



**Australian Government**

**Australian Transport Safety Bureau**

# Near collision involving Cessna 210, VH-SQT, and Gippsland Aeronautics GA8, VH-KNB

49 km S of Jabiru Airport, Northern Territory, 22 September 2016

**ATSB Transport Safety Report**  
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#### **Addendum**

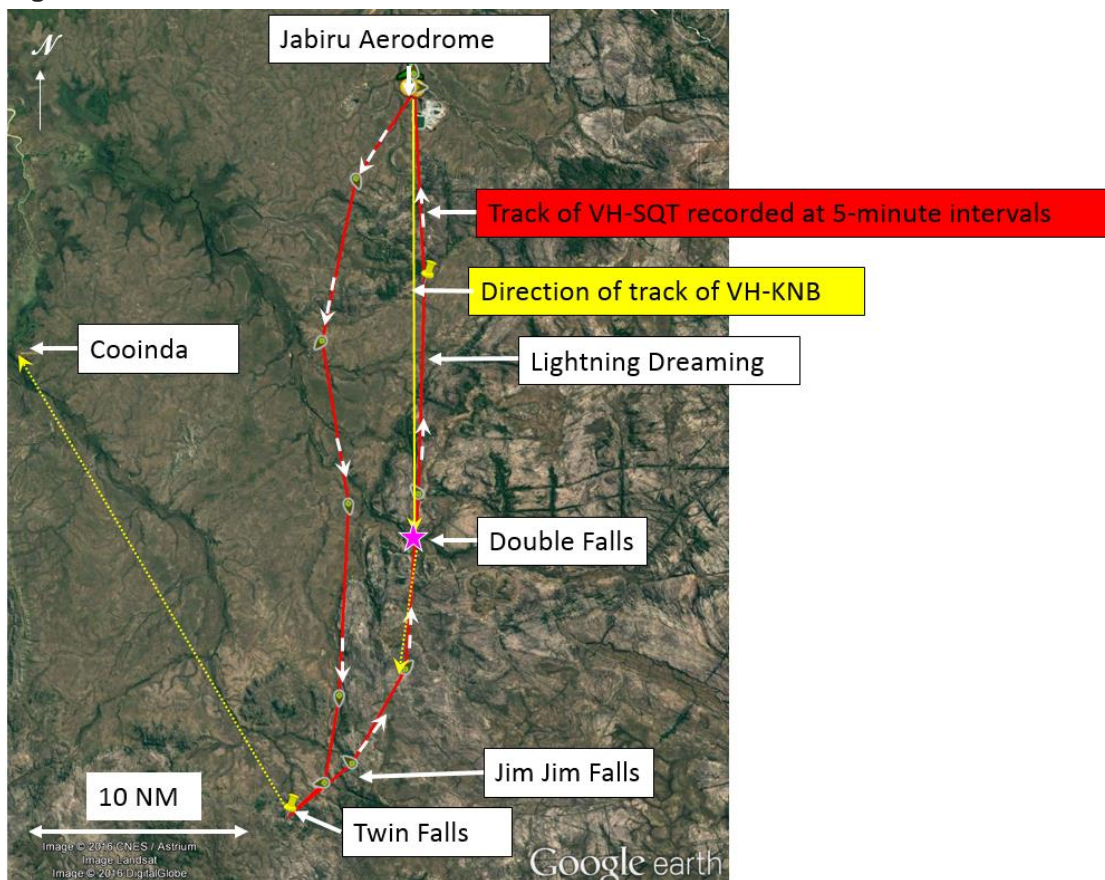
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# Near collision involving Cessna 210, VH-SQT, and Gippsland Aeronautics GA8, VH-KNB

## What happened

On 22 September 2016, at about 1000 Central Standard Time (CST), a Cessna 210M aircraft, registered VH-SQT (SQT), departed Jabiru Airport, Northern Territory (NT), for a scenic charter flight with the pilot and four passengers on board. The aircraft followed the scenic route 'Charlie' in the fly neighbourly agreement (FNA) promulgated by Parks Australia (red line in Figure 1).

