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March 2006



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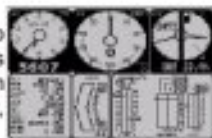
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Cover Upper and middle front: Geraldine Flying Group flyin at Rangitata Island - 12th March  
Lower Front: Troy is the Youngest member of the CRMC - See Club news  
Back Lower: ARMAC's Bantam Reborn  
Back Top: The moth flies!  
Back Middle: More from Rangitata island

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# The Stall/Spin – recognition, recovery, avoidance.

There is an old aviation proverb that says:

If you want to go up, pull back on the control stick.

If you want to go down, pull back a little more.

If you want to go down real fast and spin around and around and around, just keep pulling back.

CAA accident reports over the 3 year period between 2002 and 2003 reveal that 13 people died in 7 aircraft accidents where the dominant cause of the accident was established to be the result of a stall/spin manoeuvre. Two of these accidents involved microlight aircraft and resulted in 4 fatalities. Statistically, avoidance of stall/spin accidents would certainly be the single most effective tool to prevent

fatal microlight accidents. In recognition of this fact, a new requirement in our manual is that all pilots at some stage over the next 2 years need to complete a wing drop stall and spin entry/recovery air exercise.

## Dynamics of the Stall/Spin Entry

There is a common misconception that in a spin, one wing is stalled and the other wing is always unstalled. This is true sometimes, but not always, especially not for flat spins. More correctly, in a spin, at least one wing is stalled, and the two wings are operating at very different angles of attack. In normal flight, at an airspeed well above stall speed, rolling motions are very heavily damped. Near the critical angle of attack and at a low airspeed, this roll damping goes away. At a high enough angle of attack, the ailerons lose effectiveness, and at some point they start working in reverse. At very high angles of attack, aileron deflection has a strong effect on the drag of that part of the wing. An aileron deflected to the left will cause a yaw to the right which in turn provokes a roll in the opposite direction of what would normally happen in controlled flight.

At a sufficiently high initial angle of attack a rolling motion will not just continue, but accelerate, all by itself. There will be no natural roll damping, and you will be unable to oppose the roll with the ailerons. This is an example of the departure from controlled flight that constitutes the beginning of a spin.

## Stages of Spin

<>wing drop stall - i.e. onset of undamped rolling;

<>incipient spin - i.e. a spin that has just started;

<>well-developed spin, which could be

<>a steep spin, or

<>a flat spin.

In the 1970s, NASA conducted a comprehensive series of experiments on the stall/spin behavior of general aviation aircraft. NASA established that the rotation rate of an established flat spin is typically twice that of a steep spin. In a flat spin, centrifugal forces cancel the rolling moment that results from one wing producing a lot more lift than the other. In a steady flat spin the aerodynamics of the spin will pump more angular momentum into the system, and the rotation rate will increase significantly. For these reasons recovery from a flat spin is usually much more difficult than recovery from a steep (nose down) spin.

## Recovering from a Stall/Spin

The first thing the pilot needs to establish is whether he is in a spiral dive or in a spin. In a spiral dive, the airspeed will be high and increasing - in a spin the airspeed will be low. Also, the rate of rotation in a spiral is much less - the high speed means the aircraft has lots of momentum and can't rotate that quickly. In a spin, the aircraft could be turning at greater than 200 degrees per second.

If the Pilot's Operating Handbook for your aircraft has a particular spin recovery procedure these procedures must be followed. For typical aircraft, the spin recovery procedure contains the following items:

<>Retard the throttle to idle

<>Apply full rudder in the direction opposing the spin

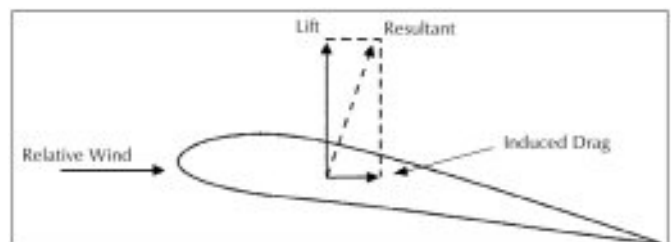
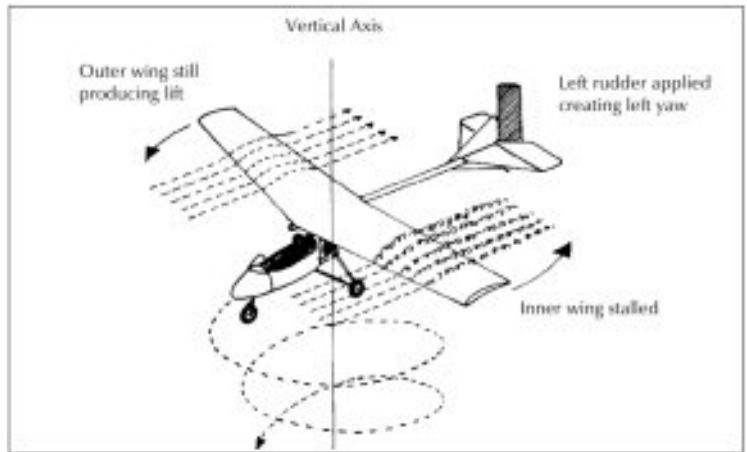
<>Neutralize the ailerons and move the control stick forward to select zero angle of attack.

