



### Points of Interest:

- Upcoming SAM 1788 Events.
- President's Message - Peter Scott.
- Rule Change Time coming up.
- Vets Models from Dave Brown.
- Report and results from Parkes Oldtimer.
- Engine Review - Elfin 149 Diesel.
- Covering with Tissue over Mylar.
- Reviving that old Dremel Saw.
- The Back Page.

# NEWSLETTER

No. 177  
JULY-AUGUST  
2012

### WORTH NOTING:

#### Don't forget the S.I.S. or SAM INCENTIVE SCHEME.

From Peter Scott, President SAM 1788.

Starting on the 1<sup>st</sup> July we are introducing an incentive scheme to encourage more fliers to more contests - especially the smaller events - which could and should be a lot bigger. If we don't encourage the numbers to grow then the chances are that we will lose some of these events.

1. The incentives - \$250 cash to the winner after 12 months with a special trophy to keep.
2. Only SAM 1788 members are eligible.
3. Ten contests throughout the year are eligible. Results from only eight to count. So, you don't have to fly all ten contests but those who do can pick their top eight results.
4. Points for each event at each contest count, including Tomboy. 1<sup>st</sup> place receives 10 points down to 1 point for 10<sup>th</sup> place.
5. All results to be printed in Duration Times so everyone can follow progress.

#### The next three contests are:

Eastern States Gas Champs at Wangaratta - 29th-30th September, 2012.

Coota Cup Oldtimer Weekend at Cootamundra - 20th-21st October, 2012.

Muswellbrook Oldtimer Weekend - 10th-11th November, 2012.

## **EASTERN STATES GAS CHAMPS - WANGARATTA**

29-30 September, 2012 at Wangaratta MAC Flying Field.

### Saturday, 29.9.2012

9.30am - '38 Antique, followed by Burford, then Lunch followed by Duration.

A social Dinner in the evening will be organised when we get numbers.

### Sunday, 30.9.2012

9am Tomboy - finishes at 9.45am sharp.

10am -  $\frac{1}{2}$ A Texaco, then Lunch followed by Texaco.

\*\*\* All comps will be run to MAAA Rules \*\*\*

Catering on field by Wangaratta Club.

**INFORMATION - Grant Manwaring - 02 6241-1320.**

## **COOTAMUNDRA OLDTIMER WEEKEND**

### **Coota Cup**

20-21 October, 2012 at the State Flying Field - Cootamundra.

Saturday, 20.10.2012 9.30am - 2cc Duration followed by Burford Event and then Duration

A social Dinner in the evening will be organised when we get numbers.

### Sunday, 21.10.2012

9am - 9.45am Tomboy

10am -  $\frac{1}{2}$ A Texaco followed by Oldtimer Texaco.

**NOTE:** No on-field catering but BBQ facilities/tea & coffee making will be available.

**INFORMATION - Grant Manwaring - 02 6241-1320.**

Duration Times is the official Bulletin of SAM 1788

## SOCIETY OF ANTIQUE MODELLERS OF AUSTRALIA 1788 Inc.

|                 |                 |  |               |
|-----------------|-----------------|--|---------------|
| President:      | Peter Scott     | 44 Ravel Street, Seven Hills. NSW. 2147. | 02 9624-1262. |
| Vice President: | Jim Rae         | 40 Garden Circle, Merimbula. NSW. 2348.  | 02 6495-3530. |
| Secretary:      | Grant Manwaring | 7 Arthaldo Court, Nicholls. ACT. 2913.   | 02 6241-1320. |
| Treasurer:      | Gail Scott      | 44 Ravel Street, Seven Hills. NSW. 2147. | 02 9624-1262. |
| Newsletter:     | Ian Avery       | 17 Kalang Road, Kiama. NSW. 2533.        | 02 4232-1093. |

Committee Members: Basil Healy, Ian Connell.

Email for Duration Times - iwa@internode.on.net

### Oldtimer Events for 2012.

|                 |                               |              |                |               |
|-----------------|-------------------------------|--------------|----------------|---------------|
| September 29-30 | Eastern States Gas Champs     | Wangaratta   | Peter J. Smith | 0423 452 879. |
| October 20-21   | Oldtimer Weekend - Coota Cup  | Cootamundra  | Basil Healy    | 02 4341-7292. |
| November 10-11  | Muswellbrook Oldtimer Weekend | Muswellbrook | Simon Bishop   | 02 6543-5170. |



### From the President:

The Parkes contest showed that a good venue and decent weather brings out the fliers. A reasonable turnout and an enjoyable weekend all round.

Each and everyone of us should be making an effort to recruit fliers to the old timer event. Preferably younger fliers. If this doesn't happen then we are not going to have a hobby such as we know it.

We all get older and numbers fall. I know that I'm stating the obvious, but please make the effort. I have tried to get older members of modelling community flying but it would seem that they don't want to step outside of their comfort zone. I made the offer to an electric old time flier that I would fly one of his electric contests if he came and flew in one of ours. I would supply him with models. Not even a quiver of interest. People can get so set in their ways.

I've had disturbing conversations with fliers in Victoria and South Australia about the poor state of the old timer scene there. We really don't want to kiss it all goodbye in NSW, do we?

On the brighter side, Canowindra was such a success that it gives me a lot of hope.

I've had several suggestions made to me that we should follow in Victoria's path, as reported in Airborne, that electrics be allowed to compete in our contests under a formula arrangement. Others are bleating-on about using height limiters on everything, which in my view takes out any point in getting a motor/model combination that works well and has a variety of engines to make it all interesting. I can't get enthusiastic about an electric motor no matter how hard I try. The whole point of flying old timers is to fly low-tech planes with old motors. It can be argued that modern two-strokes are not exactly in keeping with the old models, and I think they are right, but it has been done for so long that it can't, practically, be changed now. Let's face it, the only true old timer event is the antique class, and I am prepared to see electrics fly in this class as long as they use period motors and batteries!

I will miss Wangaratta, much to my sorrow, due to my absolute need to be elsewhere, but will see you all - lots of you hopefully - at Cootamundra. I have the cup! See if you can get it back.

Peter Scott.

Dear friends of Cox,

We are now on Facebook as Cox International. Please visit and "like" us here. Facebook page on a regular basis with new products, happenings, events and



We will be updating our customer submissions.

We have had many requests for a high-performing reed-valve engine and we listened. We created the "Xtreme", an O49 engine with similar performance to the legendary Cox "Venom".

There will be only 100 of these engines manufactured, supplied with a numbered certificate and the crankcase engraved with the corresponding serial number. They are for sale here: <http://coxengines.ca/cox-.049-engine-xtreme.html>

Furthermore, we have resurrected some of the most popular Cox .049 engines: Black Widow, Golden Bee, Texaco, Texaco Jr., Venom. And they are available for sale in our store, in the "Engine" section.

Also, we are working hard on our project of bringing back the legendary Cox .049 Tee Dee engine.

Thanks again for your past support and we look forward to being your supplier of Cox-branded products for many years to come.

Your Cox International Team.

## From SAM 1788 President Peter Scott - Rule Change Time.

### Rule change suggestions:

Later this year the MAAA Oldtimer rules are up for changes - or not. I have floated some ideas to the committee and now to you all to get feed back.

I know the old thing about don't fix it if it ain't broke will be trundled out, but a bit of change can enliven interest and there's nothing wrong in a bit of fine tuning.

½A Texaco 1) Option. Power - any .049cc - .8cc I.C. motor produced before 1960.

2) Option. Cox babe bee, mills .75, MP jet.

Fuel. Glo - 5cc or std small Cox tank.

Diesel - 3cc.seperate tank allowed and to be checked.

Personally I think a good(!?) Cox would be the engine to use, but people who hate Cox 049's, and who hasn't at some time, would have the choice of a more consistent engine.

Nostalgia Diesel engines should have 35sec engine run.

Engines should have been manufactured before 1975, no replicas, no schnuerle ported motors.

This would allow any Burford model to fly in this class with reasonable chance and make the class far more popular.

The "1975 and replicas - no schnuerle" is to keep out hot shot engines, which would have too great an advantage.

'38 Antique Some of the Antique engine runs could also be looked at, especially in the 2<sup>nd</sup> and 3<sup>rd</sup> classes, but that's for another day.

My suggestion in all this is that we run a couple of contests to these rules, or to rules suggested and okayed by the Committee, before the end of the year to see what transpires. There would not be a huge difference to what people fly, but it gives options, and interesting ones at that. Keeping fliers interested is very important - in my opinion!

## From Dave Brown

daveb@ix.net.au Telephone: 02 6355-7298

Gooday All,

I have ready the "Model of the Meet" models, as short kits, for the Veterans Gathering, 2013, at Muswellbrook. Some have received delivery of the early ones,

Control Line: Kutlass - will be \$50 (until 2013, then \$66), including plan, plus postage.

Free Flight: Scrambler - will be \$40 (until 2013, then \$55), including plan, plus postage,

Multiple orders into 2013, will be discounted 10%.

Time to get started, Brownny.



## From Grant Carson

SAM Chapter Coordinator

wmgcarson@sbcglobal.net

Here is what I've reported to Secretary Tommy Gray to be recorded in the minutes of the general meeting upcoming. I thought it would be of interest to those unable to attend the meeting. There were five charters issued:

- \* Chapter 100, Roadrunner Squadron, New Mexico.
- \* Chapter 1779, Old Stone Fort Flyers, Texas.
- \* Chapter 311, SAM Bombers, Czech Republic.
- \* Chapter 1910, SAM en Espana, Spain.
- \* Chapter 20, Crossing Free Flight Group, Pennsylvania.

There was one charter withdrawn. \* Chapter 82, SAM Houston, Texas.



