

Newsletter - April 2004

And the winner is (or are) .... The winners line up with their trophies at Glider/Electric Day. MEETINGSMEETINGSMEETINGSMEETINGS The next meeting will be on Tuesday, 11th May 2004 at Tennis Cove, Eastern Valley

FROM THE SECRETARY'S DESK Complacency killed the cat, or something like that. I ask that you don't leave your Club affairs to someone else. There is an issue that has peeped over the horizon that could affect your flying. The monthly meeting can cover issues more freely than in this forum, so make the effort to attend meetings.

Way, starting at 7.30 pm.

The March meeting was short but a lot of 'yak' took place before and afterwards which cements the bonds and camaraderie of the flying fraternity. 12.5 % attended and 4.5% sent apologies. Of other functions, attending Tech. But surely not all 166?

the other 83% I am sure there would be some not in town, working infirm/sick, baby sitting, at I am sure like other years there will be around 80 or 90 at the AGM. in June. I would like to think it was because there was several contenders for the vacant Officers positions, but if the past is a guide most will grab their new keys, not bother to get to know new faces and bolt. Not even giving a thought to the time and effort of Treasurer, Stan Begg in

making this event occur as he has done for over 10 years. This is Stan's last hurrah, come hell or high water, so perhaps you might remember to give him the Yeh for the decade of dedication. NOISE been warned previously.

An issue was brought to the attention of the March meeting, whereby there was the loss of a Helicopter flying site at Riverwood because of noise. There are some very doubtful engines at the Belrose field, that can be heard at the main gate! If there is a noise breach the Committee may take drastic action against the member so self regulate as you have

**AMPHIBIOUS** *N*\*R\**A*\*M

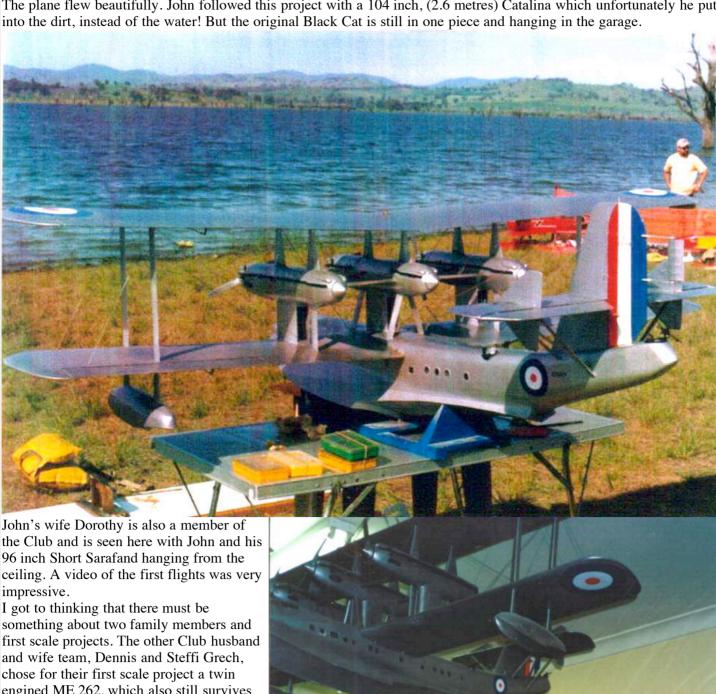
(Brian Porman) Last year you saw just what John Doherty was capable of building when he was featured in the September issue of the "From the Workshop" series with the 4 engined Maia and the piggyback 4 engined Mercury.

But this modeller is no shrinking violet when it comes to building first scale models! The pic on the right shows John's very first scale effort back in the early 90's. It is a 79 and a bit inches Catalina, (that's 2 metres to you young'uns).

John has let it be known that the Maia is yet to have its maiden flight. To begin with, it needs two very qualified pilots, and John says he isn't one of them, not yet anyway. Meanwhile he has been distracted by an ARF Tiger Moth and others, to give relief from

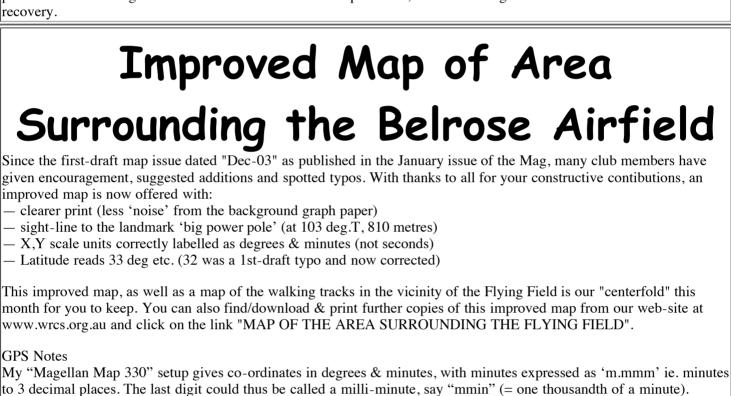
the big project.

