



THE VOICE OF CONTROL LINE AEROMODELLERS FROM AROUND AUSTRALIA

Number 151

Produced by the Victorian Control Line Advisory Committee



February 2011
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**Copy Deadline for next issue is:
Wednesday February 16th 2011
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:- hgbailey@optusnet.com.au



COMING EVENTS



VICTORIAN CONTROL LINE CONTEST CALENDAR 2011

Feb-6	Novice and Classic Stunt	KMAC
Feb-13	Speed , Navy Carrier, Vintage Combat	CLAMF
Feb-27	Hearns Trophy, Vintage Stunt	KMAC
Mar-6	CLAG Country Day	Moe
Mar 12-14	South Australian State Champs	
	Monarto/Callington	
Mar-20	Speed , Classic Stunt, Classic FAI T/R	CLAMF
Mar-27	KMAC Control Line Carnival	KMAC
Apr-3	CLAG Country Day	Moe
Apr 2-3	Albury Racing Weekend.	
	F2F, Speed, Vintage A, Classic B, Open Rat Race.	
Apr 22-25	Victorian State Championships.	
May-1	CLAG/Brimbank.	
	All Aussie Day / Vintage Combat.	KMAC
May-22	Stuntmasters F2B + Yeomans Novice	KMAC
Jun-5	CLAG Country Day	Moe
26-Jun	Combined Stunt	KMAC

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
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

CLAG Contact :- Craig Hemsworth Mob 0433 809 862
Email :- chemsworth@childhood.org.au
Details of venues can be found on the club web site
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.

Secretary:
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COMING EVENTS



C.L.A.S. CONTEST CALENDAR 2011

Club Stunt events to be advised.

DATE	EVENT	CLUB
Sun 20 Feb	F2B Aerobatics	SAT
	Ashford Road, Milperra	
Sun 20 Feb	Diesel G/Year, Sabre Trainer and 2.5 Diesel Speed	KMFC
5th 6th Mar	2011 HUNTER VALLEY (Mitchell Hill, Muswellbrook) CHAMPIONSHIPS. (Luke Anderson-042 0926890)	MDMAS.
12th-14th Mar	S.A. STATE CHAMPIONSHIPS S.A. ** (F2A, F2C, F2D Team Trials)	
Sun 20 Mar	Brendan Farrell 500	KMFC
Sun 27 Mar	Phantom, Vintage A, Vintage B, Vintage 1/2A, Diesel G/Y and Bendix	SSME
Sun 3 Apr	F2B Aerobatics	KMFC
Sun 10 Apr	Diesel G/Year, Sabre and Diesel Speed	KMFC
Sun 17 Apr	F2B Aerobatics	Doonside
	(to be held at SSME)	
22nd-24th Apr	VMAA VICTORIAN STATE CHAMPIONSHIPS. ** (F2A, F2C, F2D Team Trials)	
30 Apr - 1 May	VETERANS' GATHERING. (Mitchell Hill Muswellbrook)	MDMAS.
	Contact Luke Anderson 042 092 6890	
30 Apr - 2 May	QUEENSLAND STATE CHAMPIONSHIPS (events to be advised).	ALC
Sun 15 May	Combat. 1.6cc, Slow and Vintage Combat.	KMFC
22 May	F2D Team Trial **	WA. Whiteman Park.
27 - 29 May	F2C Team Trials **	WA. Whiteman Park.
	(Note: NO F2A event)	
Sun 29 May	Triathlon	KMFC
Sun 29 May	F2B Aerobatics	SSME
11 - 12 Jun	CLAS. NSW C/L STATE CHAMPIONSHIPS. ** F2D Team Trials **.	CLAS.
	Whalan Reserve	
13 - 14 Jun	F2B TEAM TRIALS **	CLAS.
	Whalan Reserve	
25 - 26 Jun	"Old ***** and Friends" Vintage Weekend. Fred Pearson. Ph:6653 2997	Coffs Harbour
Sun 3 Jul	AGM and Club Racing.	KMFC
Sun 10 Jul	Combined Speed. Details contact Ron Blomberry. 99565952	SSME

Sun 17 Jul 1.66cc, Slow Combat, KMFC
Vintage Combat
Sun 7 Aug F2B Aerobatics KMFC
Sun 14 Aug Diesel Goodyear, KMFC
Sabre Trainer Racing
& 2.5 Diesel Speed.
Sun 28 Aug Combined Speed SSME
(contact Ron Blomberry for details Ph: 9956 5952)

Sun 11 Sep KMFC Triathlon KMFC
Sun 25 Sep F2B Aerobatics SSME
CLAS.NSW C/L STATE NSW.
CHAMPIONSHIPS. Venue Twin Cities, Albury
(F2A, F2C Team Trial) **
Sun 9 Oct Gordon Burford Day. (Details TBA) KMFC
Sun 30 Oct Phantom, Vintage A, Vintage B, SSME
Bendix T/R and Vintage 1/2A,
Diesel G/Y
Sun 6 Nov F2B Aerobatics SAT (Kelso Park)
Sun 6 Nov Combat. 1.6cc, Slow and Vintage. KMFC
Sun 13 Nov Combined Speed SSME
(contact Ron Blomberry
for details Ph: 9956 5952)
Sun 20 Nov Cardinal Stunt and Classic Stunt. NACA
(I.Smith Ph:024975 2292) (Hunter Sports H.S.)
Sun 20 Nov Vintage T/R, 1/2A, A (2 divisions) KMFC
and Vintage B.
Sun 27 Nov KMFC Christmas Party KMFC
Sun 4 Dec F2B Aerobatics Doonside.
To be held at SSME

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 2011 Events Calendar

1. Vintage and Classic Stunt – January 29th
2. F2B (Expert / Advanced) and Novice Aerobatics #1 – February 26th
3. SA State CL Championships Official Aerobatics Practice – March 12th
4. F2B (Expert / Advanced) and Novice Aerobatics #2 – April 2nd
5. Free Flight Day: Chuck Glider & Delta Dart Competitions – May 7th
6. Vintage Combat – June 4th
7. Grass Rat Racing – July 2nd
8. F2B (Expert / Advanced) and Novice Aerobatics #3 – August 6th
9. 1/2A Combat – September 3rd
10. Sabre Trainer Racing – October 1st
11. Peacemaker Flite Streak Stunt – November 5th
12. Biathlon – December 3rd

Notes:

1. All AAC events are at Unley Rd City opposite BMX Park.
2. Dates are provisional and to be confirmed.
3. Start time of all competitions will be advised in separate 'flyer'.
4. All AAC events to be held at the AAC field, Unley Rd, City.
5. All entrants must be MASA / MAAA members with a valid membership card.
6. Safety straps required on all handles in all events.
7. Mufflers mandatory on all glow motors 2.5cc and above.
8. MASA noise limit (96 dB) applies to all motors.

