

No: 5/89

Ref: EW/G88/12/06

Category: 2a

Aircraft Type and Registration: Aerospatiale AS332L, G-BLZJ

No & Type of Engines: 2 Turbomeca Makila 1A Gas Turbine Engines

Year of Manufacture: 1984

Date and Time (UTC): 19 December 1988 at 1237 hrs

Location: Aberdeen Airport

Type of Flight: Ferry

Persons on Board: Crew - 3 Passengers - None

Injuries: Crew - None Passengers - N/A

Nature of Damage: Minor damage to underside of front of aircraft, and to aerials

Commander's Licence: Airline Transport Pilot's Licence with Instrument and Full Instructor's Ratings

Commander's Age: 48 years

Commander's Total Flying Experience: 7977 hours (of which 2376 hours were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot

The helicopter had departed Aberdeen on a ferry flight with three crew members on board. Shortly after take-off some difficulty was experienced with the area navigation equipment and while this was being investigated the crew noticed that the landing gear was indicating "down" although it was selected to "up". The Commander elected to return to Aberdeen. The landing gear was selected to "down" at this point, with all three green lights illuminated.

Prior to the landing at Aberdeen the approach and landing checks were completed. Touch-down was made at about 5 knots ground speed. Some nosewheel "shimmy" was experienced and so the helicopter was lifted-off and re-landed, this time with zero ground speed. As the aircraft touched-down, it pitched forward and a "crunching sound" was heard, so the helicopter was immediately lifted-off into the hover. The landing gear selection and indications were re-checked. Of the 3 green lights only the nose landing gear light was illuminated, but with the amber "in transit" light also illuminated, which was not consistent with the behaviour of the helicopter during the landing. The emergency electrical override was operated, and all three green indications were then obtained. The landing gear was checked by engineering staff whilst "ZJ" was still in the hover. The helicopter was then landed without further incident. Damage was confined to skin panels and aerials on the forward underbelly.

The helicopter was positioned on jacks and a full functional and electrical test of the landing gear system was carried out, without any fault being found. The landing gear control circuit "card" was removed for defect investigation. On removal, it was found that a "heatsink" had detached from the card and was free to move over the face of the card. A defective earth-connection was also found, within the wiring behind this card. The landing gear control circuit card and heatsink were returned to Aerospatiale for investigation, along with a description of the earth fault. In a report to the operator, Aerospatiale stated that the card "worked normally in spite of radiator (*ie* the heatsink) dissociation from supply transistor." Vibration and heating tests were also carried out satisfactorily. Aerospatiale also stated that the card is varnished on both sides, and therefore the heatsink could cause no disruption of the system. Aerospatiale concluded that the cause of the incident was the "dissociation of connector 20 in plug 6", *ie* the defective earth connection.

Location:	Warrickville, New South Wales
Type of flight:	Normal work (training)
Persons on board:	Crew: 1 Passengers: 1
Defects:	Crew - None Passengers - None
Nature of damage:	Damage beyond economic repair
Commander's Licence:	Private Transport Pilot's Licence (Helicopter)
Commander's Age:	46 years
Commander's Total Flying Experience:	1,367 hours (of which 1,223 were on type)
Information Source:	Aviation Accident Report Form submitted by the pilot

A vehicle was being driven on a test track and the helicopter was flown alongside to the left at 50 ft up and 40 ft in. The surface was reported to be 240V/3 kV. Following a short period flying sideways in front of the vehicle, the commander turned right, down wind, in order to pass the vehicle. The aircraft stalled to starboard, the rotor turning into wind and applying full power, the commander was unable to recover the rotor. Full collective pitch was applied to cushion the fall and the aircraft landed on a level of soft ground. When it came to rest, the commander stated that the rotor had turned off the electrical, and both systems were damaged, creating the stall.

The commander considered that a vortex ring situation may have developed, from which he had insufficient height to recover.