

**NEXT MEETING IS ON  
TUESDAY 11th SEPTEMBER 2007**

The Newsletter of WRCS Inc.  
PO Box 349  
Brookvale NSW 2100

Warringah Radio Control  
Society Incorporated  
(Incorporated under the Association Incorporation Act 1984)



# NEWSLETTER

SEPTEMBER 2007



**De Havilland "Comet" ... this photo taken in 2001 of Col Simpson's model. We hope to see it "converted from monster glow to monster electric" at Scale Day in the Golden Era Category**

**MEETINGSMEETINGSMEETINGSMEETINGSMEETINGS**

**The next meeting will be on Tuesday, 11 September 2007 at Tennis Cove, Eastern Valley Way, starting at 7.30pm. The next meeting after that will be on Tuesday, 9 October 2007**

POSTAGE  
PAID  
AUSTRALIA



**WRCS**  
**GARIGAL**  
**CUP**

**23 SEPTEMBER 2007**

Round 2 of the Garigal Cup is scheduled to be held on 23 September, members who hold Gold Wing status are invited to participate in this competition with fixed wing aircraft, performing a modified Gold Wings programme. The schedule, descriptions of all manoeuvres and scoring, as well as the Rules of the competition are on the Webpage.

To encourage a more open competition the placegetters from Round 1 will be handicapped 15%-10%-5% of their score.

There will again be valuable prizes to all placegetters  
Shane Austin is the Competition Director

**Warringah Radio Control Society Inc.**

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**LEWIS & CLARK!**

by brian porman

USA history buffs would immediately think of the two explorers who, sent on the first federally funded exploration of the American West, by Thomas Jefferson, were the first Euro Americans to see the Rockies and reach the Pacific coast. They missed on finding a suitable route for wagons but nevertheless they opened up tracks. We at WRCS also have a Lewis and Clark

**... Warren Lewis and Ron Clark.**

They too keep tracks open for us ordinary hombres. Warren has had to remake the lost and stolen gate pins many times. The latest pin, to Ron's design keeps the pin captive if the "fire lock" is activated. (By the way, stainless steel is horrendously expensive so look after that pin!)

Recently Ron carried out an "adjustment" to the hinges, and you would have noticed that the gate is now not so much of a hernia risk and is so much easier to close . And all this without any federal or state funds!

Thanks **WARREN** and thanks **RON** from all of us with bad backs and weak muscles



## **WE HAVE A NEW ROAD!**

Members and visitors who have not come to the field lately will be pleasantly surprised by the upgrade to the entry road carried out by Warringah Council, we are all impressed and grateful.

The upgrade is on the previously almost unpassable hill between Morgan Road and the front gate, a composite has been used this time and graded so as to allow for run-off with the hope that rain will not affect the road as badly as before.

## **THE LATEST ON 2.4GHz**

A very comprehensive article on the Evolution of 2.4GHz radio sets written by Mike Close, Chairman of the MAAA Technical Radio Sub-Committee, has been published in the MASNSW Newsletter and we urge all our Members to read it carefully to get a better understanding of this new technology. Although it is quite lengthy and cannot be compressed without compromising it and leading to even more misunderstandings about this important development, the article helps members through some urban myths.

# **SCALE DAY**



**Sunday, 21 October 2007**



**Classes: Military,  
Civil, both Small  
and Large Scale.  
Scale helis  
welcome**

**Special aircraft category is  
“GOLDEN ERA”**

**That is, any aircraft with a racing pedigree that was designed or flown prior to 1939. This usually means civilian aircraft but there were some military planes that qualify, if in doubt, ask!**

**THIS IS A FUN EVENT WITH SAFETY  
PARAMOUNT  
Competition Director - Mark Rickard**

## RACE DAY CANCELLED

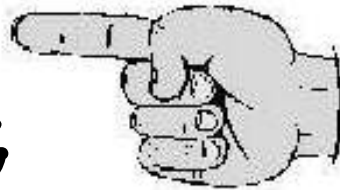


The Race Day scheduled for 22 July had to be cancelled due to wet weather which continued until early afternoon and made it impossible to start the programmed events in time to complete them on the same day.

It will now be very difficult to reschedule the event for the current Competition Calendar but we are informed that Tom Sparkes (the event co-ordinator) with Peter Little (the competition director) will try to hold this event later in the year

if it can be fitted into the Club's busy calendar, please keep an eye on the announcements on the Webpage.

