The Thermaleer

A letter from Dennis Parker who was one of the founding members of S.A.M. in Australia.

Den Sparker launching his Old Time F/F rubber model.

The editor, SAM 600. Congratulations to SAM 600 on their 100th newsletter. Your esteemed editor has requested a letter of the SAM movements beginnings in Australia and as far as my memory can be stretched my recollections are as follows:-

At the Horsham Nationals in 1979 John Tidey, Bill Gordon and myself were chatting about SAM in America which had been started around 1960 by two Californian flyers and how the movement had gathered a good following. One thing led to another and as I was going to America the following year it was a good idea for me to bring back as much information as possible as to what they had found was the best way to starting up. John Tidey had done a lot of research into what to do already. My stay in America was quite an exciting one. After the World Championships I bussed my way to San Jose to say hello to a pen friend I had been corresponding with for a number of years but had never met! He had an engine collection, which contained about 95% of types ever produced.

He was most co-operative and suggested taking me to a flying meeting at St. Louis where I would meet a number of people who would be happy to answer any questions I might have. It was a good chance to see the American models as well. As this was 25 years ago not every ones name is able to be recalled by me, however some of those who were there were, Otto Bernhardt, [engines] Irwin Ohlsson, Sal Taibi, Frank Ehling and John Pond. It was an invigorating time chatting to these people of whom I had heard of and read of in MAN and Flying Aces before the war. They are just like modellers anywhere and that is what makes it such a great movement. Like people, of like interests with an enduring love of what they do. They were all extremely helpful with ideas.

That evening Irwin Ohlsson ran a home movie of his factory, it showed the production line and testing, it was fascinating. During the war he produced small motors for various uses by the military and a 25cc replica of the 60 for a Navy flying boat that looked about 10ft span.

After returning to Australia things progressed slowly but in 1982 John Tidey, Bill Gordon, David Owen and two others whose names escape me finally got together and SAM 3000 was formally brought into being. My allocation apart from sitting on the committee was that of editor. The rules committee was Barry Lee and Col Parkes. It says a lot for the original rules that not an awful lot of modifications were made in the first couple of years, more fine tuning. In 1984 the first SAM Champs in Australia were held at Goulburn. The General Meeting was held at the Agricultural College and the flying on a field just out of Goulburn on the way to Breadalbane. It was a disappointing time in that there was a lot of rain and wind but it finally dried and the first competition flying proceeded. There were about 20 – 30 people present and the numbers were to increase considerably from then on during the next few years. When the Bi- Centenary of the First Fleet came around application was made to the American H/O for permission to use 1788 as our chapters number rather than 3000.

This was granted and SAM 1788 became the official chapter for Australia. When I stepped down as Editor a framed facsimile of the "Certificate of Acceptance of the Australian Chapter of the Society Number 1788" was presented to me, a highly prized momento of the Societies beginning. After a few years of somewhat ordinary weather we went to Canowindra, the balloon center of Australia, which was allegedly the least windy part of Australia. Sadly one of the downsides was a gradual lack of interest and support for free flight and SAM concentrated on the radio side of flying. It somewhat negates the preamble of SAM.
"For the reproduction of the models of yesteryear for the enjoyment of the spectator and flyer alike."
These days little thought is given to the fact that most of the models were originally free flight as radio was just a dream at the time. But as Ned said "Such is life."
Den Sparker VH8719.

John Tidey sent me [via Dennis] some extra information and a list of founding members and their membership numbers:-
J Tidey 3001, Dowen 3002, C Parkes 3003, W Gordon [deceased] 3004, B Wilson 3005, G Scott 3006, R Mooney 3007, S Buckley 3008, D Courtney 3009, B Knight 3010, D Brown 3011, A Brown 3012, D Parker 3013, G Brown 3014, H Schwarzler 3015, A Orchard [deceased] 3016, W Olive 3018,
B Dent 3020, L Gilbert 3021, J Kestral 3022, B Lee 3023, J Hartley 3024, G Burford 3025 and R Nyberg 3027.

This is the masthead or letterhead used for the first Old Time contest in Australia. John considers the "Saltash" meeting as the first SAM contest in Australia but Dennis thinks this is a bit "iffy".
Quote : as it was before official SAM USA allocation of a Chapter number, as was "Dapto". Both of which were described as "Vintage and Oldtimer," meetings.
Fred.

Editors report.

First I must apologise for the lateness of this 100th edition, it was a bigger job than I expected. Someone else can worry about the bi-centenary edition. Some of our advertisers have taken out a larger advert and this will help pay for the extra costs. I must thank all those who contributed articles and information to help put it together. The Echuca contest was a great event on the Saturday with light winds and clear sky's. but the wind came up on the Sunday and apart from Chris testing the air no flying took place, so my lot went paddle steaming and wine tasting. This is one of the reasons I like Swanhill, Echuca and Springhurst so much, if the weathers lousy there are a million other things to do and the long trip at current rip off petrol prices is not a complete loss. Check out the contest calander in this issue as it contains some additions and changes.
Regards Fred.
P.S. Don't forget the 100th meeting at Tony's on Thursday the 24th of November at 7-30 pm.

Presidents report.

Hi Folks,
Well it's that time of the year again, on behalf of Ida and myself we would like to wish you all a ***Merry Christmas and a Happy New Year.*** Echuca was well attended and Saturday was magnificent, but Sunday was unfortunately a blow out.
It's good to see there are honest people in the world. The plane that I lost was returned to me three weeks later undamaged. It does pay to have your name and phone number on your models.
Hope to see you at the 100th meeting on the 24th November at 7-30

Regards Chris.

Contest Calendar.

2005

Nov 5-6th **6th Annual Fly-in at Echuca (EMMAC)**

Saturday ½ A Texaco, Duration
Sunday Texaco, Gordon Burford - Nostalgia combo

2006

January 14th **Saturday at SWAMPS @new field @ Caldermeade**

½ A Texaco, Fly & Glide, '38 Antique [Melb side Lang Lang. From Gippsland Hwy. Turn into Caldermeade Rd. then left into Railway Rd. [just after railway line]

January 15th **Sunday: 21st Annual Roy Robertson Memorial Trophy at P&DARCS**

Texaco, Duration

Feb 5th (Sunday) **3rd Annual Fly-in at Wesburn (MRCAC)**

½ A Texaco, Gordon Burford, Texaco, 3 rounds each

Feb 11-12th **5th Annual Leopold Fly-in**

Saturday. 1/2a Texaco & Duration.
Sunday. Texaco & Gordon Burford/Nostalgia Combo.

March 4-5th **Victorian State Championships at Cohuna (CMFC)**

Saturday ½ A Texaco, Duration
Sunday Texaco, Gordon Burford & Nostalgia Combo

April 14-17th **14th Easter Annual Fly-in at Swan Hill (SHMAC)**

See full program on page 21.

April 22-29th **Australian National Championships (Old Timer will be at Loxton, South Australia)** For full program see page 21.
Other Nats except F/F will be at Strathalbyn from April 18-26.
It is proposed to fly Free Flight at Narrandera over Easter.

May 20-21st **Annual Fly-in at the Haddon Field, Ballarat (BAI)**

Flying 38 Antique. By Don Howie.

This seems to have become a South Australian specialty, possibly due to Bill Britcher, who has a large number of old spark engines that he uses on a regular basis. Most flyers live in the Adelaide area and are in contact with each other on a regular basis, so information and help is easily available.

About the mid-nineties, Warwick Bromby of Victoria had a "Cloud Cruiser" powered with an OK Super 60 spark engine, that seemed to perform quite well. The allowance was 22 seconds per pound and as a 7ft or larger model would get a 5 to 6 pounds allowance,it gave a quite long engine run, so the model got to quite a good height.

This model passed to Peter White in Swan Hill and he also has had good results over the years with the Cloud Cruiser, that was designed by Ben Shereshaw back in 1937. The first person to use an OK Super 60 in South Australia was John Kearton, fitted to a "Privateer", the engine having good power. Bill Britcher and the writer obtained OK Super 60 engines and it was found they got very hot when using petrol/oil in the summer time, this being the only fuel allowed for sparkies in our 38 Antique event at this time. Methanol [no nitro] was allowed in the U.S.A. as it made most engines run cooler and last longer. It is correct that many of the old engines from the thirties, with small transfer ports and lots of head fins are best on petrol, but the engines we were using came from after the war with larger ports and many developed from car racing engines, that ran on methanol fuels.

It was decided to get the rules changed so that the safer [in summer] methanol fuel could be used. This happened a number of years ago and the racing car type engines now produced much more power. The OK Super 60 started as a car engine in 1940/41, called the OK Tornado. This had less head fins than say an Ohlsson & Rice 60, that has a total of 32 fins and quite happy running on petrol.

The 7foot span RC1 model can be built quite light, from ¾ lbs. To up to 4 ½ lbs. and this will perform very well with an OK Super 60 installed. The OK gave a few problems with the plain prop drive, so Stan Gurr produced a serrated drive and spinner nut for the engine.

Another problem is the alloy (cast) control fitted to many of the engines, so Stan has made a stronger replacement for this engine. Normal car points fit the rear driven cam, so this engine is easy to maintain. The 3/8 inch diameter thread on the crankshaft and the 1/2inch diameter shaft makes it very strong. The front ballrace makes electric starting easy, without a strain on the engine. Other problem is the bronze gudgeon pin on some engines and Stan can make a tubular steel one as fitted to later models. The Bolly 13 ½x6 Clubman prop needs a spinner

Cont. from page 5.

nut recessed into the prop, as the shaft is quite short on OK Super 60. When this is fitted, revs can go to above 8,000 revs as the engine smooths out. This is the current state of the art used in South Australia.

