

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

# Sport Aviator

April 2018



# Committee 2017/18

## EXECUTIVE COMMITTEE

**President:** **David Wilkinson**  
021 468 270

**Vice President:** **Gary Briggs**  
09 277 9959  
021 168 7206

**Secretary:** **Keith Weale**  
09 527 8710  
027 435 4661

**Treasurer:** **Gordon Sanders**  
09 534 2464  
021 266 0585

## COMMITTEE MEMBERS

**Peter Armstrong** **David Campbell-Morrison**  
09 576 3676 09 817 4782  
021 883 080 021 946 078

**Scott Neill**  
09 826 5655  
027 479 3280

## OPERATIONAL POSITIONS

**Safety Officer** **Technical Library**  
Norm Bartlett Rob Keith  
09 528 0108 09 534 3845  
027 611 2153

**Tool Library** **Newsletter Editor**  
Manfred Scherbius Gavin Magill  
09 298 0221 07 866 0625  
021 0813 6503 027 291 0525

**Catering** **Airspace Users Group**  
Carl Pudney Steve Chilcott  
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021 763 742

## 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**

Dave Wilkinson and Paul Carran take Paul's new RV-8 for a spin. Another yellow aeroplane joins the growing North Shore squadron. Photo courtesy of Chris Opperman.

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## Next Meeting

**WHEN:** Thursday 26<sup>th</sup> April 2018

**WHERE:** Auckland Society of Model  
Engineers Club Rooms  
Peterson Road, Panmure Basin  
Mt Wellington

**SPEAKER:** Peter Armstrong  
Will speak on his recent trip to the  
Chatham Islands.

Jon Farmer  
Will speak on his early days with  
the Pelican agency and Ivo-props.

# 3 President's Report



Hi All

Hope everyone is well and progressing with your projects or getting some flying in.

I'm away (again) this month so will leave the meeting arrangements up to the committee members to run.

Next month is the AGM where I will be stepping aside as per the Chapter rules (yes it has been 2 years) and our Vice President Gary Briggs will be in the hot seat.

I have helped Paul Carran inspect and test fly his newly purchased RV8 over the past 3 weeks and have thoroughly enjoyed this experience.

Having only ever flown my RV8 it was great to jump in his one and compare the two aircraft. Both aircraft are identical in their flight characteristics. Grant Benn's is going to help Paul from here on in and get him rated in it.

My One Design fuselage is now fully welded and I'm looking forward to getting this back and painted next week.

Don had a slight whoopsie 3 weeks ago and broke a leg... don't ask how... he is well on his way to a full recovery.

See you next month

Thanks

David



Hi Everyone.

April newsletter time has snuck up on me this month and I am a little late getting the newsletter out.

I was wondering what to write about when Delys suggested the recent flight we made to Matamata. Long story short, Delys offered to write up the flight instead of me as it is one of those embarrassing flying experience stories.

*"It's such a busy time of year for aviation get-togethers and Gavin likes to attend as many as possible with camera in hand to record the events for SAANZ and to be able to write short articles for the Sport Flying magazine.*

*April has been no exception with the weekend of 14<sup>th</sup> and 15<sup>th</sup> April having a number of flying events scheduled. We had decided the Poker Run organised for Sunday 15<sup>th</sup> by the NMC (now known as the Northern Aviators Club) sounded like a fun day out. Unfortunately, due to inclement conditions on the Saturday, they were unable to set up the cards at the 9 air-strips, so this event was postponed until further notice.*

*Sunday in Whitianga was cloudy but looking flyable. We decided to attend the Matamata Aeroclub's 60<sup>th</sup> Anniversary BBQ lunch. BBQ supplies were packed, life jackets donned and away we went. Dodging clouds and skimming down the coast to Waihi Beach before zipping through the Waihi Gap and on to Matamata Aerodrome. We even had a brief chat with Cliff McChesney on the way, letting us know the Gap was clear. On the radio we heard ZK-BFF heading in the same direction from Tauranga.*