<>Retract the flaps if they are down

<>Ease out of the dive

## Stall/Spin recovery air exercise

Any stall/spin recovery air exercise must be conducted in a spin approved aircraft and with a suitably qualified instructor in control. While our requirement is not to train beyond the wingdrop stall/incipient spin entry stage, if a suitable spin rated



microlight aircraft is not available locally the best option may be for the pilot to conduct the exercise with the local aero club in an aerobatic training aircraft.

NASA established in their studies that general aviation aircraft not approved for intentional spins often had unrecoverable flat spin modes. This caution may also apply to many microlight aircraft types that are not spin approved by the manufacturer. Spin-test aircraft are equipped with spin-recovery parachutes on the airframe to ensure pilot safety. If your aircraft is not rated for spin exercises, don't become a spin test pilot.

For some pilots, especially pilots experiencing this spin recovery exercise for the first time, their lasting memory may well focus on the experience of an aircraft departing from controlled flight. While that shock value may be an important part of the learning process, the real key to flight safety is for all pilots to recognise the need to avoid operating anywhere near this stall/spin danger zone.

**Summary:** A spin prevented is far more effective than a spin recovered from.

↔The height loss experienced during spin recovery clearly demonstrates that an inadvertent spin at low level is always non-recoverable.

↔Pilots who have not received spin training from a suitably qualified instructor may instinctively hamper or prevent recovery by incorrect recovery technique.

↔During stall training exercises control aircraft yaw with the rudder – not the ailerons.

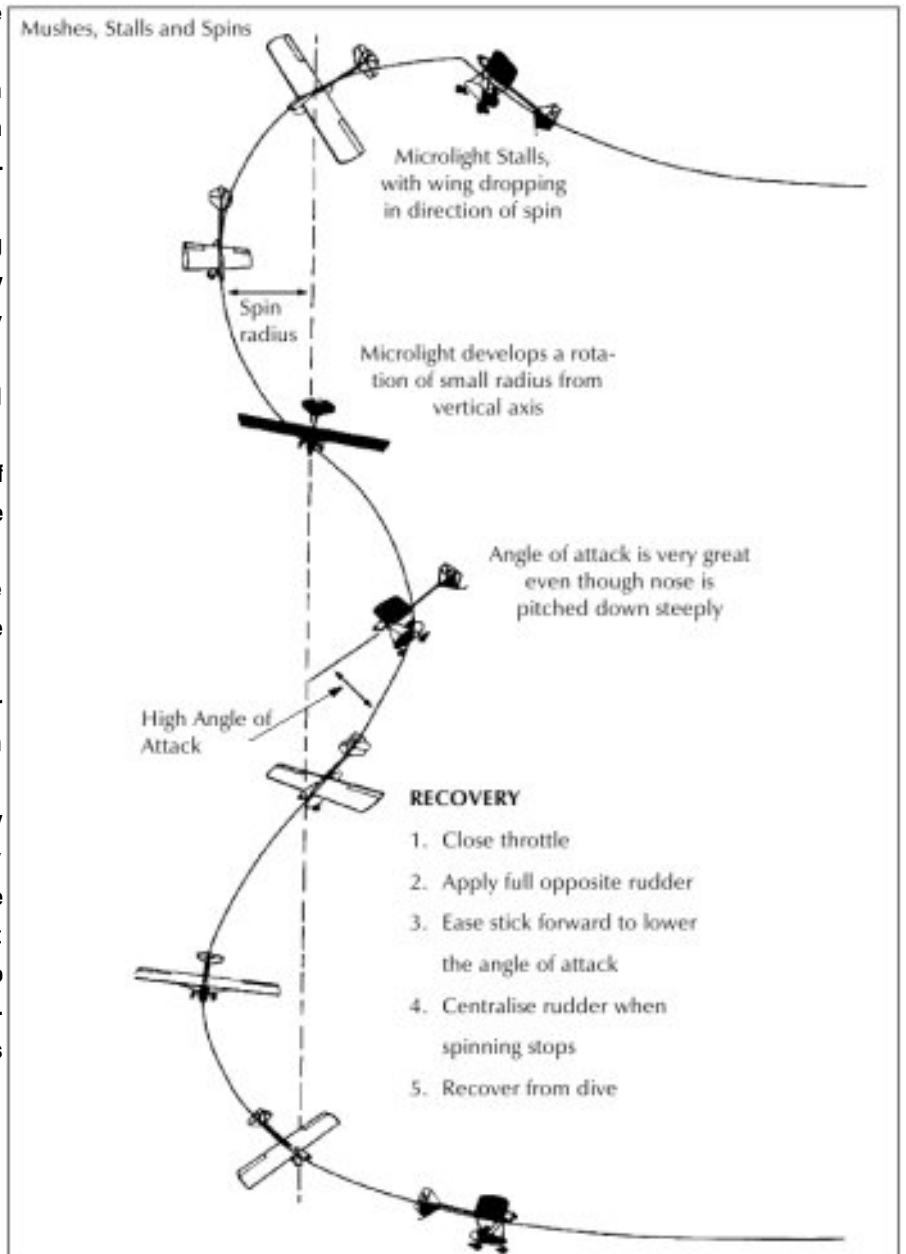
↔If you load the aircraft beyond the aft limit of the weight and balance envelope, even the incipient spin may be unrecoverable.

