Fly About

Northam Aero club (Inc.) Newsletter Vol. 50 Issue No. 5 June 2019

A Message from the President

Hi all

I hope you have been able to get some flying in with this stormy weather. Claude once told me how he set a speed record by planning the record then waited 1 year for the right conditions, a massive storm cell. He set the record at 325 knots and this is still the record.

Thanks to all the Members that showed up to our special meeting to approve our Constitution. As explained early on even though it is now lodged and approved, any amendments can still be made as per normal channels.

Our Annual Dinner and Presentation is going to be held Saturday July 13th so come along, make up your tables and enjoy.

The Annual General Meeting is to be held on Saturday 3rd August 2019. Nominations for our Committee will soon be out so keep an eye on the Fly About magazine.

Enjoy any flying you might be able to do and don't forget to use your carby heat in these conditions.

Happy Flying all,

Cheers,

Errol

In This Issue

Club Captain's Report - June 2019

Sunday 9th June was our Monthly Flying Comp.

A contrary crosswind at ground level, RWY 32....

CIRCUITS x 4, with radio calls etc.

Here is the Club Captain's Report....

Several pilots cancelled due to "Stress of Weather", but those who turned up were able to catch a break in that weather for some quick circuit work then back to the Club Rooms for lots of scones and cake etc. Yum.

First circuit was Flapless Touch & Go
Second circuit was a Standard Touch & Go...
Third circuit was a Glide Approach from overhead threshold
or abeam threshold downwind as per individual preference.
Fourth Circuit was Low Level Full Stop.....

All TEAM NAC pilots had full Comp Sheets 30 days prior as usual, so ample time to read/print off /fly some practice circuits. Challenging flying conditions, a gusty crosswind Rwy 32.

TEAM NAC all enjoyed a very busy session of Circuit Work. Scores were again closely grouped together. TEAM NAC PILOTS who fly NAC Monthly Comps give themselves every opportunity to keep their flying skills current, well honed and proficient, it is no surprise that scores are pretty close by all Pilots.

Visitors had great seats and lots of entertainment as TEAM NAC pilots put on a great demonstration of how to nail Flapless and Glide Approach landings etc. Results came down to a matter of metres on or off the keys.

A great morning tea spread from the ladies again.

RESULTS:

First Place - The Intrepid ASHLEY SMITH - well flown!

Second - Peter Hill (gettin' too old for this *-):

Third - James - not bad ! watch him next year?

This was the final NAC Flying Comp for 2018/2019 season.

Sincere congratulations to all Competitors for the Year!
Many thanks to all Pilots and Crew, we look forward to another successful season in the coming 12 months.

THANK YOU to Team NAC Judges at these Comps, your work is much valued and appreciated.

To the Ladies of the Kitchen--THANK YOU
Always the most delicious morning teas…

NEXT NAC FLYING COMP
SUNDAY 14th JULY 2019
9am start
Northam Airfield

" AVON VALLEY AIRFIELD RECON"
(Any Port in a Storm)

A tour of the various airstrips around Northam,(6) just to refresh our memories for any alternate landing requirements etc. Full details have been issued to all TEAM NAC Pilots, we all have 4 weeks to read/understand/even FLY a practice run or two... All Members welcome, refreshments provided, and seats available in Club Aircraft for Members who would like to fly with TEAM NAC.

Hope to see you Sunday 14th July 9 am at Northam Airfield.
Until then,
Thank You and Stay Safe.

Peter Hill NAC Club Captain 0450415947 prh@aurora.net.au

Page 3 Plane

OWNER - Andrew & Mary Cotterill

TYPE - Boeing 737-200

ENGINE - 2 x Pratt& Whitney JT8D Turbofan, Producing 15,500lbs (7030kg) of thrust EACH!

FUEL BURN - Approx. 3,400 litres - first hour, 2,800 litres - subsequent hours

CRUISE SPEED - Economical cruise speed—430 kt, Max cruise speed 500kt, Max Speed 509kt

STALL SPEED - Depending on weight, density, altitude etc. 120—140 knots for a typical configuration and weight. Final approach speed approx. 140 to 170 knots

PERFORMANCE -

MAX TAKEOFF WEIGHT - 44,225kgs

FUEL CAPACITY - 17,865 litres

PAYLOAD - 10,925kg

TAKE OFF DISTANCE - 1829m

CEILING - 35,000 feet


Uncle
Joe Merrick

Bar Roster

Bar Hours - Saturday 5pm - 7pm

If unable to do your rostered days, please make arrangements to swap with someone.

July 2019

6th July	Mick Clements
13th July	Matt Bignell
20th July	Peter Scheer
27th July	Ashley Smith

Editor's Broadcast

Hello Fellow Aero Club Members

Welcome to the final edition of the Fly About newsletter from me as editor. I have really enjoyed putting this together each month, however won't be able to continue. I do hope someone will take this over, please let me know if you are interested.

