



### Points of Interest:

- President's Message - Peter Scott.
- Secretary's Report - Basil Healy.
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# BULLETIN

## No. 173

### November-December



## Seasons Greetings to All



# DURATION TIMES



### ORANGE MODEL AIRCRAFT CLUB Inc.

INVITES YOU TO ATTEND AND COMPETE FOR THE

## ALAN BROWN

### Perpetual Memorial Texaco Shield

On the Weekend

#### 4th and 5th FEBRUARY, 2012.

Saturday 4th - Commencing at 10am -  $\frac{1}{2}$ A Texaco & Gordon Burford

Commencing at 1-30pm - Oldtimer Duration

Sunday 5th - Commencing at 9-30am - Oldtimer Texaco

For Information Contact: Stewart West - Telephone 02 6331-9822

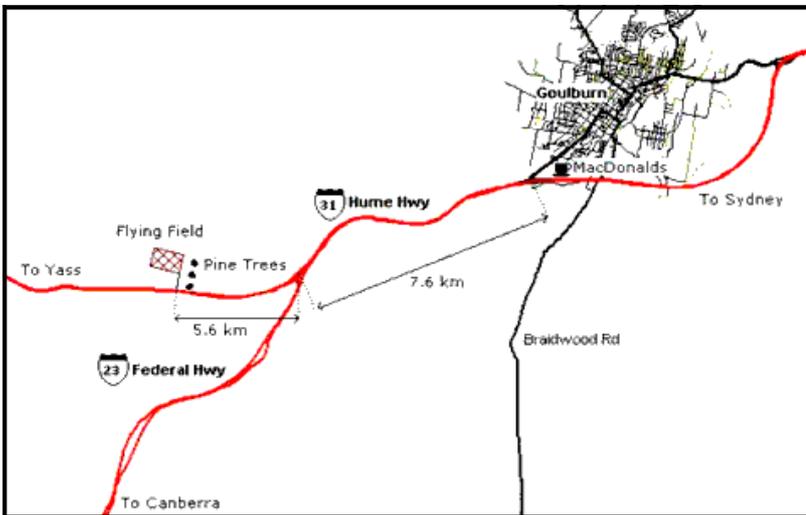
### Australian Electric Flight Association

## Goulburn Electric Oldtimer Weekend

### 10-11 March, 2012.

### Swan Field - Goulburn Mulwaree Sport Flyers.

Hume Highway, Bredalbane. (14Klms south of Goulburn)



#### Events to be flown:-

- \* Duration,
- \* Texaco,
- \*  $\frac{1}{2}$ A Texaco
- \* Height Limited Oldtimer.

For further information

### Peter Pine

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Home: (02)6676-1437  
Fax: (02) 6676 2831

\*AEFA Electric Oldtimer Rules  
([http://www.aefa.dreamhosters.com/files/Electric\\_Old\\_Timer\\_Rules\\_2011.pdf](http://www.aefa.dreamhosters.com/files/Electric_Old_Timer_Rules_2011.pdf))

Duration Times is the official Bulletin of SAM 1788 Australia Inc

## 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:	Basil Healy	4 Casuarina Close, Umina. NSW. 2257.	02 4341-7292.
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: Grant Manwaring Ian Connell

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

### Provisional Oldtimer Events for 2012.

February	4-5	Oldtimer at Orange. Alan Brown Memorial.	Orange	Stewart West	02 6331-9822.
February	18	Oldtimer Glider Testing Day (Saturday)	Goulburn	Grant Manwaring	02 6241-1320.
March	10-11	Electric Oldtimer Weekend	Goulburn	Peter Pine	02 6676-1437.
March	17-18	Wyong River Oldtimer Weekend	Wyong	Basil Healy	02 4341-7292.
April	5-10	SAM 1788 Championships	Canowindra	Basil Healy	02 4341-7292.
May	5-6	Veterans Gathering	Muswellbrook	Simon Bishop	02 6543-5170.
May	13-14	Belconnen/Yass Oldtimer Weekend	Yass	Grant Manwaring	02 6241-1320.
June	16-17	New England Gas Champs	Tamworth	Basil Healy	02 4341-7292.
July	21-22	Golden West Oldtimer Competition	Parkes	Peter J. Smith	0423 452 879.
August	25-26	Oily Hand Diesel Weekend	Cowra	Andy Lockett	02 6342 3054.
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:

Season's Greetings to all and may the New Year bring thermals to all your contest flights - just remember I'll be watching, as I'm sure will everyone else! It's tricky to find a bit of lift - but to keep it a secret from others in the contest is trickier still.

The Canowindra big event is shaping up OK with the CWA ladies to do the catering. So, no nuns this year, they all ran away.

The first of the KK Champs has flown and I'm told it flies really well on 35ft lines with an MP jet. If you haven't got a kit from Brownie there's still plenty of time. A spare evening is all it takes to knock one up. Engines for the comp, which will be run with the KK Phantoms, is either an MP jet or a Mills .75cc. I will personally give a prize to the best-presented and flown champ with an ED Bee in the front.

Don't forget the Cardinal. Veron's lovely little free flighter is also easy to build but will take somewhat longer than a Champ. Engines as per Tom Boys but allowing up to 2cc spark engines. 3cc fuel limit.

I have two door prizes for the AGM, a new ignition coil kit and an old motor - no, the motor is not an Oliver Tiger!

Peter Scott.



## From the Secretary:

Seasons Greetings to all. Hope all your building and testing for Canowindra is going well.

I am pleased to report that the Canowindra Champs planning and preparations are all on track. The Canowindra CWA has confirmed that they will be providing the on-field catering for us and Paul Farthing is again kindly providing the excellent country-style canteen facilities as in previous years. Thanks Paul.

I have not got to see the sample 30th Canowindra Champs commemorative shirt at the time of this report, however I expect that to be remedied prior to Christmas. Full details will be supplied on the Champs entry form which will be distributed in late January, 2012.

Dave Brown will be handling entries and registrations for the 30th Champs and this is greatly appreciated by the Executive.

Mick Walsh, President, SAM 84 Vintagents, has indicated he would like to sponsor a perpetual Concours d'Elegance trophy for the model voted by the competitors as the most beautiful, best built and finished or unique and deserving recognition, model at each Canowindra Champs. The model can be from any class over the weekend, but should actually fly in its event, of course. Mick would like to see good workmanship recognised and encouraged. So now is the time to get out your "best" model, polish it up and get it ready to compete for this new trophy. Full information from Mick Walsh will be included in the next Duration Times.

A new award is being introduced at the 30th Champs - The Geoff Shaw Perpetual Trophy - Open Texaco. This trophy was previously awarded at the Oldtimer Weekend at Goulburn, but this event is no longer held. Geoff Shaw was a dedicated aeromodeller and an ardent supporter of the Oldtimer movement in Australia. Geoff's favourite event was the R/C Oldtimer Texaco event. Geoff did a lot to support up and coming aeromodellers, and was always keen to offer assistance and training. He was one of the "characters" of the Oldtimer movement in Australia. The SAM 1788 Executive, in conjunction with the Goulburn club, and with the approval of Geoff's wife, Pamela Shaw, have decided that this trophy will be awarded each year, in memory of Geoff and as an encouragement award, to the highest placing pilot in the R/C Oldtimer Texaco event who did not qualify for the fly-off at the SAM 1788 Annual Championships.

Field preparations for the Canowindra Champs has started and Paul Farthing reported that he has recently carried out the initial mowing of the control line circle. Paul said that it will require a couple of more mowings prior to Easter. Let's hope that the weather between now and Easter, for field preparations, is on our side for a change.

Brian Dowie has raised the matter of Life Members and the SAM 1788 Constitution. As a result, inquiries are underway with The Office of Fair Trading, NSW, with a view of establishing SAM 1788's current standing in this matter. Results of these inquiries will be reported at the SAM 1788 Annual General Meeting at Canowindra on 6th April, 2012, for the information of members.

I am looking forward to our forthcoming Champs and once again meeting our distant members and enjoying their company and, most of all, having fun, I hope to see you there.

Regards, Basil Healy.

## VALE IAN WHITE.

From Bruce Ramsay [auscanav@bigpond.com](mailto:auscanav@bigpond.com) VH-19742

Sadly I have to pass on to the SAM members who were flying through the 1980s the news of Ian Whites passing in Adelaide on the 6<sup>th</sup> November 2011. Jan Whitford (prev. Ramsay) has passed on the message that Ian had had leukemia for 6 months and developed overwhelming sepsis following a blood transfusion.

Looking through the member lists, there are quite a few who will remember him. To those who don't, it is appropriate to say that Ian was a passionate member of S.A.M., a consummate builder and competitive flier of fine models and to those who knew him a passionate advocate for the South Australian groups views with respect to the establishment of SAM 1788 rules which went through a difficult time in the mid-80s prior to the establishment of SAM600 etc.