*On landing we were greeted by Scott Montagu's welcoming grin and his cheeky comment that the BBQ was yesterday. Yeah right, always one with a joke! Bruce Cooke had posted a photo of the flying conditions on Facebook, although he wasn't anywhere to be seen which was a little strange. After tracking down a cup of tea it became apparent that said 'cheeky comment' was in fact true, we were a day late. Ooops! Oh well, aeroclub folk are great with or without grilled sausages. We took our cuppas and wandered outside to chat with the club members only to discover they were from the Piako Gliding Club, not the Matamata Aero Club. Not only did we have the wrong day...we had the wrong club as well!*

*Needless to say, we felt slightly silly. As luck would have it the Gliding Club were also celebrating 60 years of being in existence that weekend. Grilled mussels served in their shells, a few sandwiches and cake were shared with their rather flummoxed visitors. ZK-BFF turned out to be a Tiger Moth and the original tow plane for the Gliding Club. Chatting with Scott, who flies the Pawnee tow plane, we learned more about the Gliding Club and gliding in general. The Parachute Club were also working that day and we watched two jumpers land in a designated area just to the edge of the runway. Seeing a tow plane and a jump plane working in shared air space was a new experience for me, and I thoroughly enjoyed our little adventure. After an hour or so, we bid our new friends farewell and headed back to Whitianga.*

*The moral of the story...there are no mistakes only experiences." ☺*

The mystery aircraft for March was a Hadley Page Hampden and was successfully identified by Robin Hickman first and Chris Grove second.



Wikipedia has this to say about the Hampden.

*"The Handley Page HP.52 Hampden was a British twin-engine medium bomber of the Royal Air Force (RAF). It was one of a trio of then-large twin-engine bombers procured for the RAF, the other two being the Armstrong Whitworth Whitley and Vickers Wellington. The newest of the three medium bombers, the Hampden was often referred to by aircrews as the "Flying Suitcase" because of its cramped crew conditions."*

Enjoy the newsletter.

Cheers  
Gavin

## CHAPTER NEWS

## Notice of Chapter AGM

**By Keith Weale (Chapter Secretary)**

The Annual General Meeting of the Chapter will be held on Thursday 31<sup>st</sup> May 2018 in the Auckland Society of Model Engineers clubrooms, Peterson Rd, Panmure Basin, starting at 7.30pm. Business includes the receipt of reports, election of officers and committee, and setting subscriptions for the coming year. The annual accounts will be distributed to members by email before the meeting.

Two of the Chapter committee members and the Chapter President have served the maximum number of years permitted by the Chapter Constitution and will be standing down from their positions. Please consider volunteering your assistance with the running of our Chapter by serving on the Committee. Nominations (duly seconded) may be submitted to the Secretary or to the Treasurer, preferably well before the AGM.

The AGM is scheduled to be brief and to be followed by the regular club night. A good attendance is requested to ensure that there is a quorum. All members who were financial at 31<sup>st</sup> March (and that is everyone in the Chapter) are deemed to be financial until the close of the AGM.

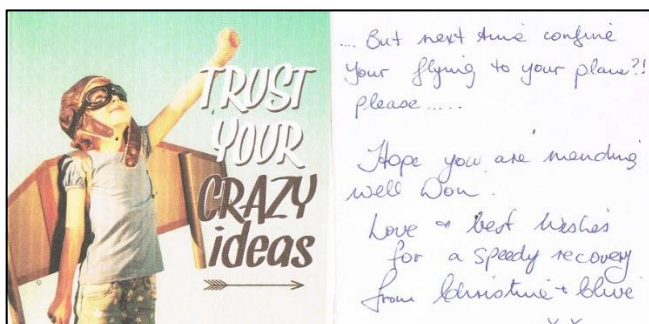
## MEMBER NEWS

## Don tries flying without wings.

**By Don Wilkinson**

Following an uncontrolled decent from my workshop bench to the concrete floor I have spent 10 days in hospital following hip surgery.

Probably not of huge interest to the general populace of our club but I thought the picture on a card sent by one of Brenda's Brides Maids depicts a boyhood dream that many of us will probably relate to. just thought it was so well selected. Actually quite funny.