Couldn't help sharing a picture of the beautiful little Piper, with her mum and dad, Neil & Lillian. She is very good at capturing everyone's hearts at the aeroclub!

Karin
NAC Fly About Editor
northamaeroclubsocialdirector@gmail.com

Tribute

Dave Rose

President Northam Aero Club 2004/5

8/10/1942 – 16/6/2019

A Flying History

Dave's interest in aviation started when he and his brother watched the Kings Cup Air Race over the fence at Wolverhampton airfield in the Midlands of the UK. He was about 8 years old, but this started his aviation interest for the whole of his life.

He cleaned and refueled aircraft, and swept hangers. Over a period of time he collected aviation books and magazines, three of which were signed by World War II aviators Neville Duke, Pierre Clostermann, and Alex Henshaw.

His early flights were in Auster, Tiger Moth, Miles Messenger, and Hawk 3 aircraft.

After starting work, he was able to continue with his passion, and encouraged by his girlfriend Sue, whom he later married, he carried on with flying tuition and soloed at Wolverhampton in a Rollason Condor aircraft G-AVXW.

Soon after they travelled to South Africa for a three month holiday and stayed 11 years! He continued his flying training and obtained his Private Pilot Licence in a Piper Cherokee at Rand Airport near Johannesburg. Pilots note that because the airport is 5,500 feet above sea level you must lean the fuel mixture before takeoff! He also flew Cessnas. Their two children, Nina and David were born there. Later, Nina was to take up her father's interest and flew a range of aircraft including the Tiger Moth and the Harvard (Texan).

Returning to the UK he was given right hand seat flying experience in a Boeing 747 from Johannesburg to El-De-Sol Island off the west coast of Africa. Wolverhampton airfield had been closed giving way to suburban development, so he continued his flying at Shobden on the Welsh border. As the weather in the UK was often raining, cloudy or both, He obtained IMC and Night Ratings, to improve flying time availability.

After three years they decided to move to warmer weather and shifted to Perth and immediately sought out the local airfield and flying club which turned out to be Jandakot airport and the Royal Aero Club. He obtained his Australian PPL with John Douglas of Royals, becoming involved with club competitions at both Jandakot and Murray Field. He also added tail wheel, constant speed, retractable undercarriage, and aerobatic endorsements to his licence.

Dave and Sue moved to Toodyay for business reasons, and Dave became a member of the Northam Aero Club and involved with their activities. He was President of the club in 2004/5. After that he continued his flying activities with both clubs, and was involved with the introduction and organization of the Murrayfield Sunday Flyers Club, and other RACWA competitions, receiving the prestigious RACWA Eclectic Trophy along the way. He was a RACWA member for over 25 years.

Subsequently, he also obtained a Pilot Certificate for LSA (Light Sport Aircraft) aircraft operating out of White Gum Farm Airstrip near York, and with his flying buddy and others undertook numerous flying excursions around the southern half of the State, operating from one of the aforementioned airfields. By this time Dave, Sue, and their animal menagerie had shifted to Dowerin.

I met Dave (an electrical and lighting consultant) in 2003 both being members of the Northam Aero Club. Through our interest in aviation we developed a friendship and subsequently combined our flying trips, sometimes with other aviators. Some of the places we flew to were Wave Rock, Whale watching off Bunbury, Leeuwin Estate for lunch, Rottnest, a Southern Cross fly-in, and overhead Dave and Sue's properties at Toodyay and Dowerin. We attended a number of fly-ins around the State and the Avalon Airshow, Victoria, in 2011.

Dave (and particularly Sue's) interest in animals frequently entered the discussion, and stories about their own animals were often related to me, ie. cats, dogs, alpacas, sheep, most having a name. They had a cattery at Toodyay. They also had an interest with endangered animals around the world.

Our last aviation outing together with Sue was to inspect the Boeing 737 at White Gum Farm which he enjoyed. Visiting Northam and White Gum airstrips and catching up with fellow aviators always gave him "a lift"

Dave had a passion for flying all his life which provided him enjoyment and a break from work issues. A good conversationalist his enthusiasm for aviation infected others. Sadly, cancer took its toll.

A good friend of mine.

Colin Ekert
Fellow flyer

Latent Failures

by Kevin Lathbury

What do you call a pregnant flight attendant? Pilot error. Okay, that may be a bit outdated, especially in a day and age when it's possible for a flight attendant to get a pilot pregnant. But while it's a very tongue-in-cheek use of the term "pilot error", it's still better than hearing accidents described as being due to pilot error. That's a very lazy term that does nothing to address underlying causes.

