The Thermaleer

SAM 600 of Australia Newsletter Issue No.144 January - April, 2018

SAM 600 member Col Colyer and SAM 600 president Kevin Fryer with their trophy haul from the SAM 1788 Championships at Canowindra this past Easter at VARMS Club night. Well done guys. The four SAM 600 members attending the Champs gained 7 placings with a tri-fecta of Col Colyer, Kevin Fry and Steven Gullock in Nostalgia. Both Kevin and Col had fly-aways in ½A Texaco.

NEXT COMPETITONS	
May 5th & 6th	**COHUNA - VIC / SA CHAMPS** Saturday: 1/2A Texaco, Duration, Burford Sunday : Texaco, '38 Antique
May 19th & 20th	**BALLARAT** (new field) Saturday: 1/2A Texaco, Duration, Burford Sunday: Texaco, 38 Antique, Climb & Glide

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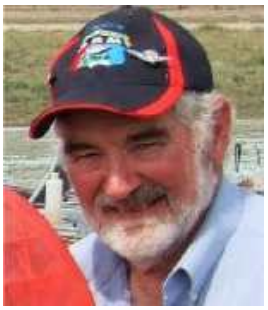

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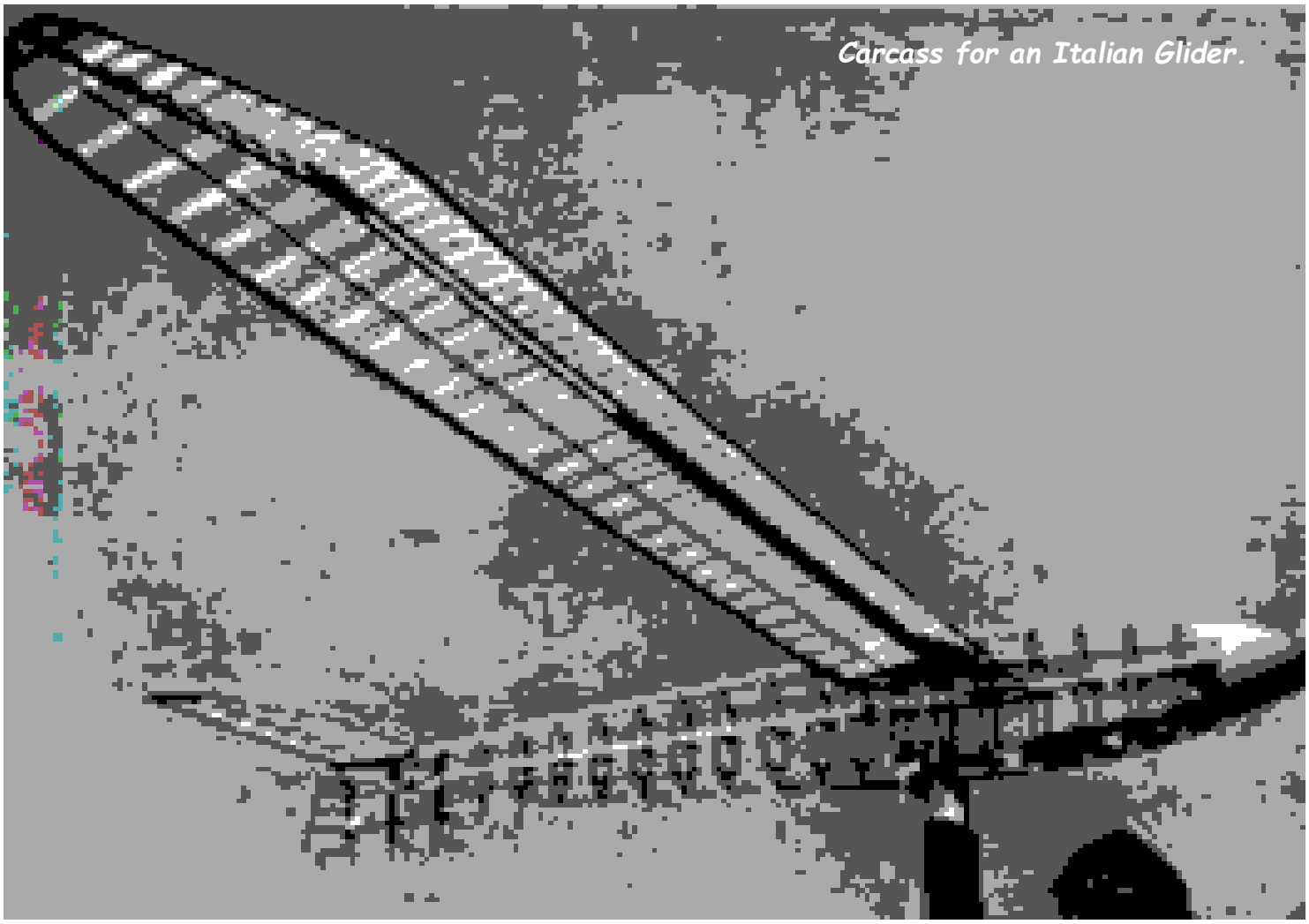
"The Thermaleer" is the official newsletter of SAM 600 of Australia, Victorian R/C Old Timers Association (SAM600) Inc.



Carcass for an Italian Glider.

FROM THE PRESIDENT

Kevin Fryer.

Well, at long last, we were finally able to run, (re-run actually) our first SAM 600 contest for 2018.

The weather in Echuca could not have been better. Fred West and his team looked after us very well, the numbers were down a bit with Brian Laughton spending the night in Echuca Hospital with a hart murmur, Colin Colyer in WA getting a few brownie points, Coodgiebear (Steven Gullock) with a sick head and sick transmitter, Don Grant with a sick wife, Brian Dowie at the VMAA Trophy, then next day in hospital over night getting a few sun spots cut out. I am glad to say all are progressing well.

Graeme Gulbin cleaned us all up in ½A Texaco as did Patrick Keely in Duration.

SAM 600 did very well at Canowindra over Easter with 5 wins and several high placings in most events. The best was a white wash in Nostalgia, with Colin Colyer first, second Steven Gullock and Kevin Fryer third. I hope this precedent can be used in more than one event the rest of this and next year.

At the Eastern States Gas Champs, Wangarrata, September 29th & 30th, there will be an Electric ½A Texaco event. THE WINNER OF THIS EVENT WILL GET A LANZO BOMBER BUILT BY MR GEOFF POTTER. This is a promotion to get electrics on the move, as we get older. I fully support this promotion and don't think it will be easy to win. The older shifty guys are the ones to keep an eye on.

Hope the weather is kind to you all,
Regards,
Kevin Fryer.

CONTEST CO-ORDINATOR'S REPORT

Don Grant

Hello all.

Firstly thanks to Brian Laughton for helping out in my absence due to Heathers' chemotherapy treatment. She is not able to be left on her own for any length of time because of the weakening effect of the treatment. I don't know how long the treatment is to continue so I am unable to say when I will be back. So all the best for the rest of the year and I hope you have good weather.

Congratulations to those who did well at Canowindra and for anyone going to the Nats. all the best.

Don Grant

"The Stebbings Memorial" Champ of Champs - 2017 Presentations

Left: Robert Taylor presenting Kevin Fryer with the 2017 Stebbings Memorial Trophy for IC award.
Right: Kevin Fryer presents Gavin Dunn with the 2017 Electric Stebbings Memorial Trophy.
The awards were made at the SAM 600 event at Echuca on 22nd April, 2018. (Photos from Graeme Gulbin)

THE FRANK EHLING INTERNATIONAL 1/2A POSTAL TEXACO CHALLENGE 2018

The Old Timers, SAM 114 of Western Ohio in the USA, invite all SAM Chapters to compete for the Frank Ehling International 1/2A Postal Texaco Challenge for 2018. This model airplane event has been flown annually since 1985.

New this year, your team can pick any day for flying during the **ninety day** window, Sept. 1st through Nov. 30th. This should allow a greater freedom in selecting good weather conditions for each global location in which the contests are held. Once you start flying do not change to another day. If a team member is unable to participate at the team site he may fly at his location on the same day and report results to you.

The results should be recorded as follows: Members name, Model, wing area, weight, and times of Flt 1, Flt 2, Flt 3 and total. Please list the results for all team members. The sum of the times of the three highest scoring fliers will be the team score.

Team managers are asked to comment on the weather and flight conditions, the date and location flown. Please include your SAM Chapter number, address, telephone number and e-mail address. The results are due by Dec 5, 2018.

Note: SAM 2015 1/2A Texaco rules apply (15 min. max, best two of three flights). See SAM's Web site for complete rules.

Send results to: George Lamb
E-mail: gtlamb@yahoo.com
6026 Waterloo Road
Centerville, OH 45459
Tel. (937) 435-6692

The Old Timers, (SAM 114) in Western Ohio, will be practicing this summer to be ready to defend the Trophy. All SAM chapters are encouraged to join the fun and make it a very competitive event. We look forward to receiving your results and a photo of your team. Results will be posted on the W.O.R.K.S. Club web site www.worksrcclub.net and forwarded to the SAM Web Master for posting on the web site www.antiquemodeler.org

ENGINE REVIEW: GEE-BEE SABRE 150 from Model Aircraft July 1953

The 1.5 C.C. class engine, the first models of which were introduced following the S.M.A.E.'s institution, some years ago, of a C/L speed class of this capacity, has now become popular, both inside and outside Britain, for many other types of models.

One of the most interesting examples of this class is the Australian "Gee-Bee" Sabre 150 model. This is, perhaps, the best looking 1.5 C.C. engine yet introduced. Its appearance is neat and functional and is aided by a good finish. The neat conical tank-mount, which also forms the rear cover of the crankcase, resembles the layout now becoming increasingly popular among American "Half-A" class motors and, with the fuel pipe leading forward from the bottom, results in a particularly neat installation, without the large and unsightly loops of fuel tubing encircling the engine that are often seen on more conventional designs. This layout is particularly pleasing for power-duration applications. So far as general design is concerned, the Sabre 150 uses the Arden system of circumferential porting and, in this respect, resembles the English made Elfin 1.5 c.c., although the exhaust belt is divided into three segments with, correspondingly, three transfer passages instead of the Elfin's four. It is, of course, a shaft rotary-valve motor but, like the Sabre 250 model (M.A. Engine Tests, No. 43), the shaft is kept short and the airscrew is secured by means of a separate hexagon-head stud which screws into the front end.

Two long machine screws are used for mounting the engine and, since the crankcase cover is integral with the tank-mount, a satisfactory seal is obtained by employing these two screws to hold these two stiff castings together.

Messrs. "Gee-Bee" Products, of Grange, South Australia, under the direction of designer Gordon Burford, who build and now distribute, the "Gee-Bee" engines, are them selves die casters and, as we would therefore expect, the die castings which comprise the tank and crankcase of the Sabre 150, are of excellent finish. On the Sabre 250 model, DTD. 424 alloy was employed, but the 1.50 uses a 12 per cent. silicon alloy instead.

SPECIFICATIONS:

Type: Single-cylinder, air-cooled, two-cycle, compression-ignition. Induction via shaft type rotary-valve with sub-piston supplementary air induction. Radial exhaust and transfer porting with conical piston crown.

Swept volume: 1.517 c.c.

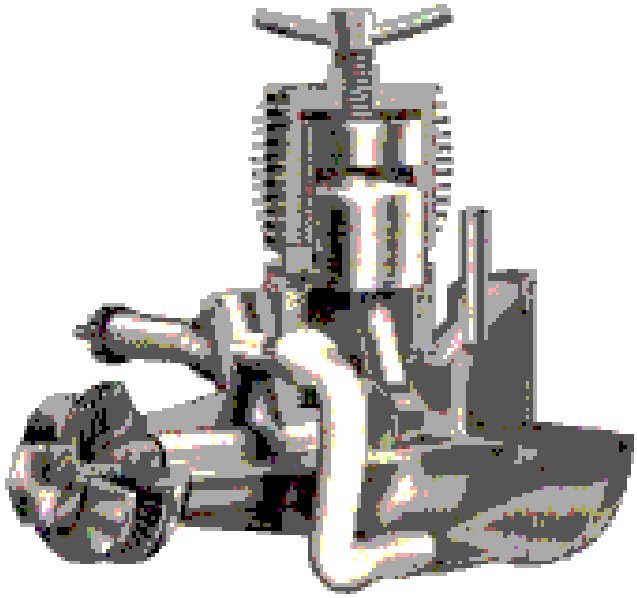
Bore: 0.503 in. Stroke: 0.466 in.

Compression-ratio: Variable.

Stroke/Bore ratio: 0.926 : 1.

Weight: 2.8 OZ. including tank.

General Structural Data: Crankcase and fuel-tank die-cast in 12 percent, silicon-aluminium alloy. Hardened steel cylinder-liner screw threaded to crankcase casting. Crankshaft of 3 per cent, nickel-steel, hardened, with separate airscrew stud and running direct in crankcase material. Machined duralumin cylinder barrel, screw-threaded to cylinder-liner. Connecting-rod machined from duralumin. Hardened steel piston with pressed in gudgeon-pin. Spray-bar type needle-valve assembly with brass body and polished steel needle.



Two point bulkhead type mounting.

Test Engine Data:

Running time logged prior to test: One hour.

Fuel used: "R.M." Diesel.

PERFORMANCE:

In starting, the Sabre 150 responds readily to standard procedure and one is not conscious of any special requirements in this direction. It does, perhaps, like to be a little "wetter" than some, but starting remains good, with the engine hot or cold. When the engine is hot and loaded for the most popular operational speed range (i.e., around 8,000-10,000 r.p.m.) we found it best to slacken off the compression lever about one-sixth of a complete revolution, choking the intake for several turns but not disturbing the needle-valve from its running setting. The running setting on our test engine, incidentally, was two turns open. So far as other handling characteristics are concerned, the compression control is good; being responsive and holding its setting firmly without being too stiff or uncomfortable to adjust. The needle-valve, as on most engines of this type and size, is rather near to the prop disc, but this is no great disadvantage since readjustments to the mixture strength are seldom required while the engine is running once the initial settings are known. The needle-valve assembly, incidentally, is much the same as that fitted on the

larger 250 model, a good solid design which provides positive control without any tendency to get out of adjustment with vibration.

General running qualities are good. As with most modern small diesels, the crankshaft is not balanced, but provided that the engine is mounted firmly, vibration is not excessive. The engine runs well at high speeds yet shows considerable flexibility and will operate satisfactorily on an 11 in, dia. propeller holding revs down to less than 4,000.

At these low speeds there is a noticeable power loss as the engine warms up, but this tendency is not repeated at the high speeds obtainable with small props.