## BOP CHAPTER NEWS

## Trans-Tasman Flight

**By David Wilkinson**

Congratulations to Trevor Parker and Steve Carr on their recent trans-Tasman jaunt.

Not a trip to be taken lightly.



## PRODUCT NEWS

## Tank Sealant

**By Nev Hay**

I have discussed the attached product with Alistair who is of the opinion, that it may be useful to our members. Whilst it is mainly used for the sealing of older fuel tanks etc I am informed it has been also used on aircraft fuel tanks.

One benefit of the product is that as it is mixed on site by the user (after purchasing Acetone thinner) and therefore can be sent to the purchaser by standard post.

Further info is on the website.

<http://www.ftrs.com.au/redkote/about.php>

## MEMBER UPDATE

## Paul Carran – Van's RV-8

**By Paul Carran. Photos by Chris Opperman**

Little more than a month ago Paul Carran did something he called, 'a little crazy'. Kiwiflyer magazine had a second advertisement for the sale of Van's RV-8 ZK-EYT, which had been built by Tony Clarry of Blenheim under the watchful eye of JEM Aviation in Omas. Its current owner, Brian Beverland of Katikati, had decided to sell EYT and Paul decided the opportunity was too good to pass up.

He asked for guidance from Kevin Paulson, who maintains Paul's Tecnam Astore, and from David Wilkinson, well known for his excellent home-built RV-8, ZK-WLK. With their advice and with David offering to fly Paul down to Tauranga, they inspected EYT and took her for a 'drive around the block'. The aircraft was sweet with David being very impressed with its performance. It then took Paul several more weeks to do something crazy: he went ahead and bought another aeroplane.

Thus, on Thursday 19 April, David and Paul flew down to Tauranga with photographer Chris Opperman and Brent Hempel in Brent's C182RG ZK-MAS.



**On the way to NZTG with David in the right-hand seat.**

Brian Beverland was there to meet them and while Brent and Chris loaded up MAS with four boxes of EYT's build history plus miscellaneous extras for the plane, David and Paul did a final handover with Brian.



**Working through the panel and ops.**

Then after a quick cup of coffee at Classic Fighters cafe and putting a few more 'air miles' into EYT from the fuel pump, it was up into a beautiful clear sky for the return trip to North Shore.



**Photo opportunity on the way back.**

David couldn't resist a few loops and rolls on the way home and in 45 minutes they were taxiing to Paul's hangar.



**Landed 21 NZNE and taxiing for the Eastern hangars.**

Paul now has an RV-8 grin and is excited to start training to get his rating in his new toy. He is extremely grateful for all the help and advice he has received through this process and especially from David who has given his time and skills so willingly.

## PROJECT UPDATE

## Huib Volker – F1 Rocket

By Huib Volker

Similar to my last update... not nearly enough progress!!

The folks in the USA making my exhaust system wanted some specific measurements, so I temporarily mounted a scrap engine crankcase and cylinder from APS to check these.



The basic cockpit floor sections have been cut out, passenger footwells drilled & dimpled, screw holes back-marked & drilled.



The instrument panel blank has been cut out to help set up the front end, and after noting the limitations of the vintage mill in the hangar, I farmed out the machining of the tapered mounting packers to a local engineering shop. When these come back I can get on with sorting the front end upper frames, firewall, boot cowl etc.

Front and rear seat backs are well underway, control tube mounts are all set and I'm about to get some tabs welded to the control tube (for the autopilot roll servo + trim systems) so that I can then proceed to paint & finish it. An unpleasant surprise was that one of the Van's factory-made stick mounts on the tube turned out to be slightly crooked, so this will need to be rectified as well.

I've had to make a custom servo bracket for the roll servo to be able to install it in the desired position.

Currently discovering the tricky nature of coming up with an interesting colour scheme.

Much like researching avionics and small details like switches, this process takes a fair bit of thought and time!

