

ACCIDENT

Aircraft Type and Registration:	ARV1 Super 2, G-BPMX	
No & Type of Engines:	1 Hewland AE75 piston engine	
Year of Manufacture:	1989 (Serial no: K005)	
Date & Time (UTC):	22 November 2015 at 1240 hrs	
Location:	Lodge Farm, Gainsborough	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Wings and fuselage damaged, engine seized	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	61 years	
Commander's Flying Experience:	204 hours (of which 1 was on type) Last 90 days - 6 hours Last 28 days - 1 hour	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further inquiries by the AAIB	

The pilot reported that the engine stopped suddenly after takeoff when he reduced power to level off at a height of approximately 1,000 feet. The engine could not be restarted and the pilot made a forced landing in a field. The aircraft struck a tree stump and was badly damaged but the pilot was uninjured.

With the agreement of the AAIB and in consultation with the Light Aircraft Association (LAA), the pilot dismantled the engine, revealing evidence of contact between a piston and cylinder; the damage was characteristic of a cold seizure.

Two-stroke engines are susceptible to cold seizures if run at high power before fully warm because the pistons expand faster than the cylinders; cold seizure can also occur if the throttle is rapidly reduced following a period of operation at high power such as after takeoff. Previous occurrences have been reported by the AAIB and NTSB following incidents on G-BTGT (AAIB Bulletin 11/96), N12911 (NTSB Identification CEN11FA433) and N55368 (NTSB Identification LAX04LA228).

The LAA will highlight this occurrence and the susceptibility of two-stroke engines in an article in their *'Light Aviation'* publication.