

AVANZ



NEWS

Newsletter of the Vintage Special Interest Group of Model Flying New Zealand #174





COMMITTEE NOTICES



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NATIONALS SCORE-KEEPING

Vintage RC score-keeping at the next National will be handled electronically using lap-tops to record and sort results on the field. Data will be emailed to headquarters for collating with overall Nationals results and for printing of certificates. If you have a laptop that would be suitable for this task, and can make it available over the Nationals, please contact Don Mossop, email below.

NATIONALS PROGRAMME

Be aware that the Vintage programme in the September MFW is incorrect. The Vintage programme has appeared in the last three issue of AVANZ News and is reproduced again on page 4. The Vintage programme on the NZMAA website was also initially incorrect.

EARLY NZ AEROMODELLING PHOTOGRAPHS

If you are Vintage in more than just the designs you build, you probably have photographs of early flying activities. The editor is seeking these to give the bulletin a NZ Vintage feel. If you have images you would like to share, email me and we can make arrangements.

Contributors

Gary Burrows
Barrie Russell
Angus Macdonald
Roy Smith
Dave Crook
Dave Mitchell
Chris Murphy
Allan Knox
Wayne Cartwright
Trevour Glogau

On the Cover: South Island Champs, Kaiapoi, 1961. Via MFHB / Colin Stace
Gary Burrows has identified some of the modellers and models on page 27

Logo: Pineapple Lumps - refer Miscellaneous page

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FUTURE EVENTS

LEVIN

November 9 - 10

John Selby Memorial Meeting

Levin MAC field on November 9th and 10th

Entry fee \$10 for one day or two

BBQ both days. Sausage @2.00 Burgers \$5.00

Flying starts 09:30 finishes 16:30

You can fly each event twice, once on each day, best score counts. You can just fly for fun too.

CD: Allan Knox 021 747 950

TUAKAU MAC

November 23 - 24

(Awaiting details)

HAWKES BAY

Vintage flying
Thursday mornings
Awatoto

(Vintage emblem for
Vintage flying)



LEVIN

Bob Burling

May 15 - 16 (2020)

Contact: Alan Knox



Vintage and Free Flight events at the next Nationals

Some errors crept into previously published programmes. Below is the correct programme for Vintage, FF, and FF Scale.

NATIONALS PROGRAMME for Vintage RC, Vintage FF, Free Flight, and FF Scale

REGISTRATION Mon. 30th December	DAY 1 Tue. 31st December	DAY 2 Wed. 1st January	DAY 3 Thur. 2nd January	DAY 4 Fri. 3rd January	DAY 5 Sat. 4th January
VINTAGE FF FREE FLIGHT 7 am - 12 noon	Vintage FF Power Vintage FF Rubber Vintage FF Glider Vintage Precision	Nostalgia Power Nostalgia Rubber Vintage Catapult Small Power Classic Comb R/P/G	F1A-B-C Combined Kiwi Power	Open Power Open Rubber Open Glider	P-30 Mini Combined E-36
VINTAGE RC 9 am - 4 pm		Vintage Precision Classical Precision Open Texaco	Vintage 1/2A Texaco Vintage A Texaco Vintage E Texaco Classical E Duration	Vintage 1/2E Texaco Vintage IC Duration Vintage E Duration Classical E Texaco	Classical 1/2E Texaco Sport Cabin E Texaco Vintage E Rubber Tex Classical IC Duration
SCALE FF	F4A FF Power Kit Scale	F4D FF Rubber CO2 / Electric	Any postponed outdoor FF Scale	Any postponed outdoor FF Scale	
EVENING FF and INDOOR SCALE	Aggregate Social Function ???	HLG / CAT Glider Radian	Peanut Kit Scale Open Rubber Scale	IHLG Hangar Rat	
ADMINISTRATION		VINTAGE SIG AGM VRC AWARDS VFF AWARDS	VRC AWARDS	VRC AWARDS	VRC AWARDS

Hi Bernard,

I am from Canada, born in England, and have a sister in New Zealand. I have visited your beautiful country on several occasions, but never brought any FF models to fly.

I was interested to see the discussion and articles on the ubiquitous Dixielander in the latest edition of Avanz News. I have been a Dixielander flyer since the kit was first introduced in 1959, but I didn't meet that fine gentleman, it's designer, Mr. George Fuller, until 2009 at the celebration of a half century since its introduction, held in Middle Wallop. I would like to chime in on some of the discussion if I may.

I have Dixielanders of every size allowable for NFFS competition. We Canucks have to go South for competitive flying in Free Flight, there being none in Eastern Canada, so NFFS rules apply. I have a 160 sq. in. version, with an .020, for 1/4A; a 230 and a 260 version, with Cox Medallion 049's, for 1/2A; a 350 with an OS Max 15 and a 550 with an OS Max 19, for A; a 650 with an OS Max 29X, for B; and an 850, with a Super Tigre 35 Combat, for C. I also have a 350 variant with a Super Tigre G20/15D that I fly in a diesel event that doesn't have design restrictions.

I was most interested to see the discussion on the wing warps that various people use. I discussed this matter with George at some length in 2009 and he said that the 3/8" right panel washin and tip washout shown on the Yeoman plan was incorrect. He told me that the correct amount was 3° on the main panel and less on the tips. On a 7" chord 3°

represents a vertical amount of $3 \times 7/57.2 = 0.367''$ – as close to 3/8" as most modelers could measure with confidence. My experience has been that the model will fly with these warps, but if you use a really hot engine, it can get very squirrely.



In North America we are restricted to the year of the engine production, but we can do a lot to 'tune' the performance. My OS Max III 15 turns a 7x4 prop at 21.2k on the ground. If you're going to fly the model fast I would certainly recommend reducing the right main panel washin to 1/4", and I use no washout on the tips, but a little doesn't hurt and might resist tip stalling in the glide. The one thing that is certain is that this model will not fly without the washin (or possibly left tip washout instead, more on that later). I recently attended the US Outdoor Championships in Muncie, IN. A friend and I were both flying Dixielanders and in the practice during the week before the contest we were each having the same problem with one of our models. He was flying a 650 and I an 850, mine having been extremely

consistent (typical for a Dixielander) up to that point. Both aeroplanes insisted on pulling right after starting out with a nice steep climb – looking for all the world as though they were over-elevated. No amount of elevation or rudder adjustment would correct the problem. Eventually, it occurred to me to check the washin on my wing and, lo and behold, there was none! When transferring the models from the basement to the trailer for the trip to Muncie, I had noticed that the covering on that wing had got rather slack. I quickly ran the heat gun over it to tighten it up – quite forgetting to check that I maintained the built-in warp. I immediately went over to my friend and we checked his – sure enough he had no washin. He had done almost the same thing, he had added a second layer of covering forward from the rear spar, to increase the torsional stiffness, because he had suffered flutter problems (something I have found to be an issue on the big ones), and he had inadvertently taken out his warp too. We had a session with the heat gun that evening at our hotel – the next day we both had aeroplanes that would trim nicely, just like a Dixielander should be.

I had another friend who built a 650 Dixielander. He is very used to trimming modern very fast classic gas models with no warps and a climb that goes straight up, turning its nose down slightly at the end of the run to provide a transition, like a catapult glider. He figured he could do the same with the Dixielander. He eventually had to give up and revert to the right panel washin so that he could get a safe and fast climb.

....continued

I have sometimes wondered about using washout on the left tip, with flat centre panels (per Peter Michel), but never dared to go there. I have always felt that it is better to introduce the required roll by lifting the right wing than by pushing down the left one. I also think that in a model that is going to glide with a right turn it is better to have increased incidence on the inside (slower) side. As you said in your remarks Bernard, it seems that the Dixielander will fly with a lot of different warp setups. It won't fly without some left roll warps, however, and the



faster you want to fly it the more you should stay away from the extreme amounts shown on the plan.

I attach a picture of my 850 Dixielander at launch. You might notice that there is a third spar on the main panels. I have found that on the 550 and above sizes there is need for greater torsional stiffness in the wing in order to avoid flutter. I fully web the two main spars and I add a third, fully webbed, spar about equidistant behind the rear spar. My 550, with a .19 in it, fluttered in the vertical climb at about 6 seconds, this modification stopped that and allowed it to accelerate to the full 9 second run for the Category I (2 minute max) fields that we use on the East Coast of North America.

Flutter in power models always seems to be in a mode where the wing tips are rotating in-phase with one another, the centre acting as if built-in. By 'in-phase' I mean that both leading edges go up at the same time as each other. There is another possible mode of flutter, in which one side is going up while the other is going down, this would have a lower frequency of vibration but doesn't seem to happen in power models. That mode would not be significantly affected by the addition of the third spar because the spars would not then be forced into bending by the action of the flutter.

One other matter that came up in my conversations and correspondence with George was that he decried the leading edge rib notches shown on the Yeoman plan.

I specifically asked him about this because I had been putting those into my models, even though it went very much against my innate sensitivities as an engineer. He told me that this was something that Ron Warring had added to the drawing, not something that he (George)



had ever done or ever would do. George worked for Yeoman, as a salesman, I have no idea why he didn't have these matters corrected. I felt that it would be rude to come out and directly ask him. I know that sometimes company politics gets in the way of what one would think would be simple communications. To round things out, here's a picture of my 160 sq in 1/4A version, with a Cox TD .020.

Roy Smith

Hello Bernard.

