ACCIDENT

Aircraft Type and Registration:	Pegasus Quantum 15-912, G-EMLY
No & Type of Engines:	1 Rotax 912 piston engine
Year of Manufacture:	1999
Date & Time (UTC):	17 July 2010 at 1030 hrs
Location:	Field 1.5 nm east of Abergavenny, Monmouthshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - 1 (Minor) Passengers - N/A
Nature of Damage:	Wing beyond economic repair and minor damage to trike
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	45 years
Commander's Flying Experience:	87 hours (of which 87 were on type) Last 90 days - 16 hours Last 28 days - 4 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB

Synopsis

During a cross-country flight the engine lost power. The pilot made a successful forced landing into a field with a crosswind, but while slowing to a stop, the wind caused the aircraft to roll onto its side, seriously damaging the wing. The cause of the engine failure could not be determined.

History of the flight

The Pegasus Quantum 15-912 is a flex-wing microlight aircraft powered by a Rotax 912 piston engine. The pilot had filled the aircraft's 50-litre capacity fuel tank to full and departed from Old Sarum airfield for a cross-country flight to Shobdon Airfield. The visibility was greater than 10 km and the cloud base was between 3,500 ft and 4,000 ft with a westerly wind of about 10 kt at ground level.

While cruising at 2,100 feet near Abergavenny the pilot performed a LIFE (Location, Instruments, Fuel and Endurance) check and noted that the engine temperatures and pressures were normal. Shortly thereafter the engine lost power. The engine did not respond to the foot throttle so, suspecting a cable disconnect, he tried the hand throttle but this had no effect either. He also checked the magnetos and choke position, to no avail, so he decided to carry out a forced

landing. The surrounding area was undulating, with small cropped fields and some grass fields, but most of these contained livestock. When he found a grass field with no livestock he initiated an approach towards it. He then realised that he was approaching the field in a southerly direction with a crosswind from his right. However, due to high-tension power lines along the western side of his selected field, he decided to continue the approach. He also did not want to manoeuvre to turn into wind and risk undershooting the field. The aircraft touched down uneventfully in the first third of the field, by which time the engine had stopped. While slowly rolling to rest the pilot felt the wind from his right lift the right side of the wing. He tried to lower the wing, but was unable to do so, and the wind rolled the aircraft over onto its left side, causing serious damage to the wing. The pilot was able to vacate the aircraft on his own and then received assistance from a nearby farmer who reported having heard the engine "coughing" when it was overhead.

According to the aircraft's 'Flydat' the engine had been running for 2 hours and 20 minutes. At a typical fuel burn rate of 11 litres/hour (for solo flight), the engine would have consumed about 26 litres, so about 24 litres should have been remaining in the fuel tank. According to the pilot this figure was consistent with his check of the fuel gauge while performing the LIFE check near Abergavenny.

Aircraft examination

The aircraft was de-rigged and transported to the aircraft manufacturer's facility for repair and examination. An examination of the engine and detailed examination of the fuel system did not reveal any faults. The engine was ground run and operated normally. Some of the wiring in one of the ignition boxes had suffered from 'fatigue' breakages in the past and had been repaired. Therefore, to err on the side of safety, this ignition box was replaced prior to a test flight. The aircraft was test flown successfully with no engine anomalies.