## R/C Old Timer Glider

From Grant Manwaring

Glider flyers will be pleased to learn we will be running Old Timer Glider at the Muswellbrook meeting on 10 - 11 November 2012. The Muswellbrook field is ideally suited for gliders, so I am hoping for good entry numbers for the event. We will have available two winches, bungee and a hand tow line if needed. I intend to bring both the Archangel and Thermalist. There is ample time to finish your latest glider and get it tested before this event.

I also intend to run another test day at Goulburn in February 2013, this will be similar to previous test days and is a good lead up to the SAM1788 champs at Easter. This gives us the opportunity to test models, help each other with trimming and get used to winch launching and show how good the latest creation really is. The venue is not set in stone, if anyone has another site, please let me know. More details closer to the day.

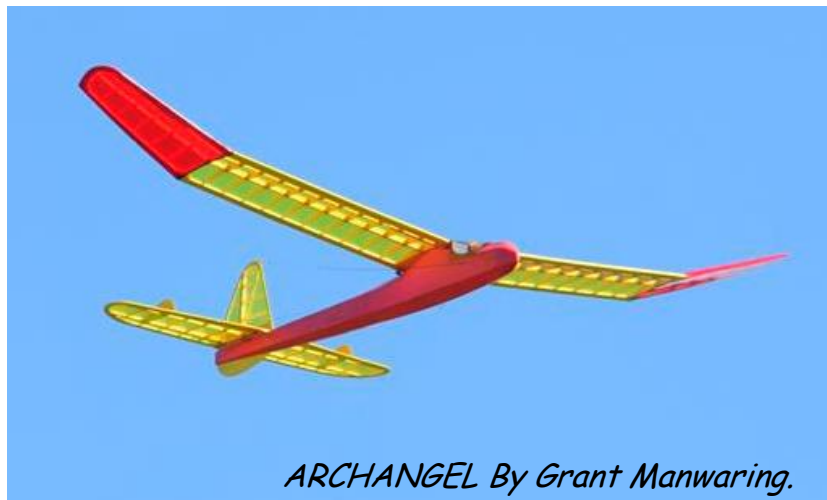
This month I have included the plan of the Archangel. The design, by Len Gabriels was published in *Aeromodeller* and won the Lawton Trophy in 1948. The original spanned 72", weight 19 ounces. The model I have built and flown at Canowindra is scaled to 150% and weighs 2lb 7ozs. I have the original plan and the enlarged one if anyone wants to give it a try.

Basil Healy and I can help with plans, a list has been previously listed in *Duration Times*. Check them out in the back issues of *Duration Times*. Dave Brown can help out with partial kits.

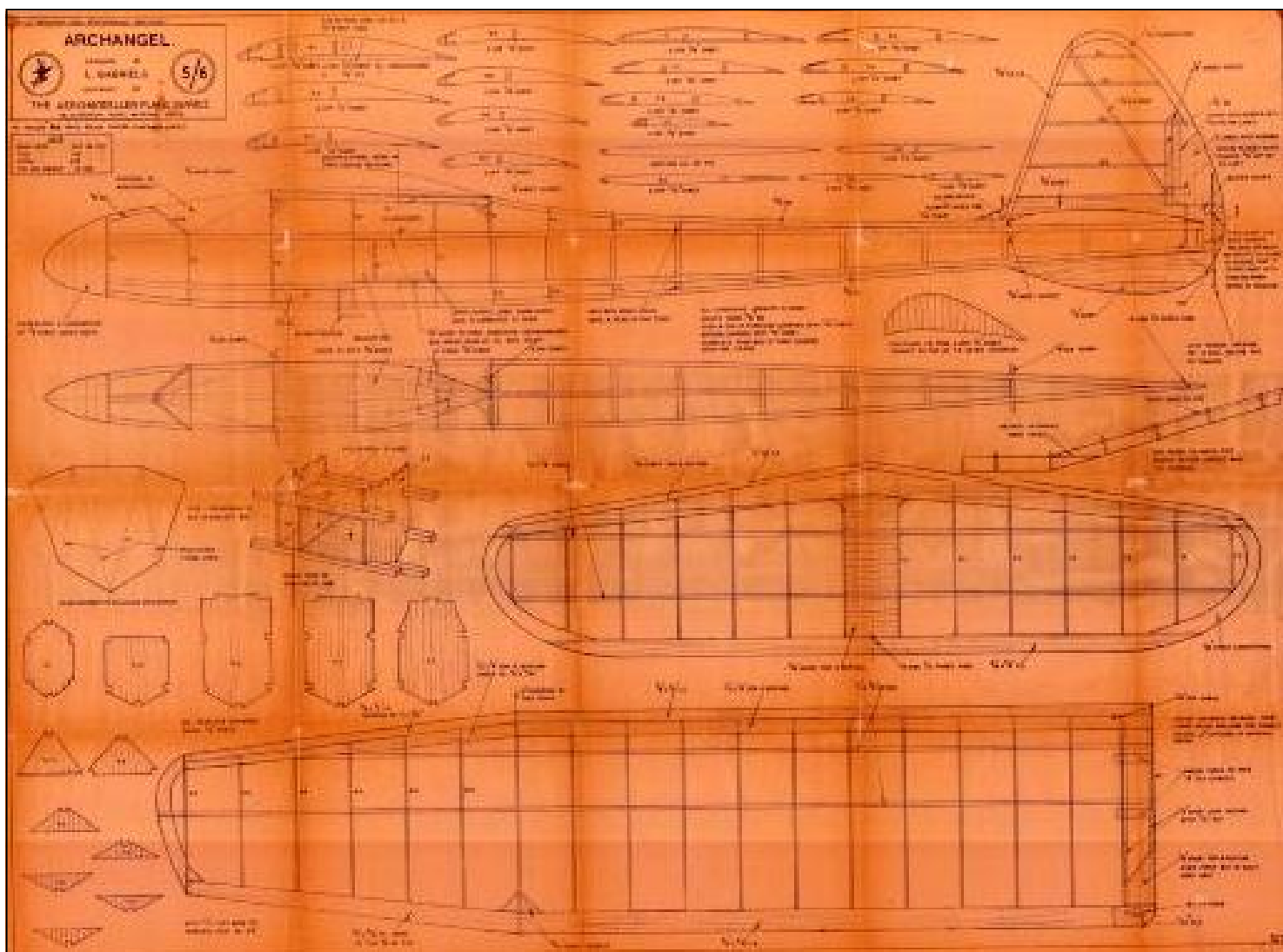
**Contact Details:** Grant Manwaring  
7 Arthaldo Court  
Nicholls ACT 2913  
Email: grantandmary7@gmail.com.au  
Telephone: 02 6241-1320

Basil Healy  
4 Casuarina Close  
Umina NSW 2257  
Email: basnpat@tac.com.au  
Telephone: 02 4341-7292

Dave Brown - Model Draughting Services  
2 Carey Street  
Wallerawang NSW 2645  
Email: daveb@ix.net.au  
Telephone: 02 6355-7298



