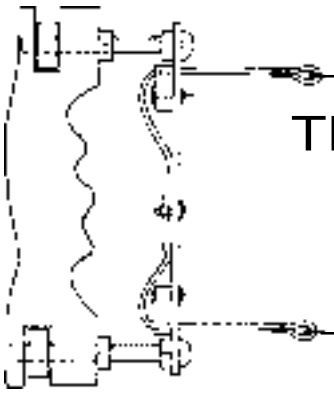

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THE VOICE OF CONTROL LINE AEROMODELLERS FROM AROUND AUSTRALIA

Number 26

Produced by the Victorian Control Line Advisory Committee

September 1999

INSIDE THIS ISSUE

Copy Deadline for next issue is: Wednesday 15th September 1999

PRODUCTION SPECIFICATIONS

Please remember when submitting copy that if you have access to a PC, or suitable typewriter you can save us retyping by giving us 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. This makes formatting much easier on the editor.

Harry and Paul Bailey at
37 Thompson Street. Clayton VIC. 3168.
Telephone (03) 9543 2259.
New Email address:- acln@ozemail.com.au
Fax is also available, but please notify before sending to ensure fax is active.

COMING EVENTS

VICTORIAN CONTROL LINE CALENDAR 1998/99

DATE	EVENT	CLUB
SEPT 5	VINTAGE A TEAM RACE AUSSIE A TEAM RACE	SMAC
SEPT 12	COUNTRY MEETING	WARRAGUL
SEPT 19	**FAI & COMBINED SPEED, 1/2A TEAMRACE, MINI GOODYEAR,** JUNIOR COMBAT	CLAMF
SEPT 26	FAI, NOVICE & JUNIOR AEROBATICS, CLASSIC STUNT, 1/2A COMBAT	KMAC
OCT 3	SIMPLE RAT RACE, SIMPLE GOODYEAR	SMAC
OCT 10	**FAI TEAM RACE, GOODYEAR,** Jnr 2.5cc RAT RACE	CLAMF
OCT 24	FAI, NOVICE & JUNIOR AEROBATICS, VINTAGE A TEAM RACE, AUST B TEAM RACE, BENDIX TEAM RACE.	KMAC
NOV 7	TRIATHLON	SMAC
NOV 21	**FAI & COMBINED SPEED, MINI GOODYEAR,** FAI & MODIFIED COMBAT, 1/2A COMBAT.	CLAMF
NOV 28	MONTY TYRRELL CLASSIC STUNT MEMORIAL	KMAC
DEC 5	VINTAGE A TEAM RACE	SMAC
DEC 12	**FAI TEAM RACE, 1/2 A TEAM RACE, FAI SPEED,** SIMPLE RAT RACE	CLAMF
DEC 19	FAI, NOVICE AND JUNIOR AEROBATICS	KMAC
YEAR 2000		
JAN 30	FAI,NOVICE AND JUNIOR AEROBATICS, VINTAGE STUNT, COMBINED SPEED, CLASS 2 TEAM RACE	KMAC
FEB 6	SIMPLE COMBAT	SMAC
FEB 20	**FAI & COMBINED SPEED,** 1/2A COMBAT, **MINI GODYEAR,** SIMPLE RAT RACE	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), 10.30am start

Contact :- G. Wilson (03) 9786 8153,

Events conducted by CLAM.F at the KMAC Field (Melway 72 K9) 10.00am start.

Contact :- H. Bailey (03) 9543 2259

KMAC Stud Rd . Knoxfield (opposite Caribbean Gardens) (Melway 72 K9) 10.00am start ***Note:-*** All events listed at KMAC ***Except Stunt*** to be run by the competitors on the day

Contact :- T. Matthews (03) 9560 0668.

SMAC Memorial Drive, Ross Reserve, Noble Park. (Melway 80 E12) 10.00am start.

Contact :- Reeve Marsh (03)9776 5949

WMAA Horsham. Contact :- V. Cresp (03) 5382 4065

BRCAC Bendigo-Newbridge Rd . Marong

Contact :- S. Power 03 54 424 925

COMING

THE FOLLOWING PROGRAMME IS OPEN TO ALL MEMBERS OF THE MODEL AERONAUTICAL ASSOCIATION OF AUSTRALIA (M.A.A.A.)
LOCATION OF FLYING FIELDS

(ALL EVENTS START 9 am UNLESS OTHERWISE NOTED)

TAMWORTH MAC: CONTACT LEN SURTEES 02 67-61 8508
R.E.M.A.C.: PETER BOARD HIGH SCHOOL, WICKS RD.,
S.S.M.E.: LUDDENHAM ROAD, LUDDENHAM.
K.M.F.C.: ST. IVES SHOWGROUND, MONA VALE ROAD, ST. IVES.
S.A.T.: KELSO PARK, HENRY LAWSON DRIVE
I.M.A.C.: BIRKLEY ADJACENT TO FREEWAY.
MUSWELLBROOK M.F.C.: MITCHELL HILL FIELD, NEW ENGLAND HWY., MUSWELLBROOK.
DOONSIDE M.F.C. : EASTERN CREEK RACEWAY OFF REEN ROAD, BLACKTOWN
NARROMINE: CONTACT STEVE BAKAC 02 68 89 2501
CLAS CONTACT MIKE COMISKY 02 9605 2062

DATE	HOST	EVENTS & VENUE
Sep-12	Kuring-gai MFC	FAI Aerobatics [F2B]
Sep-18	REMAC	Vintage 'A' T/R + Phantom Racing + Simple Goodyear
Oct 2/3/4	Narromine MFC	Macquarie Valley Championships
Oct-16	REMAC	Duke Fox Stunt
Oct-17	Kuring-gai MFC	FAI Aerobatics [F2B]
Nov-11	Kuring-gai MFC	Vintage Stunt + Vintage 'A' T/R + 2.5cc Rat Race
Nov 13/14	Tamworth MAC	Country Capitol Control Line Championships
Nov-21	SAT	FAI aerobatics [F2B] at Kelso Park Millperra
Dec-5	Kuring-gai MFC	Family Xmas Fun Fly + Flying Xmas decoration
Dec-12	Werrington MAC	CLASSIC STUNT [nostalgia pattern]
Dec-18	REMAC	Family Fun Day-Fun Fly & BBQ end of year get together

All dates subject to change : for further details contact:-

Guy Bevan Hon Secretary CLAS 2 Kamilaroi Rd Bayview 2104 Phone / fax 02 9979 9595 Mobile 0412 465 802 Email: guybevan@AOL.com

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The Trans Tasman Competition that was scheduled for October 2/3 has been cancelled because New Zealand was unable to assemble a full team.

All prospective Australian team members should have been officially notified by now.

Thanks go to those of you who volunteered your assistance in organising and running the contest.

Queensland Control Line Events Calender

Coming Events

Date	Events	Venue
Sept 5th	Goodyear, Mini Goodyear	ALC
12th	Rat,Bendix,Class A	CLASII
19th	Class A, Vintage B	ALC
26th	Mouse, F2B	T/Birds
Oct 10th	CLASII Rat,Vintage B, Vintage Stunt	CLASII
31st	Mouse, CLASII Rat	T/Birds
Nov 7th	Class A, Class 2	ALC
21st	CLASII Rat, FAI Combat, 2.5cc Rat & Scale Fly In	_
28th	Mouse, 2.5 Slow Combat, Jnr Combat	T/Birds
Dec 5th	Christmas Party/Fun Fly	ALC
10th	Pre-entry closing date- Millennium Champs	
12th	Christmas breakup BBQ & Presentation	CLASII
Jan 1-4	YEAR 2000 "NEW MILLENIUM CONTROL LINE CHAMPIONSHIPS"	

Please note that John Taylor is not standing for the MAAQ Control Line Administrators' position on 25/9/99. He thanks you all for your help and co-operation over the last two years.

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 orginal 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"

Left photo Gregg Pretty prepares for 1/2A combat at the recent Horsham Competition

AROUND THE CLUBS

The Ladysmith MAC

Profile of a club in the bush- the LMAC began after the Wagga Nats (94), with control line flying on the Ladysmith oval. It is affiliated to the MAAA via CLAS. The direct aim was to attract the local lads from the local school. Now there are few of the original boys left, but the club is a small group of general modellers which meets every weekend on one of the club's many venues! If you are coming Wagga Wagga way, and want to put a model in the air on your visit, give us a call!

We usually fly on Saturday mornings, either all types on our paddock at Ladysmith, or CL and chuckie on a sports field in Wagga itself. We have an indoor meeting (3rd Sunday of the month, 9.30 till noon in the University basketball court (North Wagga campus)- and can use the uni fields for CL afterwards). We also have occasional general FF/RC/CL meetings, some with low key comps like FF hlg or scramble on a huge venue (Gnadbro paddock at Belfreydon- 600 acres, on the road between Collingullie and Lockart, about 40 km west from Wagga). This venue is attracting quite a few modellers from Wagga and districts who just want to come along and put up a model or two on a huge field- no noise problem here, unsilenced motors welcome! Any other spare weekends in the month will usually see us on the original paddock in Ladysmith! Ladysmith itself is a country mile east of Wagga.

Recently we have organised with the City council to use a seldom used sports field in Wagga itself for CL flying. Now there are a half a dozen fliers including a junior just learning to fly CL - using a dreaded 1.5cc Taipan powered trainer type model!- does nothing change? It is planned to have a general CL fly-in and a fun comp even for those without a CL model, in Spring. All entrants to use the same 2.5cc diesel powered model, the event being to fuel, start and fly 50 laps, the whole lot being timed. If the model survives, that is! Also, there will be a low key CL stunt comp in spring. Come daylight saving, there will be evening CL sessions on the venue in Wagga!

Our fly-ins are boosted by many members of the local Wagga MAC, which is a large RC scale and sport power club.

If you are visiting the Riverina and want to fly, call George Car (02 69332667) or email gcar@csu.edu.au

Our website, which has a bunch of photos, is at http://golum.riv.csu.edu.au/~gcar/FF.html.

Latrobe Valley Control Line Flying Group

By Peter White

Before we launch into the usual comprehensive and absolutely factual report on our last Latrobe Valley gathering, in this case at Moe, please heed some of the following. As you are all probably aware by now, some galah has predicted the demise of our planet later this year or next year or whenever, but rumour has it (as it often does) that this 'once in a life time' event could possibly take place quite late on Sunday September 12th.

Soooo.... what better way to spend your final day than by doing something that you really enjoy (no, Virginia, I'm talking aeromodelling) like driving up to Warragul with a carload of your favorite toys and fly them competitively in events such as Vintage Aerobatics, Classic Aerobatics, Simple Rat Race, Simple Combat, Australian 'A' and Austrlian 'B' Teamrace. Sponsorship of most of the events will be shared around among Tony Cincotta's 'Saturn Hobbies', Robbie Hiern's 'Model Racing Services' and Yours Truly. B.B.Q. facilities and basic B.B.Q. fare aka snags, bread and sauce wiil be provided by memebers of the Latrobe Valley Group with B.Y.O. refreshments and fillet steak.

Don't worry about the tidal wave if you can't swim- Warragul is approximately 150 metres above sea level.

On the other hand, if we survive that fateful day, we'll more than likely do it all again next year.

Rember the date and time - September 12th at 10.00a.m.- and Warragul is a legal one hours drive from the Knox Field.