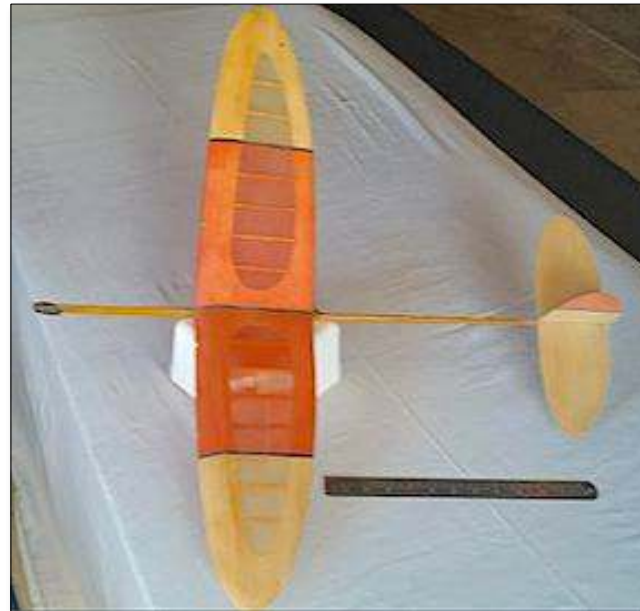
Reading the August AVANZ I sort of 'scooted' past the page by Graham Lovejoy and it was only with the Sept edition's comments by Bill McGarvey that it dawned on me. I well remember Peter Wheeler. He was a great mate of Paul's ... and I have his glider !

It must be at least 18 years since PHL gave me this glider. He had retrieved it from the Peter Wheeler Estate. I threw it around for a bit then parked it with my olde vintage models in the roof of my shed.

PHL had obviously recovered it in his traditional colour scheme in Liteweight Modespan. While it is not exactly the same as the drawing, the resemblance is unmistakable, even the sweepback. It would appear to be a later variant I have taken a couple of pix of the model atop an icecream container and that's a 12inch rule for scale. Interesting how things turn up isn't it !!

And, I compliment you again on producing one of the best Newsletters I have the pleasure of reading. Although my models now are exactly scale at 12inches to the foot, I read your column with much interest.

Best Regards
Dave Mitchell



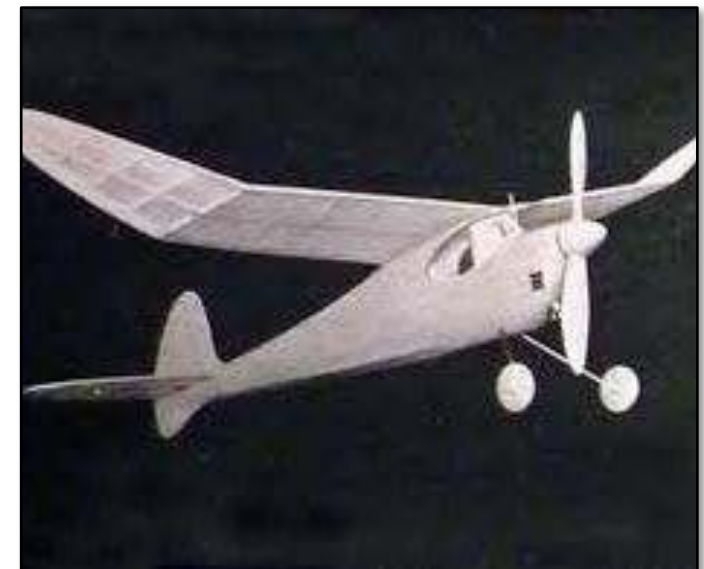
Question

I've always liked the look of the Southerner tempted to put it on next year's building list. I'm interested to hear how they fly and if best trimmed L-L, R-R, etc. Being a cabin I'd expect it to be best flying left under power but as it has a lot of the Slicker ancestry there might be a bit of hidden pylon in it.

Answer to

Chris Murphy

treebeard@snap.net.nz



This was a good start to the 2019 / 20 season. Saturday was bright and clear with little wind and a good number of cars gathered in the car parking area prior to the official 9.30 am start time.

It is always great to see new people come along to the field and give Vintage a go. In this instance, we were very fortunate to have along John Knox, Les King and Paul Tomlinson who all compete at world championship level at Pylon, as well as our host for the weekend, John Danks. Both John and Paul were quite happily flying Buzzard Bombshells around the field, Hanger One short kits courtesy of Gwyn Avenell. These planes flew beautifully and were not only a pleasure to watch but also attracted a fair bit of attention. John and Paul decided to enter them in the Vintage Precision event while Les did likewise with his Gas Buggy.

It was good to see Charles Warren at the field once again (it's been awhile Charles) flying his So Long in Vintage A Texaco as well as our AVANZ News main man Bernard Scott flying in both Vintage A and 1/2 A Texaco.

Three new aircraft made their competition debut, Tony Gribble's 1/2 A Train and Dave Crook's Hot Dog both in Classical 1/2 E Texaco, and Don Mossop with his MG-2 in E Texaco. We last saw this aircraft undertaking a few test flights back in May at Tuakau and it looked to be performing a lot better now that it has been finely adjusted.

Nearly all flights were completed on the Saturday, interrupted only by an excellent BBQ lunch gratefully put on by our hosts, John and Sharon Danks and a westerly wind that crept in early afternoon that put paid to any further competitive flights. It was during this period that the pylon boys ripped up the sky with their FX Racers, their planes not affected by the wind. While there is both a massive speed and adrenalin difference between Pylon and Vintage we still hope you enjoyed your time with us.

Sunday started off similar to Saturday but was soon affected by that strong westerly again. This was forecast and as a result kept Sunday's attendance down. It sprung up just after 10 am and put a damper on it all with the wind hovering around 20 kph and gusting over 30 kph. It was no surprise therefore to see a lack of motivation and enthusiasm amongst those present as there was nothing to be gained and Sunday proceedings finished just after 12pm.

For the first event of the season, some of the flying was a little rusty with nearly everyone misjudging the downwind leg and not getting back into the landing circle, myself included. But in my defence that was to be expected given the winter months have not been kind or conducive to much flying - that's my excuse anyway.

Having said that, there were some very good flights, which, although not qualifying as new or improved

postings on the leader board, were a reflection of the conditions on the weekend. Of note were John Butcher in E Rubber Texaco with his Golly Wock and Tomboy flights as well as Wayne Cartwright who scored a full house with a Nig Nog in Classical E Duration.

As is usually customary for the first event of the new season a few housekeeping matters:

First off, don't forget to put your name on the card - for obvious reasons. Also, a few of the scorecard entries were a wee bit haphazard and very difficult to read.

- 1 Time in minutes and seconds please, not just in seconds. It makes a difference.
- 2 If you're unsure of your model's Age Bonus, that's ok, leave it out. So long as the name of your plane and its year are on your score card we'll sort it out for you.
- 3 Make it very clear whether you have achieved your Landing Bonus, a tick is good, same with a yes or no. (Not applicable in Classical events - good try that someone who shall remain nameless)

I again thank John and Sharon Danks for their hospitality - a great atmosphere, excellent scones and sausages and a terrific field at which to fly. We can now look forward to next event of the year at Thames Blackfeet on 19 and 20 October.

Regards, Dave and Tony



Gas Buggy
Les King



Nig Nog
Wayne Cartwright



Cruiser
Wayne Cartwright



Playboy Don Mossop



Lost Horizon
Bernard Scott



1/2A Train
Tony Gribble



So Long
Charles Warren

Results

		R1	R2	R3	FO	Total					
Vintage Precision							Vintage E Texaco				
John Knox	Buzzard Bombshell	200	200	200	199	799	Wayne Cartwright	Cruiser	866	891	1757
Les King	Gas Buggy	200	200	200		600	Don Mossop	MG-2	900	819	1719
Don Mossop	Lanzo Bomber	200	192	200		592	Vintage E Rubber Texaco				
John Danks	Buzzard Bombshell	200	184	200		584	John Butcher	Golly Wock	2349	1866	4215
Paul Tomlinson	Buzzard Bombshell	192	182	199		573	Tony Gribble	Smith Mulvihill	1026	908	1934
Tony Gribble	Miss FX	191	191	186		568	Classical 1/2 E Texaco				
Vintage E Duration							Classical 1/2 E Texaco				
Don Mossop	Playboy Snr	320	240	303		863	Tony Gribble	1/2 A Train	735	1058	1793
Classical E Duration							E – Sports Cabin Texaco (180, 2S)(Best 2 of 3)				
Wayne Cartwright	Nig Nog	300	300	300		900	John Butcher	Tomboy	967	900	1867
Vintage 1/2A Texaco							E – Tomboy (180,2S)(Best 2 of 3)				
Bernard Scott	Stardust Special	325	500	383		1208	Dave Crook	Tomboy	252	271	547
Vintage A Texaco							E – Tomboy (180,2S)(Best 2 of 3)				
Charles Warren	So Long	339	606	609		1554	John Butcher	Tomboy	1289	1436	2725
Bernard Scott	Lost Horizon	570	609			1179					

Blackfoot Flyers Meet

Blackfeet MAC RC Vintage and Classical Contest and Rally

Ngatea 19th - 20th October



It was unfortunate that Saturday had to be cancelled but from all accounts it was the right call. Sunday turned out to be a near picture-perfect day, no rain, a bit cloudy, not too hot nor too cold. You get the picture. The only downside was the persistent wind that came through unabated all day. But having said that it was a constant breeze straight down the field and I would estimate around 10 - 15 kph. Totally flyable and some boomer thermals to be had if you found them.

First off, many thanks to the team of Martin and Paul Evans who upon arrival Paul was busily mowing the field on the trusty Blackfeet ride on mower which I was told you have to turn the steering wheel half a turn before the wheels decide to move. Great stuff. The strip was in excellent condition so a big thank you for the effort. It was very much appreciated by all.

The award for most enthusiastic and who had the most fun must go to David Thornley. David was non stop all day and he certainly got a lot of air time and one or two thermals to go with it. Both his large Lanzo Bomber and Satellite 1000 certainly have a big presence in the sky. Both wonderful to watch.

The "should buy a lotto ticket" award goes to Tony Gribble who while flying his Glowworm in the Classical E Texaco event caught a monster thermal and decided he was onto a good thing until his aircraft became but a speck on the horizon, downwind at that. The planes orientation became guess work at best but, once distinguishing which way it was going, it slowly came back home with the aid of the motor. Very lucky indeed.

