



The newsletter of the Sport Aircraft Association (Auckland Chapter) Inc

Sport Aviator

February 2015



www.saaauckland.org.nz

Committee 2014

EXECUTIVE COMMITTEE

President:	Evan Wheeler 09 238 6081 027 924 807
Vice President:	Warren Sly 09 534 2364 021 266 0585
Secretary:	Gavin Magill 09 298 7174 027 291 0525
Treasurer:	Gordon Sanders 09 534 2364 021 266 0585

COMMITTEE MEMBERS

Nev Hay 09 521 7077	Don Wilkinson 09 576 5009
Peter Armstrong 09 576 3676	David Campbell-Morrison 09 817 4782

OPERATIONAL POSITIONS

Safety Officer Norm Bartlett 09 528 0108	Technical Library Sandy Wilson 09 536 4018
Tool Library Manfred Scherbuis 09 298 0221 021 081 365 03	Newsletter Editor Gavin Magill 027 291 0525
Catering Carl Pudney 027 430 5303	Airspace Users Group Steve Chilcott 09 625 5273

TECHNICAL MENTORS

Wood & Fabric	Mike Tunnicliffe	09 237 8173
Composites	Alistair McLachlan	299 2775
Metal Skin	Kevin Paulsen	296 5125
Avionics	Liviu Filimon	268 1199

FRONT PAGE

An aerial view of the Ashburton Airfield during Great Plains 2015. Photo by Warren Janett.

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Next Meeting

WHEN:	Thursday 26th Feb 2015
WHERE:	Auckland Society of Model Engineers Club Rooms Peterson Road, Panmure Basin Mt Wellington
SPEAKER:	Various
SUBJECT:	Ashburton Review

How does one control a sick bag and a plane at the same time in rough weather - Gavin Magill

The Healthy Bastards. Good flying or undercarriage destruction - Alistair and Evan

Flying the Molesworth route. Is it preferable to the Kaikoura in Westerly conditions - DCM

Omaka enroute - visit to NZ's completed One Design DR107 +/- 10g - David Wilkinson

Ashburton Seminars
Engine Management Systems / Round Engines / Flying VW Engines / Glass Cockpits
Very good talks. Who was there?

Mesopotamia visit: A must do - Don Wilkinson

Others from the floor on Ashburton



With the Great plains fly in at Ashburton planned for Waitangi weekend and the Annual takeoff and landing competitions known as the Healthy Bastards event at Omaka the week before it was a great excuse to head south for an extended week of flying. Heading off on the Thursday to Omaka ahead of high winds was the correct decision.

Arriving at Omaka, it was surprising the number of aircraft fitted with large balloon tyres and the focus being made on building craft specifically for STOL operations. The competition proved a great event with over 400 landings and takeoffs over several hours almost all within 100 metres and by a good range of aircraft types. Being able to

stand and watch this right beside the runway really made this event a spectacle and watched by a large crowd, an event I will certainly return to again next year.

With more nasty weather looming from the north and an offer to spend several nights in Cheviot, our team headed south via the inland Kaikoura's flying overhead Muzzle Station. With the local knowledge of a 30,000 hour topdressing pilot in his Rebel flying lead and a call to follow me, it was one of those most memorable flights as we flew through a mountain pass and saddle I would never have thought to explore and gave us a more direct route to our destination.

A couple days in Cheviot and the call was made to head to Ashburton ahead of more rough weather heading south.

Wednesday morning and the wind is starting to build. Aircraft turned and re-picqueted down. Nor'westers the call for the day. Our trusty Secretary, Gavin had just arrived from Omaka and would have passed for Caspar on Halloween night. I will leave that story for Gavin. Our team headed off for a day of touring. Had we known how intense the Nor'wester was to build, we would have stayed at Ashburton. By midday gusts were exceeding 60 knots. My aircraft was tied to a truck to prevent it getting airborne, thanks Gavin. A Europa landed and sat facing into wind until ground crew could hold his wings as he taxied in.

With the weather being what it was, things started to look a little bleak with few aircraft being able to make it by Friday. Stories were coming through of those on the ground at various venues sitting out the cold front.

Saturday and the weather could not have been better. The weekend was saved and more than 60 aircraft finally arrived. A flight up to Mesopotamia sheep station proved popular with a few of us carrying on up into the Rakaia river headwaters area and back through Pudding Hill pass.

Sunday and it was [time to] head home. Twenty knots on the nose for most of the trip with fifty knots as we came past Cape Terawhiti, had us down to 45 knots GS. Foxpine was a welcome stop for a cuppa and gas top up.

Finally six and a half hours later it was engine off at Patumahoe. Well we did not get in the amount of flying over the 10 days we had expected, but what we did get was great.

On the business front I do not have much to report apart from the fact we need someone to put up their hand for Chapter Secretary due to Gavin being overloaded with his national SAA Administrators role. Gavin will continue with his newsletter though, doing the fantastic job he excels in. Please let me know if you are prepared to put up the hand as we need to attend to this now prior to the next AGM.

Cheers
Evan



Hi Everyone

The Great Plains 2015 Fly-In has now been and gone and for those that made it down the weather did manage to get its act together for the Saturday of the Fly-In with the end result that we had in excess of 90 aircraft in attendance on the day.

For the days preceding Saturday however, those in attendance were treated to just about every weather extreme. Wind velocities from 100kph plus one day to dead calm the next, changes in wind direction from strong Nor'wester in the morning to stronger Sou'easter in the afternoon to bitter southerly the next day and then gentle northerly the following day. And not to mention temperature extremes with a freezing cold southerly and snow on the ranges on the Friday to 30 odd degree's on the Saturday. It really was a timely reminder of just how quickly the weather in this country can change and that we really need to be prepared for the worst wherever we go.

