

**ACCIDENT**

<b>Aircraft Type and Registration:</b>	Robinson R44 Clipper, G-DBUG	
<b>No &amp; Type of Engines:</b>	1 Lycoming O-540-F1B5 piston engine	
<b>Year of Manufacture:</b>	2002	
<b>Date &amp; Time (UTC):</b>	9 July 2009 at 1045 hrs	
<b>Location:</b>	Welshpool Airport, Powys	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - 1
<b>Injuries:</b>	Crew - None	Passengers - None
<b>Nature of Damage:</b>	Damaged beyond economic repair	
<b>Commander's Licence:</b>	Private Pilot's Licence (Helicopter)	
<b>Commander's Age:</b>	61 years	
<b>Commander's Flying Experience:</b>	135 hours (of which 6 were on type) Last 90 days - 18 hours Last 28 days - 7 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot and inspections by maintenance organisation	

**Synopsis**

Shortly after lifting into the hover, the cyclic control became heavy and the pilot had difficulty controlling the helicopter. During the attempted run-on landing, the helicopter struck the ground in a nose-down attitude and rolled onto its side. The two occupants were uninjured. The pilot had recently converted from the R22, which does not have hydraulically-powered flying controls, to the R44. Post-accident inspection did not identify any defects which could have caused the reported control difficulties. It was considered that the pilot might have inadvertently switched off the hydraulic system during the flight.

**History of the flight**

The pilot had recently converted from the two-seat Robinson R22 to the larger, four-seat Robinson R44. He had intended to position the helicopter from the north apron to the fuel bay, at Welshpool Airport. Having completed the ground and start-up checks, which included momentarily switching the hydraulics off to check that the cyclic control became heavy, the pilot lifted the helicopter into the hover. He turned to the left with the intention of hover-taxiing past an air ambulance, and then became aware of the cyclic control becoming heavy. Almost immediately, he felt the helicopter become laterally unstable and it started drifting towards the air ambulance. The pilot raised the collective and applied forward cyclic control to avoid

the other aircraft, and decided to perform a run-on landing. He lowered the collective, but was unable to raise the nose sufficiently and the helicopter struck the ground in a nose-down attitude before rolling over onto its right hand side. Both the pilot and passenger were uninjured and exited via the passenger door.

### **Aircraft inspection**

The first person to arrive at the scene was an instructor, who noticed that the hydraulic switch was in the OFF position.

An engineer subsequently inspected and tested the helicopter's hydraulic system. This included a visual inspection of the system, an operational check using a slave hydraulic pump driven by an electric motor, and an operational check of the hydraulic pump. He concluded that the hydraulic system had functioned normally.

### **Aircraft information**

The R44 has a Press-To-Talk (PTT) switch in the pistol grip on the cyclic control, which is activated by the index

finger. The hydraulic switch is located on the front of the cyclic stick.

The pilot had recently converted from the smaller R22, which does not have a hydraulic system. The PTT switch on the R22 is located on the front of the cyclic stick, in a similar position to the hydraulic switch on the R44.

### **Discussion**

The lack of any apparent defect in the hydraulic system, the hydraulic switch being found in the OFF position and the pilot's account of the handling difficulties all seem consistent with the pilot having inadvertently switched off the hydraulics. The similar positions of the hydraulic switch on the R44 and the PTT switch on the R22 might have been a factor, although the pilot did not recall any intention to use the radio at the time that the controls became heavy.