The Thermaleer

SAM 600 of Australia Newsletter, Issue # 128 January - March, 2014.

Above: *Kevin Fryer receiving 3rd place Roy Robertson trophy from P&DARCS member Ernie Hancock.*
Left: *Ernie Hancock presents Robert Taylor the Roy Robertson Trophy for 2014. Congratulations Robert.*
Below: *Duration Winners at the recent MAAA Nats L to R: Kevin Fryer/Cumulus 3rd, Jim Rae/Lion Cub 1st and Steve Gullock/Playboy 2nd. Photo from Don Grant.*

NEXT COMPETITONS

3rd & 4th May - MONARTO - S.A. & VIC State Champs, Saturday - ½A Texaco, Burford, Texaco
Sunday - Duration, '38 Antique.
17th-18th May COHUNA, Saturday - 1/2A Texaco, Burford /Electric Coota, Duration.
Sunday - Texaco, Climb & Glide & '38 Antique.

NEXT MEETING

Annual General Meeting - Cohuna - 9am - 14th September, 2014.

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"The Thermaleer" is the official newsletter of SAM 600 of Australia, Victorian R/C Old Timers Association (SAM600) Inc.

"Fred Stebbing" Champ of Champs 2014

Event	1st Place	2nd Place	3rd Place	No. in F/O
Roy Robinson				
Texaco	B Laughton	R Taylor	K Fryer	7
Duration	R Taylor	L Clifford	B Stebbing	6
Texaco Elec	G Ryan			1
Duration Elec	G Ryan			1
Bendigo				
Duration	CANCELLED DUE TO BAD WEATHER			
Duration Elec				
1/2A Texaco				
1/2A Tex Elec				
Texaco				
Texaco Elec				
Climb & Glide				
Haddon				
1/2A Texaco	B Stebbing	D Grant	B Laughton	5
1/2A Texaco	B Stebbing	D Grant	B Laughton	5
1/2A Tex Elec	S Gullock			1
Burford	K Fryer	D Grant	B Laughton	4
Duration	B Stebbing	G Gulbin	B Laughton	6
Texaco	G Gulbin	B Laughton	K Fryer	6
Elec Texaco	R Mitchell			1
38 Antique	K Fryer	B Laughton		2

Progressive points		
IC Oldtimer		
B Laughton	17	1st
K Fryer	16	2nd
B Stebbing	12	3rd
D Grant	8	4th
G Gulbin	7	5th
R Taylor	7	5th
L Clifford	5	6th
S Gullock	4	7th
B Dowie	1	8th
M. Heap	1	8th
Electric Oldtimer		
G Ryan	8	1st
R Mitchell	4	2nd
S Gullock	4	2nd

PRESIDENT'S MESSAGE:

Hi everybody, hope all went well for Christmas and New Year.

The MAAA Nationals were successful, all events were run and won on the days appointed.

Weather was a tad unlikeable because of wind. A few models disappeared but were found a few kilometres away.

Roy rob was successful with a result. Good on you Rob Taylor - 4th time!

Wind has not been good for other comps in Victoria, but onwards and upwards when we can.

Steve Gullock.

ROY ROBINSON Trophy 2014

Contest Report from Brian Laughton.

Here we go again, another contest year started at the beautiful P & DARCS flying field in Pakenham.

Sunday dawned magnificent with very light wind and a mild to warm day ahead of us. When I arrived at least half of the contestants were there early, ready for combat.

We got started just after 10AM with Texaco. Not a good event for human injures, Graeme Gulbin from Ballarat accidentally put his hand in the prop when preparing for his first flight and cut it badly needing to go to hospital and have 7 stitches. Not a good start to Graeme's day. About the same time I was removing the ignition leads from my model and managed to chop up a fair bit of my forearm with the prop, not as deep as Graeme's but messy just the same. Lucky for me the medics at the field managed to stop the bleeding and bandage it up allowing me to continue flying in Texaco and to go on and win this event with my Bomber with Rob Taylor flying his Cumulus into 2nd place and Kevin Fryer also flying a Cumulus into 3rd place.

P & DARCS put on their normal lunch for us. It's a toss up between Cohuna, Ballarat and P & DARCS as to who makes the best hamburgers. They were terrific!!

After lunch we would all have liked to have a sleep, but we couldn't, as we had a duration contest to fly and this looked like being very competitive with all the Grande Prix fliers lining up to start.

Away they went and the sky was full of very fast climbing models. Unfortunately, there was two types of air up there, some got it, others missed out and fell like stones, but there was still 6 in the flyoff. Rob Taylor came in 1st with his ever reliable Cumulus, Lyn Clifford came in a close 2nd with his Lanzo Racer and Brian Stebbing all the way from Adelaide came in 3rd with his Stardust.

The overall Roy Robinson trophy winner was the ever reliable Rob Taylor taking out his 4th Roy Rob, congratulations Robert.

All in all it was a magnificent day with no major model casualties. I think we all went home very tired but very pleased with a good days flying behind us.

Again our thanks go to P & DARCS club for their ongoing support for our branch of the hobby we all love.

Above: *Ian Robinson with his Playboy at the Roy Robinson Trophy.*

Above Right: *Lyn Clifford's Lanzo Racer off on another flight.*

Right: *Texaco winners L to R Kevin Fryer with his Cumulus/OK 60 ignition,, Brian Laughton with his Bomber/OS 60 FS and Robert Taylor with his Cumulus/OS 61 FS.*

Right: *Peter Harrison's Powerhouse/Saito 65 on the assembly line.*
Below: *Robert Taylor's Cumulus/YS63 landing in the Duration event which he won.*
Right Middle: *Ernie Hancock of P&DACS presenting Brian Laughton with his 1st Place trophy for the Roy Robertson Texaco event. They were schoolboys together and even then were aeromodellers!*

Left Middle: *Brian Stebbing from S.A. receiving his 3rd Place trophy in Duration with his Stardust/Dubjet 35 model.*
Above: *Lynn Clifford receives his trophy for 2nd Place in Duration with his Lanzo Racer/YS63.*
Left: *Kevin Fryer receives his trophy for Fred Stebbing Champ of Champs 2013 from SAM600 President Steve Gullock.*

Results - Roy Robinson Trophy 2014

TEXACO

	Name	Model	Engine	Sec/cc	Rd 1	Rd 2	Rd 3	Rd 4	F/Off	Total
1	B Laughton	Bomber	O S 60	15	600	600	600		1894	3694
2	R Taylor	Cumulus	O S61	28	600	600	600		1807	3607
3	K Fryer	Cumulus	O K 60 IGN	24	600	600	600		1705	3505
4	B Dowie	Bomber	O S 60	15	600	600	600		704	2504
5	L Clifford	Racer	Enya 60	18	600	600	600		678	2478
6	S Gullock	Bomber	Enya 53	15	600	L/O	600	600	599	2399
7	B Stebbing	Rambler	O S 40 Diesel	8	600	600	600		548	2348
8	D Grant	Bomber	Enya 53	15	172	600	456			1228
9	P Keely	Bomber	O S 52	12	600	600				1200
10	G Mitchell	Bomber	T S Diesel	10	256	423	202			1081
11	G Gulbin	Bomber	Enya 46	15						injured

DURATION

	Name	Model	Engine	CC/sec	Rd 1	Rd 2	Rd 3	Rd 4	F/Off	Total
1	R Taylor	Cumulus	Y S 63	28	420	420	265	420	1007	2267
2	L Clifford	Racer	Y S 63	28	420	420	420		899	2159
3	B Stebbing	Stardust	Dubjet 35	25	420	420	420		549	1809
4	I Robinson	Playboy	Saito 65	32	420	420	340	420	431	1691
5	S Gullock	Playboy	Saito 56	32	420	420	420		407	1667
6	B Laughton	Playboy	T T 36	25	420	420	420		L/O	1260
7	K Ally	Playboy	O S 40	25	407	420	289			1116
8	G Mitchell	Playboy	A S P 61	32	240	420	176	200		860
9	B Dowie	Playboy	O S 40	25	420	420	L/O	L/O		840
10	K Fryer	Cumulus	McCoy 60 ign	40	O/R	420	L/O	390		810
11	P Harrison	Powerhouse	Saito 65	32	145	115	135	195		475
12	D Grant	Playboy	Y S 53	28	420					420

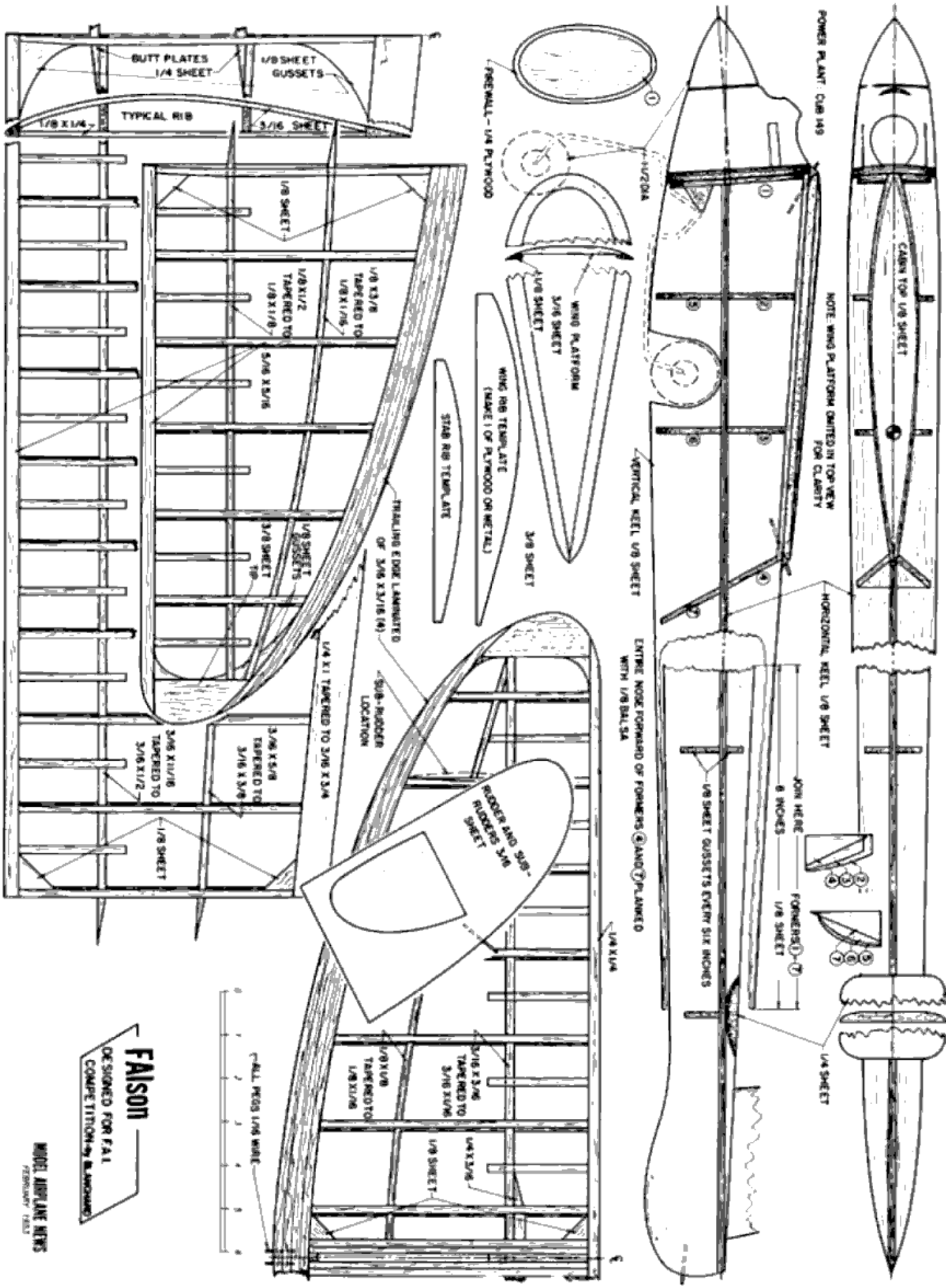
Results - Roy Robinson Trophy 2014 - Electric