Despite the weather though, the Great Plains organising committee from the Ashburton Aviation Museum did a superb job. They were probably laughing at us namby-pamby Northerners hiding out of the biting southerly wind on the Friday but they still made us feel incredibly welcome and I think everyone was well and truly looked after.

On a personal note, I would like to express my sincere thanks to the organising committee for making the job of SAANZ Administrator relatively straight forward for Delys and myself. We could not have asked for better help and cooperation. Especial thanks also to Bob and Merri Maxwell for hosting Delys and I in their home Thursday, Friday and Saturday night. It certainly was a whole lot more comfortable (and warmer) than the campervan we booked. :-).

I have included a number of photos from event in the newsletter so apologies for the size of the PDF.

On to Chapter news. I have received quite a number of updates from members this month. Everyone seem to have been beaver away on their projects which is

great to see. Thank you everyone for providing the updates, it certainly makes my job as Newsletter Editor considerably easier.

As you will have read in Evan's report, I will be relinquishing the Auckland Chapter Secretary's role at the next AGM to focus more on the SAANZ Administrator role. As such the Chapter will be looking for someone to step into the role. It is certainly not an onerous task but it is extremely important to the Chapter and we are obligated under the Societies Act to have someone in the position of Secretary. If you think you are up for it please let me know. I will be more than happy to help out transitioning someone into the role and showing them the ropes. As Evan mentioned, I am not going anywhere as I intend to continue with the Chapter Newsletter.

The mystery aircraft in the January newsletter was a Blume BL502 and was correctly identified by Warren Sly. Steve Stride sent the following info on the aircraft. *"The Blume BL 502 was designed by Dr. Walter Blume in the 50's at the time the Beech Bonanza was becoming popular in the USA. It was also being developed as a training aircraft for the Luftwaffe. Manufacturing costs were its downfall and it lost out to the Piaggio P-149 for the Luftwaffe contract."*



This month's mystery aircraft is once again provided by Barry Gillingwater. Have a go and send me your answer by email.

Enjoy the newsletter.

Cheers

Gavin

PROJECT UPDATE

Patrick Sheehan – Vans RV-7

By Patrick Sheehan

Fuselage is now completed with the first fitting of wings and elevator to set up incidence angles etc. Measure 10 times and drill once with some of these fittings. The engineering is well designed and simple on these RV's, my LAME is having difficulty finding things for me to redo.

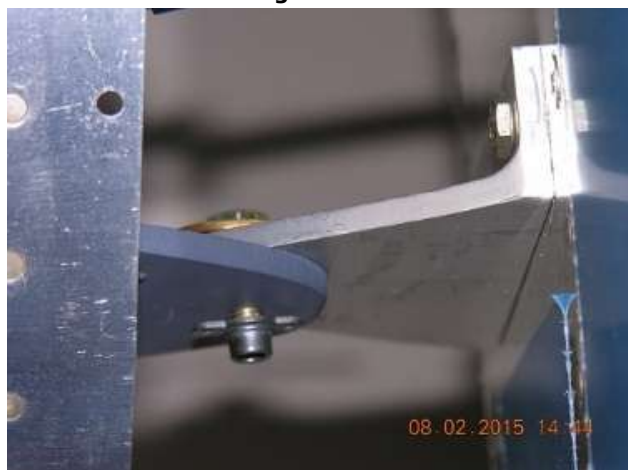
Attached some photos from the Builders Log



Plumbing and other detail in the cabin area

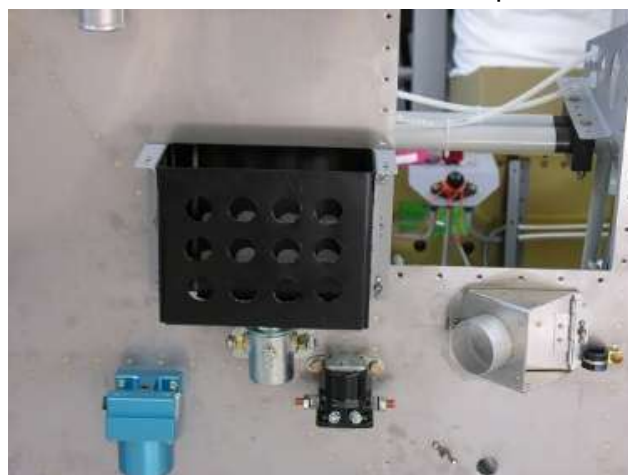


Wings installed



Leading Edge fuel tank break away fitting. Took all day to drill this one.

Time to start thinking about the canopy and the individual skill sets this area requires.



Some work to the firewall.

AIRCRAFT FOR SALE

Corby Starlet ZK-TNT For Sale

By David Wilkinson

DCM and I are looking at selling TNT as we are both starting new projects and it just isn't getting used.

Ideally we would like to sell to someone and keep TOY and TNT together at North Shore, but realise this will limit perspective buyers.

If no interest within Auckland we may list on Trademe...

The end of an era but onwards and upwards....

Cheers

David



Hi Gavin. Could you put something in the newsletter re us selling TNT but wanting to keep in Akl if possible - we are negotiable to the right person or syndicate as we would like to move onto the next project... it could still stay in the hanger I'm sure.

