**ACCIDENT**

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| **Aircraft Type and Registration:** | Pegasus Quantum 15, G-BZVJ |
| **No & Type of Engines:** | 1 Rotax 582 piston engine |
| **Year of Manufacture:** | 2001 |
| **Date & Time (UTC):** | 8 January 2011 at 1400 hrs |
| **Location:** | Tain Airfield, Ross-Shire, Scotland |
| **Type of Flight:** | Private |
| **Persons on Board:** | Crew - 1 Passengers - None |
| **Injuries:** | Crew - None Passengers - N/A |
| **Nature of Damage:** | Wing, front of pod and landing gear |
| **Commander's Licence:** | National Private Pilot's Licence |
| **Commander's Age:** | 44 years |
| **Commander's Flying Experience:** | 104 hours (of which 54 were on type)<br>Last 90 days - 6 hours<br>Last 28 days - 3 hours |
| **Information Source:** | Aircraft Accident Report Form submitted by the pilot and subsequent AAIB enquiries |

**Synopsis**

The aircraft's engine stopped without warning at a height of approximately 700 ft during the climb after takeoff. The pilot attempted to land back on the grass runway in the direction of takeoff, but there was insufficient height remaining to make the final turn and so he landed across the threshold, perpendicular to the runway. On realising that the aircraft was likely to collide with a fence, he pushed the control bar forward to become airborne again and clear the fence. The back wheels of the trike struck the top of the fence as the aircraft passed over it and the aircraft dropped into the adjacent field, coming to rest on its side. The pilot considered that the most likely cause of the engine failure was either carburettor icing or ice in the fuel line.

**History of the flight**

The pilot had completed a number of circuits at Tain Airfield earlier in the day, followed by a 45 minute flight in the local area with a passenger. After a short break for refreshments he decided to undertake another local flight. After takeoff from grass Runway 34, the engine stopped without warning at approximately 700 ft. The pilot attempted to select a suitable field in which to conduct a forced landing, however all the fields ahead had livestock in them. He commenced a left turn back towards the runway and planned to conduct a downwind landing. He subsequently realised he was too high to make a successful landing in the runway length remaining, and so continued his turn through the centreline to reposition to land on Runway 34.

However, there was then insufficient height remaining to make the final turn and he landed across the threshold, perpendicular to the runway. The pilot realised that he would be unable to stop the aircraft before it reached an approaching fence line, so he pushed the control bar forward to become airborne again and clear the fence. The back wheels of the trike contacted the top of the fence as the aircraft passed over it and the aircraft dropped into the adjacent field, coming to rest on its side. The pilot was uninjured and was able to exit the aircraft unassisted.

The weather was reported as fine and sunny with surface wind from 230° at 6 kt, visibility 10 km, scattered cloud at 4,900 ft, temperature -1ºC, dew point -3ºC and sea level pressure 989 mb.

**Discussion**

There were no engine problems noted during the earlier flights or during the pre-flight checks immediately prior to the take off. Engine indications were normal prior to the loss of power and sufficient fuel was available in the fuel tank. Subsequent examination of the engine by the pilot did not determine the cause of the engine failure. The pilot considered that the most likely cause was either carburettor icing or ice in the fuel line.

The weather conditions were conducive to carburettor icing at cruise or descent power settings, however the event occurred at the takeoff power setting. A carburettor heater system is not fitted as standard to this aircraft. The Pegasus Quantum 15 Operator's Manual indicates that while these systems are rarely necessary on Quantum aircraft fitted with two-stroke engines, such as the Rotax 582, a carburettor heater is available as an optional modification.