**For further info contact Peter Anglberger,
Tel 8264 4516**

The views and opinions expressed in ACLN do not necessarily reflect those of the Editor or Committees of Clubs or of the members of the Club represented in ACLN but are those of the respective authors.

Any comments, queries or complaints with respect to any article in this publication should be addressed to the author of the article.

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

Well That time is nearly Here.. The famous Waikato Tarmac Champs.. If you are in need of some sunshine and warm weather just come on over for a visit.

I am sure we can look after you..

Waikato Tarmac Champs 2011

Where New Plymouth MAC Flying site

Friday 18th Feb

Practice Day 9am-5pm

Saturday 19th Feb

1/2 A Team race.

F2C Team race

Class B team race.

NASS SportJet

Sunday 20th Feb

Fast Goodyear.

% Speed

F2A speed.

Starting times for both days is 10 o'clock. Practice from 9 o'clock.

Entry fee is \$5 per event or a maximum of \$20.

Billets Available on request.

Contacts:-

Brian Howser

15 Diomedes Glade,

Flagstaff,

Hamilton 3201.

Ph/fax 07 8543634.

b-h.howser@clear.net.nz

Andrew Robinson

2 Taweke Place.

Waitara 4656..

Ph 06 7543224.

a_robinson_nz@hotmail.com

Robert Bolton

18 Barclay st

New Plymouth

ph 06 7534138

pulsejet@xtra.co.nz

Basic Rules

Class 5 (jet) Max weight 1400grms Lines 0.5mm 2 line, 0.8mm monoline, 19.9m Fuels unrestricted

Nass Sportjet as per rules published on the nass webpage <http://www.clspeed.com/>

Aerobatics... Hearn's Trophy Style
for Control Line Model Aircraft



**Without any doubt, the oldest C/L Stunt event
in Australia -
being first competed for at Surrey Park in
1947.**

**The next Hearn's Trophy will be contested at
KMAC on Feb 27th 2011**

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

Ron Chernich will be continuing his role as the webmaster and subsidize the cost of the site as he has been doing for almost three years via "Model Engine News"

<http://modelengineneeds.org/>

Back issues of ACLN are archived, indexed, and may be searched here.

<http://www.dkd.net/clmodels>

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.

PRELIMINARY 64th NATIONAL'S REPORT



I am pleased to be able to state that according to many many competitors who attended the Nationals at Dalby over the New Year period" this was the best Nats they have ever attended".

I believe those kind of statements testify to the hard work and dedication of the entire National's Committee over the last twelve months in spite of a number of hiccups along the way

In saying that I wish to acknowledge the tremendous effort put in by the members and families of the Dalby Model Aero Club. Without their assistance this event would not have come to such a successful conclusion. To all of those unsung heroes my heartfelt thanks.

In particular I offer a particular thanks to the Western Downs Regional Council for their very generous financial and logistical support leading up to and during the conduct of the competition period, this support coming from Mayor Ray Brown, CEO Phil Berting, and Councilors Charlene Hall and Carolyn Tillman. It was fantastic to receive their support and wishes that the Nationals would not be cancelled as the economic boost to the entire Dalby community was badly needed at a time when every bit of money spent in the town would help assist in recovery after years of drought.

It is unfortunate that some of the media and roads coverage was not always accurate or up to date and this contributed to the fact many competitors who had registered to compete did not come to Dalby for various reasons. An illustration of one inaccuracy was roads were being traversed by people even towing caravans for three days before the media reported they were open.

Although we had to delay the start by two days, nearly all events scheduled to be held were in fact held and the rescheduled program was caught up with in one day and carried on as per program, under glorious sunny skies very light winds and temperatures in most cases far under those recorded as far south as Melbourne. Certainly no 40 degrees plus in a dust bowl! To the Contest Directors, event contest directors, Special Interest Groups and anyone who assisted in any way, your efforts were greatly appreciated and contributed to the success of the competitions in all disciplines.

Last but not least, to the citizens of Dalby who welcomed us with open arms and smiling faces at all times in spite of their recent adversity, on behalf of everyone who was present at Dalby, the logo "Friendliness and Open Spaces" can in no way describe the true fighting spirit of the entire community.

To each and every one of you I extend the biggest thank you that is possible to give. I feel truly appreciative and humbled by the warmth of the Community spirit of the entire town.

A full report will be tabled to be presented at the MAAA Conference in May, as well as a Preliminary Report to MAAQ as soon as practical.

John D. Taylor

National's Chairman

Stunt activities at Dalby

F2B 31st Dec and 2nd Jan

On the 31st Dec we finally got underway. Expert flew first then Advanced, two rounds, so we could catch up to the original schedule. EASY! In the first and second rounds, Reg was looking very threatening, flying very well, but had an unfortunate overrun which cost him the lead on day 1. Joe Parisi was solid and had the highest score on day 1. Mark Batty was flying his new Yatsenko Shark but was having a few teething problems finding a setting. He had an underrun on his second flight but still scored well. The dark horse was James Batty with his very loud Stalker 66 powered Strega. James was nailing all the right manoeuvres but seemed to lose his precision on the manoeuvres after the square 8's.

In Advanced, there was a new guy named Barry Frederickson, from Yeppoon near Rockhampton. He told us that he was lucky to escape the floods there and had only learned to fly the F2B pattern in September 2010. He flew very well and I was getting worried, but at the end of day 1, I was in the lead and Don Keysecker was close behind with Barry Frederickson leading Len Surtees and Wayne Jackson. Frank Egyed had an electric Brodak T-Rex which was not finished so he was unable to fly it in the competition. At the end of day 1 he finally got it in the air for a test flight, but it suffered an unfortunate lack of down control during the outside squares resulting in it hitting the ground pretty hard.

On January 2nd we decided to do 2 rounds again to get the F2B over and done with. This time Advanced flew first then Expert. Don Keysecker was flying very well and got a good score to push him into the lead in Advanced. I cracked under the pressure and stuffed up my square 8s twice! to hang on to 2nd place, while Barry Frederickson also improved to consolidate

3rd position.