Thks

DCM

PROJECT UPDATE

Steve Chilcott - Menestrel

By Steve Chilcott

After a lot of thought I managed to come up with a baffling system for the Menestrel. The main problem was the inlet manifolds that have the ignition coils attached. I decided to work around the back of the manifolds and came up with a box baffle system.



However once I had finished the baffles I fitted the cowls without problem until I came to put the prop and spinner back plate on. I found I could have the prop on or the cowl on but not both at the same time. After a bit of head scratching I found a way around the problem.



I have run the engine for the first time and after some priming of the oil pump to get it pumping after a long time drying out the engine started and ran well.

So the next job is to finish and paint the engine cowl and then start the final preparation for inspection and first flight.

Steve Chilcott



AIRCRAFT FOR SALE

Fisher Dakota Hawk – ZK-SOL

By Gary Mitchell

Hi Gavin

Can you please list my Fisher Dakota Hawk for sale in the next club newsletter.

Asking \$38000.00 ono.



Regards Gary Mitchell

Mob: 0276988002.

Hm: 4807223

PROJECT UPDATE

David Wilkinson – DR107

By David Wilkinson

As those who attended last month's Chapter meeting heard from David Wilkinson, he has bought the plans for and is making a start on building a One Design DR107.

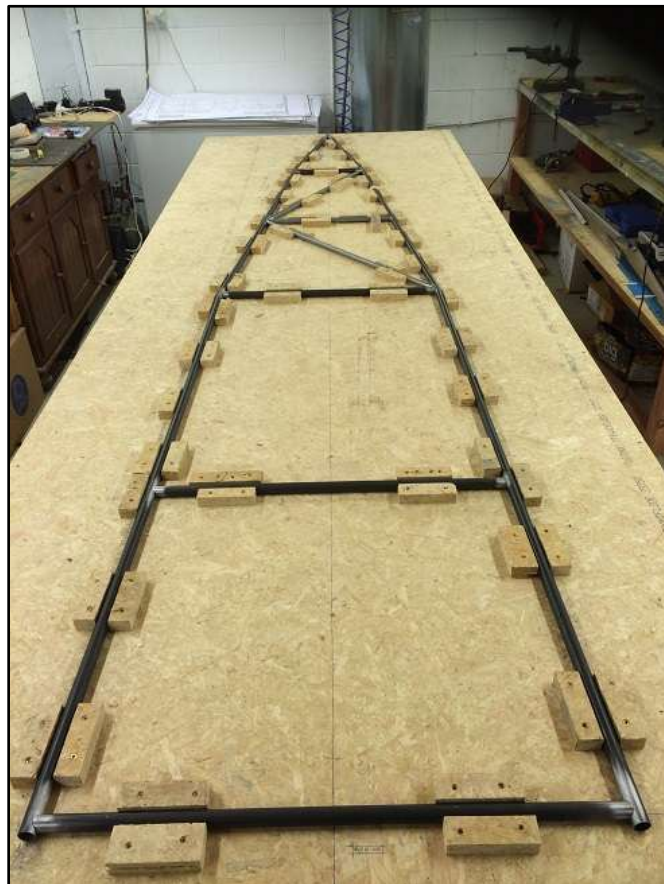
The DR107 is a high performance aerobatics machine which David says has a "18 foot wingspan, a 200+ hp engine, an empty weight of 900lb, and is capable of +10g".



David and Don stopped in at Omaka on the way down to Ashburton to have a look at Roger Harris' recently completed DR107 ZK-XSG to try the aircraft on for size. It looks like a good fit.



And David is not wasting any time with construction already underway. He reports "Top ladder underway.... Long way to go, but you need to start somewhere."



Top ladder of the DR107 fuselage ready for welding.... Thanks to DCM and Norm Bartlett for convincing me not to bother with the fancy notching machines and use a good round file....

Oil Breathers

By David Wilkinson

May want to distribute this. It is in latest kit planes mag. Basically if oil breather is going into exhaust the breather at the exhaust end needs to be cleaned every oil change. Breather outlet is clogging with Carbon and building pressure in crankcase and blowing front oil seal.

Service Bulletin—What Bulletin?

Since installation of the oil separator, the check valve stem had been used for two years and 265 flight hours and was never internally inspected or cleaned. There were no other blockages in the oil separator or hoses to and from the engine. When I called the manufacturer, I was told that they actually recommend regular cleaning of the valve stem at each oil change. What? How did I never hear about this? Apparently the manufacturer previously sent out a mailing with a warning to clean the valve stem regularly, but for reasons unknown, I never received it. The manufacturer also explained how a relief valve, identical to the check valve attached to the exhaust pipe, can be put on a tee connector in the hose between the oil separator and exhaust pipe. Again, I had no idea about this recommendation either.

Lessons Learned

There are a couple of important lessons from all of this. First, I accepted a degree of accountability when I attached an experimental oil separator to my Experimental aircraft. Along with this accountability comes the responsibility to find out everything I can about new or nonstandard equipment that I choose to install. Machines don't care about operator ignorance. There is no slack for the pilot who "should have," but didn't.

In hindsight I could have done a better job of researching my equipment; after all, who has ever heard of anything that attaches to an aircraft engine without some kind of recommended inspection or service interval? If you think there's



Lady Katie all cleaned up and ready to fly again.

