

ACCIDENT

Aircraft Type and Registration:	MW7, G-BREE
No & Type of Engines:	1 Rotax 503 piston engine
Year of Manufacture:	1992
Date & Time (UTC):	21 February 2009 at 1120 hrs
Location:	Near Bishopstone, Swindon, Wiltshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - 1 (Minor) Passengers - N/A
Nature of Damage:	Aircraft extensively damaged
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	40 years
Commander's Flying Experience:	176 hours (of which 40 mins were on type) Last 90 days - 4 hours Last 28 days - 2 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

The aircraft's engine suffered a loss of power in flight. During the subsequent forced landing the right main landing gear sheared off and the aircraft rolled inverted, sustaining extensive damage. The pilot escaped with minor injuries and there was no fire. It transpired that the power loss was caused by one of the spark plugs becoming unscrewed from the engine's front cylinder.

History of the flight

The pilot arrived at Lower Upham Farm airfield, near Winchester for his first flight in a MW7, a home built high wing monoplane. The weather conditions were good with a westerly wind of less than 10 kt. At 1000 hrs the pilot departed on his initial uneventful flight, lasting 20 minutes, during which he established that the glide

angle for the aircraft was steeper than he was used to. At 1100 hrs, after refuelling to the aircraft's maximum takeoff weight, the pilot took off once more. At 1115 hrs, while in the cruise at approximately 1,000 ft agl, the engine suddenly lost power. The engine was still running, but it was not producing sufficient power for the aircraft to maintain altitude. Therefore, the pilot established the aircraft in a descent at 50 kt, and tried to ascertain why the engine had lost power. He was unable to identify any obvious cause and selected a suitable field for a forced landing, with power. At a height of approximately 10 to 15 ft the engine stopped and G-BREE descended rapidly onto the ground. The right main landing gear sheared off on impact and the aircraft rolled onto its back. The pilot was left hanging upside down in his harness but

managed to undo it and exit the aircraft. Although fuel was pouring from the tank vent, there was no fire. The pilot, who sustained minor injuries during the accident, made the aircraft safe by switching off the electrical power. G-BREE was extensively damaged.

On subsequent inspection, it was evident that the loss of power had been caused by one of the spark plugs becoming unscrewed from the front cylinder of the engine. The spark plug was still attached to the high tension lead and no damage was apparent on either the spark plug or the thread in the cylinder head.

The spark plugs and the front Cylinder Head Temperature (CHT) probe were last replaced prior to the aircraft's

Permit to Fly renewal, more than 6 months and 6 hrs 30 minutes flight time before the accident. The spark plug that became unscrewed, causing the loss of power, was the one that had the new CHT probe fitted beneath it. The ring from the CHT probe was missing after the accident, but the pilot thought it unlikely that the ring could have detached from the cylinder head, leaving the spark plug loosely screwed in. He considered it more probable that the threads of the spark plug may have bound on the CHT probe when the two were replaced, giving a misleading torque reading which subsequently eased. Therefore, it is possible that the spark plug was not correctly tightened up when it was installed.