



# **CORONERS COURT OF QUEENSLAND**

## **FINDINGS OF INVESTIGATION**

**CITATION:** **Non-inquest findings into the deaths of Robin Samuel Friend and Errol Reginald Young**

**TITLE OF COURT:** Coroners Court

**JURISDICTION:** Cairns

**DATE:** 31/05/2018

**FILE NO(s):** 2015/581& 2015/579

**FINDINGS OF:** Kevin Priestly, Coroner

**CATCHWORDS:** CORONERS: Recreational Aviation Australia, Mid-air collision

## **Introduction**

At about 11am on Tuesday 10 February 2015, Robin Friend piloting a Thruster aircraft and Errol Young piloting a Drifter aircraft, departed Donnington Airpark near Townsville for flights in the local area. They failed to return and a search was initiated. At about 9am on Wednesday 11 February 2015, the severely damaged aircraft were found on Lansdowne Station in close proximity and the pilots were deceased.

Autopsies confirmed both men died due to multiple injuries due to the accident.

A coroner is required to investigate and make findings about who died, when the person died, where the person died, how the person died and what caused the person to die. A coroner must not include in the findings any statement that a person is or may be guilty of an offence or civilly liable for something.

In the course of better understanding 'how' the deaths happened, a coroner can consider if there are lessons that might be learnt to prevent deaths in similar circumstances.

I was assisted in the course of considering my findings by reports of investigations by the Forensic Crash Unit within the Queensland Police as well as investigators from Recreational Aviation Australia (RAA). The RAA team comprised Mr Darren Barnfield, National Technical Manager, and Mrs Jill Bailey, National Operations Manager.

There were no witnesses to the incident so the focus of the investigation was on what might be discerned from the wreckage and earlier witnesses accounts of the aircrafts movements.

## **Disclosure**

Before continuing with my findings, it is important that I disclose my current membership of RAA started when I commenced recreational flight training. I now hold a recreational pilot certificate with various endorsements. Membership is mandatory for eligibility to hold a recreational pilot certificate. My activities as a member were limited to satisfying requirements necessary to obtain and retain that certificate. I also hold a Private Pilot Licence issued by CASA, an authority that delegated certain functions relating to aviation safety to RAA. I do not consider these facts gives rise to a conflict of interest in coronial investigations involving persons or aircraft in respect of which RAA or CASA has jurisdiction.

## **Context**

Mr Friend the pilot of the Thruster, obtained his RAA Pilot Certificate on 3 December 1994 and had a total of 3744 hours (as at 29 January 2015). He completed a Biennial Flight Review on 7 February 2015.

The autopsy showed Mr Friend (72) had some cardiac abnormality but no evidence suggestive of immediate incapacity.

The Thruster aircraft has an engine mounted in 'tractor' configuration, meaning it is mounted forward of the cockpit on the main boom and above the pilot. It is constructed mainly of aluminum tubes with fabric covering, has a fiberglass pod around the cockpit and strutted wings. It was equipped with a 50hp Rotax 503 two stroke engine. Mr Young purchased the aircraft in 2010. The Thruster aircraft was first registered with RAA in 1988.

Mr Young, the pilot of the Drifter, obtained his RAA Pilot Certificate on 7 November 2013 and had a total of 95.3 hours (as at 31 January 2015). He completed a Biennial Flight Review on 31 December 2014.

The autopsy showed Mr Young (68) had some coronary artery disease consistent with his age but otherwise was free of natural disease.

The Drifter aircraft is configured with the engine in 'pusher' configuration, meaning the engine is mounted behind the pilot and passenger. While the Drifter also uses aluminum boom tubes, the wings are held in position with wire stays from above and below the wing surfaces attached to a king post. These wire stays act in the same manner as wing struts, holding the wings in equilibrium. It was equipped with a 64 horsepower Rotax 582 two stroke engine and first registered with RAA in 1992.

## **Scene investigation**

Investigators from police and RAA attended and conducted a scene investigation. The scene was located about 7km south of the point of departure (Donnington Airpark, Woodstock) at a point between the Flinders Highway (east of the site) and Manton Quarry (west of the site) on Lansdown Station.