## SAFETY UPDATE

## Two die in RV-6 crash in California.

By Norm Bartlett

Looking at this photo plus the video looks like another stall/ spin – not far from the airport during turn on to final would be my guess. Aircraft too slow or he overturned and banked with bottom rudder?

Norm

<http://www.dailymail.co.uk/news/article-5566221/Two-die-homebuilt-airplane-crashes-shed-mile-Santa-Paula-Airport-Caliifornia.html>



## PROJECT UPDATE

## Keith Weale – RV-12

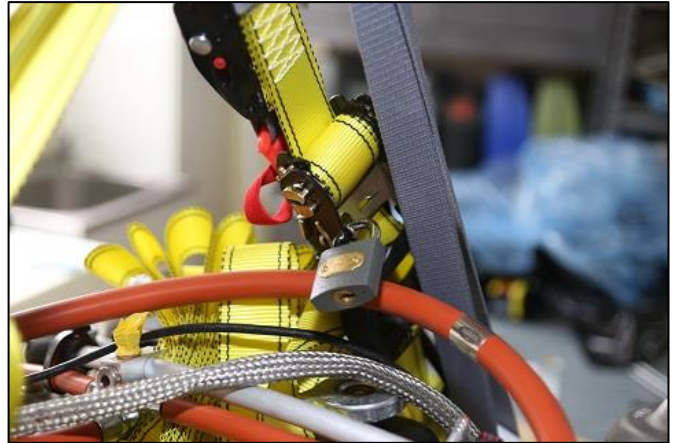
## By Keith Weale

What a great bunch of people we have in the flying fraternity. One tentative email concerning an engine hoist resulted in a round robin of emails and David Wilkinson delivering one to my doorstep a couple of days later. I didn't have to lift a finger. Of course, everyone knows that the secretary has such a tiny little old car that even the Chapter's projector and sound system wouldn't fit in it, let alone an engine hoist. Thanks Paddock, David, and DCM.

A week ago, the fuselage descended gracefully from a year-long perch on her nursery dolly and onto her own three wheels. That, and installing the engine this weekend may herald that a significant milestone might be in sight. First flight within a year from now - who knows? Actually, the engine crate was taking up valuable space on the garage floor, so the engine has been on the workbench since checking the pushrods in January, where it was also taking up valuable space and in danger of being knocked off. Where better to store an engine than on the aeroplane? Besides, ZK-VLF now looks more like an aeroplane, and it will be easier to convince the sceptics that one day she will fly.



Call me belt and braces Keith but having previously dropped a flaperon and the canopy on the concrete floor, I was in no mood to spoil my day by making it a hat trick with the engine. I reckoned that a couple of padlocks on the ratchets would keep the gremlins away while the engine swung 180° from bench to firewall. I was not disappointed.



If anyone cares to comment on the propeller, I have to tell you that what you see in the photograph is the Mk I version. Having been given expert advice that the diameter is too small, and the pitch is, well basically non-existent, I have decided to abandon my ideas of developing my own out of pinus radiata and will be content with the supplied Sensenich. At least I got the rotation right.

## MEMBER UPDATE

## White Island Flying Visit.

## By Peter Jackson

Had to fly at around 1,000 feet most of the way due to low cloud. Direct from Tuakau over Waihi and 60 miles of sea and back to Waihi for brunch. A simply wonderful trip with my wife.





## PROJECT UPATE

## Steve Chilcott – Menestrel

**By Steve Chilcott**

On a recent trip to Ardmore I caught up with Steve Chilcott completing the 100 hour/annual inspection on his Menestrel.

Steve had just pulled apart the oil filter from his Great Plains VW engine only to find a large amount of silver coloured metal particles in the folds of the oil filter.

