

CHRISTCHURCH MODEL AERO CLUB EXECUTIVE 2013 / 14

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CHRISTCHURCH MODEL AERO CLUB (INC)

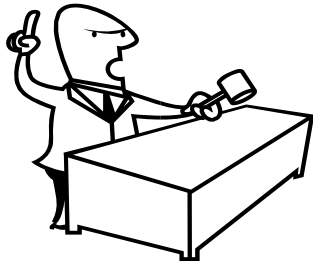
September 2013

Torque



If undelivered please return to P.O. Box 14115 Christchurch Airport





THE PREZ SEZ

Junior / Junior = under 18
Junior = 18 to 60
Senior = 60 to 80
Senior / Senior = 80+
Club perceived age / knowledge

I have just returned from a sales conference in Auckland, we were late due to a cancelled flight (Jetstar), say no more!!!

But when we arrived we were welcomed to the conference by the Aussie trainers as part of the family, the theme was that we were all a big family.

This caused me to think that CMAC was also one big family, and it is important to help each other whether young or old. We can all remember past members who are no longer with us or perhaps now have difficulty flying (I hoped you hadn't seen my last effort Grahame BGGG) but I have noticed that we still keep in touch with these people and offer support where we can – that's what a family does.

By the same token we also need to offer support to our younger members to ensure that they learn and enjoy our hobby as part of the CMAC family.

Happy Flying
Grahame Hart

Well said Graham, hope those Aussies were not related to that Spittle, BGGG



Stu Grant (center) launching Granddad E's 2nd place getting 48in Tomboy. To the left is Lynn Rodway. Part of the Tomboy family.

Minutes of CMAC committee meeting, Thursday 12 September 2013, held at – 6B Middlepark Road, Upper Riccarton

Present: Grahame Hart, Ian Harvey; Trevor Henderson, Graham Moffatt, Gary Burrows

Apologies: Alex Hewson, Dave Jackson (without a note!) Mark Venter

Minutes of last meeting: moved and carried (Grahame, Trevor)

Business arising from last meeting: Club projects were discussed – see below for topics

Correspondence in: - From Andrew Palmer offering to do Wings Badge instructing and examining. Accepted by committee and secretary to write letter of acceptance and inform MFNZ. Correspondence from Trevor-Graeme Henderson (whose land we lease) re cattle and electric fence. When they depart, CMAC may need to purchase a three wire electric sheep fence to keep the strip area in good condition.

Correspondence out: To Andrew Palmer thanking him for his Wings officiating offer and informing him that it will be considered by the committee.

Treasurer's report: Cheque book balance at \$3,333.56 and saving account at \$2,681.17. Recently paid: Auditor - \$350.00 and annual farmer payment for field - \$1200.00. Still to pay is: to Christchurch CC \$100.00 for forward hall hire for indoor meetings; some cash in hand for subs but all should be squared away very soon. Cheque made out for \$278.00 for 4 more MFNZ affiliations.

Section officers' reports:-

R/C glider: Three contestants only for 2,4,6,8,10 contest on Sun 8th. Scott Chisholm, Dave Griffin and Andrew Palmer flew in excellent conditions. F3J DHL glider coming up on 14th. Cirrus trophy will be before aero-tow meeting in Darfield airfield on 27th Sept.

Free Flight/Vintage: Some activity with Lynn Rodway alone competing in Open Power and ending in a tree. Some good events in the pipeline, weather permitting. There was some concern raised of free fliers setting up for launching to the east of the power strip runway. This could prove dangerous in over-shoots. There was no certainty as to the identity of the perps, but they need to be warned of their impending peril.

Pylon: Recently - practice flying only. Should be getting back to regular flying as people re-group after the winter with new craft.

R/C Power: Weather has been against good attendance at club days. However, the strip has been mown and looking good.

Website and Torque: nil report but there was a warning of the impending next edition of Torque; contributions required.

Other business: Pot-hole at field entrance requires some attention; costing of hard-fill to be obtained (Graham Hart to action). Two starting benches are being design and built by Ivan Campbell. If successful and practical, 2 more may be commissioned.

