CLEAR MIND CLEAR PROP

RECREATIONAL AVIATION AUSTRALIA

A Recreational Aviation Australia
Safety Initiative
2016

Welcome

Serious fun. Stay safe.

Four words we use often in the office and four words I think encapsulates the essence of RAAus. We all want to have a bit of fun in our life, and as pilots, we know how serious things can get from time to time. That's why we want everyone to stay safe. This safety booklet is one of the tools we are using to ensure everyone stays safe.

We are really trying to change the culture at RAAus whereby you, our member, can simply have some serious fun and our role is giving you the tools to allow you to do that while staying safe. At the end of the day, we can't get in the cockpit with you, or the hangar as you look under the cowls, but we can give you the tools so when you are in the cockpit or hangar everything goes to plan.

You are the one who needs to take responsibility. You are the one responsible for your own safety. You are the one responsible for reporting an occurrence to us.

So read this booklet, play a part in sharing the message with friends and colleagues, get involved in a hangar talk, engage with us and share your story so that we can all learn and grow from each other's experiences.

Michael Linke
CEO
Recreational Aviation Australia

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Contents

Low and Slow – Runway Loss of Control

RAAus has been talking a lot about these things called **R-LOC's (Runway-Loss of Control)**, so during safety month, let's look a little closer at yet another aviation acronym and see what all the fuss is about.

The day dawns clear and calm, the day of waiting has arrived, four years of sacrifice and solitude in a dusty hangar and thousands of hours of labour, cutting, riveting and assembly now sits before the pilot, an object of beauty. The tuning, taxi runs and trimming are all done. Today's the day. The owner contemplates the task, then taxies out for the maiden flight. The take-off goes well, temps and pressures normal and the engine purring, a slight left turn but probably just slipstream effect. It's only a single circuit for this one, so with an increasing smile the approach is set and onto base, sure feels better than that old aircraft, he reflects momentarily.

In the excitement, and due to the additional speed of the new aircraft, he overshoots base and with a dab of too much rudder and an overbanked turn he sinks rapidly short as he approaches the threshold, a grab of power and the aircraft pitches and yaws, the ground now rushing up. The first bounce feels ugly, but our intrepid pilot can save it, he lunges forward and throws in some roll to keep her straight.

The report reads, "a gust of wind on landing caused me to veer off the runway and the nose dug in flipping me over". This is a Runway Loss of Control accident or known as an R-LOC (for those who have to investigate them far too often).

In 2015-2016 RAAus has had over 60 reports classified as R-LOC'S related to either take-off or landing – Yes it's not just about the landing. The FAA lists these events as the number one accident type in Light Sport Aircraft over a nine year analysis period. Not surprisingly our figures stack up similarly.

Where does it all go wrong?

To answer this question we need to go back – right back in most cases to the basics, that first lesson, long forgotten, but always utilised, the "Effects of Controls". There was a reason why it is first but so often forgotten. All controls have multiple effects on the aircraft. The primary effect is obvious but any secondary or further effects must be managed by the pilot. In the take-off and landing phase we get all of these effects changing and conflicting as we either increase or decrease our energy through the air. Let the dance begin.

Remember the effects of changing airflow over the controls? Feel, response, required movement? Slipstream and power, how they affected the pitch, roll and yaw of the aircraft. Trim removes or creates force, the effect of flap on pitch and drag. All of these factors are invited guests or gate crash the party that is take-off and landing and they're banging at the door on climb out and final approach. How we understand, act and plan for all of the effects as we manage the aircraft in the changing energy state ultimately determines the success and consistency in these phases of flight.

Phases of flight

1. Take-off: In this phase of flight energy is increasing and airflow is increasing; we're moving from high vulnerability/reduced control to low vulnerability full control. We are also moving from disturbed air into undisturbed air.

2. Approach & Landing: This is where most R-LOC's occur – Why? Decreasing energy, less responsive controls, limited time to respond appropriately. Pilots do not correct directional movement by using rudder, but use ailerons to input roll. What was that pesky secondary effect of roll again? Yaw, was it?

The pilots control authority and environment is changing from low vulnerability/full control to high vulnerability, reduced control. Anticipation, and more deliberate control applications may be required, increased situational awareness and early decisions and actions are required.

Some basic rules to live by:

- Have a stabilised approach
- Maintain a safe airspeed until in the flare
- Use ailerons to keep wings level or control slip not direction
- Rudder is your best directional friend
- Know your aircraft and how the controls behave at different airspeeds
- Practice slow flight at height to gain competence
- If in any doubt, go around or abort.

