

# AIRSPORT

Sport Aircraft Association of Australia

Winter 2020



## JAMES FISHER + THE ZENITH CH 750 STOL

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Cover: James Fisher + his  
Zenith CH750 STOL

Photo: by Kathy Mexted

Above : James Fisher  
departing in the Zenith.  
Photo : by Kathy Mexted

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The Sport Aircraft  
Association of Australia  
is a group of aviation  
enthusiasts assisting each  
other to build, maintain  
and operate sport aircraft  
and educate members  
to continuously improve  
safety outcomes.



EDITORIAL

## AUSFLY HAS BEEN MOVED TO APRIL 2021



Got that? There is no set date yet, but Easter is looking good!

I was meant to be launching my book, 'Five Years of Airsport' at Ausfly this year. Just joking. I've written a book on ten Australian women pilots, which will be published for Christmas if 2020 doesn't have any more surprises for us. It will have been a five year project by then and that's plenty!

Back to business at hand, I met James Fisher at 2018 Ausfly. He was quietly manning his stand and when he gave me his card I promised to be in touch.

To begin this issue I started to search for stories.

When this new builder answered his phone with 'Hello Kathy' my apologies began. Luckily, he was nearby. He flew over and by 5 o'clock I had our great cover shot. Turns out James and his brother were once models so it's possibly not his first cover!

While talking photos, I nudged the National Councillors to take a willing accomplice outside with a camera so we can update the profile pics. There's a bottle of whisky for the best one, so if you are near an NC, feel free to collar them and send me the pic. Geoff Danes is clear leader at the moment for his Top Gun-esque effort, though Myles has done us proud by wearing a tie!

It was a delight to speak to Ron Van Bergen who is enjoying the wind in his hair after his long Skybolt build. What a colour scheme!

One builder who finally got going is Ken Warland, a generous contributor, who has written about his long-standing project, the NOS Thorp T-18. And Darren Barnfield, still high on his Russian encounter, provides a little insight into a foreign land.

I hope you all get plenty of hangar time so when people ask, 'What did you do in lockdown?' your reply can be 'I finished and flew my aeroplane without going crazy.'

Good luck and please don't be afraid to contact me with your stories and news. Thanks to all our contributors in this issue.

See you in the Spring !

Kathy Mexted, Editor  
airsport@saaa.com



# PRESIDENT'S NOTAM

## Dear Members

My NOTAM for this edition is short.

I start this report with the sad news that we have lost another member, John Gleeson of Chapter 20 Kyneton Victoria. We send our deepest sympathy to his family and friends.

Norm Edmunds has written about John in this edition.

National Council has appointed a new Councillor, Myles Breikreutz.

Myles has a wealth of aviation knowledge and takes on the important board role of Manager, Construction & Maintenance.

Myles will work with Norm Edmunds to ensure all of your building and construction, plus maintenance questions are answered. See our website for contact detail.

Welcome to the team, Myles.

Due to the COVID 19 pandemic flying activities have been low, however with the extra time at home those still building have enjoyed a real shot of progress.

Norms level of enquiries have been steady. We encourage those of you who are a little unsure on anything to do with Building Construction or Maintenance to drop Norm or Myles a line.

As Australia comes out of the restrictions and normal life begins to resume, we encourage you to return to aviation in a safe and considered way.

If you are feeling rusty on your flying skills, think about doing a quick trip with an instructor or safety pilot. Have a chat with our Transition Training team.

Remember the ditty :

*“There are old pilots  
and bold pilots,  
there are few old bold pilots”*

Be Safe, plan well, execute the plan.

I encourage all Chapters and members, as soon as your State restrictions are lifted, to plan a BBQ and social event and help kick off aviation, the chatter and camaraderie we all enjoy.

Maybe extend the hand of friendship to others who are not part of the SAAA as we are all aviators under one sky!

In the meantime have you been using tools like Zoom to stay in touch? It's free and works well.

Anyone can setup a zoom conference and the free use application gives you 40 minutes of face to face comms. I

it does get a bit limited if there are more than nine people using video, but the audio works for all, just don't try all talking at once.

So far, I have attended my own Chapter 24 Saturday meetings (morning tea) for the latest few weekends.

It's definitely BYO tea and scones, but does work well to keep your group together.

I learned that one of the guys finally developed and checked his own design and built ground proximity system. It's amazing what some free time and isolation can produce - well done Paul Blackney.

Additionally, your NC meets via Zoom on a monthly basis. We do have a subscription, so we are not time limited.

Our Youth Build Project is still going ahead with the RV12 kit due to arrive over the coming months.

We had hoped to have the kit airfreighted by a sponsor, but this has become implausible with COVID19.

C&H Freight (featured in our advertisers) are providing the organisational expertise to ship our kit components. Thank you Christine Morgan and your team.

Kit components will arrive in both Melbourne and Fremantle and will be distributed upon receipt.

Current indications show some secondary students have already returned to classes and we are confident that by the time we receive components that all schools nationwide will have resumed on campuses.

The schools are preparing to get started once their allocated components arrive.

This edition of *AirSport* features one of our schools, Mueller College.

Grab a coffee and read about this school's great involvement in aviation.

I particularly like the comments from the students and their excitement to be involved in the project.

Over the coming editions we will feature all the schools with our updates.

We have sponsors coming on board and I extend my sincere thanks and appreciation for their support.

As the COVID19 curve flattens and restrictions start to ease, we are planning our attendance at Avalon 2021.

The key assumption is that Australia will largely be back to normal by Christmas.

This Avalon is also the Centenary of the RAAF, so we can all expect a reasonably heavy metal jet-centric show.

Well, that comment was probably relevant before COVID but who knows now!

We are just planning for it to be an extravaganza of aviation.

As usual we will be looking for great examples of our experimental aircraft to be put on display.

**Please contact Lainey if you want to be involved.**  
[mgts@saaa.com](mailto:mgts@saaa.com)

On the other hand, AusFly is much closer scheduled in October and normally we would already be well into the planning phase.

**The stakeholders met via Zoom on May 7th and decided to delay AusFly until April 2020.**

The early decision to inform members, sponsors, and exhibitors was not taken lightly, but in the interests of all, to allow sufficient time for the Australian economy to strengthen and for people to get organised for an April event.

**The likely return of AusFly is to an Easter event 2-5th April.**

**CHECK FOR NOTAM UPDATES.**

If you have booked accommodation, remember to change it! Re-mark your calendar and book your leave. Book your MPC course. The format will generally be unchanged.

More information will be forthcoming on the website and social media.

If you have any questions, please contact Lainey at [mgts@saaa.com](mailto:mgts@saaa.com)

Did you see the advertised positions for Flight Ops and Safety Management? We sent everyone a NOTAM email delineating these part-time positions with in the SAAA.

Building a stronger SAAA to service your aviation dreams. Plan well, build well, fly safe.

*TONY WHITE  
NATIONAL PRESIDENT*



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# SAAA POSITIONS VACANT

## SAAA Seeks To Fill Two Part-time Technical Support Positions

As SAAA continues to reduce its reliance on volunteers and develop support to our members, we now need to fill two identified part-time positions to support our Safety Management and Flight Operations.

The roles will complement the role currently delivered by Norm Edmunds, our Technical Advisor – Construction & Maintenance.

Initially, we seek expressions of interest from suitably qualified members who can commit to these part-time positions and become part of the established SAAA technical and administrative support team.

If you are interested in either of these roles, please contact as relevant:

Martin Daniell, Manager Safety

[martin.daniell@saaa.com](mailto:martin.daniell@saaa.com)

or

Gary Weeks, Manager Flight Operations

[gary.weeks@saaa.com](mailto:gary.weeks@saaa.com)

The summary scope of these two positions are:

0429 378 441 0416 055 011

### Technical Advisor

#### Safety Management & Promotion

The position reports to the SAAA Manager Safety with principal responsibilities to support and guide the implementation of the SAAA Safety Management System.

Much of the role will be around risk assessment and identification, proactive and reactive activities to mitigate risk, promotion of a positive safety culture, and coordinating the delivery of information that improves safety outcomes.

There will naturally be a strong link to training and knowledge development in the context of responses to identified risks and gaps in training / knowledge.

A small part of the role includes a measure of internal and external safety reporting.

You can find a copy of the SAAA Safety Management System (SMS) Guide on the SAAA website – log in to the site, and head to either the Safety page or the Technical Reference page (under Member Information) and look for the link.

### Technical Advisor – Flight Operations

The position reports to the SAAA Manager Flight Operations with principal responsibilities to support the delivery and administration of the SAAA Flight Training & Safety Manual, provide day to day guidance to members and support our Flight Safety Advisor (FSA) team in all related matters.

Much of the role will be around promoting the scope of assistance that is available to our members through our FSAs, helping members to connect with FSAs and otherwise offering general guidance and information on flight operational matters.

The role includes helping to develop the FSA team build geographic depth to the team so all our members can readily access FSA support, particularly test pilots and instructors.

There will be a measure of administration relating to notifying CASA of changes to SAAA Instructor appointments, co-ordinating flight training records and providing support to acquiring an authorisation to deliver Flight Reviews.

You can find a copy of the SAAA Flight Training & Safety Manual at [saaa.com.au](http://saaa.com.au). Building & Flying or the Technical Reference page.

# Myles Breitreutz

You will recall we invited members to nominate for the National Councillor position vacated by Chris Wilson.

We have great pleasure introducing Myles Breitreutz, who nominated and was appointed by the National Council on 21st March.

Myles will also take on the important role of Mgr. Construction & Maintenance.

We say to Myles 'Welcome – and many thanks for stepping up to contribute to SAAA.'

Many of you will know Myles and a little bit about his background. But if not, here is a little bit about Myles' background. He has a lot to offer!

Myles has been in the aviation industry since the 1970's particularly with operations and maintenance.

He is a current licenced pilot and holds a non-current Canadian and US PPL.

He also holds certificates for Gliders and Ultralights and is a pilot examiner and CFI for ultralights.

Myles currently holds a CASA ABI to carry out inspections for Amateur built aircraft for

registration with RAA.

He has built many kit planes and scratch built aircraft employing methods such as wood fabric, tube fabric, metal and fibreglass.

This knowledge comes from working as an AME in registered establishments under a chief LAME and is still the case today.

Myles designed, built and tested the metal wings for a Terrier MW where there are several in existence with one being shipped to China.

In the past five years, he has been developing Pilot Operator Maintenance Training Package and has delivered training to interested people across Queensland under an acceptance letter from CASA.

During this time, he has also studied and worked with Part 149, 141 and Part 6. He has had numerous training courses provided by CASA.

Until 2014, Myles served on the board of Australian Ultralight Federation and Recreational Aviation Australia and held executive positions over the 16 years.

In 2017, he completed an accreditation as an International

Quality, Safety Lead Aviation Auditor and currently undertakes audits on aviation and non-aviation businesses.

Myles holds a certificate as an Incident Lead Investigator within ICAM system which is also used by the ATSB.

He is on the Queensland police register for assistance with aviation accidents.

We look forward to getting to know and work with Myles on the National Council.



## WELCOME NEW MEMBERS

### NSW

Esteban Tecitor  
Geoff Graham  
James Roberts  
Michael Quigg

### VIC

Franz Ranacher  
Graham Dorrington  
Johnny Hour

### WA

Adam Gibbs  
Andrew Wade  
Len Handasyde  
Patrick Shannon

Peter Emby

# John Gleeson 'GLEESO'



**S**AAA Chapter 20 Kyneton District and Kyneton Aero Club member John Gleeson passed away on 28th April 2020 after a recent stroke.

Gleeso was a great supporter of SAAA activities, attending most of our annual conventions for many recent years and lending a hand with all sorts of things while there.

