ACCIDENT

Aircraft Type and Registration:	VPM M16 Tandem Trainer gyroplane, G-IJMC
No & Type of Engines:	1 Subaru EA81 piston engine
Year of Manufacture:	1994
Date & Time (UTC):	23 July 2009 at 1637 hrs
Location:	Wroxhills Wood, Goring, Oxfordshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - 1 (Minor) Passengers - 1 (Minor)
Nature of Damage:	Extensive damage to airframe and rotor
Commander's Licence:	Private Pilot's Licence
Commander's Age:	49 years
Commander's Flying Experience:	153 hours (of which 148 were on type) Last 90 days - 9 hours Last 28 days - 2 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

Whilst conducting a local flight, the pilot of the gyrocopter experienced a loss of engine power. He attempted a forced landing in a nearby field, but a combination of the downward slope of the field, a gust of wind and his flare technique resulted in a hard landing which broke off the nosewheel. A rotor blade then hit the sloping ground and the aircraft rolled over, causing extensive damage to the airframe.

History of the flight

The pilot was on his second trip of the day flying along the River Thames, to allow his passenger to take photographs of friends' boats. Whilst attempting to climb from 600 ft to 800 ft, the pilot noticed that the engine speed would not increase above 4,000 rpm. He leaned backwards to operate the rear throttle control and managed to achieve an engine speed of 4,200 rpm, which was just sufficient to maintain level flight. As he was visual with the runway at Chiltern Park, he elected to try to reach the airfield, although it was still some 4 km away.

As the flight continued, the pilot experienced a further loss of power from the engine and made a PAN call to RAF Benson. The pilot then turned the aircraft into wind and began a forced descent and landing in the nearest suitable field, although he realised that it had a pronounced downward slope in the direction of his approach. The pilot reports that he may have flared too much prior to touchdown and the combination of an untimely gust of wind and the downward slope of the field resulted in the aircraft "dropping in" from a height of 4 ft onto the ground.

As a consequence of the landing the nosewheel broke off and a rotor blade hit the ground to the left of the rear of the aircraft. The aircraft then rolled onto its side before coming to rest.

Engineering findings

The pilot noted that there was no coolant from the engine present on the accident site and that the engine displayed evidence of overheat. A more detailed inspection revealed that the head gasket around one of the cylinders had failed, along with a section of the cylinder wall. This resulted in a loss of coolant from the engine and the subsequent overheat and loss of power.