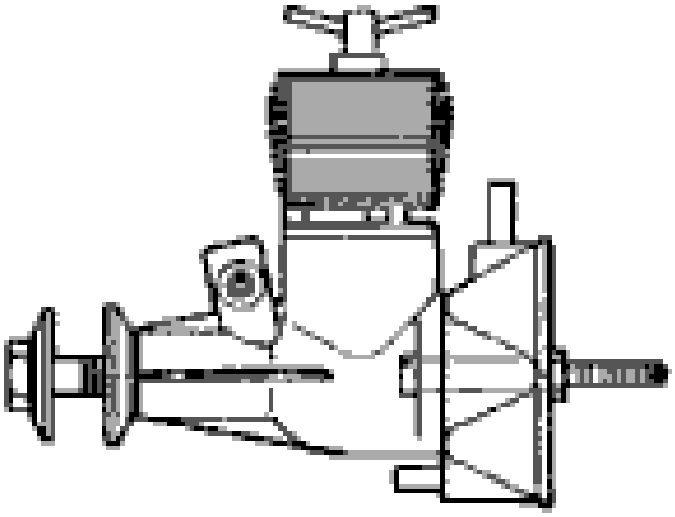
The torque readings obtained with the Sabre were well up to expected levels for a 1.5 c.c. engine, the best figure being realised at between 6,ooo and 8,ooo r.p.m., beyond which there was a gradual decline, resulting in a smooth power curve levelling off at approximately 12,000 r.p.m. Relative b.m.e.p. reached was 50lb./sq. in., a good figure, while piston velocity, due to a moderate stroke/bore ratio, remains at under 1,000 f.p.m. at the peak of the power curve.

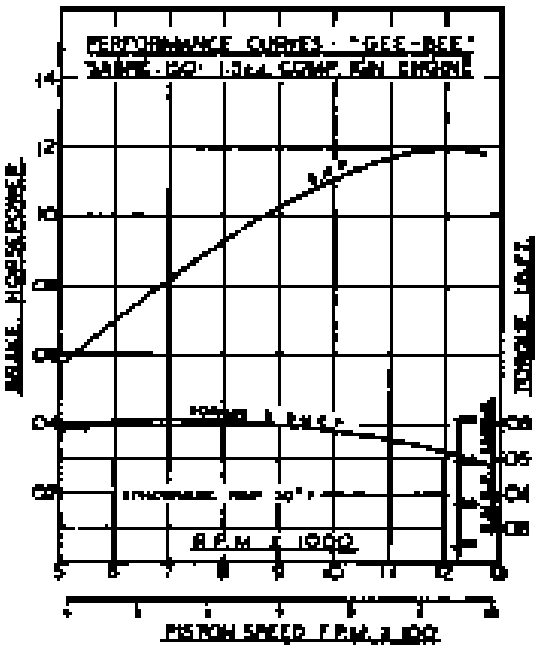
We experienced no troubles of any description with the Sabre 150, either during the test or running-in period.

The manufacturer's recommended propeller sizes are: C/L 7 x 6, free-flight 7 X 4. On these sizes, the 150 should be getting quite close to its peak output in the air.

Power/Weight ratio: (as tested): 0.684 b.h.p./lb.

Specific Output (as tested): 79 b.h.p./litre.





WARNING: How to unbind an RX from a Spektrum DX7 TX at any time.

From Peter van de Waterbeemd - Editor Duration Times SAM 1788.

At Orange in the Duration event, my model RX unbound at the first round. This was unexpected as the model had been worked on earlier in the week and bound OK on multiple occasions as well as earlier on Saturday for a tuning run of the engine. The RX was dug out of the model and rebound. All appeared OK and the model was flown for four flights in the event with no further issues.

On Monday morning I wanted to run some 4:1 castor based fuel through the engine and the RX unbound. I rebound and decided that the RX was to be demolished when I got home.

Before the RX was hit with a hammer, I did a search of the internet and found there were a number of possible causes, one being that the bind switch on the rear of a DX7 was depressed when the TX is switch on.

Well as it happens, this DX7 had a plastic stand fitted to the handle on the rear of the TX. When I picked up the TX, because the stand was worn and loose, I pulled the stand towards the rear of the TX and the horizontal bar between the stand's legs was pulled against the bind switch thereby depressing the switch and then the TX switched on. The RX is now switched on and presto, the RX unbinds.

I tried this at home with the AR600 fitted in the model, it unbound every time. I also tried the sequence with an AR400 and an Orange receiver. The RX unbound every time.

I'm not sure whether this is peculiar to the Spektrum DX7 transmitters or to some or all Spektrum transmitters or to any brand of 2.4Ghz transmitter. Food for thought though.

The TX stand is now at the Eden tip. Peter van de Waterbeemd.

I called an old MIT graduate friend to ask him how he was doing.

He replied that he was working on "Aqua-thermal treatment of ceramics, aluminum and steel under a constrained environment."

I was impressed.

However, upon further inquiry, I learned that he was washing dishes with hot water under his wife's supervision.

FOR OLD TIMER'S SAKE

By Don Howie.

VINTAGE GLIDERS in SOUTH AUSTRALIA.

It is very difficult to get enough flyers together at one time (this includes weekdays) to run an Old Timer power contest, thus no power events are being run in S.A. One event remains popular, and new models are being built, this being Vintage Glider.

The event started about 1990, with the rules being devised by Joe McGuffin in NSW, with input from Leo O'Reilly in S.A., who flew an 11ft 4in span "Thunder King" at the 1950/51 Australian Nationals at West Beach in Adelaide, this being free flight.

First event I saw was at the Waikerie Nats in S.A., about 1992. Ian White built the 104inch span Lulu Mk.2, signed by John Pond (checked) at the time. A number of S.A. flyers built large R/C Glider for this event.

The event has remained popular in S.A. since that time, with most models built, being of British origin. Most models have a long life as they fly slowly and are not subject to the oil from fuel with power models.

Most popular model in recent times has been the enlarged Frog "Prince", designed in 1949 by Charles Buffery, who had been with Frog since 1934. The original was 60inch span but most are enlarged to about 96inch span. The one built by Bill Britcher, held by Chris Britcher, shows the simple wing construction and the clear canopy, which makes it a quite clean design, with large wing area.

Rex Brown sold his Frog "Prince" to John Urry from Townsville (Qld) in 2016 at Canowindra and Kent Urry won at Canowindra in 2017 with the ex-Rex Brown model, which had been partly recovered.

In recent times, Col Colyer (Vic) has been the outstanding Vintage glider flyer and one of his models was an enlarged "Satyr" glider from 1949 Model Aircraft. Rex Brown has built two of these models, the latest being 3metres span with Polyspan covering on the wings and tail, with painted fuselage. This model was flown in 2017 at Canowindra SAM 1788 Champs.

Over the many years I have flown the ex-Ian White 104inch span "Lulu Mk.2", a 1949 design at 50inch span by John Barker (for Free Flight and has become a classic model since being published in Aero Modeller magazine. The model is quite heavy, but is easy to fly and has placed in many of the events at Willunga Vintage Modellers field in S.A.

Latest "Lulu Mk.2" built is the 100inch span model (double size) with double the wing ribs by Peter Leaney (ex NSW).

The model is much lighter than my model and is easy to fly with no vices. The sharp, flat-bottom wing section allows it to fly quite fast when needed and this new model won the last contest in S.A.

SMALL DIESELS or GLO's in SMALL MODELS.

Small models of about 2feet span or less can be flown on most radio fields as free flight models under calm conditions. If you do not wish to use an expensive small diesel, then try a MK.II

Chris Britcher at Willunga Vintage Modellers Field, S.A. at December 2017 Contest Day. 96inch span Frog Prince.

Kent Urry (Townsville, Qld.) winner of Vintage Glider at Canowindra SAM Champs, Easter 2017. 96inch span Frog Prince.

Rex Brown at Canowindra 2017 with 3 metre span "Satyr" Glider.

Willunga Vintage Modellers Field Contest Day, December 2017. All "Lulu Mk.2" models. L to R Ray Bobrige, Don Howie, Dave Markwell and winner of event Peter Leaney.

or MKIII WenMac glo from the nineteen fifties. Production was over a million engines a year, they were designed by Bill Atwood, and produced by him until he sold out to the WenMac Corporation in 1960 and then joined L.M. Cox, designing the TEE DEE front rotary COX engines.

Small models are best as Biplanes so build an Ebenezer bipe or better than that, the David Owen designed "Bi Bli" at 23inch span, that was featured in my last article. The introduction of the K&B Infant Torpedo .020 in the USA in 1949 meant small free flight models could be flown and Greg Nelson has one of the models that was only 12inch span and kitted by Texas Models, and called the "GNAT". Greg has doubled the size to 24inch span and fitted a replica of the K&B .020 Infant Torpedo. The model was easy to build with sheet fuselage and his model does fly very well.

Oily Hand Weekend 2017. Greg Nelson (S.A.) 24inch span "GNAT" free flight model.

Next kit shown by Springfield Models (USA) is for a S.E.5 British WWI biplane at 12½inch span, the model built by Maris Dislers. Engine fitted is a V.A. .020 glo, converted to diesel by Maris. The engine was designed as a replacement for the COX T.D. .020 glo.

12½inch span S.E.5 biplane kit by Springfield Model USA. Nineteen fifties model by Maris Dislers.

"K" HAWK 0.2cc - 1948. Harry Kemp of "K" Model Engineering Co. Ltd. at Darnley Street, Gravesend, Kent, produced the smallest British diesel at 0.2cc from 1948 in the U.K. Looking at the full page advert in Model Aviation, Power Models magazine (plan book) in 1948, it was claimed as "a miracle achievement", the engine having "split-second starting", being the "world's lightest engine".

If the engine had been made today with modern C.N.C. machinery, I suspect this would be true regarding starting etc., but the two engines we tried to test were almost impossible to start or keep running.

Both had sloppy contra-pistons and both had new ones made. The steel piston to steel liner was still too tight, meaning the factory (3 workers in 1948) had not spent time lapping the piston in correctly. A new thicker gasket at the cylinder base was made as it was not matching correctly. Lastly, the intake where it fitted to the cylinder with screw clamp was loosely fitted and leaked air, so some neoprene tubing was fitted inside the clamp to cure this problem.

The engines were owned by Bill Britcher and Maris Dislers spent considerable time to get the engine shown, just to run. The engine is shown running on a 7x3 red prop.

It was still fairly tight and we got the following:

COX	6x3 Black	6,300 rpm.
APC	6x3 Grey	6,700 rpm.
APC	5.7x3 Grey	7,000 rpm.

1948 2nd model "K" Hawk 0.24cc diesel. Smallest British engine in the nineteen forties.

"K" Hawk 0.2cc running. Not much quality control in 1948. Took considerable time getting it to run.

SAM 600 WEEKEND at ECHUCA

21st-22nd April, 2018. **Photos from Graeme Gulbin**

Report by Pat Keely.

Saturday started with the news that Brian Laughton had spent the night in hospital. Brian was released the next morning and he visited the field to say hello then headed home with a "broken heart."

We started with ½A with the electric pilots outnumbering IC by 5 to 3.

In electric, Graham Gulbin decided to use the short wing at the last minute and then blitzed the field with his Stardust Special, easily pushing Kevin Fryer into second place with Gavin Dunn coming third.

The IC ended a little one sided when Lyn Clifford, tuned his Cox to perfection, as he nearly always does, to win easily against Kevin Fryer, who came in second, with Pat Keely third, both struggling to gain enough height in the flyoff.

Next was Duration with two pilots in electric. Gavin Dunn, finishing a strong second to Kevin Fryer, with the first of his many places for the weekend.

In IC Duration Kevin Fryer, in the rounds, was concentrating so hard on performing a smooth landing, he misjudged the designated area and landed out, keeping him out of the final. It shows he's the same as the rest of us men, he can only concentrate on one thing at a time. The final placings were Rob Taylor, third, Brendon Taylor, second, both flying a Cumulus with Pat Keely luckily winning with his Bomber. (That was only because it was bomber weather.)

With only two entrants in Burford, they decided to only have a flyoff with Kevin Fryer winning by a margin of only a few seconds over Lyn Clifford.

The last comp for the weekend was Texaco. In the electric event, with only two entrants, it was a very close competition between the in-laws with Lyn Clifford, outlasting the son in-law, Gavin Dunn, the master showing the apprentice how it's done. Or did Gavin let the father in-law win?

All the competitors in IC made it to the flyoff. Lyn Clifford lost his prop in the rounds but recovered for third place with Rob Taylor coming second and Kevin Fryer, following the hawk to find a thermal to win.

The Fred Stebbing Memorial Champ of Champs trophy, awarded to the best modellers for the past year, and the 2017 winners were Kevin Fryer for I/C and Gavin Dunn for electric. Congratulations Kevin and Gavin on a great year.

A big thank you to the members of the Echuca-Moama Club for helping as timers for our events. We hope one or two might build an old Timer and join in the next time we are at their field. We would also like to thank the club for supporting our event with their facilities and great food.

Above: Graeme Gulbin is presented his trophy plate for his win in ½A Texaco.

Left top: Lyn Clifford preparing his ½A Texaco model assisted by Brendon Taylor.

Left: Lyn Clifford receiving one of his four trophy plates.

Kevin Fryer gets away in ½A Texaco. The great weather was enjoyed by all over the entire weekend.

Kevin Fryer and Gavin Dunn fighting it out in Electric Duration.

Brendan Taylor releases Robert Taylor's Cumulus in IC Duration. Brendan achieved 2nd place and Robert 3rd place.

½A Texaco winners: Kevin Fryer 2nd, Lyn Clifford 1st and Pat Keely 3rd.

Electric ½A Texaco winners: Kevin Fryer 2nd, Graeme Gulbin 1st and Gavin Dunn 3rd

Electric Duration models ready to go.

Below: Pat Keely gets away in Texaco.

Top Left: Pat Keely's Lanzo Bomber coming in for landing in Duration.

Top Right: Pat Keely, winner in Duration with his Lanzo Bomber.

Centre Left: Robert Taylor timing Lyn Clifford into Lyn's 3rd place in Texaco.

Above: Winners in the Burford Event, 1st Kevin Fryer with his Spacer, and 2nd Lyn Clifford with his Stardust Special.

Left: The host club for the weekend, Echuca-Moama Model Aero Club's excellent facilities at their flying field. A big thanks to them for their support for SAM 600 and the enjoyable food they supplied.

Texaco Winners, 2nd Robert Taylor, 1st Keven Fryer and Lyn Clifford 3rd.

Duration Winners, 2nd Brendan Taylor, 1st Pat Keely and Robert Taylor 3rd.

