New South Wales

CORONER'S COURT
OF NEW SOUTH WALES

Inquest:	Inquest into the deaths of Richard Caskey & Michael Waldon
Hearing date(s):	7 to 10 September 2026
Date of Findings:	25 September 2026
Place of Findings:	Coroner's Court of New South Wales, Lidcombe
Findings of:	Judge Derek Lee, Deputy State Coroner
Catchwords:	CORONIAL LAW – manner of death, aviation accident, gyroplane impact with terrain, rotor blade design and manufacture, ejection of balance rod, integrity of adhesive bond, structural redundancy, failsafe mechanism, Australian Sport Rotorcraft Association, TAG Aviation, Composite Components
File number:	2018/337079; 2018/337119
Representation:	Mr C O'Neill & Ms P Boyle, Counsel Assisting, instructed by Mr L Sampson (Crown Solicitor's Office) Mr F Doak for Ms K Waldon & Ms L Waldon, instructed by RMB Lawyers Mr A Lustig (Jackson McDonald Lawyers) for Mr G Oldfield Mr M Regan for Australian Sport Rotorcraft Association

Findings:

In relation to Richard Caskey:

Richard Caskey died on 31 October 2018 at Spring Hill, NSW 2800.

The cause of Richard's death was multiple injuries.

Richard was piloting a gyroplane during a training exercise when there was a critical failure in the adhesive bond of a balance rod within the gyroplane's rotor blades. The failure of this bond caused the balance rod to be ejected by centrifugal forces. This led to imbalance of a rotor blade and the rotor assembly resulting in excessive loading of joiner plates on the folding mast. This in turn resulted in eventual separation of the mast upper section and rotor blades from the airframe. All lift and controllability of the gyroplane was lost causing its uncontrolled descent and impact with terrain.

In relation to Michael Waldon:

Michael Waldon died on 31 October 2018 at Spring Hill, NSW 2800.

The cause of Michael's death was multiple injuries.

Michael was the instructor on a gyroplane being flown by a student pilot during a training exercise when there was a critical failure in the adhesive bond of a balance rod within the gyroplane's rotor blades. The failure of this bond caused the balance rod to be ejected by centrifugal forces. This led to imbalance of a rotor blade and the rotor assembly resulting in excessive loading of joiner plates on the folding mast. This in turn resulted in eventual separation of the mast upper section and rotor blades from the airframe. All lift and controllability of the gyroplane was lost causing its uncontrolled descent and impact with terrain.

Recommendation made pursuant to section 82(1) Coroners Act 2009

To the President of the Australian Sport Rotorcraft Association (ASRA), it is recommended that:

(a) rotor blades manufactured by Composite Components Pty Ltd with serial numbers #20 to #90 supplied and fitted to TAG Aviation Titanium Explorer gyroplanes (and manufactured with a 10mm diameter smooth steel balance rod and a 4mm smooth steel balance rod embedded within the leading edge) be permanently prohibited from flight in Australia;

(b) steel-rod rotors with serial numbers #20 through #90 inclusive located in Australia are to be immediately removed from aircraft and permanently identified as follows:

(i) painted with 3 eight-inch red "X"s on each upper and lower surface;

(ii) the blade serial number is also to be permanently painted in red 8-inch numerals such as "#51" on the upper and lower surface of each blade; and

(iii) marked "DO NOT FLY" using a permanent marker; and

(c) ASRA is to contact the owners of TAG Aviation steel-rod rotors in Australia to verify this process has been completed and to record image verification on the ASRA database.

Table of Contents

1. Introduction 1
2. Why was an inquest held? 1
3. Recognition of the lives of Kym and Michael 2
   Kym Caskey 2
   Michael Waldon 2
4. Background to the events of 31 October 2018 3
   Piloting qualifications 3
   The gyroplane 3
   Flight training 4
5. Events of 31 October 2018 5
6. Post-mortem examination 5
7. Initial investigations 6
8. Gyroplane crash in Western Australia 7
9. Further investigation by ASRA 7
10. What issues did the inquest examine? 8
11. Was the balance rod ejected from one of the rotor blades in flight and was it the event which overloaded the mast joiner plates? 10
12. If the rod was ejected, was this attributable to the design of the retention system, to the manufacture of the blade, or to both? 11
13. Who was responsible for the design? 12
    Original design 12
    Manufacturing method 12
    Responsibility for resulting design 13
    Replacement of brass rods 14
    Engineering advice 14
14. What part was played by the failure to carry out the mandatory 25-hour rotor balance check, by the continued operation of the aircraft with reported stick shake, and by the fact that the aircraft was flown purportedly after an indication it should not be? 15
    25-hour rotor balance check 15
    Stick shake 16
    Communication regarding flying G014 16
15. Did any pilot factor contribute to what occurred? 18
    “Going bush” 18
    Radio functionality 18
    Cyclic stick range of movement 18
16. What can and cannot now be established, given that no logbook entries have been located, the aircraft carried no flight data recorder, and that the wreckage was buried in December 2018? 19
    Logbook 19
    Flight data recorder 19
    Wreckage burial 20
17. Findings pursuant to section 81(1) of the *Coroners Act 2009* 21
    Richard Caskey 21
    Identity 21
    Date of death 21
    Place of death 21
    Cause of death 22
    Manner of death 22
    Michael Waldon 22

Identity 22
Date of death 22
Place of death 22
Cause of death 22
Manner of death 22

1. Introduction

1.1 On 31 October 2018, Richard Caskey (who was known by his middle name, Kym) and Michael Waldon were flying a gyroplane around Orange Airport. Kym was piloting the aircraft and seated in the front seat of the cabin. Michael, who was an instructor and who also had access to the gyroplane's dual controls, was seated behind Kym in the rear seat.

1.2 The gyroplane was performing what is known as "circuits" to practice taking off and landing. This was the third day in a row that Kym and Michael were undertaking training at Orange Airport. The weather was clear with some wind.

1.3 Whilst the gyroplane was travelling along the downwind leg of the circuit it suddenly descended uncontrollably and impacted with terrain. The gyroplane was destroyed with wreckage strewn across a paddock, with some wreckage becoming engulfed by fire. Kym and Michael sustained catastrophic injuries and tragically died on impact.

2. Why was an inquest held?

2.1 Under the *Coroners Act 2009* (**the Act**) a Coroner has the responsibility to investigate all reportable deaths. This investigation is conducted primarily so that a Coroner can answer questions that are required to be answered pursuant to the Act, namely: the identity of the person who died, when and where they died, and what was the cause and the manner of that person's death.

