Accident

Aircraft Type and Registration:	Robinson R66, G-WBRN	
No & Type of Engines:	1 Rolls-Royce 250-C300/A1 turboshaft engine	
Year of Manufacture:	2023 (Serial no: 1223)	
Date & Time (UTC):	11 June 2025 at 0714 hrs	
Location:	Chalfont St Peter, Buckinghamshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Significant damage to empennage and rotor blade	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	64 years	
Commander's Flying Experience:	1,020 hours (of which 380 were on type) Last 90 days - 33 hours Last 28 days - 16 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

During a planned VFR flight from Denham Airfield, the pilot of a Robinson R66 encountered low cloud shortly after departure. The pilot was not qualified in instrument flying and unintentionally entered IMC around 700 ft agl, leading to spatial disorientation. Attempts to regain VFR conditions by climbing were constrained by controlled airspace. With thickening cloud and a lowering cloud base, the pilot decided to return to Denham. The helicopter broke cloud over fields and the pilot decided to make a precautionary landing. The landing was heavy, resulting in the helicopter rolling over. The pilot was uninjured, but the helicopter was significantly damaged. A section of blade tip was propelled nearly 180 m, embedding itself in a wisteria attached to the wall of a house.

History of the flight

The pilot owner of a Robinson R66 planned for a regular flight from Denham Airfield, Buckinghamshire, to a private airstrip near Wellesbourne, Warwickshire. The helicopter was refuelled the night before and was positioned out of the hangar ready for an early morning departure.

The weather in the UK was settled, with an area of high pressure covering the country giving good visibility and a light south-easterly wind. In the morning this gave rise to extensive low cloud in the south (Figure 1). This was forecast to gradually lift during the morning and break by midday.

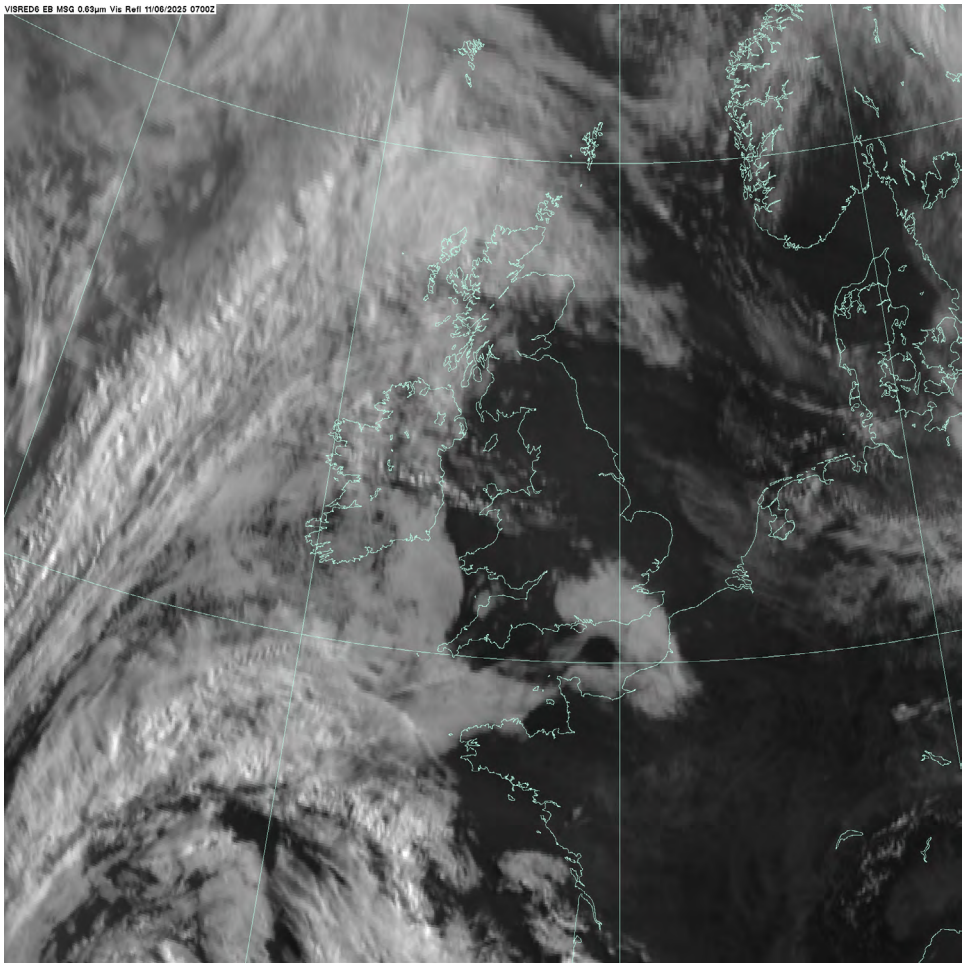

Figure 1

Visible satellite imagery valid 0700 hrs 11 June 2025

The pilot checked the weather forecast for the route, including airfields enroute, and noted it was marginal for an early morning departure. On arrival at the airfield the pilot conducted a ground observation and noted the cloud base looked better than forecast. He decided not to delay, leaving as planned at 0700 hrs.