Many moons ago he sold his Piper Tripacer (Piechaser) and bought a Murphy Rebel U/L kit, but in recent years, nothing much has happened with it.

He was always gonna get on with it, or more recently, maybe sell it.

Yes, Gleeso could talk the leg off a chair and start on the next one. And had a few standard phrases that he'd pull out of the bag.

He called me one day and I had no idea whose number it was, until he announced 'It's Senior Sergeant Vic Bitter, Carlton C.U.B.' (I hope you get the beer references there.)

He spent lots of years within the gliding fraternity, towing gliders with a Pawnee or Super Cub at Bacchus Marsh and even all the way to Porepunkah for gliding camps.

And then Avalon International Airshow, John spent many years on the front line assisting top international airshow performers such as Manfred Radius (glider) and Eddie Andreini (Super Stearman) and no doubt many more with their requirements and making lifelong friends in the process.

Gleeso could be seen on occasions in recent years, behind the counter at the late Greg Bells' Gee Bee Aerospace pilot shop in the terminal building at Essendon airport, holding the fort while Greg was elsewhere.

Greg and Gleeso will no doubt be catching up for a beer right now I imagine.

We'll miss you Gleeso. You were one of life's great characters.



*Norm Edmunds  
Chapter 20, Kyneton, Vic*

# The NORM Report

## Bolt lengths for beginners (+ everyone else)

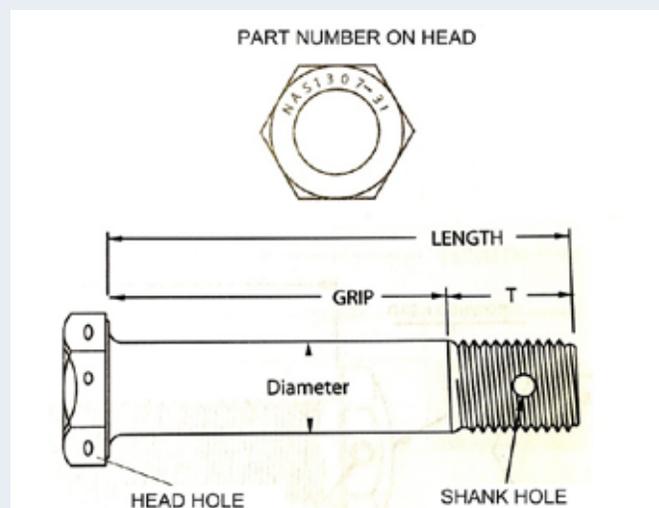
One of our very active Technical Counsellors who shall remain anonymous (but let's call him 'Brian' for the sake of the story) was working with a first-time builder who has built a really nice wooden aircraft.

Brian identified that some AN bolts on the aircraft appeared a little short, some appeared a little too long and some were just right. Hmm... sounds like Goldilocks trying the three bears' porridge. Too hot, too cold, or just right. I dunno why bears are eating porridge, could be some British thing ... and I don't even think they have bears in Britain. Maybe they did in 1837 when that story first surfaced, I dunno. Anyway ...

## So what is this magical just right?

Ask five people and you'll get five different opinions. Let's bypass all that and go straight to the facts. Information on this subject is available in FAA AC 43.13-1B, Chapter 7, Section 3, Bolts, Para 7 – 37 Grip length:

Bolt grip length of a fastener is the thickness of the material the fastener is designed to hold when two or more parts are being assembled.



All bolt installations which involve self-locking or plain nuts should have at least one thread of the bolt protruding through the nut.

Oddly, there doesn't appear to be any advice or warning about having too many threads protruding, which I think is an even worse situation because it can sneak up on you and not be quite so obvious to the novice aircraft builder. The nut might have reached the end of the thread before the fastener has done its job of holding parts together.



### How many threads protruding is too many?

Around 5 for AN365/MS20365 standard elastic stop nuts and more than 5 if you are using AN364/MS20364 low profile elastic stop nuts.

So having the grip length and protruding threads “just right” is what we must aim to achieve.

Again, don't ask five people for five opinions. Recall what FAA AC43.13-1B says about at least one thread protruding? Then there is more on how to arrive at that:

**Bolts of slightly greater grip length may be used, provided washers are placed under the nut or bolthead.**

**The maximum combined height of washers that should be used is 1/8 inch. This limits the use of washers necessary to compensate for grip, up to the next standard grip (bolt) size.**

So this is where it is handy, perhaps even essential, for the builder to have a supply of extra washers – thick (0.063 or 1/16 inch) and thin (0.032 or 1/32 inch) so you can mix and match to achieve that ‘just right’ number of threads protruding.

Often, you might need another bolt of one size (length) up or down.

Minimum of one full thread, and

I'd be aiming for no more than 3 threads showing, to keep well away from the nut reaching the end of the threaded portion.

And don't just accept that all the bolts supplied in the kit are all going to be 100% correct.

It is **your** job to make it correct if you have to.

Bolts supplied in kits are generally right, but ultimately, **you are** the builder, the kit supplier isn't.

It's **your job** to fix it if it needs fixing.

At what point should you alert your kit supplier about a wrong bolt size, if at all? It depends.

There's “specified bolts” (as shown in the plans) and there's “supplied bolts” in the packet.

- Is the supplied bolt the specified bolt (length)?
- (Did you get the right one?)
- Is the specified bolt actually the correct size (length)?
- (Did they get it wrong? – and “how much wrong” is wrong?)

I would call one bolt size longer or shorter is not exactly wrong, it's just different.

However, a bolt that is **more than** one size long or short might be worth a mention.

Any bolts that are very wrong – as shown on the plans would be worth a mention.

Maybe even you are looking at something wrong.

Get someone over to check it. Who?

Oh, I dunno, maybe an SAAA Technical Counsellor or your local friendly LAME or another experienced builder or just another SAAA member.

### We have no room for ‘She’ll be right’ in what we do.

In SAAA Technical Bulletin 1.1-001 (found where? - on the SAAA website Technical Reference Centre), Vans Aircraft gave a good reason for how it is possible for apparently wrong bolts to be supplied:

*“If you can't see at least one thread, then you should go the next size bolt.*

*This happens occasionally in the plans.*

*A rivet might be too short or too long. A bolt might be too short or a bit too long.*

*We specified what the engineer's calculations at the time showed.*

*Perhaps the powder coating (eg. on a part) might be thicker than it was originally.”*

I've known builders to spend an extraordinary amount of time complaining to their kit supplier (no, not Vans) about one single bolt being one size too short, **demanding** that one bolt be sent out (from the USA).

Come on, suck it up Princess, it's just part of aircraft building.

Have a stash of assorted spare bolts and washers on hand.

When building my Starlet, the plans don't specify bolt length, just AN3, AN4 etc.

## NORM REPORT

So I spent a lot of time going over the plans, measuring theoretical component lengths and working out exactly what bolts I needed to buy.

Did it work out spot-on every time? **Nope!**

One size over or under was sometimes required, or mix and match thick and thin washers, or both.

“The Boss” (John Corby) had no control over how I built my plane!

My sandpaper might have been a bit blunt here and there, my gluing might have been a little too generous, who knows.

I just got on with it and sorted it out. I spent the time getting them “just right” (and Goldilocks got to live another day.)

### **CASA EX 43/17 update:**

CASA Exemption 43/17 Maintenance on Limited Category and Experimental Aircraft expired naturally on March 31.

It has been replaced by CASA EX 55/20 Maintenance on limited category and experimental aircraft Exemption 2020.

EX 55/20 is about the only direct exemption we have for our aircraft.

Yes, we are also exempt from one or two other small things, but not via specific exemptions for them, more so within some other document from CASA.

AD/PROP/I springs to mind, which gives an exemption by the wording ‘other than’ ...

Most folks understand that we don’t build and operate our aircraft under a whole range of exemptions, we build and operate to CASA regulations and permissions.

In a nutshell, one of the things EX 55/20 exempts us from is having to use proper “aircraft grade” replacement parts in our aircraft, because we might not have used them in the first place, because we didn’t have to use them in the first place.

There are no design standards for Experimental Aircraft remember.

(Build anything you like, out of anything you like, and power it with anything you like.)

The Exemption also describes Major Modifications in some detail, and SAAA has an Information Paper (Where? The website Technical Reference Centre) describing that topic in more detail.

### **Building stuff:**

Well, I suppose many members have been tinkering away in their sheds in recent weeks, due to that thing, the thing, you know the thing, the thing that has completely stuffed the whole planet and economies around the world.

I’ve been doing a bit on the FirStar flaps and ailerons.

Frank Deeth has gone almost full-time on his Spitfire project as Qantas doesn’t have much going on.

There are a lot of airline pilots within

SAAA ranks, keep in touch with your mates, see how they are going.

Warren Canning is about to start assembling the wings of the Whisky IV in his shed, using my “build it flat on the bench” method rather than some crazy vertical jiggery and sorcery.

I’ve had a couple of enquiries come in of:

**“Can we go flying during this lockdown thing?”**

and the answer was :

**You’ll have to refer to your State Government Directives about what you can and can’t do.**

SAAA is in no position to say yes or no, and as far as I can tell, neither is CASA – it’s not their lockdown.

Maybe it’ll almost be over by the time you read this and we are back in the air.

See you on the other side (of the thing, that thing, you know the thing ... ).

*NORM EDMUNDS  
TECHNICAL ADVISER*



# Mueller College



**M**ueller College is on 60 acres at Rothwell, Queensland and is a ministry of Mueller Community Church. The College was established in 1990 as a Christian, co-educational day school and caters for students from Christian and non-Christian backgrounds. It has around 1800 students from Prep to Year 12. It is part of the larger Mueller Community, which includes a Childcare Centre, Aged Care Facility and Retirement Village.

The school's flying club, MUROC (MUeller Radio Operated airCRAFT) commenced in October 2004 with four students who would meet during their lunch breaks to build and repair foam aircraft, which they would then fly during sport. Mueller College entered a team into the inaugural UAV Challenge competition in 2007 and won it! The prize money helped the club to grow and purchase more equipment and the school have entered a team every year since, winning more trophies over the years. A CASA area approval enables staff to teach students how to fly both RC fixed wing and drones on the school's oval.

In 2009 Mueller became an Aerospace Gateway to Industry (AGISP) school and commenced teaching Aerospace studies to year 11 and 12 students and several years later offered STEM / Aerospace to students in years 9 & 10. As an AGISP school, Mueller has direct access to aviation career pathways and re-

sources. AGISP schools enjoy close liaison with Boeing Defence, QANTAS, Airbus, GE Aviation, TAE Aerospace, Brisbane Airport Corporation and Queensland Government to name a few. Mueller College Aviation's direct industry partners are Redcliffe Aero Club and Aeropower Helicopters located at the nearby Redcliffe Airport which they share a boundary with. The Aerospace and STEM students are offered rare opportunities and experiences such as guided airport tours, visits to Qantas Hanger 3 and Airbus to see aircraft maintenance up close and personal and visits to Air Traffic Control, including the tower.

In 2019 the Aerospace / STEM workshop was renovated and extended and now incorporates a large classroom complete with simulators, Qantas airline seats and a 3D printer. The workshop area was designed with the thought of one day building an aeroplane in the room and incorporates 6 large workbenches, 2 of which will be dedicated exclusively to the wing build. The rest of the room contains a bank of soldering irons, a hot wire cutter for cutting out foam wings, a bandsaw, belt sander, a drone test cage and a robotics playing arena.