2.2 Certain deaths are reportable to a Coroner. One example of a reportable death is when a person dies of unnatural causes. Given the fatal injuries sustained by Kym and Michael, their deaths became immediately reportable. In addition, although investigations were conducted following the crash, questions remained about the reason why the gyroplane suddenly descended uncontrollably mid-flight. These questions were relevant to the circumstances in which Kym and Michael died, which is commonly known as the manner of a person's death. The coronial investigation, and the subsequent inquest, were therefore focused on the cause of the crash and whether, for example, mechanical failure, aircraft design or manufacture, or pilot control contributed to the crash.

2.3 In this context it should be recognised at the outset that the operation of the Act, and the coronial process in general, represents an intrusion into what is usually one of the most traumatic events in the lives of family members who have lost a loved one. At such times, it is reasonably expected that families will want to grieve and attempt to cope with their enormous loss in private. That grieving and loss does not diminish significantly over time.

2.4 Therefore, it should be acknowledged that the coronial process and an inquest by their very nature unfortunately compels a family to re-live distressing memories several years after the trauma experienced as a result of a death, and to do so in a public forum. This is an entirely uncommon, and usually bewildering, experience for families who have lost a loved one.

3. Recognition of the lives of Kym and Michael

3.1 Inquests and the coronial process are as much about life as they are about death. A coronial system exists because we, as a community, recognise the fragility of human life and value enormously the preciousness of it. Understanding the impact that the death of a person has had on those closest to that person only comes from knowing something of that person's life. Therefore, it is important to recognise and acknowledge the lives of Kym and Michael in a brief, but hopefully meaningful, way.

Kym Caskey

3.2 Kym was born in 1954 and grew up in the Condobolin region. He married his wife, Anna, and they had two sons together, Andrew and Reginald. Kym and Anna later separated in 2016.

3.3 Kym began farming as an adult and later developed an interest in flying. He had a sense of adventure and held grand plans of flying around Australia in his gyroplane.

3.4 Kym was a devoted father to his sons. He enjoyed taking them camping, fishing, mountain biking and simply spending time with them, nurturing the bond between father and sons.

3.5 Kym's death has been devastating for all of his family, but most particularly for his sons. They have not only lost their physical connection with their father but also all the love, comfort, wisdom, life experience, and safety that Kym provided. Kym is particularly missed at birthdays, milestones and other significant life events. However, the absence of his mere presence in the everyday lives of his sons and family is a constant painful reminder of the enormity of his loss.

Michael Waldon

3.6 Michael was born in 1958. He married and had three daughters, Lauren, Caitlin and Alexia. Michael and his wife later divorced.

3.7 Michael was a plumber by trade and skilled with his hands. He was creative and hard-working and possessed an innate ability to visualise what needed to be done on a job and how to get it done. He was a tall man who had a natural athleticism about him. He enjoyed being active and taking parts in many sports including surfing, windsurfing, swimming, bike riding and skiing. Whatever sport Michael turned his hand to he invariably became good at it.

3.8 Michael was known to have a great sense of humour, to be a bit of a joker and to love a good prank. He never took life too seriously and he had a tendency to make others around him feel the same way.

3.9 Michael's cousin describes him as one of the nicest and easiest going guys you would ever meet. He generously gave his time to others. Michael's daughters describe him as extremely humble, notoriously self-effacing and someone who, despite his physical presence, did not need or want to be the loudest or most important person in the room. He had a big heart and a strong sense of right and wrong.

3.10 Michael was devoted to his daughters. They described him as their greatest protector and cheerleader. He did all the typical dad things: providing last-minute lifts so that his daughters would not be late and appearing suddenly like a superhero to salvage an unexpected mishap.

3.11 However, it was Michael's sheer commitment to simply being a constant loving and reassuring presence in the lives of his daughters that they treasured the most. Michael would often cancel other commitments just so that he could be with his daughters when needed. Michael was a strong and constant presence in the lives of his grandchildren. Sadly, there is now an emptiness in their lives without their Poppy.

3.12 Michael had a particularly special relationship with his youngest daughter, Lexi, and they brought out the best in each other. Michael had a unique ability to push Lexi out of her comfort zone and do things she would never do with anyone else, like climb the Sydney Harbour Bridge and take a motorcycle tour around Europe. Michael's passing has been particularly profound for Lexi, with her world now much smaller and with less opportunities for adventure.

3.13 Michael's passing also cut short his many plans, big and small, for the future and his insatiable sense of adventure. Michael had more trips to Noosa planned to visit his childhood best friend, he had bought a unit in Kiama which he wanted to make his own, he wanted to modify a bike so that he could take his granddaughter to school, and of course he had many more adventures in store with Lexi. As Michael's daughters have said, there was plenty more to his story.

4. Background to the events of 31 October 2018

Piloting qualifications

4.1 On 20 May 1998, Michael joined the Australian Sport Rotorcraft Association (**ASRA**). It is a not-for-profit incorporated association that is classified as a Self-Administration Sport Aviation Organisation by the Civil Aviation Safety Authority. ASRA is the administering entity for Australian light sport gyroplanes.

4.2 After being issued with an ASRA Student Pilot Certificate, Michael attained his ASRA Pilot Certificate on 2 March 1999. On 10 June 2014, Michael was granted a Gyroplane Instructor Rating. Although no pilot log book is available, it is believed that Michael had logged in excess of 1500 hours in gyroplanes.

4.3 On 5 May 2000, Kym joined ASRA and was issued with his Student Pilot Certificate. On 24 October 2003, Kym attained his Pilot Certificate. Kym's pilot log book is also unavailable and his total hours in gyroplanes is unknown.

The gyroplane

4.4 The gyroplane involved in the crash was a Titanium Explorer model, registration G014. It was manufactured by TAG Aviation (**TAG**) in Queanbeyan in 2017. TAG is an Australian company owned by Neil Sheather, the Chief Executive Officer. It was a tandem aircraft with the main pilot seat at

the front and a passenger seat behind it. It had a four-stroke engine and a 4-blade propellor (manufactured by Bolly) with a folding mast.

4.5 The folding mast had two sections which were connected by two titanium cheek plates on the left and right sides of the mast. The upper section connected to a hub which held the rotor blades in place. The lower section connected to the aircraft's fuselage.

4.6 The rotor blades were separately manufactured by Composite Components, a company based in Perth. Glen Oldfield is the Director of Composite Components.