10lbs.



Moving from the Drawing office, he went into the Consulting business with a Dutch friend. The firm was Eken & Doherty. Later upon the retiring of his friend, Eken, this became MJ Doherty & Co. This consultancy went for 33 years starting off after the War with conversion work size 6 engined aircraft.

[brian porman] Charles Peake covered Landing last time and the value of personal instruction. However there is no substitute for practise and experience as Charles continues..... TOO MUCH TOO LATE! A basic problem of most students might be described as too much too late. That is, not realising quickly enough what the machine is doing, and then overcorrecting on the controls. Furthermore, it is as important to know when to take out a control deflection as when to put it in. For those brave souls who aspire to the model helicopter, this soon becomes even more painfully obvious than in the case of a fixed wing model. Note that it was emphasised earlier that with ailerons especially, the aircraft continues to roll as long as the ailerons are deflected. So in maintaining the wings level for straight flight, the ailerons must be allowed to centralise as soon as the wings are level. Likewise, when you roll out of a turn to the wings level position. When you roll into a turn, failure to reduce aileron deflection when the wings are at the desired angle of bank will allow the bank to increase and the nose to drop as described earlier. This is the start of a spiral dive, and it is important to understand that pulling the stick back under these conditions will only tighten the turn, not make the aircraft climb. Hence the injunction to get the wings level first. The spiral dive should not be confused with the spin. A spin occurs when one wing stalls before the other. The aircraft begins to rotate about an axis somewhere between all the normal axes, with the wing on the outside of the spin continuing to lift, while the inner wing remains stalled. In this condition ailerons are ineffective in raising the low wing, and to stop the spin it is necessary to apply opposite rudder to reverse the inside/outside effect and stop the spin. Since most trainers have to be forced to spin in the first place, and some may not even be capable of spinning, this is not usually of much concern to the student in the early stages, but try to find someone to show you what a spin looks like. Most models recover from a spin by themselves if the controls are allowed to centralise, and it is then a simple matter to pull out of the ensuing dive. This is not the case with the spiral dive, where the wings must be rolled level with aileron



Allowing for daily satellite variations etc, typical GPS accuracy these days seems to be about +/- 2 mmin, equivalent to +/- 4 metres. To closely relate mmin to metres, just compare the side-by-side Longitude and metre scales along the top

During any bush-bashing, my GPS screen clearly displays the desired Goto-track as a solid straight line. Then my actual walks appear as thin dotted "ant trails" meandering near the Goto-line. Guided by these 2 clear features, its quite easy to plan & carry out a GPS-based grid-search (without the old-fashioned urge to mark chunks of searched bush with lengths

Points on the Belrose map were plotted as my best-estimates to the nearest 1 mmin (about 2 metres). Thus in theory a 1st-pass walk along a good GPS goto-line will always lead you close enough to spot your crashed plane. (A "good" goto-

commence a grid-search by using a GPS ant-trail to steer you back about 10 meters to one side of the GPS goto-line that

Of course the process could be continued to cover an ever-widening belt of bush on both sides of the original goto-line. But with careful Visual-noting & GPS-entering of your crash-site bearing, an extended seach should seldom if ever be

- At crash-time, note a nearby direction marker (M) that's directly in-line with K.(eg. M may conveniently be a tree or

However if your bearing input was a few degrees off, and you find nought on your first-pass, don't dispair. Just

In Nov-03 my downed Ultra-Sport 60 was found after 5 minutes on such a 2nd-pass.

100

Scale, metre

(north) side of our Belrose-Field map.

of string etc.), see discussion following.

you've just walked as the 1st-pass.

rock on the far-edge of the field).

280

line's bearing is within 1 degree of the crash-site).

Getting a good GPS-bearing on the crash-site (K)

Into your GPS, fix or 'mark' M as waypoint M.