*ARCHANGEL By Grant Manwaring.*







# Muswellbrook Oldtimer Weekend

## November 10th-11th, 2012.

### Competition Events

**SATURDAY:** \* 9.30am Start - Oldtimer Glider, Gordon Burford & Oldtimer Duration.

**SUNDAY:** \* 9am Start - Tomboy (45 minute timeslot), ½A Texaco then Oldtimer Texaco.

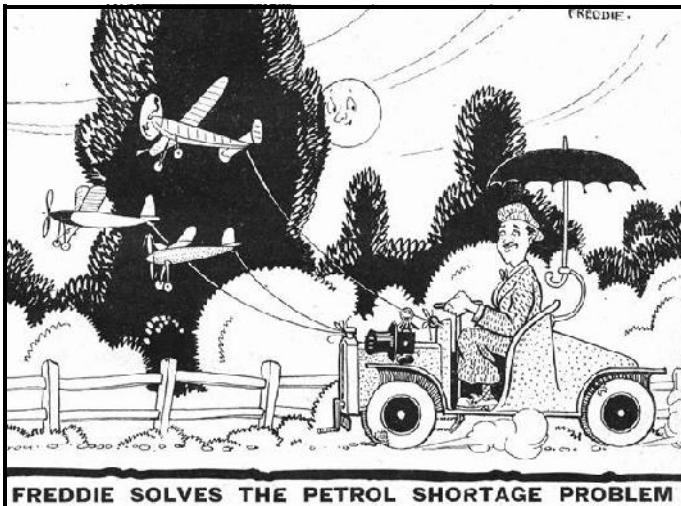
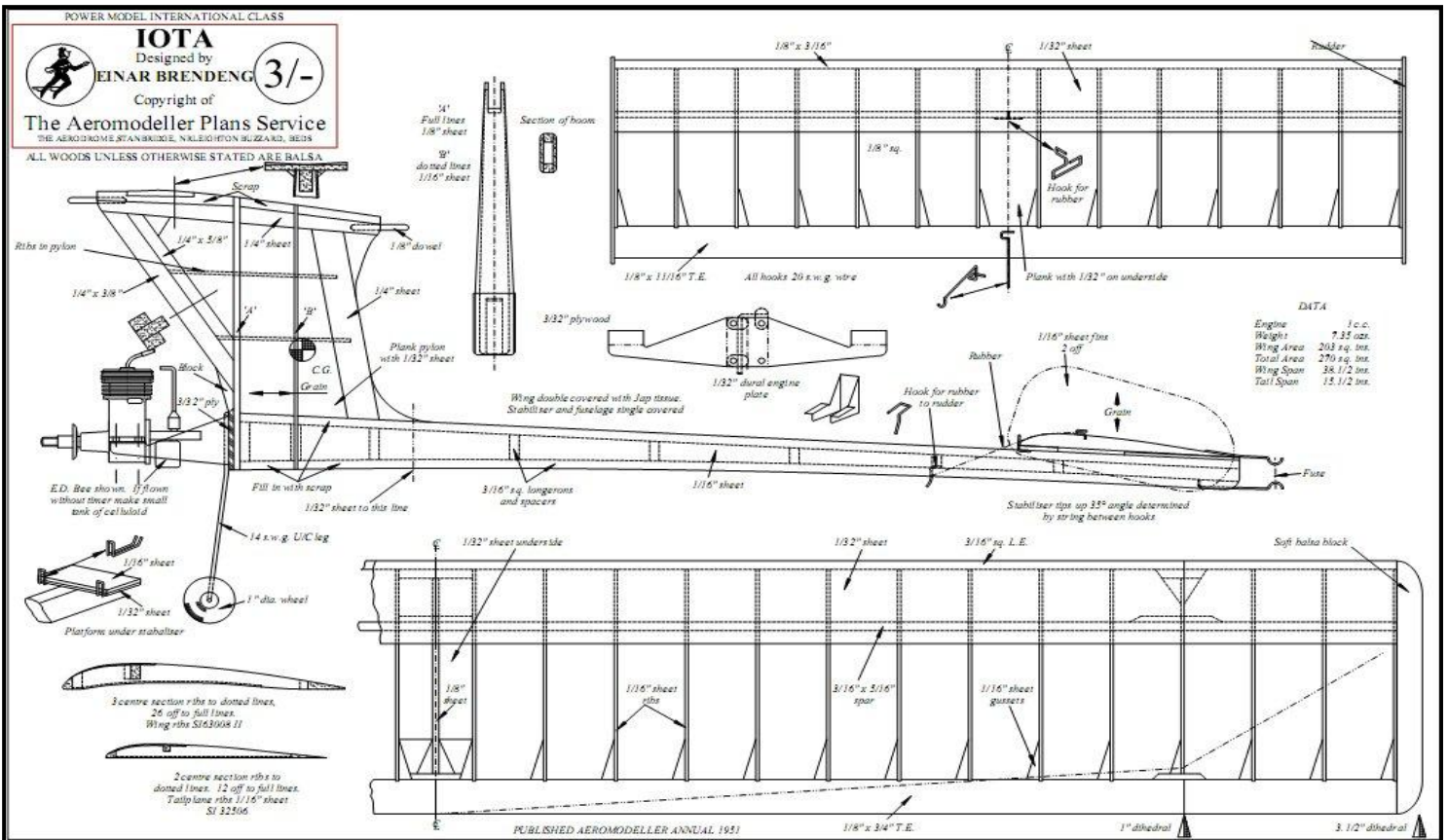
BBQ both days for breakfast and lunch - Drinks, Tea & Coffee available all day.  
Check the web site for entry fees, rules and other information regarding this great weekend.

[www.mdmas.org.au](http://www.mdmas.org.au)

For information contact:

Phil Thiethener 0417 725 981 Email: [president@mdmas.org.au](mailto:president@mdmas.org.au)

Grant Manwaring 02 6241-1320 Email: [grantandmary7@gmail.com](mailto:grantandmary7@gmail.com)

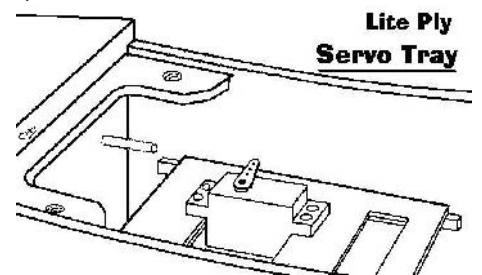


### Light and Strong Servo Mounting

The servo trays that come with the radios require a 6 point mounting, they NEVER fit right in your plane, and they allow the servos to flop around too much under stress. A lot of kits include hardwood servo rails - these are heavy, require reinforcement on the typical fuselage side, and are a pain to get to fit right.

Try making your own mount, of lite ply - it becomes a strengthening part of your plane, is very light yet rigid, and you can set up your servos in the configuration you desire for the particular installation.

Glue in a couple of light scrap balsa rails to the sides of the fuselage, for guidance and to increase gluing area. Cut the lite ply to fit the sides of the fuselage snugly, and cut appropriate holes for the servos. Add an extra small piece of lite ply underneath where the servo mounting screws will go, and you're set.



| <u>Standard Duration</u> |           |               |           |         |
|--------------------------|-----------|---------------|-----------|---------|
| Peter J.                 | SMITH     | Playboy 106%  | K&B 40    | 900 601 |
| Grant                    | MANWARING | Playboy       | OS 40 FSR | 900 562 |
| Darren                   | LIDFORD   | Playboy       | OS 32     | 900 545 |
| Peter                    | SCOTT     | Playboy       | K&B 40    | 900 485 |
| Grahame                  | MITCHELL  | Playboy       | OS 40H    | 900 480 |
| Peter                    | Van       | Bomber 85%    | K&B 40    | 900 247 |
| Jim                      | RAE       | Lion Cub 125% | OS 40 LA  | 898     |
| Geoff                    | POTTER    | Playboy       | OS 40 H   | 600     |
| Ian                      | AVERY     | Playboy       | OS 40H    | 166     |

| <u>Gordon Burford Event</u> |                   |              |              |         |
|-----------------------------|-------------------|--------------|--------------|---------|
| Peter R.                    | SMITH             | Ollie        | Taipan plain | 900 554 |
| Peter                       | SCOTT             | Zoot Suit    | Taipan plain | 900 405 |
| Basil                       | HEALY             | Dixielander  | Taipan plain | 900 348 |
| Tim                         | WRIGHT *          | Spacer       | Taipan plain | 900 331 |
| Ian                         | CONNELL           | Spacer       | Taipan plain | 900 321 |
| Jim                         | RAE               | Amazoom      | Taipan plain | 852     |
| Grant                       | MANWARING         | Lil Diamond  | Taipan plain | 833     |
| Alan                        | BRADY             | Stardust Spl | Taipan BB    | 801     |
| Peter                       | Van de Waterbeemd | Dixielander  | Taipan plain | 780     |
| Grahame                     | MITCHELL          | Dream Weaver | Taipan plain | 671     |
| Peter J.                    | SMITH             | Spoofem      | Taipan plain | 483     |
| Bob                         | MARSHALL          | Spacer       | Taipan plain | 215     |

| <u>Duration</u> |                   |               |                |          |
|-----------------|-------------------|---------------|----------------|----------|
| Dave            | BROWN             | Bomber 85%    | Saito 56 4/    | 1260 726 |
| Darren          | LIDFORD           | Playboy       | OS 56 4/       | 1260 693 |
| Peter           | SCOTT             | Playboy 112%  | McCoy 60       | 1260 691 |
| Geoff           | POTTER            | Playboy 112%  | TTiger 46 2/   | 1260 680 |
| Grahame         | MITCHELL          | Playboy       | Super Tiger 34 | 1260 664 |
| Jim             | RAE               | Lion Cub 130% | Saito 56 4/    | 1260 606 |
| Sarah           | WRIGHT *          | Blitz Buggy   | Saito 62       | 1260 592 |
| Grant           | MANWARING         | Bomber 85%    | Saito 62 4/    | 1260 590 |
| Tim             | WRIGHT *          | Playboy       | S/Tiger 40 2/  | 1260 530 |
| Basil           | HEALY             | Megow Chief   | YS 53 4/       | 1186     |
| John            | BRADBURN          | Playboy       | Saito 56 4/    | 1182     |
| Peter           | Van de Waterbeemd | Bomber 85%    | Saito 56 4/    | 1163     |
| Peter J.        | SMITH             | Playboy 106%  | Magnum 36      | 1149     |
| Ian             | AVERY             | E S Gas Champ | O.S.32 2/      | 696      |
| Brett           | PREISIS           | Playboy       | Magnum 52 4/   | 670      |
| Jonathon        | WHALAN            | Playboy       | OS 52 4/       | 568      |

| <u>1/2A Texaco</u> |           |                  |      |     |
|--------------------|-----------|------------------|------|-----|
| Dave               | BROWN     | Bomber           | 1080 | 792 |
| Jim                | RAE       | Pine Needle      | 1080 | 757 |
| Peter R.           | SMITH     | Valkyrie         | 1080 | 695 |
| Peter              | SCOTT     | Lil Diamond      | 1080 | 607 |
| Darren             | LIDFORD   | Playboy          | 1080 | 570 |
| Basil              | HEALY     | Atomiser         | 1080 | 570 |
| John               | BRADBURN  | Lil Diamond      | 1080 | 513 |
| Grant              | MANWARING | Lil Diamond      | 1080 | 463 |
| Ian                | AVERY     | MG 2             | 1080 |     |
| Grahame            | MITCHELL  | Stardust Spl     | 1038 |     |
| Tim                | WRIGHT *  | Stardust Special | 910  |     |

| <u>Texaco</u> |                   |              |               |           |
|---------------|-------------------|--------------|---------------|-----------|
| Peter         | SCOTT             | Recd Breaker | Anderson      | 1800 1380 |
| Basil         | HEALY             | Lanzo Stick  | Enya 60 4/    | 1800 1284 |
| Steve         | WHITE             | Bomber       | OS 40 4/      | 1800 781  |
| Ian           | CONNELL           | Bomber       | OS 61 4/      | 1800 762  |
| Grant         | MANWARING         | Bomber       | OS 60 4/      | 1800 733  |
| Tim           | WRIGHT *          | Bomber 87%   | OS 40 4/      | 1800 711  |
| Jim           | RAE               | Dallaire 75% | ASP 30 4/     | 1800 626  |
| Dave          | BROWN             | Flamingo     | O&R 60        | 1800 562  |
| Peter R.      | SMITH             | Valkyrie     | OS 60 4/      | 1797      |
| Grahame       | MITCHELL          | Candid       | Os 40 4/      | 1788      |
| Sarah         | WRIGHT *          | Lanzo Stick  | Irvine diesel | 1751      |
| Peter J.      | SMITH             | Bomber       | Cunningham    | 1733      |
| John          | BRADBURN          | Bomber 85%   | OS 40 4/      | 1715      |
| Peter         | Van de Waterbeemd | Bomber       | ASP 61 4/     | 1695      |
| Peter         | DURKIN            | Lanzo Stick  | OS 61 4/      | 1667      |
| Ian           | AVERY             | Bomber 80%   | OS 40 4/      | 1142      |

| <u>R/C Tomboy</u> |       |     |       |          |     |
|-------------------|-------|-----|-------|----------|-----|
| Basil             | HEALY | 604 | Sarah | WRIGHT * | 428 |
| Peter J.          | SMITH | 526 | Geoff | POTTER   | 416 |
| Peter             | SCOTT | 518 | Tim   | WRIGHT * | 416 |
| Jim               | RAE   | 468 | Ian   | CONNELL  | 365 |
| *Juniors          |       |     |       |          |     |

## GOLDEN WEST OLDTIMER PARKES - 21-22 July, 2012.

From Peter (Condo) Smith.

