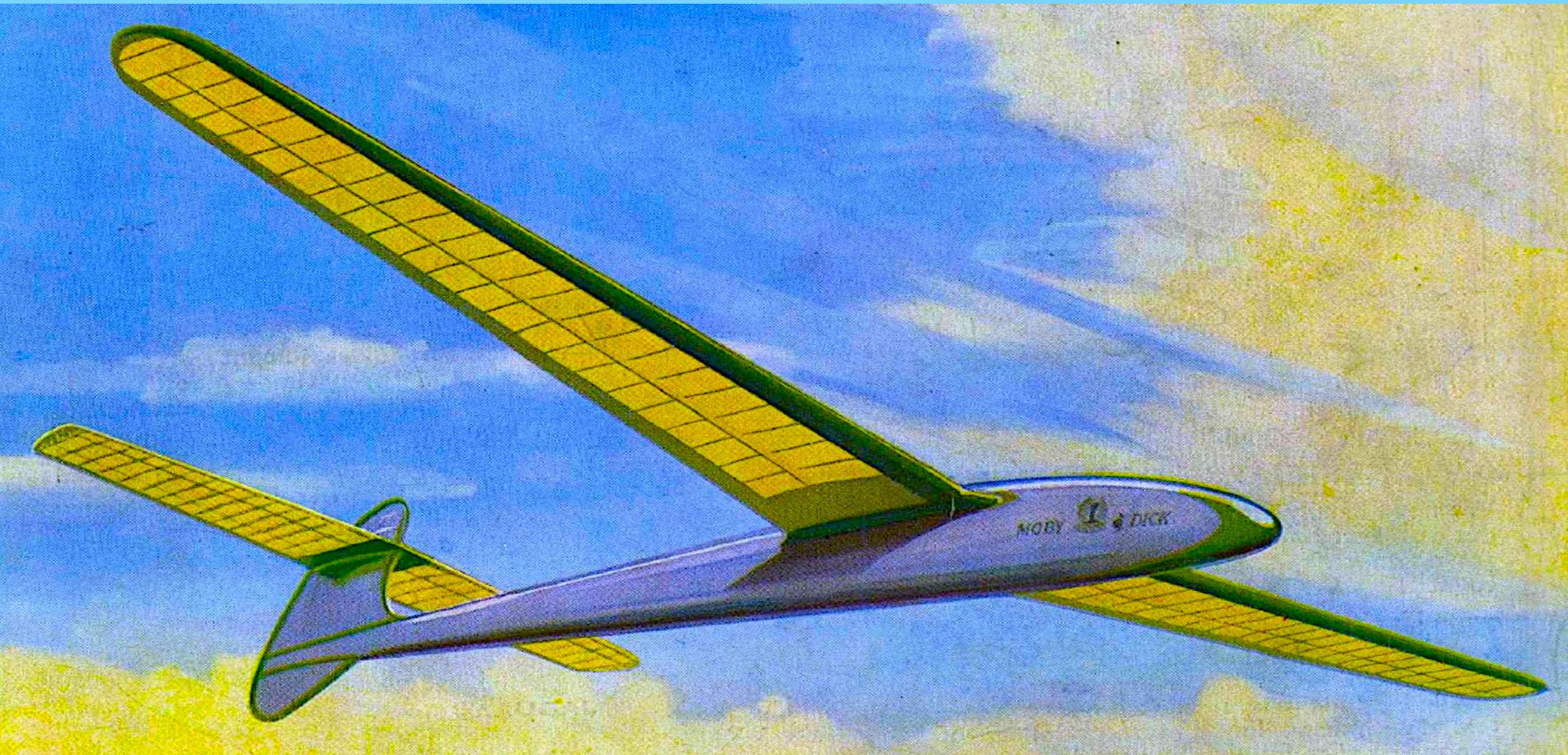
AVANZ NEWS

Vintage SIG — modelFLYING NEW ZEALAND

Fostering Vintage and Traditional Aeromodelling in New Zealand **# 190**



Committee Notices

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VFF at the 2023 NATIONALS

The opportunity to assist in the CD role, as explained in the last issue, was not taken up by enough fliers to cover a 4-day programme. The Free Flight Special Interest Group has offered to step into this role and the offer has been gratefully accepted.

There is some question at the moment as to the availability of Raynor's farm for Free Flight. Solutions are being sought and progress will be notified.

VINTAGE FF POWER LOADING

(Refer issue 189) There has been no objection to the use of engines that exceed the current power loading restriction provided these are shown on their respective plan or can be shown to have been used by the designer on that model.

The additional wording that permits these engines will be added to the Vintage rules on the MFNZ website at the next rules update.

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Don Mossop, Tandy Walker, Allan Knox, Wayne Cartwright, Barry Lennox, Randy Crumble, Mike Mulholland, Richard Barlow

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Irregular Comments
from the Editor

(Irregular: occasional, improper, unofficial, rough)

ONE DESIGN BUILD?

Building the design that has finally bubbled to the top of our must-build list (and then the next one) can turn us into insular workshop hermits, and sometimes, hermits with tunnel vision in our choice of projects.

At club level, more interaction can be brought into our building by group builds in which a single design is constructed by multiple fliers, together at the same time. This has been shown to be practical and popular in the promotions of Barrie Russell in the Hawkes Bay club. At solo builder level, the *Gloworm* one-design project of a few years ago was well received as was the Jumpin' Bean project.

Before covid disrupted progress, the Hamilton MAC's promotion of *Hangar Rat* building and flying had a surprising uptake from those who are, most of the time, dyed-in-the-wool RC fliers.

Many tried simple indoor rubber powered flying for the first time, and were turning in creditable times after just a couple of flying sessions. It was heartening to see the satisfaction gained from the creation of something that was outside the builder's usual sphere - and then getting it to perform.

While it would be overly optimistic to assume that free flight rubber might be taken up as a result of building a Hangar Rat, I believe the insights gained and the widening of outlooks have benefitted the Club.

Might there be interest in a another one-design build, sharing progress by email and culminating in unofficial show-and-tell flying at rallies and even the Nationals? *(Crikey! Fun-flying at the hallowed Nationals?)*

In this issue is the 1945 design *King Harry*. It was reprinted in the August 1995 Aeromodeller, renamed as *Prince Hal.* The design is about as simple as it could be, yet is reported to be a fine performer. Simplifying further, the carving of a propellor could be avoided by substituting a P-30 one.

A model such as this would make an ideal introduction to outdoor rubber powered flying, and would qualify for Vintage Rubber.

There are even more suitable designs, such as a small glider which would require less flying kit. Simpler to build and easier to trim than a rubber model, gliders of 36" wingspan have a following in the UK where a towline with a short length of rubber strip eliminates the need for a towing run.

If a one-design build of this nature appeals, register your interest with the Editor, and don't forget to mention any design you think may fit the bill.

MAGAZINE COLLECTIONS

I recently inherited a large number of *Aeromodeller* and *Model Aircraft* magazines, so if you are looking for specific issues of these titles I may be able to help for the cost of postage.

I can also supply by email, at no cost, plans from *Air Trails* 1937-75, *Model Builder* 1963-75, and *Aeromodeller* 1935-69. You will need to specify the exact issue.

scott.scott@xtra.co.nz

June, July, August 2022 Vintage and Free Flight

NATIONAL DECENTRALISED PROGRAMME

Jun/22	128	VINT	FF Vintage Hand Launch Glider
Jun/22	129	VINT	FF Vintage Catapult Glider
Jun/22	130	VINT	FF Nostalgia Power Duration
Jun/22	131	VINT	FF Classic Rubber Duration
Jun/22	132	VINT	RC Vintage Precision
Jun/22	133	VINT	RC Vintage E Duration
Jun/22	239	FF	Hangar Rat
Jun/22	240	FF	Indoor Hand Lauch Glider
Jun/22	241	FF	A1 Glider
Jun/22	242	FF	P30
Jun/22	243	FF	FAI F1A Glider
Jun/22	244	FF	FAI F1B Rubber

Jul/22	136	VINT	RC Classical Precision
Jul/22	137	VINT	RC Sport Cabin IC Texaco
Jul/22	138	VINT	RC Sport Cabin E Texaco
Jul/22	245	FF	Aggregate
Jul/22	246	FF	Open Glider
Jul/22	247	FF	FAI F1D Indoor Rubber

Aug/22	139	VINT	RC Vintage IC Duration
Aug/22	140	VINT	RC Vintage E Texaco
Aug/22	141	VINT	RC Classical E Duration
Aug/22	142	VINT	RC Vintage Precision
Aug/22	248	FF	Catapult Launched Glider
Aug/22	249	FF	Hand Lanch Glider
Aug/22	250	FF	Open Power
Aug/22	251	FF	Kennedy Precision
Aug/22	252	FF	Open Tissue

Coming events from CMAC and AMAC

Event by **Julius Long** and **FFONZ**

The Willows

Duration: 1 day

Group · Members of FFONZ

2022 South Island Free Flight Champs

July 30 and 31 at Christchurch Model Aero Club free flight field, Thompsons Road (by The Willows recreation area)

Events:
* Aggregate
* E36
* Kennedy Precision
* Kiwi Power
* Mini Combined
* Open Combined
* P30
* Tip Launch Glider/Catapult Glider/Hand Launch Glider

Flying Saturday and Sunday from 0730 to 1400 (closing may be extended by CD on the day)

Entry is free, but a donation $5 per person to cover costs would be appreciated.

Billets may be available – call Bill Long (027 207 4470), or Julius Long (021 0849 0915) to discuss.

INDOOR EVENTS

Drury	**Drury School Hall**
Monday June **20**	Modelair Hornet, Kit Scale (7.30 - 10.00pm).
Monday July **18**	All indoor free flight scale classes (7.30 - 10.00pm).
Indoor Steward	Brian Howell 020 4121 5201 b.how@xtra.co.nz

Calendar Looking Ahead

DOMAIN

MIMLOCT Mass launch of Cloud Tramps
4.00pm

MORRINSVILLE

October **16, 2022**

Indoor Free Flight classes
Hangar Rat, Hand Launched Glider, Modelair Hornet.

Indoor Free Flight Scale classes
Open Rubber Scale, Peanut Scale, Memorial Scale, and Kit Scale.

Ngatea Blackfeet Flyers Rally April 9th & 10th

Don Mossop

Saturday 9th April was fine but breezy making flying conditions trying for most classes. A limited turnout included Dave Coleman, Martin and Paul Evans of Blackfeet Flyers, Dave Wilkins (NSMAC), Don Mossop, and Wayne Cartwright. It was great to see someone from north of the Bombay Hills (Dave Wilkins) who is leading a resurgence in Vintage building and flying at the NSMAC.

A vast improvement in conditions on Sunday 10th led to some enjoyable flying by those who attended, including Pete Townsend, Bernard Scott, Martin and Paul Evans, Dave Coleman, Wayne Cartwright, and Don Mossop. Don's 'Stormont' Vintage E Rubber Texaco model was lost in a thermal (again) but was fortunately recovered soon after.

Vintage 1/2E *Stratostreak*
Wayne Cartwright

Taking a bearing on high-flying model. Peter Townsend

Humming Bird with Jedelski wing? Dave Colman

RESULTS

Vintage Precision

1.	D Mossop	600
2.	T Gribble	580
3.	D Wilkins	575

Classical Precision

1.	D Mossop	495

Vintage E Duration

1.	D Mossop	870

Classical E Duration

1.	D Mossop	491

Vintage A Texaco

1.	P Townsend	1736
2.	B Scott	1472

Vintage 1/2E Texaco

1.	T Gribble	1619
2.	W Cartwright	1199
3.	B Scott	1073

Vintage E Texaco

1.	W Cartwright	2142
2.	B Scott	1345

Classical E Texaco

1.	W Cartwright	1448
2.	T Gribble	925

1/2E Vintage *Folly* by Tony Gribble, launched by Don Mossop

Some of the Evans' fleet

Top left: Jasco *Flamingo*
Bottom Left : A little *Viking*

Top Right: *Powerhouse, ??*, and *Erhling.*
Bottom Right: The *Erhling* heading for the take-off area.

