

## Piper PA-30, F-BRUS

**AAIB Bulletin No: 1/2000      Ref: EW/C99/6/6      Category: 1.3**

**Aircraft Type and Registration:** Piper PA-30, F-BRUS

**No & Type of Engines:** 2 Lycoming IO-320-B1A piston engines

**Year of Manufacture:** 1969

**Date & Time (UTC):** 12 June 1999 at 1014 hrs

**Location:** Shoreham Airport, Sussex

**Type of Flight:** Private

**Persons on Board:** Crew - 1 - Passengers - 1

**Injuries:** Crew - None - Passengers - None

**Nature of Damage:** Propeller tips bent, engines shock loaded. Fuselage deformation aft of cabin, compression wrinkling of top skin of left wing, underside abrasions

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

**Commander's Age:** 41 years

**Commander's Flying Experience:** 338 hours (of which 20 were on type)

Last 90 days - 27 hours

Last 28 days - 14 hours

**Information Source:** Aircraft Accident Report Form submitted by the pilot aircraft inspection and telephone calls by AAIB to both the owner and pilot

The aircraft was the second to arrive out of an expected 100 aircraft flying in to Shoreham Airport from France. The participating pilots had been briefed to join the circuit downwind, reporting when crossing the coast. The pilot of F-BRUS had flown the aircraft from Toussus-le-Noble to Rouen before flying to Shoreham. His passenger was also a qualified pilot.

An initial call from the pilot of F-BRUS was received by Shoreham ATC and the aircraft was seen downwind. No call was received from the aircraft on final approach and it was seen to perform a go-around. The wings of the aircraft were seen to rock as the aircraft climbed away and this was taken as an indication that there was a problem with the aircraft. The airport fire service was put on standby. The aircraft was seen to make a climbing turn to the downwind position and position for another approach. There was no response to radio calls from ATC. When the aircraft was on final

approach it could be seen that the noseleg was not fully extended and this was confirmed by a video recording of the landing. As the aircraft touched down the landing gear collapsed and one propeller touched the runway. It lifted off briefly and the right main gear locked down. The aircraft settled again and slewed off the runway to the left as it came to a halt.

The pilot reported that when he joined the circuit and selected landing gear and flaps down he noted that the flaps were not moving and that the cockpit lights had extinguished; there was an apparent total electrical failure. He was unable to confirm the position of the landing gear and so executed a go-around. Subsequently, during the rest of the flight, he did not hear any radio calls from ATC.

After the go-around the pilot checked all fuses and switch positions to no avail and so he attempted to use the emergency gear extension system. He de-clutched the electric motor and engaged the manual lever in the two sockets, mounted on the landing gear torque tube, in turn, in an attempt to rotate the torque tube. The operating load on the lever was higher than he had expected and he felt that this indicated that the landing gear was fully down. The torque tube is normally rotated by inserting the lever into one socket for initial rotation and then into the second, angled socket which allows further movement. He completed the second circuit with no lights visible to indicate landing gear position and landed.

The pilot reported that at start-up at Toussus-le-Noble he had found the alternator field switches at 'OFF' and had switched them to 'ON'; the 'CLOSING DOWN' checklist stipulates that these should be left 'ON' (field current to both alternators is then switched through the single battery master switch). Weather conditions during the flight to Shoreham were not good and he was fully occupied in flying the aircraft. He did not check individual alternators before take off and did not carry out any cruise checks (FREDA) in flight.

Following recovery, the landing gear was extended and both engines were run. During these engine runs the electrical system appeared to work normally.