Well a very big thank you to all the fliers who came to the Golden West Oldtimer Competition at Parkes on the weekend of July 21/22. It was a very well attended event, so I thank you one and all.

The weather this year was good, no rain, not too cold (Potter wore shorts most of the weekend) and little to no wind or cloud.

The Dinner on Saturday night at the Parkes Leagues Club had 22 plus people attending and enjoying a really nice meal and evening.

The Parkes Club presented a beautifully prepared field. They also provided dinner on both days and were very well supported by the assembled members. A nice thought was that tea or coffee and cake were included in the cost of the lunch (or more correctly dinner time meal). A big thanks to John Watson and the club members who worked to keep us fed and watered, thank you, much appreciated, and to those that mowed the field.

All events were well attended and fly off's were required in all events to pick the winners. I am sure the results will be elsewhere in Duration Times. The spoils were well shared this year but Brownie seemed to be collecting more than most.

Another new Team emerged in 1/2A Texaco - Potter/Tim Wright. I think from memory they took a place, with Potter's knowledge and Tim's young eyes we are all in trouble now! Sara again did well in Texaco. She had great joy telling me she got another max, just when I didn't get one. Old age sucks! Hahah!

John Bradburn got his first full house in 1/2A and made his first 1/2A flyoff, which made the trip to Parkes worthwhile. Guess the winners circle is next, so keep an eye out .



The Program for next year, 2013, will be '38 Antique, Burford, Duration on Saturday, Tomboy, 1/2A Texaco and Texaco on Sunday.

Welcome to Peter Durkin who was attending his first Old Timer comp and had two maxes in Texaco, when he hit a speed bump.

Again thanks to all those who made the effort to attend, much appreciated and from all reports you all enjoyed the weekend.





Left: Sarah Wright and (above) Tim Wright with Geoff Potter. Both Sarah and Tim are keen competitors and Sarah loves to beat Tim.



Left: Texaco Flight Line at Parkes. Note the vast, empty spaces for flying! Great place to fly.

Below Left: Condo and Grahame Mitchell preparing Condo's Burford model "Spoofer". Condo had some problems and did not complete the event.

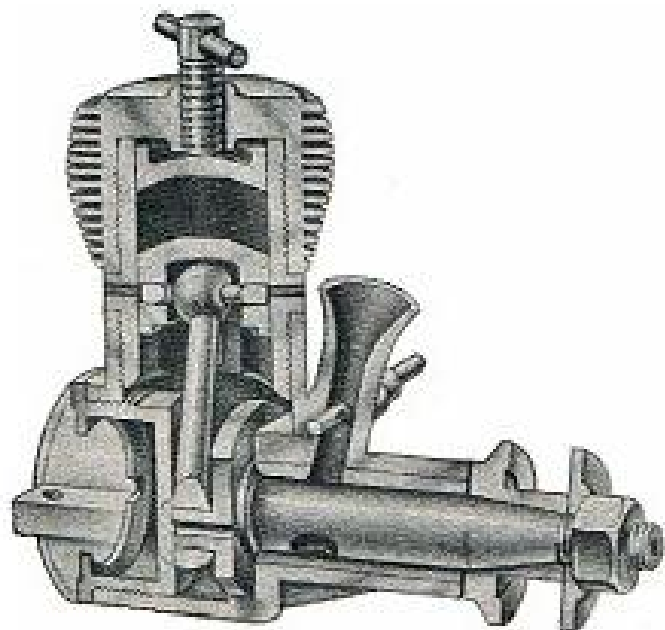
Below Middle: Ian Connell assisting Basil Healy with his Dixielander in the Burford Event.

Below Right: "Local" Darren Lidford is presented his trophy for 2nd Place in Duration by Peter Scott. Well done Darren!

Bottom: The Parkes Club is developing their field and now have two shade roofs, along with a new toilet block and the old progress hall. A great flying site. Thanks Parkes Club.







## Elfin 1.49 Engine Analysis from Aeromodeller June 1950 by L H Sparey

An opportunity has just arisen to test two small diesels of identical capacity but of different manufacture, and the comparative results are most interesting. Both these engines are of the modern, "hot-stuff" type, using uniflow porting, short stroke, and rotary inlet valve via the crankshaft. They are, in fact, so extremely similar in design that a change over of the cylinder heads would make difficult to distinguish which was which at a casual glance.

Such a similarity in appearance is almost bound to occur when designers are aiming at the same thing, because logical thinking along similar lines is bound to lead to similar conclusions. Anyone who has tried to take out a

patent will have been amazed at the number of similar ideas which have been invented, in almost identical form, by folk living poles apart.

When two things, such as small engines, bear a marked resemblance to one another, it is extremely unsafe to say that either of them has been "copied" from the other. Especially is this so when design is centred around a highly-specialised product such as small engines. What is more interesting than a mere external resemblance is the fact that the performance of these two units showed a very close comparison. The peak output was, in fact, almost identical—only .005 b.h.p. variation—although it is true that the r.p.m. at which this occurred was higher in the one engine than the other.

In a future issue the test report of one of these engines will appear; meanwhile we give here the report on the other—the "Elfin" 1.49 c.c. diesel. Readers will remember that in the issue of July last there appeared a report on the "Elfin" 1.8 c.c. diesel, and that the figure of .1138 b.h.p. was recorded at 12,100 r.p.m. The smaller engine shows a remarkable consistency of performance, and the output is just about what one might expect from the smaller capacity; the running characteristics of the two engines are almost identical.

The handling qualities of the 1.49 c.c. engine are excellent, and the running was smooth and consistent at all the useful speed ranges. At the very-low end of the r.p.m. scale the running was not so good and power output fell alarmingly.

This is undoubtedly due to the porting arrangements, which seem to be designed for the quick cut-off necessary for high-speed efficiency. The engine was also notable for the extremely high speed at which the maximum power output was developed—almost 14,000 r.p.m. This is, I believe, the highest maximum speed/power figure yet recorded for miniature diesel engines. In spite of the high speed at which this engine was tested, no mechanical trouble was experienced, and the unscrewing of parts which was encountered while testing the larger Elfin engine seems to have been cured.

### TEST

Engine: "Elfin" 1.49 c.c. Diesel.

Fuel: Mercury No. 3 and Mercury Special Ether: 1—1.

Starting: The engine was experimentally hand-started from time to time, with engine both hot and cold, and response was immediate in all cases. For convenience, pulley and cord starting was employed for the main tests. The starting position of the needle valve, as marked on the test card, was fairly accurate, and should enable the novice to obtain a quick start.

Running: Extremely consistent at all speeds above about 5,000 r.p.m., but was inclined to be "lumpy" at speeds below this figure. Considering that this unit is definitely in the "hot" class, it was remarkably free from temperament.

B.H.P.: A maximum output of exactly .10 b.h.p. was recorded at the high figure of 13,700 r.p.m. The peak of the curve is not exceptionally flat, as between 12,000 and 14,000 r.p.m. the rather large drop of .005 b.h.p. is encountered. At 10,000 r.p.m. the output is reduced to .085 b.h.p., and at the lowest tested speed of 6,000 r.p.m. the output was only .053 b.h.p. At the other end of the scale it will be seen that power drops steeply once the 14,000 r.p.m. mark has been reached. It seems desirable that this engine be run between



13 and 14,000 r.p.m. for maximum efficiency.

Checked weight : 2.7 ozs. Less tank.

Power / Weight Ratio : 549 b.h.p./lb.

Remarks: The engine was run-in for one hour at 5,000 r.p.m., and no mechanical trouble was experienced throughout the tests. An interesting feature of this engine lies in the use of cast iron for the piston and main bearings — a material which I strongly advocated for these purposes in this journal as long ago as 1935. When properly fitted and run-in such bearings can be practically ever lasting.

#### GENERAL

#### CONSTRUCTIONAL DATA

Name: Elfin.

Manufacturers: Aerol Engineering, Henry Street, Edge Lane,  
Liverpool 13.

Retail Price : £2. 10s. 6d

Delivery: Immediate

Spares : Immediate.

Type : Compression Ignition.

Specified Fuel : Castor oil 1/3, paraffin 1/3, ether 1/3.

Capacity: 1.49 c.c., .091 cu. in.

Weight (bare) : 2 1/2 ozs.

Compression Ratio : 14: 1 to 10 : 1.

Mounting: Beam, upright or inverted.

Recommended Airscrews : Free Flight, 8 in. X 4 in. Control Line, 7 in. X 6 in.

Recommended Flywheel: 3 ozs. .

Bore : .503 in. Stroke : .460 in.

Cylinder: One piece, attached by 40 T.P.I. thread.

Cylinder Head: 40 T.P.I. thread.

Crankcase : Pressure die-cast.

