



# THE VOICE OF CONTROL LINE AEROMODELLERS FROM AROUND AUSTRALIA

Number 144

Produced by the Victorian Control Line Advisory Committee



June 2010

INSIDE THIS ISSUE

Contest Calendars.

Contest Results

Notices

On Board Plug Lighter

Measurement of Compression Ratio

Electric Power Systems for Control Line  
Part 3

MAAQ C/L State Championships Results  
and Pictures

Letters to the Editor

All Aussie and Vintage Combat Day  
For Sale

Wanted

**Copy Deadline for next issue is:  
Wednesday June 16th 2010  
PRODUCTION SPECIFICATIONS**

Please remember when submitting copy that if you have access to a PC, or suitable typewriter you can save me retyping by giving me your items pre typed, and please use a good black ribbon for best reproduction.

**Best of all is to send a CD or use Email**

Contest results should be tab delimited, ie use a single tab between each column of results, if submitted by disk or email. This makes formatting much easier on the editor.

Email address:- [hbbaily@optusnet.com.au](mailto:hbbaily@optusnet.com.au)



## COMING EVENTS



### VICTORIAN CONTROL LINE CONTEST CALENDAR

Jun-6	CLAG Flying Day	Moe
Jun-6	Vic State Champs:- <b>Midge, 1/2A T/R, Simple Rat Race, Mini Goodyear</b>	CLAMF
Jun-27	Club Day – Aerobatics	KNOX
Jul-11	<b>Speed,</b> Carrier Deck (International postal comp).	CLAMF
Jul-25	(Knox AGM)	
Aug-8	<b>Speed, Classic Stunt</b>	CLAMF
Sept-12	<b>F2F T/R, Classic FAI T/R, Vintage Combat</b>	CLAMF
Oct-17	<b>Speed, Simple R/R, Simple Goodyear.</b>	CLAMF
Nov-14	Triathlon, <b>Speed.</b>	CLAMF
Dec 12	<b>F2C T/R, Goodyear.</b>	CLAMF

Events will be flown in order of printing.

Events in **Bold type** will be flown over hard surface.

**CLAMF** Frankston Flying Field, Old Wells Rd, Seaford (Melway 97J10), 10.00am start  
Contact :- G. Wilson (03) 9786 8153,  
H. Bailey (03) 9543 2259

Email :- [clamf@ozemail.com.au](mailto:clamf@ozemail.com.au)  
Web site :- <http://clamf.aerosports.net.au/>

**KMAC** Stud Rd . Knoxfield (opposite Caribbean Gardens) (Melway 72 K9) 10.00am start  
Contact :- Ken Taylor (03) 97380525  
John Goodge 0439 972 006  
Email :- [johnnogo@bigpond.com.au](mailto:johnnogo@bigpond.com.au)

**CLAG** Contact :- Graham Keene  
Email :- [gkeene@wideband.net.au](mailto:gkeene@wideband.net.au)  
Details of venues can be found on web site  
[www.clagonline.org.au](http://www.clagonline.org.au)

**Brimbank Falcons** Stadium Drive, Keilor Park Recreation Reserve, Keilor. (Melways ref 15 C 5). Regular flying day 3rd Sunday of each month 10.30am.  
BFCLMAC club President is Mathew Shears.  
Email: "Mathew Shears" [matshears@gmail.com](mailto:matshears@gmail.com)  
Ph home 03 5472 3881 Mobile 0432 491 794  
Club Secretary is Steve Vallve  
email [chitwillow@gmail.com](mailto:chitwillow@gmail.com), phone:5782 1693.



## COMING EVENTS



CLUB	DATE	EVENT
	12th -14th Jun	CLAS. NSW C/L STATE CHAMPIONSHIPS
	Sun 4th Jul	CLAS. Whalan AGM and Club Racing. KMFC
	Sun 11th Jul	Vintage B, Vintage C, Diesel Goodyear SSME
	Sun 18th Jul	1.6 and Slow Combat, Vintage Combat KMFC
	Sat 31st Jul	CLUB STUNT ( Novice ) KMFC
	Sun 8th Aug	F2B Aerobatics KMFC
	Sun 15th Aug	Diesel Goodyear, Sabre Trainer Racing & 2.5 Diesel Speed. KMFC
	29th-30th Aug	4th OILY Hand Diesel Day. (Contact Ian Cole 0427 015 792) Details TBA. COWRA MAC.
	Sun 29th Aug	Combined Speed SSME (contact Ron Blomberry for details Ph: 9956 5952)
	Sun 29th Aug	Electric Powered Stunt. F2B and Novice (contact I.Smith 4975 2292)
		NACA
	Sun 12th Sep	KMFC Triathlon KMFC
	Sun 19th Sep	Warbirds Stunt (for details, contact Ian Smith Ph: 4975 2292)
		COMSOA
	Sun 26th Sep	F2B Aerobatics SSME
	2nd-4th Oct	CLAS. NSW C/L STATE CHAMPIONSHIPS. (F2A and F2C) NSW. Venue Twin Cities, Albury
	Sun 10th Oct	Gordon Burford Day. (Details TBA) SWAP MEET KMFC
	Sat 30th Oct	CLUB STUNT ( Novice ) and Club Race KMFC
	Sun 31st Oct	Phantom, Vintage A, SSME Vintage B, Bendix T/R and Vintage 1/2A
	Sun 7th Nov	F2B Aerobatics SAT (Kelso Park)
	Sun 7th Nov	Slow Combat and 1.6cc, Vintage Combat KMFC
	Sun 14th Nov	Combined Speed SSME (contact Ron Blomberry for details Ph: 9956 5952)
	Sun 21st Nov	Cardinal Stunt and Classic Stunt. (I.Smith Ph:024975 2292) NACA (Hunter Sports H.S.)
	Sun 21st Nov	Vintage T/R, 1/2A, A (2 divisions) and Vintage B. KMFC
	Sun 28th Nov	KMFC Christmas Party and Fun Fly KMFC
	Sun 5th Dec	F2B Aerobatics Doonside. To be held at SSME