4.7 On 13 November 2017, Kym purchased G014 from TAG. It had no more than seven hours time in service which included mandatory test flights for new gyroplanes and some demonstration flights. On 1 May 2018, G014 was first registered.

4.8 G014 weighed 276 kilograms. It had a maximum load capacity of 575 kilograms.

4.9 The control system comprised two cyclic stick controls, one for each cockpit. The cyclic stick controlled head movement in both the fore and aft and left and right directions. Control in the yawing plane was effected by rudder pedals. Either pilot was able to operate both the cyclic and rudder controls.

4.10 G014 was fitted with a single VHF radio which incorporated an intercom system. Both pilots wore helmets that had earphones and boom microphones. By using press-to-talk switches, either pilot could transmit on the selected radio frequency. However, only the front seat occupant could control functions such as selection of radio frequencies and volume.

Flight training

4.11 After taking possession of G014, Kym made arrangements in mid-2018 with a local pilot to store the aircraft inside a hanger located at Orange Airport. In around July 2018, Kym engaged Michael as an instructor to learn how to operate G014.

4.12 On the morning of 29 October 2018, Kym and Michael attended Orange Airport to conduct circuit training in G014. The circuit consisted of a take-off leg into the wind, with the aircraft climbing to a particular altitude and following a rectangular path along a crosswind leg, followed by a downwind leg, then a base leg and then turning into a final leg before landing.

4.13 All radio communications by users of Orange Airport are through a Common Traffic Advisory Frequency (**CTAF**) which is a VHF frequency. It is not a controlled radio network. Its purpose is mainly to establish separation by communicating locations between pilots.

4.14 At one stage, John Goldsmith, the airport supervisor, observed G014 to land on a runway and then leave the runway and travel into a paddock. Mr Goldsmith described this as G014 "*going bush*". This caused two other aircraft to stop their landing approach and circle for another landing attempt which is known as a "*go around*"

4.15 On the morning of 30 October 2018, Kym and Michael continued circuit training at Orange Airport. At some stage, Mr Goldsmith noticed that G014 was performing minimal broadcasts and considered that there was a difficulty in hearing the broadcasts. Mr Goldsmith also observed an occasion when G014 had to perform a go around.

5. Events of 31 October 2018

5.1 On the morning of 31 October 2018, Kym and Michael arrived at Orange Airport for a third day of circuit training in G014. The weather was clear with some high cloud and wind speeds of up to around 29km/hour with gusts of up to 37km/hour.

5.2 At 11:55am, G014 performed a radio check via the Orange Airport CTAF. Mr Goldsmith heard successful exchange of transmissions between G014 and another aircraft.

5.3 At 11:56am, G014 broadcasts that it was backtracking to a runway for circuits. At 12:02pm, G014 broadcast that it was downwind for runway 29 for "*touch and go*" meaning that it intended to land on runway 29 and take off immediately without coming to a stop.

5.4 Whilst on the downwind leg of the circuit, G014 suddenly descended uncontrollably and impacted with a paddock at 44 Davis Road, Spring Hill which was adjacent to the airport. The fuel on board G014 ignited on impact causing significant damage to the aircraft wreckage, much of which was strewn across the paddock.

5.5 Witnesses later described G014 as having "*just dropped straight down*" without any "*spinning or tumbling*", and that it "*fell out of the sky*".

5.6 Emergency services were contacted and attended the scene a short time later. Attending New South Wales Police (**NSWPF**) officers observed that the rotors and masthead of G014 were located separate from the main wreckage. This indicated the rotor had detached from G014 prior to impact. Initially, it was thought that a split in the mast joiner plates caused detachment of the rotor system.

6. Post-mortem examination

6.1 Kym and Michael were later taken to Forensic Medicine Newcastle where Dr Istvan Szentmariay, forensic pathologist, performed post-mortem examinations on 15 November 2018.

6.2 The examination of Kym identified the following relevant findings:

(a) severe multi-trauma with numerous fractures of several bones including extensive skull fracturing;

(b) traumatic amputation of the right arm; and

(c) nil alcohol or commonly screened for drugs from post-mortem toxicology testing.

6.3 In the post-mortem examination report dated 15 August 2019, Dr Lorraine Du Toit-Prinsloo, the forensic pathologist who finalised the report, opined that the cause of Kym's death was multiple injuries.

6.4 The examination of Michael identified the following relevant findings:

(a) severe trauma including dissociation of the thoracic vertebrae;

(b) fractures of nearly all bones with extensive fracturing of the skull;

(c) major soft tissue disruption;

(d) thermal injuries involving the extremities; and

(e) a blood alcohol level of 0.011 g/100mL from post-mortem toxicology testing which was considered to be post-mortem artefact in the setting of decomposition.

6.5 In the post-mortem examination report dated 14 August 2019, Dr Du Toit-Prinsloo, who also finalised the report, opined that the cause of Michael's death was multiple injuries.

7. Initial investigations

7.1 The NSWPF and ASRA examined the wreckage of G014 at the crash site. Burnt carbon fibre was found to be present in the wreckage which represented a significant health hazard. The NSWPF therefore arranged to have the wreckage disposed of and buried on 6 December 2018. Significantly, this means that the rotor blades from G014 cannot be examined and the mast joiner plates cannot be re-examined.

7.2 The initial ASRA investigation reached the following conclusions:

(a) G014 was operating normally when the mast joiner plates failed allowing the rotor system and upper mast to detach from the airframe;

(b) this made G014 uncontrollable resulting in it descending rapidly and impacting with terrain; and

(c) the cause of the joiner plates failures would be the subject of ongoing metallurgical examination testing.

7.3 On 1 November 2018, ASRA issued Safety Alert 2018.01 directing that all TAG gyroplanes fitted with a folding mast option be grounded until further notice.

7.4 On 3 November 2018, TAG Aviation issued a Safety Alert, in addition to the one described above, requiring that all TAG gyroplanes using the HS/VS retention method:

(a) to be immediately inspected by an authorised representative from TAG Aviation; and

(b) not be flown until the above inspection has been completed to a safe factory standard or corrective action taken as required.

7.5 On 13 November 2018, Allan Wardill, the ASRA Technical Advisor and former Operations Manager, attended Orange Police Station to commence reviewing the wreckage which had been gathered.

8. Gyroplane crash in Western Australia

8.1 On 6 February 2019, another TAG Titanium Explorer, registration G0565, with a folding mast crashed in the water off Forrest Beach near Busselton, Western Australia (**G0565 Crash**). Both occupants of G0565 were fatally injured.

