

WEB SITE

Check out our **COOL new WEB SITE** for hot club news at **SRCSClub.com.au** , with links to other sites and pictures. There is also a forum which members can participate in and ask questions about what ever. The newsletter will also be there in ADOBE format and an ADOBE reader can be downloaded from the WEB free of charge.

Thanks to Brett Finucane for putting us on to the WEB designer and to Paul Toyne our vice president and acting secretary for arranging for all the information. If anybody has any pictures or interesting information to contribute just contact Paul and he will arrange for it to be put on the WEB.

Thanks Guys.



Field Update

Our new mower is really working well and we can now mow the strip and the other areas any time as required which is usually early Saturday mornings. The field has never looked so good.

We are buying some more sleepers for the parking area and the safety barrier is being replaced.

Mike Close has donated a whipper Snipper to keep our edges tidy.

If anybody has an old mower for sale for donation we can take care of the grass under the shelter.

We have also been given a new sock – donated by Mike from **JORDAL HOBBIES**- thanks Mike

Stormin Normin

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**SYDNEY RADIO CONTROL SOCIETY - incorporated
CLUB NEWS**

<u>NAME</u>	<u>POSITION</u>	<u>PHONE</u>	<u>E-MAIL ADDRESS</u>
Mike Close	President	(02) 9872 6469	Mikeclose@cherry.com.au
Paul Toyne	Vice President & Safety Officer	(02) 9642 7059	Paul.Toyne@orica.com
Paul Toyne	Secretary		
Ewald Klinkenberg	Treasurer & Registrar	(02) 98312817	Klink@idx.com.au
Norman Bantin	Newsletter Editor	(02) 9624 8117	DOT11E@onaustralia.com.au
Robert Zyp	Ordinary Member		Rzyp@optusnet.com.au
Derek Slevin	Ordinary Member		Slevo047@bigpond.com

**Quarterly General Meeting
Castle Hill RSL
Gallery Room**

**Friday 23 May, 2003
2000 Hours (8PM)
All Members Welcome**

**Please note: venue is inside
the RSL Club Dress Rules Apply**



PRESIDENTS LETTER

A bit over a month ago my computer had a major malfunction and not for the first time this set me thinking. Technology really affects most of the things that we do these days. Much of what I do in my spare time came to an almost complete stop without the computer, whereas ten years ago I would not have noticed the difference.

It is easy to think that flying model aircraft does not use much modern technology but a little thought shows this is far from the truth. Model engines that are manufactured using CNC machinery are much better quality, with less variability between items, and require much less running in due to the tighter tolerances that they can be manufactured to without the possibility of undersize or oversize parts. Laser cut airframe parts have also enabled many kits to go together without the endless sanding that was often needed to get parts to fit properly. Computer radios, with all the extra flexibility that they give, are now common place, and at a price that in actual terms is less than much simpler units were ten or twenty years ago. Modern adhesives such as super glue and epoxies have made building much quicker and better and, for those that invest in them, flight simulators have made it possible to go through the actual flying instruction phase that much quicker.

Having said that there are still many aspects of our sport that hopefully will never be replaced by technology. These include being able to relax at the flying field with others with similar interests and away from many of the pressures of modern living. Many people give up some of their time to help it to be possible for the rest. Now that the draught, in the immediate Sydney area anyway, is over the field needs mowing regularly. The club committee continues to organize things and of course anyone wanting to learn to fly has to receive help. Not everyone can help with these due to the longer-term commitment of time.. There are however opportunities for more members to help on occasions. One of these is the Scale Rally, which has been brought forward to the 25th May this year to try and avoid the bad weather that we have recently in October. Whilst the weekend weather recently is a little worrying, all the preparation work is well underway as I write. However we always need more assistance on the day. Much of the help that is needed is only for an hour or so if we get enough volunteers. If you are free at all on the day why not let one of the committee know. Even if you are only there for a couple of hours, you will be able to see some beautiful scale aircraft and put something back into the success of the club. This also releases others to enjoy some part of the event as well.

The Friday before the Scale Rally is the QGM. This one will set the fees for next year although in fact it will not be able to set the total fees. Insurance is once again going to be a difficult issue and rather than get involved with changing costs as happened last year, the MAAA Council has only set an administration fee for the MAAA. Whatever MASNSW and SRCS decide the total fee will not be known till mid June when the insurance is finalized. However as these costs are likely to increase it is important that the club considers as many points of view when making its decision on fees.

