



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

Sport Aviator

August 2013



www.saauckland.org.nz

Committee 2012

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Composites	Alistair McLachlan	299 2775
Metal Skin	Kevin Paulsen	296 5125
Avionics	Liviu Filimon	268 1199

FRONT PAGE

One of the cutest images seen out of Oshkosh 2013 – Planes Watching Planes.

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Next Meeting

WHEN: Thursday 27th Aug 2013 -7:15pm

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

SPEAKER: Ian Williams

This month's presentation will be by our very longstanding enthusiast and past member Ian Williams. Ian is, among other things, a glider pilot and has been Auckland Glider tug driver for many years. He was one of the instigators of the 4 blade prop development on the Pawnee tow plane. He has had several home built including a Jodel D11, a Turby and owns 2 powered sail planes running VW's. He is to talk to us on just that, powered gliders.



3 President's Report



With the winter weather still hanging around one has not had that much flying time as one should. Just a few short sorties around the local patch checking out the white baiters on the Waikato river. Once again time sure seems to fly by with Xmas just around the corner. I was hoping to get down to Opotiki for the dawn raid this past Sunday then on over the ranges to Hastings for meeting with Aero club regarding next year's 50th Anniversary fly in. Heavy rain and a thunderstorm passing over Pukekohe at 6.00 am and the warm comfort of the bed left one with no option but to stay put. Things did not look much good for the rest of the day so maybe in the next week. I note the annual tail dragger fly in coming up at Hastings in two weeks so weather permitting this could work out otherwise it's a long drive.

On a more serious note, on behalf of the Auckland Chapter of SAA I pass on our condolences to Peter Walton and family after the loss of his brother John along with fellow pilot Richard Primrose in a tragic air accident in the Blyde River canyon on the South African border with Botswana last Thursday. Peter is currently in the USA continuing the boat trip he spoke to us about as a guest speaker last year and currently housing the Pope mobile in his hangar at Whitianga for us. John and fellow pilot Richard Primrose are well known to many of us and will be sadly missed as friends and for their contribution to aviation. I also pass on our condolences to Richard's family. Funeral details are yet to be advised.

On Thursday this week I am attending the Aviation federation meeting as a stand in for NZ SAA President, Bill Sisley in Wellington. I will be back in time for the chapter meeting Thursday night traffic permitting.

On the political front there appears to be some movement with issues that have been dragging on over the past few years. This is after the aviation federation group were able to actually get a face to face meeting with Minister Gerry Brownlee. Will brief you Thursday night.

Cheers
Evan



Hi Everyone

As I write this column news came through over the weekend of the passing of long time EAA President Paul Poberezny after a battle with cancer.

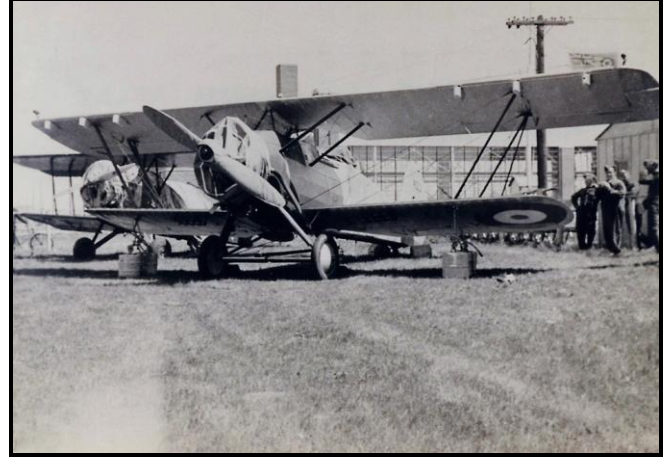
I believe the aviation

industry in the US and around the world owes a considerable debt of gratitude to this man and I would suggest that those of us who have built or are building our own aircraft owe much to this man's foresight and energy in setting up what became the EAA in the US. Without the likes of Paul and like-minded aviation enthusiasts around the world it is likely the sport we enjoy today would be considerably less vibrant than what it is. He will be sadly missed by many.

On the subject of historical aviation, a number of members managed to attend the "Will It Fly" film that was showing at the Rialto theatre a couple of weeks ago. It certainly proved to be an excellent documentary and Don Kirk sent a great review to the Chapter mailing list which I have included in the news section of the newsletter. I was fortunate enough to also get along to one of the later sessions and thoroughly enjoyed learning about the incredible achievements of Mr Mudrovich.

Gordon Sanders has noted in a recent email to the committee that it has been a considerable period of time since the Chapter had a social get together. Gordon has suggested a late winter gathering might be worthwhile and has asked for committee members to put on their thinking caps and provide feedback to him on options. If you have any ideas or suggestions on venues please forward them on to Gordon.

On to last month mystery aircraft and Warren Sly once again earned himself a chocolate fish by identifying the aircraft. Warren correctly identified the aircraft as an Armstrong Whitworth Atlas.



The Armstrong Whitworth Atlas

As for the other aircraft which Barry asked Warren to identify in June, Warren was eventually able to identify the aircraft as a 1946 Consolidated Vultee Model 11, side-by-side two seat all-metal low-wing cantilever roadable monoplane. The Model 11 was powered by an air-cooled horizontally-opposed piston engine in the rear fuselage, driving a three-blade fixed-pitch Hartzell airscrew immediately aft of cruciform tail surfaces.



Consolidated Vultee Model 11

That is enough from me. I hope you enjoy the newsletter. Look forward to catching up with everyone on Thursday evening.

Cheers Gavin

MEMBER NEWS

New Member – Huib Volker

By Gavin Magill



Huib Volker has joined the Chapter and SAANZ this month. Huib is building a Harmon F-1H Rocket in between running his own Aircraft Engineering business out of Ardmore (Hawk Aero Limited). He somehow manages to fit construction of the F-1H in between the restoration of a Lockheed Electra 10A and the recently completed refurbishment of a Yak 52.