Subscribers are reminded that they can receive Australian Control line News by email at no extra cost. This option would allow you to view the pictures in colour as soon as it is ready to be sent to the printers for publication.  
If you would like to use this option just make a request to the Editor by email.

**COMSOA-** (City of Maitland Soc. Of Aeromodellers.) - Don Macindoe Memorial Flying Field, Raymond Terrace Rd, East Maitland. UBD Newcastle map 51

**KMFC -** (Ku-ring-gai Model Flying Club) - St. Ives Showground, Mona Vale Rd, St. Ives.

**NACA -** (Northern Area Contest Aeromodellers) - Hunter Sports H.S., Pacific Hwy, Gateshead.

**SAT-** (Sydney Aeromodelling Team) - Kelso Park North, Henry Lawson Dr. Panania.

**SSME -** (Sydney Society of Model Engineers) - Model Park, Luddenham Rd, Luddenham.

**MDMAS -** (Muswellbrook District Model Aero Sports Inc.) - Mitchell Hill Field, New England Hwy, Muswellbrook

**DOONSIDE-** (to be held at SSME) Luddenham.

## Adelaide Aeromodellers Club

### 2010 Events Calendar



June 19th	Vintage Combat #1
July 24th	Grass Rat Racing
Aug 8th	Novice and F2B Aerobatics #2
Aug 14th/15th	tbc by Whyalla MFC
	Whyalla Show CL Competition
Sep 11th	Vintage Combat #2
Oct 9th	Vintage A Team Racing
Nov 6th	Peacemaker Flite Streak Stunt
Dec 11th	Novice and F2B Aerobatics #3

Provisional Dates for Scouts Air Activities Weekends at Armstrong near Blanchetown:

22nd and 23rd May – Flinders Park Scouts

21st and 22nd August – Hope Valley Scouts

Notes:

1. All AAC events at Unley Rd are on Saturdays, dates are provisional
2. Start time of all competitions is 11.00 am.  
Practice from 9.00am
3. All AAC events to be held at the AAC field, Unley Rd City opposite BMX Park
4. All entrants must be MASA members and with valid FAI licence
5. Safety straps required on all handles in all events.
6. Mufflers mandatory on all glow motors 2.5cc and above

For more info contact Peter Anglberger, tel 8264 4516



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contact Shane Adams on 0438556998.**



# ON-BOARD GLO PLUG LIGHTER

By Brian Burke

After my last effort regarding wrist tethers some editions back, I thought that I had better give the team race guys something to have a chuckle about.

Anyhow a couple of years back, Brian Cochrane and Dave Brown the instigators of Bendix surfaced from the depths and "Z" Class was born based on the first (1974-1976) rules. Engines are limited to .35 cu.in. PB with "cheap" ASP and GMS 25s permitted.

However I found that the then current person power shortage precluded collaring anyone as battery boy/girl/gay and I was having difficulty waking up the pilot when I had carefully refueled, restarted and was ready to launch. As I personally find hot thumbs awkward, (have seen too many fires when they have been used and am sick of having chewed fingers etc. from slippery models;) I figured out an on board battery system that meant that the left hand always held the model and still could control cut out and ignition.

