



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

# Sport Aviator

March 2015



[www.saaauckland.org.nz](http://www.saaauckland.org.nz)

# Committee 2014

## EXECUTIVE COMMITTEE

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

## COMMITTEE MEMBERS

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

## OPERATIONAL POSITIONS

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

## TECHNICAL MENTORS

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

### FRONT PAGE

Gary Briggs Sonex sits outside his garage workshop with its wings on after completion of the drilling of the wing spar attach bolt holes.

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## Next Meeting

<b>WHEN:</b>	Thursday 26th Mar 2015
<b>WHERE:</b>	Auckland Society of Model Engineers Club Rooms Peterson Road, Panmure Basin Mt Wellington
<b>SPEAKER:</b>	Keith Trillo & Jon Farmer
<b>SUBJECT:</b>	Gnome Rotary Engines

Next meeting Jon Farmer will introduce and join Keith Trillo to talk, show Gnome rotary engines.

Jon, David W, DCM and Don W all called in to a hangar at Omaka where new ones were being built. This inspired Jon on the subject

Keith has an original. The machining and design, for the vintage engine, is quite outstanding.



The autumn equinox where length of day equals length of night has now passed and with it, the last day of summer. There has been some great flying weather if you have had the time to get out and up there. For one reason or another I have not been able to get as much airtime as I would normally but things are looking up. There has been some great fly-in's around the traps with one venue not many have been to, that being Max Deane's strip at Whangamata referred to as Whangamata international.

Max put on his annual fly in and saw in excess of 30 aircraft and microlights arrive for a fantastic lunch, and in a really pleasant setting. Flying at

3500 ft. over the Coromandel ranges between Thames and Paeroa one was able to easily pick the aircraft parked in the paddock approximately half way between Whangamata and Whiritoa back towards Waihi.

The cafe at Whitianga has been providing great brunches and Amy who is running the operation looks forward to hosting pilots and passengers looking for somewhere to go and enjoy. Waihi is also looking for support so consider these destinations for a lunch and also the Mussel cafe across the road from the Coromandel strip.

This brings me to the subject of landing fees. It is sad to note that so many pilots have made a habit of not paying these. In reality landing fees will not cover the cost involved in operating an airfield, however it helps and also provides information to the operator on how much use is made of the facility. I note that a number of destinations who took on GREASER system of monitoring and collecting fees have since dispensed of their services as it has not been as effective as had been originally thought. I note Matamata is the latest to go back to direct payment to the council via the old system.

On the political front, the CAA have come back to SAANZ with regard to the cost of final certification and the CAA role in the final physical inspection prior to issuing of C OF A and our proposal of another option in being able to delegate this function.

What seems a simple solution, and given the Director has very wide powers of delegation which would enable him to carry through with our proposal, the problem now is that the CAA has decided that it needs to develop a delegation policy as there is not one in place. So in a nutshell, our submission has not been either approved or disregarded but put on hold until a policy of delegation is completed. Time line for this is indeterminable at this point but we hope to have an update after our annual meeting with the CAA in April.

That's it from me and look forward to monthly meeting Thursday night and a great speaker.

Cheers  
Evan





Hi Everyone

As Evan mentioned in his column we are now well and truly into Autumn and as usual for this time of year the weather is quite settled and great for flying. There are still a

number of airshows and fly-ins happening around the country so if you have the opportunity to visit one or more of them then make the most of it before winter sets in.

In last month's column I mentioned that I will be standing down as Secretary for the Auckland Chapter at the AGM in May and I was looking for someone to take on the role. Well the good news is that Ken Watters has put his hand up to take over. Thanks Ken. It is much appreciated.

While on the subject of the AGM, please have a think about offering up a little of your time to help with the running of the Chapter by volunteering for one of the committee positions. We will be looking to fill the Vice-President position when Warren Sly steps into the Presidents role in May and will also be needing to fill the committee positions. It is always good to get new members with fresh ideas on board. Serving on the Chapter committee is far from onerous with committee meetings being held just four times per year prior to a normal Chapter meeting. If you are interested in getting more involved please let myself or Evan Wheeler know as we like to get all the positions filled prior to the AGM.

