



Australian Government

Australian Transport Safety Bureau

Pilot incapacitation event involving a Cessna 210, VH-JMG

56 km N of Sydney, New South Wales, 1 September, 2013

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Addendum

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Pilot incapacitation event involving a Cessna 210, VH-JMG

What happened

On the afternoon of 1 September 2013, the pilot of a Cessna 210 aircraft, registered VH-JMG, planned a private flight from Port Macquarie to Bankstown, New South Wales, under the visual flight rules (VFR).

The pilot had flown the same route on a regular basis to oversee business interests in Sydney and was very familiar with the airspace. The pilot had planned to stay in Sydney overnight and return to Port Macquarie early the next morning.

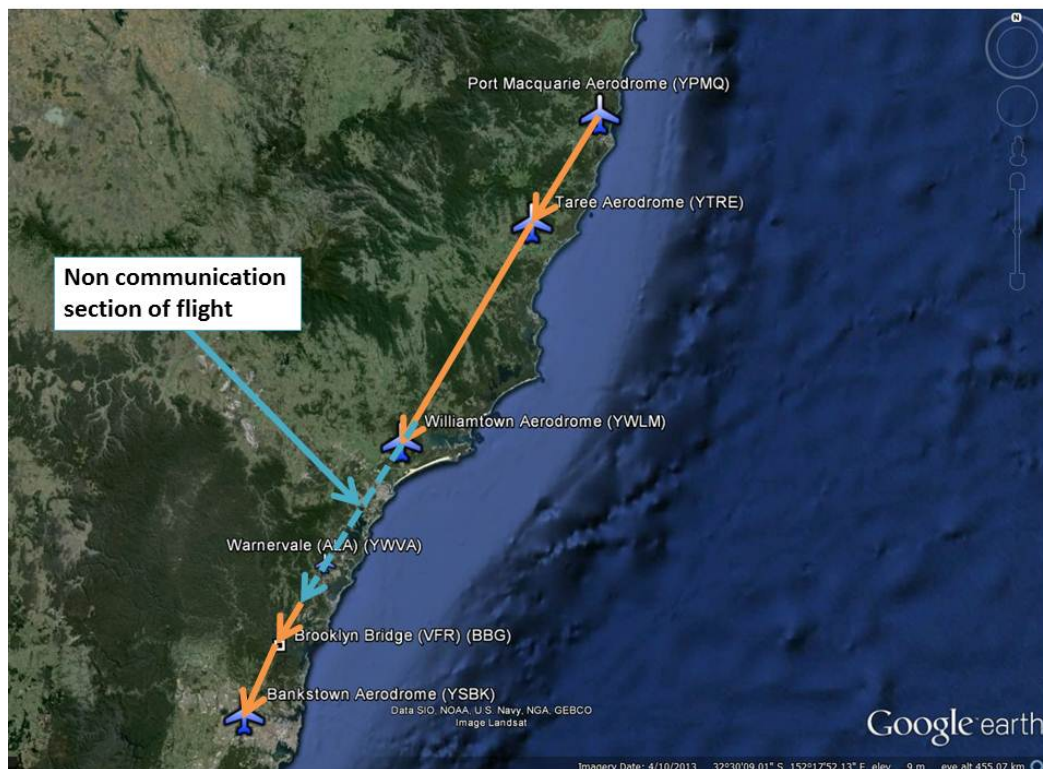
The pilot reported feeling a little tired and unwell. He elected to depart Port Macquarie earlier than usual at about 1510 Eastern Standard Time.¹ The planned route was from Port Macquarie to overhead Taree, Williamtown, then on descent from controlled airspace to Brooklyn Bridge, and via the lane of entry (LOE) to Bankstown Airport (Figure 1).

A Cessna 210 aircraft



Source: William Whaley

Figure 1: Flight planned track



Source: Google earth

After departing Port Macquarie and reaching the planned cruising level of 8,500 ft above mean sea level (AMSL), the pilot selected the autopilot, which was coupled to one of the aircraft's two global positioning system (GPS) units. The autopilot maintained the aircraft's track and altitude, while the pilot listened to music through the radio and continued to monitor the flight. The pilot reported the flight was progressing normally, with ideal weather conditions experienced.

