



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

Sport Aviator

June 2012



In This Issue:

- Viking Aircraft Engine
- The First Carrier Landing

www.saaauckland.org.nz

Committee 2012

EXECUTIVE COMMITTEE

President: **Cyril Wright**
09 372 9329

Vice President: **Evan Wheeler**
09 238 6081

Secretary: **Gavin Magill**
09 298 7172
027 291 0525

Treasurer: **Peter Hall**
09 623 4243
021 893 109

COMMITTEE MEMBERS

Norm Bartlett **Don Wilkinson**
09 528 0108 09 576 5009

Peter Armstrong **David Campbell-
Morrison**
09 576 3676 09 817 4782

OPERATIONAL POSITIONS

Safety Officer **Technical Library**
Norm Bartlett Sandy Wilson
09 528 0108 09 536 4018

Tool Library **Newsletter Editor**
Manfred Scherbius Gavin Magill
09 375 8392 027 291 0525

Catering **Airspace Users Group**
Chris Groves Steve Chilcott
09 625 5273

TECHNICAL MENTORS

Wood & Fabric Mike Tunnicliffe 09 237 8173
Composites Phil Richards 09 826 4150
Metal Skin Kevin Paulsen 09 296 5125

FRONT PAGE

Graeme Weck's Murphy Rebel strikes a great pose against the Coromandel Peninsula hills.

Photo Courtesy of John King.

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Next Meeting

WHEN: Thursday 28th Jun 2012 -7:15pm

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

SPEAKERS: Keith Trillo

SUBJECT: Models Indoor and Out
Changing Gear & Changing Rules

Most will know Keith however for those new to our club he learned to fly in Wanganui in early 60s, then NAC on DC3s, then TEAL/ Air NZ on the heavies. He is a foundation member of the NZ Aerobatic Club, a competitor in his very special Pitts special EEU and currently owner of a "li'll old" Bolkow. May get him flying models through the rafters. He's good, how good? We'll see



Hi Everyone

Thanks for the great turn out for the AGM.

Well it's looking like a few of our members are going to Oshkosh this year. We will have to get a list of phone numbers so they can all catch up with each other while over there.

I saw an article in the NZ Herald that showed George Richards packing his Falco into a container and heading off to the USA. When I talked to him he said he was going to Oshkosh as well.

I look forward to his talk when he gets back.

It looks as if the Popemobile is going to be given a birthday sort out thanks to The Airparks Trust. The suspension badly needed work.

Well sitting in front of the fire, now that the shortest day is past, looking forward to the summer and those long days that we can go flying.

Cyril



With the Winter solstice now behind us we can now look forward to the daylight hours gradually increasing through till December 21st. Sadly though we still need to get through the bleakest

part of winter to get there. June has produced a fairly typical mixed bag of weather for the country. We have had a couple of great weekends with large stable highs situated over the country but also some pretty shabby days as well. Spare a thought for the folks in the South Island having already endured some extremely cold weather earlier this month.



Snow at Christchurch Airport - brrrr.

As always with Winter, the usual round of coughs, colds and flu are making their presence known. Yours' truly has already endured two colds since late May so I can personally attest that this years bugs are just as virulent as ever. And with all due respect to those with vastly more flying experience than myself, I think it only timely to remind everyone that if you are not well then you should not be considering going flying.

Last month we had the Chapter AGM and elections. Whilst confirmation of some positions is still to occur, Peter Hall has

taken on the role of Treasurer whilst yours truly has taken on the role of Secretary. All other committee positions remain unchanged at this time.

Following the AGM the guest speakers for the evening were Jon Farmer and Bryce Rope. These gentlemen gave engaging presentations on the current state of the Mosquito restoration projects currently in progress in NZ and also what it was like flying the Mosquito during the war. Unfortunately I missed the meeting due to family commitments however I am told the talks were enjoyed by all.



Don Wilkinson and Bryce Rope

Just as a heads up, for those of you with projects and/or aircraft in the chapter list, please don't be surprised if you receive a phone call from me in the coming month. I intend to work through the list to ensure the details are all still current. If you could give me a brief update on the status of the projects/aircraft at the same time it would certainly be appreciated.

I hope you enjoy the newsletter.

Cheers
Gavin

CHAPTER NEWS

Club AGM & Committee Elections

By Gavin Magill

The club AGM and election of the 2012 committee took place at the meeting on Thursday 31st May. The 2012 committee confirmed at the meeting is as follows.

Committee Executive

President	- Cyril Wright
Vice President	- Evan Wheeler
Secretary	- Gavin Magill
Treasurer	- Peter Hall

Voting Committee Members

Don Wilkinson
 Norm Bartlett
 Peter Armstrong
 David Campbell-Morrison

Operational Positions**(To Be Confirmed)**

Club Safety Officer	- Norm Bartlett
Technical Library	- Sandy Wilson
Tool Library	- Manfred Scherbius
Newsletter Editor	- Gavin Magill
Airspace Users Group	- Steve Chilcott
Catering	- Chris Groves
Technical Mentors	
- Wood & Fabric	- Mike Tunnicliffe
- Composite	- Phil Richards
- Metal Skin	- Kevin Paulsen

CHAPTER NEWS

AGM Minutes

By Gavin Magill

The minutes of the 2012 AGM will be published and made available for viewing for the next newsletter.

The Chapters financial statement will also be available on the Incorporated Societies web site <http://www.societies.govt.nz> and may be found by searching on organisation number 876763.

MEMBER NEWS

RV 12 Update

By Alan Coubray

Alan provided the following update on his RV-12.



Hi Gavin,

Not much to report. Test flying complete and YRV has permit to fly issued. Ready to take passengers now.

Completed the 6 monthly ELT "G" switch test last week. It tested OK but when tuning my Radio to 121.5 nothing was heard. Took the ELT to be checked out and discovered it was OK when listening to it on another radio. The RV12 aerials are [located with the] ELT on top of plane and Radio underneath. There is enough aluminium between them to shield the signal from each other. Cost me a few dollars to find this out. Should have tried listening to my ELT on some one else's radio first.

Cheers Alan

MEMBER NEWS

Harry Bielby

By Gavin Magill

I received an email request from Jill Hudson last month asking that I remove Harry Bielby's email address from the Chapter Mailing list as he has become too ill to take an interest in any further Chapter matters.

For those who don't know, Harry is a Life member of our organisation and has a significant history within aviation in NZ. I thought it important to make note of this in the Chapter news.

Gavin

MEMBER NEWS

Stuart Mackereth's Pitts S1-SS

By **Stuart MacKereth**

Hi Gavin,

Been quiet for a while, so I guess it is my turn for an update.

Can't remember what the last update was, but in the last few months I have been working on installing my engine onto my airframe. The engine is an 0-360-a1ad which I imported from Germany in pretty good condition, but which has been standing for a while so last year completed a tear down and rebuild with help from Gary at Aviation Power Supply at Ardmore, working in their shop mainly over weekends. I upgraded the pistons to 10:1 compression, and installed a Rotec TBI throttle body injector. The TBI was a bit of a gamble but turned out to work exceptionally well. It's very similar to the Ellison TBI, just smaller, and cheaper. The engine was successfully fired up and run in last year, and was put on ice and inhibited until now that I am putting it onto the airframe.