ECHUCA 21-22 APRIL 2018 - RESULTS FOR IC ENGINES

1/2A TEXACO

	Name	Model	Engine	CC/Sec	Rd 1	Rd 2	Rd 3	Rd 4	F/O	TOTAL
1	Lyn Clifford	Stardust	Cox		420	420			564	1424
2	Kevin Fryer	Challenger	Cox		420	420			480	1320
3	Pat Keely	Stardust	Cox		420	420			404	1244
4	Robert Taylor	Stardust	Cox		327	381				708
5	Brendan Taylor	Stardust	Cox		183	316				499

TEXACO

	Name	Model	Engine	CC/Sec	Rd 1	Rd 2	Rd 3	Rd 4	F/O	TOTAL
1	Kevin Fryer	Cumulus	OK Super 60 spk	24	600	600	600		2245	4045
2	Robert Taylor	Cumulus	OS 61	18	600	600	600		2173	3973
3	Lyn Clifford	Racer	OS 60	18	600	600	462	600	2052	3852
4	Pat Keely	Airborne	OS 61	15	504	600	600	600	1300	3100
5	Graeme Gulbin	Bomber	OS 60	18	600	600	600		1147	2947

DURATION

	Name	Model	Engine		Rd 1	Rd 2	Rd 3	Rd 4	F/O	TOTAL
1	Pat Keely	Bomber	OS 50 f/s	32	420	420			760	1600
2	Brendan Taylor	Cumulus	YS 63	28	420	420			627	1467
3	Robert Taylor	Cumulus	YS 63	28	420	420			576	1416
4	Lyn Clifford	Cumulus	YS 63	28	420	420			460	1300
5	Kevin Fryer	Cumulus	McCoy 60 spark	40	392	420	L/O			812

BURFORD EVENT

	Name	Model	Engine	CC/Sec	Rd 1	Rd 2	Rd 3	Rd 4	F/O	TOTAL
1	Kevin Fryer	Atomiser	PB	40					476	476
2	Lyn Clifford	Creep	PB	40					453	453

ECHUCA 21-22 APRIL 2018 - RESULTS FOR ELECTRIC POWER

ELECTRIC ½A TEXACO

	Name	Model			Rd 1	Rd 2	Rd 3	Rd 4	F/O	TOTAL
1	Graeme Gulbin	Stardust			600	600			1455	2655
2	Kevin Fryer	Stardust			600	600			1342	2542
3	Gavin Dunn	Stardust			600	600			1338	2538
4	Ted Arnut	Stardust			600	600			1083	2283
5	Max Heap	Stardust			600	600			890	2090

ELECTRIC TEXACO

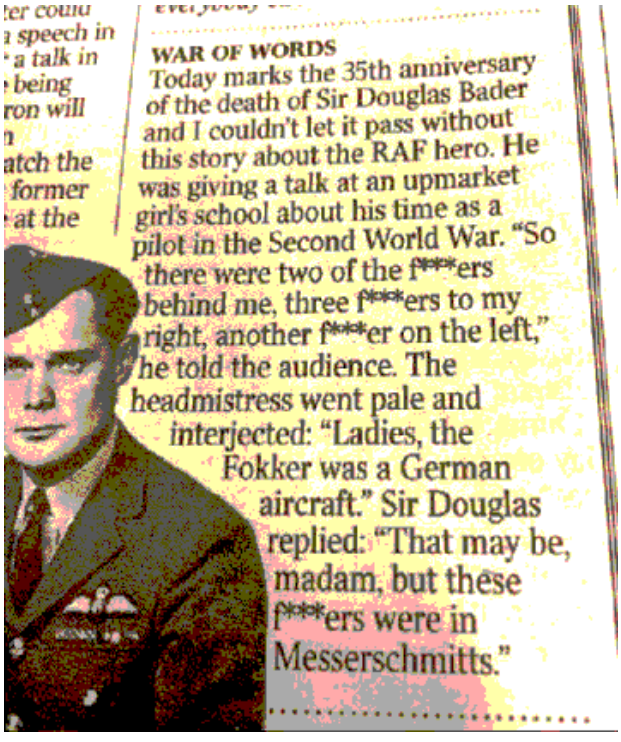
1	Lyn Clifford	Bomber			600	600			1509	2709
2	Gavin Dunn	Bomber			600	600			1466	2666

ELECTRIC DURATION

1	Kevin Fryer	Cumulus			420	420			504	1344
2	Gavin Dunn	Bomber			420	420			486	1326

Big Philon and little Philon gliders from Italy.

Another Albatross Glider (1948) from Italy.



WAR OF WORDS

Today marks the 35th anniversary of the death of Sir Douglas Bader and I couldn't let it pass without this story about the RAF hero. He was giving a talk at an upmarket girl's school about his time as a pilot in the Second World War. "So there were two of the f***ers behind me, three f***ers to my right, another f***er on the left," he told the audience. The headmistress went pale and interjected: "Ladies, the Fokker was a German aircraft." Sir Douglas replied: "That may be, madam, but these f***ers were in Messerschmitts."

COWRA MODEL AIRCRAFT CLUB

Oily Hand Day 2018

24th, 25th & 26th August

Models for 2018 OHDD

Pretty Perfect by Arthur John Percival (described by brother Dennis)

Barnstormer by David Boddington

Cowra MAC cordially Invites you to their 2018 Oily Hand Event

http://www.cowramac.asn.au/main.html

Johnny Lamont, member of the E,S,M.A.C., holding the Super Skylark with which he won the Australian Junior Stunt Championship in the 1950 Nationals.

★ **1950 NATIONAL JUNIOR**
★ **CHAMPION STUNT**
★ **MODEL**

SUPER SKYLARK

Designed by
JACK HEARN
FOR 5 C.C. MOTORS

SUPER SKYLARK

1950 Nationals Junior Stunt Champion

THIS model was designed for the 1950 Nationals by Jack Hearn and built by John Lamont of the E.S.M.A.C. club eight weeks before the Nationals.

It was built around the new Frog 500 Glo motor, although it has since proved itself just as successful with other 5 c.c. capacity motors. Johnny Lamont could do no more than a few loops and a little inverted flying up to this time, but after building the "Super Skylark" he became proficient at the proverbial book in just a few week-ends. The design is of the simplest type of construction and is quite strong enough to withstand the usual crashing routine one experiences when learning to stunt. The control system if used smoothly will respond in an even manner but if in trouble at any time full back or forward on the controls usuall brings you out of trouble.

Construction details:

Full size plans are available. The fuselage sides are cut from 1/8" sheet and assembled around the tank and ply bulkheads the control plate is mounted on the bottom engine bearer and is easily accessible from the bottom of the fuselage. The top of the fuselage is planked and the rear block balsa, the cowl blocks are cemented in place and carved on the model. Carve the nose to suit the spinner and motor used. The tank should be of the wedge type with the fuel line directly in line with carby induction (see plan) cement in position with block balsa. The tank set-up is one of the secrets to good stunting. If the plan is not followed correctly you may as well give up now. The rudder is made from 1 m.m. plywood and is cemented to the fuselage top, the tail plane is made from 3/16" sheet balsa. Now when fitting the hinges, push rod, elevator horn and control plate, all should be made as good a fit as possible. Slap happy methods are not good enough if you want want to become a top-line stunt man. If the models hunts all over the manoeuvres check the linkage system and you will find all the slop which causes those crashes when the pilot remarks, "I gave her up, and she just went straight in."

The wing construction is of the simplest construction: Leading edge 3/8: sq; main spars 3/8"x1/4" hard balsa 3/8"x3/4" trailing edge, centre section ribs are made of 1/8" balsa. The remainder 1/16"sheet; the wing tips are 1/4" sheet; cover centre section with 1/16" sheet balsa. Cement lead weight to outside wing tip and wing guide on inner tip. Cement all joints well and when dry cover with rag tissue. Give two coats of dope and one coat of fuel proofer. When the fuselage is completed make sure wing fits neatly in cradle and when viewed from the front of model the wing should sit squarely to fuselage and tailplane.

Two loops of 1/4"x1/24" rubber is sufficient to hold wing to fuselage. The advantage of the removable wing is in the advent of a crash. Little damage is done and quick examination of the control system can be made.

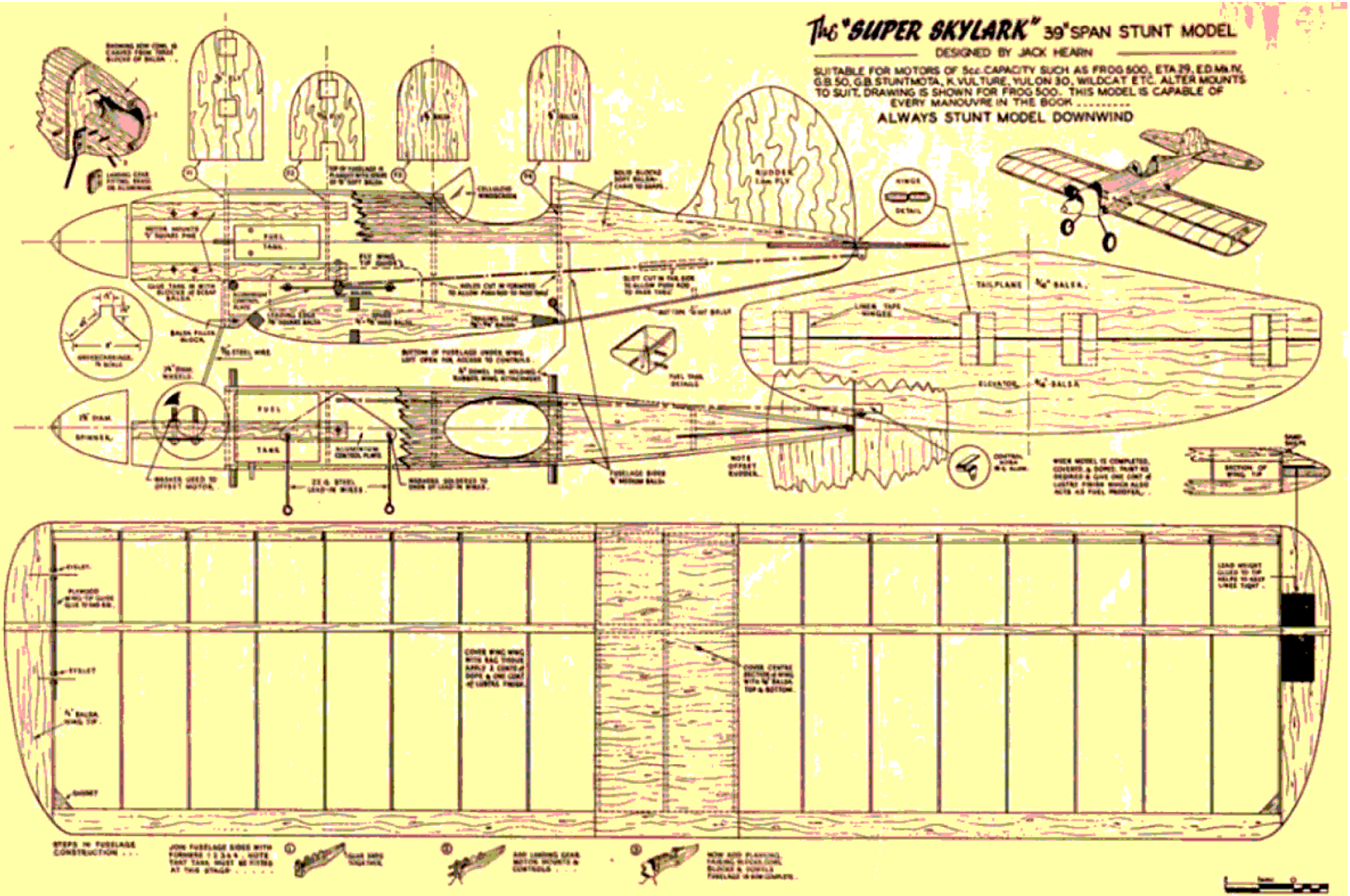
Well you future stunt champs it's now up to you, happy flying.

The "SUPER SKYLARK" 39" SPAN STUNT MODEL

DESIGNED BY JACK HEARN

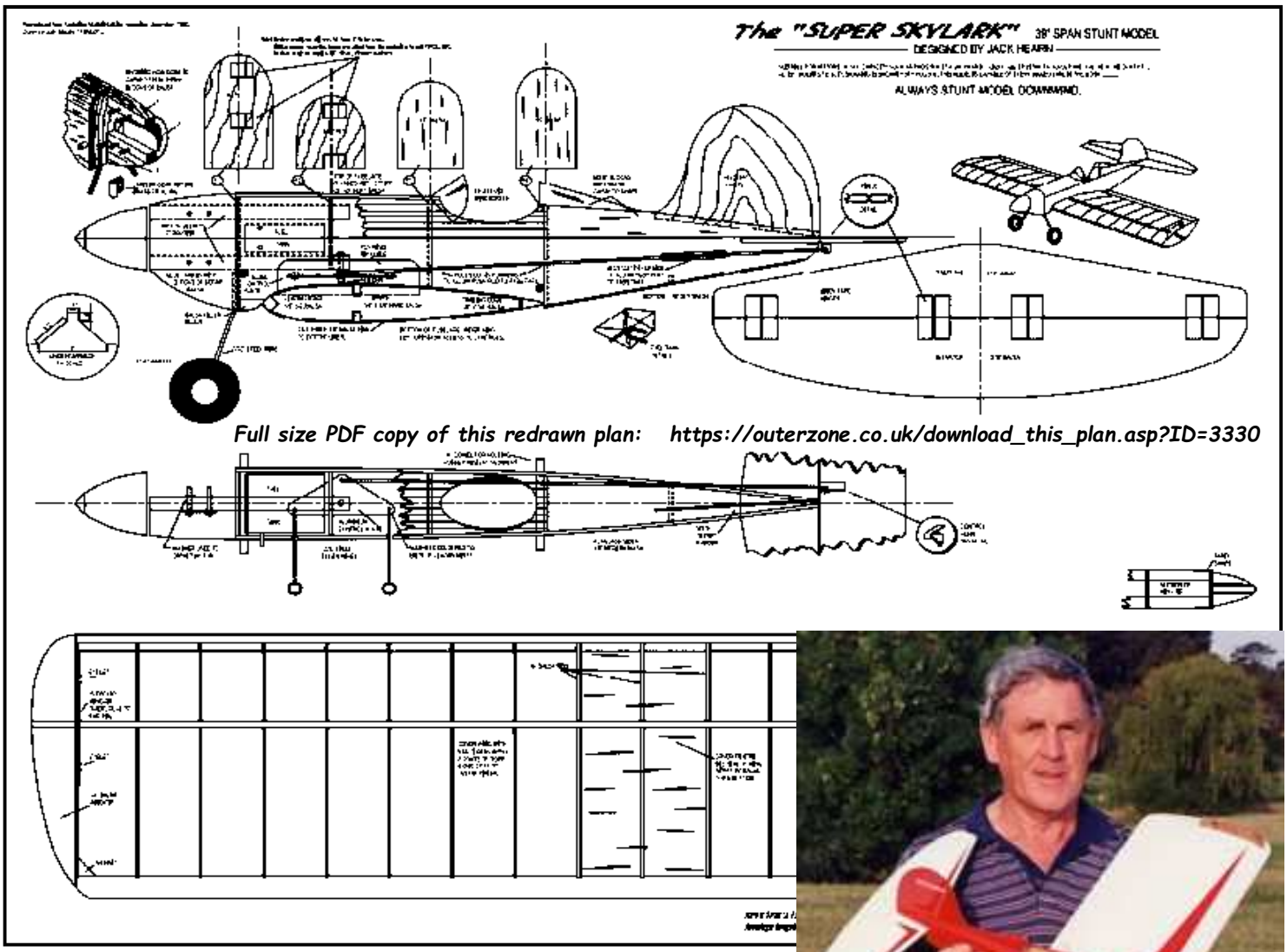
SUITABLE FOR MOTORS OF 5cc. CAPACITY SUCH AS FROG 500, ETA 29, E.D. Mk IV, G.B. 50, G.B. STUNTMOTA, K.VULTURE, YULON 30, WILDCAT ETC. ALTER MOUNTS TO SUIT. DRAWING IS SHOWN FOR FROG 500. THIS MODEL IS CAPABLE OF EVERY MANOUVRE IN THE BOOK .....

ALWAYS STUNT MODEL DOWNWIND



SPECIFICATIONS:—Wingspan, 39 ins.; wing chord, 9 ins.; wing area, 340 sq. ins.; tailplane span, 17 ins.; T/P chord, 5¼ ins. max.; fuselage length, 21½ ins., not including spinner; maximum fuselage depth, 4½ ins.; power, 5 c.c. motor.

Note Scale in bottom right hand corner for enlarging plan, which is quarter full size.



Full size PDF copy of this redrawn plan: https://outerzone.co.uk/download_this_plan.asp?ID=3330

John Lamont's Control Line Story.