TEXACO Electric

	Name	Model	Motor	Bat.All	Rd 1	Rd 2	Rd 3	Rd 4	F/O	Total
1	G Ryan	Cumulus			600	600	180	600		1800

DURATION Electric

	Name	Model	Motor	M/Run	Rd 1	Rd 2	Rd 3	Rd 4	F/O	Total
1	G Ryan	Cumulus			420	420	420			1260



67th MAAA

Model Aircraft Championships
Albury/Wangaratta
December 28th 2013 through to January 6th 2014
Hosted by the VMAA

Results of Oldtimer Events at Wangaratta

2cc DURATION	Rnd1	Rnd2	Rnd3	Rnd4	Fly Off	Total
Basil Healy	265		275	300		838
peter Condo Smith	299	214	146	259		772
Brian Stebbing	182	284	211			677
Graham Mitchell	127	227	211	284		632
Peter Scott	277	171	143			591
Jim Rae		209	164	210		583
peter Van de Waterbeemd	68	244	99	65		411

DURATION	Rnd1	Rnd2	Rnd3	Rnd4	Fly Off	Total
Jim Rae	420	420	420		2281	3541
Steve Gullock	420	372	420	420	906	2166
Kevin Fryer	420	420	420		785	2045
Brian Stebbing	O/R	420	420	420	585	1845
Brendon Taylor	420	260	420	420	559	1819
Lyndon Clifford	420	420	420		546	1806
Don Grant	420	420	420		540	1800
Peter Condo Smith	420	420	420		Lost	1260
Basil Healy	412	420	302	420		1252
Graeme Mitchel	337	326	420	420		1177
Pat Keely	420	311	420	305		1151
Dave Paton	420	420	299			1139
Peter Van de Waterbeemd	382	325	420	197		1127
Greg Mitchell	340	278	420	L/O		1038
Peter Scott	420	420				840

TEXACO	Rnd1	Rnd2	Rnd3	Rnd4	Fly Off	Total
Peter Condo Smith	600	582	600	600	1322	3122
Robert Taylor	600	600	492	600	1206	3006
Peter Smith	600	600	544	600	1201	3001
Basil Healy	600	600	600		1131	2931
Kevin Fryer	600	600	598	600	1066	2866
Lyndon Clifford	600	600	600		1064	2864
Jim Rae	600	600	600		854	2654
Dave Paton	600	600	600		834	2634
pat keely	600	600	600		812	2612
Peter Scott	600	600	437	600	796	2596
Steve Gullock	600	600	600		L/O	1800
Graeme Mitchel	600	600	456	600		1800
Peter Van de Waterbeemd	312	600	581	488		1695
Don Grant	425	600	537			1562
Greg Mitchell	600	395	L/O			995

NOSTALGIA	Rnd1	Rnd2	Rnd3	Rnd4	Fly Off	Total
Peter Condo Smith	420	420	420		558	1818
Jim Rae	420	420	420		509	1769
Peter Smith	420	420	420		396	1656
Peter Scott	420	420	420		395	1655
Dave Paton	420	420	358	386		1226
Peter Van de Waterbeemd	420	397	377	364		1194
Basil Healy	409	344	420	354		1177
Steve Gullock	420	L/O				420

1/2A TEXACO	Rnd1	Rnd2	Rnd3	Rnd4	Fly Off	Total
Brian Stebbing	420	420	420		574	1834
Jim Rae	420	553	420	420	540	1800
Lyndon Clifford	420	207	420	420	509	1769
Peter Van de Waterbeemd	420	318	420	420	490	1690
Dave Paton	591	420	355	420		1231
Peter Scott	387	L/O	326	240		953
Graham Mitchell	285	230	286	277		648
Peter Smith	420	91	L/O			511
Kevin Fryer	420	L/O	71			491
Bob Smith	289	152				441
Don Grant	212	201				413
Basil Healy	L/O	402				402

1/2A ANTIQUE	Rnd1	Rnd2	Rnd3	Rnd4	Fly Off	Total
Peter Condo Smith	600	579	535	600		1779
Robert Taylor	404	600	480	600		1680
Lyndon Clifford	600	578	446	580		1626
Kevin Fryer	600	560	L/O	427		1587
Peter Van de Waterbeemd	259	564	600	353		1317
Basil Healy	382	368	495	342		1265
Peter Scott	324	391	491	329		1211
Don Grant	512					512
Jim Rae	L/O	498				498

GORDON BURFORD	Rnd1	Rnd2	Rnd3	Rnd4	Fly Off	Total
peter Smith	300	300	300		942	1842
Brian Stebbing	300	300	300		828	1728
Jim Rae	300	300	300		710	1610
Peter Condo Smith	300	300	300		697	1597
Dave Paton	300	300	300		635	1535
Peter Scott	300	300	300		608	1508
Kevin Fryer	300	300	300		537	1437
Lyndon Clifford	300	300	300		508	1408
Don Grant	300	300	300		434	1334
Basil Healy	300	300	300		366	1266
peter Van de Waterbeemd	163	300	300	300	66	1129
Graham Mitchell	300	300	300			900
Steve Gullock	200	296	300	294		1090

STANDARD DURATION	Rnd1	Rnd2	Rnd3	Rnd4	Fly Off	Total
Dave Paton	300	500	300		445	1345
Peter Van de Waterbeemd	147	500	300	300	335	1235
Peter Scott	159	500	300	297		897
Peter Condo Smith	300	500	249	267		867
Graham Mitchell	185	500	227	300		827
Jim Rae	281	500	L/O			581
Lyndon Clifford	300					300
Steve Gullock						0
Geoff Potter						0

Top: *Flight line at the MAAA Nats. The shade umbrellas were most appreciated..* **Left:** *Lyn Clifford and Pat Keely competing in ½A Texaco.* **Above:** *Brian Stebbing receives his award from CD Steve Gullock.* **Below Left:** *Contemplating what could have been - LtoR Brian Dowie, Basil Healy and Brian Stebbing.* **Below:** *Who's the winner - competitors eagerly await the scores from scorekeeper Geoff Potter. Photos from Don Grant and May Smith.*

Bendigo February 16th 2014

Report from Brian Laughton.

I was alerted by Kevin Fryer about midweek that the forecast for Sunday 16th February didn't look too good. I then sent an email to all members asking their opinion and it was unanimous that if the forecast was correct they would not attend. We watched the forecast every day and it did not change so on Saturday we decided to cancel.

Come Sunday in Melbourne it was calm early but up came the wind about 11am. We didn't know what it was doing in Bendigo but we were holding our breath that it was windy and we hadn't made another mistake.

That evening I received an email from Alan Uren of Bendigo stating that the wind reading taken 4 times during Sunday was average 22-24 kph each time with gusts to 44 kph and he stated that "I certainly would not have flown in those conditions", so I felt that we had all made the right decision, and I could breath easy. as we didn't want a repeat of last years November Cohuna and Haddon comps where we sat for 3 days doing nothing. So let's keep our fingers crossed for better weather for the future comps.

Letters Received.

Re: *Add SAM600's calendar to your Smartphone or Tablet From Laurie Baldwin*

Hi Laurie,

I just had to tell you that your calendar instructions in the Thermaleer for my smart phone were very clear! and it worked on my iPhone!!