Ian introduced me to the S.A.M. both in Australia and Internationally. He was a long time friend and correspondent of "Burf" and "Pondy" and that association and resulting friendship, in part, transferred to me, so I am grateful for the introduction, the expertise and the good memories of those two greats of our hobby that flowed from that and Ian's friendship during that period. Rex Brown was his particularly good friend at that time and I am sure will be saddened by this news.

Ian's life became quite complex and difficult in his later years and I lost track of him about 1995, though I do still keep in touch with his ex wife, Andrea White and their children Victoria and Nicholas and my thoughts go to them at this time. (25 Lambert Rd., St. Peters, SA 5069).

On a lighter note, Ian was a experienced fuel blender, I bet he gave the medical staff curry over the fuel mix he received in his last days.

May our primary memories all be good ones of the good times.

# The Muswellbrook Old Timer Weekend 12-13 November, 2011.

From Basil Healy.

## Oldtimer Glider Event/Testing.

Saturday morning dawned fine and clear, so on arrival at the field were informed to setup the glider winches on the strip furthest from the club house. This we proceeded to do taking into account that what little breeze there was came from the south. Of course as soon as we were ready to start flying the light breeze, such as it was, swung to the north. With everything set-up it was agreed that we would not change the direction of the winch line so that every launch in the competition was made down-wind. This meant that the winches were driven fairly hard during the launches if you wanted to gain a decent height. Geoff Potter once again demonstrated the strength of the wings on his Frog Prince by calling for full power on the winch all the way up. He then handed the transmitter to young Tim Wright to fly the glider portion of the flight. The next flight Tim had the transmitter thrust into his hands and was given a rude introduction to winch launching.

Meanwhile the other contestants were scratching around trying to find thermals which were very scarce at that time of the day. We also had two of the Newcastle boys flying "wooden" gliders, one of which maxed out in every round, an act that was hard to achieve with an Oldtimer glider. A number of landings by the Oldtimer gliders were outside the designated landing area which resulted in zero scores. Obviously, more practice is going to be needed to improve this situation.

On completion of four rounds we dismantled the winch setups and went off to prepare our Gordon Burford models.

## Gordon Burford Event.

With only seven starters this would have to have been one of the smallest GB events that I have ever entered. However, the thermal gods had completely deserted us and maxes were hard to achieve.

Grant Manwaring was the only flyer to achieve three maxes but needed four rounds to do so, such were the conditions. Bob Marshall and Peter R. Smith started off with maxes in rounds one and two but both fell foul of sink in succeeding rounds. Not even the seasoned free flight men were able to pick the optimum time to fly.

## Oldtimer Duration Event.

By this time we were all feeling the effects of the hot weather and it was without enthusiasm that we prepared to fly. There was a family rivalry in this event with Tim Wright competing against his father Michael. Due to the weather this event was shortened to three rounds with two to count. Of course Geoff Potter had to fly all three rounds and max them just to prove that he could do it (Geoff does not fly in fly-offs). This event was probably on of the few times that I have seen all the competing aircraft undamaged at the conclusion of flying.

## ½A Oldtimer Texaco Event.

We arrived at the field Sunday morning to find a stiff southerly breeze blowing. This had somewhat hindered Michael Wright's efforts to trim out Sarah Wright's new ½A Texaco model built the previous weekend by Tim Wright and me (it was quite an effort, I can tell you!)

With eight starters there was no shortage of enthusiasm initially but the wind did make flying difficult. Only three made it to the fly-off where Tim Wright's motor stopped shortly after launch so it was left to the two flyers from the A.C.T. to fight it out.

## Oldtimer Texaco Event.

By this time the wind was getting gusty and some interesting manoeuvres were to be seen shortly after take-off and just prior to landing. At one stage my Dallaire dropped about fifty feet while maintaining its usual climb attitude. It was not at all pleasant. Bombers were prone to overturning on or after landing, although none were seriously damaged. Peter Scott retired when the whole front end of his Bomber came unglued allowing the engine to move in all directions.

## RESULTS

### Oldtimer Glider Event.

Geoff Potter/Tim Wright	Fog Prince	1048
Basil Healy	MF-7	917
Grant Manwaring	Archangel	720
Peter Scott	Dragon	614
John Quigley	DG-42	DNF

### Gordon Burford Event.

Grant Manwaring	Eliminator	PB	900
Peter Scott	Stomper	PB	877
Peter (Canberra) Smith	Ollie	PB	858
Bob Marshall	Lil Diamond	PB	850
Basil Healy	Dixielander	PB	837
Tim Wright	Spacer	PB	753

Peter van de Waterbeemd

### Oldtimer Duration Event.

Grant Manwaring	Lanzo Bomber	Saito 62 FS	840	619
Tim Wright	Lanzo Bomber	Saito 56 FS	840	579
Basil Healy	Megow Chief	YS 53 FS	840	559
Michael Wright	Sunduster	Saito 65 FS	840	468
Geoff Potter	Playboy	Thunder Tiger 46	840	
Peter Scott	Stardust Spec.	K&B 40	791	
Bob Marshall	Lanzo Bomber	OS 52 FS	728	

### ½A Oldtimer Texaco Event.

Peter (Canberra) Smith	Valkyrie	1080	636
Grant Manwaring	Lil Diamond	1080	561
Tim Wright	Atomiser	1080	16
Peter Scott	Lil Diamond	1065	
Basil Healy	Atomiser	1047	
Ian Connell	Lil Diamond	990	
Sarah Wright	Schmaedig Stick	504	
Bob Marshall	Lanzo Racer	DNF	

### Oldtimer Texaco Event.

Michael Wright	66% Lanzo Stick	Irvine 20 D	1800
Grant Manwaring	Lanzo Bomber	OS60FS	1521
Geoff Potter	87% Lanzo Bomber	OS40 FS	1386
Tim Wright	87% Lanzo Bomber	OS40 FS	942
Peter Scott	85% Lanzo Bomber	Irvine 40 d	780
Basil Healy	75% Dallaire	ASP32 D	408
Bob Marshall	85% Lanzo Bomber	OS40 FS	317

## CUSTOM FUEL TANKS For OLD TIMER AIRCRAFT

Roy Bourke MAAC 204L

There are many cases where a fuel tank of a particular shape would be required to fit into a limited space available in a particular aircraft, and appropriate commercial tanks are just not available. Also it is particularly useful to have a custom tank to the exact capacity required to satisfy the fuel allotment for the various Texaco classes in SAM competition, 5cc for 1/2A Texaco, 14cc for A-Texaco, or 4cc per pound for Texaco. That way the engine can be started and properly warmed up, and the fuel topped up to the correct fuel allotment just before launch. It is relatively easy to make a rugged and functional fuel tank virtually any size and shape you want, for any type of aircraft, so rather than try to find a suitable tank, why not make one yourself? Most of my own SAM aircraft have homemade tanks. I use the K & S brass sheet sold in most hobby shops, which not only solders easily and is a light and practical material for a tank for any type of fuel, but also can look very attractive on SAM aircraft where the tank often is visible. The bodies of my tanks are made of .005" sheet and the end caps of .010" sheet.

Let's consider the construction of a simple rectangular tank. Suppose we make it for an A-Texaco aircraft, which requires a fuel tank capacity of 14 cc. When capacity is specified in metric units, it is easiest to calculate the dimensions of the tank in centimetres. One way of achieving 14 cc of volume would be a tank 2cm x 2cm by 3.5cm. So to lay out a blank for the tank body, mark a strip of .005 brass to the 3.5cm width using a sharp scriber. Now the fold lines can be scribed onto the blank as shown in Figure 1. To accommodate a lap seam approx. 1/8" wide (or 0.3cm) at the top of the tank, we need to add  $3 \times 0.3$  or 0.9 cm to the length of the blank. Thus the top portion of the tank consists of a "half-top" 1 cm wide at each end of the blank, with 0.3 cm added to one of the "half-tops", plus a folded tab 0.3cm wide at each end. The blank can now be cut out using a pair of scissors. And at this point before doing any folding, I sand the edges and areas that are going to be soldered, and then clean the blank very thoroughly with methyl alcohol to remove any residue or oil film on the sheet.