0 140 Elevin, m

140 m

b 138

JEGETIABLE DO WE (NO TLACK) &

GARIGAL

NATIONAL PARK-EAST

OF FOREST WAY

2004

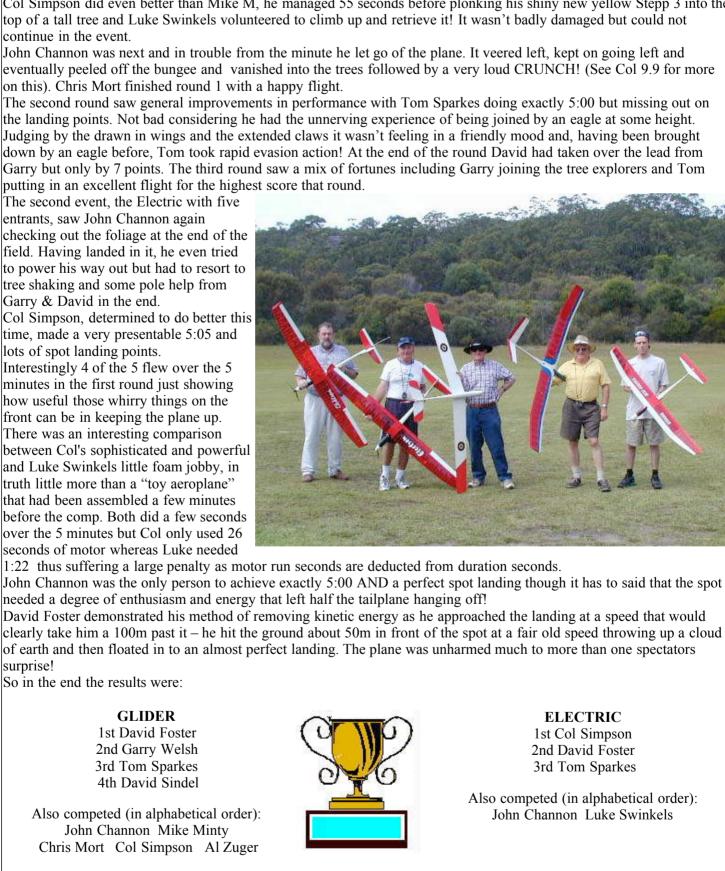
The method below (all in degrees-True) worked well for me:

Then walk a straight-line to M and note your GPS heading (H).

Return to your initial pilot area (P) and mark this as waypoint P.

Model-recovery by GPS

## SE Soch Radius Creek •9 Radius Latitude 33° 42.4 minutes WRCS Belrose Airfield Area



Special thanks go to Kerry Smith for acting as Contest Director and Chris Hebbard for handing out the prizes. A very

Congratulations to

MONTE UDRZAL and DEAN SCHUBACK

on being awarded their GOLD WINGS

Speaking of Gliders, Mike Minty pulled his out of the

back of his workshop where it had languished for the

of the sealed canopy making it impossible to clean

somewhere and probably buggered"

for the wings.

past four years to find mould has grown on the INSIDE

without serious surgery. He also had to borrow batteries from Col Simpson as his own are quote "buried in a box

We were reminded that when you are designing your

own plane "to steal one man's work is plagiarism; to

steal many men's work is research!". By the way, the

next prototype Plagiarist is ready to build, previous problem hopefully solved by using GOOD Spruce spars

COLUMN 9.9

(incl. GST)

pleasant (and peaceful!) way to start the annual competition season.

Overheard in the Gerries shed, a conversation between

Porthole". "You know that stuff they put in our tea in

You know how you always check your controls before

you MUST have the receiver on to do this – yes? Well, a

certain glider pilot who shall be nameless in this column

forgot the "receiver on" part of the process - whoops!

One of the secrets of success in comp flying is practice

and Garry Welsh did just that in the week before the Glider Comp. It was obvious that some others hadn't, but

1955?" "Yeah mate." "Well its started to kick in!"

taking off? You know, Left Rudder, Right Rudder; Elevator up & down; Ailerons Left & Right ......but

two old Air Force "Nashos", whom we'll call "Mullah &

SPRING BARRELL THROTTLE ARM

lean - wind the screw in a little. [1/8th of a turn] to give a very slightly rich mixture. and extremes of weather.