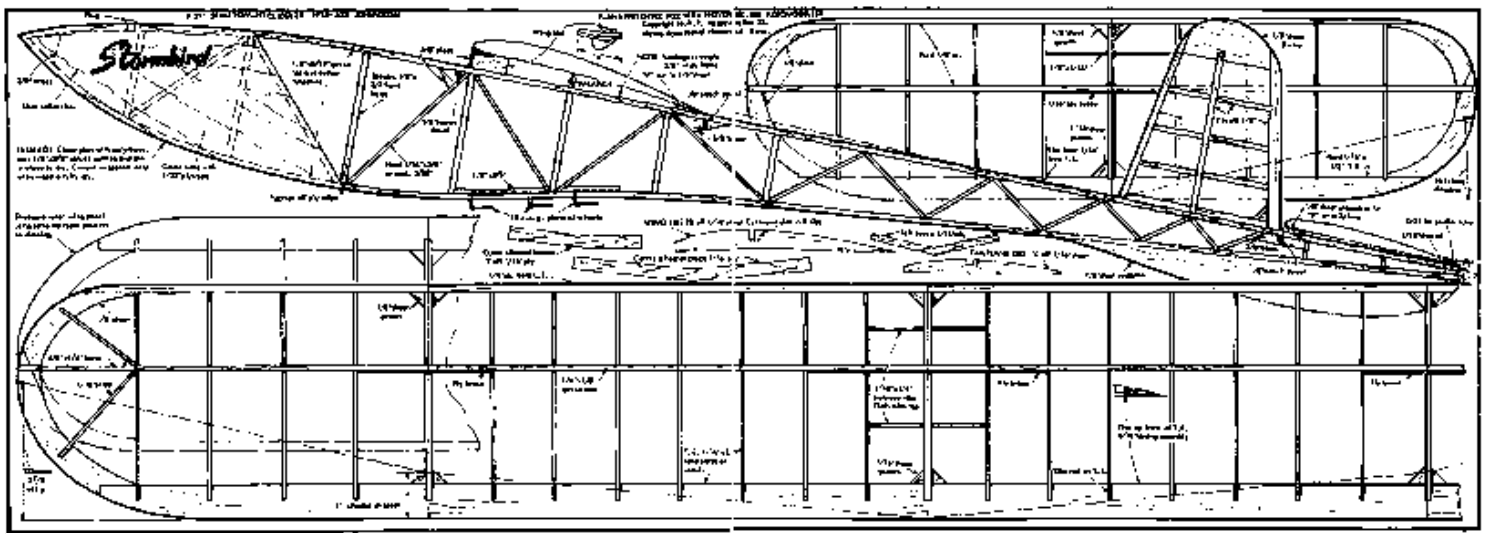
I've started using Google Calendar and it syncs to my iPhone (both ways), but unfortunately the SAM dates on my iPhone don't transfer to Google Calendar.

Do you know what the URL is in ical format ? (I tried pasting http://goo.gl/yeeEYM - but it didn't work).

I'm sharing my Google Calendar with our two girls so that we can see each others calendars, so it would be great if I could automatically include the SAM dates on it.

Our girls do have an ulterior motive for checking my calendar – babysitting, ha ha.

Kind regards Marj (Dowie) marjdowie@hotmail.com



STORMBIRD From 1944 by Nils-Ake Johansson of Sweden
PDF Plan: http://www.outerzone.co.uk/download_this_plan.asp?ID=2107

NATIONAL ELECTRIC " 1/2A " TEXACO TEAM CHALLENGE

It's on!!!

22,493 Points or if you like 6hrs 14min 53 sec

This is the aggregate score, or flight time, of four 1/2A electric flyers, on behalf of the joint SAM 600 and VARMS supported Victorian team. Their best three flight times averaged 31 min 14 sec per flight.

After much waiting through the spring winds of October and November, we were finally able to see a possible window of reasonable conditions for the 13th of December, and it came to fruition that on the day, eight team members were able to assemble at the VARMS Field in Wantirna South, a south eastern metropolitan Melbourne field. Once the field was clear for glider flying at 12.00pm, we were able to use quite good thermal conditions for an hour or so, until the sea breeze kicked in for the main part of the afternoon, however by 5.00pm the thermals were back, and some good flight times were again achieved.

Flying saw various eligible Old Timer Designs (pre December 1948, built and flown to the MAAA National Electric 1/2A Texaco rules) take to the air. Stardusts, Lanzo Airbornes, Bomber, Rat Ripper of some 340 to 360 sq. inch WA with a nominal flight weight of around 12 to 14 oz, all flew utilising the mandated 25 480 mAh battery.

Great flight times were achieved, with Alan Mayhew having the single best flight time of 49 min, 59 sec, and Colin Collver, the best overall score time of 1 hr, 49 min 38 sec (combined time for his longest three flights). Magic to see what talented thermal flyers can do with such simple planes built to vintage designs. All had a great time, with much banter, frivolity, camaraderie, and a quiet social time, to complete the day.

The time now, is to not only see who can break the magic one hour flight time, but more importantly, what other state or international team can beat this score??????

HADDON COMP 15TH-16TH MARCH 2014

CANCELLED, Flown as a postal comp

Report from Brian Laughton.

Weather forecast for this comp was dreadful so, at the suggestion of President Steve Gullock, it was decided to make this a postal competition and this decision was circulated to all members.

This meant we could all fly at our own clubs between Wednesday 12th March and Sunday 16th March and the results sent to a central point for collating.

I can't speak for the other country members but we have four members in the metro area that fly comps, and three of us decided we would fly together at the SWAMPS field in Lang Lang on Friday 14th March. The fourth member unfortunately had to work .

We arrived at 10 am to a perfect day with very little wind, lots of thermals but also lots of downs. An example was Kevin Fryer's first flight in Burford was 6.13 his second flight was 27.02 so there was lots of both. We were kept busy all day and eventually went home at 6 pm, all of us completely pooped but very happy that we had had a lovely day.

I believe the Ballarat boys had similar weather.

Results

1/2A Texaco

1.	B Stebbing	943
2.	D Grant	858
3.	B Laughton	711
4.	K Fryer	486
5.	L Clifford	357

Duration

1.	G Jenkinson	1354
2.	B Stebbing	1128
3.	G Gulbin	953
4.	B Laughton	887
5.	K Fryer	647
6.	D Grant	643
7.	S Gullock	627

'38 Antique

1.	K Fryer	992
2.	B Laughton	838

Burford

1.	K Fryer	1622
2.	D Grant	1352
3.	B Laughton	1093
4.	B Stebbing	824

Texaco

1.	G Gulbin	1552
2.	B Laughton	1433
3.	K Fryer	816
4.	D Grant	797
5.	M Heap	680
6,	G Jenkinson	679
7.	S Gullock	608

½A Electric Texaco

1.	S Gullock	1305

Electric Texaco

1.	R Mitchell	800

The Cohuna boys left their flying to the weekend because of work and I believe they ran into pretty ordinary weather conditions.

The reason Steve suggested a postal competition was because of the previous three out of four comps were not flyable and after all we build the models to compete and having comps cancelled is most demoralizing. So, at least this way, we did get a chance to fly and compete.

Brian Laughtons's ½A Texaco Albatross.

Don Grant about to fly ½A Texaco.

Kevin Fry's Cumulus

Steve Gullock preparing to start his Bomber assisted by Brad

OLD TIMER GLIDER

By Brian Laughton

The old time glider event has been reintroduced to the Canowindra Championships at Easter at the encouragement of one of the gentlemen of our hobby Grant Manwaring of Canberra.

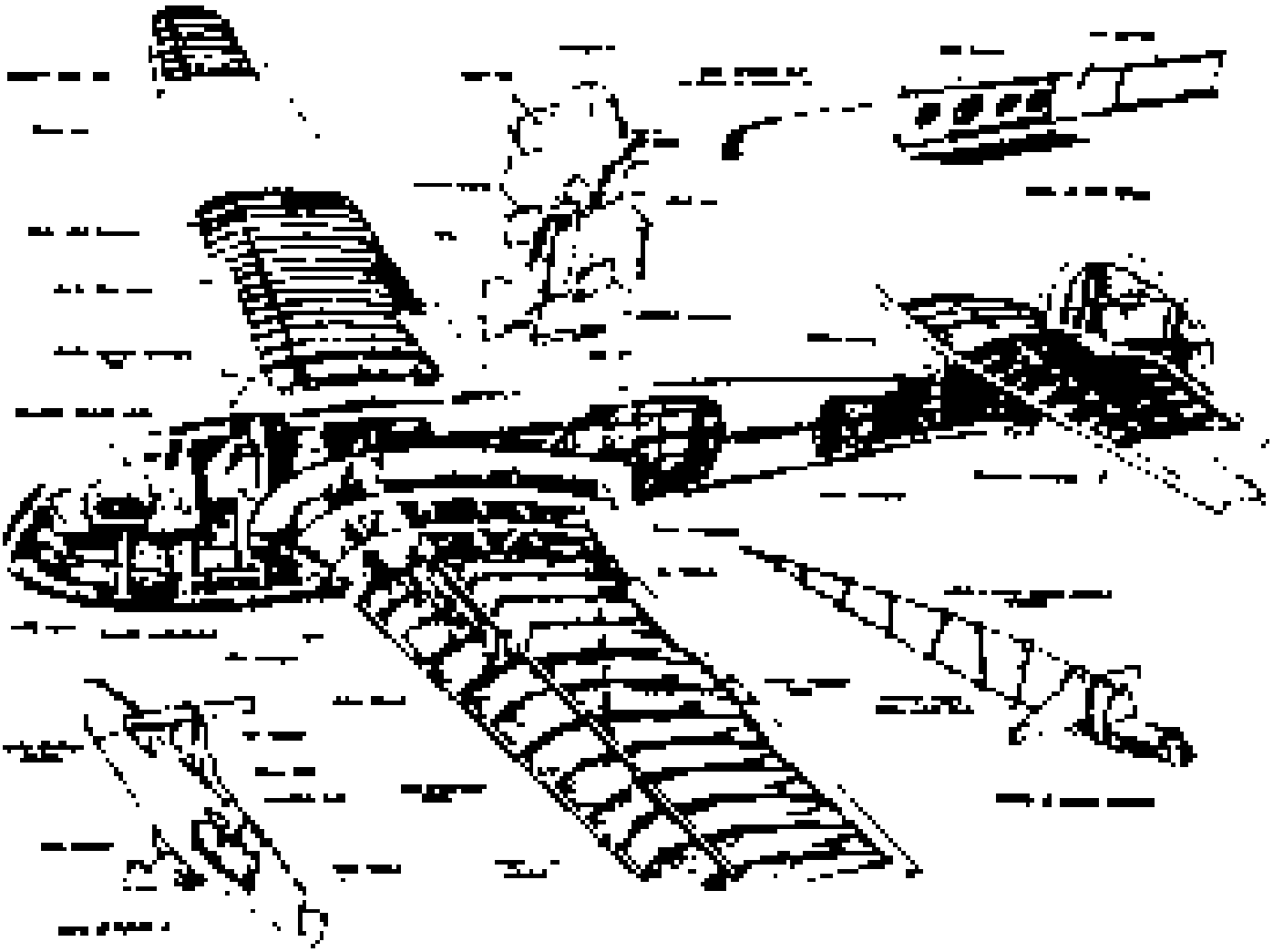
This got me thinking that I would like to participate and thinking back to when I started aeromodelling in 1949 the most beautiful model I could remember was an Aeromodeller plan published in 1946 called the Fillons Champion.

