

Rockwell Commander 114, N5834N

AAIB Bulletin No: 2/99 Ref: EW/G98/10/21 Category: 1.3

Aircraft Type and Registration: Rockwell Commander 114, N5834N

No & Type of Engines: 1 Lycoming IO-540-T4B5D piston engine

Year of Manufacture: 1977

Date & Time (UTC): 23 October 1998 at 1721 hrs

Location: Bristol Channel

Type of Flight: Private

Persons on Board: Crew - 1 - Passengers -None

Injuries: Crew - Minor - Passengers - N/A

Nature of Damage: Beyond economic repair

Commander's Licence: Commercial Pilot's Licence with Instrument Rating

Commander's Age: 31 years

Commander's Flying Experience: 1,363 hours (of which 3 were on type)
Last 90 days - 133 hours
Last 28 days - 14 hours

Information Source: Aircraft Accident Report Form submitted by the pilot, an on-site examination by AAIB and a weather aftercast from the Meteorological Office

The aircraft, whilst flying over the Bristol Channel, was cleared into the Cardiff zone and commenced a gradual descent from 2,000 feet to 1,500 feet amsl. However, when about one minute into this descent the engine started to lose power. The pilot advanced the mixture control to 'full rich', but this did not appear to have any effect. He therefore turned the aircraft towards the coast, declared an emergency and continued with the engine failure drills, but the engine continued to run at low power. He reported that the aircraft descended fairly rapidly, but he managed to make a forced landing on an area of reeds that were below the high water mark on the South Wales side of the Bristol Channel. Although the landing gear collapsed during the landing, the pilot was uninjured and was able to vacate the aircraft. He duly informed Cardiff ATC that he was safe and uninjured.

Following the accident, the pilot stated that he had attempted to restore power by carrying out the engine failure drills, but had been very pre-occupied in handling the aircraft and preparing for the emergency landing. He could not remember selecting the engine alternate air source during his attempts to restore power. He also stated that he had not been flying in cloud, that it was not raining and that the fuel tank selection had remained on 'Both' for the whole flight.

The aircraft remained in the tidal area for approximately 40 hours before it was recovered by a local haulage contractor. An on-site examination by the AAIB following the aircraft's recovery failed to find any obvious fault with the engine or its systems. Fuel was found in both tanks and in the supply pipe to the engine's fuel injection unit. The engine was found to turn freely, the oil contents were adequate and the compressions on each cylinder were checked and found to be acceptable. The single-drive twin magneto was removed and the drive system was found to be serviceable.

A weather aftercast was obtained from the Meteorological Office at Bracknell for the date, time and area where the accident had occurred. This aftercast gave the following temperatures and relative humidities (RH): 3,100 feet, Dry +7°C, Wet +2°C, 71% RH and 1,800 feet, Dry +8°C, Wet +5°C, 73% RH. When plotted on a carburettor icing probability chart these figures give an indication of serious icing at any power. However, the engine fitted to this aircraft was fuel injected and therefore could not have suffered from carburettor icing as such, but it is possible that it may have been affected by contamination of the engine air intake filter by ice or by impact ice on the fuel injector nozzles. However the occurrence of such affects were considered unlikely on an engine which had been operating at high power for a reasonable period of time and had not been flying in cloud or rain.