ANTI SPLAT AERO OIL SEPARATOR

SERVICE BULLETIN 000-1

Date Effective: October 30, 2014
Subject: Vacuum Saddle Mount Evacuation System Maintenance
Required Action: Cleaning and Inspection of Bias Draw Tube
Time of Compliance: Before Further Flight and at Each Subsequent Oil Change
Level of Certification: Aircraft Owner

A potential problem has been brought to our attention with two recent incidents resulting in a forced landing of an RV-8 due to a clogged, coked breather. This occurrence and one other on an RV-10 that had a front seal blow out are the only ones we were made aware of (even one is too many). The models displaying serious coking potential have been the 10s and we suspended sales of the evacuation system to the 10s until we can be assured the problem no longer exists. We must add that several RV-10s have the system installed and are having no issues whatsoever. We are currently trying to sort out why, and what is different. When a good working solution is found we will make it available to all via our website and the forums. We addressed this at length on the forums as a safety precaution (it appears many were unaware and failed to receive this information). A.S.A. markets this product to many different Experimental models and applications. We strongly advise everyone, with all aircraft models, to inspect the tube where it protrudes into the exhaust immediately, and at every oil change to be certain it is open and free of any serious clogging. Many owners have carried out this inspection to find a small amount of coking: 1/16 inch or so on the inside periphery is normal. This is not an issue and usually will not build further. We have also changed the design of the saddle mount clamp to further help eliminate the potential problem. When we complete the testing program on this change, we will report our results and make these available. We advise inspection at every oil change and if any significant build-up is detected, to inspect more often than that. If significant build-up is detected, then for safety, a second valve to vent off crankcase pressure should be installed. We have the parts for this in stock should you need them. In light of recent developments, we will be offering the system complete with two valves and necessary hardware to install this bypass. We will also have a retrofit kit to add this safety feature on to existing installations. This forced landing would not have happened and it appears the root problem lies in the fact that we failed to get everyone adequately informed as to maintenance of this system.

some information you're supposed to have, start asking questions until you are satisfied.

Second, I hope that nobody simply blames the equipment or its source. That would be as unreasonable as failing to do oil changes and then blaming the manufacturer when your engine quits. A part of my oil separator system failed because I didn't know it needed to be cleaned—it's just that simple.

Some will say that I should just remove the oil separator completely, but I think I will choose to keep it installed. I acknowledge that a dirty belly won't break an airplane, but a crankcase overpressure could. However, I believe the risk of a plugged check valve can be safely mitigated through careful regular service and the wise installation of a relief valve. †

Karl Gashler holds ATP, CFI and CFII ratings and has flown over 10,000 hours in 20 aircraft models. His favorite airplane is the Van's RV-8.

PROJECT UPDATE

Gary Briggs - Sonex

By Gary Briggs

I planned to fit the wings inside my double garage which meant I did not have to rush, according to the measurements it would just fit with the wings on. So I set everything up and fitted the left wing. Then it all got so cramped that it was almost impossible to make any adjustments. So I scrapped that idea now it's back to the drawing board. I have lost a bit of motivation now but I will start again soon. Fitting the wings is probably the biggest hurdle.



WARBIRDS NEWS

Warbirds Speaker

By Nev Hay

Hi Gavin

In the previous Warbirds newsletter I sent, check out the speaker (towards the end) coming to Warbirds in May. Could be worth the troops consideration
Nev

Dear Warbirds Member,

As your Committee we are always on the lookout for extra events that will enhance the benefits of being a NZ Warbirds member. To this end we have been exploring the option of conducting an annual speaking event at where aviation speakers of world note could come and address us.

Excitingly we have secured the famous SR 71 Blackbird Pilot, Brian Shul, to come and speak with us on Saturday May 16 2015 at the Warbirds hangar. We are sure that a lot of you will be aware of Brian as he is also a

noted Speaker and Photographer and has published a fascinating book on his US Air Force career and his pathway to flying the most exotic aircraft ever flown, the SR 71 Blackbird. The book is called "Sled Driver"

Brian had the misfortune to be shot down in Vietnam in 1968 flying an A28 attack aircraft (Attack version of the T28 Trojan), and sustained horrific and life threatening burns.

His chances of living through this ordeal were pronounced as none to marginal.

A man of obviously great fortitude, he overcame this pronouncement and went on to recover after a significant time in various medical facilities.

Naturally his thoughts turned to flying again but was told by flying and medical personnel alike that he that he would never fly again. You will no doubt be aware of the Douglas Bader story in the UK. It is probably true that Brian is the US equivalent. Not only did he fully recover from his medical dramas, he was finally able to pass the grueling medical exam and be eligible for flight testing to assess that he was flight crew status. He passed.

Back on the flight line he joined an A7 Corsair Squadron and from there went to the trials squadron to assess the A10 Warthog. The successful assimilation of the A10 into the US Air Force inventory saw Brian as the first CO of the Squadron.

Forever looking for new challenges, Brian applied for flight crew status with the SR 71 programme, passing after a harrowing selection programme and went onto fly this scintillating unique miracle of aviation to the conclusion of his USAF career.

Departure from the USAF saw the end of Brian's flying days for- as he put it- "after you've flown the Sled, what the hell else are you going to fly"!!

It will be an entertaining evening and we urge you to join with us on May 16th.

We need to fund Brian's expenses and fees to NZ which will necessitate a ticket price of \$75. This will include supper and a bar will be onsite.

Tickets will be available through Melanie Nelson at Ardmore Airport Limited (melanie@ardmoreairport.co.nz or 09 298 9544.

We look forward to welcoming you to what we hope will be the first of other such evenings.