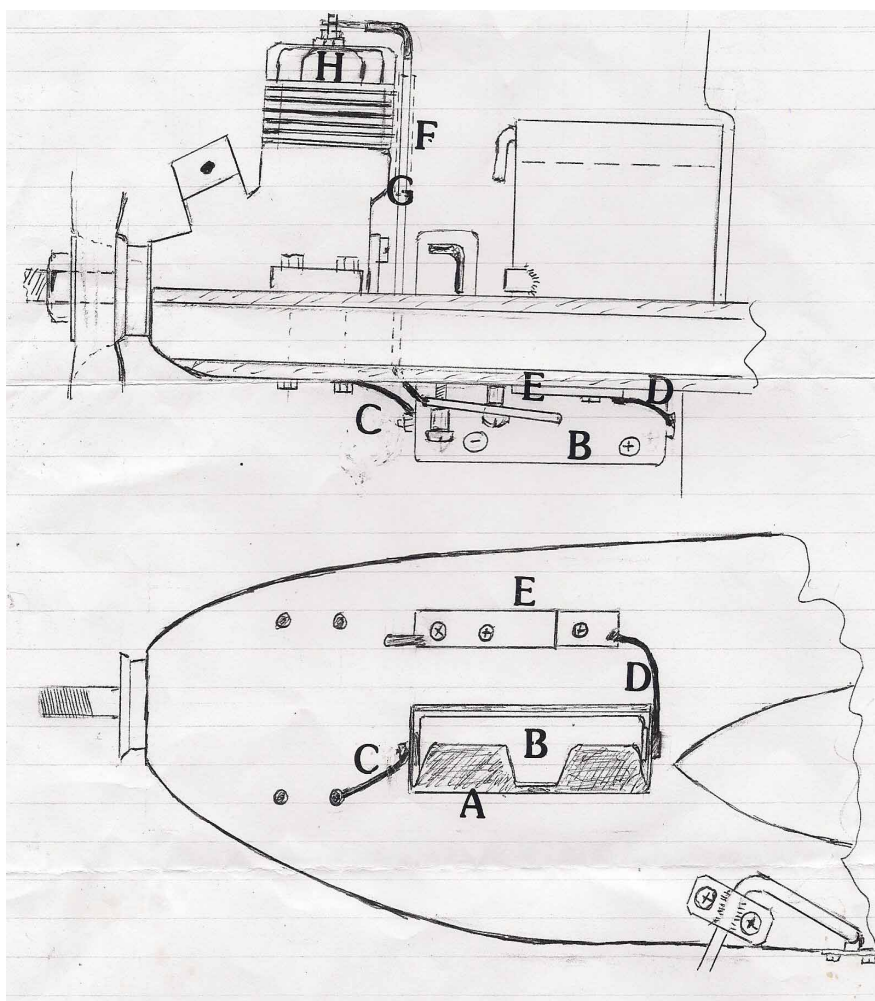
A double A alkaline battery has given me 30—40 starts over about six weeks. Heavy duty ones work but not as well. As I just used what I had at hand, it's pretty primitive, weighs about an ounce or so and doesn't seem to affect model speed/range. Any anoraks interested could try AAAs in their Bendix, Vintage/Classic Bs, and Class 2's or Goodyears.

A sketch and the legend follows:-

- (A) is battery holder sawn from 4 cell charge unit,
- (B) AA Alkaline battery,
- (C) is earth wire connected to engine mounting,
- (D) is power wire soldered to fixed contact screwed to ply doubler,
- (E) is moveable contact soldered to power wire. Contacts .8mm brass, springing by fuel tubing,
- (F) is flexible power lead soldered to spring steel plug clip,
- (G) is silicone fuel tube insulator to avoid engine melting heat shrink & lead,
- (H) is silicone and mylar disc around plug post for same reason.

Thus LH thumb operates cut out whilst LH first finger controls ignition!

Rob Edgerton took these photos.



# Measurement of compression ratio.

By Supercool

The way fuel burns in a model engine is determined principally, by the amount the fuel/air mixture is compressed and secondarily, by the shape of the head.

The measurement of compression ratio has been a bit of an elusive target for me over the years. One needs to know the volume enclosed above the piston at top dead centre.

My F3D associates attempt to determine this using liquid injected in thru the glow plug hole. The volume concerned is only about 0.5ml, so a finely graduated hypodermic is needed. However, one needs to be able to see the fluid when it fills to the level of the plug hole. Call me an idiot, but I can't see the liquid!! So a better method to suit my failing sight was required.

Quite by chance I saw that Jaycar Electronics were selling electronic scales for only about \$60, which to my mind is cheap. They weigh to 100g with a resolution of 10 milligrams, which got my mind thinking.

So I bought a scale and weighed a 46 head, as shown in Photo 1.



The reading was 24.81g. Then I worked some plasticine until it was soft, and filled the head space with it. Re-weighing gave 25.65g, so the mass of plasticine in the head was 0.84g. Note that I shaved off the plasticine across the squish band with a razor first and fitted a dead glow plug in place. (Photo 2)

Then I dropped a weighed lump of plasticine into a measuring cylinder to find its volume by displacement of water. This gave a density of 1.395 g/cc for the plasticine. So the volume of the combustion chamber was  $0.84/1.395$  which is 0.602cc.

