

**ACCIDENT**

<b>Aircraft Type and Registration:</b>	1) DHC-8-402 Dash 8, G-JEDO 2) DHC-8-402 Dash 8, G-ECOO
<b>No &amp; Type of Engines:</b>	1) 2 Pratt & Whitney Canada PW150A turboprop engines 2) 2 Pratt & Whitney Canada PW150A turboprop engines
<b>Year of Manufacture:</b>	1) 2003 2) 2008
<b>Date &amp; Time (UTC):</b>	16 January 2012 at 0700 hrs
<b>Location:</b>	Southampton International Airport
<b>Type of Flight:</b>	1) Commercial Air Transport (Passenger) 2) Commercial Air Transport (Passenger)
<b>Persons on Board:</b>	1) Crew - 4                      Passengers - 66 2) Crew - 4                      Passengers - 52
<b>Injuries:</b>	1) Crew - None                  Passengers - None 2) Crew - None                  Passengers - None
<b>Nature of Damage:</b>	1) Right elevator 2) Tailcone
<b>Commander's Licence:</b>	1) Airline Transport Pilot's Licence 2) Airline Transport Pilot's Licence
<b>Commander's Age:</b>	1) 41 years 2) 37 years
<b>Commander's Flying Experience:</b>	1) 8,856 hours (of which 2,295 were on type) Last 90 days - 156 hours Last 28 days - 23 hours 2) 4,277 hours (of which 1,818 were on type) Last 90 days - 192 hours Last 28 days - 61 hours
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB

**Synopsis**

The aircraft collided during pushback. G-ECOO was stationary on the taxiway when G-JEDO was given clearance for a standard pushback, to face south, from Stand 6. Just before the pushback would have been

completed, G-JEDO collided with G-ECCO. Both sustained minor damage to their tail sections.

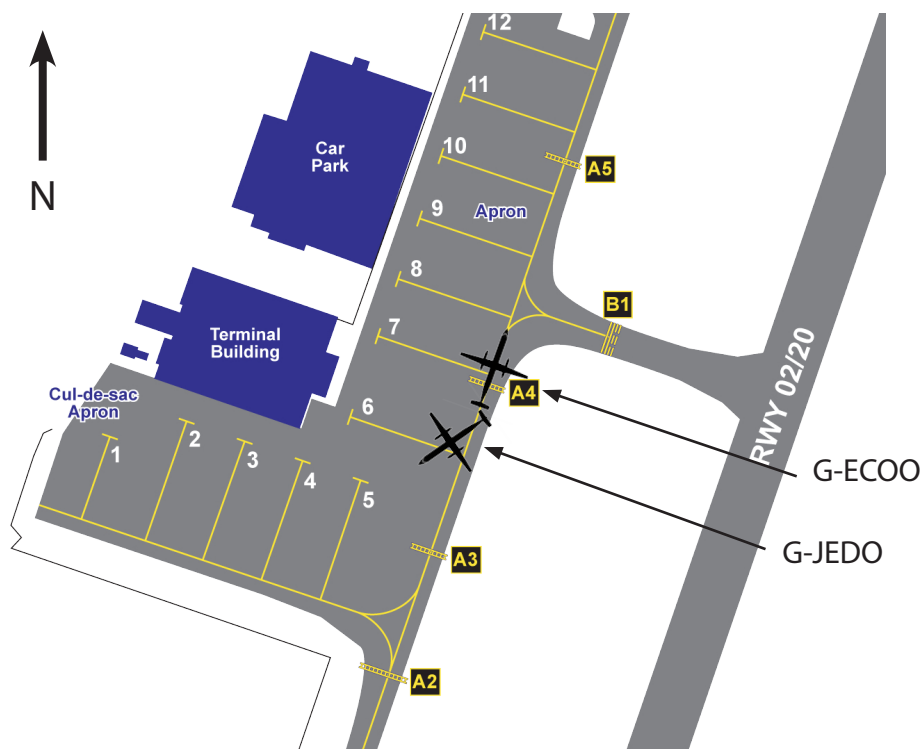
Safety action has been taken to prevent a recurrence.

## History of the flight

At 0653 hrs, before daylight, G-ECOO requested and received permission from ATC to push back and start from Stand 9, to face north and to hold south of Bravo One Taxiway (approximately abeam Stand 7). This was a non-standard pushback to allow a Jetstream 41 on Stand 11 to taxi out via Bravo One, to Runway 02. This was completed without incident, the tug was then disconnected and all personnel and equipment cleared from the area. One minute later the Jetstream 41, having already started its engines on stand, requested and received permission to power back from Stand 11<sup>1</sup>. At the end of the manoeuvre it stopped on Taxiway Alpha abeam Stand 10 and Stand 11. When G-JEDO requested permission to push back and start from Stand 6; ATC instructed it to “STANDBY”. The Jetstream 41 was

then given permission to taxi via Holding Point Bravo One, back track, line up and takeoff from Runway 02. Figure 1 shows the apron layout.