8.2 The G0565 crash wreckage was examined. It was discovered that the balance rod and corresponding blade end cap were missing from one of the rotor blades. It was suspected that the balance rod and end cap had detached mid-flight. It was also noted that the rotor blades from G014 and G0565 were from the same manufacturing batch.

8.3 Logbook entries indicated that G0565 had been experiencing shaking of its cyclic stick controls from side to side, known as "*stick shake*", in May 2018 and again in late 2018.

8.4 On 29 March 2019, ASRA issued a further safety directive with the effect that all gyroplanes manufactured by TAG were grounded until further notice.

9. Further investigation by ASRA

9.1 The ASRA investigation into the G0565 Crash reached the following conclusions:

(a) if the total weight of each rotor blade is unequal, an out of balance situation will occur in flight which manifests itself as vibration through the airframe that is recognised by stick shake;

(b) it is not usual for rotor systems to require continual balancing once smooth operation has been achieved;

(c) the return of stick shake in G0565 in late 2018 probably indicated that a balance rod inside one of the rotor blades had started to free from the urethane in which it was encapsulated and move outboard under centrifugal force;

(d) the movement of the balance rod resulted in an out of balance situation which became worse as the balance rod moved further outboard;

(e) centrifugal force on 6 February 2019 caused the bond between the balance rod and the urethane to fail, resulting in rod and end cap being flung from the blade creating a severe out of balance situation;

(f) failure of the end cap laminate contributed to the loss of the balance rod;

(g) the resulting force caused the mast joiner plates to overload and fail allowing the rotor system to detach from the gyroplane;

(h) this left G0565 uncontrollable and without lift, causing it to descend rapidly and impact with the water.

9.2 In a supplementary report, ASRA concluded:

(a) the rotor blades fitted to G014 and G0565 were sequential with G014 using blades number 57 and 69 whilst G0565 used blades number 58 and 70;

(b) the balance rod of one of the rotor blades fitted to G014 loosened and was ejected by centrifugal force;

(c) this resulted in rotor system imbalance leading to the mast joiner plates to fail; and

(d) the rotor system detached from the remainder of the airframe, rendering G014 uncontrollable and incapable of continued flight.

9.3 On 14 August 2020, ASRA issued a letter (**ASRA Letter**) to its members:

(a) drawing attention to a *Safety Directive SD 2020.01* which prohibited from flight in Australia any rotor blades manufactured by composite components with particular serial numbers 20 to 90 which had been supplied and fitted to TAG Titanium Explorer gyroplanes;

(b) directing that steel rod rotors with serial numbers 20 to 90 should be immediately removed from aircraft and permanently identified with markings indicating that they should not be used for flight; and

(c) indicating that ASRA will contact the owners of TAG steel rod rotors in Australia to verify completion of the above process and to record image verification on the ASRA database.

9.4 On 24 August 2020, the NSWPF conducted a further search around the G014 crash site. A steel rod (measuring 3.6 metres long and 10 millimetres in diameter) was found about 400 metres from the other wreckage.

10. What issues did the inquest examine?

10.1 Before the inquest commenced, a list of issues was circulated amongst the sufficiently interested parties, identifying the scope of the inquest and the issues to be considered. That list identified the following single for consideration:

(1) What was the cause of the G014 aviation accident near Orange Aerodrome on 31 October 2018 which resulted in the deaths of Richard Kym Caskey and Michael Waldon? In particular, is there sufficient evidence to conclude the causal involvement (if any) of the following factors

(a) mechanical failure;

(b) aircraft design or manufacture;

(c) rotor blade design or manufacture, including:

(i) polyurethane encasing;

(ii) carbon laminate and end caps;

(iii) the steel balance rod;

(d) pilot error;

(e) pilot physical conditioning and/or mental health;

(f) overloading; and/or

(g) any other factor.

10.2 This single issue raised the following matters for consideration:

(a) Was the balance rod ejected from one of the rotor blades in flight, and was it the event which overloaded the mast joiner plates?

(b) If the rod was ejected, was this attributable to the design of the retention system, to the manufacture of the blade, or to both?

(c) Who was responsible for that design?

(d) What part was played by the failure to carry out the mandatory 25-hour rotor balance check, by the continued operation of the aircraft with reported stick shake, and by the fact that the aircraft was flown purportedly after an indication it should not be?

(e) Did any pilot factor contribute to what occurred?

(f) What can and cannot now be established, given that no logbook entries have been located, the aircraft carried no flight data recorder, and that the wreckage was buried in December 2018?

10.3 To assist with consideration of some of the above matters, an opinion was sought from Professor Murray Scott, an independent aerospace engineer, as part of the coronial investigation. Professor Scott provided two expert reports and also gave evidence during the inquest.

11. Was the balance rod ejected from one of the rotor blades in flight and was it the event which overloaded the mast joiner plates?

11.1 Professor Scott considered the discovery of the steel balance rod on 24 August 2020 to be a key piece of evidence. He gave evidence that:

(a) the balance rod was originally inside one of the G014 rotor blades and was ejected mid-flight;

(b) the balance rod was ejected because its bond with the polyurethane foam core which surrounded it failed;

(c) bonding processes can inherently vary and contain undetected weaknesses;

(d) sufficient structural redundancy or a failsafe mechanism is necessary for such a critical component; and

(e) the end cap on the rotor blade was insufficient to restrain the balance rod and the centrifugal forces which were applied to it in operation.

11.2 Professor Scott expressed the view that the likely sequence of events on 31 October 2018 was:

(a) ejection of the balance rod causing serious chordwise imbalance of one rotor blade and spanwise imbalance of the rotor assembly;

(b) this led to severe vibrations and aeroelastic phenomena (that is, exceeding the elastic limit of the materials causing permanent deformation or complete failure);

(c) this was followed by excessive loading being transmitted to the joiner plates on the folding mast;

(d) the joiner plates would have been subjected to a combination of bending, tension and shear loading "*which would have been considerably higher than loading experienced in normal flight conditions*";

(e) the upper section of the folding mast and rotor blades separated from the airframe leading to the loss of all lift and controllability; and

(f) the remaining components of the G014 assembly uncontrollably descended until impact with terrain.

11.3 **Conclusions:** The opinions expressed by Professor Scott were unchallenged. It was indicated during the course of the inquest that all the parties accepted the opinions expressed by Professor Scott regarding ejection of a steel rod from one of the rotor blades of G014.

