Waikato Chapter of Sport Aviation Assoc (SAA) of NZ

(Dedicated to building, flying, designing, modifying - and talking about - home-built aircraft)

Newsletter - May 2024

• This newsletter is broken into three sections. The 'Of Interest' covers anything not specifically in the 'Currently Building' or 'Been Flying' sections.

Again a big thanks to all our contributors!

It makes a great newsletter when we have many enthusiasts sending reports on their projects and ideas. I personally find it really motivating seeing how other builders are progressing through the marathon of small projects to complete something that flies. Quite inspiring really...

(I confess to having a favorite project: Bart's Spitfire, go Bart!)

Cheers, Tony.

Currently Building:

Bart Burgers, Pegasus Spitfire MK9 (Full Scale) reports:- Firstly, Instrument panel...

I know last editions 'homework' was to talk about one's instrument panel. I hadn't forgotten about it but other things got in the way.

I try to be as authentic as possible when it comes to my build. I obtained a replica 'Bakelite' panel from Bruce West who is the proprietor of SAW (spitfire aircraft workshop) He actually made one for the movie Dunkirk to be used in the film.

The network around people building their own plane and in particular a Spitfire is very limited, but certainly not limited in sharing and helping. I was alerted by Frank Deeth from Melbourne, who build his own MK9 following the same certified plans. He tells me to make contact with Alan Wight who is another spitfire builder

in South Africa. So I made contact with Alan and he tells me he is not going to continue with his build. "I want you to have my instruments" he tells me...free..a donation.

Wauw I am absolutely flabbergasted ...what a gift. So, I try to sort out shipping from SA to NZ.: \$1000.- for a 20kg package...worth it I thought. I discuss this with my neighbour and he says: "I am going to my mothers 80th birthday in SA, "if you can get it there I bring it back for you"Man things really fell in to place here.

One of the pictures shows my coffee table full of the instruments given to me by Alan Wight. I could not have been more grateful. Some of the instrument need to be overhauled and I will cross that bridge when I get there. I still need to find a few more missing instruments and I am looking around frequently.

As I am building a 2-seater, dual control, the instrument panel for the second person will be totally different. I will not have room to create an authentic second instrument board. The front chair will be able to collapse forward to allow access for the other person. I will have an LCD screen mounted on the back of this chair with



Above: Bakelite Instrument panel in position in front seat....



Side: Fuel Pressure gauge, I think in Pounds/ sq inch units.



Side: Spitfire flight control column handle. I think the button near the top is the 'fire the 8 machine guns' switch base.



Side: Spitfire Gear position indicator (my guess)

• Waterhouse: Pietenpol AirCamper ZK-BZY repair, reports: - Fuse painted, fuel tank on ground getting ready to install.



Above: Fuse painted and on wheels the right way up, tank install coming along and note the AH-OOO-GAH sheep clearing attachment on RHS in case of airstrip emergencies.



Left: wings on wing jig getting ready for covering Lower Left: Instrument Panel in pilots cockpit Lower Right: Instrument Panel in Passengers cockpit.





• Dan Harcourt: Rans S-21 reports: - Rans S-21, ZK-MRS

Have now finished wiring- long slow job. Have also spent several tedious days rigging and fine tuning flaps and ailerons and elevator and trim. First engine run done-started and ran very satisfactory after a 3 year rest. MGL EFIS sensor settings need dialing in. Next up will be closeup boot cowl, fitting windshield and engine cowlings. Three pics showing great progress:







• Tony Ashworth: Jodel D.18 ZK-OWL - reports: – I have finished gluing spacers and ply caps inside for all the items bolted through the front bulkhead. I am using a Z shape Ali bracket to space the AeroVee coils and MGL rdac unit off the bulkhead so i can easily remove them for repairs without having to access the inside surface. (This is a mission as it requires removal of controls, instrument panel, and tank hence best avoided.) Next step is fabricating the stainless firewall, I am using 0.5mm mirror finish S/S so i can use the reflection to see the back of the engine for pre-flight inspections etc. Once that is done i can mount the engine and start wiring and connecting it all up which i am very much looking forward to.



Above: Pre-positioning items on firewall. All the old holes through the wooden bulkhead are plugged with dowel to avoid any CO2 leaks into the cockpit. The gold aluminum firewall cover will be replaced with Stainless. The battery box and other parts avoid the back of the engine so hopefully it all fits. The two center holes are for the fuel line to the gascolator, and the other one for the throttle and mixture cables.