Reduced from a weekend event to just the Saturday to fit the weather, the one-day reprieve from blustery conditions gave a chance for some serious Vintage flying before the worst of winter sets in. The “fly any class” approach meant that entries in each event were diluted, but then, flying what you want to, rather than what is competitive, is in line with the motivation of most Vintage fliers.

Sadly, from this writer’s perspective, electric continues to expand its share of new builds and events flown. So, it was good to see three Cox-powered 1/2A Texaco models in attendance, two from Rotorua and one local. Those little Cox engines may be difficult and sometimes perplexing to tune but once adjusted they are so evocative of early flying days that their fickle nature is easily forgiven.

Peter Townsend has done much experimentation on the use of small diesels in the Texaco duration events. One of his latest efforts is the 1.5cc PAW *Flying Pencil* seen *right.* A score of 1847 in A-Texaco proves he has found a sweet spot with this combination. One line of investigation had been with throttling an MP Jet Sport 40 and the impressive results of tgis can be seen in this YouTube clip: https:// www.youtube.comwatch?v=KS7obxqNTDA

Bernard Scott

Recognisable by the Antarctic-grade headgear, Peter attempts to hide behind his ... well, you can read the wing.

TUAKAU VINTAGE COMPETITION / RALLY

28th May 2022

Above **1/2A Texaco lives! Ideal conditions for these challenging little models**
Below **Multiple exposures record the path of John's takeoff**

Vintage Precision

1.	D Mossop	600
2.	T Gribble	582
3.	J Ryan	578
4.	D Little	560
5.	D Gush	400

Classical Precision

1.	D Mossop	591

Vintage IC Duration

1.	J Ryan	413
2.	D Little	229

Vintage E Duration

1.	D Mossop	960
2.	T Gribble	658

Classical E Duration

1.	D Mossop	718

Vintage 1/2A Texaco

1.	B Scott	1500 + 512
2.	J Ryan	886
3.	D Little	741

Vintage A Texaco

1.	P Townsend	1847

Vintage 1/2E Texaco

1.	T Gribble	1202

Classical 1/2E Texaco

1.	D Mossop	1147

Classical E Texaco

1.	D Mossop	1326
2.	T Gribble	1076

Vintage E Rubber Texaco

1.	W Cartwright	2318

TUAKAU VINTAGE COMPETITION / RALLY 28th May 2022

Tony is overjoyed - Don has at last finished his Starduster 1/2E flights and they can now get on with lunch

Wayne demonstrates to a disbelieving John exactly how the Apache must be planted on the spot

John and Dave, all the way from Rotorua, with 1/2A Texaco entry

For a secure radio link in high-flying 1/2A Texaco, the editor trusts a big aerial

73rd WAIKATO FREE FLIGHT CHAMPS — Proctor Road 30th April 2022

Weather for Free Flight contests can be problematic, and at times it is a case of stiff upper lips and play, play on, lads. As part of the lead-up to this year's Waikato FF Champs, weather insurance was taken out. On the preceding Thursday, an offering of one vegetarian pie, a packet of Liquorice Allsorts, and a zero-sugar Coke was left on my hallway altar dedicated to Ehecatl, the Aztec god of wind. Next morning it was gone and the breeze had dropped a little. Thus encouraged, Friday evening's offerings were two packets of salt and vinegar crisps, six Lamington squares, and, because even a wind god has to watch his weight, some grated carrot and assorted nuts.

This reverence paid off. Saturday morning arrived with conditions that could only be described as *jus perfeck.* From the 8am start to the 2pm close, it was *jus perfeck!!* Fliers from Auckland, Hawkes Bay, and Hamilton made the most of the calm in which maximum flights often landed in the same paddock.

One electric event, E-36, was flown and was very satisfying as fliers, in NZ at least, are still on a level playing field with regard to equipment and flying skills. This makes it a great event for new FFers. Rewarding results are possible since the event is still at the stage where there are no dominant "experts".

Great to see Jason Magill back at the field, and in top form with a rebuild of father Ron's *Love Child* open rubber design - *see pg 11.* Will there also be a rebuild of *Rubber Hubby*, another of Ron's top performing designs?

After place certificates were handed out, a random prize that was allotted at the CD's whim, ended up with Bill McGarvey who has resurfaced at the Champs after a long absence. Bill received instructions that the bottle of wine was to be consumed only after returning home.

Out of the ordinary in the prize department was a laser-cut kit of the 1950 *Sporty,* a design that appeared on the cover of the February AVANZ News. This kit was drawn up and laser cut by Richard Fallas. It was agreed that it would go to the most noteworthy flight of the competition. That turned out to be a flight by Jason Magill that Richard described as smooth and effortless.

The 21st century WFFCs may be a shadow of what they were back in those mythical good ol' days when event entries were numbered in the dozens, yet it continues to provide an excellent opportunity for low-key flying and for socialisation. See you at next year's 74th edition.

Bernard Scott, CD

RESULTS:

CAT GLIDER

1 Kevin Barnes	315	2 Karen Barnes	212
3 Richard Fallas	165	4 Ricky Bould	145
5 Rob Wallace	133	6 David Ackerey	87

OPEN COMBINED

1 Jason Magill	540	2 Bryce Gibson	516
3 Kevin Barnes	509	4 Rob Wallace	506
5 Rex Bain	451		

E-36

1= Karen Barnes	360	1= David Ackery	360
1= Bernard Scott	360	4 Rob Wallace	306
5 Kevin Barnes	36		

AGGREGATE

1 Bernard Scott	804	2 Jason Magill	710
3 Bryce Gibson	643	4 Richard Fallas	382

KIWI POWER

1 Bryce Gibson	358	2 Bernard Scott	323
3 Kevin Barnes	289	4 David Ackery	252

MINI COMBINED

1 David Ackery	360

Rex Bain / Open Power and Motocross

David Ackery / Mini

There's more to life than toy aeroplanes!

Kevin and Karen Barnes Open Power

Robert (Tui) Wallace and Bryce (Pasta) Gibson

LOVE CHILD 1970 Classic Open Rubber by Ron Magill

Extracted from South Island News, April 1970

It's time to go 'sweeping in the SIN BIN' again, and what do we come up with? Well, nothing less than a severe case of 'then and now'... as prompted by the appearance of 'LOVE CHILD Mk2' by none other than 'Rubber Band Ron'. Not quite a year ago we featured one of Ron's Open Rubber models, "Rubber Hubby", from SIN May/June 1968 (he's probably still got the original knowing the venerable age of most of Ron's aodels) and now, from a little later, April 1970 to be exact, comes LOVE CHILD, the son of RUBBER HUBBY. Over to Ron ....

In England, 3 x 3's are a mere formality on most days in Open Rubber and most model development and tactics are centred on winning the fly-off. At the time I was there I was committed to flying my Wakefields and 'Rubber Hubby' had only the occasional outing. Its most ignominious moment was doing 178 seconds in the Farrow Shield flyoff at Cobham Common after 'Bock Marker' my current Wakefield had provided the required 3x3's.

At that time the veteran rubber fliers In the Croydon Club-Jack North, John Blount, Norm Elliot and Bob Leppard were regular flyoff contenders, and most of my involvement was confined to helping with the retrieving. Towards the end of my day, Dave Hipperson dropped power flying in favour of rubber and Alan wisher likewise dropped A/2.

Arriving back in NZ, I consequently had a fair idea of what was necessary for an Open Rubber model. The first essential was the winding tube and Bruce Keegan and myself made up the necessary equipment for the tube winding system and eventually started building true Open models in 1968. Mine was finished in time for the 1968 Nationals but was not flown due to lack of trimming weather. At the 1969 Waikato Champs, after two easy maxes, it power stalled on the third flight 100 feet up, dived back to ground level then pulled away again and did only 2 minutes missing out on a possible flyoff with Paul Lagan who had maxed out. Not good enough. I saw many English Open models which would power stall a couple of times on the climb and still be that high in 90 seconds you wondered if it was deliberate.

However, the trim was finally sorted and things began to look quite rosy, maxing out easily at the last Nationals and with a little bit of help from my friends, Murray and the Noddy-box, the long-sightedness of Colin Stace, and Polaroid glasses, my expert helper Shona (the most experienced in NZ with the tube winding system) got a sub-14 minute fly-off.

This was right in keeping with some of the fly-offs in England. A few people in NZ seem to think that a fly-off is a test of the model's 'still-air' Ability,or a comparison of performance of models flying together. Over a season in, say, a dozen fly-offs, it is fairly easy to see who has the best model but the contest is still won by the person recording the longest flight. This means thermal flying, tactic ,and a little bit of luck. In short, all the elements of a normal contest.

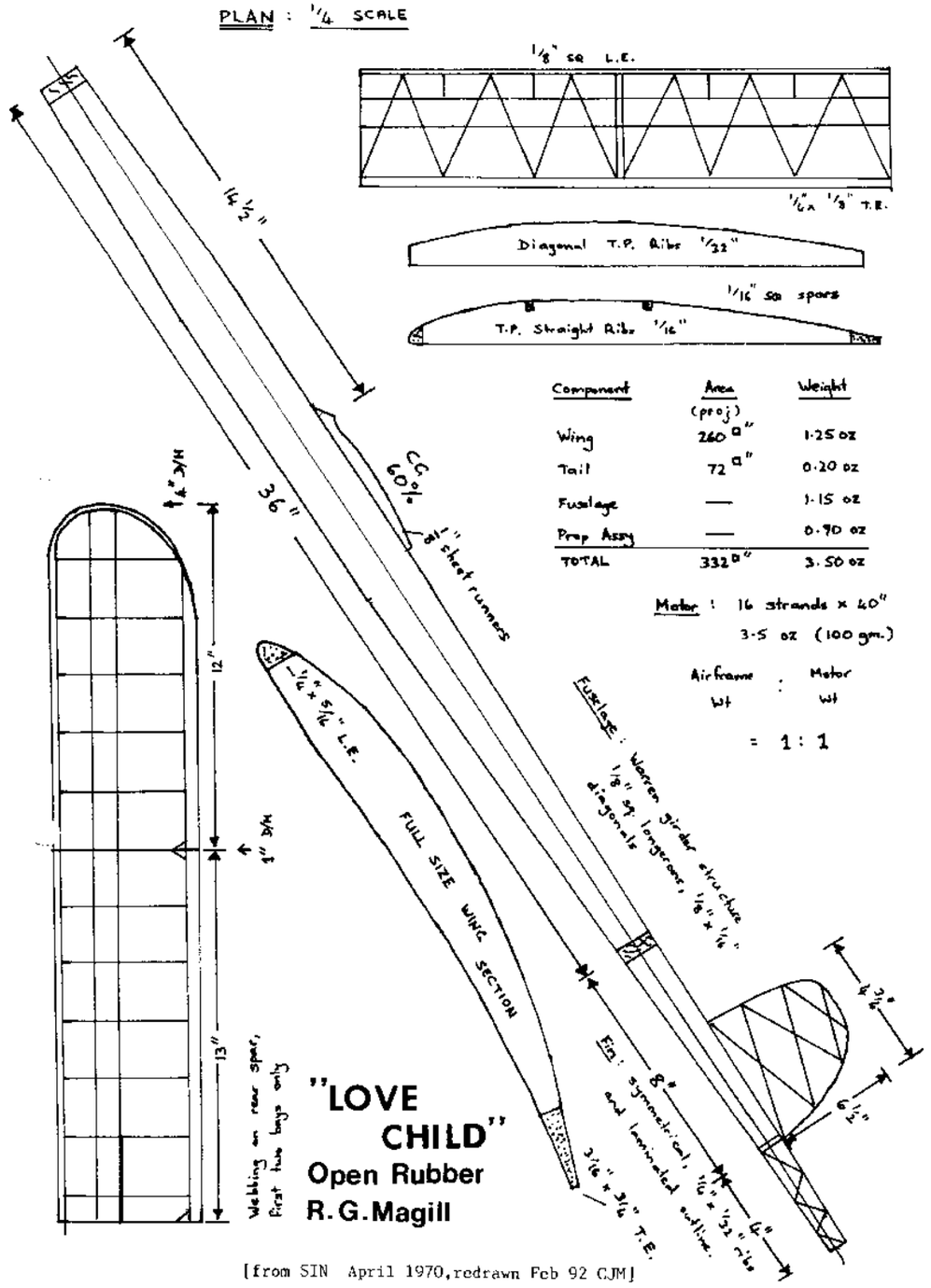
Model development: 'Love Child' was a logical development of the successful 'Rubber Hubby'.