↔If you operate your aircraft at or beyond the aircraft's MTOW the risk of entering the stall/spin danger zone increases considerably.

↔Always maintain best glide speed for your aircraft during engine failure situations – both actual or simulated.

↔Be aware of factors relating to any 'situational awareness' environment that may lead to your aircraft being exposed to the stall/spin. e.g. Overbanking to counter aircraft drift when turning on to base leg prior to landing in high wind conditions. Disorientation with slow, full power climbing turns and rising ground ahead.

Evan Gardiner - Operations Officer



## A simple flight planning ruler - Stuart Parker

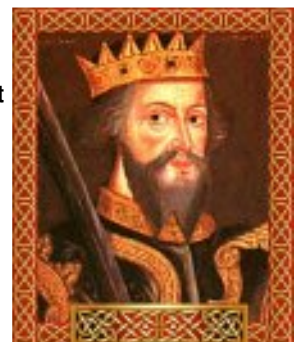
Most of our microlight flying is done under calm conditions at constant airspeed. That means that fuel management planning for a flight can be reduced to 3 simple steps-

How far am I going? Distance = measure off a chart.

How long will it take? Time = distance divided by airspeed.

How much fuel will I burn? Burn = time multiplied by burn rate

These calculations are pretty simple, but they can be made even simpler by using a ruler that measures off the chart directly in distance, time, and fuel burn. With a ruler calibrated for your aircraft- your cruise airspeed,

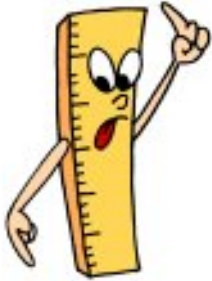


and your fuel burn- it's real easy to read these directly off the ruler laid over your intended track.

I knocked up a spreadsheet that prints out a ruler personalised for your aircraft (registration, chart scale, cruise speed, fuel burn). You can download the spreadsheet from my website ([www.sparxfly.co.nz/flightplan.xls](http://www.sparxfly.co.nz/flightplan.xls)), enter in the parameters for your aircraft, then print out and laminate the ruler.

It may require a little bit of fiddling with scaling to make sure your printer output scale matches to the aeronautical chart scale, but that is pretty easy using the print scaling feature in Excel and a bit of trial and error. I laminate my flight planning ruler with the 1:250,000 and 1:500,000 versions back to back.

Some cautions with this simplified planing method:



**\*\*It assumes zero wind conditions.** Any wind will affect your groundspeed, hence flight time and total burn. And in most cases (particularly for any out-and-back flight) will increase them. If the wind is significant, either provide a generous allowance for it, or revert to proper vector triangle flight planning.

**\*\*It assumes constant airspeed and fuel burn.** Generally true for most microlights flying with constant power setting. If you vary from normal power settings during the flight (eg to minimise exposure to headwind or turbulence) you will need to allow for that.

But for most local and cross-country flights it does the trick. And far less chance of making a mistake in your calculations.

## Microlight radio testing By Anton Lawrence.

CAA in its long process of developing rules had put through a Notice of proposed rule making (NPRM) which would require all aircraft which enter controlled airspace to have 24 monthly radio inspections; currently this rule applies only to IFR aircraft.

Microlights were to be exempt from this new rule "in order to minimise the regulatory compliance burden on microlight aircraft operators."



acceptable type of installation one which was fixed to the aircraft with a permanently fixed half wave aerial would probably pass the inspection. It is also important to note that it is only the installation which is tested with no regard to who preformed the installation.

Most of us would agree that there are a number of microlights who's radio transmissions are a bit on the reading you 1 to 2 side. This would not be acceptable to ATC as it would cause many repeated and confused messages. Now would be the time to consider panel mount systems or more permanent fixing of your hand held radio.

One of the main causes of poor transmission is static interference from the ignition system, this can be reduced by correctly shielding ignition cables and magnetos and the use of non solid core 50ohm coax cable for the aerial system. The aerial itself should be placed as far away from the engine as possible and should be well earthed at both ends. Panel mount systems should be well bonded to the airframe.

Another excellent system to help is an active noise reduction system as part of the intercom system, these are relatively inexpensive and can reduce engine noise dramatically, when used in combination with good static reduction techniques the results should be very acceptable.