There has been great interest from the student body in the project and 15 students have been shortlisted for being involved. Some of their reasons for wanting to be included are:

## BUILD + FLY PROJECT



*We thank our sponsors for supporting this initiative.*



Chapter 24 - Jandakot

“I want to be a commercial pilot after school and I would love to be part of building a full-size plane” – Anton

“I’ve always been interested in how planes work and how they’re built and learning to fly would be a nice benefit too. One of the jobs I’m thinking about doing when I’m older is Aircraft Maintenance Engineer and this would be a good way to see what it’s like.” - Joel

“We have been talking about this project since last year in class and I was so excited to participate in it. Moveover, I dream of having a job in the aviation industry, so this project will help me in understanding and knowing more about what I want to do in the future.” - Ramia

“I am interested in an Aerospace / STEM career. I would like to work for NASA in the future and I believe that working on this project would improve my teamwork skills, as well as any other building / engineering skills. I enjoy learning new skills and I think this experience would positively contribute to my aspirations of becoming an astronaut.” - Jessalee

“I would greatly appreciate the opportunity to be involved in a project of this kind as it is my future desire to be a pilot. This project would provide me with the knowledge and experience to support my chosen career path.” - Mitchell

“I have a great interest in anything to do with aviation. I am currently doing subjects which will allow me to follow

a career in the air force and I feel that this project will give me an insight into how planes are built and operate.” – Hayden

“Aviation and STEM is integral to my interests and hobbies. I am always striving to learn as much as I can in these fields and getting involved practically in both technical aspects and flying will be keystone in my learning and vocational journey. My prior knowledge of these topics is procured from an education on aerodynamics, aircraft engineering and experience flights with the Australian Air Force Cadets, as well as model aircraft construction and flying with my father who is an aircraft engineer. My enthusiasm to learn, get involved and share my knowledge with my peers and team mates makes me an ample candidate for the program.” – Oscar

“I would like to participate in the Build A Plane project because I think it would be a good way to learn about engineering and I think that it would be cool to say that I helped build part of a plane.” - Fiona

The students are keen to commence building and staff will be updating their progress regularly with online build logs and photos.

The details of the build logs will be posted on the Mueller Aviation facebook page when it is up and running.

[facebook.com/muellerAviation/](https://facebook.com/muellerAviation/)





Heading home from Ausfly 2019. Jack Ferguson (right) with his schoolfriend Max Wheeler. Jack won the award for youngest pilot to fly in to Ausfly. Max is now learning to fly as well.

# YOUNGEST PILOT

I got my interest in aviation at a fairly young age. (Note from editor : he's only 16 years old now!)

My great uncle would take me flying in his two Rans aircraft in Holbrook NSW.

Throughout primary school one of my best mates and I would head from home at the Hunter Valley down to Sydney International Airport and do some plane spotting.

I also loved spending my weekends at the local aerodromes and that's where I started my aircraft cleaning business and meeting some of the pilots that have helped me.

At about 14 I started my 'official' flying training with Keith McGeachie from Recreational Aviation Newcastle.

I've always found it easy talking to people, but what really got my foot

in the door was social media.

Through social media I met one of my biggest aviation mentors, Gerard Kitt. Gerard is the owner of KG Aviation Sales. He was a Sales Rep for Tecnam and provided me with lots of opportunities.

When I was about 12-years old I sent an email to a man named Bob Finch.

Bob was the President of the HRFC (Hunter Recreational Flying Club) and I asked him if I could come in for a look around and meet some of the people there.

I was greeted by so many kind, like-minded aviators at the club. From that day I spent every weekend there talking, cooking BBQ's and going for rides in aeroplanes.

I have been so fortunate to be able to have done the flying I have so far.

I have been able to experience many different types of aircraft and fly to some cool places.

My first solo was a few days after my 15th birthday in a Tecnam Sierra at Cessnock. I was also lucky to receive the RAAus Scholarship that helped me a lot financially with my flying.

I did my flight test, PAX endorsement then Navigation Endorsement. I'd really like to thank my flight instructors Keith McGeachie and Leighton Judd. They were patient and very helpful through that training.

I would also like to thank a good mate of mine Keith Rule. Keith has helped me a lot with my flying and development as a pilot.

He has also helped me with getting hours and flying experience in his aeroplanes.

## JACK FERGUSON

Gerard Kitt has also been a massive help and has provided me with opportunities to go on some awesome trips.

I really love furthering my flying through new endorsements and courses.

A few months ago I did my Retracts and Constant Speed with James Rose at Phil Unicomb Aviation at Cessnock NSW, and I am about to start more advanced flying with Phil.

I came across SAAA on my first ever Narromine trip when Don Ramsy and I flew out there is his beautiful Sling 2.

I wandered over to the marquee and had a chat.

They were all very kind and gave great advice, they have also inspired me to help our future generation of pilots.

Ausfly is one of the greatest fly-in's I've been to and I got to go with one of my best mates, Max.

Max used to go to school with me and he is also doing his RAAus training.

We left Cessnock early Saturday morning and had a great flight out there with a bit of a headwind, but it was good fun.

That night at the dinner I was humbled to win the Youngest Pilot to Fly In award.

It was such a great experience and I look forward to heading out there this year.

Max and I stayed at my friend's place in Narromine and left early Sunday morning.

Sunday morning breakfast was probably the best Bacon and Egg Roll I have ever had.

We flew back in company with Gerard in OTIS.

I'd like to thank Keith Rule for letting us take his pride and joy Jabiru 160 to the event.

Also, I'd like to thank SAAA, Narromine Aero Club, Ausfly, AOPA and KG Aviation for putting on an awesome event.

I made a YouTube video about our trip so feel free to check it out.

There are so many people that have helped me and I'm so grateful to these people supporting me and providing with opportunities around aviation.

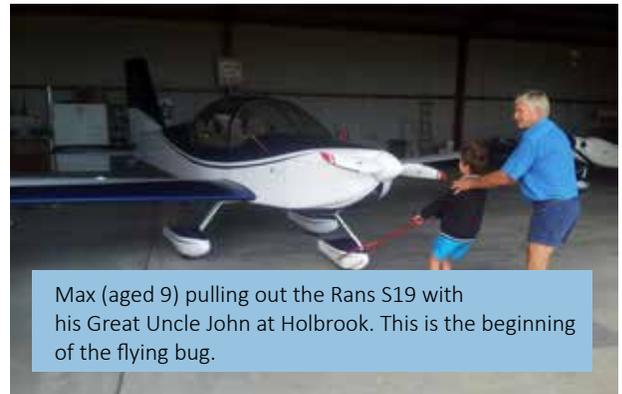
Thank you for sharing my story and hopefully showing other young people that aviation is really accessible.

Thanks for reading.

*JACK FERGUSON  
Hunter Valley*



Ferrying Tecnam Sierra from Temora to Hunter Valley



Max (aged 9) pulling out the Rans S19 with his Great Uncle John at Holbrook. This is the beginning of the flying bug.



First Solo



Jack with his Great Uncle Alan Ferguson flying in a Fuji SA200 over Moruya.



C185 lesson with Paul Bennet



The Hangar House, Mudgee

*To some people, flying is a hobby and to others it's a job. For long-time SAAA member Gary Burns, it has been both.*

**L**ike many of us, Gary's aviation interest began with his father, who was CFI in Taree, NSW for many years.

Gary has worked as an ag pilot, then a charter pilot with Bob Tait.

He got his break into airlines with Hazelton Airlines before going on to TAA, Australian Airlines and Qantas.

In 2007 Gary took two years leave without pay and contracted on Airbus to China Eastern based in Shanghai.

But during all this heavy lifting, Gary continued with small planes and competed in aerobatics in the early 1980s where he won a Sportsman and Advanced category in the Australian Aerobatics Championships.

He has also owned shares in a 1957 De Havilland Chipmunk

and assisted to build a Slepke Storch.

But when it came to building his own aeroplane, Gary took a fateful trip to Oshkosh in the early 1990s.

It sparked his interest in a new fast carbon fibre aircraft.

One flight and the deposit money was flying out of his wallet.

He spent six years building VH-LKG and then, as a nod to where it all began, he flew the thing back to Oshkosh!

Not content with just showing the Americans his shiny new toy, Gary figured he was already in for a penny, so he went for the pound and continued on with a round-the-world flight.

Together with a young Qantas

First Officer, Alex Schenk, Gary spent six weeks on that journey, taking in the USA, Ireland, Italy, Switzerland and then whatever fuel stops were required to get them home.

The trip took 80 flying hours and broke 12 world speed records.

There is a website detailing the journey [www.80hours.com.au](http://www.80hours.com.au) and Gary joined the exclusive Earth Rounders group.

LKG was sold a year later. Between work and family commitments, the money was utilised in a better way.

Gary's interest in Lancair Aircraft never waned and he remained involved in the Lancair Owners and Builders Organisation.

You only get one life and Gary's was flying by about as quick as a Lancair.

# Flight Plan to Retirement

A few years ago, a perfect storm saw him preparing to retire, VH-LKG come up for sale and so did his retirement home! Not your average retirement home, either.

All it took was a nod from 'the wife' and Gary and Kaye were the proud owners of his old aeroplane and the shiny new Hangar House at Mudgee. What pilot doesn't want to retire to a hangar in the country?

As Kaye sorted out the details of running a business, Kevin Hayden arrived to help with the total refurbishment of the aeroplane.

These days Mr Burns can finish his breakfast, read the news, then wander out the door straight into the hangar.

From there it opens directly onto the apron and it's a short taxi to the threshold.

The latest records in the Lancair, as detailed in the last *AirSport*, have now been confirmed and all are framed and displayed in his office.

Once this Corona Virus is over and businesses resume doing what they love, Gary and Kaye would love to host more aviation enthusiasts in beautiful Mudgee at the stunning Hangar House.

Heaven help us, you can fly half the day and talk aeroplanes half the night!

Gary's not a huge talker, but he sure does know a lot about aeroplanes!



Gary Burns +



With fellow Earth-Rounder, Dick Smith



Gary + Alex Schenk



Kevin + Gary collect an award at Ausfly 2019



Inside the Hangar House

- Brisbane to Pago Pago
- Pago Pago - Hilo
- Hilo to San Francisco
- Bangor to Gander
- Gander to Shannon
- Bangor to Shannon
- Campino to Larnaca
- Larnaca to Muscat
- Muscat to Phuket
- Phuket to Darwin
- Darwin to Brisbane
- Brisbane to Sydney
- Sydney to Brisbane
- Brisbane to Sydney to Brisbane
- All records are still unbroken. 419 knots ground speed on descent is the best achieved so far.





# The NOS Thorp T-18

## HOW WE GOT HERE.

*In the previous chapters, it was revealed that this Thorp T18 had languished, for more than 20 years, semi-completed due to a terrible accident involving its original builder. **Ken Warland** continues the tale.*

Part completed projects can often be a minefield of poor workmanship (particularly scratch built one's) and missing key components, that will make some of them sadly, not much more than someone else's forgotten dreams. This is a whole subject on its own that I may cover in future.

This particular aircraft could have easily been one such case. There were however a couple of key elements to this project that would eventually see it through to completion (and its eventual first flight 48 years later) that set it apart.

First and foremost the Thorp T18 is one of the "Halo" designs of the experimental aircraft world.

Designed by an aeronautical engineer of exceptional talent and calibre the T18 was an immediate

hit when introduced. It offered sporty performance, mixed with excellent flight characteristics, simple and pioneerNOSing construction techniques with readily available materials and a pedigree that assured its builder of a sound investment, making it one of the most popular designs to come from the world of the amateur aircraft builder.

Secondly this particular project had been constructed with a precision that is second to none. It was also begun under the old ABAA (Amateur Built Aircraft Approval).

This was the system used before the Experimental rules were introduced and believe me it was an onerous system.

Workshops had to be approved, plans had to be approved, every item of material had to be

approved, modifications even those that improved safety had to be approved by a Reg 35 engineer.

No surface could be permanently closed without inspection, and the list went on.

Once you managed your way through, your aircraft was considered to be of a very high standard.