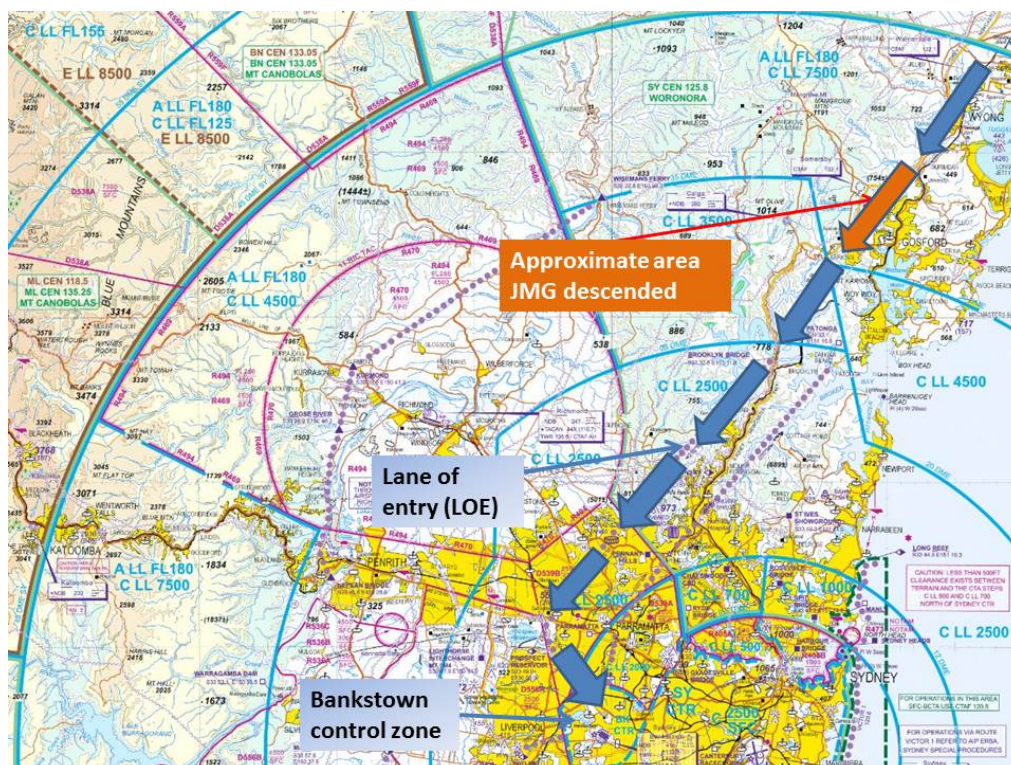
¹ Eastern Standard Time (EST) was Coordinated Universal Time (UTC) + 10 hours.

A few minutes before passing overhead Taree, the pilot contacted Brisbane Centre air traffic control (ATC) to obtain an airways clearance through Williamstown Class C² airspace. He recalled receiving the clearance and entering Williamstown airspace while maintaining 8,500 ft.

At about 1601, as JMG passed overhead Williamstown, ATC called the pilot of JMG to advise that control services were terminated, but no response was received. The aircraft subsequently entered Class E airspace³. At about 1620, the aircraft was observed to re-enter Class C airspace, without an ATC clearance, maintaining 8,500 ft.

About 20 minutes after entering Williamstown airspace, the pilot recalled waking up. Realising he must have fallen asleep, he gathered his thoughts, checked the aircraft's instruments and then realised that he was now in Class C airspace, about 12-15 NM north of Brooklyn Bridge (Figure 2).

Figure 2: Flight path of VH-JMG



Source: Aircservices Australia

In a state of shock, the pilot placed the aircraft into a spiral descent down to 2,500 ft to regain the original flight planned track and altitude for the LOE. During the descent, he selected the Brisbane Centre, Sydney Radar and Williamstown Approach ATC frequencies to listen for any calls regarding his aircraft. The pilot then broadcast his position on the Warnervale common traffic advisory frequency (CTAF), in case the aircraft posed a risk to other traffic in the area.

Having not heard the aircraft mentioned on any of the selected radio frequencies and reasoning that no issues had occurred when in Class C, the flight to Bankstown was continued without further incident. The pilot spoke to ATC at length after landing.