As mentioned earlier, Moe was the centre of activity on August 1st, providing us with a beautifully manicured field on the grounds of the Moe Racecourse. Ron, you do one helluva job during the week with your little scissors, so we promise - no more 'mocassins on everyone' jokes ever again, unless of course they're just too good not to share.

Visitors from out side the valley included Steve Mitchell, Robbie Heirn and Peter Roberts, along with John Boys and Allan Harrison from the Essendon/ Keilor Group who are quickly becoming regulars at our days.

Incidently, the Boys (which doesn't only mean John), would be pleased to see some new faces join them on the third Sunday of every month - I think that invitation also includes the Saturday of the same weekend. More bods means more clout with the local council which hopefully could lead to improvements in their lot which covers one circle that they maintain but can't improve.

Steve Mitchell turned up with Old Whity and a Demon but chose to spectate. It takes some extra inspiration for those of us who have passed the first flush of youth to actually go out and fly in a cold breeze that's too lazy to go aroud us. To be fair, I think he was feeling a bit second rate. Robbie Heirn had a big day with a Taipan 2.5 series 13 powered Simple Rat racer, his Arrow Speedster with its OS CZ 11, a 10c.c. Speedster with a Rossi 60 hanging out the front and his ex Doug Grinham Skylark, the Ed Southwick design hauled around by a healthy Fox 35. Peter Roberts flew a Class 11 T/R with an ST 29 and then moved over to a couple of free flighters - a neat little ED Bee powered Madcap and a floaty little Chuckie which opened a few eyes.

John Boys flew his again repaired Demon, alternating it with a neat little blue Saturn stunter/Enya 19, while Allen Harrison put in a number of flights with his Ramrod/Glo Chief 29 and the familiar green and gold MK 1 Thunderbird /Merco 35. These boys have been busy as John has a Valiant aasembled for his Enya 29 - I saw the model last Sunday - it seemed fairly light and straight in its bare state. Good luck with it John.

Alan has commenced his All American for an OS S35 so that will be another new job on the scene.

Warren Frith brought out his Viper/OS 40FP to put in two or three flights as did Ron Jones with his Fox 35 powered Ringmaster. The Midi Slow and Mr Good Vibes of Graham Keen were to bee seen circulating on quite a few occasions and Graham was also seen throwing a neat little Wildcat around led by either an OS 25 or Enya 15 or 19. (Delete the earlier reference to 'Comprehensive and factual'). Our other Graham, head of the Viberts, flew his yellow/ mustard OS S35 Ringmaster at various times throughout the day. Graham also had a Wildcat which he handed over to Andrew Beevor for a couple of flights - well done, Graham and a bit more experience for Andrew who along with dad, Greg, enjoyed a good days flying with a Hot Control / Enya 29, a Delta/ Enya 35 and their OS 25/ Black Jack.

David Lay, a Latrobe Valley local, made his first appearance late in the day with a small O/D trainer which circulated quite quickly, although I didn't catch details on the hardware as by the time I had cleared up my Kan Doo and All American, David had put his madel in the car.

Finally, old regular, Paul Richardson was still carrying his bad back and was unable/ unwilling to fly but had dragged out his blue and yellow Windy plus two new jobs - a Stuntmaster built for , if memeory serves me correctly, a Fox 35, and a Ted Fancher designed 'Doctor' with no flaps and a side mounted OS 40 LA.

Paul has since flown the combination, reporting that both model and motor performed well up to his expectations. Says he's considering another Fancher design, The Medic. Oh well, one of them could do his back some good.

Paul again brough along a device for cutting accurate slots in spars, trailing and leading edges, and more. It's similar to a small mitre box, which has a false bottom that can be ajusted to give the required depth of cut. In Paul's case, the cutting is done by a pair of hacksaw blades taped together to give the width of cut to suit the rib material thickness.

Finally, the Knox Report failed to note the tension and excitement surrounding the handing over of the 'Whelan Award'. Jealously guarded for some months by Alan Harrison after a major miscalculation at Maffra in January this year, it was awarded to Greg Breevor for his efforts in bending his Viper at Traralgon. Robbie Hiern, thinking that his Maffra effort in June with the Thunderbolt , had gone un-noticed, sat down to to have a Bex and a cup of tea. Greg wasted no time in turning his acceptance 'speech' into a presentation speech - try to enjoy it Robbie!!

If at all possible try to turn up at Warragul on September 12th to make it a great day.

The first Sunday in October sees us back at Traralgon. Details from

Paul Richardson	51 472374	mobile	017 943 728
Peter White	56 235120		
John Hallowell	9347 4428	mobile	018 370 211
Graeme Wilson	9786 8153		

News from 2VA

By Charlie Stone VH 4706

TARMAC NOTES FOR JULY AND AUGUST

Hot news (for them that care), is the results of the Stunt event at the recent US Nationals. The first three places were: David Fitzgerald and Ted Fancher of the USA with Mitsuro Yokama of Japan in third. That is, I suppose, interesting enough for those that follow the American Stunt scene. More interesting for me, was the news that at least ten of the first 13 place getters were using the same type of engine. It seems that as far as the Yanks are concerned, the Nelson based PA .61 rules supreme at present. Of the three others, one was not listed (Mitsuro Yokama), one Jett .60 (Windy Urtnowski 5th), and one Retro .60 (Kaz Minato 6th). Comments on the other engines were that the Jett .60 had plenty of power to spare, sounding like a turbine with a 2/4 break and the Retro .60 was so silent that all that could be heard was prop noise, it sounded like an electric motor.

Dennis Percival tells me that Ted Fancher (mentioned above) has made a brief recent visit to the NSW stunt flying community. I think that Ted is an airline pilot, which makes this sort of fluttering back and forth over the Pacific more practical for him than for some others of us. He managed to fit in some stunt flying and lots of talking and socialising before rushing back to America. No doubt he was checking out our local scene with view to appearing at the Nowra Nationals as mentioned in the last lot of TARMAC notes.

If you are an aviation nut with lots of money and an interest in jet aircraft, (there MAY be some out there) you could be ready for a trip to Cape Town, which if I remember correctly, lurks somewhere in South Africa. There we find a supply of ex RAF jets (2 seaters) available for hire by people like you. On the list is an English Electric Lightning for jaunts (you get to hang on to the controls) at 60,000 feet and Mach 2. Also available are a Blackburn Buccaneer and one of the beautiful Hawker Hunters. Of course there are also the airshows in the old Soviet union where you can get rides in late model MIGs. From memory they were costing about US$10,000 per passenger flight at last count. Sounds like fun. You rich ones can start polishing your passports and the rest of us will just go on dreaming. Don't forget that even though you may have little or no interest in attending club meetings, it is now the time of year when club fees are due. Remember, no pay, no fly. On the subject of club meetings, as mentioned in the last lot of notes, these are now being held at members houses. The July meeting was held at Dicky Morrow's home and was a great success (we got fed).

Saturday the 24th July was far too good a day to have wasted indoors. When I was flying gliders we called days like this 'blue' days. There was no wind and not a single cloud in the sky to mark a thermal. Of course as the Free Flight folks know, the thermals are always there on these clear sunny days, you just have to use different methods to find them. Needless to say, the lovely weather brought out the fair weather pilots in droves on both this weekend and the two following which were also blessed with great weather. Three good flying days in a row is almost too good to be true and it has helped to show that Control Line is alive and well in Western Australia. It has been a fair while since we had four flying circles kept busy, but it has happened lately. There are some signs of activity on the vintage stunt scene apart from the doings of Fred Adler. Dicky Gibbs has been seen in action flying a Bill Morley designed 'Thunderbolt' and will shortly be bringing out his 'Small Fry'; As will be his old partner in crime Alex Cunningham. Mills 1.3 powered stunt?

Another vintage activity soon to happen is vintage combat. This time a special event commemorating the 30th anniversary of the commencement of FAI combat in WA. The first FAI combat event was the result of an enormous amount of effort and promotion by the late Tony Ostle. Sadly Tony was killed in a traffic accident not long after this. Jim Stivey was very impressed by the job that Tony did at the time, not to mention his energy, and he suggested the commemorative event. If ever an idea of Jim's was to hit paydirt, this was the one. There is tremendous interest and I hear that there is even an entrant travelling from the distant Eastern States as well. At any rate, modellers all over the west are cutting, glueing, and trying to remember how they used to do things. I even saw Garry Turna (an entrant, naturally) with what appeared to be Britfix model cement all over his fingers (perhaps not) and discussing the manufacture of tiny tinplate fuel tanks. It will be like old times.

Among the active fliers seen at the field recently were three new members that I had not met before, Neil and Ryan Martin and Jason Washford. Welcome aboard chaps, it is always great to see some new faces (and models) at the field. We also met Paul, a visiting Control Line flier from Singapore who will be based in Perth for a while and shortly, I presume, to be flying here as well. The more the merrier. Having recently mentioned the need for regularly cleaning and inspecting those most necessary links in the chain of model command, your control line wires, I thought this might be a good time to mention pull tests. Nearly everyone who has flown a control line model will have noticed that they could feel the model pulling on the handle. I say nearly all, because even the most experienced fliers will have once or twice had a moment or two of excitement (fright ??) where there was NO line tension, and I imagine that there might be a few beginners that do not yet know what it is like to feel a live model through the handle even though they may have tried. Pull tests are a safety issue that may not just occur to new modellers so it is up to the old hands out there to make it their business to initiate any newcomers as they arrive. I shouldn't need to mention that it is sometimes necessary to be a bit diplomatic about this as well.

Most Control Line flyers are aware of the need to check the strength of their lines and security of their control systems with a pull test. If not, this is how it works. Generally it is done by two people. One supports the model as carefully as possible, hanging on to it by whatever part is deemed most capable of withstanding the strain (usually a combination of the fuselage and inboard wingtip), while the other applies a pulling load to the lines from the handle. If all is well, you take up the strain, hold it for a few seconds and then the release the load. If all is not well, there will be a loud bang as either a line breaks, or the controls remove themselves from the plane. That is not good; but not as bad as having the control system fail in the air, which can result in the total loss of the aircraft and/or engine and with the added risk of hurting someone.

Part of the trick is knowing how hard to pull the control system. Light weight or slow models do not pull very hard in flight, while heavy or very fast models DO pull very hard. The amount of test tension applied by sports flyers is generally of the unknown but 'That feels about enough' variety, based on the model weight and type and the modeller's experience. However, for competition the value is calculated, generally using a formula derived from the model's weight multiplied by a 'G' factor relevant to the type of competition (Often a factor of about 20) and it should be measured accurately.

Usually this means that at one end of the lines is a worried

modeller clinging desperately to his oily plane, while at the other end is a crazy man with a giant spring balance equipped with a large pair of handle damaging hooks. He sinks his hooks into your treasured handle and applies what feels like a four ton load to the controls which are now twanging like guitar strings, while reading the scale at an angle guaranteed to produce parallax errors and possible overloads. A much more civilised device that is worth considering has been described a few times in modelling magazines and those all important newsletters like 'Australian Control Line News' and 'Stunt News'. It uses a system of weights and a pulley arranged so that one person (the owner) pulls on the model and lines to lift a calculated weight just off the ground. By this means there is no risk of accidentally overstressing the control system and if it breaks while you are doing this test, it just wasn't good enough to use.