The Warren girder fuse was the first step, and a slight increase in the length of the wing tips pushed the area up to 260 sq in projected. With English models I had noticed there was a tendency to quote flat areas, however this is still a large wing by any standards. The underfin was omitted, the tailplane structure improved, and the 22 x 26-24 prop blades of the 'Back Marker' were used. By reducing the weight of the fuselage I was able to add another 20 grammes of rubber and still be 1.2 oz lighter than the 'Rubber Hubby'. The motor was made up into 16 strands 40" long and I usually wind on 515 turns giving a 70 second prop run and a performance of about 4 minutes.

For a future fly-off model I have the following improvements in mind, and an increase in span to 58" to give 300 sq.in. projected area: a corresponding increase in tailplane span to give 80 sq.in. And an increase in fuselage length to 52" to take a 4.5 oz motor turning a 24 x 28 propellor. All up weight to be 8.5 oz: 4.5oz rubber/4 oz airframe. Performance to be 5 minutes plus.

Contest record:

Waikato Champs 1969	180 + 180 + 150	2nd
1969/70 Nationals	3 x 180 + 839	1st
Waikato Champs 1970	180 + 130 + 180	1st



[from SIN April 1970, redrawn Feb 92 CJM]

A Different view of Hedy Lamarr and frequency-hopping radio

Bernard,

Good magazine, but it unfortunately propagates the BS myth that Hedy Lamarr invented SS comms and other things. She most assuredly DID NOT.

What she and her friend, George Antheil, were awarded a patent for (US2292387A) was the conception of a single way of generating random jumps between pre-assigned radio frequencies using a paper tape on the old-fashioned player pianos.

That's the thing about patents, you only have to show an idea, not ever a working device, and it most assuredly never did work!!

SS was patented and used in a fashion before Lamarr was born. Nikola Tesla was awarded the first patent on 17 March 1903 (US173188A) It appears that it might have been used in a crude fashion during WW1 but there's no high-quality evidence of that.

A number of us around the world have attempted to find how this piece of garbage originated. No luck so far, but it seems that it may have started by sympathetic feminist journalists maybe in the 1960's.

Anyway it would be correct to publish a retraction of this inaccurate and dishonest myth.

I have attached a longer article on this that was published in our Sept 2018 "Model Flying World " There's an even longer piece published by Scientific American in Jan-Feb 2019 and can be seen here...

https://www.americanscientist.org/article/random-paths-to-frequency-hopping

Best Rgds
Barry Lennox

Barry,

After reading the claim of Lamarr's inventive genius I too wondered if there had been flights of fancy by Hedy admirers, so I looked for confirmation in reliable sources.

The interweb is replete with the Lamarr story, mostly in support of her claimed work, but Google is not Gospel. Who to believe?

The Smithsonian, the world's largest museum, education, and research complex - can the Smithsonian be trusted?

Then, the American Physical Society, whose mission is to disseminate knowledge of the physical sciences - what does the APS say?

After reading your debunking of Lamarr it was a surprise to find that both these distinguished institutions have it all wrong. They both recognise and applaud Lamarr's involvement in the development of frequency-hopping transmissions.

Not that it matters much with what else is going on in the world, but for the record -
Smithsonian Institution https://rb.gy/sc4ced
American Physical Society https://rb.gy/easyca

When the Lamarr reference was included in the last AVANZ News, I had not remembered its previous mention in MFW or your response. I will include your article and interweb reference in the next AN.

Thank you for your input on this topic.

Editor

Model Flying World article ...

Well, once again I see it's time for "fake news" not coming this time from USA loonies, but rather from our own mag. Yes that's right. On page 65 of the last issue, *(Model Flying World, June 2018 - Ed)* there's a cute feel-good story about Hedy Lamarr and her friend and how they "invented" frequency-hopping radio but once again those stupid generals in the Pentagon did not realise the pair's brilliance in their own lunchtime!

Trouble is, the whole story is just plain wrong! Frequency- hopping radio was invented well before Hedy Lamarr was even born, in 1914. Actually she was born in Vienna as Hedwig Kiesler, but changed her name for a variety of reasons in 1938.

She was very attractive, but dismissed this and truly saw herself as an inventor, this came mainly from her father whom she was very close to. He was an accomplished athlete, a successful banker, and a technology enthusiast who delighted in explaining everything to his daughter. It always annoyed her intensely that few people saw beyond her looks, and once bitterly said "Any girl can be glamorous, all you have to do is stand still and look stupid" !

Anyway, back to frequency-hopping radio or it's more correct and modern term, spread-spectrum. The very first documented mention comes from Nikola Tesla, the sometimes brilliant, sometimes eccentric show-pony inventor away back on March 17, 1903 when he was awarded US Patent 173188A. You can still find this on the US Patent Office website and if you can be bothered struggling through 4 pages of bizarre English, it's quite clear he is describing two quite different means of transmitting over multiple frequencies in some semi-random pattern. Even though he did not call it frequency-hopping, it clearly qualifies.

...continued

For a variety of very good reasons, it never came to anything, but he most definitely was awarded the first patent while Hedy/ Hedwig was born 11 years later!

The next mention of frequency hopping is in a very old text by the radio pioneer Jonathan Zenneck. In his book "Wireless Telegraphy" (German, 1906-1908, English translation McGraw Hill, 1915), Zenneck claims that Telefunken had already tried it several years earlier. Zenneck's book was a leading text of the time, and was highly regarded as the Wireless "Bible" of it's day. It is thought that the German military made limited use of frequency hopping for communication between fixed command points in World War I to prevent eavesdropping by British forces, which seemingly did not have the technology to follow the sequence. However, no equipment, documentation or reliable memories can be found these days. The English version of Zenneck's book is readily found on the Internet and you can read all about his suggested frequency-hopping scheme on pages 320-323.

Then in 1929, a Leonard Danilewicz who was working for the Polish General Staff's Cipher Bureau, proposed a system for secret wireless telegraphy that : *"was a truly barbaric idea consisting in constant changes of transmitter frequency*" The Polish General staff apparently thought it was too barbaric a scheme, but did grant him 5000 Zloty to further the work Incidentally, he was also involved in developing parts of the infamous Enigma cipher machine, widely used by all German forces in WW2.

You can read a lot more about this in in the book. " *Enigma: How the German Machine Cipher Was Broken, and How It Was Read by the Allies in World War II"*, 1984, by W Kozaczuk.

The above ones are the well-documented ones, but there were several more, some of whom had original ideas, while others built on the work of Tesla, Zenneck, Telefunken and Danilewicz.

And now finally, at last, eventually, we get to Hedy! Hedy and her composer/friend George Antheil, who were experimenting with "alternative" music and the electrical control of musical instruments. While living in Paris, George Antheil had produced an infamous composition back in 1926 that he called his "Ballet Mecanique" This was a monstrosity using pianos, electric bells, drums, xylophones, sirens, a gong, an aircraft propeller and 16 synchronised player pianos. It was described as a 20 minute "rhythmic cacophony" whatever that is! Of course, these days you can easily find the whole thing on YouTube, if you're a tiger for punishment, or feel a need for a splitting headache!

By the 1940's Hedy had divorced her first husband, changed her name and moved to the USA. She had also learned at defence meetings she had attended with her former husband Friedrich Mandl that radio-guided missiles' signals could easily be jammed, and she was aware that early US-manufactured torpedoes had a pretty high failure rate.

So, Hedy and George concocted a version of frequency hopping that used a piano-roll to change among 88 frequencies, and was intended to make radio-guided torpedoes harder for enemies to detect or to jam. Looking back, it's a bizarre and surreal masterpiece of fantastic complexity for the day. A ship would launch a torpedo towards a target vessel, and aircraft overhead would observe it's track and radio corrections to the ship, which would in turn "flash the correctional radio pattern over its proper wavelength for that particular interval" Wow, given 1940 wireless technology, what could possibly go wrong?!

Needless to say, the US Navy wisely dismissed it as unworkable. That's the thing about a patent, you never have to show it works, only that working can be conceived. That covers almost anything you can imagine - don't go along with a perpetual motion machine, or anything else that breaches thermodynamic laws. You won't even get in the door with that! But let's be absolutely clear, their patent only covers the use of a piano roll, NOT the more general concept of frequency- hopping or spread-spectrum.

So, what was the first really successful frequency- hopping system that was fielded? The first known successful system was used during WW2 and was developed over three years by about 600 engineers, technicians and mathematicians at Bell Labs. This was known as SIGSALY. Or sometimes as "System X" or, Ciphony 1" or "Green Hornet". There are at least 32 known patents associated with this system, most of which remained classified until the early-mid 1970's

SIGSALY was a secure voice system that was used to communicate between major command and HQ centres from 1943 onwards. There were only 12 terminals ever made, and little wonder, as a SIGSALY terminal was massive. (See Fig 1) Consisting of 40 racks of equipment, it weighed 50 tons, and consumed 30 kW of power, necessitating an air-conditioned room to hold it. The system was cumbersome, but it worked very effectively. When the Allies invaded Germany, a SIGINT investigative team discovered that the Germans had never even come close to cracking it, but instead had dismissed it as some jammer or noise generator.

Bell Labs had solved the synchronization problem by recording random noise on a phonograph record (under 45? ask your dad what this is) The records were played on turntables, but since the timing – the clock synchronization – between the two terminals had to be precise, the turntables were by no means just ordinary record-players. They were precision devices, and the rotation rate of the turntables was carefully controlled, but the system owed as much to extremely complex mathematics as superb engineering. The records only held 20 minutes of random noise, but this was mathematically expanded to cover a whole Crypto-period, being one day. There is a good description of the principles and it's manufacture in "A History of Engineering and Science in the Bell System" Vol 2, 1978.

So write it out 100 times**... "Hedy Lamarr DID NOT invent spread-spectrum radio!"**

(End of Barry's MFW article)

Dear Mr Editor of the ANAVN News

Here I am yet again with our earomodelling news and some of it is making us quite incandescent with the excitement. Well maybe not Ranji who is spending most of his time doing line-dancing and is now on the committee of the Hell's Fury Line Dancers (Inc) preparing for the international dance-off in Reykjavik in August. Amarilla is knitting him a wooly jumper.

Our earomodelling was retarded after the Toy Plane Nationals as even though we did bleach injections Ransid picked up a cervix 19 at a bar in Carterton and brought it home and Ransid and I ended up in bed with it too. We were lucky that Amarilla's hot lentil curry helped us fight our way out of it.