Let's talk about the weather:

No, not for the beach! What's going on as we move from the disturbed air close to the ground into the prevailing air at height and in the reverse as well? Remember your BAK? The wing and controls only really care about the relative airflow over them at any instant. It's all about relativity to the air, but that same air is also changing closer to the ground, and it has inertia just like you. When both are changing they affect the aircraft's behaviour, but importantly we can't ignore the ground that awaits us. This is where the combination of performance, control, airflow and environment all merge together to affect the start and end of a flight.

Things to watch and plan for:

- Changing wind speed near the ground (Wind Gradient)
- Changing direction and wind speed (Wind Shear)
- Convective turbulence from the runway surface and nearby triggers
- Mechanical turbulence from topography and obstructions
- Wake turbulence from other aircraft
- Reduced or limited visibility

Finally, a word on landing areas. **S**ize, **S**lope, **S**urface, **S**urroundings and **S**ituation. Compromising any of the above, without having to, only stacks the odds against you for a potential incident.

Now back to our intrepid pilot that started this story – which elements do you think applied to him?

Normalisation of Deviance – What the?

Are we calling RAAus pilots deviants? Possibly. At some stage of our flying career we all deviate somewhat from the rules. What happens next is the subject of our discussion.

We do something different, and for a number of flights there may be no negative outcome or consequence. Then, for no obvious reason, our deviation from "the norm" results in catastrophe or disaster.

Normalisation of Deviance can be defined as *"the gradual process through which unacceptable practice or standards become acceptable. As the deviant behaviour is repeated without catastrophic results, it becomes the social norm for the pilot."*

Examples of this behaviour by pilots include:

- Refuelling inside the hangar

"We have refuelled in the hangar hundreds of times, and nothing has gone wrong, but this time static discharge ignites the accumulated fuel vapour and suddenly we have a fire in the hangar."

- Not using checklists to configure the aircraft for landing or take off

"We have landed the aircraft hundreds of times, but realise this time we haven't selected the correct fuel tank and the engine stops while airborne."

- Taking off from alongside a convenient taxiway rather than using the whole runway

"We have taken off entering from this taxiway which is halfway along the runway with no issues before, but this time, because we didn't configure the aircraft correctly (did we also forget to use the checklist?) the engine stops because the auxiliary fuel pump wasn't turned on. We have nowhere to go."

All of these are real world flying examples of Normalisation of Deviance and all of them could have been prevented by following established rules or using checklists.

Examples from engineers include:

- Not using a tension wrench when tightening spark plugs

"We have tightened thousands of spark plugs, but somehow this one popped out in flight."

- Not completing a maintenance item at the scheduled time

"The manufacturers are in league with the parts supplier, we don't need to replace that fuel line yet. Why is there fuel leaking through the cockpit when we land?"

- Not replacing a part at the scheduled time

"We have stretched the replacement of this part before and it's never failed like that!"

All of these are real world maintenance examples of Normalisation of Deviance and all of them could have been prevented by following established maintenance schedules and procedures.

Normalisation of Deviance is not limited to pilots or engineers, it can include the behaviour of large corporations like NASA. The Challenger and Columbia space shuttle disasters are tragic examples of Normalisation of Deviance.

The Challenger accident resulted from poor operational suitability of 'O' rings used (a 20 cent part) during cold weather. NASA engineers knew of the potential for a problem with the 'O' rings in cold weather and for a number of previous flights the part did its job, until the fateful flight presented exactly the conditions required for the part to fail.

The Columbia accident resulted from insulating tiles striking a vital part of the Shuttle, rupturing the hull and resulting in an explosion. Tiles had previously broken away from the Shuttle during preceding flights, however they had never struck a vital area and tiles dislodging was accepted as part of the usual events that occurred during a flight. Both of these accidents are examples

of acceptance of a deviation from minimums, presented previously in other flights, and the previous outcomes were accepted by NASA engineers as 'normal'.

Further detail on the Challenger and Columbia examples can be found at these links.

Challenger disaster https://www.youtube.com/watch?v=NcgeWkG1HCg

Columbia http://www.paci.com.au/downloads_public/risk/11_NormalisationOfDeviance.pdf

Now we have identified the problem, how do we prevent accidents as a result?

Checklists – use them, they work.