From John Lamont

I was sixteen years old and prior to the 1950 Nationals my control line flying was limited to anything that I could find that suited my only engine, an ED Mk.III 2.49cc diesel. I haunted Hearn's Hobbies after school and was encouraged by Jack and Keith Hearn to join the Eastern Suburbs club despite the club flying at Surrey park in Box Hill and my living in South Melbourne. I did a lot of train travelling to attend meetings at Camberwell and fly at Box Hill with the Hearn brothers, Tony Farnan, Monty Tyrrell, Rupe Johnson, Norm Bell, Reg Cooper and Ted Gregory, all top level control line flyers of the day. Jack Hearn designed and built the prototype "Super Skylark" late in 1949 and loaned the model to me after suggesting that I should fly it in Junior Stunt at the Nationals.

John with his Super Skylark which he flew at Monty Tyrrell events at Knox Field.

This was a big step up from the small models I had been flying and I spent many hours after school and on weekends practicing at Albert Park with my mate Barry Angus. I managed to work my way through the stunt schedule without breaking the model and built a new one for the Nats as the BOM rule was then in force. I guess that I was a bit of an unknown prior to the event but after winning I found that I was now the owner of a HH "Tempest", an American engine of my choice (I selected a Dooling 29) and a new FROG 500 that Hearn's Hobbies gave me for winning with their model. Heady stuff for a young lad!

I briefly returned to competition flying (again after a lot of practice) in Senior Stunt at the Bendigo Nats in 1953 with a HH "All Australian Mk.I" powered by the new Sabre 49, but I had already turned to radio control and did not fly in any more control line competitions until I met Alwyn Smith at Doncaster in the early 1990's and he convinced me that I should build another "Super Skylark" powered by an OS 25FP. I flew this model in a number of Monty Tyrrell events at Knox field and usually had a private duel with Tony Farnan as neither of us could match the current experts in the field. The model finally met its end at a display by the Greensborough club when a woman asked if I would fly again for her son as I was packing up. I had stopped because of the rising wind but put up the "Skylark", lost it in the wind, and that was the end of it. I didn't fly control line again until recently when Alwyn Smith and David Nobes trusted me with a couple of flights of their models at Doncaster -- it's like riding a bike, you never forget.

70th National Model Aircraft Championships

West Wyalong NSW - 23 to 30 April, 2018

Results for R/C Oldtimer Events

from Dave Brown

GORDON BURFORD

Peter J.	SMITH	Dreamweaver	BB	900	2166
Max	NEWCOMBE	RC1	BB	900	1991
Grant	WHITTOME	Swiss Miss	PB	900	1894
Peter	Van de WATERBEEMD	Ollie	BB	900	1799
Grant	MANWARING	Dixielander	PB	900	850
Basil	HEALY	Zoot Suit	PB	900	840
Peter	SCOTT	Dream Weaver	BB	900	718
Paul	FARTHING	Pencil Jr 110%	PB	900	592
Jim	RAE	Pippo	BB	900	528
Vince	HAGERTY	Lil Diamond	PB	900	293
Dave	PATON	Stardust Spl	PB	900	281
Steven	GULLOCK	Stardust Spl	BB	900	L/O
Garry	WHITTEN	Lil Diamond	PB	842	
Bob	MARSHALL	Playboy Cabin	PB	740	
Michael	GREY	Playboy	PB	486	

STANDARD DURATION

Peter J.	SMITH	Playboy	Magnum 36	1080	357
Max	NEWCOMBE	Zipper	OS 40H	1080	L/O
Dave	BROWN	Airborn	OS 40 H	1068	
Peter	SCOTT	Stardust Spl	OS 40H	1020	
Dave	PATON	Stardust Spl	OS 40H	998	
Paul	FARTHING	Playboy	OS 40H	973	
Jim	RAE	Lion Cub 125%	OS 40 H	969	
Victor	WHITTOME	Playboy	OS 40	956	
Grant	MANWARING	Playboy	OS 40 H	884	
Steven	GULLOCK	Playboy	OS 40 H	831	
Peter	Van de WATERBEEMD	Bomber 85%	K&B 40	811	
Grant	WHITTOME	Playboy	OS 40	640	
Michael	GREY	Playboy	TT 36 2/	616	

DURATION

Peter	Van de WATERBEEMD	Bomber 85%	McCoy 60	1260	649
Dave	BROWN	Bomber 85%	Saito 56 4/	1260	628
Paul	FARTHING	Playboy	McCoy 60 spk	1260	396
Max	NEWCOMBE	Bomber	McCoy 60	1217	
Peter J.	SMITH	Playboy 112%	McCoy 60	1186	
Jim	RAE	Lion Cub 130%	Saito 56 4/	1100	
Dave	PATON	Playboy Cabin	Saito 62 4/	1029	
Grant	MANWARING	Bomber 85%	Saito 62 4/	1000	
Grant	WHITTOME	Playboy	OS 50 4/	974	
Basil	HEALY	Red Ripper	Saito 56 4/	946	
Vince	HAGERTY	Playboy	Saito 62 4/	941	
Garry	WHITTEN	Playboy	Saito 62 4/	876	
Steven	GULLOCK	Playboy	OS 52 4/	800	
Victor	WHITTOME	Playboy 105%	OS 40 2/	784	
Peter	SCOTT	Playboy 112%	McCoy 60	602	
Bob	MARSHALL	Megow Ranger	Saito 62 4/	254	

'38 ANTIQUE

Peter J.	SMITH	Westerner	Madewell 49	1800	649
Dave	PATON	Schmaedig Stick	ED hunter	1800	481
Dave	BROWN	Flamingo	O&R 60	1717	
Peter	Van de WATERBEEMD	Schmaedig Stick	GB 5cc d	1714	
Grant	MANWARING	RC1	Burford 5cc d	1674	
Jim	RAE	Krupp	O & R 60	1570	
Paul	FARTHING	RC1	Madewell 49	1079	
Grant	WHITTOME	Cloud King	Amco 3.5	429	

TEXACO

Peter J.	SMITH	Bomber	OS 61 4/	1800	985
Paul	FARTHING	Bomber	OS 60 4/	1800	774
Steven	GULLOCK	Bomber 85%	Enya 53 4/	1800	717
Peter	Van de WATERBEEMD	Bomber	Saito 65 4/	1800	627
Peter	SCOTT	Bomber 85%	Ohlsonn 60	1800	627
Grant	WHITTOME	Bomber	Saito 56 4/	1800	618
Vince	HAGERTY	Bomber	Enya 53 4/	1800	541
Dave	PATON	Bomber	OS 61 4/	1800	375
Jim	RAE	Airborne	OS 61 4/	1777	
Basil	HEALY	Record Breaker	Enya 53 4/	1649	
Victor	WHITTOME	Record Breaker	Saito 62 4/	1016	
Dave	BROWN	Flamingo	O&R 60	L/O	

NOSTALGIA

Steven	GULLOCK	Spacer	K&B 40	1260	510
Peter J.	SMITH	Swayback	K & B 40	1260	388
Basil	HEALY	Sunstreak	K&B 40	1260	303
Max	NEWCOMBE	Cresendo	OS 40H	1189	
Peter	SCOTT	Dreamweaver	K&B 40	1185	
Grant	MANWARING	Spacer	OS 40H	1167	
Jim	RAE	Stomper	K&B 40	1149	
Peter	Van de WATERBEEMD	Swayback	K&B 40	1126	
Dave	PATON	Jumping Bean	K&B 40	1018	
Paul	FARTHING	Spacer	OS 40H	30	

1/2A TEXACO

Paul	FARTHING	Stardust Spl	1260	668
Garry	WHITTEN	Stardust Spl	1260	600
Jim	RAE	Big Old Plane	1260	481
Peter	Van de WATERBEEMD	Stardust Spl	1260	462
Peter	SCOTT	Lil Diamond	1260	445
Basil	HEALY	Stardust Spl	1260	313
Dave	PATON	Stardust Spl	1260	61
Vince	HAGERTY	Stardust Spl	1143	
Peter J.	SMITH	Lil Diamond	774	
Max	NEWCOMBE	Stardust Spl	420	
Bob	MARSHALL	Little Diamond	217	

2cc DURATION

Paul	FARTHING	Pencil 100%	900	352
Peter J.	SMITH	Apache	900	288
Jim	RAE	Zero	900	208
Basil	HEALY	Creep	863	
Peter	SCOTT	Zoot Suit	837	
Grant	MANWARING	Dixielander	799	
Peter	Van de WATERBEEMD	Eliminator	755	
Dave	PATON	Playboy	625	
Michael	GREY	Playboy	401	
Max	NEWCOMBE	Mini Hogan	300	
Victor	WHITTOME	Eliminator	244	

O/T GLIDER

Peter	Van de WATERBEEMD	DG 42	1043
Jim	RAE	Plubber 150%	868
Basil	HEALY	Balestruccio	860
Grant	MANWARING	Thermalist	804
Bob	MARSHALL	Frog Prince	768
John	QUIGLEY	DG 42	720
Paul	FARTHING	Ghibli	535
Max	NEWCOMBE	Thunderking	360
Peter	SCOTT	Vega Gull	L/O

CABIN SCRAMBLE

Peter	Van de WATERBEEMD	1409
Peter J.	SMITH	1338
Warren	LEABEATER	1251
Jim	RAE	1187
Peter	SCOTT	503
Paul	FARTHING	280
Bill	EAST	92

Hi All,

Nats are done and dusted, warm, windy, calm, dry, with willy-willys, at times, Texaco was deferred from windy Thursday, to Monday.

Good to catch up with new and old mates.

Next local NSW Oldtimer Comp is The New England Gas Champs at Tamworth 16-17 June, 2018.

More later, Browny.

Pilot vs Navigator **from Walt Angus.**

The pilot was sitting in his seat and pulled out a .38 revolver. He placed it on top of the instrument panel, and then asked the navigator, "Do you know what this is for?"

The navigator replied timidly, "No, what's it for?"

The pilot responded, "I'll use this on any navigator that ever gets me lost!"

The navigator pulled out a .45 and placed it on his chart table.

The pilot asked, "What's that for?"

"To be honest sir," the navigator replied, "I'd know we're lost before you would."

Life can still be fun as an elderly man!

Yesterday my daughter e-mailed me AGAIN, asking why I didn't do something useful with my time. "Like sitting around the pool and drinking wine is not a good thing?" I asked.

Talking about my "doing-something-useful" seems to be her favourite topic of conversation.

She was "only thinking of me," she said, and suggested that I go down to the Senior Centre and hang out with some of the other old fellows.

So I did this and when I got home last night, I decided to play a prank on her. I e-mailed her and told her that I had joined a Parachute Club.

She replied, "Are you nuts? You are over 75 and now you're going to start jumping out of airplanes?"

I told her that I even got a Membership Card and e-mailed a copy to her.

She immediately telephoned me and yelled, "Good grief, Dad, where are your glasses?! This is a Membership to a Prostitute Club, not a Parachute Club."

"Oh man, I'm in trouble again," I said. "I really don't know what to do. I signed up for five jumps a week!!"

The line went dead.

Life as a Senior Citizen is not getting any easier, but sometimes it can be fun.

TRIVIA

Volkswagen Sells More Of What Thing Than They Sell Cars?

Umbrellas	Bicycles
Sausages	Refrigerators

Answer ⟶

Answer: Sausages

Volkswagen has been making cars since 1937 and, thanks to the expansion of operations over the years as well as the umbrella Volkswagen Group (including car companies like Audi, Bentley, Porsche, and more in addition to Volkswagen models), it's the second largest automotive manufacturer in the world.

But there's one thing that Volkswagen sells more of than Volkswagen cars, and it's entirely unrelated to the automotive field: sausages. Since the early 1970s, Volkswagen has produced sausages in-house, specifically the semi-spicy German sausage currywurst, at a butchery located in their Wolfsburg plant for their employees. Say what you want about Germans loving sausage, but love sausage they do; the annual consumption of currywurst sausage alone in Germany is in the hundreds of millions of units per year.

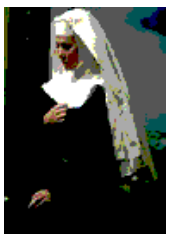
Early on, the sausages were only available to employees, visitors, and prospective clients, but they've been available to the public for years (first in Germany and now in eleven other countries). They're so popular that in the last few years, sales of the sausages have outpaced the sales of Volkswagen brand cars.

Image courtesy of Lothar Schaack.

WORDS TO LIVE BY FOR ANY (MODEL) AVIATOR

From Van Wilson, Alaska. vander_e@hotmail.com

1. **It's better to be down here wishing you were up there than to be up there wishing you were down here.**
2. **An airplane will probably fly a little bit over gross, but it won't fly without fuel.**
3. **Speed is life, altitude is life insurance.**
4. **If you're ever faced with a forced landing at night, turn on your landing lights. If you don't like what you see, turn'em off!**
5. **Never let an airplane take you to someplace your brain didn't get to five minutes earlier.**
6. **Too many pilots are found in the wreckage of an airplane with their hands around a microphone. Don't drop the aircraft in order to fly the microphone. An airplane flies because of a principle discovered by Bernoulli, not Marconi.**



Sitting by the window of her convent, Sister Judy opened a letter from home one evening. Inside the letter was a $100 bill her parents had sent. Sister Judy smiled at the gesture.

As she read the letter by the window, she noticed a shabbily dressed stranger leaning against the lamp post below. Quickly, she wrote, "Don't despair. - Sister Judy," on a piece of paper, wrapped the $100 bill in it, got the man's attention and tossed it out the window to him.

The stranger picked it up, and with a puzzled expression and a tip of his hat, went off down the street.

The next day, Sister Judy was told that a man was at the convent's front door, insisting on seeing her. She went down, and found the stranger waiting. Without a word, he handed her a huge wad of $100 bills

"What's this?" she asked." That's the $8,000 you have coming Sister," he replied. "Don't Despair paid 80-to-1."

2018 CANOWINDRA SAM CHAMPS - March 29th to April 2nd

Report from Brian Dowie

The main SAM 600 contingent arrived on Wednesday March 28th to a very dry field but despite this Paul Farthing had prepared the area to a very good flying area.

The overall temperature gods smiled on us and the temperature was pleasant on all days. Pity the wind gods did not follow, at various times it was almost impossible to keep the models up-wind, particularly the small ones.

We arrived on Thursday Afternoon and there had already one event flown, Old Timer Glider.

Old Timer Glider
There were fifteen entries but after regular time was complete there was only two left standing and enter the Fly-off "Mr Thermal" himself Col Collyer and Basil Healy. After what I was told was an enthralling flight Col emerged victorious with a flight of 650 Seconds, Basil achieved 521 Second and Third Place was taken by Grant Mainwaring.

Cabin Scramble
With nine competitors SAM 600 had no competitors on the starting blocks. The event was won by Peter J Smith, followed by Anthony Vickery, and filling third was Peter Scott.

Nostalgia
There were twenty one entries and SAM 600 showed the way and completely hogged the podium. After the heats of the twenty one that started seven reached the Fly-off. When the clocks stopped Col Collyer had the longest flight, followed by the man from Snake Gully, was it Dad, Dave or Steve Gullock (alias Mable), and Kevin Fryer came third.m separately.

1/2 A Texaco
The wind started to pick up and most flyers experienced difficulty keeping the models up-wind. There were eighteen hardy flyers who tried.