**Figure 1: Recorded track of VH-SQT and relevant locations**



Source: Operator of VH-SQT

About twenty-five minutes after SQT had departed from Jabiru, a Gippsland Aeronautics GA8 aircraft, registered VH-KNB (KNB), departed Jabiru Airport for a scenic charter flight to Cooinda Airport, NT, with the pilot and three passengers on board. Another aircraft from the same company departed immediately behind KNB on the same route. Both aircraft were following route 'Delta' in the FNA (yellow line Figure 1). The pilot of KNB broadcast on the common traffic advisory frequency (CTAF) when departing Jabiru. The pilot of SQT heard this call but did not respond. KNB then tracked south via Lightning Dreaming.

After overflying Jim Jim Falls, the pilot of SQT broadcast on the CTAF that they were departing Jim Jim and tracking for Double Falls (about 10 NM north-east) at 1,500 ft, and did not receive a response. The pilots of KNB and the company aircraft did not hear that call.

At about that time, KNB was also at 1,500 ft. The pilot of KNB selected the second radio in the aircraft which was on their company frequency to talk to the pilot of the company aircraft. During that time, the pilot was able to hear broadcasts on both the CTAF and the company frequency except while transmitting. The pilot then spoke to the passengers to provide commentary as they overflowed a waterfall, and switched back to the primary radio to be able to transmit on the CTAF. As KNB was then at Double Falls which is about 10 NM from Jim Jim Falls, the pilot subsequently reported that they were then about to make a 10-mile inbound call for Jim Jim Falls.

After orbiting Double Falls in a left turn, the pilot of SQT rolled the wings level. Just as they did so, the pilot of SQT sighted a GA8 (KNB) pass within about 20 m horizontally to their left, and about 30 ft above SQT.

The pilot of SQT broadcast on the CTAF asking whether the pilot of the GA8 in the vicinity of Double Falls had heard their departure call from Jim Jim Falls. The pilot of KNB replied that they had not. The pilot of KNB then looked for SQT but did not see the aircraft at any time. When the pilot of SQT heard the callsign and response from the pilot of KNB, they realised that this company often had multiple aircraft operating in company and immediately looked for and sighted the other company aircraft at the same altitude about 300 m away.

### ***Operator comments***

The operator of SQT commented that they believe there is a need for a separate radio frequency for the Jabiru area. On the existing CTAF, pilots can hear broadcasts from Batchelor to the west and Numbulwar to the east. Most of those broadcasts are not relevant to pilots operating in the Jabiru area, but increase radio congestion and can potentially lead to over-transmissions.

### ***Fly neighbourly agreement scenic routes***

Following consultation with local operators through the Northern Territory Regional Airspace and Procedures Advisory Committees, the [FNA routes](#) were agreed on and published by Parks Australia in 2010 and published in the En Route Supplement Australia (ERSA). The FNA was due to be reviewed by Parks Australia in 2015 and the review is expected to be conducted later this year (2016).

The FNA routes were designed to avoid sensitive areas and for 'park amenity, tourism experience and nature conservation'. The routes were not intended to provide aircraft separation, but they are mandatory routes for aircraft operating below 2,500 ft (unless operating in accordance with a special permit).

SQT and KNB were following different routes published in the FNA with both aircraft at 1,500 ft on reciprocal tracks. SQT was following route Charlie and KNB was following route Delta from Jabiru to Cooida.

This was the first of the flights on the wet season routes this year. There had been significant rain in the previous fortnight that closed the roads to the falls. Pilots from the two aircraft operators had identified the possible conflict of opposite-direction aircraft the previous year and had agreed that they would broadcast departing via Lightning Dreaming when tracking south to alert pilots of aircraft tracking north on the reciprocal track. However, when the pilot of KNB broadcast on the CTAF that they were departing Jabiru, the broadcast did not include that they were tracking via Lightning Dreaming.

The pilot of KNB commented that they could have a similar procedure as they use for flights to Oenpelli: they track to Oenpelli at 1,500 ft and back to Jabiru at 2,000 ft to ensure separation between aircraft travelling in opposite directions. The pilot of SQT commented that having a plan and agreed routes and specified altitudes would help to prevent similar occurrences.

