

# RecWings

The Magazine of the Canterbury Recreational Aircraft Club



## Rangiora Airfield Open Day Edition

In this issue:

- Why a Microlight?
- Coffee run to Hokitika
- Gert van Kruiningen's Bleriot project
- A Sea Harrier for New Zealand
- Oxford BBQ and Fly-in

**October 2015**

## Editor’s Letter – all aircraft were once Microlights

It’s a pretty easy thought – all of the early pioneering aircraft would qualify as class one Microlights. Under 510kg, single seat, stall below 45 knots, and HUGE fun (I’m pretty sure that’s a legal requirement, you look it up!).

All of the early achievers, such as Lillenthal, the Wrights, Curtis, and our own Richard Pearse, were pioneers in every sense of the word. There must have been little data exchange between experimenters, most information seemed to come from newspapers and magazines. Compared to today’s easy communication they would have worked in comparative isolation with perhaps some correspondence between them. There was little information on aerofoils and engines, so the pioneers had to develop everything. This is largely supposition, of course, and I am keen to learn more about the early aviation pioneers.

Working in relative isolation New Zealand’s Richard Pearse managed to develop a 15 hp engine, and an airframe and control configuration that was more advanced than those of the Wright Brothers. Pearse used a monoplane tractor layout instead of a biplane pusher, and had ailerons for roll control instead of wing warping. The Wright Brothers, on the other hand, had a proper aerofoil shape on their wing (as a result of their previous experiments with gliders and a wind tunnel). The Wright’s engine was comparatively crude but had an aluminium crank case, the first ever. It put out around 12 horsepower, 4 more than they thought they needed!

I am amazed to find out that the dates of Richard Pearse’s experiments seem to have been confirmed as starting in 1901 with a first flight of 1903. It didn’t count as controlled because it ended up in a hedge (is that so wrong?!) and

the Wright Brothers deserve the kudos they get for their remarkable achievement. None-the less Richard Pearse should be recognised for the flights he did make and the advanced state of his design.

What started all of this thought of early flight? One of our new members, Gert van Kruiningen, is building a Bleriot XI replica under the class 1 Microlight rules. Gert’s aircraft is an Airdrome Aeroplanes kit, and (thankfully) has ailerons instead of the original’s wing warping.

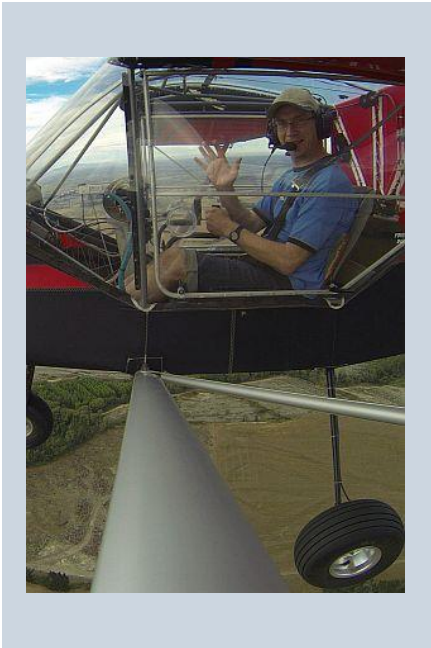
The World’s gone full circle – now Microlights include pioneer-era aircraft designs!

Welcome aboard, Gert, and I’m looking forward to seeing your aircraft flying.

*Cover: Mikael Carlsson flew his original Bleriot XI at Warbirds over Wanaka 2006.  
© 2015 Brian Greenwood*

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## Why Microlights?

I often get asked this question, usually by non-aviating family or friends. The media perception is that Microlights are a less safe form of flying, and they often get caught up in the news hype which is more about generating a buzz to gain viewers than real life.

For our new readers, what is a Microlight? What are GA and LSA for that matter? They're all aircraft, right?

**General Aviation (GA)** is all civil aviation operations other than air transport operations for reward or hire (that's airlines, for example). In New Zealand the Pilot licences for GA are operated under a set of rules called Part 61. A Cherokee operating with your local aero club is operating under GA rules.