While on the subject of the Committee, at last month's Committee meeting it was decided that the two Icom radio's the Chapter owns would be offered up for tender to the Chapter membership. These were previously used in the Popemobile prior to it being sold but are now surplus to requirements. If you are interested in making a tender then please see the write up later in the Chapter News section.

The Committee is also wanting to organise a Wives and Partners day out to the Riverhead Pub by ferry. Nev Hay is organising this and the pub has recommended we choose a non-weekend day to visit as weekends are extremely busy for them. Nev has suggested a Friday would be best and the next available tide dates which work for a Friday visit would be either April 10<sup>th</sup> or April 24<sup>th</sup>. If you are keen on attending please let Nev know which date would suit.

In other news. Over the weekend just gone I was fortunate to fly over to Whitianga to drop off Sonex JQP to Bruce Turner and happened to arrive at the same time as Mercury Bay Aero Club were hosting an open day for the Mercury Bay Student Aviation Trust. A good number of students and parents from the local Area School turned up for the event and were taken on flights by members of the MBAC who made their aircraft available. MBAC gained two new students out of the event and they also managed to pique the interest of many of the kids attending on the day. This was a low key event but well attended and it was great to see grass roots aviation being promoted in this way. Definitely food for thought.

The mystery aircraft in the February newsletter was the Douglas XB 42 Mixmaster and was correctly identified by David Wilkinson.



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

Cheers Gavin

## PROJECT UPDATE

Gary Briggs – Sonex

**By Gary Briggs**

Well the big drill is over now and the wings fit, what a relief. All went well, I must have picked the hottest day to do it and it took about 6 hours. The bushes worked very well and for anyone who will tackle this job in the future this way is easier and less risky than up sizing the whole lot from 1/4". If I could change anything I would have got a longer 3/8" drill bit because I ran out of drill bit on the final hole on the left side, only by a hair though.



The rear spar carry through was quite a headache, picking up the holes on the bottom and then pulling rivets with a mirror, but I got into a good rhythm and it became easier working with everything opposed. Should have left the fuselage floor off.



I am now busy fitting the root doublers which will take up the gap between the fuselage and the wing. I made up some hole duplicators as the root doubler holes have to be picked up from the skin below.

## PROJECT UPDATE

David Wilkinson – DR107

**By David Wilkinson**

[One of the rib] jigs I have inherited from the DR107 builders in Omaka



Rib 001 glued up.... Gotta start somewhere





## CHAPTER NEWS

## Transceivers For Sale

**By Gordon Sanders**

The Chapter owns two Icom IC-A4E handheld airband transceivers, previously used in conjunction with the popemobile. As these are not now being used the committee has decided to sell them, giving Chapter members first option.

The sets were bought in Jan 2004 and are in full working order and good clean condition. However one of the sets has developed a shorted cell in its battery pack, so is delivering 8.4V instead of the specified 9.6V. While it operates fine at the reduced voltage it would be sensible to look at replacing the 11 year old 700mAh NiCd battery packs of both units. After-market Batteries America model BP-196 2,000mAh NiMH packs cost \$US49.95, which includes a new belt clip. Shipping would be approx. \$NZ20 via YouShop (NZ Post courier).

While the sets are supplied with 230V mains chargers and can be charged, via an appropriate cable, from a vehicle or aircraft electrical system (with the engine running, minimum 13.5V required) they cannot be operated on external power. They can however be connected to aviation headsets using either the OPC-752 headset adapter available from Icom NZ for \$106.69 or an after-market adapter, Pilot USA Headset Adapter/Ic-A22/A3/A4 Pa82.4, available via Amazon for \$US59.00. The most economic way would probably be to wire one up yourself using a couple of plugs from Jaycar (PP-0114, PP-0103) and aircraft type headset panel jacks from Aircraft Spruce, plus a suitable PTT switch. Tech assistance available if required.

