

Piper PA-34-200T, G-BFLH

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Aircraft Type and Registration: Piper PA-34-200T, G-BFLH

No & Type of Engines: 2 Continental Motors Corp LTSIO-360-E piston engines

Year of Manufacture: 1977

Date & Time (UTC): 17 January 2002 at 1515 hrs

Location: Oxford (Kidlington) Airport

Type of Flight: Training

Persons on Board: Crew - 2 Passengers - 1

Injuries: Crew - None Passengers - None

Nature of Damage: Both propellers bent, underside of fuselage and aerals scraped, inboard section of flaps bent

Commander's Licence: Commercial Pilot's Licence with Instrument and Instructor Ratings

Commander's Age: 60 years

Commander's Flying Experience: 14,552 hours (of which 2,078 were on type)
Last 90 days - 108 hours
Last 28 days - 23 hours

Information Source: Aircraft Accident Report Form submitted by the pilot

History of Flight:

The aircraft was engaged on a training flight from Bristol Airport to Oxford Airport. The pilot in command was sitting in the right hand pilot's seat and was instructing a student, the handling pilot,

who occupied the left hand pilot's seat. Another student who had flown the previous leg from Oxford to Bristol was sitting in a rear seat.

After takeoff the student pilot flew an ILS approach at Bristol followed by a go-around. During this go-around the instructor simulated an engine failure by closing one of the throttles. With the landing gear retracted this caused the gear warning horn to sound. (The horn should emit a 90 cycles per minute beeping sound if the landing gear is retracted and either or both throttles are retarded aft of a position consistent with 14 inches manifold pressure.) After the student had completed the relevant touch drills, the instructor increased the 'failed' engine's manifold pressure to 14 inches to simulate a feathered propeller. At this point the instructor expected the warning horn to stop sounding, but it continued. He found the horn noise loud and obtrusive, but after the student completed the remainder of the drill satisfactorily normal power was restored and they continued the flight to Oxford on two engines.

On joining the hold at Oxford the instructor simulated another failure on the same engine, and again on increasing the manifold pressure to 14 inches the gear warning horn continued to sound. In order to silence the horn and make his comments clearly audible the instructor pulled the landing gear warning circuit breaker. This circuit breaker also acts on the landing gear control circuit disabling the hydraulic gear extension and retraction motor, as well as disabling the gear position indicator lights. In this condition the landing gear cannot be raised or lowered using the normal selector.

During the subsequent NDB approach, go-around and visual circuit, the instructor was busy coaching the student as well as looking out for another aircraft in the circuit. During this period he reports he failed to reset the landing gear circuit breaker and that the landing gear was not lowered, a fact which both pilots missed during the landing checks. The aircraft then made a 'wheels up' landing, touching down about a third of the way along the runway and coming to a rest at its edge, midway along its length. All three occupants vacated the aircraft uninjured.

The gear warning horn is operated via a micro switch in the throttle quadrant. The micro switch operates on throttle movement and not manifold pressure. The position of the switch can be adjusted fore and aft so that it may be set to a throttle position equivalent to 14 inches, although the maintenance manual specifies a tolerance of 14 + 2 inches. On occasion the micro switch becomes mis-aligned.

The training organisation involved has since issued a notice to all instructors that the landing gear circuit breaker should not be pulled if the gear warning horn sounds, with manifold pressure at 14 inches or more. Instead, the problem should be reported so that the micro switch position may be checked and adjusted if necessary.