One class indoor / outdoor pylon racing project using Thunder Tiger Rare Bear electric scale 864mm span model is in hand and two arriving soon as demo models to generate enthusiasm.

Next rally / BBQ for 29th Sept. Grahame and Graeme will organise and free victuals for members will be reimbursed to organisers as required. Next club night (first Tuesday in the month) will feature the immediate past president of NZMAA (Barry Lennox on things of immediate interest to all modellers)

Meeting ended at 8:48pm; date of next meeting - second Thursday in October, same venue

VIC SMEED PRECISION 15 SEPTEMBER

Only 3 turned up to fly, the genuine old time modelers, who above all, rejoice in flying free flight events with models that hooked them on to modeling in the first place.

Stew Morse, Bruce Weatherall and Lynn (dead eye dick at retrieving treed models) Rodway. Where were all you other FF'rs??

The weather was quite reasonable, if slightly cold from the Southerly wind which necessitated a shift to the pylons.

First in the air (after much flicking of the Cox) was Bruce and the old (did I mention that it was old!!!!) Cherub for a standard setting flight of 1min 34secs (scoring $90-4=86$).

Next up was Stew and, need I say it, flying a Tomboy. The motor was performing great, even though it never did when fitted to his RC Tomboy!!! So good in fact that it exceeded the required 90sec by 17 scoring him 73. In with a chance I thought though Bruce and Lynn would be hard to beat.

But no, Lynn just wasn't in the hunt with a first and second flights of 27 and 27secs, but at least his last flight of 42 was an improvement and definitely better than the other's last flights.

Today was Stews lucky day with his last 2 flights scoring 87 and 34 which left Bruce only having to score 38 on his last flight to take out the day, BUT not to be, with a miserable 16 after 2 no flights, tough!!!

VIC SMEED PRECISION	Flight 1	Flight 2	Flight 3	TOTAL
Stew Morse	73	87	34	194
Bruce Weatherall	86	71	16	173
Lynn Rodway	27	27	42	96



Bruce (left) Lynn (right) engaged in what they love the most, engine starting!!!!

PROPELLERS AS UNDERSTOOD BY BIG T.

What is a 9x6 propeller?

In this configuration the 9 is the diameter and the 6 is the pitch- and in an ideal world would amount to the distance travelled per revolution.

Each propeller blade is in fact a wing that produces forward lift at each revolution- the amount of lift/ forward motion is determined by the 'pitch' or the angle of the blade- and also the airfoil of the blade. Many describe a propeller as the gearbox of an engine and selecting the correct gear/ pitch is made easier when you have lots of experience...don't forget that we are all still learning!

Every cross section of each blade produces its own lift and drag, and must be carefully considered to attain the maximum performance.

Because the blade is rotating when the engine is running the direction and velocity of air meeting each blade varies widely from the hub to the tip...for maximum efficiency the angle of attack- commonly known as pitch of each section of blade must be adjusted to produce the best drag to lift ratio. For this reason it is important that each blade is the same pitch at each section- known as a 'station' and also the same thickness at each station. Those of us who manufacture our own propellers are familiar with a pitch gauge and vernier callipers- they are both important tools that need to be used when trying to extract the maximum performance out of the propeller/ engine combination.

Generally speaking propellers operate at maximum efficiency only at one specific air speed, air density, rpm, and engine power and any departure from the design criteria tends to reduce the efficiency and effectiveness- most times,, unless you know what you are doing any propeller modification will give you detrimental results.

For a sport flier modifying a propeller should be the last thing to consider and you are better-off purchasing another grey propeller of a different pitch and diameter- but for the racing enthusiast then experimenting with propellers is part of the sport. In racing, whether it be control line or pylon racing the aim is to produce a 'high performing' propeller to work at optimum efficiency at all times.

In general the horsepower and air density do not change too much during the day so we end up having to adjust our propellers to attain maximum air speed with engine RPM....us competitive modelers tend to carry a large number of propellers to allow us to attain maximum performance. The other way of doing it is to simply readjust the needle but I think that will be a separate article at some later stage.

