ACCIDENT

Aircraft Type and Registration:	Robinson R22 Beta, G-OLIZ
No & Type of Engines:	1 Lycoming O-320-B2C piston engine
Year of Manufacture:	1988
Date & Time (UTC):	30 October 2006 at 1439 hrs
Location:	Falhouse Lane, Whitley, Dewsbury, West Yorkshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - 1 (Minor) Passengers - N/A
Nature of Damage:	Extensive
Commander's Licence:	Private Pilot's Licence
Commander's Age:	41 years
Commander's Flying Experience:	103 hours (of which 20 were on type) Last 90 days - 8 hours Last 28 days - 5 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

During the initial climb at slow speed, the pilot was aware of the engine seeming to "splutter" and he increased the collective input. The low rpm horn then activated and, assuming an engine failure, the pilot lowered the collective and carried out a forced landing into some trees. The helicopter was extensively damaged during the landing. No malfunction was subsequently identified with the engine and the pilot considered that the apparent engine problem may have been the result of carburettor icing.

History of the flight

The pilot had planned a local flight from his private helicopter site. The weather was good with an air temperature of 14ºC. Using a windsock positioned on top of a hangar adjacent to the site, the pilot assessed the surface wind as north to north-westerly at less than 10 kt.

Engine start was normal and the pilot allowed the engine to warm up for approximately 10 min. He then checked the carburettor heat function and applied partial carburettor heat before hover taxiing G-OLIZ backwards to maximise his takeoff run. In accordance with his normal procedures, the pilot planned to avoid some neighbouring properties and so he used a north-easterly departure direction. For the departure, the pilot used almost maximum rated power in order to clear a line of trees, which were approximately 25 ft high. He was aware that the helicopter was close to the tops of the trees as he cleared them with the airspeed

at about 25 kt. As he crossed the trees, the pilot heard the engine "splutter". He immediately pulled on the collective control, while also switching off the rpm governor and pulling the carburettor heat control to maximum. He was then aware of hearing the low rpm horn sounding together with the helicopter yawing to the right. He assumed the engine had failed and so he responded by lowering the collective control. At an estimated height of 30 to 40 ft agl, the pilot had no option other than to prepare for a forced landing and he aimed for some trees in an attempt to cushion the ground impact. The helicopter struck a large tree, turned through about 180º and landed on its right side. The pilot was able to get out through the passenger door. Once outside, there was a strong smell of fuel and so he reached back into the cockpit to close the fuel shut-off valve and turn off the electrics master switch.

Post accident assessment

The helicopter was extensively damaged but no pre-impact engine malfunction was identified. On reflection, the pilot considered that the initial engine problem probably resulted from carburettor icing. His subsequent action of increasing collective input would have caused a reduction in rotor rpm. At the time, the combination of low airspeed and low height meant that G-OLIZ was in the avoid area of the height/ velocity diagram with little possibility of a successful forced landing.

Since the accident, the pilot has cut off the tops of the trees in the area surrounding his helicopter site. He has also increased the height of his windsock to give a more accurate indication of the surface wind.