

**No:** 6/92

**Ref:** EW/C92/3/3

**Category:** 1c

**Aircraft Type and Registration:** Piper PA-30 Twin Comanche, G-ASSR

**No & Type of Engines:** 2 Lycoming IO-320-B1A piston engines

**Year of Manufacture:** 1964

**Date & Time (UTC):** 17 March 1992 at 1634 hrs

**Location:** Llangennech, near Swansea, South Wales

**Type of Flight:** Private

**Persons on Board:** Crew - 1 Passengers - 2

**Injuries:** Crew - Minor Passengers - 1 Serious  
1 Minor

**Nature of Damage:** Aircraft Destroyed

**Commander's Licence:** Private Pilot's Licence (Group B)

**Commander's Age:** 40 years

**Commander's Flying Experience:** 200 hours (of which 15 were on type)

**Information Source:** AAIB Field Investigation

### History of the Flight

The pilot had completed his Private Pilot's Licence Group B training on 4 March 1992 having flown all the relevant exercises on the accident aircraft. This training included the management of the fuel system and the procedure to be followed in the event of running a fuel tank dry. The PA 30 aircraft type is equipped with four tanks; two main tanks positioned inboard of the engine nacelles and two smaller auxiliary tanks positioned outboard. On 16 March 1992, the aircraft was refuelled to full tanks and flown by another pilot from Haverfordwest to Exeter and back. The total airborne time for this flight was 80 minutes and both engines were fed from the main tanks throughout. On 17 March 1992, the pilot booked G-ASSR for his first solo sortie away from his base airfield. This was to be a flight from Haverfordwest to Swansea and return. The pilot planned to take two passengers and at this time did not intend to fly a sortie out of Swansea. As the pilot had not flown the PA30 since 4 March 1992, it was agreed that he should have a dual check before departing for Swansea. This check consisted of three circuits and a simulated asymmetric landing following which the pilot was cleared for his trip to Swansea.

A meteorological forecast was obtained from Swansea which indicated a cloud base of 1800 feet and good visibility. During his pre-flight check, the pilot checked visually that the main fuel tanks were about half full and that the auxiliary tanks were full. He considered that he had sufficient fuel for the proposed flight but did not make a fuel plan. The flight to Swansea, which was flown using the main tanks only, was uneventful. On arrival at Swansea, the pilot met one of his previous flying instructors and decided to take him for a short flight. The passengers were left on the ground and the pilot took-off with his instructor with the intention of making the flight in the Swansea local area. Once airborne, it became obvious that the weather was deteriorating and the decision was made to land at once so that the pilot could return to Haverfordwest before he was prevented from so doing by the weather. This flight was again conducted with the engines being fed from the main tanks. On landing, the flying instructor left the aircraft and the two passengers boarded with the engines running.

The flight back to Haverfordwest was initially uneventful but, when about 5 nm west of Carmarthen at 1500 feet, the pilot encountered reducing visibility and drizzle so he made the decision to return to Swansea. When east of Carmarthen, the visibility improved and the aircraft was climbed to 1800 feet. Shortly after this, the pilot noticed a slight yaw to the right which he was able to correct with rudder. On checking for the cause of the yaw, he saw that the manifold pressure on the right engine had fallen to 14 inches. He advanced the throttle, propeller and mixture controls but the engine failed to respond. He then checked the fuel gauge readings which appeared to indicate that the main tanks, which were in use at the time, were each one quarter full. On this aircraft, the fuel gauges are located on the far right of the instrument panel and their readings are subject to considerable parallax error when viewed from the left hand seat.

The pilot then selected the auxiliary tank to the right engine and as the right hand propeller had by this time stopped rotating, he attempted to restart the engine using the starter motor. There was some response from the engine but it failed to pick-up and after about a minute of cranking, the pilot abandoned his attempt to restart the engine and shut it down. The pilot then configured the aircraft for asymmetric cruise and informed Swansea ATC that he had an engine problem. Shortly after this, when the aircraft was at 1200 feet, the left engine lost power and the aircraft began to lose height rapidly. The pilot considered that a forced landing was inevitable and selected a landing field away from populated areas. At about 500 feet, he realised that he would not reach his intended landing area and that he was heading for a railway embankment. He selected the landing gear down and commenced a turn away from the embankment before selecting the battery master switch to OFF and placing both fuel selectors in the OFF position. The aircraft landed on boggy ground some 60 metres short of the embankment with the flaps up and the landing gear partially extended. After touch-down it slewed to the right and rotated through approximately 180° before impacting the embankment with its tail and left wing tip.

The pilot and passenger in the front seat, who were wearing full harness, sustained only minor injuries, but the passenger in the rear right seat who was restrained only by a lap strap, suffered a broken neck. There was no fire and all three occupants were able to evacuate the wreckage without undue difficulty. Eye witnesses who saw the aircraft with both propellers stopped, alerted the emergency services who responded promptly.

Examination of the aircraft after the accident confirmed that the right propeller was in the feathered position whilst the left propeller was in the normal pitch range. Shortly after arriving at the scene, the emergency services, in consultation with the pilot, decided to flush out the fuel tanks and leave them full of water. The fire officer concerned reported that before the flushing operation, the outboard tanks both appeared to be full but that little if any fuel was in the inboard tanks. It was noted that the day after the accident no leakage of the water had occurred from any of the tanks.

A calculation of the fuel used on the flights undertaken since the aircraft was last refuelled indicated that a total of 46 gallons would have been consumed. The main tanks contained 48 gallons after refuelling and there were 24 gallons available in the auxiliary tanks, none of which had been used.

Both the documentation for the PA 30 and a placard adjacent to the fuel selectors state that the auxiliary tanks are for use in level flight only.