As the 'rubber ducky' aerial connects using a standard BNC connector the set can be easily connected to an external aerial on your aircraft.

Full info on the IC-A4, including specifications and downloadable (pdf) manual (Version 2) is available at:

<http://icomamerica.com/en/products/avionics/handheld/a4/default.aspx>

Online aviation newsletter AvWeb published a review of the A4 when it was first released in 1998. It is available at:

<http://www.avweb.com/news/reviews/182541-1.html>

### The sets for sale are:

#### Set A. S/No. 07453.

Complete with 'rubber ducky' aerial, 230V mains charger, instruction manual, battery pack (9.6V), belt clip and hand strap. Best offer over \$75.00 secures.

#### Set B. S/No. 07454.

Complete as above but battery has one shorted cell, delivering only 8.4V. Best offer over \$50.00 secures.

In order to give everyone an equal chance the sets are being sold by tender, **closing at 23:59 on Sat 11<sup>th</sup> April**. Tenders to be submitted to the treasurer (who is not bidding and whose lips are sealed) at [gordon@sanders.gen.nz](mailto:gordon@sanders.gen.nz).

Tenders should be submitted for each set individually, identifying the set either as A or B, or by stating the serial number. If you only want one set you can bid on both (separately) to increase your chances. If one person wins both tenders he will be contacted to see whether he wants one or both, and if only one, which one. If he takes only one the remaining set will go to the leading bidder for the other. If sets do not reach their reserve they will be auctioned on TradeMe.

Any enquiries should be directed to the treasurer, Gordon Sanders, preferably by email (address above) or by phone, preferably between 19:00 and 21:30.

See Next page for more details.



VHF AIR BAND TRANSCEIVER

# IC-A4



## Maximize your ground crew communications

### Rugged construction

The one piece, die-cast aluminum chassis and polycarbonate front panel provide the durability needed for reliable operation under the most demanding conditions.

### Simple operation

Reliable communication is essential in the hectic airport work environment. The IC-A4's large display is easy to read and shows operating status at a glance. Up/down keys allow you to change channels quickly and easily. Up to 19 memory channels can be programmed for easy recall.

### PC programmable

PC programming and cloning allows you to customize each radio to your needs. Transmit can be inhibited by channel. (These features must be activated by your dealer.)

### Alpha memory

The channel name function allows you to assign up to 5-character alpha names to each channel. This provides a convenient way to remember channel contents and to recognize selected channels at a glance.

### Compact body

Measuring only 58(W) X 140.5(H) X 32.3(D) mm\*, the IC-A4 is truly portable. Small enough to fit into a pocket.

\* 2<sup>9</sup>/<sub>32</sub>(W) X 5<sup>17</sup>/<sub>32</sub>(H) X 1<sup>1</sup>/<sub>32</sub>(D) in

### Other features

- LCD backlighting allows you to read the display easily during night-time operation
- Maintenance-free EEPROM stores memory channel information
- Side-tone permits hearing your own transmitted audio while using a standard aviation headset (optional headset adapter required — OPC-752)
- Standard headset cable can be used with the optional OPC-752
- Optional longer life 1050 mAh battery available, same physical size!!
- Optional (AA) alkaline battery case available — holds 8 batteries

Icom Inc.

## INDUSTRY NEWS

## EZISWAP GAS

At the February meeting Chapter member **Craig Thomas**, who is Sales Manager for EZiSWAP Gas in Auckland said if any members were looking to fill their oxy-acetylene bottles then to give him a call and he would give Chapter Members a good rate on refills. Craig's mobile is 027 233 1234 or you can email him on [craig@eziswapgas.co.nz](mailto:craig@eziswapgas.co.nz).



