

Piper L18C (Modified), G-BLMR

AAIB Bulletin No: 1/99 **Ref:** EW/G98/08/12 **Category:** 1.3

Aircraft Type and Registration: Piper L18C (Modified), G-BLMR

No & Type of Engines: 1 Lycoming O-320-C3B piston engine

Year of Manufacture: 1953

Date & Time (UTC): 9 August 1998 at 1445 hrs

Location: Sandown Aerodrome, Isle of Wight

Type of Flight: Private (Training)

Persons on Board: Crew - 1 - Passengers - None

Injuries: Crew - None - Passengers - N/A

Nature of Damage: Aircraft damage restricted to landing gear and fuselage longeron; engine required shock-load inspection

Commander's Licence: Private Pilot's Licence with IMC Rating

Commander's Age: 63 years

Commander's Flying Experience: 1,566 hours (of which 290 were on type)

Last 90 days - 15 hours

Last 28 days - 11 hours

Information Source: Aircraft Accident Report Form submitted by the pilot.
Information supplied by Meteorological Office and further information supplied during telephone calls to aircraft and engine repair companies

The aircraft was engaged in banner towing practice and after dropping the banner, a landing was carried out. During the landing, however, the pilot attempted to apply full power but the engine failed to respond and the aircraft descended heavily onto its right main landing gear. As the aircraft taxied across the perimeter track after completing the landing roll, the landing gear collapsed and the propeller struck the ground, stopping the engine.

As part of the repair process, the engine was sent to a specialist company who carried out a shock-load inspection and rectified a number of minor problems, none of which were likely to have influenced the immediate operation of the unit. The engine was subsequently rig tested and performed satisfactorily. No repair, adjustment or alteration was carried out to the carburettor between receipt and re-installation for the rig test.

The pilot stated that he had carried out the bulk of the flight in the region of 1,000 feet and carburettor heat was selected at the time of the power loss. He considers that rapid movement of the throttle may have caused a short period of over-rich operation leading to the loss of power.

A study of the aftercast meteorological data for the time and place of the accident indicates that at approximately 1,300 feet agl the carburettor would have been operating on the boundary of temperature and humidity conditions favourable to serious icing at cruise power. At lower levels, the conditions became slightly less favourable to icing, but nonetheless remained well within the range of conditions favourable to serious icing whilst at glide power.

Most engines in this category are considered to be somewhat sensitive to rapid throttle application; movement from closed to fully open throttle is generally recommended to be carried out over a minimum period of two seconds. A rapid throttle application, accompanied by any residual accumulation of carburettor ice, could be expected to cause a greater divergence from correct mixture ratio than would a comparable rate of application when the carburettor throat was free from such ice. Under such circumstances, the engine could be expected to be more sensitive to the rapidity of throttle application and thus more likely to suffer a rich cut.