Professor James Reason at the University of Manchester coined the term "latent failure" to describe underlying causes of accidents. He studied disasters including the worst-ever air disaster (Tenerife in 1977), the worst industrial accident (Bhopal in 1984), the most famous of shipwrecks (Titanic), and the space shuttle Challenger in 1986. He concluded that while front-line operators played a part (Captain Smith on Titanic continuing at speed into an iceberg field, Captain van Zanten at Tenerife taking off without a clearance), there were contributing factors that could be traced back to people and processes well removed from the front line.

Latent (meaning hidden) failures can be management or procedural failures, poor design of equipment or systems, or poor supervision. And that's by no means a comprehensive list. Active failures are generally the ones made by the front-line operators – the pilots or ship captains or plant operators – and which have an immediate effect. Latent failures are made by people away from the front line, and may cause accidents long after the problem started. One classic example in aviation was the biggest-ever air crash involving a single aeroplane – JAL123 in 1985. It had a tailstrike in 1978 which damaged the aft pressure bulkhead. The repair was dodgy, and it was after seven years of pressurisation cycles that the bulkhead gave way and took out the aft controls. 520 dead, 4 survivors.

Systemic failures can include poor safety culture in a company, lack of training, or lack of resources. They're potentially more important than active failures because an active failure will only cause one incident or accident. A latent failure may cause many. Also, in accident investigation, identifying a latent error may prevent a number of incidents or accidents, which is why a good investigation is not satisfied with "pilot error" as an explanation.

Here are some examples of causes of latent errors or failures, which may well stimulate some discussion in that favourite aviation classroom – the bar.

Management and culture

A hypothetical example to start with: an aeroplane's brakes fail, the pilot lands long and overshoots the runway. The brakes are repaired, the aeroplane is dusted off, and it's back to normal. A good investigation would keep asking why it happened. Why did the brakes fail? Because they were low-quality material. Why were they low-quality material? Because management is telling purchasers to save money and buy the cheapest of everything. Why is management doing that? Because they value saving money over safety. At that level of questioning, you're getting to the root cause, and addressing that underlying problem may prevent many future accidents, not just one runway excursion.

Captain Smith's decision to charge through an iceberg field at speed was an active failure. But the well-known latent failures included management pressure to go fast, and the mindset that the ship was unsinkable. In the case of Challenger, the O-ring design flaw was known, but since managers were under economic and time pressure, and since a number of missions had flown without the O-rings causing a problem, the perception that all was well was reinforced.

583 people died at Tenerife when two perfectly serviceable aeroplanes collided. Apart from the fog that prevented them from seeing each other on the runway, every other factor in the accident was human. Some of them were:

A terrorist incident at Las Palmas Airport caused Tenerife to be overcrowded with diverted aircraft, with the taxiway blocked and aircraft backtracking on the runway.

A management problem: KLM's strict flight duty time limitations meant that if the crew were delayed any longer, they would have to postpone the flight and find accommodation overnight for 248 people.

A communication problem: the Spanish controller speaking to the Dutch pilots in the international language of ATC, which of course is neither Spanish nor Dutch.

A teamwork problem: the authority gradient in the cockpit, with the cockpit crew probably reluctant the challenge the most senior check and training captain in KLM when he started taking off without a clearance. Modern CRM training includes addressing that issue.

Poor design

All aircraft designers have the good sense to make flap levers shaped like flaps and landing gear levers shaped like wheels. But their location is also important. Mr Mooney put his gear lever up at the top of the panel next to the altimeter. Not much chance of selecting wheels up when you want flaps. Mr Beech, on the other hand, built a lot of aeroplanes with gear and flap levers not only close together, but also partly hidden under yokes. Not surprisingly, Beechcraft aeroplanes figure more often than they should in gear-up landing statistics.

Poor communication

On the night of 6th July 1988, on the Piper Alpha platform in the North Sea, a work team removed a safety valve for maintenance. Due to a crane not being available, the valve was not replaced, and the job was put on hold. No one told the incoming shift that the valve was not in place. Later that evening, a pump that should not have been started without that safety valve in place, and that was not tagged or locked out, was started. That caused the initial explosion. The escalation resulted in the loss of the platform. 167 mean died – the worst ever offshore oil and gas disaster. Many factors contributed, but the first one was a lack of communication. There are many lessons in the oil and gas industry that are written in the blood of the men who died that night.

Lack of training

While poor design can lead to accidents, a common cause is also lack of familiarity with an aeroplane whose controls are almost the same, but not exactly the same, as the one you last flew. If the fuel selector is on BOTH and turning it one notch to the right selects CROSSFEED, that's great. But if the same action in another aeroplane turns the fuel OFF, your type training needs to highlight that. Relying on "Well, you just need to read the checklist" is a recipe for an accident.

