



**Australian Government**

**Australian Transport Safety Bureau**

# Runway incursion between a Cessna 206, VH-TOC, and an airport safety vehicle

Mount Isa Airport, Queensland, 24 February, 2013

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

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# Runway incursion between a Cessna 206, VH-TOC, and an airport safety vehicle

## What happened

On 24 February 2013, the pilot of a Cessna 206 aircraft, registered VH-TOC (TOC), was conducting a private flight from Lake Nash, Northern Territory, to Mount Isa, Queensland and return. The purpose of the flight was to collect two passengers, who were to attend a scheduled meeting at Lake Nash.

When about 20 NM from Mount Isa, the aircraft's avionics system failed. The pilot attempted to restore the system by turning the avionics master switch off and on, and checking the radios, circuit breakers and electrical master switch, but it did not respond. The pilot commenced the radio failure procedure by squawking the transponder code of 7600<sup>1</sup> and transmitting blind.<sup>2</sup> Due to the remoteness of the area, his mobile telephone was unable to receive a signal.

The pilot considered returning to Lake Nash; however, as he was aware of the importance of the passengers' attendance at the meeting, he elected to continue. Additionally, he had hoped to rectify the avionics malfunction once on the ground.

The pilot overflew the airport to assess the wind conditions and rocked the aircraft's wings to alert any ground personnel of the communication failure.<sup>3</sup> The aircraft then joined the circuit on a mid-field crosswind for runway 34.

At about 1200 Eastern Standard Time,<sup>4</sup> the Mount Isa airport safety officer (ASO) was preparing to conduct a runway and lighting inspection in vehicle 'Safety One' in preparation for the arrival of a scheduled passenger flight at 1340. The ASO turned on the vehicle's radio and the primary and secondary lighting, which included a rotating flashing light mounted on the roof. The ASO then activated the pilot activated lighting (PAL)<sup>5</sup> and aerodrome frequency response unit (AFRU)<sup>6</sup> systems, and received a response from the AFRU indicating the correct radio frequency had been selected.

Vehicle with safety stickers



Source: Mount Isa Airport Pty. Ltd

<sup>1</sup> The transponder code of 7600 is the international code used to alert air traffic control that the aircraft's communication system has failed.

<sup>2</sup> Transmitting blind: A transmission from one station to another in circumstances where two-way communication cannot be established, but it is believed that the called station is able to receive the transmission.

<sup>3</sup> En Route Supplement Australia (ERSA) – Emergency Procedures 1.5 'Communication Failure'.

<sup>4</sup> Eastern Standard Time (EST) was Coordinated Universal Time (UTC) + 10 hours.

<sup>5</sup> PAL: Pilot activated runway and taxiway lighting is activated by a series of timed transmissions using the very high frequency radio, on either a discrete or the local airport communication frequency.

<sup>6</sup> AFRU: A facility installed at certain non-towered aerodromes that provides an automatic response to pilots when transmitting on the common traffic advisory frequency (CTAF). A response from the AFRU indicates to the pilot that the correct radio frequency has been selected and confirms the operation of the aircraft's transmitter and receiver, and volume setting. The pilot will receive either a voice identification, for example 'Mount Isa CTAF', or a 300 millisecond tone or 'beep'. A series of three microphone clicks within a period of 5 seconds will also cause the AFRU to transmit a voice identification for the particular aerodrome. PAL operation may be provided as an optional function of the AFRU.

When at the taxiway 'Bravo' holding point (Figure 1), the ASO broadcast a call on the Mount Isa common traffic advisory frequency (CTAF) advising that the vehicle was entering the runway; no response was received. The ASO conducted a lookout for aircraft operating within the vicinity, and with none sighted, the inspection was commenced. The vehicle was driven to the runway 34 threshold and then towards the runway 16 threshold at a speed of about 40 km/hr.

