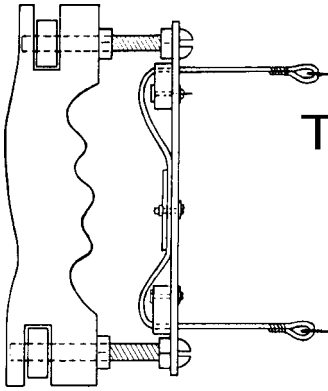
$2.00



THE VOICE OF CONTROL LINE AEROMODELLERS FROM AROUND AUSTRALIA

Number 111

Produced by the Victorian Control Line Advisory Committee

June 2007

INSIDE THIS ISSUE

Copy Deadline for next issue is: Wednesday June 20th 2007

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 pretyped, and please use a good black ribbon for best reproduction. **Best of all is to send it on a 3.5” disk as a Windows Write, Word for Windows, or as an ASCII TEXT FILE 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:- hbbailey@optusnet.com.au

COMING EVENTS

VICTORIAN CONTROL LINE CONTEST CALENDAR 2006/2007

JUNE 17	1/2A and Vintage Combat 10 a.m. start	Brimbank Falcons
JUNE 24	(up to) 2.5cc Day	KMAC
JUNE 24	**FAI & Combined Speed,** Vintage Stunt, Balloon Burst, Limbo.	CLAMF
JULY 7-8	Speed and Team Racing at the Twin Cities Club in Albury. See notice for details.	
JULY 22	Yeoman Trophy F2B Stunt Competition	KMAC
AUG 12	**FAI and Combined Speed,** Classic Stunt, Sport Flying.	CLAMF
SEPT 9	**FAI & Combined Speed,** Vintage Combat,Carrier Deck, Sport Flying,	CLAMF
OCT 14	Classic B, Vintage A, Sport Flying, 1/2A Combat.	CLAMF
NOV 11	**FAI & combined Speed,** Simple Rat, Aussie A T/R, Triathlon, Sport Flying.	CLAMF
DEC 9	**FAI Team Race, Goodyear,** **Mini G/Y, FAI & combined Speed,**	CLAMF

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

CLAMF Frankston Flying Field, Wells Rd, Seaford (Melway 97J10),10.00am start
Contact :- G. Wilson (03) 9786 8153,
CLAMF@ozemail.com.au
KMAC Stud Rd . Knoxfield (opposite Caribbean Gardens) (Melway 72 K9) 10.00am start
Contact :- Peter O'Keeffe (03) 9753 3442
kmac@aanet.com.au
Please note that for 2007, the KMAC club has decided that all events on the fourth Sunday of each month will be organised and hosted by KMAC only - no other clubs are involved in running events on the same day at the KMAC flying field.
CLAG Contact :- Graham Keene (03) 51924485
Details of venues can be found on web site
www.clagonline.org.au/home.htm
Brimbank Falcons Stadium Drive, Keilor Park Recreation Reserve, Keilor. (Melways ref 15 C 5). Regular flying day 3rd Sunday of each month 10.30am.
Contact Ken Maier 03 9398 8244 combtkid@hotmail.com

CLASII CALENDAR 2006/2007

Flying has continued on Saturdays at the Leichhardt Park flying site (UBD Map 232 R1)

John D. Taylor,
Secretary/Treasurer CLASII (Ipswich, Queensland)
Phone (07) 33927679
Email johndt@iprimus.com.au

COMING EVENTS

C.L.A.S. (NEW SOUTH WALES) CONTEST CALENDAR 2006

DATE	CLUB	EVENT
Jun 3	KMFC	Palmer/Aldrich Classic Stunt and CLUB STUNT (Novice)
Jun 9,10,11	CLAS. NSW C/L STATE CHAMPIONSHIPS CLAS. Whalan Reserve & Luddenham.	
Jul 8	KMFC AGM,	2.5 Stunt, Club Racing and Slow Combat
Aug 5	KMFC	F2B Aerobatics and Novice Stunt.
Aug 11	KMFC	CLUB STUNT (Novice)
Aug 26	SSME	Slow Combat (Bonus points for WW2 Style model).
Sep 9	KMFC	Classic Stunt, Vintage Stunt, Club Racing, Slow Combat, SWAP MEET
Sep 29-30	CLAS State Championships F2A & F2C @ Hard Surface on the Twin Cities MAC field, Albury. NSW.	
Sep 29	KMFC	CLUB STUNT (Novice)
Sep 30	SSME	F2B Aerobatics
Oct 14	KMFC	Gordon Burford Day, Club Racing
Oct 28	SSME	Phantom, Vintage A, Bendix T/R, Vintage 1/2A
Nov 3	KMFC	CLUB STUNT (Novice)
Nov 4	SAT (Kelso Park)	F2B Aerobatics
Nov 11	KMFC	Vintage T/R, 1/2 A, A and B.
Nov 18	NACA (Gateshead H.S.)	Classic Stunt & Cardinal Stunt.(I.Smith Ph:024975 2292)
Nov 25	KMFC	1.6 and Slow Combat, Club Racing
Dec 2	Doonside. Venue TBA	F2B Aerobatics
Dec 9	KMFC	Christmas Party and Fun Fly
Jan.2008	CLAS. *(Details to be advised)* CLAS. CITY OF SYDNEY CHAMPIONSHIPS	