Checklists have been created to ensure the same consistent procedures are followed and the aircraft is configured correctly for the proposed flight. The link below provides detail about a fatal accident in a Gulfstream G-IV jet operated by an experienced, and possibly as a result, blasé crew. This is yet another example of Normalisation of Deviance and resulted in simple terms, from the crew failing to follow checklists, having conducted hundreds of flights in the aircraft, resulting in take-off with the aircraft gust lock system still engaged.

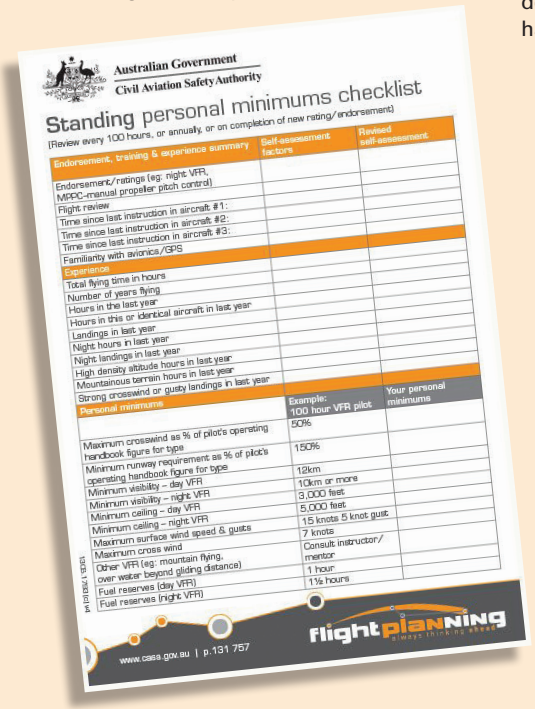
Checklists were provided, yet the pilots exhibited Normalisation of Deviance by not using them.

More detail of this report is available from this link http://news.aviation-safety.net/2015/09/09/ntsb-series-of-errors-by-flight-crew-caused-fatal-gulfstream-g-iv-crash/

Checklists still apply to our relatively simple aircraft, to ensure the aircraft is correctly configured, whether the correct fuel tank is selected (take-off in some aircraft must use wing tanks not the forward fuel tank), confirming the flaps are set for the conditions (no flaps set, longer take-off run), brakes are not dragging or partially set (longer take-off run, potential damage to wheels or brake discs), etc.

Finally, a further refinement of checklists include the use of a personal minimums checklist. You personally set your weather minima or maximum wind gust or crosswind conditions, minimum fuel for a local flight, fatigue levels or medication limits. The personal minimums checklist will keep you inside your deviance range, and help keep you safe.

Your fate is in your hands, don't accept any deviance from your personal minimums and have Serious Fun, Stay Safe.



Australian Government
Civil Aviation Safety Authority

Standing personal minimums checklist

(Review every 100 hours, or annually, or on completion of new rating/endorsement)

Endorsement, training & experience summary	Self-assessment factors	Revised self-assessment
Endorsement/ratings (eg: night VFR, MPPC-manual propeller pitch control)		
Flight review		
Time since last instruction in aircraft #1:		
Time since last instruction in aircraft #2:		
Time since last instruction in aircraft #3:		
Familiarity with avionics/GPS		
Experience		
Total flying time in hours		
Number of years flying		
Hours in the last year		
Hours in this or identical aircraft in last year		
Landings in last year		
Night hours in last year		
Night landings in last year		
High density altitude hours in last year		
Mountainous terrain hours in last year		
Strong crosswind or gusty landings in last year		

Personal minimums	Example: 100 hour VFR pilot	Your personal minimums
Maximum crosswind as % of pilot's operating handbook figure for type	50%	
Minimum runway requirement as % of pilot's operating handbook figure for type	150%	
Minimum visibility – day VFR	12km	
Minimum visibility – night VFR	10km or more	
Minimum ceiling – day VFR	3,000 feet	
Minimum ceiling – night VFR	5,000 feet	
Maximum surface wind speed & gusts	15 knots & knot gust	
Maximum cross wind	7 knots	
Other VFR (eg: mountain flying, over water beyond gliding distance)	Consult instructor/ mentor	
Fuel reserves (day VFR)	1 hour	
Fuel reserves (night VFR)	1½ hours	

CASA 179/15 FPH

www.casa.gov.au | p.131 757

flightplanning always thinking ahead

The CASA standing personal minimums checklist is available at no cost other than postage.