F2B Advanced Results

CD: Noel Corney

Judges: Reg Towell, Paul Turner

	Model/Engine	Rd 1	Rd 2	Rd 3	Rd 4	Final Score	Total of best 3
1 Don Keyssecker	Kismet / OS 46	731.50	772.00	837.25	828.75	2438.00	
2 Warren Leadbeatter	Pathfinder / Electric	788.00	781.50	766.00	819.75	2389.25	
3 Barry Frederickson	T-Max / Stalker 66	729.50	761.68	777.25	765.00	2303.93	
4 Len Surtees	Veco Chief / Fox 35	548.50	535.00	660.75	716.50	1925.75	
5 Wayne Jackson	Nobler / Fox 35	479.50	430.25	520.50	173.00	1430.25	
6 Frank Edyed	T-Rex / Electric	0	0	0	0	DNF	



In Expert, Joe Parisi was showing that he was the number one flyer with consistency and a couple of 10s from some judges on some of the manoeuvres. James Batty also flew very well to claim 2nd Place and Mark Batty took 3rd. Closely followed by Reg Towell in 4th, Paul Turner in 5th, Noel Corney with his quiet electric SV11 in 6th, Peter Anglberger with his ST46 powered Vector 7th and Wayne Jackson who flew in both Expert and Advanced 8th.

F2B Expert Results

CD: Noel Corney Judges: Frank Edyed, Don Keyssecker, Warren Leadbeatter

	Model/Engine	Rd 1	Rd 2	Rd 3	Rd 4	Final Score	Total of best 3
1 Joe Parisi	Hot Pursuit / PA 76 (Pipe)	1053.17	1121.83	1181.17	1226.00	3529.00	
2 James Batty	Strega / RoJett 76	967.50	1085.00	1159.00	1137.00	3381.00	
3 Mark Batty	Yatsenko Shark / Retro 76	1096.17	1003.50	1107.33	1159.00	3362.50	
4 Reg Towell	Sea Fury / Saito 72	1084.50	1085.17	1082.75	1173.50	3343.17	
5 Paul Turner	Wind Wonder / Stalker 61	910.83	972.17	1079.00	1109.50	3160.67	
6 Noel Corney	SV 11 / Electric	923.33	913.17	920.83	938.00	2782.16	
7 Peter Anglberger	Vector / OS 46 LA	837.17	849.17	909.67	896.50	2655.34	
8 Wayne Jackson	Nobler / Fox 35	237.27	307.67	355.83	459.33	1122.83	



Classic Stunt Jan 4th

Five entries turned up for Classic Stunt, three Noblers, one Thunderbird MkII and a Skyscraper so it was Palmer vs Aldrich. In the first round, everyone had one problem or another or missed a manoeuvre so we all figured it was to be decided in the 2nd round. Well as it turned out the three who managed to do a full flight in the second round were the place getters. i.e. Reg Towell 1st, Peter Anglberger 2nd and Barry Frederickson with his beautiful ST60 powered Skyscraper in 3rd place. I had an underrun due to the engine richening up during the flight, which had it not happened I reckon I would have got 2nd. But congrats to everyone for having a go.

Classic Stunt Results

CD: Paul Turner

Judge: Paul Turner	Model/Engine	Rd 1	Rd 2	Final Score
1 Reg Towell	Thunderbird Mk II / ST 46	544	567	567
2 Peter Anglberger	Grondal Nobler / ST 46	463	485	485
3 Barry Frederickson	Skyscraper / ST 60	321	476	476
4 Warren Leadbeatter	Nobler / Fox 35	461	425	461
5 Don Keyssecker	Kismet / OS 46 LA	456	422	456



Vintage Stunt Jan 5th

There were 6 in Vintage Stunt. Some nice models and good flying from everyone saw the placings go to Paul Turner 1st, Peter Anglberger 2nd and Don Keyssecker 3rd, who all have good experience with this competition. The other 3 entries lacked good static judging points due to poor documentation, but they will all know better next time. Right guys?

Vintage Stunt Results

CD: Paul Turner

Static Judge: Paul Turner Flight Judge: Reg Towell

	Model/Engine	Static	Rd 1	Rd 2	Final Score
1 Paul Turner	Wombat / Sabre 29	121	149.0	170.5	291.5
2 Peter Anglberger	Ambassador / Taipan 2.5 D	106	160.0	167.0	273.0
3 Don Keysecker	Lil Duper Zilch / K&B 29	106	138.5	150.5	256.5
4 Barry Frederickson	All American / K&B Torpedo 35	86	154.5	164.0	250.0
5 Colin Maybury	Thunderbug / Glochief 35	84	30.0	123.5	207.5
6 Wayne Jackson	Nobler / Fox 35	57	89.5	107.0	164.0



Getting home...

At the conclusion of the Vintage Stunt, most of the Stunt fliers left Dalby that day to escape the threat of more floods trapping us all in Dalby. In my case I was hanging around to help my friends the Linwoods and watch a few events. We were to leave on Friday 7th, but on the morning of the 6th when Vintage Combat was supposed to start, it had been raining very heavily since 5am, so we all decided to do the Harold Holt and get out of there. I left Dalby at approx 9am and the road to Toowoomba was already covered with about 6 inches to 1 foot of water. By 11am the road was closed. We had one further delay at Toowoomba where flash flooding caused a landslide on the main road to Brisbane, but it really wasn't a problem as we needed to stop for breaky and a coffee anyway. By the time that was done the road was open and we headed for the Gold Coast for three more days of rain, before we decided to head for home down the Pacific Highway.

I would like to thank the organisers and volunteers at the Dalby Nats for all their great work, support and friendliness and most of all for providing the BEST NATS I have ever been to.

Regards

Warren Leadbeatter

aka "The Stunt Rooster"

Vintage A Team Race Report

It was truly awesome to be at the Dalby Nats. Despite the horrendous floods all around the town, aeromodellers were able to complete flying on 7 out of the 8 scheduled days. Only 1/2A and Vintage Combat remained unflown on the last day when the anticipated heavy rain finally arrived.

The warmth and friendliness of the Queensland locals had to be experienced to be believed. The amount of preparation and sheer hard work of the Dalby organizers like Ross Milne, Dale Jeude and Chairman John Taylor was simply amazing. There was a seemingly endless supply of fresh sandwiches and cold water for everyone. Yes, it was an adventure getting up to the Nats and back, but those who decided to go will look back and say, "Wow... what a memorable time we had in Dalby!"

Vintage as usual promised to be a closely contested race. The event was transferred to the Cotton Ginnery hard surface, as the grass was too bouncy at the Touch Footy ground. Eleven teams was a good entry when all things were considered. The West Australians showed good form in practice and looked likely to take it right up to the East Coast lads. It was going to be a very competitive race. Conditions were fairly hot and humid, certainly not good weather for diesels to be at their best. As it was, many models failed to get off the ground with what seemed to be vapor lock.

Richard and Bruce Bellis had good speed and quick restarts. They cruised to an easy first round 3.25.53 to qualify third fastest. Looking to improve on that time in the second round, Bruce's finger had an altercation with the APC 7x7 and he had to go and visit a Dalby Doc. This effectively put paid to their chances in the final.