G-JEDO was given permission for a standard pushback and start from Stand 6<sup>2</sup>. In attendance were a headset operative and a wingman positioned to the south of the aircraft, and the tug driver. Prior to commencing the pushback the headset operative indicated the direction of the pushback to the tug driver using hand signals. Two minutes later, having seen that the tug was disconnected from G-ECOO, ATC asked the pilots if they were ready to taxi; they replied they would be in about 30 seconds. ATC replied, “TAXI PLEASE WHEN READY [HOLDING POINT] BRAVO ONE”. The wingman had by then left Stand 6 for another task. As G-JEDO’s pushback neared



**Figure 1**

Apron layout and approximate position of aircraft at the time of the collision

### Footnote

<sup>1</sup> Jetstream 41s power back at Southampton; they are not pushed back by a tug.

### Footnote

<sup>2</sup> A standard push back for Runway 02 ends with the nose of the aircraft facing south.

completion it slowed and then stopped on a heading of approximately 220°. The headset operative asked the commander to confirm that the aircraft's brakes were OFF, which they were, then reported that they could not push the aircraft any further and asked for the aircraft's brakes to be set ON. A passing Airside Operations vehicle reported to ATC that there was an "AIRCRAFT TO AIRCRAFT CONFLICT ON STAND 6." G-ECOO then transmitted to ATC "WE JUST FELT A BUMP" and asked for confirmation that they had been hit. After photographic evidence had been acquired, both aircraft were pulled back onto stand.

G-JEDO sustained damage to its right elevator, G-ECOO sustained damage to its tail cone.

#### **ATCO's comments**

The ATCO stated that when he gave G-JEDO permission to push back, G-ECOO was stationary on the taxiway and that there appeared to be space for G-JEDO to be pushed back. He could see G-ECOO but not its position in relation to the paint markings on the taxiway.

#### **Ground crew procedures**

Operating procedures required the headset operative to stand on the side of the aircraft where the headset was plugged in. This varied between aircraft types, but was on the left side of the aircraft for the Dash 8, which in this incident was the outside of the turn. The tug was fitted with a radio tuned to the Tower frequency for monitoring purposes. The wingman's role was to stop traffic driving behind the aircraft prior to it being pushed back.

#### **G-JEDO ground crew's comments**

The headset operative stated that he was aware of the presence of G-ECOO and was not convinced that the pushback could be completed safely. However, feeling

under some pressure to proceed, he commenced the pushback. He added that during the pushback he was on the outside of the turn such that he lost sight of G-ECOO about ¾ of the way along the stand, but did not squat down to try to see its relative position. G-ECOO came back in to his line of sight as the aircraft was being straightened and he was considering stopping the pushback when the collision occurred.

The tug driver stated although he usually listened to ATC transmissions on the radio he did not recall doing so on this occasion. He added that prior to pushing G-JEDO he had seen G-ECOO and thought there was enough room to complete the pushback. Accordingly, he did not monitor G-ECOO's relative position during the pushback.

The wingman stated that before commencing the pushback the headset operative did not indicate to him which way the aircraft should face. Being aware of G-ECOO on the taxiway he assumed G-JEDO would be pushed to face north. He left for other duties as the aircraft cleared the road, by which time it had not started turning to face south.

#### **Recorded data**

##### *Commanders' comments*

The commanders of both aircraft managed to preserve the CVRs on their aircraft by isolating the appropriate circuit breaker. However, both had difficulty finding the relevant instructions in the Operations Manuals aboard their aircraft.

#### **Discussion**

The ATCO gave G-JEDO pushback clearance before G-ECOO had taxied to Holding Point Bravo One and cleared Taxiway Alpha, believing there was enough space available. He did not transmit any information

relating to the position of G-ECOO. Such information might have improved the pilots' situational awareness.

The headset operative accepted the instruction from the pilots to face south, as did the tug driver from the headset operative and, though aware of the presence of G-ECOO, pushed G-JEDO into the stationary G-ECOO.

### **Safety actions**

As a result of this incident ATC, the airport operator and the aircraft handling agent will implement new pushback procedures and new holding points.

Additionally ATC will introduce procedures that do not permit aircraft to push back in proximity to each other, and review taxi clearances and holding points to ensure non-standard manoeuvres are removed.

The operator has amended the Quick Reference Handbook (accessible in the cockpit of each aircraft) to indicate to pilots the location of written procedures to be followed to preserve CVR and FDR recordings.