Further information on the NPRM can be found at: [http://www.caa.govt.nz/rules/Draft\\_Rules/DFR\\_Part\\_43\\_General\\_Maintenance.pdf](http://www.caa.govt.nz/rules/Draft_Rules/DFR_Part_43_General_Maintenance.pdf)  
Goto (91.605 (e)(1))

But it was pointed out that;

"The CAA does now accept that microlight aircraft using the types of controlled airspace that require radio equipment for communication with ATS (as prescribed in 91.513) should be required to comply to the same communications standards as other VFR aircraft."

You would think from this statement that it was a done

deal, but fortunately for us CAA has a duty to consult all affected parties before a rule can be passed onto law and this clearly was not done in this case. What this means is that all VFR aircraft have had a reprieve for the time being, probably 2 to 3 years.

What this also means is that all radio installations will need to be robust enough to pass the inspections. The full details of the inspection can be found in CAA rule 43 appendix B the basic intent is summed up by;

"43 Appendix B. (7) inspect and test the VHF Comm system to ensure that the performance of the system is acceptable during normal operation."

While hand held radios would not normally be an



## Incident involving a Tecnam aircraft

We have received a report from a New Zealand operator that a Tecnam P2002-JF was found with incorrect sized wheel tubes fitted to the main wheels. As a result, the main tyres deflated suddenly on two separate occasions during the landing roll. The tyre deflation was caused by the tubes 'creeping' inside the tyre. The situation was possibly made worse by the aircraft manufacturer's information stating a tyre pressure which was too low for the weight of the aircraft. The deflated tyres causes major ground handling difficulties for the pilot during the landing roll. This incident happened when the aircraft had completed close to 200 total time in service.

The New Zealand Tecnam agent has confirmed with the manufacturer in Italy that a year ago new Tecnam aircraft were fitted with the incorrect sized tyre tubes due to a 'mixed' batch problem. The Tecnam agent has assured the CAA that the only aircraft likely to be affected in New Zealand have since had their tyre tubes replaced with the correct size. It is also noted that the aircraft Flight Manual was amended on the 3rd August 2005 to increase the main tyre pressure to 23 psi and the nose wheel tyre pressure to 15 psi.

The CAA suggest that your organisation might like to consider passing this information on to your members to raise their awareness about the importance of fitting correct sized tyre tubes and maintaining correct tyre pressures.



Regards Peter Kirker - CAA Air Safety Investigator

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## RAANZ Admin corner.....mumblings from the back office.

### Email addresses

We can save quite a few thousand dollars on postage by going to email for mailouts. So far I have collected about 30 email addresses from members. Not many, and not going to make much difference to our postage spend, but a start. Can I encourage you to email me ([admin@raanz.org.nz](mailto:admin@raanz.org.nz)) so I can grab your email address into our database. Instructors and IAs- when you are filling out a CMV or permit form, grab the email address and bung it on the form somewhere. For those who don't have email, don't worry- we will still support you guys via snail-mail.



### Permit forms

I am only getting a trickle of permit forms from IAs. This means either the IAs are holding on to them, or you guys aren't keeping your annual inspections up to date. I hope it is the former. But I need to keep our aircraft database up to date, so IAs- please send me a copy promptly, thanks. Also remember to note any mods or defects on the back of the form- I collate that stuff and pass on to Anton so he can identify any trends or issues that need to be followed up with the IA network. Yes, I know the backs of those forms are hard to write on- we will do better next print run.

### Renewal reminders

I resurrected issuing reminders for membership renewals a few months back. That is working well, but even better when I can email most out rather than post them! I have also started issuing reminders for annual inspections. Next comes issuing reminders for BFRs. All part of the service we can provide to keep you guys legal and in the air. But don't rely on these reminders- the aircraft database is not fully up to date, and I might miss some. So use your Mark 1 eyeball and check your docs before each flight.

## Contacting Admin

Retirement has some attractions- no work, all day flying.... But I'm not in that happy space yet. So you will find I am much easier to get hold of in the evenings. You can drop me an email ([admin@raanz.org.nz](mailto:admin@raanz.org.nz)) or voicemail (07 825 2800) any time for me to follow up that evening. If it is real urgent you can call me on my mobile (021 076 3483). But feel free to give me a call in the evenings/weekends- that's what I am here for. Most things can be sorted out on the spot, and its good to hear what's going down around the clubs.

## Fabric testers

We have now got a stock of 10 new fabric testers that Anton sorted out. I am ringing around the IAs to make sure everyone is equipped with one (and to get email addresses). If you are an IA, haven't heard from me, and need a fabric tester. please let me know. If you have one of the old ones, and its still doing the job, then fine- hang on to them, these babies aren't cheap.