He writes *"My background, in brief: Born in The Netherlands, parents emigrated and brought me down to NZ as a young boy in 1983.*

Completed an NZCE Aeronautics and NZCE Mechanical and worked in a variety of aviation related engineering roles in NZ and Europe - Ag aircraft maintenance, GA maintenance / rebuilds / modifications / structural repairs, Pratt & Whitney turbine engine overhauls and an extended period in warbird restoration - mainly on P-40's but also Lavochkin LA-9, P-51 Mustang etc. etc.

Became self-employed in 2006 and have been working on a number of projects since."

Huib's main projects are on a public Facebook page at the following link:

<https://www.facebook.com/pages/Hawk-Aero-Ltd/157266264340658>

Huib is passionate about aviation and states *"The reasons I joined both AOPA and SAANZ recently – [is] to help and consolidate with others in the battle against an out-of-control-lost-touch-with-reality CAA (before they destroy GA)... and to meet / learn from like-minded people with a similar passion."*

As for the status of his F-1H Rocket project he says. *"My Rocket project was started as a standard Harmon Rocket II, but this changed when I found out about the F-1 Rocket just after ordering my wing kit from Vans Aircraft.*

The F-1, being a development of the HR II, has many desirable features which caused me to elect to complete my aircraft as an F-1H Rocket - which basically means a Harmon wing with a small change at the leading edge root rib to fit the wider F-1 fuselage, which does not have the slight 'kink' between the cowling and fuselage like the HR II.

The tail of my aircraft is a Harmon tail (RV-4 beefed up and slightly larger trim tab).

I finally managed to get hold of the much needed (currently out of production) F-1 fuselage parts and a custom 'taller-person' canopy when I visited The Rocket Man - Mark Frederick in Texas last year.

My empennage and wings have been built. I installed long range fuel tanks and plan to make a set of 'wet' wingtips for trans-Tasman trips etc.

At the moment I'm working on sub-components and setting up a jig for the fuselage, also scratching and saving up funds to buy an engine core and other goodies still on the list!"

MEMBER NEWS

Gordon Swan – Honorary Member

By Gavin Magill

At last month's meeting, David Campbell-Morrison stood and spoke to the meeting about the recently received letter of resignation that the Chapter had received from Gordon Swan. DCM rightly said that the Chapter could ill afford to lose someone as skilled and knowledgeable as Gordon. It was therefore agreed that the Chapter would look to offer Gordon an Honorary Membership. Subsequent to the meeting I sent an email to Gordon with this offer and he replied as follows.

"Greetings Gavin.

It is with humble gratitude that I accept the Honor that the Club has bestowed upon me, I well know what the Honorary Membership means, and I assure you it is not accepted lightly, as I feel there are certainly others of our membership more deserving of this Honor than myself.

I have served the aviation industry for many years, starting with the Flying Boats/Widgeons in the early 50s, at Mechanics Bay with TEAL, then Whenuapai and all those wonderful early aircraft including the Comets, then the move to Auckland International and all the Jet aircraft, Gavin it was a wonderful time so many great aircraft.

But they need to be kept airworthy and safe and sound and to this end I dedicated myself. To service and inspect and know in your mind that you would let your loved ones fly in them was my endeavor.

I carried this approach into the role of Microlight Inspector operating under a CAA Approval via Brian Farrell in the early 80s then on as a MAANZ IA and then SAC as Technical Officer.

Gavin it has been a privilege and an Honor to serve and inspect the wonderful light aircraft that our members have, and to know that one is doing his little bit in keeping our side of Aviation safe.

And I can only say that an aircraft Preflight or Inspection is done and accomplished with one thing in mind at all times, and that is to find and rectify the fault/defect that must exist.

If one is found then just maybe a life or lives are saved, too many times this has been the result of a good and well done inspection.

I will as ever serve and help my fellow aviators and do my part in helping aviation fly the friendly skies.

Again I Thank the SAA Club.

My Kind Regards

Gordon H L Swan

MEMBER NEWS

AIP Subscription For Handover

By Nev Hay

For Handover

AIP New Zealand Vol 4. Amended to Aug 13.

20113/14 Amendment service not renewed.

First to reply wins. ann-nev@xtra.co.nz

Nev Hay

PROJECT NEWS

Paul Blackmore's Sonex

By Paul Blackmore

The Sonex is progressing very slowly at present due to extensive overseas travel commitments. 6 overseas trips in 7 weeks. However, the cowling is taking shape with a horizontal split and quarter turn fasteners replacing the vertical split and piano hinges. The fasteners are Skybolt adjustable receptacles and take out all the guesswork with regards to selecting the correct length.



PRODUCT NEWS

Losing Weight

By Warren Sly

The battle of the bulge is a continuing struggle for us and our aircraft. We are always looking to save weight while adding new features and gadgets to our planes.

As an offender. I have searched for ways of saving weight in my aircraft. As well as losing weight myself, I searched for an alternative to my heavy and faulty lead acid battery.

After studying all currently available technologies, I settled on the Lithium Iron Phosphate (LiFePO4) from Aerovoltz.

www.aerovoltz.com

They are not flammable or explosive, good performance, compact and light weight, 3yr warranty with a typical 6 to 8 year life and reasonable price.

I will put an article on our web site explaining the pros and cons of the current available Lithium technologies.

Aerovoltz has 6 years of experience with these batteries in high performance race vehicles before adapting them to aircraft.

In my case I had my Odyssey battery fail due to phosphate build up reducing its capacity. At 12 lbs I was keen to find a lighter unit.

The Aerovoltz 16 cell has worked out perfectly at 3.5 lb (1.6Kg). This has saved 16 lb on 2 batteries.

I was so impressed I have gained the agency for Aerovoltz batteries in NZ.

Regards

Warren Sly



MOVIE REVIEW

Will It Fly Review

By Don Kirk

This Sunday morning, three of our staunch members braved the weather and spent nearly two hours viewing the film "Will It Fly" at the Rialto Theatre New Market. Don Wilkinson, Warren Sly and myself attended.

It is a documentary on our New Zealand aviation history with regard to Richard Pearce's 1903 aircraft construction and flying attempts.