I hope to see as many of you as possible there and also at the Scale Rally.

Happy and safe flying, Mike Close President

SYDNEY RADIO CONTROL SOCIETY - incorporated CLUB NEWS

MINUTES OF THE MARCH QUARTERLY MEETING

The meeting was held at the Castle Hill RSL Club on Friday 28 March 2003, Mike Close opened the meeting at 8-01 p.m., Paul Toyne recorded the minutes.

PRESENT:

Mike Close	Bob Evans
Phil Chapman	Colin Little
Bill Bollard	Ewald Klinkenberg
John Howard	Paul Toyne
Norm Bantin	Baldo Polizzi
Bill Barrett	Graham Gough

APOLOGIES:

Charlie Gough	Col Bruce
Robert Zyp	Tony Drover
Derek Slevin	

MINUTES OF THE PREVIOUS MEETING

The minutes of the previous QGM held at Castle Hill RSL held on 22-11-02 were accepted as a true and accurate record with no changes.

MATTERS ARISING

- No matters arising

TREASURERS REPORT

Profit & Loss [With Year to Date] October 2002 through February 2003

28/03/03
4:07:40 PM

	Selected Period	Year to Date
Income		
Donations	\$0.00	\$150.00
Gate Keyes	\$50.00	\$120.00
Joining Fees	\$225.00	\$1,262.50
Member Fees	\$1,689.00	\$13,616.20
Scale Day	\$506.60	\$506.60
Total Income	\$2,470.60	\$15,655.30
Expenses		
Badges	\$0.00	\$112.20
Bank Charges	\$6.44	\$13.29
Competition Prizes	\$232.00	\$272.00
Consumer Affairs	\$56.00	\$56.00
Equipment Hire	\$0.00	\$81.81
Equipment	\$150.00	\$188.50
Field Maintenance	\$149.01	\$149.01
Food & drink	\$34.25	\$34.25
Hall hire	\$150.00	\$300.00
Depreciation	\$206.58	\$206.58

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Expenses (Cont.)		
MAS fees	\$1,548.50	\$9,981.50
Postage & shipping	\$45.00	\$148.50
Printing	\$0.00	\$21.90
Scale Rally	\$159.95	\$183.43
News letter	\$160.07	\$349.84
Field upgrade	\$49.80	\$49.80
Toilet Services	\$110.00	\$110.00
Total Expenses	\$3,057.60	\$12,258.61
Net Surplus / (Deficit)	-\$587.00	\$3,396.69

REGISTRAR'S REPORT

Ewald Klinkenberg informed the meeting that membership now totals 119 consisting of 84 seniors, 8 Pensioners, 9 juniors, 13 Associates, 1 Spouse Flying and 4 Life Members.

SECRETARY'S REPORT

Correspondence In:

- OUT084 Nomination of Mike Close for life membership MASNSW
- OUT085 Acceptance of terms and conditions for CHRSL for QGM 28/3
- OUT086 Request for Wing n Things to sponsor Hog Day 2003

Correspondence Out:

- IN127 Letter from Philip Hibble offering financial support for shaded area.