Graeme Wilson was using his vast experience in the middle flying the Olympian to help keep Harry Bailey in the mix. Harry was on the oily end for a change and showed good form in the pits with a first round 3.24 and then a 3.32.75 second round.

Was great to see combat ace Tom Linwood having a crack at Vintage A with dad Andrew. Tom is learning more every time he grabs a T/R handle and will soon be just as comfortable flying 3 up as he always has flying 2 up with streamers.

Of the other WA guys, Rob Fry and Alasdair Taylor got close with a 3.36.97 second round. Ron Hoogenkamp and Kristian Nash had a run in which finished their chances of being part of the top three. Colin and Shane Leknys enjoyed the racing but it seemed their engine did not enjoy the humid conditions.

Murray Wilson has been there and done that in all the C/L disciplines. This time he was doing the pitting and John Hallowell was flying. They flew the Elliptical in the first round and were a couple of laps short. You can't two stop at this level! A slightly smaller venturi is due to be fitted. Then Murray's super quick Dimpled Dumpling was flown, but a needle problem just before the heat saw them way off setting and it was goodbye to any chance of pulling off this championship.

A sentimental favorite for this event was Steve Rothwell. For many years, Steve has stood back and watched other people win major events with his fabulous R250 engines. Perhaps it was finally his turn for a win? Now teamed up with Chris Sculley, they looked the goods with a blistering first round 3.18.41 FTD and followed it up with a slower second round 3.41.97, due to one slow stop. Steve had mixed up 2 different fuels to adjust for the conditions. One bottle was 1.2 % IPN and the other was 1.4 % IPN. He was able to blend both to obtain the best % for the day's conditions. Smart thinking!

The SuperMacs of Mark and Trent McDermott did not have the best of days and were not happy when their final chance of posting a good time in the second round when a missed hot catch and low laps resulted in a 4.04.. Would have made a final in the late 80's... but not in the 21st century... Seriously, Mark's workload as Control Line Co-ordinator gave him less than ideal time for his race preparations. And a badly cut, sore and heavily bandaged hand did not help with catching.

It was a similar story for Andy Kerr and Richard Justic. Usually right up at the pointy end of fast times, Andy's preparation time was limited this year with his Speed events and engineering work.

Worthy of a mention was Queensland's Rhys Patten. He was super keen and came prepared to fly VTR with a beautifully built R250 powered Tiger Terror, complete with a highly detailed tiger stripe finish. But after competing in the Burford A event, (Taipan engines only) he elected not to fly in VTR until he gets more 3 up practice. Let's hope that he gets in that vital practice before his next competition. If they want more people flying team race, other teams in Queensland need to step in and help out newcomers with practice and good advice.

It was time for the final. Bruce Bellis was unable to flick so the WA team took their place in the final but elected not start the race. This left Rothwell/Sculley and Wilson/Bailey to battle for line honours. The Rothwell Dimpled Dumpling had a small speed advantage and with Chris Sculley's whirlwind arm belting the APC 7x7 for quick starts, they established a slight lead. Both R250's were running smooth and fast. Harry would probably rather have been holding the handle as both stops were not as quick as he would have liked. So Steve and Chris got home first and will go down in the record books as the National Champions in Vintage Team Race in 2011. A popular victory and very well deserved. Rothwell/Sculley's time was 6.57.72 and Wilson/Bailey finished with 7.20.31.

Results of Vintage A at the 64th Nats.

	Heat 1	Heat 2	Final
1.Rothwell/Sculley	3.18.41	3.41.97	6.57.72
2.Wilson/Bailey	3.24.56	3.32.75	7.20.31
3.Bellis/Bellis	3.25.53	DNF	DNS
4.Fry/Taylor	3.42.56	3.36.97	
5.Hallowell/Wilson	5.34.50	3.52.00	
6.Linwood/Linwood	4.45.06	3.54.03	
7.McDermott/McDermott	4.00.41	4.04.00	
8.Hoogenkamp/Nash	4.08.03	DNF61	
9.Justic/Kerr	DNF76	DNF31	
10.Leknys/Leknys	DNS	DQ	
11.Patten/Egyed	DNS	DNS	

Report by John Hallowell AUS 1984



Richard Bellis, C.Sculley/S Rothwell, H Bailey/G Wilson

Classic B Team Race Report

Tradition says a CLASSIC B Nats event is always going to be a very close race. The past Nationals have proved this beyond doubt with mere seconds between the top ten and fractions of a second between finalists.

This time, the flood disaster had taken its toll on entries and only 7 teams fronted up for this much anticipated event. Reigning National Champ Paul Stein got within a few hundred miles of Dalby and then turned back after receiving advice that roads were flooded. Some Queensland teams pulled out because the race was transferred to the hard stand as the grass surface was too spongy even for B Class models. Flying on it was simply not worth the risk of damaged racers. I believe if other teams had a fly on the smooth Cotton Ginnery surface, they would have been surprised how easy it was to take off and land. The only potential problem with the Cotton Ginnery site was the amount of super fine bits of cotton floating about in the wind. Sometimes they would wrap around the lines and would be hard to remove. And maybe, just maybe, some of these fine cotton strands contributed to the abnormal amount of engine problems at this meet.

Graeme Wilson and Harry Bailey set the ball rolling in the first 70 lap heat with a very credible 3.00.63 using the Irvine .25 and Galaxie combination. These guys were looking good but there's always danger in sitting on your time at a Nats! As it turned out, they snuck into third fastest position by a mere .74 of a second from the Classic B surprise packet of the Nats, Steve Rothwell and Chris Sculley.

It was as if the job wasn't finished for the Vintage A and Slow Goodyear winners. They had their eyes on yet another prize... the coveted Classic B one! So Steve and Chris rolled off a smokin' 3.01.37 in their very first race in this popular and highly competitive class. The Rocket they flew was built by Chris in just 2 weeks and is an absolute credit to him. The engine is a Lance Smith prepared OS 25FX. These superb engines come fully worked and 'ready to rumble', just fill, flick and race! Contact Lance for fast delivery of an OS FX and also the new ABC ASP 25.

Chris and Steve were in the final until a record breaking flight by Hallowell/M.Wilson in round two tipped them out. Sorry

guys! Murray and John were on their last chance as the Irvine .25 Rocket refused to slow on a hot landing in Round 1 resulting in a 3.08. That's the great uncertainty about Vintage A and Classic B. You never know where the engine is going to stop. Wherever it does, a split second decision has to be made about landing. Bring it down or take it around again. In round 2, the engine thankfully stopped in the right place so Murray executed a very fast stop. It brought about a new Nationals heat record of 2.56.91, just under the old 2.57.5 record of Rob Fitzgerald and Paul Stein.