This has been brought about by the enthusiasm and undaunted dedication of an engineer Ivan Mudrovich, who has had the insight to analyse and remanufacture two parts of the equation of Pearce's early investigation and introduction of design concepts to those two major components. An operating engine, of unusual and sophisticated design of the time. [And] an airframe that the installed engine would enable it to leave the ground.

In to-days environment of exciting entertainment of shoot, bang, language and sex, whichever order you may wish, this film does away with that concept, and shows some of the major commitment not only of Ivan, but also of family and friends in their involvement, and also using the time frame of the seasons in regard to the orchard where the aircraft was located.

Other participants in the film besides Ivan's close associates are, our members Neville Hay and Chris Wade, with ex Air NZ Flight Engineers Don Nicholson and Bob Southerland.

We also had the privilege this morning at the theatre of talking to a relative of Richard Pearce.

Ivan Mudrovich is an outstanding engineer who has persevered with the concept that perhaps a New Zealander was first to fly in the world, if not, at least there were innovative design concepts at the time that have been worth preserving in history.

There are limited showings this coming week, Mon 1625 and 2045, and Wed 1535. You will need to check with the latest update to the Rialto website.

Regards Don Kirk

8 Bridge Pa Tail Dragger 2013

Bridge Pa Tail Dragger 2013.

A social gathering of conventional geared aircraft, pilots and friends with the emphasis on fun.

Not a public event but you don't have to own or fly a tail dragger to be welcome. Usual format includes Friday night dinner for early birds, main day Sat with STOL and Jail bar (flour) bombing competitions. Join in or watch the fun (no fees). \$10 covers the wild fare lunch (courtesy of the club hunters). Spot prizes. Casual prize giving dinner. Sunday morning trip to a local strip plus opportunities to explore other haunts with local flyers.

Some digs available with club members for visitors. For other accommodation, including the usual array of motels around Hastings and Havelock North see:

<http://www.hastings-motels.co.nz>

If you have any questions or need more info contact Stephanie Eilers by phone, text or email:

P: 06-879 8860

M: 021-769 963

E: stephanie@stm.net.nz



Tail Dragger 2013
Bridge Pa Aerodrome Saturday 14th September

Phone Stephanie 021769963 or email stephanie@stm.net.nz for more information

Jail bar bombing, STOL, \$10 Wild Fare Lunch

Chapter Accounts

Gordon Sanders presented the Chapter accounts for the previous year. Don Wilkinson moved they be accepted as a true and accurate account. David Campbell Morrison seconded. Motion was carried.

Tool Donation

Peter White donated a home built compression tool he built for his Rotax engine on his Zenith. He no longer has a use for it since selling his aircraft so has passed it to the Chapter.

Gordon Swan Resignation

David Campbell-Morrison stood and spoke to the Chapter regarding Gordon Swan. Gordon has recently tendered his resignation from the Chapter and DCM suggested that as an organization we could ill afford to lose someone of his experience. It was suggested the Chapter offer Gordon an Honorary membership which holds the same status as a full member but just without voting rights. This was agreed and the Secretary is to contact Gordon with this offer.

Whitianga Café

Brian Wigley noted that the Whitianga Café is to close for the balance of Winter due to diminished patronage.

Aviation Medical Service

Brian Wigley also noted that Dr David Powell is now the resident medical examiner based at Ardmore airfield. Medicals (excluding optometry and blood tests) will be available to anyone on Thursdays from late August. Appointments at david@flyingmedicine.com.

3 D Printed Model

Don Wilkinson presented to the meeting a miniature model that had been 3D Printed following his torso scan at the last meeting. The model is to be used as the pilot for the model Corby Starlet that David Wilkinson flies.

Ex-Pikes Point Container

Gavin Magill reported to the chapter that the Chapter container had been sold on Trademe and the proceeds returned to the Container's owner Phil Richards.

Speakers

Don Wilkinson introduced Simon and Harvey Lockie to speak about the AIMM System (formally Greasr) which they have built and now sell to airfield operators both here in NZ and Australia.

Following Harvey and Simon, Graeme Weck and Alistair McLachlan presented photos from their recent trip to the South Island to participate in the annual AOPA safari around SI airstrips.

Harvey Lockie

AIMM – Automated Intelligent Movement Management

Background:

- Lockie's purchased Parakai Airfield in 2005
- Airfield had been closed for 4 years
- Was run down and no maintenance had taken place
- Little activity and buildings run down.

Eight years later

- Runways are sealed
- Apron and taxiways are concreted,
- 7 hangars and an active control tower.

Rules and Regulation

- Since 9/11 ICAO have taken a few years to get into paranoid mode but now new rules apply to airfield operators and these rules apply to NZ CAA and therefore to NZ airfield operators. New rules require
 - Increased security
 - Aircraft to be in hangars
 - More airfield inspections
 - Movements need to be monitored
- Resource Management Act now also applies to NZ airfields.
- Airfield Operators are also subject to complaints and Councils must listen to complaints. Airfield operators are basically guilty until proven innocent.
 - Operators taking on the AIMM system are doing so to protect themselves against prosecution and attack.

Other factors

- Most airfields in NZ are councils owned
- Councils no longer see airfields as assets for emergencies, their use having been superseded by the use of helicopters
- Little enthusiasm for keeping them open.

10 Last Meeting Summary Cont.

Harvey Lockie Continued

Other factors Continued

- Example: Raglan Airfield. Existence hanging by a thread. Raglan council subsidises airfield to the tune of 17K per annum. Councils trying to cut costs are looking to close airfields. No local aircraft owners on airfield, airfield used by many visiting aircraft, mostly training aircraft, but little or no revenue being gained to maintain the field. More enthusiasm from local council to close the airfield and convert the grounds to sports fields.
- Also difficulty in monitoring movements. At Parakai, they estimated that only 20% of landing fees were being paid into the box. Whangarei had a ground staffer monitored landings but only captured about 1 in 10 landings.
- Revenue's insufficient to keep airfield's operating. Lockie's thought landing fees and ground rent would cover costs, they didn't.

Issue became, raise fees or automate the system. Lockie's chose automation. Harvey contracted his son to write the software.