This is a much easier way to determine head volume than with the syringe, takes moments and is accurate enough. The volume between the piston crown and squish can be found from the bore and piston squish distance, using the formula for volume of a cylinder, which is  $\pi * (\text{bore}/2)^2 * (\text{piston-to-squish})$

My first result was obtained on my Enya 45, which I had arbitrarily decompressed with a thick shim and run on 30% nitro. I was amazed to find the motor was running fine on only 4:1 compression ratio! Taking out the shim raised the comp to 5:1, with a gain of a few 100 revs. Fitting another head gave 7:1 compression ratio, and a total gain of 500 revs, to 7500 static. Worth having!

Note that I did not use the swept volume for these calculations, only the volume swept after the exhaust closed. On another engine, running FAI fuel, I found a much higher figure of 15:1

It would seem that nitro has some remarkable properties! Also, it may be worth watching the air density and adjusting the compression ratio to suit! But that is a story for another day.



# Electric Systems for Control Line Part III

By Warren Leadbeatter 28/4/2010

Last month I talked about safety and how to choose the right size electric motor. This time I will talk about batteries, ESCs and timers in a little more detail.

## So Which Battery?

In our motor example last month we determined we would need a motor that can drive a 11 x 5.5 prop at 9800 rpm.

OK so lets say I like the look of the specs of the Turnigy 35-42D 1000KV motor. This motor from the manufacturer's specs is rated at 605W and is most efficient when it's drawing 22 to 35A and can max at 40A.

So this motor is going to turn at  $1000KV \times 14.8V$  (for a 4S battery) = 14800 rpm or  $1000 \times 11.1$  (for a 3S battery) = 11,100 rpm which is more than we need to achieve our 9800 rpm that we require. The ESC can slow this down but it can't make it faster than that.

OK so at full throttle we are going to use 605W, and lets try the 11.1V battery.  $P = V \times I$  (ohms law) Power = Volts x Current, so  $605W = 11.1V \times ?A$ , if we transpose the equation  $A = 605/11.1$  so the  $A = 54.5$  Amps! Ok that's too much current for this motor, so let's try the 14.8V battery.  $A = 605/14.8 = 40.8$  A at full throttle. (that's better)

Now we know we won't be running at full throttle, because that will be around 14800 rpm! And we only want 9800 rpm.  $9800/14800$  as a percentage is 66% so this motor is going to have power to spare for our model with a 4S battery.

OK so what size 4S battery? ie How many amp hours? We need to fly for 6 mins which is 1/10th of an hour. We calculated that we were going to draw 40.8 A at full throttle, but we are only going to use 66% throttle or around 27A. So we need 27A for 6 mins or 2.7A for an hour. So a 2.7AH (2700 mAh) battery will do for now. These figures are conservative figures AND the current will go up and down during the flight.

I mentioned previously that the fliers are only using around 80% capacity of their battery as a rule of thumb. We want to ensure we get the maximum life out of the battery but most of all we don't want to run out of power before we finish our flight. So applying this rule to the calcs above we need 20% more power in our battery. So doing that calc,  $2700 = 4/5$  so we need to add 675mAh making our required battery size 3375mAh.

As you will find, batteries are only available in certain capacities so you need to find the battery closest to this size. 3300mAh is the closest to this.

This is only theory and the weight of the model and propeller will come into play as well as wind during the flight, and the number of manoeuvres flown etc. But it is a good place to start. Now, I know for a fact that the above combination in a 50oz model draws about 2200mAh running at 9500rpm for a 6 min flight, so we really could get away with a 3.0 AH battery.

The proof of the pudding will be in the flying so get one battery to start then if your calcs were correct get more of the same or smaller or bigger as required. How will you know? Your Lipo charger will tell you how much it had to put back in the battery or you can check the battery voltage after the flight and see how much is left.

## Electronic Speed Controller (ESC)

There are two types of ESC.

a) A basic ESC that is just a raw speed controller, with very few smarts or additional features. These are cheap and great for RC and even control line sport use. With a basic ESC the throttle needs to be increased as the battery voltage drops during flight in order to maintain the constant speed that we desire for control line flying.

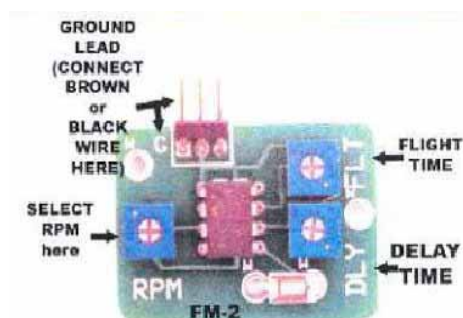


If you use a basic ESC then you need a timer that will ramp up the throttle during the flight to compensate for the battery voltage drop. As you can imagine, this is going to be hit and miss to get exactly right. But that said it works ok and many people are happy with it because the speed only increases or decreases slightly. These controllers are relatively cheap. Around \$20-\$50



b) The second type of ESC is the Governing ESC. If you want the motor run to be precisely consistent, eg. exactly 9000 rpm from beginning to end as in precision aerobatics, then you need a governing ESC. Many ESCs have a governor mode as this is used by helicopters, however there is one ESC that has a specific "CONTROL LINE" Governor Mode with 3 preset RPM speeds that can be set by you. That ESC is the Castle Creations Phoenix ICE LITE 50. (see [www.castlecreations.com](http://www.castlecreations.com)) This ESC also has a built in data logger that can be used to review your flight data. ie Amps, Volts, RPMs, Temperature and more for the entire flight. There are other data loggers available also that will work with any ESC (like the EagleTree) but the fact the ICE has one built in just makes it all the more better. OK so if you're flying STUNT get the ICE LITE 50. Around \$100USD it's worth it!