In my last article I forgot to advise of the next Australian Nats (Old Timer Section) being held at Loxton (Riverland) South Australia.

DETAILS ARE AS FOLLOWS

Saturday 22nd April 2006	Processing
Sunday 23rd April 2006	Texaco
Monday 24th April 2006	½ A Texaco, Duration
Tuesday 25th April 2006	2.5cc Burford, Standard Duration
Wednesday 26th April 2006	2cc Duration, Nostalgia
Thursday 27th April 2006	O/T Glider, 38 Antique

Rex Brown (President SAM 1993) has bulk booked the Loxton Hotel/Motel (as per the last Nats held there) and Trophies will be presented there each evening from the days results.
We will not be having any S.A. State Champs Events in 2006, as it would be very close to the Nats and also the present high cost of petrol would stop people coming to the event.

Oz team at SAM US Champs. Tomboy contest. L to R Max Rixon, Bob Raats and Allan Laycock.

Oz team at SAM US Champs. Texaco A.
L to R. David Owen, Allan Laycock, Max Rixon and Bob Raats

Don Howie.

From Max Hayes.
A past Editor of the Thermaleer.

It was sometime towards the end of the 1980's when I joined V.O.T.A. [Victorian "Old Timers" Association], the predecessor of SAM 600. It was Derry Brown [then president] who asked me to take on the position of Newsletter Editor for VOTA, knowing that I had not long before, retired from producing the Newsletter for the P&DARCS club of which I was then a member.
I was a bit dubious about taking on the task, Knowing that it would take quite some effort on my part to try and equal the effort produced by the previous editor, Trevor Boundy.
Anyhow, I accepted and continued for the next few years, I can't recall exactly how long I was Editor for but I do recall that, including the period after retiring as Editor when I continued to mail it out was about eight years, after which – for I know not what reason they made me a "Life Member" of SAM600.
At this juncture I would like mention that Peter Bennett took over from me as Editor and I would like to compliment him on the professional style of the Newsletter he produced.

Max Hayes MAAA 35723.

When Fred Roberts, our esteemed newsletter editor, asked me to write a piece for the 100th edition of the SAM600 newsletter I was surprised and delighted. Surprised because the 100th edition crept up on all of us, just fancy, that's over 10 years of newsletters. Delighted because I have the opportunity to comment, in retrospect, of the period of six years during which I was the editor of the SAM600 newsletter.

I took over from Trevor Boundy at issue #56 July/August 1998. Trevor had done a tremendous job as Editor and it was with some trepidation that I undertook this role. Trevor's contribution to SAM600 didn't cease, however, as he undertook the role of WebMaster for our rapidly growing internet presence. In fact, Trevor and I swapped roles as I initially got our web page up and running.

In my first edition I announced a name for our newsletter. "The Thermaleer". I believed it was a positive move and the name sat well with the aims and objectives of the Victorian Old Timer Association (VOTA) and the Old Timer movement in general. There seemed to be general acceptance from the word go and so it is today. I raise this example intentionally to demonstrate the strange nature of incorporated bodies such as ours. A member of committee, particularly the Editor of the newsletter can be quite autocratic and domineering. Why? Simply because no other member has either the inclination, the time or the expertise to contribute to an organisation, particularly something as time consuming as a newsletter. It's sad but true.

I set out for "The Thermaleer" to be a publication of record. In this I was reasonably successful in that almost all contests carried not only the full results of each competition with all placings, but also photographs of the placegetters. In this I was building on a tradition that goes back through several former newsletter editors. I thank them in this regard.

As part of this "on the record" I determined that the minutes of all meetings would be duly reported. In this I would mark myself down. It was a dismal performance.

I had the aim of developing a more pictorial quality to the newsletter, evidenced by contrasting my first cover, issue #56 with my last, issue #92. In the first we had a delightful picture of the grand old man of aeromodelling, Charles Hampson Grant with part one of a wonderful story of this innovative individual. On the covet of my last issue we had a great shot of that personable, competitive aeromodelling couple from NSW, Dave & Jan Thomas taken at the 2nd SAM Champs DownUnder, held at Cootamundra in 2004. Overall I believe the aim of introducing more and interesting photos of the people behind the machines and the placegetters from contests has been achieved. I would rate this effort most highly.

If we review the issues during this period I regret that I had not been more successful in two areas, both of which relate to contributing columnists who have special knowledge and skills in their fields.

In the first issue #56 I commenced with the Tony Cincotta Story "Confessions of an Aeromodeller". This promised to be a story that needed to be told and something we owe to future generations to record. For a number of reasons the full story has still not been told. For this I blame myself and suggest our current editor might like to follow up and succeed where I was not able to do.

The second disappointment involved contributions from an International expert, published in a famous English magazine. I refer to one Don Howie. Don contributed many interesting and informative articles to "The Thermaleer", all of which were a must read. Don covered everything from engine analysis to discussions of the correct dihedral for Bill Evan's "Hyphen". It was riveting stuff. Then suddenly, no more articles, no more contributions. I was surprised and disappointed and puzzled. All I can assume is that in some way I had offended Don or done 'something'. If this is the case Don Howie, I offer my sincere apology.

The subject of rules and rules changes occupied much of the issues Early in my term as editor. This continued to be the case throughout the six years, if anything the subject of rules intensified. Now I believe we have the correct rules change process in place with Trevor Boundy as an early contributor and more recently the emergence of an excellent Chairman in Kevin Fryer. Kevin has brought order where there was chaos. Trust where there was mistrust. I believe Kevin has restored faith in both the VMAA and the MAAA as far as the Old Timer Rules Change Process is concerned. He has ensured those

Con't on page 15

My time as editor. From Trevor Boundy.

In the beginning there was word of mouth then A5 typing and photocopying then we added a few pictures and photocopied, then Max Hayes did a massive leap to A4 with lots of pictures then some one used an electronic method of reaching the same end with commercial printing, then Peter Bennett took the N/L to new heights with desk top publishing which was then handed over to Fred Roberts, now we are 100 issues, congratulations VOTA, NOTAM, SAM 600 etc.

The records I held of office bearers for the SAM O/T movement in Victoria date from 1986 (see table below) and include the five Editors over that period.

When gave up the grand title of "SAM 1788 Southern Region" and became NOTAM, we were blessed with a permanent flying field at Nagambie just 22 Km north of Seymour, club member Geoff Lawson's brother provided the land and we had the luxury of a tin garage brick clubroom toilet and club constructed wind sock tower (later relocated to Morong field etc), many enjoyable fly days were held there it was the era of W Bates M Tyrrell and L Ford etc.

Nagambie tower construction Graeme Sinclair (back to camera) Geoff Lawson far right. Flying field through trees in background.

As I remember it the first newsletter was generated as a result of a meeting at Cranborne in Derry Brown's garage and subsequent meetings were held at Moorabbin RSL, Moorabbin Airport, The Energy Business Centre in Caulfield South and currently at Tony Cincotter's Saturn Hobbies East Bentleigh.

Fred congratulations on helping to carry through the news letter to is 100th issue.
Kind Regards Trevor Boundy

Office Bearers over the years.
1986. Warwick Bates NOTAM Treasurer & SAM1788 Treas. Sec.
1987. Lyal Ford NOTAM President, Don Cameron Treasurer, Warwick Bates SAM 1788 Treasurer Darryl Cope SAM1788 Southern Region Area Dir. & Derry Brown NOTAM Vice President.
1988. Trevor Boundy NOTAM Editor, Mike Pettigrew President, Andrew Kennedy Treasurer/Sec. & Peter Donovan Vice President.
1989. Mike Pettigrew VOTA President, Andrew Kennedy VOTA Treasurer/Sec. & Peter Donovan Vice President.
1990. Mike Pettigrew President, Trevor Boundy Treasurer/Sec. & Peter Donovan Vice President.
1991. Ian Triffitt Editor, Derry Brown President, Ted Hall Treasurer/Sec. &
Peter Donovan Vice President.1992. Max Hayes Editor, Derry Brown President, Ted Hall Treasurer/Sec. & Peter Donovan Vice President.

1993. Max Hayes SAM600 Editor, JohnWhittaker SAM600 President, Ted Hall SAM600 Treasurer/Sec & Mark Collins SAM600 Vice President.
1994. Max Hayes Editor, Warwick Bromby President, Geoff Hall Treasurer/Sec. & Frank Achterdenbosch Vice President.
1995. Max Hayes Editor, Warwick Bromby President, Geoff Hall Treasurer/Sec. & Len Mostert Vice President.
1996. Trevor Boundy Editor, Warwick Bromby President. Derry Brown Public Officer, Geoff Hall Treasurer/Sec. & Len Mostert Vice President.
1997. Trevor Boundy Editor, Peter Donovan President, Derry Brown Public Officer, Fred Chigwidden Treasurer/Sec. Len Mostert Vice President, & Peter Bennett Webmaster.
1998. Trevor Boundy Editor, Chris Lawson President, Derry Brown Public Officer, Fred Chigwidden Treasurer/Sec. Peter Hosking Vice President & C.D. & Peter Bennett Webmaster & Records,
1999. Peter Bennett Editor, Chris Lawson President [Clubman of the Year], Ian Triffitt Treasurer/Sec. Ted Hall Vice President & C.D. & Trevor Boundy Webmaster, Public Officer & Records.
2000. Peter Bennett Editor, Chris Lawson President/Treasurer, Barry Barton Secretary, Ray Woodhouse Treasurer [policy] Public Officer & Trevor BoundyWebmaster, Records & Vice President.
2001. Peter Bennett Editor, Fred Stebbings Mailings, Kevin Fryer President, Barry Barton Secretary, Norm Campbell Treasurer, Peter Hosking Vice President & C.D. & Trevor Boundy Webmaster & Records,
2002. Peter Bennett Editor, Fred Stebbings Mailings, Kevin Fryer President, Barry Barton Secretary, Norm Campbell Treasurer, Mark Collins Vice President & C.C. & Trevor Boundy Webmaster & Records.
2003. Peter Bennett Editor, Fred Stebbings Mailings, Chris Lawson President, Barry Barton Secretary, Norm Campbell Treasurer, Peter Hosking Vice President & C.D. & Trevor Boundy Webmaster & Records.
2004. Peter Bennett Editor, Fred Stebbings Mailings, Chris Lawson President, John Whittaker Secretary, Norm Campbell Treasurer, Peter Hosking Vice President & C.D. & Trevor Boundy Webmaster & Records.
2005. Fred Roberts Editor & Mailings, Chris Lawson President & C.D. Brian Dowie Secretary & Public Officer, Norm Campbell Treasurer, & Peter Hosking Vice President & Webmaster.