This aircraft was started under this system of building, it therefore had a paper trail a mile long with supporting documentation dating back to its beginning in November 1972.

Its Builder, Malcolm (an avionics technician), painstakingly fabricated every single component with precision and care over a long period of time, assisted by a friend who was a retired sheet metal

## BUILDER

craftsman. They were never going to accept good enough.

Every component was carefully corrosion-proofed and stored once it was completed, and the plan set was gradually marked off and filed as completed. That's 220 odd sheets of engineering drawings.

Those Impossible-to-get parts!

They were all there: engine mount, undercarriage, canopy and screen, fibreglass cowlings and wingtips etc, even seatbelts.

These are the components that not only are hard to find now but are also costly to obtain and difficult to ship if you need to find them yourself. In the case of this project the original builder was still around, and willing to help and advise to see the project through.

All these elements led to my decision to purchase although I swore, I wouldn't build another aircraft.

There was also the undeniable fact that I had lusted after a Thorp for many years.

### MAL GETS FINISHED.

The project was purchased in December 2017 and my words were, "I would have it finished in two years".

I still remember the look on Rod's face when I made that statement. Rod would ring me to see how things were going and even came out to visit at the 6 -7-month mark, to check progress.

I think he started to pay attention more when he saw the progress.

He really started to get with the program when I asked him to upholster the seats, which he did beautifully, as that is his profession.

It was actually completed and taken to the airport in September 2019 but I had to deal with a few things that took a little while to sort out, and I needed to complete the MPC & W&B course, which wasn't available till the first weekend in February. So, I'm claiming a win!

In November, Malcolm was able to fly up from Tasmania and spend the weekend with Rod and his wife Patricia. He was brought down to Caboolture airfield where the completed Thorp was hangared.

His arrival with Rod was on time and we revealed VH-MAL to him.

His excitement at seeing the completed aircraft was a wonderful moment and he was able to sit in the cockpit for the first time.

The rest of the afternoon was spent at one of Queensland's wonderful hotels at nearby Bribie Island, swapping yarns and enjoying each other's company with a couple of drinks. The promise is to take him up in MAL next time he visits.



*MAL is delivered. Should be the only time it goes backwards!*



*Rob's beautiful upholstery*

As I sit here writing this chapter (at the urging of our Editor, Kathy Mexted) it is 19 April 2020 and I am proud to announce that

VH-MAL completed its first flight on 15 April.



*On the scales*

Once those issues were squared away my AP (Peter Leonard) and I were able to complete the weighing and paperwork for the required Special CofA and MAL was legally ready for flight.

I would like to proudly boast at this point that MAL is very light.

I deliberately worked very hard to make sure it would be, having built three aircraft before, I was very aware of how they can gain weight (much like ourselves) very easily by adding all those bells and whistles.

MAL is a day VFR sport plane and its mission is to be a light, high performance fun machine, that was the original intention of the design so I tried to stay true to that philosophy, so at 915 lb's empty weight with 180 hp it should perform very nicely.

John Thorp's original T18 with 180 hp was around the same weight, he in fact used to say something like "design them as light as you can and then reinforce what breaks".

### KEN GET'S FLYING.

The next stage of the program personally, was to get myself back up to speed with flying.

After completing the SAAA's Risk Radar it was obvious that I would need a bit of work in that area.

## BUILDER

One of the problems is that often when building, flying tends to get neglected for some of us and that was the case for me.

I went to a flying school to do some training, unfortunately the aircraft on offer was a Bellanca Scout, nothing wrong with that except that compared to the Thorp it was a truck, the only thing it had in common was the little wheel at the back.

After about three hours I was getting back in the groove when I got a message telling me the aircraft had gone U/S. (actually it had been turned over on its back).



*(Peas in a pod VH-UDF & VH-MAL, not too often you get to see two together)*

So, plan “B” : ask Rod if I could borrow his Thorp. “Yep” that was plan B.

Rod had gotten me into this mess, sooooo!

To his great credit Rod made the offer before I even asked, I just had to get a Safety pilot to agree to fly with me, someone that Rod trusted.

That person was Trevor Mills who I've known for many years.

He's one of those guys who can fly anything and he currently flies an RV-8.

He was happy to take the right seat while I started to learn the nuances of flying a Thorp.

Up till then, I had never even ridden in one.

Rod handed me the Keys to VH-UDF and said go and learn to fly it.

Seriously who does that?

This is one of the terrific benefits of being involved in our organisation -- the willingness of others to help to ensure success with our endeavours.

The first couple of take-offs and landings were exciting, keeping the ball centred was challenging me a little, but with each circuit things were coming together, Trevor had to intervene a few times.

He did however say that he was not letting me get too close to disaster before taking over.

He was being conservative for his own sake.

We had done about five hours together in UDF when Rod called, UDF had been sold!

It had been on the market a while; a buyer had appeared with the cash so it was gone.

A call to Trevor with the sorry news, and it was time to formulate 'Plan C'

I asked Trevor if he felt I was ready to test MAL and he replied I probably needed another couple of hours to consolidate what I'd learned. Then I asked if he would test fly MAL.

So, after a period of nearly 48 years, the Newest Old Stock Thorp T18 finally became an aeroplane.

Witnessed by a small few it took to the sky under the skilful hands of Trevor Mills (who incidentally had his seat pack emergency parachute on).

The brief was to do some taxi runs up and down the runway, (prior to the events that were to follow shortly, I'm sure some of my airport mates were thinking I had an expensive, land based, propeller driven vehicle) then if all was well, he would pop off the ground to do a pitch and roll check.

He warned me not to be alarmed by that manoeuvring, I said 'OK!' and he taxied away.

I barely had time to walk back to the clubhouse let alone get my camera ready, when all of a sudden it was off the ground, the pitch and roll check done, it pointed skyward and climbed away like it meant it, as though it was trying as hard as it could to finally break the earthly bond that had held it down for so long.

I managed to get a short 13 second video and some of the shots you see here, but frankly I just wanted to watch it through my eyes, not a camera lens.

The Thorp is a small aircraft and it very quickly became smaller and smaller, but the sound of that old Lycoming engine assured me that all was well, as it climbed above the field.

It circled and climbed I lost sight of it and worried, like a parent misplacing a child, but then you would hear its voice again and your heart rate would go back to whatever that mornings normal was.

Trevor flew for around 20 minutes and then brought MAL in for a perfect wheel landing.

After I got back to the hangar he was already out of the aircraft, the parachute and his flying suit.

'Are we still friends?' I asked.

'Yes' he replied.

With the next breath he told me that the prop was doing me no favours, couldn't get it past 2300 rpm!

So effectively the engine was only producing around 140hp. There were a couple of other minor issues, he came back early because the oil pressure gauge did a full scale deflection to max pressure, he believed it was an earthing fault, (turns out it was) but because it was a first flight he thought it best to land. All other temps were good in the green. To summarise the aircraft behaved as it should, it flew as it should, and there were no surprises.

When asked, he said he'd be happy to fly it again.

I packed MAL away, giving it a pat on the nose.

I'd given myself a headache because I forgot to drink water, I was emotionally and physically exhausted, closing the hangar doors I took one more look back and went home.

**MAKING THE CALL.**

Needless to say, the first call I made was to Malcolm Murray. He was overjoyed to say the least to hear that after all those years, and all that work, his dream had flown. He told me that a number of years before he had been told by a short-sighted individual to take it to the tip, cause no one was interested in those anymore!

I think we proved him wrong!

**THE PEOPLE WHO HELPED.**

Where do you start? There are so many people.

Gary Kelly for his help and emotional support.

Malcolm Murray, for starting it all those years ago.

Rod Ferguson, for trusting me to finish Mal's plane and loaning his Thorp, UDF for practice.

Trevor Mills, trusting his life, with our work and my flying.

My son and son in-law, for giving me a large work area with spray booth to build in.

Steve Kennedy and Peter Leonard for their services as TC & AP.

Finally, my wife Zoe and my family for putting up with the crazy old man building yet another aircraft.

What now? Test Flying of course. 25 hours of it.

Plus, I need to get out my **COMPLETED** stamp.

Oh, I have found another project!

Hint, it needs finishing. 

**KEN WARLAND**  
#9801 Chapter 22



Handing Over



Preparing for flight





Ron + Bubs the Skybolt

# BEAUTIFUL BUBS

**Ron Van Bergen** wanted another challenge so he built a Skybolt and named it after his wife. And he adores them both.

In 1996 I purchased an RV6 kit (VH-XIS) and it took me four years to build. I first flew it in January 2000 and it was superb.

No vices.

I enjoyed flying that aircraft for 18 years and sold it in 2018 to a good home at Serpentine.

In 2003 my son Peter reckoned I looked bored and encouraged me

to build another aeroplane.

I challenged him to find me an open cockpit, aerobatic biplane with a round engine and he came up with the Skybolt 'R'.

We bought the plans from Steen Aerolab in Melbourne, Florida USA and got to work.

I built a set of three benches.

One for the fuselage, one for the

main wings and one for the tail surfaces.

A large amount of Chrome-moley tube of diameters indicated on the plans, was purchased.

The fuselage, engine mount, tail surfaces and landing gear were built in my workshop at Gladstone Radiator Services, Qld.

All metal components were sand



blasted, primed and two-pack top coated. All fuselage and metal work was TIG welded by Peter.

I purchased a quick-build kit for the four main wing panels. That saved me a lot of time cutting out the ribs. The kit included the drag/antidrag wires and the whole project went together very nicely.

All the wing skeletons were completed at home in my garage.

Meanwhile, we built a house just outside of town and constructed a large shed (for the toys) and moved the whole project out there.

I purchased a factory overhauled M14p 360hp 9cyl radial engine and overhauled two-blade wooden Yak prop.

Being one of the first sets of Skybolt plans, we found a few

mistakes; the first one when we were fitting the engine to its mount.

Both magnetos were fouling on the tubing that goes down to the engine mount ring. We had to reposition these slightly.

We immediately notified Steen in the US. They were most appreciative and would make the necessary adjustments to future engine mount plans.

Over the years the build slowly advanced. We didn't mind because I still had the RV6 to fly and we enjoyed caravanning all over Australia.

When I got back to building, all the metal fittings and fixtures had to be cut out of the appropriate sized chrome-moly sheet metal, TIG welded, bead blasted and painted.

## SKYBOLT 'R'

Length from rear of rudder to spinner tip. 21'6"	6.56mts
Top Wing 23'10"	7.26mts
Bottom Wing 23'	7mts
T Wing Chord 41"	1.05mts
B Wing Chord 43"	1.10mts
Height to Top Wing (tail on ground) 7'8"	2.30mts
Tail Span 9'	2.75mts
Engine M14p 360hp 9cyl	
Prop PZL Wooden 2-blade constant speed	
Empty Weight 735kg	
Gross Weight 1100kg	

## Ron van Bergen

was born in Holland in 1947.

His family emigrated to Australia in 1951.

He has always been interested in aviation and started his flying career with paper planes and progressed up to radio controlled models.

He first started to fly in 1968 in Bundaberg, QLD.

After family commitments he resumed flying in Gladstone, QLD in the mid 80s, when he became a private pilot.

In the mid 90s he purchased a Cessna 172 Hawk XP and says it's a nice aeroplane.

He sold the Cessna and purchased the RV6 kit shortly after.

The rest is in the story!

'I'd just like to thank :

- the Minister of Finance (my lovely wife Patricia)
- Peter (son and part owner - 10%? and Project Welder)
- Ron Hartwig (AeroRotor Gladstone)
- Garry Davis and Paul Donnelly
- Peter Cash

In 2006 Paul and I went to the Sun and Fun Air Show in Florida and also visited the Steen AeroLab Company in Melbourne (Florida).

I also went for a test flight in their Company demonstrator SkyBolt – 325hp Lycoming 540.

