

**SERIOUS INCIDENT**

<b>Aircraft Type and Registration:</b>	Beech C90GTI Kingair, G-MOSJ	
<b>No &amp; Type of Engines:</b>	2 Pratt & Whitney Canada PT6A-135 turboprop engines	
<b>Year of Manufacture:</b>	2010 (Serial no: LJ-1984)	
<b>Date &amp; Time (UTC):</b>	12 December 2012 at 1318 hrs	
<b>Location:</b>	Approach to Runway 25, Belfast Aldergrove Airport	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 2	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	None	
<b>Commander's Licence:</b>	Airline Transport Pilot's Licence	
<b>Commander's Age:</b>	52 years	
<b>Commander's Flying Experience:</b>	3,852 hours (of which 997 were on type) Last 90 days - 130 hours Last 28 days - 29 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot and ATC occurrence report	

**Synopsis**

The aircraft inadvertently descended below the ILS glidepath during an approach in fine weather conditions. The crew rectified the situation and continued the approach visually to landing. High crew workload, interaction with automation, distraction and communications issues contributed to the incident.

**History of the flight***Aircraft commander's report*

The aircraft was being vectored by ATC for an ILS approach to Runway 25 at Belfast Aldergrove Airport. The weather conditions were good and the co-pilot was handling the aircraft. As it neared the localiser centreline from the south at a range of about 10 nm and 4,000 ft

altitude, the commander was aware that ATC had not yet issued a clearance for the approach. He alerted the co-pilot to the fact, and reminded him that the aircraft was now above the ideal vertical profile.

ATC warned the crew that the aircraft was flying through the localiser centreline, and issued a descent clearance to 3,000 ft with a left turn to a heading of 210° (localiser QDM was 249°M). The commander asked ATC to confirm that the aircraft was cleared for the ILS approach, which they did.

The co-pilot selected the autopilot altitude target to 3,000 ft and a vertical speed of 2,000 ft/min down. The commander warned him that this would lead to

the flap limit speed being exceeded. ATC then cleared the aircraft to descend to 1,700 ft and further with the ILS glideslope. The commander, whose attention was briefly diverted while he wrote down the instructions, noticed that the aircraft had descended to 1,300 ft (about 1,050 ft above the runway elevation) and was still descending, so he ordered the co-pilot to disengage the autopilot and climb the aircraft immediately to 1,700 ft.

Following an exchange with ATC, the commander, who had maintained visual contact with the runway throughout, received approval to continue the approach to landing.

The commander described a high workload situation for the crew, with the late descent, turns and a frequency change occurring in a short period. It was not clear to the crew exactly how the situation had arisen, but the commander thought that the delay incurred in selecting autopilot functions (rather than flying the aircraft manually) may have been a contributory factor, together with the relative inexperience of the co-pilot and his own distraction at a busy time.

#### *Air Traffic Control report*

The Aerodrome Controller observed the aircraft on his monitor to be descending below the ILS glidepath at about 6.5 nm range. He contacted the Approach Controller, as the aircraft had not yet made contact on the Tower frequency, and was told that it had already been transferred. The Aerodrome Controller therefore transmitted to the aircraft and the crew responded. The controller advised the crew that the aircraft was below the glidepath and issued instructions to go around and climb to 3,000 ft. During this period the Approach Funnel Deviation Alert<sup>1</sup> sounded.

The aircraft commander responded with a request to continue the approach visually. At this stage the aircraft, which the controller could see visually, had regained a normal glidepath. As the situation had been resolved, the controller continued to monitor the aircraft and issued an appropriate landing clearance.

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#### **Footnote**

1 The AFDA system provides the controller with an alerting function if an aircraft on approach deviates from the normal flight path.