The Supermacs were keen to do well in their favorite event. Their first heat tune was hard and returned a 3.14.09 throwaway time. The pressure was now squarely on Trent and Mark to perform. They responded in a way you would expect of a family with fine sporting traditions. They rolled out an easy 2.58.57 to make second fastest time. This makes them the first team to go under 3 minutes, two Nats in a row.

Mark Godfrey had Richard Justic in the middle and good things were expected with the OS25FX Swooper after it showed such good speed at Albury last October. However, a good setting was proving hard to obtain and the model was often running too lean. Once the engine run is sorted, this model will also be down around the 3 minute bracket.

Unfortunately the WA teams did not have the best of days. Rob Fry and Alasdair Taylor had good speed but not the instant restarts with the Brodak powered Galaxie. So two times in the 3.30's resulted. Colin and Shane Leknys decided not to start after they deemed the Blista too touchy to fly safely in the 5 minute practice that was allotted to all teams in Round one.

The 140 lap final consisted of two Victorian teams with the Queenslanders the meat in the sandwich. A Galaxie, A Rocket and a Long Gone. Two Irvines and an American modified OS 25 FP. All were away at the CD's command. There was nothing between the airspeed of all three racers and none was comfortable with achieving 50 lap range, so all teams were prepared for a 3 stop race.

However, the McDermott model began to get hot again and slowed noticeably on the second tank. They then did the only decent thing for the engine and shut it off. So now it was a two up, but not without its dramas! John and Murray were again on blistering pace. According to Timekeeper Andy Kerr they were again on 2.56 at the 70 lap mark. Then disaster struck at the next stop. The model was released and then stopped with a fuel blockage. Valuable time was lost as Murray fixed the problem. Meanwhile on the other side of the circle Harry was coping with a fire! This also took precious time to bring under control. So in the end, Harry and Graeme lost a little less time and went on to their first Classic B win with a near 10 second margin in hand. It was Irvines first and second. Congratulations to the winners.

Harry's winning Galaxie is his standard Barton B model, the one he recently campaigned in England and Portugal. For this Classic B event he fitted 60' x .015 lines, a smaller APC 7x7 prop, went to 20% nitro and fitted a 4.7 mm venturi. Let's hope this encourages a few British teams to come to Perth in April, 2012. Come on guys, it's not that far to Western Australia in a big jet!

Results of Classic B at Dalby.

	Heat 1	Heat 2	Final
1. G.Wilson/Bailey	3.00.63	DNS	6.33.22
2. Hallowell/M.Wilson	3.08.60	2.56.91 (rec.)	6.43.06
3. T. McDermott/M. McDermott	3.14.09	2.58.57	DNF 50
4. Rothwell/Sculley	3.01.37	DNS	
5. Justic/Godfrey	3.16.16	3.24.75	
6. Fry/Taylor	3.31.94	3.35.25	
7. S.Leknys/C.Leknys	DNS	DNS	

Report by John Hallowell AUS 1984



Chris Sculley built this Rocket in just 2 weeks.



T McDermott/M McDermott, H Bailey/G Wilson, J Hallowell/M Wilson

Class 2 Team Race

	Heat	Final
1st J Hallowell/M Wilson	3:00.78	6:19.34
2nd T McDermott/M McDermott	3:04.56	6:29.09
3rd H Bailey/C Leknys	61 laps	8:12.93

The three entrants that competed in this event were all using very similar racing models. The models were all based on the "Montezumas Revenge" and all three had Nova Rossi .21 engines. This resulted in some close and fast racing



F2C Team Race

	Heat	Final
1st R Justic/M Wilson	3:58.58	7:19.07
2nd R Hoogenkamp/C Leknys	4:49.46	8:02.88
3rd S Leknys/K.Nash	47 laps	DNF 0 laps

With only three entrants making the start line, it was decided to only run one heat and a final. The contest director had John Hallowell and Hutton Oddy as an impromptu assistant jury. Nash/Leknys could not get things to work for them and the final was a two team race.



K Nash/S Leknys, M Wilson/R Justic C Leknys/R Hoogenkamp

F2F Team Race

	Heat 1	Heat 2	Final
1st M Wilson/G Wilson	4:23.10	-	8:34.85
2nd K Nash/S Leknys	1 lap	-	9:04.72
3rd T McDermott/M McDermott	Re-fly	4:14.87	9:05.43
4th R Hoogenkamp/C Leknys	36 laps	(damaged model)	



F2F finalists.

McDermott/McDermott, Wilson/Wilson. Nash/Leknys

Slow Goodyear

	Heat 1	Heat 2	Final
Rothwell/Sculley	5:11.84	5:20.09	10:38.75
Justic/Kerr	5:40.56	D.Q.	10:50.85
McDermott/McDermott	DNF	5:13.38	10:58.35
Gibeault/Owen	6:32.72	5:43.78	
P Dillon/C Dillon	DNS		
M Dillon/R Dillon	DNS		

Introduced at these Nationals as an entry level event with a maximum speed limit it was unfortunate that it was scheduled to be run after the conclusion of 2.5 Rat and Open Rat because the two junior Dillons were tired and ready for a rest late in the afternoon and did not compete. Rothwell/Sculley were the eventual winners using R250 number 1.



Rory and Callum Dillon practice for Slow Goodyear at the Cotton Gin.

Open Combat

R Bellis	W	W	W	B	L	W
T Linwood	W	W	L	W	W	L
T McDermott	L	W	W	L		
M Wilson	W	L	L			
M Comiskey	L	L				
M Dillon	L	L				



Taylor/Fry (W A) Owen/Justic (NSW) McD/McD (QLD)

Goodyear

	Heat 1	Heat 2	Final
Owen/Justic	6:14.50	4:01.97	7:40.18
McDermott/McDermott	4:53.06	4:14.88	10:07.81
Fry/Taylor	4:15.38	DNS	136 laps
Wilson/Wilson	4:29.9	5:12.18	
Bellis/Linwood	4:42.56	33 laps	
Rothwell/Sculley	4:59.94	-----	
Leknys/Nash	5:24.53	6:10.28	
Hoogenkamp/Leknys	DNS	-----	

Congratulations to the winners and placegetters as well as commiserations to those less than lucky. As we haven't had real Goodyear in Qld for some years and I was pinch hitting as CD instead of flying chuckies, I was extremely grateful for the cooperation and sportsmanship of the contestants, especially the rogues gallery of Steve R., Graeme W., Andy K., Harry B., John H., and Mr Scully for their advice and assistance.

B Burke C.D.

Mini Goodyear.

Held immediately after Goodyear, this event attracted two teams. John Taylor was probably blitzed by the Nats organisational duties and in the absence of his pilot, decided it would be wiser to conserve what little energy had left. A heat and a final were held with the following outcome:-

It was also quite satisfying to see a model I built around 10 years ago actually win the first ever time I saw it fly!