I occasionally become privy to news or gossip that is bandied about at the flying field. The most recent is that Bob Fry has finished his radio controlled, pulse jet powered monster. It is now going through the official MAAA inspection and approval process that must be complied with before flight. (I think that they have to make sure that the warhead is firmly attached and filled with environmentally friendly chemicals etc.) Bob is keeping me informed on this one and I plan to be there when it flies for the first time, which should be a month or so after the time of writing. The test pilot will be Garry Turna, who has lot's of experience with fast radio controlled missiles. It isn't control line, but it is interesting and will sound a bit different too. Stand by for more news on this one. I don't know if I have mentioned it before, but one of the ironies of life, is that after you have put all that effort into learning how to do a difficult job really well, you make it look easy.

Charlie Stone VH4706

Your Propeller and You

Taken from Model Aviation August 1975

MOST COMPETITIVE events have reached a state of sophistication that requires complete control of every function. The one function that has been very slow to receive much attention has been the propeller. Luckily, the prop manufacturers have done a good job in providing the competitive modeler with not only a wide selection, but also some very well designed propellers.

Wood propellers are generally the most popular props for competition, although in some events cast fiberglass props are quite popular. Nylon propellers are usually reserved for the sport flyer. The selection of a propeller material is usually determined by two things; namely, the application and economics. In events where high engine performance is essential, nylon props are rarely used. This is due to the fact that the nylon prop may fail at high rpms and can do severe bodily injury or damage to equipment. In addition, the nylon propeller tends to flatten out and lose pitch in time, where as the fiberglass or wood prop will not. On the other hand, it is impractical for the sport flyer to use a fiberglass prop or to break a wood prop on each landing. The nylon prop is by far his best bet.

Ironically, the moulded nylon prop, including those that are fiberglass filled, because of their manufacturing techniques as the most consistent performers. The weights, thicknesses, balance and pitch of all similar nylon props are essentially identical. This is, however, not true of most wood or cast fiberglass props. The wood props are machined and the dimensions will vary with the different pieces of wood used as blanks and, also, with machining tolerances. Fiberglass props are usually cast by hand in a very time-consuming process. Because of this, the dimension of these props will vary all over the map from one prop to another.

It is the intent of this article to describe the processes involved to standardise cast fiberglass and wood propellers. I do not intend to tell you what dimensions you should use for your individual application. This is up to you to determine by trial and error. There are five critical factors to standardising props: diameter, pitch, blade width, blade thickness, and balance. In addition, other factors include blade design and airfoil.

Most of the factors can be quickly reduced to a ballpark range through either availability or trial and error. For instance. If you fly FAI free flight you know you need about a 7-3 prop, and you want to eliminate possible breakage, so you choose a fiberglass prop. There are only a couple available brands of fiberglass 7-3 props, so you are limited pretty much right there. Through trial and error on a couple of props you try various blade pitches (say 7-2, 7-21/2, 7-3, 7-31/2) and various blade thicknesses. You decide on a set of dimensions and henceforth rework all future props to these previously determined dimension.

On the other hand, if you fly CL. B Speed you know that you need about a 7-10 prop. You don't want fiberglass because you usually ruin the prop on each landing and, if nothing else, the cost is prohibitive. You select several props of each available brand of basic 7-10 wood prop (say 7-9, 7-91/2, 7-10, 7-101/2) and, again through trial and error, determine the best basic design for your application. You then determine the set of dimensions you want on future props and either inspect and reject enough production props to supply you with your requirements or rework them to your own individual specifications. The tools required to properly inspect a propeller are a pitch gauge, calipers or micrometer, and a prop balancer. These three basic tools combined with various files and sandpaper, plus plenty of time, will give you consistent performance from your propeller.

First you need a pitch gauge. You can build one for less than $2.00 and about two hours of your time. Either way you must have a means of determining propeller pitch

With a pitch gauge you are measuring the theoretical pitch. The actual pitch of the prop varies with blade velocity (rpm) and airplane velocity (forward speed), plus other factors. To operate the pitch gauge, mount the prop in the mounting block and align it so that it is perpendicular to the slots and tighten the locking screw or nut. Next, put the mounting block in the first station, usually the shortest radius, or slot "A." Then, bring the pointer up so that it contacts the underside of the propeller. By sliding the block forward or backward, adjust it so that it is in contact over the entire width of the blade. Mark off this location with a pencil or pen on the prop blade for each slot or station on each blade. Then, at each station, check and record the pitch on each blade. The pitch is merely the angle of the blade converted to linear motion per revolution for that particular radius. The pitch gauge is merely a protractor used for measuring the angle, with the scale converted to pitch at each station. If you encounter a situation where the bottom of the prop blade

is not exactly flat, the safest bet is to file it flat before going any further. If the pitch is not what you want, file or sand that station to the desired value. Each corresponding station on both blades should be the same. Previous experience has shown me that if you can balance the pitch between blades at each station within+ -1/4" that will be close enough. You may also find that the blade pitch is not consistent over the entire blade length. It may vary from, say, a 4-in. pitch at the hub to a 6-in. pitch at the tips. This is perfectly O.K. as long as both blades are consistent with one another.

After the prop is pitched on both blades, next check and record the blade thicknesses and widths using a caliper. I use a dial caliper reading in .001" and find that it is the most convenient. However, any other tool or technique accurate to .005" can be used with satisfactory results. If the thickness is larger than the desired value, you can reduce it by filing or sanding on the top side of the blade. If it is too thin, there is not much you can do. Similarly, the blade widths should be checked and similar corrective techniques employed.

After the pitch, thickness and width are established at each station, blend all the reworks to form a smooth contour in between the stations. Now verify the exact radius of each blade. This can be done simply and accurately by using a round pin or dowel the diameter of the hole in prop, and using the calipers to measure each blade from the pin to the tip. To determine the actual radius, you must take into account the diameter of the pin. Either add or subtract one-half the diameter, dependent on the technique. Next, check the balance using any reliable technique. Several inexpensive prop balancers are available and all will produce satisfactory results. If all of the preceding steps have been followed, you should find that only a minor touch up is required to balance the prop. Do this by sanding lightly the top side of the heavy blade. .Do not attempt to balance the prop by trimming the radius of only one blade.

The pitch gauge in this article evolved from a gauge that I made for my own use prior to any other suitable gauge being available. The original model used a machined 3/4 in. plexiglass base plate and a chemically etched stainless steel scale. It had a larger scale and was about a pound heavier. I then was besieged with requests from my friendly Rat Race competitors for gauges. I made a dozen of them using a cast steel-filled epoxy base made in an RTV rubber mould This project didn't go any further, since these gauges cost us about $75.00 apiece. I then made a couple with a cast plastic scale. This method, although much cheaper, was not too practical due to the time involved.

These prototype units were essentially "bullet-proof." The gauge presented here however, is every bit as accurate and possibly even more practical because of its lighter weight. With proper care, it should last a lifetime. The materials required are quite basic and readily available. Substitutions can be made in most all of the suggested materials and techniques. However, the critical dimensions shown must be followed.

To begin construction, cut out the 3/8 in. plywood details. Particle board, hardwood, or other material can be used, but it must be a nominal 3/8 in. thick. Then cut out eleven (11) 1/4 x 3/8 x 3 inch spruce strips. This is available through Sig Mfg. Co. Next, cut out the paper scale from magazine page. A photocopy of it is perhaps better, as you won't ruin the magazine. Cut out a piece of 3/32 in. plywood, and also a piece of .030* acetate or other clear plastic to the outline of the scale. Cut a piece of 3/32 in. plywood to the outline the pointer and bevel the prop blade contact edge as shown. Cut out two pieces of 3/32" plywood 5/8 x 1/2" and a 1 1/2" piece of 1/4" x 3/8" spruce.

To assemble the base, use white glue and glue the 3/8" x 3/4" x l0 " detail to the main plate as shown and clamp in place. Next, glue the 1/4" x 3/8" x 3" spruce details exactly 1/4 in. apart as shown. I cut out 11 extra pieces or the same size spruce and coat them with wax for use as spacers. Then you can glue and clamp all the pieces in place at the same time. When the glue has dried, the spacers can be easily removed, as the wax coating prevents the glue from adhering to them. Then, turn the base over and install two (2) #1 x 1/2" F.H. wood screws up through the bottom into each spruce detail as shown in the photo. Although this stop is not absolutely necessary, it will greatly strengthen the assembly.

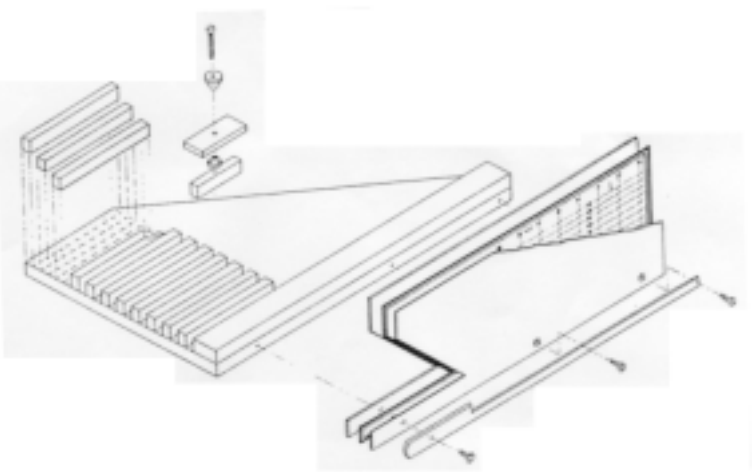
Next, apply a contact adhesive, preferably the spray-on type, to the plywood scale pattern. Carefully position and install the paper scale. Then, apply adhesive to the .030* acetate and again position and install it. Carefully dress all the edges using a fine file or sanding block. Drill and counter sink two holes as shown and install the scale to the base using #4 X 1/2" F. H. wood screws. Install the pointer using a #4 x 1/2" R. H. wood screw and a flat washer.

Cut out the paper slot identification strip and apply it to the base using the contact adhesive. Be careful to align the letters with the slots in the base. Cover this with Scotch tape.

Make the prop mounting detail using the two pieces of 3/32 in. plywood 5/8 x 1 1/2" and the 1/4" x 3/8" x 1 1/2" piece of spruce. Glue the two pieces of plywood together, drill a hole in the centre and install a 4-40 blind mounting nut on the underside. Drill a corresponding hole 1/8" in diameter in the spruce, align this with the hole in the blind mounting nut, and glue the assembly together. Lightly sand the sides of 1/4" x 3/8" spruce slider for clearance. Next drill a 1/8" hole in the centre of a 1/2" wood dowel pin, Bevel this as shown to about a 30 degree angle (60 degree included angle) and cut it off to about a 1/2" in. overall length.

Take a 4-40 x 3/4" bolt and run a nut up to the head. Install a flat washer and insert the whole assembly through the prop and thread the bolt into the mounting block. Run the nut down to clamp the prop in place.

You are now ready to start measuring the pitch or your prop. I am sure that you will find that this project is truly rewarding in the form of consistent performance.



