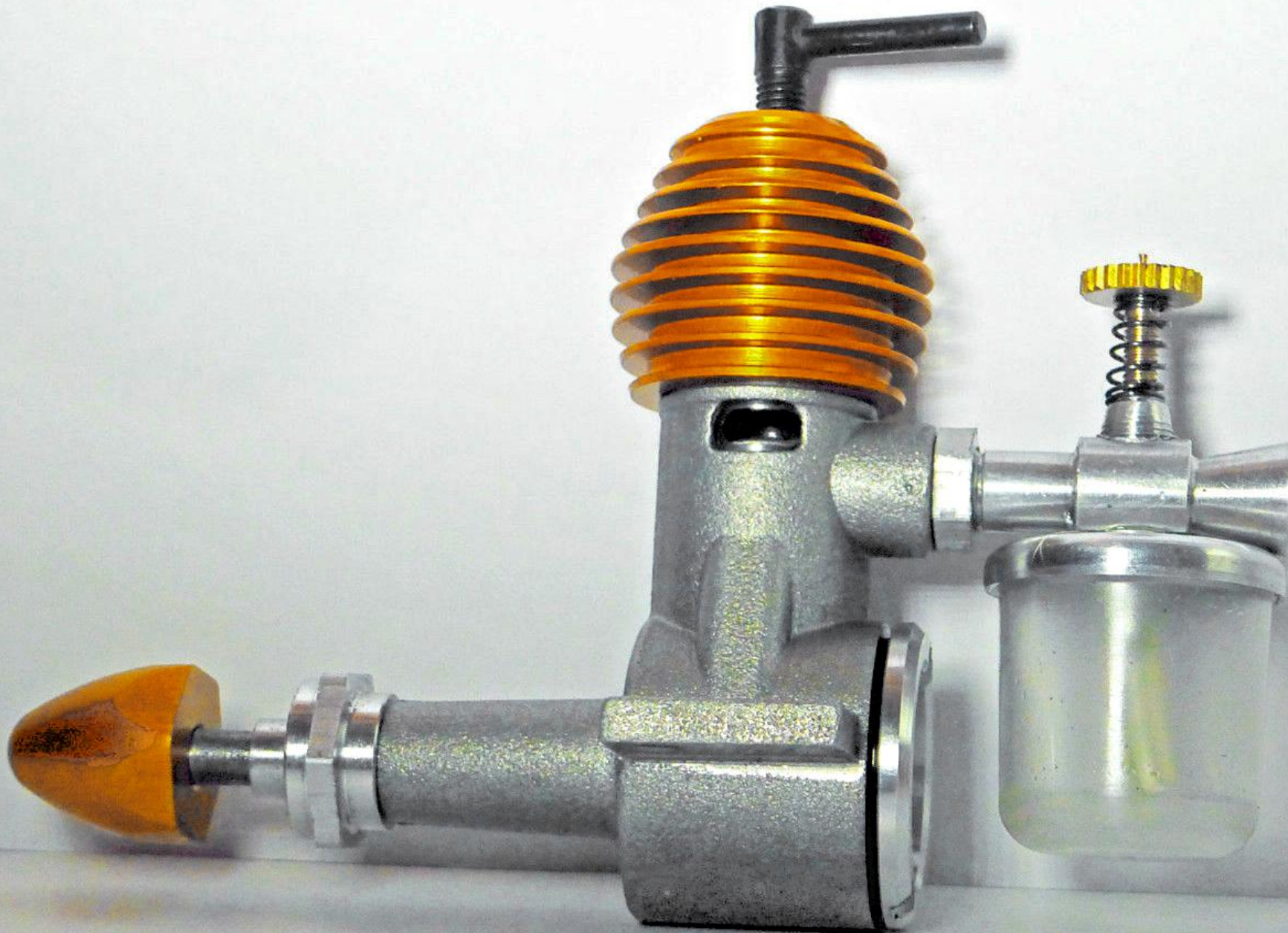


AVANZ NEWS



Newsletter of the Model Flying New Zealand Vintage Special Interest Group





In this Issue

From the Editor

From the Committee

Incoming

Future Events

Event Reports

From the Archives

Work in Progress

- Allen Teal's Teal

- John Butcher's Arrow Nut

Experiments in E-Rubber

Cover Stories

The Engine Column

Nostalgia Rubber

- Cloud Tramp 1954

Vintage Power

- Gladiator 1941

Vintage Glider

- Doofa 1947

Nostalgia Glider

- Glevum 1952

Leader Boards

For Sale, Miscellaneous

Bargain Basement

FFoNZ Notices

From the Editor

First, my apologies if you had problems downloading the last issue. It just did not want to compress to a reasonable size, even after several pages were omitted to bring it within my server's allowable size. Later dissection of the issue, element by element, revealed several photographs in a format that did not permit compression. Lesson learned, and this issue should be much quicker to download.

The request for pre 2002 issues bore fruit. Lew Hale was able to provide paper copies of many issues, and our previous editor Graham Main has been able to supply all the issues in digitised format. Mark Venter will be adding them to the archive he maintains at <http://newsarchives.yolasite.com>

At this site you can also find back copies of *Torque*, from Christchurch MAC, and *Sticks and Tissue* from the Raynes Park MAC. Both are worth attention. After a tip-off from an observant reader, the AVANZ archive on the NZMAA website now has been updated and recent issues of AN are available there.

Reading the earliest AVA Newsletters for the first time helped fill gaps in my knowledge of the history of Vintage modelling in NZ. It also showed that despite great changes in aeromodelling, sometimes celebrated as *progress*, the bottom line as stated in

the March 1988 issue remains unchanged
"In all events the essence is to capture the joy of flight through the medium of the many great old designs that we have all read about or, for the older amongst us, maybe even flown in our youth".

Buried in these old newsletters are many gems that are worthy of reconsideration. See page 7 for some extracts from the first AVA Newsletter.

The final in the round of upper North Island Vintage meets was unfortunately rained out, but the preceding meets were well supported and successfully run. Our thanks to Wayne Cartwright for organising these meets and handling the many behind-the-scene tasks that are essential for a successful event.

Erratum, Issue 141: Henry Struck's *Boomer Bus* dates from a Vintage 1941, not a merely Nostalgic 1959 as stated.

Bernard Scott

Contributors to this issue -

Allan Teal	Chris Murphy
Mark Venter	John Butcher
Wayne Cartwright	John Danks

On the Cover :

CS "Boddo" Mills .75 Mk 2

Engine and photograph Chris Murphy

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Vintage Free Flight Motor Rules.

The last AGM introduced changes to the motor rules for Vintage free flight. It was anticipated that experience with using the simplified rules might show areas that needed to be fine-tuned, and this was allowed for in the new wording of Rule 4.4.6.

As of June 2015, the Committee is aware of two such areas.

1. The OS FP series of motors was for many years included in the same motor run category as cross-flow glow motors. The changes did not recognize this and the FP series ended up with the reduced motor run applied to currently produced, ball-raced, Schneurle ported glow motors.
2. The Cox Conquest motor is disallowed under rule 4.4.6 which prevents the use of “specialist high performance motors”, but 5.3.4.e suggests that *all* Cox motors may be used.

The Committee confirms that the OS FP series of glow motors retains a 15 second motor run in competitions, and proposes that both matters be formalized at the next AGM with motions for the following additions, shown **in bold**, to Rule 5.3.4 -

1. 5.3.4.d Modern Diesel / Cross-flow Glow / **OS FP series** 15 sec
2. 5.3.4.e Cox **except Conquest** 15 sec

Mark Venter writes ...

Bernard's request in the last issue for earlier editions of AVANZ News had a great result. Graham Main has scanned them all for uploading to the archives website. I will be doing this shortly but due to space I will need to make a few changes first.

Graham made mention to me that whilst doing the scanning he saw some results from our Mossel Bay SAM Chapter for one of the postals. I could not really place the event so obviously I straightaway had to find & read that particular issue. On reading the weather comment it all came back. I think that was one of the worst days we ever went out flying but it was the designated day so we did not have an option really.

A small group of us, the bare minimum of 3, formed the first SAM Chapter in Africa and to my knowledge it is the only African chapter ever, although now many years defunct. We eventually got a few more guys interested and had about 6 or 7 in the group but sadly this only lasted a few years and ended with my emigration and the passing of our main Vintage stalwart and long time friend & mentor, Stan Ohlsson.

During this period we entered quite a few of the various postals. The accompanying photos show our 5 strong team of Simplex models. I read in some of the issues comments made at the time that the Simplex was prone to wing folds. Well, I can attest to that fact since we had a few of them occurring - I have had two, but am happy to say that I still have that same Simplex model, now brushless powered but still flying.

We also held a few SAM meets. One of the photos shows a lineup of our vintage models from one of them, as well as my first ever vintage model, the Comet Clipper. It was built in the early 1980's and flown rudder only. After two wing folds and one flyaway, I am still flying it today with the same original PAW .19 In fact, I flew it yesterday in A-Texaco, although the Trexlers are long gone and the dodgy radio gear has been long ago replaced (a number of times) with more modern gear.

Some great memories indeed and ... *rudder-only!* Wow how great was that. Must give it a go again one day :-)

Mark



CLOUD TRAMP *MIMLOCT*

The international one-model event with a big difference! This year's *Memorial International Mass Launch Of Cloud Tramps* will be, for New Zealanders, on the morning of 1st August at 5:00 AM.

A single flight is all that is needed, so it's possible to slip down to the local park or the back paddock, launch at the synchronised stroke of five, and be back in bed before you are missed. Sure, it will be dark, cold, probably wet and likely gusty, but what's that compared with sharing a modelling adventure at the same moment with aeromodellers around the world?

How many NZ Vintage adventurers are planning to rise early on the 1st? Remember - *"The difference between ordeal and adventure is attitude"*. Send in your accounts and flash photographs.

More about this world-wide event on page 19, and some inspirational Cloud Tramp activity at these web sites -

<https://www.youtube.com/watch?v=W77PAT0mqMk>

<https://www.youtube.com/watch?v=SKJrwSw1Cyl>



National Decentralised Contests

NDC events for each month may be flown on any Saturday or Sunday of that month.