In 2009, Air France Flight 447 stalled and crashed into the Atlantic Ocean. The pitot tubes had frozen and malfunctioned. The accident report came to a number of conclusions, but an overriding theme was the pilots' over-reliance on automation and lack of basic flying skills. The crash prompted a renewed effort, at least by some operators, to retrain pilots to manually fly the aeroplane, no matter what the computers are telling them. Power plus attitude equals performance, whether you're in a 152 or an A380.

What were the causes?

Since the aim of good accident investigation is not to lay blame – leave that for the lawyers – but to prevent them happening again, possible latent failures should always be part of the discussion. Without trying to pre-empt the outcome, the investigation into the recent 737 MAX accidents won't come up with just "pilot error". As for the excellent example Errol wrote about in the April issue, how many contributing factors can you list?

Happy flying, and remember the navigator's prayer: Dear God, please let my errors cancel each other out.

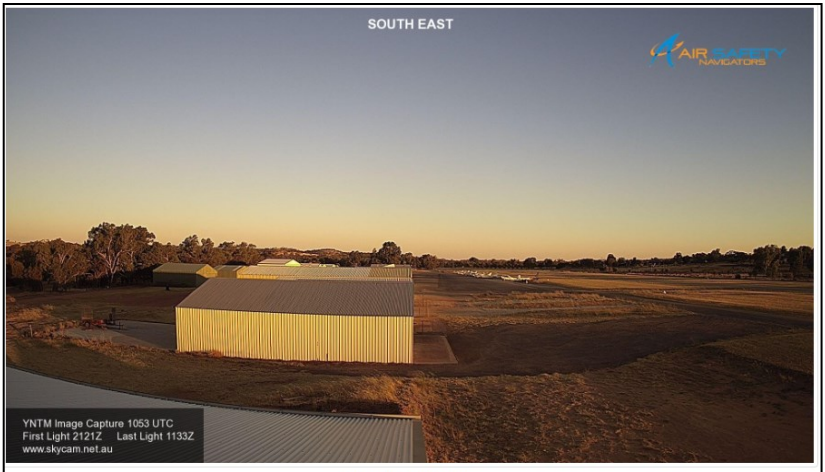
Kevin

NORTHAM AIRPORT SKYCAM

Northam Airport now has a Skycam:

http://www.northam.skycam.net.au/

The Skycam system at the Northam Airport has been installed to improve pilot situational awareness with regard to the weather. This webcam is funded and will be maintained by Air Safety Navigators as part of our commitment to aviation safety, the local flying community and in support of our home airfield. Images are now available on Ozrunways and Avplan



South East View

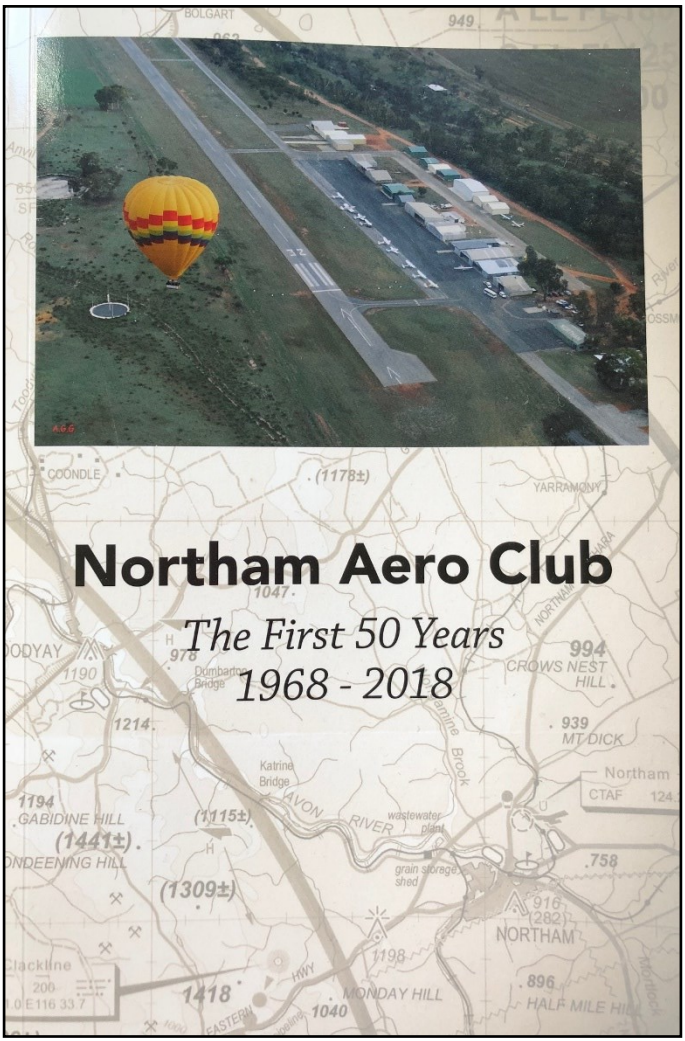
North West View

AIR SAFETY NAVIGATORS

Northam Aero Club

"The First 50 Years"

1968—2018



Copies of this wonderful read can be purchased for $25 from the Aero Club Bar or the Northam Visitors Centre.