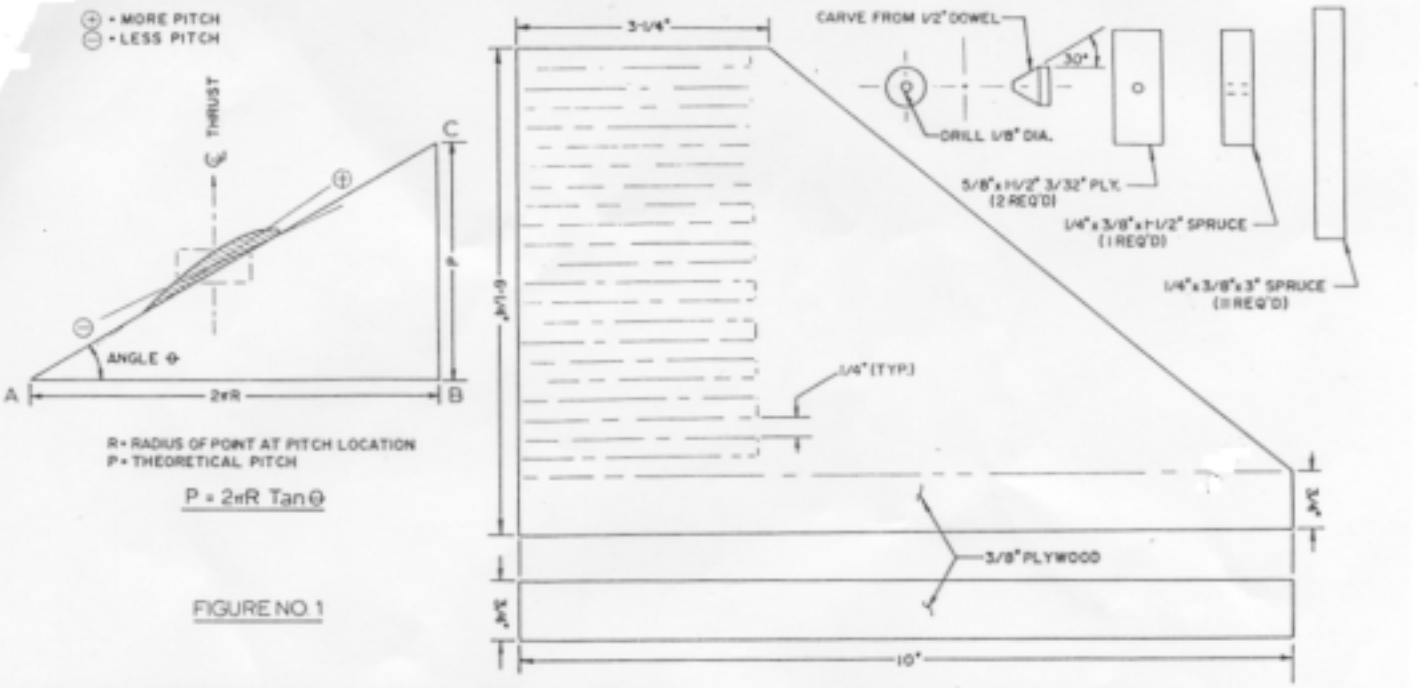
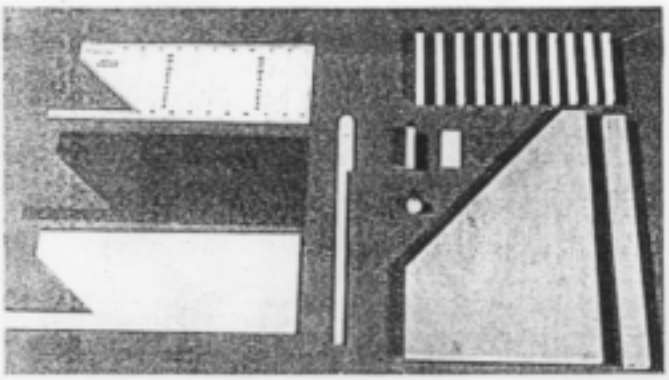


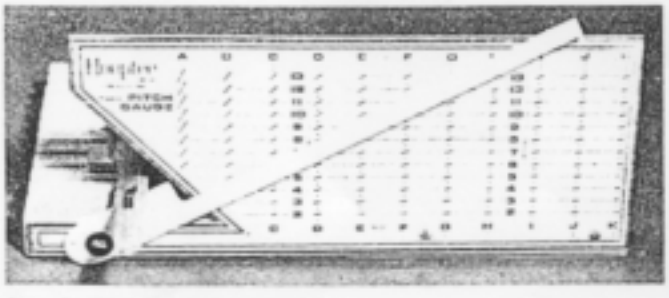
FIGURE NO. 1



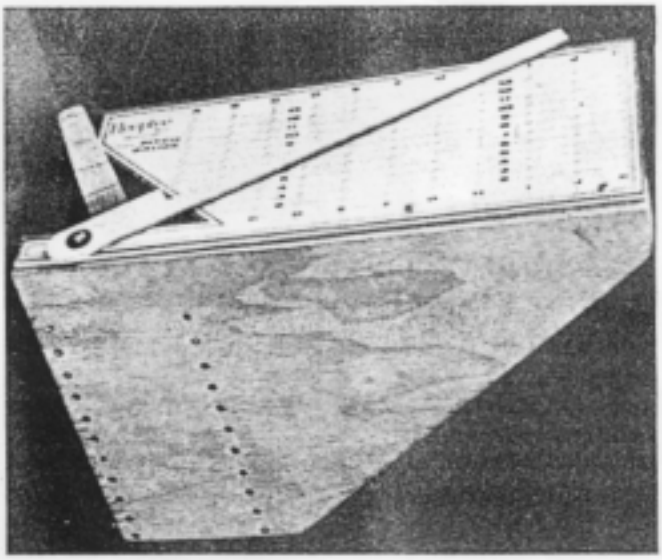
Step 1. All of the pieces cut out ready for assembly. Photocopy of scale should be used to save magazine page.

Top left and above: The pitch is merely the angle of the blade converted into linear motion per revolution for that particular radius. The pitch gauge is merely a protractor used for measuring the angle, with the scale converted to pitch at each station.

Step 2. Spray contact adhesive is used to laminate paper scales and clear plastic covering to wood.

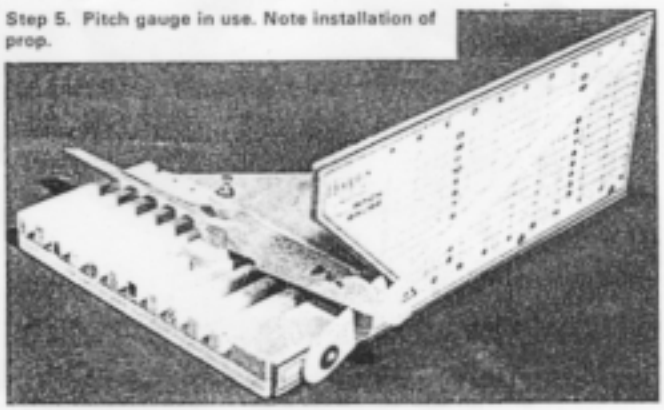


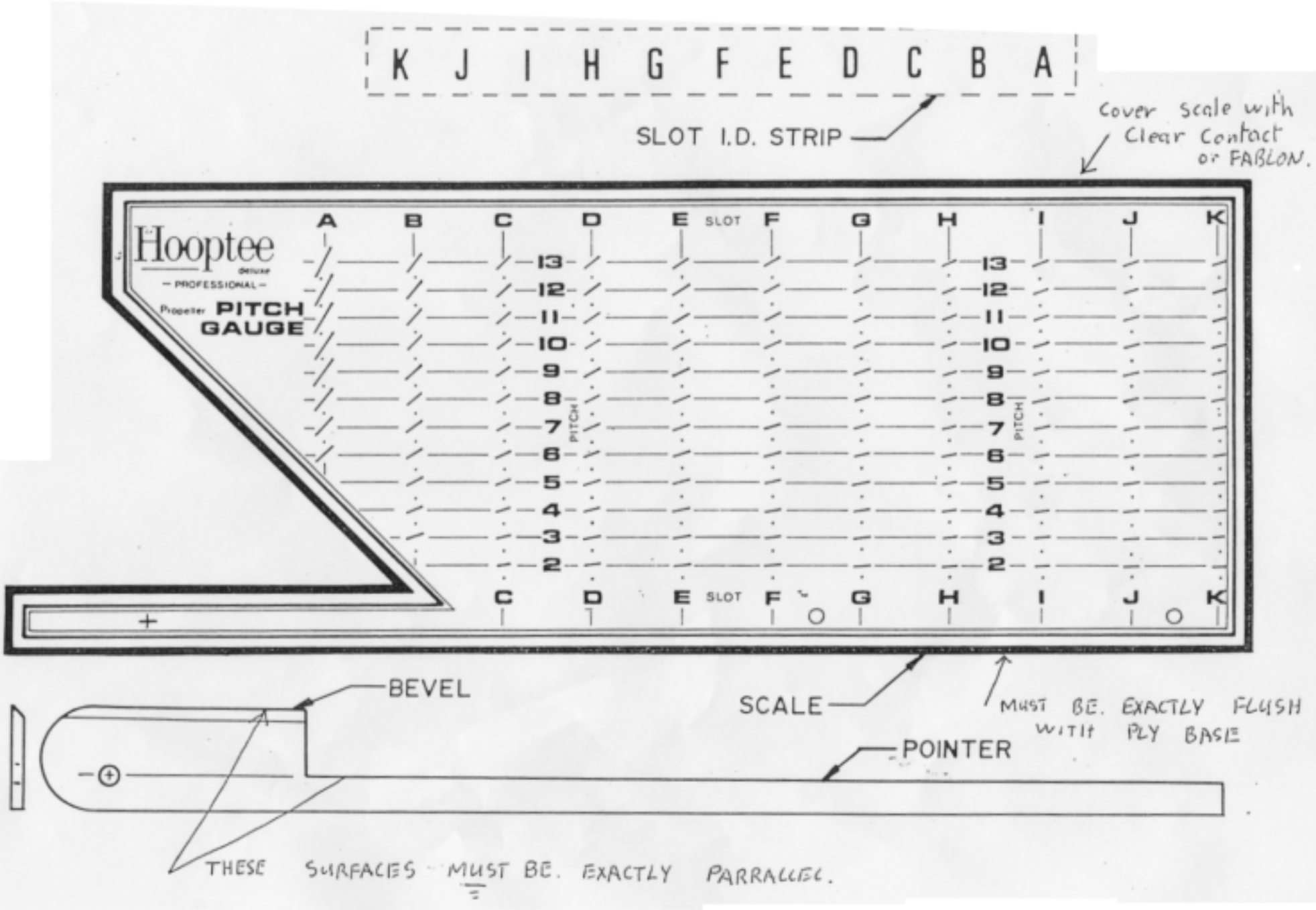
Step 3. Pitch gauge assembled and ready to use.

