

AAIB Bulletin No: 9/94

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Category: 1.3

Aircraft Type and Registration: Piper J3C-65 Cub, G-BROR

No & Type of Engines: 1 Continental A65-8 piston engine

Year of Manufacture: 1943

Date & Time (UTC): 27 June 1994 at 1615 hrs

Location: North east of Tetney, Lincolnshire

Type of Flight: Private

Persons on Board: Crew - 1 Passengers - 1

Injuries: Crew - Minor Passengers - None

Nature of Damage: Propeller destroyed, left main landing gear collapsed, carburettor and engine sump damaged

Commander's Licence: Private Pilot's Licence

Commander's Age: 34 years

Commander's Flying Experience: 344 hours (of which 216 were on type)
Last 90 days - 24 hours
Last 28 days - 10 hours

Information Source: Aircraft Accident Report Form submitted by the pilot

The pilot planned to use the aircraft for a flight over the Grimsby waterfront to take photographs. Before takeoff, the owner/pilot briefed his companion fully on emergency equipment and procedures and did a normal pre-flight inspection which included the fuel system water drains. The pilot was aware that the engine installation on this aircraft type was considered extremely prone to carburettor icing. Although the day was 'hot' (24°C), the presence of a heavy haze and the fact that his planned flight was over the edge of the sea indicated to him that the flight would be made in high humidity conditions and, therefore, that there would be a high probability of encountering carburettor icing.

After takeoff, the pilot intended to climb the aircraft to a level above the haze. During the climb he applied hot air every 1,000 feet, as a precaution against carburettor icing, and observed a characteristic drop of 100/125 engine RPM. At an altitude of 3,800 feet and still in the hazy layer, the pilot decided not to climb any higher but to start a low power, gentle descent whilst the photographs were taken. Immediately before the descent, and whilst still at the cruise/climb power setting, his application of hot air resulted in a drop of about 200 RPM. During the descent, which was generally flown with a

throttle setting to give 1,000 RPM with carburettor hot air applied continuously, the engine was warmed periodically by applying power to 1,400 RPM every 1,000 feet. The pilot intended to climb away again after the aircraft had descended to an altitude 800 feet but, when he selected carburettor cold air and advanced the throttle, the engine starting running roughly with an intermittent misfire which became worse at power settings about 1,600 RPM. The power was left at the 1,600 RPM setting and carburettor hot air applied. However the engine did not improve and the settings resulted in a very slow descent at 45 kt, the slow safe cruise speed. The pilot recognised that he had to make a forced landing and ensured that the passenger stowed all the loose articles in the cabin.

After rejecting a number of potential landing sites, on the grounds of their being either too crowded with people or too isolated to seek help after landing, he made an approach to what appeared to him to be a large tilled field close to a village and main road. At about 100 feet on final approach it became apparent that the field surface was very deeply ploughed and, not wishing to risk an engine failure during an overshoot, the pilot attempted to land on a track running through a standing crop in an adjacent field. During the turn to the new intended landing point it became apparent that there was insufficient height and so the aircraft was slowed to minimum speed and landed in the crop. The deceleration at touchdown was very marked and the aircraft tipped onto its nose.

After landing, the occupants evacuated the aircraft unaided and walked to the nearby village to call for the emergency services. At no time during the flight had the pilot transmitted an RT call to declare an emergency.