Nomination Form

Nomination is hereby made for the position of

*President

*Vice President

*Secretary

*Treasurer

*3 x Committee Persons (2 year)

Nominee : _____

Signature : _____

Position : _____

Proposer : _____

Seconder : _____

*To be in the hands of the Secretary by **Saturday 13th July 2019**

Northam Aero Club Inc.

PO Box 247

Northam WA 6401

ANNUAL GENERAL MEETING

Notice is hereby given to the Members

Annual General Meeting

Northam Aero Club

Saturday 3rd August 2019

NAC Club Rooms

7.30 pm

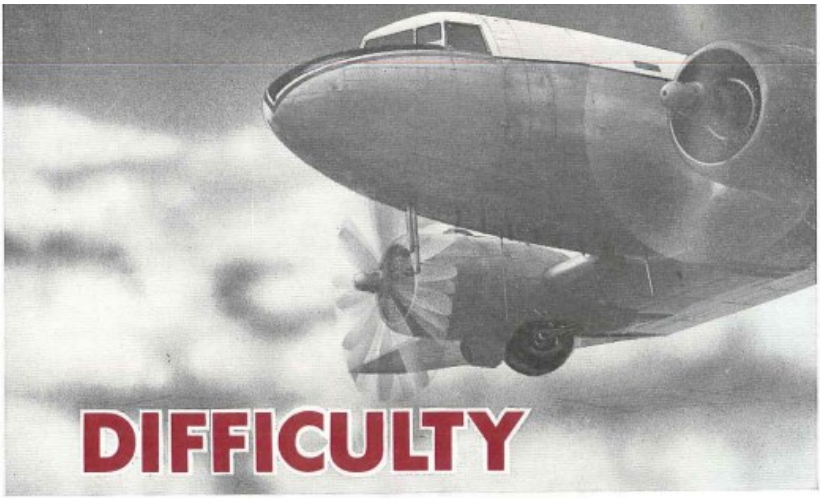
AGENDA ITEMS

Election of Office Bearers

(Please bring a small plate of food for fellowship at the conclusion of the meeting)

Crash Comics

Reprinted with courtesy of the ATSB



DIFFICULTY IN FEATHERING

A DC-3 was making a night flight from Launceston to Melbourne carrying freight. The aircraft was cruising at 9,000 feet in clear air and the outside air temperature was minus 20 degrees C. Thirty minutes after reaching the top of climb, the crew felt a slight thump in the cockpit. There was no indication of any malfunction and the engine instruments continued to indicate normally, but a short time later a smell of burning came from the heating system. The first officer then saw a shower of sparks coming from the lower section of the starboard engine and the captain immediately began the shut down procedure for that engine. The shower of sparks ceased when the captain closed the throttle, but when he pressed the propeller feathering button, the engine RPM only decreased to about 500. At this speed the feathering button popped out and the RPM increased again to about 1,200. The captain tried several times more to feather the propeller, but on each occasion the result was the same.

By this time the aircraft was entering an area of built-up cloud with tops at about 10,500 feet. The captain adjusted the power on the port engine to 35 inches of manifold pressure and 2,250 RPM, with 15 degrees of carburettor heat, and reduced the airspeed to about 100 knots. Losing height at about 200 feet per minute, the aircraft then entered cloud and encountered icing and turbulence almost immediately. Melbourne air traffic control was kept advised of the situation and the aircraft was cleared for a slow descent to 6,000 feet. During the next 30 minutes, the captain tried a number of times to feather the engine, but each time the RPM would only decrease to approximately 500 before the button would pop out again, and the RPM would return to approximately 1,200. Because the fire in the engine appeared to be out, the captain decided not to close the firewall shut off valve, thus permitting the oil system to continue lubricating the windmilling engine.

The aircraft's rate of descent fluctuated while it was descending in cloud, increasing at times to as much as 500 feet per minute because of turbulence. The crew requested a further descent to 3,000 feet and the aircraft finally broke out of cloud at 3,500 feet. Once in the clear, the aircraft began to shed the ice that it had accumulated, and at about 3,000 feet the captain again tried to feather the starboard propeller. This time the propeller feathered normally. With the starboard propeller feathered, the crew experienced no

further trouble in maintaining 3,000 feet for the remainder of the flight to Melbourne, and the aircraft made an uneventful landing.

