

AAIB Bulletin No: 4/94

Ref: EW/G94/01/18

Category: 2.3

Aircraft Type and Registration: Air & Space 18A Gyroplane, G-MASA

No & Type of Engines: 1 Lycoming O-360-A1D piston engine

Year of Manufacture: 1965

Date & Time (UTC): 23 January 1994 at 1130 hrs

Location: Hall Farm, Snettisham, Norfolk

Type of Flight: Private

Persons on Board: Crew - 1 Passengers - None

Injuries: Crew - None Passengers - N/A

Nature of Damage: Rotors destroyed, rotor head and part of pylon detached, nosecone and windscreen damaged

Commander's Licence: Private Pilot's Licence

Commander's Age: 52 years

Commander's Flying Experience: 176 hours (all on type)
Last 90 days - 1 hour
Last 28 days - 0 hours

Information Source: Aircraft Accident Report Form submitted by the pilot

The propeller of the aircraft had been refitted after having the pitch setting adjusted and the oilways cleaned. The pilot intended to conduct a test flight consisting of a takeoff, circuit and landing. The propeller was fully exercised in order to recharge the oilways, the rotor spun up to full RPM, rotor clutch disengaged and ground roll commenced. Acceleration was not as rapid as anticipated and so the pilot decided to abort the takeoff after a ground roll of about 30 feet. The throttle was closed and the brakes applied. However, ground resonance occurred and the machine began to rock from side to side. After a further 40 feet of ground roll, the rotor head and upper section of the pylon detached, shattering the windscreen and nosecone in the process.

The pilot considered that the soft, bumpy ground was responsible for the onset of ground resonance. The standard method for dealing with this phenomenon is to depress the 'jump button' on the throttle. This applies pitch to the rotor blades, resulting in the aircraft leaving the ground and curing the problem. Although there was sufficient room for a jump takeoff and immediate landing, the pilot considered he was too slow to choose this option following his decision to abort the takeoff.