DOONSIDE - (Doonside Model Flying Club) - Kelso Park North, Panania.
KMFC - (Ku-ring-gai Model Flying Club) - St. Ives Showground, Mona Vale Rd, St. Ives.
NACA - (Northern Area Contest Aeromodellers) - Gateshead H.S.,Pacific Hwy, Gateshead.
REMAC - (Ryde Epping Model Aero Club) - Peter Board HS, Wicks Rd, North Ryde.
SAT- (Sydney Aeromodelling Team) - Kelso Park North, Henry Lawson Dr. Panania.
SSME - (Sydney Society of Model Engineers) - Model Park, Luddenham Rd, Luddenham.
WMFC - (Werrington Model Flying Club) - Entrance to

flying site @cnr. Landers & Walker Sts, Werrington.

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

COMSOA - (City of Maitland Society of Aeromodellers) Raymond Terrace Rd, Metford.

Western Australia 2007 Control Line Calendar

Date	Club	Event
Jun 9 2pm	CLAW	CLAW race day F2C & F2F
Jun 30 10am	**CLAW**	**F2C rnd 1,2,3. F2F**
Jul 1 10am	**CLAW**	**F2C rnd 4 & final, Vintage A**
Jul 14 1pm	Lumen Christi	Vintage Stunt
Jul 22 2pm	CLAW	CLAW race day F2C & F2F
Aug 12 2pm	CLAW	CLAW race day F2C & F2F
Sep 1 12pm	Lumen Christi	The Tarmac Day
Sep 8 11am	**CLAW**	**Vintage Combat**
Sep 16 2pm	CLAW	CLAW race day F2C & F2F
Oct 13 2pm	CLAW	CLAW race day F2C & F2F
Oct 27 1pm	**CLAW**	**Open Combat**
Nov 10 2pm	CLAW	CLAW race day F2C & F2F
Nov 25 10am	**CLAW**	**Combined Speed**

Events listed in normal type are Club events.

Events listed in **bold** type are State events.

Contact Trevor Letchford for further information.

Ph - 089 342 2625 Mob - 0439 956 846

Robert Fry has completed building a new "Galaxie" for Classic B.

Rob's daughter Kelly is pictured here holding the model.

Adelaide Aeromodellers Club

2007 Events Calendar

July 7 Slow Combat # 1 and Balloon Burst
Sept 1 Triathlon
Oct 6 Slow Combat # 2 and Balloon Burst
Dec 1 Peacemaker / FliteStreak Stunt # 2

Notes:

1. All days are Saturdays, dates are provisional
2. Start time of all competitions is 11.00 am. Practice from 10.00am
   (Note there will **no** be late starts during daylight saving)
3. All events to be held at the AAC field, Unley Rd City opposite BMX Park
4. All entrants must be MASA members and show their FAI licence
5. Safety straps required on all handles in all events.
6. Mufflers mandatory on all glow motors 2.5cc and above
7. No Carrier competition until some one organises a deck! (Any volunteers?)

For more info contact Peter Anglberger, Tel 8264 4516

Dear fellow control line enthusiasts,

CLAMF Aerosports is hosting a friendly racing and speed competition on the weekend 7th-8th July 2007 at Twin Cities Model Aero Club (TCMAC) in Albury.

The CLAMF Aerosports regular competition scheduled on 8th July 2007 at the Frankston site will be moved to TCMAC in Albury and enhanced to cover a range of well supported speed and racing events.

The event will be an excellent opportunity to promote control line activities and also an ongoing commitment to the success of the Twin Cities facility. The recently constructed control line racing surface truly exceeds world class standards !

Proposed events:
F2A & Combined Speed
F2C Team Race
F2F Team Race
Goodyear
Class 2 Team Race
Classic B Team Race
Vintage A
Open Rat
Mini Goodyear

Schedule:
Saturday 7th July - 10:00am - 5:00pm
Sunday 8th July - 09:00am - 3:00pm

Entry fee:
$10 per competitor for a weekend of racing.

All events will be held on the hard surface at the Twin Cities Model Aero Club site.

** Events may be rescheduled/cancelled at the discretion of the event director.

Over the course of the weekend we expect the 'premier' event to be the serious socialising on the Saturday night - venue TBA.

We would appreciate your feedback on attendance and event preference ASAP by phone.

G.Wilson (03) 9786 8153 Mob 0408034722
or e-mailing clamf@ozemail.com.au

CLAMF Aerosports will keep you updated with further developments.

