ACCIDENT

Aircraft Type and Registration:	Magni M24C, G-CGRT
No & Type of Engines:	1 Rotax 914-UL piston engine
Year of Manufacture:	2010
Date & Time (UTC):	3 February 2011 at 1100 hrs
Location:	Rufforth Airfield, Yorkshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Rotors, rotor head, propeller blades, composite body, pilot door and engine cover
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	74 years
Commander's Flying Experience:	2,870 hours (of which 31 were on type) Last 90 days - 30 hours Last 28 days - 22 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

During a normal rotor pre-rotation in gusty wind conditions, the aircraft became airborne prior to the main rotor achieving full rpm and the pilot lost control of the aircraft. The pilot had experience of flying gyroplanes in the strong wind conditions but on a different type.

History of the flight

The pilot had performed a series of short takeoffs and landings on a clear day with a 20 kt headwind on the runway in use. On his fourth takeoff, during a normal rotor pre-rotation procedure, with the stick full back, the rotor rpm rose to 230 rpm but the aircraft's nose lifted. The aircraft pitched rearward and the tail castor contacted the ground. It then lifted approximately three feet and began rolling to the left. The pilot attempted to recover by pushing the stick forward, applying full power and full right stick.

Despite this attempt, the aircraft gained approximately 10 kt forward speed, continued to roll left and impacted a ploughed field to the left of the runway. The aircraft ended up on its side but the pilot, who was wearing a helmet and full harness, was uninjured. He assessed that the cause of the accident was due to a sudden increase in wind speed during the pre-rotation of the main rotor. The forecast was for an increase in wind strength during the day with reported conditions as gusty, increasing throughout the day to 60 kt.

Instructor's comments

The pilot's instructor commented that although the pilot had experienced flying in strong winds on a different gyroplane model, it was his first time flying the M24C in such conditions. He also stated that the rearward movement of the stick, rotor rpm, strong wind and low aircraft weight would have caused the aircraft to lift off. Additionally he noted that the normal takeoff rotor speed is 300 rpm and at 220 rpm the directional control from the main rotor is limited. Therefore the aircraft's response to stick inputs made by the pilot would also have been less effective.