

No: 8/92

Ref: EW/G92/06/07

Category: 5

Aircraft Type and Registration: Thunder & Colt 160 (AX10-16) Balloon, G-ZBRA

No & Type of Engines: Propane burner assembly

Year of Manufacture: 1990

Date & Time (UTC): 3 June 1992 at 2000 hrs

Location: Goddington Park, Kent

Type of Flight: Public Transport

Persons on Board: Crew - 1 Passengers - 8

Injuries: Crew - None Passengers - 3 serious
5 minor

Nature of Damage: None

Commander's Licence: Commercial Pilot's Licence (Balloons)

Commander's Age: 34 years

Commander's Flying Experience: 121 hours (of which 36 were on type)
Last 90 days - 36 hours
Last 28 days - 17 hours

Information Source: Aircraft Accident Report Form submitted by the pilot

The commander took off at 1900 hrs from Biddenden Vineyard for a one hour flight. The weather was fine with no cloud below 3500 feet, good visibility and a surface wind of 240°/07 kt . About an hour later he initiated a long slow descent from 2000 feet amsl to land in Goddington Park near Ashford. The balloon was descended initially to just above tree top height where it remained for two to three minutes to clear woodland on the upwind side of the chosen landing area. A barbed wire fence traversed this area from seven o'clock to 11 o'clock relative to the balloon's track and there was woodland at the far end of the area. Once clear the commander descended to 15 feet agl which he maintained for a short while to clear the fence.

To initiate the landing, the commander used the velcro rip-panel in conjunction with the burners which were used to stabilise the rate of descent. He briefed his passengers to adopt the landing posture (backs to direction of travel, hold the grab handles and bend the knees) and at about six feet agl the velcro rip-panel was steadily deployed to the fully open position. The landing was hard and well into the available area. Although the basket remained upright two passengers sustained broken ankles, one

(iii) The CAA liaise with the manufacturers of the DHC-7 to introduce a modification to ensure that audio autopilot disconnect warnings, when fitted, are unable to operate continuously, regardless of the cause of initial operation.

(iv) The CAA and other authorities examine other autopilot equipped aircraft on the registers to identify those which may suffer from analogous problems with tailcone mounted servo-drives and with audio warnings, and take steps to ensure that the risk of such problems occurring is eliminated.

The Civil Aviation Authority's response to these Safety Recommendations is contained in CAA Follow-up Action on Accident Reports (FACTAR) NO. 3/92 published coincident with the Report.

The following causal factors were identified:

(i) Condensation was able to collect in and around the elevator servo-drive from the fuselage and freeze causing an elevator control restriction which affected pitch control in both automatic and manual controlled flight.

(ii) Following earlier known cases of water collecting in and around the elevator servo-drive fuselage brackets no effective modification action was implemented.

(iii) The flight deck crew's ability to discuss and analyse their predicament was impaired by the distraction provided by the continuous operation of the autopilot disconnect warning.

Four Safety Recommendations were made during the course of the investigation.

(i) The CAA asks the Boeing Canada De Havilland Division to install a water deflector to prevent water ingress into the servo-drive to prevent water ingress.

(ii) The CAA and the manufacturer take steps to ensure that provision for drainage of the elevator servo-drive drain bracket is incorporated in DHC-7 aircraft.