## TIMERS



Because there are two types of ESC we need two types of timers to use with them.

a) The basic ESC needs a timer that sets the amount of throttle and will slowly increase the throttle as the flight proceeds; otherwise the model will just get slower and slower as the battery voltage drops. b) The governing ESC just needs a constant throttle signal as it handles the speed of the motor itself. However, with a Governing ESC I mentioned that you can have preset governed speeds. The timer can also be adjustable to allow you to change the rpm easily in the field by flicking a dip switch or turning a little knob (potentiometer). I won't go into the details of how it does this, but it's basically low, medium & high throttle. So you need to get the right timer for the ESC you are using.

I'm using the Will Hubin Timer. There are other timers like the ZTRON but I like Will Hubins because they are in ongoing development. For the basic ESC you need a FM-0c. This one has adjustable RPM 50% to 100% and Flight time from 1 min 45 to 6 mins. You can play around with the rpm and flight time easily in the field by adjusting the pot.

For the governing ESC you need the FM-2. This one has adjustable time delay to walk to your handle, adjustable flight time and the adjustment for the 3 preset RPM settings in the Castle ICE ESC. These can also be programmed to work with certain other ESCs. Talk to Will and he will send you his catalogue of his complete range of timers. The cost of a timer is around \$15-\$20USD. Contact Will by email [whubin@kent.edu](mailto:whubin@kent.edu)

**UPDATE:** Will Hubin has just brought out the FM-9 Universal flight manager system. From Will himself: *This system consists of a very small, light circuit board on the airplane and a remote, powered programmer to precisely set flight parameters for almost every ESC and every mode. The circuit board has a 6-pin connector to the programmer, three of which are used in the usual way to connect to the ESC after the programming is finished. The only other components on the board are the microcontroller and the start button (or remote leads to a start button). The programmer is housed in a white, plastic box, about 2 1/2 x 4 x 1 1/4". It allows the user to program flight times to the nearest second (from 1 minute to 9'59"), the delay times (after the confirming motor blip) of from 2 to 59 seconds, the ESC mode in use, and the desired RPM or throttle setting. The programmer embeds a calibration for the governed RPM modes of the Phoenix (High RPM & Set RPM), the Schulze F2B, the Jeti Spin, and two Hacker ESCs, so the user can directly choose the desired flight RPM. (Assuming the motor/battery/ESC are capable of it, the user should get an RPM within 50 or 100 of the chosen RPM, but the important thing is that it is highly precise and highly reproducible, so that indicated RPMs that work for different weather environments can be exactly returned to, as needed.) The user can increase or decrease the RPM based on changing the throttle setting by 1/2 of 1% (200 steps over the 0 to 100% throttle range). For ESCs without a governed/constant RPM mode, the programmer also lets the user choose a strictly throttle value (15% to 100%) and a compensated throttle mode (allowing the user to choose between 15 different levels of compensation for the normal decline in battery voltage during a flight).*

*The programmer is \$75 but the FM-9 circuit boards for the airplane are only \$8 or \$10 (extended leads), making it an economical system for those with many e-powered planes, or for clubs.*

This concludes my three part series of Electric Control Line articles for now. Hopefully someone will find it helpful and use this information to get started in ECL.

Feel free to contact me or email me with any questions.

Regards

Warren

[wazzaj@tpg.com.au](mailto:wazzaj@tpg.com.au) AUS-14782

# 2009/2010 M.A.A.Q. Inc. (Control Line) Championships

These were held over the long weekend 1st to 3rd May in perfect weather with the following results:

## JUNIOR RAT RACE:

- 1st Rory Dillon,
- 2nd Callum Dillon,
- 3rd Tom Linwood

{Callum(9) and Rory(11) are 4th generation aeromodellers whilst Tom is a Combat team representative at (both the last and) the forthcoming World Championships}

## JUNIOR COMBAT:

- 1st Callum Dillon,
- 2nd Rory Dillon, equal
- 3rd Tom Linwood and Blake Mills

## FAI AEROBATICS:

- 1ST Joe Parisi,
- 2nd N.Corney,
- 3rd R.Chernich

{Joe P. is a multiple Australian representative}

## FAI COMBAT:

- 1st T. Linwood,
- 2nd M. Comiskey,
- 3rd P.Mills

{Three of the four Australian Combat Team members participated in this event}

## 35 SLO COMBAT:

- 1ST M. Dillon,
- 2nd M. Comiskey,
- 3rd T. Linwood

{More than 30 years old, this Qld event is in my opinion, still the best combat event to fly}

