



**Australian Government**

**Australian Transport Safety Bureau**

# Proximity event between a Robinson R44, VH-JKF and a Cessna 172, VH-EVR

Essendon Airport, Victoria, 28 December 2014

**ATSB Transport Safety Report**  
Aviation Occurrence Investigation  
AO-2015-003  
Final – 26 February 2015

Released in accordance with section 25 of the *Transport Safety Investigation Act 2003*

#### **Publishing information**

**Published by:** Australian Transport Safety Bureau  
**Postal address:** PO Box 967, Civic Square ACT 2608  
**Office:** 62 Northbourne Avenue Canberra, Australian Capital Territory 2601  
**Telephone:** 1800 020 616, from overseas +61 2 6257 4150 (24 hours)  
Accident and incident notification: 1800 011 034 (24 hours)  
**Facsimile:** 02 6247 3117, from overseas +61 2 6247 3117  
**Email:** [atsbinfo@atsb.gov.au](mailto:atsbinfo@atsb.gov.au)  
**Internet:** [www.atsb.gov.au](http://www.atsb.gov.au)

© Commonwealth of Australia 2015



#### **Ownership of intellectual property rights in this publication**

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Commonwealth of Australia.

#### **Creative Commons licence**

With the exception of the Coat of Arms, ATSB logo, and photos and graphics in which a third party holds copyright, this publication is licensed under a Creative Commons Attribution 3.0 Australia licence.

Creative Commons Attribution 3.0 Australia Licence is a standard form license agreement that allows you to copy, distribute, transmit and adapt this publication provided that you attribute the work.

The ATSB's preference is that you attribute this publication (and any material sourced from it) using the following wording: *Source:* Australian Transport Safety Bureau

Copyright in material obtained from other agencies, private individuals or organisations, belongs to those agencies, individuals or organisations. Where you want to use their material you will need to contact them directly.

#### **Addendum**

Page	Change	Date

# Proximity event between a Robinson R44, VH-JKF and a Cessna 172, VH-EVR

## What happened

On 28 December 2014, at about 1310 Eastern Daylight-saving Time (EDT), the pilot of a Robinson R44 helicopter, registered VH-JKF (JKF), taxied for a 20-minute scenic flight from Essendon Airport, Victoria. The helicopter travelled as the lead helicopter ‘in-company’ with another Robinson R44 helicopter. In that role, the pilot of JKF was issued with a discrete transponder code by air traffic control (ATC), and the following helicopter squawked ‘standby’. He was also responsible for making all the radio calls on behalf of both helicopters. At about 1312, the aerodrome controller (ADC) advised the pilot of JKF that the current aerodrome terminal information service (ATIS)<sup>1</sup> had changed as the wind was then southerly at 10 kt, and cleared JKF and company for take-off to the south tracking to Bolte Bridge (Figure 1).

**Figure 1: Melbourne area**



Source: Google earth

At about 1315, the student pilot of a Cessna 172 aircraft, registered VH-EVR (EVR), contacted ATC requesting a clearance to taxi for a training flight to Point Cook. An instructor was also on board. Runway 17 was the runway in use for departures at Essendon Airport at that time.

During the scenic flight, the pilot of JKF observed a flag on Government House indicating a light north-easterly wind and assumed the wind at Essendon would be the same, and therefore that runway 35 would be the runway in use, and did not listen to the ATIS. At about 1321, JKF and company were cleared by the ADC to track from the Melbourne Cricket Ground (MCG) to Essendon, not above 1,500 ft.

<sup>1</sup> An automated pre-recorded transmission indicating the prevailing weather conditions at the aerodrome and other relevant operational information for arriving and departing aircraft.