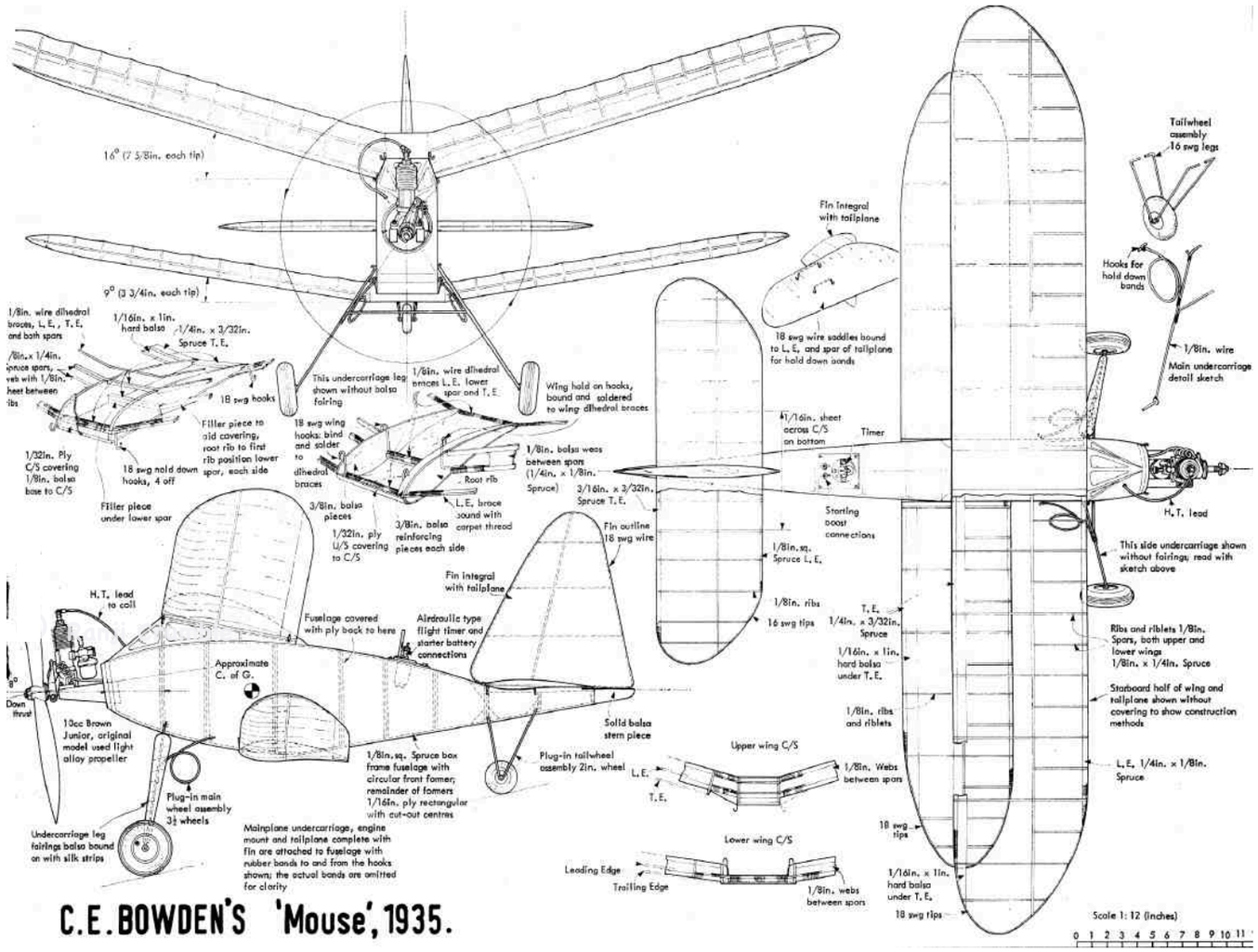
Do you remember the Oddie model in my last letter well Ransid was right and we did have to make the deathaliser wing go up at the front and not at the back. Now it comes down properly.

We do not have the Olson anymore because a neighbour borrowed it off Ransid while he was running it outside the garage one night. We think he is going to do earomodelling too and wants a motor but we have not heard him running it yet. Ransid went over and asked him if he needed an eleven by six propellor but the neighbour was too busy to see him.

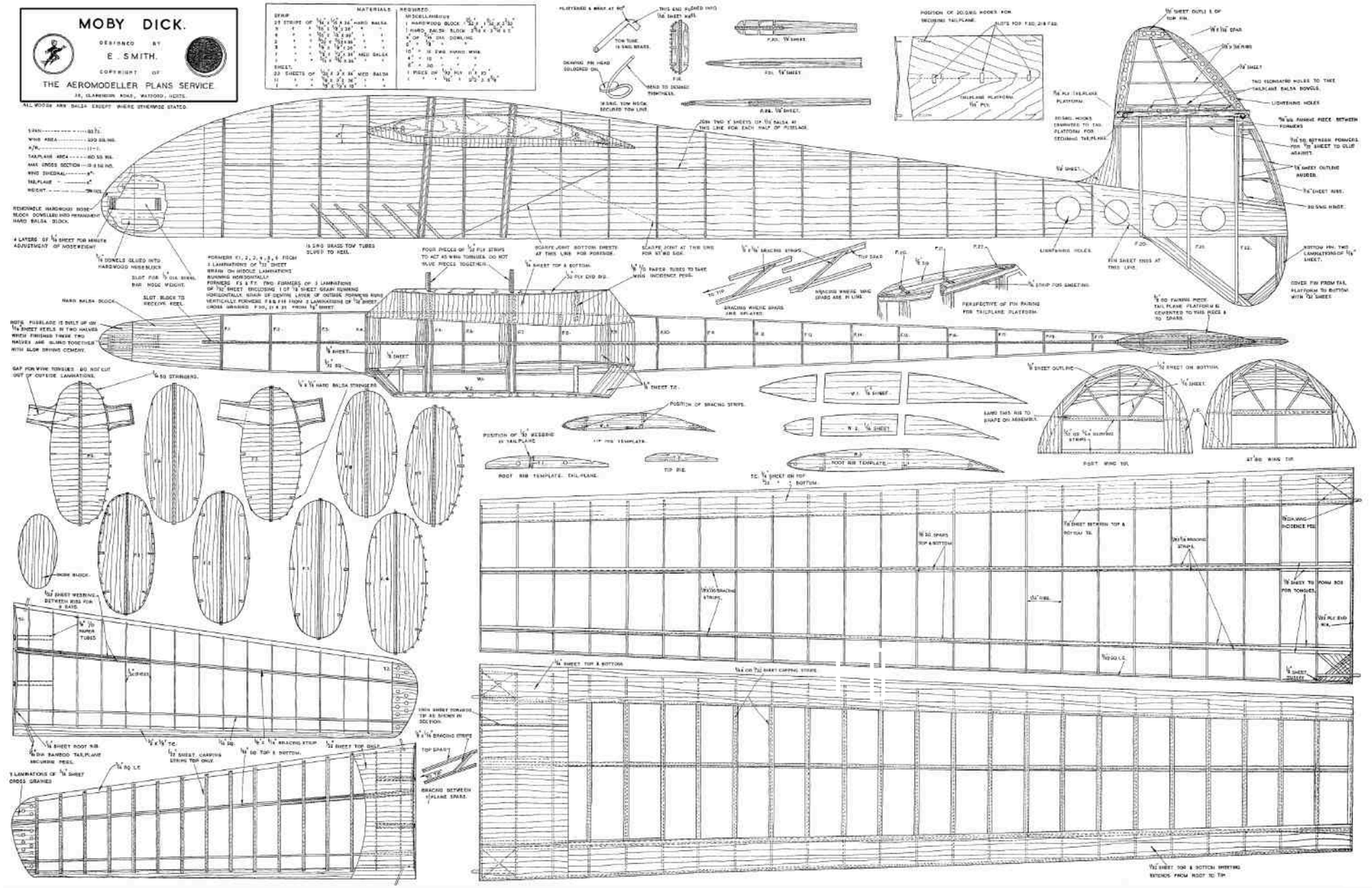
So I hear you ask. What is making us so excited. Well I found some earomodelling books at a book fair and they were only a dollar each so I got two of them by very famous earomodellers. One is by a man called Mr Grant who knows much about what the shape of a model should be. We are learning from every page how to make our models fly better with something called a CLA.

The other book is by a man who is not Mr Grant. The other book is by a man called Mr Colon Bowden. He has some good ideas for us to digest and Ransid has written to him because he is going to make one called Mouse with two wings. He thinks it will fly two times as good and he is going to put the Mills 13 in it because the neighbour still has the Olson. He has started making the propellor and will make the body much fatter so it has a good CLA like Mr Grant says it must have.

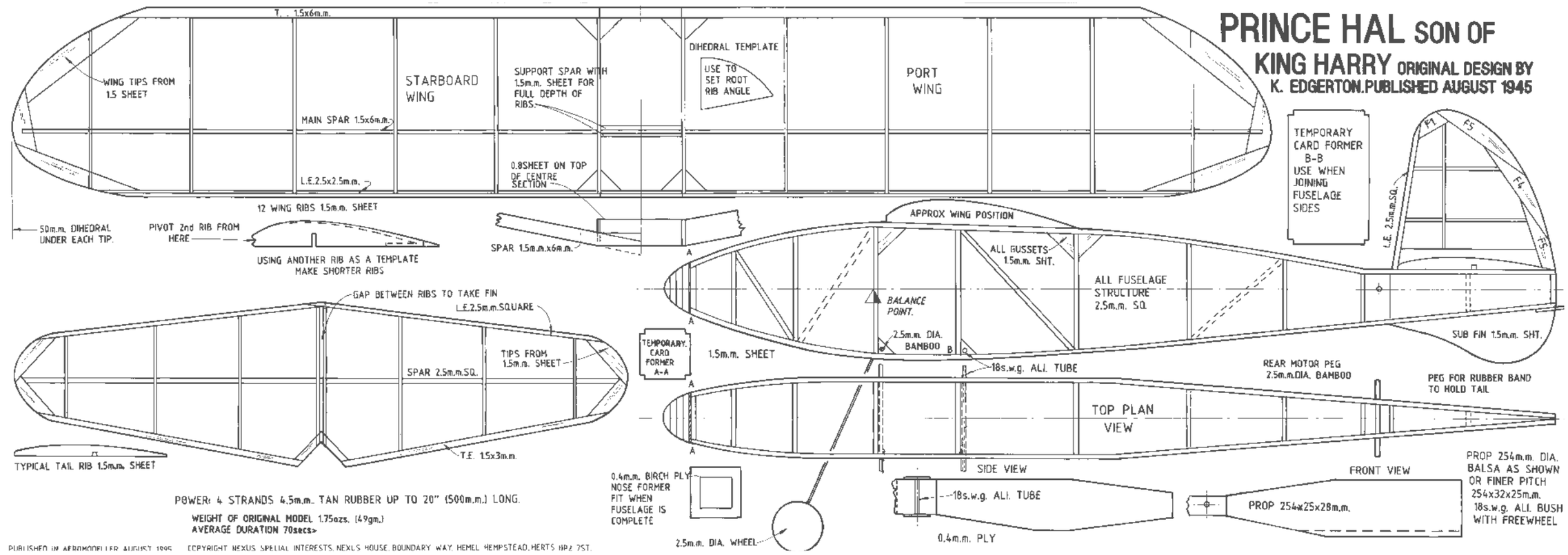
Good flying to you all,
Randy, Ransid and Ranji (The earomodellers)