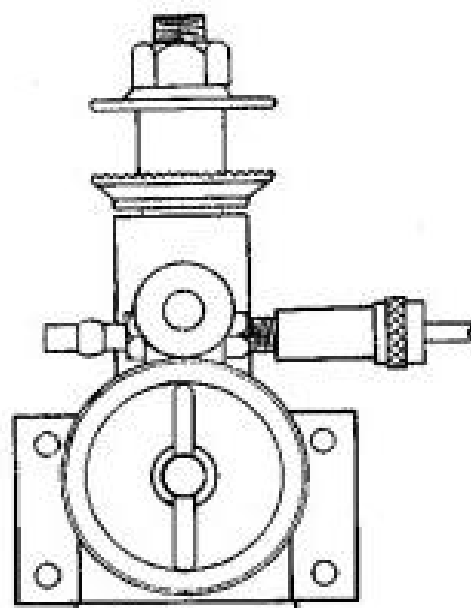
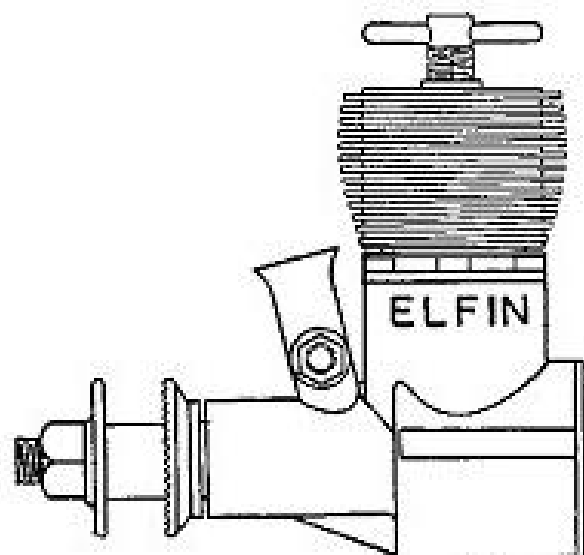
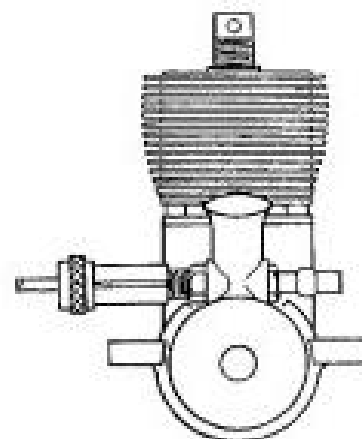
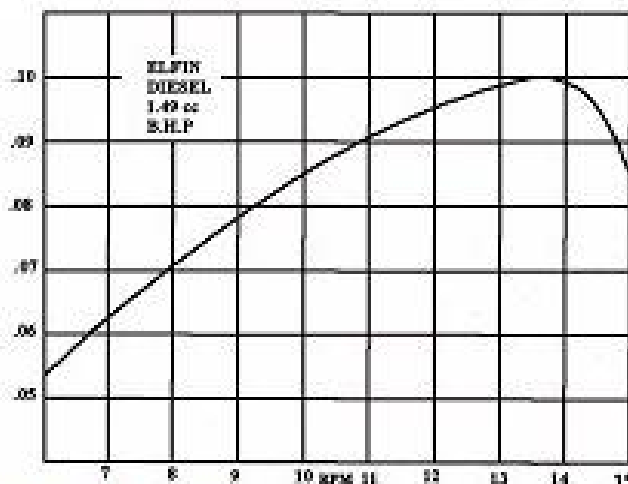
Piston: Angular deflector, no rings.

Connecting Rod: Duralumin.

Crankpin Bearing: Plain. Crankshaft: Nickel chrome.

Main Bearing: Cast iron. Little End Bearing: Plain Crankshaft Valve: Rotary valve.

Cylinder Liner : Nickel chrome steel.



## TISSUE OVER MYLAR

*By the New England Wakefield Group*

**Tissue over Mylar** ---- Tissue over Mylar is a method of applying a composite covering to the open framework of models. Its attraction is that the shortcomings of using either mylar or tissue alone are overcome. First you cover the airframe with mylar, tighten it, and finally use thin dope to attach some tissue on top of the Mylar.

**Advantages of Tissue with Mylar** ---- The big difference using Mylar is that the covering is already airtight before you have even applied any dope, so you really just need enough dope to stick the Tissue or Silk to the Mylar and you can leave it at that. It's quite a bit lighter than brushing several coats of dope, the end result is more stable, it's less likely to warp over time, although warps can be put in easily using a heat gun or hair dryer and twisting the surface. It is also less affected by damp, it won't go slack on wet days. It is a bit more puncture resistant, not a lot, don't expect a bullet proof finish!

Like many composite techniques, combining tissue and Mylar makes use of the benefits of both materials, while minimizing the disadvantages. Mylar is waterproof and light, but does not significantly add rigidity to the structure unless you use a thicker and therefore heavier grade. It does exhibit good puncture resistance. Somewhat the reverse is true for tissue as regards mechanical properties. When doped, it adds stiffness to the airframe, but to seal it for air and water, you will add a lot of weight with multiple coats of dope. It is a useful technique for outdoor models in that even with just the one coat of dope, the combination doesn't go slack in the damp. The underlying Mylar also allows easy color changes between the structural elements of the model without doubling upon the tissue. Another advantage is that the mylar seals the inside of the tissue, preventing staining from rubber lube as the model ages. It also provides increased puncture resistance reducing the amount of needed patching as you fly. Both of these factors will help preserve the original appearance of your model.

**What does it look like?** ---- When adding tissue over clear Mylar, it should look like a well done covering job with tissue alone. With tissue on silver the paper looks solid. This is a real advantage for folks who want an opaque finish for a scale model. One difference in appearance is that you can easily make color changes between the structural elements of the model without doubling up on the tissue. Note that on my BA Parasol the red does not lay on top of the white tissue. There is only a small overlap to help keep the edges down. Without the mylar, this type of color scheme would have required adding weight with red paint, having two layers of tissue under the color trim or laboriously joining the sheets of tissue before covering, and praying successfully that they would shrink at identical rates.

**How Long Does it Take?** ---- Don't listen to the comments about "covering it twice" taking too long. Much of the time taken to cover with Mylar is offset by the time saved not adding more coats of dope. Also, the tissue goes on the mylar faster than on the bare framework. If the end result is better (and it is) then it's worth a little extra time.

**What does it weigh?** ---- Here is a surprise, and a good one at that! Properly done, this technique should weigh less than covering with just tissue and dope. How does this work? Dope is really heavy. Several coats are required to fully seal for air and water resistance with just tissue. When adding tissue on top of a light Mylar film, just a single coat of very thin dope will do. The mylar provides all the air and water proofing while the doped tissue adds color and stiffness. Most modelers are using this technique on models to be flown outdoors. Indoor models are often not doped to keep them as light as possible. Adding Mylar will of course add weight.

**Do I need to add the Tissue?** ---- No, but... The tissue adds stiffness and colour. It also makes the model look "correct"!

**What about warps?** ---- Inevitably when covering a model, there are warps that you will want to remove, as well as some you will want to add. Although the film is more plastic than tissue, there is still a slight tendency for it to induce warps when covering. The solution to remove the warp is obvious. Just re-heat the film in the appropriate place, twist and reset the warp. The opposite works for applying warps for trim. Heat, twist and reset. If you have covered the model in aluminised film, because of reflections, it is sometimes very difficult to spot the warp. This is only a problem when straightening the wing before adding the tissue. A bit of persistence will pay off.

**Cutting the Mylar** ---- Cutting and trimming Mylar is best achieved using a sharp new blade, older dull blades may well tear the Mylar. The thinner the Mylar the worse the issue so be careful, but the key is a sharp and clean blade. Also far less tearing occurs you cut tissue or Mylar on one of those green, self healing graphic artist's cutting mats. A rotary knife is also worth a try if you have one. If you haven't got a cutting mat, go out and buy one. They are relatively cheap and will last for years even if you hack into 1/16 ply on them. You'll find your blades stay sharp for longer too.

**Attaching the Mylar to the Airframe** ---- This is straight forward and will seem pretty familiar to anyone who has used modern covering materials from the R/C side of the local hobby shop. First though, a little prep work is in order. Since the Mylar has no adhesive on it, some sort of adhesive needs to be applied to the airframe. Before painting on the adhe-

### OWEN ENGINES

Australian agents for:

**MPJet, PAW and Schlosser**

See the full range of engines  
and accessories at:

[www.modelengineneeds.org/oea](http://www.modelengineneeds.org/oea)

or

Email: [owendc@tpg.com.au](mailto:owendc@tpg.com.au)

or

Phone David Owen 02 4227-2699



sive, the airframe should be sealed with dope or sanding sealer. One thinned coat, sanded smooth, should suffice. We have found that various adhesives will secure the Mylar. All that is required is an adhesive that will dry then soften again when heat is applied. The adhesives used to attached standard iron film i.e. Balsaloc or Balsarite (fabric formulae) or SIG Stix-It are all suitable, as are many handyman contact cements, such as Evostick or Weldwood Contact Cement. Some glue sticks are also suitable so try your favourite adhesive. It may be OK. Many of these products are far too thick and need to be thinned down before application. The adhesive should be thinned down to the consistency of dope. This will allow the adhesive to be brushed onto the structure without stringing. If the adhesive strings, it is still too thick. Just dilute with more solvent. You may find it easier and better if two thin coats of adhesive are applied rather one thicker coat.