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GAS TYPE	D	F	G *
<b>ARGON</b> 2.0m <sup>3</sup> (D) 5.0m <sup>3</sup> (F) 10.5m <sup>3</sup> (G)	\$599.00 (\$520.87 excl)	\$925.00 (\$804.35 excl)	\$1,321.00 (\$1,148.70 excl)
<b>ARGON/Co2</b> 2.0m <sup>3</sup> (D) 5.0m <sup>3</sup> (F) 10.5m <sup>3</sup> (G)	\$599.00 (\$520.87 excl)	\$925.00 (\$804.35 excl)	\$1,321.00 (\$1,148.70 excl)
<b>Co2</b> 6kg (D) 15kg (F) 30kg (G)	\$499.00 (\$433.91 excl)	\$725.00 (\$630.43 excl)	\$875.00 (\$760.87 excl)
<b>NITROGEN</b> 2.0m <sup>3</sup> (D) 5.0m <sup>3</sup> (F) 10.5m <sup>3</sup> (G)	\$499.00 (\$433.91 excl)	\$749.00 (\$651.30 excl)	\$995.00 (\$865.22 excl)
<b>OXYGEN</b> 2.0m <sup>3</sup> (D) 5.0m <sup>3</sup> (F) 10.5m <sup>3</sup> (G)	\$549.00 (\$477.39 excl)	\$857.00 (\$745.22 excl)	\$995.00 (\$865.22 excl)
<b>ACETYLENE</b> 1kg (D) 3.0kg (E)	\$549.00 (\$477.39 excl)	\$1,104.00 (\$960.00 excl)	N/A

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- We take care of the testing
- Swap Centres nationwide
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- No low usage fees
- Swap an empty with a full for the price of the gas



SWAP PRICES FOR EZI SWAP CYLINDERS			
GAS TYPE	D	F	G *
<b>ARGON</b> 2.0m <sup>3</sup> (D) 5.0m <sup>3</sup> (F) 10.5m <sup>3</sup> (G)	\$149.00 (\$129.57 excl)	\$269.00 (\$233.91 excl)	\$425.00 (\$369.57 excl)
<b>ARGON/Co2</b> 2.0m <sup>3</sup> (D) 5.0m <sup>3</sup> (F) 10.5m <sup>3</sup> (G)	\$149.00 (\$129.57 excl)	\$269.00 (\$233.91 excl)	\$425.00 (\$369.57 excl)
<b>Co2</b> 6kg (D) 15kg (F) 30kg (G)	\$69.00 (\$60.00 excl)	\$115.00 (\$100.00 excl)	\$165.00 (\$143.48 excl)
<b>NITROGEN</b> 2.0m <sup>3</sup> (D) 5.0m <sup>3</sup> (F) 10.5m <sup>3</sup> (G)	\$99.00 (\$86.09 excl)	\$150.00 (\$130.43 excl)	\$199.00 (\$173.04 excl)
<b>OXYGEN</b> 2.0m <sup>3</sup> (D) 5.0m <sup>3</sup> (F) 10.5m <sup>3</sup> (G)	\$79.00 (\$68.70 excl)	\$120.00 (\$104.35 excl)	\$179.00 (\$155.65 excl)
<b>ACETYLENE</b> 1kg (D) 3.0kg (E)	\$137.00 (\$119.13 excl)	\$268.00 (\$233.04 excl)	N/A

\*ONLY AVAILABLE AT EZISWAP GAS, PORANA RD

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NOTE: Valid from 1 Jan 2015, prices subject to change without notice



*David Wilkinson found this article last month and forwarded the link to me. We didn't have room last month so I include it this month.*

<http://www.avweb.com/news/features/The-Art-of-Crashing223447-1.html>

## The Art Of Crashing

**By Mike Hart**

When considering how to crash, my first bit of advice is don't do it. Since the reality of any flight is that things can go wrong, that isn't particularly helpful, I know. What can go wrong? Your crankshaft can break, your fuel lines can clog or, if you are a damn fool, you can run out of gas. The point is, someday your engine may stop working for reasons beyond your immediate control and your next option is an off-field landing, or worse. If you're lucky, you will be mid-field downwind at your home airport and it will work just like the last time you practiced engine-out procedures—you do still practice those, right?