Send results to : mfnz.recordingofficer@gmail.com

JUNE

FF Vintage	Hand Launch Glider, Catapult Glider
FF Nostalgia	Glider
FF Classical	-
RC Vintage	Precision
RC Classical	-

JULY

FF Vintage	Precision, Miniature Replica
FF Nostalgia	-
FF Classical	-
RC Vintage	1/2A Texaco Scale
RC Classical	Precision

AUGUST

FF Vintage	Power
FF Nostalgia	Power
FF Classical	Rubber
RC Vintage	IC Duration, E Duration
RC Classical	-

CONTEST RESULTS

2015 Bob Burling Memorial Fly-In

John Selby

	Competitor	Model / Year	Score	Place
RC Vintage Precision	John Selby	<i>Vespa</i> 1941	587	1
	Joe Bradbury	<i>Viking</i> 1940	568	2
	Jonathan Shorer	<i>Junior 60</i> 1946	563	3
	Allan Sissons	<i>Coronet</i> 1939	537	4
	Des Richards	<i>Junior 60</i> 1946	448	5
RC Vintage Duration	A James	<i>Red Zephyr</i> 1936	494	1
	Joe Bradbury	<i>Viking</i> 1940	336	2
	Jonathan Shorer	<i>Quaker Flash</i> 1937	87	3
RC Vintage A Texaco	Des Richards	<i>Junior 60</i> 1946	1015	1
RC Vintage 1/2E Texaco	John Selby	<i>Playboy Snr</i> 1940	762	1
	Alan Sissons	<i>Coronet</i> 1939	661	2

Waikato Nostalgia Championships

Rubber

1	Bill McGarvey	<i>Korda</i>	517
2	Lincoln Vincent	<i>XL 59</i>	485
3	Rex Bain	<i>Warring Lightweight</i>	255
4	Stan Sommerfield	<i>Monarch</i>	249
5	Bernard Scott	<i>Cloud Tramp</i>	205
6	Alwyn Graves	<i>Clini</i>	63
7	John Dowling	<i>Sparky</i>	62

Waikato Nostalgia Championships

Precision

1	Stan Sommerfield	<i>Monarch</i>	247
2	Bryan Leeves	<i>Kea</i>	223
3	Bernard Scott	<i>Shadow</i>	222
4	John Dowling	<i>Mamselle</i>	198
5	John Butcher	<i>Maya</i>	146
6	David Gush	<i>Dartanian</i>	128
7	Kyla Fisher	<i>Maya</i>	125
8	Alwyn Graves	<i>Clini</i>	65

Power

1	Rex Bain	<i>Superstuff</i>	513
2	Bernard Scott	<i>Stratostreak</i>	219

HLG / CAT

1	Kyla Fisher	<i>Maya</i>	271
2	John Butcher	<i>Maya</i>	266
3	Davis Gush	<i>Dartanian</i>	259
4	Bill McGarvey	<i>Crisp / Pap.Tav</i>	235
5	Bernard Scott	<i>Belsky</i>	178
6	Bryan Leeves	<i>Mayn</i>	120

Glider

1	Rex Anderson	Not recorded	460
2	Kyla Fisher	<i>Nord 2</i>	162

RC Tomboy

1	Rex Anderson	Electric	1308
2	Bryan Leeves	IC	224

This is a nostalgia event in the widest sense, as models from the Vintage, Nostalgia and Classical periods can be used. The cornfields were clear, the sun was out, the wind was not. Great weather and a good turnout.



1. Rex Bain - yes, that is a *rubber* model !!!!
2. Bryan Leeves - Modelair Kea.
- 3 - 6 A wide variety of models in evidence.
- 7 John Butcher - *Skyroamer*, a NZ model designed by Bruce Keegan. John and David Gush were experimenting with the small glider concept.
- 8 Lincoln Vincent - *XL.59*



AVA

ASSOCIATION
OF VINTAGE
AEROMODELLERS



NEWSLETTER #1

10 March 1988

NEWSLETTER SUBSCRIPTION:

\$5 per annum (4 issues)

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Christchurch 5
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INTRODUCTION

The ASSOCIATION of VINTAGE AEROMODELLERS is a committee of four, based in Christchurch, who are trusted by the NZ Model Aeronautical Assn to foster and organise all aspects of Vintage flying. This trust extends to the making and changing of rules and as the present NZ rules are due for revision, the committee have set as a top priority the target of producing a full Vintage Rule Book by mid-May. Much of this first Newsletter is spent on discussion of Rules.

Anyone can be a member of AVA, all that is required is an expression of interest. To co-ordinate ideas and activities, Newsletters will be published at three monthly intervals and the subscription rate for the first year is being set at \$5.00. Newsletter No.2 will be published along with the Rule Book in May, the Rule Book will be free to subscribers and will come into force for all events flown after 1st September 1988.

1987 NATIONALS VINTAGE EVENTS

Vintage Gas and Miniature Replica on 30 Dec. suffered from VERY windy and turbulent weather that caused most to leave their models in the car. This was a pity as there were several very nice new models present. Paul Lagan won both these events flying a Mills .75 SIMPLEX in Gas and a STRATO STREAK in Replica.

The next morning for Vintage Rubber & Glider was a lot calmer but fairly wet with gentle rain. There were large entries in each event and good scores. Rod Lewis beat Alwyn Graves in glider and the most common models were LULUs or SATUs. The top four in rubber used the LANZO STICK design and we even had a fly-off between Rex Bain and Paul Lagan. Rex's model unfortunately dived vertically at the end of the prop run to end its flight at 55 secs and Paul's went gently on for 255 secs - about its still-air potential. Although the LANZO dominated this year, there are many other similarly potent designs being considered and/or built for the next Nats - should be a great event.

SAM in NZ ?

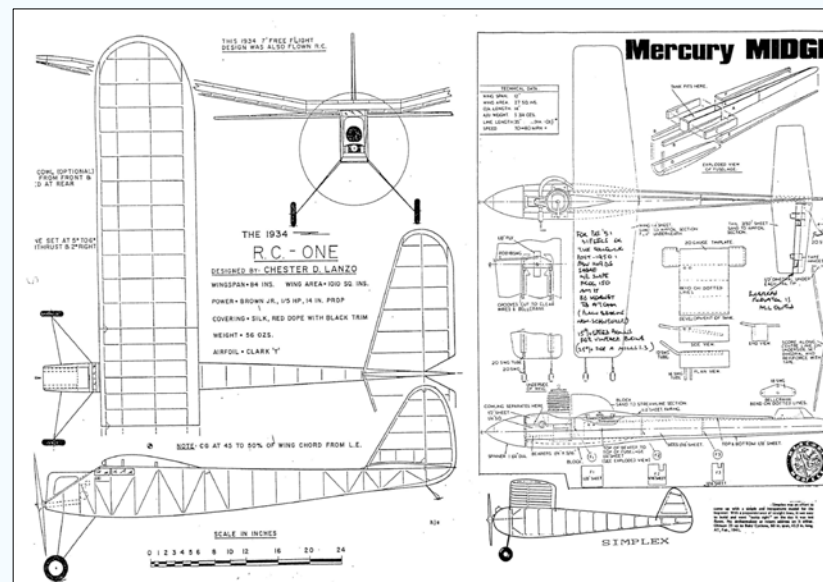
AVA has received a lot of comment about affiliation with the USA based Society of Antique Modellers. SAM has chapters world-wide and there seem to be some advantages in us affiliating with them. The only problem seems to be the cost ... if, as seems necessary, each SAM member is to receive the SAM Newsletter, then it may well cost individuals up to \$30 a year to belong. As SAM, obviously, concentrates on USA events, this expense may not be warranted. However, AVA has written to SAM-USA to see if we can obtain some sort of affiliated membership as a group and we will let you know progress next Newsletter.

As might be expected of the first bulletin of a new-formed group, content dwelt largely on the basics of the Vintage movement. The definition of a Vintage model, sources of plans, and dating of models were covered, and as the introduction says, much of the rest of the newsletter was to do with the discussion of the proposed rules.

I was delighted to find that a recently raised flight timing query, ie for ROG flights, does timing start from the release of the model or from when the wheels leave the ground? had been answered 27 years ago in the rules for RC Duration and RC Precision : *Timing starts from the instant the model gets into the air.*

A schedule of events for the 1988 Nationals included Midge Speed and Old Time Stunt - Vintage Control Line at that time came under the auspices of AVANZ.

The SAM in NZ clipping gives the motivation behind the SAM bulk membership scheme that was adopted by the NZ Chapter. A great idea for a period when a \$30 fee for membership of an overseas group was a costly indulgence.



WORK IN PROGRESS 1



Allen Teal's current project - the appropriately named



From Allen's build log on RC Groups:

After quite some time of building inactivity due to work pressures, I was beginning to feel the need for some construction therapy! I began with looking through my 'to do' list and some of the plan sites when I happened to come across a model with my surname, the Mercury Models 'TEAL'. Well, that started to draw me in and so commenced some research on this 'model with a difference'. The instruction sheet from the original kit stated, "*The Teal is a lightweight model designed to give competition performance with freedom from spiral instability.*" It goes on to say, "*It is exceptionally easy to trim and has no bad habits at all.*" Well that got my attention! I was sold!

Originally designed as a 37" span free flight model, power was from a diesel engine of around .75cc. So this means I'm going to mess with the design as I want it bigger, have radio, and be electric!

The model I will be building is enlarged by 70% making a wing span of 63" to fit in with competition parameters. Having radio means that I need to reduce the wing incidence which plays havoc with the fuselage lines as thrust line of the motor had to be lowered which makes life interesting.

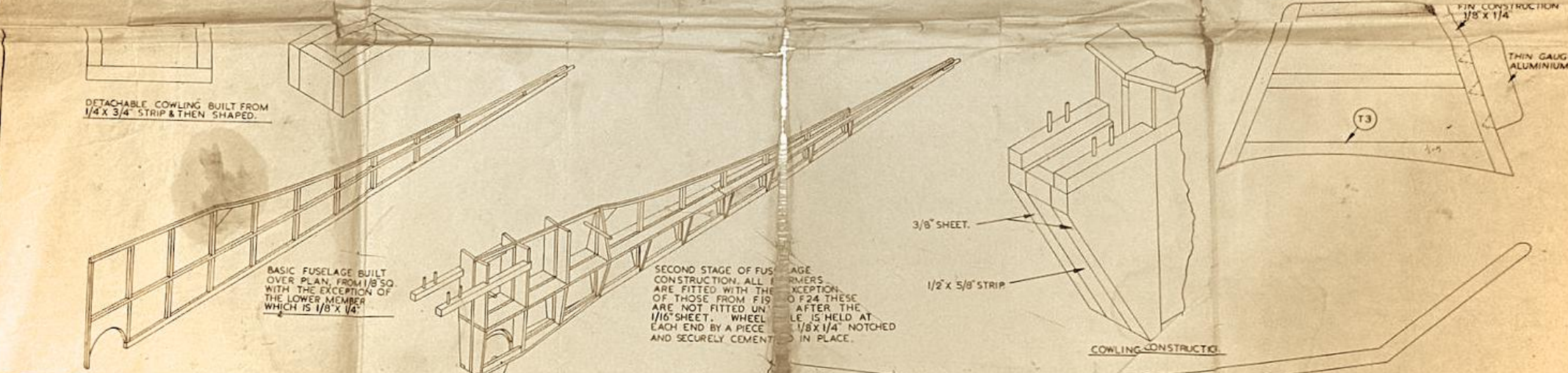
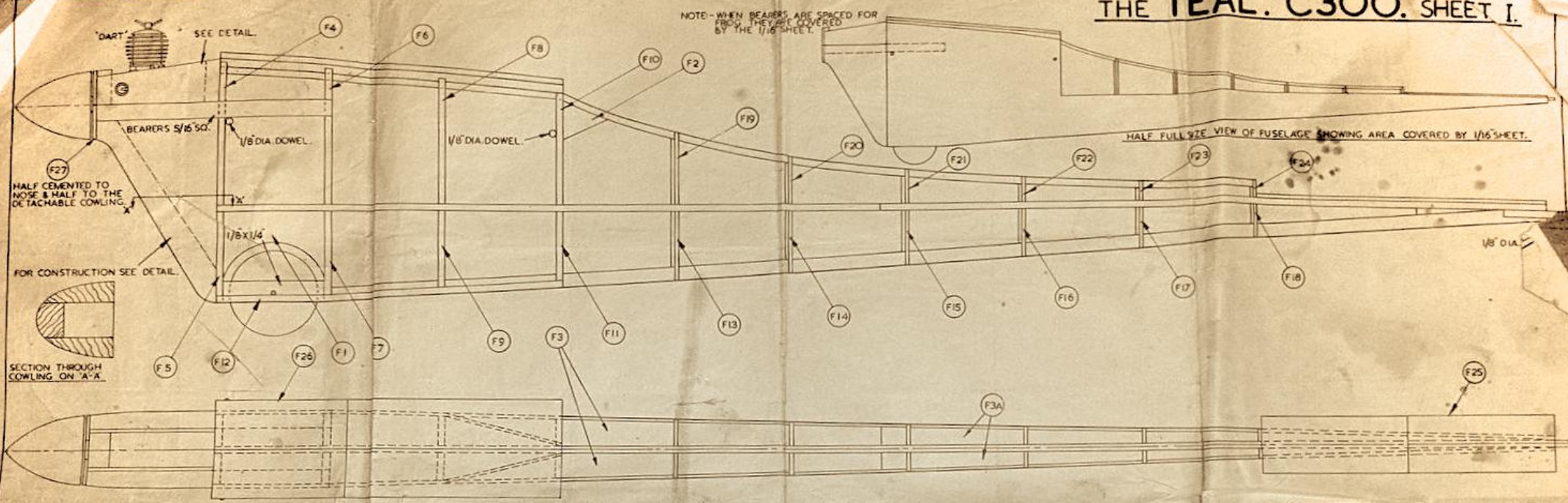
Anyway, the picture of the model is from the original kit box lid. In the meantime, wood awaits me in the shed for some 'balsa bashing'. However, I am not a fast builder and work does periodically take me away from home for lengthy periods from time-to-time.