For Sale and Wanted

For sale. Phone & Fax Machine, Sharp FO155. $50-00

Wanted. Small Diesel up to about 0.6cc. Also complete basket case Mills 1.3cc Mk 1. To be used to measure in order to produce a set of drawings for making replica's. See Fred.

For Sale. Spacer, ideal for 40-45cu.in. 4c $40.00 See Chris.

For Sale / Wanted. If you have anything you would like to sell or need why not advertise in the "Thermaleer"? It's a free service to members and only $5-00 per advertisement to non-members.

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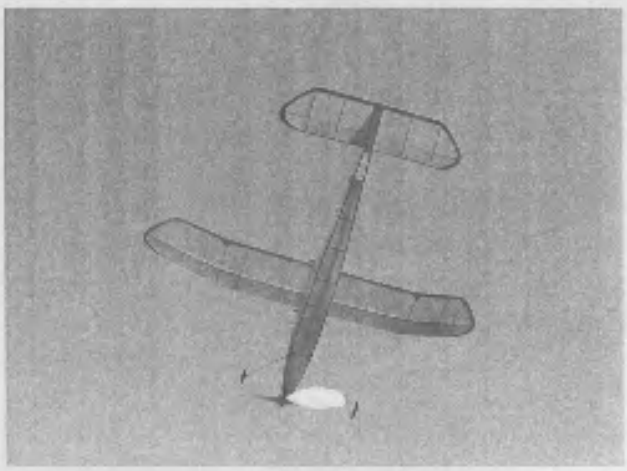
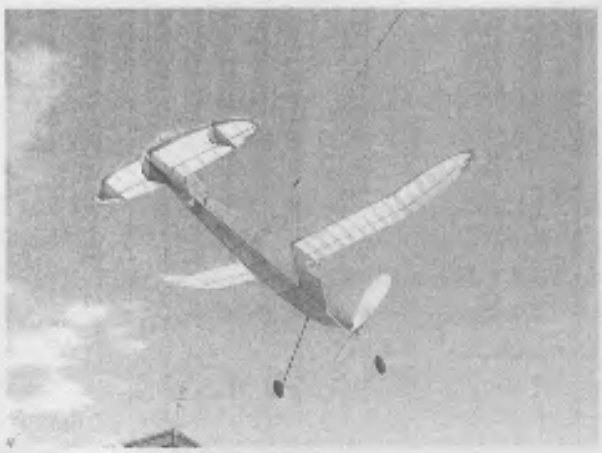
Photographing your Pride and Joy.

Most of the photo's sent in to the Thermaleer are static photo's with the model being held by the builder of the model, or with the model sitting on the ground. Photographs of the model actually flying are always a far better way of showcasing the results of you labour and skill but are also very difficult to capture. Here's a way of taking that elusive photograph without even leaving your back yard.
Firstly the camera does not have to be anything special, any compact film or digital model will do the job. If using a film camera don't skimp on film, use a top quality film, not one of the little known or unknown house brands. If using a digital camera use the highest resolution the camera is capable of.
Photo 1 shows the photo as it was taken and Photo 2 after a simple adjustment in Photoshop or a similar image editing software.

Worcraft kits "Mercury" by Albert Hatfull.

All you need is fishing rod with reel, hook and line and a step ladder. Simply hook your model up and send your helper up the ladder with the fishing rod and model combo. All you then have to do is get them hold the model well out from ladder and take the shot from what ever angle suits you. If you don't have a computer or the required software just send me the photo and I'll do the rest for the Thermaleer. If you want a copy of the "after" photo let me know when you send the original to me.





76 February, 1955

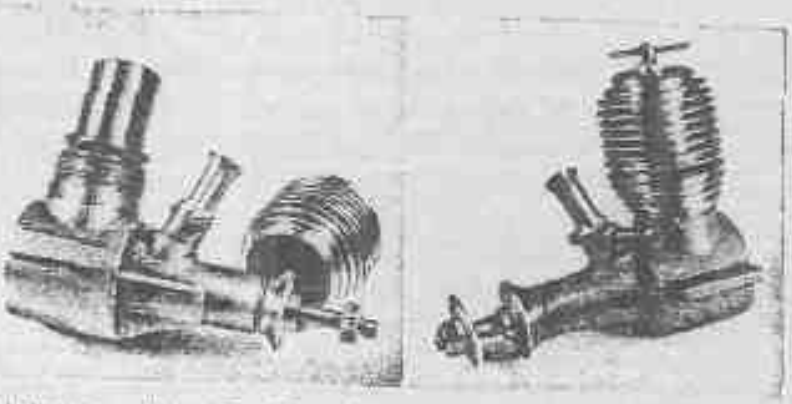
Making your own ENGINE

Part three.

Tools and their use

described by

Dave Sugden



Two of Dave Sugden's E.T.e.c. diesels, one at left shows how the cylinder is retained on the crankcase.

Since most of the work is turning, lathe tools will be dealt with first. Fig. 1 shows the various types for general work. Each turner has his own pet way of sharpening tools and those shown will merely serve as a guide. A few general rules apply to all lathe tools. Overhang from the tool post must be reduced to a minimum to prevent chatter. Top side and front clearance angles of no less than 3 degrees should be allowed between the finished surface and the tool, so that swarf cannot jam between the tool and the work, thus spoiling the finish. It has been found best to set up a tool at centre height *despite what some people may say to the contrary. It is* advisable to touch up the tool tip prior to taking a final cut, especially on ferrous metals.

Turning High Tensile Steel.—(A) The cutting angle should be made fairly large to strengthen the cutting edge and reduce its wear. Because H.T.S. work hardens rapidly the tool must not be allowed to rub and is best operated with a coarse feed at 200 to 400 r.p.m. with as big a depth of cut as allowed by the motor power. Soluble oil and water is a suitable coolant if the work and tool overheat.

Cast Iron.—Although C.I. crumbles off when machined, it requires similar treatment to H.T.S. On no account should a cutting fluid be used as this will cause the tool to rub.

Aluminium.—This is easy to machine and any combination of feed, cut and r.p.m. can be used, though for a good finish high r.p.m. is best. Larger rake and clearance angles may be used and, indeed, are essential for some of the softer alloys which tend to build up on the tool tip. Paraffin used as a cutting oil cures this trouble.

Brass.—Being such a soft metal, brass is so easily cut that a tool as shown at **(B)** with no rake angle plus side angle to prevent digging-in must be used. No lubricant is required. Any combination of feed, r.p.m., and depth of cut is permissible.

Phosphor Bronze.—Although a fairly soft metal, it is very tough and quickly work harders. It should at all times be treated with respect. A sharp ordinarily-shaped tool will be satisfactory. If difficulty is experienced, cutting fluid may be used to good effect. Any speed with moderate feed and cut is suitable.

Special Tools

Knife Tool.—This tool **(C)** is for cleaning out square corners. It is made either left or right handed with more rake angle than usual. The point is not robust and will not stand heavy wear. It may be used on any of the various metals above with cutting fluid if necessary, and in general the r.p.m. should be *somewhat lower* than that used with the ordinary tool.

Parting Tool.—(D); Cutting takes place on the front edge and corners which should therefore be ground true and square to prevent the tool from wandering. A small clearance angle is given to the sides, but adequate metal must be left at the root to take the cutting loads which can be heavy. Even on a good lathe a parting tool tends to chatter and a low speed is often used together with a *coarse* feed. To stop chatter the feed must be increased. If this does not do the trick, the speed has to be lowered; 200 r.p.m. is easily possible on dural and also on H.T.S. if the tool is good. *Always use cutting fluid to prevent* the chips from jamming.

Screw Cutting.—A screw cutting tool is ground to the profile of the thread as shown **(E)**. It may be fed in either perpendicularly or at an angle of 27½ degrees and is set up with the aid of a special template. A 5-thou. depth of cut is suitable and r.p.m. are governed by chatter and the skill of the operator; bottom speed is best for a start. Choose a thread pitch which divides evenly into the pitch of the lead screw so that the "nut" can be engaged at any position. A screw-cutting dial eases this problem. Having set up the gears, and with a suitable cut, make a run, disengage the "nut" when the *tool has run into the groove which should be provided* at the end of the thread. Wind out the tool, return it to the beginning, and reset to a new cut. Should anything go wrong, don't panic. Stop the lathe and wind out the tool instantly. Cutting fluid is often useful, as is also a touch of emery cloth to ease the tops of tight threads.