When all the models finally got back on the ground we had only six in the Fly-off. Unfortunately Kevin Fryer's model did Fly- off and was last spotted heading for Parkes.

The event finished with Paul Farthing on the top step followed by Garry Whitten and on the third step Anthony Vickery. Kevin managed sixth and I was fifteenth.

Gordon Burford
With twenty five models to face the starters gun the scene was set for an exciting time. Of those that started seventeen achieved the required numbers to enter the final scrap. We saw a number land out, others hardly stayed up after their engine cut but the intrepid three showed how it should be done. Kevin Fryer was the clear winner followed by Rex Brown and Basil Healy.

Texaco
This event used to be "the event', on this occasion we were only able to get twenty two to the line.

When all the songs were sung we had only six in the final choir.

Another SAM 600 flyer took first in Col Collyer with Mick Walsh and John Urry filling the two remaining places.

In the Fly-off Steve Gullock lost his GPS and landed in the boon docks and Kevin Fryer was unusually plagued with motor problems and just missed the Fly-off.

'38 Antique
There were only thirteen flyers with only four making the final cut.

After all the effort Kevin Fryer came in first, followed by Grant Mainwaring and the Peter J Smith and Peter Scott equal third.

Duration
With only eight entries it was the smallest field I have seen in this event at Canowindra. The three placegetters were the only ones to reach the Fly-off.

Michael Walsh came first with a thirty one minute flight followed by Brad Turner and then Peter Van de Waterbeemd.

Col Collyer and Kevin Fryer just missed out entering the final stanza.

Standard Duration
Not an event flown by many in SAM 600, we had one flyer, Dave Sampson.

After everyone (nine entrants) had flown the allotted heats there was no one to qualify for the Fly-Off.

Peter J Smith was on the top step, followed by Anthony Vickery and Peter Scott.

2 CC
With most of the entrants having left earlier in the day we had only one of nine to fly our flag, Kevin Fryer.

Again lift had deserted the field and there was no one to achieve the maximum to force a Fly-off.

The event was decided on Heat times.

With Jim Rae outflying the field to take first it left to two minor placing's to Peter J Smith and Paul Farthing.

When the smoke cleared and all the scores were in the Top Gun was our own Kevin Fryer, well done Kevin.

Can I put in a plug for all SAM 600 Members to see if they can get to Canowindra next year, it is well worth it.

Until we meet again.
Brian Dowie

Results 36th SAM1788 Oldtimer Championships Canowindra Easter 2018

OLDTIMER GLIDER

Colin	COLLYER	Satyre	1080	650
Basil	HEALY	Balestruccio	1080	521
Grant	MANWARING	Odenmans	901	
Paul	FARTHING	Ghibli	764	
Rex	BROWN	Satyre	742	
Mike	RANKIN	Soaring Champ	715	
Jim	RAE	Plubber 150%	680	
Peter	Van de WATERBEEMD	DG 42	642	
Peter	SCOTT	Vega Gull	587	
Kevin	FRYER	Kane	559	
Kent	URRY	Frog Prince 96"	544	
John	QUIGLEY	DG 42	516	
Anthony	VICARY	Thermal Sniffer	514	
John	URRY	Frog Prince 80"	474	
Bob	MARSHALL	Frog Prince	L/O x 2	

CABIN SCRAMBLE

Peter J.	SMITH	1458
Anthony	VICARY	1393
Peter	SCOTT	1362
Peter	Van de WATERBEEMD	1346
Michael	WALSH	1341
Jim	RAE	1276
Ray	MORGAN	1082
Brian	PAYNE	998
Robert	BOVELL	578

NOSTALGIA

Colin	COLLYER	Ramrod	OS 40 H	1260	1340
Steven	GULLOCK	Spacer	K&B 40	1260	1108
Kevin	FRYER	Spacer	OS 40 H	1260	1000
Peter	SCOTT	D'Weaver	K&B 40	1260	767
Peter	Van de WATERBEEMD	Swayback	K&B 40	1260	739
Brad	TURNER	Swayback	K&B 40	1260	669
Peter J.	SMITH	Swayback	K&B 40	1260	656
Michael	WALSH	Hyphen	K&B 40	1260	1
Basil	HEALY	Sunstreak	K&B 40	1248	
Rex	BROWN	Spacer	K&B 40	1227	
Grant	MANWARING	Spacer	OS 40H	1210	
Mike	RANKIN	Zoot Suit	K&B 40 2/	1207	
David	BEAKE	Swayback	K&B 40	1196	
Grahame	MITCHELL	KV62	OS 25	1192	
Peter R.	SMITH	Ollie	K&B 40	1158	
Steve	ROTHWELL	Zoot Suit	Oliver Tiger 2.5	1121	
Anthony	VICARY	Sup Pheonix	K&B 40	992	
John	URRY	Sunstreak	K&B 40	986	
Geoff	POTTER	Swayback	Merco 61	420	
Jim	RAE	Stomper	K&B 40 2/	420	
Bob	MARSHALL	Spacer	Oliver Tiger 2.5	281	

1/2a TEXACO

Paul	FARTHING	Stardust Spl	1260	1136
Garry	WHITTEN	Little Diamond	1260	1035
Anthony	VICARY	Stardust Spl	1260	926
Brad	TURNER	Bomber	1260	102
David	BEAKE	Stardust Spl	1260	L/O
Kevin	FRYER	Cumulus	1260	L/O
Peter R.	SMITH	Valkyrie	1251	
Peter	Van de WATERBEEMD	Stardust Spl	1231	
Grant	MANWARING	Playboy Cabin	1221	
Basil	HEALY	Stardust Spl	1105	
John	URRY	Bomber	1084	
Peter	SCOTT	Lil Diamond	1059	
Rex	BROWN	Stardust Spl	952	
Jim	RAE	Bomber	798	
Brian	DOWIE	Bomber	666	
Vince	HAGERTY	Bomber	581	
Ray	MORGAN	Airborne	205	
Mike	RANKIN	Stardust Spl	L/O	

GORDON BURFORD

Kevin	FRYER	Spacer	PB	900	1455
Rex	BROWN	Jumping Bean	PB	900	1331
Basil	HEALY	Zoot Suit	PB	900	1081
Paul	FARTHING	110% Pencil Jr	PB	900	857
Grant	MANWARING	Dixielander	PB	900	630
Garry	De CHASTEL	Dreamweaver	PB(T)	900	554
Herbert	REICH	Dixielander	BB	900	516
Geoff	BLACK	Dixielander	BB	900	507
Peter R.	SMITH	Ollie	PB	900	485
Brad	TURNER	Calypso	BB	900	465
Jim	RAE	Pippo	BB	900	393
Vince	HAGERTY	Lil Diamond	PB	900	256
Peter J.	SMITH	Dreamweaver	PB(T)	900	129

Top to Bottom: SAM 600 President Kevin Fryer with his Kane. 3rd Place Grant Manwaring's Odenmans. Winner Col Colyer launching his Satyre in the fly-off. Coup de 'Hivre for Championships Peter Van de Waterbeemd's DG-42. Jim Rae's 150% Plubber.

Peter	SCOTT	Dreamweaver	PB	900	L/O	
Mike	RANKIN	Spacer	PB	900	L/O	
Steve	ROTHWELL	Zoot Suit	PB(T)	900	L/O	
Peter	Van de WATERBEEMD	Ollie	BB	900	L/O	
Garry	WHITTEN	Lil Diamond	PB	845		
Grahame	MITCHELL	KV62	BB	596		
Ray	MORGAN	Dixielander	BB	543		
Anthony	VICARY	Dixielander	PB	540		
David	BEAKE	Ollie	PB(T)	62		
John	URRY	Swiss Miss	PB(T)	F/A		
Peter	CUTLER	Dixielander	BB	L/O		
Kent	URRY	T- Bird	PB	L/O		

TEXACO

Colin	COLLYER	Bomber	OS 46 2/ d	1800	832
Michael	WALSH	Lanzo Racer	Anderson	1800	604
John	URRY	Bomber	Saito 65 4/	1800	595
David	BEAKE	Bomber	OS 60 4/	1800	537
Dave	BROWN	Flamingo	O&R 60	1800	L/O
Steven	GULLOCK	Bomber 85%	Enya 53 4/	1800	L/O
Kevin	FRYER	Cumulus	OK Super 60	1728	
Peter	Van de WATERBEEMD	Bomber	Saito 65 4/	1713	
Garry	De CHASTEL	Bomber	Saito 65 4/	1698	
Grant	MANWARING	Bomber	OS 60 4/	1649	
Brad	TURNER	Bomber	OS 61 4/	1631	
Garry	WHITTEN	Bomber	OS 62 4/	1566	
Warren	HATHAWAY	Bomber	Saito 65 4/	1513	
Dave	SAMPSON	Bomber 85%	OS 52 4/	1390	
Rex	BROWN	Lanzo RC1	Ennya 60 4/	1321	
Peter	CUTLER	Bomber 85%	Saito 56 4/	922	
Basil	HEALY	Record Breaker	Enya 53 4/	843	
Paul	NIGHTINGALE	Standby	Saito 50 /4	819	
Vince	HAGERTY	Bomber	OS 61 4/	696	
Peter	SCOTT	Bomber	Cunningham 64	600	
Geoffrey	MALONE	Lanzo Racer	Enya 53 4/s	505	
Peter J.	SMITH	Bomber	Forster 99	1 Att	

'38 ANTIQUE

Kevin	FRYER	Cumulus	Forster 99	1800	754
Grant	MANWARING	RC1	Burford 5cc d	1800	616
Peter J.	SMITH	Westerner	Madewell 49	1800	L/O
Peter	SCOTT	Rec Breaker	Forster 99	1800	L/O
Brad	TURNER	Trenton Terror	Brown Jnr	1799	
John	URRY	Record Breaker	Anderson Sp'fire	1721	
Michael	WALSH	Westerner	Anderson Sp'fire	1691	
Jim	RAE	Rambler	ED 3.46 d	1576	
Peter	Van de WATERBEEMD	Schmaedig Stick	GB 5cc d	1523	
Steven	GULLOCK	Schmaedig Stick	GB 5cc d	1265	
Rex	BROWN	Flamingo	OK Super 60	1175	
Colin	COLLYER	Flamingo	OK Super 60	1076	
Basil	HEALY	Lanzo RC1	Sparey 5cc d	560	

DURATION

Michael	WALSH	Stardust Spl	McCoy 60	840	1914
Brad	TURNER	Playboy	OS 37	840	1798
Peter	Van de WATERBEEMD	Bomber 92%	McCoy 60	840	1280
Colin	COLLYER	Stardust Spl	DubJet 36	828	
Kevin	FRYER	Playboy 112%	McCoy 60 spk	821	
Grant	MANWARING	Bomber 85%	Saito 62 4/	816	
Geoff	BLACK	Playboy 105%	YS 63 4/	765	
Steven	GULLOCK	Lil Diamond	OS 52 4/	378	

STANDARD DURATION

Peter J.	SMITH	Playboy	Magnum 36	1014
Anthony	VICARY	Airborne	OS 40 H	1003
Peter	SCOTT	Stardust Spl	OS 40H	961
Dave	BROWN	Airborne	OS 40 H	933
Kevin	FRYER	Cumulus	OS 40 H	831
Dave	SAMPSON	Playboy	OS 40 H	818
Grant	MANWARING	Playboy	OS 40 H	814
Peter	Van de WATERBEEMD	Bomber 85%	K&B 40	769
Jim	RAE	Lion Cub 125%	OS 40 H	767

2CC

Jim	RAE	Zero	Taipan Tyro	857
Peter J.	SMITH	Indian	MVVS	783
Paul	FARTHING	100% Pencil	Taipan Tyro	754
Grant	MANWARING	Dixielander	Taipan Tyro	691
Peter	Van de WATERBEEMD	Eliminator	Junior	633
Rex	BROWN	Jumping Bean	Taipan Tyro	613
Kevin	FRYER	Stardust Spl	MVVS	584
Basil	HEALY	Creep	Taipan Tyro	459
Peter	SCOTT	Eureka	Jenner	1 Att

CHAMPIONSHIPS' TOP GUN

KEVIN FRYER

RUNNER UP

GRANT MANWARING

Top to Bottom: Winner of Nostalgia Col Colyer prepares and launches. Result Victoria Tri-Fecta. Gordon Burford winners Rex Brown 2nd, Kevin Fryer 1st, Basil Healy 3rd. Texaco winners John Urry 3rd, Col Colyer 1st, Mick Walsh 2nd.

'38 Antique (clockwise from top left:

Rex Brown with his Flamingo and OK Super Sixty.

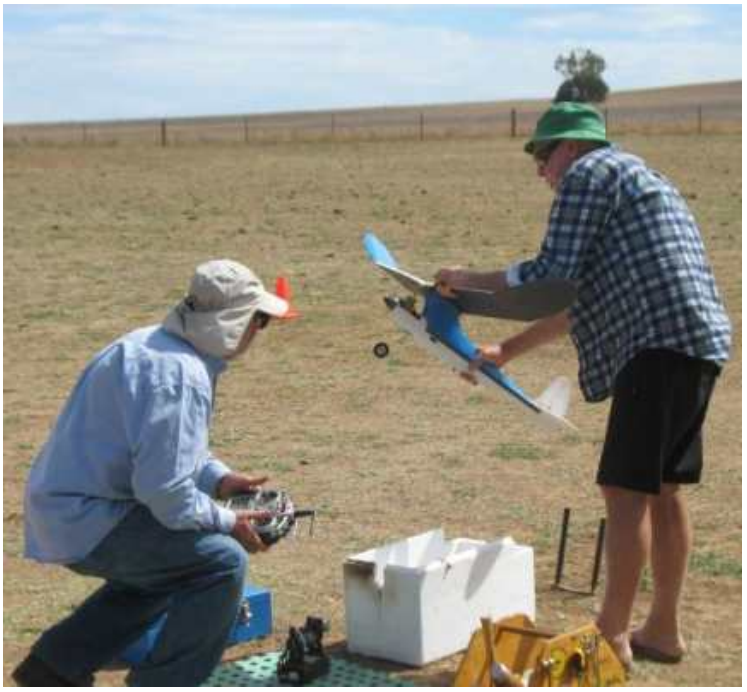
Steve Gullock provided the only shade on the flight line.

Brad Turner from Queensland with his Brown powered Trenton Terror. The Brown ran very well.

Winners of the '38 Antique event left to right:

Peter (Condo) Smith 3rd, Kevin Fryer 1st, Grant Manwaring 2nd.

Kevin Fryer and Col Colyer preparing for the fly-off with Kevin's Cumulus powered by a Forster 99.



Top: Winners of Duration: LtoR Peter Van de Waterbeemb 3rd, Michael Walsh 1st and Brad Turner 2nd.

Above: Pit Area for 2cc on Monday afternoon. Most had already left for home but weather wise was the best day of all.

Right: Kevin Fryer checking out his 2cc Stardust Special assisted by John Urry from Queensland.

Below Left: Winners of Standard Duration LtoR Anthony Vickary 2nd, Peter (Condo) Smith 1st, and Peter Scott 3rd.

Below Right: Winners of 2cc event LtoR Paul Farthing 3rd Jim Rae 1st, and Peter (Condo) Smith 3rd.