Allen

SPECIFICATIONS Motor: Turnigy D3542/5 1250KV. ESC: Hobby King Red Brick 50A

Propellers to be trialled: APC electric style 8x6, 10x5, 11.5x5

Battery Packs, for 2 different events : 1) Turnigy Nano Tech 1800 mAh 25~50C 2) Turnigy Nano Tech 370 mAh 25~40C



ENGINES.	PROPS
DART 50cc.	7 X 4
FROG 50cc.	6 X 4
ED 46cc.	6 X 4

DATA.	
WING SPAN.	37"
O/A. LENGTH.	28 1/2"
WING AREA.	215 SQ. INS.
TAIL AREA.	85 SQ. INS.
TOTAL AREA.	300 SQ. INS.
WEIGHT	8 OZS.

DESIGNED & DRAWN & TRACED BY RON YOUNG

METHOD OF CUTTING THE TWO COWLING SIDES FROM THE 3/8" SHEET SUPPLIED.

DESIGN COPYRIGHT BY H.J. YOUNG

HALF FULL SIZE FRONT VIEW

John Butcher's Arrow Nut

My latest project is the Arrow Nut which appears to be an advanced design for 1950. I found construction a little challenging after building a fleet of Miss Fortune X's.

The first flight will be in E-Texaco mode. The wing area is around 585 sq inch so tests will be done with a 460 mah 2s Turnigy nanotech battery. If all is okay, I may try E Duration with a Red Back 25 motor and 1000mAh / 4S / 25-60C Turnigy nanotech.

The first test flight has been conducted but the results were not as good as expected, with 9 mins the best I could do. Possibly due to poor trim as a lot of down elevator was needed - some further testing will be required.

John Butcher
Tuakau.



Triumph for Airsail Ascender in E Rubber!

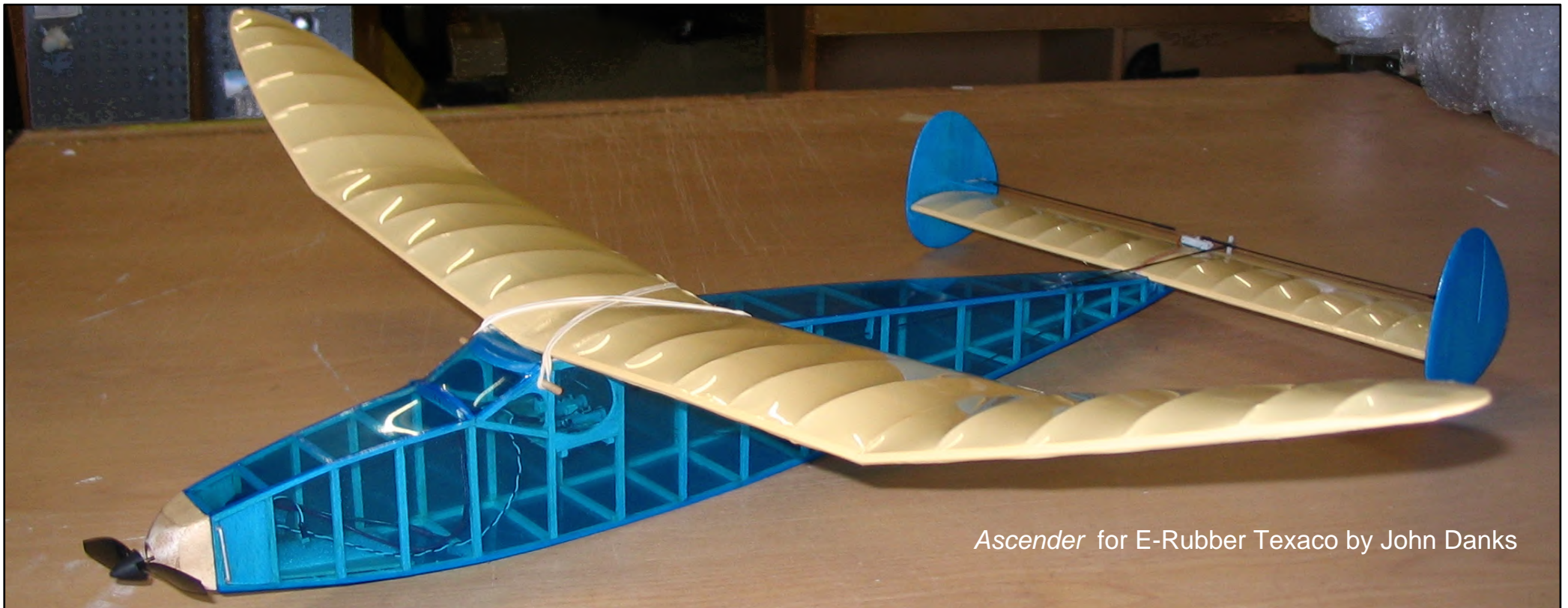
That's what the headline for this article was to read, but the weather gods stuffed the contest. My reason for anticipating this result is as follows. A year or so ago, David Gush and I experimented with small E- Rubber models trying a variety of motor and prop combinations without success.

These were models size suited to 120 2S batteries, and the best times we achieved were around 7 mins. As John Danks at Airsail had sourced the motors, etc for us, we discussed the problem with him and he come up with the idea of using the motor and receiver servo modules out of an indoor model, and he has done just that. Using an Airsail *Ascender* for the model the wing area allows the use of a 250mha 1s battery which are readily available. His best flight time

using 2 x 120 mAh batteries in parallel was about 15 mins in calm air. In a moderate wind of about 15 -20 ks he achieved better than 12 mins. His model came out about 100 grams resulting in a low wing loading. The limiting factors are no more than 20 k wind and the requirement of a DSM2 transmitter. There may be other options, of course, so it is worth thinking about.

Encouraged by the result, he is now building another *Ascender* which he reckons will be under 90 grams. Since beginning the article, he has done a 20 min flight at Tuakau. So perhaps the idea for anybody contemplating E Rubber is to try beating John at his own game. The joy of flying these little models is magic. Competition is hotting up in the E Rubber class with at least 5 local models exceeding 10 mins.

John Butcher



Ascender for E-Rubber Texaco by John Danks



Free Flight Models

Product 1/16

[prev](#) [listing](#) [next](#)



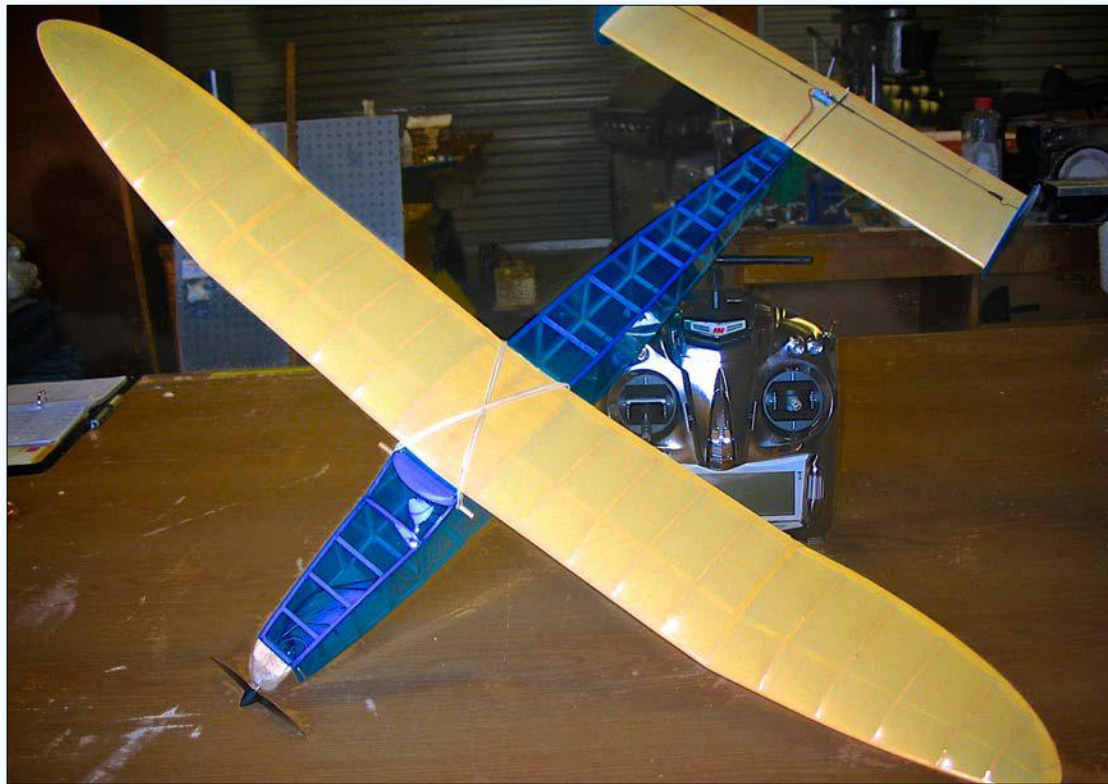
[larger image](#)

AIRSAIL ASCENDER VINTAGE RUBBER POWER MODEL

~~\$64.00~~ **\$51.20**
Save: 20% off

Airsail Ascender vintage 1949 rubber power contest free flight model kitset, requires assembly.

