

**Aviation Safety Investigation Report
199502052**

**Saab Aircraft AB
SF-340A
British Aerospace Plc
HS-748**

03 July 1995

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

The Bureau did not conduct an on scene investigation of this occurrence. The information presented below was obtained from information supplied to the Bureau.

Occurrence Number: 199502052 **Occurrence Type:** Incident
Location: Albury, Aerodrome
State: VIC **Inv Category:** 4
Date: Monday 03 July 1995
Time: 1300 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: Saab Aircraft AB
Aircraft Model: SF-340A
Aircraft Registration: VH-SBA **Serial Number:**
Type of Operation: Air Transport Domestic Low Capacity Passenger Scheduled
Damage to Aircraft: Nil
Departure Point: Latrobe Valley VIC
Departure Time:
Destination: Albury NSW

Aircraft Manufacturer: British Aerospace Plc
Aircraft Model: 748
Aircraft Registration: **Serial Number:**
Type of Operation: Miscellaneous Other
Damage to Aircraft: Nil
Departure Point: Deniliquin NSW
Departure Time:
Destination: Albury NSW

Approved for Release: Friday, July 14, 1995

VH-SBA, a SAAB 340, was inbound to Albury on the 207 radial at 11 DME, on a DME arrival, when Hudson 540, a RAAF HS 748, called inbound on the 275 radial at 15 DME. Hudson was cleared to descend to 3500 feet and divert right of track, but no further right than the 240 radial, in order to make a practice runway 25 VOR/DME approach without having to make a sector entry. Three minutes later, when air traffic control asked VH-SBA for its position, the crew advised approaching three miles at 3500 feet and added that an aircraft had just crossed their path from left to right about three miles ahead. VH-SBA was at 3000 feet at that time and subsequently was able to keep the other aircraft in sight.

That aircraft was Hudson 540, a type which is normally slower than a SAAB. Both aircraft were in visual conditions above broken cloud when the loss of separation occurred. Hudson 540 later advised experiencing a 290 knot groundspeed from Deniliquin to Albury. A check of recorded radar data and automatic voice recordings showed that Hudson 540 was actually only 12 miles from Albury when the pilot reported at 15 DME. The recorded radar data confirmed a cruise groundspeed for Hudson 540 of 290 knots from 70 miles west of Albury to commencement of descent at 30 miles west. From that point groundspeed decreased and was last observed to be 255 knots at loss of radar contact 12 miles west of Albury.

Radar contact with VH-SBA was lost when the aircraft was 23 miles south of Albury. At that point its groundspeed was 250 knots. For comparison purposes, at that time Hudson 540 was 20 miles west of Albury with a groundspeed of 260 knots. This information was from a Melbourne radar tape. Albury tower is not radar equipped.

With VH-SBA inbound on the 207 radial and Hudson inbound on the 240 radial the aircraft were laterally separated until eight DME. It was the controller's intention to apply a specific longitudinal separation standard after the first aircraft passed the eight mile lateral separation point. That standard allows for five miles longitudinal separation between two arriving aircraft provided that:

- . Angular difference between tracks is less than 45 degrees
- . No closing indicated airspeed
- . Leading aircraft within 15 miles of the aerodrome
- . Aircraft are assigned levels which are vertically separated.

Based on the respective DME reports of 15 DME and 11 DME for Hudson 540 and VH-SBA, the controller assessed that five miles longitudinal separation would exist when VH-SBA got to eight miles (loss of lateral separation point). This assessment was based on the assumption that the SAAB would be faster than the HS 748 and that the HS 748 would fly at least two extra track miles manoeuvring to track direct to the VOR.

Although the controller cleared Hudson 540 to divert right of track but no further south than the 240 radial, he did not actually check what radial the aircraft was tracking to the VOR. The aircraft could have tracked in on the 260 radial (only a minor diversion right of track) and commenced the VOR/DME approach without making a sector entry. If the HS 748 did track in on the 260 radial, then the two tracks would have been separated by more than 45 degrees which would mean the controller was applying an inappropriate separation standard. In addition, he did not check if there was a closing indicated airspeed. It would be reasonable to expect the SAAB, on a DME approach, to be slowing down, whereas the HS 748 could well be expected to maintain airspeed until over the VOR outbound because there is plenty of time to slow down on the outbound leg.

Factors

The following factors were considered relevant to the development of the incident:

1. The controller did not take all necessary steps to ensure he had full situational awareness in that he did not establish on what radial the HS 748 would track to the VOR nor the extent to which the aircraft would manoeuvre to the right of track.
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2. The controller did not establish that all the conditions existed that were applicable to the specific separation standard he was using.

3. The HS 748 reported at 15 DME when it was actually only 12 miles from the aerodrome. (Albury DME is located on the aerodrome)