## FINAL WARNING



This is the final, last, ultimate, end of the road magazine you will receive if you have not renewed your WRCS membership.

Do not come whinging to the Editor or any Committee member if you miss a valuable issue, you will not get any sympathy around here.

Remember also that without your renewed membership you can't open the gate, and even if you could get entry to the field **YOU ARE NOT INSURED TO FLY!!**



**MAYBE THIS IS WHY WE CAN'T UNDERSTAND THEM**

These are photos of street scenes taken recently in India ...

Tom Sparkes observed that these are the guys you call whenever you have a computer or technical problem ...

To which Garry Welsh repounded that after they all fall down they become "WIRELESS"

Garry also suggested that the modern technical term for this style of wiring is ...

A-TANGLE-WANGLE-QUO



## COLUMN 9.9

(incl. GST)



Preparations for the Christmas Party are well on track, tickets for the party and raffle tickets for great prizes are on sale already, see Warren Lewis.

How many of you noticed it? In last month's printed Mag, all references to the Trash & Treasure Night were dated 2006 by mistake. **SORRY!!** If you didn't get to the auction you missed a great night. Thanks Chris!

To ensure that the competition retains the meaning that was intended, in the future only one competition round of the Garigal Cup will be held each year in September, and timed so as to fit into the busy interstate competition schedule at that time.

It has happened to most of us ... we arrive at the field having forgotten to bring some vital equipment (TX or RX battery pack, or even wings etc), but Steve McMahon's dilemma was out of the usual. He arrived at the field wearing his slippers. Grant Furzer helped saving the blushes by lending him a spare pair of shoes. This forgetfulness (or is it inattention to detail) must come with age because Tom Sparkes admitted to attending the movies in slippers having forgotten to change shoes before leaving home. We wonder if Grant has spare shoes in all sizes in his car? We hear that Steve now carries spare shoes..

Peter Papas was tearing about the sky with his Midget Mustang executing his usual full speed routine of loops, rolls, spins and snaps while a group of onlookers were enjoying their coffee and biscuits, when Barry Campbell was heard to remark "The last time I did that the rubber bands on my model broke!!"



## GA IN POLAND

Our former CFI, George Atkinson was a member of the Australian Team at the 12th FAI World Radio Controlled F3C Aeromodelling Championship recently held in Wloclawek, Poland.

We have downloaded some photos that may be of interest from the Net showing George with fellow team-mate Andrew Donaldson (right) and the opening ceremony featuring the Australian Team (below).



George wishes to express his gratitude to all the Members who supported him and encouraged him to practice his routine at the Belrose field.

# P-51's COLLIDE LANDING AT OSHKOSH 2007

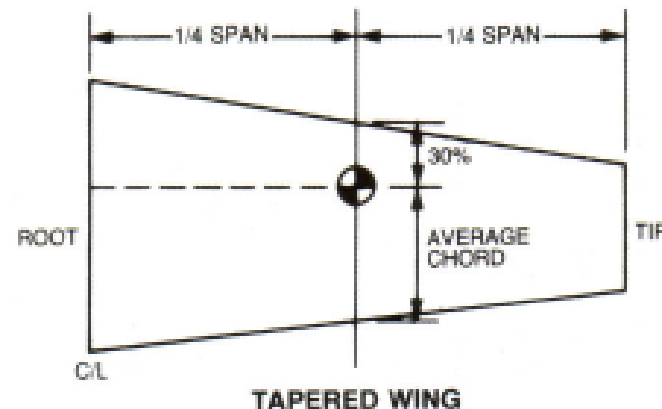
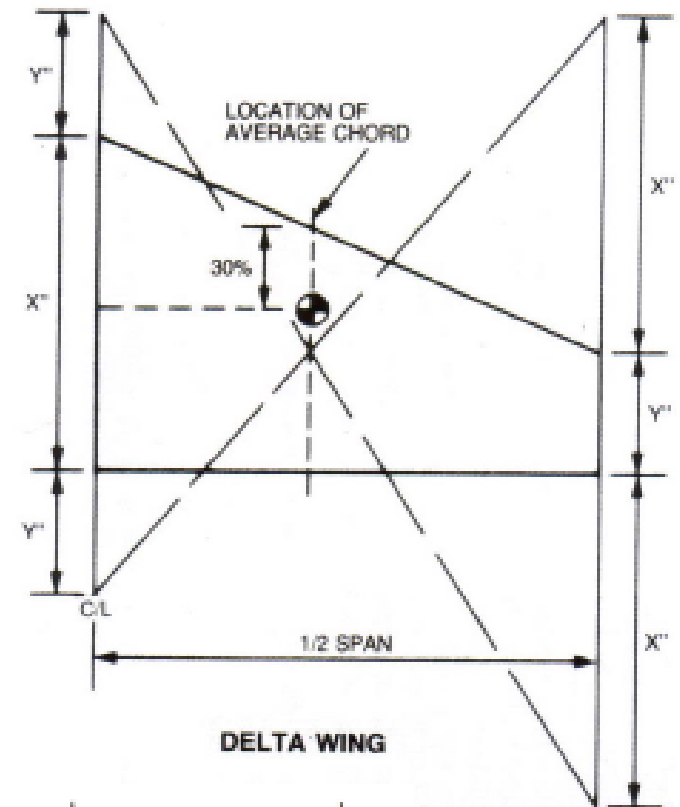
On July 27, one pilot was tragically killed, the other received minor injuries when two P-51's crashed whilst flying at the Experimental Aircraft Association's AirVenture at Oshkosh. The crash occurred as the airplanes were landing in formation.