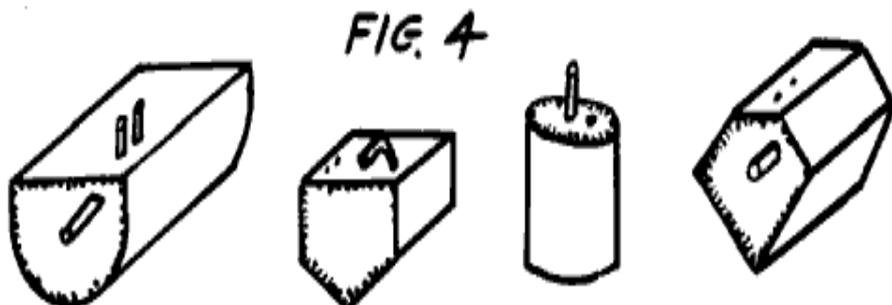
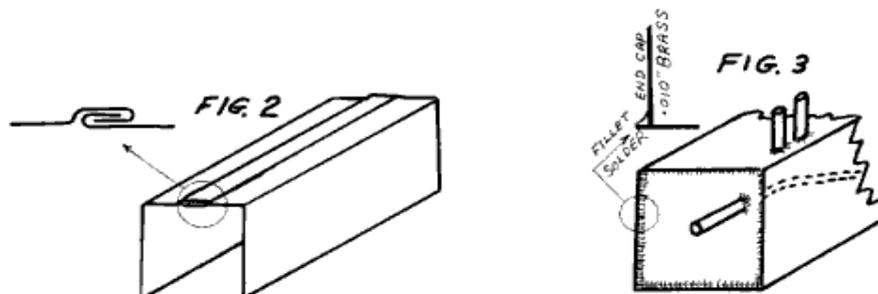
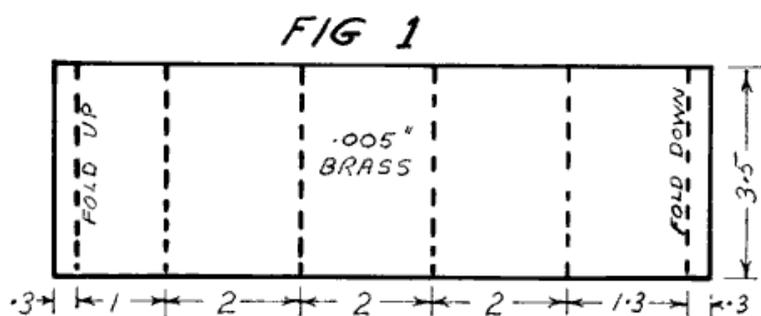
Sharp folds are easy to make in the .005" brass by using a steel rule or straightedge held tightly against each fold line, and bending the brass over the edge of the rule. One end tab is folded down, the other up, then the folds at the corners of the tank are made, and finally the lap seam formed from the two end tabs to form a rectangular "tube" (See Figure 2). The upper seam can be made very flat by inserting a rectangular bar of hard wood or metal into the tube to use as an anvil, and tapping the seam flat with a hammer before soldering. For soldering, I use lead-free flux-cored solder that is 98%tin, 2% silver, (available from Canadian Tire), and an acid flux.

A rectangular (in this case, square) end cap can now be cut from .010" brass to fit snugly into the end of the tank, inserting it into the tube about 1/32" and tacking it into place. Then a fillet of solder is applied to all four edges. Now is the time to add the brass feed, filler and vent tubes before attaching the other end cap. Rather than drilling holes for these tubes, it is better to punch holes into the brass sheet using a nail or sharp awl. This creates a dimple on the outside of the tank, and a jagged flange on the inside which, when soldered, produces a stronger mounting for the tube than a drilled hole would. Be careful though not to overdo it, and punch a hole too large to allow the tube to fit snugly before soldering. The pickup end of the feed tube should be tack soldered to the inside wall of the tank, as well as to its tank-entry point. Solder a neat fillet around each tube entry.

The other end of the tank can now be inserted and fillet-soldered, and the tank is complete. If desired, mounting brackets can be cut from the .010" brass sheet and soldered to the sides of the tank. When all soldering is done, the tank should be checked for leaks by plugging the filler and vent tubes, attaching a fuel line to the feed tube, immersing the tank in water and blowing air into it. If no leaks are evident, then fill and empty the tank several times with alcohol or fuel to flush out any flux inside. I usually go one step further and buff the tank to a bright shining finish, turning it into an object of beauty sitting behind a rare classic or antique engine.

There is virtually no limit to the variety of custom tank shapes that can be made this way, to fit in whatever space is available on your aircraft or engine-mount assembly. Figure 4 illustrates just a few of the custom shapes possible.

For further information on tank layout and soldering techniques, there is an excellent article in *Model Airplane News*, May 1994, titled "Top Brass".



## R/C Old Timer Glider

From Grant Manwaring

An Old Timer glider event was flown at the Muswellbrook Old Timer weekend. The event was flown on Saturday morning and saw six flyers participate. Four rounds were completed in ideal conditions with light variable winds and some thermal activity. Both winches, with newly installed line handed the job with ease. Geoff Potter allowed Tim Wright to fly the Frog Prince, a good introduction to glider flying. An enjoyable start to the weekend. The results are published in this Duration Times.

I have arranged to hold another test day for Old Timer gliders on Saturday 18th February 2012 at the Goulburn Ted Swan Field. This will be an informal day, aimed at testing models, trimming and also flying a couple of rounds. We will have use of the field for the day, and fit in with any club flying if required. Both winches will be available, plus a heavy duty bungee and hand tow line. Please note flyers will need to provide their own food for the day. This will be a good practice day leading up to the 30<sup>th</sup> SAM Champs at Easter. Thanks to the Goulburn Club for the use of the field.

This month I have included the plan for the Ivory Gull. It is an attractive design, and if scaled 200% or slightly bigger would make a good Old Timer glider. It has a longer nose moment than most O/T gliders to make balancing easier, and could be built with an all flying tailplane. I have a full size plan if anyone wants to start building this model.

Once again both Basil Healy and myself can help with plans that I have previously listed in Duration Times. Check them out in the back issues. Dave Brown can help with partial kits. Now is the time to start building your glider entry for the 30<sup>th</sup> Sam Champs in 2012.

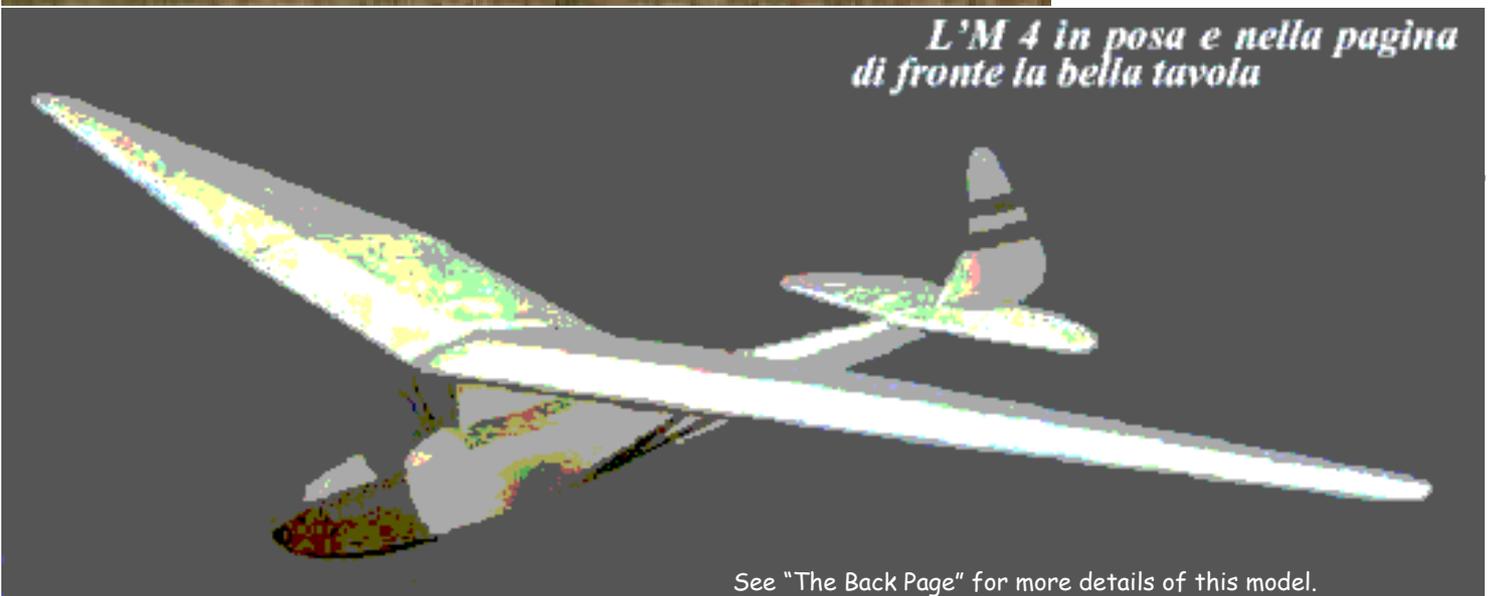
**Contact Details:** Grant Manwaring  
7 Arthaldo Court  
Nicholls ACT 2913  
Email: grantandmary7@gmail.com.au  
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Basil Healy  
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Umina NSW 2257  
Email: basnpat@tac.com.au  
Telephone: 02 4341-7292

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



Gliders at Muswellbrook, Geoff Potter, Tim Wright, Grant Manwaring, Basil Healy, Paul Gibson and Ian Roach with models after an enjoyable morning's flying.