B Burke. C.D.

Mini Goodyear Results

	Rd 1	Final
1 M.McDermott/T.McDermott	4:10.66	8:48.25
2 H.Bailey/M.Wilson	5:30.06	13:29.00
3 J. Taylor /	-	-



Bailey/Wilson McDermott/McDermott

F2A Speed Results.

R Justic	13:17	13.27	13.08
P Gibeault	13.97	14.31	14.69
A Kerr	-----	14.45	14.11



Paul Gibeault came from Canada to compete and he is seen here with Andy Kerr and Richard Justic preparing his F2A model for flight.

Burford Vintage A Team Race

	Rd 1	Rd 2	Final
1 H.Bailey/M.Wilson	3.50.97		7.54.87
2 R.Justic/A.Kerr	5.59.4		10.19.68
3 Patten/Egyed	7.15.4		DNF 1
4 M.McDermott/T.McDermott	DNF 44		

Patten/Egyed had their first taste of three up team racing at these Nats. They were using a nicely made "Fury" but were unfortunate to have a gust of wind upset their take off in the final and landed heavily.

Justic/Kerr had engine tuning woes, but Bailey/Wilson powered on with a model/engine combination that was originally built for the Nowra Nats to take a comfortable win.

Kerr/Justic, Wilson/Bailey. R Patten



Junior 2.5 Rat Race Results

1st	Callum Dillon
2nd	T. Linwood
3rd	Rory Dillon

Junior 2.5 Combat

	Rd 1	Rd 2	Rd 3	Rd 4	Rd 5	Rd 6
1 Rory Dillon	W	W	W	B	L	W
2 Callum Dillon	W	W	L	W	W	L
3 Tom Linwood	L	W	W	L		



Contest Director Mark McDermott presents the Junior Combat trophies.

F2D Combat

1st P Dillon	W	L	W	W	W	W
2nd T Linwood	W	W	L	W	W	L
3rd R Bellis	L	W	W	W	L	W
4th M Wilson	W	W	W	L	L	L
=5th T McDermott	W	L	W	L		
P Mills	L	W	W	L		
=7th G Wilson	L	W	L			
B Bellis	L	W	L			
M Dillon	W	L	L			
M Comiskey	W	L	L			
=11th M Crawley	L	L				
R Owen	L	L				

Paul Dillon took out the F2D title. It was his first Nationals F2D win and where better to do it than in his home State of Queensland.



R Bellis, P Dillon, T Linwood

2.5cc Rat Race

	Heat 1	Final
Wilson/Wilson	292 laps	544
McDermott/McDermott	232 laps	341
Justic/Owen	287 laps	6 laps
Hoogenkamp/C Leknys	198 laps	
S Leknys/K Nash	101 laps	

The Wilsons seemed to be the exception to the trend of using F2C or F2F models in this event but consistency and reliability saw them get the most laps in the heats and the final.



Owen/Justic, Wilson/Wilson, McDermott/McDermott

Open Rat Race

	Heat 1	Heat 2	Final
P Gibeault/M Wilson/Justic	3:25.03	2:22.07	5:38.03
Wilson/Wilson	4:30.63	3:10.35	7:56.03
Justic/Owen	2:33.9	18 laps	8:01.94
Fry/Taylor	39 laps	2:54.94	46 laps
Bailey/Hallowell	3:10.62	4:07.93	
Linwood/Linwood	15 Laps	4:40.66	
Leknys/Hoogencamp	9:36.44	0 laps	



Owen/Justic, Gibeault/M Wilson/G Wilson, Taylor/Fry Open Rat race had some models entered that lived up to their expected performance. In addition to competing for the National title a perpetual trophy for this event had been donated by John Taylor in memory of the late Greg Pretty. It was the Canadian/Australian team of Gibeault/Wilson/Justic that grabbed the top spot..

Combined Speed & Jet Speed

Combined Speed

	Class	Engine	FL 1	FL 2	FL 3	Fastest KPH	%
1 R.Justic	Class 2	Nelson 29	10.08	10.33	D.N.S	10.08 287.38	99.21%
2 P.Gibeault (Canada)	Class 4	-	14.84	16.32	13.66	13.66 263.54	91.14%
3 H.Bailey	Proto	Novarossi 21	30.87	30.95	D.N.S	30.87 187.68	78.15%
4 H.Bailey	Class 1	OS CZ11PS	19.38	NT	-	19.38 185.76	70.38%
5 J.Jacobson	Proto		N.E.L	-	-		



Top three in Combined Speed with their trophies.



Sport Jet

	Class	Engine	FL 1	FL 2	FL 3	Fastest KPH	%
1 R.Fry	S JET		12.11	12.35	-	12.11 239.21	94.63%
2 D.Axon	S JET		14.75	N/T	ATT	14.75 196.39	77.69%
3 J.Walker	S JET		ATT	-	-		



Open Jet

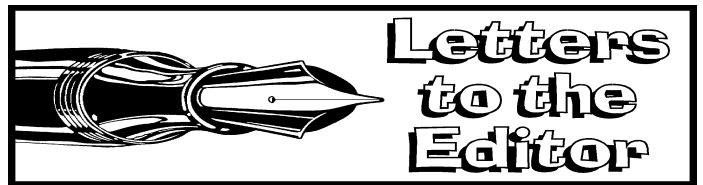
	Class	Engine	FL1	FL 2	FL 3	Fastest KPH	%
1 R.Fry	Jet		12.29	13.04	-	12.29 235.71	83.97%
2 J.Walker	Jet		ATT	ATT	-		



The reported Dalby floods were not as bad as this speed model depicts.



A Dalby thank you.



Firstly I would like to thank the Dalby Club for running the 64th Nationals. Considering the flooding conditions they had to contend with, they did a fantastic job. Nothing was ever too much trouble for them. Everyday we were there; they made available to us sandwiches, cold drinks and cold water, which was greatly appreciated by all.

I would also like to thank the following people for their contribution to the running of various events:

Brian Burke, Ross Stokes, Graeme Wilson, Robert Owen. Harry Bailey, John Hallowell, Steve Rothwell, Noel Corney, Paul Turner, Warren Leadbeatter.

A special thank you to Robert Owen for bringing up his combat timing and lighting equipment and also those people (too many to name) who time kept, lap counted and cut judged.

Unfortunately there were 2 events which were not run - Half A Combat and Vintage Combat due to bad weather on the last day.

There were a few enjoyable social evenings put together by Andrew Linwood and attended by many, especially the last night. A good time was had by all.

Last but by no way least, I would like to give thanks for all the work John Taylor, Ross Milne and Dale Jude did in bringing the Nats together. Without them the Nationals would not have been the success they were.