I often refer to a pitch as a 'resultant pitch' which takes into account the efficiency of the propeller. No propeller will be 100% efficient and we should take this into account when recording and we should assume that to have an 80% efficient propeller is possibly the best you will ever get.

What are the propeller airfoils that we use?

Most use a CLARK Y airfoil which has an **angle of attack of 2.0 degrees**- this is not a flat bottom airfoil but one that has a slightly raised and radiused leading edge (called "Phillips entry" BGGG). Many will be fooled with this airfoil when using a pitch gauge as the radiused leading tends to be forgotten- whilst the 2 degrees is not too much of a problem it certainly becomes very important when trying to match blade for blade when modifying a carbon fibre propeller.

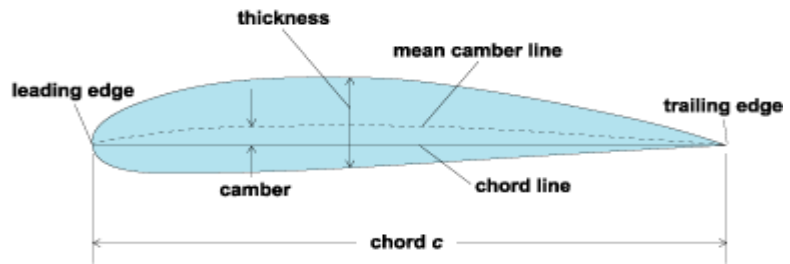
INDOOR FLYING FOR THE 8TH SEPTEMBER. EVENT F.1.D.

Kay, Nev and I flew this N.D.C. event. Kay and I had spikes protruding out of the front of our prop shafts so we wouldn't get hung up above the heaters. Did it work? Yes but then Nev didn't use one and he also didn't hang up but I suspect it will happen. What else can I say about the meeting, well the three of us tried our best to get better times as we always do and sometimes we get improvements other times we go backwards. But with indoor free flight it's always an enjoyable and fulfilling experience.

Times. Bill. 16 min 30 sec. Kay. 15 min 31 sec. Nev. 12 min 37 sec. (Total of two best times.)

Next meeting 13th October, events Hanger Rat and H.L.G.

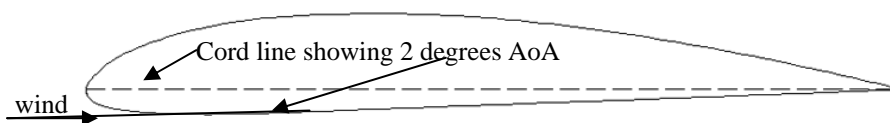
FOR YOUR INFO



Angle of incidence for the wing is, "the angle that the wing chord line makes with the center line of the fuselage".

Angle of attack for the wing is, "the angle that the wing chord line makes with the airflow".

As you can see the angle of incidence is built in and therefore fixed in the model but the angle of attack is variable depending on the model's attitude to the airflow.



Clark Y section showing cord line

But, there is no such thing as a flat bottom Clark. People keep calling a straight line with a french curve on top a Clark Y. A Clark Y airfoil is not flat bottomed! It is flat from the TE forward to 25% chord, and then it ain't. It is a cambered airfoil, some people call "semi-symmetrical" since there are no concave lines on the lower surface. For symmetrical airfoils, the zero lift line happens to coincide with the chord line, the chord line is really more of a physical reference than anything else, a datum line if you will, and has little else significance. Better to turn your aerodynamic attention towards the zero lift line.- the chord line is not the zero lift line, it is the line from the apex of the LE to the apex of the TE. - it is quite normal for cambered airfoils to have a zero lift angle that is negative *relative to the chord line*, refer to the graph below where zero lift for the Clark Y occurs at a angle of attack of -3.52 degrees (the graph is not accurate but shows you what you need to know)

Parameters for the Clark-Y:

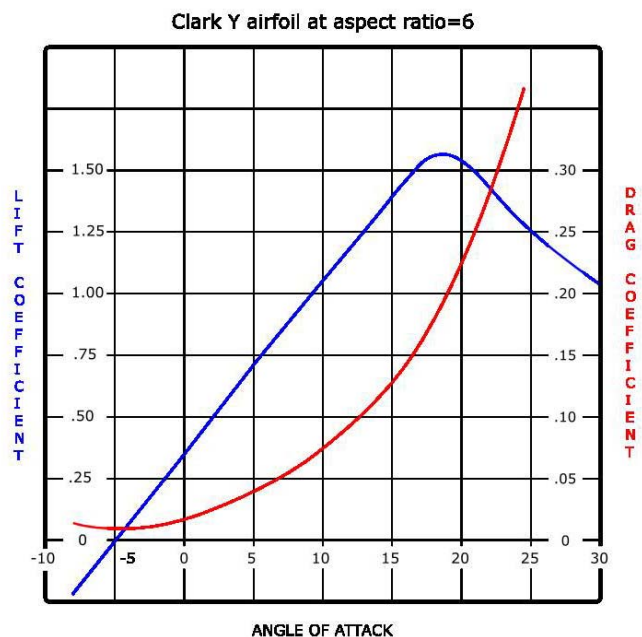
Zero lift angle: -3.52 degrees (the only place to get this is from airfoil data)

Ideal angle of attack : $+0.91$ degrees

Camber: 3.55%

Thickness: 11.72%

These numbers are from Compufoil data





Seen at Lake Forsythe ‘the brains trust and bargain hunting trio’ must have had a late night as you can’t see the eyes because of the dark glasses!!!

**Just some of the bargains for sale by Paul (“I have at least 3 times as much as this back home”) Lagan.
The “Stick” with motor and servos ARF \$100 a bargain**





**A10 “Warthog” taxi-
ing back after an im-
pressive display.
In back ground is
the “smokey” aero-
batic display model
getting ready to per-
form.**



**Johnny Jewel’s
great looking
Spitfire**



**There were 3 B17’s on show and looking
good considering they ARF foamies
from Hobby King??? Where are the
builders these days???**



**Meteor jet, didn’t see it flying but did see
Grahame Smithson’s Vampire put on a
Vampire type display (I understand that if
you flame out in the real one best you hit the
silk)**



What is this, a couple of happy Tomboy fliers discussing catapult glider plans. Maybe they think they would do better at free flight than radio!!!! BGGG is thinking the same!!!!

POOPY PUPPY POOPER SCOOPER REPORTS

- There is a hole in the plantation to the southwest which I understand was achieved by “Dead Eye Dick Rodway” retrieving his wayward Open Power Model which he treed on his second flight. I just thought it was caused by our wind event this week, just shows you how wrong you can be.

Soaring results

Class J		8/09/2013					
Willows							
		2min	4min	6min	8min	10min	Total
Scott Chisholm		2:02	4:01	5:59	8:02	10:02	2270
		98	95	97	96	92	
Andrew Palmer		1:59	4:00	6:02	8:04	10:04	2251
		92	95	92	97	85	
Dave Griffin		1:59	4:01	5:03	8:02	10:02	2149
		96	90	96	40	96	

TOMBOY TALES FOR 25 AUGUST

What a day, the weather was ok even if partly overcast with reasonably high up top westerly wind (and other things) caused the down fall of the much vaunted return to the flying ranks of BGGG. (more on that later)

Our previous high fliers who, in our last event, succumbed to the dreaded lack of eyesight causing their models to arrive on the ground some considerable distance down wind, fortunately to be returned and flown again this time with great success.

It seems that 48inch models (that they use) are the way to go as they are more easily seen at altitude provided you keep them up wind (their downfall last time).

John Dunstan's (suffering from jet lag after a 48 hr return from bum pinching in Italy) 48 electric managing to pip John Ensoll's 48 1.3 Mills by 68 seconds. As these were the only 48 inch models, the rest of the group flew the 36'rs with great gusto and varying results.

The only other electric competing was Ashely Glubb (where were you Dave Jackson?) who placed 3rd.

Last event winner, Mark Venter, had a mixed bag with one nearly 8minute first flight followed by 3.5 and 6 minute flights, as the contest was for the best 2 out of 3 to count it allowed for him to secure 4th place.