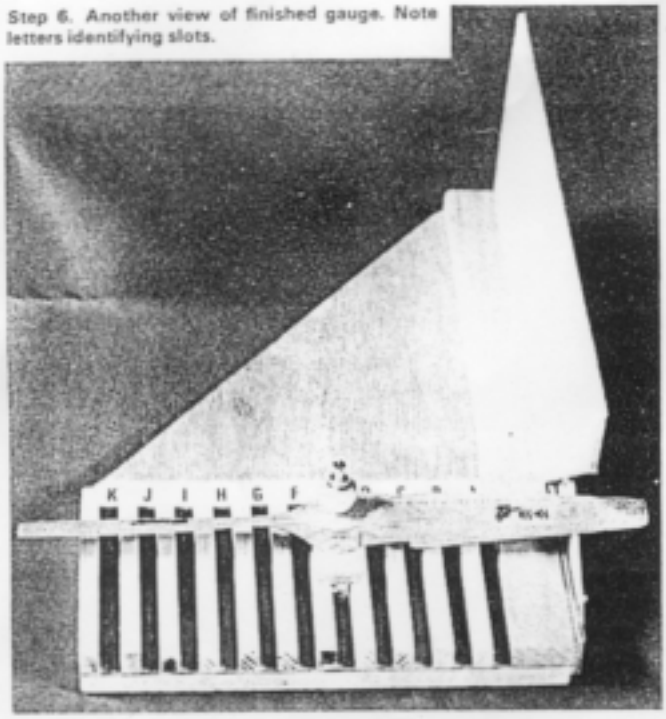


Step 4. Underside of gauge. Note small wood screws added to strengthen spacers.

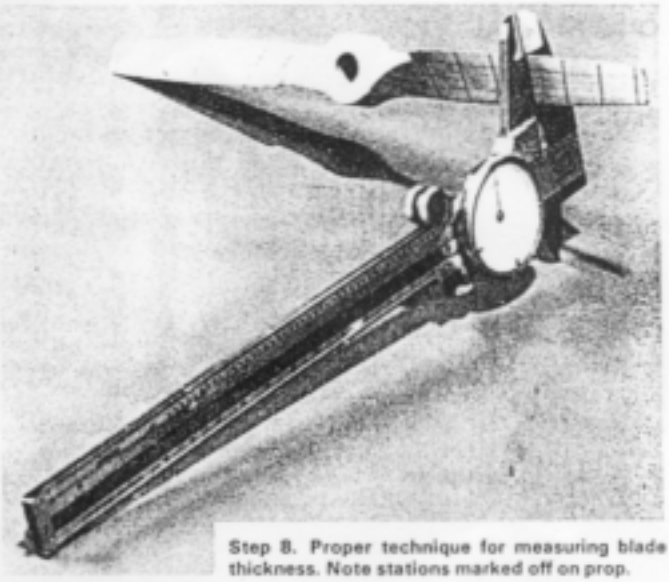
Step 5. Pitch gauge in use. Note installation of prop.



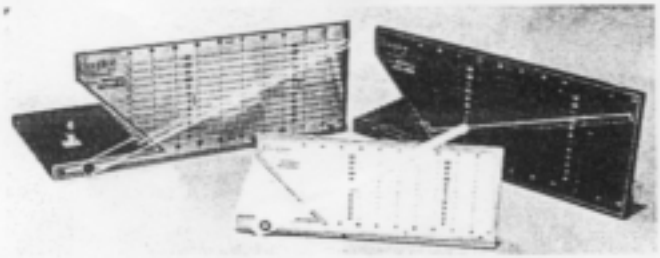

K J I H G F E D C B A
SLOT I.D. STRIP
Cover scale with Clear Contact or FABLON.
Hooptee
DELUXE
— PROFESSIONAL —
Propeller PITCH GAUGE
A B C D E SLOT F G H I J K
13 12 11 10 9 8 7 6 5 4 3 2
PITCH
C D E SLOT F G H I J K
BEVEL
SCALE
MUST BE EXACTLY FLUSH WITH PLY BASE
POINTER
THESE SURFACES MUST BE EXACTLY PARRALLEL.



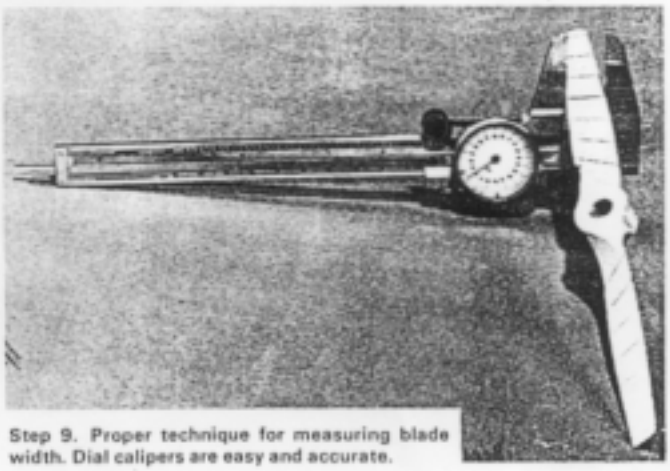
Step 6. Another view of finished gauge. Note letters identifying slots.



Step 8. Proper technique for measuring blade thickness. Note stations marked off on prop.



Step 7. Assembled gauge with two slightly larger prototypes. One on left has an etched stainless steel scale, one on right has molded plastic scale.



Step 9. Proper technique for measuring blade width. Dial calipers are easy and accurate.

Using a Pitch Gauge

By Robin Hiern

A pitch gauge is an essential tool for anyone who is after top performance and consistent results from their motors. Many people posses good horsepower engines but are not utilising this power in the air, due to not having the correct propeller. The only way to help find the correct prop is to know exactly what pitch “Your” prop is.

Pitch Gauges can be bought. The most well known brand is the “Prather” (USA) priced at around $120 Aust.

If this cost is too much you can build your own copy for only a few dollars and a few hours work. The plan in this newsletter shows you how.

Maybe it’s not as accurate as a Prather but certainly better than none at all. This unit is O.K. for comparing “Your” own props. If you were to compare your results with those of a Prather or other brand the pitch could be different, but only by as much as 1/2 inch pitch.

A pitch gauge is essential for use in speed, racing and to a lesser degree stunt.

Good quality props from the likes of Sherlock, Bolly and Russia etc. do vary slightly, even if they are the same designation, and this variation is enough to effect performance.

By measuring and labelling every prop and writing down the information in a prop book you will have some idea what you are working with (Not guessing)! Then if you need more or less pitch (LOAD) you can select another.

In you book you should also write down the different prop diameters and any other changes such as blade thickness, area, section etc. as this also has a big effect on performance.

On obtaining a new prop you should write down all the details in your prop book. This could be an example.

Brand XYZ 7" x 7 1/4 No4

Diameter	Blade 1 Station							Blade 2 Station						
	2,	3,	4,	5,	6,	7,	8,	2,	3,	4,	5,	6,	7,	8,
	6 1/4	6 1/4	6 3/4	7	7 1/4	7 1/4	7	6 1/4	6 3/8	6 7/8	7 1/4	7 3/8	7 1/4	7
	The above is a typical prop as bought. You could use as is or custom pitch to what you think it should be and even up the pitch to as below.													
6 3/4"	2,	3,	4,	5,	6,	7,	8,	2,	3,	4,	5,	6,	7,	8,
	6 1/4	6 3/8	6 3/4	7 1/4	7 1/4	7	7	6 1/4	6 3/8	6 3/4	7 1/4	7 1/4	7	7

Prop thinned and trimmed to 6 3/4”

The above is a hypothetical prop, not suggesting that this is the pith you want. I would then label this prop. XYZ No4 6 3/4" x 7 1/4"
I usually call my prop pitch by what they are at about 2/3 out from the hub, not averaging all the pitches. Do not bother with station 1 as it does not do any work and is usually very low pitch anyway.
By making a family of the same brand/model props with different pitches, areas and sections you can proceed to find out what works well and then duplicate it.
If you also write down in your motor log book how each prop performs, needle settings, fuels, plugs and all other variables you can, after a while, get an idea what woks and what does not. When it all goes wrong you can look back and find out what used to work and get back on track.
People like to tell me they can remember what worked and what they used. All I can say is "Rubbish". You can not remember all the combinations of all the motors and classes over the years. Pencils and paper still works despite the computer age. A computer could be used to store all this information but a logbook can be readily accessed at the field and should be updated after each flight while you still remember.
Wooden props usually vary the most and can change pitch in use so it pays to recheck. Even carbon fibre props can alter their pitch.
Do not accept what is marked on the blade as being anywhere near what it actually is. After a while you will see this to be true and notice trends and tendances emerging.
When you go out with a new model and motor armed with this information you will have an educated guess what prop to fit and then you need to get out there and Practice! Practice! Practice!

Year 2000 "New Millenium Control Line Championships

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F2B AEROBATICS. VINTAGE STUNT. JUNIOR RAT. JUNIOR COMBAT. JUNIOR F2B. BEST FLYING COMPUTER.

Pre Entries close 10 December 1999. Program out October. Minimum 3 Entries constitute an Event as of 10th. December.

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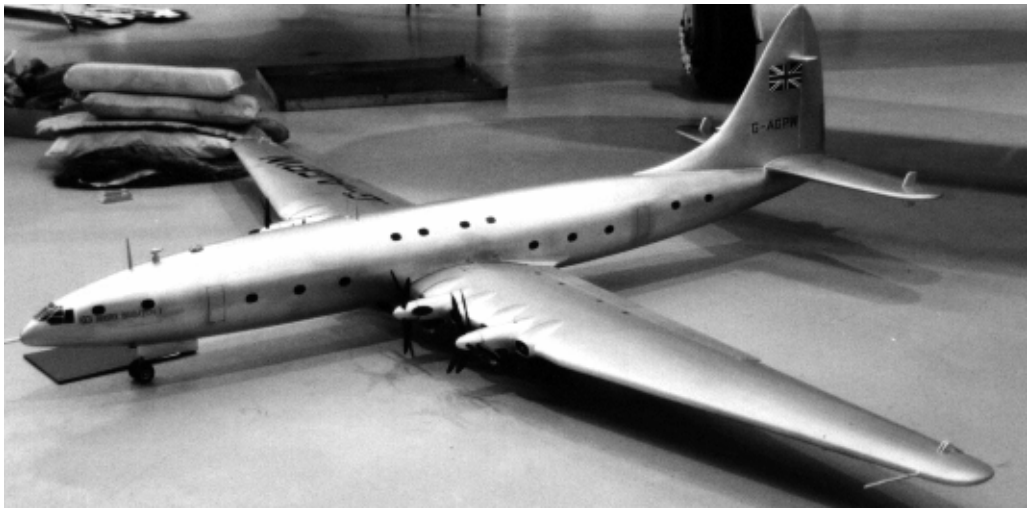

This photograph was taken at the recent Toowoomba Nationals C/L Scale competition. The aircraft is a "Brabazon" built by Max Newnam and we will feature more information next month

Vintage A and Aussie B T/R was on show at the '99 Northern District Championships at the Marong flying field on Sunday, August 14th. Our hosts, the Bendigo control line flyers, headed by Shaun Power and Les Davis, worked long and hard to make the event a big success.

Sunday dawned cloudy and wet in Melbourne, but once out of the city, the inland weather began to clear and a good flying day followed. As usual, Vintage A was first away and the eight teams began some serious practice on the two green and closely mowed grass circles.

Down from Swan Hill, Steve and Eric Dyer were the first to show some genuine pace with their yellow CS Voodoo, which Steve believes works best on a Graupner 7 x 7 electric pylon prop. They managed a best heat time of 3.47.25.