11.4 The available evidence therefore establishes that whilst G014 was performing a circuit on 31 October 2018, a balance rod within one of its rotor blades was ejected due to the centrifugal forces being applied at the time. Ejection of the rod was a result of the failure of the adhesive bond between the rod and a polyurethane foam core which surrounded it. Without any failsafe mechanism, the end cap of the rotor blade was insufficient to prevent ejection of the rod. The ejection led to imbalance and severe vibrations which caused excessive loading to be transmitted to the mast joiner plates. The structural integrity of the mast and rotor system was overloaded causing separation from the airframe in-flight.

12. If the rod was ejected, was this attributable to the design of the retention system, to the manufacture of the blade, or to both?

12.1 In his report, Professor Scott expressed the view that the answer to this question is "*multifaceted*" but it is likely that the design and manufacture (as well as the operation and maintenance) of the rotor blade "*were to varying degrees all contributing factors to the cause of [the] crash*".

12.2 As to the design of the rotor blades, Professor Scott opined:

(a) it was "*clearly an issue*" that the balance rod was embedded without having sufficient structural redundancy or a failsafe mechanism; and

(b) if the internal bond between the balance rod and polyurethane foam core were to fail, there would be "*no mechanism to fully react the centrifugal forces associated with the balance rod*".

12.3 As to the manufacture of the rotor blades, Professor Scott opined:

(a) the integrity of the adhesive bond between the balance rod and the polyurethane was reliant on factors such as surface preparation of the metal rod and the processing of the core material;

(b) any inadequacies in manufacture may result in the required shear strength and stiffness not being achieved; and

(c) materials and processes used during manufacture cannot be adequately verified on completion without employing destructive testing.

12.4 In addition, Professor Scott gave evidence that there was no practical non-destructive testing capable of verifying the bond's integrity. Whilst testing could demonstrate that a particular sample retained its bond, it could not establish whether the manufacturing process had been adequately followed with respect to every rotor blade. Professor Scott also explained that inadequate steel surface preparation, contamination, incorrect preparation or mixing of the polyurethane, and inadequate temperature or humidity control all could have contributed to defects in the manufacturing process.

12.5 Ultimately, Professor Scott expressed this opinion

> [T]he root cause of the crash is the inadequacy of the original design for retaining the [balance rod] embedded in the leading edge of the blades. The primary mechanism for reacting the centrifugal forces of the rod is an adhesive bond, which most likely progressively failed. Aspects of the manufacture, maintenance and operation of G014 were potentially also contributing factors.

12.6 **Conclusions:** The expert evidence establishes that the ejection of the balance rod embedded in one of the rotor blades of G014 is attributable to inadequacies with the original design. The design was inadequate because the balance rod was embedded with insufficient structural redundancy and there was no failsafe mechanism to prevent the balance rod from being ejected if the adhesive bond between the rod and polyurethane core failed. It is evident that the rotor blade end cap was insufficient in preventing ejection of the balance rod. The design also did not permit any non-destructive testing to be performed to verify the integrity of the adhesive bond and whether any balance rod movement was evident. Deficiencies in the manufacturing process also could have adversely affected the adhesive bond.

13. Who was responsible for the design?

13.1 Several aspects of the evidence of Mr Sheather and Mr Oldfield are relevant to this issue.

Original design

13.2 Mr Sheather and Mr Oldfield agreed that Rik Heselhurst, a composite engineer, supplied the initial internal design and that this was provided to Mr Oldfield.

13.3 Mr Sheather gave evidence that the design included the internal composite laminate arrangement including brass ballast rods. However, Mr Oldfield gave evidence that he only received a JPEG cross-sectional image identifying parts of the rotor blade and a mould which "*turned up at [his] factory*", with no scope of works provided.

Manufacturing method

13.4 Mr Sheather and Mr Oldfield agreed that Mr Oldfield made substantive changes to the original design.

13.5 Mr Sheather gave evidence that when he took the design to several manufacturers, including Mr Oldfield, he was told that it was "*unmanufacturable*". However, Mr Sheather gave evidence that Mr Oldfield later "*came up with a different design*" involving a silicone intensifier which used silicone to fill a void inside the blade.

13.6 Mr Oldfield gave evidence that as some materials specified in the design were unavailable he proposed alternatives (including the silicone insert protected by plastic film). Mr Oldfield gave this evidence regarding the manufacturing method:

> So the chronology of, of it all is, you know, [Mr Sheather] gives me a design -a design, a cross-section from an engineer, I look at it, I say there are some things here I can't quite do, this is what I can do

> in terms of material selection and what not, you should get this checked out, he says I don't want to get it checked out, just carry on anyway.

Responsibility for resulting design

13.7 In their evidence, Mr Sheather and Mr Oldfield accepted that they had both participated in developing the completed rotor blades. Both described an iterative design process with development involving trial and error. Mr Oldfield gave evidence that this was a common feature of the manufacturing process.

13.8 Mr Sheather gave evidence that he relied upon Mr Oldfield's expertise in composite manufacturing. Mr Sheather also gave evidence that frequent changes were made to the original design but described the eventual rotor blades as ones that he and Mr Oldfield had "*designed together*".

13.9 In a response provide on 2 June 2026, Mr Sheather stated:

> Throughout the development and operation of TAG Aviation rotor blades, TAG Aviation relied on external specialists for composite structural design, engineering input, and manufacturing processes. TAG Aviation's role included engaging those specialists, providing operational input, undertaking operational testing, and implementing the later modification program in response to concerns regarding the steel-rod blade design.

13.10 Mr Sheather also stated that he has "*obtained additional information concerning the manufacture and apparent workmanship quality of other TAG rotor blades supplied by Composite Components*". Mr Sheather went on to state that the matters "*raise questions in [his] mind about whether manufacturing process controls, supervision, inspection, and quality-assurance checks were consistently effective*".

13.11 Mr Oldfield gave evidence that his "*role was the fabricator*" and that he was "*merely responding to the request from TAG*". Mr Oldfield acknowledged that he made changes to the original design but out of necessity. Mr Oldfield also gave this evidence:

> Well, the final decision always rests with Mr Sheather because he's the client, it's his product, I'm only telling him what I can and can't do.

13.12 In a response provided on 5 June 2026, Mr Oldfield explained his position further:

> [W]e were employed for our skills in composite manufacturing, not our expertise or experience in rotor blade design and manufacture. Moulds were supplied to us, a design was supplied to us, parts were supplied to us, comments on parts manufactured were received and acted upon, we were always following TAG's requests and expectations. **[…]** We only ever supplied an incomplete material part, work such as painting and balancing and fitting was carried by others, we never had any exposure, input or vision of who or what these tasks involved or how they were carried out.