I'm working hard to get the engine started and running on the airframe as it's not good to keep it standing for very long now that it was run in. The engine has had a new alternator from PlanePower and a new starter from Skytec, and a new 4-into-1 Raven exhaust system that I am busy adjusting.

Over the past few months, the fuselage, wings and engine have been moved to Ardmore where I have taken up residence next to the Giles G202 and behind the MX2

that I see regularly for motivation.

Coincidentally, and luckily, Paul McGruer's newly completed Pitts is also next door undergoing its test flight regime, so I am in a good place! Space behind the engine always is a problem for the Pitts S1, so this has led me to I have invested in the EFII Systems dual electronic ignition system, which has recently been upgraded to run on two ECU units, so it is now completely redundant from battery through to crank sensor, like the Lightspeed EI system. So out has come the Bendix dualmag as well as the oil filter which has been replaced with an Airwolf remote oil filter kit.



The Wolf cowl has created some minor problems too with the firewall, which I have now had to remake to fit – my 7th firewall in this build (don't even ask!) but it now has come out nicely and fits well. This time I invested in a metal shrinker to form the Angle around the firewall for the first time and this too has come out well. If anyone needs to borrow a shrinker, they are welcome. They are expensive items for just a few hours work, so happy to help others that need one too. I also now have a spare, and somewhat rare, Bendix D3000 dualmag that has a fresh 500 hour service which I may be looking to flog.

If all goes well, the engine will be tied up to the fuel system and controls, and be fired up again over winter to test the electronic ignition.

Here's a few pictures of current state.

Cheers

Stuart

MEMBER REQUEST

Metal Shrinker Required

By Stuart MacKereth

Speaking of specialty tools, does anyone in the chapter have a metal shrinker for loan?

I asked a few years ago if the chapter would purchase one but it didn't progress further.

They're about \$400 and available off Trademe. Really good for bending aluminium angle to form firewall edging, amongst other things.

Thanks

Stuart

MEMBER NEWS

ELT Battery Replacement

By Gavin Magill

When speaking with Alan Coubray about his ELT testing, I mentioned that I had been through the exercise of replacing the ELT battery in Sonex JQP in May and that it had turned out to be quite an expensive item to replace.

ELT batteries are typically made with Lithium and as such are now classed as hazardous goods.

Getting hold of these batteries is no longer a trivial exercise as it seems most Air Freight companies are no longer willing to carry them after a plane carrying a cargo of batteries out of Dubai in 2010 caught fire and crashed. It is thought that one battery short circuited and caught fire which then caused a chain reaction of battery failures resulting in the total loss of the aircraft. As a result I suspect batteries will only be surface freighted from now on which means it is going to become an expensive (and slow) exercise to get them into the country.

I also suspect importers won't be willing (or able) to bring in single units any longer.

This is just a heads up for anyone with an ELT battery due for replacement in the near future to perhaps begin looking early at where you will source your replacement battery and what it will likely cost.

MEMBER NEWS

Paul Blackmore's Sonex

By Gavin Magill

Earlier this month I assisted Paul Blackmore with the rigging of the wings for his scratch built Sonex.



Paul checking the rigging.

The alignment and drilling of the rear spar bolts went very well, however the drilling of the main spar bolt holes did not. Unfortunately the drill wandered off during the drilling of the holes subsequent to the pilot holes with the result that both main spar bolt holes became elongated.

Paul has since consulted with a LAME to determine a repair scheme. He has been told he needs to replace the vertical fuselage brackets the bolts go through and the aluminium blocks in the spars. He also needs to use slightly oversized bolts to replace the original ones but it is all repairable.

Paul is pretty philosophical about the set back saying "it is just another problem to solve along the way and that it is not actually that bad".



Drilling the rear spar bolt holes.

8 Chapter News Continued

MEMBER NEWS

Progress On The Coot

By Peter Hall

As some of you will know I have bought Alistair's Coot. It now resides in a shed near Whenuapai. I am thoroughly enjoying learning about the aircraft and have now investigated quite a lot of things just out of curiosity. I am very pleased with what I have found and there are no major issues with anything. I have a small list of things that I would like to do on it such as removing the slight play in the hinges for the control surfaces and the horizontal stabilisers (which fold for transportation on its trailer). I also need to repair or replace the exhaust.

So far I have been mostly occupied treating spots of corrosion on the aluminium surfaces. A bit of a steep learning curve at first. I am treating with chromate solution and etch primer.

Some of it was easy, with the paint lifting slightly making it easy to spot and flaking off easily when scraped or scrubbed, but I have found that it's not always so obvious. It usually starts at the edges of a sheet or at a rivet and can track several centimetres under what looks like perfect paint so I am now checking more thoroughly at edges and around rivets. None of it is more than surface corrosion and given that the plane has often landed in the sea some corrosion is inevitable, but left unchecked it would become more serious. It has obviously been well washed down after coming into contact with salt water or it would not be so minor.

I need to get a radio for the aircraft and probably a transponder so if anyone has any suggestions or has an old/spare/broken one they want to sell let me know. I can possibly repair something that is not working and an older model would be in keeping with the aircraft so I'm open to any suggestions.

I am also in the process of modifying the alternator so that the charging can be completely cut at the alternator field. (The challenge is to do this without running any extra wires to the cockpit while still retaining the charge light function). All good fun! -Peter Hall



Peter Hall's Coot

MEMBER NEWS

RV 8 Quick Build Underway

By Don Wilkinson

Hot off the press. David Wilkinson has imported and just started on his Vans RV8 Quick Build Kit. So when the "Old Man" gets weak and tired he will have somewhere comfortable in the back.



CHAPTER NEWS

Popemobile Upgrade

By Gavin Magill

During June I was asked to submit a request for funding to the Auckland Recreational Airparks Trust for repair of the Chapter's Mobile Communications Van aka the 'PopeMobile'.

The suspension of the van is long overdue for an overhaul or replacement as it is no longer able to absorb road surface irregularities. These being more or less absorbed solely by the tires.

Gordon Sanders has undertaken a considerable amount of background work to gather estimates for the repairs which has enabled the Secretary (ie myself) to submit the request to the Trust.

We will no doubt hear in due course whether our request receives a favourable response.

CHAPTER NEWS

Prop Balancer For Chapter

By Gavin Magill

At the AGM, Peter Armstrong suggested the chapter look to purchase a Prop Balancer.

Jon Farmer and a number of others have responded through the Chapter mailing list that this would meet their approval.

Comments received to date are as follows.

"Re Peter Armstrong's suggestion that the chapter purchase a prop balancer similar to the one Kevin P. has at Aerotech.