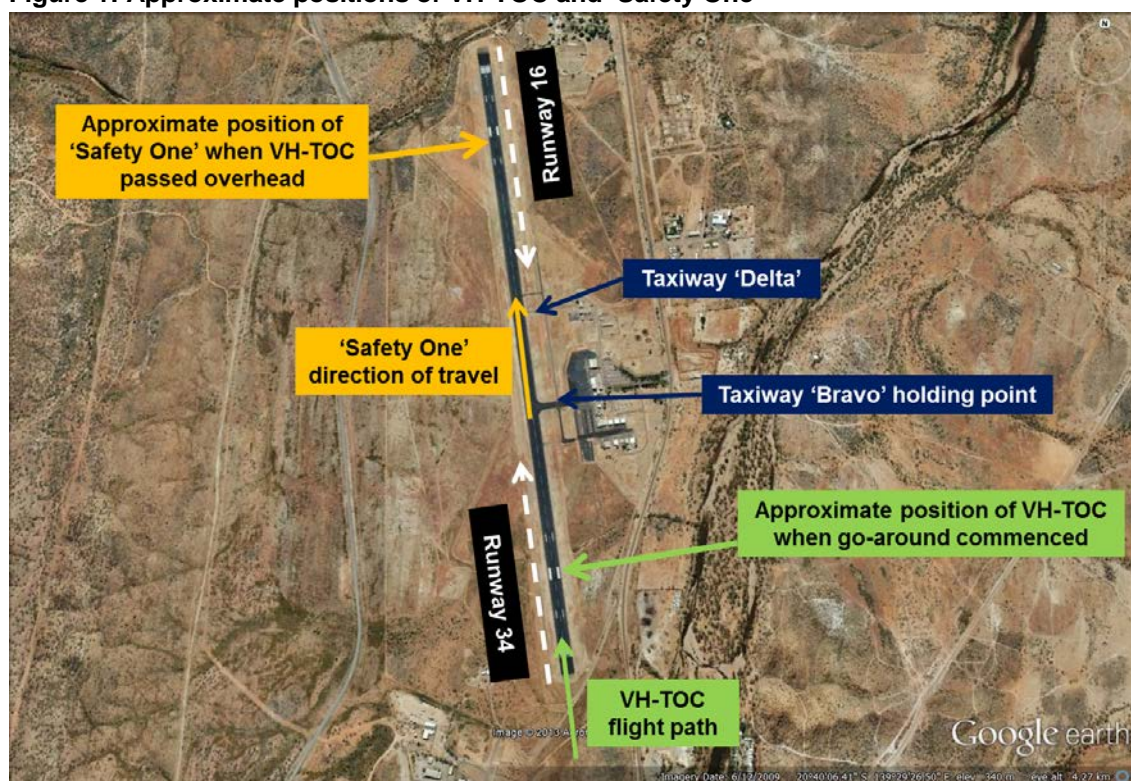
At the same time, when on the base leg of the circuit for runway 34, the pilot of TOC observed a vehicle near the runway 34 threshold. He assumed the ASO was conducting a bird inspection and would exit the runway at taxiway 'Bravo', leaving the runway clear for him to land. The pilot continued to transmit his intentions blind.

When on final approach, the pilot configured the aircraft for landing, aiming to touchdown about 300 m beyond the threshold. As he commenced the flare,<sup>7</sup> he noticed that the vehicle had not yet vacated the runway and was travelling in a northerly direction towards the runway 16 threshold. At this time, the vehicle was between taxiways 'Bravo' and 'Delta'. As a result of the vehicle being on the runway, the pilot initiated a go-around.<sup>8</sup>

When about 100-200 m away from the vehicle, the pilot levelled the aircraft to gain the ASO's attention. As the aircraft passed 200-300 ft above the vehicle, the pilot rocked the wings to convey his intention to land. The ASO heard TOC pass overhead and immediately vacated the runway. The ASO attempted to contact TOC on the CTAF, but no response was received. The ASO had not been aware that TOC was operating in the circuit.

The pilot of TOC conducted a second circuit and landed without further incident.

**Figure 1: Approximate positions of VH-TOC and 'Safety One'**



Source: Google earth

<sup>7</sup> Flare: Final nose-up pitch of landing aeroplane to reduce rate of descent close to zero at touch-down.

<sup>8</sup> Go-around: A discontinuation of the landing, and a transition through a reconfiguration of the aircraft into an initial climb profile.

## Pilot comments

The pilot provided the following comments regarding the incident:

- With hindsight, he should have commenced the go-around earlier.
- His decision to continue the flight may have been influenced by the passengers required attendance at the meeting. Also, he did not want to be operating in the circuit with an unserviceable radio at the same time as other aircraft.

## 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 proactive safety action in response to this occurrence.

### **Mount Isa Airport Pty. Ltd.**

Mount Isa Airport Pty. Ltd. had planned to place yellow and black checkered safety stickers on the side and rear of the vehicle. As a result of this occurrence, that action was immediately implemented.

## Safety message

A go-around is a standard manoeuvre performed when a pilot is not completely satisfied that the requirements in place for a safe landing have been met.

The need to conduct a go-around may occur at any point in the approach and landing phase, but according to the United States Federal Aviation Administration, the most critical go-around is one initiated when very close to the ground. Consequently, the sooner a condition that warrants a go-around is recognised, the safer the manoeuvre will be.

## General details

Primary occurrence type:	Runway incursion	
Occurrence category:	Incident	
Location:	Mount Isa Airport, Queensland	
	Latitude: 20° 39.83' S	Longitude: 139° 29.32' E

### **Cessna C206, VH-TOC**

Manufacturer and model:	Cessna Aircraft Company U206G	
Registration:	VH-TOC	
Type of operation:	Private	
Persons on board:	Crew – 1	Passengers – Nil
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Nil	

### **Airport safety vehicle details**

Manufacturer and model:	Toyota Hilux Dual Cab	
Registration:	Safety One	
Type of operation:	Airport safety vehicle – runway and lighting inspection	
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 Bureau 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.