AAIB Bulletin No: 8/94 **Ref: EW/G94/06/03** **Category: 2.3**

Aircraft Type and Registration:	Robinson R22 Beta, G-UPCC	
No & Type of Engines:	1 Lycoming O-320-B2C piston engine	
Year of Manufacture:	1988	
Date & Time (UTC):	5 June 1994 at 1450 hrs	
Location:	Liverpool Airport	
Type of Flight:	Private (Training)	
Persons on Board:	Crew - 2	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Extensive to tail rotor, main rotor and transmission	
Commander's Licence:	Basic Commercial Pilot's Licence (Aeroplanes) and Private Pilot's Licence (Helicopters) with Instructor Rating	
Commander's Age:	55 years	
Commander's Flying Experience:	8,245 hours (of which 959 were on type) Last 90 days - 87 hours Last 28 days - 41 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot, and further enquiries by the AAIB	

The helicopter was undertaking an instructional flight which involved carrying out Autorotations to 'Engine-Off' Landings. The student held a Private Pilot's Licence (PPL) for fixed wing aircraft, and was undertaking training for the issue of a PPL (Helicopters), having some 18 hours on type. The instructor reported that after the initial demonstration of the correct technique, the student carried out a further successful exercise with a minimum of assistance. He was therefore allowed a further practice exercise. At approximately 300 feet agl, when sure of reaching the required grass landing area on the airport, the twist grip throttle was closed below the detent to prevent the re-application of power at the flare. The flare was commenced between 80 and 40 feet agl. A level attitude was selected, but this became slightly nose high. The final descent was cushioned by application of collective lever. The helicopter first made contact with the ground on the rear of the skids whilst still travelling forwards. It then pitched onto the front of the skids and finally settled back and came to rest on the rear of the skids once more. The instructor reported hearing a thud, the helicopter yawed left and came to rest tail down, with the main rotor striking the ground to the rear. The appropriate securing drills were carried out, and the crew vacated by the normal means.

The ATC Controller on duty observed the final part of the arrival, and considered that the helicopter may have touched down with a high rate of descent and with the tail down. Subsequent engineering examination showed that the skids were not splayed significantly, but that the rear skid extensions had been torn off. There was evidence that the tail rotor had impacted the ground and been torn off, and that the helicopter had initially touched down in too high a nose attitude.