## BFR intervals

BFRs are normally due every 2 years- that's why they are biennial flight reviews. Unless you are an instructor (every 12 months) or your instructor wants to keep a sharper eye on you and keep your skill level up there (whatever interval the instructor decides). When I get a CMV form from an instructor I go by the BFR due date he/she puts on the form- dangerous to second guess. Instructors- if the interval you choose is anything out of the ordinary, please note on the form so I know it is genuine and not a simple mistake.

## Club information/contacts

The Clubs section of the RAANZ is where clubs can list details about activities, membership, key contacts, etc. Many of the entries there are seriously out of date, about time for a clean-up. Club secretaries- please go in and update your club info. If you have forgotten your password or can't update yourself, send me the details and I will do it for you. ---- Stuart Parker

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## Kara Kidnapping - the dark side of the CRAC

The plan was hatched!

The bi-spectacled man turned to the Smaller man "I've got it . I know where we can get the parts we need ?"

The Smaller man looked confused, some say this is normal, and asked "how we gonn'a do that ?"

"Easy said the bi-spectacled gent. My truck and your trailer and we will have it here in no time"

The plan was discussed in detail and the Smaller man took notes, as his memory retention was not his best trait. After a pre-kidnapping briefing the two likely lads climbed into the Blue 4 wheel truck cleverly disguised as a local contractors vehicle.

They waited until darkness fell around 10 pm, being the middle of summer, and headed into the night. The two sat in silence as the truck bumped along the long straight road to their destination. Car headlights illuminated the two as they looked at each other, both wondering if they were doing the right thing. They knew if this was not done no progress on K3 was imminent . They both knew that they must move for the good of the movement and for the good of the group. It must be done. They concentrated on the task ahead knowing that the common bond between them and the group would see them through .

They turned off the road to the right ,followed the silvery river to the bridge and made their way to the darkly lit street where their prey lay in a small single car garage at the end of a narrow driveway.

"Stop here and I will see if the coast is clear" said the Smaller man. He disappeared into the darkness as the driver turned off the car lights. A minute later he came back a little out of breath as he was not used to the tension of





the moment . The bi-spectacled man turned the truck around and backed it carefully up the narrow driveway with the Smaller man giving directions. No lights showed on the truck and only finely tuned skill enabled the driver to get to the destination without hitting the fence or disturbing the neighbours.

They got out of the truck and slowly closed the door. "It's that door there" whispered the Smaller man. He moved the door opening after inserting the key and it opened. Very slowly and noiselessly the door fully opened above them revealing their prey.

"Get the torch, and I will let the ramp down on the trailer . Don't forget the tie downs as well" said the bi-spectacled man.



The K3 was moved noiselessly from the room on it's wheels until the rear appendage, not bolted on, fell onto the concrete floor with a clattering bell like noise. The both stood motionless and watched the neighbouring house for signs of movement.

"That was bloody close" the Smaller man said as he picked up the metal structure and put in the back of the truck.

Slowly they moved the K3 onto the trailer and tied it down. After loading the last of the other loose structures into the truck the door was closed and they jumped into the truck.

The bi-spectacled man turned the ignition key and the truck burst into life. With a cautious look at the neighbours house they eased the truck down the narrow drive with their booty in hand.

Suddenly they were faced by a blinding light and the truck came to an abrupt halt to avoid collision with a vehicle directly in front of them.

"Oh S\*\*\*\*" said the Smaller man, "Caught red handed"

A figure appeared at the drivers window.

"What the Hell do you think you are doing"

"Finishing the job you started. We can't wait any longer for you to finish it so we thought we would take it and finish it ourselves" said the Driver of the blue truck, cleverly disguised as a local contractor. The Smaller man, next to the driver, had a big grin on his dial ,as he so often does, said "You're not supposed to be here"

"Well I am . Get it off and put it back in the garage. I am going to finish it myself. How did you get in?"

"You gave me the key, remember?"

"Oh Yea" said the K3 owner, well give it back and bugger off. I will get onto it don't worry."

The truck backed up the drive and unloaded the K3 back into the garage.

The bi-spectacled man and his Smaller sidekick bundled them selves back into the truck cleverly disguised as a local contractor with their tails between their legs and made their way home.

Moral of the story "you can't have your Kara1 and Kara 2 and a KARATOO 3."

All subjects and story line is completely fictitious eh boy's.

## RAANZ National Fly - 2nd time lucky

The RAANZ 2006 Fly-in is being held by the Canterbury Recreational Aircraft Club in Rangiora over the weekend of the 1st and 2nd of April.

Saturday 1st April

08 am - 10 am, Arrivals and Registration

10 am - 01 pm, Local "Tiki Tour"

01 pm - 02 pm, Lunch

02 pm - 05 pm, Navigation Exercise

07 pm, Prize Giving & Dinner (Rangiora RSA, \$15/head)

Sunday 2nd April

07 am - 08 am, Breakfast

09 am - 01 pm, Competitions

01 pm - 02 pm, Lunch

04 pm, Poker Run

07 pm, BBQ Meal

The registration fee payable on the day for this event has been set at \$50 and includes lunch both days, BBQ meal on Saturday, and a "pack of goodies".