Both Vintage Precision and Classical 1/2 E Texaco drew the most entrants. It would have been nice to see David and John go for a fly off in the Precision event but not to worry. Tony took out the Classical 1/2 E event with his 1/2 A Train from Wayne Cartwrights Tigress. Dave Crook only doing the one flight as the horizontal stabilizer became slightly unstable. Doug Baunton again visited us from New Plymouth which is greatly appreciated and he flew his Miss Arpiem in a number of events. Unfortunately Doug had to restart his motor in the Vintage E Duration event. Getting the plane back home safely is the priority. Given the wind, the tiny models of Bernard's being the Bombshell and Tomboy did remarkably well.

As always Vintage was the winner on the day and if I can use a quote by Allan Knox in a recent email "you only need two people to fly". We're back at the Blackfeet field again in April 18 and 19 next year which I'm looking forward to. Next up it's Tuakau on November 23 and 24. Hope to see you all there.

Dave and Tony



Field stewards Paul and Martin Evans about to throw Debbie to the winds.



Tony Gribble times for Doug Baunton ...



... who nails the spot.



Dave Thorney's Lanzo Bomber



Dixielander by Dave Crook



Top Banana
Wayne Cartwright



Just resting



Simplex and Coronet by John Ryan



Miss Arpiem on approach

Another month and another round of NDC competition for those so inclined. Activity at the field has been a bit up and down, excuse the pun, with some windy weather patterns, so let's hope for some improvement. August saw spirited NDC competition and good results posted by club members. September came and went with only a Tomboy competition and the weather beat us in the end.

Thursday Vintage mornings continue to be well supported depending on conditions. Come and enjoy some flying, camaraderie and maybe some impromptu competition or practice. I caught up with Harvey and Peter last week when they were out at the field test flying their new models. Harvey had his Mercury built from a Hangar One laser-cut kit, originally IC



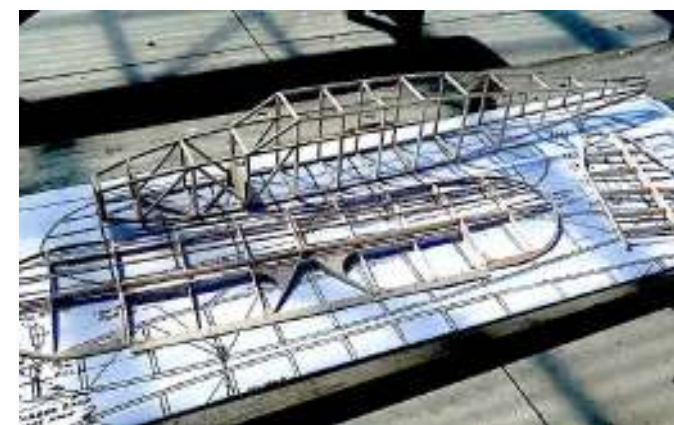
powered but he has now converted to electric and is very happy with the result. Peter had his Buzzard Bombshell which Harvey had assisted in building and test flew successfully for him. A couple of happy chappies !



On the building front, Grant, Stan and Gavin are making good progress with their Lanzo Cabin models for RC Vintage E Rubber. I'm looking forward to some spirited competition for my Voodoo. Would you believe that Gavin "I'm not going to build one of those" Shute has just about completed his? Pictured above just awaiting its final wing covering.

All tissue covered and finished to his usual high standard. He won't divulge the all up weight, (classified info) but I'll sneak my scales round there sometime when he's otherwise engaged! Looks great so has to fly well.

Stanley brought his Lanzo out to the shed



for some assistance and it is coming along well, just the wings to be completed now that the rest is all sorted. That tailplane looks big enough to be a wing anyway, so no wonder these models can stand such a rearward CofG placement.

Word has it that Tony Ives has been negotiating for a copy of the Lanzo Cabin plan and asking some pertinent building questions. Boy, we're going to have a swarm of E Rubber machines - watch this space.

If anyone has Vintage news - building, flying or whatever - please don't hesitate to give me a call as I can only pass on what I know or find out.

Happy Vintaging, building and flying,
Barrie R.

Those of us who started our modelling careers in the 60s or 70s (plus a few long in the tooth individuals who started in the 50s) in NZ will have crossed paths with the Allbon or DC Dart at some time. Many will have a soft spot for it as one of the most usable of the British small diesels of that era, in company with the Mills 75 and Allbon DC Merlin, and influenced no doubt by the huge range of designs and kits produced for which it was a very suitable powerplant.

But the Dart was more than just a widely available small British diesel, it was both a trend setter and a record holder in its day. It was the first modern commercial 0.5 diesel to be produced in the UK and its wide acceptance gave rise to something of a stampede on the part of other manufacturers to get their own 0.5cc designs into production and onto the market. The Dart had a good head start and not only was it first on the market but also clearly the best for quality and power, a position it was to hold for well over 30 years - something of a record in the model engine business - until the arrival of the PAW 55 in the mid-1980's, ironically as a result of PAW trying to fill the void left by the Dart's demise. In the meantime ED with the ED Baby, Frog with the Frog 50 and Elfin with the Elfin 50 had all tried to garner some of the market magic that seemed to accrue around the Dart, and all fell short, badly short in the case of the Elfin as most were so badly made they wouldn't run. let alone threaten the Dart's pre-eminent position in the class.

The Frog went through three variants, and barely lasted four years on the market, while the ED fell a bit short power wise but made up for it in pleasant handling and survived into the early 1960's leaving

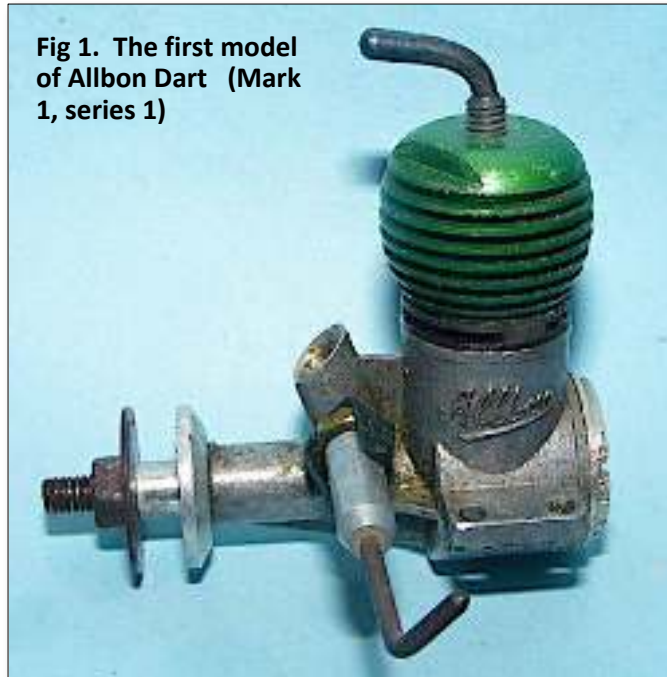


Fig 1. The first model of Allbon Dart (Mark 1, series 1)

the Dart, now in its 'DC Quickstart' model, to soldier on for another two decades, uncontested in its class except for a few obscure and generally unobtainable European 0.5cc offerings, none of which from the scanty performance figures available posed a threat to the Dart's market dominance in its class.

Now to look at the Dart's history. It was initially a product of Allbon Engineering, a small concern that had been producing engines since 1948 in Sunbury-on-Thames in Surrey starting first with the sideport Allbon 2.8 diesel, following by a very modern (for the time) 1.5cc glow, the Allbon Arrow, which proved to be less than stellar in performance (no doubt hindered by the scarcity of nitromethane fuels in the UK..). In a reversal of the usual practice, a bit of

additional R&D turned it into the Allbon Javelin, one of the most powerful 1.5cc diesels and certainly the lightest 1.5cc diesel of the era. It is to this engine the Dart owes much of its heritage. What has got lost in history is why Alan Allbon, who was to go on to have a long career in UK model engine circles, decided to produce a 0.5cc diesel for the UK and wider markets at a time where there was no great demand for such a product, nor was there any specific competition class for such an engine. The UK sport market was well taken care of by engines such as the Amco .87, Mills .75, ED Bee and Frog 100, whilst for the true vest pocket enthusiast who could put up with the nuances of tiny diesels, the Kemp Hawk .2cc and Kalper .32 sideports were the smallest UK offerings available, albeit in very low production numbers.

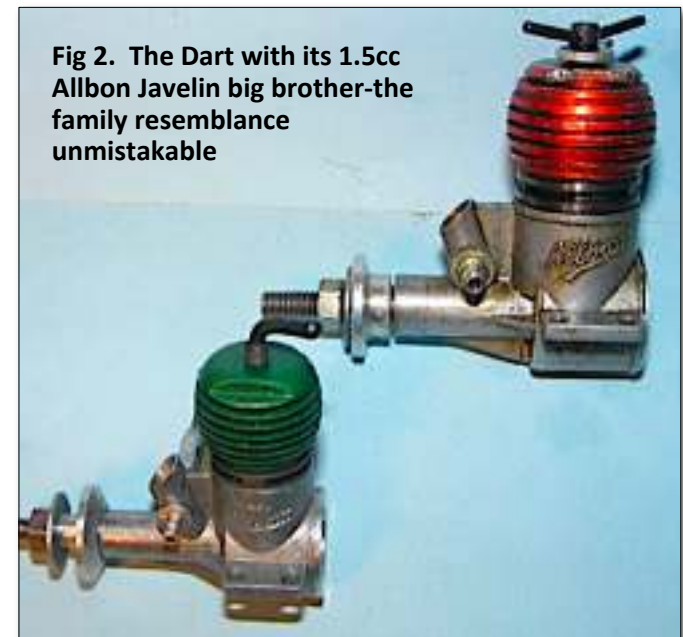


Fig 2. The Dart with its 1.5cc Allbon Javelin big brother-the family resemblance unmistakable

In any case Alan Allbon went ahead, producing something not unlike a scaled down Allbon Javelin, and the Allbon Dart hit the UK market just in time for Xmas 1950, being first advertised in the October 1950 issue of Aeromodeller. The results were spectacular, much like those that greeted the first appearance of the K&B Infant 020 glow in the US in 1948. The shops couldn't sell enough of them. Two very favorable engine tests in Aeromodeller and Model Aircraft cemented the Dart as a very serious performer for its size and, with a remarkably light weight of 1.2 oz, equaling the power of the larger and heavier Mills 75 and Amco 87. At 0.05BHP it did not give much away to the ED Bee, an engine of twice the displacement and more than twice the weight!