**Microlight** aircraft are licenced (mainly) under a different set of rules, Part 103. There are two classes of Microlight, Class 1 and Class 2. These equate

to the number of seats (i.e. a Class 1 aircraft is a single seat aircraft, pilot only), and have slightly different weight limits. Some of the differences to GA aircraft are the weight limit (e.g. 600 kg fully loaded for Class 2), a maximum stalling speed of 45 knots, and (the best bit), they don't have to be maintained by a qualified/certified LAME (Licensed Aircraft Mechanical Engineer). The effect of this is that you can do your own maintenance to the extent of your own ability. Changing Spark Plugs is easy! Certain major changes have to be done or checked by an Inspection Authority.

This means that Microlights are incredibly cheap compared to GA Aircraft to operate. The downside is that Microlights **must not** operate at night, in non-visual weather conditions, or over residential areas (effectively towns and cities), and can only take 1 passenger (Class 2). For a club operating microlights, the advantages are still there but slightly less; we get our aircraft maintained by professionals for insurance and safety reasons. All microlights are subject to an Annual Inspection by a qualified person (Inspection Authority) which can be viewed as an aeronautical Warrant of Fitness.

One irony of the comparative cheapness of microlights is their resale value compared to GA aircraft. For example the microlight class Jodel D.18 often sells quicker and sometimes for more money than the GA Jodel D.11. They're both beautiful two seat aircraft, simply being operated under different rules.

Light Sport Aviation aircraft (LSA's) are a sort of half-way between the two. They must be built by a certified manufacturer to LSA standards and be maintained by a LAME. However they do have more privileges as a result of these rules. Often two aircraft being produced on a production line can be registered either way, depending on the wishes of the buyer. Our club's Tecnam, for example, could be purchased as an LSA or a microlight. You can re-register an LSA as a Microlight, but not the other way around.

So to summarize: A microlight is an aircraft with a set of legally defined requirements (such as number of seats, weight, and stalling speed) which can be maintained largely by the owner and is subject to an Annual Inspection. They're subject to some limitations (see What You Can Do In A Microlight on page 12). They are registered the same as any other aircraft and can operate from the same airports or airfields.

So why did I chose to fly (and eventually own) a microlight?

Cost is the obvious reason. The operating costs are obviously cheaper from the explanations above, and that translates into cheaper hire. The cost of hire for a GA aircraft was \$220 per hour compared to \$90 for the

perfectly likeable Rans. The other costs such as the medical (mine was \$48 compared to \$600 for GA) were also a lot cheaper.

There were other reasons as well – microlights are a nice form of flying to my mind – the aircraft are a lot lighter (which is a huge safety bonus) and can get into a lot more places. There's also a vast range of aircraft available in the microlight category, from very basic “seat under a wing” type, through the magnificent STOL machines which can land on a dime (or a river bed!), to the high speed, retractable undercarriage pop-up-to-Auckland-for-a-latte aircraft. We must not forget the trikes either, weight shift-bugs-in-the-teeth machines – something for everyone's tastes! There's even a rotary wing category for helicopters and gyrocopters.

The final reason was a perception that a lot of the technical development had gone into microlights, while the poor old GA world was stymied by the American legal system, the unfortunate Piper and Cessna companies were almost sued out of existence. Probably a misconception on my part but I'll be interested in how the historians write that period of history up! Certainly there has been massive development in the microlight world, just look at the differences between the first generation and third generation aircraft.

In terms of microlight and G.A. safety, a lot of it is in your own hands. If you fly with club aircraft, there's a certainty that you're flying in well-maintained aircraft operated by people with years of experience, using the best engineers available. If you do your own (remember certain things have to be checked by an IA), you do your own risk assessment and you can always pay for help (a lot of us do) for more complex maintenance. For both maintenance and weather conditions, I always get a second opinion anyway.

As with everything in life, with freedom comes responsibility.

## Sea Harrier News

Exciting news for fans of Sea Harriers, it sounds as though the Ashburton Aviation Museum have purchased an ex-Fleet Air Arm Sea Harrier FA2, serial number ZD580.