THE COVER

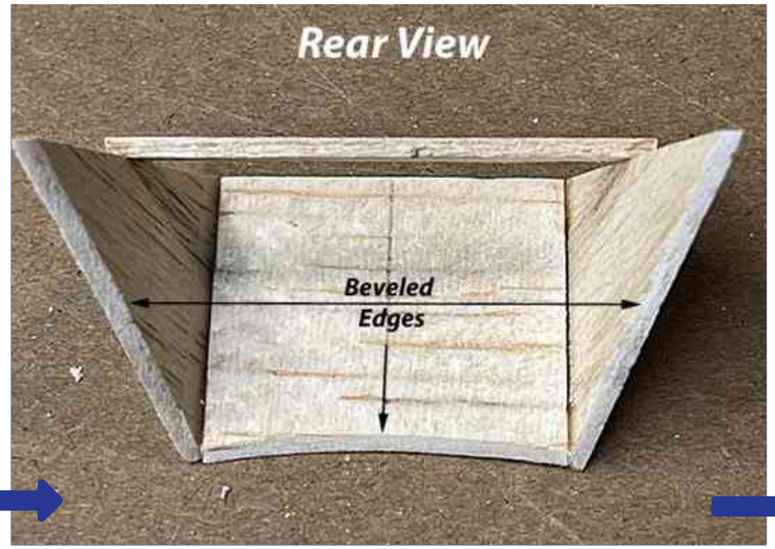


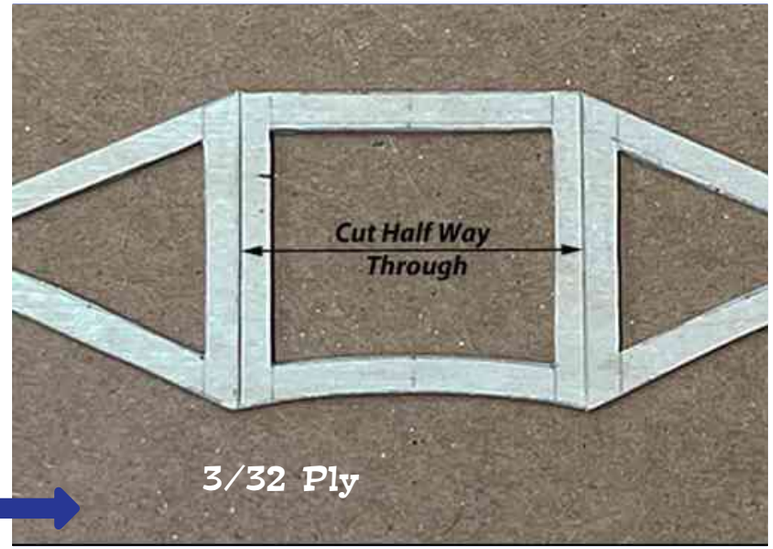
The late 1940's gave large free flight gliders a brief moment at centre stage. Some of the best known of these behemoths were the *Sunspot* (1948, 121"), *Thermalist* (1948 / 136"), and *Thunder King* (1949 / 136"). The cover subject did not match such giants, but at 82.5" span it was still bigger than most gliders of its time. The plan appeared in the January 1949 Aeromodeller along with lengthy notes on development and building. In these, designer Eric Smith lists his four requirements of the glider - "fine appearance", "easily transportable", "easily stored" and finally "beginer's luck in the matter of performance".

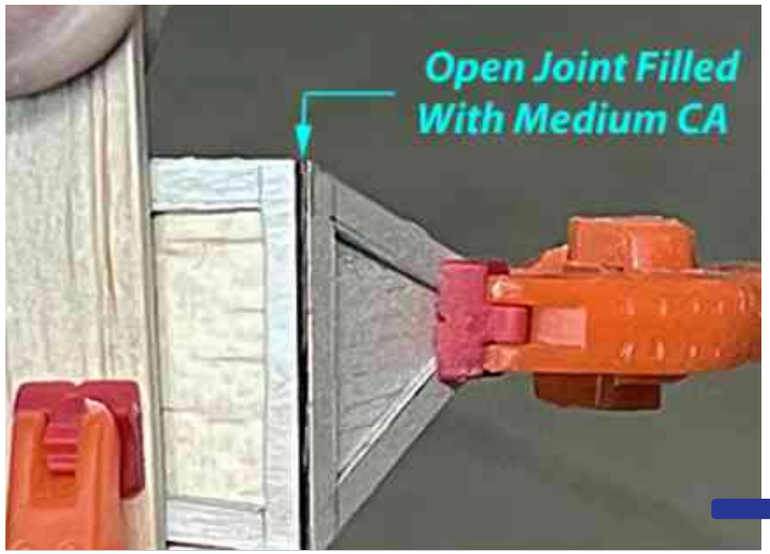


They don't come prettier than this. Simple build and a P30 prop to avoid carving the propellor.

Developing a windscreen frame for an open-cockpit design







Tandy Walker

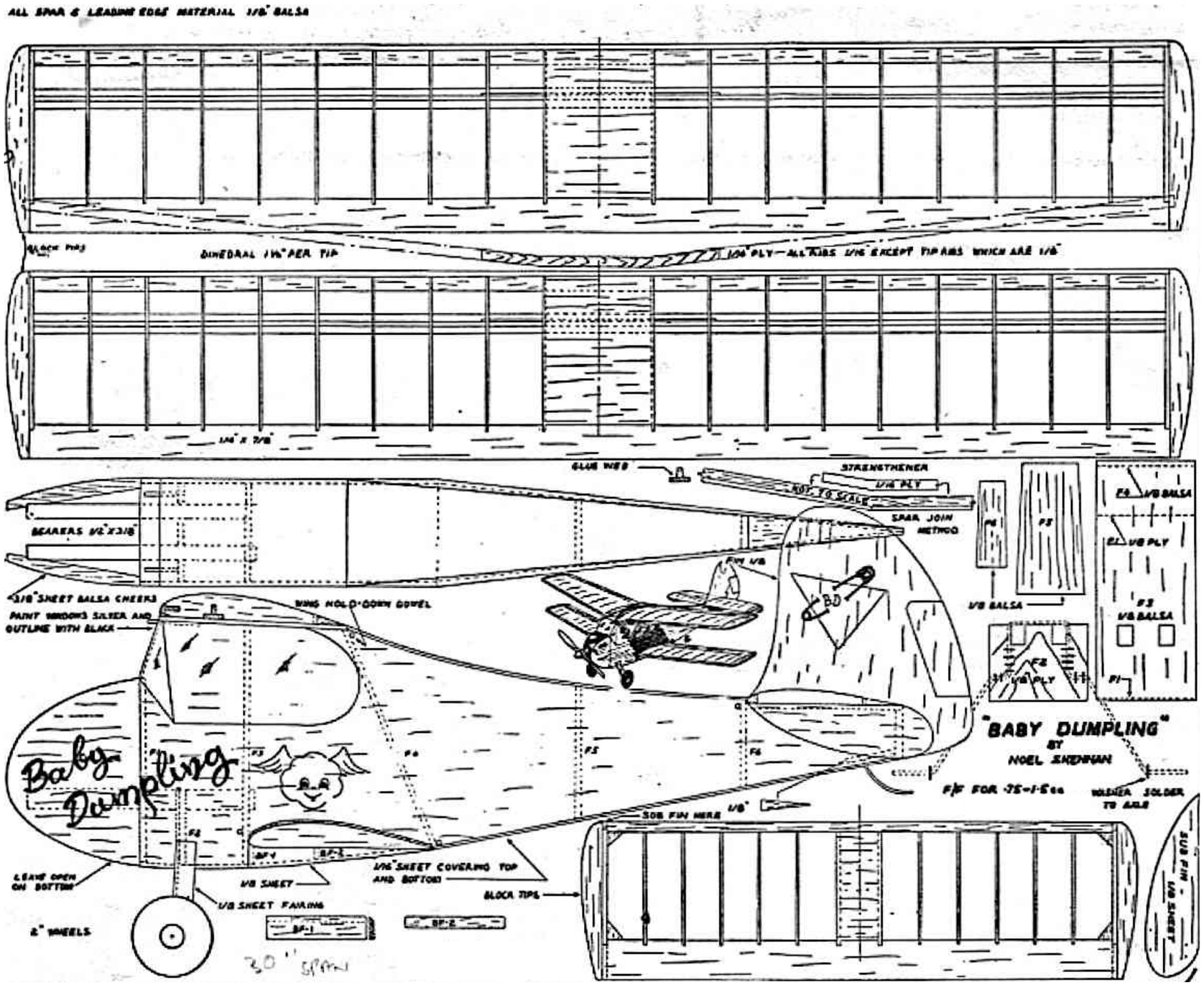
BABY DUMPLING

That man ... stop laughing !!

Date of design unknown.

Could there ever have been a more appropriate name for this little .... um, model?

We know you will want to build one. Have seen worse.

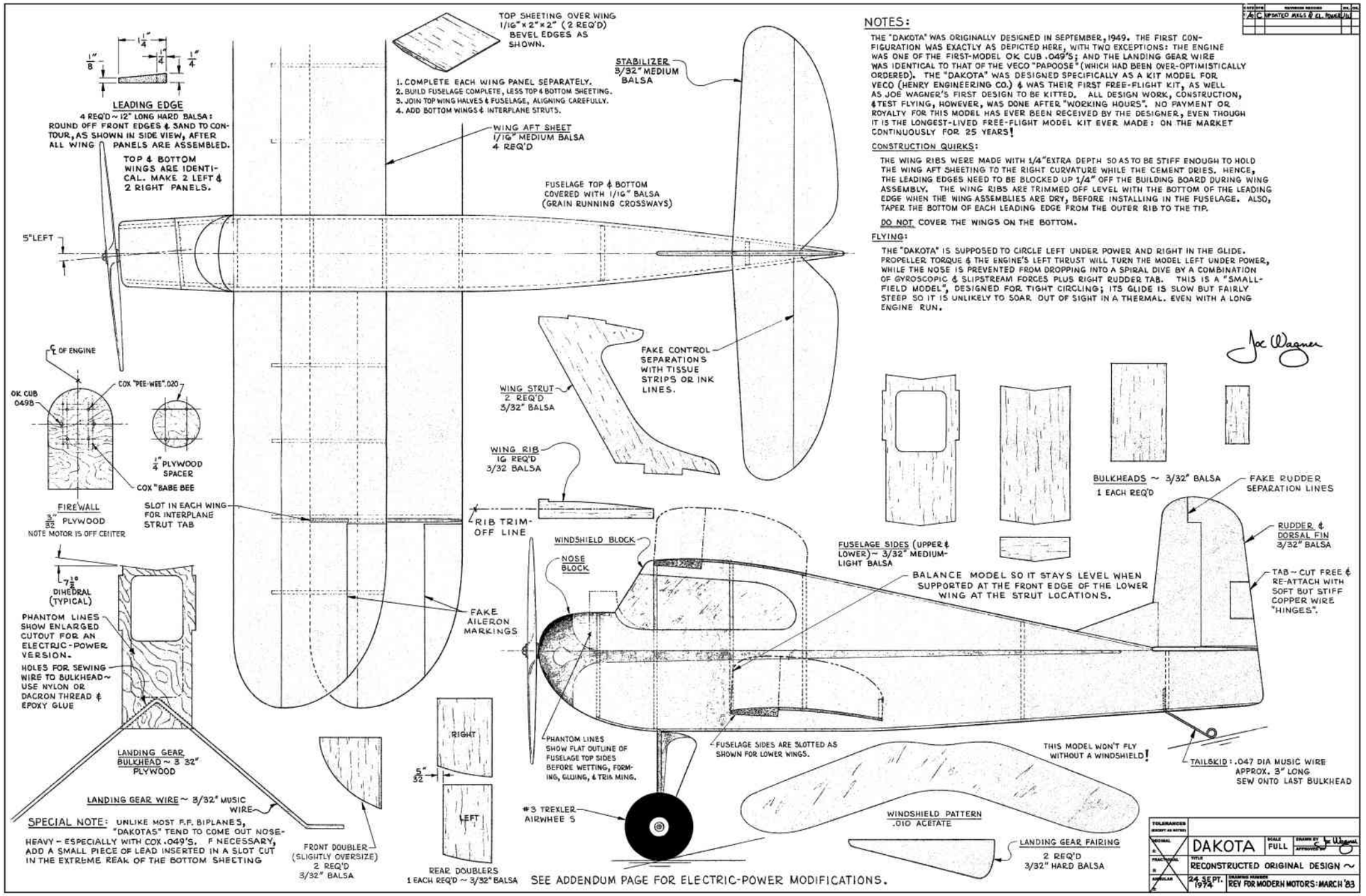


DAKOTA

Joe Wagner

The Dakota dates from September 1949 and was claimed to be a “foolproof” 1/2A model.