The helicopter departed Runway 06 turning left over some lakes and routed north toward one of the visual reporting points for the airfield. The cloud base was not as imagined when viewed from the ground. The pilot was being pushed lower to try and maintain VMC, and he soon found himself intermittently entering cloud at around 700 ft agl with fleeting glimpses of the ground. He was starting to become disorientated and was surprised to find himself now on a westerly heading.

At 900 ft agl and now IMC the pilot reported initiating a climb to see if he could get VFR on top of the cloud, but he was conscious that he was constrained by the base of the London TMA. He entered a climbing left turn, but after climbing an additional 300 ft the cloud was getting thicker and so he decided to descend and turn south to go back to Denham. The pilot was disorientated and increasingly anxious with the developing situation.

The helicopter was now in a descending left turn with an increasing rate of descent (Figure 2). The pilot had intermittent sight of the ground, broke cloud at a low height, and arrived in a "disorganised state" over some fields next to a paddock with outbuildings. He decided to make a precautionary landing.

Figure 2

ADS-B flightpath data from FlightAware

The helicopter rolled over on landing. The pilot was uninjured in the accident, shutting off the fuel and electrics before exiting the helicopter. Total flight time was just under five minutes.

Meteorology

The flight was planned to be conducted within Area C and D of the Metform 215 (F215) Low Level Significant Weather Chart (Figure 3). The F215 chart covers a wide area and conveys the most likely meteorological conditions for the period. Guidance states that it is good practice to consult with observations along the route to obtain the fullest picture.