Mark McDermott
Control Line Co-ordinator
MAAQ Administrator

Many thanks for the Nationals pictures provided by:- Warren Leadbeatter, Mark Godfrey, Dave Axon, Harry Bailey and John Hallowell



Mark Dillon and Murray Wilson fly F2D



Micheal Crawley and Peter Mills fly F2D



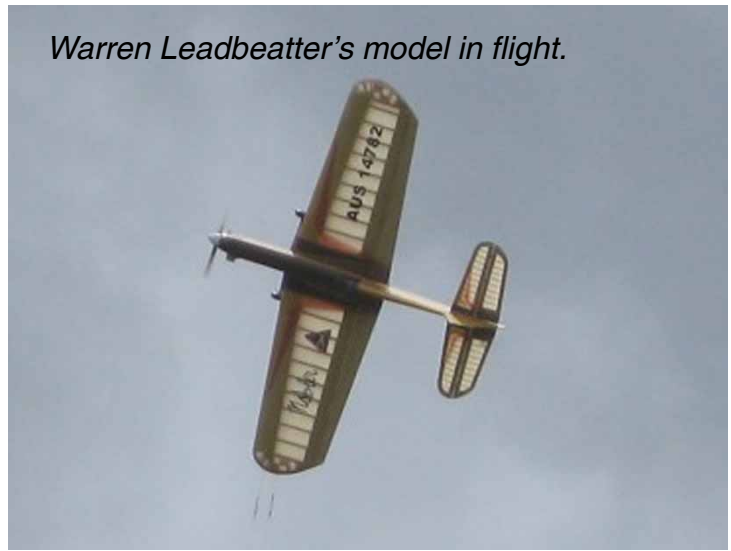
Mark Dillon against Graeme Wilson in F2D.



Open Combat pits



Noel Corney's F2B



Warren Leadbeatter's model in flight.



Reg Towell's F2B



Joe Parisi's F2B



Thirty Control Liners kept the staff busy at this Chinese restuarant.



The "get together" dinner was excellent.

The Linwood's Nelson 36 Open Rat Racer



Bendix Results

	Rd 1	Rd 2	Final
1 G.Wilson/R.Bellis	3.53.13	4.12.97	8.05.78
2 Fry/Taylor	35 laps	4.23.19	8.12.66
3 R.Justic/R.Owen	3.20.10	48 laps	8.32.81
4 J.Hallowell/M.Wilson	4.44.78	5.21.18	
5 M.McDermott/T.McDermott	21 laps	33 laps	

Alasdair Taylor and Richard Bellis prepare for Classic B



"Hang on to that Open Rat"

Obituaries

28 Nov 2010,
I have received a message today that club member and friend, John Hunting has passed away. John had been hospitalised after a series of strokes and went into a palliative care nursing home earlier this week. He will be remembered by many around Australia for his regular participation in team racing circles. My condolences to his family, his brother Ken and his partner Marianne.

Burford A and Vintage A models of Rhys Patten



Bendix finalists



R Owen, R Justic, G Wilson, R Bellis, A Taylor, R Fry



R.I.P. John.
You will be sadly missed.

NZ Nationals Classic A Team Race Results

Yippee 4 entries, great weather, good flying. Don and Andrew were fast all day. Rods rebuilt motor not as good as it used to be. Owens model going well Ash and Brian charging along okay but fast however we made the final 3. Then in the race Owens model started to fall to pieces so he pulled out and we continued onto second place. Don and Andrews time was very good. Brian Howser

Place	Name	Club	Heats	Finals
1	A. Robinson	NPMA	5-34.37	11-01.56
1	D. Robinson	NPMA	5-34.37	11-01.56
2	A.J. Keeling	HMAC	6-30.34	13-39.68
3	O.M. Rogers	ASMF	6-11.09	15 Laps
4	R.J. Brown	NPMA	6-53.06	-



The Great Control Line Gathering 2011

William Deal



The much anticipated control line day was held in perfect weather at the Mangalore property of Elaine & Tony Gray on Saturday 22nd January. The clock was turned back too many years to remember as many of the modellers in attendance flew control line together in the 1950's! With 16 control line models on show all was ready for some serious fun. As Tony gave the grass circle a final trim the sheep soon found the quiet end of the paddock when the diesel & glow engines fired up.

Merv & Owen Cameron produced a brace of models including Owen's brand new mini Ramrod powered by a Taipan 2.5 glow. The very nicely finished Ramrod ended up bouncing off the turf after an ill timed loop with the motor off song. On inspection Owen exclaimed "they still sell glue don't they" Jason George surprised everyone by flying the Sabre Trainer first time after receiving only "do this" instructions from Owen.

George Gray was thrilled to fly some laps with his Aero Flyte trainer and unlike his grandfather Tony, didn't try a vertical landing. John Moody put in some nice flights with his Blue Pants model and also presented all modellers present with a commemorative "Control Line Gathering" sticker. Many thanks John.

Faye & Bill Hellinger together with Kerry & George Carnie made the trip down and found out what the "good old days" were all about. Former control line modeller Peter Wisby heard of the event on the grapevine and was a welcome visitor. At one stage George & Merv ventured into Tony's big shed and there were grave fears that they may never be seen again, however they finally turned up.

Regular "round & round" modellers Dave Christian & Peter Allen had many flights on the day treating us to slick manoeuvres with their well sorted models. Tony Gray flew his newly built and very neat Aerobat powered by a Taipan 2.5 diesel. Fuel starvation problems led to an inglorious landing of the vertical variety which ended the day for the Aerobat. Fortunately no major damage sustained.

Geoff Leverton, Gavin Hallam, Ron & Peter McGuinness all arrived a little later in the day with models and all had

successful flights. Gavin's little Rascal model powered by a Philtech diesel was flown by Peter Allen who was heard muttering "I know why they called it the Rascal" Geoff flew a model with a drop off undercart originally from an old control line speed model. Geoff flew the fast little model showing he could "still do it" Greg Hall & John Jounbloed also enjoyed the day and flew some "wireless" models.

With the control line models only taking up half a sphere there was plenty of room for JJ's electric glider & Greg's wild wing.

The flying session was paused for a magnificent BBQ lunch beside the pool.

Sincere thanks to Elaine, Tony and family for providing such a lovely lunch and hosting such an entertaining and memorable day.

Another Control Line day is proposed for autumn – details later.



Flyers left to right (standing): Jason George, Merv Cameron, David Christian, Peter Allen and Tony Gray.

Front row: John Moody and Owen Cameron.

Compressibility: Selection of propeller airfoil section.