Aircraft

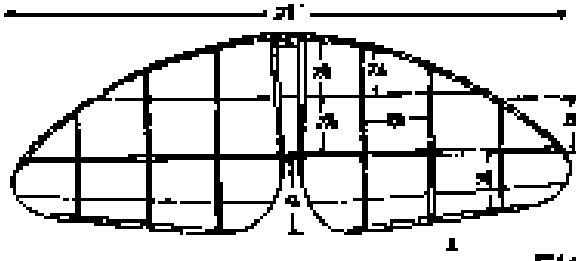
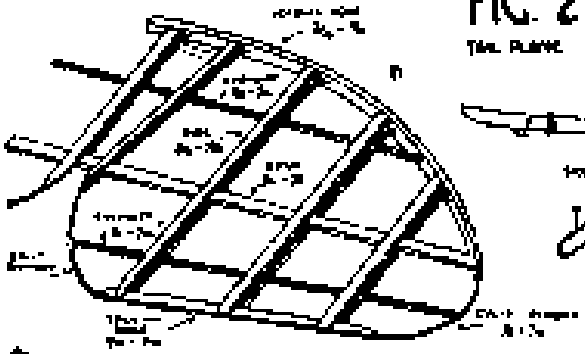


FIG. 2

TAIL PLANE



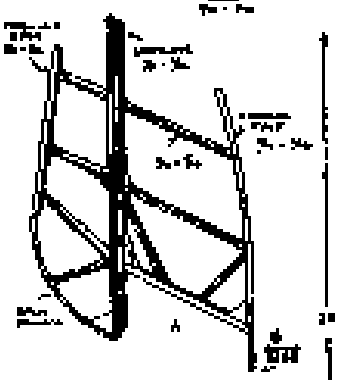


FIG. 4

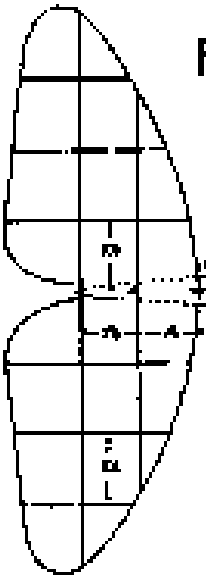


FIG. 3

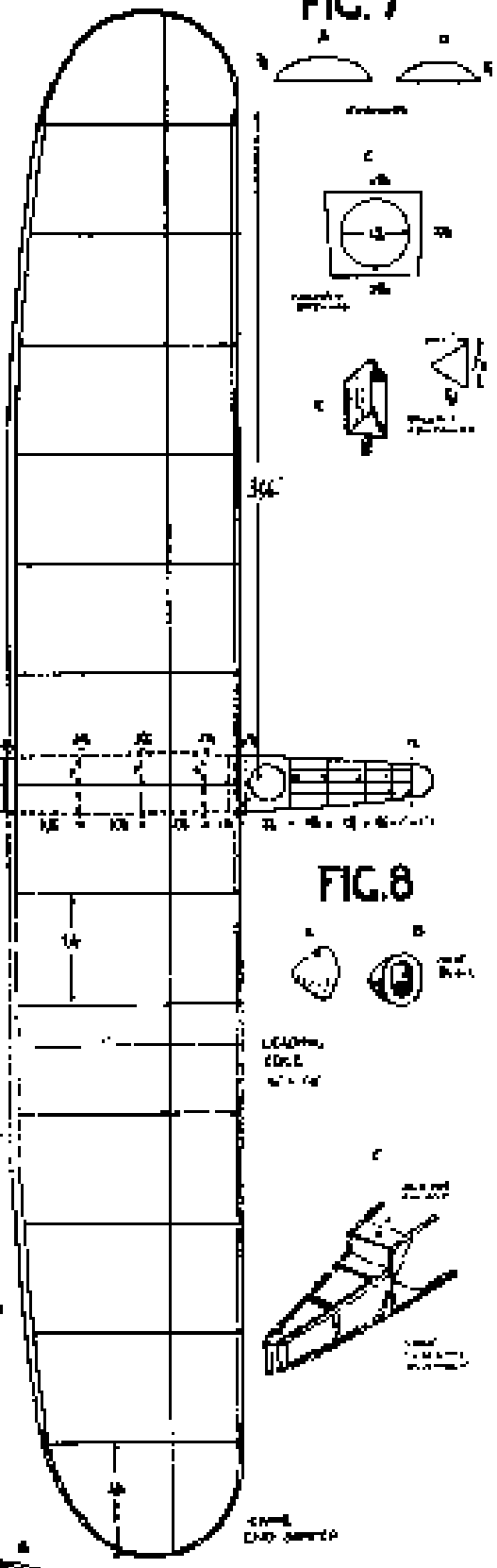


FIG. 7

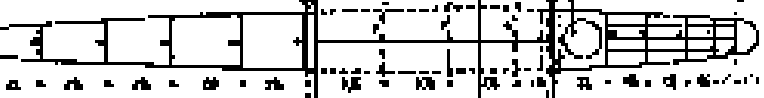


FIG. 1

GENERAL ASSEMBLY

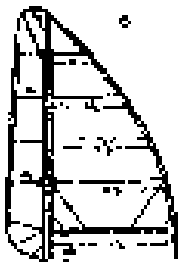


FIG. 8

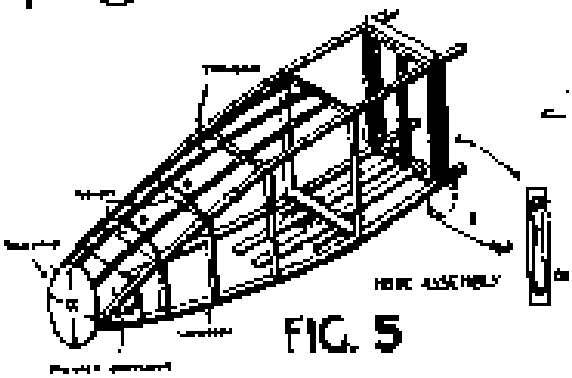
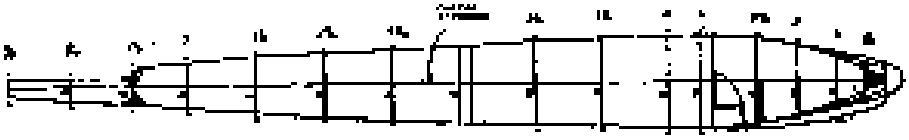


FIG. 5

THE "ALBATROSS" SAILPLANE

Designed by H.L. HEQUET

FIG. 6



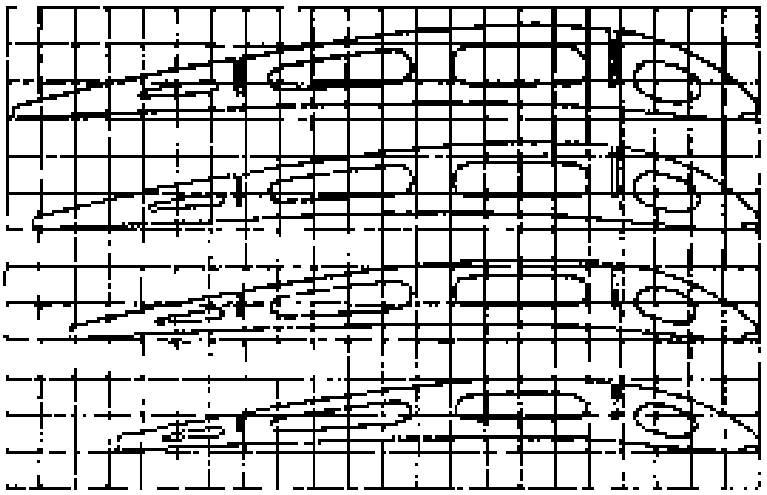
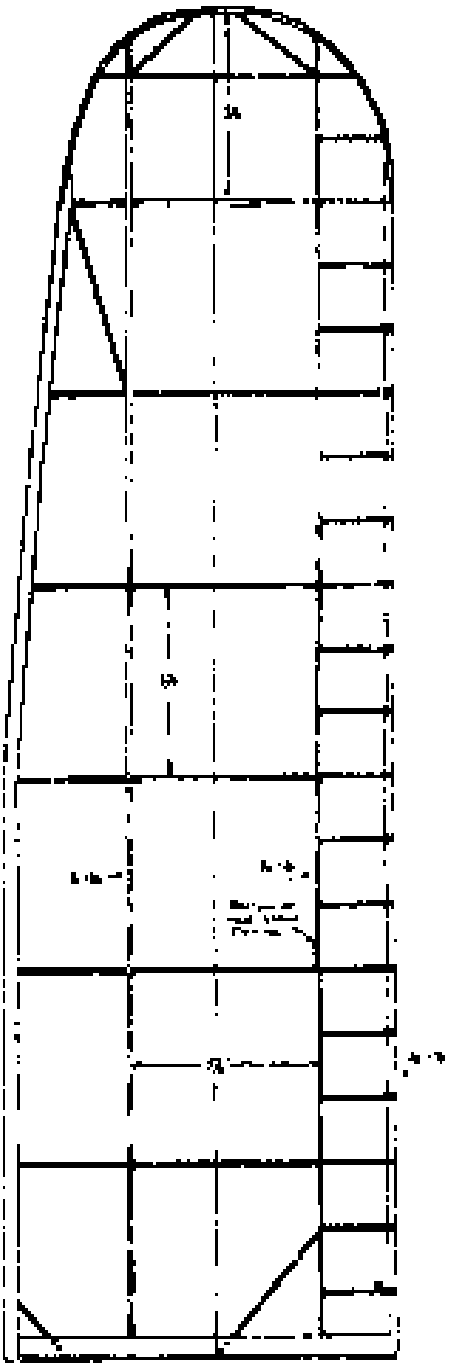


FIG. 9



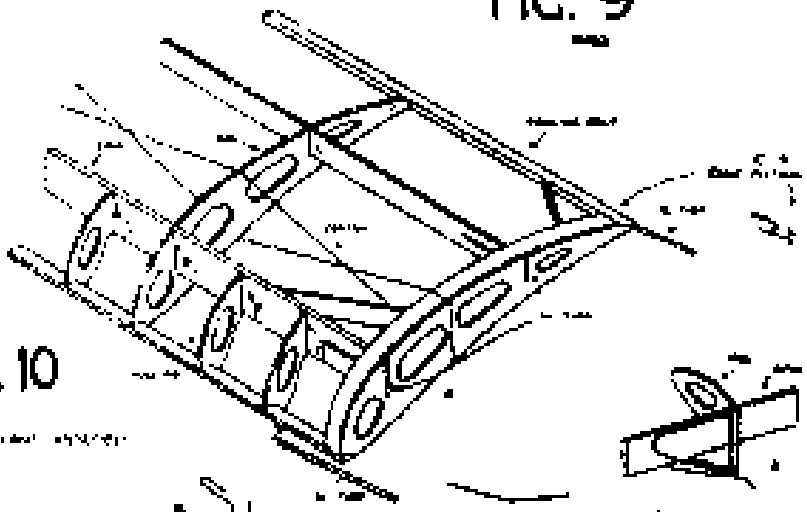


FIG. 10

FIG. 11

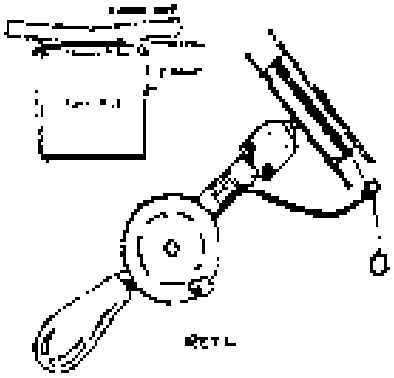


FIG. 13

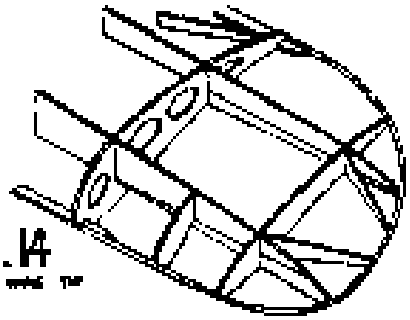


FIG. 14

FIG. 12

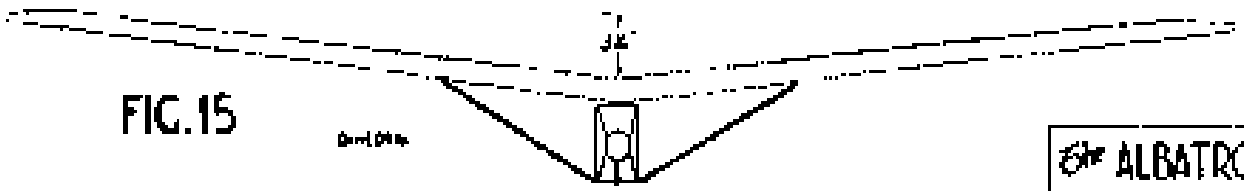


FIG. 15

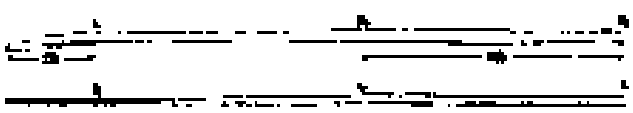


FIG. 16

The ALBATROSS
SAILPLANE

How to build the Albatross Sail Plane

The ALBATROSS sail plane was built over a year ago and is still taking an active part in the M.A.C.V. ween-end flying meetings. This model holds the present Victorian duration record for gliders of 6 min. and unofficial record of 19 min. out of sight.

In large wing span and light loading enable it to take advantage of the slightest up current, while its stability and slow speed have doubtless accounted for its long "life".

Fig. 1 shows a general plan of the model. We will start with the construction of the fuselage, a side elevation of which is shown in Fig. 6 and detail construction in Fig. 5.

The first step is to make a jig in which to build up the two sides of the fuselage.

Mark out a full-size drawing of the fuselage side on a flat board showing the position of each cross strut. Next tack ¼ x ¼ strips of wood round the edge of the drawing then proceed to constructing one side of the fuselage. Four lengths of 3/16 x 3/16 balsa are required for the longerons. Place two of these in the jig strips by means of balsa wedges.

As will be seen from Fig. 5, the top and bottom longerons meet at the nose. The top longeron is in two pieces, one running from the nose to No. 14 vertical strut, and the second from No. 14strut to the tail block.

Longerons in Position

WHEN the longerons are in position cut a supply of 1/8 x 3/16 and 1/16 x 3/16 strips for cross struts Nos. 2 to 8, with the exception of No. 5, and 3/16 x 1/16 from No. 10 to the tail block.

Cut these strips to length and cement them in place, making sure that the struts are a good fit without forcing. The junction of the top and bottom longerons at the nose is reinforced by a triangular piece of 3/16in. Balsa 1inch from front to rear.

The second section of the top longeron butts up against the rear of No. 14 vertical strut 3/16in. below the level of the end of the front sections, and the junctions of both sections to the vertical strut are reinforced by triangular pieces cut from 3/16insheet balsa. Fig. 8C. Nos. 5 and 9 struts are cut from 3/16in sheet balsa and are ½inch wide and are hollowed out on the inner side with a gouge. See Fig. 5B.

These wide struts are fitted to give extra strength at the points of attachment of the main plane, and the rear set also allows of a good finger grip when hand launching.

When the first side has dried, remove it from the jig and build up the second side in the same manner.

Joining the Sides

THE width of the fuselage at various points and cross strut positions are given in Fig. 1, the sections of the various struts being the same as the corresponding vertical struts.