Best regards, CLAMF Aerosports

2006/2007 QUEENSLAND STATE CHAMPIONSHIPS

Quite contrary to earlier reports of its untimely demise, this year's championships were indeed held at the Aeromodellers of Logan City control line facilities at Loganholme to the immediate South of Brisbane over the long weekend 5,6 and 7 May.
The weather over the long weekend was once again sympathetic to the occasion although a little gusty for completely enjoyable 2.5cc Slow Combat. The wind on the 12th was even worse and F2B Aerobatics competitors ended up leaving their models in their vehicles all day! No racing events were held due to insufficient entries.

JUNIOR COMBAT

Tom Linwood and Ryan Comiskey from south of the border took the first two places with young Blake Mills finishing third in his first serious competition. Eleven year old Lachie Kranen and reigning National Junior Combat Champ Trent McDermott both gave the others a hard time but without reward. All flew "Maverick" variants with Thunder Tiger, O.S. or Norvel power.

1. Tom Linwood
2. Ryan Comiskey
3. Blake Mills
4. Lachlan Kranen & Trent McDermott

Lachlan Kranen vs Trent McDermott in Junior Combat

Junior and F2D place-getters

FAI COMBAT

Having been deprived of World Champs qualifier status, this event received only fourteen entries (still probably more than the rest of the country combined!). The standard of competition was extremely high with almost anyone able to win with the right luck. After thirty odd bouts (including more than half a dozen re-flys), Michael Comiskey had to resort to all his guile and experience to hold off fourteen year old Tom Linwood for the Championship. I flew against Tom at the Hunter Valley Champs only two months earlier in his very first F2D bout and his rate of improvement under dad Andrew and Grant Potter is just phenomenal.
Mark Dillon, after a serious illness a couple of years back, showed more and more of his old ability and made third place his own. The younger M. Comiskey grabbed fourth while Peter Wallace and Trent McDermott broke even with two wins apiece for equal fifth. Rod Smith had to withdraw with back pain after one win and joined reigning champion Michael Crawley, Peter Mills and Ryan Comiskey in equal seventh. Peter Krenske, Blake Mills, Lachie K. and Paul Dillon just couldn't take a trick despite flying quite well and finished equal eleventh.

1. Michael Comiskey (S)
2. Tom Linwood
3. Mark Dillon
4. Michael Comiskey (J)
5. Peter Wallace
   Trent McDermott
7. Peter Mills
   Michael Crawley
   Ryan Comiskey
   Rod Smith
11. Blake Mills
    Lachlan Kranen
    Peter Krenske and Paul Dillon

Left:- Robbie Edgerton (in white) vs Michael Crawley

Above:- Mark Dillon and Lachie Kranen

Rod Smith pits the Viko


Above:- Peter Wallace (in yellow) vs Peter Mills


F2D pits at Qld State Championships 2007


Above:- Lachie, Brian Burke and Peter Wallace.

OPEN COMBAT

Held on the 6th after the F2D fly-offs were resolved, this event saw several withdrawals. Six contestants vied for success with Trent McDermott confirming his arrival at the top level with victory over all comers to become Champion. The others all flew quite well but succumbed to equipment gremlins and I suspect in some cases, energy deficiencies.

1. Trent McDermott
2. Peter Krenske
3. Michael Comiskey
4. Michael Comiskey (S)
5. Mark McDermott
   Ryan Comiskey

2.5cc SLOW COMBAT

Although basically flown to NSW rules, this event includes some enhancements such as ordinary crepe streamers to avoid giving PB 15s F2D streamer indigestion and the use of electric starters to increase actual combat time. Five of the latter were dotted around the circle and saved a lot of sore flicking arms.

With the McDermotts unable to attend, twelve entrants did their very best to re-kit their aircraft and with twenty odd "Mavericks" employed you'd think I'd be laughing all the way to the bank! In fact I only remember eventual champion Michael Comisky breaking a (replaceable) wing and Peter Krenske knocking off his fin.

Second placed Mark Dillon pushed Mick all the way leaving Michael Crawley in third. Impresario Peter Krenske returning after a two year classical music sabbatical was fourth.(Contact him on 0403 727088 for his CDs). Peter Mills had to endure three consecutive bouts against Mark Dillon before an inadvertent step outside the flying circle ended his chances. Junior Lachie Kranen, Wayne Jackson, Paul Dillon and Rob Edgerton jointly took sixth place. Rod Smith again had to withdraw after one win but didn't stop helping the others in any way possible. Peter Wallace and Ryan Comiskey both had red hot goes but without success.

2.5 Slow Combat pits

Mick Comiskey and Paul Dillon

Trent McDermott vs Ryan Comiskey fly Open Combat.

.35 SLO COMBAT

A lack of time (and energy on my part) resulted in this long running Queensland event being held over until Sunday 27th.

FAI AEROBATICS

With wind speed well in excess of that permitted, this event will probably be held at a date mutually agreeable to the majority of entrants. Watch this space!

ROLL OF HONOUR

Thanks to all those who entered otherwise it would be a bit like throwing the proverbial party. I can't think of anyone who didn't help in some way or other but will take the cowardly way out by not naming names in case I miss someone especially important. A special thanks too to all the non-Queenslanders who journeyed North.

