

Piper PA-28-161, G-BRRM

AAIB Bulletin No: 9/98 Ref: EW/G98/06/37 Category: 1.3

Aircraft Type and Registration: Piper PA-28-161, G-BRRM

No & Type of Engines: 1 Lycoming O-320-D3G piston engine

Year of Manufacture: 1989

Date & Time (UTC): 28 June 1998 at 1245 hrs

Location: Biggin Hill Airport, Kent

Type of Flight: Private (Training)

Persons on Board: Crew - 2 - Passengers - None

Injuries: Crew - None - Passengers - N/A

Nature of Damage: Left main wheel and oleo lost, left flap holed and buckled, fuselage underside punctured, light scrape on port stabilator tip

Commander's Licence: Commercial Pilot's Licence

Commander's Age: 31 years

Commander's Flying Experience: 1,487 hours (of which 376 were on type)
Last 90 days - 218 hours
Last 28 days - 75 hours

Information Source: Aircraft Accident Report Form submitted by the pilot

An instructor was carrying out a check flight on an experienced private pilot. Following some steep turns and a practice forced landing the pilot-under-supervision (P(U/S)) carried out two circuits and landings 'of a very good standard' at Rochester Airport. On climb-out from the second landing the crew heard a pilot on the ground advise ATC that something had become detached from the landing gear of the departing aircraft. They then became aware of some buffeting which increased in severity over about one minute and was accompanied by a loud banging noise. The instructor took control of the aircraft. He found that it was controllable and decided, after discussion with the P(U/S), to return to their base at Biggin Hill. The runway surfaces at Rochester are grass but Biggin Hill has a long runway with a hard surface and also has a higher category of fire and rescue cover. The instructor also took into consideration the built-up areas close to Rochester Airport which the

aircraft would have to overfly during an approach. The instructor asked Rochester ATC to have the runway checked for debris but when this was done none was found.

On transferring to Biggin Hill frequency the instructor made a 'PAN' call, asked for the current weather conditions and told ATC the nature of the problem. The P(U/S) reported to the instructor that part of the left main landing gear wheel was periodically appearing behind the flap and the flap itself was dented and vibrating. The instructor tried to route to Biggin Hill over open country in case a forced landing became necessary and, while in transit, both crew members became aware that the buffeting had partially subsided due, probably, to the wheel becoming fully detached and falling away. Biggin Approach requested G-BRRM to squawk 7700 and, after briefing for landing, the instructor carried out a flapless approach. In the flare the crew shut off the fuel. The aircraft touched down and settled slowly to the left but remained partially steerable with rudder. After it came to rest the crew evacuated normally and found the emergency services in attendance.

When the left landing gear was examined it was found that the upper half of the torque link was still attached but the lower half was missing; the hole for the connecting pivot bolt appeared to be undamaged. By over-extending the oleo had sheared a seal retention ring in its housing and with the wheel attached had been released. The oleo and wheel had remained attached to the aircraft for some time by the wheel brake hose. This evidence implied that the pivot bolt had either broken or had become insecure and had been lost at the last take off or shortly afterwards.