Cut the struts to length in pairs, one top and one bottom. Fit Nos. 5 and 9 top and bottom, first passing pins through the longerons into the struts to hold the framework rigid until the cement has set. Next fit the front bulkhead shown in Fig. No. 5. This is cut from 1/8in balsa. Then fit the tail block. Fig. 5C and Fig. 8C. File a semi-circular groove in the rest of the tail block to take a 1in. of 1/8in celluloid tubing, this being the socket which takes the rear fin post.

After the main struts, front bulkhead and tail block have been fitted, the fuselage sides will take a natural curve from nose to tail, and the remaining struts can be cut to length and cemented in place. Rubber bands passed round the fuselage will hold the struts in place until the cement has sent.

The stringers which convert the cross section of the fuselage from rectangular at No. 4 strut position to circular at the nose (Fig. 5) are of 1/8th x 1/16in balsa. The dimensions of the formers of 1/16in sheet balsa which carry these stringers are shown in Fig. 7A. Two of each are required, one set for the top fairing and one for the bottom.

In the case of the bottom fairing, addition to the three stringers, two ¼in strips of 1/16in balsa, ¼in strips of 1/16in balsa, ¼in apart, run from the bulkhead back to No. 5 bottom cross strut. The skid, Fig. 2C, is cemented to the under side of these strips.

Shaped from Balsa

THE skid is shaped from 3/8in balsa, and is reinforced on both sides by sheet aluminium plates cemented to the sides of the skid. A hole is drilled through the plates and skid to take a 1/16in split pin, which anchors the 20 gauge steel wire launching hook 3in from the front of the fuselage. The launching hook is shown in Fig. 2D.

The 20 gauge steel wire fitting, shown in Feg. 5D, is cemented and bound to the under side of No. 5 bottom fuselage cross strut. The arms project 3/16in on either side of the fuselage, and are then bent up at right angles. These projecting arms anchor the wing bracing struts to the fuselage..

The cockpit decking, Fig. 7C, is cut from 1/32in plywood and is cemented on top of the fuselage bay formed by the top longerons and Nos. 4 and 5 top cross struts.

The pilot's seat Fig. 3, is cut from 3/16in sheet balsa, the back being of 1/32in plywood. The seat back is cemented to the 1/8in x 3/16in intermediate strut between the front pair of wide vertical struts shown in Fig. 5, while the legs of 1/8 x 1/8 balsa rest on the bottom longerons.

The ballast container is shown in position in Fig. 5 and in detail in Fig. 7D and E. This container is in the form of a trough, the sides being cut from 1/8in sheet balsa and the trough of sheet aluminium bent round and cemented to the sides.

When completed, it is filled with molten lead, the rear being then covered in with a bit of 1/16in sheet balsa cemented to the balsa sides.

Fit the trough, when loaded, firmly into the nose of the fuselage and cement in place.

The nose block, Fig. 8A and B, is shaped with a knife and sand-paper from 1in block balsa, and is hollowed out as shown in B. When the block is still slightly oversize, cement it to the front of the fuselage bulkhead, Fig. 5, then smooth off and finish with fine sandpaper. Next drill a

Building the Albatross… cont.

3/16in hole in the top of the nose block, through which sheet can be dropped when balancing the model for flight.

Run cotton stringers from the nose to the tail on each side of the fuselage, touching the junction of each vertical strut and the cotton with cement. See Fig. 6.

Cover each side of the fuselage separately with Japanese tissue paper and give the covering two coats of dope.

The tail, Fig. 2, in double surfaced, and care should be taken to keep the structure weight of this and the fin and rudder as low as possible. Draw out a full-size plan of the tail and build up the framework on the plan.

First damp a strip of 3/16 x 3/16 inch balsa for the leading edge and bend it to shape on a former. When dry, pin the leading edge on the plan.

Next cut a supply of 3/16 x 1/32 inch strips for ribs; pin down the bottom set on the plan, butting and cementing their four ends to the leading edge.

Now cement the stringers, spar and trailing edges on top of the bottom set of ribs and 1/4 lengths of 3/16in x 1/8in balsa on top of the front end of each rib up against the leading edge.

Cement side strips

NEXT cement the top set of rib strips in place, then splice and cement the split bamboo sweeps to the leading and trailing edges and trailing edges and centre ribs. When fitting these sweeps, stick pins round the curves on the drawing to hold the bamboo to the correct shape until the cement has set. When the framework has been completed, round off top and bottom front edges of the leading edge with sandpaper. Cover the tail on both sides with Japanese tissue paper, and give on coat of dope.

As soon as the dope has dried sufficiently to prevent to prevent the paper sticking, pin the tail plane down on a flat surface till it is thoroughly dry.

A plan of the fin and rudder is given in Fig. 4B and constructional details in Fig 4A.

As in the case of the tail plane, build up the fin and rudder on a full -size plan.

The fin and rudder are joined by ½in x 3/8in sheet aluminium strips, which pass through slits cut with a razor blade in the main uprights, these hinges being then cemented in place. When fitting the trailing edge of the rudder, it must be raised on balsa blocks 1/16in above the plan, so that it falls half-way between the top and bottom edges of the 3/16in cross pieces when lying of the plan.

After the framework has been removed from the plan, the rudder cross pieces are tapered by sandpapering from 3/16in at the main upright to 1/16in where they butt up against the trailing edge.

The front and rear fin posts are of 1/8in round reed spliced, cemented and bound to the fin leading edge and main upright respectively.

The front post fits into the hole drilled in the fuselage cross piece immediately in front of the tail, and the rear post into the celluloid tubing attached to the tail block. (See Fig. 8C). The fin and rudder are covered on both sides with Japanese tissue paper and given one coat of dope.

The construction of the main plane of the Albatross and assembling and flying instructions will be dealt with in the December of Aircraft.

Mills 1.3 Diesel.

A couple of SAM Champs ago I won an Irvine Mills 1.3 diesel engine.

It is a beautifully made engine. The only problem was that I couldn't start it. Neither could several of my engine guru friends.

At the last Champs in Boulder City I had a conversation about this engine with Alan Laycock from Australia. Alan is very handy with diesels - he had previously helped me with an Elfin 2.49.

He asked me if anybody had disassembled the engine and I said that not to my knowledge. He said to send it to him and he would check it out, but first suggested I check to see if the cylinder liner had been installed backwards.

I discovered that the engine was very easy to disassemble. After removing the air intake I noticed only partial openings in the liner. I removed the liner, rotated it 180 degrees, and lo and behold now there were two beautiful openings to the air intake.

I eagerly reassembled the engine and attempted to start it. It took some adjusting to find the compression setting but it finally started. Now it starts easily with a few hand flips and turns an 8x4 prop with good power.

THANK YOU ALAN.

P.S. There was no gasket between the case and cylinder but the engine runs so well I guess the gasket is not needed. Your thoughts? Also the engine seems to enjoy running backwards occasionally. (?)

Mike Clancy SAM 27 mikelsfv@comcast.net

Mike that sounds like what happened to a friend of mine and his O&R 60. Web took the engine apart to clean it and then it would not run well. Before the cleaning it started very easily and had great power. Yep Web had put the piston in backwards. We were about 15 or 16 at the time.

Hank Sperzel Free Flight Hank in Omaha hsperzel@cox.net

The future of air travel? Rolls Royce, Airbus and Siemens reveal radical hybrid passenger plane.

Will use single electric engine alongside three conventional jet engines Hoped it will be far quieter and produce less greenhouse gas.

By Colin Fernandez for the Daily Mail - 29 November 2017

An Airbus e-FanX hybrid test plane. The aircraft will be flying with one electric turbofan motor and 3 conventional engines. The electric power for the electric engine is being produced by a turbine within the plane that serves as a generator.

We are used to seeing hybrid cars like the Prius on our roads. But now hybrid passenger planes – part electric engines and conventional jet fuel – could soon take to the skies.

Rolls Royce, Airbus and Siemens have teamed up to develop a hybrid passenger plane. It is planned to use a single electric engine alongside three conventional jet engines running on aviation fuel. It is hoped using electric engines will cut down on the noise caused by airliners in the skies and produce less greenhouse gas which contributes to global warming. The aviation industry is keen on getting quieter engines: electric motors in planes could allow more night flights above cities. The plane is an effort to cut emissions of the greenhouse gas carbon dioxide from aviation.

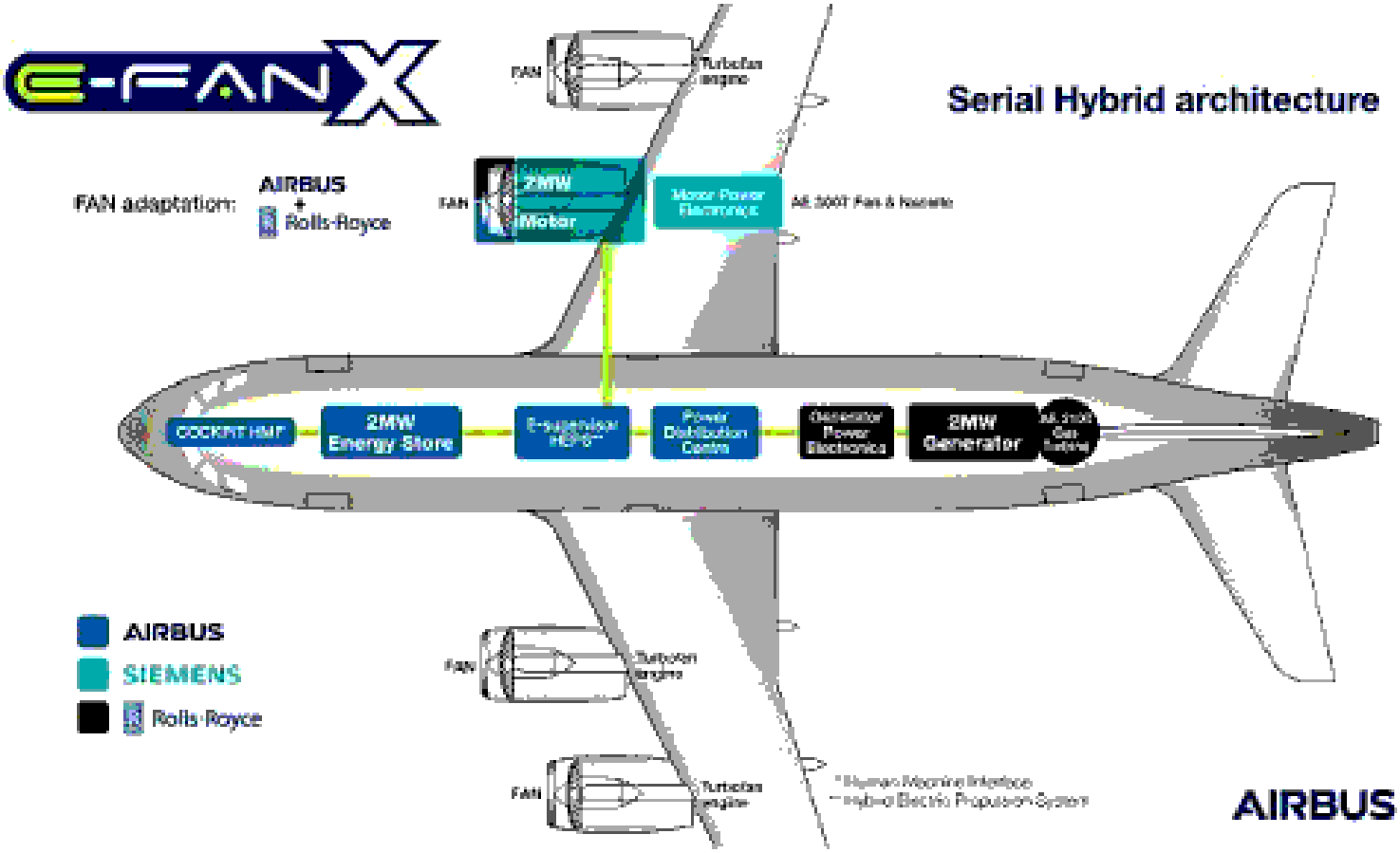
The three companies said they aim to build a demonstration plane by 2020 and a production model by 2030. The aircraft would be based on the existing BAe 146 four-engine regional jet and capable of carrying 50-100 passengers. If the system works, a second electric engine could be added, the companies said.

Air travel accounts for 2 per cent of global man-made carbon dioxide emissions, but this is expected to triple by 2050 as global demand surges. The number of passengers is forecast to double in the next 20 years alone.

The companies said European plane maker Airbus would be responsible for building the aircraft's systems into a working whole, control systems and flight controls.

Rolls-Royce plc would make the generator and the turbo-shaft engine, while German engineering company Siemens would deliver the electric motor to power the engine.

The companies said they were looking ahead to the European Union's long-term goals of reducing CO2 emissions from



The demonstrator plane will use a single electric engine alongside three conventional jet engines running on aviation fuel.

aviation by 60 percent, as well as meeting noise and pollution limits that they said 'cannot be achieved with technologies existing today.'

Other projects for hybrid or electric planes are in the works. Kirkland, Washington-based Zunum Aero says it is working on a 12-seat hybrid-electric commuter jet. The company's website lists its partners as Boeing, JetBlue Technology Ventures, and the Department of Commerce Clean Energy Fund.

AN ATTRACTIVE BRITISH AIRWHEEL

We have recently had the opportunity of examining some airwheels, which have been placed on the market by Messrs. H. Rider and Son, of Wentworth Road, London, N.W.11, under the name "Riderwheels," which are not only attractive, but exceptionally well designed and constructed.

The wheels consist of a flanged hub on which is firmly clamped a moulded tyre by a flanged outer hub nut and a tubular spacer between the tyre rims to maintain their spacing. It will thus be seen that the tyre is rigidly clamped to the hub and there is no possibility of its parting company with the hub, however heavy the landing.