(Brian Burke)
Registrar 15th May 2007

Pictures from Peter Krenske

This interesting item regarding Enya engines was sent in by Lance Smith. It comes from the Enya newsletter that is sent to subscribers.

Twin engine plane set

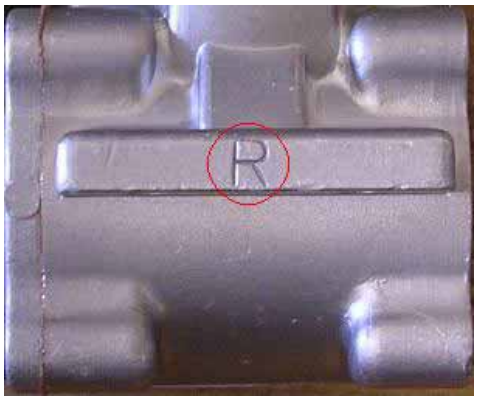
For the twin-engine plane, there are an effect of counterbalancing the influence of an anti-torque of the propeller by reversing the engine in one side and an effect of counterbalancing the influence on the flight condition by the effect of the giro of the engine.
A lot of people think that they want to use one side by the reversal if it is possible.
The model engine can be changed to the reversal specification if front housing is turned to counterclockwise 90 degrees and it installs it.
However, when the crankcase is an engine of the all-in-one design, this method cannot be used.
Moreover, there are some differences in the performance because the suction timing is different when front housing is turned though it is a little in the normal rotation and the reversal.

Then,.....

ENYA sells it together with a reversal engine and a normal engine.
Specification

The same performance as a normal engine is provided by using the reversal crank shaft.

The direction of the rotation is indicated with the stamp.
Normal(Forward) engine is a stamp as for 'F'.
Reversal engine is a stamp as for 'R'.



The propeller of the normal pitch and the reversal pitch was bundled.
Moreover, Spinnarnat was bundled.

SOUTHERN MOWERS
12 Stephensons Rd, Seaford
Ph 9775 1015
Fax 9775 1018

Contact

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

Phone	(03) 9544 8600
Fax	(03) 9540 0609
Address	42 Carinish Road, Oakleigh South VIC 3167
Email	enquiries@bechborge.com

Engine Reconditioning Specialists

Development of a simple "Green" Classic B racing fuel.

One of the "black arts" of racing glow plug engines is the formulation of suitable fuel, with recipes closely guarded by the associated SSFK, "Secret Society of Fuel Knowledge". I've been trying to get to the bottom of this art since the 1960s, when I first started racing B team racers with my trusty ETA 29 VIc and some rather radical and highly unsuccessful flying wing designs. However I digress; back to the fuel story.

What fascinated me as a budding organic chemist in the '60s was the myriad of individual fuel ingredients used to power B T/R engines. I have since collected many articles on fuel formulation and done some experimental fuel formulation work of my own to compare results with modern-day, real-world flying.

The winning formulas back then included various combinations of some or all the normal stuff: isopropanol (IPA), benzene, toluene, xylene, nitromethane and nitrobenzene (see Table 1).

Table 1 Historical fuel formulas.

Fuel Components	1965 ish		1975 ish		
	G21/29 NZ range	NZ std	*Aussie range*	*Aussie medium range*	*Aussie Short range*
Number	1	2	*3*	*4*	*5*
Castor Oil	20.0%	20.0%	*25%*	*20%*	*20%*
MiliTec					
Xylene	13.0%	20.0%		*20%*	*10%*
IsoPropylBenzine, IPB			*40%*		
Propylene Oxide					
DTME					
Isopropyl Alcohol			*20%*		
Nitromethane	13.0%	20.0%	*12.5%*	*20%*	*30%*
Methanol 100%	54.0%	40.0%		*40%*	*40%*
Ethanol 98%/2%MeOH					
NitroBenzine			*3%*		
Total	100.0%	100.0%	100.0%	100.0%	100.0%
COMMENTS	3/16 venturi 113-115 45-50 laps bloody hard to start	Xylene is harsh on the plugs	Cox 15 venturi bored to 3/16 008 head clear. 115mph for 75-80 laps	115 mph for 40-45 laps	118 mph for 35-40 laps

They also included such real exotics as "orange oil" (d-limonene), detergent oils, cumene, benzol, water, petrol, nitropropane and dinitromethane just to name a few. I think some racers were only flying for the smell of it!

I do remember a very new B T/R pair who simply got hold of the best engine at the time (a ST21/29 RV) in fairly standard form, and concentrated on teamwork and a simple fuel of IPA and methanol. They managed to blitz everyone with speed, range and excellent restarts.

("Funny," I thought. "Isn't that the holy grail of B T/R?")

They came unstuck really badly during the finals at the NZ North Island Easter Champs of 1969 when the losers got together and had them thrown out of the competition for cheating, on the premise that they must have been whipping, because they were going so fast! They were of course stunned by their expulsion, and were never seen in the team race circles again. I somehow ended up with their motor.