This Sea Harrier was originally built as an FRS1 model in July 1985 and was converted to FA2 standard in 1994. The conversion involved wing changes, a fuselage extension just behind the wing, a bigger radome housing a much improved radar, cockpit changes, and a re-positioned pitot tube (to the fin). It's shipping from the UK soon.

Very well done AAM!



ZD580 – photo from [Jet Art Aviation](#) web site



## Do you feel like a Coffee?

Brian Greenwood

It started out as an ordinary work day – too busy and a feeling that I will never turn these jobs over at a reasonable rate! Then a call out of the blue- “What are you doing tomorrow, do you feel like a coffee?” Well tomorrow was Thursday and that means work for me. But since the caller was Volkmar, one of our new Instructors, and a man with a passion for flying, I had a feeling that it wasn't just an ordinary cup of instant at the

club! Turns out he was inviting me for a flight in his lovely Alpi to Hokitika (or maybe Mount Cook).

Some quick grovelling to the boss and it was arranged. One afternoon off. To put things into perspective, I am a junior Rans pilot who can get lost in the downwind leg. The mysteries of navigating have so far eluded me - every time I look down at a map, the world has moved around from where I left it. Or maybe I've inadvertently put the dear old Rans into an unusual attitude.



Lake Coleridge appears off the port bow

Some time with a vastly experienced aviator, relaxing in the passenger seat and studying a map would be great.

First problem – Volkmar’s sitting in the guest seat, and has arranged for some cushions to make up for my short legs (I’ve worn them down, honestly) on the driver’s side. He wants me to fly! Well, every problem is an

opportunity, he is an instructor, and the Alpi is reputed to be an easy plane to fly. Volkmar does the start, and handles the radio calls so the workload is refreshingly low.

Take off, slight over-rotation on my part but no harm done. The Alpi is lovely to fly, more stable than the Rans (no surprises there). The iPad on the dash is running a nice navigation app, the aircraft in the centre has a 5 nm radius circle around it – makes it easy to give accurate positioning reports. We head down to the Rakaia River and follow it into the foothills, popping over and finding Lake Coleridge.

Volkmar flew for a while to let me take photos. Wielding a Canon 5D around a cockpit has proven difficult in the past, but this time I think I have it sussed – a Canon 40mm ‘pancake’ lens. It makes the camera look funny and limits the perspective, but still gives me that full frame look that I love.

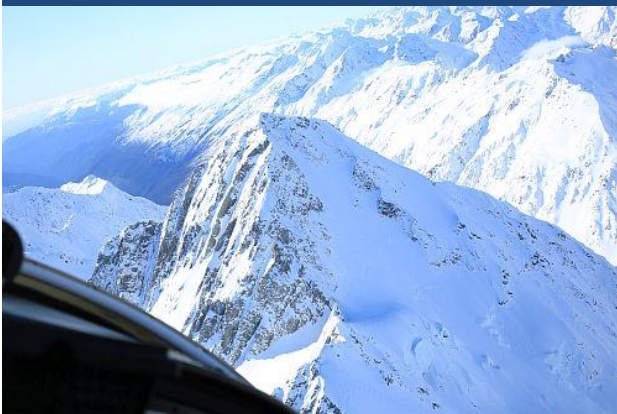


The view is certainly worth recording! I’ve been to Lake Coleridge before, by car, years ago. I’ve never explored it from the air like this. Volkmar knows of a strip somewhere, so we spend some time looking for it but decide to head up the valley to the big stuff.

It takes a little while but there’s nothing here to stop me coming up in the Rans, weather permitting. We fly up past the Cascade Range to our left. In front of us is a fairly serious looking lump of snow capped

rock called Mount Whitcombe. To our right is the Browning Valley. By this time we've climbed to maybe 6500 feet, again achievable in my Rans, given a little patience. And a light breakfast. Favourable winds. That sort of thing.