More information about the club, the airfield and up-to-date local weather conditions are available from the web site - <http://crac.recwings.com/>

## Editors Choice

Winners - Prize is a RAANZ Cap of the latest style

John Horsnell - 1st to register on the RAANZ website

Charles Russell - Consistently having something to say !

**RAANZ Marketplace - Your online buy, sell and advertise.  
Some March posts - See <http://raanz.org.nz> for these and others**

Ivoprop UL, new, 3 elegant tapered blades, left hand, 72" dia; but easily cut down.  
Ivoprop UL, 3 blade right hand, 66" dia; 'plus' pitch suitable for microlights over 90kts or slow rpm. This prop has flown for an hour on a 912 powered Pelican VS but was exchanged for a standard pitch prop.

Either prop \$999 inclusive with ground adjustable hub plus \$65 for optional polished ali spinner.

Either prop \$1,880 inc, with electric inflight adjustable hub including spinner.

Contact Jon Farmer, 09 5200641 or <[jk.farmer@xtra.co.nz](mailto:jk.farmer@xtra.co.nz)>

Zenair CH701 ZK-JRT Rotax 582 157hrs VFR panel, Radio, Intercom, strobes \$39,995 ONO  
Julian Thornton, Hamilton, 07-847-0188, [jrthornton@xtra.co.nz](mailto:jrthornton@xtra.co.nz)

BANTAM B22J ZK-TJK. NEW AT 27.1.1999 SERIAL #0149, ENGINE JABIRU 2200 TT E&A 310HRS \$27,000

TOM KRIPPNER, 929 KAKARAMEA RD, RD6, TE AWAMUTU, 07 8252 664

Single seat Ultra Sport Tri-Pacer, very tidy condition. Excellent running Robin 330 motor with 2 blade wood prop. \$1700 ono

Single seat Delore trike base. Good running 377 Rotax. \$1500 ono

Chris Davis, Queenstown, 03-442-0520 or 027-413-1717, [chris@inow.co.nz](mailto:chris@inow.co.nz),

Airmaster prop. A complete and ready to go three blade airmaster prop. complete with all fittings, books and all mods current. Off a Rotax 912 pusher. Excellent condition. \$4,000 ono manawatu microlight club, 021-682151 hm 06-3545657 [shortyc@infogen.net.nz](mailto:shortyc@infogen.net.nz)

J 3 kitten single seat stol performance 582 rotax 68inche ivor prop \$21000  
[yorke@xtra.co.nz](mailto:yorke@xtra.co.nz), bradley yorke, no 2 r d wyndham, 032064261

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### Advertising Format Options

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- 2) Supply the text and background image(s) (by email) of the add you want to include, allow editorial license to prevail
- 3) Point me to a web page where your information lives and allow editorial license to prevail

### Advertising Costs ( all plus GST )

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1/2 page A4 colour -\$100

1/4 page A4 colour - \$60

Full page A4 B/W - \$70

1/2 page A4 B/W - \$40

1/4 page A4 B/W - \$25

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## **RAANZ, Microlighting and you. Then, now and into the future .....**

It is important that we are clear about why we exist and where we are going. Microlight Clubs and RAANZ administration spend a lot of time and effort doing the basics to support our pilots. It will also always be true that all flyers have a wider responsibility to other airspace users and to trusting non pilots. An important role for any training organisation is to introduce quality habits and sound thinking. None of this is fundamentally different to the job that Aero Clubs and Flying Schools do for their GA pilots. So why do we exist? Why don't other branches of aviation perform the basic support and training for microlight pilots?. To answer this question you need to look backwards to when microlights first emerged. In aviation the concept that one person, sometimes starting without "expert" knowledge, could master construction, maintenance and piloting tasks, had been lost for several decades. Regulatory prescription and the practices promoted within institutionalised flying had created specialisation and demarcation between engineer and pilot. GA pilots were/are actively chastised for daring to perform tasks that most microlight pilots consider normal and necessary. Constructors of home built aircraft preserved the right and skills to construct but to become a pilot it was necessary to pass through the GA training machine.

Enter the Microlight. Able to be built by anyone. Owners and pilots supported by networks of enthusiastic peers. A prevalence of a can do attitude and a desire to be self sufficient. An environment where aircraft ownership is attainable and pilots can afford to fly and keep current. The rules that we operate within today are largely due to the position promoted by the pioneering microlighters.

So like the Toyota Corolla, everything changes. Bigger is better and this years model always has the edge over last years. Eventually the Corolla is bigger than the Corona used to be and the lines become blurred. To me this is where we are at now. We have moved into an exciting new world where leading edge microlight technology is well in advance of what most GA pilots even know about. An abundance of new and high tech designs excite and entice.

But, there is a cross road and a decision. In the excitement and passion for the new opportunities we need to keep connected to what we are.