• Karl Belfield: Jodel D.11 ZK-ERT – reports Engine Projects: – 3 custom 0-200's made up.

These are specials and not continentals I don't call them 0-200 they just get a name plate simple like 004 etc..

1 has chrome cylinders on it, high compression pistons large 1 x ³/₄ exhausts just doing now.

1 is for another Jodel if I ever get time it as well has high comp pistons. OLD ZK-EDR.

A whopping 9.1 comp ratio from 7.0.1!

1 is a stock 0-200 I had 1 failed crank halve and was able to completely build a total motor out of all the bits as I was given another crank half with 1 motor. Shame someone 30 years ago exhausts, no stubs exhausts, so they leaked and have worn the flanges. To get around this a large flange is made thick then bent to suit the cylinder head exhaust flange. Or hey you can just buy new cylinder heads. Sometimes there is not a great deal wrong with them and you can get by.

Anyway I thought it is a waste in bits and is my spare motor pool if I need it. They are inhibited as well now.

Me well I just had some work on my hips, so I have now got 2 Titanium Nitride coated (Ceramic) Cobalt Chrome stems as hips and these seem to be helping or have fixed my health issues with my hips. **I am the only 1 in the world with these** and took a lot of effort myself with help from the specialist finding the issues and parts to fix my hips so they will last. That is then great for me as I can get back in the plane as I have been absent from this for too long now. Various reports around but hips under 55 YOA fail within 10 years. I did not get past the 2 year mark. Anyway I know a fair bit about hips now as I wanted to see this right and sorted and thought why was this such a hard a job? They been doing this for 40 years? Its like these motors you can make them worse or you can give them a fresh change and they will last the time they are meant to. Lets hope both scenario's work out A! honestly I am 95% positive this time they will all be fine that is both scenario's Good luck and have fun out there!.

My dads Jodel wing is almost fully rebuilt! At 85 YOA plus massive fix and good on you Murray Belfield!



Below: Motor 1 goes back in ZK – ERT 0200 large exhausts light weight starter and alternator. 9.1 pistons.



Side Pic: Motor 2 – 9.1 pistons, Below Left: Motor 3 was in bits with 7.0.1 pistons but Below Right: shows 6mm thick exhaust flanges on Motor 3





Bruce Cooke: Jodel D.18 ZK-JAC – reports: – I am currently working through a type rating in Jodel D18 ZK-JAC with Noel Bailey. Whilst it is a really enjoyable aeroplane to fly, I have been having a bit of difficulty keeping it straight on landing. Despite over 200 tailwheel hours, its taking a while to gel. One trick I have tried which seems to make a difference is to add a temporary line along the cowling as a reference (using electrical tape), reminding me to look further down the runway, and providing a prompt when it starts to swing. Eventually I'll programme myself and I can remove it; it's just a learning aid for now. JAC now has Disc brakes operated from toe pedals rather than the awkward heel brakes that I found got in the way of a comfortable foot position. These have all been modelled in CAD and documented for RAANZ Mod approval. They are cable-actuated hydraulic calipers used on high-end mountain bikes, and are more than adequate for taxiing and runups. I look forward to getting my type rating signed off and getting out and about in the little Jodel.



Side Image: Yellow line for pilot to line up nicely for landing view. Bottom Left shows a (CAD?) view of the toe brakes. Bottom Right: shows main gear with cable operated hydraulic brakes, lightweight and approved which help ground handling.





• Simon Teague: Bearhawk 5 kitset – reports: The first Bearhawk 5 kit in NZ, arrived a few days ago (mid April).



• Grant Horn: Vans RV-7a ZK-DRV – reports:

Some tasks seem to take for ever and not much to show for it. A good example of this is running of the fuel tank vents, the fuel line from the fuselage side through the tank selector valve to the fuel pump and the worst of all were the brake lines. In order to run the brake lines in some sort of presentable fashion, I utilised a joiner (not shown on the drawings to do so) as shown in the photo. This way the pipe can be removed or installed without destroying it in any way. The joiner is hidden behind a removable panel so it wont stick out like the proverbial. The fuel lines were easier to get looking professional but because of the larger size the bends had to be done with a former whereas the brake lines were easily tweaked by hand. Anyway, I'm happy with my effort.