Bad sportsmanship of the time aside, their approach taught me an important lesson. "To go fast, boy, concentrate on a good model, a good engine and good teamwork." To hell with the exotics, simple is best.

"Where is he going with this?" you may well ask. However, taking this lesson into account, I searched around for the fuel element in this multi-vectoral solution to winning an event, thinking the other elements will come with practice and a good engine builder.

When looking at formulations, one has to take into account changes in engine design. The old-fashioned, long-stroke, cross-

flow, slow-revving, low-compression-ratio engines of the 1960s and '70s could swing a much larger prop with more pitch on much higher levels of aromatic hydrocarbons than our modern, high-compression-ratio Schnuerle/boost ported ABN and ABC short-stroke, high-revving technological marvels of today.

After several years of intensive fuel ingredient testing, with few successes and many failures, it became very apparent that modern engines are very touchy when it comes to changing their feed composition (see Table 2). The more one adds of ingredients for range, the more laps one gets; but engines tended to overheat and become hard starters as the level of aromatics (xylene, toluene and benzenes) and complex alcohols (IPA) went up in the formulation.

Table 2 Modern fuel formulations.

Fuel Components	Modern Fuels			
	Modern long range fuel	Std range fuel	Variation 1 standard range	Modern long range
Number	6	7	8	9
Castor Oil	19.5%	19.5%	19.5%	19.5%
MilliTec	0.5%	0.5%	0.5%	0.5%
Xylene	7.5%	5.0%		
IsoPropylBenzine, IPB	7.5%	5.0%	15.0%	40%
Propylene Oxide				
DTME				
Isopropyl Alcohol	25.0%	25.0%	20.0%	20%
Nitromethane	20.0%	20.0%	15.0%	20%
Methanol 100%		25.0%	30.0%	
Ethanol 98%/2%MeOH	20.0%			
NitroBenzine				
Total	100.0%	100.0%	100.0%	100.0%
COMMENTS	53 laps at 17.9/7	45-46 laps 16.5 -17.5/7 Problem with blowing plugs in LA25	46-47 laps but hard on plugs	63-67 laps no change in speed but very hard to start hot or cold

Aromatics as ingredients

(Aromatics: those solvents containing the benzene ring structure.) I have proved that one can do 67 laps on 40-45% isopropyl benzene (IPB, or cumene), but when the engine stops it's very hot and stays stopped. Also, a modern T/R engine running on 45% IPB is more sensitive to these aromatics, whether starting cold or hot. The inside of the combustion chamber goes black. It's hard on plugs and It's hard on wrists. Toluene, benzene and xylene behave in a similar manner, but engine tuning is far more critical than on IPB. Lowering the aromatics results in improved starting but reduces the lap gain; however, more than 10% aromatics in the fuel composition causes things heat up and become quite difficult. When researching fuel, I discovered that the benzol I used in the 1960s was not simply benzene as I thought, but coal distillate, very commonly added to petrol in the 1940s and '50s. It is a natural fall of xylene and benzene—about 50% of each—and was once a very common solvent.

"Why is this important?" you say. Well, in the old days we used benzol as a fuel ingredient in B T/R and it worked very well. John Hallowell and I found that an equal mixture of xylene and IPB works better as a range ingredient than either IPB or xylene alone at the same level. It's called synergy: where the effect of the mixture is actually greater than the sum of the individual effects. One can use less and still get the same effect. Adding less of the aromatics means less heat, less carbon and more laps.

Higher alcohols

Upping the IPA slows the lap time, but you do get more of them. You can just run on just IPA with 15% nitro, but it takes all the engine's power away. Starting does not seem to be a problem, but the engine runs cold and the needle setting is very insensitive. Taking the stopwatch as the final arbiter (a very fine and completely scientific saying from Robbie Hiern), the more IPA you add the slower you go.

Nitromethane

This is a simple situation here; more nitro means fewer laps. At more than 15% nitro, there is no apparent gain in power, just unburned nitro and more laps lost. The reason is simple: nitromethane burns relatively slowly in the combustion chamber, and in modern, high-RPM engines there is not a lot of time to fully burn up nitro at levels over 15%. Upping the level beyond this point gives no advantage. You could try raising the compression to take advantage of the extra nitro, but this seems to "make

everything go supercritical", as the nuclear boys say.

So, after all the hours of testing with many different fuel brews, what is the answer?

The ultimate brew?

One can use the synergy of added ingredients and get quite a satisfactory fuel. A mixture of 20% castor oil, 15% nitro, 2.5% IPB, 2.5% xylene, 20% IPA, a glug of Lubrizol 52 and the remainder methanol will produce a good starting-range fuel that seems to be great for 46–7 laps. Play around with upping the IPA and reducing nitro a little bit and you may get 52–3 laps. A tiny slug of water (1–2%) can help keep things running cooler.

(Wow, maybe that's the secret ingredient!!)