Visit the CASA shop at http://shop.casa.gov.au/products/personal-minimums-checklist-card

Decision making in the age of electronics

If Wilbur and Orville could see us now

There's no doubt that the age of electronics is here, and here to stay. The steady march of trickle down technology from the "big guys" is finding its way into an ever increasing number of amateur and factory built recreational aircraft as costs come down and reliability has improved. Our pioneers from Kittyhawk would marvel at even the concept of a cockpit, let alone the vast array of information now available to pilots as they lay spreadeagled over the canvas structure of the Wright Flyer on that momentous day in 1903.

So what do we make of all this added hardware in our flight environment and how can we integrate the plethora of information provided and still be effective pilots?

What's in the Box?

The access to firmware and software design in the aviation sector has spawned enormous opportunity for savvy engineering solutions for cockpit electronics. Let's break down some of the areas where these solutions are increasingly being utilised in our recreational environment.

The Electronic Flight Instrument System (**EFIS**). These are essentially either Primary Flight Displays (PFD) or backup systems

that provide not only basic "6 pack" information from traditional pressure and vacuum instrumentation but invariably many more features including Direction Indicators, synthetic horizons, wind triangulation and subsystems displays like autopilot and Engine Management Systems (**EMS**). The EMS can be a completely separate system, whose core role is to provide an electronic platform for all engine management functions. Many of these systems are now slaved into split screen applications as well. But it's not just for the pilot where electronics are now becoming predominant systems of choice. The nav/comm stack hasn't escaped the invasion either with sophisticated **GPS** solutions and integration of both radio and radar surveillance integration for traffic avoidance, transponder and ADS-B functions, weather radar and a myriad of outsourced satellite information can sometimes also be present, adding to the pilot's information bank.

On top of all this there is also the portable devices, tablets, phones, cameras as well. Did someone say "Fly the plane?"

Situational awareness and the seven deadly sins.

Anyone who has followed the rise and rise of electronic integration into our lives is well aware that the servant–master relationship is quickly becoming skewed. From the use of the mobile phones in society to overflowing inboxes and social media accounts our attention has a greater potential to be divided than ever before. A walk in the park now is a dynamic frenzy of FitBits, phone conversations and Pokémon spotting, and as for driving attention during the morning commute – well let's not go there! Nowhere is this more relevant and likely to have significant

safety implications than in aviation. History is fast providing some clear markers of how this can have catastrophic results. The accident reports are building rapidly where faithful dependence and focus on the electronic information has led to sometimes catastrophic outcomes. Clearly safety is the biggest casualty so let's look at the killers in a pilot's situational awareness:

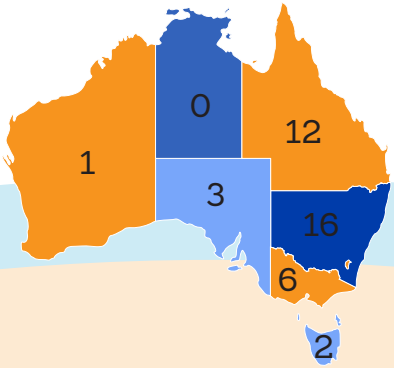
1. **I didn't see you.** Wherever the aircraft is going so are you – apply the 80/20 rule. No more than 20 percent of your available time should be spent focussed inside the cockpit on anything; that means on *anything*. Situational awareness starts and finishes with your head outside the aircraft. Focussing on fancy displays with magenta and synthetics will never replace the basics taught for VFR flight;
2. **Why didn't you call?** Reliance on radio or anything else other than your eyes as primary reference is part of the "dumbing down" process. By all means listen and use any supplementary information to build a composite picture but talking your way into a collision is no way to manage "see and avoid";
3. **Believing the sizzle.** These things are more accurate than my old steam gauges. It's no doubt that technology tempts us with the promise of "absolute truth" but just as stock markets and broken airliners can attest to, relying on the computer without the human being the ultimate commander is like giving your PIN to a thief, and as Jack Nicholson said in that famous line "You can't handle the truth!";
4. **It wasn't my fault – the computer told me to.** We hear it all the time, it was a computer glitch, a programming error, or clumsy fingers. Where in the concept of command operation of an aircraft does any regulation, rule or reference not place the responsibility clearly in the pilots lap? Sorry, George the GPS will not be there to defend you in any aviation investigation;