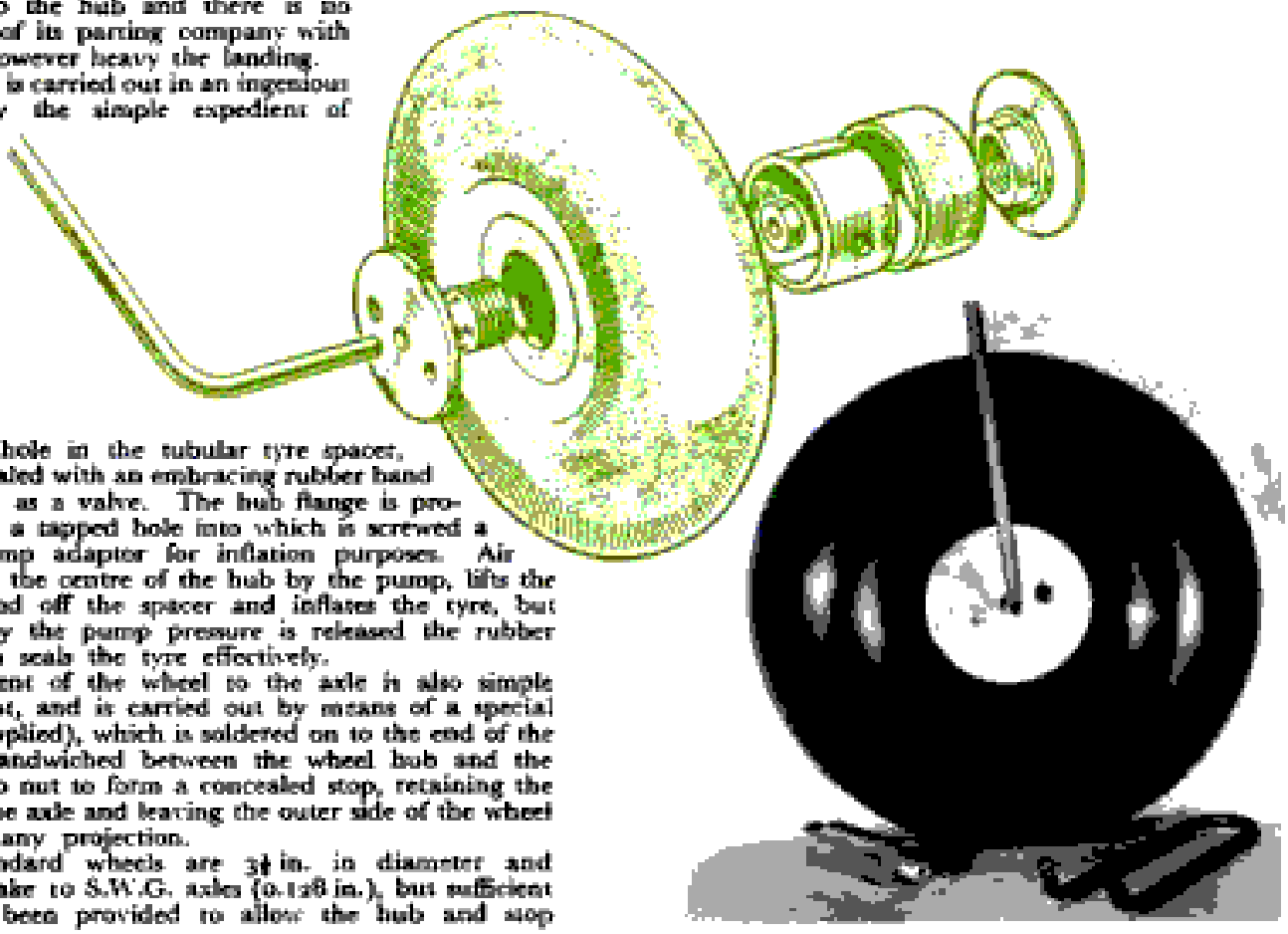
Inflation is carried out in an ingenious manner by the simple expedient of drilling a hole in the tubular tyre spacer, which is sealed with an embracing rubber band to function as a valve. The hub flange is provided with a tapped hole into which is screwed a special pump adaptor for inflation purposes. Air forced into the centre of the hub by the pump, lifts the rubber band off the spacer and inflates the tyre, but immediately the pump pressure is released the rubber band again seals the tyre effectively.

Attachment of the wheel to the axle is also simple and efficient, and is carried out by means of a special washer (supplied), which is soldered on to the end of the axle and sandwiched between the wheel hub and the flanged hub nut to form a concealed stop, retaining the wheel on the axle and leaving the outer side of the wheel free from any projection.

The standard wheels are 3½ in. in diameter and drilled to take 10 S.W.G. axles (0.128 in.), but sufficient metal has been provided to allow the hub and stop washer to be drilled out to take 7 S.W.G. axles (0.176 in.).

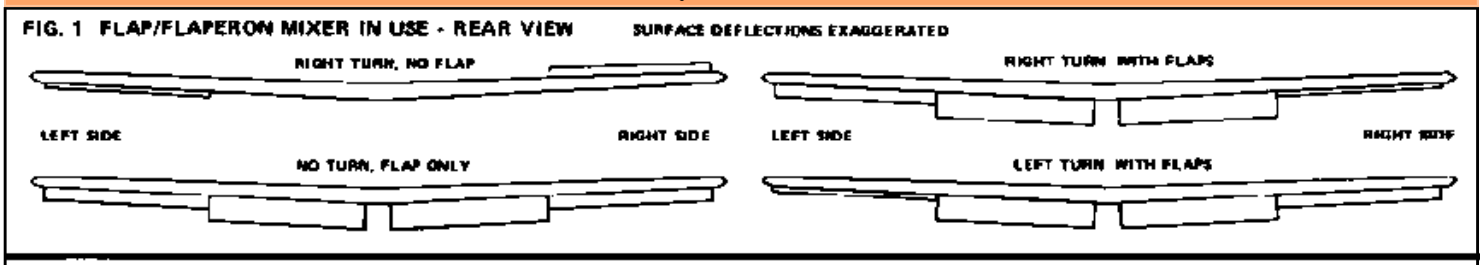
An important feature is the fact that provision is being made by the manufacturer for spares to be available for servicing, so that the useful life of a pair of these wheels should be extensive.

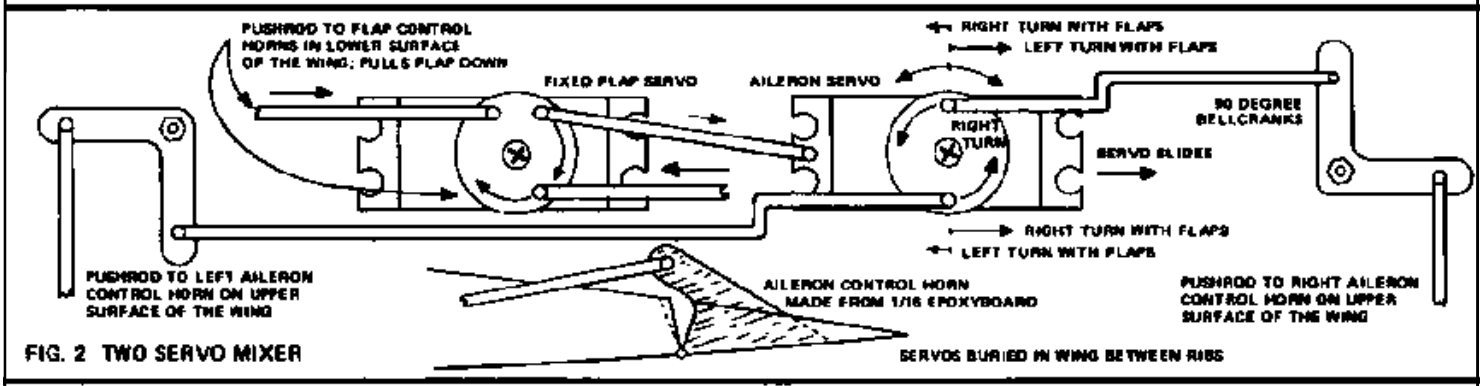
The Type "A" wheels (3½ in. diameter) are priced at 17s. 6d. complete, with key for tightening the hub, and pump adaptor, and are excellent value for the money. They compare more than favourably with the best American wheels available.

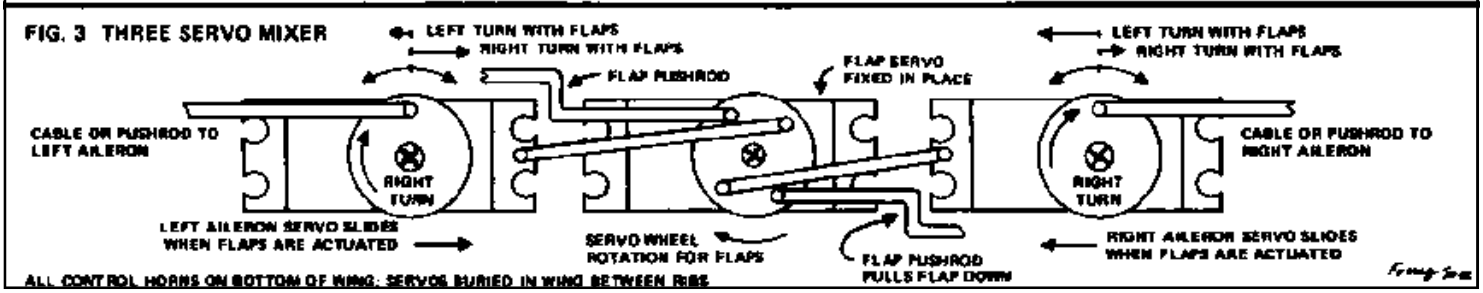


Brendan Taylor's Cumulus heads skywards in Duration at Echuca.

How they used to do it!







Ten Best Caddy Responses (Under his breath)

Number :10
Golfer: "I think I'm going to drown myself in the lake."
Caddy: "Think you can keep your head down that long?"

Number : 9
Golfer: "I'd move heaven and earth to break 100 on this course."
Caddy: "Try heaven, you've already moved most of the earth."

Number : 8
Golfer: "Do you think my game is improving?"
Caddy: "Yes . . . You miss the ball much closer now."

Number : 7
Golfer: "Do you think I can get there with a 5 iron?"
Caddy: "Eventually."

Number : 6
Golfer: "You've got to be the worst caddy in the world."
Caddy: "I don't think so . . .That would be too much of a coincidence."

Number : 5
Golfer: "Please stop checking your watch all the time. It's too much of a distraction."
Caddy: "It's not a watch - it's a compass."

Number : 4
Golfer: "How do you like my game?"
Caddy: "It's very good - personally, I prefer golf."

Number : 3
Golfer: "Do you think it's a sin to play on Sunday?
Caddy: "The way you play, it's a sin on any day."

Number : 2
Golfer: "This is the worst course I've ever played on."
Caddy: "This isn't the golf course. We left that an hour ago."

And the Number : 1 . . . Best Caddy Comment:
Golfer: "That can't be my ball, it's too old."
Caddy: "It's been a long time since we teed off, sir."

Bonus

An old favourite . . . about the Golfer who has been slicing off the tee at every hole . . . He finally gives up and asks his long suffering caddy,

Golfer: "Can you see any obvious problems?"

Caddy: "There's a piece of rubbish on the end of your club."

Golfer: He picks up his club up and cleans the club face.

Caddy: " . . . other end."

Why Do Lithium-Ion Batteries Explode? by Harry Guinness on January 10th, 2018

While lithium-ion batteries are, on the whole, incredibly safe, they do very, very occasionally catch fire or explode. When it happens, like with Samsung's Galaxy Note 7 fiasco or HP's more recent laptop recall, it's always big news. So what's going on and why do batteries sometimes go out with a bang? Let's find out.

Rechargeable lithium-ion batteries - the kind of battery that's inside your laptop, phone, tablet, and pretty much every other modern gadget you own, as well as electric cars and airplanes - are responsible for the portable device revolution. Without lithium-ion batteries, I wouldn't be able to write this article sitting in a coffee shop; instead, I'd need to be plugged into a power source the whole time.

What's Inside a Lithium-Ion Battery?

To understand why lithium-ion batteries sometimes fail, you need to know what's going on under the hood. Inside every lithium-ion battery, there are two electrodes - the positively charged cathode and the negatively charged anode - separated by a thin sheet of "microperferated" plastic that keeps the two electrodes from touching. When you charge a lithium-ion battery, lithium ions are pushed by electricity from the cathode, through the microperferations in the separator and an electrically conductive fluid, and to the anode. When the battery discharges, the reverse happens with the lithium ions flowing from the anode toward the cathode. This is the reaction that powers your laptop.

This lithium-ion battery from a Japan Airlines Boeing 787 caught fire in 2013.

Small batteries, like those found in smartphones, usually have only a single lithium -ion cell. Larger batteries, like those in laptops, normally have between 6 and 12 lithium-ion cells. The batteries in electric cars and airplanes can have hundreds of cells.

What Makes a Lithium-Ion Battery Explode?

The very thing that makes lithium-ion batteries so useful is what also gives them the capacity to catch fire or explode. Lithium is really great at storing energy. When it's released as a trickle, it powers your phone all day. When it's released all in one go, the battery can explode.

Most lithium-ion battery fires and explosions come down to a problem of short circuiting. This happens when the plastic separator fails and lets the anode and cathode touch. And once those two get together, the battery starts to overheat.

There are a number of reasons that the separator can fail:

- **Bad Design or Manufacturing Defects:** The battery is poorly designed, as with the Galaxy Note 7. In that case, there wasn't enough space for the electrodes and separator in the battery. In some models, when the battery expanded a little as it charged, the electrodes bent and caused a short circuit. Even a well designed battery can fail if quality control isn't kept tight enough or there's some defect in manufacturing.
- **External Factors:** Extreme heat is nearly guaranteed to cause a failure. Batteries left too close to a heat source—or caught in a fire—have been known to explode. Other external factor can cause a lithium-ion battery to fail, too. If you drop your phone too hard (or too many times), there's a chance you'll damage the separator and cause the electrodes to touch. If you pierce the battery (either by accident or deliberately), then you'll almost certainly cause a short circuit.
- **Charger Problems:** A badly made or poorly insulated charger can also damage a lithium-ion battery. If the charger shorts or generates heat near the battery, it can do enough damage to cause failure. That's why we recommend using only official chargers (or at the very least, high quality third party ones from reputable brands). Lithium-ion batteries do have built in protections to stop them overcharging. While very rare, if these safety precautions fail, overcharging is a good way to overheat a battery.
- **Thermal Runaway and Multiple Cells:** While not relevant to single cell batteries like those found in most smartphones (the iPhone X actually has two cells), only one battery cell needs to fail for the whole battery to go. Once one cell overheats, you get a domino effect called "thermal runaway." For batteries with hundreds of cells—like those in the Tesla Model S—thermal runaway has the potential to be a really big problem.

Even though examining why battery sometimes fail paints a frightening picture, lithium-ion batteries are a safe and mature technology. The fact that it's always news when a battery explodes unexpectedly shows how rare an event those big failures are. Battery manufacturers put a lot of safeguards in place to prevent batteries failing, or at least mitigate the damage a failure can cause.

Contest Calendar 2018

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

Contests commence at 9 am, unless otherwise stated.

The 2017 MAAA Rules apply

Climb & Glide in brackets will be flown only if time permits

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

General Meeting Echuca 8.30am March 18th / AGM Echuca 8.30am September 16th

All 1/2A, Duration &Texaco events will have the electric equivalent (except State Champs & Nats)

May 5th & 6th	**COHUNA - VIC / SA CHAMPS** Saturday: 1/2A Texaco, Duration, Burford Sunday : Texaco, 38 Antique
May 19th & 20th	**BALLARAT** (new field) Saturday: 1/2A Texaco, Duration, Burford Sunday: Texaco, 38 Antique, Climb & Glide
Sept 15th & 16th	**ECHUCA** Saturday: 1/2A Texaco, Duration, Burford Sunday:8.30 am AGM meeting, Texaco, 38 Antique (Climb & Glide)
Sept 29th & 30th	**EASTERN STATE GAS CHAMPS - Wangarrata** SAM1788 Contest
Nov 10th & 11th	**COHUNA (yet to be confirmed)** Saturday: 1/2A Texaco, Duration, Burford Sunday: Texaco, 38 Antique { Climb & Glide }
Nov 25th	**BALLARAT (new field)** 1/2A Texaco, Climb & Glide, Texaco

When I worked at BMP, the Head of Television commuted in from Brighton every day.

He started reading The Exorcist on the train.

He said he thought it was the most evil book he'd ever read.

In fact, he said it was so evil he couldn't finish it.

So, at the weekend, he went to the end of Brighton pier and threw it as far as he could.

So I went to the bookshop.

I bought another copy.

Then I ran it under the tap.

And left it in his desk drawer.

For him to find.