NO. 173 HIGH PERFORMANCE AIRCRAFT

# IVORY GULL II

DESIGNED BY  
**R.F.L. GOSLING.**

COURTESY OF  
**AEROMODELLER PLANS SERVICE.**

ALLEN GUYRE, NEWARK, STREET, LEICESTER.

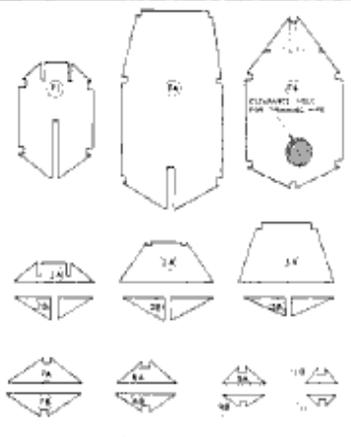
HOLDER OF BRITISH RECORD  
CLASS 'A' 741 BALPLANE  
3 WINS 35.8 SECS FL.

Length	Wingspan	Area	Weight	Wing Loading
1. 100"	100"	100 sq. in.	100 gms.	1.00 gms./sq. in.
2. 100"	100"	100 sq. in.	100 gms.	1.00 gms./sq. in.
3. 100"	100"	100 sq. in.	100 gms.	1.00 gms./sq. in.
4. 100"	100"	100 sq. in.	100 gms.	1.00 gms./sq. in.
5. 100"	100"	100 sq. in.	100 gms.	1.00 gms./sq. in.

Materials: Ply, Balsa, Dural, Brass, Steel, Wire, Cement, Glue, Sandpaper, etc.

Tools: Saw, File, Drill, Sandpaper, etc.

Notes: See also the section on the Ivory Gull II in the book 'The World of Model Aircraft'.



**GENERAL INSTRUCTIONS**

**CONSTRUCTION**

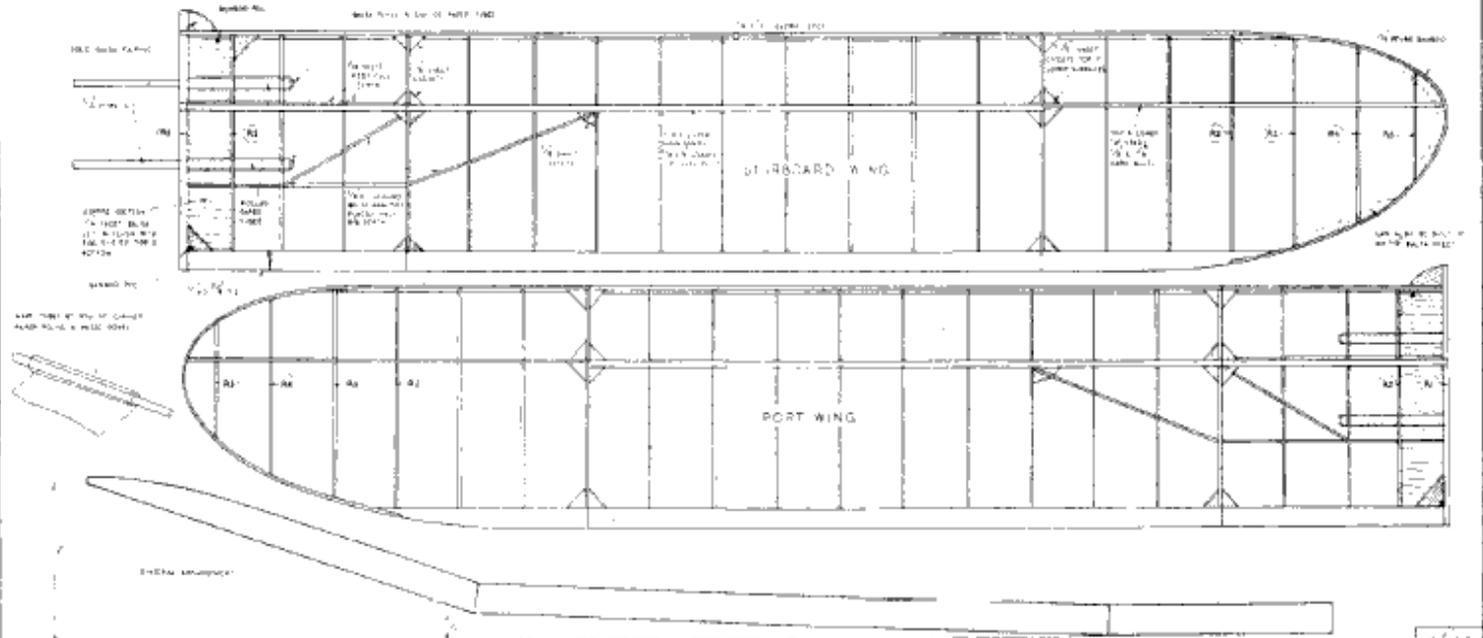
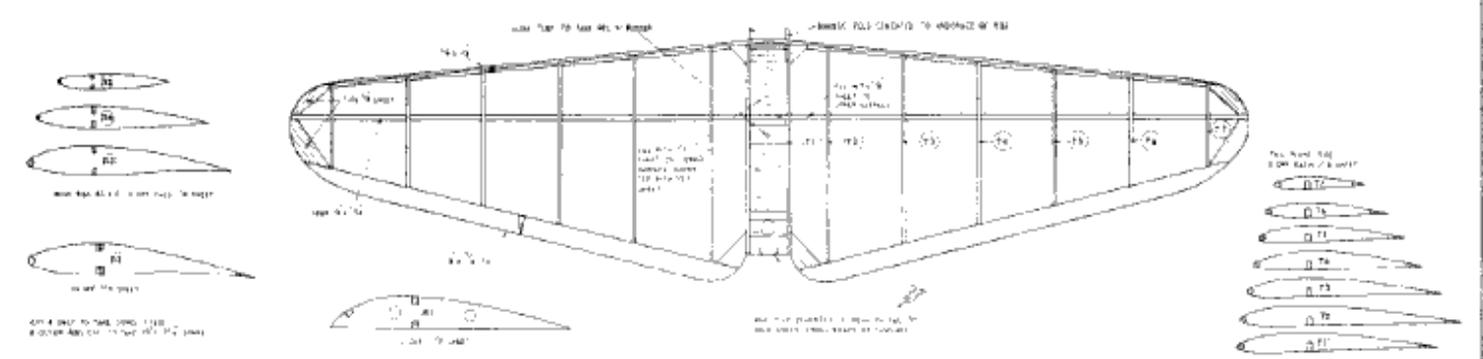
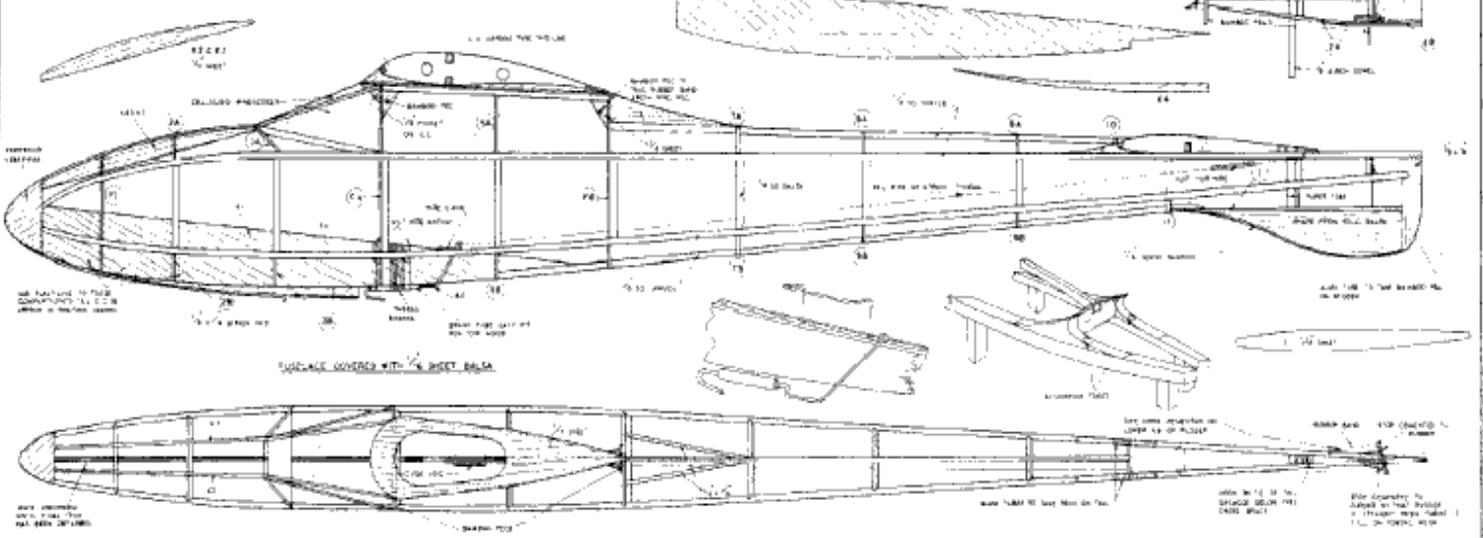
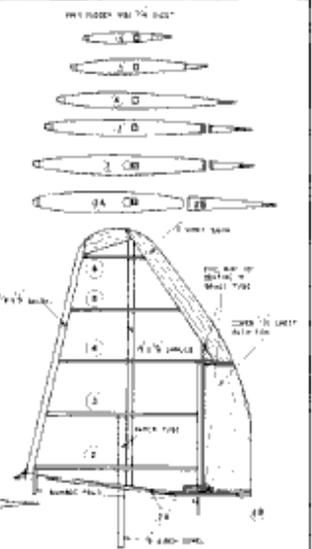
The model is to be built in accordance with the instructions given in this plan. The model is to be built in accordance with the instructions given in this plan. The model is to be built in accordance with the instructions given in this plan.