Fig 1 shows the first model of the Allbon Dart, and Fig 2 contrasts it with the larger Javelin. The Allbon Arrow and the first model of the Javelin used a captive gudgeon pin carried in a dural carrier and secured by a countersunk screw through the top of the piston. These would occasionally come loose in use, with odd noises resulting, but offered the advantage of a totally smooth unbroken piston skirt and less chance of piston skirt distortion in manufacture. The first model of the Dart, more or less contemporary with the Javelin, continued this approach (Fig 3) and the 0.350" bore and stroke for a total displacement of 0.55cc saw a cylinder with 360 degree porting and internal transfer flutes. Unlike the red head Javelin, the Dart sported a green anodised head as did the second model, which used a conventional gudgeon pin (Fig 4).

Fig 3. Dart Mk1 series 1 showing screw retention of captive gudgeon.



Fig 4. The Allbon Dart Mk1 series 2 changed to a conventional gudgeon pin arrangement

The success of the Dart and continued orders for the Javelin put production pressure on Allbon Engineering which was exacerbated by a demand for back purchase tax, following the loss of a court case. A large number of UK modelling manufacturers were negatively impacted by this case and it saw a hiatus in production. There was a move of production to Bedfordshire which did little to improve supply. Eventually, Alan Allbon came to an arrangement with Davies Charlton to produce the engines, and also began working with DC as a design consultant, designing many of the later DC engines. These were advertised as the MkII Javelin and Dart which were sold with red heads (Fig 5). In the case of the Dart there was now also a clear plastic integral fuel tank attached to the backplate.



Fig 5. The Mk2 versions of the Allbon Dart and Javelin-now made by DC Ltd

The major design change other than the purely cosmetic head colour change was the change to external transfer channels and inclined oval transfer ports (Fig 6), a change that lasted the remainder of the 30 year plus production of the engine.



Fig 6. The Mk2 Allbon Dart cylinder (R) changed to external transfers

The name 'Allbon' began to be used across all Davies Charlton engines and accessories, a situation that prevailed until ca 1957. While the engines bore the name 'Allbon' in stylized script cast into the crankcase, the 0.15cc Bambi which shows typical Alan Allbon styling does not bear 'Allbon' on the case but 'DC Ltd.

Alan Allbon continued with DC as chief designer until the late 50s when after a long period of increasing friction with Hefin Davies their relationship had deteriorated to the point where Alan Allbon left the firm. He subsequently formed another company and produce the excellent Allbon-Saunders AS.55 engine

in the early 1960s. Incidentally, the latter firm is still in existence, now called 'The Machining Centre Ltd'. The original name of Allbon-Saunders Ltd lasted until 1996, outlasting DC by at least two decades. Alan Allbon would no doubt enjoy the irony!

The Mk2 Dart morphed into the DC Dart in the late 1950's and eventually became the 'DC Quickstart' Dart, acquiring a spring starter and the 'cam quickstart' around 1959-60, still with a red head, and plastic tank (Fig 7). It remained this way almost until the end of production ca 1984 although the red head became more pink towards the end of production before becoming yellow during the last production run. This last model (Fig 8) was plagued by brittle crankshaft failures in use and acquiring a well-deserved bad reputation. DC were struggling by this stage and quality control had declined.



Fig 7. The DC Quickstart Dart, the version longest in production 1960-80s



Fig 8. Last production version - the 'yellow head'.

The very last examples, the Dav-Cal Darts, were largely assembled from parts inventory. Fig 9 shows a mounted display of 'DC' Darts through the years, including the black cased gold headed 'Dart Special' made for Performance Kits, and the final 'yellow' head version with the problematic crankshafts.

Still, 34 years of continuous production of effectively the same model (30+ if you take the Mk.2 model alone) is no mean achievement. There are still plenty of Darts still in use in the UK, NZ and Australia, many powering FF scale or sport models, an area where the Dart really found its niche. As well, in NZ, the dart also being an alternative power plant to the hard to obtain Cox TD.020 for Vintage Miniature Replica.

Epilogue one man's disaster is another man's opportunity.

After the demise of the Dart, PAW was approached by modellers plagued by the broken shaft problems of the last Dart model. PAW was persuaded to produce replacement crankshafts. These sold well and PAW came to the conclusion there was still steady demand for a 0.5 diesel. The PAW 55 was designed with the same bore and stroke as the Dart and identical mounting dimensions. The more advanced porting system and the use of a single ball raced crankshaft resulted in an engine producing some 40% more power (0.07BHP) at moderate revs for the same size and weight as the Dart. This, coupled with an R/C throttle and exhaust collector, extended its usability into small R/C models as well as the existing roles for 0.5 diesels. 30 years on the PAW 55 still enjoys steady sales-so may well emulate the Dart. (Fig 10)



Fig 10. The PAW 55 De Luxe (R) beside a standard DC Quickstart Dart-even with the integral tank, quickstart spring and tank- the Dart is still lighter at 44g compared to the PAW's 50-powerwise though the PAW is much more powerful-by some 40%...mounting hole and bearer spacing is identical for both.



Fig 9. DC Dart production through the decades: Mk2, 'Quickstart', Performance Kits 'PK Dart Special' and the final 'Dav-Cal' yellow head Dart-notorious for breaking crankshafts



The man behind the sunspecs, with mouth agape at such a snappy get-away, is Norman Marcus, with his famous contest pylon design, Jaded Maid. In a moment, the lightweight five-footer will have curled into a steep right-hand climb, and in ten seconds, have climbed to almost 500 feet. Plans, and Norman's own description of the design, are presented on pages 270-272 of this issue.

Norman Marcus on the cover of the
Aeromodeller May 1951

Five examples of designs
by Marcus follow

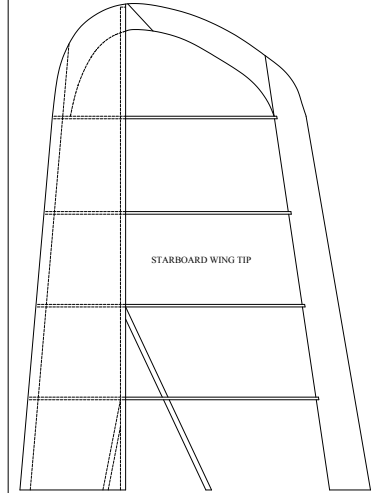
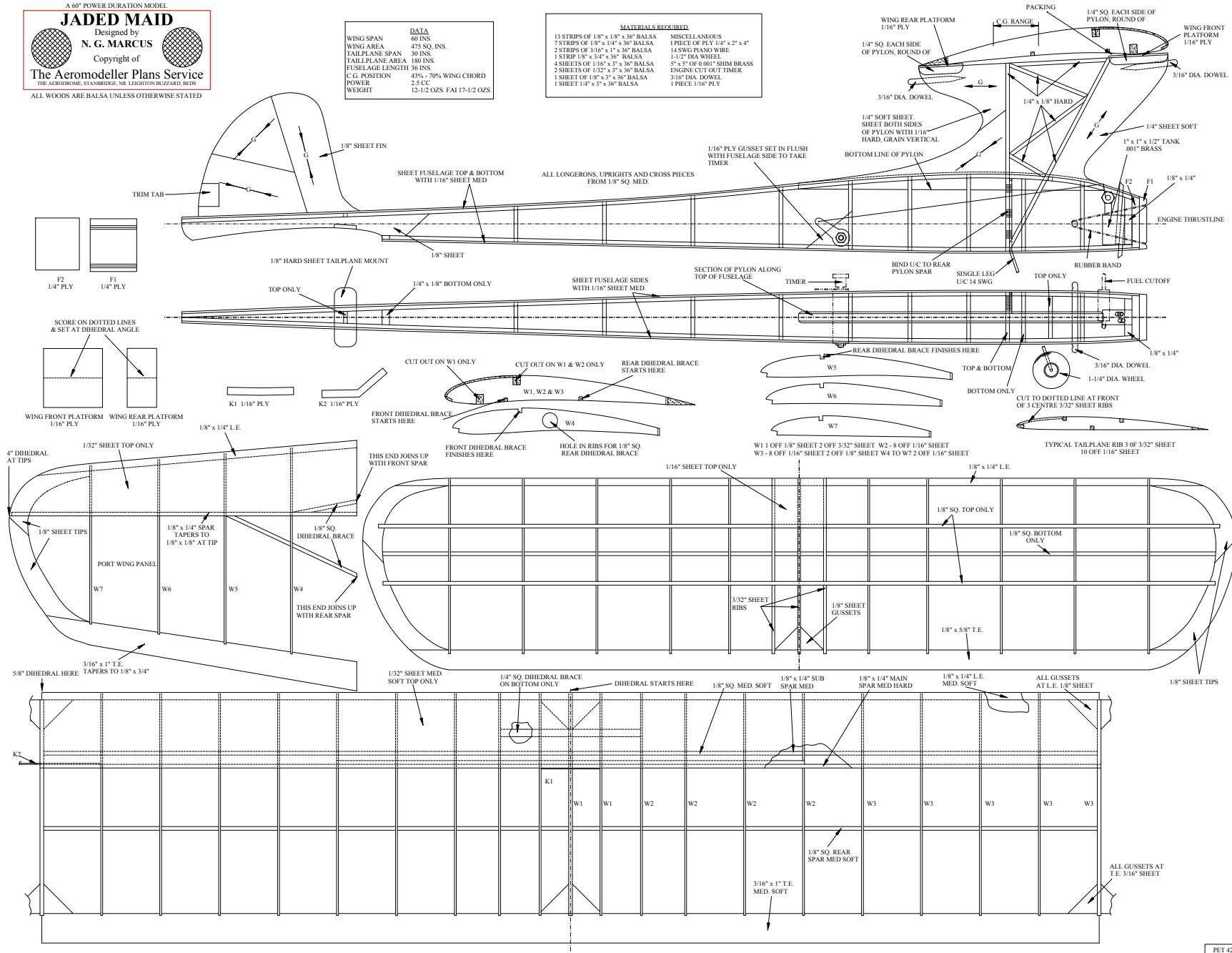
A 60" POWER DURATION MODEL