Boring.—(F) A boring tool should possess properties similar to an ordinary turning tool. The overhang which tends to make the tool chatter should be kept as small as possible. This reduces the whip which makes boring to an accurate parallel diameter a little difficult. Provided that a good finish is obtained the tool may be mounted above centre height so that it does not foul the *hole. In general the r.p.m. will be slightly lower* than that used for plain turning.

Milling.—The chief difficulty here comes in putting up the job. It is fairly easy to grip it in a machine vice bolted on to a vertical slide which permits 3D motion, but it is considerably more tedious to clamp it on to the cross slide. A vee block with lots of packing including paper is most useful here. The cutter mounted in the chuck will be run at maximum speed and often completes the operation in a couple of minutes. Cutting fluid is useful in preventing clogging.

An end milling cutter will be found to be the most useful for surfacing, cutting transfer passages, lightening pistons, etc. Its size will probably be governed by the radius of the curves. For milling exhaust ports a fly cutter is most convenient. This is similar to a boring tool, with the tip ground like a parting tool, mounted in the

chuck. The bar part of a Nulok tool with a bit as shown in (G); is admirable.

Grinding.—Means of avoiding grinding and the construction of a small internal grinder were described in Part I (December issue). Should you be lucky enough to have a friend who can do grinding for you the following hints may be helpful. Grinding is often done between centres and if at all possible the part should be made with centres for this reason. It will be necessary to leave about 5 thou. on the diameter for grinding. If centres cannot be made and the grinding has to be done in a chuck, a boss suitable for gripping in the jaws must be arranged, and from 10 to 20 thou. left on the diameter to allow for eccentricity of the chuck and setting up. An extra 5 thou. should be allowed for distortion if heat treatment is being carried out prior to grinding on parts which are not robust.

Lapping.—This is the process by which the accurate finish and fit of the piston and cylinder is obtained. The principle is that of impregnating the surface of a piece of metal with rubbing compound which is then used to "wear" the part down to the required dimensions. The rate of cutting is dependent on the amount of compound charged into the lap, the coarseness of the grit, and the fit of the lap to the part. A softer material than that being worked upon is used for the lap, so that it will absorb the compound. C.I., copper, aluminium, and brass are the usual materials. Because the lap is made of a soft metal it tends to wear rather rapidly, and if the rate of cut and accuracy of finish are to be maintained the lap must be expandable. For 1-off jobs where little lapping is needed the extra complication of expanding laps is not justified, but on parts which are at all distorted, probably due to heat treatment, they are essential. (**H**) and the accompanying photograph (*below*) show the usual types.

A corkscrew type of motion is applied to the part held by hand with the r.p.m. at about 600. Medium grade valve grinding paste has been found to be most suitable; it then only takes a few minutes to lap out a cylinder from the reamered finish. The surface obtained is fairly smooth, but is rough enough to enable it to run in easily. A dry lap with little paste gives the best finish. As always, to remove metal quickly power must be used, and on one occasion when lapping out a case-hardened cylinder which had distorted 5-thou. out of round, a cast iron lap tightly expanded with a liberal amount of paste, employing paraffin for cooling and lubrication, trued the bore track in half an hour. The part was not held by hand as is usual as the torque and temperature were too great. A hone as marketed by Delapina is far superior if your pocket will stand it.

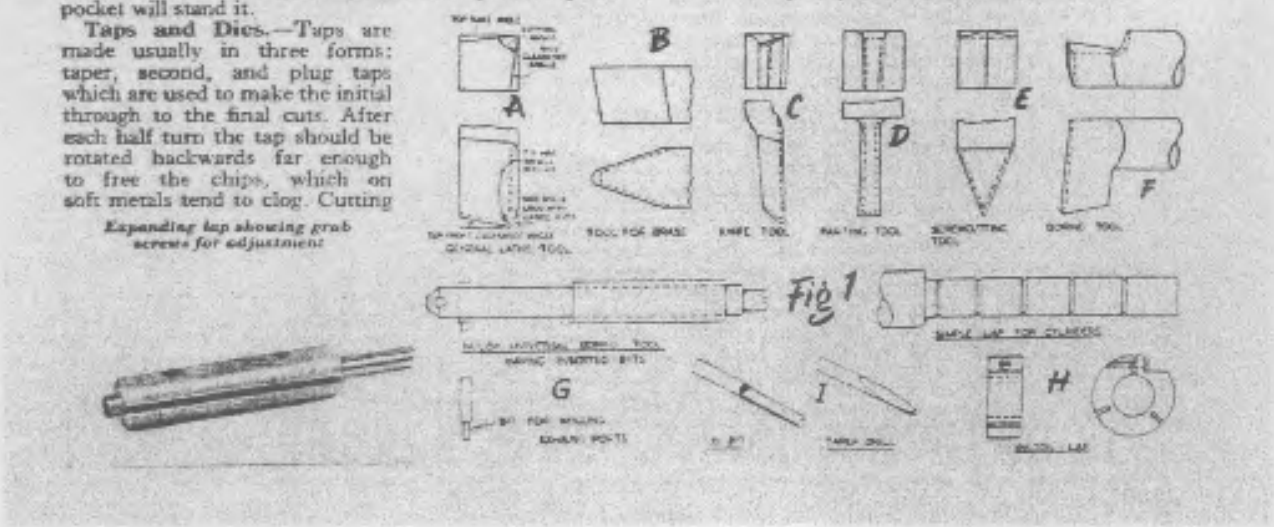
Taps and Dies.—Taps are made usually in three forms: taper, second, and plug taps which are used to make the initial through to the final cuts. After each half turn the tap should be rotated backwards far enough to free the chips, which on soft metals tend to clog. Cutting oil should always be used except on brass and C.I. It is a good idea to withdraw the tap completely several times to clear the swarf. Large taps are manipulated with a wrench and frequently have a centre hole in the shank which when located by a centre greatly assists a true perpendicular feed. Small taps are best gripped in a drill chuck.

A died thread should always be made after the tapped one since the die is adjustable. The swarf is freed and cutting oil applied as for taps.

Drills.—Modellers should need little introduction here, though a few hints may be of use. It will be found easiest to drill most holes with at least 2 drills. The last drill then has a better chance of producing the hole to size since only a small portion of the cutting edges is being employed. It follows the hole already made by the first pilot drill which should therefore be in very good order, or new if possible, to ensure that the drill does not run off centre. Always start the hole with a centre drill or a good centre pop. Should the drill not be starting on centre before the lands enter the hole, it is possible to pull it back on centre by cutting a groove with a centre pop on the side of the conical depression to which you wish the drill to return. Use cutting fluid to assist swarf removal and cooling and don't use too high r.p.m. with large drills (about 300 r.p.m. for a ½-in. drill in steel) otherwise they may burn out. For small sizes steel wire sharpened to a suitable point is often useful with soft metals.

Reamers.—Reamers are made either to size or expandable. They possess a small taper for the first one-third of their length and so should be able to pass through the hole being finished. Lots of cutting oil and a fastish feed are combined with low r.p.m. to remove only 3 to 4 thou. of metal. A reamer will not produce a good finish if called upon to remove more than this and for sizes where drills increase by 1/64-in. the hole must be bored out to bring it to a size suitable for the reamer. If the hole cannot be bored and an expanding reamer is not to hand a badly ground drill might be used after a pilot drill to produce a sloppy hole which with luck might be acceptable to the reamer. An accurately ground drill having the corners rounded with an oil stone may be used with a fast feed in soft metal to replace the reamer for finishing the hole. In the smaller sizes, below about ¼-in., reamers can be replaced by D bits or taper drills (**I**) made from ground silver steel, hardened and tempered if necessary.

(Next month, in this popular series, we shall cover further important aspects of machining your own engine.)



Expanding lap showing grab screws for adjustment

OK Cub 049 Diesel.

A Problem.

Beautiful as-new condition and quite acceptable "feel" counted for nothing. The OK Cub 049 Diesel just would not start. All the usual tricks came to little more than an occasional weak burst of life. So in the spirit of accepting a challenge, the recalcitrant beast went back to the workshop for a spot of attention. Perhaps E.C. Martin was crackers when his engine review of the Cub diesel in July 1954 Model Airplane News headlined "Startling report indicates that the Herkimer .049 Diesel may outperform its glow plug brother".

Having eliminated all the usual sources of leaks and less-obvious problems, the Cubs O-ring contra-piston seal came under scrutiny. No doubt intended as a useful production expedient to avoid the need for an accurately fitted regular contra-piston, the idea was not without problems. We suspected that while compression seal was fine at flicking speeds, a serious compression leak developed when the mixture detonated. Perhaps this problem torpedoed the second-generation diesels from Herkimer and McCoy in the 1950's. International Model Aircraft in the UK had the nous to switch back to a regular contra-piston before their Frog 80 diesel suffered the same fate. The recent applications of the concept have had excellent results suggests that the idea is sound, but needs careful "engineering" and a modern O-ring material.

The Solution

No piece of rubber or plastic half a century old is as good as new. The first step was to replace the Cub's O-ring with a modern equivalent. This gave some short bursts, but not enough to get the engine running. Was this why this Cub had survived in "as-new" condition: it also would not start in the 1959's when new? Encouraged by the improvement, a new contra-piston was made, identical in all respects, but with the O-ring groove slightly shallower by 0.1mm (0.004in). This extra squeeze on the O-ring was a real tonic and the Cub was transformed into a living, humming model diesel engine. It seems that the precision of O-ring fits is not as slapdash as one might suppose. In that sense we were lucky to have succeeded in guessing the required groove dimensions to suit our replacement O-ring. A regular contra-piston made from cast iron would perhaps be a better and more permanent fix.