John chose the Australian Black Cat squadron markings. The original of John's number, was notorious for dropping a load of mines in the bay at Broome on take off during World War II. The power for the model was provided by two OS Wankels, each about 0.30 cu inch. As you can see, it was fitted with retractable gear. But John said the plane was just too heavy, as expecting the worst, he lathered on the resin and glass inside and out. So for the first flight at Lake Glenbawn, near Scone, the u/c was removed and the weight came down to

The plane flew beautifully. John followed this project with a 104 inch, (2.6 metres) Catalina which unfortunately he put

engined ME 262, which also still survives and in fact flew last on 31 January. So perhaps the go is to join up the missus before you get into multi's! I guess pigs will fly before Jill Furzer joins Grant! But let's meet the Doherty's again. The next photo is of John and Dorothy seen standing behind the Tiger Moth in that very large model room that used to be the family room of their Gordon home. (One advantage of the kids leaving home!) John started his working life as an apprentice boilermaker and after 21/2 years went into the Drawing Office at Vickers Cockatoo then onto Morts Dock. His first taste of modelling was in about 1943/45 at the age of 16/17, making 1/72 scale models for the Volunteer Air Observers Corps. These were carved from hardwood when balsa was unattainable during the War. Serious modelling did not emerge until retirement around 1988. John had proceeded to become a Professional Naval Architect (Sydney Technical College). such as coal to oil fired boats and motorising steam tugs Later original work took in such boat types as as Island traders John's amphibious bent is quite apparent. The 96inch Short Sarafand, shown hanging from the roof, flew impressively, as demonstrated in the 1999 video I viewed. The model was scratch built from 3 view drawings in a book of the full John has 3 OS Wankels as tractors with dummy push engines. At its first event in 1999 the aircraft took out the Pilot's award Bob Parker Memorial Trophy at Albury/Wodonga. This project took John 3 years. Thanks John & Dorothy for a look at one branch of our hobby that few are exposed to. It's a shame we don't have a lake close by that is legal for the ROW aficionados.

DOWN ARCHIVE ALLEY recovery.

## Enter 'Goto M' and the GPS gives bearing 'B' = direction of M from P. Do a quick check that B = H to confirm that B is a good GPS bearing. Move the GPS map cursor to point 'X', some 100 m. beyond the K-area. Manoeuvre the cursor so that X (like M) is on bearing B from P While you're still at P, enter 'Goto X' to create the vital good 'Goto-line'. Start walking the Goto-line to find your aircraft. Happy landings,

Heli

Peter B.

-Shows GPS co-ord's & Elevations m

Glider Day

By the traditional late start things had changed, the sun was coming out, a gentle breeze came from the sea and Garry Welsh proved there was lift in the very first flight of the comp producing a very respectable 4:52 (against a target of 5 minutes) and landed close enough to the spot to pick up an extra points for the landing (maximum 30 points). Mike Minty followed him up flying his Aquilla that has sat in his workshop for the past 4 years and proved that there was sink as well as lift with a glorious

49 second flight through a tree! Tom Sparkes did a little better with a 1:40 and from his trusty Stepp 3 and was followed by David Foster with his sort of Gentle Lady and 3:08 and a maximum landing bonus. David Sindel

February 15th

It didn't look like an ideal day first thing in the morning – solid cloud, cool air and no wind – where was the lift going to

come from? Nine people registered for the glider section, eight flew and six survived.

Walking Map prepared by Phil Gough and reproduced with his permission

. N. Soul

230 m. Air Strip

was next up and put in a respectable Col Simpson did even better than Mike M, he managed 55 seconds before plonking his shiny new yellow Stepp 3 into the

IDLE SPEED LOCKING

carby. This is the rotor retention and idle speed screw. THE MAIN NEEDLE. called the needle valve. The end of this tube is exposed to the air flowing through the venturi section - the main hole through the carby into the engine, - and there it does the job of a fuel jet or spray bar. The needle valve is drilled to a diameter that is a neat fit on the needle and, close to the jet end, the diameter of the hole is reduced. As the needle is wound in, the pointed end enters the stepped down hole and gauges the flow of the fuel. Further in, less fuel and vice-versa. Adjusting this mixture is common practice gained by experience and the experienced modeller knows well to tune a little on the rich side as the engine unloads in the air and a fully tuned engine on the ground is a lean engine in the air. THROTTLE ARM ADJUSTMENT. The other adjustment on the carby is the throttle arm and this is the most neglected adjustment of all in most cases. I am certain you know well the methods of setting differential aileron travel, for example, by using a disc on the servo and connecting the aileron rods behind the centre of the disc. Also, when installing a control horn on a surface such as elevator or rudder, the importance of having the connection pivot in line with the hinge line to obtain equal travel.