JADED MAID
Designed by
N. G. MARCUS
Copyright of
The Aeromodeller Plans Service
THE AERODROME, STANBRIDGE, NR. LEIGHTON BUZZARD, BEDS

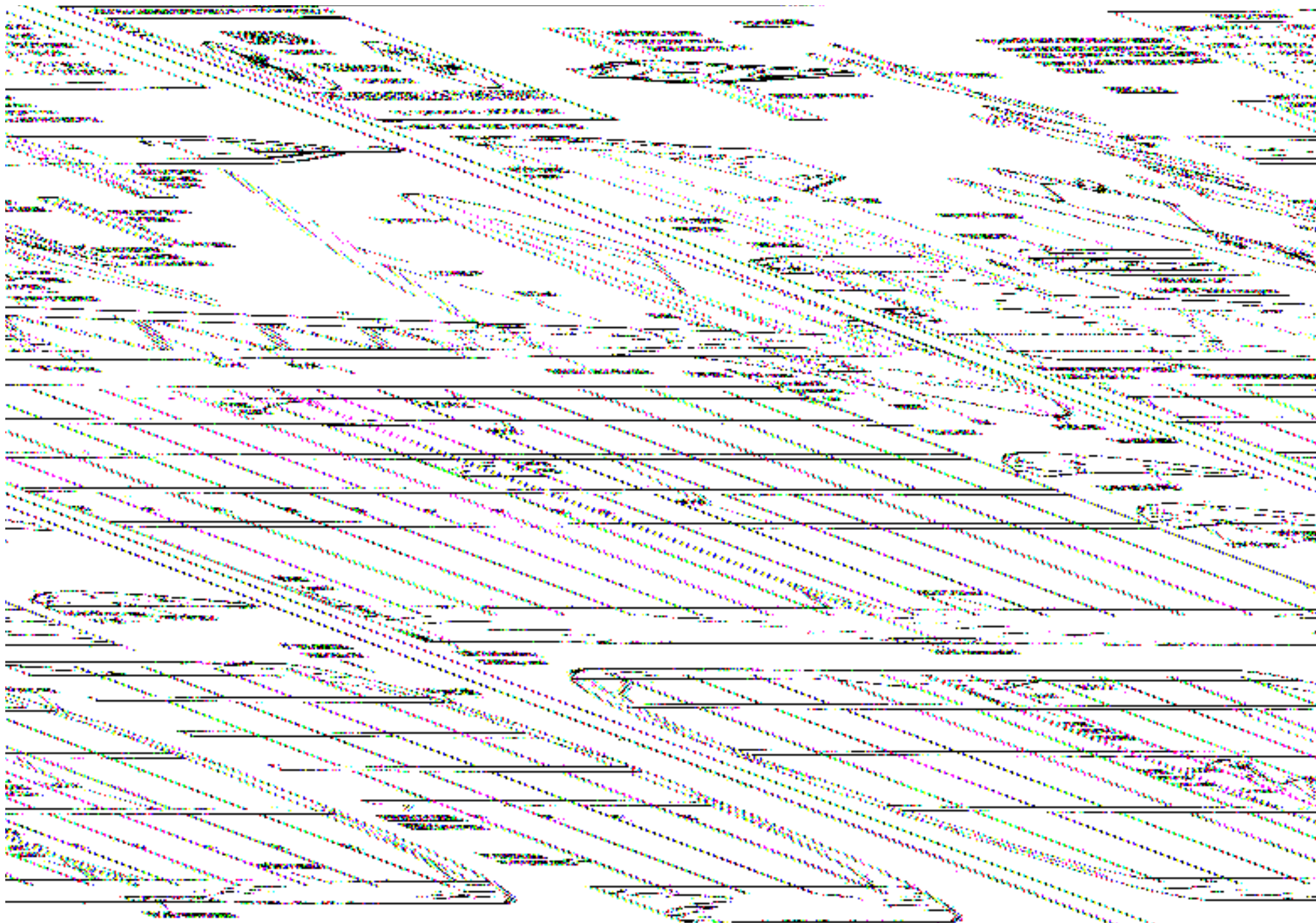
ALL WOODS ARE Balsa UNLESS OTHERWISE STATED

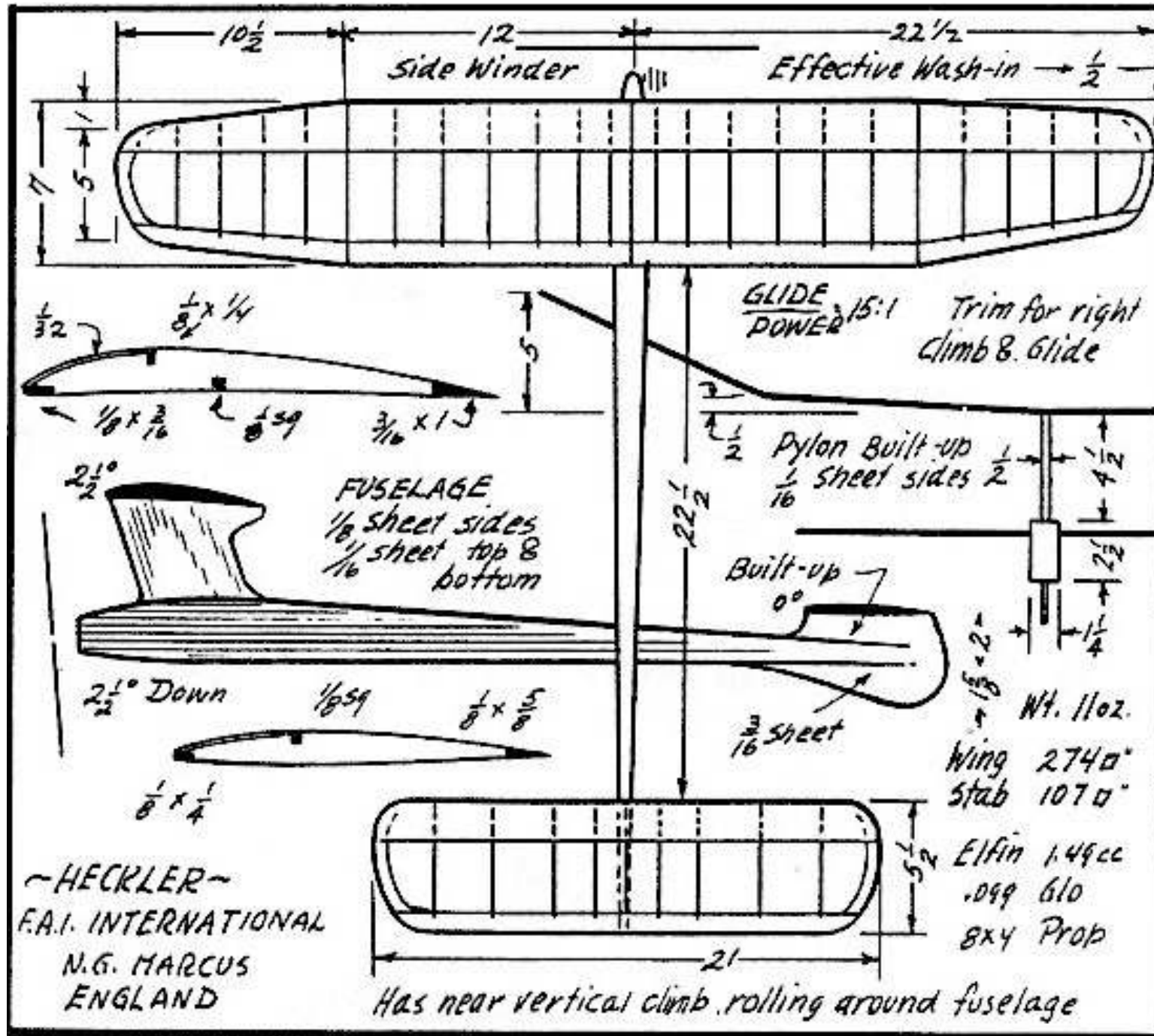
DATA	
WING SPAN	60 INS.
WING AREA	475 SQ. INS.
TAIL PLANE SPAN	30 INS.
TAIL PLANE AREA	180 INS.
FUSELAGE LENGTH	36 INS.
C.G. POSITION	43% - 70% WING CHORD
POWER	2.5 CC
WEIGHT	12-1/2 OZS. FAI 17-1/2 OZS.