Peter van Meurs drove up from Geelong with the Alien. But since Waikerie in the early 90's, the little grey guys haven't been passing on any of their new technology to Pete, so he had to be satisfied with most un-extraterrestial best of 4.36. Maybe his guns have scared them off...

John Hallowell and Keith Baddock were using a .20 pylon prop, an APC wide blade 7 x 6. The CS and white Voodoo V were getting better as the day progressed, improving to a best of 3.49.03. Not good enough, so they missed the final by just 1.78 seconds! Graeme Wilson and Mark Ellins rolled off an easy FTD 3.44.85 with the red and black Footprint, then they decided there was no way 3 teams would beat their time, so they would sit out the second round. Good thinking! Graeme was also helping Murray Wilson in his foray in the VTR big time and, as usual, Murray excelled with some really good flying and smooth landings.

The Horsham Hurricanes had the rubber bands in the PAW Pffft 1V wound up really tight and were showing the sort of speed that makes rivals sit up and take notice. Their second round effort of 3.46.21 guaranteed Peter Hatherell and Vic Cresp a spot in the last 3.

Colin and Jim Ray practised hard. However, the results they were after did not appear on C.D. Les Davis's scoresheet. The Cosmic's best time was 4.11 for the 90 lap dash. Jim is just about to put the finishing touches on a super new setup, (still top secret, but he has mentioned chrome) which he hopes will slash heaps from his recent best times. Likewise, there was trouble for John and Ken Hunting who were fiddling around with a Mars diesel (sounds like they should build an Alien too). Although it did show some potential, the setup was inconsistent on the day, as the gremlins (from Mars?) had their wicked ways, destroying the Dream Team's systems.

Time for the 180 lap final. Good work by the mechanics saw all 3 teams quickly away. The Dyers looked to have an edge on speed early, but their CS began to harden up as the race progressed, allowing the Footprint and Phhht 1V to slip past. Graeme was able to hold his centre circle flying position better than Peter and Eric and went on to a comfortable win in the smart time of 7.38.66. It was a good race with all teams finishing under 8 minutes.

Results of Northern District Champs VTR.

1. Wilson / Ellins	3.44.85	DNS	7.38.66
2. Hatherell / Cresp	4.04.01	3.46.21	7.51.85
3. Dyer/Dyer	DNF	3.47.21	7.58.12
4. Hallowell / Baddock	4.11.50	3.49.03	
5. Ray / Ray	4.11.63	4.13.03	
6. Ellins / van Meurs	4.42.84	4.36.66	
7. M.Wilson / G.Wilson	4.57.44	5.02.25	
8. Hunting / Hunting	5.34.00	DNF	

Time for Australian B. Six teams fronted, with 'The Fireman' Harry Bailey and the "Flying Deasons" being conspicuous by their absence. Mellins and Willow were going for back to back titles with the old green Razzamachas with the Model Racing Services modified OS 25 up front. They recorded a time of 3.27.91. However, John Hallowell and Keith Baddock were determined not to make it easy for them and in the first heat, set a FTD of 3.15.72 with the OS 25 Antares. This time was less than a second outside the existing heat record of 3.14.80. Times for both models were in the low 16's for 7 bracket for around 51 laps.

The Cosmic Rays were going well in practice, with the LA 25 and orange Firebrand showing good form. Then as the first heat began, the motor spat the prop off, did a little shaft run and caused a dozen people to form a search party in the nearby grass for the washer and nut. They were eventually found, perhaps surprisingly, at right angles from the model. Precautions will be taken in the future! The second round did not go according to plan as a needle locking nut came unlocked and a 4.22 resulted.

Peter and Vic had the Enya 30SS singing a fine tune, but the OS machines were in a high speed mode today and were going to take some catching. The Horsham duo took 3.41.15 to cover the 70 lap heat distance. Peter Van Meurs was all set to make the others look slow with his beautifully built Crescendo and Enya 29 combination. Alas, it was not to be this meet as a run in resulted in a broken tailplane and fuselage damage. After a miserable morning, the Hunting brothers were having a 'dog's day afternoon'. You know...when nothing you do turns out right. Ken had prepared a new powerplant but, in the first heat, it coughed, spluttered and then stalled on takeoff, breaking a wing and ruining their chances.

The final promised to be fast. Just how fast could not have been predicted! It was a real battle between the OS teams. Keith and Mark were both going hammer and tongs in the pits and Graeme and John not giving each other an inch in the centre. There was virtually nothing between the Antares and Razza in airspeed, with each model passing the other over and over again. Maybe the Razza held the slightest of edges as its APC 7 x 7 prop (Jim Ray's suggestion) allowed it to rev out more than the Antares 7 x 8, which relied on extra pitch to pull it through the air. The blue Crescendo, whose OS25 is just as fast and has also won many races, was just sitting in the pits, taking in all the action and probably wishing it was in the circle. Hopefully it will see some action at Warragul on September 12th. That's if Graeme doesn't get around to finally finishing his twin B racers!

The race was going to be won and lost in the pits, and here Keith was the real winner. Ably assisted by Ken Hunting on battery, he clearly won the start and was just a little bit quicker at every stop. The winning edge. The Horsham Hurricanes and their Enya were reduced to a gentle breeze by these OS whirlwinds. Pete and Vic's final time of 7.42 was good, and Vic's work in the pitting segments was first rate, but they were just not fast enough on the day.

The previous record of 6.29, established by the Antares at this years Vic State Champs was again blown to the Scheissenhausen. Both teams went under the old mark with John and Keith posting a 6.13.88 and Graeme and Mark a 6.24.94. Both models were using identical OS 25's prepared by Robin Heirn of Model Racing Services. He has really done a top job. These motors have proved to be super reliable and extremely fast. To my mind, they represent by far the best value around for your team racing dollar.

To say these Aussie B machines would be competitive in full blown Class 2 is an understatement. They have speed and laps to burn, the numbers (6.13.88) speaking louder than words. Going from a dual undercarriage to monowheel would increase speed by a few m.p.h., but going from stranded .15 lines to single strand .18's should tip the balance back to about square. The only other changes would be to fit a shutoff (easy) and fit a cover for the side exhaust (silly). Then the Nelsons, Rossis and Super Tigres had better watch out!

The next challenge will be at Warragul on Sunday, September 12th when the Australian B racers will again race around the sky, engines at peak revs and teams a picture of concentration. Something to look forward to.

Results of Aussie B at Bendigo, 14/8/99

1. Hallowell / Baddock	3.15.72	DNS	6.13.88 (rec.)
2. Wilson / Ellins	3.27.91	DNS	6.24.94
3. Hatherell / Cresp	3. 41.15	DNS	7.42.65
4. Ray / Ray	DNF	4.22.01	
5. Van Meurs / Hunting	DNF	DNS	
6. Hunting / Hunting	DNF	DNS	

More on the tank valve issue. Peter Camps comments certainly caused a lot of discussion. This time Mark McDermott writes; "It's my opinion that these valves should be banned, as they are not in the spirit of the event. Is the next step going to be pressure refuelling as in F2C? Vintage Team Race may well die a slow death because it is becoming too complicated and good engines are just not available. These days you have to be an engine man and know a top model builder to win races. Vintage A used to be a fun event, but it isn't anymore.

Mark also sends this report of the latest A & B event in Queensland. It was a beautiful day in Ipswich on the 9th August, with a reasonable entry turning up for B, but Vintage A continues to struggle for numbers. I wonder why...? Ipswich is without doubt the best the best racing circle and field in Queensland. Possibly in Australia. The Ispwich grass is green and regularly trimmed with hand mowers to as near as we can get to bowling green standards. This ensures the models roll smoothly without tipping on takeoffs and landings. That's why I think most of the State Titles's racing events should be flown at Ipswich.

Also, Ipswich are putting down a new racing slab which will enable us to run Jet Speed and Class 4 events. The field is being regularly watered to keep it in top condition for the New Millennium Championships and hopefully, the State titles.

In Vintage B we had 4 teams roll up . David McNamee has been ill for a couple of months, so the old timer, Peter Morandini filled in to help me out with pitting duties. Duggan and Winterton had regular rocket ships while the other two of us were a fair bit slower. Duggan's model was fast but kept blowing plugs. Too lean or too much compression and nitro? The result was he could not complete a heat and missed out on the final. At the end of the day, his model was just melting away. It seems that a leaky tank was causing the wood to be fuel soaked and soft and the paint to blister. Results were;

1. Winterton / Kromin	3.39.37	DNS	7.18.70
2. McDermott / Morandini	4.20.63	DNS	9.10.65
3. Major / Garton	4.09.79	4.13.11	10.07.77
4. Kromin / Duggan	DNF 29	DNF 47	

For Vintage A, again I teamed up with Team Geriatric's flicker Peter Morandini, who used his vast experience to do a top job. Our model had only one tuning flight. That's all I had time for as I was flying Open Combat. John Duggan was at his best, practising all day before the 2.30 pm start.

The final turned out to be a good race, considering I had no preparation and Duggan had all day. Ian Garton's and John Major's model flew well, but was just off the pace. In the end, Duggan got there by about 5 laps. Just as well, as moments after completing the distance, Vasily Kromin crashed into my model, reducing JD's racer to a kit form which could not be re-assembled. It is thought the pushrod came away from the bellcrank as only a radio control swivel ball was fitted. Not strong enough, it seems. For my mind, you can't beat a properly bent and soldered steel pushrod. Fortunately, my model ended up with just a broken prop. But he could have very easily taken me out of the sky as well.

results were;

1. Kromin / Duggan	4.11.19	7.57.23	
2. McDermott/ Morandini	DNS	175 laps	
3. Major / Garton	4.22.24	9.41.14	

Mark McDermott

Thanks Mark. Now for some overseas news from Roger Reece and the excellent English publication, Vintage Team Race News. As you read this, the British Nationals will be over and for the first time in quite a few years, the Aussie challenge will be missing. Judging from some recent results, some very rapid heat times can be expected. At the recent South Bristol / NSSC Section Gala on May 23rd, eventual winners Allcock / Myzska returned 3.25.40 with their Voodoo V and PAW Special, Simpson / Ridley posted a 3.27.94 with a CS powered Dimpled and Dalgliesh / Duggan did a 3.29.84. Both Simpson / Ridley and Dalgliesh / Duggan were disqualified in the final. Green / Long will probably figure in the picture somewhere as will Reece / Ward. We'll keep you posted.

I can't possibly finish this column with mentioning the excellent article by young Kymberley Rawlings in last months ACLN. Apart from being a very good flyer, this young lady is obviously top of her class in English Expression and is going to be a journalist when she leaves school. Her report on junior activities at the NSW State Champs was a real breath of fresh air in the control line circles. As she wants, I hope Kymberley takes the next step and flys Vintage A. She will certainly bring a new perspective to the racing. Well done, and keep up the good work, VH 56010. This magazine needs you!

John Hallowell VH 1984.

The Prop Doctor panics!

Yes folks, its the 18 of August at 2000 hours with the ACLN deadline for the September issue about to expire! Thank goodness for e-mail, I may make it yet! (actually, I thought today was the 19th, but thats fairly common in us older folk.... yes I'm VH 4028!) First news is my F2A 6X6.4 did 284 KPH at the US Nats, good enough for fourth: just 4 kph too slow, but even so it put my pilot Bill Hughes in hospital with a hernia! At least, thats his excuse. Bill tips me he will do better with ceramic balls. Well, good for you Bill, but give that hernia plenty of time to heal, mate!