² Class C: All aircraft must get an airways clearance and communicate with air traffic control. Instrument flight rules (IFR) aircraft are positively separated from both IFR and VFR aircraft. VFR aircraft are provided traffic information on other VFR aircraft.

³ IFR (instrument flight rules) aircraft requires an airways clearance and must communicate with air traffic control. IFR aircraft are positively separated from other IFR aircraft and given traffic information on known VFR aircraft. VFR aircraft do not require an airways clearance and are not required to communicate with air traffic control.

Airservices Australia audio recordings

The Australian Transport Safety Bureau obtained surveillance and audio data from Airservices Australia, which provided the following:

- at about 1601, while still in Williamstown controlled airspace, the pilot stopped responding to ATC radio calls
- an INCERFA⁴ phase was declared by ATC
- Sydney Centre, Sydney Radar and Sydney Approach controllers all made numerous attempts to contact the pilot
- Two inbound flights to Sydney were kept at a higher than normal altitude to keep sufficiently clear of the aircraft
- Sydney Approach ATC also requested that the crew of an ambulance flight and a scheduled regular public transport flight maintain a visual lookout and monitor their respective traffic collision avoidance systems (TCAS)⁵ for the aircraft
- ATC had concerns as to the intentions of the pilot.

Pilot comments

The pilot reported that this was the first time he had experienced such an event and it took some time to recover. He realised that the pressure of the family business in tough economic times influenced his decision to fly, when in hindsight he realised how tired and unwell he had been.

He also reported that his sleep pattern had deteriorated over the last few years and he felt that this had contributed to the occurrence. He routinely had minimal sleep due to work commitments, but until now, it had never posed a problem.

He also commented that, conducting the same flight once or twice a week, over many years may have allowed him to become too familiar with the airspace, and too reliant on the aircraft's autopilot and GPS.

Safety message

One of the Civil Aviation Safety Authority's 'Out-N-Back' six part video series focuses on pilot decision making in regard to fitness to fly. It directs pilots to Civil Aviation Order (CAO) 48. This publication sets out clear guidelines in regard to fatigue assessment and management. The Civil Aviation Advisory Publications (CAAP) 48-1 offers further guidance. This Out-N-Back video and article can be found at:

services.casa.gov.au/outnback/inc/pages/episode3/episode-3_Fatigue_management.shtml

Research published by the ATSB determined that the majority of pilot incapacitation events between 1 January 1975 and 31 March 2006 did not involve a chronic or pre-existing medical condition.

The following publications provide additional information on pilot incapacitation and the 'I'm safe checklist':

- Pilot incapacitation: Analysis of Medical Conditions Affecting Pilots Involved in Accidents and Incidents – 1 January 1975 to 31 March 2006
www.atsb.gov.au/publications/2007/b20060170.aspx
- Federal Aviation Administration Risk Management Handbook
www.faa.gov/library/manuals/aviation/media/FAA-H-8083-2.pdf

⁴ INCERFA is a phase where uncertainty exists as to the safety of an aircraft and its occupants.

⁵ Traffic collision avoidance system (TCAS) is an aircraft collision avoidance system. It monitors the airspace around an aircraft for other aircraft equipped with a corresponding active transponder and gives warning of possible collision risks.

- The 'I'm safe checklist' provide a means of self-checking one's current readiness to conduct a flight. I.M.S.A.F.E. Checklist: www.ampl.ma/attachments/publication/509.pdf

General details

Occurrence details

Date and time:	1 September 2013 - 1601 EST	
Occurrence category:	Serious incident	
Primary occurrence type:	Pilot incapacitation	
Location:	56 km N of Sydney, New South Wales	
	Latitude: 33° 27.43' S	Longitude: 151° 18.45' E

Aircraft details

Manufacturer and model:	Cessna Aircraft Company 210L	
Registration:	VH-JMG	
Serial number:	21061147	
Type of operation:	Private/business	
Persons on board:	Crew – 1	Passengers – Nil
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Nil	

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

The object of a safety investigation is to identify and reduce safety-related risk. ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not a function of the ATSB to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an

investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.