

ACCIDENT

Aircraft Type and Registration:	Bombardier BD-700 Global Express, VP-CRC	
No & Type of Engines:	2 Rolls-Royce BR71DA turbofan engines	
Year of Manufacture:	2007	
Date & Time (UTC):	22 January 2008 at 1448 hrs	
Location:	Exeter Airport	
Type of Flight:	Private	
Persons on Board:	Crew - 3	Passengers - 1
Injuries:	Crew - None	Passengers - None
Nature of Damage:	None	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	40 years	
Commander's Flying Experience:	6,558 hours (of which 2,974 were on type) Last 90 days - 145 hours Last 28 days - 38 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and additional AAIB enquiries	

Synopsis

As VP-CRC was taxiing prior to departure, its jet wash blew over and substantially damaged an unoccupied light aircraft.

History of the flight

VP-CRC arrived at Exeter for a transit stop before departing for Los Angeles. It was marshalled onto disused Runway 31 and parked facing east, approximately 150 ft clear of the nearest light aircraft. The normal grass light aircraft park at Exeter is to the west of the disused runway but this was unavailable due to its surface condition and about nine light aircraft were parked on or near the disused runway. Prior to starting the engines for its next flight, the commander of VP-CRC assessed

the distance to the light aircraft and consulted the Flight Crew Manual for the Global Express jet wash effects. He advised the handling agent that although the light aircraft may take some buffeting, they should be in no danger as they were tied down. After starting one engine VP-CRC was instructed by ATC to shut down due to concerns over the amount of buffeting an unoccupied Cessna 152 was sustaining. Airport personnel and staff from the flying club moved two light aircraft from their tiedown locations to a position on the disused runway approximately 170 ft away from VP-CRC.

VP-CRC was again cleared to start and after starting both engines, the aircraft commenced a right hand

turn to align itself with the disused runway. A higher thrust setting than idle was required to sustain the turn. The repositioned Cessna 152 was not tied down but being held by two members of the flying club staff. As VP-CRC completed its turn, the jet wash lifted the tail of the Cessna 152 forcing the two staff members to release their hold. It came to rest inverted, sustaining considerable damage.

Global Express Jet Exhaust Chart:

The Global Express Flight Crew Operating Manual provides guidance regarding the jet exhaust flow behind the aircraft. The manual suggests that with idle thrust set, at the reported distance between VP-CRC and the Cessna 152 of 150-170 ft, there would be a 20 ft wide plume of exhaust moving at 30 kt. No guidance is provided for thrust settings above idle.

Flight Data

The FDR for VP-CRC was downloaded and data from the taxi out at Exeter recovered. The data shows

that during the turn, the thrust lever is above idle for approximately 11 seconds. The maximum thrust lever angle is 15.5° (approximately 1/3rd open) with maximum engine thrust peaking at 57% N_1 . The maximum speed VP-CRC attains is 3 kt.

AAIB Comment

VP-CRC was destined for the west coast of the USA and therefore was operating at a high gross weight. Additional thrust above idle would be required to start taxiing and to complete any tight turns. Following this incident Exeter Airport reconsidered the risk assessment for the Runway 31 parking area. As a result they have stated that self-manoeuvre parking will be limited to small jet aircraft up to approximately Cessna 550 size. Larger jet aircraft will only use the area if they can be towed on and off it.