However, make sure you tune for the day. The interaction between fuels and motor is very sensitive to changes in temperature and humidity, and we have found that we can get 48 laps on this fuel one day, but on others we are scratching to get 43.

Now what is the ultimate secret? There has got be one here, otherwise I would not be writing this article.

Look at the problem another way. What happens if we pull some of the ingredients out of out hard-won formulation?

First, take out the IPA. What happens? Laps go down a little and lap times also go down. No problem getting at least 36–8 laps at 16.4–16.5/7.

Next, pull out the IPB and xylene. Lap times go down to 16.2/7, but the number of laps per tank goes down too—to 33–4. That's not good. You need at least one full lap on the glide per tank to get through a race. However, it proves that the aromatic derivatives actually have the single greatest effect on laps and the least effect on speed.

Lesson one: it's probably a good idea to get rid of the IPA if you want a fast heat time. But how do we get rid of the aromatics? They are robbing power too.

Brewed cane juice?

There is a solution and it requires a radical rethink. Since the cane farmers in Queensland have received a government subsidy for making ethanol as a fuel, Bunnings has been selling a super-cheap methylated spirits that is 2% methanol and 98% ethanol.

In a very radical move I decided one day to try the meths (in the engine, of course!). It's a higher alcohol, so it should work in place of methanol. I made up a standard mixture of 15% nitro and the rest of Bunnings' ethanol. I fired it up one day on the flying field on the MRS LA25 and it shocked me by springing to life instantly. The setting, left over from the previous week's B T/R practice, was quite rich; it tuned well and I let her go. Well, it did 46 laps at 17.1/7 on the first try. It was still running rich. A refill, another instant restart and a retune delivered 16.9/7 for 48 laps.

After a few weeks of playing around, I could get 16.5–16.6/7 for 46 laps on 20% nitro, finding that the ethanol could take the extra nitro, probably due to its lower oxygen content to start with. I used the formula to get into the national finals. With a little bit of a lean tune and an even luckier change in the humidity on the day, those 46 laps turned into 52 for the finals. Now I had a simple formula, no IPA and no nasty aromatics, and it has given laps and good lap times.

"Where to now, Lance?" you say. Time for me to retire from the Holy Grail of fuel quest? Naah!

As Apple Computer says, resting on one's achievements is actually going backwards. So forwards we go. Bunnings' meths is an excellent range and power fuel; it's pure alcohol, its cheap and it works. So what can we do to improve it? It's a little down on power over methanol, but that's not too significant. The oxygen level of the final fuel is less than with methanol, but that's why we are getting the extra laps.

Adding a little more nitro and a dash of some propylene oxide to help burn up the extra nitro actually does not decrease the laps (going to 20% nitro seems OK), but don't expect more than 45 laps at a reasonable speed. The mixture will handle a

leaner tune but lap times go slower as laps go up.

Finally

Adding a smidge of IPB and xylene will get the laps up with a minimum of trouble and set you up for the 2-stop finals. Just a warning, adding the aromatics means much leaner tunes are possible but the chance of an engine burn-up also increases. Remember to use some detergent, such as Lubrizol, in the fuel to combat the smoky deposits that come with xylene and IPB.

Development continues, and good luck with your range fuel mixes. I have included my archived database of fuel performance below, (Table 3). I hope this article goes some way to helping you in your quest for the best range/speed fuel for Classic B.

Table 3 Selected database of Classic B fuel performance.

Fuel Components	Experimental Ethanol Fuels								
	Extra range modified	Faster extra range	Faster extra range II	Simple extra range	Improved Simple extra speed & range	Simple extra speed & range Mk2	ISES Mk2 with lower oil	ISES Mk2 with range	ISES Mk 3 medium range components
Number	10	11	12	13	14	15	16	17	18
Castor Oil	19.5%	19.5%	19.5%	19.5%	19.5%	19.5%	17.5	17.5	17.8
MilliTec	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5	0.5	0.5
Lubrizol D52									0.15
Xylene	7.5%	7.5%	7.5%					5	2.5
IsoPropylBenzine, IPB	7.5%	7.5%	7.5%					5	2.5
Propylene Oxide		10.0%			6.0%	10.0%	10	10	10
DTME			10.0%						
Isopropyl Alcohol									
Nitromethane	20.0%	20.0%	20.0%	20%	20.0%	20.0%	20	20	20
Methanol 100%									
Ethanol 98%/2%MeOH	45.0%	35.0%	35.0%	60%	54.0%	50.0%	52	42	46.5
NitroBenzine									
Total	100.0%	100.0%	100.0%	100%	1500.0%	100.0%	100.0	100.0	100.0
COMMENTS	53-55 laps at 17.2/7	48 laps 16.5/7	Nasty running, hard to tune	53-55 laps runs cool, 16.9/7 v good starts star perfor mer	Brodak 25, 47 laps at 16.5 and still easy to start, engine sounds great	Brodak doing 16.3 for 46 laps, Prop Bolly cut down 8.5x6 (7.5 x 6)	Changed prop to Bolly 8.5x6 cut down to 7.5x6 43-44 laps @ 16.3-16.4/ 7	Bolly 7.5x6 16.7.7 for 52-53 laps starting well	Good range fuel with excellent starting, 16.3/7 and 53 laps.