## CLASS II TEAM RACE:

- 1st B. Howser/ P. Dillon,
- 2nd M.& T. McDermott,
- 3rd J. Taylor / B. Felschow

{It's a shame that with Brian H.having come over from N.Z., his opponents had such rotten luck}

## CLASSIC 'B' TEAM RACE:

- 1st M. & T. McDermott,
- 2nd M. & P. Dillon,
- 3rd R. Stokes/ P. Laing

## VINTAGE 'A' TEAM RACE:

- 1st T. & M. McDermott,
- 2nd R. Stokes/ P. Dillon,
- 3rd T. & A. Linwood

## MOUSE RACE:

- 1st C. Turner/ R. Edgerton,
- 2nd B. Felschow/ W. Jackson,
- 3rd J. Taylor/ T. McDermott

## GOODYEAR TEAM RACE:

- 1st W. Jackson/ R. Tomkin,
- 2nd R.Stokes/ P. Laing,
- 3rd R. Edgerton/ B. Felschow,

## "Z" CLASS TEAM RACE:

- 1st K. Ewart/ B. De Chastel,
- 2nd T. & M. McDermott,
- 3rd P. Krenske/ S. Seipel,

## OPEN COMBAT:

- 1st M. Comiskey,
- 2nd T. Linwood,
- 3rd M. Dillon

## 2.5cc SLOW COMBAT:

- 1st M. Dillon,
- 2nd P. Krenske,
- 3rd P. Dillon

As Registrar/ Contest Director I would like to thank everyone who made it all possible and especially M.A.A.Q. Inc. for providing the trophies. .

(Brian Burke)  
AUS 2738

6th May 2010



*Brian Howser from NZ who came over to compete and won the Class 2 event. His pilot was Paul Dillon from ALC club and his battery boy is Brian's grandson who lives in Ipswich.*





Rory Dillon (9 yrs) and Callum (7 yrs) with junior combat models (by Pop). Picture from Mark Dillon



Here's some of my pics from Scale at the recent QLD State Champs.

Peter Krenske

The 3 models are by John Jamieson who tells me the biplane is a Hawker Hart (more WW2 than WW1).



Joe Parisi on the right of the stunt picture with Noel Corney (2nd) was the recipient of the first medallion handed out under the new system . These medallions provided and paid for by the MAAQ as part of a new scheme to promote modelling and assist clubs in Qld .



The weekend was organised by Registrar Brian Bourke who really worked his butt off all weekend. Unfortunately the Speed Competition was not run as by the time other events were run on Monday it became too windy to fly.

The Speed Champs will be conducted later in the year at a date yet to be decided.

*Pictures and report by John Taylor.*

**Newsletter Editor**  
**Harry Bailey.**  
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 Clayton 3168  
 Victoria  
 Tel (03) 9543 2259

# **Letters to the Editor**

## AN UPDATE ON THE HEALTH OF LES ORGAN

Les says a big "HELLO" to all his friends in Aeromodelling. Unfortunately his health has deteriorated lately and the time has come when he must move to accommodation where nursing staff are available at all times.

His good days are great and he enjoys visitors and a chat. On bad days breathing is difficult and the days are tiring.

As downsizing is essential, shortly, [after consultation with Les], I will create an inventory of magazines, plans, and kits that will be offered for sale.

On my visit last Friday Les was good for two hours or more, but as I was preparing to leave he had one of his difficult spells that just come upon him.

I will continue to update as I visit and inform you all accordingly.

Alan Matthieson-Harrison

AUS 4409

Mob 0414 273 180

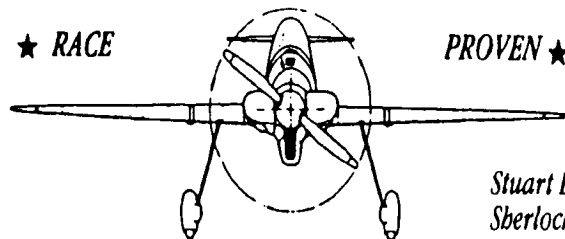
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F2C11 6.4 X 6.2