- AIMM now captures 95% of movements.
- Revenue's now sufficient to fix problems of airfield and grow.
- AIMM can improve airfield income 2-3 times that required to keep an airfield afloat.
- They now have 15 airfields running in NZ plus 2 in Australia.

Simon Lockie

Background

- Lives on Parakai Airfield.
- Was capturing landings manually.
- Disliked having to invoice operators for landings
- Didn't really have a clue who was even arriving
- Experiment with camera showed only 20% of landings captured.
- Settled on developing automated system based on radio calls.

Goals

- Decided to automate as much as possible to lose less in admin costs.

- Admits AIMM System is far from perfect but mostly works
- Main goal is to transfer as much of fee's collected to airfield operators.

Advantages

- Captures up to 95% of movements
- Much information on airfield use is collected. Who, when and how often.
- Assists airfield operators to comply with ICAO rules
- Use of AIMM also forced large operators (training schools) to come to the party and pay landing fees. They were charging students but then pocketing fees instead of paying operators.

Uptake

- Currently some 1600 aircraft operators have signed up to AIMM.
- Data Security is taken very seriously.
- 15 airfields running in NZ plus 2 in Australia
- Some airfield are using AIMM but not charging fees. They use it only to collect information on who is using their airfield and when.

Myth 1 - Fraudulent Radio Calls

- Seems to be a bit of an urban myth
- More often than not are genuine mistakes rather than fraud.

Myth 2 - AIMM sets fees, higher fee's mean more revenue for AIMM

- AIMM company does not set fees
- Fees are set by airfield operators
- AIMM does not know who is on the exempt list for each airfield.
- AIMM captures movements and the system sets the landing fee based on the operators fee schedule and exemptions
- Operators can approach airfields to ask for discounts

Reasons for Uptake

- Typically airfields are in trouble or have a problem
- AIMM can monitor and invoice movements for less than what operator can do it themselves.
- System is very simple to operate. Very much plug and play. Single box set up, plug it in and its up and running. Operator just needs to set fees and any exceptions

COMMENTARY

Automation Dependency

Provided by Nev Hay

The two subjects in the following 'sites' are mainly for professional Flight crew but they are a worthwhile watch for any aviator. The subject also has relevance for pilots of today's ever increasing 'electronic' instrumented Custom Builds.

You may have noted the subject in a recent Vector Magazine and maybe have seen the Coroner's report of the flight from North Shore to Ashburton in 2011 where the pilot died following a crash into high terrain. In the report was the statement

"The fact that he was, at a time of difficulty, let down by equipment at best described as an aid to navigation and flight does not in the final analysis make that equipment responsible for his crash."

I suggest you first watch Automation Dependency.

http://www.youtube.com/watch?v=h3kREPMzMLk&feature=youtube_gdata_player

Although made in 1997 it is even more pertinent today as Airlines are introducing 200hr pilots into their cockpits who have never flown in a single engine aircraft and who probably have zero manual flight manipulative skills. Scary stuff.

In the late 80's and early '90's this subject was well to the fore in our local airlines for the same reason that is discussed in the film. Manual, raw data flight's, were re-introduced as part of our flight and Simulator checks.

An explanation to some of the wording used: **STAR** is **Standard Arrival** procedure. **LOFT** is Line Oriented Flight Training. The words **Click-Click** are used as that is what you do with the relevant control button to disconnect a function. i.e Auto pilot or Auto Throttle. The first button press (click)

disconnects the subject control and brings on a warning (visual or aural or both) (Did you mean this to be disconnected) If 'yes' then the second click turns off the warning. (de-cluttering) Maybe Microsoft staff were on the payroll!!

The second site:

<http://www.wimp.com/approachlanding> brings back a lot of procedural memories. It shows good crew procedures in a highly technical cockpit but see if you can spot an early initiation of exactly what was commented on about automation in the first viewing. In this case there was plenty of time to initiate a change but what would be done if it was a short finals change? I note the Captain was flying manually with auto-throttles off - keeping up his manual skills- so would probably have continued in that way.

Maintain your skills.

Nev

This is an interesting story about a Navy P-2 that flew non-stop from Perth Australia to Columbus, Ohio in 1946. More than 11,000 miles and more than 55 hours in the air!



The oxidized Lockheed 'Truculent Turtle' had been squatting next to a Navy Air Station's main gate, completely exposed to the elements and getting ragged around the edges. Finally recognizing the Turtle's singular historic value to aviation, it was moved to Pensacola to receive a badly required and pristine restoration. It is now -gleamingly hanging - from the National Naval Aviation Museum's ceiling where it earned its distinction.

Taxiing tests demonstrated that its Lockheed P2V-1's landing gear might fold while bearing the Turtle's extreme weight before carrying it airborne. And during taxi turns its landing gear struts could fail carrying such a load. For that reason, the Turtle was only partially filled with fuel before it was positioned at the head of Australia's Pearce Aerodrome runway 27 at 7 A.M. on September 29th, 1946.

Lined up for take-off, all fueling was completed by 4:00 p.m. At the same time JATO packs were carefully attached to its fuselage for the jet-assistance required to shove the Truculent Turtle fast enough to take-off before going off the end of the runway. The Turtle would attempt its take-off with CDR Thomas D. Davies, as pilot in command, in the left seat and CDR Eugene P. (Gene) Rankin, the co-pilot, in the right seat. In CDR Rankin's own words: "Late afternoon on the 29th, the weather in south-western Australia was beautiful. And at 1800, the two 2,300 hp Wright R-3350 engines were warming up. We were about to takeoff from 6,000 feet of runway with a gross weight of 85,561 pounds [the standard P2V was gross weight limited at.. 65,000 pounds].

Sitting in the co-pilot's seat, I remember

thinking about my wife, Virginia, and my three daughters and asking myself, 'What am I doing here in this situation?' I took a deep breath and wished for the best.

At 6:11 p.m., CDR Tom Davies stood hard on the brakes as both throttles were pushed forward to max power. At the far end of the mile-long runway, he could make out the throng of news reporters and photographers.