I am very keen to get SBX up to The Old Station and flying.

Cheers Ron.'



This was a time-consuming task.

All the flying controls, except the rudder, are push-rod activated.

The fuselage is covered with removable sheet alloy, down to the rear of pilot's cockpit.

It was then fabric covered, including tail surface from there to the rear. I did however, install a sheet-alloy turtle deck as it's easier to maintain and check the elevator push-rods.

Two fuel tanks were fitted. The main fuselage is 140lts and 60lts in the upper wing central tank (ferry tank).

Wiring and plumbing took up a great deal of time and so did cockpit fit-out.

The main wings, rear fuselage and tail surfaces were all covered in heavy weight Ceconite.

The aircraft was painted in two-

pack. The fuselage in Banff green and the wings and tail surfaces in Corbin beige to keep with the 1930's era.

We put in a three-piece windscreen to the front and rear and seven-point hooker harnesses front and rear. Hydraulic brakes can be operated from front and rear cockpit. The tail-wheel is steerable and unlocks after 15-degrees side travel.

While the main wings were off, we dragged the aeroplane out of the shed, secured the tail to a mango tree and tied a rope from both sides of the top wing centre section to two utes (in case of any torque roll).

After a few attempts, she fired up. It really was a 'neighbourhood' attention getter. There were no system leaks apparent, so that was good!

Back into the shed, the wings were attached, the inter-plane struts fitted, the aileron interconnect rods and the aileron main push-rods fitted.

All stream-line flying wires were also fitted and the whole assembly, set up as per plans.

The aeroplane was registered VH-SBX (Sky Bolt Xperimental) and serial number SBR - 001 (Sky Bolt Radial). I'd had the registration reserved since 2004.

A Weight and Balance was carried out by Allan Parsons and everything checked out.

We then decided to travel for a few months. In this time, I did a BFR in my old RV at Serpentine and it was nice to fly it once again.

We returned home and continued with the 'paper-work' process for final inspection.

I am in contact with Peter Karanges and he helped me greatly through this process. He is keen to do the final inspection, but due to his work commitments and the current Covid-19 crisis, this had been delayed until further notice.

When this is all finalised, the aircraft will have its wings removed and trucked up to the Creed family property, The Old Station, Raglan QLD.

This is where my RV6 was hanged for 18 years.

The property has two runways, one is 900 mts and the other is 2000mts. They are both grass strips. It's a great flying area.



The Old Station has hosted over 25 Air Shows, nothing over the last couple of years, but hopefully 2021 will see another event.

This aeroplane was 15 years and

3,500 hours in the making and it was well worth every moment.

I am now a repeat offender!



*Ron Van Bergen  
Member No 01616*



# Zenith A High Point

*James Fisher was so impressed with the Zenith,  
he took on the Australian distributorship*

*Words + Photos by Kathy Mexted*

On a perfect Autumn day, I find myself moving kangaroos off the airstrip. I am expecting a visitor any moment now and I know he loves his kangaroos!

From behind I hear a gentle whoosh and down comes James Fisher in his striking blue, red and white Zenith CH 750 STOL aircraft. He's still running it in and has only about three hours to go for the Phase I test flying program to complete. He puts her down with

a perfect landing and rolls to a stop by the house.

He is focusing on his shut-down when I approach and once the engine settles, he looks up and smiles. You know the one. The smile that says, 'I've finished building and I'm flying.'

James began his aviation career flying trikes and other 2-stroke open canopy contraptions for about 20 years. That was all good fun, but after a while he found

them too limiting. Plus, he started to get cold and tired of squeezing the things into his hangar, worried about knocking off the large central mast.

Something had to give, so James decided to give away the trike before the trike gave way on him. He hasn't looked back.

'I needed a bush plane because I operate out of a short strip on my farm and I like the idea of landing on friends' properties,' says James.



*James Fisher and his Zenith CH 750 STOL*

'I melted the internet to narrow down my choices.

I decided on the Zenith because I liked the durability of metal. The Zenith Aircraft Factory have been manufacturing pretty much the same kits for 30 years now, so they know what they are doing and there are hundreds of their aircraft being flown all around the world.

I could see that internet support was clearly evident. There are owner forums and factory support pages with builder logins. YouTube is full of builder stories and tips and there's

even a full library of Builder Help DVD's if you want them.

Kit purchasers get the full plans and a photo assembly guide so any parts can be made from scratch if you are so inclined.

No other STOL kit manufacturer could convince me that their kit was at the level of completion that would allow a complete newbie like me to actually finish the build.

I knew I'd be able to finish this despite my lack of build experience or contacts to help me out.'

James then researched engines

and contacted Les Elliott, who is the Australian UL Power dealer in Melbourne. The UL Power 350i is a 117 hp engine and uses the technology that James wanted for his Zenith.

Forsaking a sale of his own, Les put James in touch with a previous kit owner who had bought an engine five years earlier but not been in touch since to register it. Les suspected the project had stalled and he was right.

When James called the owner, he made James an excellent offer.



*As a bush plane, the Zenith had no trouble hopping in and out of this country strip*

James went up to Qld to check out the kit and they shook on a deal that saw the aeroplane kit, parts and engine depart in a furniture van the very next day.

The packages duly arrived at Lerderderg, where James had built a new hangar a few years before, so building conditions were ideal.

He had a dedicated space with a polished concrete floor, lined walls and power points every three metres. Perfect!

#### Avionics

Avionics 2000 at Essendon specified and installed the avionics.

'I didn't know anything about modern avionics. I hadn't flown a 3-axis aeroplane for 20 years, so I needed some good advice.'

Michael Kus at Avionics 2000 wanted to get more into the Experimental market and set his crew to the task of learning all about my novel engine. It was quite a sight seeing a half-built

STOL on the hangar floor next to business jets and turbine helicopters. My budget kept going up until I eventually hit a ceiling that I felt would give me a great panel. Avionics budgets have a way of doing that! I'm so glad I left this job to the experts. Avionics is something that looked easy enough to me at the time but can actually be quite complex. Incorrect wiring will be awfully expensive and even quite dangerous. Having seen what the experts did and just how nice the finished product is, I will always use these guys again.

#### What Would I Change Next Time?

I think auto pilot is cheap enough these days that it should be on anyone's list.

I also wouldn't have any of the radio units and transponder in the dash. They can all be operated through the integrated touch screen, which is how I usually select frequencies anyway.

I would use the liberated panel space for an iPad mount and run OzRunways in parallel. I am not that happy with the Garmin database set for Australia as I believe it is lacking detail for all but the major airports. The rest of the system is excellent.

Through researching how to get onto the VH register, I learned about the SAAA and went along to Chapter 21 at Moorabbin.

I had to reserve a rego, get my medical back, join SAAA and build the plane!

It was an incredibly busy year because I was also building our house and working and ... I don't know how I did it, actually.'

#### The Building Process

'I started out by setting aside Tuesday nights for planning. I would watch YouTube, read forums and research what I was about to do next. Then I'd visualise it all and prepare my workspace.'

## BUILDER



Takeoff Roll : 30 metres  
Landing Roll : 38 metres  
Endurance : 4.4 hours

Generally, not much actual building went on. On reflection, it was probably time spent satisfying my need to get away from the house project for a few hours every week more than to work on the plane.

I set aside Saturdays as my building days and began at 7am sharp. If I was not in the hangar as my first job of the day, then all these other distractions would side-track me.

I'd turn off the phone, put the music on and get into it! Some of it was surprisingly quick. At day's end there was some actual aircraft to show for it. I built the rudder in a day and the horizontal stabiliser in a day and a half. I had the whole back end done in a weekend and that's on an older kit. The new ones are even faster as the components are pre-drilled and match-holed in some places.

The company say that it's a 500-hour build and that's about right, especially if you get someone to do the avionics and the paint.'

### Painting and Decals

James' mate Mitch Ellis has a paint shop in Melbourne, Optical Tripology. Mitch was a keen participant and drove out with a couple of his colleagues and spent a day prepping and masking the hangar. They also spent a LOT of time preparing the



*The Zenith on its way to Avionics 2000*



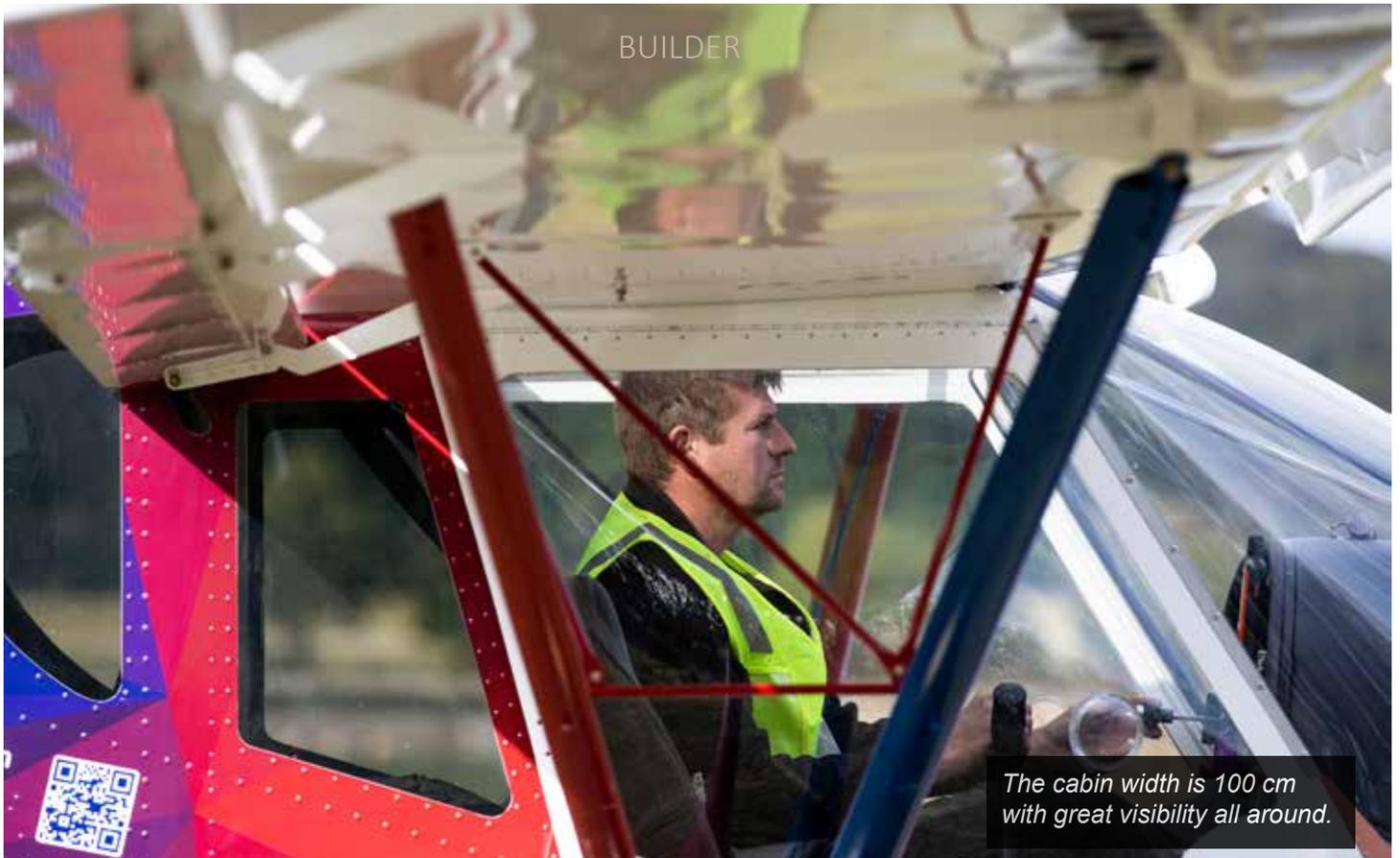
*Optical Tripology completed all the artwork*



*Next time the radio would be in the back and the dash panel used for navigation equipment.*



*full length slats & flaperon, combined with an all-flying rudder make for very stable flying at low airspeeds*



*The cabin width is 100 cm with great visibility all around.*

parts for paint as none of James' best efforts were good enough for Mitch and the crew.