WINGSPAN 864mm



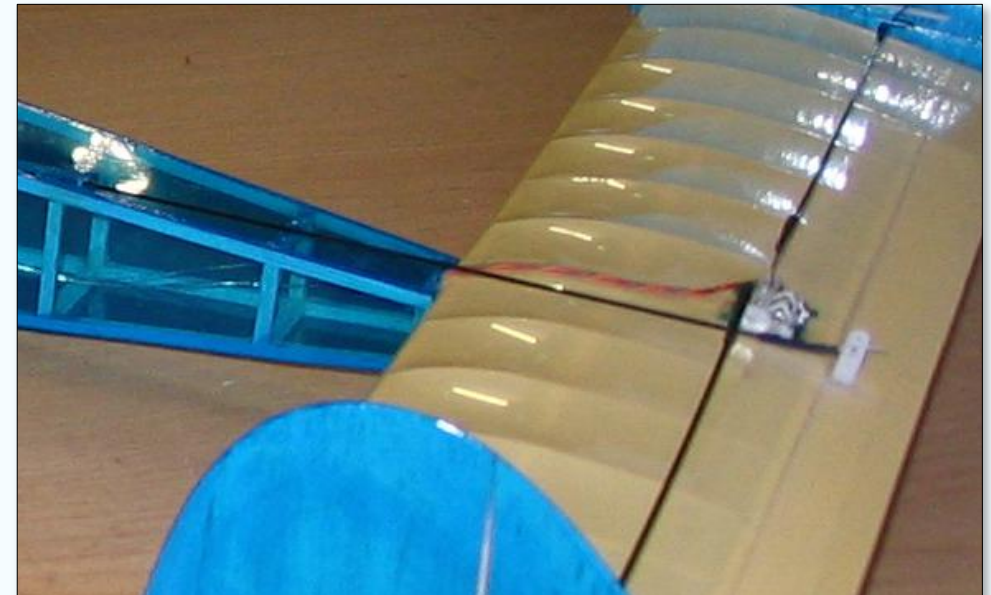
Ascender kits are currently being discounted at Airsail.



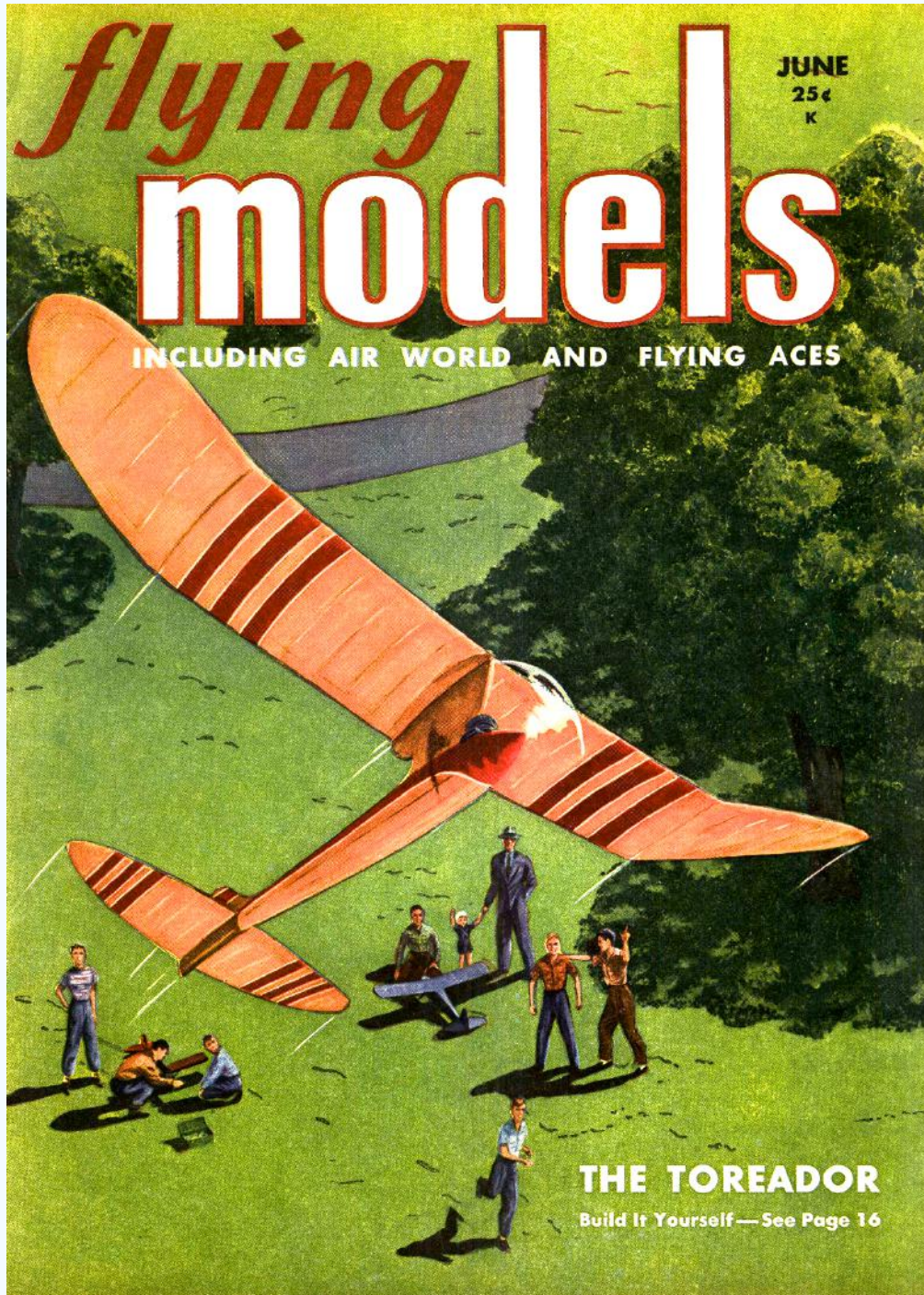
Another view of John's Ascender.



Hooking up the twin rudders with a servo that is centrally mounted in the stabiliser.



"The complete running gear, radio, servos, motor are from an E Flite 4 Site. The all up weight including the 240 1S Lipo is 100 grams, achievable using the material supplied in the kit. Covered in Solarfilm's Solite". **John Danks.**



A Miscellany of Mills

Ask any aeromodeller 'of a certain age' in this country, the UK or Australia about Mills engines and the chances are their eyes will mist over in fond remembrance of younger days and FF sport or scale models, the occasional control liner and perhaps for a few some pioneering efforts in early R/C. All facilitated by the reliable engines emanating from a factory in Woking, Surrey, and distributed around the globe. (The site of the factory at 143 Goldsworthy Road is now an industrial estate according to Google Earth).

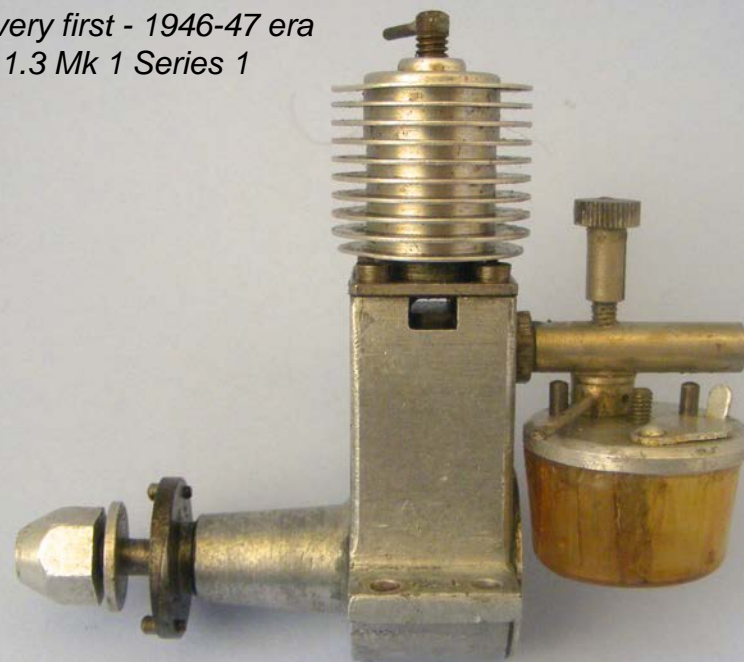
You will not have to look very far to find a Mills diesel in use. Even today a typical Nationals Aggregate event will likely have more than half its entries powered by one. The growing popularity of the Tomboy vintage event, in both original and enlarged sizes, means a continuing demand for the Mills 75 and 1.3, more than 50 years after production of the originals ceased.

Fortunately, the story didn't end there and the Mills design has soldiered on down the decades, both originals, replicas, miniatures and as inspiration for similar engine designs. Why? It could be argued that the Mills offer a combination of adequate power at low to medium revs, high torque allowing them to turn large props for their capacity, quiet running, an unparalleled ease of starting and an extraordinary degree of tractability even for a diesel. This is the reason for their continued popularity in the diminished market for small diesels where electrics have made large inroads into the IC engine market in recent years.

Mills Brothers (Model Engineers), based in Sheffield, had been in business before the war, manufacturing model train track and components under the 'Millbro' brand name, as well as operating a retail outlet at Holborn in London. Immediately postwar they entered a working business arrangement with an Arnold L Hardinge who subsequently took over the business and concentrated on the manufacture of model diesels,. His name appears on many of the Mills engine patents, the first of which was filed on 20th May 1946. The sectioned drawing shows an engine unmistakably resembling the Mills 1.3 Mk1.

One of the things that set Mills engines apart for their era was their material specifications and the precision with which they were made. This was in stark contrast to many of the other British offerings of the immediate post war period. Mills engines used tool steel pistons in chrome-molybdenum steel cylinder liners, ground to very fine limits and hand fitted. This ensured extremely good piston-liner fits accompanied by extremely low wear rates, a reason why so many Mills engines are still giving good service today, up to 60 years after manufacture. This precision came at a cost in materials and manufacturing time, and explains why during their heyday from the late 1940s, through the 1950s and into the early 1960s, Mills engines were never cheap in comparison to their direct competition. Definitely a case of being built *up to a specification* rather than *down to a price*.

*The very first - 1946-47 era
Mills 1.3 Mk 1 Series 1*



The Mills 1.3 Mk1 appeared on the market in 1946, making it one of the first commercially available British diesels. The parallel sided aluminium crankcase model with parallel head fins was soon followed by a series 2 variant with the 'beehive' head shape that continued to be used on the later Mk2 magnesium black crankcase model introduced in 1948. This model was produced in a series 1 and series 2 version, the latter remaining largely unchanged from 1949 until the end of Mills engine production in 1964.

The smaller Mills 75 was introduced in 1948. The short-lived machined crankcase Mk1 version which resembled a small 1.3 was soon replaced by the more familiar cast crankcase of the Mk2 in the interests of production economy. In this form it continued unchanged for at least 15 years as the P75 and S75 models, the only difference being the S75 came with a spring loaded cutout on the fuel tank assembly and the P75 did not.

1948 also saw the introduction of the disc valve 2.4cc which was not a great success as it was outclassed first by the Elfin 249, and then by the ED 2.46 Racer which hit the market in 1951. The 2.4 was withdrawn after barely two years of production and a production total of 1500-3000.



English Mills P.75
on original box



Mills 2.4



Disc-valved
Mills 2.4

The 1950s were the golden age for Mills engines, especially the Mills .75, with hardly a month passing without the announcement of a new kit or publication of a new suitable design in either 'Aeromodeller' or 'Model Aircraft'.

Competition arose in the form of the cheaper .76cc Allbon Merlin and .8cc Frog 80 diesels, both of which were to survive the demise of the Mills marque.

In the late 50s came the introduction to the UK of the Cox 049 glowplug engines, followed by a rash of indigenous British glow 040s - the DC Bantam, AM049, Frog 80 glow and KK Cobra.

All of these, apart from the Bantam, soon fell by the wayside as the British modeller stayed loyal to the small diesel.

