

Rans S-12XL, G-BZAO

AAIB Bulletin No: 3/2003	Ref: EW/G2001/12/09	Category: 1.3
Aircraft Type and Registration:	Rans S-12XL, G-BZAO	
No & Type of Engines:	1 Rotax 582 piston engine	
Year of Manufacture:	2000	
Date & Time (UTC):	13 December 2001 at 1445 hrs	
Location:	Kirkbride Airfield, near Carlisle, Cumbria	
Type of Flight:	PFA Permit Air Test	
Persons on Board:	Crew - 2	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	All 3 landing gear legs detached, fuselage distorted	
Commander's Licence:	Private Pilots Licence	
Commander's Age:	60 years	
Commander's Flying Experience:	485 hours (of which 10 were on type)	
	Last 90 days - 16 hours	
	Last 28 days - 7 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and AAIB telephone inquiries	

There are approximately 900 Rans S-12XL aircraft flying worldwide but G-BZAO was the first of its type in the UK. It had been approved by the PFA for 20 hours test flying and had accumulated approximately 15 hours flying at the time of the accident. The owner and experienced builder of this kit-built aircraft was flying it at the time.

The pilot had flown several circuits, operating from asphalt Runway 10 (1,280 x 46 metres) in the early afternoon on the day of the accident with no problems apparent. The weather was fine and dry with a visibility in excess of 15 km, no cloud and light and variable winds. At approximately 1430 hrs, having completed pre-flight checks, the pilot made another take-off from Runway 10, with a passenger as observer. The pilot reported that the take-off was normal and he commenced a climb, with the throttle held open. At a height of 150 to 200 feet agl and at the normal climb speed of 50

mph, the engine power suddenly reduced to approximately one third of maximum. He immediately lowered the nose and, as there was insufficient runway remaining for a straight-ahead landing and insufficient height to clear the road at the end of the runway, he made a left turn and landed on cultivated ground to the side of the runway. The engine continued running but did not recover power at any stage. The landing was heavy and the nose landing gear dug into the soft ground on touchdown causing the aircraft to pitch forward and come to rest on its nose. The occupants, who were each wearing a lap and diagonal upper torso restraint, were uninjured and able to evacuate the aircraft rapidly via the normal doors. There was no fire.

Following the accident, the aircraft was examined by the owner. He found no signs of anomaly with the engine or its accessories but to date has not been in a position to test run the engine. He found that it was free to turn and that the fuel lines contained fuel. A small amount of fine white plastic debris, consistent with fuel tank material, was found on the fuel filter element but was not sufficient to cause a significant obstruction. The plastic fuel tanks are drilled during build to accept the outlet pipes and the kit designer noted that, even with considerable care, it is possible for chips of material produced by the drilling to remain in the tank and subsequently lodge in the feed line and restrict fuel flow.

The owner plans to rebuild the aircraft and furnish the AAIB with further information relevant to the power loss should it come to light.