

ACCIDENT

Aircraft Type and Registration:	Pegasus Quantum 15, G-MZLH
No & Type of Engines:	1 Rotax 582-40 piston engine
Year of Manufacture:	1998
Date & Time (UTC):	3 November 2006 at 1115 hrs
Location:	Blakeney, Forest of Dean, Gloucestershire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - 1 (Serious) Passengers - 1 (Serious)
Nature of Damage:	Damage to right hand wing, fuselage and landing gear
Commander's Licence:	Private Pilot's Licence
Commander's Age:	51 years
Commander's Flying Experience:	199 hours (of which 74 were on type) Last 90 days - 4 hours Last 28 days - 1 hour
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

A forced landing was executed when the aircraft's engine stopped following the loss of a propeller blade. On touch-down, the aircraft's right landing gear dug into the field's soft furrowed surface and caused the aircraft to ground loop and stop abruptly.

History of the flight

On the morning of the accident the pilot had flown two passenger flights without incident. There was a light north-westerly wind with no cloud and excellent visibility. Before commencing the third flight, the passenger was dressed in a flying suit and gloves and fitted with a helmet worn over a headset and microphone. The pilot maintained three helmets of different sizes for passengers to choose from and

both the passenger and the pilot confirmed that the chosen helmet was secure with the chinstrap secured prior to departure. Approximately 35 minutes after takeoff, whilst in the cruise at 1,100 ft amsl, the pilot made a left hand turn through 90° to avoid overflying a village. Immediately after rolling out of the turn, the aircraft vibrated violently and the engine stopped. The passenger reported to the pilot that her helmet had come off and the pilot concluded that it had struck the propeller causing the engine to stop. After attempting to restart the engine without success, the pilot executed a forced landing into a grass field, landing into wind. On touch-down the aircraft's right landing gear dug into the soft ground causing the aircraft to pivot to the right about this wheel. The aircraft came to a rapid stop

as the nose wheel and right wing hit the ground. The pilot, who was wearing a lap and diagonal harness, and the passenger, who was wearing a full harness, were able to exit the aircraft over the right hand side. They received first aid before an air ambulance arrived and took them to hospital.

Accident site inspection

The passenger's helmet was recovered and it was found that one of the chinstrap securing pins was missing. It was not possible to confirm whether the missing pin caused the helmet to separate from the passenger or whether the pin became detached as a result of the subsequent impact with the propeller blade.

One of the three propeller blades was missing from the aircraft and recovered from an adjacent field. There was evidence of an impact mark close to the outboard end of its leading edge and the blade had detached from the hub at its root.

Photographs of the landing field showed that in the area of the aircraft's touchdown, there were a series of deep furrows, probably caused by heavy agricultural machinery, that were running perpendicular to the landing direction.

Conclusion

The investigation was unable to determine the reason why the helmet became detached during the flight, particularly given the care that the pilot undertook to ensure a secure fit. Whatever the reason for the detachment the position of the propeller on many microlights is such that any loose articles in the cockpit area have a significant possibility of striking it should they become free during forward flight.

Having successfully flown a forced landing profile to land into wind, it seems likely that the aircraft's right wheel touched down in one of the furrows preventing further forward motion and leading to the ground loop.