Also I had a big whinge about my counterweights not suiting the Profi engine. Apparently the dopey engine has the prop driver offset forward from the spinner backplate. These Euro types are going to ruin us all, as if metrics weren't bad enough. Anyway, they wanted the counterweight reversed, to replace the prop washer, no less! Well I did it, but I won't get to dine out on it. At the same time, I made the prop hub click in positively, rather than slide in, which is my preferred approach. Also gave it some extra clearance:.001" all round, again to please the losers. Hope they're happy now.

Big F2B news is that George Aldrich sent me the remnants of his early Nobler prop, which he guarantees is the best Nobler prop ever, bar none. Well my mother (God rest her soul), would dispute this, as I have seen her making cake mix using a wooden spoon just like George's prop, and long before he started using it.. It (the prop) measured up as a 10X5, so I copied it onto the mill to make one. Well, what a disaster, it weighed 38g. Flew it any way on my Enya 45. Turned about 9500, not too bad and actually flew quite well for such a large model as the Firecracker. Still, it was back to the machine, this time with a much thinner section to give a weight of 26g. Much better, but still a lot heavier than George's original at 15g: hey, but you can't beat wood. Next stop is Dallas in September, where George will fly it on his test bed. Will also give the 11X5 a run there, but its working fine so no problems expected.

Other big news is a spin off from the Collins submarine fiasco. I met this chick with a PHD in signal processing; she is trying to figure out why these things won't sink. Well, I was right onto it. I offered to make the props quiet is she would fix up my Doppler data. She was right onto it, especially when I told her about my Doppler array, just like SONAR. Yes Folks, five (count 'em folks) FM transmitters all feeding back into the one K-Mart $23 radio and straight on to the cassette tape. If I can't plot the course the pylon jobbies take from that data , then I give up. In a couple of days I'll be setting these up at a secret base (I don't know where it is!) in the desert outside LA, not far from Edwards. We'll be optimising props for F1 pylon racers (42% scale) prior to the races at Castle, just outside San Francisco, you beautiful people! Then it will be full on espionage as we record the other competitors performance and strip bare their tawdry little secrets. There are some other shenanigans going on as well, but if I told you, then I would have to kill you all!

Just in case the FM Tx's shoot down overflying black helicopters, I've also rigged some land-lines. These are Dick Smith pre-champ amplifiers fitted with a microphone and 100m of cable. Two lots of these feed into a twin stereo jack to give two traces on the spectrogram analyser, or straight into a tape recorder. Thats a lot better than nothing, one mike on the straight and another outside the course to pick up the turns.

Well, if you don't hear from me next month, please write to Amnesty International asking for my release. I didn't know she was yours Bill, honest.

BACK ISSUES OF VCLN / ACLN

Many new readers of Australian Control Line News have requested reprints of various older mags. So now we have a **BACK ISSUE SERVICE**.

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You can order from:

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Tacho's Corner

STUNTMASTER TROPHY: CHANGING OF THE GUARD AT KMAC

After many years with the duo of Doug Grinham and Peter White taking it in turns to win most of KMAC's stunt competitions, Peter Rowland has broken through to a convincing win.

The winning Vortex built by Peter Rowland snr) recorded a clear victory to take the prestigious 35 year old Stuntmasters Trophy - Peter's first big scalp. The Moki 51 powered plane, which has been impressive ever since being finished earlier this year, flew very well throughout the day and finished with a clear margin.

The Vortex has many interesting features with the line-up including: the sparless wing is heavily double tapered, the leading edge has vortex generators top and bottom for the full span, and the flaps incorporate experimental angle countering "flapettes." Total weight is 52 ounces and it flies on 70 feet lines.

Second and third place getters were also flying their own design 1999 machinery: Doug Grinham's with his SV Nova/Retro 60 and Peter White's Zodiac also Moki 51 powered.

The run of unusual machinery continued in fourth place with Derek Pickard. After flying his Firecracker/Stalker 60 in the first round, he took time out from the competition to put the final sorting touches to his Retro 60 powered ship in separate practice before then swapping to fly the new plane for the last two rounds.

And Rob Hiern brought his Stilletto/ST46 from retirement only to have Tigre run problems in his first flight. He rapidly brought his vintage Ambassador out of the car boot to complete the competition - albeit with the handicap of such a small diesel in F2B company.

Unusual sight of the day. Geoff Ingram flew all three rounds while being supported on crutches. He still got sixth.

RESULTS:

1 Peter Rowland	(Vortex/Moki 51
2 Doug Grinham	(SV Nova/Retro 60)
3 Peter White	(Zodiac/Moki 51)
4 Derek Pickard	(Firecracker/Stalker/Retro 60)
5 Mark Ellins	(Nobler/Fox 35)
6 Geoff Ingram	(Nobler/Fox 35)
7 Paul Richardson	(Windy/OS 35)
8 Rob Hiern	(Stilletto/ST46/Ambassador/AM35)
9 Ken Taylor	(Kismet/Moki 5 1)
10 Peter Rowland snr	(Nobler/OS 35)
11 Leonid Iflyand	(Karisma/Retro 60)

Left Photo by Derek Pickard

Peter Rowland with 'Vortex' model and Stuntmasters Trophy

CONTROL LINE

Model Aircraft

"Friend & Fly Day"

19th September, 1999

10.30am - 4.00pm

BRIMBANK PARK

Invitation is extended to families and individuals to come and see the operations of Control Line model aircraft flying. (Come on Dad, relive your younger days and introduce a new generation to the hobby).

The BRIMBANK FALCONS CONTROL LINE MODEL AIRCRAFT CLUB is holding a Special Visitors Day: a Fund Raiser with sausage sizzle and raffle.

If you wish to experience the fun sensation a test flight will be arranged. Club members will be available to pass on information about the models and the club.

You will find us on the left, 300 meters inside the entrance gate to Brimbank Park, off Keilor Park Drive, Keilor East.

Contact: Alan
Ph 9337 4193

Phantom Speed Postal Update

Hope you have got your phantom going! The Poms have begun sending in some times, and they are good- getting close to the 21s mark. Could be interesting this year, with entries from the US as well as the countries who flew in '98. Closing date is end of October, so give it a go, we cant let the Poms or Yanks win!

Aeromodeller carried news of the challenge recently which has stimulated interest in the UK and the US. With any luck, there will be close times this year! If you are still sorting yours, remember plain bearing diesels (yeh, I know we allow BB here, but this was to be an international and get some entries from the UK- other end of the stick is that queries from the US wanted to allow glows! (I can guess where that would lead). Pre '55 motors get 10% bonus and the Mills 1.3 gets 20%.

Best seems to be to build it light (300g or less if possible, all up), no rudder offset (use 15g or so tipweight instead), wings, motor and tailplane all at 0 degrees (the plan shows some wing incidence). The Graupner Speed props seem the go, either the 6.5x 6.5 or 6x 6 seem to suit most motors.

Time for 100 laps

The second part of the postal, which I think does have a lot of following in the UK is time for 100 laps off a 10 ml fuel tank which means a pit stop or two. I think this one is still wide open, I haven't had many hot times yet. Again, not quite our rules, which allow any size tank but with one compulsory stop, but it shouldn't be to much trouble to knock up a 10 ml tank. There have been expressions of interest in the US, Canada, the UK, South Africa, New Zealand and of course Australia so far, and some early times posted.

The Phantom

Photo by George Car

101 REASONS! AN UPDATE

There ate just SO MANY reasons why things GO WRONG when you go flying C/L model aircraft. These problems that ruin the day's flying apply equally to racing, aerobatics and combat. Why didn't I do any good? How many 'excuses' have you heard? How many have you used ? HERE ARE SOME THAT MOST CAN RELATE TO! Not in any order, as these Gremlin Inspired happenings are most certainly random .

1 The wheel(s) fell off
2 The tank had a blockage
3 The plug burnt out
4 The fuel was wrong
5 The needle valve came loose.
6 The fuel filter was blocked
7 The fuel tubing split
8 The fuel line slipped off.
9 The backplate came loose.
10 The battery went flat
11 The head bolts started unscrewing.
12 The glow plug was too cold.
13 The glow plug was too hot
14 The tank was mounted too low
15 The tank was mounted too high
16 The fuel had the wrong nitro content.
17 The pacifier burst during filling
18 The tank vents came unsoldered
19 The blockoff fell off
20 The tank was filled using the overflow pipe
21 The filler pipe was blocked
22 The muffler came loose
23 The silicone tubing had a 'pinhole'
24 The propeller was unbalanced
25 The prop was clipped on take off.
26 The prop threw a blade (!)
27 The prop pitch was wrong
28 The tank only got half filled
29 The prop diameter was wrong
30 The tank had a loose blob of solder
31 The prop broke while being flicked
32 The fuel was old
33 The pilot was too old... (!)
34 The weather was too hot
35 The weather was too cold
36 The engine mounting bolts vibrated loose
37 The propeller, nut came loose
38 The spinner came off
39 The engine cowl came off in flight
40 The lines snagged long grass on takeoff,
41 The lines weren't soldered properly.
42 The up was connected to the down!
43 The kink was going to be OK for a few more flights
44. The frayed connections went unnoticed.
45 The bloody up line broke
46 The lines were heavyweight instead of lightweight,
47 The handle was picked up the wrong way ... (!)
48 The stainless steel lines bound together in the wet.
49 The lines were too short
50 The lines were too long,
51 The adjustment came loose at the handle.
52 The controls were out of whack.
53 The bellcrank had become sloppy.
54 The control horn wore out.
55 The leadouts jammed.

56 The lines slipped off the connecter,
57 The controls started binding.
58 There was more down than up.
59 There wasn't a spare set of lines.
60 The top was left off the fuel can.
61 The spare glow plug was missing,
62 The spare propeller wasn't in the box.
63 The elevator hinges came adrift.
64 The wing developed a warp.
65 The tailplane was cock-eyed,
66 The covering had sagged.
67 The models got into a stacked glide
68 The covering was peeling off in flight
69 The tree wasn't that close when I took off
70 The plug spanner had vanished.
71 The rnechanic slept in.
72 The pilot didn't turn up
73 The ground was too wet
74 The grass was too long.
75 The wheels on the model were too small
76 The grass was too spongy.
77 The hole in the tarmac caught the monowheel.
78 The other guy caused me to crash.
79 The model was tail heavy and too sensitive,
80 The model was nose heavy and flew like a brick.
81 The battery wasn't connected during starting.
82 The glowplug connection wire broke,
83 The needle was set too rich or too lean
84 The comp. screw backed off in flight.
85 The motor was over compressed.
86 The motor was under compressed.
87 The needle was knocked during the pit stop.
88 The wing came away when I caught the model
89 The model tipped over on landing,
90 The model landed in the wrong segment.
91 The motor wouldn't shut off for the cool down
92 The shut -off wouldn't shut-off in flight.
93 The shut-off kept shutting off in flight,
94 The mechanic forgot to re-set the shut-off
95 The motor cut just a few laps from the finish.
96 The pilot brought the model in too fast
97 The time keepers lost count of the laps.
98 The stop watches failed to stop
99 The manouvre was performed out of sequence.
100 The mechanic missed the catch
101 The handle slipped out of my hand when the model was caught

I can relate to most of these little incidents! Be honest ... can you? Fortunately, experience is a good thing as it teaches us that it is not good to make the same mistakes twice . Isn't aeromodelling fun! Certainly ... but it can get frustrating at times. There must be at least another 50 things that often go wrong in and around the control line circle. Can you think of them? If you can, drop me a line at 84 Story Street, Parkville, 3052
or email at vidline@webtime.com au and we'll put them in the next issue!