In formation landings, the second plane should land first, but that in this case, the lead plane had already landed and the second P-51 was coming in faster than the lead airplane.



After the trailing plane landed, its propeller clipped the tail of the lead plane, pushing it on to its nose. Apparently the second plane may have tried to swerve, but ended up flipping over the lead plane to finally land upside in the grass to the east of the runway. After flipping upside down the plane burst into flames, the pilot of this (the second) plane died..

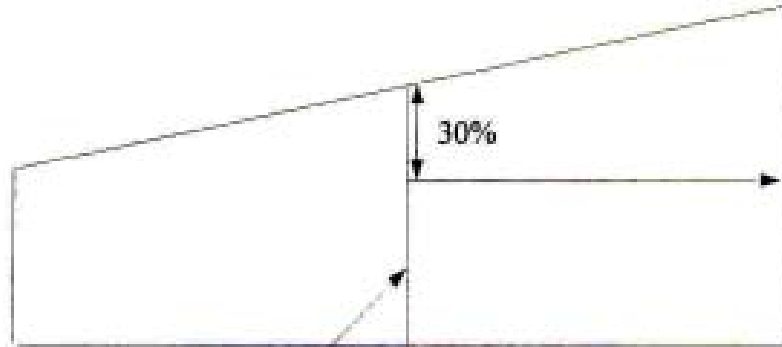
It is well known that P-51s have limited forward visibility when landing and most likely the second plane didn't see what the lead plane was doing because he was too close.



If you are still uncertain of the exact location of the model's CG because you do not have the original plans, calculate the position and ensure the model is balanced slightly forward for the test flight.

# CALCULATING THE CENTRE OF GRAVITY OF GRAVITY

(adapted from an MAS Newsletter 1999)

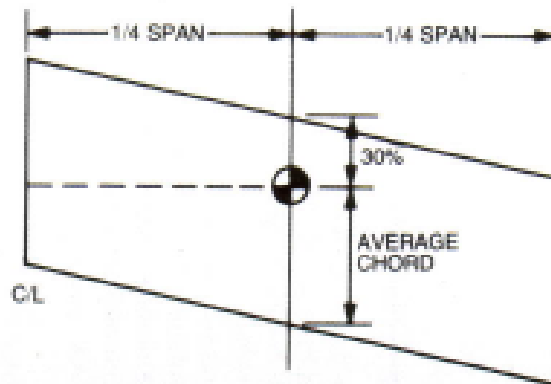


Mean chord

Centre of gravity can be expressed as a percentage of Mean Chord. In the case of a straight tapered wing panel as shown above, the mean chord is at the midpoint of the panel. Measure its length and draw a line from its 25-30% point to the centre line of the fuselage to show where the CG might be.

As well as wing geometry, location of centre of gravity depends on other factors, eg. size of tailplane and its distance behind the wing (tail moment)

An extreme case is the flying wing. With its short tail moments its CG might have to be no more than 10% mean chord, whereas a pattern plane with its long tail and comparatively large tailplane can tolerate quite rearward CG locations eg. 30%.