SYDNEY RADIO CONTROL SOCIETY - incorporated CLUB NEWS

GENERAL BUSINESS

- Decided by members to forward certificates of appreciation to the following suppliers: Turtle Garden Supplies and Supreme Mowers. PT to format suitable certificate.
- SRCS web site is now up and running at www.srcsclub.com. The basics are there now and the site will be updated on a regular basis. Members are urged to forward information / photos for the site.
- Mike Close reported that the MAAA have now formulated a policy for the use of frequency synthesized equipment and this policy can be read in full on the MAAA web site.
- Mike also outlined the decision of MAAA to support the use of 27mhz equipment, in the form of park fliers, at a National level. It is still up to individual clubs to decide if they will permit the use of such equipment. A motion was moved by Bill Barrett and seconded by John Howard that the MAAA policy on the use of 27mhz be adopted by SRCS. Motion lapsed.
- Phil Chapman moved a motion and seconded by Norm Bantin that SRCS not move to the use of 10mhz at the field. This was carried unanimously. NO 10mhz AT SRCS FIELD.
- However a motion was further moved by Phil Chapman and seconded by John Howard that SRCS proceed with the purchase of a metric keyboard to replace the existing frequency key board at SRCS field. Motion carried. Also suggested that the keyboard be purchased from Silvertone along with enough 1" keys to supply each member with 2 new keys once they renew membership for 2003/2004 financial year. Mike Close to finalize.
- MAAA have decided that the testing for Gold Wings exam need only be conducted by one MAAA approved Instructor.
- Suggested that we should now be diligent in the notification to MASNSW of our Bronze Wing capable pilots and a question to this effect should be included on our next membership renewal.
- Noted that MASNSW have decided to purchase the State Field. This would possibly mean a \$6.00 increase in next years fees.
- Outlined the use of the Club mower in that only to be used by delegated members on a Saturday with two members present for safety reasons.
- Reminder that BBQ facilities will be made available on the last Saturday of each month. Members should bring along their own meat etc for cooking. SRCS to supply sausages on 29th March event.
- Bill Bollard notified the meeting that he was moving to Central Coast and this was his last meeting. The members present wished Bill well for the future.

No more business the meeting closed at 9.59pm.

Election of The Committee

As per the rules of Sydney Radio Control Society Incorporated the Committee is re-elected at the Annual General Meeting held in August every year. The Committee consists of the office bearers and two ordinary members. The office bearers are the of The President, Vice President, Secretary, Treasurer, News Letter Editor.

The president presides over and chairs all meetings of the association and is assisted by the vice president

The secretary is responsible to keep minutes of all appointments of office bearers and members of the committee, the names of members of the committee present at a committee meeting or a general meeting and all proceedings at committee meetings and general meetings.

The treasurer is responsible to ensure all monies due to the association are collected and received and that all payments authorized by the association are made and correct books and accounts are kept showing the financial affairs of the association. This includes full details of all receipts and expenditures connected with activities of the association. That all requirements of Corporate Affairs are complied with, and all information and affiliation fees required by MARS and MAAA are forwarded as required. The Treasurer is also the public officer.

The newsletter editor ensures that the information determined by the committee is included in the associations Newsletter, is collated and published to the timescales required.

Nominations for candidates for election to the committee must be made in writing, signed by two members of the association and accompanied by the written consent of the candidate. The nominations must be delivered to the secretary of the association not less than 28 days before the date fixed for the annual general meeting at which the election is to take place. If no nominations are received then nominations are called from the floor.

The ordinary members assist in the general running of the club

If you would like to assist in the running of the club then you can nominate by completing the form on the next page and send it to the secretary 28 days prior to the AGM.

STORMIN NORMIN

**SYDNEY RADIO CONTROL SOCIETY - incorporated
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**NOMINATION FORM for Candidate wishing to stand for election to the
COMMITTEE of the SYDNEY RADIO CONTROL SOCIETY Inc.**

I, being a
financial member of the
(Full name in block letter, please.)

Sydney Radio Control Society Inc., for the 2002/2003 year wishes to nominate
for the following position/s on the committee of the Society. (Please tick box.)

- | | |
|----------------------------------------------|--------------------------------------------|
| <input type="checkbox"/> PRESIDENT | <input type="checkbox"/> VICE -PRESIDENT |
| <input type="checkbox"/> SECRETARY | <input type="checkbox"/> TREASURER |
| <input type="checkbox"/> ORDINARY MEMBER (2) | <input type="checkbox"/> NEWSLETTER EDITOR |

