ACCIDENT

Aircraft Type and Registration:	Pegasus Flash, G-MNKX
No & Type of Engines:	1 Rotax 447 piston engine
Year of Manufacture:	1986
Date & Time (UTC):	8 August 2009 at 1245 hrs
Location:	North Moor Airfield, South Humberside
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - None
Nature of Damage:	Wing damaged and light damage to trike unit
Commander's Licence:	Private Pilot's Licence
Commander's Age:	65 years
Commander's Flying Experience:	962 hours (of which 509 were on type) Last 90 days - 15 hours Last 28 days - 6 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

During takeoff the engine stopped suddenly, resulting in the aircraft landing back on the runway but then overrunning the end of the runway and entering a dyke. The reason for the sudden loss of the engine was most likely due to fuel vapour lock. The aircraft's fuel tank, made of metal and painted black, had been fuelled with MOGAS and prior to the flight the pilot had parked the aircraft in a sunny spot, with the ambient air temperature at about 20°C.

History of the flight

Following a morning of uneventful flights, the aircraft was parked in a sunny area. The ambient air temperature at the time was about 20°C. The pilot had filled the fuel tank with MOGAS to about half-full in preparation for the next flight. After a short break, the pre-flight checks for the next flight were carried out without incident and the aircraft was lined up on Runway 27. Full power was applied, the engine responded and the aircraft accelerated before taking off. However, at about 150 ft agl the engine stopped suddenly. The pilot decided to continue tracking down the runway centreline, with the intention of either landing on the remaining runway available or landing in a field beyond a dyke that ran perpendicular to the end of the runway. The pilot trimmed the aircraft for the maximum glide distance but it hit an area of sink which led to a rapid descent and landing back on the runway. There were only 25 metres of the runway length remaining, and, with insufficient distance to stop, the aircraft entered the dyke and came to rest. Both the

pilot and the passenger were uninjured and were able to exit the trike before climbing up the bank of the dyke.

After the aircraft was recovered, the owner carried out a full examination of the fuel system and the engine and found no defects that would have led to the engine stopping in flight. He then carried out a test of the engine using the fuel that had remained in the aircraft following the accident; the engine performed normally.

The owner assessed that the reason for the engine stopping in flight was most probably vapour lock. The fuel tank on G-MNKX was of a metal construction and painted black. In addition the fuel used was MOGAS, which is more susceptible to both carburettor icing and vapour lock than AVGAS, due to its higher vapour pressure.

The Civil Aviation Authority Safety Sense Leaflet 04 contains recommended practices with regard to the use of MOGAS in aircraft and states:

> *'...Prior to take-off, the temperature of the fuel in the aircraft tank(s) must be less than 20°C...'*