SWEPT BACK WING

# REPAIRING LEAKY RETRACTS

by Simon Press

Retracts, you either love 'em, when there working, or hate 'em, when they don't.

Generally mechanical retracts once set up properly are set and forget, they just work, but if you've got air retracts it's a different story.

Recently my beloved Dualist refused to hold pressure so I had to do a bit of investigation as to why.

Now if you've done the sensible thing and bought Spring Air's you'd only have half the problem of air-up/air-down units like Robart.



Obviously the first step is to find out where the leak is coming from. To do this I attach my air pump and pressurise the system.

Then with a pair of needle nose pliers I start pinching lines.

If you clamp the line in a certain place and the

pressure continues to drop, you know the leak is somewhere between the clamp and the refill valve, upstream, if the pressure holds, then the leak is somewhere between the clamp and the retract gear, downstream.

By this process of elimination, you can isolate where a leak is coming from ... almost.

Quite often leaks are caused by one of two things, a cut in the air line (unlikely as air line is quite tough), or the line around the pressure nipple has expanded over time.

Alternatively, an O-ring somewhere has deteriorated in some way. The first is easy to fix, either replace the line or snip 5mm off the end and reattach to the retract nipple.



If you have two leaks like I had, the second could be harder to find.

Check the obvious places first, the o-rings that probably get the most worn are the quick dis-connects, every time you put your plane together and then pull it apart they get worn and are open to the elements more when the plane is disassembled.

I found both o-rings on the Dualist were split and needed replacing.

After I did this I still had a leak, so I kept searching. I used my 'finely tuned' ear to find the retract unit itself was hissing.

After pulling the retract unit apart, all looked good, so it was

reassembled only to find there was still a leak.

The best way to solve where a leak like this is coming from is to submerge it in a container of water.

Retract units can be a pit of a puzzle into their construction, but they've got to come apart somehow otherwise the o-rings couldn't get in there in the first place!



## YOU'VE GOTTA BE KEEN



Doug Radford crashed heavily as he unsuccessfully attempted wingless flight diving off a ladder back in March. The prognosis wasn't good and a full shoulder reconstruction was the outcome, performed by a model rocket enthusiast, Dr Ben Cass, in early July.

With his blessing, Doug was told he could use his right thumb after a couple of weeks.

So to overcome his housebounditis and with the help of some of the Saturday Flyers providing transport and ground support, Doug was able to get

airborne on 28 July, just 3 weeks after his op.

Doug especially wishes to thank all those who lent a hand and gave encouragement and to all those that phoned to check on his progress.

## NOT MUCH NEWS FROM UK



Mike Minty reports that he has nothing to report other than that he is still canal-boating around the UK and not having many aeronautical experiences. Here is the boat moored at Henley



So, Smithy set off for London but he had to formally withdraw from the race when, before even getting as far as Cloncurry, the cowling cracked and Smithy brought her back to Sydney for a new cowling. Out of the race and having spent huge amounts (which he couldn't afford) on the plane, Smithy decided to fly across the Pacific from Brisbane to San Francisco via Fiji and Honolulu because there was a more ready market in the USA to sell the plane.

The trip to Fiji was uneventful, but the first take-off attempt from a Fiji beach (she was too heavily laden with fuel for the local field) was almost a disaster as the wind caught her after the tail was up and she headed for the water. Smithy saved her from the foam by turning her and using the sheer power of the Wasp engines.

After she was back on the dry sand she was checked out and on the second attempt took off for a successful but incident-full flight to Honolulu when the flap control switch was bumped during a heavy storm resulting in the plane going into a spin and losing 9,000 feet until control was regained at 6,000 feet.

In Honolulu the US Army Air Corps worked on the battered plane restoring it to brand new condition, and Smithy flew on from Honolulu to San Francisco and on to Los Angeles where it was put up for sale.

Taylor parted company there to go on to England while Smithy was admitted into hospital as he was badly "run-down". It was while he was in hospital that he learned that his old flying partner, Charles Ulm, had disappeared on a trans-Pacific flight.

Smithy asked to be discharged from hospital so he could search for his friend but was refused permission, so he left the Altair behind and set sail for Australia.