I would vote for it and I would have David Rose's proxy as he also has seen Kevin use it to great effect. (David flushes his kidneys on Thursday evenings which is why he hasn't been to a meeting for a while)

HOWEVER, I would like to see the instrument purchased through Lianne at Aviation Performance, or at least ask her for a quote and if it is not much more than Peter could get it for, I suggest we give her the business.

Regards Jon Farmer"

"Kevin, would you provide details of the Manufacturer/ Model etc so members know what we are intending to buy. I am for the idea but did wonder if it would need to be checked for accuracy periodically which would be a further cost which members should know about.

Rob Keith"

"Thanks for those of you who have chimed in support. Please go to <http://www.aircraftspruce.com/catalog/appages/dynavibe.php> drop down boxes are – helicopter fixed wing and with or without certificate. Whatever the members require. If it was me it would be fixed wing and without the certificate. It is solid state and the chances of going out of calibration remote.

Very happy to support Lianne locally for the purchase of it as suggested by the young Jon Farmer.

Peter Armstrong"

If members have any comments they wish to add please let the committee know for discussion at the next Chapter meeting.

CHAPTER NEWS

Propeller Balancer

By Gordon Sanders

At the last Chapter meeting Peter Armstrong proposed the purchase of a Dynavibe propeller balancer. In accordance with established procedure a decision was deferred so that members could evaluate the proposal.

To view the unit go to <http://www.aircraftspruce.com/catalog/appages/dynavibe.php> There are drop down boxes to select fixed wing or helicopter version and with or without NIST (the United States National Institute of Standards and Technology) certification. The issue of a certificate of traceable calibration does not make the instrument any better or more accurate and is not required (see article on calibration elsewhere in this issue) so we can ignore the charge for this.

The choice then becomes whether to buy the fixed wing version, the heli version, or neither. The fixed wing version has a single vibration transducer while the heli version has two transducers plus a PTT switch and different software. The heli version will test fixed wing aircraft exactly the same as the fixed wing version; it just has the extra capability, or a spare transducer in case you damage the first one.

Costs: If we were to buy direct from Aircraft Spruce in USA the costs would be approx:

Fixed Wing version P/N 05-04532
\$US1,495.00 + freight + GST

Helicopter version P/N 05-04534
\$US1,995.00 + freight + GST

Aviation and Performance Parts Ltd represent Aircraft Spruce in NZ and we can buy through them, potentially with less hassle as we don't have to do our own Customs clearance. We also know our costs in advance, unlike when ordering direct from Aircraft Spruce. There you nominate a carrier but don't see the bill until it's too late, and many of us have had unpleasant surprises with freight costs ex-US. It is easier for warehouses to despatch using couriers who collect from them, than to use parcel post where they have to deliver to the post office. And it is the client who picks up the freight bill.

Costs if buying from Aviation and

Performance Parts are:

Fixed Wing version P/N 05-04532 \$NZ2,295
+ GST = \$2,639.25

Helicopter version P/N 05-04534 \$NZ3,000
+ GST = \$3,450

Delivery time approx two weeks. Leanne commented that on these units she does not receive a discount from ACS, unlike many other lines, so a quick bit of maths shows she is keeping her margins pretty tight.

Our existing instrument is around 8 years old and is primarily for use on fixed pitch direct drive propellers. It appears, but I have not confirmed, that the Dynavibe copes better with the complex vibration signatures of engines such as Rotax that use a PSRU. The present instrument also requires the use of a pre-printed chart on which vector diagrams are drawn to determine the mass and location of the correction weight. The Dynavibe apparently performs these calculations for the user. So the Dynavibe is almost certainly superior by a considerable margin, but the present instrument will do most, if not all, of the balancing required. It just takes longer and more skill and patience.

A few months back Don Wilkinson gave a talk explaining how he had balanced a new prop for TOY and how that had greatly reduced vibration, to where it was 'smooth as'. What he did was a very good job of static balancing, getting everything right. Dynamic balancing is only the final step in reducing vibration. Before a prop can be dynamically balanced the blades must be the same length and have the same pitch, the tracking must be very good, and static balance as near perfect as possible. If these criteria are not met then attempts at dynamic balancing will almost certainly be frustrating and futile.

There are also environmental factors that come into play when dynamic balancing a prop. It must be done either in a flat calm or with the aircraft's nose directly into a not-too-strong breeze and the aircraft must be in flying attitude. Optimum balance can only be achieved airborne, and Manfred has done this. Taking the system up with the transducer and pick-up cables coming in an air vent to the unit on his lap he achieved a noticeable improvement over the best he could achieve on the ground.

Manfred reports that the Chapter's present prop balancer has not seen a lot of use, only once or twice per year on average. The proposed new instrument is almost certainly more capable and easier to use, but will the usage warrant the cost? How many members would use it, and how often, if the cost were, say \$25 or \$50 per time, plus payment to an operator if one is required.

Personally I don't have an aircraft to use it on, but I like having good tools available when required, so I am neutral on this. I just want to ensure we consider all the facts, take our time, and make the right decision.

Gordon Sanders

(See Hints and Tips Section later in the newsletter for Gordon's article on calibration.)

CHAPTER NEWS

Oshkosh Excursions

By Gavin Magill

Peter Armstrong sent out the following email on the chapter email list. I include it here for the wider newsletter distribution.

'I forgot to bring this question up at our last SAA AKL chapter meeting. Is anyone going or contemplating going to Oshkosh 2012. I have not booked yet but am giving it consideration and need to get my 'a into g' fairly quickly on this one.

In my previous escapades I camped on the field and was thinking of doing so again. All the university accommodation appears to be booked.

Cheers Peter'

Anyone else intending on going to Oshkosh can contact Peter at his email address peter@reivernet.com.

SAANZ NEWS

SAANZ Prebuild Course

From Adrian Fillery

SAANZ will hold their first pre-build course on 7 July 2012 at North Shore Aero Club.

What the Course is about:

The course is an introduction to "Aviation Best Practice", to introduce those without aviation experience to the principles used within the aviation industry. It will briefly cover the legislative environment (what you can and can't do) and also provide some good practical information on hardware, building practices and common aircraft systems. Preparing for certification and ongoing operation and maintenance will be covered, but not to the same level as our Maintenance Approvals courses.

The course will be very practically - orientated, with the aim to helping those who have decided to build a project, but are not sure where to start. Special modules lead by experienced constructors will cover specific skills for common methods of construction, and there will be hands-on exercises throughout the course. Be warned - you may get an enthusiasm boost and have to start building!

Who can attend:

The course is open to anyone who is involved in the construction of an amateur-built or microlight aircraft. Although we encourage membership of the SAANZ national body, we have decided to open the invitation to attend to anyone else working with sport aircraft, such as the microlight, amateur rotorcraft and gliding fraternity - please pass this invitation around!

We suggest that at the time of attending you have a fairly firm idea of the type of aircraft you wish to build, so that you may attend the appropriate construction method sessions.