So I decided I would try to build one for the 2014 Easter champs at Canowindra. I checked all the normal plan sources with no success. I then emailed some SAM chapters around the world and received an answer from Ted Horne of the U K who has built three of them. He had a plan but it was well worn and I didn't want to damage his plan.

I then heard on the grapevine that there may be one in Melbourne and I chased it down to Don Boughton's cousin Geoff. It was a very old, falling apart plan, but Laurie Baldwin offered to digitalize it so I could have it laser cut. Then Laurie came up with the suggestion that I should try Klarich Kits in the USA as he thinks they have a partial kit.

I ordered it and it duly turned up with the original French plan which was far more accurate than the aeromodeller plan which I had been warned about by both Ted of the UK and Geoff Boughton.

The nature of the construction meant that a fuselage jig and an elliptical dihedral board had to be manufactured as



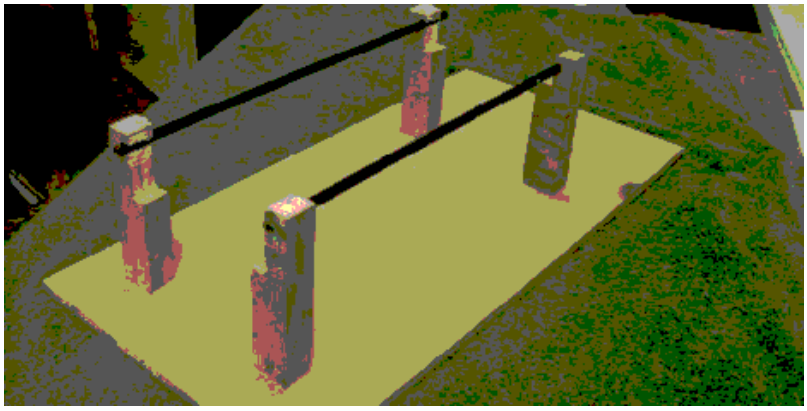
can be seen in the photos.

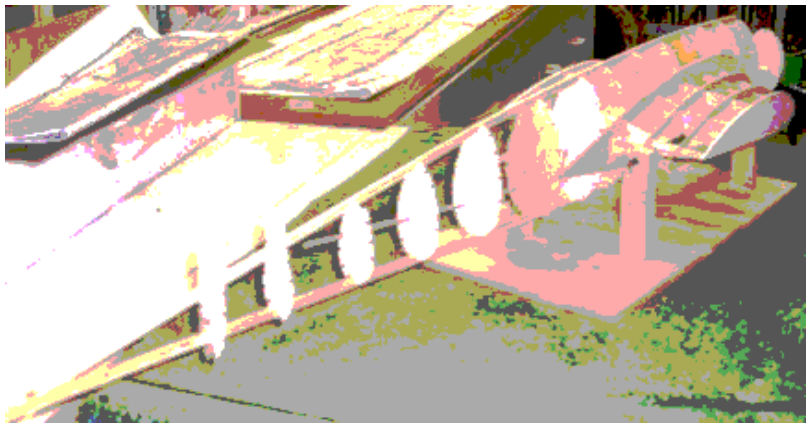
The building process is slow and complicated and I had to study the plan for a long time before starting to try and work out the pitfalls. This is the most difficult model I have ever attempted to build in my 65 years of aeromodelling, but with each step completed it becomes more satisfying.

The fuselage jig was suggested by Ted Horne of the UK as a means of lining up the centre section as this is the part that the wings plug into and must be accurate. I replaced all of the balsa stringers with spruce and beefed up the centre section and wing tongues as this model is going to be winch-launched which puts more strain on this area than the original hand towing.

The fuselage jig, as photographed, holds all of the centre formers in line when they are threaded onto the carbon rods. The top and bottom stringers, which are each three lengths of 3mm squ. spruce glued together to form the outline of the fuselage, are then attached and the remaining formers are slid along to form the shape of the fuselage. The side stringers are then attached. While doing all this you are trying to keep the fuselage straight - very difficult!!

Then comes the wings. The elliptical dihedral board is made as per the photo. The spars are made by laminating two lengths of 1.5 mm x 12mm wide tapering to 3mm wide at the tip hardwood glued together while pinned to the building board. The L/E was spliced lengthwise and glued the same way as the spars. The T/E was shaped and then left to soak in the bath overnight then taken out the next





day and pinned to the board to dry.

Most of the difficult part is now done and all that is needed now is assembly. The tail is very conventional and does not need any explanation.

I will continue this article in the next Thermaleer. By then it should be finished and flown at Canowindra, so here's looking forward to some good flights.

March/April, 1947 AEROMODELLER 287

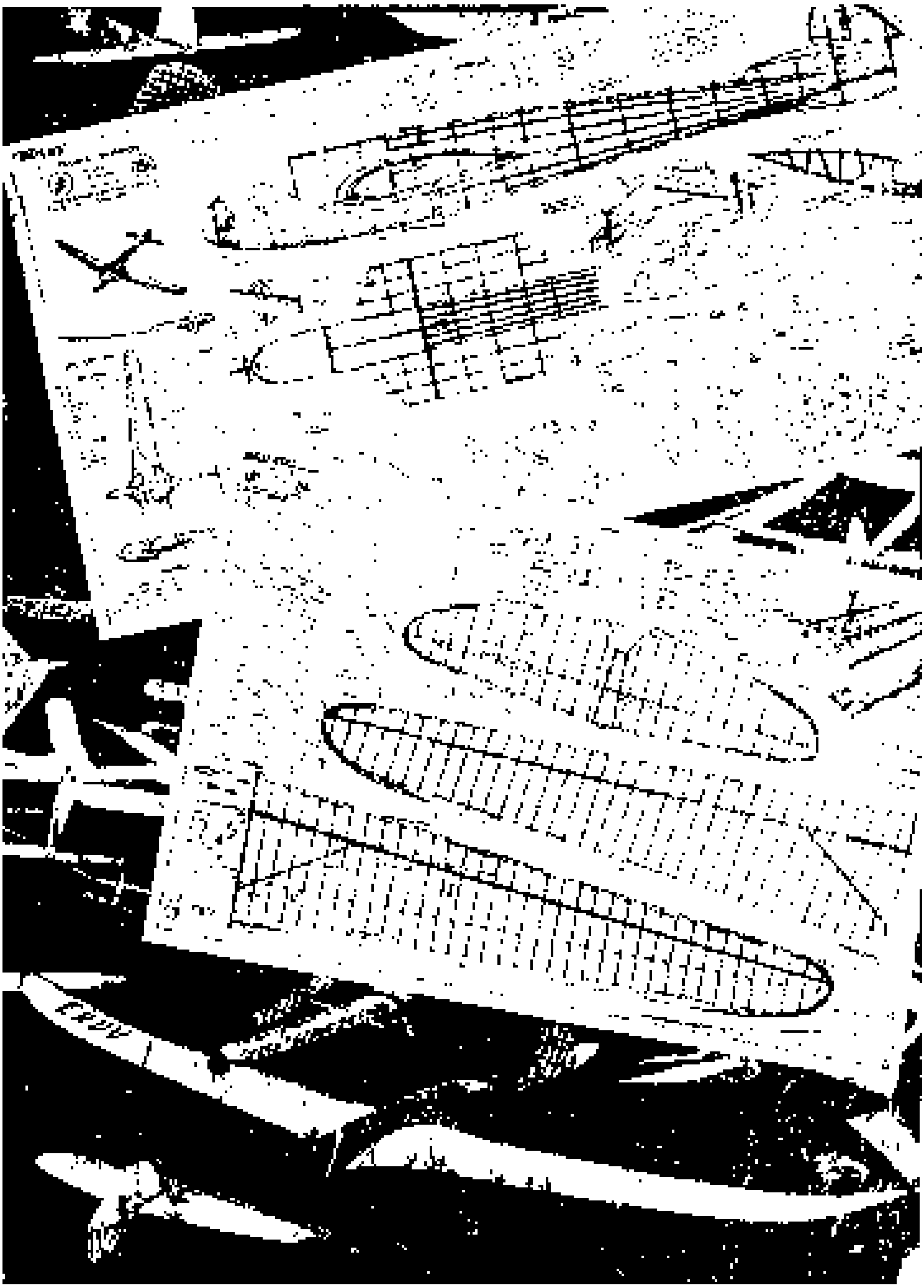
CHAMPION

THE SUPERB SAILPLANE BY THE 1946 EUROPEAN CHAMPION

SPAN	9 ft. 3 ins.
LENGTH	5 ft. 1 in.
WEIGHT	38½ ozs.
AIRFOIL	[illegible]
INCIDENCE	3°
WING AREA	6.45 sq. ft.
ASPECT RATIO	13.3
LOADING	4.9 ozs./sq. ft.

BY E. FILLON

THE model which had swept the board in France and most countries on the Continent met with undiminished success in England, when Emmanuel Fillon, [illegible] winner of 1938, brought his [illegible] and immaculate workmanship to International Week at Eaton Bray Model Sportsdrome in August, 1946. Amongst the large collection of French models was his mighty sailplane "Champion" which won the Concours d'Elegance by reason of its faultless construction and finish, and then flew away to win the Sailplane event by a considerable margin. The delightful flying performance of this model and the letters and [illegible] of the many who watched have led us to offer this superb design to those readers who feel the urge to build a really super model for the coming season. The epitome of Continental design, the "Champion" has a span of 9 ft. 3 ins., yet careful planning and structural design has given an all-up weight (including ballast) of only 38½ ozs.! The noticeable [illegible] of aerodynamic design, which has provided such features as elliptical dihedral and a tailplane mounted well forward [illegible] of the fin, has resulted in a model which, while responsive to the most delicate of control adjustments, is yet easy to trim and possesses inherent stability. This is especially noticeable when the model is on the towline for its behaviour is everything all aeromodellers dream about. With the single towhook [illegible] used no trouble whatsoever is experienced in launching, and the model soars upwards in a phenomenal climb to float off the line at the top with only the [illegible] of attention from the launcher. Here is a model that is not for the [illegible] or for the team, but which will delight the connoisseur of flight as few other models have ever done. Even if the model has never been seen in action, its imposing list of achievements is convincing proof of its prowess. At Eaton Bray in International Week it won for Fillon the huge silver cup and title of European Champion, being recovered four miles away after a nine minutes o.o.s. flight, while on the Continent its numerous victorious performances include flights of 35 miles at the Concours de Chaumont and many prizes in the [illegible] Championships of France at Chartres. The two large sheets of plans (see 1/10th reproduction on opposite page) which comprise the complete set for the construction of the "Champion" give all necessary building details, and are obtainable as usual from Aeromodeller Plans Service, Allen House, Newarke St., Leicester, for 15/0 post free. No instruction sheet is included as experienced modellers building this model will find the directions on the plan quite sufficient, and as the model is not intended for the less experienced, such a sheet as is usually supplied would only be superfluous. A detailed sectional drawing by Bagley, however, will be found on the following pages, and will prove of considerable assistance.