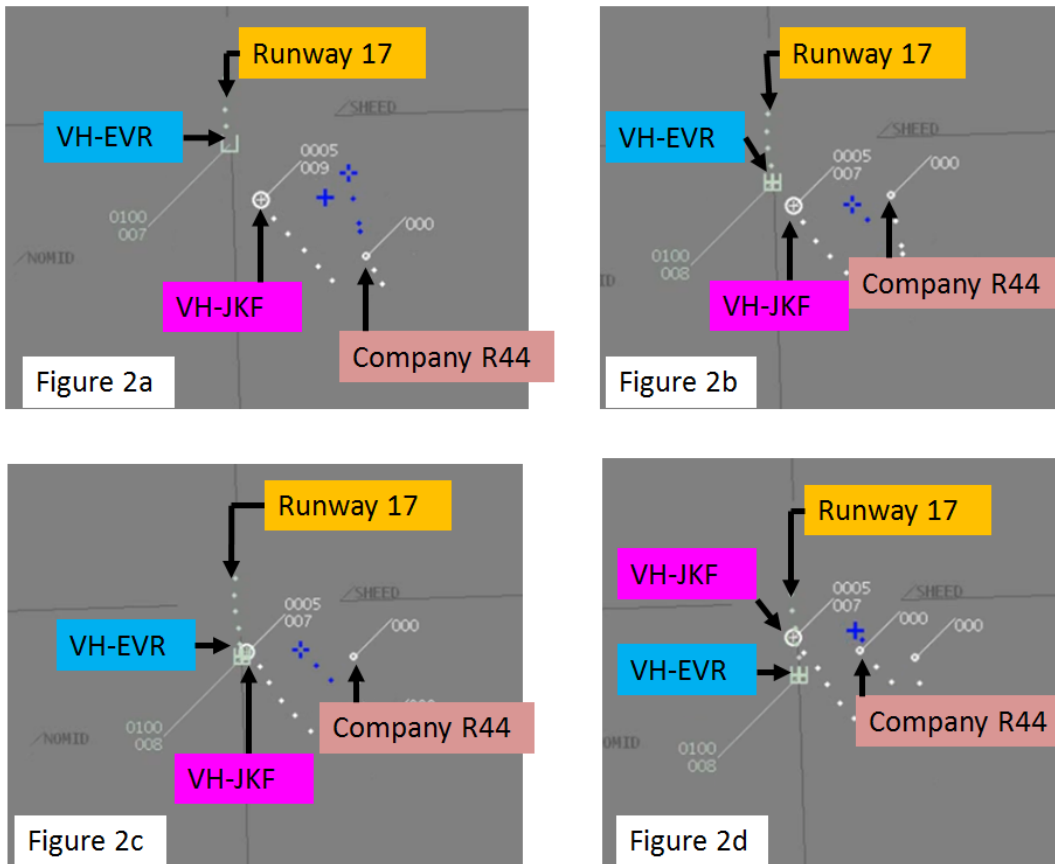
At about 1323, EVR was cleared to track direct to Point Cook at 1,500 ft and subsequently cleared for take-off. At 1325, the instructor of EVR requested clarification that EVR had been cleared for take-off, and the student then commenced the take-off run. When overhead Mooney Valley racecourse, the pilot of JKF heard ATC communications with EVR. At that time, the pilot of JKF was briefing passengers for landing and did not hear the runway direction in the instructions issued to EVR by the controller. He had observed the wind over the city coming from a northerly direction, and assumed EVR would be taking off from runway 35.

At about 1325, the ADC directed JKF and company to track towards the runway 17 threshold and to report sighting the Cessna in the take-off roll. The pilot of JKF read back the instruction, but inadvertently tracked towards the 35 threshold. He responded to the ADC that he was looking for the Cessna. The pilot of the in-company R44 helicopter broadcast that he had the aircraft rolling in sight, and ADC responded that all communications (for the in-company flight) had to be transmitted by the pilot of JKF. The pilot of JKF then responded that he had the traffic in sight. The ADC advised JKF that the Cessna was just crossing the runway intersection and airborne off runway 17 and directed JKF to pass behind it (Figure 2a).

About 16 seconds later, the ADC asked both helicopters to confirm they had the aircraft in sight that was then crossing the freeway (Figure 2b). The pilot of JKF had sighted the Cessna and as he assumed it was tracking to the north, assessed that there was no conflict. The pilot of the R44 travelling in company with JKF, which was tracking correctly to the runway 17 threshold, responded that he did have the traffic in sight. This was partially over-transmitted by the instructor of EVR who had just sighted JKF in close proximity (Figure 2c).

The pilot of JKF then realised that he was tracking to the incorrect threshold and sighted the Cessna. He slowed the helicopter and passed behind and below EVR (Figure 2d).

**Figure 2: Radar images depicting event sequence**



Source: Airservices Australia

## **Radar data**

Airservices Australia analysed the radar data relevant to the incident and provided a copy of the data to the ATSB (Figure 2). The analysis indicated that JKF passed about 100 ft below and about 75 m behind EVR. Airservices advised that the secondary surveillance radar (SSR) horizontal position was accurate to within 52 m and the relative accuracy of two aircraft in close proximity was within 50 ft.