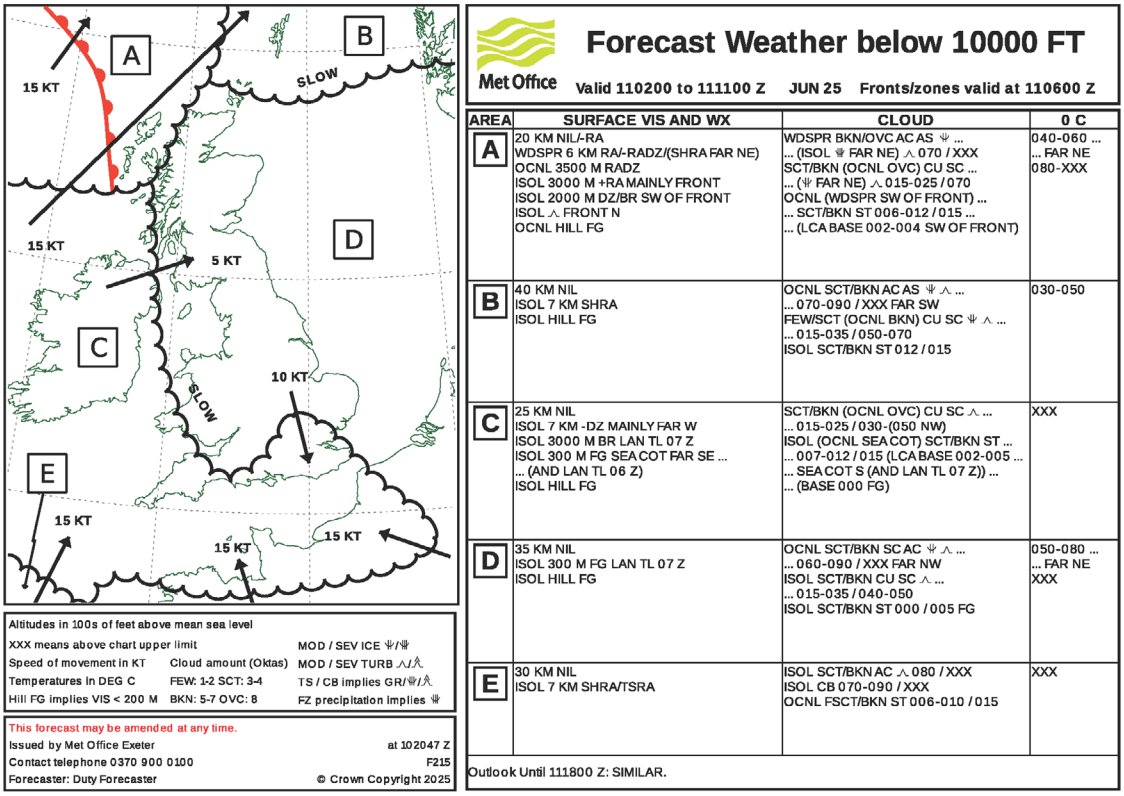

Figure 3

F215 Low Level Significant Weather Chart valid 0200 to 1100 hrs on 11 June 2025

The high pressure system sitting over the UK was giving rise to areas of low cloud around the departure airfield which was due to lift and break. At the time of departure London Heathrow Airport (Heathrow), which is 10 nm from Denham, was reporting conditions as overcast cloud between 400 and 500 ft agl. RAF Northolt, only 3.5 nm from Denham, was reporting broken cloud between 500 and 800 ft agl.

The CAA publishes practical guidance to general aviation pilots in the Skyway Code[1]. Under the section '*Pre-flight Preparation*', it states:

> *'VFR flight with a cloud ceiling of 1,500 ft or less above ground level (AGL) requires particular attention to terrain and obstacles. Flight below 1,000 ft AGL is normally only suitable for circuits around the aerodrome or local flying in areas you are familiar with.'*

Consideration must also be given to the low flying rules by not flying closer than 500 ft to any person, vessel, vehicle or structure once the takeoff is completed.

Footnote

[1] CAA. *The Skyway Code*, Version 4 (November 2023). Available at https://www.caa.co.uk/general-aviation/safety-topics/the-skyway-code/ [accessed December 2025].

VFR flight into IMC

When a pilot unqualified in instrument flying unintentionally enters IMC when on a VFR flight, spatial disorientation may occur. The pilot is unable to correctly interpret the aircraft's attitude, altitude or speed. Control inputs may be made based on false perception, leading to a loss of control.

Research into spatial disorientation for pilots that are not instrument qualified, showed that loss of control will likely occur between 60 seconds and 178 seconds on average after losing visual references.[2] An analysis of helicopter accidents and incidents in the UK between 2000-2010 showed that 68% of inadvertent VFR flight into IMC resulted in a fatal accident.[3]

The CAA has published guidance for general aviation pilots in their Safety Sense Leaflet 33 - *'VFR Flight into IMC'*[4] on how to avoid and respond to such a scenario. It states:

> *'If the weather is closing in all around, consider a precautionary landing in a field – it may seem like an extreme option that could result in damage to the aircraft, however this is preferable to experiencing a loss of control accident, which is normally fatal.'*

Precautionary landing

The pilot emerged from the base of the cloud and regained sufficient visual references to make a precautionary landing. The area immediately in front was a paddock with horses and so the pilot manoeuvred to an adjacent field. This field was overgrown, uneven and with a marked slope.

The landing was firm and the helicopter rolled over. The main rotor blade struck the ground, and a 70 cm section of blade tip was propelled nearly 180 m over a main road and a petrol station canopy before embedding itself in a wisteria attached to the wall of a house (Figure 4).

Footnote

[2] ATSB. *VFR into IMC and loss of control involving Wittman Tailwind, VH-TWQ,* 2 March 2021, p. 13. Available at https://www.atsb.gov.au/sites/default/files/media/5779485/ao-2020-004-final.pdf [accessed December 2025].

[3] NATS. *Helicopter precautionary landings in deteriorating weather conditions,* 16 January 2020. Available at https://www.aurora.nats.co.uk/htmlAIP/Publications/2020-01-16/html/eAIC/EG-eAIC-2020-003-P-en-GB.html [accessed December 2025].

[4] Available at https://www.caa.co.uk/media/v43pcnok/safety-sense-leaflet-33.pdf [accessed December 2025].