JOHN HALLOWELL,
VH 1984

CONTEST RESULTS

NORTHERN DISTRICT CHAMPIONSHIPS

Held at Bendigo 1999

JUNIOR SIMPLE RATRACE

	ht	final
1.Eric Dyer	99	182
2.Bradley Nankervis	0	172
3.Murray Wilson	104	168

SIMPLE RATRACE

	ht 1	ht 2	final
1.J.Hunting/KHunting	107	DNS	205
2.G.Wilson/M.Ellins	102	111	203
3.C.Ray/J Ray	111	DNS	193
4.E.Dyer/S.Dyer	106	103	
5.M.Wilson/G.Wilson	98	94	
6.K. Hunting/P. Van Meurs	97	84	
7.B.Nankervis/B.Matthews	84	82	
8.M.Ellins/S.Power	76	66	

SIMPLE GOODYEAR

	ht 1	ht 2	final
1.C.Ray/J.Ray	4:50.0	DNS	10:52.7
2.G.Wilson/M.Ellins	5:31.4	5:46.2	11:10.9
3.J.Hunting/KHunting	5:12.5	DNS	12:43.3
4.E.Dyer/S.Dyer	6:07.3	7:16.8	

VINTAGE A TEAMRACE (JUNIOR ALLEN TROPHY)

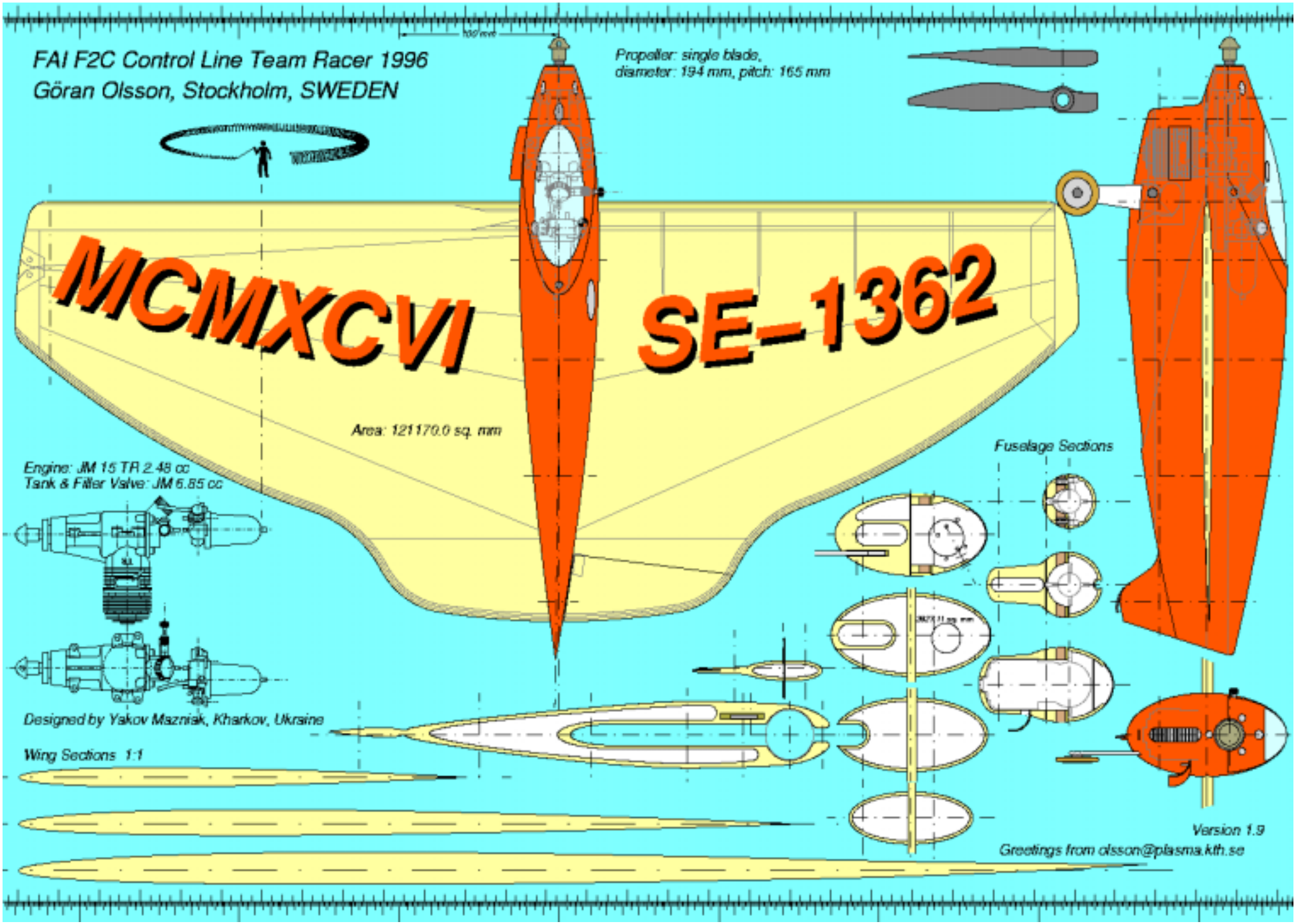
	rd 1	rd 2	final
1.G.Wilson/M.Ellins	3:44.85	DNS	7:38.66
2.P.Hatherall/V.Cresp	4:04.00	3:46.21	7:51.85
3.E.Dyer/S.Dyer	DNF	3:47.25	7:58.12
4.J.Hallowell/KBaddock	4:11.50	3:49.03	
5.C.Ray/J. Ray	4:11.63	4:13.00	
6.M.Ellins/P. Van Meurs	4:42.84	4:36.66	
7.M.Wilson/G.Wilson	4:57.44	5:02.25	
8.KHunting/J.Hunting	5:34.23	DNF	

AUSTRALIAN B TEAMRACE

	rd 1	rd 2	final
1.J.Hallowell/K. Baddock	3:15.72	DNS	6:13.88
2.G.Wilson/M.Ellins	3:27.91	DNS	6:24.94
3.P. Hatherall/V.Cresp	3:41.15	DNF	7:42.65
4.C.Ray/J.Ray	DNF	4:22.38	
5.K.Hunting/P.Van Meurs	DNF	DNS	
6.J.Hunting/K.Hunting	DNF	DNS	

1/2A COMBAT

	1	2	3	4	5	6	pts
1.G.Wilson	W	W	L	W	W	W	4
2.S.Power	W	W	W	W	L	L	2
3.J.Gibbins	L	W	W	L			0
4.M.Ellins	L	W	W	L			0
5=.S.Dyer	W	L	L				-1
5=.M.Ferrari	W	L	L				-1
7=.P.Gibbins	L	L					-2
7=.J.Luciani	L	L					-2


FAI F2C Control Line Team Racer 1996
Göran Olsson, Stockholm, SWEDEN
Propeller: single blade,
diameter: 194 mm, pitch: 165 mm
MCMXCVI
SE-1362
Area: 121170.0 sq. mm
Fuselage Sections
Engine: JM 15 TR 2.48 cc
Tank & Filler Valve: JM 6.85 cc
Designed by Yakov Mazniak, Kharkov, Ukraine
Wing Sections 1:1
Version 1.9
Greetings from olsson@plasma.kth.se

July 11th - **WW2 Racing** : on an overcast & foggy Sunday, 8 members arrived at the field to take part in three events. The first event was WW2 racing. For those of you who have not witnessed this event, the models we use have a profile fuselage, solid sheet wing and tailplane, and resemble fighter aircraft from WW2. The event is run to Goodyear rules and the models are similar to simple Goodyear but we found that the public (At displays) related better to models they could recognise.You fly 200 laps with five pitstops, and the team with the fastest time is the winner, as there were only three teams, there was no need to run any heats, so all teams went straight into the final. Les & Steve Davis flew their PT19 Fairchild, and had no trouble posting a time of 10m40s, Brian & Todd Deason flew their ME109 Messerschmitt, finishing with a time of 12m40s. Billy Mathews & Brad Nankervis flew a Tempest ; this model was fitted with an old OS Max III which proved difficult to start, but once airborne, it had good airspeed. Billy & Brad finished with a time of 12m04s. Billy was later heard to say "This motor is stuffed, I'm gunna buy a new one".

Results:

1st Davis & Davis

2 nd Mathews & Nankervis

3rd Deason & Deason

WANTED

New in Box Enya 35 stunt motor (prefer 35 II model 6001) Pay cash or swap replica Taifun "Orkan" un-run in box.

Phone Bob Allan on (02) 6342 4413

✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈

ETA Elite in good condition. Will swap or buy.

Frog 180 Diesel in VGC Will swap or buy.

John Duggan. 22 Bridelia Street. Algester 4115. QLD.

Tel (07) 32736932

✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈

Keil-Kraft 1 1/2" and 1 3/4" screw on type plastic spinners. Any colour.

Peter White (03) 5623 5120

✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈

For Sale

Sig Magnum stunter 40/60 kit $150

Mazniak 1/2A 5.85cc tank valve $180

Paul Stein 03 9546 5006

✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈

TOP STUNT SHIP. Doug Grinham built. 59 inch span "Singing Sixty" Complete 60 pipe ship. Includes Eather pipe ,prop, tank etc. Just add Stalker 60 engine. Complete and excellent. $300

Derek Pickard (03)9889 1149 AH.

✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈

Two engines:- Glo-Chief 29 $90

O.S. Max3 29 $85

Phone Alan Harrison on (03) 9337 4193

✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈ ✈

M.R.S. Clearance Sale

O.S.40 FP Fully modified for serious aerobatics

New in box $185

O.S.CZ11P.S. for Mini Goodyear or Class1 speed

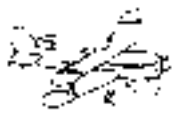
New in Box $300

Nova Rossi 21-65 as used by Bailey & Hallowell for Class2 Team race

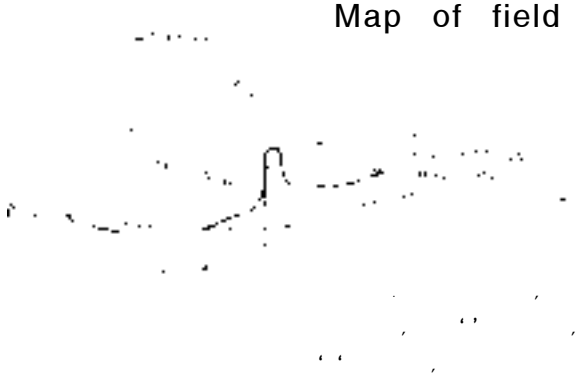
New in box $199

Phone Robin Hiern on (03) 59 96 0339

Coming Event



Map of field



Date September 12th

At the Warragul Showgrounds

AUSTRALIAN CONTROL LINE NEWS
Print Post Publication No. PP 343695/00024

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