Handling characteristics

Vibration was low at all useable speeds and the engine was commendably absent of "biting" tendencies. It was quite insensitive to compression and mixture adjustments owing to the fine thread pitches of those components. That's fine except that the engine would not restart unless the needle was opened at least one turn from peak running setting. Fumbling fingers suddenly loom large when in close proximity to a whirring propeller arc!

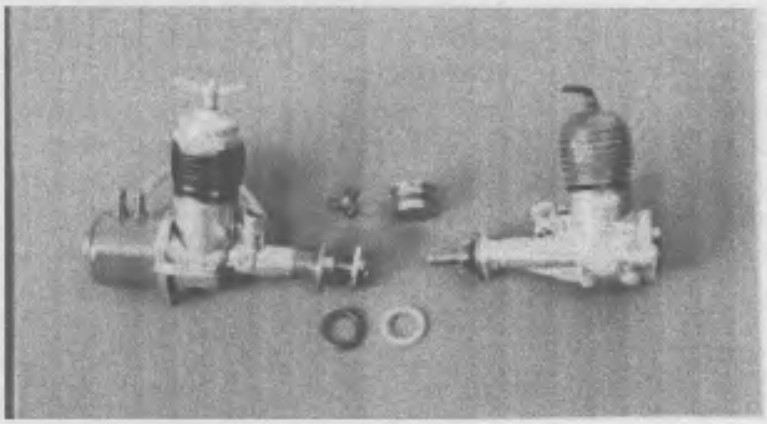
Despite the lack of a "long" bore/stroke ratio, this engine will run contentedly with "oversize" propellers. Unlike a number of diesels of the time, it also performs well at higher RPM, which no doubt elicited E.C. Martin's comment. We doff our hat to Charles Brebeck's cylinder porting, which is a key factor in providing a wide range of useable speeds and quite in advance of many manufacturers who were following the Arden porting formula.

Owners of Mills or similar diesels, well schooled in keeping the engine's innards from flooding would be ill at ease with the Cub. Choked intake of fuel was not sufficint to get good mixture pumping action for starting, owing to the relatively loose piston/cylinder fit needed to keep the engine happy while running. Exhaust primes were mandatory. A few flicks were therefore needed to clear excess fuel before it would fire and run. This and the inability to start without a very rich needle setting put paid to hopes of first flick starts. So the Cub needed plenty of fuel for a start, but also lacks the nasty biting tendances of similar engines when to wet. Once the required amount of priming is learned, compression adjustment from running setting is not required when starting.

Performance Figures.

Invariably, our engines deliver peak torque at lower RPM than peak power output. The key to a good all-round engine is to have peak torque reasonably close to peak power on the RPM scale. The Cub 049 diesel's maximum of 8 oz-in of torque occurs at about 9000 RPM while peak power of 0.085 BHP was delivered at a little over 12,000 RPM . To use Ron Warring's words, that puts the engine into the "hot stuff" class of the day. By comparison, our tests of a very happy D-C Merlin gave peaks of 5.5 oz-in torque and 0.062 BHP at similar speeds. That equates to around 1000-1500 RPM more from the OK Cub on a given propeller.

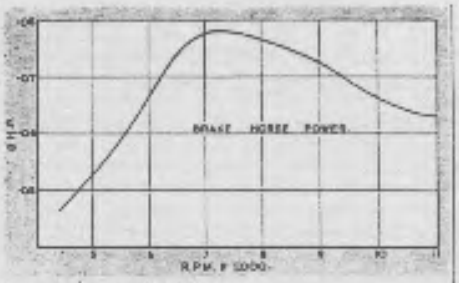
For practical flying applications, any available 8x4 or 7x4 propeller or similar load would be ideal.



Conclusion

E.C. Martin was right. The OK Cub diesels were in the forefront of the pack in their day in terms power output. They have a very broad useable speed range making them suitable for FF scale models, PAA load and sports types to power duration work. The Cub 049 diesel needs a bit of a routine for reliable starts, but it is commendably free of nasty tendencies. Potential modern-day users are advised to be mindful of that O-ring: a potential Achilles' heel for an otherwise fine engine. [con,t p14]

MARIS DISLERS



General Constructional Data.

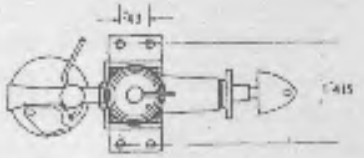
Name :—Mills Diesel 05ak [1].
Manufacturer's Name and Address :—Mills Bros. (Model Engineers), 2, Victoria Commade, Southampton Row, W.C.1 Telephone No. Holborn 0691.
Retail Price :—£4 15s. (excluding airscrew).
Delivery :—Immediate.
Spares :—24 hours service.
Type :—Compression ignition "diesel".
Specified fuel :—Mills Diesel Fuel, or X.L. lubricating oil 1/3, paraffin 1/3, ether 1/3.
Capacity :—1·3 cubic centimetres. ·08 cubic inches.
Weight :—Bare 3¼ ozs.
Compression Ratio :—14 : 1 to 17 : 1 according to speed.
Mounting :—Beam, upright and inverted.
Recommended Airscrews :—Ultra steep climb 9 by 4 ins. Natural climb 9 by 6 ins. Control-line 8 by 8 ins. to 6 by 10 ins.
Recommended Flywheel :—1¾ in. dia. by ¼ in. (approximately 5 ozs.).
Tank :—Capacity 3 to 4 ounces.
Bore :—13/32 inches.
Stroke :—5/8 inches.
Cylinder :—Nitrous steel, two transfer and two exhaust ports.
Cylinder Head :—Detail (screwed to cylinder).
Contra Piston :—Carbon Steel, ground and honed.
Crankcase :—Magnesium, gravity cast, machined and polished, with final black chromated finish.
Piston :—Tool steel detachable top.
Connecting Rod :—Forged high duty light alloy.
Crankpin Bearing :—Plain.
Main Bearing :—2 part Plain Bearing.
Little End Bearing :—Plain. Silver Steel Gudgeon Pin.
Special Features :—Engine speed is variable by adjustment of compression. Flexible jet tubes ensure steady fuel feed during steep climb. Built in cut-out. Compression lever screws into an adjusting screw which is tapped crossways to facilitate reacting to any condition which may otherwise be outside the range of the usual full turn of the lever. Extended needle valves are available and the fuel needle is also drilled to take a 1 millimetre wire for the convenience of those who wish to add an extension of non-standard length.

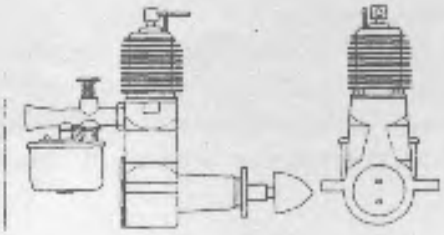
MILLS MK II DIESEL.

Condensed from Aeromodeller Engine Analysis July 1948, By Lawrence H. Sparey.

Fuel: Equal parts Paraffin, Ether & Castor Oil.

Starting: Hand startingwas used throughout. The engine started easily hot or cold on the first or second flick and ran consistently over a wide range of speeds [4,000 to 11,000 r.p.m.] The cutout is effective up to 7,500 r.p.m. but has a delayed action above that speed. B.H.P. was 0.0465 at 4,400 revs and rose steeply to 0.078 at 7,250 r.p.m. After this the power gradually drops to 0.063 at 11,000 r.p.m. Power weight ratio is 0.3566 b.h.p./lb. Using a 10"dia. 6"pitch airscrew 14ozs of thrust was developed at 5,400 r.p.m. 16.2 oz of thrust was developed using an Aeromodeller airscrew at 7,060 r.p.m.





SAM 270 Report September 2005

The West Australian based SAM chapter (#270) was formed in 1998 and continues to flourish with a recent influx of several new members.
We have twenty two members and usually attract at least half of these to our competition flying days.
We also conduct the Annual State Championship events in Old Timer on behalf of Aeromodellers WA inc, these include Texaco, Duration, Standard Duration and Half A Texaco. Several trial events have been held for the OT Burford comp but support has been a bit limited so far.

Competitions are held on a one per month basis and the most popular events in terms of numbers of entrants are usually 1/2A Texaco and Standard Duration.
Oddly, or possibly not, these are the two events which have restrictions on engine types which can be used in them.
Standard Duration is practically a one engine event with almost everyone using the Max H40 and with good reason as this engine is particularly well suited to the event.
A challenge for us, as for most SAM chapters, is converting some more sport flyers to the serious fun and enjoyment of low-key competition flying as in Old Timers.
Finding suitable venues is not an immediate problem but in the foreseeable future it would well be as our paddock is beginning to see development nearby.

Refreshingly some of our newer members in particular are using designs other than the ever popular Bomber and Playboy, and with reasonable success rates.
In our recent 1/2A event the second place getter flew a So-long and it was performing really competitively. Some other less common designs being flown include Lanzo Racers, Top Hat, Buccaneer, MG-2 and Kerswap.
This winter has been a bit dodgy as far as weather conditions for flying is concerned and we have lost many flying days to bad conditions, far more than in any year in recent memory, this may be a blessing in disguise and hopefully some new models will be on display at flying days in the near future.

Paul Baartz.