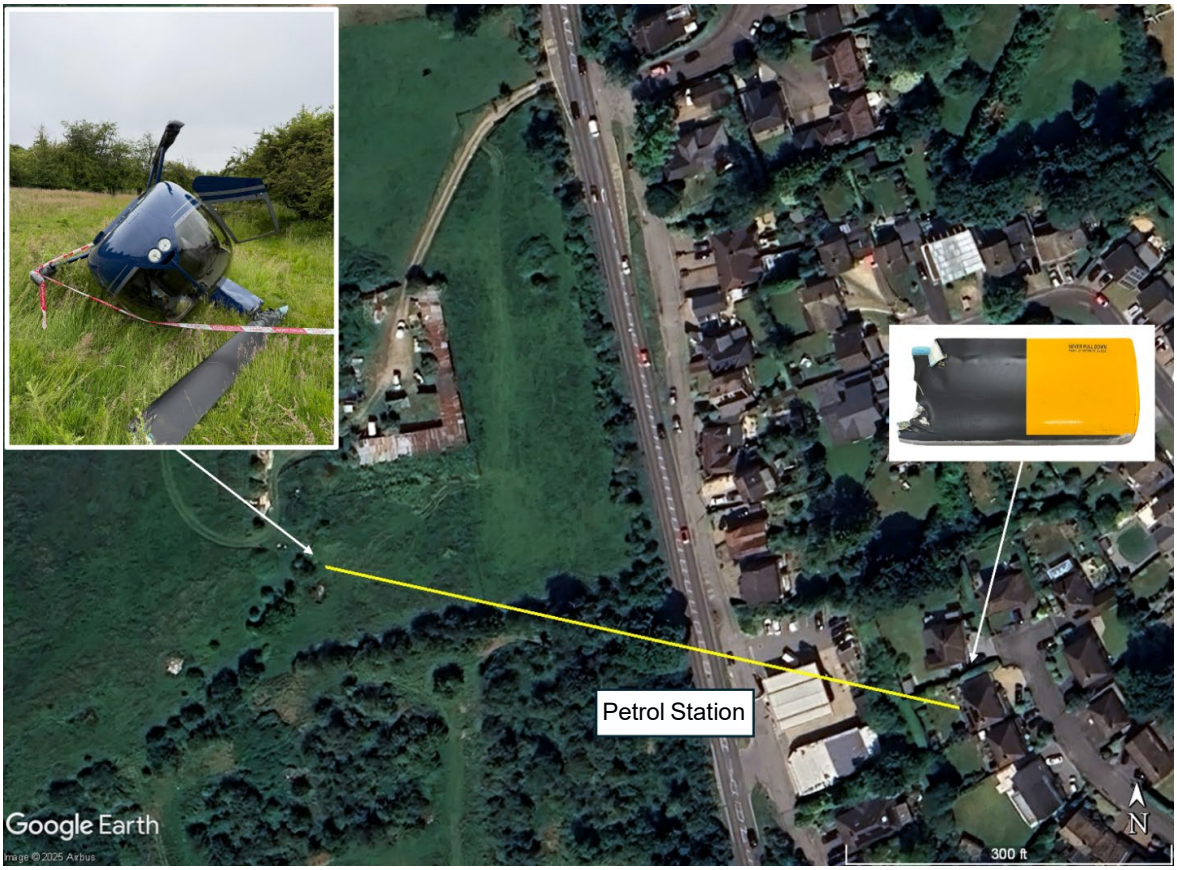

Figure 4

Trajectory of detached blade tip

Analysis

Meteorology

The pilot believed from his ground observation that conditions had improved. A check of actual observations from aerodromes in the locality would indicate this was not the case, with both Heathrow Airport and RAF Northolt reporting extensive low cloud.

Denham Airfield is at an elevation of 215 ft amsl, which is higher than Northolt (126 ft amsl) and Heathrow (83 ft amsl). Northolt was reporting broken cloud between 500 and 800 ft agl, indicating that the cloud base in the locality of Denham was likely to be between 400 and 700 ft agl.

Given the built-up area and terrain elevation around Denham, the weather conditions in the locality were not compatible with the requirements of VFR flight, as set out in the Skyway Code.

Spatial disorientation

Spatial disorientation can lead to a loss of control in as little as one to three minutes, and accidents following a loss of control are often fatal. The pilot recognised he was disorientated and felt increasingly anxious at his worsening situation. His decision to make a precautionary landing was in accordance with CAA guidance.

Landing

Having experienced the stress of inadvertent VFR flight into IMC, the pilot regained sufficient visual references with the ground for a precautionary landing. He states that he arrived in a "disorganised state" and made a rushed assessment of the landing area. The chosen field was overgrown, uneven and with a slope.

The landing was heavy. The skids were splayed and flattened, and the cross tubes that run laterally under the fuselage were fractured with the clamps deformed. The left skid that contacted the downward part of the slope collapsed, acting as a pivot point for dynamic rollover[5] to occur.

The main rotor blade struck the ground with high energy, sufficient to propel a section of blade tip weighing 4.5 kg nearly 180 m. There was no damage caused to the house.

Conclusion

The weather in the locality of Denham airfield was unsuitable for a planned VFR flight. Soon after departure the pilot entered IMC and suffered spatial disorientation. Faced with a deteriorating weather situation, the pilot decided to return to Denham. The helicopter broke cloud close to the ground and the pilot made a rushed precautionary landing into a field that was overgrown and with a slope. The landing was heavy, and the helicopter suffered dynamic rollover.

Footnote

[5] Safety Sense Leaflet 17 - *'Helicopter Airmanship'*, p. 10-11, published by the CAA. Available at https://www.caa.co.uk/media/d1vfkpga/safety-sense-leaflet-17v2.pdf [accessed December 2025].