.....
Signature

Nominated by:being a financial
member of the

Sydney Radio Control Society Inc., for the 2002/2003 year

Seconded by:being a financial
member of the

Sydney Radio Control Society Inc., for the 2002/2003 year

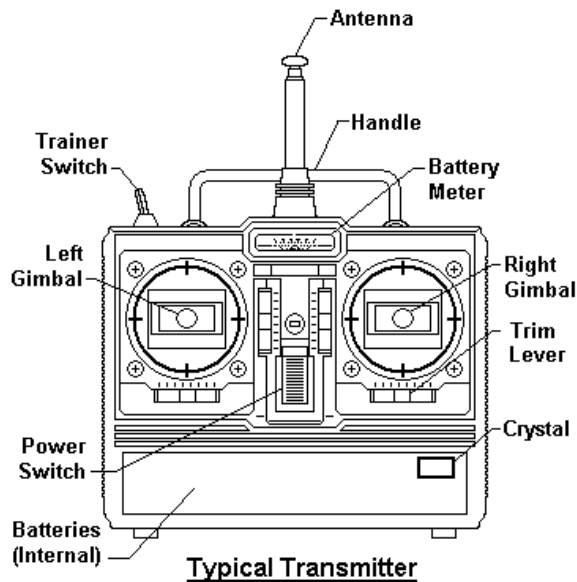
N.B. Under the amended Rules of the Society members may nominate for more than one position if they wish.

This nomination should be returned to the secretary SRCS 28 days before the AGM, addressed to:-

**PAUL TOYNE
SRCS Secretary
PO Box 201
Belfield NSW 2191**

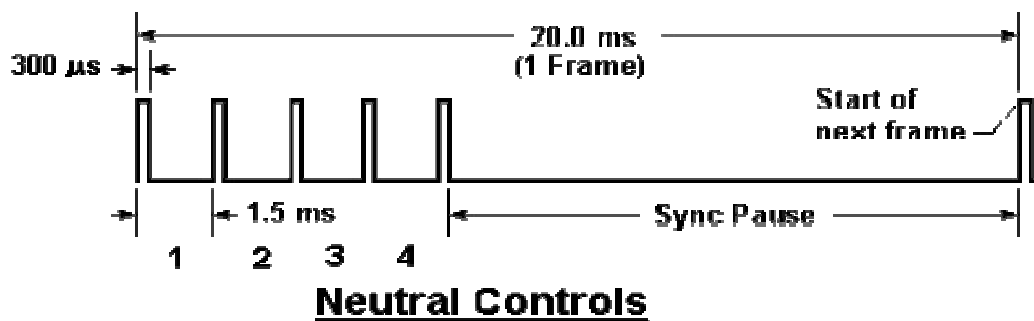
PULSE POSITION MODULATION

Pulse Code Modulation (PPM) is a method of transferring the position of the control devices of the transmitter to the servos to our aircraft via the receiver. A control device can be a gimbal, (stick) a knob, a switch or a slide control. The input devices are connected to potentiometers, which convert the positions into voltages. A dedicate Integrated Circuit (IC) called an encoder reads these voltages and produces a stream of pulses.



This information is transmitted to the receiver by modulating the RF carrier frequency of the transmitter. The modulation can be either amplitude modulation (AM) or frequency modulation (FM). AM modulates the carrier by changing the amplitude while FM varies the frequency. Most radios these days use FM as it is less susceptible to noise. The servos in our aircraft are connected to the decoded outputs of the receiver and convert these signals to mechanical force to operate a control surface after de-modulation by the receiver.

The pulses are transmitted by a series of data frames as shown below. Each frame is 20 ms long, so over a one second period there are fifty frames sent. The example below shows a four-channel system i.e. channels 1 to 4. A frame consists of a series of five 300 micro-sec pulses (i.e. 0.0003 sec each) with a variable space between each pulse. In the idle position the space is 1.5ms and when a stick is moved fully in one direction the space is reduced to 1 ms and 2ms in the other direction. So there is a range of 1 ms between each pulse.



If the input device is a 2 way switch, then in one position it will generate a 1 ms pulse and in the other position a 2ms pulse. If it is a 3-way switch then the pulse will be 1ms, 1.5ms and 2 ms respectively. If the input device is a gimbal, the pulse width will be in proportion to the gimbal position, hence the term proportional control. If the device is a knob or slider then it can be continuously adjusted. The gimbals allow us to proportionally vary the positions of the ailerons, elevator, rudder and throttle, while the switches can be used to retract the undercarriage or for onboard glow plug switching and the knob and trim levers can be used to adjust the trim.

After the last pulse has been transmitted there is a pause before another set of pulses is transmitted. This pause is called a Sync Pause and is used to reset the decoder in the receiver. The maximum number of channels is usually restricted to six to allow for pause time when all channels are at maximum i.e. 2 ms long. When the decoder detects the next pulse it then restarts the decoder again and whole process is repeated. As stated earlier there are 50 frames transmitted per second so as we move the gimbals the control surfaces move without any apparent delay.