After 9 months he sold the "Souther Cross" to the Government and he set off to return to re-claim the Altair which remained unsold.

He decided to make modifications and convert it into a Lockheed Orion and use it for light high speed charter work, thinking that he wouldn't have difficulty in getting a commercial ticket.

How wrong he was! His Australian registration was cancelled in June 1935 and in USA it was still considered to be an experimental racing type.



Usually the cylinder has an internal thread that screws onto an end plate, this can be carefully unwound with large pliers. Inside will be a series of o-rings, usually one to seal the piston, one to seal the cylinder, and one to seal the piston shaft.

The underwater test should tell you which o-ring needs replacing depending on where the bubbles come from. In my case the end plate o-ring, although it was intact and looked OK, needed replacing.

I also carefully sanded the face of the cylinder with 1500 grit to give it a better seat against the end plate.

Once all assembled and tested, the system held its pressure.

Now that was just the downline, you may have check the upline, ie, that the



system holds air when the gear is up so that you can land properly. Apart from ordering a \$10 o-ring kit from Tower Hobbies and waiting a couple of weeks to get it here to fix your leak, you can go to the local auto store and they most likely will have a box of o-rings at about 50c each that you can try.

Take your old one along and match it best you can, this is where you have to try your luck, sometimes they will have what you want, sometimes not.

So now that your air retracts have been refurbished, you should have full confidence that once your gear goes up, it should come back out again for happy landings.

# "LADY SOUTHERN CROSS"

After his negotiations to purchase a De Havilland Comet (the ultimate winner), Sir Charles Kingsford-Smith chose the Lockheed Altair as his preferred plane for the London-Melbourne Air Race of 1934.

When he notified the Australian authorities of his choice he was warned that the plane would have to conform with the ICAN (International Convention for Aerial Navigation) standards, these being the rules that Australia was governed by. The USA on the other hand was not a signatory and utilised its own standards of plane construction and performance. The Altair as manufactured did not conform to ICAN standards and Smithy was warned that he would be barred from competing, in fact other contestants were barred and this fact caused quite a lot of friction.

Smithy ignored the warnings and purchased a third-hand Lockheed Sirius from the factory, which was then converted into an Altair which involved a new wing with retractable landing gear and a new supercharged Wasp engine with a cowling to fit. Four additional fuel tanks were also fitted to allow for 418 gallons of fuel. The modifications resulted in Smithy losing the commercial registration for the plane which he named "Anzac".

The test flights were completed successfully and Smithy left the USA under the misapprehension that the plane had regained its commercial registration (which it hadn't).

On arrival in Australia and before unloading, he was faced with protests that an American racing plane was named "Anzac" and the name had to be removed before it was allowed to land, she was eventually moved to Mascot, where, with P.G. Taylor it took to the air. Shortly later she was given a special and limited registration as VH-USB and renamed "Lady Southern Cross". The Australian authorities could not issue a certificate of airworthiness as some documentation did not exist but after stringent tests it was finally given a "ticket" but in the process some of the fuel tanks had to be reduced which will have required 9 "pit stops" during the race rather than 5.

Smithy decided to take it to England, thinking that if it was worked on over there it could be registered so as to be recognised in Australia.

Official difficulties were immediately encountered in England, where, after lengthy negotiations, registration was only permitted if the prop was changed to a fixed pitch type and the tanks were reduced to hold a gross total of 126 gallons.



Kingsford-Smith and Tommy Pethybridge pose with the "Lady Southern Cross"

The plane was given the British registration of G-ADUS, and he set off with Tommy Pethybridge in October 1935 to break the record to Australia set by the Comet in the Air Race. They ran into trouble in a violent storm just out of Italy and had to return for repairs. Undeterred, on 6th November 1935,

after the repairs were completed, Smithy and Pethybridge set off again and had got as far as Allahabad in the record-breaking time of just over 30 hours, had it continued and maintained that speed it would have reached Melbourne in 67 hours, some 4 hours less than the Comet's record.

The "Lady Southern Cross" was refuelled and took off again on 8th November 1935 ... for the final time. No more was heard of the "Lady Southern Cross" for 18 months, then some wreckage was found on the southern bank of Aye Island, just off the coast of Burma (now Myanmar) and identified as being from the plane.. That brought a great chapter of Australian aviation to an end, the west-to-east crossing of the Pacific was the first in that direction.