

## ACCIDENT

<b>Aircraft Type and Registration:</b>	Rotorsport UK MT-03, G-JBRE	
<b>No &amp; Type of Engines:</b>	1 Rotax 912 ULS piston engine	
<b>Year of Manufacture:</b>	2007 (Serial no: RSUK/MT-03/016)	
<b>Date &amp; Time (UTC):</b>	1 November 2014 at 1513 hrs	
<b>Location:</b>	Shoreham Airport, West Sussex	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	Rotor blades, propeller blade tips, tailplane, rudder cables and rods.	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	57 years	
<b>Commander's Flying Experience:</b>	149 hours (of which 92 were on type) Last 90 days - 29 hours Last 28 days - 9 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

During the initial part of an attempted takeoff from Runway 20 at Shoreham Airport, the gyroplane rotors came into contact with the propeller causing damage to the rotor blades, the tips of the propeller blades and the tailplane. The pilot rejected the takeoff and steered the gyroplane into the grass at the side of the runway. The control inputs and forward speed were inappropriate for the rotor speed, resulting in retreating blade stall. The pilot did not have much experience of busy airfields and believes this was a factor.

## History of the flight

The pilot positioned his gyroplane on asphalt Runway 20 at Shoreham Airport with another gyroplane waiting to depart ahead of him and a number of aircraft sequenced to depart after him. The pilot pre-rotated the blades to the normal speed of 200 rpm to ensure he would not delay the following departures once he received his clearance. Pre-rotation reduces the risk of retreating blade stall to the main rotors as the airspeed increases during takeoff. After a short while without receiving takeoff clearance, he released the pre-rotation button to reduce wear to the drive mechanism. He stated that he subsequently re-engaged pre-rotation and, as he did so, he received takeoff clearance. He reported glancing at the rotor rpm indicator and, believing at the time that it read 200 rpm, he advanced the throttle, pulled back on the stick and started adjusting the rotor trim. Very shortly afterwards he felt a lateral jolt and then vibration. Misdiagnosing this as a problem with a wheel, he decided

to vacate the runway to reduce damage to the runway and the wheel. He shut down and vacated the aircraft on to the grass to the left of the runway.

The damage to the lower surfaces of the rotor, along with the blade tip damage to the propeller, indicates that the combination of control inputs, low rotor speed and building airspeed resulted in the rotor blades contacting the engine propeller. The pilot believes his inexperience using a busy airfield was a factor.