Stormin Normin

Reference: Radio Control System Operation – Howard Sullivan

http://webpages.charter.net/rcfu/helps_hints/radio_ops.html

Receiver Packs - and how to test them

The battery packs are used in our model aircraft to power our receivers and the servos connected to them. Without the servos the receiver current drain is very little, of the order of 15 ma. However each servo when connected will draw much more than this from our battery. A typical servo in the idle state will draw 50mA, but when working against a load in the air can draw as much as 240mA and to hold the servo in that position would be in the order of 120mA. If you are performing multiple maneuvers and using 4 servos then the current draw can be as high as 960mA. If you are flying hands off then the current can be as low as 200mA.

Battery pack capacity is rated in ma/hours i.e. how many mas is available for one hour in a fully charged new battery pack. In a battery rated at 1000ma/hour you can use 1000mA for one hour or 500mA for two hours before the battery reaches its minimum voltage. At that point each cell is as low as 1.1V or 4.4V for a four-cell battery pack. When fully charged each cells will be close to 1.3V per cell or 5.2V for the battery. This gives a range of 4.4V to 5.2V of usable voltage. I prefer to stop flying at 4.8V and by experience that I can have at least 5 flights with a 1000mA battery. Obviously, It will depend on what and how you fly and state of and the age of your battery

To test a battery pack to need to measure the voltage while the servos are working under load, otherwise you will get a misleading measurement. This can be done by operating all servos on the ground whilst measuring the battery voltage, or a better way is use an expanded scale voltmeter with an internal load. You can also obtain a cheap (\$20) Digital Multi-meter from Dick Smith and make a test lead with a resistor as a dummy load wired across the battery to load it up and simulate current being drawn from the battery. For a 1000mA/hr battery we can draw 500mA for 2 hour so if we this would be a good choose for a load current and will a good indication of the state of the battery. A load resistor can be obtained from any electronics store for a few cents. To select a suitable load resistor you need to consider two things, first the required resistance and the power rating of the resistor. To determine these factors you use OHMS LAW to calculate the required values. OHMS LAW states that a current through a resistance (R) equals the voltage (V) divided by the current (I).

$I = E/R$ *This can be re-arranged to calculate the required resistance, i.e.* **$R = E/I$**

If we want a 500mA load, i.e. 0.5A and using the fully charge battery voltage of 5.2V

$R = 5.2V/0.5A = 10.4 \text{ ohm}$

The closest value to this is 10 ohm, so if you re-calculate it gives a load current of 520 ma, which is cool, not really it gets hot. When we pass current through a resistance it does work and creates heat. Resistors have a power rating which is the maximum power it can dissipate before it heats up excessively. So how do we calculate the power rating required? Power (P) equals voltage (V) multiplied by current, i.e.

$P = V \times I = 5.2 \times 0.5 = 2.6W$

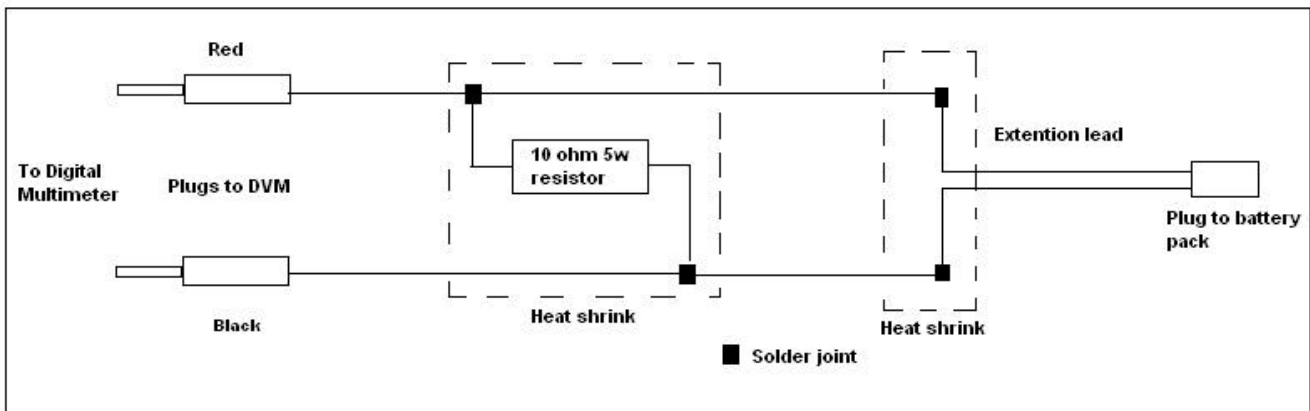
Therefore for a 520 ma load resistor we need a 10-ohm, 2.6watt resistor and the closest to this is 10 ohm, 5watt to be sure to be sure.

