

ACCIDENT

Aircraft Type and Registration:	Robinson R22 Beta, G-DEFY	
No & Type of Engines:	1 Lycoming O-360-J2A piston engine	
Year of Manufacture:	2004 (Serial no: 3633)	
Date & Time (UTC):	25 September 2015 at 1416 hrs	
Location:	Elstree Aerodrome, Hertfordshire	
Type of Flight:	Training	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Minor)	Passengers - N/A
Nature of Damage:	Substantial	
Commander's Licence:	Student pilot	
Commander's Age:	44 years	
Commander's Flying Experience:	55 hours (of which 53 were on type) Last 90 days - 10 hours Last 28 days - 4 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The helicopter rolled to the right during the student pilot's first solo takeoff attempt. It suffered extensive damage and the pilot sustained a minor injury.

History of the flight

Following a satisfactory dual detail, the student pilot was briefed by his instructor to carry out a solo takeoff, hover and landing; it was to be the student's first solo flight. The instructor vacated the helicopter and moved a safe distance away before giving his student the signal to proceed. The student pilot completed his pre-takeoff checks and started to lift gently into a hover from the grass surface. Before the helicopter stabilised in the hover, it rolled to the right and onto its side, suffering extensive damage. The student pilot, who suffered a minor injury, vacated the helicopter through the cabin door. He reported that the helicopter had been subject to dynamic rollover.

AAIB note

Dynamic rollover may occur when one skid or wheel is in contact with the ground and the helicopter rolls to one side. As it rolls, the horizontal component of the total rotor thrust in the same direction produces a rolling moment about the point of ground contact. The rolling moment is initially opposed by the weight of the aircraft acting vertically downwards but, if the roll angle reaches a critical value and the skid or wheel remains in contact with the surface, the helicopter will roll over.