Previously, we have noted "Tilley's Law"; which states, the thinner the section at the propeller tip, the faster the airplane. There exists another rule, the Prandtl-Glauert rule, which says much the same thing, but throws in a little formula as well. I must admit, it has taken me the best part of 20 years to figure out how then to use this P-G rule, while Tilley's law is almost universally applied.

The idea behind the P-G rule is that we cannot use the same airfoil at 270 m/s ($M = 0.8$) as we might use at 30 m/s ($M = 0.1$). Since propeller blades have this wide variation of airspeed along their length, we have a problem. The cause of the problem relates to the behaviour of air. As speed rises, the flow of air over the airfoil becomes progressively changed, the air in the close vicinity of the airfoil surface becoming increasingly dense. This is the phenomenon of "compressibility".

Suppose we have a nice airfoil section like NACA 4412. That is, 4% camber, camber high-point at 40% of chord and thickness-to-chord ratio 12%. This section is very like Clark Y, which is a famous section of known good performance at low speed. We would like to use 4412 at high speed on a propeller, say at Mach 0.7. Can we do this, given the large change in density of the air at this speed?

Well, according to Prandtl and Glauert, we can, provided we apply a "stretch" to the airfoil in the direction of flight. A stretch? Let's see what that means on some diagrams.

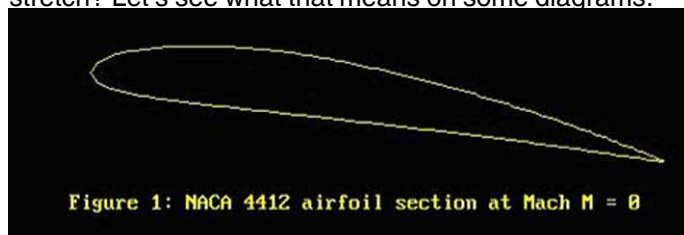


Figure 1 above is just to show what NACA 4412 looks like: it is very much like Clark Y.



Figure 2 above shows NACA 4412 again, at Mach 0 ($M = 0$) but this time with the stretched version of the same airfoil at $M = 0.8$. This second airfoil is obtained by multiplying all the x-coordinate (abscissa) values by the Prandtl-Glauert factor k where k is given below:

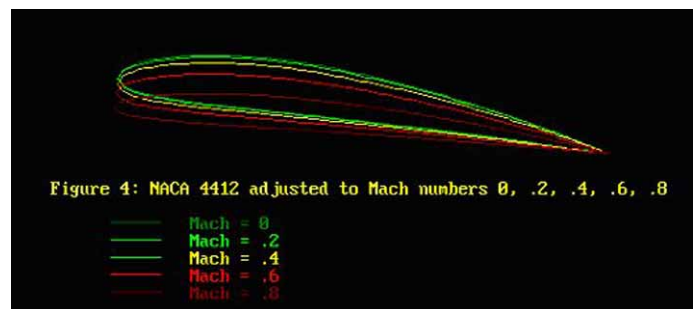
$$k = 1/\text{SQR}(1 - M^2)$$

Note that k is always greater than unity, and gets bigger as M , the Mach number, increases.

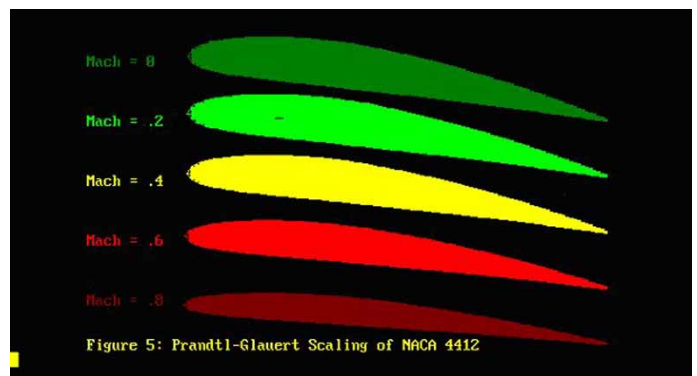
The Figure shows that the angle of attack has decreased, and the chord increased. This increase in chord is not required; we can easily scale it back to the original chord. This is done in Figure 3 below, where all 3 figures are now superimposed.



Returning to our propeller airfoil design problem, recall we wanted to use an airfoil like NACA 4412 all the way along the prop. If we choose stations along the prop corresponding to speeds of $M = 0.2, 0.4, 0.6$ and 0.8 , then we can use the Prandtl-Glauert rule to find what NACA 4412 would like that with the compressibility taken into account. This exercise is displayed in Figure 4, again with all the airfoils superimposed.



Note that the effect of the rule has been to decrease angle of attack, reduce camber and to reduce thickness ratio as Mach number increases. The tip airfoil has been thinned, as one would hope for consistency with Tilley's law. The sections are displayed again in Figure 5, but this time they are not overlaid.



By scaling the airfoil sections in this manner, we have attempted to retain the good properties of NACA 4412. In particular, we have held the amount of lift generated by the section to be the same at every station, irrespective of the nature of compressible flow at the chosen Mach number.

To recap, as Mach number increases, we must reduce angle of attack, camber and thickness ratio to maintain a fixed value of lift coefficient.

Note that I quit at Mach 0.8. In full size airplane wings, the rule is generally not used above Mach 0.7. But propellers are a little kinder than wings, and we can stretch the rule a little.

Above Mach 0.8, a new phenomenon appears, related to compressibility but not obedient to the Prandtl-Glauert rule. This new phenomenon we have seen before, namely, the formation of shock waves as the local flow over the airfoil section starts to exceed $M = 1.0$.

The good properties of NACA 4412 simply cannot be retained at local velocities for $M > 1$. We then require the "supercritical" sections, which, quite unlike NACA 4412, have negative camber and cusped trailing edges.

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Finally new batch of speed and T/R pans are available.

The speed pan will suit 2cc engines and has been improved by making it thicker in places where it was a bit thin previously. The curved shape at the front has been improved and a boss for the rear hold down has been added. Price is still \$25 for the raw item or \$30 with the flashing cleaned off.

The T/R pan has a make over by making it a bit wider between the front hold downs and the engine mount. This will make it easier to fit the engine in

and improves the appearance a bit. Also it has been shortened and the brace is now twice as wide. This allows you to remove the rear part of the brace to get the cut out and tank closer to the engine. Price is still \$25 or \$30 with the flashing cleaned off.



See pictures above for the pans at various stages of completion. If you want me to finish the pan ready to put on your model, It takes about 2 ½ hours to do this. Price is therefore \$70

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Shane and Claire wish to advise that HOBBYCAVE is closing down and flying off into the great blue yonder!!

Starting 1st January 2011 every item on the website will be reduced by 30% unless sold out.

We thank those customers who have supported us over the last 5 years. Your friendship and patronage has been appreciated.

-Shane & Claire
Hobbycave

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