SCALING PLANS by Al Lidberg AALmps@aol.com.

There are many reasons to scale a 3 view drawing, magazine plan, or full size model plan up or down.

Scaling to a new wingspan or other dimension

Perhaps you have a different size engine that you'd like to use, or the plan you have is much bigger or smaller than what you usually build. I have scaled a few designs to fit some ready made wheels. Models can also be scaled to fit bubble canopies such as those available from SIG.

Example: Scaling a model for this purpose is relatively easy - just multiply all dimensions by the scale factor. 20" wingspan model is to be scaled to 24". Divide 24" by 20" to get the factor: 1.2.

Every dimension on the plan can be multiplied by 1.2 to allow the plan to be redrawn, which is a labour-intensive project and one that can introduce many errors. Scaling ribs, formers and curved outlines this way can also be less than precise - see notes below about a better method.

Scaling to a new area

When trying to scale a model up or down to a new area, the problem is that we cannot just multiply the dimensions by the area increase. For example to go from 400 square inches to 500, we'd like to just multiply by something - in this case 1.25, which is the change in area.

But, because we are looking at area, we need to look at square root to find the answer. An example may illustrate this better. Imagine a square box 2" on a side, which will have an area of 4 square inches. Now, think about a box with an area of 5 square inches. What are the dimensions of the new box? We can find that by taking the square root of 5, which is 2.2360679" on my pocket calculator. We can check this by multiplying 2.23 etc by itself, to get 4.99999996 square inches - pretty close to 5.

So, while we could have tried 2.5" [or 1.25 times the original 2" side], we can see that this wouldn't work. The method that works is to take the new area divided by the old, then take the square root of that ratio.

Example: 5 square inches / 4 square inches = 1.25 [this is a ratio, with no units]; square root of 1.25 is 1.1180339. Then multiply the old side dimension of 2" by 1.1180339 to get 2.2360678", darn close to our first approach.

So, to scale up a design 25% in area, multiply all dimensions by 1.1180339.

The method works for scaling down, also. To go from 5 square inches to 4, we do much the same thing.

Example: 4 square inches / 5 square inches = .8; square root of .8 is .8944271. So, we multiply the original dimensions by .8944271. 2.2360679" {the old side dimension} X .8944271 = 1.9999997, which is for all practical purposes 2".

A better solution to making a scaled plan

One can scale a design by hand to get the new size, and in the 'olden days', many of us did just that, scaling and drawing plans on butcher paper, brown wrapping paper, or even drawing right on the workbench top. As noted, the process is error prone as well as tedious. One needs a bit of drawing skill and a collection of french curves to produce accurate results. Scaling curved parts can be done by drawing a grid of pencil lines, say 1/4" apart horizontally and vertically over the part. On another piece of paper, draw a new grid with the lines separated by 1/4" times the scale factor. Then, eyeball style, start making marks on the new grid where edges cross grid lines or intersections. Connect the dots and you can produce a scaled part.

However, there is a more practical method: go to a blueprint shop with a big engineering Xerox - ask them to scale the original drawing. What they will want to know is the factor, thus for our first area example, we ask for a print at 1.1180339. Their machine doesn't have that many decimals, but they can probably do 1.118.

In the scale down area example, ask for a print at .8944271; probably .894 is what you'll get.

You'll pay about $1.25 / sq ft of finished print on plain white paper, but this is a real time saver. It is possible to go much bigger, too - a small 3 view up to a 5' wing, for example, but you get to pay for the paper in the intermediate steps as the big machines won't do that much in one shot. With a small 3 view or just a few parts, a practical method is to do the initial scaling on the self-service machines, which often will go up to an 11" X 17" sheet. This will save some money.

Also, this whole process is an optical blow-up, so lines and lettering tend to get wider and blurred a bit. Scaling down makes lines get narrower. Another thing to be concerned about, is that the math and the optics seem to drift a bit with multiple setups - so it's worth checking the numbers for the final shot. I have adjusted the factor on final shots just a tiny amount to get just the wingspan I was after.

Another solution

Your blueprint/copy shop may have a large scanner that will accept the plan to be scaled. The same size/scale considerations we've discussed apply here - with 2 differences:

(1) As a scanned, then printed/plotted product, the new plan can have lines that are no wider than the originals, making for clearer images.

(2) Some scanned images may print out with jagged edges on curved parts - ask for a sample first, then discuss scan/print resolution with the operator.

ANTIQUE GLIDERS : " *To Electrify or Not* "

From Gary Ryan.

After following the various articles on Antique Glider, and seeing the associated photo's, in Duration Times over the last year, and seeing the opportunities to develop another option for SAM 600 and my building skills, I got very interested !!. Then Basil Healy offered for sale his wonderful MF7 glider, I immediately purchased it (really, could not build it for that price, notwithstanding the build time) as an opportunity to get into it with a proven model.

As soon as we got it back to a VAARMS Winch day, and got it launched, I was hooked. !!! But what to build. I got a plan for the "Thermalist " from Grant Mainwaring, developed some laser cutting details for some ribs, had them cut and started construction, but then became aware of a complete kit for the "Frog Prince" from Browny (Dave Brown), so made contact, and ordered the 3.0m version.

The kit duly arrived when advised / promised, and as I was into sorting and machining spar material, made up the required spars and longerons, which then made it so easy to bypass the "Thermalist", and into the " Frog" particularly as once I had sorted and made up the fuselage jig. It all went together so well (notwithstanding that the blown up drawing needs re-addressing).

Grant Manwaring with his Thermalist at Canowindra.

Similarly, as I already had the build boards etc, the Stab, Rudder and Wings were a breeze. It was just an issue of setting up the floating Stab, and developing the Spar, Dihedral joiners etc, without reverting to Carbon, given that I wanted to be able to have some confidence in the winch launch, but not upset the traditionalists too early.

Now for the twist, not only had Grant sown the seeds with his comments at Wangaratta, that the "Thermalist" would go well and be simpler to test "with one of your Electric rigs", but as I developed the front nose of the "Frog", it became clear that a composite timber block could be simply carved, providing both a motor mounting and fixed nose. But then as I finished the fuz, and started to consider the C of G, and took account of the weights, all of a sudden I am looking at 80 plus oz's. Then adopting the C of G on the plans, and setting up the balance, I am looking at 17 to 18 oz of ballast in the front.

Frog Prince under construction

Again early in the considerations it was obvious that there was plenty of space up front for "whatever", at this scale. !!!

So, at some nominal 100 oz likely RTF weight, and as I already had a couple of Steven Nue electric geared motors, and as they can be so simply mounted on a front bulkhead which in turn was so easily glued to the nose block and blended in, why not !!!, particularly as one of the 1107 motors, at 7.oz, a 4s 1800 battery (more than adequate power) at say 10oz and say a 75 amp ESC, weighs in at around 18 +oz. There you go, better than lead, and provides so many more positive options, but more on that later !!

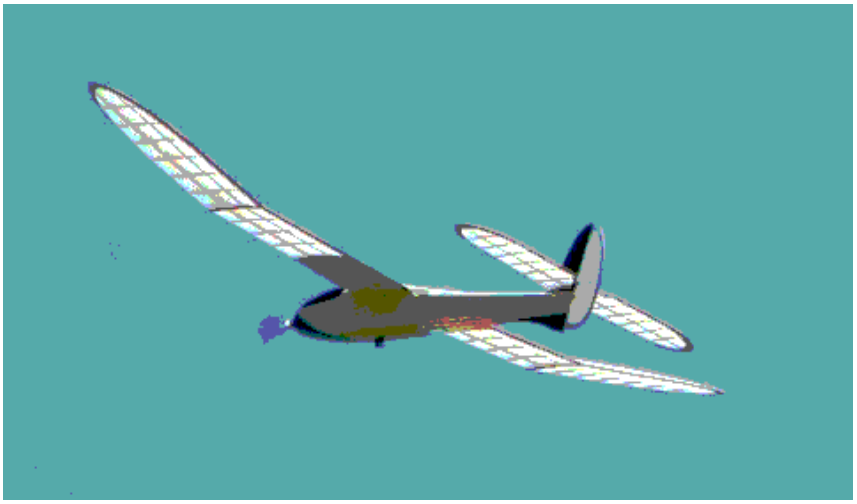
Now let's take a small detour !!! At nominally 100 oz, say (6.3 lbs.), and given that we just want gentle flight in keeping with the period (not a Duration " Rocketship"), around 100 watts per pound has proven more than adequate. Accordingly, 6.3 lbs. x 100

watts = around 650 watts, should work. !! Hence the Neu 1107, will clearly work, as driving a 13 x 7 E Prop, on this 4s 1800 Battery (nominal 13 + volts) we know it will readily provide around 1,000 watts, so at 650 watts, we can prop it back to say 12 x 6, and pull around 50 Amps, much easier on the battery, and ESC.

Now another consideration, as we simply wish to develop participation and camaraderie, ***not competition***, and as we have no need for excessive climb, or long run times, and start from the simple need for gentle launch capacity, the most important issue to me is to maintain the nominal launch height from the winch, and have some re-run flexibility.

I will be set straight, and clearly need assistance to research and support my claim, but it seems to me a nominal 130 to 150 m launch height is around the best winch height we could assume. Well guess what, my height limited chip is already set at 200 m with a 30 sec cut off, and other chips have more flexible settings, so 100 to 150 m ceiling cut-off would enable us to set up a similar ceiling. The only other issue is to see if the nominal 650 watts will get us to say 150 to 200 m within the 30 sec. My motorcalc predictions says 150 + Amp Draw, at 1,580 watts, for a climb rate of some 12m per sec.