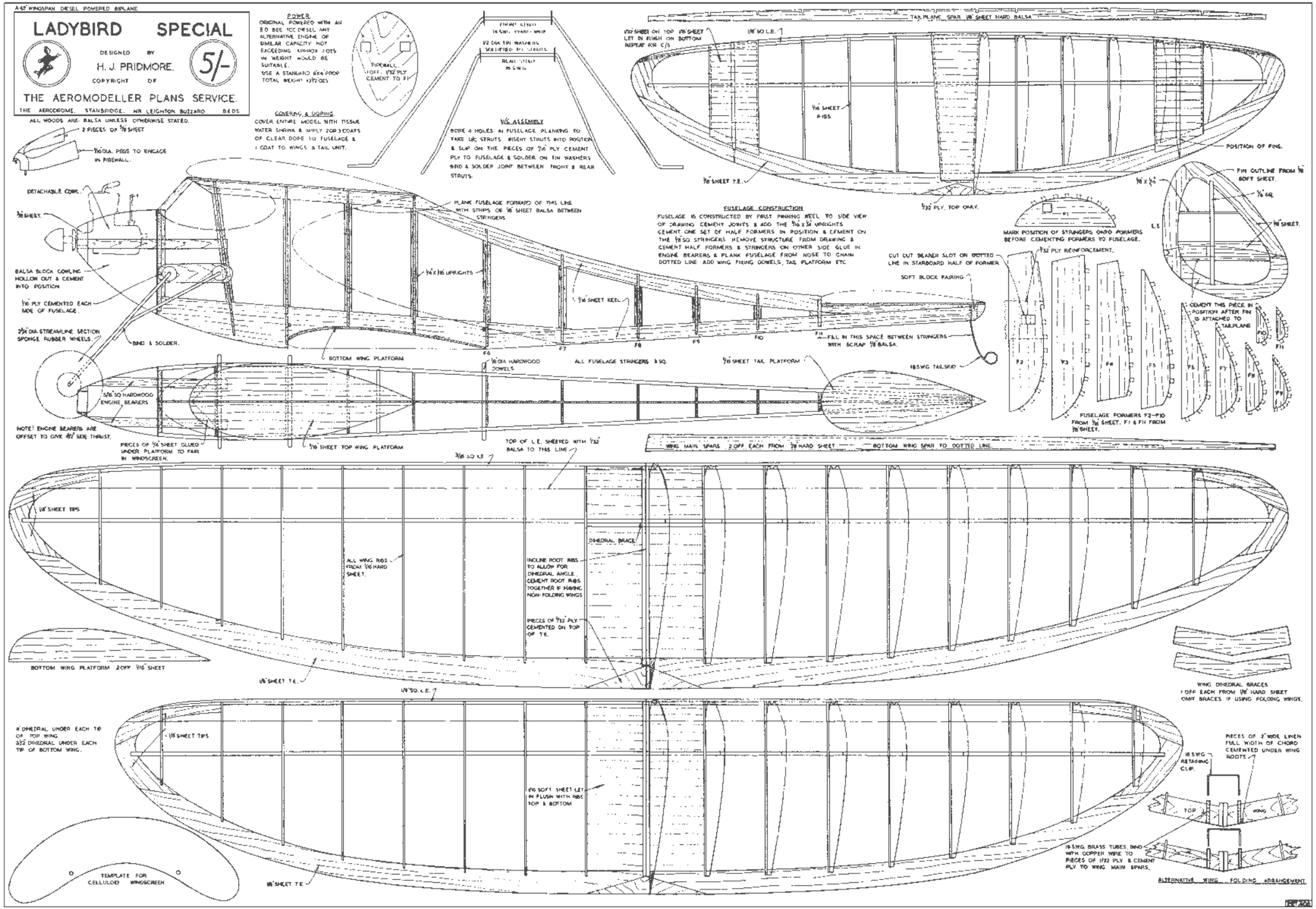
Google *Joe Wagner Dakota* for flying videos that prove it is indeed proof against fools.



Mike Mulholland's LADYBIRD SPECIAL 1950 H.J.Pridmore

25” (60%) for CO2 power

(Rumour has it that, somewhere down South, there is a full-size Ladybird Special on its way to completion)


A 42" WINGSPAN DIESEL POWERED BIPLANE
LADYBIRD SPECIAL
5/-
DESIGNED BY
H. J. PRIDMORE.
COPYRIGHT OF
THE AEROMODELLER PLANS SERVICE.
THE AERODROME, STANBRIDGE, NR LEIGHTON BUZZARD BEDS
POWER
ORIGINAL POWERED WITH AN E.D. BEE 1CC DIESEL ANY ALTERNATIVE ENGINE OF SIMILAR CAPACITY NOT EXCEEDING APPROX 10OZS IN WEIGHT WOULD BE SUITABLE. USE A STANDARD 6X4 PROP TOTAL WEIGHT 13/12OZS
ALL WOODS ARE BALSA UNLESS OTHERWISE STATED.
2 PIECES OF 3/16 SHEET
1/16 DIA. PEGS TO ENGAGE IN FIREWALL.
FIREWALL. 1 OFF. 1/32 PLY CEMENT TO FI
COVERING & DOPING
COVER ENTIRE MODEL WITH TISSUE WATER SHRINK & APPLY 2OR 3 COATS OF CLEAR DOPE TO FUSELAGE & 1 COAT TO WINGS & TAIL UNIT.
1/16 ASSEMBLY
BORE 4 HOLES IN FUSELAGE PLANKING TO TAKE 1/16 STRUTS INSERT STRUTS INTO POSITION & SLIP ON THE PIECES OF 1/16 PLY CEMENT PLY TO FUSELAGE & SOLDER ON TIN WASHERS BIND & SOLDER JOINT BETWEEN FRONT & REAR STRUTS.
TAIL PLANE SPAR 1/16 SHEET HARD BALSA
1/32 SHEET ON TOP 1/16 SHEET LET IN FLUSH ON BOTTOM REPEAT FOR C/S
1/16 SQ L.E.
1/16 SHEET F.85
POSITION OF PIN.
3/16 SHEET T.E.
1/32 PLY. TOP ONLY.
DETACHABLE COWL
3/16 SHEET.
BALSA BLOCK COWLING HOLLOW OUT & CEMENT INTO POSITION
1/16 PLY CEMENTED EACH SIDE OF FUSELAGE.
2 3/4 DIA STREAMLINE SECTION SPONGE RUBBER WHEELS
BIND & SOLDER.
PLANK FUSELAGE FORWARD OF THIS LINE WITH STRIPS OF 1/8 SHEET BALSA BETWEEN STRINGERS
1/4 X 1/8 UPRIGHTS
1/16 SHEET KEEL.
F6
F7
F8
F9
F10
F11
FUSELAGE CONSTRUCTION
FUSELAGE IS CONSTRUCTED BY FIRST PINNING KEEL TO SIDE VIEW OF DRAWING CEMENT JOINTS & ADD THE 1/16 X 1/4 UPRIGHTS CEMENT ONE SET OF HALF FORMERS IN POSITION & CEMENT ON THE 1/8 SQ STRINGERS REMOVE STRUCTURE FROM DRAWING & CEMENT HALF FORMERS & STRINGERS ON OTHER SIDE GLUE IN ENGINE BEARERS & PLANK FUSELAGE FROM NOSE TO CHAIN DOTTED LINE ADD WING FIXING DOWELS, TAIL PLATFORM ETC
MARK POSITION OF STRINGERS ONTO FORMERS BEFORE CEMENTING FORMERS TO FUSELAGE.
CUT OUT BEARER SLOT ON DOTTED LINE IN STARBOARD HALF OF FORMER
1/32 PLY REINFORCEMENT.
SOFT BLOCK FAIRING
18 S.W.G. TAILSKID
FILL IN THIS SPACE BETWEEN STRINGERS WITH SCRAP 1/8 BALSA.
BOTTOM WING PLATFORM
1/16 DIA HARDWOOD DOWELS
ALL FUSELAGE STRINGERS 1/8 SQ.
1/16 SHEET TAIL PLATFORM
5/16 SQ HARDWOOD ENGINE BEARERS
NOTE! ENGINE BEARERS ARE OFFSET TO GIVE 1/2° SIDE THRUST.
PIECES OF 1/8 SHEET GLUED UNDER PLATFORM TO FAIR IN WINDSCREEN.
1/16 SHEET TOP WING PLATFORM
1/16 X 1/8
PIN OUTLINE FROM 1/16 SOFT SHEET.
1/16 SQ.
1/16 SHEET.
L.E.
CEMENT THIS PIECE IN POSITION AFTER PIN IS ATTACHED TO TAILPLANE
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
FUSELAGE FORMERS F2—F10 FROM 1/16 SHEET. F1 & F11 FROM 1/8 SHEET.
WING MAIN SPARS 2 OFF EACH FROM 1/8 HARD SHEET
BOTTOM WING SPAR TO DOTTED LINE
TOP OF L.E. SHEETED WITH 1/32 BALSA TO THIS LINE
3/16 SQ L.E.
1/16 SHEET TIPS
ALL WING RIBS FROM 1/16 HARD SHEET.
DIHEDRAL BRACE
INCLINE ROOT RIBS TO ALLOW FOR DIHEDRAL ANGLE. CEMENT ROOT RIBS TOGETHER & MAKING NON-FOLDING WINGS
PIECES OF 1/32 PLY CEMENTED ON TOP OF T.E.
BOTTOM WING PLATFORM 2 OFF 1/16 SHEET
1/16 SHEET T.E.
WING DIHEDRAL BRACES
1 OFF EACH FROM 1/16 HARD SHEET
OMIT BRACES IF USING FOLDING WINGS.
1/16 SQ L.E.
4° DIHEDRAL UNDER EACH TIP OF TOP WING.
3 1/2° DIHEDRAL UNDER EACH TIP OF BOTTOM WING.
1/16 SHEET TIPS
1/16 SOFT SHEET LET IN FLUSH WITH RIBS TOP & BOTTOM
PIECES OF 2" WIDE LINEN FULL WIDTH OF CHORD CEMENTED UNDER WING ROOTS
18 S.W.G. RETAINING CLIP.
TOP
WING
18 S.W.G. BRASS TUBES, BIND WITH COPPER WIRE TO PIECES OF 1/32 PLY & CEMENT PLY TO WING MAIN SPARS.
ALTERNATIVE WING FOLDING ARRANGEMENT
TEMPLATE FOR CELLULOID WINDSCREEN
1/16 SHEET T.E.

FOKKER D8 by Allan Knox

Designed 1942 Earl Stahl

A muli-purpose Texaco model PAW 1.5cc diesel

FOKKER D8 by Allan Knox Designed 1942 Earl Stahl

I have been building a Fokker D8, primarily for Scale Texaco. Yes, I know, Barrie and I are the only ones that bother with this event but it remains an excellent class and a lot of fun. The ability to choose from a vast array of IC and Rubber plans in the Classical and Vintage era means any of the wonderful old aircraft of the past are usually available. So far I have built a Chilton DW1, a J3 Cub and now the Fokker D8. All have flown successfully.

Recent experience with twin ball raced RC PAW Diesels has convinced me they are a great choice for long efficient running and that getting the powerplant right is really what it's all about rather than choosing the best flying airframe. The D8 is a case in point with a high wing loading of 12 oz/sq.ft and lots of frontal area. The thick Grant aerofoil isn't very efficient either. But, it is an aircraft with a heap of character from WW1 and colour schemes can be pretty bright just like they were back then.

My D8 plan is IC Vintage and the PAW 1.49 is eligible for A-Texaco provided I fit a Humbrol tank as well as the Vintage Texaco tank. The Vintage Texaco tank is the same size as the Open Texaco tank. This means I have a model that can do all the IC Texaco events: Scale Texaco, A-Texaco, and Open Texaco. If the climb performance were good enough, tt could also do Vintage Precision (but it's not).
So this little D8 could be a very versatile and useful model that is also well suited to pottering around at the strip with the usual club sport flyers. So that was the logic of the build - here is how it went -

The model is the usual stick and frame build, mostly balsa and some light ply built up over the plan in the time-honoured way. The only challenge could be some wire bending and tank manufacture to the exact size needed. I did re-engineer some things to make the model more transportable. Wing is three piece with removeable outers. The Centre section bolts on the Cabane struts and the tail is removable. The cowl was built in glass using the lost foam method and is easily removed for access to motor and tanks.