*Right, the view out the driver's window, climbing up the valley*

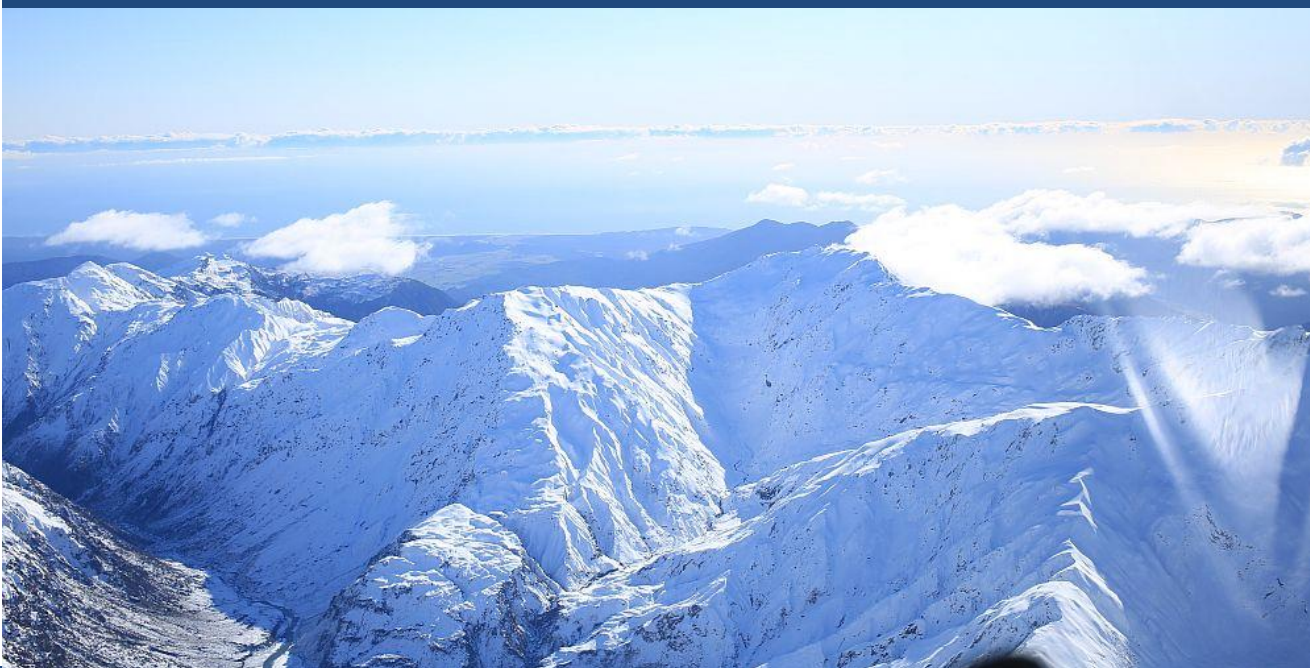


*Left, there's some serious rocks and snow out there. That's the West Coast peeping through the valley on the right.*

We spend some time orbiting and soaking up the view, it really is beautiful. Volkmar loves showing Kiwis their own country, it really is so convenient to have this gorgeous scenery 'on tap' and readily accessible. To the east we have the whole valley, under us the icing sugar covered peaks, and to the west we get glimpses

of the West Coast, which is remarkably clear and dry today. There's just a few clouds around the western peaks which are easily avoided. We head over the ridge in perfect conditions, there's only a few bumps probably caused by some thermal activity.

*Below, that's a pretty clear view!*



We start our descent onto the West Coast, there's that beautiful West Coast vista spreading out in front of us with the Hokitika River guiding our way (and the GPS happily monitoring our progress.).

Volkmar's Alpi, by the way, is a fixed undercarriage Alpi 200 with a Rotax 100hp engine, and a constant speed propeller. I've got absolutely zero experience with any prop that's not a single lump of wood or metal (with apologies to Brent Thompson, who made my own gorgeous propeller, for calling it a 'lump') so this is a new experience. It's electronically controlled and you seem to dial in the revs you want and let the

propeller sort everything else out. A really cool piece of equipment. Anyway it's a nice touch and good to gain a little knowledge of this. It seems to cruise happily between 60 and 120 knots, quite a speed range.