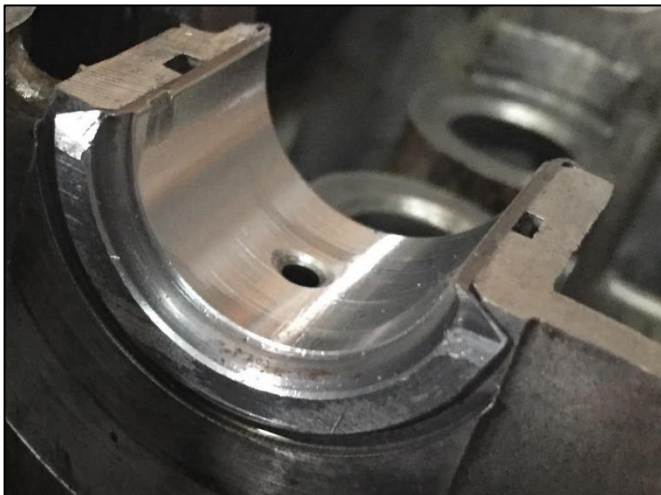
As can be expected, Steve was less than happy with this situation, nor at the prospect of having to tear down the engine given he had only recently assembled it and got it going.

Steve sent the following update on what he found after tearing down the engine.

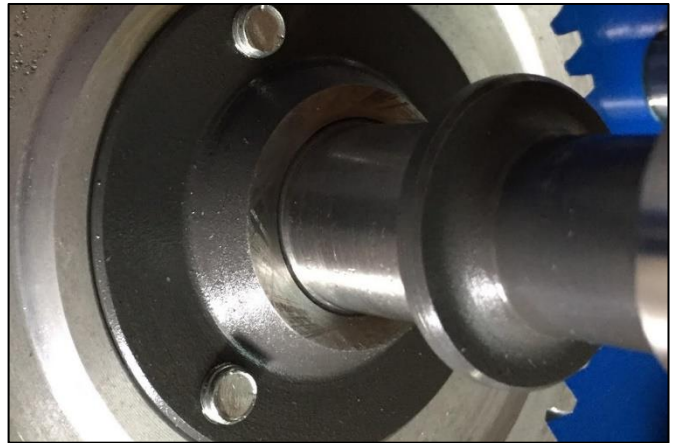
*"Thought you might be interested in what we found. Photos attached. It looks like the thrust face on the camshaft had some grinding damage and it ate into the thrust bearing which produced the silver chips. The [damage to] the face of the lifters was not expected, and it looks like a problem with the camshaft. All in all, well worth investigating."*



**Pitted faces of lifters and worn cam.**



**Scoring of big end bearing.**



**Marks on thrust bearing (since found to be manufacturing marks)**

This article appeared in the March edition of Aviation News magazine that John King publishes, and I asked John for permission to repeat it here. - Editor

**Automatic Dependent Surveillance Broadcast**, or **ADSB** as we know it in the aviation initialism and acronym world.

If you read the words, it is explained clearly. It is **automatic**, with no input from the pilot other than turning it on and no interrogation from radar to activate it. It is **dependent** on the aircraft **broadcasting** its data for the surveillance to begin. So that really is the nub of what it means.

Now we add two extra words: **Out** and **In**. Again, they are self-explanatory. The requirement in New Zealand from 2021 will be ADSB-Out in line with the proposed rule for ADSB above FL245. This means that the air traffic management (ATM) system will see your aircraft on the screen similar to a radar screen, but it is not radar.

Note that we refer to it as ATM rather than ATC these days—management rather than control.

Another point is the reference to seeing it on the screen, not on the radar. ADSB is not radar. It is a radio signal received by a ground-based tower that then sends that signal via landline to the ATM screen. On that screen are displayed your aircraft registration details along with your height, speed and direction. Other details are sent to verify the integrity of your broadcast. It is simple and reliable.

New Zealand will be mandating ADSB-Out using a Mode S transponder with extended squitter (ES) transmitting on 1090 MHz.

(Don't buy UAT. This is an American system that broadcasts on 978MHz and won't be compatible with the New Zealand system.)

The transponder will send a signal similar to that of your existing one, but it will also send the string of data containing the details mentioned above. The Mode S signal will be visible on a radar screen which will be retained as a backup system in case the GNSS (global navigation satellite system) fails.

The new radar will not cover as large an area as now and is a contingency system. However, the aircraft out there with TCAS (traffic collision avoidance system—aviation is full of these acronyms) will also receive this signal on their traffic information screens.