Peter Fahey NZ Warbirds Social Committee

AVIATION HISTORY

Weird Places For A Propeller

By Jon Farmer

In last month's newsletter, I posed a question about why the propeller on a Bristol Boxkite was between the Gnome rotary engine and the fuselage, even although it was a pusher. Robin Hickman sent in the only reply suggesting that the arrangement was to avoid splattering the propeller with castor oil. This is a perfectly plausible explanation and, in the absence of any late entries, Robin wins the chapter's spare 'chocolate fish'. (Gavin, please make a note.)

On the way to Ashburton, we spent a day in Omaka waiting for the wind to abate and made good use of the time by a leisurely visit to the Aviation Heritage Centre. With time to examine the many models as well as the full size exhibits, I was intrigued by a 10ft wing span model of a SPAD A2 because the propeller blades poked out of the fuselage between the pilot and the observer/gunner.

Looking on Google, I found two 100 year old photos, taken in 1915 or 1916, which clearly show the outer portions of the 8 or 9ft propeller protruding from the fuselage.



The explanation is that the SPAD was designed as a single seat observation aircraft and as such was quite successful. However, it was defenceless as the 'interrupter' mechanism for firing through the propeller had not been invented. The solution was to add a 'pulpit' out in front for a gunner cum observer who would have a Lewis machine gun on a universal mount able to fire in any direction forward of the wings. Although the observer had a great view, the pilot lost some of his already limited visibility which made landing difficult.

The gunner's pulpit was supported by struts, hinged near the undercarriage axle, and supports from the upper wing with a steel mesh between him and the whirling propeller to preserve his digits if he turned to wave to the pilot ! For engine service and starting, the pulpit could be hinged down to allow access to the 80hp Le Rhone rotary engine and ducts were added to the fuselage for cooling. It seems that the extra weight right forward was compensated for by moving the wings forward. The photographs show rather unsightly cutouts in the leading edges of both wings to allow prop clearance.

Nearly 100 SPAD A2 s were built, more than half being sold to Russia. It is said that the entire output of SPAD A2s only shot down a total of one enemy aircraft!!

Cheers, Jon.

INDUSTRY NEWS

Electric Aircraft – WATTsUP

By Rob Keith
WATTsUP?

Well that is not actually a question it's the name given to a 2 seat training aircraft from Pipistrel which first flew on August 22 last year.

The aircraft is powered by a Siemens AG 85Kw electric motor that weighs only 31lbs.

Power is 85Kw (114hp) so that is better than the 100hp the Rotax 912S produces.

Endurance is 1 hour with 30 minutes reserve Rate of climb is 1000ft/min. Here are a few comparisons to think about but bear in mind the old adage "there are lies dam lies and statistics"

Take the weight of a Rotax 912s at 124.5lbs and the weight of 1hrs fuel at 27ltrs/hr consumption which is about 43lbs giving a total of 167.5lbs.

Compare that to the electric motor at 31lbs and a possible weight of a battery pack to give a 1hr endurance. No figures are supplied but using the Airbus E Fan battery weight of 130Kg for 2 hrs endurance and dividing by 2 we get 65Kg(143Lbs) plus 31lbs a total of 164bs

Not a real comparison but interesting none the less.



Still on the subject of electric power check this one out from Pipistrel. It's the Taurus G4. The electric motor on this one is 150Kw (200hp)



CHAPTER NEWS

Recreating Vintage Aircraft

By Gavin Magill

Mentioned at the January Chapter meeting was the following radio interview with Gene De Marco of The Vintage Aviator in Wellington. This is an excellent program and well worth the time to listen to.

<http://www.radionz.co.nz/national/programmes/ourchangingworld/audio/20162295/recreating-vintage-airplanes>



Gene DeMarco

The Trip Down

Some Auckland members meet up at Te Kowhai



The flight line at Te Kowhai



Lloyd Morris in strife when the Police arrived ☺



Tying down the aircraft at Omaka

Early Arrivals At Ashburton

Early Arrivals ZK-WEM and ZK-WEC



ZK-ZXZ hides behind a hangar out of the Westerly.



ZK-RPR was helped from the runway due to the winds.



The truck and Forklift being used as windbreaks

Thursday Arrivals

A line up of the arrivals on Thursday



Bruce Burdekin arrives in his Rotorway from Rangiora



Time for a morning cuppa.



The Hospitality Hangar all set up and waiting.

Friday

Friday morning and there was snow on the Ranges and a bitterly cold southerly blowing.



Enjoying the sunshine outside the hospitality hangar while keeping out of the Southerly.



The morning safety briefing with organising committee chairmen Owen Moore and Safety Officer Errol Smart.



The first of the seminars held at Great Plains was run by Philip Roys and was on Engine Management Systems.



The second seminar was run by Wayne Lindebaum on Flying Type 1 VW engines. This seminar proved very popular.



Tony Schischka was one of the arrivals on Friday



Another arrival was Richard Maxwell in his Taylor

SATURDAY



Saturday arrived and Ashburton turned on a stunning day. Sixty plus aircraft flew in.



Laurie Prouting was the guest speaker at breakfast.



Sat arrivals included the Bellworthy's Figaro



And Graham Bethels Glasair III. Grand Champion 2015



Phil Kennedy ran the morning seminar on Round Engines



Ashburton local FRED ZK-RSJ, was also brought out.

Mesopotamia Fly-Away - Saturday**Don Wilkinson and ZK-TOY****Tony Schischka and ZK-VMS****DCM and ZK-TNT****Toys at Mesopotamia**

17 Engine Failure & Force Landing

Engine Failure and Forced Landing - Pilots Perspective

By Alan Butler

This is an account of my experience with dealing with an engine failure at very low altitude with very few options in where to force land and ultimately a forced landing on water. This account looks at my experience in terms of what worked and what I would change if in the situation again. I am not trying to write the text book on forced landing; this is purely written to pilots looking for a first-hand account and some tips that may save yours and your passenger's life if in the same situation.