Scattered across the air base were hundreds of picnickers who came to witness the spectacle of a JATO takeoff. They all stood up when they heard the sound of the engines being advanced to full military power. Davies and Rankin scanned the engine instruments. Normal. Davies raised his feet from the brakes.

On this day, September 29, 1946, the reciprocating engine Turtle was a veritable winged gas tank, thirteen tons beyond the two-engine Lockheed's Max Gross Weight Limitations.

The Truculent Turtle rumbled and bounced on tires that had been over-inflated to handle the heavy load. Slowly it began to pick up speed. As each 1,000-foot sign went by, Rankin called out the speed and compared it to predicted figures on a clipboard in his lap.



With the second 1,000-foot sign astern, the Turtle was committed. Davies could no longer stop on the remaining runway. It was now fly or burn.

When the quivering airspeed needle touched 87 knots, Davies punched a button wired to his yoke, and the four JATO bottles fired from attachment points on the aft fuselage. The crew's ears filled with JATO bottles' roar, their bodies feeling the JATO's thrust. For a critical twelve seconds, the JATO provided the thrust of a third engine.

At about 4,500 feet down the runway, 115 knots was reached on the airspeed indicator,

and Davies pulled the nose wheel off. There were some long seconds while the main landing gear continued to rumble over the last of the runway. Then the rumbling stopped as the main landing gear staggered off the runway and the full load of the aircraft shifted to the wings.

As soon as they were certain that they were airborne, but still only an estimated five feet above the ground, Davies called 'gear up.' Rankin moved the wheel-shaped actuator on the pedestal between the pilots to the up position, and the wheels came up. Davies likely tapped the brakes to stop the wheels from spinning, and the wheel-well doors closed just as the JATO bottles burned out. Behind the pilots in the aft fuselage, CDR Walt Reid kept his hand on the dump valve that could quickly lighten their load in an emergency.

Roy Tabeling, at the radio position, kept all his switches off for now to prevent the slightest spark.

The Turtle had an estimated 20 feet of altitude and 130 knots of airspeed when the JATO bottles burned out. The JATO bottles were not just to give the Turtle additional speed on take-off, but were intended to improve the rate of climb immediately after lift-off. The Turtle barely cleared the trees a quarter of a mile from the end of the runway. The field elevation of Pearce Aerodrome was about 500 feet, and the terrain to the west sloped gradually down to the Indian Ocean about six miles from the field. So, even without climbing, the Turtle was able to gain height above the trees in the critical minutes after take-off.

Fortunately, the emergency procedures for a failed engine had been well thought out, but were never needed. At their take-off weight, they estimated that they would be able to climb at a maximum of 400 feet per minute. If an engine failed and they put maximum power on the remaining engine, they estimated that they would be forced to descend at 200 feet per minute.

Their planning indicated that if they could achieve 1,000 feet before an engine failure they would have about four minutes in which to dump fuel to lighten the load and still be 200 feet in the air to attempt a landing. With their built-in fuel dump system, they were confident that they were in good shape at any altitude above 1,000 feet because they could dump fuel fast enough to get down to a

comfortable single-engine operating weight before losing too much altitude.

Departing the Aerodrome boundary, the Turtle was over the waters of the Indian Ocean. With agonizing slowness, the altimeter and airspeed readings crept upward. Walt Reid jettisoned the empty JATO bottles. The Turtle was thought to have a 125 KT stall speed with the flaps up at that weight. When they established a sluggish climb rate, Gene Rankin started bringing the flaps up in careful small increments. At 165 KT, with the flaps fully retracted, Tom Davies made his first power reduction to the maximum continuous setting.

The sun was setting and the lights of Perth were blinking on as the Turtle circled back over the city at 3,500 feet and headed out across the 1,800 miles of the central desert of Australia. On this record-breaking night, one record had already been broken. Never before had two engines carried so much weight into the air after the JATOS quit.

Their plan was to keep a fairly low 3,500 feet for the first few hundred miles, burning off some fuel, giving them a faster climb to cruise altitude and [hopefully] costing them less fuel for the total trip. But the southwest wind, burbling and eddying across the hills northeast of Perth, brought turbulence that shook and rattled the overloaded Turtle, threatening the integrity of the wings themselves.

Tom Davies applied full power and took her up to 6,500 feet where the air was smoother, reluctantly accepting the sacrifice of enough fuel to fly an extra couple of hundred miles if lost, bad WX or other unexpected problems at flight's end.

Alice Springs at Australia's center, slid under the Turtle's long wings at midnight and Cooktown on the northeast coast at dawn. Then it was out over the Coral Sea where, only a few years before, the LEXINGTON and YORKTOWN had sunk the Japanese ship SHOHO to win the first carrier battle in history and prevented Australia and New Zealand from being cutoff and then isolated. At noon on the second day, the Turtle skirted the 10,000 foot peaks of southern New Guinea, and in mid-afternoon detoured around a mass of boiling thunderheads over Bougainville in the Solomons.

As the sun set for the second time since takeoff, the Turtle's crew headed out across the vast and empty Pacific Ocean and began

to establish a flight routine. They stood two-man four-hour watches, washing, shaving, and changing to clean clothes each morning. And eating regular meals cooked on a hot plate. Every two hours, a fresh pilot would enter the cockpit to relieve whoever had been sitting watch the longest.

The two Wright 3350 engines ran smoothly; all the gauges and needles showed normal. Every hour another 200 miles of the Pacific passed astern. The crew's only worry was Joey the kangaroo, who hunched unhappily in her crate, refusing to eat or drink.

Dawn of the second morning found the Turtle over Maro Reef, halfway between Midway Island and Oahu in the long chain of Hawaiian Islands. The Turtle only had one low-frequency radio, because most of the modern radio equipment had been removed to reduce weight. Radio calls to Midway and Hawaii for weather updates were unsuccessful due to the long distance.

Celestial navigation was showing that the Turtle was drifting southward from their intended great circle route due to increased northerly winds that were adding a headwind factor to their track. Instead of correcting their course by turning more northward, thereby increasing the aircraft's relative wind, CDR Davies stayed on their current heading accepting the fact that they would reach the west coast of the U.S. somewhere in northern California rather than near Seattle as they had originally planned.