For me it is simple. Microlighting means I can participate in everything to do with flying. Build, maintain, be taught, teach, enjoy and own. As we move forward we must know who we are and what we stand for. Microlighting has special and unique qualities that are not found elsewhere in aviation. We need to protect that character with a passion or future generations of microlight pilots may not have the opportunity to participate in the complete aviation experience.

Ian Sinclair - President



The RAANZ Training Manual is undergoing review and update. We have taken the opportunity to put the manual on the web. You can find the manual on [raanz.org.nz](http://raanz.org.nz) under the heading RannzWiki and then Training Manual. There is a note at the top detailing the status of the sections.

### **News from around the Clubs**



#### **Canterbury Recreational Aircraft Club**

This is our youngest member Troy Glover from Woodend near Rangiora. Troy has been with us for almost a year after attending one of our open days. He was very impressed with flying and has convinced his family he is serious about flying. His family bring him to the club almost every week where he carries out odd jobs around the airfield and clubhouse. He books all his time and every now and then we give him a flight . He loves it and it is good to see a younger person with such dedication. The club is keen to foster young people in the area and will in the near future adopt a person on the Big Brother program.



## **Charles Russel reports ... from the Coromandel**

The New Year started as usual with crappy weather that went on interminably. Now we are well into February and it is beginning to become settled enough to assume if we fly somewhere, we will be able to get back home using much the same mode of transport.

Coromandel Flying Club has only one aircraft available to its members, a Tecnam Echo. This is used to promote the "Young Eagles" initiative carried on by RNZAC from the American original proposal. It has been remarkably successful, getting kids up and flying and the Club obtaining scholarships for 4 locals to carry on flying.

We flew 6 members of the Club across to Thames on 12th February in the Club Tecnam and Mercury Bay Aero Club's C172, for some gliding experience. 24 other members drove over. The lucky ones who flew were pulled out of the hat. 2 Young Eagles got to fly the plane across and on the return trip in the Tecnam. The gliding was a revelation to all who have never experienced this kind of flight before. It is a must to anyone who has never tried it, and we intend to have another trip later on.

Our Tecnam spoils anyone who flies it, being very easy to control, and a delight from an instructor's point of view. A couple of ex PPLs had a go in it whilst there, and both were hooked, wanting to do more. Planes like this are the future of aviation and will inevitably take over from GA aircraft as time passes for those not interested in 4 place seating.

Tauranga hosted the Sports Aviation get-together a couple of weeks previously, and the number of different types was very evident. We now run the full gamut of basic rag and tube types to composites with retractable undercarriage and variable pitch props. Speeds go from a painful 50 knots to an extraordinary 140 knots. No wonder the powers that be are getting twitchy!'

RAANZ has been investigating this change, and have formulated new licence requirements in an attempt to hold the CAA regulators at bay. It is beholden to us all who fly Microlights to have a very thorough knowledge of the rules and requirements in the places we fly. PPLs sneer at any misdemeanours by Micro pilots, and look down their noses at their lighter cousins, not realising that in many instances, the pilot in the Micro has more experience than them and is often more highly qualified. Routinely taking overseas visitors aloft, I am struck by the terrible control bureaucrats in their countries have over their activities. It is only our thin population base that allows us the freedom we enjoy.

While hosting the Nationals and Internationals, Mercury Bay Aero Club had 5 Bantams come in to fuel up on the way to Gt Barrier Island. They needed to be got out of the way as quickly as possible, and were made to feel unwelcome. It saddened me but then, the GA boys still rule the roost at the moment. I suppose the baggy clothing to keep warm, from the eclectic in taste to the downright 'in your face' affronted the delicate dispositions of some of those present. Rag and tube pilots are such a hairy lot.

My first plane was a Bantam. It was number 69 manufactured. Many of us have fond memories of this number. My instructor was an unforgiving old bugger who did not allow any deviation from learning to fly the wretched thing correctly. Every landing was power off from 500 feet into the field with a delicate hauling back on the stick at the last minute to arrive stalled, and with the nose wheel off the ground. I got into the habit of getting in and putting some power on to hold the nose off. I would zoom down the runway with a nose high attitude, rudder it off the runway, and gently pull off power to lower the nose. One day doing this the nose came down and the wheel fell off. The main bolt had half sheared in the past choosing this moment to depart from the airframe. No damage ensued, but I had a bit of a laugh thinking how painful it would have been, doing a conventional landing at the end of the runway and having to drag the bloody thing 500 metres back to the clubhouse. Experiencing an autorotation in a helicopter after routine landings like this was a non event.

But that is another story.

## **News from ARMAC          Anton Lawrence**

As most of you will be aware ARMAC has been evicted from Pikes Point, its home of the last 23 years. Pikes was a land fill tip which reached it's used by date and the tip was closed. ARMAC developed it into an airfield and erected hangers. SAA Auckland chapter joined ARMAC on the field in the mid 90's.