Following the acquisition of Mills Brothers by the aptly named Ayling Industries, the Mills line ended in 1964 with the announcement in the UK model magazines of the cessation of production. This was greeted with something akin to despair by sports fliers as it followed hard on the heels of the demise of ED after a fire in 1963, meaning that two of the UK's major engine manufacturers were no longer in business. The small engine market was left exclusively in the hands of Davies Charlton who around this time also took over manufacture of the Frog engine line after Frog's parent holding company, Line Brothers, had gone into receivership.

The first offering to emerge in the mid 1960s was the Embee 75. A sideport, very much styled on the Mills, slightly larger in physical size and slightly smaller in capacity. These were produced by Moore & Bailey in Leicester but never in sufficient quantity to meet market needs. The remains of the project popped up again in the early 1980s as the rather agricultural PMC 'Imp' engine.

Next in the Mills saga was the appearance in 1972 of a small classified advert in Aeromodeller and Airborne seeking startup funding participants for a project to resurrect the Mills 75. This led to the original Australian based Doonside Mills project. 'Doonside' was a suburb in NW Sydney and home of one of the principals, the irrepressible Ivor F. There was a run of 1000 Mills 75 replicas: 250 exact replicas plus a further 750 'Mk2' versions which were very well received. Most of the components were manufactured by Gordon Burford, the Taipan engine manufacturer.

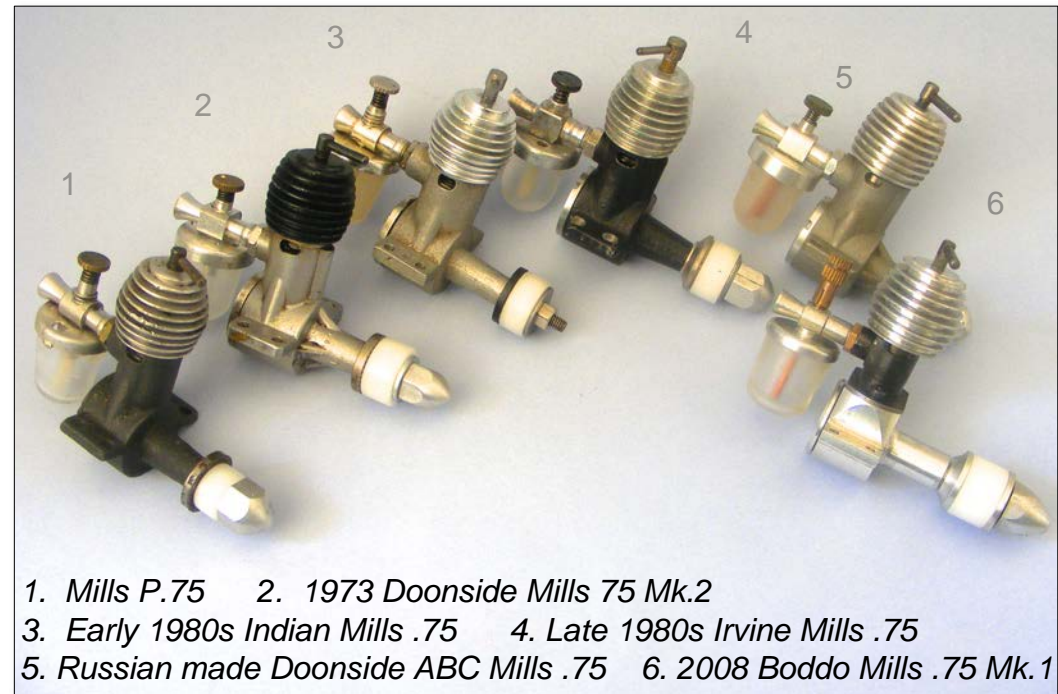
Across the Indian ocean, moves were afoot to manufacture the Mills engines in India, aided by the

purchase of the original jigs fixtures and tooling. These engines eventually made their way to the UK around 1977 and were sold widely, though the quality was not a patch on the British originals or the Doonside replica. Production in India continued for many years, only terminating a couple of years ago, by which time many other Mills replicas had been produced including a couple of models never made by Mills including a 5cc side port, a .37cc miniature, versions of the .75, 1.3 and 2.4, and an oversized 3.5cc derivative of the 2.4.

Then came Irvine Engines, producing their excellent Irvine Mills 75 from the mid-1980s. This was a high quality replica which had some detail improvements over the originals - a less vulnerable crankshaft and a better tank-carburettor arrangement. Further development saw a Mk2 version sporting a single rear ballrace but this barely made it into production. The 1.3cc Irvine Mills took another decade to appear, not reaching the market till the mid-1990s, and was very expensive.



1979 Doonside Mills Mk 2



1. Mills P.75 2. 1973 Doonside Mills 75 Mk.2
3. Early 1980s Indian Mills .75 4. Late 1980s Irvine Mills .75
5. Russian made Doonside ABC Mills .75 6. 2008 Boddo Mills .75 Mk.1

Meantime a second Doonside Mills was in the offing, manufactured in Russia but sold by Ivor F. In typical Russian fashion this one was ABC with a lot of liner taper. Whilst having some innovative features, such as a screw-in fuel tank and a replaceable prop stud, it proved nowhere as nice to handle as the originals or the earlier Australian Doonside models. The Russian manufacturer produced the engine in excess of the numbers initially contracted for and this surplus found its way to the west by various means.

In the early 1990s yet another trend emerged to delight Mills fans and other small engine aficionados: the miniature Mills. These all emanated from Russia at the behest of a few mainly UK based entrepreneurs but were widely sold round the world. The range started with 0.4cc and 0.25cc miniatures of the Mills .75 (or to be exact, miniatures of the Irvine Mills .75), soon followed by a 0.5cc replica of the Mills 1.3 (these were the 'VA' replicas, made by Valentin Aloskjin in St Petersburg and were well received). The range rapidly expanded to include replicas of the DC Bambi, Kalper 0.32, 0.5cc versions of the ED Bee and Racer, a half sized Elfin 50 replica, a .4cc Micro replica and a .36cc replica of the Elfin 1.8. The .4cc and .5cc Mills proved lovely engines, while the .25cc proved problematic, for reasons never really identified.



Slightly closer to Western Europe in the Czech republic another Mills lookalike was waiting in the wings, in the form of the MP Jet Classic 0.6 diesel. Near identical in size and shape, with excellent fits, top quality materials and much better porting, it outdoes Mills at their own game - no mean achievement - in the areas of starting, handling, and power. The only criticism of this fine engine is its two hole mounting, but this is ameliorated by the manufacturer's very nice lightweight machined alloy radial mount offered as an accessory. This engine is starting to replace Mills 75s in Aggregate as well as making its presence felt in the R/C Tomboy event. Availability is a bit sporadic as MP Jet seems to produce them in batches.

The final chapter in the Mills saga involves that doyen of the UK sport radio scene and prolific magazine founder and writer, the late David Boddington. On his own initiative (I suspect it had something to do with the rapid growth in popularity of the R/C Tomboy class in the UK) contracted with CS in China to manufacture a Mills lookalike, the 'Boddo Mills'. This was sold widely in his last couple of years. The first series did not closely resemble the Mills in appearance but later versions had a closer resemblance the classic Mills .75, albeit usually sporting a gold anodised head. CS seem to be selling these, and other similar engines, directly under their own name as well, but with the Boddo ones you had the comfort of knowing they had been properly checked over and tested before dispatch.

So here the story ends ... for now. How extraordinary that an engine conceived and developed in 1946 is still in wide use and sought after not just by collectors but by active fliers. The Mills family of engines was often copied but rarely equalled. They have their own niche in aeromodelling history and in the hearts of those aeromodellers 'of a certain age'.

During the preparation of this article came the sad news of the death of Ivor F, (nee Stowe) on April 18 2015 at the ripe old age of 90 - a life well lived by a man who gave more to modelling than he ever took out.



The Cloud Tramp home page <http://www.mikedparker.karoo.net>

" We are promoting this event to celebrate the contribution made by Charles Grant to the development of our hobby. We hope that as many people as possible will make a Cloud Tramp and join in the simultaneous launch on Saturday, August 1, 2015. The Launch Time will be 1700hrs British Summer Time (GMT + 1 hour), so individual participants will have to calculate the appropriate local time at their venue.

The Cloud Tramp was the last manifestation of Grant's basic stick rubber model for beginners and appeared in Model Airplane News, August, 1954. It can be built very quickly and flies well.

GRANT MIMLOCT 2015 is not a competition and there are no prizes. We hope participants will enjoy the fun of building and flying the Cloud Tramp, as well as taking part in this unique event, which attracted 130 participants from all over the World in 2014 ".



Trampers in Australia and New Zealand fly by Braille



CLOUD TRAMPING around the world 2014





"With almost six square feet of wing area, the airfoil was kept thin to reduce drag and aid climb. The extremely long tail moment, while affecting the climb only slightly, provides control during the power-on portion of the flight, and guarantees a flat, time-consuming glide. Obtaining a balance point 40% of the chord aft of the wing can be a bit difficult with the long tail moment, but moving it back necessitates positive incidence in the stab, and that louses up the power pattern. The original ships were trimmed for a right glide turn with rudder deflection, and a left power turn with a small amount of left thrust. To control the left turn under power, a 1/4 inch of wash-in is called for in the left wing."

Air Trails March 1941



In Issue 136, Graham outlined the concept of small, bungy launched, Vintage FF gliders :

Up to 36 inch Vintage and Nostalgia Gliders—Hi Start (Bungee launch)

Recently your Ed flew his Lulu Towline Glider for NDC Vintage and that revived the idea that has been taken up by SAM 35 in the UK for Hi Start launching of small gliders.

The SAM 35 rules are (I have used our NZ period definitions rather than UK SAM classes)

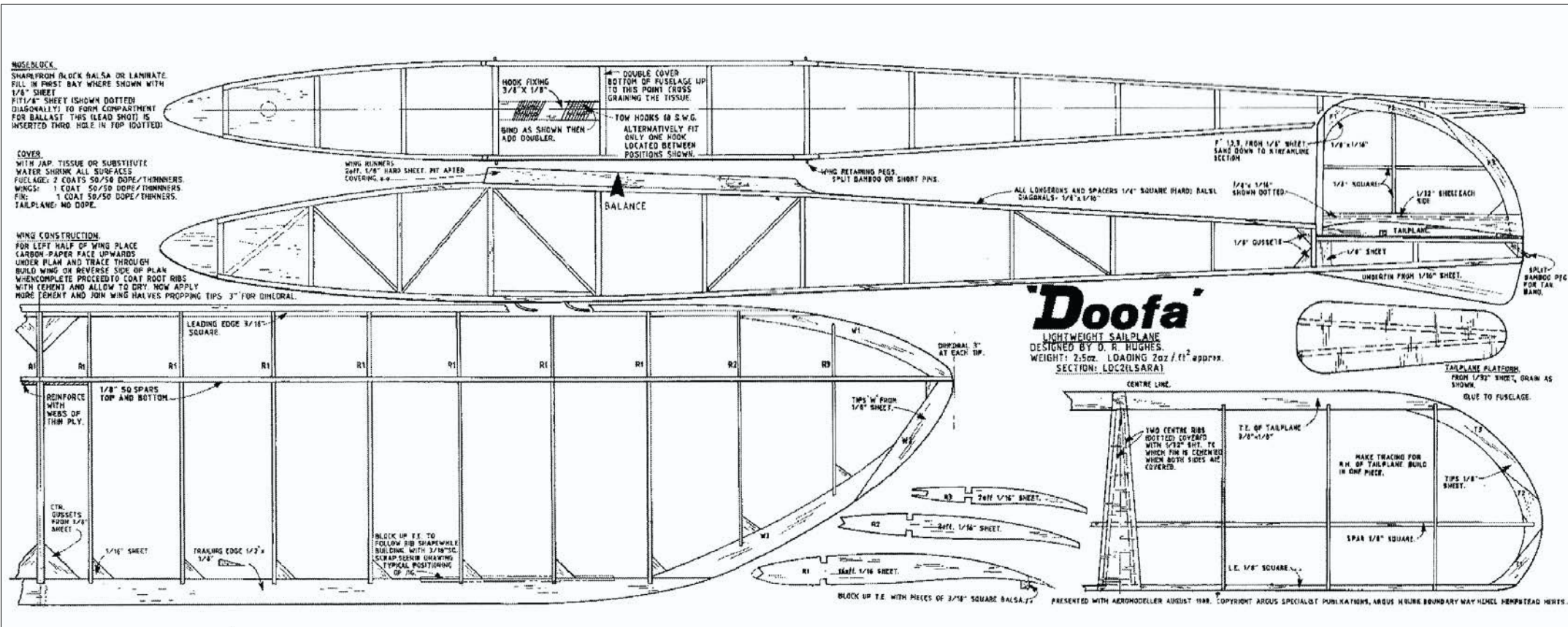
1. Any Model designed as a Glider with a wingspan up to and including 36 inch from the Vintage and Nostalgia periods may be flown. Scaling of designs is allowed.
2. Maximum towline length 30 metres comprising 7.5 metres (unstretched) of 1/8 rubber strip and 22.5 metres of line.

