

**No: 6/87**

**Ref: 1c**

**Aircraft type and registration:** Pierre Robin HR200/100 G-BCCP

**No & Type of engines:** 1 Lycoming O-235-H2C piston engine

**Year of Manufacture:** 1974

**Date and time (UTC):** 15 August 1986 at 1610 hrs

**Location:** Northampton (Sywell) Aerodrome

**Type of flight:** Training

**Persons on board:** Crew — 2 Passengers — None

**Injuries:** Crew — None Passengers — N/A

**Nature of damage:** Starboard main undercarriage damaged. No significant damage resultant from emergency landing

**Commander's Licence:** Private Pilot's Licence

**Commander's Age:** 29 years

**Commander's Total Flying Experience:** 1544 hours (of which 500 were on type)

**Information Source:** Aircraft Accident Report Form submitted by the pilot and MOR report.

During the course of circuit training from runway 21 at Sywell, a slight jolt was felt just prior to lift-off during a touch and go. There were no other unusual indications and the flight continued normally until, during the pre-landing checks, it was noted that there was no brake pressure on the starboard pedal. The instructor decided to fly past the tower for a visual check of the undercarriage condition, but before being able to do so a landing aircraft reported a wheel on runway 21. Shortly afterwards, the tower advised the instructor that the starboard wheel and lower section of the oleo from G-BCCP had separated from his aircraft.

Having assessed the landing areas available, the instructor decided to land on the left side of runway 25, because of the larger clear areas adjoining the runway and the wind, which he considered favoured that runway. Following two practice approaches using a short field approach technique, the aircraft was landed at slow speed on the port undercarriage and then lowered on to the nosewheel, delaying starboard wing drop with aileron. The aircraft came to a halt with slight starboard yaw after a short ground run during which the magnetos were switched off. The aircraft was vacated without difficulty. No significant damage was caused to the aircraft during the landing.

The fractured undercarriage assembly was examined by the Flying School's chief engineer, who found that the oleo strut sliding (inner) tube had fractured adjacent to a machined groove near the top of the strut, and that the strut had pulled out of the oleo housing complete with the wheel and brake assembly. The resulting loads on the torque link sheared its centre bolt, allowing the wheel and lower strut to fall away from the aircraft.

It was noted that there was heavy corrosion in the bore of the failed tube, which appeared not to have been protected during manufacture. The engineer was of the opinion that the corrosion, in combination with the reduced thickness at the machined section, had resulted in fatigue failure, and suggested that the lower oleo strut should be checked periodically using magnaflux or similar methods. He also suggested that hydraulic oil seeping from the axle unit should be regarded as a possible indication of inner strut fracture.