Lynn Rodway had a lucky and not so lucky contest, great looking models and powered by the reliable MPJet, was left to regret letting his model get down wind as it landed outside the launch paddock for a zero first flight, the second while a scoring flight of just over 6 minutes just managed to land in the paddock (lucky) 3rd flight was 5.5 minutes. For 5th place.

Now for the rest, Stu Grant was looking good after his first flight (5 m 18s) then the wheels fell off (2m 42s and 3m 50s) for 6th.

Stew Morse was at least consistent with flights of 74, 72, 107 it seems that his motor was letting him down with very short runs. (need to check to see if any of the other Mills you have are any better, after all there must be one amongst the 7 that is better Stew!!!) 7th.

Now to the last place getter, your editor/CD BGGG, he came out with all good intentions of slaughtering those 48 inch TB and any electric types that were there, after all the Paul Chisholm motor that he now had was a beauty (last run on the bench at full revs produced a run time of 6m 10s). He had a test flight which seemed OK so into the "*Valley of Ridicule*" he went. First flight had a short run with all the fuel used up, strange, must have not tuned the fuel/compression right so a bench run with adjustments now over 4m 50s so good to go. Away he went, motor on song, but he was having trouble keeping the model into wind, model was climbing well and soon became hard to see, let alone knowing which way it was going. "I can't see it" was the cry to his timer Mark Venter who quietly gave BGGG instructions but to no avail as the last sighting was that the model was in a spiral earth bound. This was after about 4m flying time and the motor seemed to be still going.

The search party hero's (Mark Venter, Bruce Bonner, Roy Gunner, John Beresford) went out looking with BGGG. After about an hour BGGG called it quits and called the search off.

Back at the flight line while waiting for Bruce and John to return there was a cry that John was carrying what seemed like the model and sure enough yes in somewhat damaged condition with the front broken off, rear fuselage broken (see photo).



Postmortem by BGGG reveals that during his long absence from the flight line he had been playing with the computer radio settings (exponential) which was giving him grief in the air. plus there had developed a large wash in on one wing which didn't help.

Stew Morse running his Tomboy, Pity the motor didn't go as well in the air.

Next round of Tomboy is in the tender hands of John Dunstan who has devised a set of rules to test any flier.

To quote from his document handed out today.

“The rules for this competition have been formulated to test both pilot and model and provide FAIR competition to both 36 inch and 48 inch models as well as IC and electric power models.” (If you believe this then you will believe any thing—Editor)



John's rules have been carefully studied by all our bush lawyers and they have posed questions (via email) which will be discussed / clarified on the day. The aberrations in the written rules have been attributed to Jet Lag, of both himself and his Short hand typist for which he apologizes (I think!!!)

NAME		Flight 1	Flight 2	Flight 3	Best 2 of 3
John Dunstan	48 electric	488	738	514	1252
John Ensoll	48 1.3 Mills	230	635	549	1184
Ashley Glubb	36 electric	366	525	487	1012
Mark Venter	36 Indian Mills	463	219	359	822
Lynn Rodway	36 MPjet	0	378	330	708
Stu Grant	36 Mills	318	162	230	548
Stew Morse	36 Mills	74	72	107	181
Gary Burrows	36 Mills	175	0	0	175

VENTER VINTAGE, CLUB NIGHT, TOMBOY VENTINGS

Just realized I have no news for you. Have not been out this month at all as I have been busy sorting out my garage & workshop. New wiring and plugs, lights and switch board and hopefully all that will be completed in the next couple of weeks so I can back into some serious building and flying again.

There was no club meeting this month (September) due to the work & painting of the venue not being completed but **the meeting for October 1st is ON!**

1st October and guest speaker is Barry Lennox who will entertain us with his work experiences over in the USA.

Daylight savings kick in this weekend which gives us longer days and with this in mind our November club night will involve a heli flying demo outside before the meeting kicks off inside the clubrooms. More info and details to follow in the October Torque.