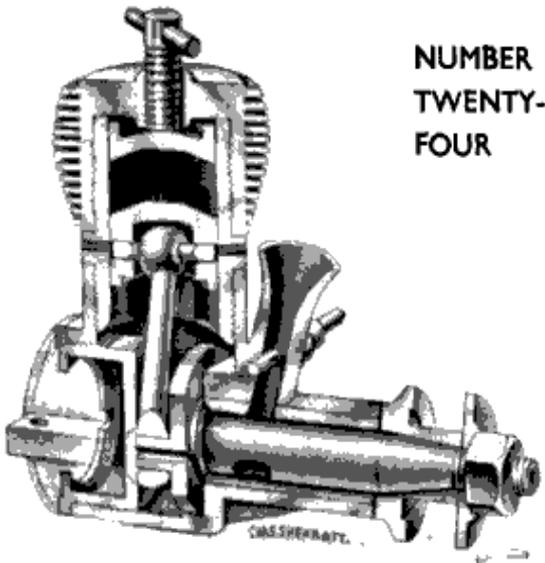
**FINISHING**

The model is to be finished in accordance with the instructions given in this plan. The model is to be finished in accordance with the instructions given in this plan. The model is to be finished in accordance with the instructions given in this plan.

**FLYING**

The model is to be flown in accordance with the instructions given in this plan. The model is to be flown in accordance with the instructions given in this plan. The model is to be flown in accordance with the instructions given in this plan.





NUMBER  
TWENTY-  
FOUR



# The ELFIN 1.49

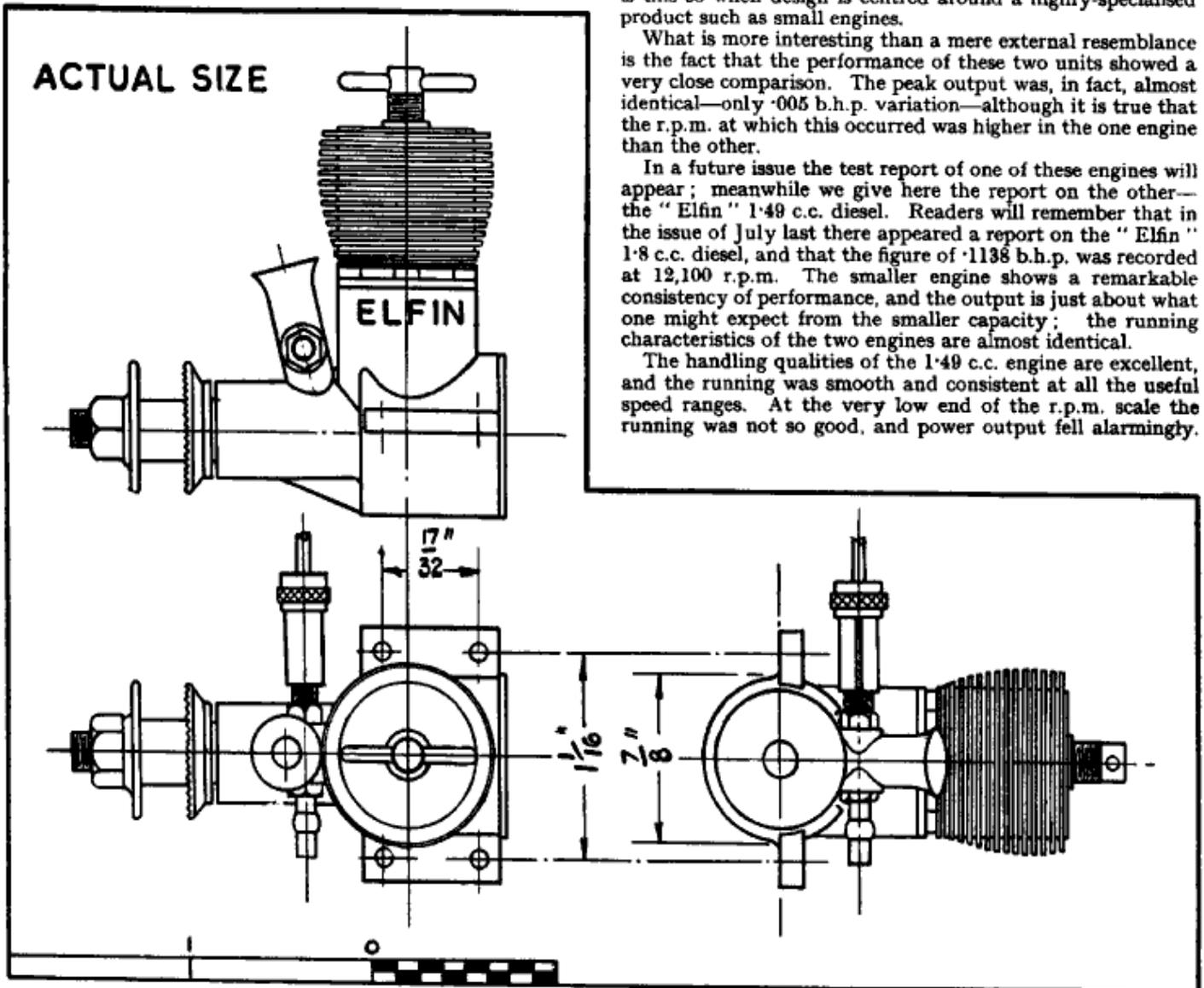
An opportunity has just arisen to test two small diesels of identical capacity but of different manufacture, and the comparative results are most interesting. Both these engines are of the modern, "hot-stuff" type, using uniflow porting, short stroke, and rotary inlet valve via the crankshaft. They are, 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.

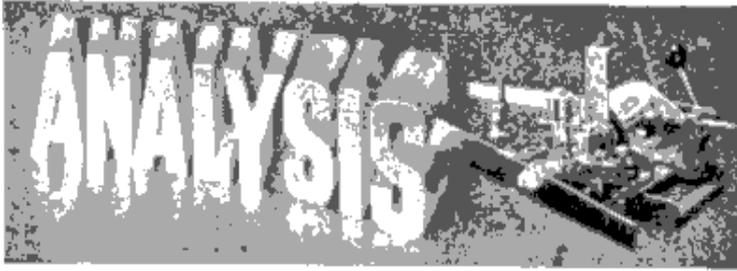
Such a similarity in appearance is almost bound to occur when designers are aiming at the same thing, because logical thinking along similar lines is bound to lead to similar conclusions. Anyone who has tried to take out a patent will have been amazed at the number of similar ideas which have been invented, 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 everlasting.

### GENERAL

#### CONSTRUCTIONAL DATA

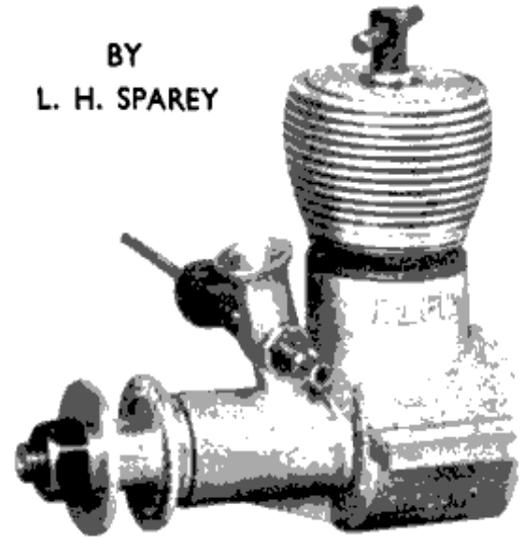
**Name:** Elfin.