If you are less fortunate, you will have to pick a field or road that may damage the aircraft a bit but mostly will end with a very awkward phone call. At general aviation speeds, making contact with unobstructed terrain at a shallow angle of impact should be eminently survivable. Then there is the outcome none of us wants to experience, where there is no clear landing site—no matter what you do, you are going to hit something. It just isn't your day.

This is where a pilot has a few seconds to demonstrate his or her mastery of the art of crashing. Understanding the physics of deceleration and the physiology of g-loading will help you make better choices in the moments that count. It also may result in different priorities when it comes to safety upgrades for your aircraft.

### Kinetic Energy 101

To understand the art of crashing, we must get reacquainted with some basic physics. The first equation to know is the formula for calculating kinetic energy:

Kinetic energy equals one-half the mass times the velocity squared, or in which  $m$  stands for mass and  $v$  is velocity.

What is key to understand is that the energy goes up as a square of the velocity. That means that when the velocity doubles,

the kinetic energy quadruples, so even a small velocity increase results in a disproportionate increase in kinetic energy. In a crash situation, this is obviously very bad. To minimize the energy of the crash, controlling your velocity is important.

For example, a 10-knot groundspeed increase from 60 knots to 70 knots increases the kinetic energy by one-third. That means a 10-knot headwind will reduce the energy of the crash by one-third.

To ensure an artful crash, you should reduce your groundspeed before impact. Things to do: Point into the wind, have all your flaps down before you make contact, maintain the lowest controllable speed you can manage without increasing your sink rate. This will ensure first contact is as gentle as it can be. And whatever you do, do not stall your airplane.

### Deceleration and energy

High kinetic energy levels alone do not lead to disaster—it's how that energy is dissipated that determines the outcome. Having just explained the relationship of speed to kinetic energy, the speed of the crash isn't what kills you, it's the stopping part, or deceleration.

Deceleration is measured in multiples of the force of gravity, or G. During high-speed crashes, it is pretty easy to generate accelerations in the range of 25 to 50G. Unfortunately, that also is the range where severe injury or death is likely. The art of a good crash is to reduce G loads as much as possible. You do this by spreading the energy over as much distance as you can. Pardon the double entendre, but you want to leave a long skid mark.

In steep terrain, this means having the aircraft oriented to as low an impact angle as possible before making contact. Easier said than done, but a low contact angle will help you "skip" off the surface obstacles. Also, if you can aim for obstacles that have potential to give (tree tops, vegetation) vs. obstacles that don't give (rock faces, structures).

How much of a difference will skidding, bouncing or dissipating energy over a distance make? A lot. An aircraft traveling at 60 knots coming to a full stop in one foot

(as when hitting a cliff face head-on), will generate 160G. It is not a survivable crash. In fact, at that G-loading, bones will break and the human body becomes a liquid—it is not pretty.

Spreading that same energy out over 10 feet drops the deceleration to 18G, which is bad, but survivable. Spreading the stopping distance to 30 feet takes you down to 5G, and if you can stretch the distance to 50 feet, where the deceleration is only 3G, you may have actually had worse turbulence than that.

Again, speed matters. If your initial speed was 80 knots instead of 60 knots, your 50-foot stop will be 5.5G and your 30-foot stop is 10G. Anything you do that will gain you a bit of stopping distance will reduce the crash loading. G-loading isn't strictly about initial speed, it also has a huge amount to do with how quickly you lose that speed.

Note the above deceleration calculations are not off-the-shelf numbers you can count on for your particular crash. They assume a uniform deceleration from first contact to complete stop.

Crashes are complex. When you hit something, you may come to a jolting stop until it gives and you move on, just much more slowly due to that initial impact. If you encounter a building, tree, large rock or some other immovable object earlier in the crash (when your speed is high), you will experience more Gs and decelerate more quickly than if skidding and bouncing and skidding again and then gently kissing the boulder just before coming to a stop.