F2C12 6.4 X 6.3

F2C13 6.4 X 6.4

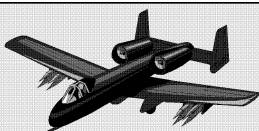
F2C14 6.4 X 6.5

**Supercool .....**

**First in Racing**

F2C11 to F2C14 now with Suzuki low Re, high Mach airfoils

## CONTEST RESULTS



CLAMF 16/5/10

### F2F Team Race

1. H. Bailey/ M. Wilson
2. G. Wilson/ M. Ellins
3. K. Hunting/ J. Hunting

Ht 1	Ht 2
4:03.22	5:43.66
8:07.06	4:36.16
5:00.12	4:58.68

### Combined Speed

Pos	Name		Engine	Flight 1	Flight 2	Flight 3	Fastest	Km/h	%
1	R Hiern	Class 5	Novarossi 21	14.83	D.N.S.	D.N.S.	14.83	242.75	94.54%
2	M. Wilson	Class 1	OS CZ11 PS	16.42	NT	16.64	16.42	219.24	83.07%
3	R Hiern	Class 1	OS CZ11 PS	16.55	D.N.S.	D.N.S.	16.55	217.52	82.42%
4	N Wake	Proto	Force .21	30.60	D.N.F	D.N.S.	30.60	189.33	78.84%
5	R Hiern	Class 2	Super Tigre G21/29	13.21	D.N.S.	D.N.S.	13.21	219.29	75.70%
6	H Bailey	Class 1	Asp 12	21.97	22.74	D.N.S.	21.97	163.86	62.08%
7	N Wake	Vintage Proto	Magnum 25	N.E.L	D.N.S.	D.N.S.			0.00%

### PERKY

N Wake	Perky	Force 15	42.94	43.00	D.N.S.	42.94	134.92
P.Stein	Perky	Super Tigre G15	56.92	52.18	55.50	52.18	111.03
V Marquet	Perky	ED 2.46	68.91	64.68		64.68	89.57
WINNER PERKY ==		PAUL STEIN	CLOSEST	TO	.AVERAGE .		
AVERAGE == 53.20SEC.							

Murray Wilson sends his F2F model on its way.







*Robin Hiern is seen here testing his electronic shut-off before a trial flight at Frankston. The test was successful.*

*The weather at Frankston was perfect for flying and a few stunt models were flown, taking full advantage of the great conditions.*



*Brent Allwood has sent these pictures of his new Ohm Special for NSW diesel Goodyear. Engine is a Fora Pioneer with modified timing and a Rothwell venturi setup. (It should pull close to the speed limit but who knows how long it will last. It may end up with the Parra 15D in it yet)*

*Finish is VHT Gloss White, Gloss Black and Chevy Orange with all lettering and striping painted on using handcut masks.*



## New Models

*Having been two years in the making the editors carrier deck "Bearcat" is finally looking as if it will take to the air soon. The model is powered by a Thunder Tiger Pro-36.*





# “All Aussie” display and Vintage combat KMAC May 2nd 2010

The combined efforts of the CLAG and Brimbank club's saw another very successful event at the KMAC flying field. A quick head count showed 50 or so in attendance with an equally impressive tally of 28 Australian models on display.

The weather forecast was again proved wrong, with little or no wind and just one very slight shower of rain. It was good to see a lot of models airborne during the day, taking advantage of the fine conditions.

An assortment of models on display ranged from F2B stunt models, several “own” designs, combat wings, a speed model, a team racer, the ubiquitous “All Australian” and “Demon” models and a biplane.

Dave Lacy took out the 1st place “peoples choice” prize with his 1950 Les Heap designed “Cyclone” biplane, powered by a Frog 500. The 2nd placegetter was Peter Koch, with his 1959 Aeroflyte designed “Thunderstreak” with an OS.35 for power. Mike Lewis took out 3rd place, with his Ken Taylor designed “All Australian” from 1958 with an OS.40 for power.

The Brimbank club provided plenty of fast and furious combat action during the day which was very entertaining. Thanks go to Mat Shears and Ken Maier for organising this event. Murray Wilson was the eventual winner and he took home the prize of an OS 46 LA engine as a reward.

Graham Keene Sec./Treasurer CLAG Inc.



*Dave Lacy took out the 1st place “peoples choice” prize with his 1950 Les Heap designed “Cyclone” biplane, powered by a Frog 500.*

*Quite an impressive line-up of models for the All Aussie day.*



*Vintage Combat pit area.*





## CLAG Stunt Flying-Judging, Knox field 25 April 2010

Despite the clash with the long weekend, plus practice for World Champs for some, with a surprisingly favourable turn of weather 9 flyers along with a number of spectators, turned up.

Gavan Opperman  
David and Vera Lacy  
Doug Grinham  
Ken Taylor  
John Hallowell  
Helmut Jentsch  
Steve Vallve  
Michael Haney  
Craig Hemsworth

The intention of these days was to bring flyers and judges together with the aim of improving both flying and judging (at what ever level of expertise) through an informal critique and discussion between judges. Several flyers submitted themselves to the astute eye of Doug Grinham, while others chose to just do their own thing at their own pace - all very happy chappies.

An interesting discovery was made when DG joined a flyer in the centre circle and rather than give an overall feed back after the flight, DG was able to provide immediate feed back with each manoeuvre and the option of repeating manoeuvre with immediate improvements. While the perspective from the centre is different from the judges normal outside position, the perspective from the centre by such an expert is none the less a very constructive one.

