ACCIDENT

Aircraft Type and Registration:	Robinson R22 Beta, G-OBIL
No & Type of Engines:	1 Lycoming O-320-B2C piston engine
Year of Manufacture:	1988
Date & Time (UTC):	18 July 2007 at 1013 hrs
Location:	Peterborough (Conington) Airfield, Cambridgeshire
Type of Flight:	Training
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Severe damage to tail rotor and main frame distortion
Commander's Licence:	Student Pilot
Commander's Age:	39 years
Commander's Flying Experience:	68 hours (of which 32 were on type) Last 90 days - 35 hours Last 28 days - 33 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB

Synopsis

The student pilot was completing his after-start checks in G-OBIL on the concrete apron at Peterborough (Conington) Airfield, Cambridgeshire. As he increased the rotor rpm the aircraft started to rotate anti-clockwise. The aircraft continued to rotate across the ground for approximately six revolutions before the tail rotor hit the grass and the aircraft came to rest. The pilot had left pedal applied as he increased the rotor rpm.

History of the flight

The student pilot had been briefed by his instructor for a visual circuit detail at Peterborough (Conington) Airfield, Cambridgeshire. His instructor planned to join him in the aircraft after he had started the engine. The aircraft was positioned on the dry concrete apron facing south and the wind was 210º/12 kt.

The initial interior and engine start-up checks were completed normally including switching the rotor rpm governor ON when the engine rpm was less than 80%. As the student increased the rotor rpm to 104% the aircraft started to rotate anti-clockwise. He immediately closed the throttle and the rpm initially dropped before quickly rising back to 104%. The aircraft continued to rotate for five or six revolutions across the ground before the tail rotor hit the grass and broke; the aircraft then stopped rotating. Throughout

the rotations the collective remained in the fully lowered position. The pilot shut down the aircraft and vacated normally.

Rotor rpm governor

The governor is designed to maintain the rotor rpm between 97 and 104%. It achieves this by mechanically opening and closing the throttle and is only active when the engine is running at more than 80% rpm. If the pilot closes the throttle with the governor active (overriding the governor) and then releases or relaxes his hold on the throttle, the governor will re-open the throttle in a bid to restore the rotor rpm to 104%.

Pilot's comments

The pilot stated that he inadvertently applied left rudder pedal as he opened the throttle, thereby placing an anti-clockwise turning force onto the aircraft. As the aircraft began to rotate he did not consider applying opposite pedal because he was concentrating on keeping the aircraft upright and closing the throttle.