The investigators assessed the debris fields, damage sustained, likely trajectories and velocities, impact marks on the ground, and presence of high voltage transmission lines about 250m to the south of the scene. I am assisted in my review of the evidence by photographs and a scale plan showing relative positions of significant wreckage and debris.

Investigators noted:

- Most of the wreckage of the Drifter was facing a southerly direction with extensive damage. Mr Young was situated in the pilot's seat with his upper body lying on the wreckage. About 1m to the west of the wreckage was the nose cone and larger section including a wing. The engine was found 25m to the south east.
- The wreckage of the Thruster was about 30m to the south east of the main wreckage of the Drifter, and extensively damaged. The wings were close together and above the main body of the aircraft. Some of the stay wires from the wing to fuselage were no longer connected. Mr Friend was found in the front seat. There were numerous parts of aircraft strewn, primarily to the north and north east of the scene.

Inspection of the power lines about 250m to the south of the scene revealed no contact damage. Later investigation with the power authority revealed no incident or outages involving the wires.

The proximity of the aircraft and other features indicated to investigators there was a mid-air collision. The two underside left wire stays of the Drifter were severed and showed evidence of black paint transfer. The propeller of the thruster had a black painted finish. The propeller was reduced to splinters of timber scattered across a wide area with only the hub remaining in the mount.

## **ATSB technical assistance**

The Australian Transport Safety Bureau provided technical assistance to RAA in examining and reporting on the damage to the Thruster engine boom and the Drifter flight wires. The purpose of the examinations was to better understand why the boom and flight wires failed. As to the Thruster engine boom failure, the ATSB reported:

- All of the fractures displayed characteristics consistent with ductile overstress;
- There was no evidence of pre-existing cracks or other defects; and
- The crack on the engine boom likely occurred during the accident as a result of stress

concentration caused by the bolt.

As to the Drifter stay wires, the ATSB reported:

- Majority of wires exhibited angular flat-plane fracture surfaces, or necking;
- The necked wires are indicative of tensile overstress (wire stretched to failure);
- The wires with angular fracture surfaces suggest overstress due to a combination of tensile and transverse loads (forces acting along the wire and perpendicular to the wire).

ATSB concluded the flight wires of the Drifter failed in overstress due to loads acting along and perpendicular to the wires; and all fractures to the engine boom and associated members of the Thruster occurred due to overstress with no evidence of prior damage.

## **RAA investigation and analysis**

The engines of the aircraft were recovered and mechanically tested. After making minor repairs or modifications to remedy damaged parts, each engine was started on a test stand and found to operate satisfactorily.

RAA investigators concluded the propeller of the Thruster severed the two underside left wire stays of the Drifter, the left wing folded and the Drifter became uncontrollable. On contact with the wire stays, the Thruster propeller disintegrated. The engine instantly over-revved sending violent and destructive vibrations and shuddering through the airframe rendering it uncontrollable and causing it to break up before impact.

I accept the evidence supports this conclusion. The issue now becomes how and why did the aircraft have a mid-air collision? There were no witnesses to the incident. Although contact between the propeller of the Thruster with the underside left stay wires of the Drifter logically places the Thruster below the Drifter, it gives no clue about the movements of each aircraft relative to the other prior to that point.

## **Earlier movements**

The aircraft departed about 11am. A witness driving from Calcium to Townsville (headed north) recalls he was positioned near the intersection with Bidwili Road (just over 3km south of Donnington Airpark) when he saw the aircraft to his left about 300-400m away. They were flying straight and level, about 50m apart and headed in a southerly direction. This sighting was about midway between the departure point and the crash scene. This witness reported it was overcast but not raining.

Another witness at 44 Chenoweth Road, a little further south but not far from the first witness' position, saw an ultralight and heard another (but not sighted) headed towards some dark, rain bearing clouds about 11.30am. This sighting was generally between the departure point and crash scene although nearer the latter.

