

No: 1/91

Ref: EW/G90/11/04

Category: 2c

**Aircraft Type
and Registration:**

Robinson R22, G-BMXH

No & Type of Engines:

1 Lycoming O-320-B2C piston engine

Year of Manufacture:

1981

Date and Time (UTC):

15 November 1990 at 1401 hrs

Location:

Llechwen Hall Hotel, Abercynon, Mid Glamorgan

Type of Flight:

Private

Persons on Board:

Crew - 1

Passengers - 1

Injuries:

Crew - None

Passengers - None

Nature of Damage:

Beyond economic repair

Commander's Licence:

Private Pilot's Licence (Helicopters)

Commander's Age:

34 years

**Commander's Total
Flying Experience:**

292 hours rotary wing (of which 287 were on type)
and 81 hours fixed wing

Information Source:

Aircraft Accident Report Form submitted by the pilot

The pilot flew to a helicopter landing site which he had not visited before. The site, on flat ground adjacent to a hotel, was surrounded by buildings, trees and national grid power lines on three sides leaving only one practical approach path which was from the east over gently rising ground. A line of smaller 11,000 volt power cables suspended from 30 foot wooden poles ran north-south across this approach path about 150 metres short of the landing site.

The weather at the site was fine with a wind of 260°/10 gusting 15. The pilot approached into wind over the rising ground, saw the 11,000 volt power cables and landed successfully. About two hours later together with a passenger he lifted off to a 10 foot hover and spot-turned the helicopter onto a north-easterly heading. He then commenced transition to forward flight, initially maintaining a height of about 10 feet above the ground which sloped downwards away from the site. At about 40 kt IAS as the helicopter began to climb, it struck two of the 11,000 volt power cables which the pilot did not see until the last moment. The cables fouled the canopy arch adjacent to the top of the instrument panel; there was a substantial flash and the canopy broke up. Although the arch was severely damaged by the impact and thermal forces, it did not rupture and the cables snapped. The pilot closed the throttle, entered autorotation and landed in a field just beyond the cables. The helicopter touched down in a nose-high attitude whereupon the tail rotor blades were destroyed by contact with the ground. The

aircraft then bounced into the air and resumed flight at about 6 to 10 feet agl for a few seconds before hitting the ground again. On this second impact with sloping ground, the aircraft began a dynamic rollover which the pilot prevented by use of collective and cyclic control inputs. He was able to lift off to about two feet above the ground as the helicopter rotated to the left before it sank and struck the ground travelling backwards. The aircraft came to rest upright with the rear tips of the skids dug into the turf. The main rotor blades were intact but distortion of the rotor drive mechanism had resulted in disruption of the drive train and a holed fuel tank. Neither occupant was injured despite extensive heat damage to the instrument binnacle and right door, plus burns to the pilot's trousers.

The pilot has since stated that he was aware that departure on a north-easterly track required a downwind transition but the obstructions around the site made safe departure on any other heading impractical. Moreover, he considered that departure with the ground falling away beneath the aircraft would allow him to establish a safe forward airspeed as quickly as possible. He believes he did not see the cables in good time because they were green in colour and below his visual horizon.