## **Safety analysis**

The pilot of the north tracking SQT broadcast when departing Jim Jim Falls for Double Falls but the pilot of the south tracking KNB did not hear that transmission, possibly due to communicating

with the other company pilot on the other radio. Therefore, they were not aware of SQT until the pilot of SQT broadcast after the near collision. The pilot of KNB also commented that the CTAF was busy as it covered a large area, and this may have contributed to the missed communication.

The pilot of KNB did not include 'via Lightning Dreaming' in their departure broadcast when departing Jabiru Aerodrome. While the broadcast 'via Lightning Dreaming' was not mandatory, it may have alerted the pilot of SQT to the two aircraft tracking in the opposite direction on reciprocal routes at the same altitude.

## Findings

These findings should not be read as apportioning blame or liability to any particular organisation or individual.

- The aircraft were at the same altitude on reciprocal tracks on published FNA scenic routes and came into close proximity because the pilots were not aware of each other due to ineffective communication.

## Safety action

Whether or not the ATSB identifies safety issues in the course of an investigation, relevant organisations may proactively initiate safety action in order to reduce their safety risk. The ATSB has been advised of the following safety action in response to this occurrence.

### ***Operator of VH-KNB***

As a result of this occurrence, the operator of KNB has advised the ATSB that they are taking the following safety actions:

- A notice to pilots was distributed reminding them of the importance of effective radio usage as an aid to situational awareness in high traffic areas. Pilots were instructed to review and acknowledge [Civil Aviation Advisory Publication \(CAAP\) 166-2\(1\)](#) as it contains relevant information on alerted see and avoid radio techniques.
- Pilots of aircraft tracking towards Double Falls from the north are required to make an additional radio broadcast.
- All other scenic routes will be examined for potential conflict points and effectiveness of standard radio calls.
- They will discuss the incident with the operator of SQT and determine ways to reduce the risk of a similar incident occurring.
- Investigate alteration of flight routes and altitudes flown in conjunction with other operators.
- Investigate and review potential implementation of a dedicated radio frequency in scenic flight locations in Kakadu National Park.

## Safety message

This incident highlights the importance of effective risk analysis by operators. An effective risk analysis of the FNA routes would probably have highlighted the potential for opposite-direction traffic. This may have led to risk management strategies such as implementation of vertical separation planning, radio broadcasts, and consideration of having a dedicated frequency.

A search for other traffic is eight times more effective when a radio is used in combination with a visual lookout than when no radio is used. In areas outside controlled airspace, it is the pilot's responsibility to maintain separation with other aircraft. For this, it is important that pilots use both alerted and un-alerted see-and-avoid principles.

Pilots are encouraged to 'err on the side of caution' when considering when to make broadcasts and whether specific frequencies should be monitored, particularly noting the fundamental importance of communication in the effective application of the principles of see-and-avoid. The

ATSB report [Limitations of the See-and-Avoid Principle](#) outlines the major factors that limit the effectiveness of un-alerted see-and-avoid.

## General details

### Occurrence details

Date and time:	22 September 2016 – 1045 CST	
Occurrence category:	Serious incident	
Primary occurrence type:	Near collision	
Location:	49 km S of Jabiru Airport, Northern Territory	
	Latitude: 13° 06.00' S	Longitude: 132° 55.67' E

### Aircraft details: VH-KNB

Manufacturer and model:	Gippsland Aeronautics GA8	
Registration:	VH-KNB	
Serial number:	GA8-07-109	
Type of operation:	Charter – passenger	
Persons on board:	Crew – 1	Passengers – 3
Injuries:	Crew – 0	Passengers – 0
Aircraft damage:	Nil	

### Aircraft details: VH-SQT

Manufacturer and model:	Cessna Aircraft Company 210	
Registration:	VH-SQT	
Serial number:	21062874	
Type of operation:	Charter – passenger	
Persons on board:	Crew – 1	Passengers – 4
Injuries:	Crew – 0	Passengers – 0
Aircraft 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 operations involving the travelling public.

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.