I have put together and riveted the ribs etc behind the panel but have decided to leave the skin off until the panel is decided on, installed and wired up. My thinking is, I might curse for a day riveting the skin on dodging all the wires and instruments but thats better than cursing on my back upside down trying to wire in instruments. I guess time will tell if its the right decision. Progress seems to encourage progress so with the canopy in place to look the part I will get on with that now. Naturally I'll leave the perspex side of that exercise for the summer.



Three photos below: Upper showing progress on fuse and canopy framing, Middle from inside showing fuel vent piples and LH Undercarriage mount tube. Lower showing brake pedals and lines, including park brake on pilots side.







Been Flying:

• Bill Izard – Falco ZK-TBD - reports: – Very fast plane back in taupo where it was born . Bill sent these three pictures of the all wood aircraft, looks fantastic, he is enjoying flying it by all accounts.







• Scott Montagu: Corby Kestral ZK-SJM reports: Caught up with few Auckland and Northland chapter members with some exceptional Autumn weather at Pauanui for a pie and coffee run.

Gorman Lindsey in Corby Starlet ZK-YGL Myself in Corby Kestrel ZK-SJM Steve Gwilliam in RV3 ZK-WHO

Clint made the Journey from Matamata across in the Airbike, not bad with an outside air temp of 5°

Kieth Weale in the RV-12 and David Wilkinson flying the Pitts (ZK-MPM) came across from AR.

David on the hunt for coins to sort landing fees





• <u>Of Interest</u>: **P**aul Parsons sent this article suggesting it would be of general interest.

Human Factors: Break out the booze

By William E. Dubois · May 13, 2024



The pilot of a Boeing-Stearman PT-17 Kaydet sports a white scarf during an air show performance in Spain. (Photo by Contando Estrelas)

It must have been glorious back at the dawn of aviation. You wrapped your scarf around your neck, buttoned up your long leather flight jacket, strapped on your flying helmet, adjusted your goggles, slipped your flask of fortitude from your riding boot for a quick pre-flight nip, then stepped up to the long wood prop to give it a pull.

But, of course, those Wild West days of simple flying, wild men, and alcohol are long past.

Or so I had thought.

A boozy flight

Despite the lovely weather that day in early May of 2022, the pilot of the RV-7 overflew his home airport, Huntsville International Airport-Carl T. Jones Field (<u>KHSV</u>), after returning from a day flight to Dallas for a paintball event. ADS-B track data then showed his airplane circling left, then right, for over half an hour east of Huntsville — with large deviations in altitude, heading, and groundspeed.



Finally, the track shows the airplane entering a low approach for a private airstrip called Moontown Airport (<u>3M5</u>) more than 16 miles away from the pilot's destination.

The landing is aborted on the first try. On the second try, 600 feet short of the threshold, the airplane plows into the ground, flipping upside down. The only passenger, a small dog, escapes the wreckage uninjured.

The pilot isn't so lucky, sustaining serious injuries.

In the wreckage, first responders find a four pack of individual wine bottles. Two were open and empty, and a third was MIA. None of the bottles were damaged in the crash.

The reports don't tell us if the wine was red or white.



(Photo from the NTSB docket)

The Pilot and his In-flight Beverages

The pilot was a 48-year-old male with a private pilot certificate, rated for single-engine land and helicopter. He held a second class medical, which was expired for second-class privileges, but was still valid for third-class privileges. His total flight time was reported as being 1,300 hours.

He was 5 feet, 10 inches tall and 160 pounds — about average height for a man in our country, but on the lean side. And he was drunker than a skunk.

Toxicology testing of his blood and urine at the hospital following the crash placed his alcohol levels at 0.172%, nearly five times the FAA's regulatory limit.

For those of you out of the loop, in addition to 14 CFR § 91.17's decades-old "eight hours bottle-to-throttle" rule, an alcohol concentration limit of 0.04% for pilots was added on in 1985.

For comparison purposes, all 50 states have set the threshold for driving under the influence at 0.08%, with many states also having enhanced penalties for being more drunk than less drunk. The range for enhanced penalties varies from 10% on the low side up to 20% on the high side.

Alabama, where this crash took place, has no enhanced penalties for being more drunk than less drunk, but in states that care, they would have defined him as well and thoroughly drunk.

The NTSB's final report on the accident dryly notes: "The pilot stated that he had not eaten on the day of the accident, had consumed one beer before the accident flight, and had consumed additional alcoholic beverages in the airplane during the flight."

According to NTSB Air Safety Investigator Lynn Spencer's report, in a conversation with the pilot, he told her that he had been through a divorce that "he didn't want" about six months prior to the accident, which "may have had something to do" with the accident.