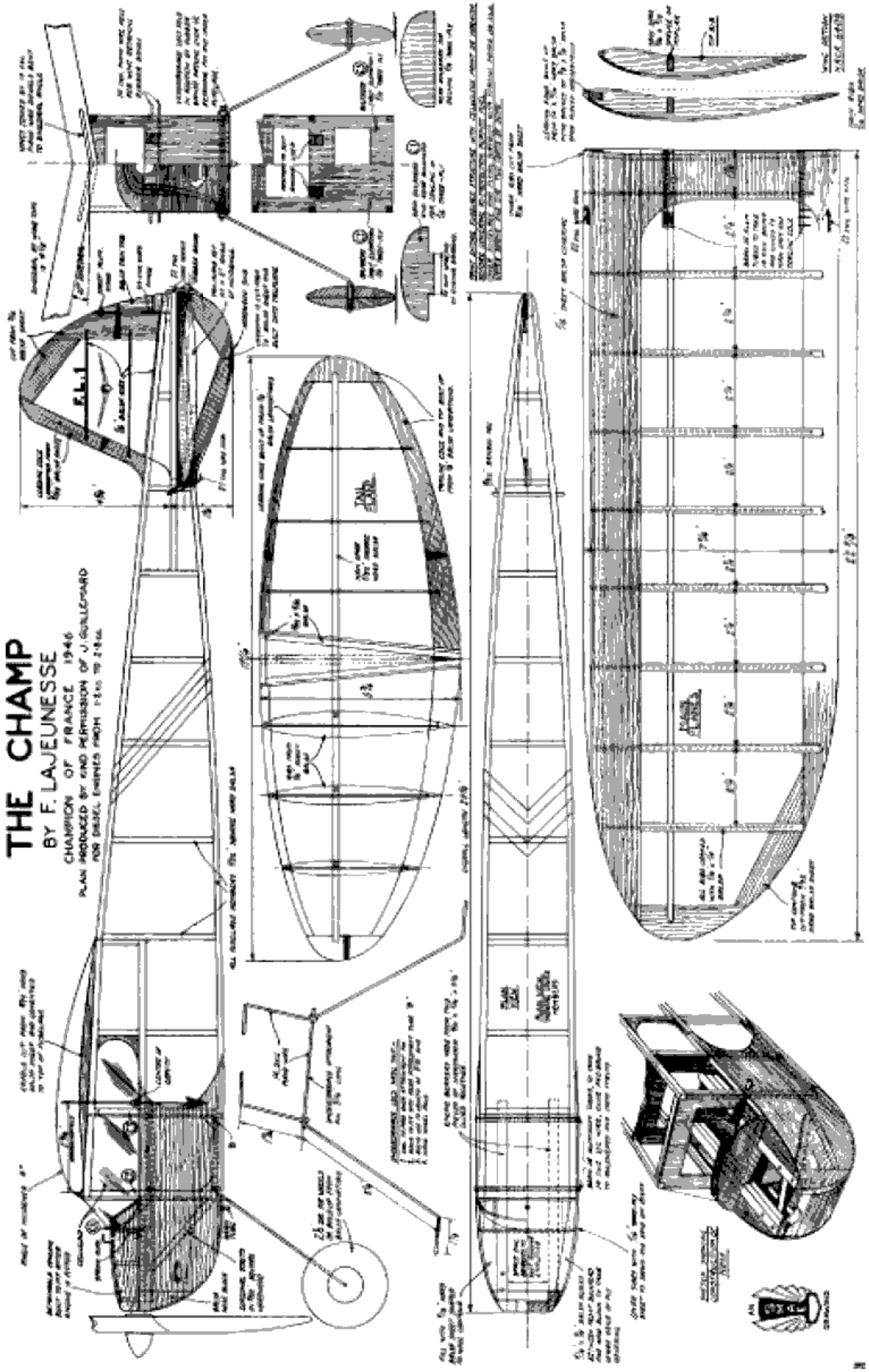
"FROG" on its way for the first flight at the VARMS field launched by Alan Mayhew.



So for now, I look forward to finishing the model, testing it, and presenting it for consideration and discussion, notwithstanding the fun it should provide. I thought the RTF might be a bit heavy, but given the wing area of the " Frog " is nominally 1,680 Sq. in. (11.66 sq. ft.). this 100 oz, provides a 8.57 Oz / sq. ft. Wing Loading. Given the MF7 weighs in at 96. Oz and floats so well at around a 9.8 oz /sq. ft., the Frog Prince should test fine. !!! We will see. !!!! Regards : Gary Ryan.

Postscript: It flies great, it was first tested at the VAARMS Field in Melbourne, and was then used at Lake George in Canberra. First two flights were well over thirty minutes, and was going so well in a great thermal at Lake George that I actually had to effect a very direct spiral dive to get out of it. It handled it all so well. !!! The only thing now is to " Winch Launch " it and see how we go.

"FROG" at Lake George - one of the better thermal glider fields in Australia.

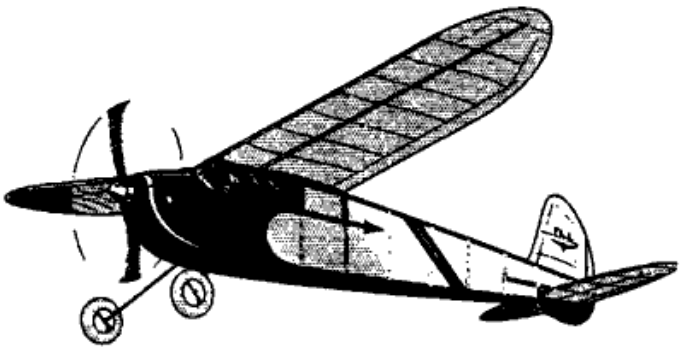

THE CHAMP
BY F. LAJEUNESSE
CHAMPION OF FRANCE 1946
PLAN REPRODUCED BY KIND PERMISSION OF J. GUILLEMARD
FOR DIESEL ENGINES FROM 1 1/2 TO 2 1/2 c.c.

THE CHAMP

by the

1946 Champion of France

F. LAJEUNESSE



THIS machine has established a sound reputation as a first-class contest model by its consistent performance during the eliminating trials and by winning the finals of the French Championship Contest in 1946 and it gave confirmation of its abilities during its visit to England on the occasion of the International Week, held at Eaton Bray.

While it has a semi-scale appearance, its performance is of a high order and it has shown itself capable of holding its own with the more extreme designs.

It has been designed to employ diesel engines of from 1.25 c.c. to 3 c.c., and it is therefore particularly suited to the Mills, E.D., Majesco and similar engines. The original made use of either an Allouchery 1.25 c.c. motor or a Micron 2.8 c.c.

Fuselage

The cabin-type fuselage is built in the orthodox manner with 4 mm. (5/32-in.) hard balsa or poplar longerons and spacers, and it is best to make up the two sides in the usual way on the plan and join them together with the horizontal spacers and ply bulkheads at stations C2 and C3. The ply bulkheads are cut from 1.5 mm. three-ply ($\frac{1}{16}$-in.) and not only serve to stiffen the front end of the fuselage, but help to ensure that it is assembled squarely.

The engine bearers are each built up from two pieces of hardwood, such as birch or ash, 5 mm. × 7 mm (13/64 in. × 9/32 in.), 145 mm. ($5\frac{3}{4}$ in.) long and attached to the bulkheads C2 and C3 by cement and supported at their front ends by diagonal hardwood struts 4 mm. (5/32-in.) square.

Two lengths of brass or aluminium tubing to take 14 s.w.g. wire and $3\frac{1}{16}$ in. long should be bound and glued in position on the lower struts of bulkheads C2 and C3 to take the undercarriage struts,. and triangular gussets should be glued in position at each corner.

A short permanent decking is built forward of the front bulkhead to form an attachment for the lower end of the celluloid windscreen.

The space between the engine bearers and the fuselage outline is filled $\frac{1}{8}$ in. hard balsa sheet strips shaped to give a streamline shape to the nose in conjunction with the balsa nose-block, which measures $1\frac{3}{4}$ in. × $1\frac{5}{8}$ in. × $\frac{5}{8}$ in.

Two pieces of $\frac{1}{4}$-in. balsa connect the lower end of the nose-block to bulkhead C2 and from the attachment for the fuselage side planking consisting of $\frac{1}{16}$-in. balsa sheet extending from the nose to beyond bulkhead, C3.

The underside of the nose is also planked with $\frac{1}{16}$-in. balsa sheet up to bulkhead number C2, a suitable aperture being cut to accommodate the cylinder-head if necessary.

When the nose is completed and planked its corners should be rounded off by sanding and the detachable upper cowling should then be built up to match the contour of the nose.

The fin is built into the tail of the fuselage and provided with a trim tab. The leading edge is built up from two laminations of $\frac{1}{16}$-in. hard balsa to prevent warping.

The Undercarriage

The undercarriage legs are bent from 14 s.w.g. piano-wire in the following sequence.

1. Coil the wire round a piece of 14 s.w.g. wire to make the forward attachment to the fuselage.
2. Bend the short end to fit into the fuselage tube, making sure that the bend is the correct distance from the coil.
3. Bend the other end outwards to form the axle $5\frac{1}{8}$ in. from the centre of the coil.
4. Bend at coil to give correct track and fit $2\frac{1}{2}$-in. wheels, which may be built-up in hard balsa, or rubber air-wheels can be used if desired. Two legs—one right and one left-handed, are, of course, needed.

The undercarriage is attached by pushing the rear upper ends into the fuselage tube and passing a length of 14 s.w.g. piano-wire through the front tube into engagement with the undercarriage leg-coils on each side. The assembly is then retained in position by passing a strong rubber band over the ends of the piano-wire retaining strut and under the fuselage.

The detachable cowling is retained in position by simple wire clips or by press-studs according to your choice.

The Mainplane

The mainplane is made in two halves joined together by 14 s.w.g. piano-wire dowels bent to give the required dihedral angle.

Their construction is quite straightforward and employs nose planking and rib capping on the upper surface with a single main spar slotted into the underside of the ribs. As the wing is of constant chord over

the greater part of the span, all the ribs are alike with the exception of the tip-rib.

The rib section is N.A.C.A. 6409, but the designer recommends those who do not wish to tackle the covering of wings with a pronounced under camber to keep the under-surface flat, thus producing a section which closely resembles Clarke "Y."