Course details:

Date: Saturday 7th July at 9am

Venue: North Shore Aero Club, Dairy Flat, near Albany - see their website for location details - <http://www.nsac.co.nz/>

Cost: SAANZ Members \$50.00, non members \$80.00 - payment to be made

at time of registration.

Bring: AC43 (if you have one -optional) Writing equipment. Solid shoes for workshop sessions (overalls may be useful). BYO Lunch (we may make a "Cafe run" if required)

Programme (subject to change):

9am to 10.30am Theory

10.30 -10.45 Morning tea

10.45 to 12.30 Theory

12.30 - 1.30 Lunch

1.30pm divide into workshop groups

1.45 to 3.00 Practical workshops

3.00 - 3.15 Afternoon tea

3.15 Summing up/questions.

3.45 -4.00 Finish - bar open

To register:

Email your interest to

admin@saa.org.nz and make payment

to SAANZ Westpac bank account

03 0195 0329753 00 giving as reference

your name and "Prebuild" OR post a cheque to the address given below.

Regards

Adrienne

Chapter AGM

The Chapter AGM was held at the meeting in May with the following being a summary of the outcome.

Previous Minutes were read and accepted as a true and accurate record.

The Presidents Report was not presented as President Cyril Wright was absent due to work commitments.

The Financial Report was presented by outgoing Treasurer **Bruce Turner** and accepted by the members present.

Subscriptions for the coming year were proposed to be maintained at their current level.

Election of Executive positions. **Cyril Wright** and **Evan Wheeler** have indicated they are willing to stand again in their respective roles of President and Vice President and this was accepted by the members present.

Peter Hall and **Gavin Magill** have offered to stand for Treasurer and Secretary respectively and these members will be formally proposed and appointed to these positions at the next meeting of the committee.

Additional Voting Committee members **David Campbell-Morrison, Norm Bartlett, Peter Armstrong** and **Don Wilkinson** all offered to continue in their current roles and this was accepted by the members present.

Appointment of Operational Positions was deferred due to time constraints to a subsequent meeting.

Other Business - Prop Balancer

Peter Armstrong proposed that the Chapter purchase a dynamic propeller balancing unit. While there was substantial interest in this, it was determined that member interest should be canvassed in the newsletter and e-mail group and a decision made during the June general meeting.

Other Business - Storage Container

Evan Wheeler reported that he would supervise clearing out of club items from the storage container situated at Graeme Weck's airstrip.

Speakers

John Farmer provided an informative presentation of the current Mosquito restoration efforts being undertaken at Drury and Ardmore.

Mr Bryce Rope provided a first hand account of flying the mosquito and serving during WW2.

Chapter Projects

Make/Model	Rego	Member	Status
Auster J5F	BDY	Les Wilson	Restoring
Bede BD5	ZIP	David Rose	For Sale
Cessna 150L		Craig Thomas	Repairing
De Havilland DH-83C	AQB	John Eaton	Restoring
Europa XS Tri-gear	ROB	Rob Waters	Building
Fisher R80 Tiger Moth	CCC	Jon Farmer	Rebuild
Jack Thompson 1		Kevin Moir	Building
Lancair 235		Rod Sullivan	Building
Menestrel HN-700		Steve Chilcott	Building
Osprey 2 Amphibian	XRT	Richard Thompson	Restoring
Pietenpol Aircamper		Mike Tunnicliffe	Building
Pitts S1-SS	MPH	Stuart Mackereth	Building
Rand KR-2	CCK	Walter Reinauer	Repairing
Rand KR2S		Gavin Magill	Building
Rearwin Sportster(37)	ALX	Tony Payne	Rebuild
Rutan Long Ez		Wayne Cunningham	Building
Sonex Tri Gear	PDB	Paul Blackmore	Building
Taylor Monoplane		Kevin Moir	Building
Taylor Coot Amphibian	JST	Peter Hall	Rebuild
Titan T51 Mustang		Gary Mitchell	Building
Titan T51 Mustang	FDL	Warren Sly	Building
Van's RV-4		David Grove-Hills	Building
Van's RV-6		Ian Chapman	Building
Van's RV-8		David Wilkinson	Building
Waix		Bruce Turner & Chris Wade	Building

Other Projects

Make/Model	Rego	Member	Status
Nexus Mustang	NEX	Stuart Wards	Plans
Rand KR2S		Karl Pudney	Plans
Pazmany PL2		Frank Ciochetto	Stored
Helicycle		Allan Cameron	Unknown
Murphy Rebel		Eric Breetvelt	Unknown
Safari Helicopter		Dick Ussher	Unknown
Wittman W-10	RET	Cliff Bellingham	Active

Updates

If Chapter members are aware of any changes to or aircraft missing from the lists on this page please forward an update email to the editor at gavin.magill@gmail.com

Chapter Aircraft

Make/Model	Rego	Member
Aerosport Kahu Gyroplane	RCP	Chris Wade
Aircam	SUN	Cyril Wright
Airtrainer CT4 (Syndicate)	DGY	Norm Bartlett
ATEC Zephyr 2000S	ZFY	Kevin Hartley
Avid	PCM	Graham Smith
Bolkow Junior BO 208	CJF	Keith Trillo
Brantley B2B	INK	Nick Koreneff
Cessna 172	DKH	David Horton
Cessna 172D	CCI	Graeme Weck
Cessna C182	WKK	Brian Wigley
CFM Shadow C2	FSG	John Granger
Corby Starlet	TOY	David & Don Wilkinson
Corby Starlet CJI	TNT	Alfred Hirzel
CRICRI Cricket MC15	LBW	Neville Hay
Druine Turbulent D31	CFY	Kevin Paulsen
DynAero MCR 4S	PSA	Peter Armstrong
Europa XS	EPA	Gavin Lee
Falco F8L	SMR	George Richards
Falcomposite Furio LN27RG	LLG	Giovani Nustrini
Fisher Dakota Hawk	SOL	Gary Mitchell
Grumman AA-IC Lynx	EFV	Brian Wigley
Grumman Cheetah AA-5A	ERJ	Chris Watkins
Isaacs Fury II	JHR	Rex Carswell
Jabiru J200	CHW	Chris Watkins
Jodel D18	OWL	Mike Tunnicliffe
Jodel D18	SCJ	Stephen Chilcott
Lancair 360	MHS	Norm Bartlett
Micro Aviation Bantam B20	XIE	Bob Syron
Mike Whitaker MW6S	MWS	Grant Sandiford
Morgan Aero Works Cheetah	CCB	Jon Farmer
Murphy Rebel	DKZ	David Horton
Murphy Rebel	WEM	Evan Wheeler
Murphy Rebel	WEC	Graeme Weck
Petrel Amphibian	JAQ	John Eaton
Piper Cherokee Archer I	DQX	Leo Johns
Piper PA38 112 Tomahawk	VBM	John Eaton
Piper Pacer PA-22/20	PAT	David Wilkinson
Pitts S12	PTS	John Eaton
Pitts Special	MPM	Paul McGruer
Ragwing Special	MIK	Bob Syron
Rans S6ES Coyote II	TNA	John Struthers
Rans Sacota S10	CLT	Craig Thomas
Safari Helicopter	IJE	John Eaton
Sequoia Falco F8L	TBD	Giovani Nustrini
Socata Tobago TB10	JIE	Stuart Wards
Sonex (Syndicate)	JQP	Paul B, Sandy W, Bruce T, Chris W, Gavin M
Taylor Monoplane	CRS	David Grove-Hills
Thorp S-18T	MBY	Mike Boyles
Titan T51 Mustang	WSV	Peter Walton
TL2000 Carbonsting	PLR	Phil Richards
Ultravia Super Pelican	JDI	Jon Farmer
Van's RV-6	PRV	Kevin Paulsen
Van's RV-7A	MIS	Dave Cogan
Van's RV-9A	RVY	Peter Whyte
Van's RV-12	YRV	Alan Coubray
Zenair CH 601 B	ZXZ	David Rose
Zenair CH601	JFN	Peter Herrick