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

**Retail Price:** £2. 19s. 6d

**Delivery:** Immediate

BY  
L. H. SPAREY



**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):** 2½ ozs.

**Compression Ratio:** 14:1 to 10:1.

**Mounting:** Beam, upright or inverted.

**Recommended Airscrews:** Free Flight, 8 in. × 4 in.

**Control Line:** 7 in. × 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.

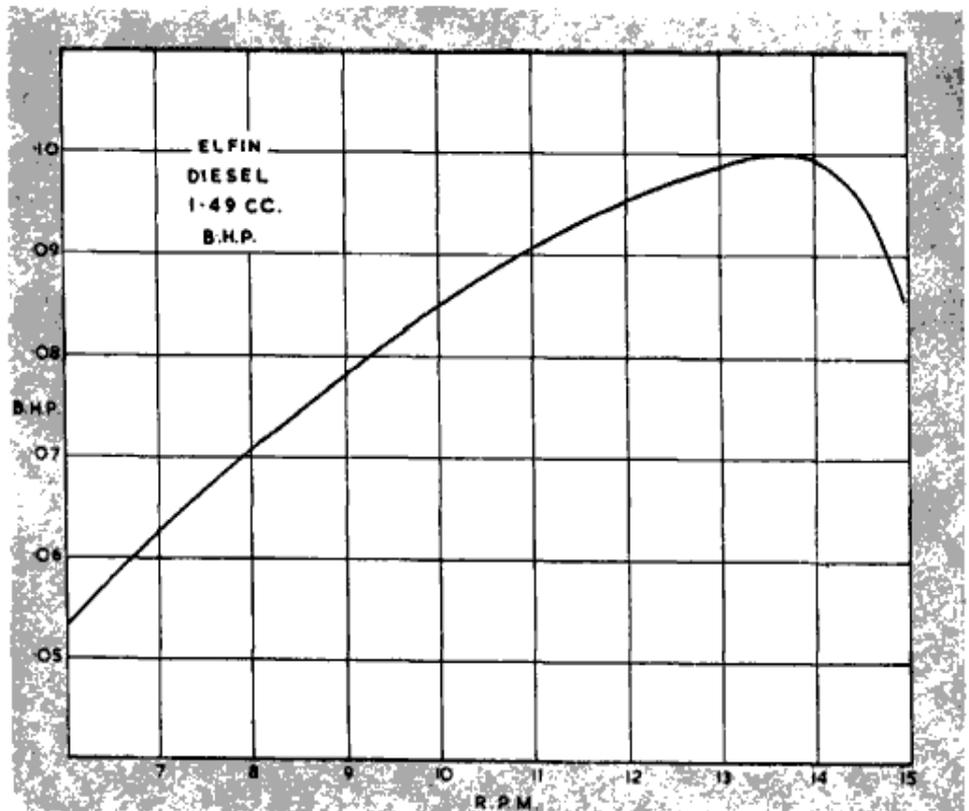
**Connecting Rod:** Duralumin.

**Crankpin Bearing:** Plain. **Crankshaft:** Nickel chrome.

**Main Bearing:** Cast iron. **Little End Bearing:** Plain.

**Crankshaft Valve:** Rotary valve.

**Cylinder Liner:** Nickel chrome steel.



# SAM 1788 versus Australian Free Flight Association.

## Vintage Power and Christmas Party. From Peter Scott.

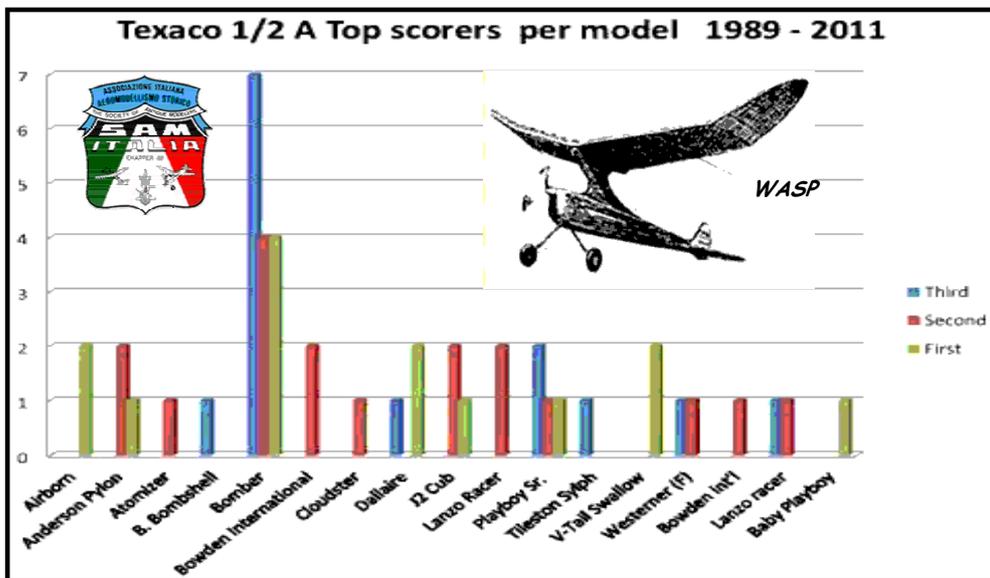
Perfect weather, little wind, cloud cover, a good turn up of fliers – eight in all - with extra entries on different models.

It showed that the SAM fliers are a bit rusty. My best flights were over runs; Basil found a tractor to hit and damaged a wing. Tim Wright's new 'Half Shot' went well after an engine change and a long trimming session. Bob Marshall discovered that his Eliminator needed more wash-in on the wing, so that 'eliminated' him.

The AFFS team had some very experienced free-flighters and several very good models. As you could put in extra entries with a different model, Roy Summersby had three good models and nine good flights. Terry Bond broke his Zipper in a spectacular dive amongst the cars. Lucky he had the Stomper with him. The surprise to me was Gary Pope's Kerswap with an Elfin 1.8 up front. It flew very well and got him the extra 30 points for age - plane not flier. Remember that this is a very small model as scaling up or down is not permitted. The fliers and scores were as follows:

Roy Summersby	1940 Playboy	540 sec.	Roy Summersby	1955 Amazoom	408 sec.
Roy Summersby	1954 Swiss Miss	540 sec.	Terry Bond	1954 Stomper	406 sec.
Gary Pope	1942 Kerswap	538 sec.	Terry Bond	Zipper	313 sec.
Peter Scott	1953 Lil Aud	512 sec.	Geoff Potter	Fifteen	257 sec.
Basil Healy	1953 Lil Aud	471 sec.	Top 3 scores	AFFS	1,618 sec.
Tim Wright	Half shot	414 sec.	Top 3 scores	SAM 1788	1,397 sec.

So, the Free Flight Society came out on top - this time! Thanks to all the participants and the organisers. It was a great day out.



### From Bruno Chiaranti

sami62fvg@hotmail.com  
SAM 62 Friuli Venezia Giulia  
Group Udine - Italy

<http://www.samitalia62.it/>

I updated the graph of the first three top scorers at the SAM Champs in Texaco 1/2 A from 1998 to 2011. Yes, the Lanzo Bomber is there to stay but others can challenge it.

This doesn't mean I'll build a Bomber, but I'm doing fine with my Lanzo Racer (2nd at Italian Champs) as well as I did with my Wasp. All the best.

see us at:

<http://groups.yahoo.com/group/sami62fvg>

## TINTING DOPE.

From Evan Evans ecevans@iprimus.com.au

I was just thinking about this problem. I have had a bit of a play using dyes to colour dope without much success, it is a chemical problem as much as any and far too complex to go into.

It did however just occur to me that pigments may be the way to go. It would be interesting to see what you finish up with if you take a can of dope to a paint shop, pick out a colour and ask the people there to add the amounts of pigments to produce the colour chosen to the dope in the quantities for the amount of dope in your can and see what you finish up with.

Inks such as drawing inks are based on pigments in other words the colouring is a solid materials ground very finely and paints are the same. I don't know what vehicle the paint shop pigments use but they seem to be able to colour any kind of paint, so why not dope? A car body repair shop might be even better, they mix up paint to match the colour of the car they are repairing.

I was in a hardware shop the other day and asked about getting some paint tinter, I came out with a 100 ml. jar of red paint tinter for the grand sum of \$5.60. I mixed some with a small quantity of dope and it blended perfectly, I painted the tinted dope onto a litespan covered wing and it worked fine. It produced a flat finish but that isn't an insuperable problem. So there we are a cheap and readily available way of producing dope in any colour you may desire.

One of the problems of using dyes for this purpose is that the colour will inevitably fade, coloured tissue has the same problem particularly black. There is no such thing as a black dye, black is produced by a mixture of dyes to approximate black, when they fade due to sunlight they fade at different rates and to different shades with unpredictable results. Pigments used in paint tinter are much more resistant to fading particularly black which is carbon black and does not fade.

## TOMBOY CofG

From John Haren. harenj@unwired.com.au

I was interested in the comments on the CG position for the Tomboy and the difference between the Free Flight and RC positions. Of all the comments I thought Roy Bourke was closest to the mark.