A highlight of the day was seeing Kenny T repeatedly flying an interesting, very good performing flapless F2B machine and performing wing-overs, loops, eights and squares. Is Ken planning a return to F2B?

The day had one quite spectacular casualty when Gavin Opperman's battle worn Oriental gave way at its previous repairs mid air with lots of bits flopping and burbling to ground. John Hallowell suggested a tube of Zap would have it back in the air in no time.

All in all, a very good day and a good exchange within a relaxed and constructive context.

On behalf of those with interest, I would be very happy to get any feed back from anyone with comments or suggestions about how we might continue to explore ideas to improve Stunt flying and judging.

Craig Hemsworth

[chemsworth@childhood.org.au](mailto:chemsworth@childhood.org.au)

## Stuntmaster Trophy and Yeoman Trophy

May 23rd at KMAC



*Doug Grinham will have his name engraved on the Stuntmasters Trophy again.*

*Gavan Opperman was the top placed Novice and was presented with the Yeoman Trophy.*



COMPETITOR	ROUND 1	ROUND 2	ROUND 3
<b>'NOVICE'</b>			
G. OPPERMAN	52	1st	
M. HANEY	33	2nd	
K. TAYLOR	13	LAST	
<b>'EXPERT'</b>			
D. GRINHAM	1030	985	1020
P. KOCH	947	857	990
G. HENSWORTH	1053	957	990
M. ELLINS	1010	964	970
D. NOBES	801	838	960
R. HIEREN	848	20000	DNF

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**2nd and 3rd October 2010**

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Saturday 2/10/2010: 9.00 am – 5.00 pm  
 Sunday 3/10/2010: 9.00 am – 4.00 pm

**Organising Club:**  
 Melbourne Society of Model & Experimental Engineers

**Contacts after hours:**  
 Ian Stewart (03) 9889 7907 or John James (03) 9528 4878

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Tell your friends about "**Australian Control Line Nostalgia**", the most comprehensive summary of Australian Control Line on the World Wide Web.

Ron Chernich has installed a new control line discussion forum as an adjunct to ACLNostalgia. Looking a bit like the Barton forum (it's powered by a new version of the same free software), we hope that in time it will grow to become a worthwhile Australian contribution to the aeromodelling scene. See it at [www.dkd.net/forum](http://www.dkd.net/forum) and register to check out all its features.

Back issues of ACLN are archived, indexed, and may be searched here.  
<http://www.dkd.net/clmodels>

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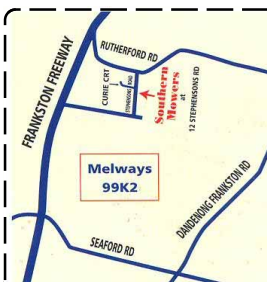
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These businesses assisted CLAMF when the Toro Mower was in need of serious repair.

### Contact

Bech and Borge Engineering Pty Ltd (ABN 36 006 187 506) can be contacted as follows:

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Fax	(03) 9540 0609
Address	42 Carinish Road, Oakleigh South VIC 3167
Email	<a href="mailto:enquiries@bechborge.com">enquiries@bechborge.com</a>

**Engine Reconditioning Specialists**



## Engine Technical notes.

From the notebook of Lance Smith

O.S FX versus O.S AX weight: (the FX has a gas flowed crankshaft so that is a bit lighter)

The AX is currently 40 g (15%) heavier than the cut down FX. I will lose some weight trimming down the fins on top of the head, removing the exhaust stack from the engine, and gas flowing the crankshaft. Probably get close to 40 grams metal removed easily.

The fins are the same width across the crankcase, just a lot more surface area longitudinally.

The P/L is a lot thicker, and the crankshaft big end bearing larger, lighter crankshaft, lighter but stronger con rod (I beam), super P/L seal, very wide transfer ports, no boost port, but it is cast into the crankcase like the LA, just not cut in yet. Back plate better fit than standard FX was.



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## FOR SALE.

Mc Annely style speed pans for 2cc speed. \$25.  
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These pans are a gravity sand cast unit and as such need some cleaning up. They are cast from AA601 Aluminium alloy and when polished up look very good. You will need to drill and tap them to suit your engine.

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[andrew.n5@bigpond.com](mailto:andrew.n5@bigpond.com).

Please allow \$6 for postage and packaging for 1 pan for interstate buyers.

For overseas postage allow \$12



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Telephone Ray at (07) 3814 2308 anytime.

## Stalker 61 Gold Head Pro

Ex Peter White Motor. I have not used it since buying it off Peter. The motor is in as new condition and comes with rear exhaust and spare prop nut and washer, 295 size venturi and needle.

I am asking \$240 for the lot.

Please ring Greg Barclay on 0422 894 855 or email at [barkers58@optusnet.com.au](mailto:barkers58@optusnet.com.au)

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