You can use the above formulae to re-calculate the values for a higher load current and corresponding resistance and power values.

So what does all mean? From experience I have found that if I measure the battery on load before the first flight is usually 5.3V. After each flight I re-measure the voltage until it drops to 4.8V and then I stop Flying and after 4 to 5 flights I still have enough electrons in the tank, so to speak. It obviously depends on the person and aircraft so, just experiment till you know the limitations of your battery.

How to make a test lead

What you need is a red and black plug, some cable for the leads, a load resistor, some heat shrink to insulate the solder joints or just use insulation tape and a servo extension lead . Cut the extension lead in half and use the half that will connect to switch harness. You might have an old servo lying around that you can use the lead off. Connect the plugs to your DVM and select the Voltage range and connect the other end to the switch harness socket. This will load the battery while you are measuring the voltage.



STORMIN NORMIN

TRIMMING YOUR AIRCRAFT – Helps, Hints & Tips – Mike Briese

The following is a list of the most common trim problems and their effects on the model:

- Wing incidence set too positive.
 1. The model tends to climb through right and left turns.
 2. When pulling out of a dive, the model tends to zoom upward instead of returning to level flight.
 3. When full throttle is applied the model tends to zoom upward.
- Wing incidence set too negative.
 1. The model tends to dive throughout the complete flight.
 2. The model will react opposite to a, b, and c above.
- Center of gravity too far forward
 1. The nose tends to drop in steep left and right turns.
 2. Rolls will be of the barrel type rather than axial.
- Center of gravity too far rearward.
 1. The tail tends to drop during turns.
 2. The controls will be too sensitive.
 3. Poor wind penetration.
 4. The model will tend to balloon when turned into the wind.
 5. The model lacks stability during flight.
- Too much engine down thrust.
 1. The model jumps up from straight and level flight when the engine is suddenly cut.
 2. The elevator requires excessive up trim to maintain level flight.
- Not enough engine down thrust or slight engine up thrust.
 1. The model goes into a dive from level flight when the engine is slightly cut.
 2. The engine requires down trim for level flight.

- Not enough engine right thrust.
 1. During a steep climb, the model tends to pull up to the left as it loses speed.
 2. Model tends to pull to the left near the top of a loop.
- Too much engine right thrust.
 1. During a steep climb, the model tends to pull up to the right as it loses speed.
 2. Model tends to pull to the right near the top of a loop.
- One wing panel is too heavy.
 1. The same wing panel will tend to pull outward during inside and outside loops.
 2. A heavy wing panel will cause the ailerons to trim with one aileron up, and the other down.
- Too much dihedral. (Pattern aircraft)
 1. The model will roll in the direction of the applied rudder.
 2. Rolls will be barrel rather than axial.
 3. The model will want to roll out of knife-edge flight.
 4. Inverted maneuvers will be difficult.
- Too little dihedral. (Pattern aircraft)
 1. The model will roll in the opposite direction of the applied rudder.
 2. The wing wants to tuck under during knife-edge flight.
 3. Poor tracking through inside loops.
 4. The model tends to lack stability during upright flight.

If the model cannot be trimmed properly when the probable cause has been established,

1. Check all surfaces for warps.
2. Check model alignment.
3. Check for aileron and elevator gap seals.
4. Check for play in control linkage and servos.
5. Check for poor servos that don't center properly.
6. Ensure that there is no problem with the radio.

Trimming a model may, at first seem like a very tedious task. In order to realize the full potential of any model, it must be trimmed properly. Many models have been labeled as dogs because they were never trimmed properly. With time and patience, trimming will become easier and enjoyable.

**SYDNEY RADIO CONTROL SOCIETY - incorporated
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Sydney Radio Control Society Inc.