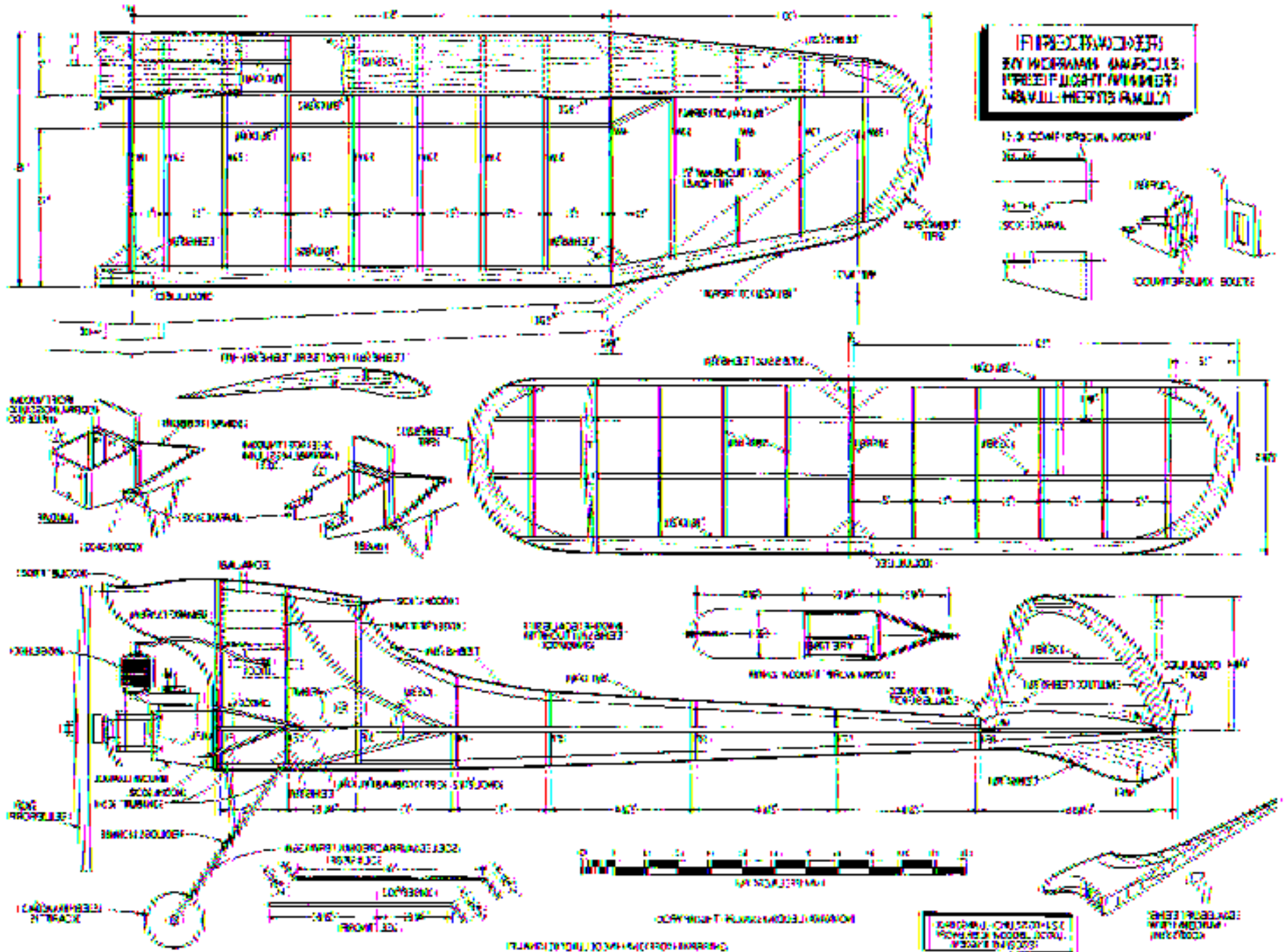
MATERIALS REQUIRED	
13 STRIPS OF 1/8" x 1/8" x 36" Balsa	MISCELLANEOUS
7 STRIPS OF 1/8" x 1/4" x 36" Balsa	1 PIECE OF PLY 1/4" x 2" x 4"
2 STRIPS OF 3/16" x 1/8" x 36" Balsa	1/4 SWG PLANO WIRE
1 STRIP 1/8" x 3/4" x 36" Balsa	1-1/2" DIA WHEEL
4 SHEETS OF 1/16" x 17" x 36" Balsa	5" x 5" OF 0.001" SHIM BRASS
2 SHEETS OF 1/32" x 3" x 36" Balsa	ENGINE CUT OUT TIMER
1 SHEET OF 1/8" x 3" x 36" Balsa	3/16" DIA. DOWEL
1 SHEET 1/4" x 3" x 36" Balsa	1 PIECE 1/16" PLY



PET 427









Can you spot Angus ?

Lately I have started using single cell LiPos in both free flight and radio control. In FF models, 260mA and 300mA cells power remote DT systems and GPS beacons. In RC events where lowest weight is a consideration, 600mA cells power low voltage receivers and servos.

Most chargers used for multi-cell batteries are suitable for charging single cells, however there are limitations. Preparing a couple of single cells for an RC model flying session takes no longer than what it always has, but preparing for a day of FF flying is not so quick. With a couple of cells per model and three or four models there could be eight cells to charge. Even with several chargers, that becomes time-consuming when charging one cell at a time.

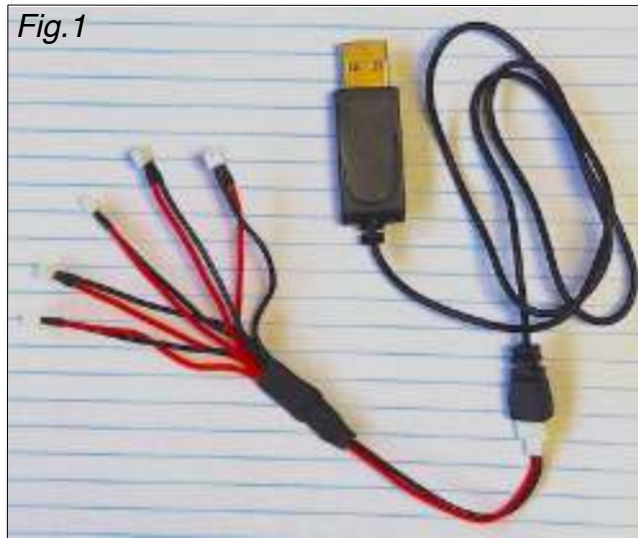


Fig.1 Small quadcopters often come with a USB-

powered charger, sometimes with multiple output leads to charge several cells in parallel as in Fig.1 Mine was included in a bulk cell purchase with five cells, charger and leads sold together. Its output is 300 mA and well suited to the cells used. This is a convenient, but one-size-fits-all charge method in which the cut-off voltage is the average of all the cells, so some cells may be under-charged while others over-charged. Not recommended.

Shortened cell lifespan from haphazard charging may be unimportant given the low cost per cell, but I like to be sure that cells have the capacity to operate an RDT and continue to power the GPS until the model is retrieved, or to power an RC receiver until the model has landed. For this, a more consistent method is preferred.

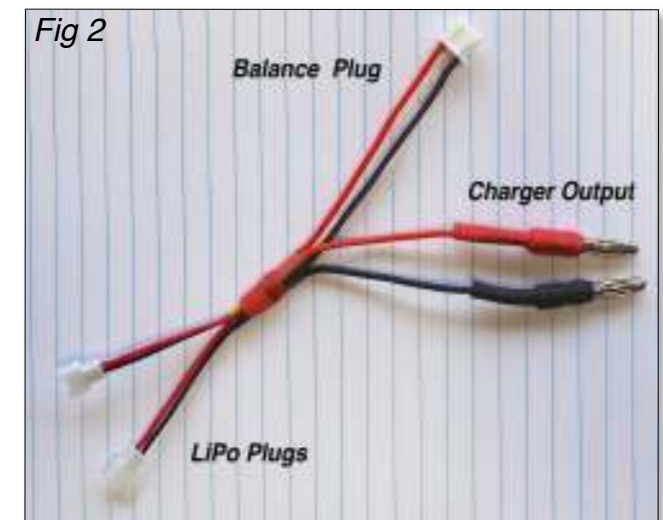
Also, there is the post-flying task of taking all cells to storage voltage, something that none of my middle-of-the-road chargers will do - they indicate a fault when discharge or store functions are attempted with a single cell. Previously, to store a cell it has been connected to a charger, or load, until storage voltage was reached - a tedious process prone to error.

Untangling solutions within the interweb turned up some daft and dangerous ideas along with some that made sense. As it often does, once found the answer seems obvious, and in this case I think it is rather elegant.

To charge, discharge and store single LiPo

cells en-mass with the precision afforded multi-cell batteries by typical 4-button chargers, a special charge harness is required, one that presents the independent cells to the charger as components of one multi-cell LiPo. I have not found a ready made source of such harnesses, but if you can solder they can be assembled quite easily.

Fig 2 shows a 2-cell harness. As all the LiPo plugs must have a cell attached to complete the circuit, it is useful to have harnesses to suit different numbers of cells. Harnesses for

