

Gulfstream AA-5B, G-BFXX

AAIB Bulletin No: 11/2000 **Ref: EW/G2000/07/16** **Category: 1.3**

Aircraft Type and Registration: Gulfstream AA-5B, G-BFXX

No & Type of Engines: 1 Lycoming O-360-A4K piston engine

Year of Manufacture: 1978

Date & Time (UTC): 22 July 2000 at 1156 hrs

Location: Near Stapleford Tawney, Essex

Type of Flight: Private

Persons on Board: Crew - 1 - Passengers - 1

Injuries: Crew - None - Passengers - None

Nature of Damage: Propeller and nose landing gear bent.

Commander's Licence: Private Pilot's Licence

Commander's Age: 35 years

Commander's Flying Experience: 196 hours (of which 5 were on type)
Last 90 days - Nil
Last 28 days - Nil

Information Source: Aircraft Accident Report Form submitted by the pilot

The pilot, who had not flown since February 2000, was carrying out a re-familiarisation flight on the aircraft. Given his lack of recent experience, he elected to fly with a Flying Instructor. The flight consisted of a short navigation exercise from Stapleford Airfield out to Haningfield Reservoir and returning to Stapleford for circuits and landings. The cross-country element was uneventful and carried out between 2,000 feet and 2,500 feet. No symptoms of carburettor icing were experienced although carburettor heat was selected periodically.

On return to Stapleford Airfield a 'touch and go' landing was carried out and the aircraft positioned downwind at 1,200 feet for a landing on Runway 04. The downwind checks were completed, including selection of carburettor heat, which initially was only for a short period but the instructor advised a longer selection and this was carried out by the pilot. On turning base leg the engine RPM was reduced to 1,500 to 1,600 RPM and the aircraft descended. It was configured for landing with two stages of flap selected. On opening the throttle there was no corresponding increase in engine RPM, however the engine was running smoothly but at reduced power. The pilot changed fuel tanks but this did not rectify the problem. The instructor assisted the pilot by checking that the booster pump was ON and also changed back to the original tank. With the engine still running smoothly but the engine RPM dropping the instructor took control and selected carburettor heat to

HOT and confirmed that the mixture was fully rich. The aircraft was turned onto finals at about 60 kt and the instructor tried initially leaning the mixture slightly and then using the fuel primer, but shortly after the engine stopped when the aircraft was at about 400 to 600 feet.

It was decided to carry out a forced landing in the wheat field ahead and, before the emergency drills were carried out, a short MAYDAY message was transmitted to Stapleford. The air speed was reduced to 55 kt to clear some trees and, with a low rate of descent and air speed estimated at about 40 kt, the aircraft was flared just above the crop. The retarding effect of the crop on the main landing gear caused the nose to pitch down sharply and the aircraft landed heavily on all three wheels. There was possibly a short bounce before the aircraft came to rest with the nose landing gear bent back. The aircraft was secured and both occupants left using the normal exit. There was no fire but the airfield Rescue and Fire Fighting Service was promptly on the scene.

The London City METAR for the time of the accident was surface wind 040°/7 kt, visibility in excess of 10 km, broken cloud cover at 2,000 feet, temperature +16° C, dew point +10°C and QNH 1023.

The fuel check before the flight had shown small quantities of water present in both tanks when the first sample was drawn off. A second sample from each tank was clear of any contamination.

An engineering investigation by the repair agency found large quantities of water in the engine bulkhead fuel hoses, carburettor, mechanical fuel pump and the four engine intake pipes. It was concluded that the engine failure occurred due to water ingestion.