By this stage even I could find my way to Hokey Pokey, knowing that it's at the mouth of the river and



slightly to the right. Who said I couldn't navigate for peanuts? (everybody!).

The standard overhead join at Hokitika and landing were uneventful, there was no other traffic around.



We taxi in and park near the pumps. It's always good to stretch one's legs after 90 minutes in the cockpit, and take in the scenery. The West Coast is one of my favourite parts of the world, even if it does happen to rain! Actually I have to say that it's been perfect weather most times I have been there, and even when it does rain (and it can pour...) it has been for only part of the day. Maybe I should work for West Coast Tourism?!

There's a café in the called the deHavilland Café, with a name like that it has to be good. It was, the food was tasty and the coffee was well above average.

We flew back via Lake Moana and Lake Sumner, a slightly more northerly route than the westbound one. Volkmar's meteorological knowledge is vast. He was telling me where there would be turbulence and thermals, and was always bang on the money.



So what did I learn? Volkmar's a really knowledgeable and skilful man, I like the Alpi's, and that even in mid-winter one can get thermals. I learned that the wind curls over the top of a hill/mountain and rotates around. It's calmer above the mountain height, and (in mild wind conditions) under about a third the height of the mountain. Last words are Volkmar's advice to me: Do this trip on a nice winter's day only!

## Oxford Barbeque and Fly-in

Thanks to Paul and Doreen

Dave McPherson prepared the Oxford strip to perfection so Paul Godfrey transferred the usual monthly club Barbeque and fly-away to Oxford. For newbies, Paul is our Club Captain and organises an event (usually a Barbeque at the Club followed by an informal flight somewhere) on the second Sunday of every month. Paul does a terrific job of these and cooks a pretty awesome breakfast on the BBQ as well.

Doreen sent me these photos, I'm hoping they took them before it got busy!



Oh, to be in Oxford, now that Spring is here  
(with apologies to Robert Browning)







## October Committee Meeting Notes

- Bank bal approx. \$39K with \$25K still to pay for hangar construction
- Application from Chris Anderson to be an IA – approved
- Application from Glenn Martin for RAAZ Instructor rating (already has SAC). Subject to notifying our Instructors and Flight Test.
- Paul Godfrey reports last Club Breakfast BBQ well attended, looks like the earlier time suits. Brass Monkey also well attended and well organised.
- Tony den Haan reported 37.5 hours flown for RGA and 9 hours for JOR.
- Buzz Harvey tabled an e-mail from Wayne Wilson regarding the increased wear found in JOR's engine at the last overhaul. The fuel had been changed to 95 and the increased oil ratio is being chased up.
- Hangar 1 soak pits will commence soon – waiting on written quotes
- Surplus iron failed to sell on Trademe so will be kept for future club projects (some of it can be used at the Oxford Strip)
- Paved pathway project on hold for financial reasons, and pathways of topcourse and (later) crusher dust will be made in the meantime
- Security cage for club valuables to be constructed in hangar
- Some discussion re the possibility of 95 Octane fuel on the field but still some work to do on this (e.g. Club liability etc.)
- Survey results generally indicate club moving in correct direction, and confirmation of a Tecnam as a possible second aircraft (this does not replace the normal purchase process which requires a SGM by the way). Survey results to be circulated
- Club members (especially committee members) requested to help on Open Day. John McCaul will run club BBQ, Nathan Clarke will be safety officer. Displays are expected to be: Strikemaster, Harvard, and Top dressing. High Viz vests will be worn by all members assisting with the Open Day.
- Report by Roger Ward (RAAZ President) gave a status update from RAAZ including some of the proposed changes and the recent ATO seminar.
- Basil Buwalda reported on his structured training program for students, based around a booklet which would be maintained by students and instructors.
- Some discussion on a finance proposal for a new Tecnam
- Glenn Martin to represent CRAC at the RAAZ AGM (Raglan Nov 14<sup>th</sup>) with club subsidising 50% of his costs.





