

Pierre Robin HR200/120B, G-BWVG

AAIB Bulletin No: 12/2000 Ref: EW/G99/11/07 Category: 1.3

Aircraft Type and Registration: Pierre Robin HR200/120B, G-BWVG

No & Type of Engines: 1 Lycoming O-235-L2A piston engine

Year of Manufacture: 1996

Date & Time (UTC): 13 November 1999 at 1130 hrs

Location: 2 miles south of Caernarfon Airport, Wales

Type of Flight: Training

Persons on Board: Crew - 2 - Passengers - None

Injuries: Crew - 1 Minor - Passengers - N/A

Nature of Damage: Aircraft damaged beyond economical repair

Commander's Licence: Basic Commercial Pilot's Licence

Commander's Age: 19 years

Commander's Flying Experience: 400 hours (of which 160 were on type)
Last 90 days - 111 hours
Last 28 days - 18 hours

Information Source: Aircraft Accident Report Form submitted by the pilot and AAIB enquiries

History of the flight

The aircraft had been engaged on a circuit training detail with the student handling. The student was a lapsed PPL holder with some 500 hours experience. After several circuits, the low fuel pressure warning light illuminated when the aircraft was on right base leg for Runway 02. The instructor therefore took control and turned the aircraft towards the airport, but some five to ten seconds later the engine lost all power. The instructor selected the best glide speed of 75 kt and carried out a brief check of engine controls and indications, but saw nothing abnormal. He transmitted a 'Mayday' call which was acknowledged by Caernarfon Airport, and then selected a suitable field for a forced landing. He carried out some basic pre-crash checks before touching down about 1/4 way into the selected field, which was some 200 metres in length. However, as he applied braking on the wet grass surface the student also used his brake pedals in an effort to assist in braking the aircraft. The main landing gear wheels then 'locked up' and the aircraft encountered a downslope towards the end of its landing run. The pilot was unable to stop the aircraft before it collided with a substantial hedge covered bank at the end of the field which concealed a farm track. The aircraft came to rest on the farm track which was bounded by two large earth banks. Despite

heavy damage to the aircraft, both occupants escaped serious injury and were able to evacuate the aircraft immediately. A locally based helicopter arrived some 3 to 4 minutes later with a person qualified in First Aid, shortly followed by the Airport Fire Service (AFS), the local Fire Service and an ambulance. A Sea King helicopter was also scrambled from RAF Valley in response to the accident, but turned back when it was advised that the occupants were safe.

Examination of the engine and fuel system

When AFS arrived on the scene, the fuel cut-off lever in the cockpit had been found pulled up to the 'OFF' position.

The damage to the aircraft was extensive and the engine was readily removed. Some 25 gallons of Avgas were drained from the engine fuel supply line using the fuel cut-off lever to control the fuel flow. The fuel system, on the airframe side, functioned normally during the de-fuelling. In addition, the engine was later test run satisfactorily. The instructor later reported that the fuel had been tested and found satisfactory, with no evidence of contamination. He also stated that the engine was later subjected to strip inspection; no associated defects were reported.

The fuel cut-off lever in the Robin HR 200 is mounted between the two pilot's seats, together with other engine controls including the carburettor hot air lever. It is adjacent to, and on the right hand side of, the pitch trim wheel. It is not visually obvious to the pilot when the lever is pulled up to the 'OFF' position.

Because of concerns and past experience with inadvertent operation of the fuel cut-off lever in flight, this operator's Robin HR200 aircraft had the lever locked in the down/ON position with frangible locking wire. The lever has only about 1/4 inch of movement upwards before it cuts off the fuel and it is possible that the locking wire might, in some circumstances, permit this amount of movement. In addition, the lever is painted black, rather than red, the colour which is normally associated with fuel system controls.

The instructor was of the opinion that the fuel cut-off lever may have been disturbed either during downwind checks or while the trim wheel was being operated.

Safety recommendation

A review of the UK CAA database found no records of incidents arising from inadvertent selection of the fuel cut-off lever on Robin HR200 aircraft. However, the possibility of accidentally selecting the fuel to 'OFF' appeared to be a concern amongst pilots of these aircraft. Other variants of the Robin type have a different design of fuel cut-off.

In view of these findings, the AAIB makes the following Safety Recommendation:

Recommendation 2000-51:

The CAA should require, for Robin HR200 aircraft on the British Civil Register, that the fuel cut-off lever be painted red to clearly distinguish it as a fuel system control and that the lever be safeguarded against inadvertent operation.