After coating the airframe check that there are no lumps in the adhesive before covering. you might want to lightly sand before attaching the Mylar. Apply the adhesive to all the areas that the Mylar will touch. This means leading edge, trailing edge, ribs, spars, gussets, everything. Once the adhesive is dry, covering can commence. Because the adhesive has been thinned, it will dry within minutes so there is no long wait before covering can commence. If one is using Mylar in a lightly loaded environment i.e. indoor, the aerosol spray-on adhesives can be used. The airframe can be coated with a sprayed on adhesive, the majority of the adhesive will be wasted on open structures but this is a way to apply a thin and light layer of adhesive. Once sprayed on the covering process is as above. If you go down this route cover up well to avoid the messy over spray!

**Covering the model** ---- Cut a piece of film slightly oversized. With the aluminized finish, in order to protect the finish, the aluminium should be on the inside rather than the outside. It is easy to recognise the aluminised surface as it is slightly shinier, if in doubt, rub gently with thinners to test. Lay the structure onto the film, rather than the film onto the structure. Although the heat shrinking will remove the wrinkles, try to get the film on as neatly as possible. Gentle finger pressure will insure that the film attaches to the structure. You may find it helpful to use a spot or two of fresh adhesive to tack the film in place before activating the dried adhesive with the iron. Re-heat the glue to make the Mylar attach to the structure. A small trim type covering iron is best, as it is very light and damaging the framework is less likely. Gently work around the edges of the structures heating the Mylar and softening the adhesive so that the film attaches. Once you are happy that the edges are firmly in place, trim back the surplus and seal the edges.

With some more of the thinned down Evostick, paint around the edges where there will be any overlap and apply the other surface. Cut another piece of Mylar to size for the top surface. Lay this in place and attach as for the lower surface. Trim off the edges, wrap around and seal. Trimming is best achieved using a sharp new blade, older dull blades may well tear the Mylar. The thinner the Mylar the worse the issue so be careful, but the key is a sharp and clean blade. If care is taken the surplus can be removed with sandpaper, this method needs practice to get a good result. Now, slowly and carefully, working both top and bottom surfaces, use the iron to melt the adhesive on the rest of the structure and attach the film.

Once all the structure has been attached to the film, shrinking can take place. Slowly and carefully shrink the film into position, ironing the wrinkles out to the edge. The adhesive will melt and the film will move to get rid of any wrinkles around the edges. One of the problems you will observe is the air expanding inside the structure and causing the film to "balloon". You can either ventilate by making pin holes in the covering or put up with the problem because as the film slowly shrinks into place, the "ballooning" will reduce. Beware though that these pin holes give an opportunity at a later date for tears to take place. Perhaps the best solution is to "vent" each rib bay with small holes in the ribs. A last small hole in the center sheeting will allow the wing to breathe.

#### **A few points:**

1. Any joints you are covering, overlap a reasonable amount, at least 1/8".
2. Undercamber is not a problem. Just make sure all the structure has adhesive on it, and carefully attach the film to the ribs.
3. The heavier grades of film shrink less than the lighter grades.
4. Make sure that all edges and joints are fully sealed. If opened to the air flow, the air can get in and cause the film to lift away from the structure.
5. Clean the finished covering and remove any adhesive that is on the surface with a small amount of solvent. Not only will the covering look better it will also prevent dirt attaching itself to the model when it is out in the fields. Before heat shrinking the film, a quick test will find if your iron turned up to maximum heat will melt the Mylar. However, be aware that if attaching aluminized film to carbon, heat can build up in the structure and spoil the aluminised finish. Also keep the shoe of the iron clean free of adhesive and dust, a quick wipe with solvent will do the job. Adhesive on the shoe will attract dirt which may scratch or even tear the film.

**Recovery** ---- Sometimes, even after much effort, wrinkles still remain. If this is the case try leaving the offending item for 24 hours then try again. It seems that if it is left Mylar will recover its shrinking powers and a wrinkled covering job can be ironed out.

**Securing the Tissue** ---- When applying the tissue or silk, it should be damp so as to conform more easily to the undulations and curves of the mylar surface. Once it is positioned as desired, flow on a thin coat of Nitrate dope cut to 50:50 or more.

Once this coat dries, it is likely that the dope will have "blushed" a bit. The offending whiteness is a result of the moisture in the covering, and is easily removed by wiping on another light coat of dope, or even just making a pass with thinners. For rubber models and gliders a second coat after a bit of sanding is all you need. Glow and diesel models might need another coat or two to protect the tissue from the fuel and exhaust. Since you are using a highly thinned dope, the weight gain will be minimal.

**Working With Silk** ---- Silk on Mylar also works well, and is very popular with some folks looking for a lighter covering for their models when silk is required. As mentioned above, it should also be applied while damp.

**Sources for Mylar** ---- Suitable Mylar is available from many sources. See the addresses below. **Mylar** is the trade name given by DuPont of the U.S.A. to a polyester film. Mylar is also sold under other trade names such as Melinex. The film is unaffected by moisture and most other common chemicals. It is also temperature stable unless heated to around 200°C+ when it will shrink. The film can be attached as a covering and then shrunk to give a smooth and tight finish.

The film is available in both clear and aluminised finishes. The aluminisation of the film makes it gas tight due to the size of the molecules of aluminium, even helium cannot get through. Remember that the aluminisation process of the Mylar reduces to some extent its ability to shrink under heat. The best Mylar to use on all sizes of models is the thinnest, 5 micron. It is really only there to avoid the use of excessive amounts of dope to seal the tissue, and to give a degree of stability to the covering. Using thicker Mylar adds some rigidity, but I think this is better achieved by using a heavier grade of tissue, or using Silk. Thicker Mylar is harder to work around curves, and appears to delaminate easier being less flexible. Here are the names, email addresses and web sites for the modelers who shared the information that became this guide. Note that Michael J Woodhouse sells FF supplies, including Mylar.

**Michael J Woodhouse** - Mike@freeflightsupplies.co.uk [www.freeflightsupplies.co.uk](http://www.freeflightsupplies.co.uk)

**Martin Gregorie** - Gregorie@logica.com [www.gregorie.demon.co.uk/freeflight/](http://www.gregorie.demon.co.uk/freeflight/)

**Tapio Linkosalo** - linkosal@cc.helsinki.fi

**Maris Dislers** - maris.dislers@sawater.sa.gov.au

**Thayer Syme** - thayer5@mindspring.com <http://www.gryffinaero.com/models/ffpages/tips/mylartissue.html/>

### TISSUE ON MYLAR COVERING

More and more people have been converting to the "tissue over mylar" finish over the last 12 months or so, and all but one is delighted. The odd one out had a nightmare and just could not get to grips with it at all; I cannot account for this, maybe it is just the same syndrome which seems to afflict some modellers when they try to solder - once you have mastered it you wonder why you ever had any trouble. When trying any new technique for the first time I tend to proceed at a snails pace, taking what might appear at first to be excessive care; slows you down, but I find it is better in the long run.

My preferred technique is to cover ONLY the open frame areas of the structure with Mylar. For attaching the Mylar to the frame, I used to use Evostick, thinned with Evostick solvent. However, this is largely toluene, which posed an obvious health risk, and it was subsequently withdrawn from the market. I now use either Balsaloc or the German equivalent supplied by RCS-Technik, the indoor specialists, either of which works well and can be thinned to a suitable consistency with water. This is applied in a thin (1/8 inch wide) band around the open area and onto the ribs with a small paintbrush. No doubt other heat sensitive adhesives suitably thinned would work equally well. Cutting the Mylar to size is the next job, and it is a **\*\*xx?!\*\***. Five micron mylar is VERY thin (not as thin of course as the 2.5 micron we use on some indoor R/C models, but thin enough), picks up static, sticks to everything and is generally a brute to handle. The best way I have found is to cut out a card template which is just the required size - i.e. 1/8 - 3/16 inch bigger than the open area all round. I then lay out as many layers of Mylar as I require on my cutting mat, press down the card template on top and cut round it with a brand new scalpel blade.

The adhesive line being completely dry, the mylar is now laid in position over open area, and tacked down to the adhesive using an iron set to the normal sort of temperature which is used for attaching Solarfilm. (Actually, you will find that just finger pressure of the Mylar on the apparently completely dry adhesive will cause it to "stick" a little before the heat is applied). Frankly, this is a bit like Mrs. Beeton's "first catch your rabbit"; care and patience is the order of the day, tacking, gently stretching and tacking again. The aim is not to get it drum tight, but to get it EVENLY stretched.

When working on the top cambered surface of a wing, especially one without leading edge sheeting, it is almost impossible to avoid SOME wrinkles in the corner of the panels. Do not worry about these too much, the only penalty on the final finish will be an aesthetic one, as the tissue will stick to the TOP of the wrinkles, not follow their contours.

Now iron the Mylar down onto each rib. The iron can now be turned way up to shrink the Mylar - it will tolerate a MUCH higher temperature than normal modelling covering films, and for this reason I use an old domestic iron rather than a specialist film covering one. If any really bad wrinkles are present, the adhesive can be softened by the application of more heat and the Mylar repositioned, but try not to mess about with it too much.

I don't personally use a heat gun, but this might be a very good way to do the final shrinking, although, once again, a rather higher temperature than normally used might be required.

Attaching the Mylar is definitely the hardest part of the whole procedure to get right, so don't rush at it. Don't expect the Mylar to impart any rigidity to the wing at this stage; it won't, as even when tight it is "soft"; rigidity is the job of the tissue, the Mylar is to give the tissue puncture resistance.

Regarding use on the bottom of under-cambered wing sections; I have no experience with these just yet, but since the Europeans

**FOR SALE** Ignition coil assemblies with transistor - ready to go. \$70 **FOR SALE**  
Peter Scott (02) 9624 1262. [qualmag@optusnet.com.au](mailto:qualmag@optusnet.com.au)



use it on modern A/2s and Wakes which feature thin highly cambered sections, they must find it satisfactory.