Con't from page 7,

organizations embraced democracy, a real breakthrough. Kevin Fryer deserved our full support. Finally, whilst we must accept that there are two types of members, competitive and non competitive, the interests of these are not mutually exclusive. We need highly competitive flyers such as Ron Adamson in S.A. Mark Collins, Chris Lawson, Robert Taylor, Fred Stebbing, Barry Barton and Steve Gullock in Victoria (to name just a few, and I apologise for any omissions) and flyers like Paul "Penny" Farthing and Peter "Condo" Smith in NSW (ditto re omissions) to demonstrate what our Old Timer discipline can do. They are innovative and raise the bar and in doing so help and aid every other member of SAM600. They are willing to share their knowledge and techniques with everyone, all you need to do is ask their advice.

Well, that's it from your immediate past Editor. Finally might I make an appeal on behalf of Fred Roberts, your new Editor. Please give him every support. I don't mean moral, he doesn't need that, but real support evidenced with contributions in the form of articles for the newsletter. This is the most difficult thing for an editor, sometimes needing to create something out of thin air. Please help Fred. Contribute.

Peter Bennett. Nov. 2005.

Frank Ehling Commemorative Memorial 1/2A Texaco Trophy Postal Competition.

ON ANY DAY FROM OCTOBER 1st TO OCTOBER 20th, 2005
A fun and friendly 1/2A Texaco fly-by-mail Contest.

SAM Members,

Our members at SAM600 are proud to have retained the Trophy for another year and would like to congratulate all other SAM chapters for competing in true SAM spirit.

Weather reports suggest that conditions were compatible in most countries and fair to good flying conditions in most regions.

Next year (2006) the postal competition will be flown in October again and Chris Lawson (SAM600 President and Contest Director) will be in charge of events. It has been a pleasure to meet other SAM chapter's members even though it was by email.

Please feel free to contact me with any queries or help required and I will try to answer or make sure you contact some one who can answer your problem.

Regards and thanks to all,
Peter Hosking.

Results

SAM600 Victoria Australia **Manager** Chris Lawson-----22C –Blue skies—light wind—some lift

Pilot	Model	Motor	1st flt	2nd flt	Total	
Barry Barton	Stardust Special		900	765	1665	
Fred Stebbing	Stardust Special		854	730	1584	
Steve Gullock	Polly	Cox .049	829	600	1429	4678
Chris Lawson	Lanzo Racer		646	778	1414	
Robert Taylor	Stardust Special		500	900	1400	
Peter Bennett	Red Ripper		900	469	1369	
Kevin Fryer	Atomiser		770	427	1197	
Don Cameron	Lanzo Bomber		311	615	926	
Ron Morris	Stardust Special		900	0	900	
Trevor Bonndy	Stardust Special		433	375	808	
John Weston	Lanzo RC 1		182	490	672	
Brian Laughton	Red Ripper		361	27	488	

2005 SAM 27 USA. **Manager** Ed Solenberger—— Weather early fog clearing about 10AM

Ed Solenberger	Anderson Pylon		900	751	1651	
Don Beking	Dallaire		735	591	1326	
Dick Irwin	Cloud Chopper		728	509	1237	4214
Mike Clancy	Airborne		590	577	967	
Terry Ketten	Atomizer		367	304	671	
Jay Beasley	Kerswap		100	281	381	
Pete Samuelsen	Foote Westerner		-	314	314	
Jim Temple	Rambler		DNF			

SAM1993 South Australia Manager Peter Leaney. Weather: Fine conditions

Dave Markwell	Stardust Special		900	692	1592	
Chris Britcher	Lanzo RC 1		771	514	1285	
Bill Britcher	Atomiser		900	357	1257	4134

SAM270 Western Australia. Manager Paul Baartz. Weather: Cool, Breezy and little lift.

Rod McDonald	Stratostreak		680	900	1580	
Bob Rawson	Dallaire		733	386	1119	
Paul Baartz	Lanzo RC 1		258	759	3017	3716
Alan Trott	Lanzo Racer		745	230	975	

SAM 93 of Tulsa USA Manager Dan Hodges. Weather: Light winds, almost perfect day except for a small shower, small thermals and Temp 20C

. Marcy Martin	Westerner		579	769	1348	
Cal Sutterfild	Lanzo Bomber		694	625	1319	
Bill Taylor	Alert		504	544	1048	3715
Bob Tucker	Lanzo Bomber		570	449	1019	
Don Hartman	Red Ripper		339	584	923	
Dan Hodges	Rambler		438	05	443	
Bob Hanford	Red Ripper		Att		att	

SAM51 California USA. Manager Eut Tileson Overcast, winds S - 10, mph Temp 21C

Bob Grice	Dallaire		439	900	1339	
Eut Tileson	Scorpion Major		900	285	1185	
Monty Pate	Dallaire		602	470	1072	3596

SAM N-X-211, (The Lone Eagles) St Louis Mo USA. Manager John Schifko.
Weather: Low clouds, Temp 19.5C, light wind and mist at times

Jerry Bonogurio	Lanzo bomber	448	830	1278	
Lamoine Plog	Playboy Sr	434	472	906	
Don Crosby	Anderson Pylon	365	495	860	3044
Ralph Waser	Anderson Pylon	532	0	532	
John Schifko	Dallaire	260	200	460	
Frank Mehrtens	Playboy Senior	368	22	390	
Ray Sisson	Coronet	Splat!!!	-	0	

SAM60 Johnstown Pa, USA. Manager Scott Holsopple
Weather: sunny skies with a slight breeze and Temp. 25.5C

Scott Holsopple	Lanzo Bomber		900	611	1511	
Jim Patterson	Daltaire		398	301	699	
Paul Yuhas	Dallaire		261	370	631	2841
Caleb Butler	Lanzo Bomber		314	278	592	
Ken Reesey	Thermal Magnet		263	303	566	

SAM62 Italy. Manager Bruno Chiaranti. ----------Weather: Sunny and very windy

Ugo Polano	Rambler		-	-	1507	
Tiziano Bortolia	Nu Looker		-	-	727	
W Gremese	DG 47				600	2834
Bruno Chiaranti	Westerner		-	-	427	

SAM84 Queensland Australia Manager Barry Dent Weather: Sunny with no lift

Richard Hart	Kerswap		474	488	962	
Peter Doolan	Coronet		394	421	815	
Des Slattery	Kerswap		384	323	707	2484

Eastern State Gas Championships 2005

October 1st and 2nd at Wangaratta, Victoria

Place	Name	Model	Engine	Score

Duration

1	Mark Collins	Cumulus (1936)	McCoy .60	1560
2	Robert Taylor	Stardust Special	YS .63 F/S	1260
3	Peter Scott	Blitz Buggy	Saito .65 F/S	1156
4	Paul Farthing	Playboy 115%	McCoy .60	1150
5	Chris Lawson	Vespa	Saito .65 F/S	1108
6	Peter Bennett	Playboy Cabin	McCoy .60	1074
7	Steve Gullock	Playboy	OS .25	1065
8	David Thomas	Playboy	Magnum .65 F/S	948
9	Ian Avery	ES Gas Champ	OS .32	869
10	George Car	Kerswap	AD	712
11	Lyn Clifford	Hayseed	Saito .65 F/S	683
12	Peter J Smith	Stardust Special	Nelson .40	420
13	Brian Dowie	Playboy	Playboy	279

Gordon Burford

1	Peter J Smith	FAlson	GB PB	900
2	Robert Taylor	Creep	GB BB	754
3	Chris Lawson	Zephyr	GB PB	699
4	Peter Buckley	Lanzo Record Breaker	GB PB	599
5	Barry Barton	Swiss Miss	GB PB	164

1/2 A Texaco

1	Peter J Smith	Stardust Special	Cox .049	1584
2	Jim Rae	Pixy	reed valve	1119
3	Barry Barton	Stardust Special	5 cc tank	1114
4	Paul Farthing	MG (1936)		966
5	Peter Scott	Lil Diamond		957
6	Geoffrey Malone	Playboy Cabin		955
7	Chris Lawson	Lanzo Racer		952
8	Peter Bennett	Red Ripper		864
9	Steve Gullock	Polly		816
10	George Car	Baby Bird		324
11	David Thomas	Lil Diamond		281
12	Brian Laughton	Red Ripper		247
13	Ian Avery	Playboy Cabin		61
14	Robert Smith	Lanzo Bomber		0
15	Robert Taylor	Stardust Special		0
16	Peter Buckley	Lanzo Record Breaker		0

'38 Antique

1	Peter Bennett	Lanzo RC 1	OK Super .60	2440
2	Peter J Smith	Cumulus (1938)	OK Super .60	1800
3	David Thomas	Lanzo RC 1	Madewell .49	1800
4	Paul Farthing	Flamingo (1938)	Contestor .60	1779
5	Ian Avery	Flying Quaker (1936)	Madewell .49	1755
6	Jim Rae	Pixy	ED Hunter 3.46 D	1716
7	George Car	Pixy	Oliver Tiger Mk1 D	1573
8	Peter Scott	Scram (1936)	Orwick .64	1048