© Carlos Emmons

5. **The lure of the Liquid Crystal.** Like a hypnotic call, the ease of access to the magic tablet is the easiest to swallow. But is it really keeping us on our A game? Put yourself to the test, fly without it every few weeks, grab that flight plan and map and watch and prove to yourself you've "still got it";
6. **Speak to me in English please.** Having lots of information can be great but sometimes it can be too much, just like a conversation; one is fine but 50 at once becomes white noise. Information overload is the synthetic drugs side effect of the electronics age. It is the grim reaper of situational awareness and may find you and terra firma becoming intimate while arguing with the box over what it's trying to say;
7. **Know the one you're with.** Just as many can attest to, what you're being told isn't always what is meant. Enhanced electronics in the cockpit can reduce workload, but not if we are trying to learn how to understand them at the same time. Undertake training, practice off line, reading the manuals and always have a plan B when relying on electronics in aviation. Finally remember that like people; they will let you down, not intentionally but often at the worst possible times.

Safety Statistics

Number of fatalities
1 July 2011 –
30 June 2016

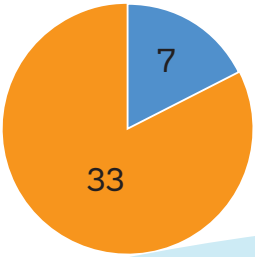


Flying Hours Average			
Calendar year	Hours total	Membership numbers	Average hours per member
2016 part year	207,893.30	8678	23.96
2015	211,431.90	9117	23.19
2014	226,364.80	9154	24.72
2013	243,637.70	9648	25.25
2012	188,857.30	9913	19.05
2011	114,394.70	10528	10.77

Calendar Year Normalised Fatal Data			
Year	Fatalities	Hours	Fatalities per 100,000 hours
2016 (part year)	4	207,893	1.92
2015	9	211,431	4.26
2014	6	226,364	2.65
2013	11	243,637	4.51
2012	3	188,857	1.59
2011	6	114,394	5.25

Information about Pilots involved in Fatal Accidents

Type of aircraft involved in accidents



60 Average age of pilot

1780 Average number of hours of flying experience

8 Average years of RAAus membership

87% Human factors as cause relating to accident

Statistics found in the occurrence management system						
Reports received in 2015						
Period	Complaint	Defect	Incident (RRM)	Accident (IRM)	Hazard	TOTAL
2015	57	40	84	93	12	286
Reports received since launch of Occurrence Management System (21 October 2015–30 June 2016)						
Period	Complaint	Defect	Incident (RRM)	Accident (IRM)	Hazard	TOTAL
21 October 15 –30 June 16	53	40	103	34	16	246

6 Number of bird strikes reported in the last 12 months

13 Number of Airspace Infringements reports

14% % of reports currently open and being reviewed

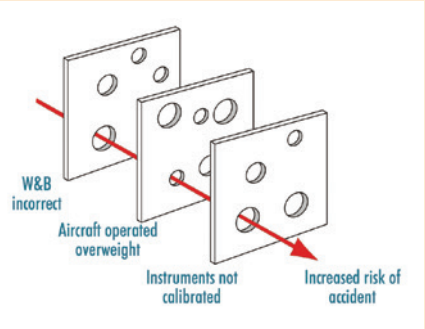
The importance of weight and balance – Measuring your safety

The weight of an aircraft and its balance are extremely important for operating an aircraft in a safe and efficient manner. When manufacturer's design an aircraft they identify the maximum weight and the limits within which it must balance.

Many RAAus pilots tend to underestimate the importance of proper weight and balance of their aircraft. Load sheets are taken for granted, and hasty calculations are made of the aircrafts centre of gravity. Because our aircraft are only two seats how can my Centre of Gravity (CG) ever be out? I fill it up with fuel and I get in it. It's always going to be ok. Isn't it? An example of Normalisation of Deviance.

Aircraft have been weighed with uncalibrated scales for decades. Figure 1 demonstrates how the risk of an incident is increased through the use of the Swiss cheese model. From the outset, if the aircrafts original weight and balance was calculated incorrectly it could lead to the aircraft being operated overweight or is operated overweight by the Pilot in Command (PIC) by choice. They have done it numerous times before and got away with it (there's Normalisation of Deviance again). Now add another variable. When was the last time your pressure instruments were calibrated? This exercise must be undertaken at least every two years for aircraft operating OCTA. Operating an overweight aircraft with an uncalibrated airspeed indicator increases the risk of having an accident.