Replacement of brass rods

13.13 Mr Heselhurst's original design called for the use of brass balance rods. However, Mr Oldfield was unable to source his material and suggested that lead shot should be used instead. Mr Sheather agreed with this proposal.

13.14 However, manufacturing difficulties were encountered with using lead shot. One sample rotor blade had no ballast and it was later identified that resin which was being used was brittle and not holding on to the lead shot.

13.15 Eventually, a decision was reached to use steel rods to replace the lead shot and to use a polyurethane foam core as Mr Oldfield "*had a lot of experience with polyurethane bonding on to metals*". Mr Sheather gave evidence that it was Mr Oldfield who suggested using steel rods to replace the lead shot. In contrast, Mr Oldfield gave evidence that the "*steel rods came into play*" because Mr Sheather "*had some anecdotal evidence that steel [is] a common thing across the industry*".

Engineering advice

13.16 Mr Sheather gave evidence that this due to some health concerns and "*other things on his mind*", he told Mr Oldfield to seek advice from Mark Pivac, an engineer. Mr Sheather gave this evidence:

> I said to Glen words to the effect that, okay, because he was coming up with that fix, I had no idea, I hadn't even seen the layup of the blade. I didn't know how it was done. And I used words to the effect of, okay, if you're not sure about something, go back to the engineer, referring to Mark Pivac.

13.17 Mr Sheather also gave evidence that he did not know whether Mr Oldfield sought advice from Mr Pivac or any other engineer.

13.18 In contrast, Mr Oldfield gave this evidence:

> So I was pretty clear at the beginning about where my role began and ended with this in terms of the engineering and understanding the forces and loads. If I was given the forces and loads, I would not know what to do with them; I'm not an engineer. I encouraged TAG to seek the advice of an engineer. Now, this happened more than once and I believe TAG made a conscious decision to basically rely on my skill set to get the job done. Looking back that was definitely not a good outcome.

13.19 Mr Oldfield went on to explain that as a business, Composite Components has never offered engineering advice as a service because it does not "*possess that skill set*" and that it does not engage engineers on behalf of clients. Mr Oldfield also explained that this is in the interests of financial transparency, obtaining unbiased advice, and avoiding any potential conflict of interest.

13.20 **Conclusions:** The evidence establishes that the original design of the rotor blades used in G014 originated from Mr Heselhurst. However, the circumstances in which the design was provided by Mr Sheather to Mr Oldfield, changes made to the original design, and responsibility for the design changes is largely unclear. At best, the evidence establishes that the design and manufacturing process of the rotor blades was an iterative one, consisting of frequent trial and error, with direct contribution from both Mr Sheather and Mr Oldfield.

13.21 However, it is not possible to reconcile the differences in their evidence or to reach a reliable conclusion as to the degree to which one or the other had responsibility for the eventual design. Indeed, resolution of these matters falls beyond the scope of the coronial jurisdiction as it is attended to by issues of potential liability in the context of intricacies and complexities involving the commercial relationship between TAG and Composite Components.

13.22 These are matters for the civil, and not the coronial, jurisdiction to potentially seek to resolve. It should also be noted that that the issues raised by Mr Sheather regarding "*apparent workmanship quality*" at Composite Components was not the subject of any further evidence at the inquest and also beyond the scope of the coronial jurisdiction.

14. What part was played by the failure to carry out the mandatory 25-hour rotor balance check, by the continued operation of the aircraft with reported stick shake, and by the fact that the aircraft was flown purportedly after an indication it should not be?

14.1 Each of these matters is considered in turn below.

25-hour rotor balance check

14.2 Although no logbook entries are available, it is believed that G014 had accumulated approximately 44 hours of operation at the time of the crash.

14.3 The TAG Titanium Explorer Maintenance Manual (**TAG Manual**) provided the following:

> **It is Mandatory for a new set of rotor blades to be check balanced at or before 25 hours.** [original emphasis]

14.4 Mr Sheather gave evidence that:

(a) a new set of rotor blades usually takes up to 20 hours to "*find the centre*" and "*stretch into place*" due to the particular behaviour of certain materials;

(b) the balancing is to address "*issues with vibration*" which is unacceptable "*because it's fatiguing the machine*";

(c) the balancing is performed by "*sophisticated balancing equipment*" which he owned; and

(d) he would bring this equipment to a customer to perform the balance check.

14.5 Mr Wardill gave evidence that he had never previously heard of a rotor blade manufacturer mandating a check after 25 hours. He explained that in his experience a balance check would only be performed if there was excessive stick shake. However, Mr Wardill acknowledged that he had no expertise regarding the manufacturing techniques used in the production of the rotor blades on G014.

14.6 Professor Scott gave evidence that he found it "*very alarming*" if G014 had been in operation for approximately 44 hours without a balancing check being performed. He considered it important to comply with the TAG Manual and indicated that he considered excessive stick shake to also be "*very alarming*".

14.7 However, Professor Scott noted that check balancing would be performed when the rotor blades were static. He agreed that this was, at best, a "*temporary solution*" as movement of the balance rod may not have been detected. This is because movement would only occur dynamically, during flight.

Stick shake

14.8 Mr Sheather gave evidence that some degree of movement of the cyclic stick was normal due to the "*two per rev pulse*" of the rotor blades. He considered that movement of approximately the size of a 5-cent coin to be "*quite acceptable*". Mr Sheather gave evidence that sometime in 2018, he spoke to both Kym and Michael who reported stick shake. Mr Sheather agreed that Kym had reported that the stick shake was so significant he was getting fatigued and had to pass the controls over to Michael. Mr Sheather gave evidence that Michael had also reported a similar experience. Mr Sheather gave evidence that when provided with this information he "*realised that there was quite [an] imbalance in the rotor blades*". However, Mr Sheather gave evidence that he could not recall whether he ever told Michael not to fly G014.

14.9 Professor Scott gave evidence that stick shaking is a manifestation of a source of vibration somewhere connected to the stick. He said that he would not fly an aircraft exhibiting excessive stick shake. Professor Scott agreed that whether a person experienced stick shake was purely subjective. He agreed that it was difficult to be certain about whether excessive stick shake was occurring because only Kym, an inexperienced pilot, reported it occurring. Ultimately, Professor Scott gave evidence that his views regarding the cause of the crash - bond failure leading to rod ejection and structural failure – did not depend on whether there was any stick shake being experienced at all.