Witnesses in the same general location reported that about lunch time, it was overcast with 'misty rain' in the area where the aircraft were last sighted.

Although investigators accessed weather from official sites, those sites were not sufficiently close for the information to be reliable.

The report from the Search and Rescue Coordinator includes a report that a person at Donnington advised AMSA that a note was found saying 'Errol Robin Reid River Haughton Return'. I note the Flinders Highway crosses Reid River (which runs into the Haughton further downstream) at a point about 12km south of the crash site. I also note that notwithstanding the media attention given to this matter immediately after the incident, and that witnesses

came forward with sightings between departure point and crash site; there were no sightings reported further south than the crash site.

## Conclusion

I am satisfied that investigators exhausted relevant lines of investigation and no further investigation is likely to assist me in better understanding what happened and why.

I find Mr Friend and Mr Young died on Tuesday 10 February 2015 at Lansdown Station due to injuries sustained when their aircraft came into contact in midair. The propeller of the Thruster piloted by Mr Friend severed the two underside left wire stays of the Drifter piloted by Mr Young, the left wing folded and the Drifter became uncontrollable. On contact with the wire stays, the Thruster propeller disintegrated. The engine instantly over-revved sending violent and destructive vibrations and shuddering through the airframe rendering it uncontrollable and causing it to break up before impact.

The movements of the aircraft prior to contact was unable to be discerned. Mr Friend and Mr Young were seen flying in company about 50m apart earlier in the flight. There are a number of potential factors that might have influenced the decisions of each pilot during the final movements of the aircraft before contact. Depending on their height, there was the high voltage power lines about 250m away, there was rising and changing terrain (flat fields to rough 'tiger' country) and a common destination. There were reports of deteriorating weather with condensation coming from the direction in which they were travelling.

Flying in company is popular amongst pilots of aircraft of this nature. It should be acknowledged and understood that the witnesses did not see any flying of these aircraft to suggest formation flying, that is flying together as if one aircraft with regard to navigation and control. The RAA, in recognition of the opportunity to provide guidance to its membership, provided me with a publication in draft it proposes to distribute to its membership. The publication is entitled *Flying in Company*. It lists the hazards associated with flying in company and useful strategies for mitigating the risk with an emphasis on maintaining separation, frequent communication and contingency plans in the event of loss of contact/sight. I commend the publication to the membership.

During the course of this and other coronial investigations, it has come to my attention there is a serious structural anomaly in the legislative framework surrounding the important function of safety accident investigation that RAA performs. The key points are:

- RAA is a company limited by guarantee registered with Australian Securities and Investments Commission.
- CASA has delegated to it the administration of a specific category of light aircraft.
- ATSB does not normally investigate fatal incidents involving RAA administered aircraft.
- RAA has developed policies and procedures to support qualified staff to investigate aircraft incident including fatalities.
- All aviation organisations support the need for comprehensive and high quality investigations and reporting to extract and disseminate lessons to be learnt.
- Where ATSB investigations and reports are supported with powers and protections provided through the Commonwealth Australian Transport Safety Investigations Act (ATSI), RAA investigations are not similarly supported. Most importantly, the findings of ATSB investigations can be reported with legal protection from threats of or actual civil action e.g. defamation, but not RAA.

I have no power to make a recommendation in this matter unless I convened an inquest. However, an inquest is not otherwise necessary to make the required findings. Therefore, in the absence of that power, I make the following observations:

- If RAA is sufficiently mature as an organisation to be entrusted with the delegated power to administer this category of aircraft, it should be afforded the same powers and protections when it comes to safety investigations as the ATSB;
- Conceptually, the ATSI might be amended to include 'accredited entities' within the scope of the Act thereby creating inclusion subject to oversight as to quality.

I suggest RAA follow up and engage with CASA and ATSB about my suggestion. I will ask the State Coroner to distribute a copy of my findings to my colleagues so, should the opportunity present at an inquest, the merits of this suggestion might be more fully explored, any progress or inaction noted, and if appropriate, a formal recommendation made.

This coronial investigation is concluded.

Kevin Priestly  
Coroner

24 May 2018