The captain said later that before taking off, the aircraft had been on the ground at Launceston about one hour only. During the pre-take-off check, the engines had been run up to 2,400 RPM for a magneto check, but the propellers had not been exercised. It was the Company's practice to make a full engine run-up on the initial start for the day but, at the captain's discretion, only magneto checks were made at intermediate stops during the day's flying. At Launceston on this occasion, the captain said the oil temperature had risen quickly to 40 degrees C while the aircraft was taxi-ing out, and he had not considered a full run-up necessary. The starboard engine oil temperature was indicating 70 degrees C just before the engine trouble developed.

Giving an account of what happened after the engine trouble developed, the captain said he had closed the throttle, pressed the feathering button and moved the pitch control lever to coarse and the mixture lever to idle cut-off. At this stage, he noticed that the engine RPM was increasing again to 1,200. He continued with the engine shut-down procedure, turning off the ignition and the fuel, then again pressed the feathering button. The button stayed in until the RPM dropped to between 500 to 600, then it popped out and the RPM increased again. It was about this time that the aircraft entered cloud and the cockpit windows iced up almost immediately. Turbulence and a hail storm followed, and for a short period the captain was wholly occupied in controlling the aircraft. After this he pressed the feathering button again and held it in for about 10 seconds, but when he removed his finger it popped out once more. Before removing his finger, the captain said, he felt the pressure from the button, but he was able to hold it in quite easily. The RPM was indicating between 500 and 600 when he first felt the button exerting pressure on his finger, and during the next two to three seconds while he was still holding the button in, the RPM began to increase again. He had repeated this procedure about three times with the same result but he had not held the button in for any longer than 10 seconds. He had not changed the mixture, ignition or pitch control settings from the time the engine was first closed down. During the descent, he experimented on one occasion by opening the throttle and then pressing the feathering button, but the result was exactly the same as before. When he had opened the throttle, the manifold pressure indication increased from about 10 inches to 30 inches. The air speed was about 100 to 105 knots at this time. When the aircraft had broken out of cloud at 3,500 feet, the captain said, he had allowed the descent to continue to 3,000 feet and the ice the aircraft had accumulated started to melt. Just before reaching 3,000 feet, he had pressed the feathering button once more and this time the propeller had feathered. He had not moved any of the engine or propeller controls before doing so and he had pushed the button for only a short period.

Asked why he had only set 2,250 RPM on the port engine after the starboard engine was shut down, the captain explained that he had not used a higher power setting at this stage, because the icing conditions they were encountering obviously made a descent necessary. The all-up weight of the aircraft at the time was 22,000 lbs., considerably below the maximum all up weight, and the power he had set was sufficient to meet these requirements.

* * *

When the starboard engine was inspected after the aircraft had arrived at Melbourne, the No. 7 cylinder was found to be cracked in the vicinity of the cylinder shrinkage band. The indications of fire seen by the crew had evidently been caused by combustion gases escaping through the crack and "torching". There was no evidence of any sustained fire having developed in flight. It was apparent that age and fatigue had contributed to the cylinder failure.

Because of the difficulty the crew had experienced in feathering, a detailed examination of the propeller and its associated components was carried out. For this purpose the propeller dome assembly and distributor valve were removed from the aircraft, inspected and placed on a test bench rig. The inspections and tests failed to reveal any fault which could have prevented normal feathering action taking place, and the operation of all components was found to be satisfactory.

A further study of technical data on the

operation of the propeller was then undertaken and a reference to feathering difficulties at low temperatures was found in the Hamilton Standard Propeller Service Manual which appeared to be very relevant to the situation experienced during the flight. The particular reference reads:

> *(e)* Due to viscous oil in the propeller system at low temperatures, difficulty may be encountered with the pressure at the cut-out switch reaching the operating pressure of the switch before the propeller reaches the fully feathered position. This causes the feathering switch to release prematurely. If this condition is encountered, the feathering switch should be depressed each time it releases. The switch should not be held in continuously as the pressure may then build up sufficiently to shift the distributor valve and cause the propeller to start to unfeather before reaching the feathered position.

As a result of further study and consultation with the oil company responsible for servicing the aircraft, it was considered likely that, at the very low temperatures the aircraft had encountered in cruising flight, which were below the "pour point" of the engine oil, the circulation of the oil in the propeller dome would not have been sufficient to prevent wax forming in the forward portion of the dome. It was thought that waxing of the oil in the dome might well have been the cause of the difficulty in feathering.

The validity of this theory was checked during a later test flight in the aircraft. At 10,000 feet, with an outside temperature of minus 15 degrees C., an attempt was made to feather the port engine. The throttle was closed, the mixture moved to the idle cut off position and, with the pitch control lever left in the cruising range, the feathering button was pressed. The RPM indication dropped to about 800, then the button popped out and the RPM increased again. It was found that neither holding the button in nor pressing it each time it popped out, had any effect in reducing the RPM below 800. The feathering button was then released, and the RPM was permitted to return to the cruising range. After a few moments, the feathering button was pressed again and this time the engine feathered perfectly. The same procedure was tried on the starboard engine with similar results.