Figure 1



Unfortunately, there have been accidents that are related to weight and balance issues. These occurrences may have been avoided if more attention had been given to weight and balance.

What determines the Weight and Balance limits?

The maximum allowable weight is based on the surface area of the wing, and how much lift it will generate at a safe and appropriate airspeed. If an RAAus aircraft, for example, required a take-off speed of 100 knots to generate enough lift to support its weight, that would not be safe. Taking off and landing at lower airspeeds is certainly safer than doing so at higher speeds.

The point at where an aircraft balances is also a significant factor in determining if the aircraft is safe to operate. An aircraft that is not balanced properly can exhibit poor maneuverability and controllability, making it difficult or impossible to fly. This could result in an accident, causing damage to the aircraft and injury to the people on board. Safety is the primary reason for concern about an aircraft's weight and balance.

Understanding where the CG for the aircraft you are operating will aid in its safe operation. Does it have a forward or aft centre of gravity? The aircraft designer establishes the extreme forward and aft limits. The aircraft must be stable and controllable within this range at all corresponding weights. The condition that usually determines the most forward centre of gravity limit is that the aircraft must be controllable on landing. This means that the aircraft shall be able to be trimmed at the high lift / low speed

values required for that perfect landing. Other control scenarios that influence the forward limit is the capability to make prompt pitch-up avoidance manoevre's and the capability to make a prompt nose down recovery at low speed for stall recovery. The above are inflight considerations however the forward limit must also take into account the maximum loads on the nose gear for aircraft with a tricycle gear configuration.

Static longitudinal stability is the most important factor in determining the aft CG limit. At the aft CG position, the aircraft should demonstrate that a positive natural stability exists, that the aircraft is capable of pitch control at low speeds and high thrust for example during a go around. On the ground, an aft CG would, of course, cause a tail strike. Minimum loads on the nose landing gear are required for good nose wheel steering with the maximum loads on the main landing gear.

What happens when the CG limits are exceeded?

The aircrafts flight characteristics will be adversely affected whenever the limits are exceeded. As the CG moves past the aft limit the coordination and control motions required to maintain a stable flight condition will exceed the capability of the pilot and the aircraft will become uncontrollable. On the ground an aft CG of course would cause a tail strike in a tricycle undercarriage aircraft even at low power during the take-off roll. The affect of CG position forward of the forward limit is evidenced by a decrease in elevator control authority. The elevator control required to manoeuvre the aircraft is increased.

At some point, elevator control might become insufficient to perform required manoeuvres, such as the flare during landing or a go around. During take-off, the CG position can be moved forward until it reaches the point where the aircraft is very stable but cannot be rotated, or can only be rotated with great difficulty because the elevator has reached its maximum deflection.

An adverse CG position can also have significant effects on the loads imposed on the aircrafts structural components and could cause structural failure because it is not designed to operate in these regions.

Exceeding the maximum take-off weight will affect the flight performance characteristics as well as excess structural loads. The take-off ground roll increases and the climb performance decreases. The heavier the aircraft is the more the margins are reduced especially for shorter fields or if there are obstacles to clear such as trees.

Over a period of time, almost all aircraft have a tendency to gain weight. Examples of how this can happen include an aircraft being repainted without the old paint being removed, and the accumulation of dirt, grease, and oil in parts of the aircraft that are not easily accessible for cleaning. When new equipment is installed, and its weight and location are mathematically accounted for, some miscellaneous weight might be overlooked, such as wire and hardware. For this reason, even if the aircraft is not required to be reweighed, it is a good practice to periodically place an aircraft on scales and confirm its actual empty weight and empty weight center of gravity.

To find out more and become a RAAus qualified weigher, log into the member's portal, select online learning and complete the weight and balance course. To aid members, RAAus have purchased calibrated scales for member's use. More on this development shortly. Stay tuned to the RAAus E-News.

The Knowledge Base –
Welcome to a new safety information initiative

The Knowledge Base is an online hub of the RAAus website for the collection, organisation and storage of information to be shared and searched by our members. Information contained in the Knowledge Base will be sourced from RAAus members, manufacturers, CFIs, maintainers and a range of additional interested, and aviation related parties. It consists of frequently asked topics and fact sheets that relate to the operations of RAAus. It also provides an archive of previously produced information from a range of articles and website links.

The fact sheets and information are documents or short articles that provide plain English advice on specific RAAus operational topics and the access point is through the RAAus website.