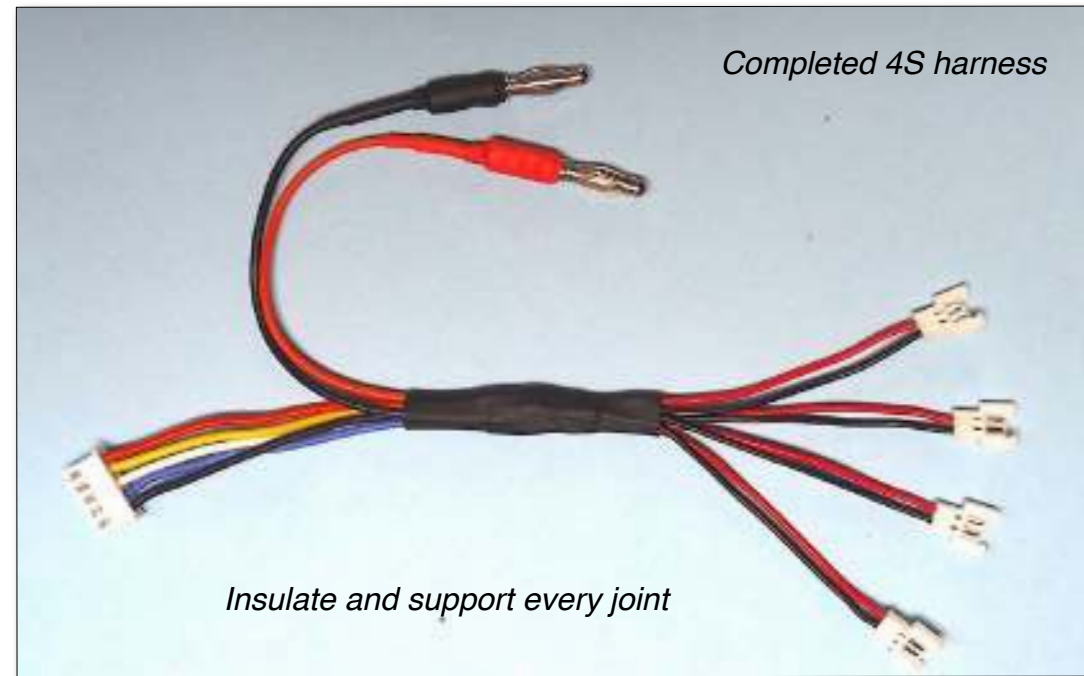
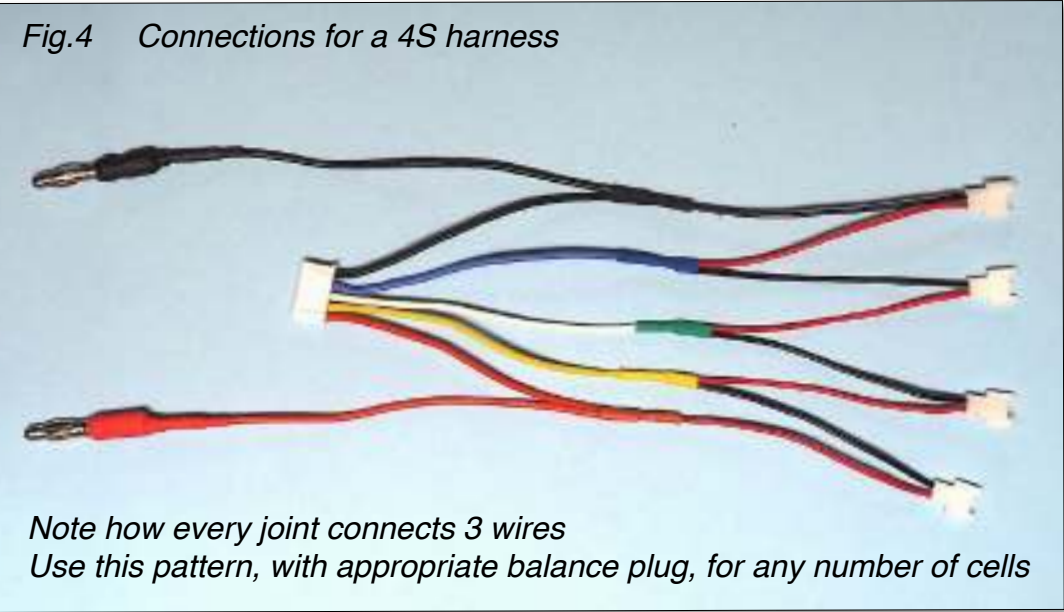


2, 3 and 4 cells provide all the combinations I need. I standardise with JST 1.25mm plugs on all cells as this is what many 1S are already fitted with. These plugs can be purchased online in bulk, as can balance leads, although my balance leads were salvaged from old batteries.

For the harness to work as it should, every connection must be correct. Failure to get connections right or to insulate each joint will create a firework display or, at the least, an entertaining puff of Very Naughty Smoke. Refer Fig.4 As a precaution, I test a new harness with my most expendable charger and cells, outside on concrete. No smoke to date.

Cells of different capacity and state of charge have been charged, discharged, balanced, and stored together on the same harness. If cell voltages are widely different the charger could first be run on balance mode, then on either charge or store as required, though I suspect the balance stage is not really needed for most chargers.

Fig 3: 2-cell and 3-cell harnesses in use



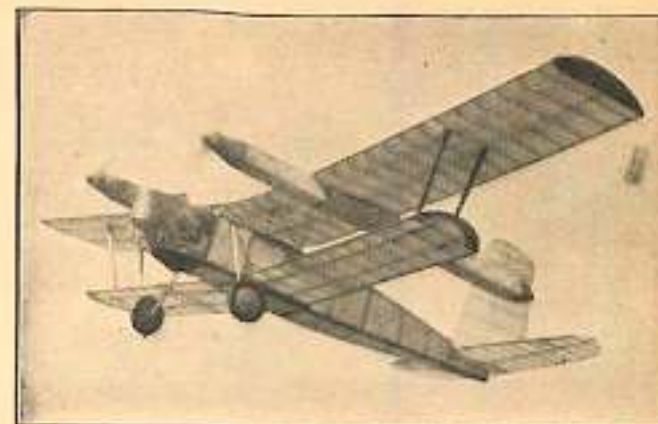
"And now for something completely different ..."



Build the Thunder Cloud Camera Model

How You Can Create a Six Foot Biplane That Will Take Photos From the Air While in Flight.

By R. C. CRUM



The "Thunder Cloud" in flight ready to take an aerial photo. The camera may be seen in the nose.

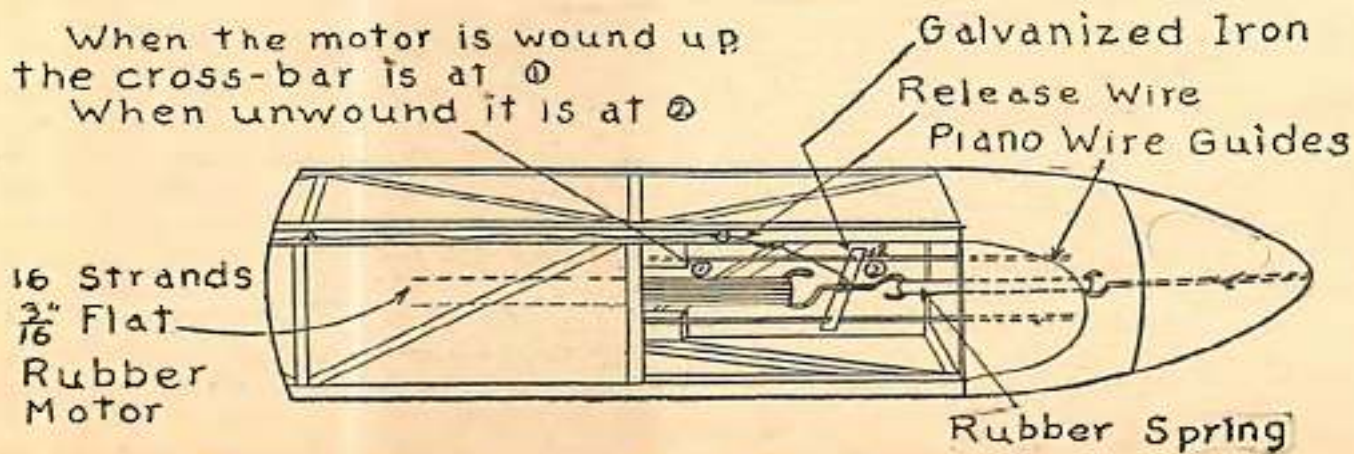
BUILDING a model capable of carrying dead weight is not a new experience to many of us, but to balance over half a pound in the fuselage of a model and have it rise to a sufficient height to carry out its objective, maneuver gracefully, and land without "washing up", has taxed the model ingenuity of many.

Here is a model which boasts of these features and makes use of its nine ounces of "pay load"—a standard No. 127 box camera, mounted in the nose of the model at a twenty degree angle. The key of the camera is connected by a fine wire to one of the rubber motors, in such a way that when the model is at its maximum height the key is pulled and we have a picture. After a few practice flights and close observations of the model, photos may be taken of almost any desired spot.

To a few the model may at first appear rather awkward, but when completed and in flight she is a beauty. By using motor nacelles, construction is made simpler and the center of gravity is made easily adjustable by sliding the motors to the front or to the rear.

Yeah, right !!

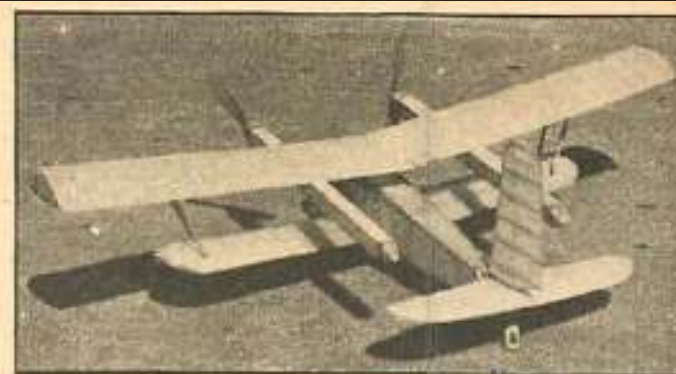
When the motor is wound up the cross-bar is at ①
When unwound it is at ②