Texaco

1	Peter Bennett	Lanzo Bomber	O&R .60 Spark	2953
2	Robert Taylor	Cumulus 105% (1936)	OS .61 F/S	2930
3	Paul Farthing	Lanzo Bomber	OS .61 F/S	2915
4	Peter J Smith	Lanzo Bomber	OS .60 F/S	2909
5	Steve Gullock	Lanzo Bomber 85%	OS .52 F/S	2527
6	Ron Morris	Kloud King 105%	Magnum .52 F/S	2520
7	Mark Collins	Lanzo Bomber	OS .60 F/S	2514
8	Ian Avery	Dallaire 75% (1936)	OS .40 F/S	2399
9	Barry Barton	Anderson Pylon	OS .60 F/S	1394
10	Brian Laughton	Lanzo Bomber 85%	OS .40 F/S	2180
11	Chris Lawson	Lanzo Racer	Saito .65 F/S	2035
12	Peter Scott	Lanzo Bomber	OS .40 F/S	1800
13	David Thomas	Lanzo Bomber	OS .60 F/S	1800
14	Jim Rae	Krupp	Enya .46 F/S	1777
15	Robin Yates	Lanzo RC 1	OS .48 F/S	1775
16	Hugh Davies	Flamingo	OS .61 F/S	1742
17	George Car	Lanzo Bomber 85%	OS .40 F/S	1200
18	Geoffrey Malone	MG 2 (1936)	Enya .60 F/S	927
19	Lyle Baker	Berryloid	Magnum .52 F/S	593

Champ of Champs

Paul Farthing

Echuca Annual Fly In

Nov 5th - 6th 2005 at Echuca

Place	Name	Model	Engine	Climb	Rd1	Rd2	Rd3	Rd 4	F/Off	Total	Freq
					1/2A Texaco						
1	Chris Lawson	Lanzo Racer			360	360	360	-	721	1801	28
2	Brian Laughton	Red Ripper			360	360	360	-	686	1766	621
3	Steve Gullock	Polly			360	360	360	-	428	1508	18
4	Fred Roberts	Lanzo RC 1			360	360	360	-	423	1503	30
5	Peter Bennett	Red Ripper			360	360	360	-	389	1469	643
6	Norm Campbell	Atomiser			162	360	360	360	367	1447	641
7	Barry Barton	Stardust Special			360	360	360	-	336	1416	16
8	Brian McLean	Lanzo RC 1			360	360	360	-	220	1300	631
9	Fred Stebbing	Stardust Special			360	360	360	-	43	1123	36
10	Don Cameron	Lanzo Bomber			319	106	-	-	-	425	34
11	Robert Taylor	Stardust Special			91					91	629
					Duration						
1	Chris Lawson	Playboy Cabin	Webra 60 f/s	32	420	420	420	-	800	2060+	28
2	Brian Laughton	Playboy	Ervine .36	25	420	305	420	420	800	2060	621
3	Fred Stebbing	Stardust Special	T Tiger .36	25	420	420	420	-	720	1980	641
4	Peter Bennett	Josephine	YS .63 f/s	28	420	420	420	-	690	1950	643
5	Kevin Fryer	Cumulus	McCoy 60s	40	420	420	420	-	546	1806	631
6	Barry Barton	Playboy Cabin	Saito .65 f/s	32	381	420	420	254	-	1094	16
7	Steve Gullock	Lanzo Bomber	OS .52 f/s	32	298	313	-	-	-	611	14
8	Don Watson	Powerhouse	Saito .50 f/s	32	109	89	236	176	-	521	647
9	Brian McLean	Ace Stick	OS .26	25	368	-	-	-	-	368	631
10	Robert Taylor	Stardust Special	YS .63 f/s	28	125	-	-	-	-	125	30
11	Norm Campbell	Super Quaker	Anderson	40	-	-	-	-	-	DNF	32

Three members of the Echuca

Where we have one of the best contests of the season.

Photo from Peter Hosking.

14th Easter Annual Fly-In.
@ Swan Hill. Victoria.
Hosted by SHMAC.

Friday 14th April. 1pm. 1/2A. Texaco. 4pm. 2cc.

Saturday 15th April. 9-30am. Texaco. 1-30pm. Duration.

Sunday 16th April. 9-30am. 38 Antique. 1-30pm. Gordon Burford.

Sunday 16th April. 6-30pm Dinner at the Commercial Hotel.

Monday 17th April 9-30am Nostalgia. Presentations of Trophies and Prizes.

Judging of "Concourse", continuous throughout the weekend.

Trophy or Prize for "Champ of Champs".

Don't miss the SAM600 fun event of the season.

59th M.A.A.A. Nationals

Old Timer Events.

Loxton. S.A.

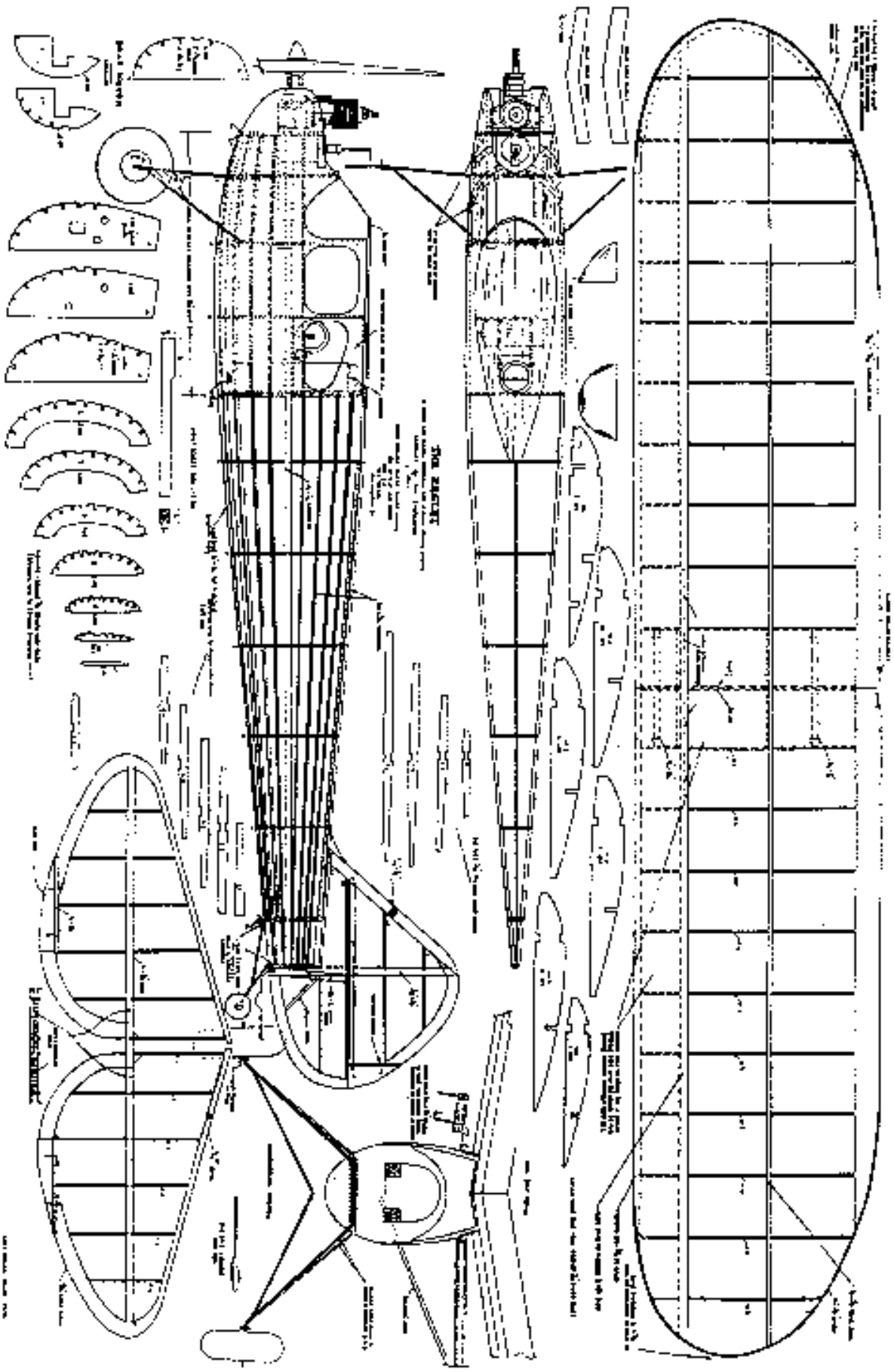
22-28 April 2006.