Some photos from the August Tomboy event:

[1] Rare photo of your editor competing

All up a great day by those who competed. Due to some strong wind higher up and inexperience there were some long walks and hunting down lost models on three occasions but fortunately all the models were found and retrieved again although one particular Tomboy did come back in a number of separate pieces. Better broken than lost though! (Granddad E thinks so BGGG)

Photographic evidence (if he dares print it) clearly shows that you have to keep your eyes on your model if you do not want to lose it!!!

After the long search I made up a Google map of the area around our club field with some distance plots. It was an interesting experience to get some idea of distances and direction and I will bring along some prints of the map to our next meeting - it can be a huge help in future model finding exercises.

If anyone wants an electronic copy just email me and I will send it to you as a pdf file.

See yez - Mark



no wonder he lost sight of his model
BGGG is not looking at it!!



Granddad E timing Stu Grant



Three shysters plotting & scheming for
the next Tomboy rally



Photos by Venter L Lynn Rodway launching, R Stew Morse doing the same BGGG watching sitting on his very small Shooting stick, below is 3rd place getter Ashley Glubb getting into the swing of things.



Yes it is not a Tomboy but a Simplex beautifully flown by Roy Gunner

Weather Station Phone Number

021 02943562

Operating times Monday to Friday 0700—1300hrs and 1400—1700hrs

Saturday and Sunday 0700—1600hrs

CMAC WEB SITE <http://www.cmac.net.nz/>

EDITORIAL MANURE. # 109, MANY MORE TO COME

- I learnt a salutary lesson the other day that you do need to do your home work at home before going out to fly (see Tomboy Tales pages)
- The other thing that I learnt was that I need to get my eyes checked (I have been told that I have a couple of cataracts growing) which may have contributed to my bad day.
- Also, after all those years in building up the workshop to a level that I am happy with, earthquakes cost you, with having to go out and purchase items that you had but now don't know where they are but are needed to carry on with your modeling.
- Again there are good people out there who help you look for your lost model
THANKS
- How many models do you have in your workshop that are new, partly built, broken still to be repaired, but that you have not got round finishing or flying because blank space, blank space, blank space. Yes I know we all have our excuses as to why not, but at least when you come to a sale at least you have something worth someone else's interest, as it was with me and Paul Lagan's sale. I'm now the proud owner of a 96inch span wing of a vintage "Lanzo Bomber" plus a set of plans signed by Chet Lanzo himself. So this adds to my pile of unfinished models!!!!!!
- I do apologize for the predominance of Tomboy in this bulletin but it seems to be the major REPORTED activity at the moment, must be because of the age and enthusiasm of the flyers. GET THE HINT YOU OTHER GROUPS!!!!

BGGG

More of the good stuff for the women who read this bulletin

1. What do you do if your boy friend walks out? You shut the door.
2. Never let you man's mind to wander —— it's too little to be out alone.
3. Definition of a bachelor: a man who has missed the opportunity to make some woman miserable.
4. If he asks what sort of books you're interested in, tell him cheque books
5. If you want a committed man, look in a mental hospital.

MORE INSIGHTFULL OBSERVATIONS NEXT BULLETIN

I try to be pessimistic, but why bother?