The UK Sam rules also have a requirement to have no fixed end to the line but it to be held by an assistant so the line can be reeled in immediately after glider release to minimise line tangles on the field.

This has become popular and it has been found that all sizes of glider can be launched this way.

Doofa and Glevum sound like a comedy act. They are in fact a couple of attractive gliders that need no scaling for this class - which could be regarded as Miniature Replica for gliders. Unlike .020 Replicas, there is no hard-to-find component. Doofa's airfoil may be out of the ordinary, and Glevum may have come about as a club fund-raiser, but everything else is conventional. Bungee launch gets around the increasingly difficult tow launch, and a 120 maximum makes retrieves more attractive.

Small models have a charm of their own, yet our Vintage and Nostalgia FF Miniature Replica power classes are struggling to survive. Maybe gliders such as these could help keep small models in the air? No noise or mess, minimal cost, easy launch, no transport problem. Refer to #138 for helpful hints on this type of model. Hmm, what about Miniature RC Vintage / Nostalgia Gliders?





DOOFA

This'll Doofa now! Try Dave Hughes' three-foot lightweight glider for Vintage fun

DOFOA is a lightweight tow-launch glider, of low aspect-ratio, designed primarily for those all-but-calm summer evenings which seemed to abound in the late 1940s. It weighed just 2.1/2 ounces and utilised the special LDC 2 section, produced by the LSARA (Low Speed Aerodynamics Research Association) mentioned recently in the Readers' Letters page.

Well, something like that section, anyway, as I cannot recall having used any ordinates, so it was probably 'eyeballed' - and, in 1947, no doubt distorted via the 'pin-prick through onto balsa' technique. But it certainly seemed to work well - and still does!

Years later I was told by some technical type that the LDC 2 section only works for streamlined fuselages. I spent the next few weekends trying to get my Doofa VII to fall out of the air, once this knowledge had been imparted. But it would not.

Drawn, built and flown one Saturday in June, the model seemed promising from the start - though admittedly, the 'flown' part that Saturday was just a hand-launch from the sand-dunes bordering the Royal Liverpool golf course at Hoylake, in the gathering dusk...

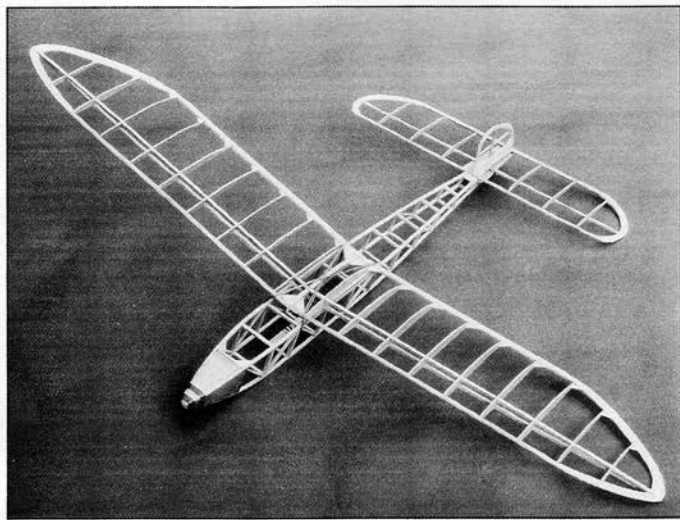
For later, tow-launched flights, we moved onto the beach at West Kirby, which afforded something like three square miles of flat firm sand, when the tide was out. The only problem for most of us was that wingtips became 'sandpapered'. Doofa had to go one better than this, however, and wandered away, to land a few inches from the incoming tide.

By the time we reached it, the tissue had become very soggy, the model having been trying to emulate a surf-board.

About this time, the Merseyside club obtained the use of RAF Sealand (near

Chester) and during the next couple of years, I managed to lose three Doofas OOS and burn a fourth. Yes, I said burn. It sat on its own D/T fuse. In view of losing the other models I decided to fit one of these, you see. But not your conventional tip-up tail arrangement. I thought I'd try the swinging-weight type - which I suppose I must have seen in Gadget Review.

The system required a small weight to be secured beneath the fuselage, at the CG, by an elastic band, through which the fuse was fitted. From the weight, a length of cotton ran to the wingtip. When the fuse burned through the band; presto! - the weight swung from the wingtip and the model gently **Simple, traditional construction means you can't go wrong. Note TE gussets for strength.**



spiralled downwards. When the weight reached the ground (am I beginning to sound Hoffnungish?) the tension in the cotton was released and the model flattened out for landing.

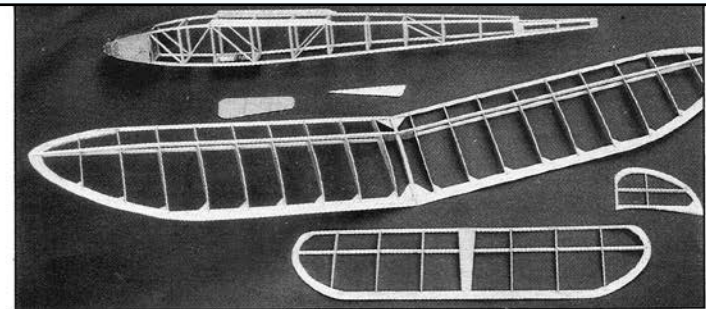
This worked quite well a number of times, though the model usually finished up inverted in the grass in a somewhat inelegant fashion. However, the time I'm telling you about, I think the fuse/band/weight assembly must have been moved back on the previous arrival, sliding beyond the piece of mica which was supposed to protect the fins from the fuse, as it were. The flight was a short one - due probably to a poor launch - and, on walking leisurely towards the grounded Doofa, smoke was observed. We broke into a run across the airfield but, by the time the crash crew had done their work, all that was left of Doofa V was the proverbial 'two wingtips and a pile of cigar ash'.

Do a Doofa!

This is an ultra-simple model structurally, and all the relevant details appear on the plan. Use light grade 'soft' balsa for all ribs and tips, but longerons should be of fairly hard stock, as should uprights and spacers.

On the wings and tailplane of my 1988 replica, I used some white Jap tissue which I bought at Sweeten's of Blackpool back in 1943. (Yes - I'm a hoarder!). I didn't know, after all this time, if it would still shrink when water and dope were applied. It did. It just went a bit patchy, some parts of the wing being less translucent than others. For the fuselage I used some lightweight Modelspan. (I ran out of coloured Jap about twenty years ago).

As the tailplane is a pretty light structure, I never used dope on it. Nor even water-shrinking. I preferred a few wrinkles to the



All the bits! Plenty of time to build a Doofa for Vintage Weekend...

sort of thing dope might have done. However, if you want to experiment... another tailplane is easily built.

Flying fun

Use the lightest line available. I used to use cotton thread, before everyone started using nylon monofilament. It had the advantage of providing a 'weak link' - if you towed too enthusiastically, or tried flying Doofa in too strong a breeze, the cotton broke before anything else. Today's 'cotton' all seems to be polyester, however, and is probably just as strong as nylon - but with more drag!

Test-fly Doofa on a calm day. After a few shoulder-height hand launches, and adding or subtracting small amounts of nose weight

In its natural element - Doofa flies stably, and likes lift. Don't forget your name and address - or dethermaliser!

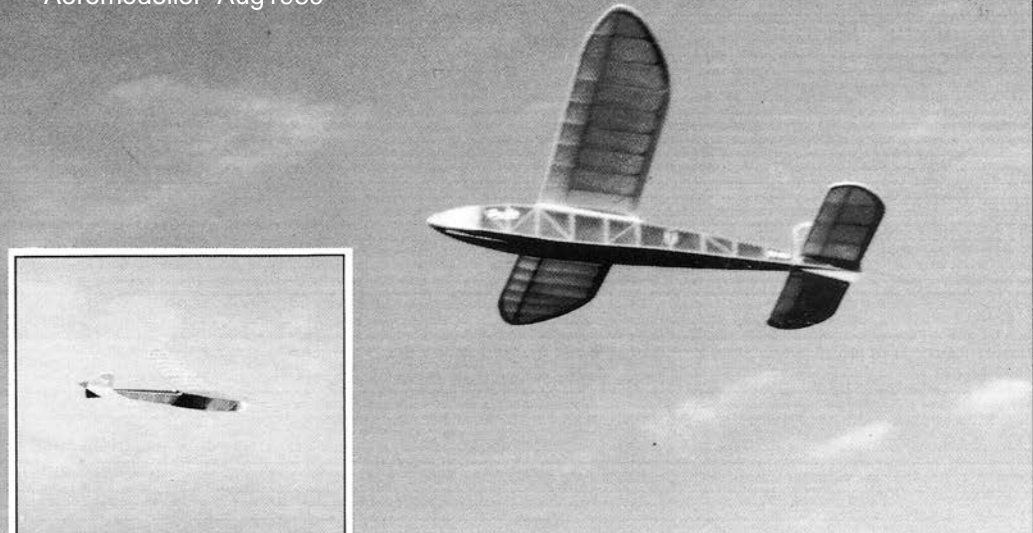
for optimum glide angle, a towline launch can be tried. Unless there is absolutely no wind, there should be no need to run. Just a steady walk. If there is any amount of wind - be careful - it may be necessary to ease the tension by actually walking towards the model.