Lance Smith, AUS62894

References and fuel publications

25 YEARS OF ENGINE FUELS ; P G F Chin. **Model Airplane News,** April 1962 pp. 18–22

70 Laps at 100 MPH!; Ron Lucas **Aeromodeller** 1972 ?

Effects of Water in Fuel by Brian Hampton, Internet Article 2006

Race Fuel-Tipping the Can; Ray Hall. Turbocharging, **www.turbofast.com.au /Racefuel9.html,** July 2006

Race Fuel-Basic Characteristics; Ibid. **www.turbofast.com.au**

Trevor Henderson's Fuel Formulation; **Pers. comm.** Nov 2006

The 2007 Veteran's Gathering at Muswellbrook NSW.

Report by Aeroflyte C23.

The annual "Veteran's gathering", held in mid-may at Muswellbrook in the New South Wales Hunter River Valley, is a unique occasion. Apart from the MAAA Nationals, it is the only mass gathering of Aeromodellers in the country that encompasses all disciplines of the activity. Another unique aspect is that it is non-competitive and participants tend to also engage in activities other than their normal interest. The ethos of the gathering is that of a club weekend flying day of the late 1950's or '60s.

Dave Owen and his "Wombat"

Dave with Peter Barclay.

Tomboys on the Free Flight Hill on Sunday morning.

The venue at the Mitchell Hill flying field is leased by the Muswellbrook Aeromodellers group and is impressive because of its size. It's big enough for free flight, Radio and three circles of control line all at once. An additional benefit is that there is no noise problem.

This years gathering was well attended, and followed a week of good rainfall in the drought stricken region. The ground was soft and had a good covering of grass. There was even water in the creek! A mob of Kangaroos joined the other guests, and grassed on the outskirts of the flying area all weekend.

The three control line fields were well mown and quite smooth compared to previous drier years. Both Saturday and Sunday dawned with a thick fog covering, which lifted quite early. The wind came up early on Saturday which somewhat restricted C/L flying, but was less of a problem on the Sunday.

As expected at such a mass gathering, there was much trading in engines and models. One gem from a radio flyer was a NIB Kosmic 15 Racing Glow, bought by a very happy control-liner for $50.

Each year a theme model is selected by vote for the next year. This years 2007 C/L model was the Gordon Burford designed "Wombat", a biplane stunter from the late 1940's. In previous years the models have been the Hearn's Hobbies Demon, the Montgomery Models Stilleto, and next years model is the Aeroflight Spitfire. A laser-cut short kit is usually available months before the event to encourage participation. The Free-flight model of choice this year was the APS Tomboy. Many were also built by C/L'ers. A particularly popular C/L model is the Sabre Trainer. It is almost mandatory that this must be powered by some kind of Burford Diesel. Taipan Tyro's are particularly popular.

Wombats at Muswelbrook.

Right:- Vintage B Team racer and crew

A dozen Sabre Trainers

Why not join us in 2008. It is necessary to book motel rooms well in Advance. The motel of choice is the Wayfarer, about 5-KM from the field in Muswellbrook. The town is well suited for events of this type with a lot of accommodation and all the normal facilities.

David Owen is the contact person for C/L activities.

Photos by Herb Hanna and Dave Owen.

Editors Note.

The newsletter now uses a new printing company to print the newsletter.

Apologies to our subscribers if publication is slightly late due to reorganisation.

Speed Corner

From Robin Hiern

ED 2.46 Racer Glo powered, replica of Peter Wrights "Gook" from 1951, he had the world record back then.
I have since bettered his time about 50 years late.
It has a English Elm wood pan and alloy wings as Peter used to work at De Havilland, making comet airliner wings .
E.D. did make a Glo version of the 2.46. Model has done 113 mph, finding the old wood props for these type of models can be hard..

This handy tip comes from ***alanm*** *from Caves Beach NSW and was posted on the Barton Model Flying Club Control Line Furum.*

Oz source of ready-made tin tanks, just right size for 2.5cc diesel-
Wrigleys "Eclipse" mints tin, just strip off paint with everyday household paint stripper, solder seams, add plumbing and solder the lid closed. Nice mints, too.

"Pink Lady" model powered by "TWA 15"
TWA was made by Bill Wisneiwski 1964,1966 world champion, it was the first piped model engine.
They were a limited range engine only available from K & B factory and built by Bill. He was the engine designer at K & B, only about 100+ were made.
This model is flown in "Classic FAI" for "fun" and to see how fast I can get to go...