1-Oct-13	Tuesday 1900-2100hrs					CLUB NIGHT	Condell ave
5-Oct-13	Saturday AM 0900-1200hrs	SOAR	189	NDC	CLUB	Altitude Limited Electric Soaring	Willows
5-Oct-13	Saturday AM 0900-1200hrs	SOAR	190	NDC	CLUB	7 x 7 (class E)	Willows
5-Oct-13	Saturday AM 0900-1200hrs	SOAR	191	NDC	CLUB	FAI (F3K) Discus Launch Glider Tasks b,d,g,h.only (Total raw scores)	Willows
5-Oct-13	Saturday PM 1300-1600hrs					SPARE	Willows
5-Oct-13	Saturday PM 1300-1600hrs	SOAR	192	NDC	CLUB	Closed Circuit Distance (class F)	PMH
6-Oct-13	Sunday AM 0900-1200hrs	F/F	182	NDC	CLUB	Coupe D'Hiver (FAI Rubber Class F1G)	Willows
6-Oct-13	Sunday AM 0900-1200hrs	F/F	183	NDC	CLUB	P.30 Rubber	Willows
6-Oct-13	Sunday AM 0900-1200hrs	VINT	195	NDC	CLUB	Vintage RC Open Texaco	Willows
6-Oct-13	Sunday AM 0900-1200hrs	VINT	196	NDC	CLUB	Classical RC 1/2 E Texaco	Willows
6-Oct-13	Sunday AM 0900-1200hrs	VINT	197	NDC	CLUB	Classical RC E Texaco	
6-Oct-13	Sunday PM 1300-1600hrs					SPARE	Willows
12-Oct-13	Saturday AM 0900-1200hrs					SPARE	Willows
12-Oct-13	Saturday PM 1300-1600hrs					SPARE	Willows
13-Oct-13	Sunday AM 0900-1200hrs	F/F	179	NDC	CLUB	1/2A Power	Willows
13-Oct-13	Sunday AM 0900-1200hrs	F/F	178	NDC	CLUB	Open Rubber	Willows
13-Oct-13	Sunday PM 1300-1600hrs					SPARE	Willows
13-Oct-13	Sunday PM 1300-1500hrs	INDOOR	180	NDC	CLUB	Hanger Rat	Templeton
13-Oct-13	Sunday PM 1300-1500hrs	INDOOR	181	NDC	CLUB	Indoor Hand Launched Glider	Templeton
19-Oct-13	Saturday AM 0900-1200hrs					SPARE	Willows
19-Oct-13	Saturday PM 1300-1600hrs					SPARE	Willows
20-Oct-13	Sunday AM 0900-1200hrs	VINT	193	NDC	CLUB	Vintage FF Chuck Glider	Willows
20-Oct-13	Sunday AM 0900-1200hrs	VINT	194	NDC	CLUB	Vintage FF Catapult Glider	Willows
20-Oct-13	Sunday PM 1300-1600hrs					SPARE	Willows
26-Oct-13	Saturday AM 0900-1200hrs					SPARE	Willows
26-Oct-13	Saturday PM 1300-1600hrs	PYLON	184	NDC	CLUB	Quickie 500 Sport Pylon	Willows
26-Oct-13	Saturday PM 1300-1600hrs	PYLON	185	NDC	CLUB	Quickie 500 Expert Pylon	Willows
26-Oct-13	Saturday PM 1300-1600hrs	PYLON	186	NDC	CLUB	FAI Pylon (F3D)	Willows
26-Oct-13	Saturday PM 1300-1600hrs	PYLON	187	NDC	CLUB	Intermediate Pylon	Willows
26-Oct-13	Saturday PM 1300-1600hrs	PYLON	188	NDC	CLUB	Sportsman Pylon	Willows
27-Oct-13	Sunday AM 0900-1200hrs			NDC	CLUB	Club Rally day, cancelled events and NDC final day for month	Willows
27-Oct-13	Sunday AM 0900-1200hrs	ELEC-TRIC			CLUB	Club Electric X5J Extreme	Willows
27-Oct-13	Sunday PM 1300-1600hrs					SPARE	Willows



I did win!!!
 (See Tomboy Tales page)
John Dunstan is a HAPPY owner.
 (the bruising doesn't show!!!)