For the month of October the Knowledge Base's content will be specifically focused on safety-related topics to coincide with the launch of the National Safety Month. From November, it will expand to include information that you, as a member, may be find interesting, but have not been able to locate previously.

How does it work?

The knowledge base is not merely a space for data storage it is used to enable members to also access and use the knowledge. It promotes the collection, organisation and retrieval of knowledge by storing help documents, manuals, troubleshooting information and frequently asked questions.

By accessing the RAAus website homepage and selecting the "Knowledge Base" button, you will be able to access a continually growing library of information. Information in the knowledge base is searchable by both category and keyword to make finding what you're looking for as easy as possible.

Does the knowledge base direct me to any other material?

Yes it does! For every topic and question raised the knowledge base will show other relevant and related documentation, policies or websites. It will also show you other related factsheets that are linked to the topic.

In some cases there is also previously published information available from articles in Sport Pilot Magazine or other aviation publications that RAAus has highlighted for its members to read for more information.

So what kind of information and answers to questions are you looking for?

RAAus' Knowledge Base will continually evolve to include the latest research, articles, presentations and much more. By letting us know what kind of information you are looking for, we can not only answer a question for one person, but also answer it for many at the same time.

All members are invited to use the Knowledge Base to distribute their information, technical reports, and other research material. To provide information for the Knowledge Base, please contact us at safety@raa.asn.au.

"The two words 'information' and 'communication' are often used interchangeably, but they signify quite different things. Information is giving out; communication is getting through."

Sydney J. Harris

Recreational Aviation Advisory Publications (RAAPs) – What are they all about?

Similar to the Civil Aviation Safety Authorities Advisory Publications (CAAP), the Recreational Aviation Advisory Publications (RAAPs) are provided to members to give guidance and explanatory information about the meaning of certain requirements in the RAAus Operational and Technical Manuals and other RAAus policies. They also describe the methods to help you comply with the RAAus requirements in a manner that would be acceptable to an authorised person, RAAus or CASA.

RAAPs are advisory and should also be read in conjunction with the references, RAAus documents or regulations.

Why has RAAus introduced RAAPs?

At times, the Operations and Technical Manual are unable to provide further explanation in regard to a certain operational area. Therefore the RAAP has been introduced to provide information to members that gives further guidance and explanation in a more conversational style with less formal language than the RAAus Manuals.

RAAus has developed these advisory publications to provide clear, plain English guidance for members to conduct safe, professional and compliant operations consistent with RAAus Manuals and policies.

These publications provide interpretive information for members to better understand and conduct flight or ground operations or whether they fly or maintain an aircraft to teach the members to fly or maintain an aircraft.

So do I only need to read a RAAP? Are RAAPs the only document I will need to read?

No, RAAPS DO NOT replace specific requirements contained in the Operations and Technical Manuals or Operations Bulletins, Service Bulletins or Technical Advisories that may be issued and as such, a knowledge of these requirements should still be obtained by reviewing the relevant document in the first instance.

How do I access the RAAPs?

You can locate the RAAPs on the RAAus member's portal under the DOCUMENTS AND FORMS section. The RAAPs that relate to the Operations and Technical Manuals will also be placed near them to refer to if required.

THAT'S A WRAP

How First Aid Training can save lives

Unpleasant as it may be the fact remains that accidents happen and experiencing it as a bystander is not a pleasant experience or scene. In recent times RAAus members have unfortunately been involved in some of these emergency situations and if it wasn't for the fast thinking and first aid training of personnel at the scene the outcomes of the injury may have been a lot worse.

First aid is the initial assistance given to a victim of injury or illness and is usually performed by a layperson until professional medical assistance arrives.

The importance of first aid is hard to overestimate. Among the major benefits of first aid are the following:

Helps save lives: If a person who is training to give first aid administration happens to see any casualty in his vicinity, immediate action can be taken and lives be saved. While it is natural for most of us to rush to support any injured person, a trained person is more reliable, confident and in control of themselves and their actions while in trauma situations.

Helps relieve pain: Some injuries require a very simple solution like applying an ice pack or a quick rub. A ride to the emergency room is not necessary, at least not for some time. In such cases, calling a person trained in first aid courses is more reliable. They can help reduce the pain by performing simple procedures and can help relieve pain at least temporarily.

Makes people more secure: Knowing that you can save your own life when required, or that of the people you know or those in trauma during some emergency helps you relax more and be more secure. The sense of security promotes a healthy and a more confident environment around you where you and the people around you would feel more secure. The presence of such people provides reassurance to the others in the situation.