Brass or aluminium tubes are bound and glued to the inner ends of the main spars and trailing edges to take the 14 s.w.g. coupling dowels, and wire hooks are cemented to the leading edges and trailing edges for rubber bands, which serve to keep the two halves of the wing together.

The wing should be built by placing the main spar in position on the plan and cementing the ribs in the correct positions followed by the trailing edge, leading edge, and the wing-tip, which is built up in segments from $\frac{3}{16}$-in. hard balsa sheet.

The leading edge should now be planked on the upper side with $\frac{1}{16}$-in. balsa sheet and the ribs capped, not forgetting that the capping for the two inner ribs bridges them both to form a box.

Finally, the wing structure should be carefully rounded to give a smooth contour and the wing-tip sanded to a knife-edge.

The Tailplane

The tailplane is of oval outline and approximately symmetrical section.

The leading edge, trailing edge and wing-tips are cut from two laminations of $\frac{3}{16}$-in. hard balsa or $\frac{1}{8}$-in. poplar and sanded to a triangular section to conform with the tailplane section.

A single spar 5/32 in. square is fitted in slots on the underside of the ribs. It may be made from hard balsa or poplar.

A fairing continuing the lines of the tail portion of the fuselage is built on to the centre of the tailplane consisting of $\frac{1}{16}$-in. hard balsa planks with 5/32-in. square supporting spars, which form the seating for the tailplane on the underside of the fuselage.

The underfin is permanently built-in to the tailplane and the whole assembly is held to the fuselage with rubber bands passing over the hooks and pegs provided, in the usual way.

Note that the tailplane should be set at a 2-deg. positive incidence to the fuselage datum line.

The Power Unit

As we have already pointed out, the machine was designed for use in conjunction with diesel-type engines used in the inverted position.

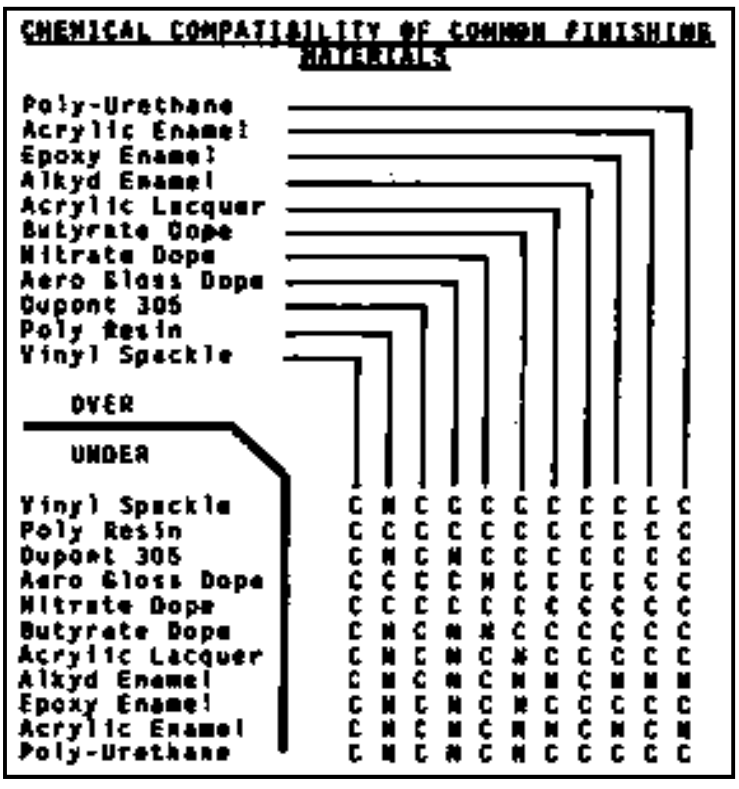
The installation details and the spacing of the engine bearers will, of course, be governed by the make of the engine fitted, and this should be decided on before the engine bearers are fitted and the nose of the machine completed, as slight modifications are obviously necessary with different makes of engine.

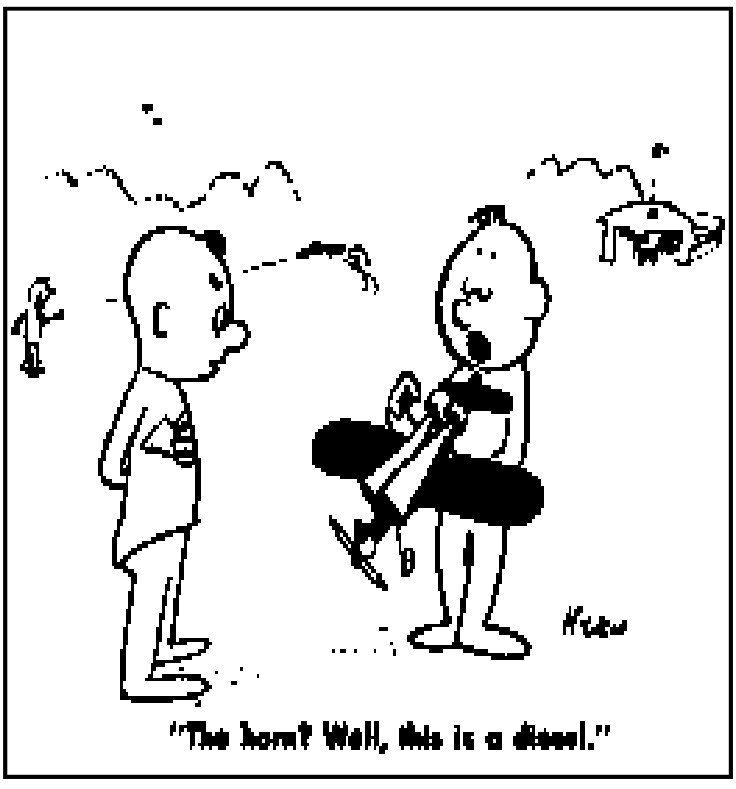
The machine can be modified for use with petrol engines if the battery coil and time weights are evenly distributed on each side of the centre of gravity, the position of which is clearly shown in the plan.

Covering

Before covering the fuselage the entire structure should be given a coat of cellulose paint as a protection against saturation by the fuel weeping from the engine. It can then be covered by stout paper, such as thin "kraft" paper, or silk and given two coats of dope and one of varnish or gloss finish.

The wings and tail surfaces should also be covered in a strong paper or silk and given two coats of dope and one of varnish or gloss finish.





SOME INTERESTING FACTS ON

Power Model Propellers

BY J. A. MAXWELL

AS a preliminary to some tests on propellers, which we hope to carry out fairly soon, we have been delving into the reports of previous experimenters in this field, and have dug up some interesting facts. The reports were, of course, intended for use on full size aircraft, but the actual tests had been made with propellers of about 2 ft. diameter, running at very modest speeds (by model engine standards). Thus, from the point of view of Reynolds' Number, the test results are probably more closely related to model propellers than to full size. All the reports emanated from such responsible bodies as the R.A.E. and N.A.C.A., and there is therefore no doubt about their being reliable.

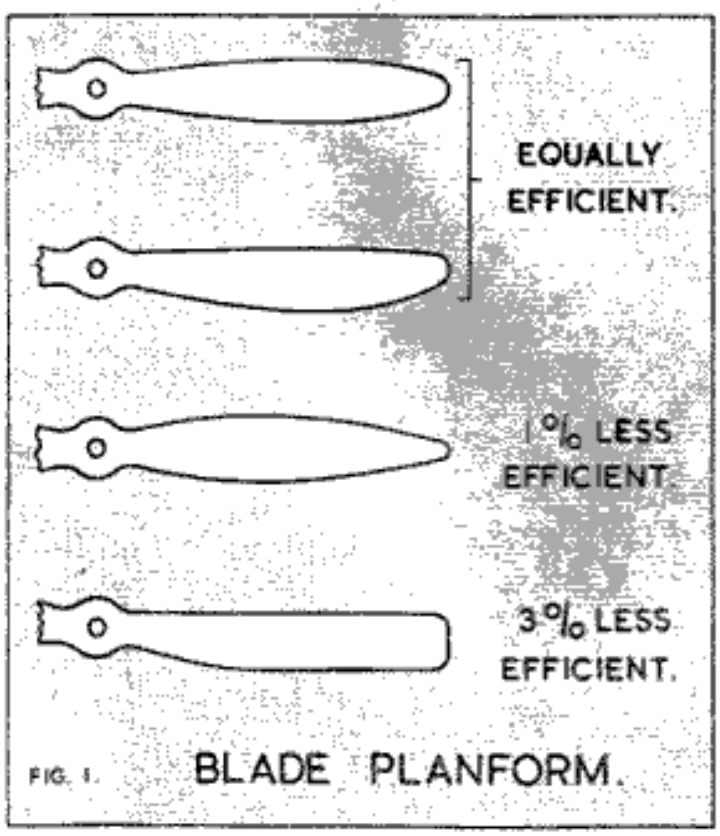


FIG. 1. BLADE PLANFORM.

The reader will find that nearly all the main facts quoted in this article are completely contradictory to the teachings of Mr. P. R. Payne, in his "Modernised Airscrew Design" series. We mention this as a matter of interest, but make no comment on it, except to say that, personally, we are inclined to be rather old-fashioned as regards propeller design.

Planform

The planform of the blades has only a slight effect on the performance of a propeller. All the conventional curved planforms are about equal in efficiency, but propellers with constant chord blades were found to be 3 per cent. less efficient. Also propellers with unusually sharp tips are slightly less efficient than the more orthodox shapes. (See Fig. 1.)

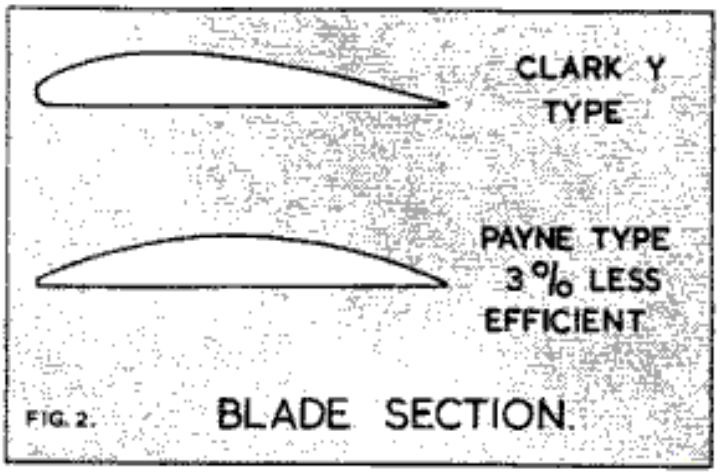


FIG. 2. BLADE SECTION.

