

SERIOUS INCIDENT

Aircraft Type and Registration:	Airbus A340-642, G-VGAS	
No & Type of Engines:	4 Rolls-Royce RB211 Trent 556-61 turbofan engines	
Year of Manufacture:	2005 (Serial no: 639)	
Date & Time (UTC):	23 February 2017 at 2254 hrs	
Location:	En route from London Heathrow to New York, USA	
Type of Flight:	Commercial Air Transport (Passenger)	
Persons on Board:	Crew - 14	Passengers - 198
Injuries:	Crew - None	Passengers - None
Nature of Damage:	None	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	51 years	
Commander's Flying Experience:	11,450 hours (of which 7,360 were on type) Last 90 days - 129 hours Last 28 days - 29 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

During the cruise at FL 400, the crew received a warning of excessive cabin altitude. They descended and continued to destination. At the same time as the warning of excessive cabin altitude, a fault was recorded in a Cabin Pressure Controller and it was suspected that this caused the cabin outflow valves to open allowing the cabin altitude to increase.

History of the flight

G-VGAS departed London Heathrow Airport at 1600 hrs for a commercial air transport flight to John F. Kennedy International Airport, New York City, USA, with 198 passengers and 14 crew on board. At 2254 hrs, the aircraft was at FL 400, approximately 200 nm northeast of Boston, Massachusetts, when the CAB PR EXCESS CAB ALT warning was displayed on the ECAM¹, indicating an excessive cabin altitude. Although the pressurisation system display indicated no abnormalities, the ECAM warning remained, and two crew members and both pilots believed they had symptoms of hypoxia².

Footnote

¹ ECAM: Electronic Centralised Aircraft Monitoring system

² Hypoxia is a condition where body tissues are deprived of oxygen

The pilots began a descent but, when passing FL 260, the ECAM warning extinguished. The pilots elected to level off at FL 250 and continue towards their destination but, after approximately 30 minutes, the ECAM warning returned. Indications on the pressurisation system display were still normal but the pilots descended the aircraft to an altitude of 11,000 ft and, again, decided to continue to the destination where the aircraft landed without further incident.

Assessment of cause

Data from the aircraft showed that there was a Cabin Pressure Controller 1 (CPC1) fault at the same time as the first CAB PR EXCESS CAB ALT warning. Engineers suspected that the CPC1 had failed in such a way as to drive the outflow valves open, thus allowing the cabin altitude to increase (the warning is triggered when the cabin altitude exceeds 9,550 ft).

On inspection, five components within the CPC were found to be defective due to wear but the failure mode suspected by the engineers was not identified conclusively.