FEATURE ARTICLE

Viking Aircraft Engines

By Gavin Magill

One of the engines I am considering for my KR-2S build is the Viking Aircraft Engine. This Honda Fit/Jazz based engine, has been under development for a few years now and has been fitted to quite a number of the more popular kit designs currently available including Sonex, RV-12, CH-601, CH650, CH-701 and CH-750.

The article shown below was published on the web this month by a Sonex builder who swapped his AeroVee for a Viking and I thought it interesting enough to include in this months newsletter.

Here in New Zealand I am aware of only a single instance of an aircraft powered by a Viking engine, this being the RV-12 of Malcolm Belcher flying out of Bridge Pa near Hastings.

I emailed to Malcolm to get his opinion on the Viking Engine and he replied with comments to the effect that he was less than happy with the service he received from Viking and is also disappointed with the quality of the build and the performance of the engine. He does say however that the engine should be ok once the designer stops making changes to it.

This is Malcolm's RV-12 with the Viking engine fitted.



With Malcolm's comments in mind I submit the following article for your edification.

Viking 110 Powered Sonex Pirep

by Casey Lyon - June 4, 2012

Today was not the completion of a journey but its continuation.

On the 20th of May I flew South to Viking Aircraft Engines at Massey Ranch (X50). I was 4.2hrs enroute thanks to some Northernly winds. Deviations were required of 15-20° to skirt tropical storm Alberto and his minions. JAX Center was helpful in directing me around the storm as was setting an initial course providing some berth. A direct course would've been 400nm I arrived to a healthy crosswind on 36 and a bladder ready to be excised. After wrestling both into submission, I found my host, Jan Eggenfellner, along with Jon Croke of HomeBuiltHelp fame.

My purpose was singular. To provide as much assistance as possible in converting my AeroVee powered Sonex into a Viking 110 powered Sonex. I would soon come to realize the opportunities to learn, persevere, and triumph among this committed group of aviation enthusiasts would be at least as primary.

Removing the previous powerplant went quickly, however rather than rushing I labeled every wire and connector as I took things apart. This was as a courtesy to the next owner, a scratch builder in the Midwest I would have the honor to meet a couple weeks later.

By the end of the first day, May 21st, the VW derived engine was tucked away on a stand along with its firewall forward bits and the new Honda derived engine was mounted in its place with minimal modification to the already installed mount.



Things continued to progress rather quickly: removing no longer needed FWF items and installing their replacements. The two stickiest points were: how slow I work – specifically on the under panel rewiring and recowling. The former should conjure up images of the tortoise & the hare while the latter will no longer be an issue for future Sonex installations as a mold was made of the reworked top cowl; the bottom required no massaging.



On Saturday, May 26th a scant six days after we'd began, N808SX again climbed into the air, only this time near gross weight with a heavenly homesickness only quelled by MORE ALTITUDE!!

Fine tuning over the coming days would include sizing the cooling outlet, dialing in the prop pitch to balance both fpm & mph, and otherwise ensuring everything was working as expected.

All this while flying off the 5 hrs required for a major mod. We did decide to spend a day relocating the battery to the tail on my initially heavy plane. This opened the CG range back up to factory specs. The weight & balance following the conversion exacted about a thirty pound penalty for the 30 horses gained.

Of course Ma Nature had to have her say and sent another tropical storm in to keep things stirred up.

Within the first few days, everything was dialed in to run cool and all interested team members at the Viking Factory had a ride in the Sonex with many flying her as well!

I had to depart the factory on June 1st via

automobile to deliver the AeroVee, cowl, prop, et al to its new owner. I did pause for a moment to recollect the hundreds of hours I'd flown as they did in the previous millennium: aircooled with leaded fuel.

The tach time on the new engine was right at the required hours, however when I returned a couple days later, I seized the opportunity to fly some cross countries and was delighted to go up with Jason Newburg of Viper Airshows for some aerobatics:

<http://www.youtube.com/watch?v=AiFqTE7je5U>

The following day, June 4th, it was time to giddyup back to the mountains, work, and family commitments. I am grateful to the Viking Factory Team for their expertise, patience, and well-thought out package. I'm confident I've forged lifelong friendships surely to be at least as dependable as the installation we've achieved.

My flight back seemed to have all the headwinds I had enjoyed as tailwinds on my way to Massey Ranch.

The initial leg was 260 NM dialed in at about 65%. This yielded 110mph at 3.9gph at 4500' (~6500' DA). Similar to my previous engine but with a quiet, smooth distinction indicative of current mechanical engineering.

Thanks to the Northwesterly winds, I was 3 hrs enroute and landed at Barnwell Regional (KBNL) just as the light precip was going moderate. As luck would have it, there was an utility hangar with just enough open space for my lil yellow bird.



The hospitality at Barnwell was notable as not only did the airport crew assess the storm front, but they also sent me off in their loaner van to a local dive with fantastic eats. After a late breakfast / early

lunch, I worked from the FBO for a couple hours as the storm blew by. BNL sells high-test mogas right on the field, so after topping off, I taxied over to 35, took off, and climbed vigorously to 6500' (over 600 fpm throughout climbing faster than Vy and getting somewhere).

While the headwind component persisted, I had plenty of reserve to document some higher power settings. Full throttle at 8k' density altitude resulted in 5350rpm at 142mph TAS using 5.9gph.



Similar fuel burn at this DA with my AeroVee was 15mph slower even while 120 lbs lighter (without full fuel, baggage, tools, etc.).

A medium cruise of 5050rpm provided 130mph TAS at 4.9gph, which is what I ran for most of the 1.8 hrs on the second leg to my home field.



A medium cruise of 5050rpm provided 130mph TAS at 4.9gph, which is what I ran for most of the 1.8 hrs on the second leg to my home field.

The ceilings abutting the ridge line necessitated descending to 4500'. Right into the bumps. I ran near full throttle to

counteract the 500fpm descents or more some of the downdrafts demanded.

After over 400 NM, 4.8 hrs, and a lifetime of friends and memories later, I greased it onto my home field with winds nearly down the runway @ 12-15.