2-Nov-13	Saturday AM 0900-1200hrs	SOARING	211	NDC	CLUB	FAI (F3K) Discus Launch Glider Tasks b,d,g,h.only (Total raw scores)	Willows
2-Nov-13	Saturday AM 0900-1200hrs	SOARING	212	NDC	CLUB	Altitude Limited Electric	Willows
2-Nov-13	Saturday AM 0900-1200hrs	SOARING	213	NDC	CLUB	2 Metre (class H)	Willows
2-Nov-13	Saturday PM 1300-1600hrs					SPARE	Willows
3-Nov-13	Sunday AM 0900-1200hrs	F/F	198	NDC	CLUB	A/1 Glider (FAI Class F1H)	Willows
3-Nov-13	Sunday AM 0900-1200hrs	VINTAGE	216	NDC	CLUB	Vintage RC IC Precision	Willows
3-Nov-13	Sunday AM 0900-1200hrs	VINTAGE	217	NDC	CLUB	Vintage RC 1/2 E Texaco	Willows
3-Nov-13	Sunday AM 0900-1200hrs	VINTAGE	218	NDC	CLUB	Vintage RC E Texaco	Willows
3-Nov-13	Sunday AM 0900-1200hrs	VINTAGE	219	NDC	CLUB	Vintage RC Electric Rubber	Willows
3-Nov-13	Sunday PM 1300-1600hrs					SPARE	Willows
5-Nov-13	Tuesday 1900—2100 hrs					CLUB NIGHT	Condell ave
9-Nov-13	Saturday AM 0900-1200hrs					SPARE	Willows
9-Nov-13	Saturday PM 1300-1600hrs					SPARE	Willows
10-Nov-13	Sunday AM 0900-1200hrs	F/F	199	NDC	CLUB	Cranfield Classic	Willows
10-Nov-13	Sunday AM 0900-1200hrs	F/F	201	NDC	CLUB	Kiwi Power	Willows
10-Nov-13	Sunday AM 0900-1200hrs	F/F	202	NDC	CLUB	Payload (Class C)	Willows
10-Nov-13	Sunday PM 1300-1600hrs					SPARE	Willows
10-Nov-13	Sunday PM 1300-1500hrs	INDOOR	200	NDC	CLUB	FAI Class F1L	Templeton
10-Nov-13	Sunday PM 1300-1500hrs	INDOOR	203	NDC	CLUB	Fuselage	Templeton
10-Nov-13	Sunday PM 1300-1500hrs	INDOOR	204	NDC	CLUB	Open Tissue	Templeton
16-Nov-13	Saturday AM 0900-1200hrs					SPARE	Willows
16-Nov-13	Sunday PM 1300-1600hrs					SPARE	Willows
17-Nov-13	Sunday AM 0900-1200hrs	F/F	205	NDC	CLUB	Open Glider	Willows
17-Nov-13	Sunday AM 0900-1200hrs	VINTAGE	214	NDC	CLUB	Vintage FF Glider Duration	Willows
17-Nov-13	Sunday AM 0900-1200hrs	VINTAGE	215	NDC	CLUB	Classic FF Glider Duration	Willows
17-Nov-13	Sunday PM 1300-1600hrs					SPARE	Willows
23-Nov-13	Saturday AM 0900-1200hrs					SPARE	Willows
23-Nov-13	Saturday PM 1300-1600hrs	PYLON	206	NDC	CLUB	Quickie 500 Sport Pylon	Willows
23-Nov-13	Saturday PM 1300-1600hrs	PYLON	207	NDC	CLUB	Quickie 500 Expert Pylon	Willows
23-Nov-13	Saturday PM 1300-1600hrs	PYLON	208	NDC	CLUB	FAI Pylon (F3D)	Willows
23-Nov-13	Saturday PM 1300-1600hrs	PYLON	209	NDC	CLUB	Intermediate Pylon	Willows
23-Nov-13	Saturday PM 1300-1600hrs	PYLON	210	NDC	CLUB	Sportsman Pylon	Willows
24-Nov-13	Sunday AM 0900-1200hrs	R/C POWER			CLUB	TOMBOY 36 and 48 R/C	Willows
24-Nov-13	Sunday AM 0900-1200hrs			NDC	CLUB	Club Rally day, cancelled events and NDC final day for month	Willows
24-Nov-13	Sunday AM 0900-1200hrs	ELECTRIC			CLUB	Club Electric X5J Extreme	Willows
24-Nov-13	Sunday PM 1300-1600hrs					SPARE	Willows
30-Nov-13	Saturday AM 0900-1200hrs					SPARE	Willows
30-Nov-13	Saturday PM 1300-1600hrs					SPARE	Willows

- We don't know one millionth of one percent about anything.
- After all is said and done, a hell of a lot more is said than done!!!
- Technology is dominated by those who manage what they do not understand