Blade Width

Narrow blades tend to be more efficient than wide blades. Tests on a family of propellers, all having the same diameter and pitch, showed that the efficiency gradually increased as the blade width decreased. For instance, the efficiency with blade width equal to 1/10 of the diameter was 69 per cent; while with blade width equal to 1/20 of the diameter it was 76 per cent.; or an increase of approximately 10 per cent. The tests also showed that the power coefficients of similar propellers are nearly proportional to their blade widths.

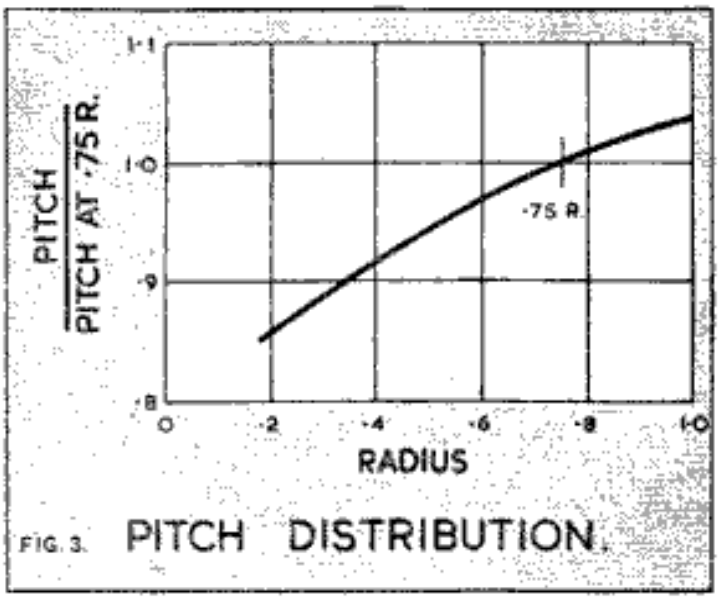


FIG. 3. PITCH DISTRIBUTION.

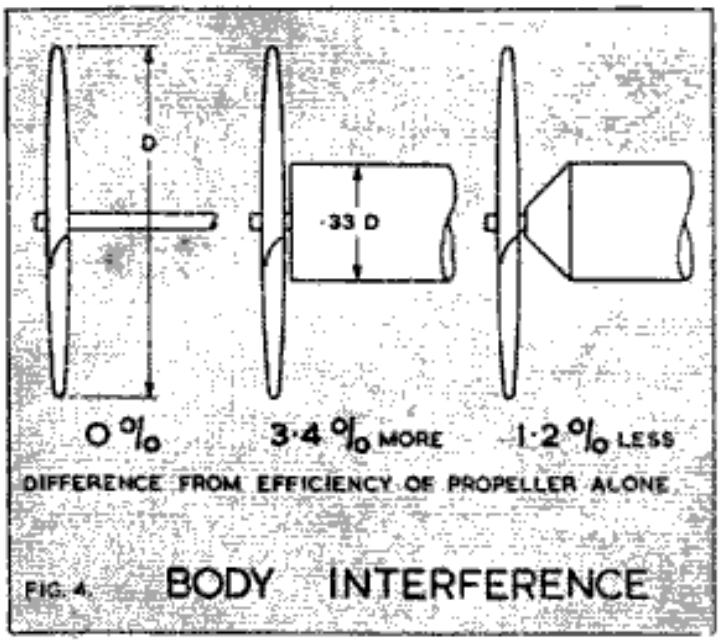


FIG. 4. BODY INTERFERENCE

Taking these two facts together, one finds that narrow blades should normally be associated with high revs. and forward speed. This, no doubt, explains the success of " toothpick " propellers on speed models.

Blade Section

Most of the propellers tested employed blade sections having a flat undersurface and maximum camber at about 30 per cent. of the chord. It was found that any reasonable section of this type was practically as good as, say, an accurate Clark Y.

One propeller had a section with the maximum camber at 50 per cent. of the chord—a section very similar to those recommended by Mr. Payne. This propeller proved to be 3 per cent. less efficient than those with orthodox sections.

The thickness of the section, within reason, has little effect on the characteristics of a propeller, though thin sections are slightly more efficient. A thickness/chord ratio of about $\frac{1}{8}$ appears to be the best compromise between strength and efficiency.

Pitch Distribution

It has sometimes been suggested that the performance of a model propeller might be improved by having a higher pitch at the tip than at the root ; that is, washing-in the blades.

Tests prove that there is some justification for this, and Fig. 3 shows approximately how the pitch should be varied for best results. The pitch at 0.75 of the radius is taken as unity. (In fairness to Mr. Payne, we must point out that this is one aspect in which the tests agree with his theory.)

However, the improvement to be gained by deviating from a uniform pitch is not large (roughly 2 to 3 per cent.). The important thing is to have the average pitch right.

Body Interference

The presence of a body or nacelle behind, or in front of a propeller (contrary to what one might expect) increases the efficiency of the propeller. Indeed, it is possible to obtain apparent efficiencies of over 100 per cent. for propellers operating near certain bodies.

This apparent efficiency is, however, misleading because although the body does increase the efficiency of the propeller, the propeller, due to its slipstream, increases the drag of the body. If this increase in drag is deducted from the thrust, one obtains what is known as the " propulsive efficiency," and this is the best criterion for judging propellers in practice.

With bodies of poor aerodynamic shape, the propulsive efficiency may be greater than the efficiency of the propeller alone, but with most reasonably streamlined bodies it is less. Fig. 4 illustrates this point.

Spinners

Spinners are usually fitted with the object of covering up the inefficient part of the propeller near the hub, but this apparently sensible idea is not borne out by the test results.

Fig. 5 shows the effect on propulsive efficiency of a variety of spinners. They all reduce the propulsive efficiency by a considerable amount, but the large " needle nose " spinner is the worst offender. One is therefore forced to the conclusion that on most models a spinner is a doubtful blessing.

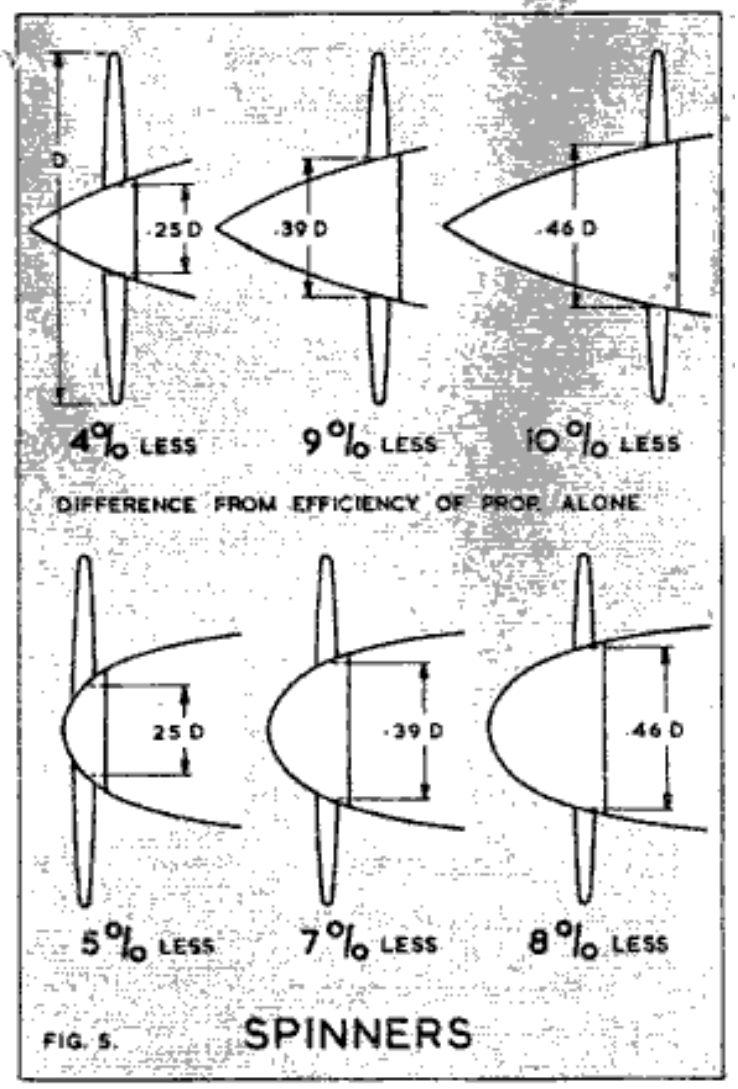


FIG. 5. SPINNERS

Contest Calendar 2014

SAM 600 Australia
Victorian Old Timers Association Inc.
10 Cunningham Drive
Endeavour Hills
Vic 3802

Contests commence at 10 am, unless otherwise stated.

The New MAAA 2013/2014 Rules apply.

The CD for all SAM600 events will be nominated on the day of the event.

General meeting Haddon 9am 16th March / AGM meeting Cohuna 9am 14th September, 2014

2014 All 1/2A, Duration & Texaco events will also be electric

April 17th — 21st	EASTER CANOWINDRA, AUSTRALIAN SAM CHAMPS hosted by SAM1788
May 3rd — 4th	Monarto S.A. Victoria – South Australian combined State Champs Saturday 1/2A Texaco, Burford & Texaco Sunday Duration & 38 Antique
May 17th — 18th	Cohuna SATURDAY 1/2A Texaco, Burford /Electric Coota, Duration, SUNDAY Texaco, Climb & Glide & 38 Antique.
September 13th — 14th	Cohuna Saturday 1/2A Texaco, Burford / Electric Coota & Duration Sunday 9am AGM Meeting---10am Texaco, Climb & Glide & 38 Antique
October 4th — 5th	Wangaratta Eastern States Gas Champs. Run by SAM1788
November 8th — 9th	Cohuna Saturday 1/2A Texaco, Burford / Electric Coota & Duration Sunday Texaco, 38 Antique & Climb & Glide
November 30th	Haddon , Ballarat Sunday Duration, Texaco, 38 Antique & Climb & Glide