When Turtle's wing tip gas tanks empty, they were jettisoned over the ocean. Then the Turtle eased up to 10,000 feet and later to 12,000 feet. At noon, CDR Reid came up to the cockpit smiling. "Well," he reported, "the damned kangaroo has started to eat and drink again. I guess she thinks we're going to make it."

In the fall of 1946, the increasingly hostile Soviet Union was pushing construction of a submarine force nearly ten times larger than Hitler's. Anti-submarine warfare was the Navy's responsibility, regardless of the U.S. Army Air Force's opposing views.

The Turtle was among the first of the P2V Neptune patrol planes designed to counter the sub threat. Tom Davies' orders derived straight from the offices of Secretary of the Navy, James V. Forrestal, and the Chief of Naval Operations, Fleet Admiral Chester W. Nimitz.

A dramatic demonstration was needed to

prove beyond question that the new P2V patrol plane, its production at Lockheed representing a sizeable chunk of the Navy's skimpy peacetime budget, could do the job. With its efficient design that gave it 4-engine capability on just two engines, the mission would show the Neptune's ability to cover the transoceanic distances necessary to perform its ASW mission and sea-surveillance functions.

At a time when new roles and missions were being developed to deliver nuclear weapons, it would not hurt to show that the Navy, too, had that capability.

So far, the flight had gone pretty much according to plan. But now as the second full day in the air began to darken, the Pacific sky, gently clear and blue for so long, turned rough and hostile. An hour before landfall, great rolling knuckles of cloud punched out from the coastal mountains. The Turtle bounced and vibrated. Ice crusted on the wings. Static blanked out its radio transmissions and radio reception.

The crew strapped down hard, turned up the red instrument lights and took turns trying to tune the radio direction finder to a recognizable station. It was midnight before Roy Tabeling succeeded in making contact with the ground and requested an instrument clearance eastward from California ...

They were 150 miles off the coast when a delightful female voice reached up through the murk from Williams Radio, 70 miles south of Red Bluff, California.

"I'm sorry" the voice said. "I don't seem to have a flight plan on you. What was your departure point?"

"Perth, Western Australia."

"No, I mean where did you take-off from?"

"Perth, Western Australia."

"Navy Zero Eight Two, you are not understanding me. I mean what was your departure airport for this leg of the flight?"

"Perth, Western Australia."

"BUT, that's halfway around the world!"

"No, only about a third. May we have that clearance, please?"

The Turtle had departed Perth some thirty-nine hours earlier and had been out of radio contact with anyone for the past twenty hours. That contact with Williams

Radio called off a world-wide alert for ships and stations between Mid-way and the west

coast to attempt contact with the Turtle on all frequencies. With some difficulty due to reception, the Turtle received an instrument clearance to proceed on airways from Oakland to Sacramento and on to Salt Lake City at 13,000 feet.

The weather report was discouraging. It indicated heavy turbulence, thunderstorms, rain and icing conditions. As Gene Rankin wrote in a magazine article after the flight: "Had the Turtle been on the ground at an airport at that threatening point, the question might have arisen: 'Is this trip important enough to continue right through this stuff?'"

The Turtle reached the west coast at 9:16 p.m. about thirty miles north of San Francisco. Their estimated time of arrival, further north up the coast, had been 9:00 p.m. They had taken off about forty hours earlier and had covered 9,000 statute miles thus far.

They had broken the distance record by more than a thousand miles, and all of their remaining fuel was in their wing tanks which showed about eight-tenths full. Speculation among the pilots began as to how much further the Turtle could fly before fuel exhaustion. The Turtle's oxygen system had been removed for the flight, so the pilots were using portable walk-around oxygen bottles to avoid hypoxia at higher altitudes.

The static and atmospheric began demonstrating the weird and wonderful phenomenon of St. Elmo's fire, adding more distractions to the crew's problems. The two propellers whirled in rings of blue-white light. And violet tongues licked up between the windshields' laminations. While eerie purple spokes protruded from the Neptune's nose cone.

All those distracting effects now increased in brilliance with an accompanying rise in static on all radio frequencies before suddenly discharging with a blinding flash and audible thump. Then once again slowly re-create itself.

The St. Elmo's fire had been annoying but not dangerous. But it can be a heart-thumping experience for those witnessing it for the first time. The tachometer for the starboard engine had been acting up, but there were no other engine problems. The pilots kept the fuel cross-feed levers, which connected both main tanks to both engines, in the 'off' position so each was feeding from the tank in its own wing.

Somewhere over Nevada, the starboard engine began running rough and losing power. After scanning the gauges, the pilots surmised that the carburetor intake was icing up and choking itself. To correct that, the carburetor air preheating systems on both engines were increased to full heat to clear out any carburetor ice. Very quickly, the warm air solved the problem and the starboard engine ran smoothly again.

With an engine running rough, CDR Davies had to be thinking about their mission. The Turtle had broken the existing record, but was that good enough? It was just a matter of time before the AAF would launch another B-29 to take the record up another notch. The Neptune was now light enough for single engine flight, but how much farther could it go on one engine? And was it worth risking this expensive aircraft for the sake of improving a long-distance record?

Over Nevada and Utah, the weather was a serious factor. Freezing rain, snow and ice froze on the wings and fuselage, forcing the crew to increase power to stay airborne. The aircraft picked up a headwind and an estimated 1,000 pounds of ice. It was problematic because the plane's deicing and anti-icing equipment had been removed as a weight-saving measure.

The next three [3] hours of high power settings and increased fuel usage at a lower altitude of 13,000 feet probably slashed 500 miles from our flight's record-breaking distance.

After passing Salt Lake City, the weather finally broke with the dawn of the Turtle's third day in the air. The Turtle was cleared to descend to 9,000 feet. All morning, CDR Davies tracked their progress eastward over Nebraska, Iowa, and the Missouri and Mississippi Rivers. To the north, Chicago's haze was in sight. But not surprisingly, the remaining fuel levels were gaining more attention from every member of the crew.

