

**Aviation Safety Investigation Report
199603944**

**British Aircraft Corp
Strikemaster**

01 December 1996

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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: 199603944	Occurrence Type: Incident
Location: 9km SSE Kempsey, Aerodrome	
State: NSW	Inv Category: 4
Date: Sunday 01 December 1996	
Time: 1436 hours	Time Zone: ESuT
Highest Injury Level: None	

Aircraft Manufacturer: British Aircraft Corp	
Aircraft Model: 167	
Aircraft Registration: VH-RBA	Serial Number: NZ6370
Type of Operation: Non-commercial Pleasure/Travel	
Damage to Aircraft: Nil	
Departure Point: Port Macquarie NSW	
Departure Time: 1430 ESuT	
Destination: Archerfield QLD	

Crew Details:

Role	Class of Licence	Hours on	
		Type	Hours Total
Pilot-In-Command	Commercial	130.0	4000

Approved for Release: Monday, May 26, 1997

FACTUAL INFORMATION

The aircraft had been flown from Archerfield to Port Macquarie for an air display and, on this flight the radar transponder had failed. At the completion of the display, the pilot departed Port Macquarie a few minutes after another similar type of aircraft which was also returning to Queensland. The transponder was unserviceable for this flight. Prior to commencing the flight from Port Macquarie the pilot arranged for the pilot of the other aircraft to make the appropriate radio transmissions for both aircraft, and inform air traffic services (ATS) of their intentions. Those transmissions were not monitored by the incident pilot.

No taxi calls or preliminary information that the aircraft had an unserviceable transponder were received and understood by ATS staff. The first communication with ATS was a call on departure from Port Macquarie, at 1430ESuT. In this series of transmissions the pilot indicated that he was climbing to flight level 260 (FL260) and that he had submitted a flight plan with a departure time of 1630. His estimated time over Kempsey was 1438. The pilot was instructed to remain outside controlled airspace (OCTA) as he was not yet identified on radar, and to confirm that he would be tracking clear of the Coffs Harbour controlled airspace steps. After some delay the pilot reported that he might need a clearance through the steps. He was again instructed to remain OCTA.

When asked to squawk ident, the pilot used a military term to report that his transponder was not working. The controller asked him to confirm that the aircraft was not transponder equipped. Upon confirmation, the controller informed the pilot that a clearance into controlled airspace was not available without a transponder, considering that they had been given no taxi details in advance of departure from Port Macquarie. The pilot informed the controller that the taxi calls had been made by the other aircraft which had departed a few minutes ahead of him. However, the controller did not have this information.

At 1436 the pilot reported his position as five miles south of Kempsey and passing FL160 on climb to FL250. The controller reminded him that he had been instructed to remain OCTA. In the area between Port Macquarie and Kempsey the lower limit of controlled airspace was FL125. The pilot was then instructed to hold over Kempsey and maintain FL160. At 1437 the pilot again reported that he was five miles south of Kempsey at FL160. Upon being informed that he would not be given a clearance to Archerfield, the pilot responded immediately that he would go OCTA. The instruction hold over Kempsey at FL160 was re-affirmed. The pilot suggested that he could go east to Point Lookout, whereupon the controller confirmed with him that Point Lookout was to the northwest of Kempsey. After this the pilot offered to go to the west of the Coffs Harbour steps. The requirement to remain over Kempsey at FL160 was re-stated.

Subsequently, at 1440 the pilot was cleared to track direct from Kempsey to Grafton and leave controlled airspace on descent to 9,500 ft, with a requirement to reach FL120 by 20 NM south of Coffs Harbour. The pilot then reported leaving FL160 on descent. At 1442 the pilot was transferred to the Coffs Harbour Tower frequency and was asked his distance from Coffs Harbour. The pilot responded that he was at 12,000 ft. No further monitoring of the flight was conducted.

The pilot reported that he conducted the remainder of the flight to Archerfield below 10,000 ft and in areas where high density light aircraft traffic could be expected. Visibility was also reduced due to smoke haze. He considered that he was forced to fly through the Casino - Ballina mandatory broadcast zone and then through the Archerfield training area. In his opinion this was less safe than flying in controlled airspace at a level without much traffic.

The pilot claimed that events which occurred during his earlier southbound flight had affected his actions during the northbound flight. On the flight to Port Macquarie, the pilot had been left with the impression that the Williamtown restricted area between Kempsey and Port Macquarie was active but uncontrolled. He did not appear to be given any descent clearances on that flight, he was simply reporting leaving levels on descent. He had not been instructed to call Williamtown at all. He later departed from Port Macquarie with the consideration that the same situation applied. That led him to believe that he could climb unrestricted within the restricted area, until north of Kempsey.

Recorded communications for the period covering the flight from Coffs Harbour to Port Macquarie indicated that the pilot reported over Coffs Harbour at 1041 ESuT, maintaining FL190 and estimating Port Macquarie at 1053. The pilot was then asked to report at 11 NM south of Coffs Harbour. At 1045 the pilot was issued with a clearance to leave controlled airspace on descent. This was acknowledged with his distance from Coffs Harbour. The acknowledgement was out of context with the clearance just issued. A minute later the pilot reported maintaining FL190 and he was again issued with the clearance to descend. This was then acknowledged correctly. At 1050 the controller asked if the aircraft had left FL190. The pilot subsequently reported having left FL190 at 1051.



Also, prior to departing Archerfield, the pilot had obtained the appropriate Notices to Airmen (NOTAMs), which would inform him of short notice or temporary changes to airspace and facilities enroute. These NOTAMs indicated that the Williamstown restricted areas were not active. The pilot was using the enroute chart which was to become valid on 5 December 1996, some days after these flights. The restricted area identification numbers around Williamstown were altered on these charts from those that were actually current.

ANALYSIS

Prior to his departure from Port Macquarie the pilot made no attempt to make some arrangement for a flight inside controlled airspace without a transponder. He did not update his planned departure time. Although he made an arrangement, with another pilot, to provide taxiing information at Port Macquarie, this was not understood by the flight service officer as a notification of a pending departure and, consequently, the officer did not co-ordinate with air traffic control. As a result, the controller was presented, at no notice, with an aircraft on which no information was held and which could not be monitored on radar. In addition, he soon learned that the aircraft was well inside controlled airspace.

After the pilot arranged a clearance which would allow the aircraft to leave controlled airspace, he then elected to fly below 10,000 ft through airspace likely to contain numerous aircraft. A number of alternatives for routes away from known traffic areas could have been used, as could a higher cruise level. Had advance arrangements been made, it was likely that a flight inside controlled airspace would have been possible.

The pilot was using the incorrect enroute charts for the date. As a result he was not able to correlate the NOTAMs with the restricted areas on the chart, and was not fully aware of the situation concerning the Williamstown restricted areas. His reported concept that the restricted areas were active but not controlled by military controllers should have led him to confirm the actual situation with air traffic services.

The controller for the flight to Port Macquarie had issued a descent clearance which was not initially understood by the pilot. Subsequently, the pilot reported leaving his cruising level, which was the only call required by the controller. This happened some two minutes before his arrival time at Port Macquarie. The controller had queried his level because a descent should normally have been initiated some time earlier.

SIGNIFICANT FACTORS

1. The pilot planned the flights using invalid charts.
 2. There was a mechanical failure of the aircraft's radar transponder.
 3. The pilot did not update his planned departure time prior to departure.
 4. The pilot did not make prior alternative arrangements for flight without a transponder.
 5. The pilot entered controlled airspace without a clearance.
 6. The pilot did not select a route and altitude intended to avoid known areas of light aircraft traffic.
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