Now for the tissue covering. For thirty years I have always tissue covered wet, and use the doped airframe/brush through with thinners method. Naturally, I also use this technique (which does, of course, require the use of a "wet strength" tissue) over the Mylar and it has proved fine so far.

**WORD OF WARNING:** I IMAGINE this MIGHT cause problems with the bottom of an under-cambered wing, perhaps it may be necessary to cover these dry. As I say, I have not tried it for myself yet on a cambered under surface. Using my technique, the airframe is prepared by doping two coats minimum (50:50 dope/thinners) and lightly rubbing down with very fine sandpaper before the Evostick and Mylar is applied. The tissue is cut oversize, one side is wet by drawing it over a shallow water bath, and the tissue "flopped" onto the wing wet side down smoothed and stretched into place and then thinners are brushed through it around the edges. As an alternative, it is equally satisfactory to lay the tissue in place dry and spray it with a fine water spray. (The spray "guns" in which many of the current anti-bacterial kitchen surface cleaners come are ideal!). Edges are trimmed and doped down, and when the tissue is dry it is doped normally.

**NOTE:** even when carried out in a dry atmosphere, Some "blushing" - white marks on the tissue - will occur at this stage. These vanish with subsequent doping.

Blushing is minimised by working in a warm, dry, atmosphere and by using the best quality thinners. Auto accessory shops sell three grades of cellulose thinners normally distinguished by the colour of the tins. The top, or "premium" grade (blue tin) is the one to buy - and buying it this way in a five litre tin is infinitely cheaper than buying in little "model shop sized" tins.

A club mate of mine has applied the tissue by doping the Mylar first rather than flopping the tissue onto it. He reckons it works fine, and the results produced certainly appear to be perfect, but I have not tried it myself. Maybe this might be the preferred technique for dealing with undercamber?

It is comforting to note how the tissue and Mylar bond beautifully during the doping process - using 5 micron Mylar under the lightest superfine Esaki tissue the result is VERY light, yet imparts great rigidity to the wing. I did wonder at first how well the tissue bonded to the mylar - it just seemed all "wrong" doping tissue down onto what is, after all, an impervious plastic surface. I therefore arranged to have some samples to examine, by the simple expedient of dropping my tool box onto an open model wing! Examination of the two damaged panels which had to be cut out and replaced showed the bond to be total - I could not separate the two layers no matter how hard I tried.

**Benefits?** ---- The "stressed skin" rigidity of tissue with a high degree of puncture resistance and (particularly if using a "hard" finish tissue such as Esaki), very light weight. A sharp object WILL puncture it, but even the 5 micron/light Esaki combination is pretty good, whilst 10 micron with light or heavy Modelspan (or equivalent) would be very tough indeed, albeit heavier due mainly to the much greater dope uptake of the tissue.

Whilst the puncture resistance is not as high as film, it is very much greater than tissue - even heavyweight tissue - alone, and the torsional rigidity is immensely superior to ANY film - they are just not in the same league in this respect, although admittedly quicker and easier to apply.

**Problems?** ---- Undercamber may need special care as mentioned. Frameworks with very thin peripheral members which do not leave a "free" wood area beyond the mylar for doping down the tissue MAY be problematic, but the way in which the tissue bonds to the mylar with dope leads me to believe they will be OK. As always, care is required to avoid warping on light frameworks as the tissue shrinks.

Any problems can be minimised by careful design of the structure, use of well thinned dope (I use 30% dope/70% thinners for doping Esaki tissue) and doping top and bottom panels alternately. I have never had to resort to pinning structures down after doping, but always like to let the finished airframe "settle" for a few days and then do a rigorous alignment check and remove any warps which have crept in by steaming or heat gun.

**Further Comments** ---- Covering mylar with tissue. From Karl Gies. skyland@midrivers.com

A cautionary note, do not try to cover too much mylar with tissue at a time on larger models. On a recent 8 Ounce Wake with a 44" ws I cut out the tissue and laid it over the wing. I covered 2/3rds of it with a paper towel or something and just sprayed about 14 inches of tissue, brushed the thinned down dope through and got the wrinkles tugged out and then moved the cloth/towel down and did another 14 or so inches. Cheers, Karl.



## MY DREMEL SAW - WOE AND REDEMPTION

(From AVANZ News No.126)

Now quite a number of you who are old hands at this aeromodelling gave will have a Dremel Fretsaw similar to the one pictured. Mine is about 30 years old and has a type number of 57-2

The WOE of this story is when I broke my last saw blade and so sought a replacement. It would seem that Dremel have gone out of the saw business as their website and all the suppliers I could locate locally and on the internet only had bits for the Dremel rotary tools - no saws and the like - B—ER!

However REDEMPTION was at hand as on a chance visit to a club mate's workshop I spotted a saw blade that might suit the saw. Enquiries revealed that he had made the blade up from a Junior Hack-saw blade and described the method he used. A serendipitous moment!

Junior Hacksaw blades are widely available and come in various styles so a good available source. I had a packet in my own stock so out they came.

The Dremel Fretsaw blades are pin ended and need a blade with 3 inches (75mm) between the pins. The Junior Hacksaw blades are 150mm between the pin ends so need to be modified to suit the Dremel Fretsaw. Here is the method.

**Step 1** Heat the end of the Hacksaw blade to dull red heat to de-temper the blade, which also allows you to remove the pin by pulling and twisting with pliers or tapping it through. Put the pin safely aside for use later.

**Step 2** Mark the Hacksaw blade between 70mm and 80mm from the remaining pin in the blade and heat this area to dull red and let cool. This de-temper that area allowing you to drill a new hole for the pin.

**Step 3** Centre mark a point 75mm from the pinned end and drill a hole the size of the pin removed in Step 1.

**Step 4** Cut or break the Hacksaw blade at the hole end leaving around 5mm clearance from the hole drilled in Step 3. Insert the pin in the drilled hole centered on the blade. It can be a little loose and locked with a drop of thick cyano as the blade will be under tension when fitted to the saw.

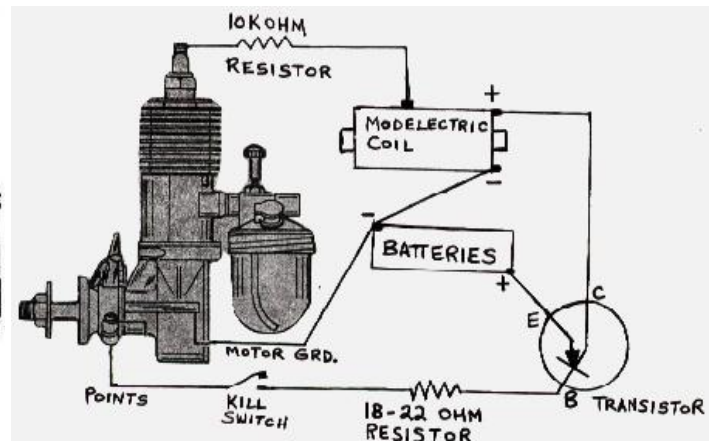
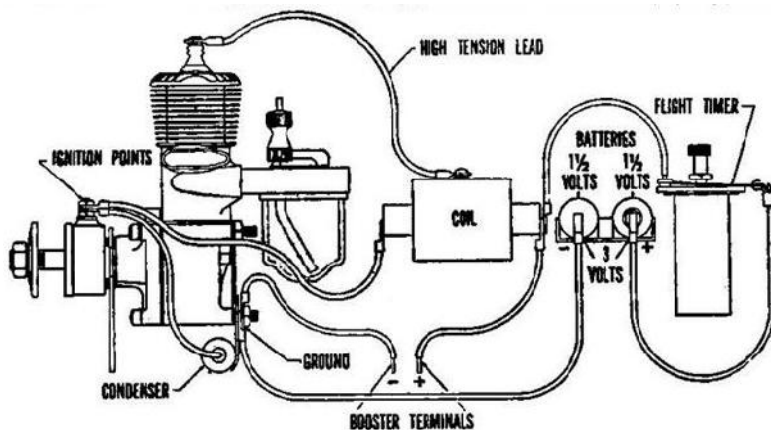
**Step 5** As the Hacksaw blade is wider than the original Dremel blade you will probably need to file a fore and aft slot in the saw table for clearance - quite easy on my sheet metal table but maybe a little more work if yours has a cast metal table.



The pictures at right show the modified saw blade and it fitted to the saw, (Bottom) and the modified saw alongside the standard Junior Hacksaw blade (Top).

