

ACCIDENT

Aircraft Type and Registration:	Robinson R44 Raven, G-GGRH	
No & Type of Engines:	1 Lycoming O-540-F1B5 piston engine	
Year of Manufacture:	2006	
Date & Time (UTC):	16 September 2006 at 1016 hrs	
Location:	Burnwynd Farm, Strathaven, Lanarkshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - 1 (Minor)	Passengers - 1 (Minor)
Nature of Damage:	Aircraft destroyed	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	41 years	
Commander's Flying Experience:	172 hours (of which 172 were on type) Last 90 days - 42 hours Last 28 days - 14 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB	

Synopsis

The pilot had been waiting for fog to clear at his private site so that he could depart on his intended flight. Having assessed that the visibility had improved and was suitable for the flight, the pilot and his passenger took off but the helicopter quickly entered cloud. The pilot managed to regain visual flight references and attempted to make a precautionary landing but the helicopter collided with some trees which he had not seen due to the impaired visibility.

History of the flight

The pilot was due to fly with a passenger from a private site near Strathaven to the Mull of Kintyre, some 60 nm to the west. The pilot's intended route took him close to

Prestwick Airport which was about 20 nm west of the departure site.

The private site had been affected by fog early in the morning but the pilot reported this had cleared by about 0945 hrs. Having checked the weather forecast and made a visual assessment of the local weather shortly after this time, the pilot believed the weather was suitable for the proposed flight. He took off with his passenger at about 1000 hrs, climbing to the west. On climbing through about 500 ft agl the helicopter entered cloud and so the pilot began a descent to regain visual references. He was able to regain visual contact with the ground but because the local visibility was considerably reduced,

he decided to make a forced landing in a field, about 2 nm from his point of departure. The pilot made a run-on landing in the field, but due to the poor visibility, he was unaware of a hedgerow containing some trees ahead of the helicopter. The fuselage passed between two of these trees but the main rotor blades struck both trees, destabilising the helicopter and starting a process of structural disintegration. The severely damaged helicopter came to rest on its side in the field about 50 m beyond the trees. The two occupants were able to climb out, unassisted, having sustained only minor injuries.

Weather

On the morning of the accident the pilot checked the weather for his flight and stated that shortly before takeoff, Prestwick Airport was reporting variable light winds, visibility in excess of 10 km and no cloud below 10,000 ft. The pilot also made a local assessment of the weather and was able to see some hills to the south-east which were about 15 km away.

The forecast (TAF) and actual (METAR) weather conditions for Prestwick Airport, available to the pilot, were as follows:

TAF: EGPK 160906Z 161019 VRB05KT
CAVOK=

METAR: EGPK 160920Z VRB 02KT CAVOK
16/11 1014=

EGPK 160950Z 01004KT CAVOK
16/12 1013=

These describe both the forecast and actual visibility for the period of the flight as 10 km or more and no significant cloud below 5,000 feet.

A subsequent Met Office aftercast for the area stated the following:

'Close inspection of the synoptic charts and actual reports between 0600 and 1000 UTC show a moist low level easterly flow covering the Scottish Borders and the Forth-Clyde valley area. This was feeding much low cloud, mist and hill fog into eastern Scotland, northern England, the Scottish Borders and the Forth-Clyde valley areas. It is likely, however, that in the far west of the Borders around Strathaven/Prestwick area, that there were some good breaks in this lower cloud and the 'line' between the good/bad weather could well have been over, or very close, to the launch site. To the east of Strathaven, there was much low cloud and this will have advected towards the Strathaven area during the hours prior to the accident.'

Analysis

The pilot relied upon his own observations of the local area for assessing the suitability of the weather for his departure. The reported weather conditions at Prestwick reinforced the pilot's view that the visibility and cloud base along his route were suitable for the flight at the time he took off. Prestwick was, however, some 20 nm away and his personal observations would have been unable to determine whether fog or low cloud remained to the west, outside the immediate area of his departure point.

Without suitable training to fly under instrument flight conditions, once the aircraft entered cloud the pilot tried to regain visual flight conditions by descending. He was then aware that the weather was unsuitable to continue the flight so he decided to make a precautionary landing without delay. The fact that he was unaware of the hedge until it was too late to stop is indicative of insufficient visibility for flight by visual references.

Conclusion

This accident highlights the difficulty in accurately judging local weather conditions without suitable equipment. This is particularly so when considering fog,

which may be patchy in nature, or low cloud with a base height that is difficult to determine. Due caution should be exercised when such conditions exist.