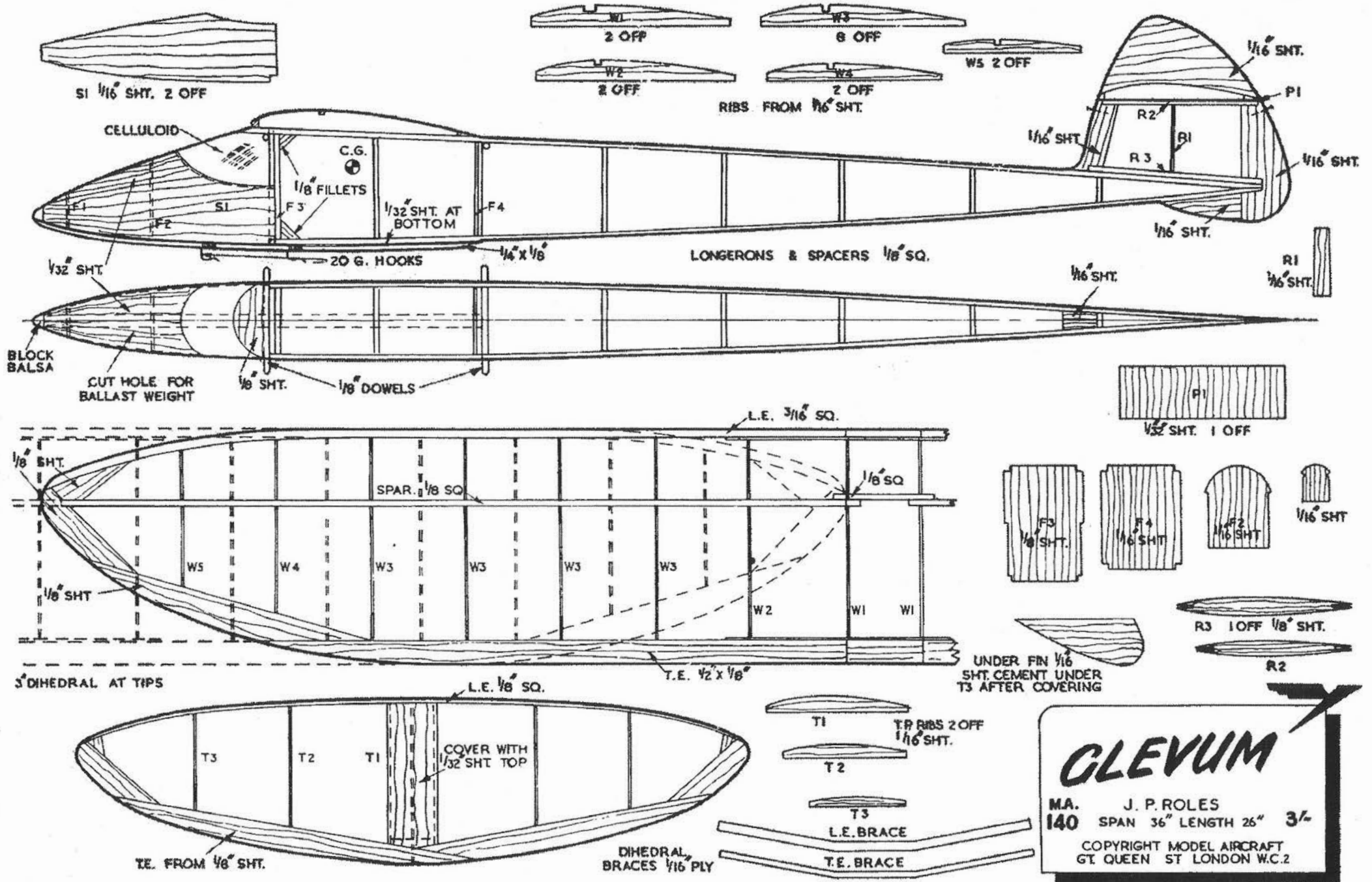
I used to trim my Doofas to 'wander' rather than circle (perhaps that's why I lost 'em!) but if circling flight pattern is what's required, then a wing-tab works better than offsetting the fin. (This should be angled 'up' on the wing inside the turn).

With the model balanced as shown, trimming for pitch adjustments - if necessary - can be made with 1/32in packing under leading or trailing edge of the tailplane as appropriate.

I often used to self-launch the Doofa, when there was just a whiff of wind drift, suspending the model from a foot or so of towline, and then 'kiting' it up, paying out the line from the hand-winch as I walked along. Backwards. You'll probably find you can't walk too fast backwards...

Article and plan reprint :
Aeromodeller Aug1989





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VINTAGE PRECISION

G.Meads	20/03	600 + 200
D.Gush	03/01	600 + 199 +200
J.Butcher	03/01	600 + 199 +197
B.Harris	03/01	600 + 198
G.Bradley	03/01	600 + 197
S.Warner	03/01	600 + 197
D.Mossop	03/01	600 + 192
A.Knox	NDC	600 + 192
A.MacDonald	03/01	600
J.Danks	03/01	600

VINTAGE IC DURATION

B.Scott	03/01	780
J.Butcher	20/03	780
R.Anderson	03/01	770
T.Christensen	03/01	770
A.Knox	NDC	766
W.Cartwright	03/01	764
D.Thornley	20/03	764
G.Meads	03/01	754
A.MacDonald	03/01	740
B.Treloar	08/02	732

VINTAGE E DURATION

B.Harris	20/03	960 + 530
W.Cartwright	20/03	960 + 403
D.Gush	03/01	960 + 215
K.Trillo	20/03	950
B.Scott	03/01	949
S.Lightfoot	20/03	940
R.Anderson	03/01	922
D.Mossop	03/01	905
A.Knox	NDC	896
J.Butcher	20/03	839

VINTAGE 1/2A TEXACO

M.Evans	03/01	1500 + 597
A.Knox	NDC	1500 + 513
R.Anderson	03/01	1500 + 283
M.Venter	NDC	1460
B.Scott	03/01	1445
J.Butcher	19/02	1400
A.Baker	NDC	1330
W.Cartwright	03/01	1240
C.Warren	03/01	1211
J.Selby	08/02	1195

VINTAGE 1/2E TEXACO

W.Cartwright	03/01	1480 + 1554
J.Butcher	20/03	1480 + 1416
K.Trillo	19/02	1480 + 1414
R.Anderson	20/03	1480 + 1286
B.Spenser	20/03	1463
B.Scott	03/01	1422
G.Main	19/02	1379
M.Evans	20/03	1354
A.Sissons	08/02	1282
D.Gush	03/01	1164

VINTAGE A TEXACO

J.Butcher	19/02	1860
S.Grant	NDC	1840
C.Warren	03/01	1838
B.Scott	19/02	1785
I.Munro	08/02	1773
G.Main	NDC	1671
J.Bradbury	08/02	1534
R.Anderson	03/01	1523
D.Richards	03/01	1376
B.Treloar	08/02	1230

VINTAGE E TEXACO

R.Anderson	19/02	1860 + 1030
J.Butcher	20/03	1860 + 560
K.Trillo	20/03	1860 + 535
A.MacDonald	03/01	1860
T.Gribble	19/02	1860
W.Cartwright	19/02	1853
D.Crook	03/01	1852
D.Baunton	20/03	1354
M.Evans	03/01	1074

VINTAGE OPEN TEXACO

I.Munro	03/01	1825
B.Scott	03/01	1492
J.Butcher	03/01	1340
D.Gush	03/01	1332
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VINTAGE RUBBER TEXACO

D.Gush	19/02	1860 + 866
W.Cartwright	20/03	1860 + 863
J.Butcher	19/02	1860 + 721
D.Baunton	20/03	1722
G.Main	19/02	1547
B.Scott	03/01	183
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CLASSICAL PRECISION

B.Harris	20/03	594
D.Thornley	20/03	590
D.Mossop	20/03	571
G.Main	NDC	528
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CLASSICAL IC DURATION

W.Cartwright	03/01	858
D.Thornley	03/01	857
B.Scott	03/01	840
E.Pimm	03/01	836
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CLASSICAL E DURATION

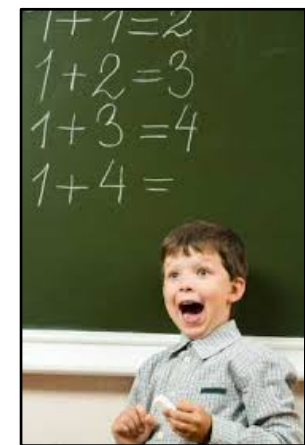
D.Mossop	03/01	900
B.Scott	03/01	867
W.Cartwright	03/01	802
J.Warner	03/01	761
G.Main	NDC	760
B.Harris	03/01	732
M.Evans	03/01	626
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TOMBOY IC and International

R.Anderson	22/03	1432
J.Godfrey	22/03	855
C.Warren	19/02	835
R.Bain	22/03	755
L.Rodway	NDC	592
B.Leeves	03/05	224
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TOMBOY E and International

R.Anderson	22/03	1782
B.Spencer	22/03	1442
K.Trillo	19/02	1231
L.Rodway	NDC	1026
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Last Update : June 2015

VINTAGE POWER

B.Scott	03 Jan	540
R.Anderson	03 Jan	536
R.Bain	03 Jan	530
P.Evans	03 Jan	322
J.Butcher	03 Jan	126
R.Gunner	NDC	70
A.Douglas	14 Mar	13
-		
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VINTAGE RUBBER

W.McGarvey	03 Jan	540
D.Sutcliffe	14 Mar	502
B.Scott	03 Jan	468
R.Magill	03 Jan	411
J.Malkin	03 Jan	409
C.Murphy	03 Jan	381
R.Bain	03 May	255
S.Somerfield	03 May	249
A.Graves	03 Jan	246

VINTAGE GLIDER

R.Anderson	03 Jan	369
D.Ackery	03 Jan	344
B.Scott	03 Jan	341
M.Evans	03 Jan	256
P.Evans	03 Jan	198
G.Main	NDC	163
K.Fisher	03 Jan	157
P.Wilson	03 Jan	92
J.Butcher	03 Jan	89
P.Wilson	08 Feb	79

VINTAGE HL / CATAPULT GLIDER

D.Ackery	03 Jan	313
G.Lovejoy	08/02	306
D.Gush	03 Jan	287
R.Magill	03 Jan	286
K.Fisher	03 Jan	283
J.Butcher	03 May	266
P.Wilson	03 Jan	257
H.Butcher	03 Jan	220
D.Richards	08 Feb	239
W.McGarvey	03 May	235

VINTAGE PRECISION

B.Scott	03 Jan	261
S.Somerfield	03 May	249
C.Warren	03 Jan	235
C.Murphy	14 Mar	229
B.Leeves	03 May	223
J.Dowling	03 May	198
S.Wade	14 Mar	179
J.Butcher	03 May	146
A.Graves	03 Jan	143
P.Smith	14 Mar	143

NOSTALGIA POWER

B.Scott	03 Jan	540
R.Bain	03 Jan	528
R.Anderson	14 Mar	340
B.Bonner	NDC	331
S.Wade	14 Mar	301
L.Vincent	03 Jan	135
P.Wilson	08 Feb	88
P.Wilson	03 Jan	37
-		
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NOSTALGIA 1/2A / MINIATURE REPLICA

R.Bain	03 Jan	321
B.Scott	03 Jan	281
R.Anderson	03 Jan	221
C.Murphy	03 Jan	137
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NOSTALGIA RUBBER

B.Scott	03 Jan	540
J.Malkin	03 Jan	500
G.Lovejoy	03 Jan	412
C.Murphy	03 Jan	335
G.Lovejoy	08 Feb	315
A.Graves	03 Jan	128
R.Yuile	08 Feb	43
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NOSTALGIA GLIDER

M.Evans	03 Jan	470
R.Anderson	03 Jan	185
T.Tank	14 Mar	203
B.Scott	03 Jan	165
K.Fisher	03 May	162
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CLASSICAL GLIDER

R.Anderson	14 Mar	540
M.Vincent	03 Jan	405
T.Tank	NDC	90
-		
-		

CLASSICAL POWER

R.Bain	14 Mar	540
B.Scott	03 Jan	364
-		
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-		

CLASSICAL RUBBER

L.Vincent	03 May	485
-		
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-		

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Spotted in the May issue of CMAC's "Torque" bulletin.