Then they painted the parts.

They sprayed it onsite before the aeroplane was assembled.

They hit it with etch primer and two coats of automotive epoxy.

Mitch also custom-designed the Swish logo, QR code, vinyl, rego stickers, nose art - the lot!

'I used a Dupont product called Nason,' says Mitch. 'It is used in the USA for hot rods. That paint is good in weather extremes, so it can withstand the heat when left on a tarmac during the summer and the cold at altitude.'

We also tried to keep the weight reduced. We used premium products all the way. The decals are Avery vinyl with Avery laminate.

They are printed with solvent ink onto premium Air Agress wrapping film. It has extra flexibility on all the rivets.

The premium gloss laminate is loaded with UV gloss stabilisers.

I was very patient with the process. Things were continually modified and we were keen to help bring James's business to life and make the logos.

We were cost effective and impactful. It is the first hand-built light aircraft I've done.'

James had a budget for everything and he let them have their head and told them to fill the budget.

#### **First Flight**

James has a mate, Dan Pearson, who owns TVSA flying school at Bacchus Marsh.

He happily agreed to do the first flight and train James to standard again after a couple of decades out of the saddle.

'Flying off my place is not for the faint hearted though, because our property overlooks the Lerderberg Gorge.

Dan sent his LAMEs out from

Bacchus Marsh to go over the aeroplane.

Bruce Thomas was the TA and Norm Edmunds did the Cof A. Bruce and Les were around a lot. At one stage there, I don't think I could get near the aircraft for the number of people scrutineering my project. I had Les and a LAME poking at the engine, then Dan the Test Pilot and Bruce the TA discussing handling and Avionics 2000 technicians programming the G3X – all on my farm strip an hour north of Melbourne. The Experimental and GA community really are a great bunch of people.

Dan was unphased by first flight and took off down the strip, over the 1000 foot Gorge and flew it away to Bacchus Marsh where the rest of the test flying would be done.

'It wants to roll to the left a bit and you need to adjust the idle down – she's a floater!' said Dan.

'I'll take that as a successful build!' said James.

## BUILDER

He liked the product so much he bought the business.

In discussions with the factory, it was apparent there was no Australian Zenith dealer.

James was invited to take it on and now sells about ten kits per year, mostly Zenith, but he also represents other kit manufacturers.

Some people just buy plans initially and return later down the road to buy a kit or parts for their project.

'Now I know what to supply to people because some things we can buy pre-fab cheaper than what we can buy the materials for. I am able to advise new builders on things that can save them having to spend ages building parts that are quite tricky, yet cheap enough to just buy from Zenith.

Builders have the choice of scratch

building the whole thing, part or it – or none of it.

Of course, there will always be the hard-core guys who want to make every inch of their aeroplane themselves and that's fine too.'

The parts are ordered and packed at the factory and when a complete kit is shipped, about every six weeks, the spare parts go into the box as well.

I'm much better at knowing how to manage that now.'

### Go Flying

James is a regular sponsor of Ausfly and is already planning his next building project.

A brand new Aero Adventure amphibian aircraft with a Viking 130 HP engine is on the way to Australia now and assembly will start in June.



Before he does that though, he plans to spend some time with Dan Compton up at Dubbo refining his skills as a bush pilot.

Because Bush Flying is what the Zenith is all about.



[swishprojects.com.au](http://swishprojects.com.au)

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Prices and illustrations are just for guidance.

# RV MAINTENANCE

BY VIC SYRACUSE

I am writing this column just days after having presented an EAA webinar on Van's RV Maintenance Gotchas. I was absolutely amazed by the participation and response. Between the 950 participants on the webinar and the 450-plus follow-on watchers of the archived webinar, that might be more than 12 percent of the RV fleet. Because I ran a little long on the webinar, there wasn't enough time to clarify some of the topics or answer all of the questions, so I am going to try to address some of them in this column. The webinar is archived at [www.EAA.org/webinars](http://www.EAA.org/webinars), and much of the material is relevant to aircraft other than RVs.

To no one's surprise, I'm sure, it wouldn't be a 'Vic column' if I didn't start with the topic of jam nuts, right?

Truth be told though, there were a lot of questions surrounding jam nuts, as well as some misunderstandings. The biggest confusion — and I've heard it in some of my other talks — has to do with torque seal and Loctite.

It is really important to understand the difference.



These are the three most common types of Loctite I keep in the shop. Green is for sleeves, blue is for stuff that may need to be removed, and red is for real tough locking — it takes heat to remove, so use it on things like studs.

Torque seal is nothing but an indicator that is placed on a fitting to indicate movement. It has no locking ability at all. It is applied only after the subject fitting is properly torqued. When you take the time to apply it to all of the fittings and jam nuts on your airplane, it will make future inspections go much faster, as you only need to do a visual inspection rather than having to put a wrench on each fitting to verify it hasn't loosened.

Unfortunately, I inspected an aircraft as a designated airworthiness representative for its initial airworthiness certificate, and the builder erroneously thought the torque seal kept the jam nuts from turning.

They were all only finger tight and then had the torque seal stripe applied to them.

I was impressed as I walked up to the airplane and saw torque seal on every fitting in the engine compartment, right up until I turned one with my fingers and it came loose.

You can buy torque seal in a tube (it is really just thick lacquer paint), or you can steal some of your wife's nail polish when she isn't looking.



Here you can see the proper use of Cross Check (also known as torque seal), used on jam nuts and hydraulic fittings.

Using it on the fiber nuts is overkill, but it does make for a quick visual inspection that the nut is tight.

Loctite, on the other hand, is a product that is designed to keep a fastener from turning, usually in a high-vibration or high-stress environment.

Some bearing races are installed with the green Loctite, and some engine bolts use red Loctite, such as the stud bolts that hold on the

## TECHNICAL

vacuum pump/standby alternators and prop governors.

Loctite comes in varying strengths, the strongest of which requires heat to break it loose, so you want to use the Loctite appropriate for future removal if required.

I keep the three most common types in the shop: 640 (green), 242 (blue), and 272 (red) (see picture).

I use blue Loctite for stuff I know I may want to remove in the future, like baffling bolts, and red Loctite judiciously.

Someone asked if I've ever seen jam nuts come loose.

While I know I haven't lived long enough to see everything yet, I don't believe they will come loose if properly torqued.

I have not found a loose one on my own RV-10, which now has flown more than 1,800 hours and has had 10 condition inspections.

There also seems to be a lot of confusion with regard to operating limitations.

Many owners, especially nonbuilder owners, will provide the pilot's operating handbook when asked about the operating limitations.

More than half of the nonbuilder-owned airplanes that I inspect do not have the operating limitations in the aircraft, and more often than not they are nowhere to be found.

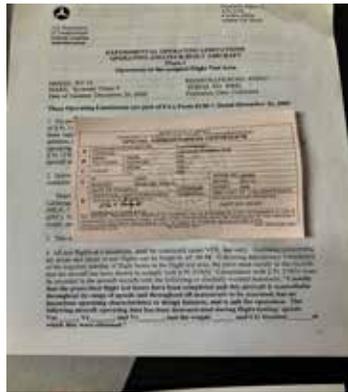
Amateur-built aircraft are issued a special airworthiness certificate, and that certificate specifically states that the operating limitations of this date are a part of the certificate.

That means if they are not on board the aircraft, it is not legally airworthy.

The airworthiness certificate and the operating limitations, which are

on FAA letterhead, need to be in the aircraft at all times.

Notice on the airworthiness certificate that it states the operating limitations are a part of the certificate.



Usually, the limitations are on three to five pages of FAA letterhead and they define the Phase I and Phase II requirements.

If you don't have them or can't find them, they can be replaced in a couple of ways.

The easiest is to find a DAR who can issue replacement operating limitations and certificates, as I do.

You can also go down to your local flight standards district office (FSDO), and it will reissue them.

You will get a new airworthiness certificate in both cases, as they have to match each other.

You can also call the FAA Aircraft Registration Branch. It should have a copy, but there is some question as to whether or not the operating limitations in the aircraft have to be the originals.

In this same vein, for those of you who have aerobatic aircraft, you will notice that besides the required signoff for the completion of Phase I, there is also a requirement for the

signoff of any aerobatic maneuvers performed in the airplane.

This signoff does not have to be completed during Phase I but must be completed before passengers are carried while performing aerobatics.

So, if you happened to purchase an RV that doesn't have any aerobatic maneuvers signed off, don't panic. I see this all the time.

Again, just go perform the maneuvers and place the entry in the logbook.

The only catch is that if you have moved the airplane outside of the initial test area defined in the operating limitations, you might want to call the local FSDO for a new test area.

Another area of confusion has to do with safety-wiring the wheelpant brackets.

More than half of the airplanes I inspect are missing this safety wire, even though they have a drilled head bolt installed, which should be a clue.

There are two ways of accomplishing this. You can either drill a hole in the bracket itself and attach the safety wire to it, or attach the safety wire to the cotter key in the axle nut.

There have been a few questions regarding the power setting required to check for intake leaks while flying.

The idea is to close off the intake system with the throttle plate so that the engine will now suck air through any leaks that are downstream from the throttle plate, which are usually the intake hoses or gaskets.

So, pulling the throttle to the stop while on base is a good way to accomplish this.

## TECHNICAL

Then just watch for a **rising** EGT indication on one or all of the cylinders to find the leaks.

Spark plug washers also seem to cause some confusion, specifically where to use them and their orientation.

If you take a close look at the common 18V-millimeter copper spark plug washers, they have a flat side and a convex side.

The flat side should go toward the spark plug. These washers should be used underneath every aviation spark plug, as well as the spark plug adapters that allow the use of automotive spark plugs for electronic ignition systems.

I install new washers every time I remove a spark plug, whether it be for cleaning, inspection, or compression check.

I know you can reuse them if you take the time to anneal them properly, but at a purchase price of 30 cents each, reusing them is just not worth it to me.



Spark plug washers have a convex side and a flat side, as shown in the picture. Be sure to place the flat side against the spark plug.

AN 900 copper sealing washers have an open side, which goes against the mating surface. Take care to not over-torque the AN 900 washers or they will leak.

With regard to not using RTV silicone around fuel, someone asked why it couldn't be used to fill the gaps around the outside of the carburetor where it attaches to the airbox.

First, while RTV does have resistance to oil, that applies when it is used to mate two closely machined parts.

It is not meant to fill large gaps.

My experience has been that there is usually oil on top of the air box from engine leaks and smoke systems, and the RTV tends to become dislodged.

I find Proseal to be a better choice.

Again, thanks to those of you who are now looking at your airplanes more closely with some newfound information.

It's a way to keep the fun factor alive! I also am hoping that those of you who participate in active EAA chapters will consider having

a 'preflight your buddy's aircraft' activity during a meeting and report on the results.

Another set of eyes is a really good thing.

**Vic Syracuse** is an EAA Lifetime 180848 and chair of EAA's Homebuilt Aircraft Council.

He is a commercial pilot, A&P/IA, DAR, EAA flight advisor, and EAA technical counselor.

He has built 11 aircraft and has logged more than 9,500 hours in 72 different types.

Vic also founded Base Leg Aviation and volunteers as a Young Eagles pilot and an Angel Flight pilot.

