

Follow-up Action on Occurrence Report

SERIOUS INCIDENT TO HS748, G-OPFW, OVER WESTERN ITALIAN ALPS ON 14 NOVEMBER 2002
(AIRCRAFT FORCED TO DESCEND FROM CRUISE ALTITUDE BY HEAVY ICING)

CAA FACTOR NUMBER : F33/2003
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OPERATOR : Emerald Airways
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SYNOPSIS

(From AAIB Report)

The airline had recently started operations for a customer who required short notice reaction to move freight between multiple destinations in Europe. This required two aircraft and three crews to be based at Paris Charles de Gaulle (CDG) working '12 hour' standby shift patterns.

On the night prior to the incident, the crew, who were positioned at CDG, had flown a return flight to London Stansted finishing their flying duty period at CDG by 0300 hrs. At 1230 hrs the crew were woken by a telephone call from company operations tasking them to fly an aircraft from Rome to Pisa, continuing onto CDG later that evening. Having missed an earlier positioning flight, they arrived in Rome at the scheduled time of their departure. They met with their ground engineer, who was to accompany them on both flights, and after some difficulties in obtaining their ATC clearance, departed Rome just over one hour late.

During the 'turn round' at Pisa, the commander supervised the cargo loading whilst the first officer, who was to be the handling pilot for the next sector, planned the route. He became concerned that one leg of their route had a Minimum Safe Altitude (MSA) of 15,900 feet and the aircraft they were flying had an operational ceiling of 15,000 feet. The crew discussed this and decided to fly the planned route at FL160. The commander reported that he had been told that a senior pilot within the company had successfully flown the aircraft to FL180 and that the company was seeking approval to remove the 15,000 feet ceiling limitation. The CAA however had no knowledge of any request seeking this approval.

The take-off from Pisa was performed with water methanol assistance and they climbed to FL160 following a non-standard departure to 'SPEZI' waypoint. During the climb Milan Control offered a re-route to the north via 'CANNE' waypoint in the Swiss Alps, as opposed to their flight planned route to the west. The commander accepted the re-route but mistook 'CANNE' waypoint to be the CANNES/TANNERON VOR that is positioned close to the town of Cannes in southern France. Although the crew followed ATC instructions, which continued to take them northbound, there remained an element of doubt in their minds as to their final routing. Approaching Genoa (GEN) VOR on the Italian coastline, the crew received a GPWS 'PULL UP' warning and initiated an immediate climb. As they climbed through FL180 the first officer pressed the radio altimeter test button which immediately cancelled the GPWS warning.

The aircraft was levelled at FL180 and the crew decided to remain at this height as they were now heading towards an area with a higher MSA. A few moments later they noticed ice forming on the windscreen wipers and wings. All their anti and de-icing equipment was switched on and according to their instrumentation was functioning correctly, but the rapid build up of ice continued. They estimated that the ice thickness reached 4-5 inches on the windscreen with a 'clear area no bigger than a letter box to look through'. Power was increased to the maximum continuous limit on both engines but the speed slowly decayed from 150 kt to 120 kt. A descent was requested along their route but this was denied by ATC because of the height of the terrain ahead. At 120 kt the stick shaker activated and they were unable to maintain level flight. At this point they had passed 'CANNE' waypoint and were heading directly towards the Luxeuil (St Sauveur) 'LUL' VOR. Terrain within 10 miles of their track reached a height of 14,100 feet. The airspeed was stabilised with the stick shaker activating intermittently but this resulted in a descent with a vertical speed of approximately 500 feet per minute. In response to a further request for descent ATC vectored the aircraft to the northeast and authorised descent to FL160. At this level there was clear air which allowed the ice to dissipate and the airspeed to increase.

Eventually the aircraft was re-cleared to route to the 'LUL' VOR. When the crew altered course the aircraft re-entered cloud and almost immediately ice began to adhere to the airframe again and although the airspeed was indicating 160 kt the stick shaker activated. The crew were cleared to descend to FL100. The speed was increased in the descent to 205 kt before the stick shaker cancelled. After levelling at FL100 the flight continued in clear air to CDG with the ice clearing. The landing, carried out with approach flap, was without incident.

Visual inspection after landing revealed large lumps of ice remaining underneath the fuselage. The aircraft's de-icing system had appeared fully functional. Inspection of the de-icing system, after the aircraft landed at CDG, however, showed that a repair patch on the right inner wing de-ice boot was missing.

FOLLOW UP ACTION

The one Safety Recommendation, made by the AAIB following their investigation, is reproduced below, together with the CAA's response.

Recommendation 2003-61

It is recommended that Emerald Airways re-examine the adequacy of its flight planning system with a view to automating the process.

CAA Response

This Recommendation is not addressed to the Civil Aviation Authority.

Emerald Airways Ltd are currently considering a computer based system and are working closely with the CAA prior to any implementation decision being taken.

CAA Status - Closed