

ACCIDENT

Aircraft Type and Registration:	Robinson R22 Beta, G-CCHZ	
No & Type of Engines:	1 Lycoming O-360-J2A piston engine	
Category:	2.3	
Year of Manufacture:	2003	
Date & Time (UTC):	16 August 2005 at 1624 hrs	
Location:	Newtownards Airfield, Northern Ireland	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Minor)	Passengers - N/A
Nature of Damage:	Damage to main rotors and fuselage	
Commander's Licence:	Student Pilot	
Commander's Age:	50 years	
Commander's Flying Experience:	61 hours (61 on type) Last 90 days - 61 hours Last 28 days - 20 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

History of the flight

The student pilot had completed a navigation exercise, flying from Newtownards to Enniskillen, St Angelo Airfield before returning to Newtownards. The weather was good with the surface wind at Newtownards from 190° at 10 kt; the visibility was greater than 10 km with scattered cloud at 3,000 ft. On his left leg, the pilot was wearing a plastic knee board on which his map was folded. The kneeboard was attached with a 'Velcro' strap which passed around his leg. Prior to departure from Newtownards, the pilot had carried out a full and free control check of all the flying controls with the kneeboard in place. The controls had not contacted the kneeboard or map.

Following an uneventful landing at St Angelo the pilot departed and returned to Newtownards. There he made a normal approach, parallel to Runway 22 and came to the hover just beyond Runway 16, over the grass area known as 'Heli West'. The pilot did a spot turn to the right and commenced hover taxiing to his parking area on the west side of the airfield. With the wind from the left, he needed to move the cyclic control to the left and at some point the control handle caught under the kneeboard and its attachment strap. The helicopter began to drift to the right which the pilot was unable to correct due to the limited, left, cyclic-control travel. In order to try and free the control, the pilot lifted his left foot off the left tail

rotor control pedal. The helicopter yawed to the right, the rate of yaw increasing rapidly. The right landing gear skid contacted the ground and the helicopter rolled to the right, causing the main rotor blades to contact the ground and stopping the engine. The helicopter came to rest on its right side and the pilot closed the fuel shut-off valve and isolated the electrical system. He suffered minor cuts and bruises to his right hand and exited the helicopter through the left door unassisted. The airfield Rescue and Fire Fighting Services were quickly on the scene.

Analysis

The pilot had ensured that adequate clearance was available between the cyclic control and his kneeboard during the full and free control checks. During his landing at St Angelo, he experienced no control restriction difficulties between the cyclic control and his kneeboard. It was only at Newtownards, when the

helicopter was turned to the right to hover taxi and the prevailing wind was from the left, that significant left cyclic was used in an attempt to correct the drift of the helicopter to the right.

The left tail rotor pedal is moved forward to oppose the helicopter reaction to yaw to the right due to main rotor torque. By lifting his left foot off the tail rotor control pedal the natural right yawing motion of the helicopter developed rapidly.

Conclusion

The accident was caused by the control restriction created by the pilot's kneeboard. By removing his left foot from the tail rotor control pedal, the pilot allowed the helicopter to yaw to the right and during his attempt to maintain control, the helicopter struck the ground.