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I sourced this article from Vic. It is published primarily for the technical content about aircraft nuts and bolts etc, and any references to FAA, DAR, FSDO and such, plus info on experimental certificates and limitations, are USA specific items, not directly applicable to Australia. If you've got any questions, Norm said he'd happily answer them for us.  
Norm.Edmunds@saaa.com  
Ed.

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## CHAPTER CHATTERS

**Chapter 20** visited Gary Murphy at Gisborne, Vic. immediately prior to the Covid-19 shutdown. The hospitality was fabulous and afterwards Gary walked the group through his RV10 project.

First item was the power plant that he intends to put in the aircraft. Gary bought an old Aztec with two engines that were similar to what he wanted to put in the RV10.

Out of those two engines he reckoned he'd be able to get one good engine and plenty of spares. He disposed of the remainder of the aircraft for most of the original purchase price.

The wing assembly has innovations; an extra long range fuel system for the wings and a few specialised tools to assist with productivity, one of which was an automated rivet dimpler, which he foot-operated enabling him to dimple sheet aluminium quickly.

He also has innovative simple jigs that helped items stand on edge (control surfaces can be accessed easily from both sides).

The two-year old project is progressing very well and Gary expects to be complete it within a year.



At the invitation of Martin Daniell and Russell Ford, **Chapter 3** had their inaugural meeting at Tocumwal, NSW.

It was kindly hosted by the Murray Border Flying Club, which is based there. The highlight of the day was a visit to see the gliders at the Tocumwal Soaring Centre hangar.

This huge hangar, one of seven, was built out of timber by the United States Army Air Corps to house Liberators during World War Two.

Chapter 3 covers a large area from Deniliquin in the west, south of Albury and up to Temora in the North.

Chapter 3 is following a new and less formal format that does not require them to be incorporated, therein abandoning the need for formal positions or AGMs.

There are about 15 members, which is expected to expand.



Newly reformed **Chapter 38** met for the second time the day before the country shut down.

Dan Compton kindly hosted the meeting with a great spread. Three planes flew into his strip, with others attending as well. We discussed our plans for the future of the chapter.

We have a couple of projects underway: RV-14, Lancair IV, Pietenpol Air Camper. And we will be visiting those projects when things get back on track.

As we are based in Narromine and cover Central West NSW we are keen to be involved with the next Ausfly event and hope to be able to support the assembly of the SAAA Youth Builder program.

We are keen to grow our membership if there is anyone out there interested.



# Replacing Mechanical Fuel Pump on Lycoming Engines

*One of Our Chapter 13 TCs Brian Holman and myself recently replaced the mechanical fuel pump on a Lycoming O-320. We consulted with a LAME for information on the correct replacement method he used and fitted the pump successfully. We both later saw this article on the Matronics Forum written by Dan Masy a Tech Councillor with EAA and notes from Tim Olson a well known US RV*

*builder describing all the questions and solutions that we had encountered during the replacement. The number seven KEY POINT is particularly important. With the authors' permission we have copied the article to provide a very good clear description and reference for any SAAA Members needing to replace a fuel pump on Lycoming Engines.*

*Greg McFarlane  
SAAA AP, Chapter 13*

**W**ith about 1200 hrs and 13 years since new, my factory-new IO-540 D4A5 is beginning to show signs of not being so factory-new any more.

In the past month or so, fuel pressures have been drifting down to as low as 10-12 psi on extended climbs to altitudes above 10,000 MSL and although the engine has never stumbled, I figured it would be prudent to swap out the engine driven pump before anything dramatic happened.

Turns out replacing the pump on the back of the accessory case is quite a bit trickier than it should be, given that it is just held on by a couple of specialized allen head capscrew/bolts.

After several of thrashing and cussing, I figured I'd better Google the topic and see what the story is.

I found the difficulty replacing the Lycoming pump has been experienced by lots of RV builders, and there is a fair amount of creative disinformation out there -- workarounds that RVers took to grind down or shorten bolts, weird installation techniques, etc.

But I did find the correct method, and when using it, the installation was pretty much a breeze.

Since this is all fresh in my mind, I

thought I would pay it forward with a little tutorial on the subject as it relates to the RV-10. Here goes:

## The issues

1. This is a big deal. There is at least one NTSB report of a fatal RV-7 crash caused by incorrect replacement installation of the engine driven fuel pump.

2. There are more ways to do it wrong than to do it right. The instructions that came with the Tempest replacement pump I got from Spruce show you the incorrect positionings to avoid, and tell you that the pushrod that presses from above onto the pump's actuator arm has to be in full up position, but they don't tell you how to do either of those things.

3. Although the RV-10 has lots more space between the engine and the firewall than most RV's, for this procedure all kinds of things are going to be in your way: spark plug cable bundles, SCAT tubing for oil cooler, wiring to magnetos and/or electronic ignition.

4. The major gotcha is that the lever arm of the fuel pump has to be positioned under the end of the vertical pushrod that drives it before bolting

anything in place, but the special bolts can't be inserted in the fuel pump flange if you do that first -- they hit the body of the pump and can't be lined up with the threaded holes in the case.

The solutions to the above issues

1. Start with the right set of tools. You will need a small ladder to get up and over the engine (probably the same one you use to change the oil filter.) You also need a set of stubby combination wrenches, a 5/16 allen wrench with a ball/swivel style head and about a 4 inch long shaft or so. A 5/16 inch standard length combination wrench can be used to turn the allen wrench from the side for tightening and loosening the special bolts.

2. Once you have removed the old pump with its hoses disconnected but fittings still attached, put it aside on a workbench.

3. Remove one spark plug from all six cylinders -- bottom plugs are easiest.

4. Key point: in order to determine whether the engine driven pushrod is in its maximum up position, you have to put your hand into the fuel pump mounting hole and \*put your finger on the bottom of the pushrod.\*

## TECHNICAL

Push it up as far as it will go. Then, while holding it up, rotate the prop with the other hand at least two full turns so you can determine where 'top dead center' is on the pushrod. When you are satisfied that you know where the full up position is, leave the prop in that position and don't move it again until the new pump is in. Now take your finger off the pushrod. You will notice it immediately slides back down to its lowest position (!! ) even though the cam driving it is in its highest position. (This is why you can't use an inspection mirror to determine the position of the pushrod.)

Some RVers apparently have gone to great lengths to try to get the shaft to stay up so the pump arm can be inserted, but it turns out this is not necessary. Just let it fall to its lowest position.

5. On the bench, swap the B nut fittings from the old pump to the new one. I found that I had to leave off the overflow fitting during initial installation due to interference with spark plug wire bundles and oil cooler SCAT tubing.

6. Place the new gasket on the mounting flange of the new pump. You might need a little dab of fuel lube to hold it in place even though it is a dry gasket seal. Insert the two mounting bolts fully before starting the attach procedure (they won't fit later if not inserted now.)

7. Key point: While holding the pump with its actuator arm pointed into the engine case, engage the bolt holes for the two mounting bolts, but only advance the bolts \*one turn\* or at most two. This is the difference between success and failure. With the bolts engaged only

one turn, you will be able to tilt the fuel pump actuator down so that it slips underneath that pesky pushrod which fell to its lowest position. If you tighten the bolts any more than that, the actuator arm will hit the side of the pushrod and you will not be able to seat the pump.

8. You will know you are successful if the pump flange slides forward easily on the bolts and mates to the mounting surface of the engine accessory case with no resistance whatsoever.

Anything else is no bueno -- pull the pump out and start again. (The fatal RV crash occurred because the builder cranked the bolts down in spite of interference and bent the pushrod shaft.)

9. Once the pump flange sits flat against the engine, hold the pump in place with one hand and tighten the bolts on both sides with the 5/16 inch allen wrench with the other.

10. Safety wire the special bolts to each other. (Also a bit of an adventure, but this one is left as an exercise for the student. Wink ).

11. Reconnect in inflow, outflow and overflow lines to the pump. Replace lower spark plugs (new gaskets, of course), and oil filter. Start engine and do a leak test and fuel pressure test.

Hope this helps if you should find yourself needing to replace the engine driven pump on your Lycoming. Remember, if you are having to force anything, the new pump is not in its correct position. Happy flying.

Dan Masys  
RV-10 N104LD  
Tech Counsellor,  
EAA Chapter 1541

In addition to Dan's comments, I would add this:

As Dan notes, the holes are oblong and it appears designed to tilt the pump as you install it under the pushrod.

That said, what I have had good luck with is this:

I have used fine safety wire, or you could use dental floss, to run a couple of twists around that push rod, and then pull the thread out and tie it to the engine case or engine mount snugly.

That will hold the push rod up. If you follow Dan's guidance, it shouldn't be necessary to hold the rod up, but myself I would prefer to have as much gap there as possible to ensure the rod gets in proper position on top of the lever.

Just make sure whatever you use is removed completely before you fully seat the pump.

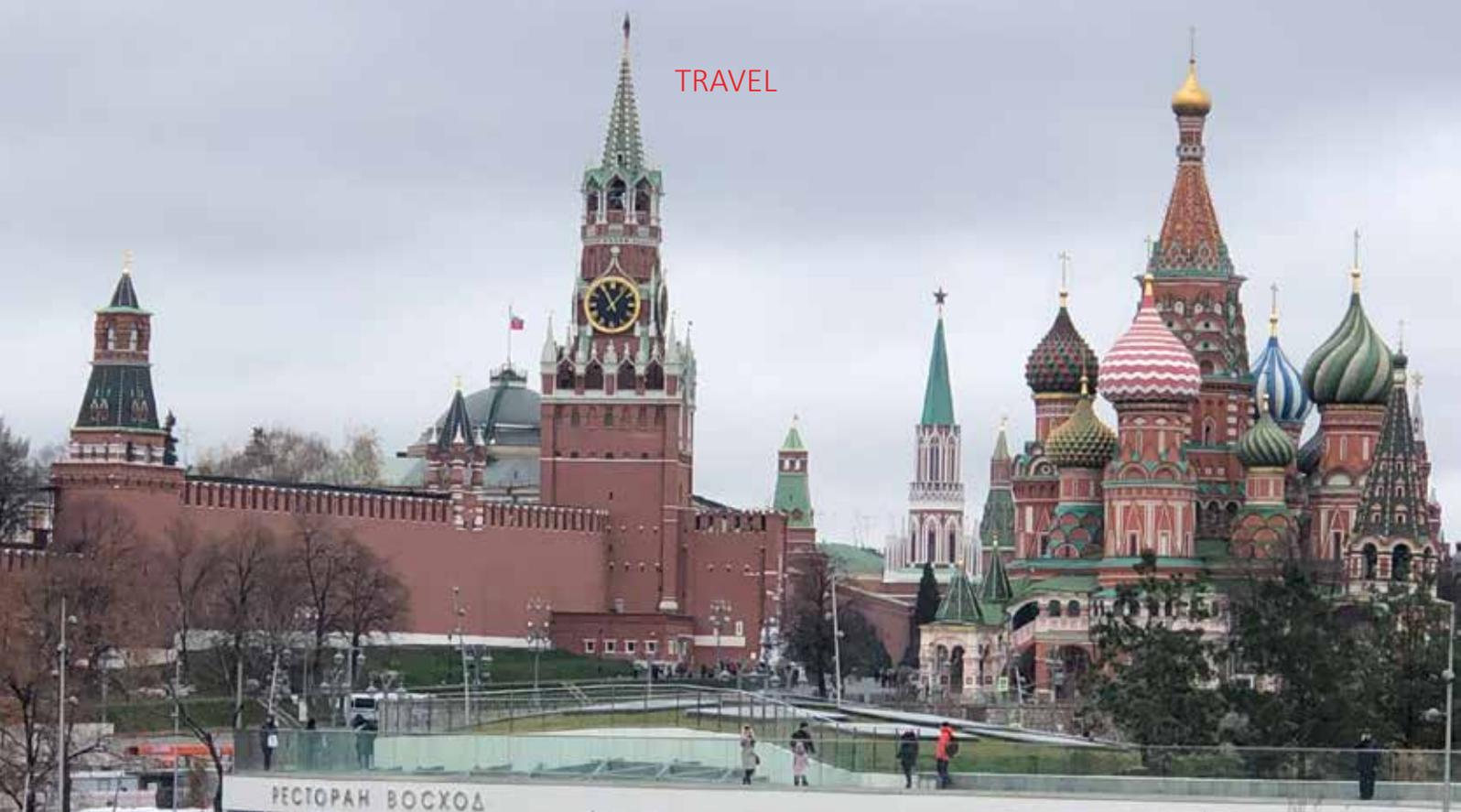
Hopefully Dan's post comes in handy for some of you.