Buzz's ZUB – Buzz Harvey departs Rangiora in what has to be one of the nicest Zenair CH-701's around. These all-metal microlights are really optimised to get in and out of tight spaces.

## What can you do in a Microlight?

None of this will be news to our club members and associates, but this edition is going out to a wider group, including non-flyers (Muggles, as they're known to Harry Potter) and General Aviation pilots. In fact it was the latter group which prompted this section. A group of them showed some massive ignorance about a Microlight's capabilities. I'm an ex-GA pilot who appreciates all aircraft; I'm completely neutral to how it is registered.

So this is what you **CAN** do in a Microlight:

- Enjoy Flying
- Cheaply!
- Maintain it yourself (certain major changes must be approved by an I.A.), or...
- Pay to have it maintained by a professional, or...
- A combination of the two, depending in your abilities (this is my option)
- Fly long cross countries (depending on the capability of the aircraft)
- Land in 30 metres (depending on the capabilities of the aircraft)
- Aerobatics (depending on the... you get the idea!). There's an aerobatic Rans S9 on Trademe at the moment.
- Formation Flying
- Display Flying
- Stalls, Steep turns, Max rate turns, Chandelle's
- Short local flights (and they're easier and more enjoyable in a slower aircraft)
- Fly in Controlled Airspace (often a requirement to have a transponder, many Microlights do)
- Take a passenger
- Fly safely, proficiently, and courteously

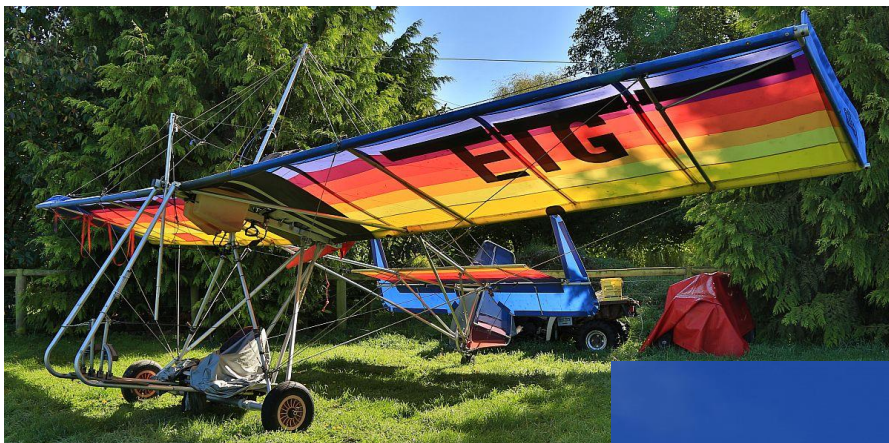
What you **MUST** do with Microlights

- Fly safely, proficiently, and courteously! (Yes, I am repeating myself)
- Take responsibility for your own actions
- Be trained by a suitably qualified instructor or club, and pass the national exams and practical test
- Be rated in the aircraft you fly
- Maintain it to airworthy standards
- Pass an Annual Inspection by a certified Inspection Authority
- Pay your annual participation (registration) fee
- Enjoy it!

What you **CAN'T** do in Microlights

- Fly at night
- Fly over "built up" areas
- Fly in non-visual weather conditions (i.e. you can't fly IFR)
- Take more than 1 passenger
- Not much else!

## Spot the Microlight



*Above, Keith Dekker's Airborne Windsports Redback trike*

Answer: They're all Microlights!

*Above, Rotec Rally Sport at the NZ Microlight Heritage Museum at Rangitata Island.*

*Right, John McCaul's beautiful Tecnam Bravo.*



*Left, Chris Anderson's big-footed Zenair CH-701.*



*Below, David Leefe's Alpi Pioneer 200 ZK-PYS.*





Two advanced aircraft designs that fall under the Microlight category, Volkmar's Alpi 200 and Glenn Martin's Sting. The latter, as in this case, can also be registered as an LSA.