## **In-company flights**

The ATSB found limited information regarding rules and procedures for in-company flights. In-company flights were defined in the Manual of Air Traffic Services (MATS) Version 28, as: 'A group of aircraft that occupy an airspace block that is defined in the flight notification'. MATS 10.10.5 *In-company flights* included: 'When airborne, separation between aircraft within an in-company flight is the responsibility of individual pilots. This also includes periods of transition, when aircraft are manoeuvring to attain separation within the in-company flight, and during join up and break away'.

The Aeronautical Information Package (AIP) En Route (ENR)<sup>2</sup> 1.4-6 stated:

(5) aircraft flying as part of an in-company flight will not be provided with separation with respect to other aircraft of the same in-company flight whilst airborne. Runway separation will continue to be provided.

*Note: A group of civil aircraft conducting the same flight (e.g. an air safari), which require the aircraft to operate at separation distances greater than those specified for formation flights will be considered to be separate aircraft when applying separation.*

## **Pilot comments**

### **Pilot of VH-JKF**

The pilot provided the following comments:

- After discussing the incident with the ADC, the two aircraft in company were advised that they should stay 'in-company' even if the lead pilot makes a mistake, and the following pilot should call and correct or advise the lead pilot. The controller suggested that when operating 'in-company' the two aircraft should stay within 1 NM of each other. Civil Aviation Order (CAO) 95.7<sup>3</sup> detailed the conditions under which a helicopter was exempt from the subregulation that would otherwise require it to maintain at least 600 m horizontal separation from another helicopter. Pilots without a formation endorsement were not permitted to operate aircraft closer than 600 m apart unless flying within a published access lane or corridor.
- He had broken sleep in the nights prior to the incident and combined with the hot day, he may have been more tired than he had assessed prior to the flight. He had eaten breakfast at 0700 and not had the opportunity to eat anything else prior to the incident, although he had consumed some water.
- He had completed four scenic flights that morning prior to the incident flight.
- He was more senior than the following pilot and this may have created a 'cockpit gradient' preventing the following pilot from voicing his concern at the lead pilot's deviation from ATC instructions.

### **Instructor of VH-EVR**

The instructor of EVR reported that he first sighted a black helicopter when at about 600 ft above mean sea level. He reported that he estimated that JKF passed about 25-30 m from the left of EVR. He had not been asked by ATC to sight a black helicopter.

<sup>2</sup> [www.airservicesaustralia.com/aip/current/aip/enroute.pdf](http://www.airservicesaustralia.com/aip/current/aip/enroute.pdf)

<sup>3</sup> [www.comlaw.gov.au/Details/F2010C00712](http://www.comlaw.gov.au/Details/F2010C00712)

## 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.

### **Helicopter operator**

As a result of this occurrence, the helicopter operator has advised the ATSB that they have ceased in-company flights.

## Safety message

This incident serves as a reminder to keep a good lookout at all times, including in Class C airspace. The Civil Aviation Safety Authority pilot guide for Essendon Airport, available at [www.casa.gov.au/wcmswr/\\_assets/main/pilots/download/melbourne2.pdf](http://www.casa.gov.au/wcmswr/_assets/main/pilots/download/melbourne2.pdf), advised pilots: ‘Just because traffic information is provided does not mean that you don’t have to keep a good lookout and manoeuvre to avoid other traffic if necessary’. An ATC instruction to pass behind another aircraft requires pilots to see the other aircraft and regulate their speed and approach path to achieve separation. Pilots and ATC have a dual responsibility to maintain situation awareness of other traffic.

## General details

### **Occurrence details**

Date and time:	28 December 2014 – 1325 EDT	
Occurrence category:	Incident	
Primary occurrence type:	Operational non-compliance	
Location:	Essendon Airport, Victoria	
	Latitude: 37° 43.68' S	Longitude: 144° 54.12' E

### **Helicopter details: VH-JKF**

Manufacturer and model:	Robinson Helicopter Company, R44 II	
Registration:	VH-JKF	
Serial number:	10585	
Type of operation:	Charter – Passenger	
Persons on board:	Crew – 1	Passengers – 3
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Nil	

### **Aircraft details: VH-EVR**

Manufacturer and model:	Cessna Aircraft Company, 172R	
Registration:	VH-EVR	
Serial number:	17280252	
Type of operation:	Flying training – dual	
Persons on board:	Crew – 2	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.