TCAS is different to an aircraft that only has ADSB-In, and the two should not be confused. TCAS **does not** use the ADSB signal. Almost all commercial aircraft have TCAS and quite a number of GA aircraft do also, but the vast majority of our recreational aircraft will not have TCAS but may have ADSB-In.

So far, this article has talked about what is required and not about what you may desire.

VFR is see and be seen. Look out the window. That works well in most instances, but we can assist that process by using new technology.

This is where ADSB-In comes into play. If you spend a little bit extra and buy the "In" system you will see all other traffic that is broadcasting ADSB-Out. You will **not** see your dumb mate who has turned his system off in case he busts airspace. You will not see the guy who has kept his Mode C and flies only in class G airspace.

ADSB-In has some serious benefits, but these will be available only if **everyone** fits ADSB-Out.

What can we do to minimise the costs? For the average VFR pilot with a certified aircraft like a C172, the best option right now is a Mode S transponder that has a self-contained GNSS receiver built in. There are several well-known brands available which have the full STC and AML. (You don't need to understand what this means.)

The target retail price appears to be \$US2995, which needs to be converted to \$NZ and have GST added.

Then you must install it. It needs a GNSS aerial fitted which requires some interior panels to be removed, but this should all be all achievable in 10hr. It all depends on your panel and how good your existing wiring is.

There are plug-and-play units to replace your KT76. They need a separate GNSS source which must be compliant with TSO 145/146. I want to keep this simple so will not get into the other specifications that could be used.

Talk to your avionics supplier and also refer to the CAA info.

To deal with the rumours flying around I will make a few comments now that are purely my opinion. Hopefully they come from a well-informed background as I have been involved in the talks that have been going on since 2009.

## **The price will come down.**

Not with the certified units. Competition has done its bit and there is a worldwide demand for equipment.

## **The CAA will back down and allow uncertified ADSB units.**

No, they won't—at least not in controlled airspace. It will be your responsibility to show that the device meets the performance standards in the rule and that will require a Part 146 design organisation. \$\$\$\$\$\$. Remember you don't need a transponder in class G airspace now and that will not change.

## **The government or Airways will subsidise the units.**

That is a possibility, but don't hang about waiting for an announcement. If it does happen we will be pushing for a deal that includes early adopters. There are no guarantees. Housing before aviators.

## **Low-power units will be acceptable.**

Again, don't hold your breath if you use controlled airspace.

## **The drone developers like Google will come up with a solution.**

They already have, but to fit one in your aircraft you will need to go to a Part 146 design organisation for an installation design and that will cost more than the ready-to-go unit.

## **LPAT conspicuity devices will do the job.**

Not in controlled airspace they won't. They have a place but are not acceptable in New Zealand currently.

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Most of what I have said is for the couple of thousand certified aircraft but will cover the upper end of homebuilts as well. It is the microlights (I hate that definition because they're now sophisticated aircraft) that will be harder to fit, but most of those aircraft are operating outside controlled airspace. There are about 1000 on the register. If they have a transponder now it should be easy to fit a Mode S ADSB unit also.

Talk to your avionics supplier. If you have a homebuilt, talk to Evan Wheeler at the SAA; or if you have a microlight, talk to Stuart Parker at RAANZ. We are all members of the NZ Aviation Federation (NZAF) and they are represented on all the New Southern Sky forums.

That is my explanation of the situation. There will be other opinions, but one thing is certain: in 2021 you will need ADSB-Out to fly in controlled airspace, so start saving now.



The mystery aircraft this month is provided by John King. Let me know your guesses in time for the meeting to earn a chocky fish.



## ON THE WEB

## RAF 617 Squadron Reformed

**Gavin Magill**

The Royal Air Force (RAF) has re-established 617 (Dambusters) Squadron, as the nation's first unit to fly the F-35B Joint Strike Fighter.