Mark Venter with his 35 year old Comet Clipper. The same model he is holding on page four ?



"The youth problem is that mine is gone...."



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FFONZ Notices

Waikato Free Flight Champs 2015

Bernard Scott, CD

Although I called this year's event the 51st in the series run by the Hamilton Model Aero Club, and had the place certificates so inscribed, the number was just a guess. Proof of the contest being 51 years old had been found, but Rex Bain thought the event had been running for much longer, possibly up to 65 years.

Even the lower age would make it a contender for the title of NZ's longest running club-organised contest, and out of all contests, second only to the Nationals in longevity. Sixty-five turned out to be close, as later in the week Rex checked the old trophies he had in storage and found one engraved "*WAIKATO CHAMPIONSHIPS, Rogers Cup, 20 Second Engine Run*".

It was first presented in 1949, making this year's event the 66th if the cup had been presented right from the first contest. If it had taken a while to get organised with trophies, we could be looking at an unbroken run of 67 or more years. That's an impressive record.

With a large part of the Piako Road flying site still covered in corn, cramped flying and tricky retrieves were anticipated, but a light breeze from a convenient quarter meant that even maximums ended well within the boundaries of the farm and the cornfields were able to be avoided. Overcast conditions meant comfortable retrieves for competitors from Tuakau, Tauranga and Hamilton, with a mid-day shower providing a convenient excuse to take a break from even this easy task. Open countryside, gentle breezes, lots of Free Flight models *beautiful !!*

Shadowed Shadow





David Gush waits patiently for



... Kyla Fisher to launch. Did well to get airborne in still conditions.



Bill McGarvey and well trimmed *Korda*



The Rest

TAURANGA OPEN

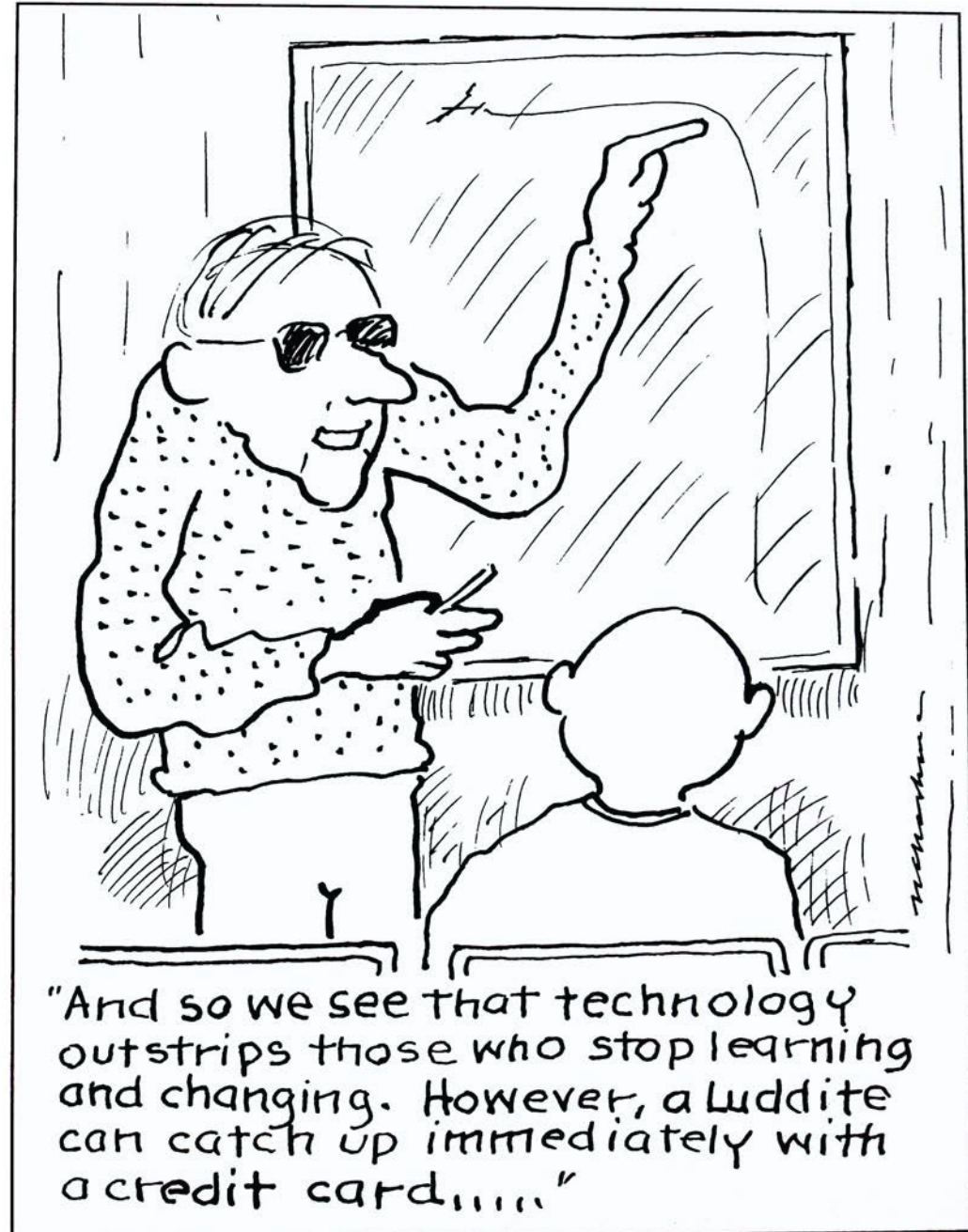
FREE FLIGHT

Saturday, October 3rd
Buckley's farm, Piako Rd, Morrinsville.
8.30am to 3pm.

Open Power
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Open glider

Combined Vintage / Nostalgia / Classic
Combined CLG / CLG / TLG

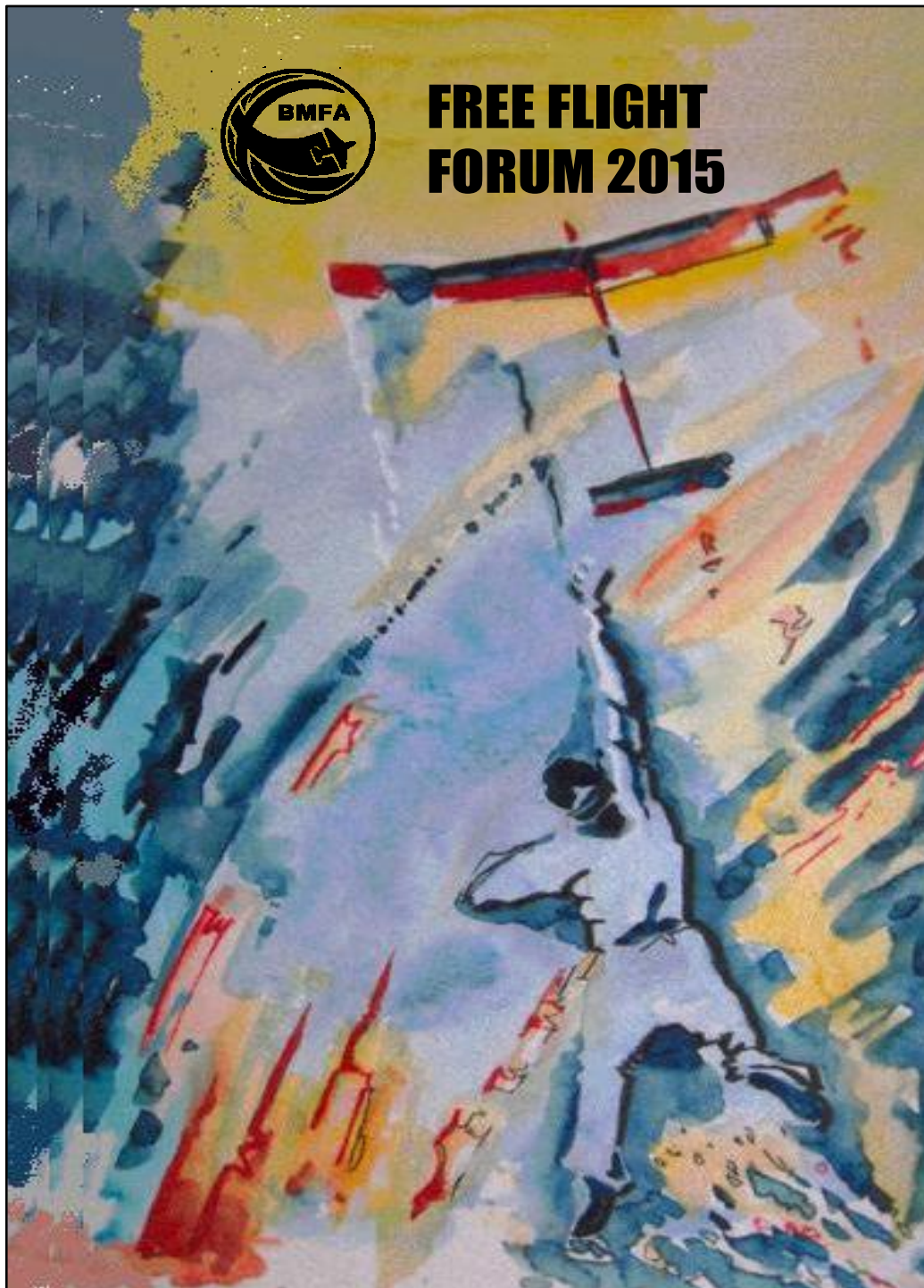
Contacts: Lincoln and Moira Vincent
07 5762262 lvincent@xtra.co.nz



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FREE FLIGHT FORUM 2015



BMFA FREE FLIGHT FORUM 2015

The new 2015 BMFA Free-Flight Forum Report has just been published.. For thirty-one years these Reports have provided information on new developments in a wide range of free-flight activities. This year is no exception, as the following contents list shows.

Recent F1D Developments by Tony Hebb; Electronic Timers for F1B by Mike Woodhouse; Personal Observations on Classic Power Models by John Thompson; The F1Q Mystery by Trevor Grey; Experiences with Electronic Timers by Roy Vaughn; Free Flight, Flying Sites & the BMFA by Dave Phipps; The Cursed S - Why Won't It Keep Going Up? by Alan Jack; Rubber Powered Kit Scale Competition by Andy Hewitt; New Ideas for the F1 Rules by Mike Woodhouse; Revisiting Rubber Scale 55 Years On by Ivan Taylor . As well as all this Phil Ball's selection of notable models from 2014 includes Andy Hewitt's Fokker D-VII Nats Rubber Kit Scale winner, Ed Bennett's Thin Man Classic Rubber model, Frank Rushby's 1/2A Mini Creep, Chris Redrup's BMFA Rubber model; Andy Crisp's Blue Note F1A for BMFA Glider contests and Trevor Grey's Kaon E-36.

The UK price is £12.00 including postage; to Europe it's £15 and everywhere else £17. Sales of the Forum Reports help to defray the heavy expenses of those representing Great Britain at World and European Free-Flight Championships. Cheques should be payable to 'BMFA F/F Team Support Fund' in pounds sterling, drawn on a bank with a UK branch; you may also order by credit card, which is a lot easier (and cheaper).

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