## Gert van Kruijningen's Bleriot

Brian Greenwood – All photos from [www.bleriotxi.com](http://www.bleriotxi.com)

As mentioned in the Editor's Letter, one of our new Club Members is building a Bleriot XI replica under Class 1 Microlight rules. **Gert van Kruijningen** is building an Airdrome Aeroplanes' kit of one of the most successful pioneer-era aircraft.



Gert's writing an online blog as he builds, it's highly recommended reading and I have shamelessly plundered it for photos and information – have a look at [www.bleriotxi.com](http://www.bleriotxi.com).

He started with the rudder first (that's the same for the Zenair CH-701's, right?) and now has a complete aircraft which he is displaying at the Rangiora Airfield Open Day this Saturday.

The aircraft is power by a 1928 Velie Radial engine of 65 horsepower

which he restored to pristine state.

Gert exhibited the aircraft at Classic Fighters and it sounds like first flight is nearing. Having said that, the old maxim is "first flights never happen until the weight of the paperwork exceeds the maximum all up weight of the aircraft"!

We will you all the best in achieving your dream and look forward to seeing this aircraft in the Rangiora Circuit (yes it will be radio equipped)

Look at that propeller...



*Right, Gert gives the Velie radial a good run up at this year's Classic Fighters Marlborough airshow.*



*Left, The Bleriot was displayed with a replica Pithier (of similar layout to the Bleriot) and, for some reason, a Penny Farthing Bicycle.*

*I guess it's showing similar technology from that period.*

### **Modeller's corner – Ju-87B2**

As mentioned in a previous newsletter, one of my hobbies that I use to relax is a little scale modelling. Usually I'm lucky to complete one a year (last year was a comparative drought, if the poor farmers of North Canterbury will forgive me for using the term) but this year I have completed my quota – last month's review of the new Airfix 1/48 Hurricane I.

However, while I'm on a Battle of Britain theme I decided to complete my





Monogram 1/48 ProModeller Junkers Ju-87 R2 Stuka (a re-box of the Hasegawa kit) as a Battle of Britain-era Ju-87 B2. This is really simple; the only difference is some internal wing piping to allow for external drop tanks on the outer wing bomb stations. Leave the external tanks off, find some new markings, and Bob's your Aunt's live-in-lover.



The Ju-87 had some internal canopy framing, this was represented

as decals on my kit. These were getting pretty old so I decided to attempt to paint them which worked out quite well (I always paint the external ones anyway). For the cockpit and internal canopy frames I used dark grey RLM 66. I thought the bombers used this from a fairly early stage in the war, but apparently I should have used RLM 02 for a BoB era aircraft. Please don't count my rivets!

The kit goes together well (like any modern Hasegawa kit) but it is a surprisingly complex aircraft – lots of control rods, aerial ducts, pitot heads, and miscellaneous gubbins sticking out. I left as many of them off as I could until after painting. I'm really trying to improve my "pre-shading", so the model was sprayed with



Tamiya fine primer from a rattle can and then the panel lines were accentuated with a fine line of air-brushed black paint. After this, the under surfaces were sprayed by building up fine layers of RLM 65, in this case I used the Vallejo colours. For once it worked reasonably well!

As the top sides are reasonably dark colours I used post-shading on these instead. Talking of top colours, they're supposed to be RLM 70 Black green and RLM 71 Dark Green. However the Vallejo representation of RLM

seems **too** dark (to my amateur eye) so I lightened it with 10% white. Although I prefer the result, and it looked good the night I sprayed it, it's probably too light. Next time I will try a 5% or 2.5% dilution

The splinter camouflage was followed by a gloss varnish (I use Johnson's acrylic Klear floor polish) to enable the transfers to bed down and help prevent silvering.

Talking of the transfers, I found out the



ones I had were for the B1 version (as most BoB period aircraft were, apparently). It was too late to modify the model (exhausts, cowling flaps, and upper "lip" above the radiator) so I sought alternative markings. The easiest way to get them were to buy a whole new kit – the Airfix 1/48 B2 was \$26, as opposed to new transfers from the UK for \$30. It seemed a no brainer. So if anyone wants

to buy an Airfix 1/48 Stuka, with Italian or Luftwaffe desert markings, let me know.

