

## Reims Cessna FRA150L Aerobat, G-BBNX

<b>AAIB Bulletin No:</b>	<b>Ref: EW/C2002/03/10</b>	<b>Category: 1.3</b>
<b>Aircraft Type and Registration:</b>	Reims Cessna FRA150L Aerobat, G-BBNX	
<b>No &amp; Type of Engines:</b>	1 Rolls-Royce Continental O-200-A piston engine	
<b>Year of Manufacture:</b>	1973	
<b>Date &amp; Time (UTC):</b>	12 March 2002 at 1625 hrs	
<b>Location:</b>	Hampton Lucy near Warwick	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - 1
<b>Injuries:</b>	Crew - 1 (Minor)	Passengers - None
<b>Nature of Damage:</b>	Severe damage to propeller, fuselage, empennage and wingtips	
<b>Commander's Licence:</b>	Private Pilots Licence	
<b>Commander's Age:</b>	37 years	
<b>Commander's Flying Experience:</b>	196 hours (of which 2 were on type)	
	Last 90 days - 2 hours	
	Last 28 days - 0 hours	
<b>Information Source:</b>	AAIB Field Investigation	

The pilot of the aircraft was also the owner and had purchased G-BBNX in January 2002, basing the aircraft at a farm strip close to Wellesbourne Mountford airfield. The purpose of the flight was to ferry the aircraft to Turweston for an engineering inspection on behalf of a prospective purchaser, uplifting fuel at Wellesbourne.

The pilot recalled having done a normal pre-flight inspection of the aircraft, including the fuel drains, engine oil contents and fuel tank quantities. His recollection was that the fuel was close to the 'tab' on one side and visible, at a lower level, on the other side. His passenger, who was also the owner of the farm strip and an experienced pilot, arrived a few minutes later and later recalled the pilot having done engine 'run-up' checks, including a magneto check. The pilot also remembered doing these checks but little else from the brief flight, having suffered head injuries in the accident.

The passenger recalled that after the engine checks, the start of the take-off run was normal, with the flaps set to 10°. The windsock showed negligible wind so the take-off was to the south-west, this being very slightly downhill. Because the pilot had asked him to assist with the radio communications and navigation, the passenger did not closely observe the take-off but did note that the pilot rotated, and the aircraft became airborne, before a line of trees slightly beyond the midpoint of the runway. The passenger customarily used this line of trees as a reference point for the takeoff run of his own single-engine aircraft and lowered his head to pay attention to the radios and navigation charts. He was not conscious, therefore, of the aircraft attitude that the pilot set to clear the hill ahead.

Although the sound of the engine continued, the passenger noticed that the aircraft did not appear to be climbing or gaining airspeed and he assisted the pilot in lowering the nose. He did not later recall any reduction in the engine noise or hearing the stall warning horn. It appeared that the aircraft would not clear the hill ahead and, as the pilot turned to the right to avoid trees, the aircraft clipped a hedge and struck the ground in the next field. The pilot banged his head in this impact but the passenger was not injured. There was no release of fuel and no fire.

When the aircraft and farm strip were examined by AAIB, the damage was consistent with the scenario described by the pilot and passenger. There was rotational damage to both propeller blades, indicating that the engine was still producing substantial power when the aircraft clipped the hedge. The wing flaps were found at a position close to 10°, the stall warning horn was still working and the fuel tanks, which did not have contents 'tabs', both contained fuel.

The field length was measured as 2,950 feet, with 1,700 feet to the line of trees used as a reference in the takeoff run and it appears that the aircraft performance was sufficient to get airborne, as described by the passenger. The path of the aircraft could not be reconstructed for the remainder of this brief flight.

It is possible for a pilot to attempt too rapid a climb after leaving the ground, over-rotating the aircraft rather than allowing the airspeed to build after becoming airborne. This can result in abnormally high drag immediately after becoming airborne which in turn has an adverse affect on the angle of climb. This effect on apparent climb performance is most apparent in light or tail wind conditions.