Prevents the situation from becoming worse: A trained person knows how to keep the situation from becoming bad to worse. They are able to provide temporary treatment which can keep the condition of the victim from deteriorating, till professional help arrives.

Knowledge of first aid promotes a healthy, secure and a safer environment, and instils confidence amongst people, their families, their colleagues and associates. Basic first aid knowledge is very helpful in dealing with trauma situations. Not just the medical help they provide, but the confidence they exhibit is very helpful during emergency situations.

SPECIAL OFFER TO RAAUS MEMBERS

As part of National Safety Month initiatives RAAus has been liaising with the Australian Red Cross.

Australian Red Cross are offering a member discount to all RAAus members for first aid training including the following courses:

HLTAID001	Provide Cardiopulmonary Resuscitation
HLTAID002	Provide Basic Emergency Life Support
HLTAID003	Provide First Aid

To book a course near you call the Red Cross on 1300 367 428 and quote RAAUS.

Or visit the Red Cross Course locations to find a course near you: https://college.redcross.org.au/

the power of humanity

AUSTRALIAN RED CROSS

TRAINING SERVICES

Save Lives. Learn First Aid.

Red Cross is the preferred first aid training provider for Recreational Aviation Australia.

Members discount applies to first aid training including:

HLTAID001 Provide Cardiopulmonary Resuscitation
HLTAID002 Provide Basic Emergency Life Support
HLTAID003 Provide First Aid

Call **1300 367 428** (option 2) and quote 'RAAUS' to book into a course near you.

Red Cross training programs generate income to support our ongoing humanitarian work.

RTOID 3605

NATIONALLY RECOGNISED TRAINING

Australian Government
Australian Maritime Safety Authority

LIGHT AIRCRAFT CRASH A REMINDER TO CARRY A BEACON

The forced landing of an ultralight aircraft during a sightseeing flight in South Australia earlier this year, is a good example of the importance of being prepared with the correct safety equipment, including carrying a distress beacon.

Late on January 5, South Australia Police were alerted by the concerned family of two men on board a single engine light aircraft, that were overdue after setting off on a two hour flight earlier in the evening.

The pair had departed from Marree, South of Lake Eyre and had failed to return.

The Australian Maritime Safety Authority (AMSA) tasked its Dornier search and rescue aircraft to commence search operations from first light the following day.

With no beacon activation or location details known for the missing ultralight aircraft, the search area covered approximately 5000 square kilometres, encompassing the southern half of the Lake Eyre district.

The aircraft had experienced engine failure and completed a forced landing about 30km north-west of Marree.

The pilot and passenger had not properly prepared for the circumstance they faced.

Without food or water, and no emergency beacon or access to two-way communications, the men were unable to alert search and rescue authorities of their emergency situation.

Repeated mayday calls were made and luckily one was received by a passing airliner. A short time later, the missing aircraft was spotted by a search aircraft and a rescue helicopter collected the men, who were fortunately uninjured.

Search and Rescue General Manager Toby Stone said had the men been equipped with a distress beacon, in particular a Personal Locator Beacon or PLB, search and rescue authorities could have been able to respond sooner because a location would have been provided.

PLBs are designed to be worn on a person's body so it is within easy reach in an emergency situation. Depending on an aircraft's carriage requirements, a PLB can be carried in addition to an Emergency Locator Transmitter (ELT).

AMSA recommends checking the beacon carriage requirements of the aircraft before each flight to ensure you are compliant.

"Having a registered GPS beacon could mean all the difference in a life threatening situation" Mr Stone said.

The online beacon registration system is free, simple and mobile friendly, so register or update your registration online at www.amsa.gov.au/beacons or by phoning on (02) 6279 5751.

PRE-FLIGHT PRECAUTIONARY CHECKS

- Carry safety equipment suitable to terrain being overflown
- Prepare your beacon before every trip
- Nominate a SARTIME
- Lodge a flight note with someone responsible

DURING AN EMERGENCY SITUATION

- Know when to activate your beacon

POST FLIGHT CHECKS

- Cancel your SARTIMES and report arrivals

To update your registration details or for more information on beacons, please visit **www.amsa.gov.au/beacons** or phone **(02) 6279 5000**.

At QBE we're committed to air safety

Through our partnership with Matt Hall, we're pleased to continue our Airmanship Program in 2016.

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