I got my pilots licence while I was in my second year of university, straight away I wanted to further my flying training. My dad always told me a pilot's licence is a licence to learn and that was what I wanted to do. Straight away I was into aerobatics and learning to fly tail dragger aircraft; further advancing to flying into short strips and dealing with low speed handling, low flying, further simulation of forced landings from different configurations, mountain flying, beach ops and operating into river beds. This training sharpens the skills like you would not believe and your confidence in operating and handling the aircraft is boosted but without over ego or risking your life providing it is done with experienced instructors. Whether such advanced training significantly changed the outcome of that day I will never know but I feel I was better equipped to deal with it because of it.

On the day of the accident myself, sister and brother in law had flown down to Raglan in a Piper Cherokee. I had been careful of fuel management with only 150hp upfront and only 600m runway length I was careful we had what we needed for the trip and a healthy reserve. I had elected to run down on the left fuel tank and had checked that both were feeding prior to departure from Ardmore. The trip down was uneventful and the aeroplane was really going well. Normal overhead join for Raglan but today the wind favouring runway 05, Raglan predominantly favouring runway 23 because of sea breezes. Landing on runway 05 was again uneventful, good touchdown

and got it down early so I never even used brakes in the roll out. I was pleased with how the aircraft was running, it really never missed a beat nor had it given us any reason to doubt it. The afternoon of that same day another pilot was planning to take the aircraft to Great Barrier with his family aboard. We walked into town for lunch and enjoyed a walk down to the wharf and far end of raglan. I had been taking in the beauty of the town thinking to myself as we walked, isn't life really beautiful. I was enjoying my last few weeks as a civilian as I was soon to be in training with the Air Force and felt sure I would miss times like these when away.

We headed back to the airport and I did a standard walk around pre-flight of the aeroplane taking special care to check fuel quantity, I rechecked fuel drains and had a thorough inspection of the engine bay and oil quantity. The beauty of the Cherokee was the ability to open both side cowlings and have a proper inspection. Again there were no obvious defects and I knew what I was looking at, I remember even checking under the wings and belly and made sure there were no leaks of any kind. With two aircraft engineers on board, we would have picked up on something if there was any sign.

I carried out a usual start up, 3 primes as the engine had sat for over an hour. The engine fired straight away on start-up, Temps and pressures all in usual healthy range and I taxied for the end of runway 05. At the end of the runway I turned into wind and carried out a standard run-up. 2000rpm, carb heat working with drop of 100rpm when engaged and pick up back to 2000 on release. Mag drops both smooth with 100 rpm drop on both left and right mags; all temps and pressures all in the green range. Standard pre take off checks with two notches of flap for take-off for short strips. I always run through in my head as I line up if I don't hit 80% of my rotate speed when I am half the length of available runway I will abort the take off. So in my case my rotate speed was 60 knots if I didn't feel acceleration nor hit 50 knots at half-length available I would have aborted. I had elected to take off on the left fuel tank which I had not changed from since the flight down, many say that it is

18 Engine Failure & Force Landing

standard practice to take off on the fullest tank but I knew the left tank was feeding healthy so I would take off and change to the right tank when I reached my healthy cruising altitude for the return trip.

One factor in lining up that I believe made a significant difference is that I took no notice of the marker boards that indicate raglans 05/23 vector. If you look straight down runway 05 vector you are faced with a rather large tree and a hill covered in houses, nowhere to go at all in the event of emergency. So I elected to take off on more of an angle across the strip with a climb out that would have taken us over more flat land with more options in the event of emergency. After all Raglan is just a big rectangular paddock. I lined up and carried out a performance take off, held it on the brakes got static RPM of 2300. Temps and pressures all in the green range, brakes released, instant acceleration, Check airspeeds alive and increasing, quick glance back to RPM and temps and pressures all healthy. At my decision point I was already rotating so I had achieved 60 knots before half-length available. Airborne let the aircraft accelerate in ground effect up to 70 knots and climb away at 70 with the two notches which I would have got rid of passing 300ft. Everything normal up to here with no signs at all of anything being wrong, the engine running smooth and developing full power. With the pressures of take-off easing off and the ground falling away beneath us as we climbed into a blue sky you start to become slightly more relaxed.

In the Map below I have marked my take off run and the proposed vectors.



Where would I have gone if I had taken off on the proposed vector? I wouldn't have made the beach front and would have ended up in the channel and narrowly missing the Raglan walkway bridge.

I was passing through about 150 feet still climbing away at 70 knots and had just glanced out my left window at the crowded beach when I hear the power ease back to idle as if an instructor had pulled the power on you for a simulated engine failure after take-off. I look forward and no my hand was still at full throttle, this was real. Training kicks in, I instantly checked forward to maintain 70 knots to give us best glide speed. We were heading straight into town and had no options straight ahead, I had just been looking out the left window and I knew that there was nothing to the right so I instinctively turned left.

Carrying out turns with no power on is a dangerous manoeuvre, risks being that speed is washing off and people try to subconsciously pull back at such low heights to maintain height and run the risk of stall and even if out of balance snapping into a spin. Both would have been fatal from that height. I had been taught a pretty good lesson in my training about checking forward before rolling into every turn so that the aircraft is accelerating going into the turn. I got a glance at airspeed in the turn slightly above 70 knots and rolling in a medium turn, at that height my eyes were out the window on where I was going. I was turning height into airspeed to maintain safe speeds throughout the turn.