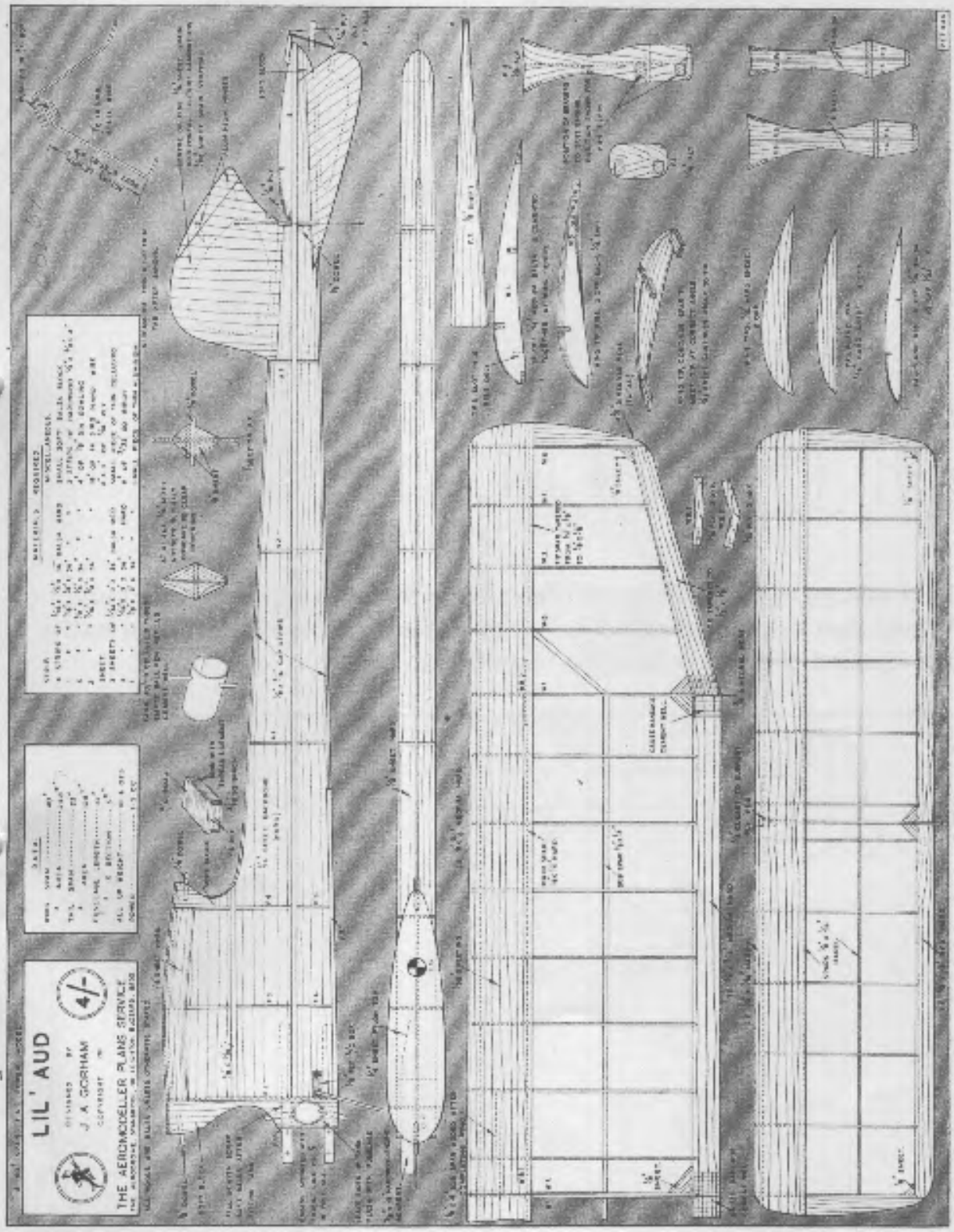
Saturday 22nd April.	**Registration & Processing.**
Sunday 23rd April.	**Texaco.**
Monday 24th April.	**1/2A Texaco & Duration.**
Tuesday 25th April.	**Gordon Burford & Std Duration.**
Wednesday 26th April.	**2cc & Nostalgia.**
Thursday 27th April.	**O.T. Glider & 38 Antique.**

C.D. Rex Brown. Ph. 08 8293 2214.

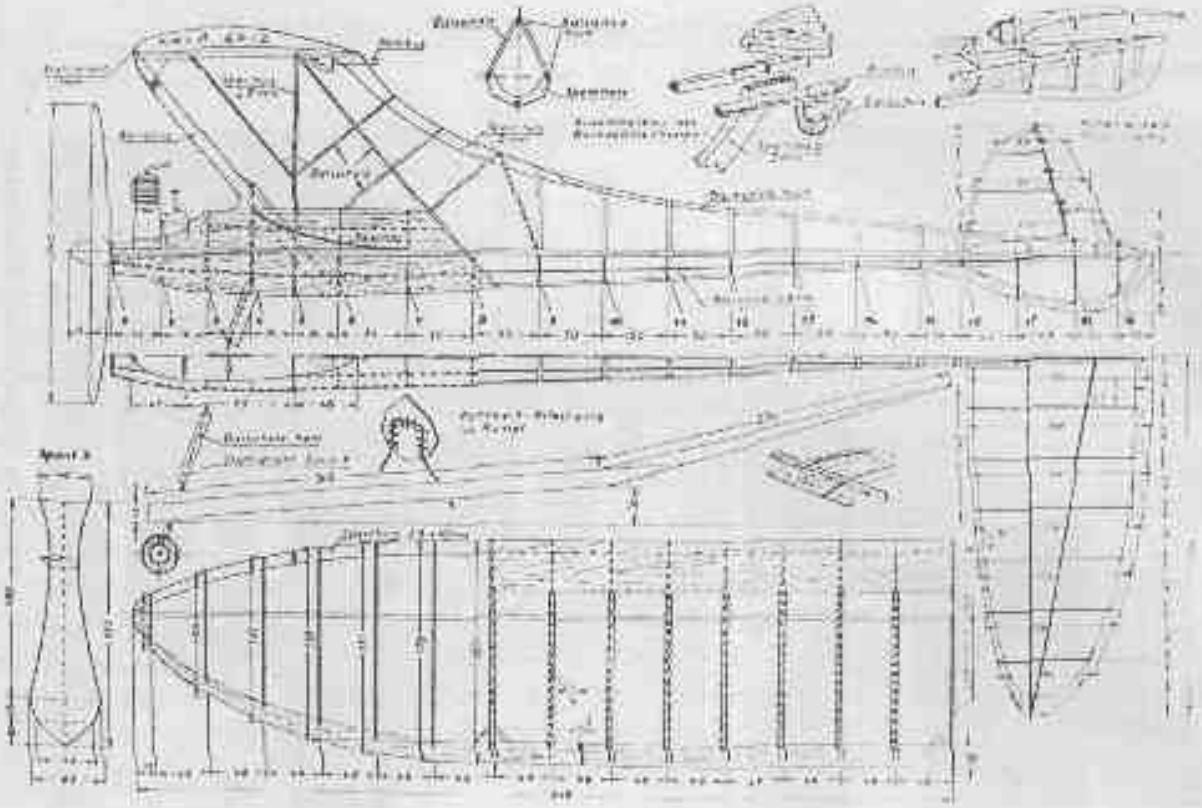
Accommodation: Loxton Hotel, contact Kim Lang. Ph. 08 8584 7266.

Loxton Caravan Park, Ph. 1800 887 733.

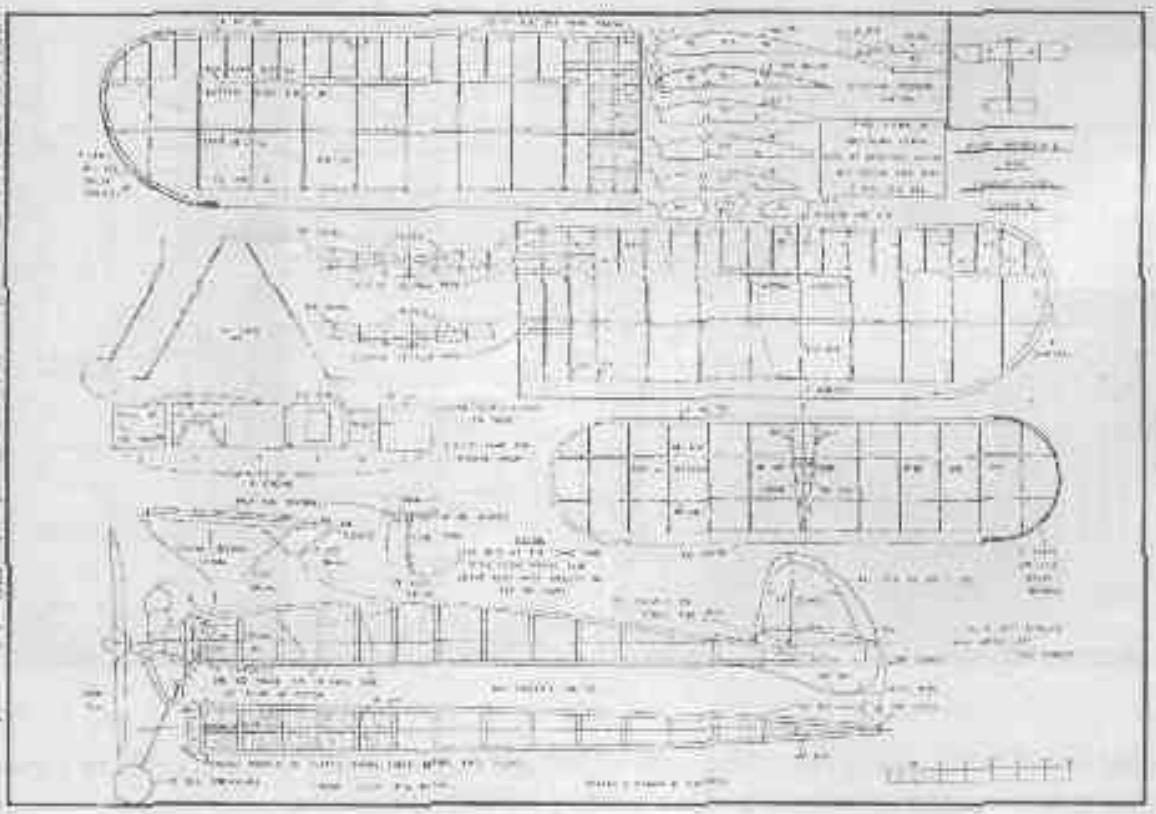




Increased to 125% this model has a wing span of 50" and an area of 420 sq. in. It could be a good model to build for the Gordon Burford event of in a slightly smaller size for 2cc.



Our thanks go to our Sponsors and Advertisers for their support over the years. Without their help we would not have able conduct our contests and have such a high standard of prizes or have this newsletter.



JOSH MARSHALL Class A from 1949 Perfect for the Elliot 1 Rec as shown, or similar. Would like to hear hiding? information. Stan Wisely