Communication regarding flying G014

14.10 Mr Sheather initially gave evidence that after being informed of the stick shake experienced in G014, he told both Kym and Michael not to fly G014. Mr Sheather gave this evidence:

> Because previously I told them not to fly the aircraft, and Kym as well, do not fly the aircraft, I'll try and get up there and balance it.

14.11 On 30 March 2019, Mr Wardill sent Mr Sheather an email asking for information regarding which blades had been fitted to G014, whether Kym or Michael had reported any stick shake, and if so to what extent.

14.12 In reply, Mr Sheather sent an email to Mr Wardill which read:

> Hi Allan,
> Kim [sic]'s gyro blade numbers were 57 & 69
> In the last conversation I had with Kim [sic] he asked me when could I come up and balance his rotors as they had a considerable shake
> He said they had been shaking for many hours.
> This was the first and only time either Kim [sic] or Mike had ask me to come and balance the blades
> Kim [sic] had missed his scheduled balance check at 25 hours of before, I think he said the gyro had something like 44 hours on it.
> He said to me he needed to let Mike take the stick on many occasions so he could rest his hand.
> I said to Kim [sic] he shouldn't be flying it with that much shake and I would try and get up there in a week or so to check balance them.
> What is wrong with people?
> Regards
> Neil

14.13 When asked about the difference between his email indicating that G014 "*shouldn't*" be flown and his evidence that he told Kym and Michael "*not to fly the aircraft*", Mr Sheather gave evidence that he "*possibly*" said to Kym, "*Don't fly [G014]*". However, Mr Sheather gave evidence acknowledging that he could not be sure whether this is what he communicated. When it was suggested to Mr Sheather that the contents of his email were likely to be more accurate given that it was sent some five months after the crash, Mr Sheather also only acknowledged this as a possibility. Mr Sheather gave evidence that he could not recall telling Michael to prevent Kym from flying G014.

14.14 **Conclusions:** There is no persuasive and reliable evidence that Kym or Michael were instructed not to fly G014 until a rotor balancing check had been performed, that G014 was exhibiting any excessive stick shake prior to the crash, or that any rotor blade balancing check might have identified any issue with the balance rod adhesive bond.

14.15 First, Mr Sheather gave conflicting evidence regarding what he communicated to Kym and Michael regarding whether to continue flying G014 before any balance check was performed. His email to Mr Wardill some five months after the crash suggests that any communication from him was limited to advice G014 should not be flown rather than a definitive instruction to not fly. Second, the evidence establishes that determining whether any excessive stick shake is present in any aircraft is a subjective matter. As Kym was a relatively inexperienced pilot, it is not possible to determine whether the stick shake he observed was excessive and indicative of an underlying issue with the integrity of the rotor blades. Third, even if a balance check had been performed prior to the crash, it is unlikely that any movement of the balance rod could have been detected. This is because movement would only have occurred in a dynamic environment and not the static environment in which a balance check would have been performed.

14.16 Ultimately, there is no evidence that any of the above matters contributed to the actual cause of the crash in any way. Indeed, the evidence given by Professor Scott establishes that his opinions regarding the cause of the crash are unaffected by whether any stick shake existed with G014.

15. Did any pilot factor contribute to what occurred?

15.1 There are several factors relevant to this issue.

"Going bush"

15.2 Mr Goldsmith gave evidence that on 29 October 2018, he observed G014 land on the runway at Orange airport and then turn off the runway at a 90° angle and vacate the bitumen. Mr Goldsmith gave evidence that G014 continued past the gable markers into an area that was not monitored as being safe for aircraft operations. Mr Goldsmith indicated that this concerned him and described what he observed as the aircraft "*going bush*". He explained that the aircraft could have been damaged and that the ground that the aircraft had taxied over was outside the standards set for the airport.

15.3 Mr Wardill initially gave evidence that he would not necessarily be concerned about the aircraft "*going bush*". He explained that the pilots may have deliberately taken the aircraft to that location in order to clear the runway so that other aircraft could land or take-off. It was later explained to Mr Wardill that G014 had travelled a short distance beyond the gable markers. Mr Wardill described this as "*probably risky*" because there was no taxiway and that he personally would not have taken a similar course of action.

Radio functionality

15.4 Mr Goldsmith gave evidence that Michael had spoken to him about the radio on G014 and that he could not hear Kym's transmissions. Mr Goldsmith said that he formed the impression that Kym and Michael were experiencing "*frustration that they were having troubles with the radio*" and that it had been sent away twice to be fixed.

15.5 Mr Goldsmith gave evidence that at around lunchtime on 31 October 2018, he heard G014 successfully communicate with other aircraft. He described hearing the communication clearly and considered that the radio problems had been "*sorted out*".

Cyclic stick range of movement

15.6 Mr Sheather gave evidence that rearward movement of the cyclic stick on G014 was restricted because of Kym's body habitus. As the front and rear controls were mechanically connected, this restriction would also have affected Michael's ability to pull the stick back. Mr Sheather explained that he designed a stick extension as a workaround but that it was never fitted to G014.

15.7 Notwithstanding, Mr Sheather gave evidence that restricted movement of the stick may have affected take-off and landing so that, for example, more runway was used than was necessary. However, Mr Sheather agreed that whilst in flight, stick movement was "*not very great at all*".

Accordingly, Mr Sheather gave evidence agreeing that any restriction of stick movement was unrelated to the crash.

15.8 Mr Wardill gave evidence that an inability to pull the stick fully back to the rear stop was dangerous and a reason for a flight to be cancelled. However, Mr Wardill later agreed in his evidence that because the crash occurred when G014 was in level flight on the downwind leg of a circuit, any restriction of stick movement would have no effect on the operation of the aircraft.

15.9 **Conclusions:** There is no evidence that any pilot factor contributed to the crash. Whatever functionality issue had been experienced with the radio on G014 was resolved by 31 October 2018. There is no suggestion that any previous frustration that might have been experienced by Kym and/or Michael regarding these issues contributed to their ability to maintain safe and adequate control of G014. Equally, there is no evidence of any correlation between the observations made by Mr Goldsmith of G014 departing the runway and "*going bush*" during previous circuit training and the piloting of G014 on 31 October 2018.

15.10 Although the evidence indicates that there was some restriction of rear movement of the front cyclic stick, such restriction would only have been relevant during a take-off or landing sequence and not to control of G014 in-flight. There is therefore no evidence that any restriction of cyclic stick movement contributed to the crash in any way.