The test thus supported the belief that the difficulty in feathering the starboard propeller when the engine trouble was encountered, was caused by oil wax which had formed in the propeller dome, and that when the feathering cam reached the feathering range, the feathering pump was unable to cope with the load. Exactly the same situation existed during the low temperature feathering tests, but because the propeller was allowed to return to the constant speed range in between the attempts to feather, a considerable amount of hot oil would have been circulated through the propeller dome and would have melted the wax. This permitted the propeller to feather normally the next time the feathering button was pressed.

At the time of the incident however, the operator's feathering procedure used by the pilot, which provides for the pitch control to be moved to the full coarse position before the propeller is feathered, would have prevented the propeller returning to the constant speed range when the button popped out. This in turn, would have prevented hot oil being flushed through the propeller dome in any large quantities. Had the pilot involved in the incident cycled the pitch control, instead of operating the throttle when he encountered difficulty in feathering, he would undoubtedly have achieved feathering action much sooner. As in the test flight, the cycling of the pitch control would have broken down any wax in the propeller dome by pumping in warmer oil and the less viscous oil in the dome would have permitted normal feathering action to take place when the pilot again pressed the feathering button.

It was nevertheless agreed, that feathering difficulties caused by oil waxing in propeller domes at low temperatures, should not present a significant hazard to aircraft operating in Australia because such temperatures are not encountered at low altitudes in Australian conditions. At altitudes high enough for these temperatures there should normally be ample time to exercise the propeller before feathering. Even if for some reason, the propeller cannot be exercised, the increase in outside air temperature as altitude is lost, would usually be sufficient to melt any wax in the dome and so enable feathering to be accomplished normally, as occurred in this particular incident.

The real lesson of the incident is that it is good practice for crews to cycle the propeller pitch controls during pre-take-off checks, after even short stop-over periods at intermediate ports, whenever low outside air temperature conditions are to be expected in flight.

First Solo Sorrows — by Gavin Richardson

As most of you would understand, your first solo is a big deal. The emotions, nerves, onfidence and premature elation is consuming and fatiguing in the days, hours and minutes leading up to the event.

On the day of my first solo, the weather was perfect, the traffic was quiet, and it all seemed to be 'falling' into place as if it was meant to be (no pun intended).

I had 17 hours dual time under my belt and had been flying well with my instructor—'like a demon' he had said. I had bought a second-hand gyro four months prior and I could smell the end of my training. The dream of flying my own machine whenever I wanted to was so close I could nearly touch it. Here lies the first problem—I was getting impatient. I was constantly looking at my gyro itching to fly it, and getting itchier!

I had a good night's sleep and hit the airfield at 0800, with the plan for my instructor to fly it first, followed by some ground runs and then the solo. As mentioned earlier, the weather and traffic were favourable—it was going to happen today! With the pre-flight done, my instructor performed a few ground runs and a few circuits. It was so exciting to see my machine in the air doing circuits, being put to the test of its capabilities, with sharp turns and graceful landings. Upon completion of his check flight, he advised that the gyro wanted to move a bit right when the nose wheel was off the ground, and I would need a bit more left rudder than what I was used to in his machine. He also said it was a bit 'twitchier' than his. Advice that I took on board—or so I thought.

The question was asked that morning whether I wanted to do some dual time first before I went solo, but I decided to just go straight for mine, with the rationale that I didn't want to be distracted by the differences between the two machines. Here is the second problem—I should have got my head back in the zone of how to actually fly a gyrocopter—something which I later completely forgot.

As I climbed in the seat my confidence was high. I began to taxi and started to spin the blades up and with a different pre-rotator setup, I didn't expect the whole machine to lurch left as the blades started up. It required a pulse on pulse off as opposed to leaving them on until they reached 100 revolutions per minute (RPM). Whilst taxiing I noticed severe stick shake which I remember discussing in my training as 'blade flap'. I had obviously never experienced this before as my instructor knew how to avoid it. I corrected it and felt both proud that I fixed the problem, but slightly nervous that it had occurred.

I persisted with a few ground runs, getting it light in the front and anticipating the right jump so to get use to steering it with more left rudder, all while trying to get the blades to the right speed. Here was the third problem—no rotor RPM gauge. My instructor's machine had a rotor speed gauge and I was used to this luxury and knew when I was at flying RPM. My machine did not have such a gauge, so I was trying to learn the speed of the rotors by listening and watching. I had bought a rev tacho and it was sitting in the hangar, not on my machine. I should have installed it. The blades were yet another new sensory input that I needed to learn, process and act on, together with the twitchiness and wanting to jump right and pulsing the pre-rotator. The rotor gauge would have been one less problem. It cost me sixteen dollars.