My Viking 110 now has over 12 hours on it. The level of refinement in this engine is like no other I've experienced in a single engine land (SEL) powerplant. The FADEC system just works. The fan keeps spinning. She'll happily burn lead-free mogas with or without ethanol.

While I upgraded my engine for many reasons, the most notable include:

- being able to use my gross weight even at high density altitudes in the mountains
- entering the new millennium (fuel injection, FADEC, modern design, ground adj. prop)
- juice - I can now have every electrical device on simultaneously with current to spare
- go faster at similar fuel burn on mogas.

I won't pretend like there wasn't some fine tuning as you'd find with any engine installation, however there was no need to adjust ignition timing or the carburetor or even think twice about mixture settings. While my plane has never been as fast as the Sonex factory examples, it is now faster and has the extra ponies needed to provide the margin of safety essential for mountain flying.

Jan, Casey, Kara, Sal, Heather, Leo, Jerry, Herman, and all the members of Viking Aircraft Engines must be commended for working long days to provide a ray of hope to revitalizing General Aviation through providing us a robust and modern powerplant at a reasonable price.

Thank you.

Sonex #808 Specs		
	AeroVee	Viking 110
Rated HP	80	110
Empty weight (lbs)	692	722
Gross weight (lbs)	1150	1150
Usable (lbs)	458	428
Full fuel usable (lbs)	362	332
Power loading (lbs/hp)	14.38	10.45
Avg. ROC at Gross to 8k'	400 fpm	800 fpm

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FEATURE

First Carrier Landing

By Karl Pudney

Karl Pudney passed on this rather interesting piece of aviation history which he thought might interest members.

101-years ago, in San Francisco, USA, pilot Eugene Ely invented naval aviation.

Read the story of this epic occasion below:



101-years is a long time ago. Yet in the hierarchy of modern aviation, the ability to recover and launch aircraft from the deck of a moving ship stands out as one of the more signature accomplishments. It goes to show that some tricks never grow old.



US Naval aviation was invented 101-years ago, on January 18, 1911, when a 24-year-old barnstormer pilot named Eugene B. Ely completed the world's first successful landing on a ship. It happened in San Francisco Bay, aboard the cruiser USS Pennsylvania, which had a temporary 133-foot wooden landing strip built above her afterdeck and gun turret for the test.

Photo # 101 30711 USS Pennsylvania at Mare Island Navy Yard, fitted with a temporary landing deck, Jan. 1911



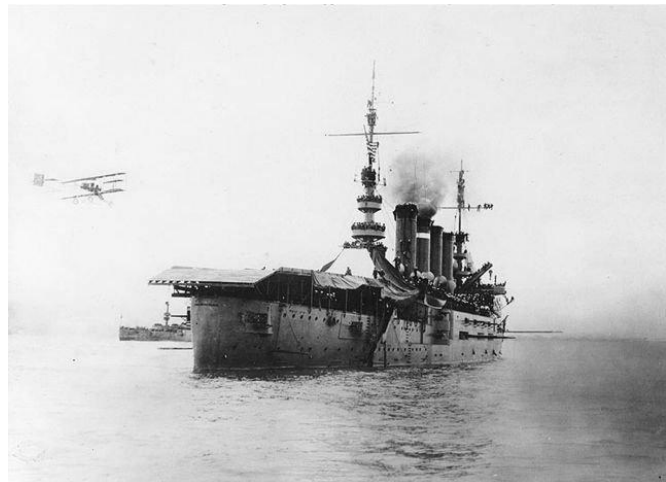
But back then, innovation was afoot. Ely's Curtiss Pusher had been fitted with a new invention called a tail-hook. The idea was to quickly halt the aircraft after landing by using the tail-hook to catch one or two of 22 rope lines, each propped a foot above the deck and weighted down by 50-pound sandbags tied to each end and strung three-feet apart along the Pennsylvania's temporary flight deck.



Mark J. Denger of the California Center for Military History has written a biography of Eugene Ely which narrates this historic day: "On the morning of January 18, 1911,

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Eugene Ely, in a Curtiss pusher biplane specially equipped with arresting hooks, took off from Selfridge Field (Tanforan Racetrack, San Bruno, California) and headed for the San Francisco Bay. After a 10 minute flight north toward Goat Island (now Yerba Buena), Eugene spotted his target through the haze –the Pennsylvania.”



“Ely's plane was sighted at one-half miles from the Pennsylvania's bridge at an altitude of about 1,500-feet, and cruising at a speed of approximately 60 mph. Now ten miles out from Tanforan, he circled several vessels of the Pacific Fleet at anchor in San Francisco Bay. The airplane dipped to 400-feet as it passed over the Maryland and, still descending, flew over the West Virginia's bow at about 100-feet. With a crosswind of almost 15 knots, he flew past the cruiser and banked 500-yards from the Pennsylvania's starboard quarter to set up his approach. Ely headed straight for the ship, cutting his engine when he was just 75-feet from the fantail, and allowing the aircraft to glide onto the deck. At 11:01am Ely landed on the Pennsylvania's deck.”



“The forward momentum of his plane was quickly retarded by the ropes stretched between the large movable bags of sand that had been placed along the entire length of the runway. As the plane landed, the hooks on the undercarriage caught the ropes exactly as planned, and brought the plane to a complete stop.

Once aboard the Pennsylvania, sheer pandemonium broke loose as Ely was greeted with a bombardment of cheers, boat horns and whistles, both aboard the Pennsylvania and from surrounding vessels”



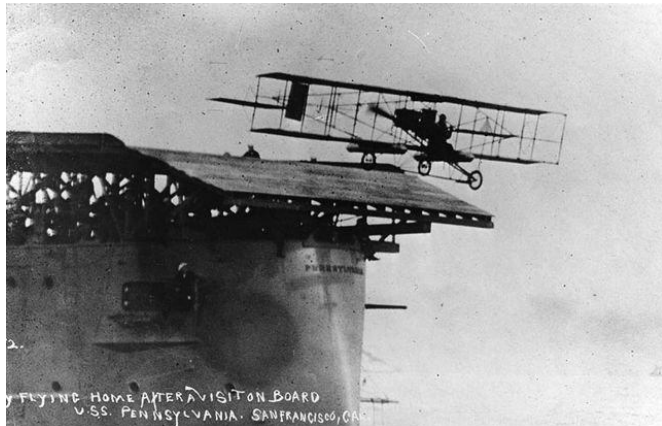
“Ely was met by his wife, Mabel, who greeted him with an enthusiastic, "I knew you could do it," and then by Captain Pond of the Pennsylvania, followed by reporters and photographers.

Everything had gone exactly as planned. Captain Pond called it "the most important landing of a bird since the dove flew back to Noah's ark." Pond would later report, "Nothing damaged, and not a bolt or brace startled, and Ely the coolest man on board." (Note: Safety first! Check out Ely's inner-tube life preserver!)"