Wish to advise that they will be holding their

Annual Scale Rally

at the S.R.C.S. Flying Field
on Bandon Rd, VINEYARD
Sunday 25th May 2003

All fliers of Scale Model Aeroplanes are invited to attend with their models to join in the activities on what always proves to be an excellent day.

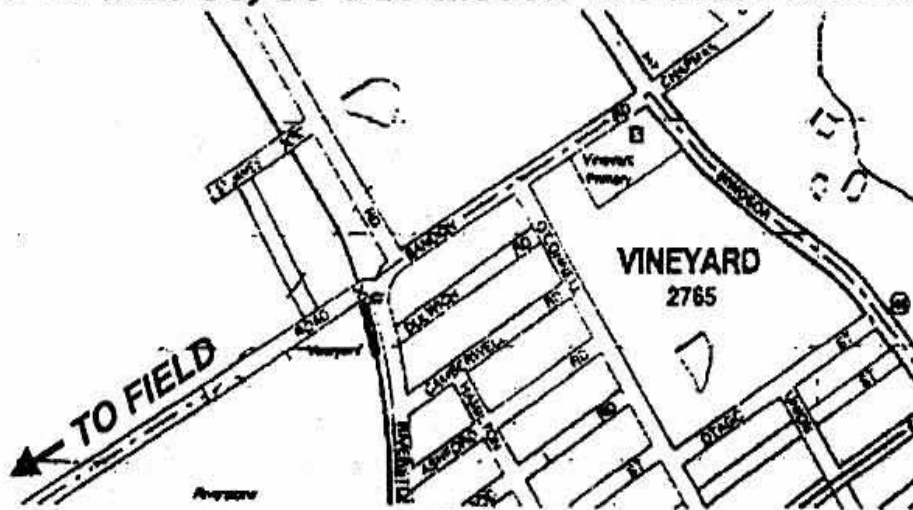
The Rally is open to all Scale sizes, and the usual permits are required for aircraft over 7kg.

Permits will not be issued on the day.

Pilots Briefing - 9.45 a.m.

Flying to Commence - 10 a.m.

Pilots with 60/80 size models are most welcome!



Gates open from 8.30 a.m.

Refreshments and food will be available

For further information contact Ron Irving 0408-299-236

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<u>Date</u>	<u>Alternate Date</u>	
25/5/03 (Sunday)		Scale Rally
22/6/03 (Sunday)	6/7/03	HOG Day
26/7/03 (Saturday)	9/8/03	Club Scale Rally
30/08/03 (Saturday)	13/9/03	Kevin Gray Memorial
Fun Fly		
29/11/03 (Saturday)	3/12/03	Pattern Day

These items can be purchased from the Club Treasurer:-

Club metal badges	\$5 ea.
Club cloth badges	\$5 ea.
SRCS stickers	50c ea.
Club Tee shirt	\$25 ea.

Please note that any article, technical or historical fact or fiction other than the published minutes of general meetings of the club, express the opinions of the writer of such articles and do not necessarily become fact. The club accepts no responsibility for any outcome of any incident that may or may not be attributed to any matter printed in the club newsletters.

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Application for Club Membership

I, _____
Name in full
of _____ Post Code _____
Full address

Occupation Phone private Phone Business

Date of Birth _____ (if under 18 on 31st December this year)
hereby apply to become a member of the **SYDNEY RADIO CONTROL SOCIETY
INCORPORATED**, and as a member, I agree to the rules of the association and in
becoming a member of the MAAA.
(If you are a member or were a member of an affiliated club of the MAAA , then
complete SECTION A below)

SECTION A (to be completed if you are or were a previous member of a club affiliated to
MAAA or MASNSW)

I am / was a member of _____
(Name of Club)

I last paid annual fees to that club for year _____
(Date of last fees)

My FAI number is / was AUS _____

My reason for leaving (if applicable) and joining SRCS is:

SECTION B (to be completed by pensioner applicants)

I am the holder of Pensioner Health Benefit card No. _____

PHB Card sighted _____
(Club Secretary)

Applicants Signature: _____

NOMINATED by : _____ **Date:** ___/___/___

SECONDED by : _____ **Date:** ___/___/___

Committee Acceptance Date: ___/___/___ **Rules sent date:** ___/___/___