Things like bounces, cartwheels, clipping a wing or hitting a movable object can radically change your particular crash's G experience. The point is to dissipate energy over as much distance as you possible can. That is much better than having a single object absorbing the full load all at once.

### **G-Loading Humans**

No matter what, you want to hit slowly and stretch out the crash's deceleration for as long as you can. But, the human body is not suited for uniform G loads in every direction. How many Gs can the human body take? The answer is not simple. It depends on where and how rapidly the Gs

are applied on the body, in what direction they are applied (head-to-toe, front-to-back, side-to-side, etc.) and their duration.

We can deal best with smashing head on into walls or equally well spinning around and hitting the same wall backwards. Either way, we can tolerate as much as 45 G of deceleration before major injury. We are much less adapted to lateral, side-to-side motions and negative G. For side-to-side hits, we can go to 20 G before major injuries or 20-25 G for negative G load. But the human body simply can't take downward loads, as might be encountered when crashing with a high vertical velocity. We tend to break easily, suffering spinal compression or worse, under downward forces at 15 G.

So 45 G forward or 15 G down—either way, you will break. The takeaway is that I would rather hit something head on or even clip a wing and take my chances with a 20 G lateral acceleration from cartwheeling, over a stall and drop into a 15 G crush. The human body is the weakest in the vertical, or Z axis, and the resulting injuries carry the suffix -plegia.

Again, G-loads have a great deal to do with deceleration. Glancing an object that gives a little bit for 0.1 seconds and takes your speed from 60 knots to 30 knots is much better than having that same 0.1 seconds impact take you from 60 knots to zero. If you can, aim for softer things.

### **Lethal Cockpits**

The single biggest tool you have to improve your survivability in a personal aircraft is its restraint system. A lap belt is better than being thrown out of the aircraft, but your face is still going to whiplash into the yoke, windshield or both.

That laptop and sledge hammer you have in the backseat are now projectiles. The laptop seemed innocuous, but at 20 G that five-pound laptop is now a 100-pound bag of cement heading for the back of your head. (The sledge hammer? What are you doing with a sledgehammer in your back seat?)

A single-belt shoulder harness is much better, and a five-point restraint system gives you the best odds of walking away, short of having airbags of some kind.



Are seat belts all the same? No. A rigid belt that does not stretch will let you experience full G. It may not seem like much, but material that is slightly elastic and stretches six inches during crash-loading versus three inches will give you twice the distance for deceleration. Not much, but what if I said I can drop a 100-pound bag of cement on your stomach or a 200-pound bag? Math never matters until it becomes your reality, then it makes a big difference. That extra three inches will save you a lot of pain and injury. It's physics.

Even better, airbags that spread the crash loading across a larger surface area and spread the load through time. Again folks, it is the physics. Firing off an inflatable milliseconds into the crash can make a huge difference. Airbags are an extravagance until you need them. The FAA/NTSB recently suggested seat restraint airbags would result in fewer deaths and injuries in general aviation. It should be obvious why. If you don't see why it is obvious, consider this: As vehicle speed increases from 0 to 40 mph, the rate of injury in an accident increases by 50 percent and doubles again from 40 to 60 mph. Safety belts, when worn, reduce the number of deaths by 45 percent, and serious injury by 50 percent. The only difference between autos and aircraft is the Z-axis. Given the human propensity to break in downward forces, a better seat belt and minimizing downward G would definitely change the outcomes of most crashes.

### **Run Away, Run Away**

The last thing we really haven't covered is the energy stored in your fuel tanks. Yup, even after your aircraft comes to a rest, there is still a great deal of energy that might be released. Post-impact fires are a huge killers. According to a NATO study, *Injuries in Fatal Aircraft Accidents*, "Fire occurs in 47 percent of commercial aircraft accidents, 32 percent of military accidents and 26 percent of general aviation crashes." The sooner you can get occupants away from all that fuel, the better off you and your passengers will be. That means opening the door just before crashing (so you are not pinned into the cockpit), turning off the master switch to eliminate those

electrons and turning off the fuel.

