

**No:** 10/92

**Ref:** EW/G92/08/06

**Category:** 1c

**Aircraft Type and Registration:** Cessna 152, G-BNTU

**No & Type of Engines:** 1 Lycoming O-235-L2C piston engine

**Year of Manufacture:** 1980

**Date & Time (UTC):** 5 August 1992 at 1714 hrs

**Location:** Near Welshpool, Powys

**Type of Flight:** Private

**Persons on Board:** Crew - 2                      Passengers - None

**Injuries:** Crew - None                      Passengers - N/A

**Nature of Damage:** Aircraft damaged beyond economic repair

**Commander's Licence:** Airline Transport Pilot's Licence with Instructor rating

**Commander's Age:** 48 years

**Commander's Flying Experience:** 2,680 hours (of which 2,300 were on type)  
Last 90 days - 210 hours  
Last 28 days - 65 hours

**Information Source:** Aircraft Accident Report Form submitted by the pilot

The aircraft had originally departed from Welshpool aerodrome on a student pilot solo local area exercise, in order to complete the student's 10 hour solo flying requirement for the issue of his Private Pilot's Licence. As the aircraft approached Welshpool at the end of the detail, the student became worried by the deteriorating weather conditions close to the aerodrome. He therefore turned around to head for an area with better weather conditions, and called Shawbury Radar for assistance. The student then elected to divert to Hawarden airfield, and made an uneventful landing there. In accordance with the Club's flying orders, the student telephoned Welshpool to advise them of his location.

Another aircraft was detailed to deliver a flying instructor to Hawarden to pick up the aircraft and student. On arrival, the instructor was made aware that there was no refuelling service available. A NOTAM was in effect stating that no fuel was available for visiting aircraft from 1100 hrs on the 24 July to 0730 hrs on the 10 August, because of a local holiday. The instructor made a visual inspection of the fuel tank contents, and used a dipstick to measure the fuel quantity remaining. He determined

this to be sufficient for an endurance of 1 hour. The return flight to Welshpool was planned to take 30 minutes.

The aircraft departed from Hawarden with the student in the left hand seat, but being flown (in command) by the instructor from the right hand seat. After approximately 29 minutes, as the aircraft was descending through 1000 feet on a long final approach for Welshpool aerodrome, the engine failed. The commander reported that at the time of the failure, the fuel gauges were showing nearly empty in the left tank, and between one quarter and one half full in the right tank.

The commander carried out a forced landing into a field, some 2 nm north-northeast of Welshpool aerodrome. The aircraft overran the landing field, travelled through a hedge, and came to rest on a road. There was no fire, and the occupants, who were wearing full harnesses, were uninjured and rapidly vacated the aircraft. The emergency services were on the scene a short time later.

The aircraft was transported back to Welshpool aerodrome, where engineers drained the remaining fuel from tanks prior to removing the wings. A total of less than two gallons of fuel was recovered from the aircraft. The manufacturer's figure for the quantity of unusable fuel is 1.26 gallons.

The commander had recently taken over as Chief Flying Instructor (CFI) at Welshpool and it was his first day of flying that particular aircraft. He also noted that the previous CFI had pursued a policy of not filling the aircraft tanks completely at the start of each day, and thus was unable to cross-check the fuel gauge indications and visual/dipstick tank contents observations with the total hours flown since the last uplift to a full fuel state.

A check on the number of accidents/incidents attributed to fuel starvation, over the past five years in the UK, revealed that there have been 25 occurrences, including 17 to Cessna 150/152/172/182/210 series aircraft. In a significant proportion of these occurrences, the fuel gauges were reading well above the tanks empty indication when the engine failures occurred.