16. What can and cannot now be established, given that no logbook entries have been located, the aircraft carried no flight data recorder, and that the wreckage was buried in December 2018?

Logbook

16.1 As noted already, no logbook entries for G014 could be located. Mr Wardill gave evidence that a logbook is essential to understanding and aircraft's operating and maintenance history. In addition, Mr Sheather gave evidence that from inspection of the crash wreckage it was discovered that the hour meter was missing from the dashboard of G014. This would have shown the engine running time.

16.2 Professor Scott gave evidence that the absence of a logbook meant that it was difficult to understand what flights had been taken by G014 and when. However, Professor Scott indicated that whilst seeing the logbook would have been "*very helpful*", it was not critical to reaching his ultimate views.

Flight data recorder

16.3 G014 was not fitted with a flight recorder and there was no regulatory requirement for this to have occurred. Notwithstanding, Professor Scott gave evidence that he was able to adequately reconstruct events from witness accounts, forensic examination and photographs of the crash site, and information regarding the location of the wreckage.

Wreckage burial

16.4 Mr Wardill gave evidence that he attended Orange Police Station to inspect the wreckage on three occasions before it was disposed of.

16.5 Professor Scott gave evidence that although the blades had been destroyed, the location of the balance rod was critical in allowing him to reach his views. He explained that if the balance rod had not been found this would have raised "*many unknowns*".

16.6 **Conclusions:** The availability of logbook entries, flight data recording and examination or re-examination of parts of the G014 wreckage would have been helpful in determining the cause of the crash. However, none of these matters are essential to the opinions expressed by Professor Scott or to any conclusion that can be reached regarding the cause of the crash. Sufficient consideration has been given to this issue by drawing upon the other available evidence. Therefore, the absence of this potential evidence does not detract from a conclusion that the cause of the crash was the failure of the balance rod adhesive bond resulting in rod ejection, rotor blade imbalance and excessive loading, structural failure and loss of aircraft control.

16.7 Whilst ASRA is capable of issuing safety directives it is not responsible for certifying the airworthiness of aircraft. It has already been noted that the contents of the ASRA Letter and Safety Directive *SD 2020.01* permanently prohibit rotor blades fitted to TAG Titanium Explorer gyroplanes from flight and direct removal and identification of all steel rod rotors with serial numbers 20 to 90 manufactured by Composite Components.

16.8 Counsel for ASRA submitted that whilst *SD 2020.01* was issued in perpetuity from the perspective of the composition of the ASRA executive at the time, and currently, it may be the case that any change in executive composition may result in a different view. Counsel Assisting and Counsel for ASRA therefore submitted that a recommendation endorsing *SD 2020.01* would be welcome. It is therefore necessary to make the following recommendation:

16.9 **Recommendation:** I recommend to the President of the Australian Sport Rotorcraft Association that:

(a) rotor blades manufactured by Composite Components Pty Ltd with serial numbers #20 to #90 supplied and fitted to TAG Aviation Titanium Explorer gyroplanes (and manufactured with a 10mm diameter smooth steel balance rod and a 4mm smooth steel balance rod embedded within the leading edge) be permanently prohibited from flight in Australia;

(b) steel-rod rotors with serial numbers #20 through #90 inclusive located in Australia are to be immediately removed from aircraft and permanently identified as follows:

(i) painted with 3 eight-inch red "X"s on each upper and lower surface;

(ii) the blade serial number is also to be permanently painted in red 8-inch numerals such as "#51" on the upper and lower surface of each blade; and

(iii) marked “DO NOT FLY” using a permanent marker; and

(c) ASRA is to contact the owners of TAG Aviation steel-rod rotors in Australia to verify this process has been completed and to record image verification on the ASRA database.

17. Findings pursuant to section 81(1) of the *Coroners Act 2009*

17.1 I acknowledge and express my gratitude to Mr Callan O’Neill and Ms Phoebe Boyle, Counsel Assisting, and their instructing solicitor, Mr Luke Sampson. The entire Assisting Team has provided exceptional assistance during the conduct of the coronial investigation and the inquest. I am extremely grateful for their commitment and efforts, particularly having regard to the complexity of issues involved in the coronial investigation, and for the sensitivity that they have shown to the families of Kym and Michael throughout the coronial process.

17.2 I also thank Detective Senior Constable Sarah Thomsen, the NSWPF Officer-in-Charge, for her role in the investigation and for compiling the initial comprehensive brief of evidence.

Richard Caskey

17.3 The findings I make under section 81(1) of the Act in relation to the death of **Richard Caskey** are:

Identity

The person who died was Richard Caskey.

Date of death

Richard died on 31 October 2018.

Place of death

Richard died at Spring Hill, NSW 2800.

Cause of death

The cause of Richard's death was multiple injuries.

Manner of death

Richard was piloting a gyroplane during a training exercise when there was a critical failure in the adhesive bond of a balance rod within the gyroplane's rotor blades. The failure of this bond caused the balance rod to be ejected by centrifugal forces. This led to imbalance of a rotor blade and the rotor assembly resulting in excessive loading of joiner plates on the folding mast. This in turn resulted in eventual separation of the mast upper section and rotor blades from the airframe. All lift and controllability of the gyroplane was lost causing its uncontrolled descent and impact with terrain.

Michael Waldon

17.4 The findings I make under section 81(1) of the Act in relation to the death of **Michael Waldon** are:

Identity

The person who died was Michael Waldon.

Date of death

Michael died on 31 October 2018.

Place of death

Michael died at Spring Hill, NSW 2800.

Cause of death

The cause of Michael's death was multiple injuries.

Manner of death

Michael was the instructor on a gyroplane being flown by a student pilot during a training exercise when there was a critical failure in the adhesive bond of a balance rod within the gyroplane's rotor blades. The failure of this bond caused the balance rod to be ejected by centrifugal forces. This led to imbalance of a rotor blade and the rotor assembly resulting in excessive loading of joiner plates on the folding mast. This in turn resulted in eventual separation of the mast upper section and rotor blades from the airframe. All lift and controllability of the gyroplane was lost causing its uncontrolled descent and impact with terrain.

17.5 On behalf of the Coroner's Court of New South Wales and the Assisting Team, I offer my sincere and respectful condolences to the families, loved ones and friends of Kym and Michael, and particularly to Andrew, Reginald, Lauren, Caitlin and Lexi, for their tragic and devastating loss.

17.6 I close this inquest.

Judge Derek Lee
Deputy State Coroner
25 September 2026