William Wisniewski.
1927-2007

New Zealand 2007 Taranaki Control Line Champs

6-9th April - New Plymouth

F2B Aerobatics	Rd 1	Rd 2	Rd 3	Best 2	Points
1. Owen Rogers	983.6	1014.8	1009.4	2024.2	1000
2. Don Robinson	899	926.2 `	966.5	1892.7	935

Slow Combat	Rd 1	2	3	4	5 Wins
1. Bryce Gibson	W	W	W	W	W +5
2. Rod Brown	W	W	L	W	L +3
3. Martin Szeto	W	W	L	L	+2
4= Andrew Robinson	L	L			+0
4= Robert Bolton	L	L			+0
4= Paul Coghlan	L	L			+0

1/2 A Team Race	Rd 1	Rd 2
1. A.& D.Robinson	3-52.53	3-55.27
2. Brendan Robinson	4-11.09	27 Laps

Open Goodyear Team Race	Rd 1	Rd 2
1. Bryce Gibson	8-39.7	5-27.16
2. Ashley Keeling	55 Laps	7-05.30

F2C Team Race	Rd 1	Rd 2
1. Martin Szeto	4-41.95	4-29.502.
Rod Brown	4-37.27	—

Class B Team Race	Rd 1	Final
1. R.Brown/R.Bolton	3-32.32	7-10.33
2. Ashley Keeling	4-22.51	8-27.70

Classic 'A' Team Race	Rd 1
1. A.& D.Robinson	5-45.07
2. Ashley Keeling	82 Laps

Percentage Speed	Class	Rd 1	Rd 2	Rd 3	Best mph	Percent
1. Robert Bolton	(Jet)	0.00	300.70	297.77	186.85	107.25%
2. Ian Mander	(F2A)	263.54	279.29	——	173.54	98.14
3. Andrew Robinson	(Jet)	265.10	264.12	269.66	167.56	96.18
4. Bill Bell	(F2A)	252.63	0.00	——	156.98	88.77
5. Brendan Robinson	(Jet)	242.59	0.00	0.00	150.74	86.52
6. Don Robinson	(Jet)	214.41	211.39	0.00	133.23	76.47

Yes I Did absolutely smash the Jet Record by over 0.8secs and am hoping to go a lot faster soon!! A big thank you to the Robinson team for there expert starts and advice over the years.
The Jet results are very good and also the B T/R is not far off their record. They fly Brit 58 ft lines for 80/160 laps

Results from Robert Bolton

For Sale

Could you please add a little note in the next issue of ACLN stating that I'm still the Australian dealer for **Stalker Stunt Engines** and my number is 02 4261 5776.

Brian Gardner

English PAW .29 Control Line Motor "Diesel"
Early series, has been in collection for over 20 years.
"New." Never mounted or run. $150.00 + P&P
Contact:- Ray (07) 3879 0740

Unfortunately I will have to announce a price increase for my **first pressing pure castor oil.**
The price is now $38 per 5 lts including container effective immediately.

Std Postage in Victoria is $7 inclusive of packaging.
Std post NSW & SA is $12 inclusive of packaging.
Other states please email or telephone postcode for postage quote.

Telephone: 03 9398 8244 day or evening
Email: combtkid@hotmail.com

WANTED

Model Box wanted. Will beg, borrow or buy. Needed in August for approx. 2 weeks.
Must fit preferably two 27 inch span Vintage A team racers.

John Hallowell (03) 9347 4428
or classic.b@pacific.net.au

WANTED Super Tigre X29 Conrod
Will consider complete engine or other parts.
Contact Richard Justic 0408414998
or rjustic@bigpond.net.au

Newsletter Editor

Harry Bailey.
37 Thompson Street
Clayton 3168
Victoria
Tel (03) 9543 2259

AUSTRALIAN CONTROL LINE NEWS
If undeliverable return to:-
G. WILSON
P. O. BOX 298
SEAFORD VIC 3198

SURFACE MAIL

SUBSCRIPTION APPLICATION
ARE YOU BORROWING?

If you have just finished reading somebody else's copy of Australian Control Line News why not get in now and order your own copy. Australia and New Zealand residents cost $20A and other countries $30A. For this annual amount you will receive eleven issues of this newsletter, and be up to date on Control Line both in Australia and elsewhere. Please make payments payable to "Control Line Advisory Committee"

You can order from:

G.WILSON
P.O BOX 298
SEAFORD
VICTORIA 3198 AUSTRALIA

NAME_____

ADDRESS_____

_____

POSTCODE_____

TELEPHONE_____

A.C.L.N. ADVERTISING

For the newer readers, we point out that "private" (personal) ads are free to subscribers, and "commercial" ads are $20 per quarter page, or $5 for business card size. Commercial Advertisers can receive a free business card size ad for submitting original articles of interest to A.C.L.N. readers.

Copy or artwork for ads should be sent to the editor, cheques to the treasurer (G Wilson P.O. Box 298 Seaford, Vic. 3198) If you want to save a stamp, I can forward on any cheques sent with ads, but please make them payable to "Control Line Advisory Committee"

Printed by Minuteman Press
3/14-16 Hartnett Drive
Seaford, VIC 3198
Phone: 03 9773 5586