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"After completing several interviews, Ely was then escorted to the Captain's cabin where he and his wife were the honored guests at an officer's lunch. While they dined, the landing platform was cleared and the plane turned around in preparation for his takeoff. Then the Elys, Captain Pond and others posed for photographs. 57-minutes later, he made a perfect take-off from the platform, returning to Selfridge Field at the Tanforan racetrack where another tremendous ovation awaited him."



"Both the landing and take off were also witnessed by several of the distinguished members of both U.S. Army and Navy, as well as state military officials. Ely had successfully demonstrated the possibility of the aircraft carrier."



"Indeed. The US Navy's first aircraft carrier, the USS Langley, was commissioned in 1922, eleven-years later. But Ely didn't live to witness the milestone; he died just a few months after his historic flight, on October 11, 1911, when he was thrown from his aircraft during a crash at an air show. But 101-years-ago, he merged the power of naval warships and aviation in ways that remain cutting-edge, even today."



ON THE WEB

New Blue Angels

From Anon

And speaking of Naval Aviators. Check out this stunning new HD Youtube video.

http://www.youtube.com/watch_popup?v=W6tB8Lf7YoU



ON THE WEB

Landing In Bhutan

From Jon Farmer

Landing an Airbus A320 at one of the most difficult airfields in the world.

www.youtube.com/watch?v=zooI38VI24c



YOUTUBE VIDEO

Worlds Airline Traffic

From Peter Herrick

This is a 24 hour graphic of all large aircraft movements around the planet, condensed down to 1minute 11 seconds. The yellow dots are the aircraft.

Stay with the picture and you will see the light of day moving east to the west, as the Earth spins on its axis. You will also see the flow of traffic leaving North America and travelling at night to arrive in the UK in the morning. You then see the flow reverse, leaving the UK in the morning and flying to the American continent in daylight.

Interesting to think how many people are in the sky at any given moment?

You can tell it is spring in the northern hemisphere by the sun's foot print over the planet. You will see it doesn't set for long in the extreme north and doesn't quite rise in the extreme south. We are taught about the earth's tilt and how it causes summer and winter, this video visibly demonstrates it.

www.youtube.com/watch?v=z1US_4uf4YE



WEB LINKS

RNZAF Web Links

From Chris Rarere

After attending the RNZAF 75th anniversary airshow, Chris asked the current Airforce photographers where to find their photo's on the web. He was sent these links.

<http://facebook.com/newzealanddefenceforce>

<http://youtube.com/nzdefenceforce>

<http://flickr.com/nzdefenceforce>

<http://twitter.com/nzdefenceforce>

A BIT OF HISTORY

B17 In 1943

From Job Farmer

A mid-air collision on February 1, 1943, between a B-17 and a German fighter over the Tunis dock area, became the subject of one of the most famous photographs of World War II.

An enemy fighter attacking a 97th Bomb Group formation went out of control, probably with a wounded pilot then continued its crashing descent into the rear of the fuselage of a Fortress named All American, piloted by Lt. Kendrick R. Bragg, of the 414th Bomb Squadron. When it struck, the fighter broke apart, but left some pieces in the B-17. The left horizontal stabilizer of the Fortress and left elevator were completely torn away. The two right engines were out and one on the left had a serious oil pump leak. The vertical fin and the rudder had been damaged, the fuselage had been cut almost completely through, connected only at two small parts of the frame and the radios, electrical and oxygen systems were damaged. There was also a hole in the top that was over 16 feet long and 4 feet wide at its widest and the split in the fuselage went all the way to the top gunners turret.



Although the tail actually bounced and swayed in the wind and twisted when the plane turned and all the control cables were severed, except one single elevator cable still worked, and the aircraft still flew - miraculously! The tail gunner was trapped because there was no floor connecting the tail to the rest of the plane. The waist and tail gunners used parts of the German fighter and their own parachute harnesses in an attempt to keep the tail from ripping off and the two

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sides of the fuselage from splitting apart. While the crew was trying to keep the bomber from coming apart, the pilot continued on his bomb run and released his bombs over the target.

When the bomb bay doors were opened, the wind turbulence was so great that it blew one of the waist gunners into the broken tail section. It took several minutes and four crew members to pass him ropes from parachutes and haul him back into the forward part of the plane. When they tried to do the same for the tail gunner, the tail began flapping so hard that it began to break off. The weight of the gunner was adding some stability to the tail section, so he went back to his position.

The turn back toward England had to be very slow to keep the tail from twisting off. They actually covered almost 70 miles to make the turn home. The bomber was so badly damaged that it was losing altitude and speed and was soon alone in the sky. For a brief time, two more Me-109 German fighters attacked the All American. Despite the extensive damage, all of the machine gunners were able to respond to these attacks and soon drove off the fighters. The two waist gunners stood up with their heads sticking out through the hole in the top of the fuselage to aim and fire their machine guns. The tail gunner had to shoot in short bursts because the recoil was actually causing the plane to turn.

Allied P-51 fighters intercepted the All American as it crossed over the Channel and took one of the pictures shown. They also radioed to the base describing that the empennage was waving like a fish tail and that the plane would not make it and to send out boats to rescue the crew when they bailed out. The fighters stayed with the Fortress taking hand signals from Lt. Bragg and relaying them to the base. Lt. Bragg signaled that 5 parachutes and the spare had been "used" so five of the crew could not bail out. He made the decision that if they could not bail out safely, then he would stay with the plane and land it.

Two and a half hours after being hit, the aircraft made its final turn to line up with the runway while it was still over 40 miles away. It descended into an emergency

and a normal roll-out on its landing gear.



When the ambulance pulled alongside, it was waved off because not a single member of the crew had been injured. No one could believe that the aircraft could still fly in such a condition. The Fortress sat placidly until the crew all exited through the door in the fuselage and the tail gunner had climbed down a ladder, at which time the entire rear section of the aircraft collapsed onto the ground. The rugged old bird had done its job.

ON THE WEB

Database Of Definitions

From Gavin Magill

My job occasionally entails working on the systems at Auckland International Airport. While there I have had occasion to set up tables of aviation related abbreviations as reference data and typically I source this information off the net. Recently I was sent a link for a site claiming to be the definitive source for this type of information. This link may be of interest to others. They state;

"A web site for aviation enthusiasts and industry professionals alike. This database is the definitive reference for industry abbreviations, terms, definitions, codes and callsigns. It contains more than 16000 Abbreviations, 2000+ Aircraft codes, 8000+ Airline codes, 5000+ ATC Callsigns, Country codes, Registration prefixes and 1500 official definitions and terms. The content of the database is updated weekly."

www.glossary.aero

TIPS & TECHNIQUES

Calibration – What Is It Really

From Gordon Sanders

The current proposal to buy a new propeller balancing instrument, and whether or not it to pay extra for a certificate of traceable calibration, has raised the profile of calibration. What is it? Is it required? Does it mean an instrument is more accurate or in some way 'better'?

