Aviation Safety Investigation Report 199702426

Short Bros Pty Ltd
SD360
de Havilland Canada
Dash 8

25 July 1997

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Aviation Safety Investigation Report

199702426

Occurrence Number: 199702426 **Occurrence Type:** Incident
Location: 74km S Taree, Aerodrome
State: NSW **Inv Category:** 4
Date: Friday 25 July 1997
Time: 0713 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: de Havilland Canada
Aircraft Model: DHC-8-102
Aircraft Registration: VH-TQF **Serial Number:** 067
Type of Operation: Air Transport Domestic Low Capacity Passenger Scheduled
Damage to Aircraft: Nil
Departure Point: Sydney NSW
Departure Time: 0700 EST
Destination: Taree NSW

Aircraft Manufacturer: Short Bros Pty Ltd
Aircraft Model: SD360
Aircraft Registration: VH-SUF **Serial Number:**
Type of Operation: Air Transport Domestic Low Capacity Passenger Scheduled
Damage to Aircraft: Nil
Departure Point: Williamtown NSW
Departure Time: 0654 EST
Destination: Brisbane Qld

Approved for Release: Saturday, March 21, 1998

FACTUAL INFORMATION

A Shorts SH36 aircraft had departed Williamtown on a flight to Brisbane. The crew were maintaining the aircraft at 9,000 ft outside controlled airspace and were in contact with Flight Service Area 5 (FIS 5).

A Dash 8 aircraft had departed Sydney on a flight to Taree. The crew were maintaining the aircraft at flight level (FL) 150 and were under the control of Brisbane Sector 15C.

The sector controller coordinated the overhead Williamtown position of the Dash 8 with FIS 5. This coordination included an estimate for Taree and advice that the crew would contact FIS 5 at "top of descent".

The flight service officer correctly calculated that the two aircraft would be in conflict and passed traffic information on the Dash 8 to the crew of the SH36. Although aware of a requirement to back coordinate with sector control when an aircraft leaving controlled airspace on descent required traffic information, the officer elected not to pass the information to the sector controller. She had calculated that there would be at least 3 minutes between the top of descent of the Dash 8 and the aircraft coming into conflict and therefore sufficient time for her to pass the traffic information to the crew.

The crew of the Dash 8 were cleared to leave controlled airspace on descent to Taree and were instructed to contact FIS 5 by sector control, immediately after they reported leaving FL150. They attempted to do this but were delayed by other airspace users transmitting on that frequency. They finally made their broadcast while passing 13,000 ft and at a rate of descent of 1,800 ft/min. The base of controlled airspace in the Taree area was 12,500 ft. The Aeronautical Information Publication required a crew to make their first broadcast on the flight information service frequency prior to leaving controlled airspace.

The flight service officer acknowledged the transmission from the crew of the Dash 8 and passed the traffic information on the SH36 and two other aircraft. By the time the crew had analysed this information and assessed that the SH36 was in direct conflict, their aircraft was passing between 11,000 ft and 10,500 ft. The pilot in command immediately amended the altitude selection to 10,000 ft and the automatic pilot commenced the level-off manoeuvre at 10,400 ft. The aircraft levelled off at 10,000 ft and the crew saw the SH36 in their 12-o'clock position. Both crews had been using Global Positioning System navigational equipment and were accurately "on track".

The two crews then established communication and mutual sighting. There was no breakdown of separation and the crews completed a safe sighting and passing manoeuvre.

ANALYSIS

Analysis of the respective flight paths indicated that the aircraft avoided a direct conflict by approximately 30 seconds. Both crews agreed that their respective aircraft were on-track and the position of the SH36 was such that the closing speed and descent profile of the Dash 8 could have resulted in a mid-air collision had the rate of descent not been arrested.

The level-off of the Dash 8 was implemented as soon as the crew had analysed the position of the SH36 and before they achieved visual contact. Had they been delayed further in their attempts to contact FIS 5, the separation would have been significantly reduced.

The flight service officer had received the correct coordination from the sector controller and made a correct assessment of the conflict. However, her decision not to bother air traffic control with the need to pass traffic information was predicated on an assumption that the crew of the Dash 8 would call her at top of descent. If such a call was made, it would have given her more than 3 minutes to carry out the broadcast and this would probably have been sufficient for the task. However, such a timely call could not be guaranteed and on this occasion did not happen. The resultant delay reduced the time available for the crew to make an informed judgement about the traffic.

The phrase "top of descent" was used by the controller to indicate a transfer of the aircraft to FIS 5 as soon as practicable after the crew reported leaving their cruising level. The regulations allowed the crew to report vacating a level up to 1 minute after the event. A further delay in making the broadcast then occurred due to other airspace users making authorised transmissions. This delay could not be accurately estimated and was always going to be of unknown duration.

The flight service officer considered that the phrase "top of descent" meant exactly that and made an assessment based on this belief.

SIGNIFICANT FACTORS

1. The flight service officer elected not to coordinate the traffic information on the SH36 to the crew of the Dash 8 with Sector Control.

2. The flight service officer expected the crew of the Dash 8 to contact her at "top of descent".

3. The crew of the Dash 8 were delayed in making the initial broadcast on FIS5 due to frequency congestion.

SAFETY ACTION

Airservices Australia Northern District Office issued a local instruction (NDO 97/191) on 29 August 1997 which specified improved procedures for the transfer of communications to flight information service frequencies when an aircraft is on descent from controlled airspace.

As a result of this and other occurrences, the Bureau of Air Safety Investigation is developing recommendations relating to the provision of timely traffic information by air traffic services and for flight crews to develop separation assurance techniques.

Any recommendations arising will be published in the Bureau's Quarterly Safety Deficiency report.