I was unsure if it would all work. The PAW had never been used as far as I could tell and I wondered if a 1.49cc diesel could handle a 57 inch span 44oz model. Early flights were frankly disappointing and positively scary. On launch the model went straight into a steep climb. Only full down saved it and I quickly found it needed this much down for level flight. The motor tightened up and stopped and the model stalled into a spin. On top of all that the rudder seemed vague and even intermittent. I got it down though safe and sound but an old chaps heart shouldn't have to beat that hard!

Investigation showed a heap of decalage. A single 1/8" packing at the rear cabane struts changes the Wing TE position by 3/8 of an inch - and that is how much it needed. I also moved the CG forward with 3 ozs in the cowl. The rudder servo problem turned out to be a bad lead.

The next flights were better and I then focused on getting the motor running well. I reckon these PAWs need about 3 hours of running to give their best. At this point they can be throttled back and leaned right out. This is the right time to run lower oil and more kero to increase the energy available from the 10cc tank. PAW has a formula for this, but I'm still using the oily brew I use in Mills engines and the PAW seems to like it.

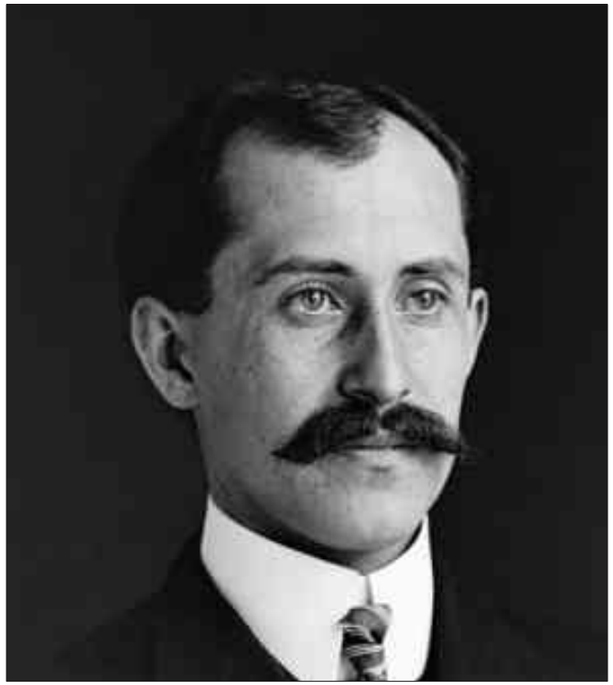
Yesterday was beautiful on Queen's Birthday holiday. Calm, sunny and seventeem degrees. Best flying day of the year. I headed out to CMAC to find the place deserted. I gassed up, flicked the diesel into life and found the engine running better than ever with less compression and leaner mix with good power and revs. I was hoping for the 9 minutes needed for Scale Tex but I didn't make it. Down in 7 mins 36 secs - bother. Perhaps it could run leaner? It started easier still with the engine quickly settling to a smooth run so I leaned the needle even more and it ran even better! Next flight was 9 mins 20 seconds so was looking like it would make the grade after all. Leaner still on the following flight and an amazing 11 minutes 55 seconds. Then a final flight - I leaned it up to the ragged edge of continuous running not expecting it to stay on song. I lobbed it into the air and It seemed to run strongly for ever. At about 13 minutes and at about 600 feet it finally stopped after a rock solid steady run finally landing at 16 mins 39 secs.

Now, that means the model will max in Open Texaco too so that is mission accomplished - a model that will do all IC Texaco classes and look cool doing it!

Handling was very nice too. A bit vague on direction but easily trimmed up to fly itself for long periods. Its a pretty nice model to fly but I think I will fit a 2.5cc PAW TBR RC just to have the power reserve and to be able to turn a bigger prop with the tips further out from the cowl. The economy will still be there I think and I can take lead out of the nose.

Allan

Three Questions



[1] This chap became withdrawn after being struck in the face by a hockey stick (who could blame him?) and instead of attending Yale, he spent several years largely housebound. During this time he cared for his mother who was terminally ill with tuberculosis, read extensively in his father's library, and assisted within the Brethren Church.

[2] Developed, amongst other things, seat belts, automatic railway crossing lights, tension-spoked wheels, self-righting lifeboats and an internal combustion engine powered by gunpowder. Dubbed the “The Father of Aviation”, he was a scientific investigator of all things aerial and the first to understand the underlying principles and forces of flight.

[3] More than 2,000 flights were made and eighteen flying machines were built by this handsomely hirsute Herr by the time of his death in a gliding accident on August 9, 1896. His last words were claimed to be “Sacrifices must be made”.

Answers on the Last Page

Letter from Canada

Richard Barlow

Dear Bernard

Once again, I have to compliment you and all of your countrymen on an outstanding newsletter. I look forward to it, and am never disappointed. Having been born in South Africa and gone home several times. I receive the same courtesy from SAMAA, and again much enjoy their contribution.

I spent eight years in Ireland where I bought my first copy of Aeromodeller, January 1954, then six years in England where, as a member of the now defunct Northern Heights club, the famous Bob Copland taught me how to carve a prop. Then circumstances brought me to Canada.

For five years I was president of MAAC, of which I am a life member and in their HOF. At the age of eighty, I have slowed down a bit but seeing Bill Dean's all sheet model on the cover of #189, and the numerous Vic Smeed Tomboys stirred the ancient blood. Bill's model is reminiscent of the famous Charles Grant CLOUD TRAMP of which I have built and flown many - and lost quite a few too!

I consider Vic Smeed to be the greatest designer of all time. His designs encompass FF, CL, and RC *(and a great many boat designs - Editor)*. Every airplane he designed looked attractive and flew well. Downstairs, I have a LOLA, his last design, and am getting ready to build a PUSHY CAT which was a Bowden Trophy winner. As my creaky old legs are not what they were, I will put in enough RC to bring it home. Power will be a Mills .75 as the sideport engine allows it to run backwards, eliminating the need for a left handed prop.

I learned to fly CL on a Vic Smeed SCATTERBRAIN, powered by an Allbon Spitfire.

I still have every copy of Aeromodeller I ever bought and have dragged them from country to country. That January 1954 issue is going, as a gift, to a boy to whom I taught the hobby back in 1969. He is now an engineer with Rolls Royce Aero Engines.

A good friend of mine in the USA decided to digitize every English language modelling magazine ever published and I have all of his work to date. This has been a massive job, from Air Trails onwards. Roland Friestad can be located at cardinal.eng@grics.net. His charges for these digitized copies are very reasonable.

I build on sheet steel using magnets and magnetic clamps and jigs, on a drafting table for most of my models. Peanuts and smaller are on 3/4 birch plywood boards faced with sheet cork to accept pins. Attached photos shows both systems. I tend to build competition models in batches of three, and build plywood boxes for transport and storage.

I receive many comments on the neat attachment of name and address on models. Simply type what you want on your computer and then tape Japanese tissue to ordinary printing paper and run through the printer. If you are careful, it will not jam.

Feel free to use this letter in any way you like, should you wish to share it. I would be happy to hear from any of your countrymen.

Best regards
Richard

Richard Lyle Barlow
135 County Rd 2
Prescott
Ontario
Canada
K0E1T0

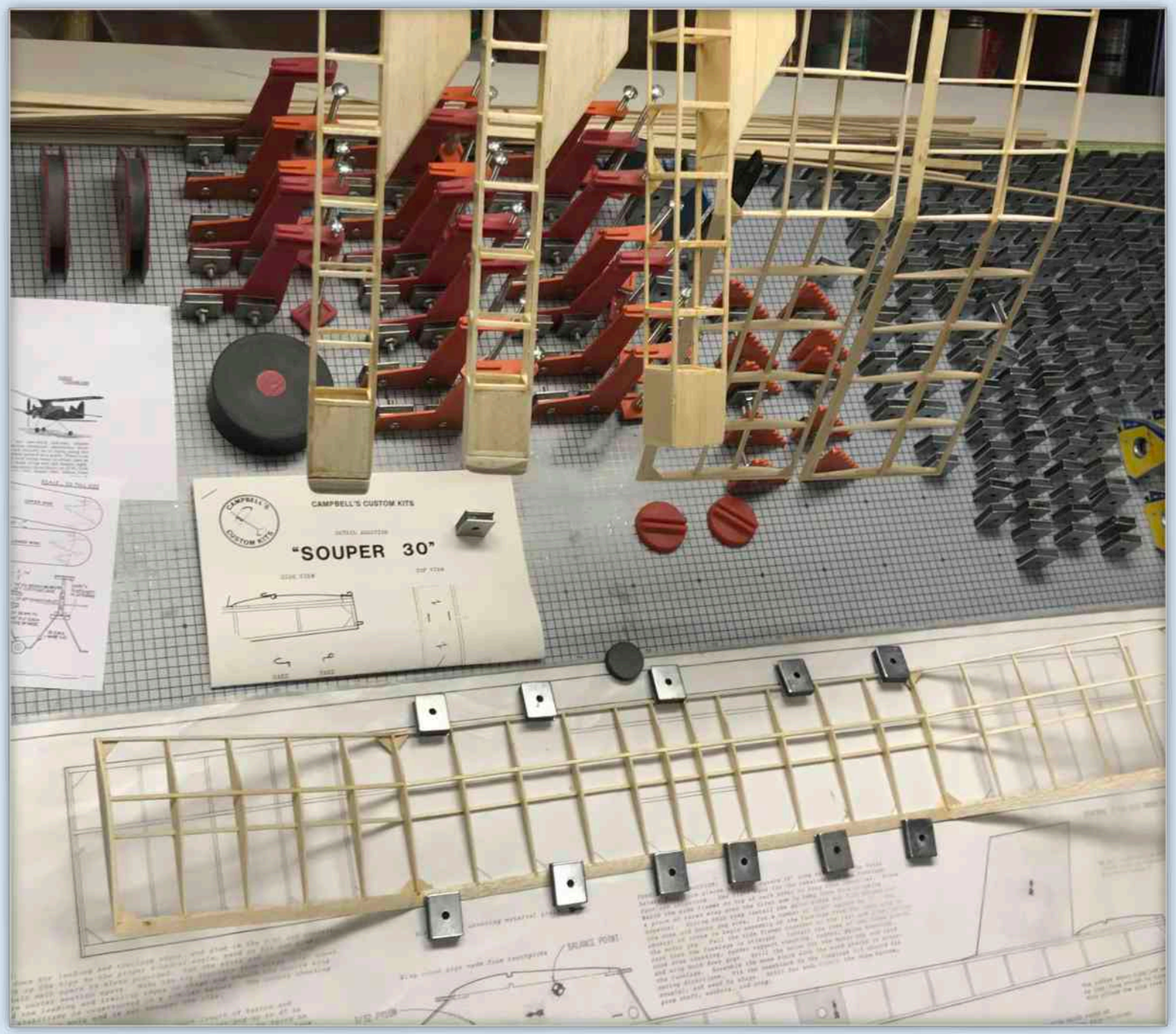
416-723-8440

Richard has supplied photographs and extra detail of some of the points mentioned in his letter. These are reproduced on the next pages.

Above: **Address labels**
Tape the jap tissue on the forward edge only to avoid jamming in the printer. Spray the dope, because if brushed, the lettering can dissolve and smear.