The land was transferred from the old Auckland Harbour Board to the new Ports of Auckland in the late 80's, this effectively meant that the land was given free of charge to a private company. POA was listed on the stock exchange but was recently bought back in full by the Auckland Regional Council so they could have more say in its operation, especially with regard to strategic land. After attending several council and regional council meetings it became apparent that POA were not going to tolerate any interference in their business and so the eviction became inevitable.

The club has been fortunate in being offered a new home at Mercer (NZME). This strip is owned and run by Jim and Libby Lyver who also operate the Auckland parachute centre.

On site is a large packing shed which is now home to two Pelicans, one Trike, one Rans Coyote, five Bantams, one 206, one Pilatus Porter, and 2 tractors. Only half of the floor was concreted, so just before Christmas the club along with some locals organized and concreted the rest of the floor, this has made the shed into a very good hanger indeed. The next phase is to build our own hanger next to the shed; this will give an abundance of hanger space and allow for more aircraft to be based at Mercer.



The strip vectors are 09/27 one sealed and one grass, both about 1000 meters (just long enough for the Bantams). Due to the large number of parachute operations an MBZ has been formed around the airfield so all flights in out and around must be by radio equipped aircraft (133.05). There is to be no joining overhead for obvious reasons and always give way to the jump plane as it's the parachuting which pays for the whole operation., there are no landing fees. Mercer airfield is 63kms by road south of Auckland and 8kms from the end of the Southern motorway. This doesn't sound too far but for those used to Pikes it does mean twice the travelling time, but I'm sure the lack of water, improved terrain and ceiling will make up for the longer drive.



The SAA and ARMAC club houses were also relocated to Mercer. One of these is to be used as a Cafeteria making Mercer a great place to drop in for a cuppa or snack. The club Bantam was effectively written off in a forced landing practice event nine months ago. It has taken some time but we finally got it back from Micro Aviation in early January 06. There was not much left useable of the old plane so we now have an almost brand new aircraft, even the 582 which was replaced just before the accident has only done 17 hours.

ARMAC has a web site <http://www.armac.info> this was started by Nioi Lockington and is now maintained by myself. On the site you'll find club contacts, the club news letter, how to get started and other club stuff

including some spreadsheets to aid in cross country planning, help your self's.

So with a new location and a new aircraft the club is in great shape and looking forward to a new beginning, all we need now is lots of new students.

## Microair transponder problem with Mode S capable radar.

It has come to the attention of CAA New Zealand that there appears to be a problem with Microair Transponder units (Revisions 4 and 5) and their interrogation by the recently installed AIRWAYS New Zealand Mode S compatible radar heads.

These units are popular in microlight class aircraft, in some experimental class aircraft, gliders and may also be in some standard category aircraft. The purpose of this note is to alert owners and operators of the problem and its rectification.

Over 2005 and 2006 AIRWAYS New Zealand has been installing Mode S capable radar heads across the country. It is part of the modernisation and radar up-grade programme. The schedule is in AIP SUPP 15/05. Mode C radar is still the effective mode, but with Mode S the data pulses are far faster and enable other air traffic management data to be transmitted enhancing both ground radar and TCAS. The relative slowness of many older types of Mode C transponder units was known from overseas experience and for transponders of American manufacture, has been catered for by Airworthiness Directives (ADs) in the DCA/RAD/series ( see CAA website). The modifications required by these ADs enable the Mode C units to respond to the faster Mode S pulse signals. Unmodified Mode C transponders 'ignore' the interrogation and thus 'disappear' from Mode S capable radar stations, and from TCAS equipped aircraft.



One of the first Mode S capable radar heads was installed in the Ballance Radar in the Manawatu in mid 2005. It was then noted that a number of locally-based microlight class aircraft (with Microair transponders), as well as aircraft with KT76 transponders which had not complied with the ADs, were having difficulty in being consistently identified on radar. This had airspace facilitation implications.

The owners, naturally enough, suspected installation problems or possibly unit calibration ( as it also turned out some units had not been inspected and tested by a qualified avionics engineer). Various checks were undertaken but the intermittent problem with not being 'seen' by radar remained.

This raised the other question of the compatibility of the units in question with the Mode S signal. Communication with Microair Avionics (Australia) confirmed that the units known as Revision 4 and 5 (which appear to the common models in New Zealand) are not Mode S compatible. The Microair Avionics website confirms that a Revision 6 unit, compatible with Mode S, will be available in 2007.

Also, Microair Avionics is currently issuing a Service Bulletin (SB) with the Civil Aviation Safety Authority of Australia for an upgrade (modification) of existing Microair transponder units to make them Mode S radar signal compatible. When this SB is issued, CAA New Zealand will review the bulletin and most likely mandate it by publishing a related AD. Incorporation of the SB should in effect be 'common sense' as operators want their transponders to operate correctly and enjoy the safety and facilitation advantages.

In addition to these formal steps, Microair Avionics is offering a solution with an upgrade to the existing units ( a component modification) to make them Mode S compatible. This modification has to currently be performed at the Microair factory. The quoted cost is \$100.00 (Australia), plus freight.

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