

# Fournier RF 9 Motor Glider, F-CARF, 11 August 2002

<b>AAIB Bulletin No:</b> 11/2002	<b>Ref:</b> EW/G2002/08/08	<b>Category:</b> 1.3
<b>Aircraft Type and Registration:</b>	Fournier RF 9 Motor Glider, F-CARF	
<b>No &amp; Type of Engines:</b>	1 Limbach L-2000-E piston engine	
<b>Year of Manufacture:</b>	1985	
<b>Date &amp; Time (UTC):</b>	11 August 2002 at 0930 hrs	
<b>Location:</b>	Stroud (Nympsfield), Gloucestershire	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 2	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	Damaged beyond economic repair	
<b>Commander's Licence:</b>	Private Pilots Licence (Netherlands)	
<b>Commander's Age:</b>	61 years	
<b>Commander's Flying Experience:</b>	1,641 hours (of which 21 were on type)	
	Last 90 days - 39 hours	
	Last 28 days - 7 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot and telephone enquiries	

The aircraft had flown to Nympsfield, Gloucestershire, from the Netherlands the day before the accident to attend a rally. On the following day the pilot and his co-pilot planned the return flight via Lydd, Kent, and prior to departure the aircraft was refuelled with 52 litres of fuel. Condensation that had formed overnight on the wing was removed from the leading edge. After refuelling the pilot taxied to the north-eastern end of the runway, carried out power checks and began the take-off roll.

The runway at Nympsfield is 1,200 metres of grass and is orientated west south-west/north north-east. The surface has variable slopes and cambers and there are trees on all sides. The wind for the take-off was estimated as south south-westerly at 6-8 kt.

The pilot had briefed his co-pilot to 'guard the throttle' during the take-off roll to ensure that the uneven runway surface did not cause any reduction in power and to retract the undercarriage when

asked. In his report, the pilot stated that the take-off proceed normally until about half way along the runway when the aircraft was at a height of about 20-30 feet. At this point the pilot decided that he could continue the take-off and instructed the co-pilot to raise the landing gear. As he carried out this instruction the pilot noticed a reduction of about 300 engine RPM, but although he cannot specifically recall reselecting full throttle he remembers that the RPM recovered. Nevertheless the aircraft dropped by about 10 feet and at the same time the pilot became aware of a need to apply right aileron to maintain wings level. Conscious now that the aircraft was not performing sufficiently well to clear the trees at the end of the runway, the pilot decided to carry out a forced landing straight ahead, but the left wing struck the ground and the aircraft slewed through 180 degrees. It came to a halt with the engine ripped from its mountings. The canopy handle had jammed and the occupants were trapped in the aircraft until assistance became available. There was no fire, and the pilot and his co-pilot vacated the aircraft uninjured.

Eyewitnesses described the aircraft's initial acceleration as 'poor' and noticed that it skipped several times before becoming airborne. As it attempted to climb it appeared to be 'wallowing' and it became clear that it would not be able to avoid the trees at the end of the runway. At this point the nose raised, without any discernible change in the flight path, and shortly thereafter the left wing dropped and the aircraft descended and struck the ground. The eyewitnesses stated that the engine sounded normal throughout.

Nympsfield is 700 feet above mean sea level and this and the grass surface is likely to have decreased the aircraft's take-off performance. However, the pilot is adamant that he had considered these issues and there was sufficient take-off distance available. The investigation considered the possibility of an engine or propeller problem, but the pilot recalled full normal RPM being available throughout the take-off roll and this makes both of these possibilities unlikely. The aircraft has only a 204 kilogram payload, and with two passengers, an undetermined but considerable fuel load and some baggage, the aircraft was likely to have been at maximum take-off weight.

In his report the pilot considers the most likely cause of the accident to be a combination of reduced performance caused by the airfield elevation, a small loss of power at a critical phase, down draft from the south-westerly wind (evidenced by the need for right aileron with a left crosswind) and lack of familiarity with the contours and obstacles at the airfield. Pilot's experienced on motor gliders report that an additional factor may have been the presence of moisture on the upper surface of the wing behind the trailing edge which could have adversely affected the wing's aerodynamic efficiency.