Tim

- The Matronics RV10-List Email Forum -

Use the List Feature Navigator to browse the many List utilities available such as the Email Subscriptions page, Archive Search & Download, 7-Day Browse, Chat, FAQ, Photoshare, and much more:

<http://www.matronics.com/Navigator?RV10-List>



# Bearing up in Russia

*Darren Barnfield had the unexpected trip of a lifetime when he was invited to go to Russia to issue a C of A.*

I was approached by Michael Smith to assist with the C of A process and to fly to Samara in Russia to issue a Special Certificate of Airworthiness for an Experimental Amateur built aircraft and complete a hundred hourly and annual inspection, then issue a maintenance release for the ferry flight.

The ferry flight back to Australia was to commemorate the 100th anniversary of the first air mail run from London to Darwin.

The aircraft is called a Seabear L65 and was designed and built by

Dimitri Grekhov from the Chaika Aircraft Constructing Company in Samara, Russian Federation.

This was serial number 001 and was built under the direction of the Australian owner (Michael Smith).

On discussion with the CASA Sport Team and with the supplied documents from the builder it fell within the guidelines of experimental amateur built category.





Experimental Amateur  
Built Seabear L65

VH-OMS  
Экспериментальна я  
любительская сборка

Samara,

Russian Federation

October 2019



### INSTRUMENTS

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Trig T22 Transponder Mode S

Artex ELT

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GME Marine VHF

PS Engineering PMA 7000B audio panel

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- 1x Generator Delco-Remy 12volt, 35 amp. part No 1101898
- 1x Starter Delco-Remy 12volt part no: 1109656.
- 2 x monoplane wings complete. Just removed from flying aircraft as bi-plane conversion underway.

**Andrew | am767@hotmail.com**

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LOCATED: QLD

A/C TYPE: SEAREY SLX

C of A Phase I

Issued 24 September 2019

by Peter Leonard



VH - LFW

BUILDER: GRAHAM WALLACE #08229

LOCATED: NT

A/C TYPE: SLING 2

C of A Phase I

Issued 19 December 2019

by Peter Leonard



Email building logs to:

enquiries@saaa.com

Please Include :

> First + last name

> SAAA member

number

> Chapter number and  
location

> Contact details

> Aircraft details

> Large photo in jpeg  
format

## BUILDING LOGS

### VH - PDQ

BUILDER: **JOHN BROWNE #07819**

LOCATED: WA

A/C TYPE: **VANS RV7**

C of A Phase I

Issued 17 February 2020

by Colin Morrow



### VH - FYT

BUILDER: **RUSSELL BUCHANAN  
#07205**

LOCATED: WA

A/C TYPE: **VANS RV8**

C of A Phase I

Issue Date: 4 March 2020

by John Browne



### VH - XHG

BUILDER: **GRAHAM LEEMBRUGGEN  
#01364**

LOCATED: WA

A/C TYPE: **VANS RV6-A**

C of A Phase 2

Issue Date: 7 February 2020

by Greg McFarlane



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# SAAA Membership

## The nuts, bolts, opportunities and benefits

### **Build and fly aircraft amongst a seriously experienced community with a will to help each other – the SAAA spirit!**

If you're thinking about building your own aircraft, then the SAAA is your best starting point.

SAAA is likely the most cost effective & expert supported environment to build, maintain & fly Experimental Category aircraft.

Check out our Member support capability – experience abounds amongst the SAAA Community.

SAAA supports Members with aircraft builds, flight operations and maintenance.

And we have lots of fun!!

#### **Annual SAAA membership:**

- \$245/yr.

#### **SAAA Chapter network:**

- Hundreds of experienced builders and pilots readily on hand to help others learn and fly their dreams
- Part of the SAAA fabric and community spirit – almost 30 "hubs" around the country; some Chapters charge a small annual fee to cover social events
- Most Chapters have some of their own tools that are shared amongst members

#### **Build support:**

- Expert support available from our Technical Counsellors (TCs) – we have around 70 TCs
- \$nil service fee; discretionary cover for TC travel expenses; TC program is SAAA managed
- Several sets of aircraft weighing scales available around the country for nominal hire charge

#### **Special Certificates of Airworthiness (SCoAs) issuance:**

- SAAA's own Authorised Persons, delegated by CASA to issue SCoAs – we have almost 20 APs
- Approx. \$700 for basic for day VFR ops; up to \$1600 with NVFR / IFR and no flight area restrictions (these are once only costs; SAAA administered; CASA regulated)

- \$195 (one off cost for VH-Mark and aircraft registration; no recurrent costs; CASA managed)

#### **Aircraft maintenance:**

- Expert support available from our TCs
- If you built >50% of an aircraft or similar, you can do your own maintenance – your costs can be limited to cost of parts and consumables, but you have to complete a one time Maintenance Procedures Course at a cost \$550 (regulated by CASA)
- If you cannot claim to have built >50% of your aircraft or similar, or do not wish to do your own maintenance, then you would need to engage services of a LAME – although CASA Sched 8 allows basic "pilot / owner maintenance" to be carried out (oil changes, tyres etc) without a maintenance approval
- SAAA is working towards developing a Maintenance Techniques Course that will, with CASA approval, qualify all owners to conduct maintenance

### **Pilot Licencing:**

- All managed by CASA – all the opportunity a pilot aspires to grasp; from RPL, VFR to IFR and commercial

### **Flight Ops Support:**

- SAAA has a network of Flight Safety Advisors (FSAs) - they offer support around all matters flight ops
- Our FSAs assist with everything from aircraft selection, training planning, flight safety systems, flight test planning and also act as Safety Pilots and Mentoring Flight Trainers
- Many of our FSAs are accredited Flight Instructors and Test Pilots
- \$nil service fee

### **Flight Training:**

- SAAA has its own CASA approved Type Transition Training program (instructors hold FIRs IAW Pt 61); \$nil service fee for most SAAA instructors; discretionary cover for FSA travel expenses
- SAAA does not offer "ab-initio" or aircraft feature or pilot rating training

### **Insurance:**

- SAAA does not operate or underwrite its own limited or comprehensive insurance offering
- SAAA does, however, offer an option for SAAA members to insure through QBE which can be an attractive option depending on the scope of cover you are looking for
- The SAAA-QBE offer is linked to the SAAA Member Support Program which involves commitment, with SAAA support, to improving safety outcomes

### **Other member benefits of Membership:**

- SAAA offers many other value propositions to its Members – from discounted fuel schemes, to attractive freight deals and competitive forex services – and much more) without a maintenance approval
- SAAA is working towards developing a Maintenance Techniques Course that will, with CASA approval, qualify all owners to conduct maintenance

*\* All information presented is current at 1<sup>st</sup> May 2020 and may be subject to change*

## ***Plan Wise – Build Well – Fly Safe***

**What are you waiting for!?**

Visit SAAA's website at [www.saaa.com](http://www.saaa.com)

**If you would like to talk to us – just call 02-6889-7777 and our friendly Membership Services Team will put you in touch with the people you need to speak with to explore the opportunities.**



**SPORT AIRCRAFT ASSOCIATION  
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# Is SAAA Membership Expensive?

*Occasionally, we have some members say that SAAA membership is expensive and they are considering giving away their membership.*

That's a fair comment and if they feel that way they are entitled to do so. However, is \$245 for an adult membership expensive?

When a member says it is expensive, they are usually comparing it to something else. So, let's have a look at that.

## SAAA

- Adult \$245
- Senior (65 +) \$215
- Student \$60

**AOPA** (Aircraft Owners & Pilots Association of Australia) have been around since 1949. Their mission is to keep the skies within reach of anyone who dreams of becoming a pilot.

They do a lot of government lobbying on behalf of the pilot.

- Premier \$249
- Regular \$159
- Affiliate \$129
- Student Free

AOPA membership is approximately 2000 members and in theory the larger the membership base of an organisation the membership rates should be less and this seem to be the case with AOPA.

Also, if you are a member of SAAA you are entitled to affiliate membership, which is slight less than the regular membership.

**ASRA** (Australian Sport Rotorcraft Association of Australia). ASRA are a relatively young organisation compared to AOPA or SAAA. However, they are a vibrant organisation and passionate about their aircraft type. Membership of ASRA seems to assume that you will be flying a rotorcraft of some sort, it doesn't appear from their website you could just be a member and not fly a rotorcraft. Therefore, their membership cost includes Third Party Insurance, which would elevate their membership costs. ASRA are only a small organisation with a few hundred members.

- Instructor rating \$538
- Pax Endorsed \$348
- Without Pax End \$248

**GFA** (Gliding Federation of Australia). The GFA are another organisation that have been around for a long time (approx. 1949).

The gliding community are the aerodynamic purists of the aviation fraternity.

There are many clubs around Australia and they all usually fly on a regular basis. After all Australia does have some of the best gliding weather in the world.

The costs below are for membership of GFA only and there would be an additional cost depending on which club you belong to, that needs to be added to these

membership costs below. In some cases, some gliding clubs wouldn't charge an additional fee.

- Non-Glider Member – Associate \$48
- Non-Glider Flying Member – Active \$80
- Student/Youth \$166
- Flying member \$320

**RAA** (Recreational Aviation Australia). RAA have been around since the 1980s and were spawned out of the ULAA/SAAA, yes that's right, many years ago we all used to meet at Mangalore at Easter time to have one big shin dig. The AUF was formed to look after the small slower ultralights at the time and then they moved to Narromine for their annual Easter event. The RAA have a large membership base and boast 10,000 plus members. Again, as theory suggests the larger the organisation the smaller the fees.

- Non-Flying \$119
- Junior \$179
- Flying M'ship (1 year) \$250
- Flying M'ship (2 year) \$485
- Aircraft renewal fee (single seat) \$100
- Aircraft renewal fee (two seat) \$180

Unlike other flying organisations they have a one-off aircraft registration fee.



# Bi-fold Hangar Doors

## Warning

*I received an email from a friend today.*

*It may be of interest to some members who have bi-fold hangar doors.*

*It appears they all have a similar drive design and may be susceptible to failure.*

*The guts of his email follows.*

To make a pretty long story shorter, my friend and aviation professional, Steve Petrich, called me yesterday to inform me about an investigation that had been done as the result of a fatal accident involving an AeroLift bi-fold hangar door at Flying Cloud airport in Minneapolis.

The bottom line of the investigation showed that the key-way that connects the main shaft of the drive motor to the drive gear had come loose and fallen out resulting in the door crashing down and killing the owner of the hangar.

The key-way had come loose as the result of the set screw holding the key-way in place having also come loose and fallen out completely.

The investigation also showed that after another subsequent inspection of 12 similar drive units, 10 were compromised and the set screws were either loose or missing.

It appears that all door manufacturers of bi-fold doors have similar drive systems and all are suspect, cable or strap, doesn't matter, all should be checked and serviced with loctite on the set screws.

I did not see the door in question myself but this information can certainly be considered reliable.



Mike Young

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