If you were concerned and lost sleepless nights after the as Garry said "gliders fly very differently from power report in Column 9.9 a few months ago that Peter Barnes planes and it takes a while to get used to the different couldn't find his model without the lost model tracker ... characteristics" well, its been found. DOWN ARCHIVE ALLEY BRIAN WINCH'S ENGINE BIT: Reproduced by Brian Porman with the kind permission of Brian Winch from RCSA Jan. 1997. BP's comments are in italics. CARBURETTORS - HOW TO SET THEM The carburettors used on model aircraft are of three different types. The first is a diaphragm or butterfly carburettor and this is the type most commonly found on the large engines, particularly the convert type engines. Examples of these are Walbro and Dellorto. (This section, which may only have a small readership, could be reproduced in a later article if there is general interest and members with or thinking of using this carbie would like the BW low down. Please let me know) NEEDLE VALVE ENGINE BIT AIR BLEED CARBURETTOR CARB. HOUSING LOCKING SPRING IDLING MIXTURE ADJUST AIR VALVE AIR BLEED CARBURETTOR. The next carby is the air bleed type as is found on Enya and some OS as an example. The sketch shows the hole in the body of the carburettor and in the Enya, a spring loaded screw at the top, and in the side for the OS. The hole and the screw serve one purpose only and that is to adjust the amount of air available to the engine at idle rpm. As the spring loaded screw is wound IN so that it partially blocks the hole it, obviously, impedes the flow of air. Winding IN gives a RICH mixture and OUT gives a LEAN mixture. The richness and leanness of a fuel mixture relates to the amount of liquid fuel supplied to the engine. A lean mix is a mixture with too little fuel/too much air and a rich mix is too much fuel/too little air. The fuel comes from the main jet but the rotor of the carby is closed in the idle position so the air has to be supplied by the hole. When tuning, the control, run the engine until well warm and correctly adjust the main mixture needle. Close (pull back) the throttle until the engine is idling close to the desired speed, generally around 2,800 to 3,000 rpm. Very carefully adjust the air bleed screw in small amounts and listen to the engine. If the rpm increases and the engine stops then the mix is too If the engine slowly loses rpm and stops then the mixture is too rich - wind the screw out. Adjust the (main mixture) needle until you have the highest rpm the engine can retain without stopping, then wind (the screw) in about 45 degrees Except in the most extreme circumstances, this is a set and forget area as it is very tolerant of prop loads, plug changes (Air bleed) is a very simple and reliable mixture control so why isn't it used on more carbies? It has two drawbacks! To choke the engine for starting the throttle must be open otherwise air is drawn through the hole and it drastically reduces the suction on the fuel supply. The other problem is that it controls the fuel mix for a very small amount of throttle movement, so that the engine is slobbery rich in the mid range. The method of overcoming this to some extent is to fit a carby with a small venturi and this is the case with the Enya and OS and this has a side benefit in that the suction from the tank is greater so tank position is not so critical with most of the engines fitted with these carbies.

Before we move too far away, on both these carbies you can see another spring loaded screw, in both cases, on top of the Serving a double purpose it retains the rotor in the carby body and can also be adjusted to set the speed of the idle. In most carbies, if this screw comes out, the rotor follows quite rapidly so keep an eye on it occasionally. The main mix for these carbies is the same as most others and that is a tapered needle in a stepped hole tube commonly

The same problems crop up with throttle connections where we need a Set your engine servo also in the halfway position and then make the connections between the two. Now you will find there is no "ganging up" of the throttle movement and the changes will be reasonably even as you move the stick on the Tx. The big benefit is that you will have very nice control at low throttle which, as any scale flier knows, is extremely important when coming in for a landing talking of which, it is about time for me to come to the final leg. ......and that final leg, twin needle or fuel metering carbies, will be reproduced in our next issue \* Index \* Map \* Membership \* Committee \* Events \* Results \* Newsletters\* \* <u>Beginners</u> \* <u>Photos</u> \* <u>Articles</u> \* <u>Hints</u> \* <u>Classifieds</u> \* <u>Links</u> \*

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