"He stated that he doesn't drink that much; he drinks socially but 'that divorce killed me. If I had been smarter, we would not be having this conversation."

That said, wreckage recovery personnel noted that his RV was equipped with a bottle opener, which was attached with a magnet behind the instrument panel. He also tested positive for cannabis.

Of interest, the bulk of his 2 hour, 48 minute flight was at 10,500 MSL, a pressure altitude where alcohol's effects can be enhanced.

He was seriously injured in the crash, but survived.

His metaphoric drinking buddy, however, was not so lucky.

Two weeks later, in Cleburne, Texas, alcohol struck again.

Another Boozy Flight

I cringe when I read an NTSB report that starts with something like: "The student pilot was returning to his home airport after making three stops to pick up and drop off equipment and a passenger."

So...there's two violations of the regulations right there. Student pilot? Cargo?? Passenger???

Oh, but it gets worse, because you already know that this crash involves alcohol.

This time, investigators tell us that the American Aviation AA-1A was flying at low altitude about five miles from its home base of Cleburne Regional Airport (<u>KCPT</u>) in Texas, when it made a series of turning maneuvers — which appear to be a fly-by of the student's house. Unfortunately, the airplane was flying near its stall speed and darn if it didn't stall.

The NTSB report tells us that the airplane then "descended and impacted a field in a nose-low attitude and with minimal forward momentum."



(Photo from the NTSB docket)

Six empty mini-sized 1.5 ounce alcohol bottles were found in the airplane's glove box. The reports don't tell us which flavor of spirits these were.

Personally, I prefer a Jack & Diet Coke in flight. But only when I'm a passenger in the back of a 737. Not when I'm the pilot.

Were the empties a coincidence? Bottles he was saving for some reason? Doubtful. His blood alcohol levels were similar to those of our previous hero.

So....illegal passenger, illegal transport of cargo, buzzing his house, and drinking on the job. What sort of student pilot was this? And what about the student's instructor?

The Other Pilot

The student was a 41-year-old male and apparently a busy business owner. He held a third class medical.

In thinking about the impact of alcohol on body size, he was close to the national average in both height and weight for men, at 5-foot, 9-inches tall and 193 pounds.

But, of note, he had logged 111 flight hours.

Now, when I see that many flight hours with no certificate I think: Professional student. A quasi-aviator who has no intention of finishing the process.

And, in fact, the NTSB report states that the student had last flown with an instructor seven months before the crash, which means that any solo endorsements he might have had would have been long expired — not that the student was complying with his solo endorsement's restrictions anyway, which strictly prohibit carrying of passengers or cargo.

His flight instructor told the NTSB investigators that the student's cross-country training "was progressing well, but that the student was reluctant to take the private pilot written test," and apparently the two "parted ways" many months before the crash.

The student pilot's obituary described him as "always the life of the party."

Analysis & Discussion

So two alcohol-involved crashes in two weeks? Both apparently not only from flying under the influence, but also engaging in the influence in-flight? And one of the pilots not even a fully certificated pilot at that?

It might be easy to look at the facts of the second case and just declare the pilot to be the poster boy for the antiauthority hazardous attitude. And perhaps he should share the poster with the paintball guy, too, who didn't seem to have any computcions about a beer on the ground chased by a few bottles of in-flight vino — a guy who included a bottle opener as part of his cockpit equipment list. But there is a bigger problem here.

Because this isn't just about self-induced bent metal or suicide by lifestyle choice.

These were two people — sharing *our* sky, with *us* — who were both so drunk that it's doubtful that they would be able to successfully keep a pickup truck on a dirt road.

And one of those pilots was flying into a Class Charlie airport, the busiest in his state, an airport that served more than 1.4 million passengers last year with flights from American, Breeze, and Delta.

This kind of behavior — regardless of the root cause — puts other aviators, and our passengers, at risk.

The Takeaway

So what's the takeaway?

If you think it's OK for you to drink when you fly, that you can handle it, you are wrong. Get help. This isn't the dawn of aviation anymore. There are a lot more people in the sky, and a lot more people on the ground, too, for that matter.

If you know someone who drinks before flying, or drinks in-flight, you need to intervene. This affects us all, both for our own safety and for the safety of our freedom to fly.

How many alcohol-related GA crashes do you think it would take before the government decides that the best solution is to limit flying to the professionals? Two more? Maybe only one more.

You cannot mind your own business. The stakes are too high.