After several ground runs, I felt I was getting this thing pretty straight, and after a brief chat with my instructor, I advised I was going for it. He supervised from the middle of the runway with his hand-held radio. My radio comms were poor as we had found a problem earlier with the design of the aerial. But that only made my transmissions a bit scratchy. I could still receive OK.

I pre-rotated and started rolling but soon developed blade flap again which I managed to recover from—a combination of too much ground speed with the rotors not spinning fast enough. Could that have been fixed by the rotor speed gauge? Yes.

My next decision was the biggest mistake I made. I had recovered from the blade flap and sat looking down the rest of runway 34 thinking, 'I have enough runway left to start from here'. I should have back tracked. My instructor thought I was going to as well, but I didn't. That, on top of all the completely new sensory inputs I was experiencing, was creating a Swiss cheese effect.

I started again, got it light and eventually I was off—but it kicked hard to the right. I gave it lots of left pedal, but it didn't behave like I wanted it to. It still didn't come around, so I tried to use the stick, which only made things worse. I was still climbing slowly—barely—and I was flying all over the place out of control. Before I knew it, I was at the end of the runway and looking at landing on the Illawarra Highway with four lanes of traffic at a height of possibly 50 feet. I was allegedly also cycling the throttle, panicking. Mistake number four—I didn't give it full power. I made the decision to put it down before I left the perimeter of the airport. To avoid crashing into vehicles I pulled the stick back and became a boat anchor. Mistake number five—at no point did I look at the engine RPM or indicated air speed (IAS). In my gyro, all the gauges were in a different spot to what I was used to.

Landing on all three wheels on the bitumen (narrowly missing the grass unfortunately) I felt my back break on impact. The gyro then rolled over onto its right side and with the rotors and prop still turning, beat itself to death, self-destructing into the tarmac. I undid my seatbelt and could smell fuel, so I quickly turned the ignition off. I removed my helmet and despite my backpain, could not help but put my hands on my head and say sorry. Sorry to my instructor and the gyro fraternity for now contributing to yet another image-damaging incident that I have spent so long defending. It wasn't the fact that I was injured, or my machine was dead, I could only think about negative publicity.

I was soon met by three fellas who witnessed it from the hangar. The first one consoled me as I cried in his arms. Men aren't supposed to cry. I did. He reassured me that he had also had an incident, which helped me slightly in that time of embarrassment, devastation, disbelief. It's interesting to note the things that people say in these times and how well we remember words despite all that's going on. That man said other kind things that I remember. However, another person said, 'You should have died and had your head crushed'—not so helpful.

Soon after, the cavalry arrived. Four varieties of police and detectives' cars, two fire appliances and an ambulance (with colleagues of mine)—all of who were helpful, non-judgemental and just as relieved as I was to be walking.

The result was four fractured vertebrae, thankfully all stable. I was alive and walking.

We are not experts in what we say in traumatic times. Those who witness traumatic events are also human and also suffer the effects of adrenaline and disbelief, and they are often untrained in their response. Witnesses may not escape the effects of the traumatic event. It is just as important for the witnesses to ensure follow-up medical and mental health assessment as they too may bear scars in the future.

After much processing, I recall all of my mistakes quite clearly and for days would spontaneously shake my head as the flashbacks kept coming of those critical moments. Hindsight revealed there were too many new sensory inputs to process and too many differences between the two machines for an inexperienced pilot, which were compounded by my inexperience in decision making. I returned to the airport holding my wife's hand on day six post event and was coincidentally met by my instructor with a fellow student flying above me. I walked the runway to retrace my steps, looked at my pile of uninsured twisted metal, had another cry then closed that chapter. I will now focus on a new chapter—getting back in the air.

I learnt multiple lessons that day of the crash and in the following days, not just about aviation and gyrocopters, but about life—valuable life lessons about relationships, priorities, values and myself. I am grateful for the incident and as a religious man, I have given thanks for it. My wife is encouraging me to complete my training and getting another machine, but not just yet. I have a new appreciation for flying. It even rekindled my love for my job as a paramedic—simply by being a patient for once. Race car drivers crash cars, horse riders fall off horses and student pilots have close calls. We all make mistakes, and we need to show others, especially our kids, that we aren't quitters.

June / July 2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
				28	29 Bar— Adam	30
1	2	3	4	5	6 Bar—Mick	7
8	9	10	11	12	13 Annual Dinner Bar— Matt	14
15	16	17	18	19	20 Bar— Peter	21
22	23	24	25	26	27 Bar— Ashley	28

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