The wingtip tanks had long ago been emptied and jettisoned over the Pacific. The bomb bay tank, the nose tank and the huge aft-fuselage tank were entirely empty. The fuel gauges for both wing tanks were moving inexorably toward zero.

CDR Davies and his crew consulted, tapped each fuel gauge, calculated and recalculated their remaining fuel and cursed the gauges on which one-eighth of an inch represented 200 gallons.

At noon, they concluded they could not safely stretch the flight all the way to Washington, D.C. , and certainly not to the island of Bermuda . CDR Davies chose the Naval Air Station at Columbus, Ohio to be their final destination.

At quarter past one that afternoon the runways and hangars of the Columbus airport were in sight. The Turtle's crew were cleaned-up and shaven and in uniform. And the fuel gauges all read empty. With the landing checklist completed and wheels and flaps down, CDR Davies cranked the Turtle around in a 45 degree left turn towards final. As the airplane leveled out on final, the starboard engine popped, sputtered and quit. The port engine continued smoothly.

Down to 400 feet, as they completed their final turn, both pilots simultaneously recognized the problem. Their hands collided as both reached for the fuel cross feed fuel lever between their seats. During the landing pattern's descending final turn in the landing pattern, the near-empty starboard tank quit feeding fuel into the starboard engine. Within seconds, the starboard engine began running smoothly again from fuel rushing in from the open cross feed. The Turtle had been in no danger, since they were light enough to operate on one engine. On the other hand, it would have been embarrassing to have an engine quit, in view of the growing crowd watching below.

At 1:28 p.m. on October 1st, the Neptune's wheels once more touched the earth with tires intentionally over-inflated for our take-off at Perth, 11,236 miles and 55 hours and 17 minutes after take-off.

After a hastily called press conference in Columbus, the crew was flown to NAS air station in Washington, D.C. by a Marine Corps Reserve aircraft, where they were met by their wives and the Secretary of the Navy. The crew was grounded by a flight surgeon upon landing in Columbus ...

But before the day was over, the Turtle's crew had been awarded Distinguished Flying Crosses by Navy Secretary Forrestal. Next day they were scheduled to meet with an exuberant President Harry S. Truman.

And Joey was observably relieved to be back on solid earth. And she was installed in luxurious quarters at the National Zoo.

The record established by CDR Tom Davies and the crew of the Truculent Turtle's crew did not stand for a fluke year or two, but for

decades. The long-distance record for all aircraft was only broken by a jet-powered B-52 in 1962.

The Truculent Turtle's record for piston/propeller driven aircraft was broken by Burt Rotan's Voyager, a carbon-fiber aircraft, which made its historic around the world non-stop flight in 1986, more than four decades after the Turtle landed in Ohio.

After a well-earned publicity tour, the Truculent Turtle was used by the Naval Air Test Center at Patuxent River as a flying test bed for advanced avionics systems. The Truculent Turtle was retired with honors in 1953 and put on display in Norfolk, Virginia , and later repositioned at the main gate of Naval Air Station Norfolk, Virginia, in 1968.

In 1977, the Truculent Turtle was transported to the National Naval Aviation Museum in Pensacola, Florida where it now holds forth in a place of honor in Hangar Bay One.

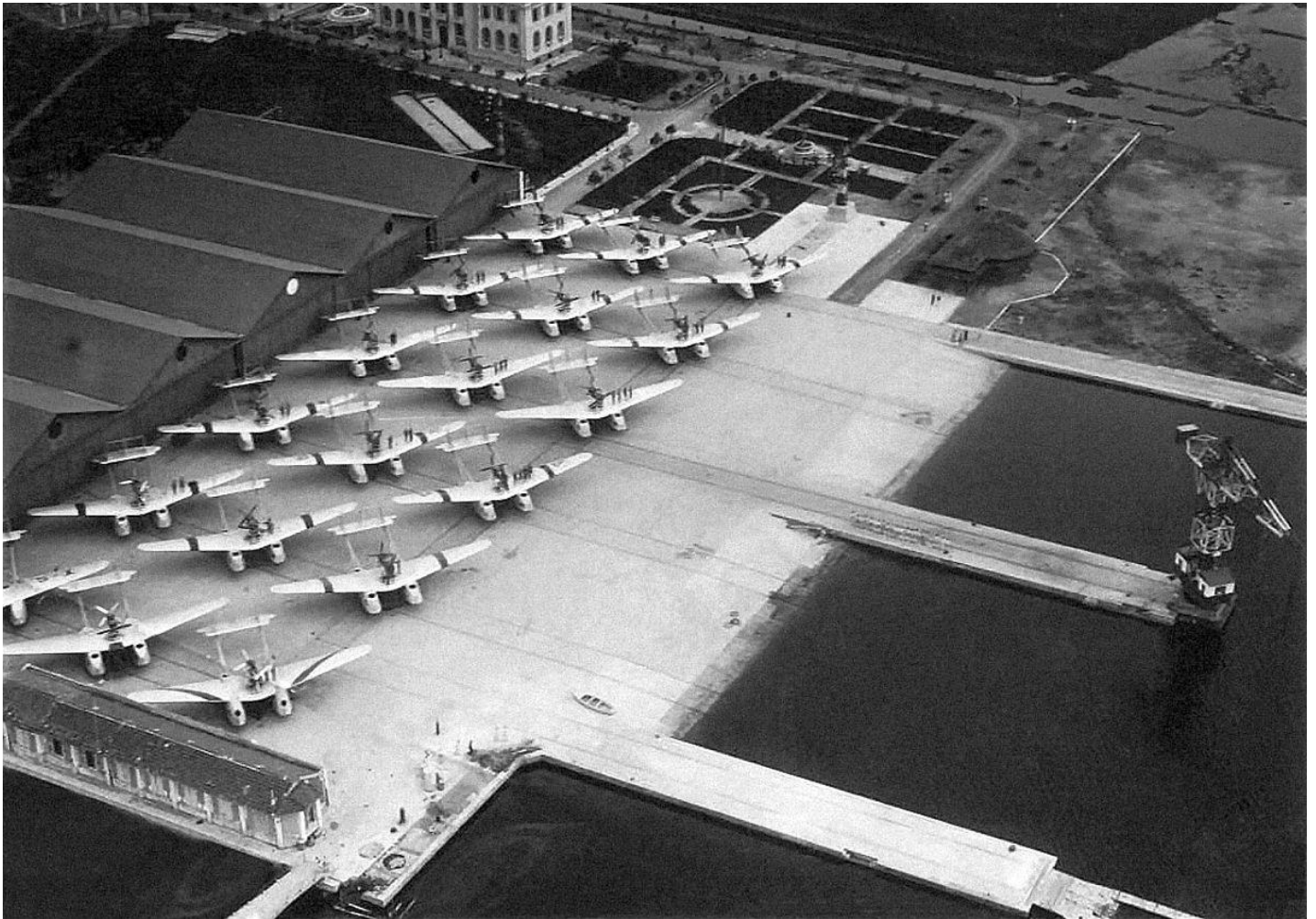
Many thanks to the Naval Institute Proceedings magazine, Naval Aviation News magazine, the Naval Aviation Museum Foundation magazine, CDR Eugene P. Rankin, CDR Walter S. Reid and CDR Edward P. Stafford, whose articles about the "Truculent Turtle" were the basis for this article.

