b>	1 Rotax 582LC piston engine	
<b>Year of Manufacture:</b>	2002	
<b>Date &amp; Time (UTC):</b>	13 June 2003 at 2048 hrs	
<b>Location:</b>	Gumley Road, Smeeton Westerby, Leicestershire	
<b>Type of Flight:</b>	Test Flight	
<b>Persons on Board:</b>	Crew - 2	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	Damage to propeller, fin, rudder, elevator and aft fuselage	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	69 years	
<b>Commander's Flying Experience:</b>	732 hours (of which 418 were on type)	
	Last 90 days - 24 hours	
	Last 28 days - 16 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

The aircraft was being flown on one of a series of test flights, which were required before it could be issued with a Permit to Fly. The aircraft had been airborne for 15 minutes and, having completed some handling tests, was returning to Leicester Airport at 1,500 feet QFE when the engine stopped. The commander selected what he considered to be the only suitable field for a forced landing, knowing that it contained a standing cereal crop. He did not attempt to restart the engine or transmit a radio call because he decided that his priority should be to fly the aircraft.

With the aircraft flying just above the level of the top of the cereal crop its speed reduced and it started to sink. As the mainwheels contacted the crop, which the crew estimated stood two and a half feet tall, the aircraft pitched forward and came to rest inverted after travelling a further 30 to 40 feet. The pilots released themselves from their harnesses and exited the aircraft through the doors, which had already sprung open during the accident. All three emergency services attended the scene but there was no fire and the occupants of the aircraft were uninjured. The commander had particular praise for the four-point shoulder and lap harnesses, which he believes had saved both him and his fellow pilot from injury.

Subsequent examination revealed that the engine failure was the result of fuel starvation caused by debris in the fuel pipe and fuel pump. The debris was identified as a rubber jointing compound, which had been used to connect rubber fuel pipes to metal hose nipples during construction. During a previous ground run this substance had been responsible for a blockage in the fuel system causing the engine to stop. The commander, who is also a PFA inspector, had advised the owners to remove the jointing compound from the fuel system following the ground run. In hindsight he considers that the fuel system should have been replaced, but without the use of rubber jointing compound on the rubber to metal joints.

The use of rubber jointing compound in fuel systems is not widely regarded as standard engineering practice, however, written references to this effect are hard to come by. It is therefore recommended that the Popular Flying Association, as the representative body for amateur aircraft construction in the

## Document title

United Kingdom, issue a technical instruction with advice on the suitability of rubber jointing compound and alternate methods of achieving fuel tight joints in aircraft fuel systems

### **Safety Recommendation 2004-10**

The Popular Flying Association should issue a technical instruction, which contains advice on the suitability of rubber jointing compound and alternate methods of achieving fuel tight joints in aircraft fuel systems.