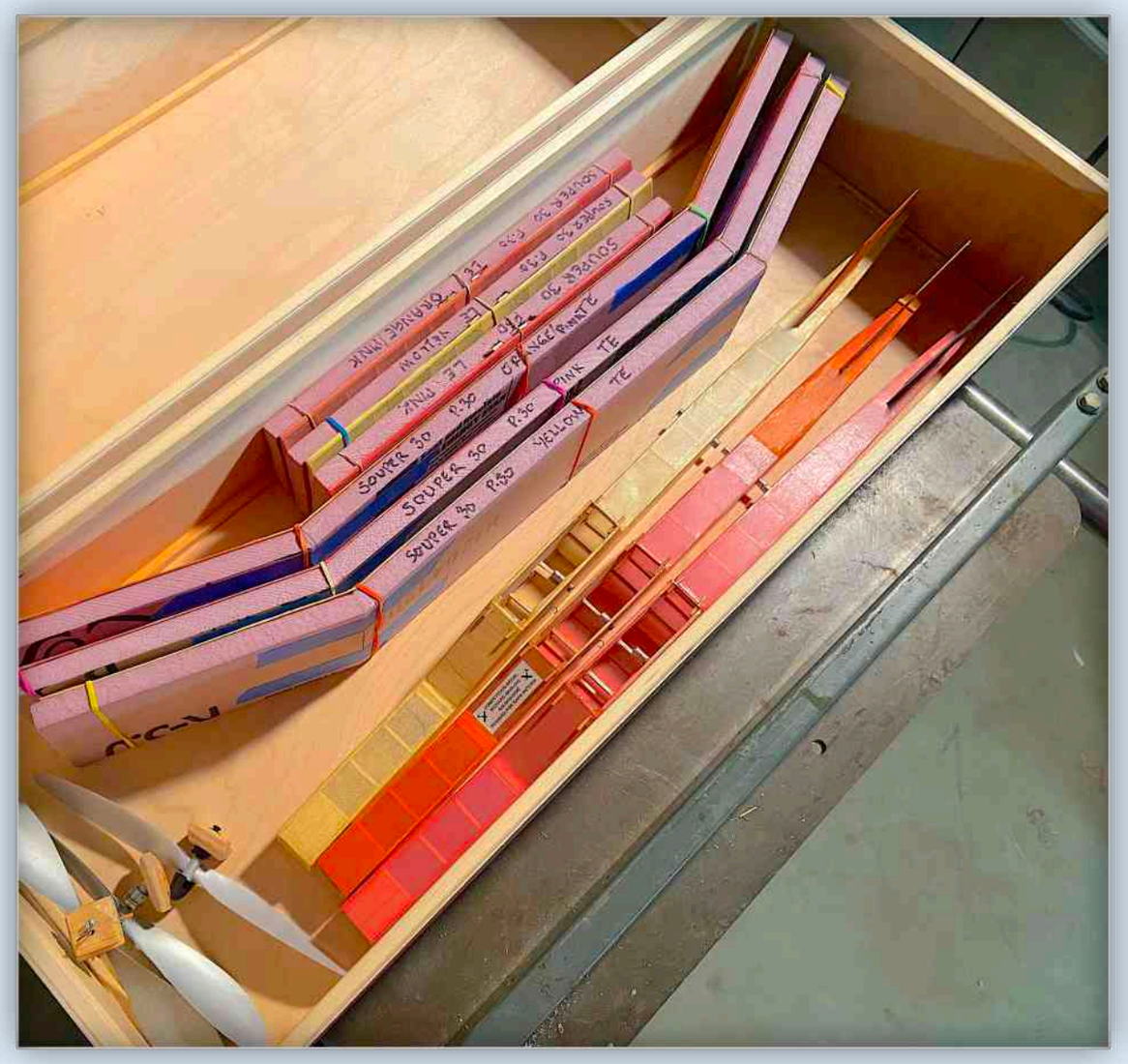
Right: **Metal Building Board**
Extensive use of magnets and clamps with magnetic bases evident in this shot of Richard's building board. A batch of three *Soupers* nears completion.

Richard Barlow



Boxing models and keeping the warps as they should be.

Richard Barlow

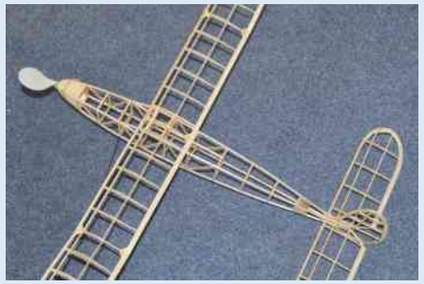


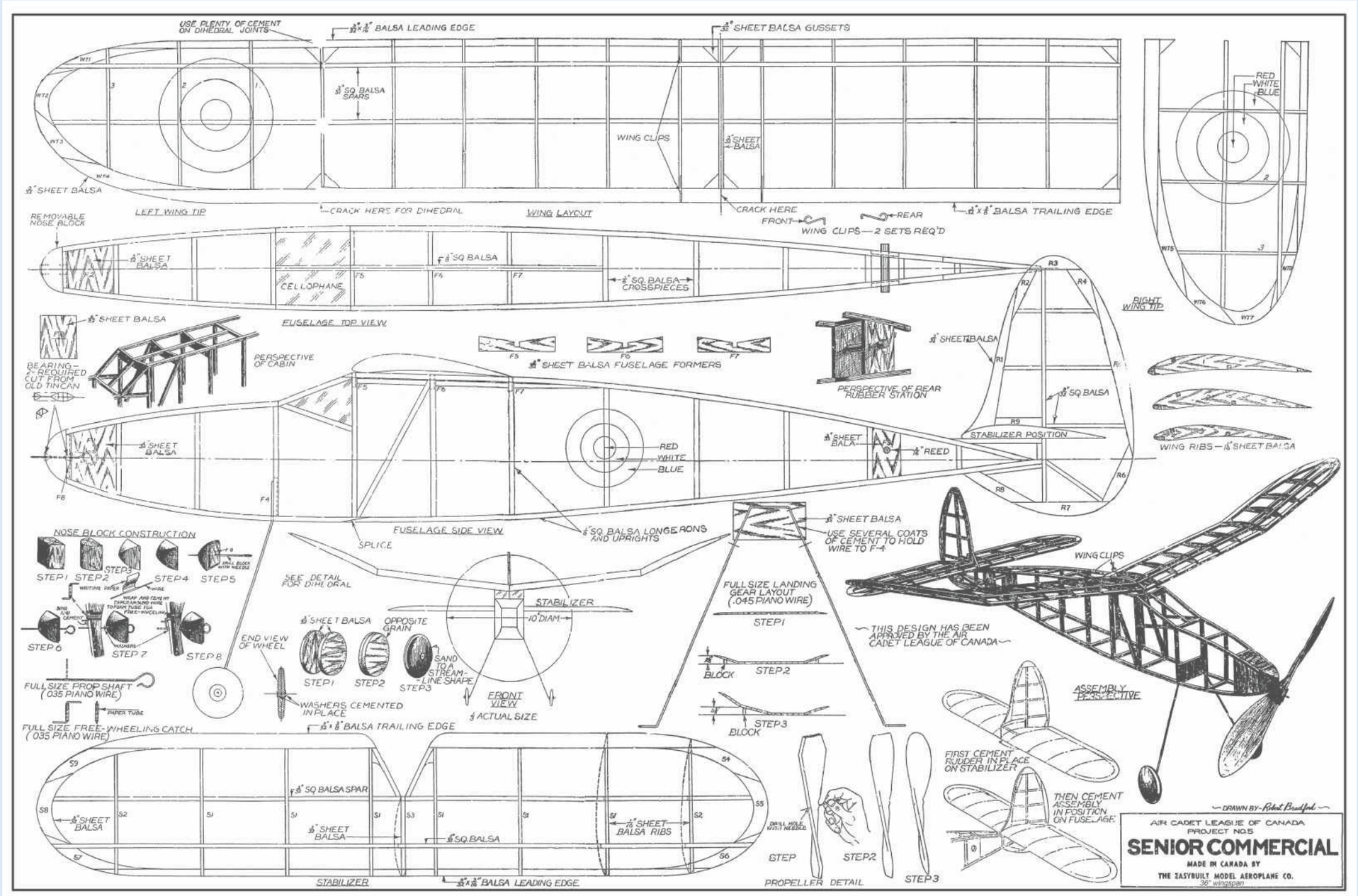
Completed *Soupers* in custom-made storage / transport box. You will likely have noticed that all of my flying surfaces are strapped to styrofoam cradles. This ensures no warping. In fact, I make the cradles BEFORE I build the model and dihedrals are set within the cradles.

Pink is my favourite colour and is high visibility. Three of the *Miss Canada* design which, along with the KK *Sernator*, are popular enough that we have special events for them. Both classify as SAM designs.

MISS CANADA

36” 1942





RC Top 10 Leader Boards 2022

The purpose of the Vintage SIG RC Leader Boards is to increase enjoyment of competition flying by showing fliers how well they are performing relative to others. Scores are posted from the results of contests, NDC, and independently-timed flying.
The Leader Boards run for each calendar year, and are updated throughout. At the end of each year they are cleared and started afresh.
Postings made since the last publication in AVAANZ News are shown in red.
Please email me if you spot any errors or omissions.

Wayne Cartwright
rwcartwright4@gmail.com

Standings at 1 June

Precision Classes

Vintage Precision

1.	A Knox	600 + 192
2.	D Mossop	600 + 172
3.	B Russell	582
4.	B Treloar	580
5.	T Gribble	582
6.	J Ryan	578
7.	D Wilkins	575
8.	B McKay	573
9.	M. Evans	571
10.	P Townsend	567

Classical Precision

1.	A Knox	600 + 199
2.	B Russell	600 + 191
3.	D Mossop	600 + 186
4.	G Fulton	585

Duration Classes

Vintage IC Duration

1.	P Townsend	760
2.	A Knox	740
3.	B Treloar	675
4.	B Russell	665
5.	T Beaumont	495
6.	J Ryan	413
7.	D Little	229

Vintage E Duration

1.	S Nicholas	960 + 600
2.	D Mossop	960 + 379
3.	B Russell	960
4.	A Knox	920
5.	A Hales	920
6.	S Hubbard	790
7.	B Robinson	796
8.	T Gribble	658
9.	P Townsend	554
10.	G Fulton	380

Classical IC Duration
No score posted

Classical E Duration

1.	M Shears	900 + 545
2.	B Russell	900 + 500
3.	D Mossop	900 + 492
4.	S Nicholas	900 + 313
5.	D Gush	888
6.	A Knox	885
7.	B Robinson	874
8.	D Barber	809
9.	G Fulton	538

Texaco Classes

Vintage 1/2A Texaco

1.	B Scott	1500 + 512
2.	A Knox	1483
3.	P Townsend	1480
4.	L Rodway	1442
5.	B Treloar	1387
6.	J Ryan	1333
7.	S Morse	761
8.	*D Little*	*741*
9.	S Grant	725

Vintage A Texaco

1.	P Townsend	1860 + 1418
2.	B Treloar	1840
3.	A Knox	1840
4.	B Scott	1472
5.	I Munro	1342

Vintage Open Texaco

1.	A Knox	1840
2.	P Townsend	1407
3.	I Munro	1234

Vintage 1/2E Texaco

1.	B Russell	2443
2.	A Knox	2111
3.	T Gribble	1619
4.	W Cartwright	1501
5.	B Scott	1073
6.	L Rodway	837
7.	P Townsend	212
8.	D Mossop	82

Classical 1/2E Texaco

1.	D Mossop	1312
2.	A Knox	1197

Vintage E Texaco

1.	A Knox	3593
2.	W Cartwright	2142
3.	B Russell	1537
4.	B Scott	1345
5.	D Mossop	1147

Classical E Texaco

1.	A Knox	3900
2.	W Cartwright	2194
3.	D Mossop	1326
4.	B Russell	1086
5.	T Gribble	1076
6.	P Townsend	964

Vintage E Rubber Texaco

1.	D Mossop	4679
2.	D Gush	4161
3.	D Crook	3075
4.	B Scott	2425
5.	W Cartwright	2318
6.	B Russell	2255
7.	A Knox	1572
8.	P Townsend	360

Sport Cabin Texaco IC

1.	A Knox	1827
2.	L Rodway	875
3.	J Beresford	733

Sport Cabin Texaco E

1.	P Townsend	1845
2.	B Russell	1445
3.	M Evans	780
4.	L Rodway	736

Vintage and Classical Scale Texaco
No score posted

The LAST PAGE

ANSWERS

[1] Wilbur Wright

[2] George Caley

[3] Otto Lilienthal

Cursing his wooden leg, Egbert hurried towards the vehicle but he could see it was already too late - his mother had selected reverse gear and was starting to raise her left foot off the clutch pedal ....