Another point of emphasis which I learnt in my training was in an engine failure my instructor would say "Fly the F###ing aeroplane". Check forward, achieve best glide speed, pick where you're going, make any turns you have to, to set up for where So in my situation I got us turned and picked where I was going, turning back was never an option, and the beach was never an option. One option forced landing just off the beach away from swimmers and in as shallow water as possible It was a split decision but my only one. Luckily I had in the seat next to me my brother in law and another pilot and aircraft engineer. He managed to get in the trouble checks while I was focussed on flying the plane.

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If I had been on my own I might have been able to get in a few checks in between the turn and getting low enough to focus on my landing. Even so from 150ft my chance of getting the motor running again was slim. We checked fuel on, fuel pump on, primer locked, carburettor heat on, cycled the mixture with no response. What else could we have done if we had the time; changed fuel tanks yeah but we don't believe it would have made a difference, the engine was getting fuel as it was ticking over at idle but it was as though something had blocked the main jet in the carburettor restricting fuel flow. We could have pumped the throttle and got the accelerator pump to push some more fuel through and got a burst of power but then that would have put us out into deeper water and we may not have got out successfully. I still had two notches of flap from take-off which I had not gotten rid of.



I flew the aeroplane right down to the water at 70 knots and made a last minute slight turn to set up for the best path of clear water. I held the aeroplane just off the water and rolled wings level; I tried to hold the aeroplane just off the water at about a foot in height so as to stall and drop it in tail first and to avoid the nose down pitching from the stall. Worst case scenario is hitting with too much momentum and with the rapid deceleration of hitting the water that momentum has to go somewhere and can result in rollover. If you rollover on water you will likely be knocked unconscious and be unable to escape the wreck. We stalled in just as mentioned above around 40 knots as I had the flap out and there was off course the rapid deceleration from doing about 80km/hr to nothing in about a second. The tail touched first and as the aircraft slowed the nose,

flaps and undercarriage dug in and that was where the most violent deceleration occurred. Mr brother in law called brace but my hands were on the control column still held as far back as possible so as we struck my head went through the sun visor. My brother in law braced on the instrument panel and my sister braced behind the pilots seat. With the impact I believe the fuselage would have flexed and the front windscreen blew out and the cabin flooded immediately. I must have been out for a second or two but next thing I remember being fully under water and reaching down to undo my seat belt.



The aircraft sank nose first with the weight of the engine pulling it down there was an air pocket in the back of the cockpit and something you don't think about is that our bodies are full of air and we float to the top

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so I ended up in the back of the cabin disorientated and I never saw or felt anyone from the time we hit maybe I was out longer I don't know. In the short time frame about 15 seconds from engine cut to the forced landing we never got the door open. The Cherokee has an overhead latch and a bottom door latch. After impact my brother in law reached for where he thought the overhead latch was but couldn't find it, Eyes open under sea water you can also only see about a foot in front of you and immensely dark and blurry. We never got the door open and my brother in law kicked out a window to get out. I never saw him do this and as I ended up in the back I got a couple of breaths before the water was rising over my head and I went back down to find the door. I never did find the door and I remember breaking through a broken window, maybe I went out the same window as my brother in law maybe another window I don't know. I got to the surface and saw my brother in law, we were surrounded by boats and the town emergency siren was going off, I asked had my sister come up to the surface but she hadn't. The aircraft was in water about 3-4m deep; I dived straight back down to the door, my brother in law had had a go at the door from the outside but he could only get the top latch. I managed to dive deep enough to get the bottom latch and got the door open, I got back inside looking for my sister and reaching around in the cabin but I couldn't see or feel her. I ran out of air and had to return to the surface. I was just about to go back down again and she came out, we believe she came out the door. She was taken aboard one of the boats and given CPR. She was later flown to Waikato hospital from ingesting sea water.

We all got out but we were lucky, it has run through my head ever since what could we have done that could have got everyone out easier. First of all I would have gotten the co-pilot to open the door and stick something in the door so it didn't close or jam on impact. In a C172, C152, C180, Tomahawk so on, open all doors and jam them open. Next of all I would have a plan for how everyone would get out; A Cherokee has one door on the right side and four seats you might have to evacuate.

In a dream world you would think that the aircraft will float and you could all step out onto the wing and wave down a boat but that's not how it happens. Have a plan for how you are going to get everyone out, make sure everyone knows that drill in an emergency. Run through that drill in your passenger brief without over frightening everyone and make sure everyone removes headsets, sunglasses and makes sure seat belts are tight before impact. Also in your plan think that you won't be able to see, your body is going to try and float to the highest point in the plane and with that in mind what would you grab to help you get out. Would you include in your plan for example that with your door open in a 172, 152 or Tomahawk would you get a firm hold of a door post etc with your left hand release your seat belt with your right hand and use your left hand to pull you out. Remember your body will be in shock and you can't function as you normally would in a rational mind so this is where procedure and training and instinctive behaviour will save your life. I hope my account may help people have a little more understanding about what to expect if you were faced with a similar situation and things that might help save your life if you didn't already think of them.

An inspection by Aeromotive in Hamilton on recovery of the aircraft could not find any fault with the aircraft and the only reasonable cause was if some piece of dirt or grass had managed to block the main jet in the Carburettor. That object would have been very small and perhaps was injected during the cycling of carburettor heat in my ground checks. We may never know the full cause but this is the only theory that makes sense with the symptoms the engine showed when we lost power.