17 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

Ex RNZAF A4 Skyhawks

From Warren Sly

Warren sent in this great image of the ex-RNZAF A4 Skyhawks now being flown in the US by Draken International.



ON THE WEB

AirNZ 747 Flight

From Gavin Magill

This great piece of film came to me via the Airline Flying Club newsletter. It will hopefully bring back some memories for those who flew as crew on 747's.

AirNZ AKL to BNE 1994.

Cockpit footage of an AirNZ flight from the days of flight engineers in 747s.

Enjoy

<http://www.youtube.com/watch?v=zkkdDGg5V4g>



ON THE WEB

Wolfe Air Videography

From Gavin Magill

This excellent video is off Vimeo and is put together by Wolfe Air. Simply amazing footage.

<https://vimeo.com/70994185>

Also go have a look at the Wolfe Air web site and look at some of their demo reels.

<http://www.wolfeair.com>



ON THE WEB

Steam Powered Bicycle

From Anon

Gavin I have been wondering lately what progress Mike Tunnicliffe is making with his steam powered Peitenpol and got this sent to me today it might amuse some members.

Mike's project might be a good short feature subject for the Pierce Replica film maker.

<http://www.flixxy.com/1867-steam-powered-bicycle.htm#.UgMSyFawE1Q.email>



ON THE WEB

Mossie Up For Sale

From Gordon Sanders

Just rec'd the link below. The comments include the info that 'our' Mossie is up for sale in US.

<http://www.warbirdsandairshows.com/Airshows%202013/Hamilton%20CWH%20Airshow%202013.htm>



ON THE WEB

Bally Bomber

From Nev Hay & Warren Sly

Jack Bally's incredible 1/3 scale B-17 next to a Cessna 140! (photo: facebook) Some new pictures surfaced last evening on the Bally Bomber facebook page showing Jack Bally's incredible 1/3 scale B-17 replica fully assembled and sitting next to a Cessna 140. Wow! The mind is really tied up in a knot trying to process what's seen there... it looks like a model but sooo big - but then it looks like a real B-17 but sooo much smaller!



This project, coming to life in Dixon Illinois, has to rank as one of the most fascinating homebuilt aircraft projects of all time.

It's the kind of idea that weird people like me dream up but rarely does anyone actually follow through. With an estimated 20,000 hours of labor required to build this cute little beast, it's understandable why. With a 34ft 7in wingspan, estimated 1,800 pound weight and four 60hp engines for a total of 240hp, the Bally Bomber is just pure awesome! Be sure to check out the hundreds of pix from the build process along with additional info at <http://TheBallyBomber.com>



The cockpit gives the overall scale!



One of four 2-stroke Hirth 3002 engines.



The amazing Bally Bomber is almost ready to fly!

Article and pictures from <http://airpigz.com/blog/2013/7/9/jack-ballys-manned-13-scale-b-17-nearly-ready-to-fly.html>

Chapter Events

2013

Aug 27 Chapter Monthly Meeting
Speaker: Ian Williams
Title: Powered Gliders

This month's presentation will be by our very longstanding enthusiast and past member Ian Williams.

Ian is, among other things, a glider pilot and has been Auckland Glider tug driver for many years.

He has had several home built including a Jodel D11, a Turby and owns 2 powered sail planes running VW's.

He is to talk to us on just that, powered gliders.

Sep 26 Chapter Monthly Meeting
Speaker: Peter Armstrong
Title: Oshkosh 2013

Don will be twisting Peter's arm to present to us his views on Oshkosh 2013.

Aviation Calendar

2013

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 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

Sep 14-15 Tail Dragger 2013
Bridge Pa Airfield, Hastings

A social gathering of conventional geared aircraft, pilots and friends with the emphasis on fun. See separate notice in this issue. See advert Page 8 of this newsletter.

Aviation Calendar

2014

Jan 04-05 Whitianga Warbirds and Wheels
Whitianga

Mercury Bay Aero Club are combining with NZ Warbirds to stage a major event on the weekend of Jan 4-5. More details as they come to hand.

Jan 25-26 Tauranga City Airshow
Tauranga Airfield

SAA will be supporting with a fly-in, our aircraft on display in the public area, and possibly some aircraft in the flying displays. Bob Byal is coordinating the SAA participation.

Mar 7-9 SportAvex
Bridge Pa Airfield Hastings

50th Anniversary of AACCA/SAA at Bridge Pa aerodrome, Hastings. Start planning to be there as it will be a big one. No airshow, just a celebration fly-in. Includes AGM and Wings dinner. Evan Wheeler is coordinating the event so all offers of assistance to him please.

Apr 18-20 Warbirds Over Wanaka
Wanaka Airfield, Wanaka

As for the Tauranga event, SAA will be supporting with a fly-in, our aircraft on display in the public area, and possibly some aircraft in the flying displays. Graham Taylor is coordinating the SAA participation.

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. But don't rush as you could be the first, and only, person in the queue ☺