A confusion factor has arisen because the usage of the word 'calibration' has changed over time to be better defined and more narrowly used. A number of years back one could open the manual for many instruments and find a chapter entitled 'Calibration Procedure' which described how to adjust the instrument so that it was within manufacturer's specifications. Today that same chapter would be headed 'Adjustment Procedure' because that is what it truly is.

Calibration does not involve adjustment, indeed it normally specifically excludes adjustment. Simply put, calibration is the comparison of an item or instrument against a standard to determine its degree of accuracy. So a calibrated instrument is potentially no more accurate than one that has not been calibrated, it simply means that the calibrated one can be certified to be accurate (normally traceable to international standards) whereas the one without the individual signed certificate cannot. And even the certificate has a limited period of validity, 12 months being the most common period.

Almost any item that is involved in making measurement can be calibrated and, depending on the requirements of its end use, may require to be calibrated. In the world of certified aviation this can be everything from an engineer's steel rule, via torque wrenches, to the most complex test instruments.

In commercial aviation calibrated tooling is normally required to be used by a competent (normally certified and current) person for any measurement or action that

directly or indirectly contributes to a Release to Service of an aircraft or component. I'm not well up on the equivalent for experimental or amateur built, but a few things would still require to be certified. I am almost certain that scales would require calibration if used for release to service of any aircraft. Weight and balance is critical for safety and must be measured and certified within designer-specified limits.

However if the scales were used for preliminary checks to ensure *any* aircraft was correct before it was taken for its official weighing, so as to avoid the potential cost of a re-test if it failed, then there is no requirement for a certified calibration. At present the chapter's scales are in this category. Manfred checks the calibration at NZ Steel (or whoever they are this week) but does so unofficially so no certificate of traceability is issued. We do however have a high degree of confidence in their accuracy and they are vastly better than some scales previously accepted as suitable, such as certified MOT vehicle scales.

Similarly instruments used for testing basic flight instruments (altimeters, ASIs, VSIs etc), and the performance of any mandatory communications or navigational equipment, would require to have current calibration certificates.

Even on certificated aircraft there are applications and types of instruments that do not require calibration. Examples are fault location or adjustments where no actual readings must be recorded. If you are looking for an electrical short or open circuit then any multimeter is fine. You're not making measurements that must be quantified and recorded. Similarly if you are adjusting for a minimum or maximum but there is no limit that must be met and the resulting figure recorded. A prop balancer would normally be such an instrument as it is simply 'adjust for minimum' with no limits set.

Only if the aircraft or component manual

Calibration – Continued

From Gordon Sanders

calls for measured vibration to be within specified limits is a traceable calibration required. Then of course there is a further can-o-worms. The aircraft/component manual must state exactly how the measurement is to be carried out and specify the equipment to be used. If different equipment is to be used then there is quite a procedure to prove the equivalence of the alternative equipment or procedure, and this is signed off by at least two people, then is subject to audit by all the regulators one regularly saw 'holidaying' at Air NZ Engineering. (Funny how the northern hemisphere types seemed to visit during the southern summer).

Amateur built aircraft are not used for passenger transport so the requirements are much less restrictive than those for certificated aircraft and, with a few exceptions, most of which are mentioned above, calibrated tooling is not mandated. That said, if there is any doubt about any tool (e.g. a torque wrench) that you are using, have it checked. Often a check can be obtained to the same accuracy as a calibration, and even with the same (but uncertified) results sheet, for a fraction the price of a certified calibration. And it's your life on the line if you over-tighten or under-tighten a vital bolt.

This short article is not an in-depth discourse on world of calibration, the detailed record keeping and comparisons, interaction between calibration laboratories to maintain certified standards, etc. Hopefully it has clarified a little of what calibration is and where calibrated tooling is, and is not, needed.

Gordon Sanders

TIPS & TECHNIQUES

Panel Marking

From Various

During the month Gordon sent an email via the Chapter email system asking for ideas for labelling a small electronics box he is building. The following is the email and the feedback he got which I thought members might find useful.

I am building a small electronics panel (about 450 x 150mm) which has a number of connectors and switches that need labelling using some method that is permanent and of reasonable appearance, like better than printed tapes from Brother and similar machines. I am looking for ideas to take it from hand-drawn design (I don't currently run CAD) to finished product, either by creating the whole panel or by painting (etc) a panel that I have made from 2~3mm aluminium sheet. Just an off-white or white background with single colour print and lines would be fine. And it is a one-off, not production run.

A silk screened paint job is one possibility. Engraved plastic laminate has been considered but not ideal as it is prone to defacing, particularly by little (and not so little) kids filling in the letters with a pen or pencil. Has anyone solved a similar problem recently, perhaps to do with your aircraft, and can recommend (or otherwise) any suitable method or company?

Gordon

Hi Gordon,

I bought a special kit for this exact need, called Decal Pro. It's a bit of work, but appears to be an excellent product.

A friend on the biplane forum used it with good success; and they have some sample aircraft panels on their website. It's basically a home silkscreen process, and very durable.

<http://www.pulsarprofx.com/decalpro/>

I still have it in a box unused if you need to do this urgently - I can always order another one.

Cheers

Stuart Mackereth

Gordon,

If the panel is 2-3 mm thick have the panel engraved and coloured. Peter Armstrong had this done with some switches and they came out real well.

David Rose

Chapter Events

2012

Jun 28 Chapter Monthly Meeting**Speaker:** Keith Trillo**Title:** Models Indoor and out.

Changing gear & changing rules

Most will know Keith but for those new to our club he learned to fly in Wanganui in early 60s, then NAC on DC3s, then TEAL/Air NZ on the heavies. Foundation Member NZ Aerobatic Club, competitor in his very special Pitts special EEU and currently owner of a "li'll old" Bolkow.

May get him flying models through the rafters. He's good, how good? We'll see.

Jul 26 Chapter Monthly Meeting**Speaker:** Neil Hintz

Title: Neil is keen to talk about his gearbox drive, how you get them right, pit falls (not too many secrets) and what he does for aviation through his company Autoflight.

Aug 30 Chapter Monthly Meeting**Speaker:** Brian Wigley**Title:** The Wigley Family History in NZ Aviation.

Mt Cook Airline, its history and integration into NAC and the family part in Chateau Tongariro.

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

Aviation Calendar

2012

Every Sat Dargaville Aero Club

The place is buzzing every Sat, wet or fine, windy or calm, and the \$10 lunch at 12.30 is good value. Club is on the web at www.goflying.co.nz/index.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**Jun MOTAT**

Auckland

Free entry for the month of June. See MOTAT's web site for details and times of various tours and operating exhibits. www.motat.org.nz.

Jul 23-29 EAA Airventure Oshkosh 2012

Oshkosh USA

Billed as the Worlds Greatest Aviation Celebration. www.airventure.org.

Aug 27-28 Tiger Moth Spring Fly-In

Taumaranui

www.tigermothclub.co.nz

(or contact John King).

2013

Jan 18-20 Wings Over Wairarapa

Hood Aerodrome, Materton

Friday to Sunday. More info at

<http://www.wings.org.nz>.