Roy highlighted the difference between Free Flight and RC approaches. Free flight is generally aimed at the best overall Duration which occurs near the stall and penetration is not a concern. RC on the other hand requires that the model be trimmed at a higher flying speed to enable the model to fly and return even in light winds.

The CG should then be set to minimize the overall drag for either duration in the case of the Free Flight model or penetration for the RC version.

As it was designed for low powered Free Flight and thus low speed, the model has a large decalage of around 6.4 deg (measured from the chord line). This would be far too much for either a fast climbing Free Flight or an RC version. The RC version would have the CG further back to optimize the glide angle at a higher speed. How far back for a light model such as the Tomboy will depend on both minimizing the trim drag (tail lift load) for the speed required and also as required to maintain good handling by leaving a reasonable degree of stability.

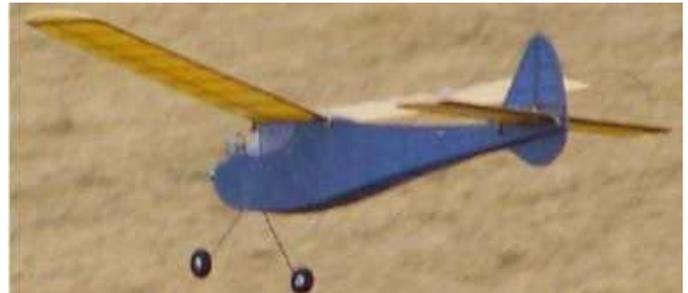
Thus the value of 45-46% mentioned would be close to a minimum level of stability with a static margin of stability around 10%. A light model such as the Tomboy would be very unpleasant to fly in any wind, below this level of stability. To achieve the optimum glide at this CG position would require a very low decalage and I could see that being as low as 1deg.

Even with the wing trimmed to this low angle of close to 1deg then the flying speed would still only be somewhere close to 20mph due to the light wing loading of the Tomboy.

The airfoil should also benefit from the increase in flying speed as well due to the increase in the Re number.

Note - the angle is measured relative to the chord line and not the bottom of the airfoil.

As a matter of interest - modern high performance gliders - F3B, F3J, and F5E have very low values of stability with Static margins of around 8% or slightly more. Their design is biased towards glide angle at neutral elevator. Their Cg's are usually not as far back as they generally use lower camber airfoils and thus minimum trim drag does not require the Cg to be as far aft.



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# 2011, The Electric Oldtimer Year that Was!

From Peter Henderson

Hi Guys,

Here are the final results for the 2011 Electric Old Timer Postal Competitions. As you know we flew four events, including Height Limited for the first time. The number of competitors and the number of heats flown in 2010 is an all time record.

I wish to record my thanks to all who competed - especially those who were unable to enter heats every month, you casual flyers make our Postal Comp a competition worth running. Regular competitors love to see that occasionally a new flyer pops up with a perfect score to keep everyone on their toes.

It is worth mentioning that several flyers improved their heats as the year progressed, remember only a few years ago our Duration event allowed 55 second motor run, now many heats are flown with a 10 second motor run and most are under 20 seconds!

The height limited comp is most exciting with this task being the most difficult to achieve a perfect score, have a look at the results, you do not need to fly a perfect heat every time to remain competitive.

Once again I have totaled the scores for all events to acknowledge those who fly as many events as possible in each month. Laurie Baldwin is the hands down winner of the Dedication Award as I recall the vision of Laurie in hospital with a plaster cast from breakfast to dinner, leaning out of his hospital bed window with an attractive nurse holding his beloved Lanzo aloft saying "are you sure this thing will fly if I throw it?"

Like most of you I am looking forward to 2012 in the knowledge that we will all do better next time around - except Laurie who will be surprised to see a drag parachute instantly deploy on full throttle in all his EOT models. (Is that what you told me Lou?).

For those of you who I am unable to catch up with prior have a most Merry Christmas and a Happy New Year. Kind regards to all.

From an *Electric Old Timer Postal Comp.* perspective the year 2011 was outstanding in so many respects. The range of models flown was diverse, entry numbers were up across all four competitions, competition was the fiercest on record, and the new event Height Limited saw no flyer with a perfect score! Each year we fly 10 rounds, Feb. to Nov. inclusive but drop the two worst monthly results to arrive at a final score. Just look at the results in the competition below:

## 1/2A TEXACO

1st	Gary Ryan	4,800
1st	Laurie Baldwin	4,800
3rd	Max Heap	4,800 (c/back)
3rd	Peter Henderson	4,800 (c/back)
5th	Mike Colston	4,800 (c/back, c/back)
5th	Lou Amadio	4,800 (c/back, c/back)
7th	Brian Payne	4,200
8th	Terry Scolari	2,809
9th	Peter Everit	2,400
9th	Chris Fucane	2,400
11th	Phil Stevenson	1,800
11th	Ted Hall	1,800

## TEXACO

1st	Daryl McCleary	4,800
1st	Roger Mitchell	4,800
1st	Laurie Baldwin	4,800
4th	Peter Henderson	4,800
5th	Lou Amadio	4,800 (c/back)
5th	Brian Payne	4,800 (c/back)
7th	Mike Colston	4,200
8th	Geoff Burling	1,200

## HEIGHT LIMITED

1st	Laurie Baldwin	3,318
2nd	Peter Henderson	2,540
3rd	Gary Andrews	2,520
4th	Lou Amadio	2,517
5th	Phil Stevenson	1,990
6th	Brian Payne	1,810
7th	Mike Colston	1,359

## DURATION

1st	Laurie Baldwin	4,800
1st	Daryl McCleary	4,800
3rd	Brian Payne	4,752
4th	Peter Henderson	4,708
5th	Mike Colston	4,275
6th	Mike Moore	1,200

## **OVERALL POINTSCORE CHAMPION 2011**

1st	Laurie Baldwin	17,718 points
2nd	Peter Henderson	16,848 points
3rd	Bryan Payne	15,562 points
4th	Mike Colston	14,634 points
5th	Lou Amadio	12,117 points.

Laurie a clear overall winner, a fantastic effort in all events! Thank you to all participants throughout the year.

New flyers welcomed contact Peter Henderson  
peterhenderson4@bigpond.com



Mark Venter's dual-power Comet Clipper

**COMET CLIPPER REVIVED.....** from Mark Venter. (AVNZ News No. 122)

At long last - I have completed the refurbishing and recovering of my original size (72") Comet Clipper Mk I. I built this model around 1982 (30 years ago now) and flew it rudder/throttle only for many years powered by a PAW .19 diesel. After some particularly violent aerobatics (barrel rolls to build up enough speed for a number of loops) I managed to snap the wing off and the subsequent "arrival" was a long skid into soft earth with only minor damage to the cowl and front of the fuselage. The repairs were easily effected and I flew it a good few more years before deciding it could do with some "lightening up". It was around 4½lbs in weight due mainly to being covered in Solartex and numerous coats of paint and Polyurethane. Removing the original covering was a chore, especially the yellow paint/glue from the Solartex that remained behind on the balsa. I tried many methods from sanding, scraping and cursing but eventually hit upon the idea of solvents and careful rubbing with a cloth soaked in thinners worked a treat.

The fuselage front end was pretty rotten from oil ingress over the years and repeated soaking in thinners and scrubbing and drying out eventually got it clean and dry and I was able to just cut out and replace a few bad areas that had suffered from all the scrubbing.

I started the recovering with the tail plane and fin a few years ago, with silk and dope. It was right after this that I mulled over and decided that it really should have elevators too. This decision meant either building a new tail plane or cutting the one I had just covered open again. This sort of put me off and the project languished for a few more years. Last year our final club meeting for the year was a "shame and tell" - all those unfinished models and I took (among a few others) the Clipper along.

So there it was - my shame and now I just had to do something about it! Well I made my mind up, why build another tail plane, so I cut it open and engineered elevators into it.

The wing was covered with film and silk and at this stage during a discussion with Paul Lagan, he mentioned using water-based polyurethane on tissue and I thought "why not with silk to?" The fuselage was duly covered with film and silk and polyurethane but in the end it was a combination of stick on with poly and dope to seal the edges. Before covering the fuselage, I fitted closed loop linkages for the controls and engineered up a second front end with electric motor and LiPo's. This was quite a challenge but in the end I got there with some redesigning of the power system for the receiver and servos. The power for these was via a two cell LiPo and a 5volt regulator.

The original front end with the PAW was cleaned up and fitted with an attached servo for throttle while the second front end has its own LiPo pack, motor and controller. By juggling wheels and making the battery pack movable I managed to get both front ends to exactly the same weight, more by pure luck than design though, making swapping front ends a simple matter of three bolts and swapping the throttle servo with the speed controller on the receiver. This brought the final weight out at 3lb 12oz, a full 12oz lighter than the original. At this stage the model is still un-flown but I am hoping to take it up as soon as the weather permits. The battery pack/motor were calculated to the new electric rules for E-Texaco in which I am hoping to fly it and the PAW front end is yet to be tested for A-Texaco but I suspect that I may just use it in both IC and Electric Duration events as well as Precision and Texaco.