For the final coat I tried Vallejo Matt varnish instead of my usual Humbrol Enamel varnish. It sprayed well and matted down nicely, I'm quite keen to try the other Vallejo varnishes now. Final touches were the 'gubbins' mentioned previously, and the weapons. I'm guessing my name is now on a database somewhere for researching "Luftwaffe bomb colours" online!

In conclusion, an enjoyable build of an interesting aircraft. Scary history behind this one, though!



Pilot for scale – he's an unfinished IJN Zero pilot from the Tamiya Zero kit. He must have been visiting the Junkers factory.

# *STOL Performance*

## *New Zealand*

**All Aspects of Microlight Engineering  
Based at Rangiora Airfield**

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- Custom Fabrication
- Aircraft Maintenance
- Fuel Injection, Big Bore kits
- CAD/CNC
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STOL Performance New Zealand  
Hangar 72, Rangiora Airfield

Contact Chris Anderson on **027 263 1647** or e-mail [vxlandcruiser@gmail.com](mailto:vxlandcruiser@gmail.com)

For Sale



**372 Two Chain Road | Swannanoa**

**Aviation Opportunity**

This outstanding property is being offered for sale for the first time in thirty years. With the potential for a 520 metre runway, with a 07/25 vector surrounded by farmland rather than lifestyle blocks, this is an opportunity not to be missed. The 290sqm, architecturally designed, sawn Oamaru Stone home is classically elegant and features two living areas with oregon cathedral ceilings, four bedrooms, two bathrooms, a large upstairs games room and a triple internal access garage. There is excellent indoor outdoor flow to the paved barbeque area and the expansive gardens are well established and include a tennis court and numerous specimen trees. Shelter has already been established at the proposed hangar site. Other options include a kilometre long trotting track, subdivision, or renewing a lease with the neighbouring dairy farmer. Swannanoa Primary School nearby is Decile 10, for which there is a bus from South Eyre Road. All this within thirty minutes of Christchurch Airport.

Deadline sale closing 4pm, Thursday 15 October 2015 to Farmlands Real Estate, 269 Flaxton Road, Rangiora.



**Maurice Newell**  
027 240 1718

Land Area\*      10 HA  
RV\*                \$920,000  
WebID             RA1647  
Price                **Deadline Sale**

**Emily Newell**  
027 472 0409



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**Canterbury Recreational Aircraft  
Club (Inc)**  
P.O. Box 440  
Rangiora 7440

Interested in joining us?

E-mail [secretary@crac.co.nz](mailto:secretary@crac.co.nz) or use the  
online application form.

We can send you an information pack  
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magazine? E-mail your name to  
[editor@crac.co.nz](mailto:editor@crac.co.nz) and we'll add you to  
the non-club mailing list.

## Upcoming Events

**October 17<sup>th</sup>** – Rangiora Airfield Open Day

**November 8<sup>th</sup>** – Club Barbeque (second  
Sunday of the month) followed by a flight,  
somewhere!

***Disclaimer:** This Magazine is prepared by  
dedicated enthusiasts; the opinions  
expressed herein are not to be taken as  
official club policy unless approved by the  
committee.*

## Contributions and Attributions

**Gert van Kruijningen**, Bleriot photos pages  
15-16

**Jet Art Aviation**, Sea Harrier photo page 4

**Paul and Doreen** for the Oxford Photos,  
page 8

## Next Newsletter

Contributions requested, publishing  
deadline 4<sup>th</sup> November 2015.

Brian Greenwood  
Editor ([editor@crac.co.nz](mailto:editor@crac.co.nz))

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## New Members July 2015

Welcome aboard to:

**George Gould**  
**Laurie Page**  
**Glen Court**

Please make our new friends  
welcome.

## Congratulations

**Craig Shepard**, Adv. Local  
**Martin Healey**, Intermediate  
**Mike Dimmock**, Adv. National

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