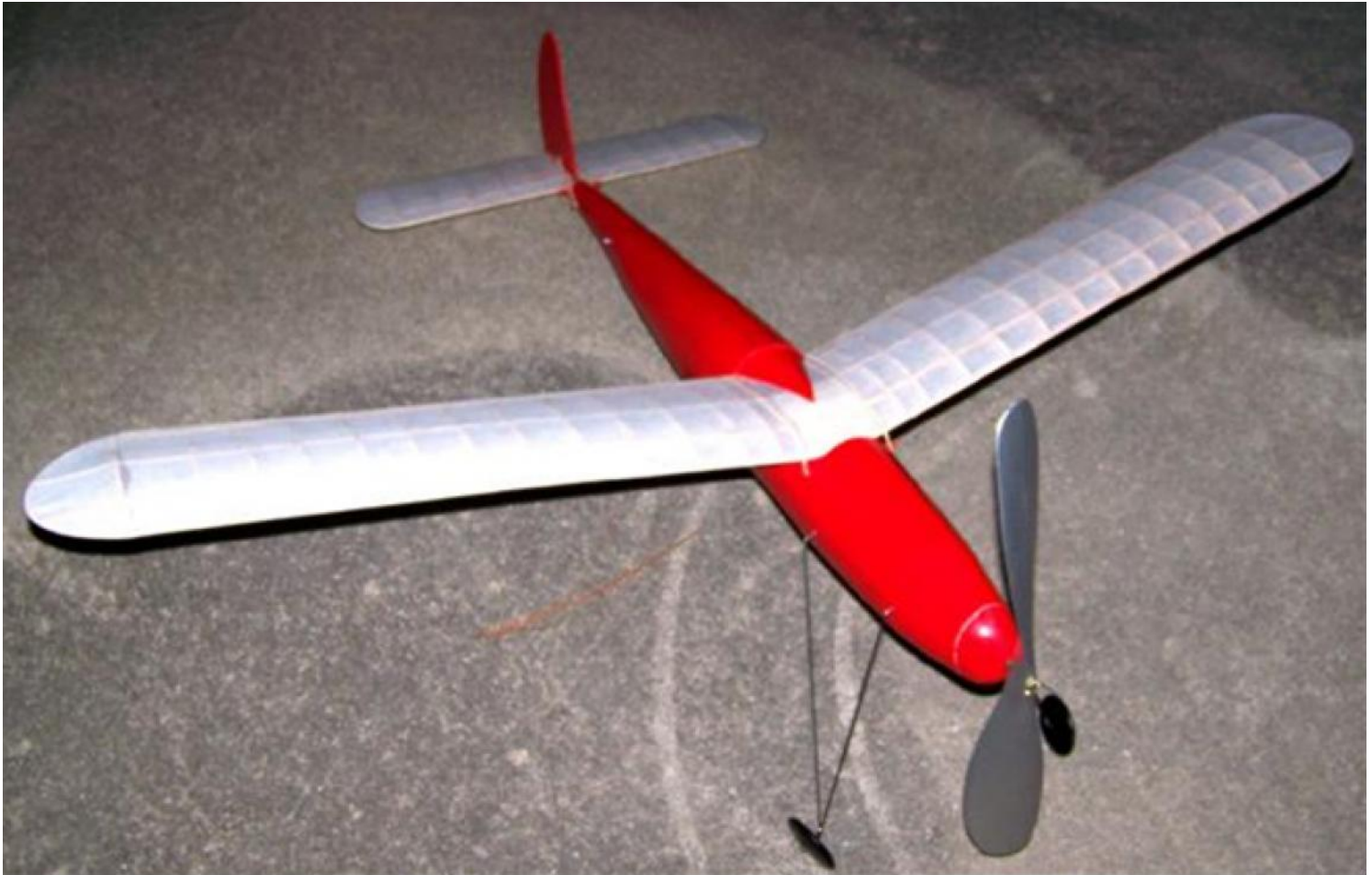
Yes it works just fine, not quite so good going around curves but this is compensated for by being more accurate in a straight line cutting, the wider blade reducing the wander apparent with the original narrow blade.

With luck my trusty Dremel Saw will now serve me for my modelling lifetime, thanks to a Club Mate.



Above are ignition wiring circuits - old and new or ancient and modern. Same vintage spark engines but old and new ways of providing the spark. It's no wonder electrical problems played such a big factor on how well the sparkys performed.



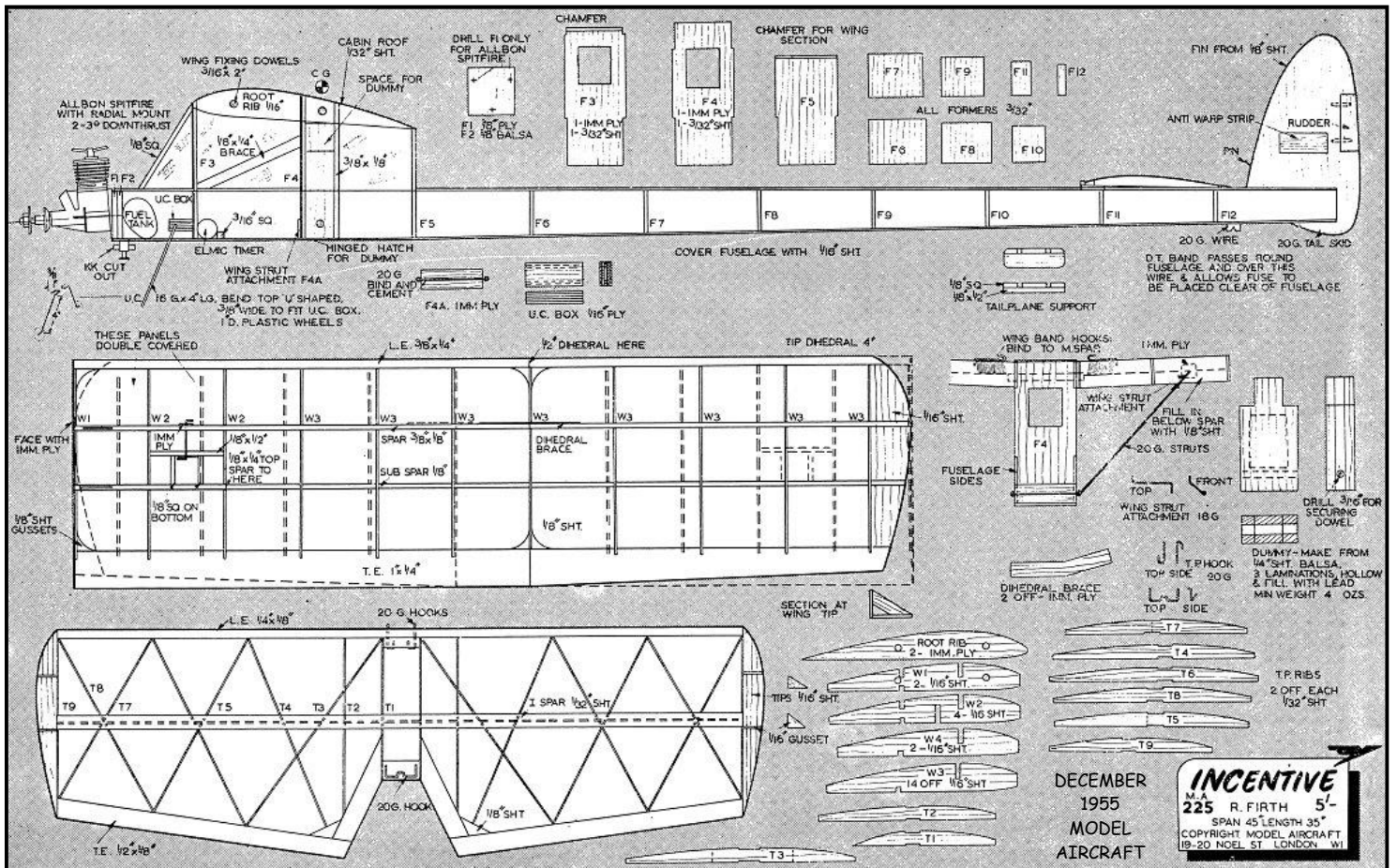


Above is a photo of a recently completed model (in the USA) called the "Illawarra Cup Winner" 1937.

The only information known about this model is the name (of the builder or winner?) J. Barnett - Sydney.

Does anybody know or have any further information about this model and also any information about the Illawarra Cup. Also is any information known as to where the Illawarra Cup was held. Was it at Wollongong or the Illawarra area of NSW.

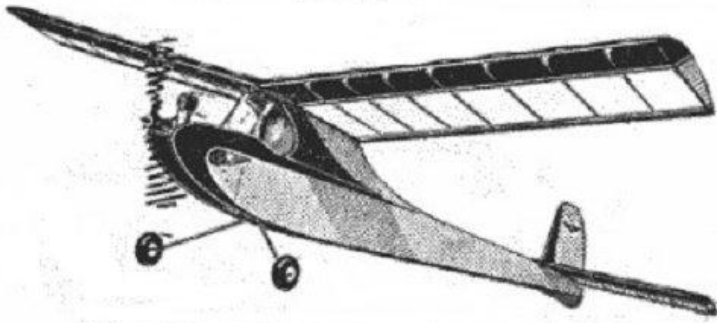
Any information would be gratefully received.



DECEMBER 1955 MODEL AIRCRAFT

**INCENTIVE**  
 M.A. 225 R. FIRTH 5/-  
 SPAN 45" LENGTH 35"  
 COPYRIGHT MODEL AIRCRAFT 19-20 NOEL ST. LONDON W1





Wing span 37 in., Length, 27 in.  
Wing area 188 sq. ins. Weight,  
without motor, 6/7 oz. Aerofoil  
section is the high lift NACA 4415.

## THE CARDINAL

*Veron's Latest . . .*

Modern in appearance and easy on the eye. It's just the model for those who wish to break into powered flight. Construction is easy and Phil Smith's super detailed plan helps to prevent any error in construction. Suitable for small diesel and glow-plug motors up to and including, 1 c.c., such as Elfin 0.5 c.c., Allbon Dart 0.5 c.c., Frog 50, Mills 0.75 c.c., Amco 0.87 c.c., E.P.C. Moth 0.87 c.c., E.D. Bee 1 c.c., and the new E.D. "Point-four six." Kit includes: cut out parts, ready-cut ribs, sponge rubber wheels, all materials and "stage by stage" plan, at **1718** including tax.

# VERON

Australian Distributors: Scientific Hobby Distributors, 350 Queen Street, Brisbane

*Ask your local dealer for our Catalogue*

Export Agents: Courtney Reed (Export) Ltd.,  
40, Kings Road, Chelsea, London, S.W.3.



*Electric Flier Peter Pine has started building his Electric Texaco Model - a 124" Nimbus - an excellent choice for the Texaco event.*



*Regular Contributors to the SAMTalk List:*

*Left: Van Wilson, busy at his "indoors" building board and working on his new PAA Loader model.*

*Right: Mike Myers and Dave Harding enjoying their coffee after one of their regular flying session on the lawn at the Rose Bowl stadium in Pasadena, California, prior to departing to their "local" pub, Tony's Darts and Ale.*