So hopefully (if it still flies as good as I remember) it will end up as a good multi-option model. The attached photos show both the versions of the Clipper. Now to haul out the free flight (Mk II version - ex Ian Henry) Clipper from the rafters and do something about that too! Cheers, Mark.

Following up on the report Mark advised that he took the Clipper out and test flew it with the electric motor. Intending to check the taxiing (the original with PAW could only ROG from tarmac and that with a hefty push as it was very prone to ground looping). Now it tracked straight on half power over grass and sheep crap and was in the air and heading up as if on rails. A few blips of trim and it was perfect and maintaining height on around 1/3 throttle. A second ROG on full power had it fast disappearing from sight and at roughly somewhere around 20sec I cut the throttle and spent a long time (as in neck muscles starting to get sore) just soaring around and eventually diving down from a good height to land.

Test flights with the PAW still to be done but it's expected that a ROG off grass may not be possible - will see though.

And I was somewhat mistaken about its flying qualities, at around just over 12oz/sqft, it in fact flies a hell of a lot better than I remembered.



## From Ivan Poloni, SAM Italy.

Ivan sends the very best for Christmas/New Year to all the member of SAM 1788, and I am sure SAM1788 members reciprocate the wishes to Ivan and the Italian gang. Ivan sent a couple of photos which reveal how to build those beautiful Glider designs from Italy. So now you know there's no excuse not to get one ready for the SAM1788 Oldtimer Glider events.





## TYING A LUBRICATED RUBBER MOTOR

By George White

One of the best features of attending the FAC Nationals in Geneseo is the opportunity to see and learn about new ideas. Since my models and flying skills aren't competitive with at least half the people there, that's my justification of driving that long distance, I also failed to mention that those are probably the youngest, most friendly and fun-loving group of modelers anywhere.



Anyhow, I stumbled upon a small group of guys huddled around Don DeLoach watching him tie knots in a rubber motor. I couldn't imagine what could be so exciting about that, so I walked over to watch. Don was tying a knot in a heavily lubricated rubber motor, and swore it would not come loose. I was sure he was in the league with snake-oil salesmen with that idea, but after watching, I'm now convinced it can be done. The days of throwing away a motor because of a broken strand are over. The FAC types caught in a mass launch where motor changes are verboten can use this to repair and keep going. The photos below, crude as they are, show the steps.



Step 1. Take the two broken ends and fold them back over each other, holding the broken ends between the fingers of the right hand and leave a loop into which you place two fingers.

Step 2. After making sure you have at least a short length of the broken ends loose, twist the loop three times.

Step 3. While keeping your two fingers spreading the loop, reach your thumb through the loop and grab both ends of the broken strand, keeping the rest of the motor in your right hand. Pull the broken strands of the broken motor through the loop.



Step 4. Pull the broken strands through the loop and with the right hand pull the rest of the motor. Pull the knot very tight using the main motor strands only - do not pull the tag ends separately, it will untie the knot. Incidentally, you will not be able to pull it very tight unless the motor is indeed lubricated. Once the knot is pulled really tight, you will not be able to get the knot to come undone again, no matter how slick you've made the motor. Put it back in the model and start your winds. You've just salvaged a motor.

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Peter Scott (02) 9624 1262. [qualmag@optusnet.com.au](mailto:qualmag@optusnet.com.au)

### Hints and tips on:- Running spark.

From Peter Scott.

1. A fully charged battery is a must. Preferably the model should have a booster for an external battery for start-up.
2. If the motor hasn't been run recently, remove plug and spin the motor on a starter to clean out oil and old fuel in the crankcase. If this hits the plug - then a wet plug won't start the motor. If running methanol, screw in a glo plug and run the engine. Glo plugs don't mind being wet and this will help clean out the motor and get the mixture somewhere near.
3. Make sure points are clean, even with a transistor system it pays to use contact cleaner and check with a meter that there is no resistance.
4. Always keep spare, clean plugs with you. This is a weak point. Insulator down inside plug should be white or tan coloured, black means it's covered in carbon and will short out or be intermittent. Plug gap .016".
5. I know all of this is obvious, but I so often see people at contests that have taken short cuts, winding away, trying to get it to go. Better still, run the model before you go to the contest for a couple of minutes.

# From Italian SAM Newsletter

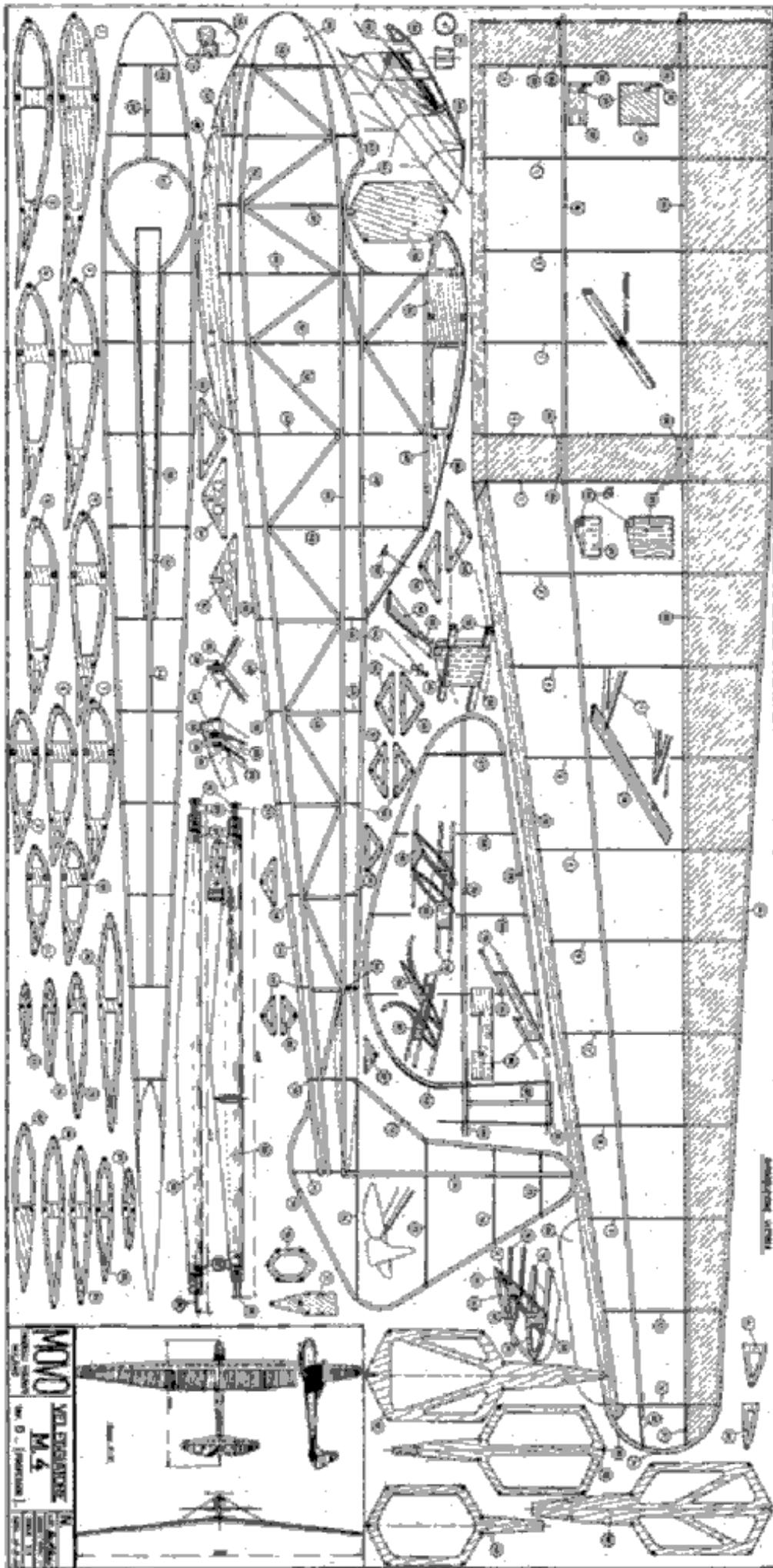
## L'AQUILONE

# 47 Jan-Feb 2010

The glider is a 4M reproduction of the glider German DFS 'Professor', machine performance of 1929-1930.

The model has an opening meter wing-span 2.50, the wings are supported by pillars and is made of materials national (plywood birch rods, and sliced poplar the structure is logical and fairly simple and rational. He was promised an average time of flight 4 minutes, probably with cable of 100 meters.

The large table is now available by Arve Mozzarini redesigned in 1946. It's been built in many specimens, and some played in recent times: with some modest hardening could now be adapted to the radio-OTVR category.



Stello Frati sorregge l'M 4 pronto al traino



"How do you expect to gain proper lift if you take Teddy along?"