<http://aviationweek.com/defense/uk-s-royal-air-force-debuts-first-f-35-squadron?>



## ON THE WEB

## Boeing YL-15 – Defying Physics

**Keith Weale**

Keith Weale provided the mystery aircraft for the February newsletter and has found this interesting EAA video on the last surviving YL-15's.

Well worth a watch and only about 10 minutes long.

<https://youtu.be/POD3KrmmgQU>



## ON THE WEB

## Spitfire in my workshop

**David Wilkinson**

David found this interesting webpage on David Glen, model maker and journalist.

I had a look at the detailed closeup photos of the 1:5 scale Mk.1 Spitfire he built over an 11-year period and the detail is staggering. Well worth a look.

<http://www.spitfireinmyworkshop.net/>



## ON THE WEB

## Sun Flyer 2 Electric Aircraft

**Gavin Magill**

Successful maiden flight for Sun Flyer 2 electric airplane.

<https://newatlas.com/sun-flyer-2-prototype-maiden-flight/54286/>



## Chapter Events

2018

<b>Apr 26</b>	<b>Chapter Monthly Meeting</b> Last Thursday of the month 7.30pm at the Auckland Society of Model Engineers clubrooms, Petersen Dr, Panmure Basin
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## Aviation Calendar 2018

2018

<b>Every Sat</b>	<b>Dargaville Aero Club</b> The place is buzzing every Sat, wet or fine, windy or calm, and the catered lunch at 12.30 is good value, just don't be late! Club website is <a href="http://dargavilleac.weebly.com/">http://dargavilleac.weebly.com/</a> . If going as a group, please ring in advance so the cook expects you. Ph. Murray 027-478 4308 or club house on 09-439 8024.
<b>Jun 01-04</b>	<b>NZ Association of Women in Aviation (NZAWA) Nauti Girls Fly-In</b> Whitianga Aerodrome. Registration for the 2018 Queens Birthday Weekend at Whitianga Aerodrome will be open soon. Remember, the rally is as much about the wonderful ladies as it is our fantastic male supporters, honorary members, judges and organisers – so everyone is welcome. <a href="http://nzawa.org.nz/nzawa-rally/nzawa-rally-registration/">http://nzawa.org.nz/nzawa-rally/nzawa-rally-registration/</a> Contact: Julie 027 600 3967
<b>Jul 06-08</b>	<b>Marlborough Aero Club 90<sup>th</sup> Anniversary Fly-In.</b> Omaka. Fly-In. No Landing Fees. Civil, Military & Vintage Aircraft. Static Displays. Merchandise. Joy Rides. Height Guessing Comp Friday Night Roast. Liquid Refreshments. Saturday Afternoon Tea. Saturday Night Dinner & Ball. Register at <a href="http://www.marlboroughaeroclub.co.nz">www.marlboroughaeroclub.co.nz</a>
<b>Jul 23-29</b>	<b>EAA AirVenture Oshkosh 2018.</b> Wittman Regional Airport, Oshkosh, Wisconsin, USA The ultimate Sport Aviation & GA event. <a href="http://www.eaa.org/en/airventure">www.eaa.org/en/airventure</a>
<b>Nov 22-24</b>	<b>South Island Akro Fest</b> Omaka Aerodrome Aerobatic Competition & Fly-In. All Welcome. Contact: Andrew Love Mobile: 021 818 816 Email: <a href="mailto:torque_roll@hotmail.com">torque_roll@hotmail.com</a>

## Aviation Calendar 2018

2019

<b>Feb 22-24</b>	<b>Wings over Wairarapa Air Festival</b> Hood Aerodrome, Masterton. Welcome to Wings over Wairarapa (WOW) 2019! We look forward to celebrating our 20th year of operating Air Festivals with you. Wings Over Wairarapa Air Festival will feature WWI, WWII aircraft, agricultural, helicopters, military and civil aircraft on display and in the skies. The Royal New Zealand Air Force display team 'The Black Falcons' will be a key feature of the weekend. We also have, for the first time, a stunning Saturday Night Show featuring the UK 'Airborne Pyrotechnics' gliding team. <a href="http://www.wings.org.nz/">http://www.wings.org.nz/</a>
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