This again isn't my theory on a text book forced landing but it is an account of what worked and what I would change. I hope these notes are of some use, maybe out of this horrible accident my account might help someone else. Thanks to all of my instructors over the years, I owe all praise to them. Also thanks to my brother in law for his help in the situation, I don't think I can ever find a way to fully thank him for his help on that day.

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22 Mystery Aircraft Quiz *by Barry Gillingwater*

A test for all those plane spotters out there.

Identify the mystery aircraft in the picture below and email your answer to the editor at gavin.magill@gmail.com before the next Chapter meeting and the first person to correctly identify the aircraft will earn themselves a chocolate fish prize.

Note you will need to turn up to the meeting to collect your prize. 😊



ON THE WEB

AeroGlass Display

From Chris Rarere

Great Youtube video on a concept for a heads up display provided by an app and a pair of glasses. Looks very cool.

<https://www.youtube.com/watch?v=TM RNMLFifPO>



ON THE WEB

Aerobatics Close Call

From David Wilkinson

A very close call. Matt Hall skims the water during race qualifying session – Windsor 2010. I think I have shown this before but it is still scary as hell to watch.

He probably went home and changed his undies after this.

<http://www.youtube.com/watch?v=xkWqD9yILo&sns=em>



ON THE WEB

Cosford 2013 Model Aircraft

From Rob Keith

Some good stuff here.

<https://www.youtube.com/watch?v=D7-IUBm-Guw>



ON THE WEB

Pre-Flight Announcements

From Don Wilkinson

Very funny.

She's a smart blond, they apparently do exist. Enjoy it

Don

<https://www.youtube-nocookie.com/embed/TxNrizGdhtY?vq=hd720&rel=0&showinfo=0&start=0&end=>



ON THE WEB

Koromiko Airpark

From Delys Magill

The new "airpark" is being developed beside the Sounds Air airfield at Koromiko with 16 houses being built.

<http://www.stuff.co.nz/national/65579478/Airpark-with-16-houses-hangars-going-up>



ON THE WEB

Naval Helicopter Testing

From Rob Keith

Why Navy Helicopter pilots get extra allowance for laundry!

<https://www.youtube.com/embed/bC2XIGMI2kM>



ON THE WEB

Seafire XV Five minute video

From Robin Hickman

Here's a good story folks....

Seafire XV with a Rolls Royce Griffon

<http://www.youtube.com/v/TneYPcyGbbY&autoplay=1&rel=0>



ON THE WEB

Homebuilt rockets

From Barry Gillingwater

This starts a little slowly- but keep watching!

Some NASA launches are not as good!!

<http://theawesomer.com/insane-homebrew-rocket/303503/>



Jan 29 Auckland Chapter Monthly Meeting
Speakers: TBA

Aviation Calendar

2015

Every Sat Dargaville Aero Club
 The place is buzzing every Sat, wet or fine, windy or calm, and the \$12 lunch at 12.30 is good value. Club on the web at http://www.flyingnz.co.nz/club_pages/dargaville.html. If going as a group please have the courtesy to ring in advance so the cook expects you. Contact Murray on 027-478 4308 or the club house on 09-439 8024.

3rd Sun Turangi Aero Club Fly-In
Each All welcome for a BBQ lunch.
Month Contact Tony on 027-453 3740

Feb 27 Australian International Airshow
Mar 01 Avalon, Victoria
 Theme is Centenary of ANZAC, 1915~2015. Heroes of the Sky. Full information at:
<http://www.airshow.com.au/airshow2015/index.asp>

Mar 07-08 Singer Trophy Air Rally
Dargaville
 SAA Northland Chapter in conjunction with Dargaville Aero Club invite all recreational aviators to attend. Arrivals Friday or early Saturday. Briefing 1100 Sat. All meals and basic (clubhouse) accommodation available. More info and contact details at http://www.saa.org.nz/public_pages/events.php

Mar 07-08 RAANZ 2015 Fly-In
Waipukurau
 An event for the increasing number of microlight flyers. Info at:
<http://raanz.org.nz/wiki/pmwiki.php>

Mar 18-21 National Aerobatic Championships
Hood Aerodrome, Masterton
 (Moved from Waipukurau). New venue with many facilities, both for flying and accommodation. Unofficial practice day Wed 17th. More info at <http://www.aerobatics.co.nz/>

Apr 03-05 Classic Fighters Omaka Airshow
Omaka Airfield, Blenheim

SAA Easter weekend. Friday is Practice Day, including the Marlborough Lines Twilight Extreme of sunset flying, concert and fireworks. Sat and Sun are the main airshow days with over 100 aircraft participating. Full info at:
<http://www.classicfighters.co.nz/>

Jun 20-26 AirVenture (Oshkosh) 2015
Oshkosh, Wisconsin

It may be possible to join up with the South African group tour. Northern Microlight Club Editor and Club Captain Brian Millett (09-425 5887 skypilot@clear.net.nz) can probably assist with more info if you are interested. It will be necessary to book early to get a seat on the DC3 flight from Chicago to Oshkosh.
<http://www.airadventure.co.za/>

2016

Mar 13-27 Air Safari 2016
 Starts at Omaka on 13th Mar, then via the scenic route (18 airfields) to finish at Alexandra on 27th Mar. If you need a leave pass signed it might be time to start working on the brownie points. A link to more info is on the SAANZ web site Events page at http://www.saa.org.nz/public_pages/events.php

If members are aware of other events that could be of interest to others please pass the details to Gordon Sanders - gordon@sanders.gen.nz.