Those seem like trivial details on the checklist, but the risk of a post-crash fire—at 26 percent— isn't trivial. If you can shut off a major source of spark and fuel flow, isn't it worth the two seconds of distraction to do so? There are reasons these items are on the emergency-procedures check list.

### **Doing It**

So, now you have arrived at the crash site. You managed to slow your airspeed to best glide (lowest sink rate), point the airplane into the wind (slowest groundspeed), get your flaps down before contact to drop speed but not increase sink (even less groundspeed), arrest your sink rate (no "plegia" for me today, thank you), control your impact angle to the shallowest (maximize distance for crash zone) and you managed to aim for the softest objects in your trajectory—sure it's a billboard, but better than a brick wall. Before contact you switched the master off, killed the fuel flow and cracked the door.

On impact you were able to carom off the tree, hit your left wing against the boulder and gently came to a stop with the aid of your airbag-equipped five-point harness. "Only" 4.5 G; not bad. Nice job. You have demonstrated the art of crashing by walking away.

This article originally appeared in the September 2013 issue of *Aviation Safety* magazine.

# 12 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](mailto: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

## Back Country Stol

From Gavin Magill

An excellent video I found on Reddit.

<https://www.youtube.com/watch?v=CrPJac80W9Y&feature=em-subscriptions-videos>



## ON THE WEB

## Bleriot XI Replica

From Keith Morris

Of interest for the newsletter is a full scale Bleriot replica that has been registered ZK-BXI this month to Gert Kruiningen of North Canterbury. The aircraft is an Airdrome Aircraft model which uses modern materials. But it looks great!

Gert has a really nice website at [www.Bleriotxi.com](http://www.Bleriotxi.com)



## ON THE WEB

## Next Generation Jet

From Gavin Magill

Thought this link might be of interest.

<http://www.popsoci.com/pentagon-budgets-next-fighter-generation-0>



## ON THE WEB

## Spitfire 944

From Peter Armstrong

This is probably one of the best films I've seen in a long time.

Watch the expression on the old pilot's face as he sees himself in the video taken more than 70 years ago...We owe so much gratitude to men like him.

Consider this; He was 18 years old, all alone, flying behind enemy lines with no guns, no escort...and he gladly did it.

Surely, the greatest generation.

<http://www.youtube.com/embed/ie3SrjLlcUY>



**Jan 29 Auckland Chapter Monthly Meeting**  
**Speakers:** TBA

## Aviation Calendar

**2015**

**Every Sat Dargaville Aero Club**

The place is buzzing every Sat, wet or fine, windy or calm, and the \$12 lunch at 12.30 is good value. Club on the web at [http://www.flyingnz.co.nz/club\\_pages/dargaville.html](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.

**3<sup>rd</sup> Sun Turangi Aero Club Fly-In**

**Each** All welcome for a BBQ lunch.  
**Month** Contact Tony on 027-453 3740

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

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

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

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

**2016**

**Mar Air Safari 2016**

**13-27** Starts at Omaka on 13th Mar, then via the scenic route (18 airfields) to finish at Alexandra on 25th March with dinner and prize-giving on Sat 26th and the Clyde Wine & Food Festival on Sun 27th. And if you want to grab a rental and drive over to Wanaka to catch WOW the distance is approx. 86Km. If you need a leave pass signed it might be time to start working on the brownie points. For full information and to register go to:

<http://www.flyingnz.co.nz/new-zealand-air-safari/>  
<http://www.classicfighters.co.nz/>

**Mar Warbirds Over Wanaka Airshow**  
**25-28 Wanaka Airport**

Full info at:

<http://www.warbirdsoverwanaka.com/>

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](mailto:gordon@sanders.gen.nz).