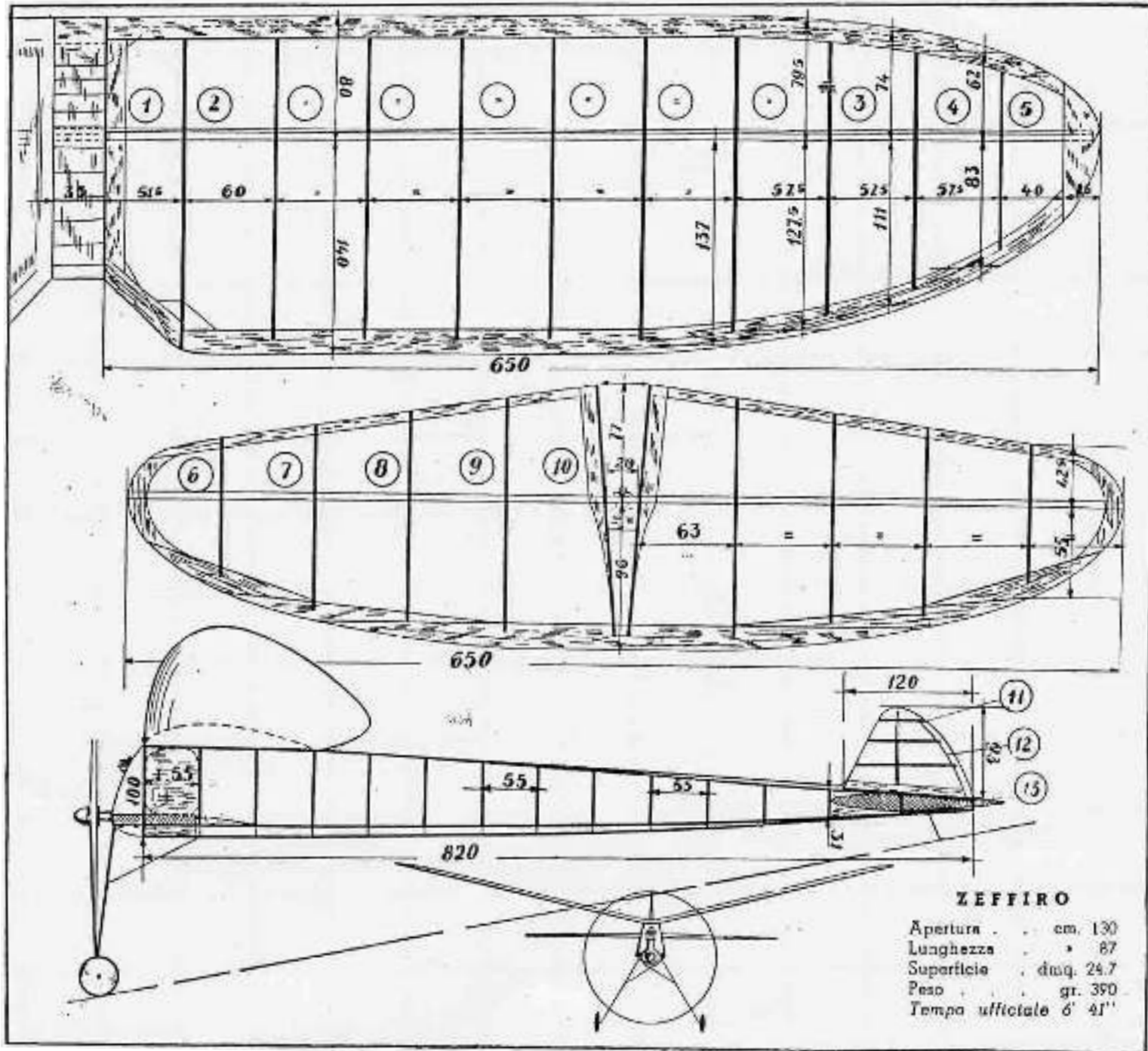
Details Of Camera Shutter Control



The finished model ready to go aloft



Balance is obtained by moving the nacelles



RC Leader Boards 2019

The purpose of the Vintage SIG Leader Boards is to increase enjoyment of competition flying by showing fliers how well they are doing relative to others.

Any scores signed off by an independent timekeeper may be submitted for the Leader Boards. The flights do not have to be at a contest but are, of course, governed by the Vintage Flying Rules. I receive from organisers the scores from SIG-run contests and NDC, but send all other scores to me at rwcartwright4@gmail.com.

The E Texaco class listings are complicated due to rule changes during the year. These are now settled, but listings of scores for all variants of the rules will be retained for the year. **The records shown for these classes are scores from the new rules finalised in 2019. Records from the new rules will carry through after the other variants are deleted in 2020.**

The scores shown in red are new postings. Please email me if you spot any errors or omissions.

Wayne Cartwright

Precision Classes

Vintage Precision

Record: A Knox (2017), J Shorer (2018), D Mossop (2019), and B Russell (2019)

	600 + 200
1. D Mossop	600 + 200
2. B Russell	600 + 200
3. J Knox	600 + 199
4. J Butcher	600 + 178
5. B Robinson	600
6. W Summerton	600
7. L King	600
8. D Thornley	600
9. J Ryan	600
10. D Barber	592

Classical Precision

Record: B Harris (2016) 598

1. D Squires	596
2. D Mossop	595
3. S Nicholas	585
4. B Russell	591
5. J Butcher	584
6. B Robinson	584
7. G Fulton	579
8. D Thornley	563
9. D Gush	556
10. T Gribble	512

Duration Classes

Vintage IC Duration

Record: S. Cox (2019) 780 + 500 + 391

1. S Cox	780 + 500 + 391
2. A Knox	780 + 493
3. D Thornley	772
4. B Treloar	742
5. K Trillo	740
6. W Summerton	713
7. B Russell	706
8. T Beaumont	680
9. J Ryan	656
10. R Anderson	635

Vintage E Duration

Record: B Harris (2018) 960 + 600

1. D Mossop	960 + 373
2. B Russell	960 + 366
3. A Knox	960 + 360
4. K Trillo	960 + 300
5. S Nicholas	960 + 21
6. B Harris	960
7. J Shorer	947
8. B Robinson	908
9. G Fulton	904
10. S Hubbard	886

Classical IC Duration

Record: D Thornley (2017) 900 + 600

1. D Thornley	838
---------------	-----

Classical E Duration

*Record: W Cartwright (2018),
B Russell (2019) 900 + 600*

1. B Russell	900 + 600
2. B Robinson	900 + 415
3. W Cartwright	900
4. S Nicholas	864
5. D Barber	831
6. D Crook	769
7. G Fulton	550
8. D Gush	506
9. B Harris	459
10. D Mossop	300

Texaco Classes

Vintage 1/2A Texaco

Record: A Knox (2018) 1500 + 1833

1. A Knox	1500 + 826
2. J Butcher	1465
3. B Scott	1440
4. J Ryan	1375
5. J Beresford	978
6. K Trillo	968
7. R Anderson	840
8. S Morse	403
9. L Rodway	330

Vintage A Texaco

Record: A Knox (2018) 1860 + 1870

1. B Treloar	1860 + 832
2. J Butcher	1860
3. K Trillo	1850
4. A Knox	1844
5. B Scott	1831
6. R Anderson	1755
7. I Munro	1666

8. A Baker	1580
9. C Warren	1554
10. W Summerton	1436

Vintage Open Texaco

Record: B Treloar (2018) 1840 + 1703

1. B Treloar	1840
2. B Scott	1830
3. T Glogau	1821
4. A Knox	1811
5. S Cox	1724
6. I Munro	1365
7. B Russell	956
8. J Butcher	928
9. W Summerton	876
10. A Baker	822

Vintage 1/2E Texaco

Three rounds plus fly off:

1. D Crook	1480 + 1179
2. A Knox	1480 + 1075
3. B Russell	1480 + 907
4. T Gribble	1480 + 653
5. B Robinson	1428
6. J Shorer	1011
7. B Spencer	970
8. D Barber	889

Two unlimited flights 180 mah battery:

1. K Trillo	1654
2. J Butcher	1616
3. W Cartwright	1159
4. D Squires	949
5. R Anderson	770
6. T Gribble	670
7. B Russell	606
8. D Gush	119

Two unlimited flights 360 mah battery:

1. K Trillo	2624
2. P Townsend	2569
3. T Gribble	2422
4. B Spencer	1705
5. D Squires	1559

Finalised new rules 2019:

1. B Scott	1499
------------	------

Classical 1/2E Texaco

*Record (new rules finalised 2019):
T Gribble (2019) 1793*

Three rounds plus fly off:

1. T Gribble	1072
2. D Crook	893

Two unlimited flights 180 mah battery:

1. W Cartwright	1079
2. J Butcher	386

Two unlimited flights 360 mah battery:

1. P Townsend	1799
---------------	------

Finalised new rules 2019:

1. T Gribble	1793
2. D Crook	1711
3. W Cartwright	1149

Vintage E Texaco

*Record (new rules finalised 2019):
D Crook 1885*

Three rounds plus fly off:

1. A Knox	1860 + 1956
2. B Russell	1860 + 1400
3. D Crook	1860 + 1074
4. K Trillo	1860 + 796
5. S Nicholas	1857
6. J Butcher	1740
7. A Knox	1732
8. B Robinson	1141
9. J Shorer	1098

Two unlimited flights:

1. D Crook	2852
2. K Trillo	2745
3. J Butcher	1808
4. D Squires	1572
5. B Russell	1364
6. A Knox	1253
7. D Baunton	1109
8. T Gribble	946

Finalised new rules 2019:

1. D Crook	1885
2. W Cartwright	1757
3. D Mossop	1719
4. D Baunton	1147

Classical E Texaco

Three rounds plus fly off:

1. T Gribble	1800 + 2669
2. K Trillo	1800 + 735
3. J Butcher	1639
4. D Crook	1156

Two unlimited flights:

1. K Trillo	1739
2. T Gribble	1715

2019 Nationals, Temporary Rules:

1. K Trillo	2160 + 1244
2. D Gush	2160 + 862
3. J Butcher	1534
4. W Cartwright	1430

Finalised new rules 2019

1. T Gribble	1826
--------------	------

Vintage E Rubber Texaco

Record (new rules finalised 2019):

B Russell (2019): 5685

Three rounds plus fly off:

1. J Butcher	1860 + 1839
2. D Crook	1860 + 1215

3. T Gribble	1860 + 907
4. A Knox	1785
5. D Gush	1240

Finalised new rules 2019:

1. B Russell	5685
2. K Trillo	5022
3. J Butcher	4215
4. P Townsend	3153
5. D Crook	2664
6. T Gribble	2321
7. W Cartwright	2223
8. D Squires	2005
9. D Gush	1999
10. D Baunton	1812

Sport Cabin Texaco IC

1. L Rodway	485
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Sport Cabin Texaco E

Record: K Trillo (2019) 4457

1. K Trillo	4457
2. J Butcher	2149
3. T Gribble	1454
4. D Squires	1235
5. B Russell	1285
6. L Rodway	862
7. D Crook	828
8. R Anderson	385

Scale Texaco

Record: A Knox (2019) 1680 + 620

1. A Knox	1680 + 620
2. B Russell	895
3. D Baunton	499

Tomboy IC

Record: R Anderson (2015) 1432

No score recorded in 2019

Tomboy E

Record: J Butcher (2019) 2725

1. J Butcher	2725
2. K Trillo	1317
3. D Squires	1154
4. B Scott	1127
5. B Spencer	945
6. B Russell	845



Trevor Glogau with his 96" Falcon after making two 15 minute flights for the Open Texaco Leader Board. Design is a copy of the Shershaw Cloud Cruiser with a larger fin. Trevor uses a Saito 4C spark ignition engine.

Notes and photograph by Allan Knox

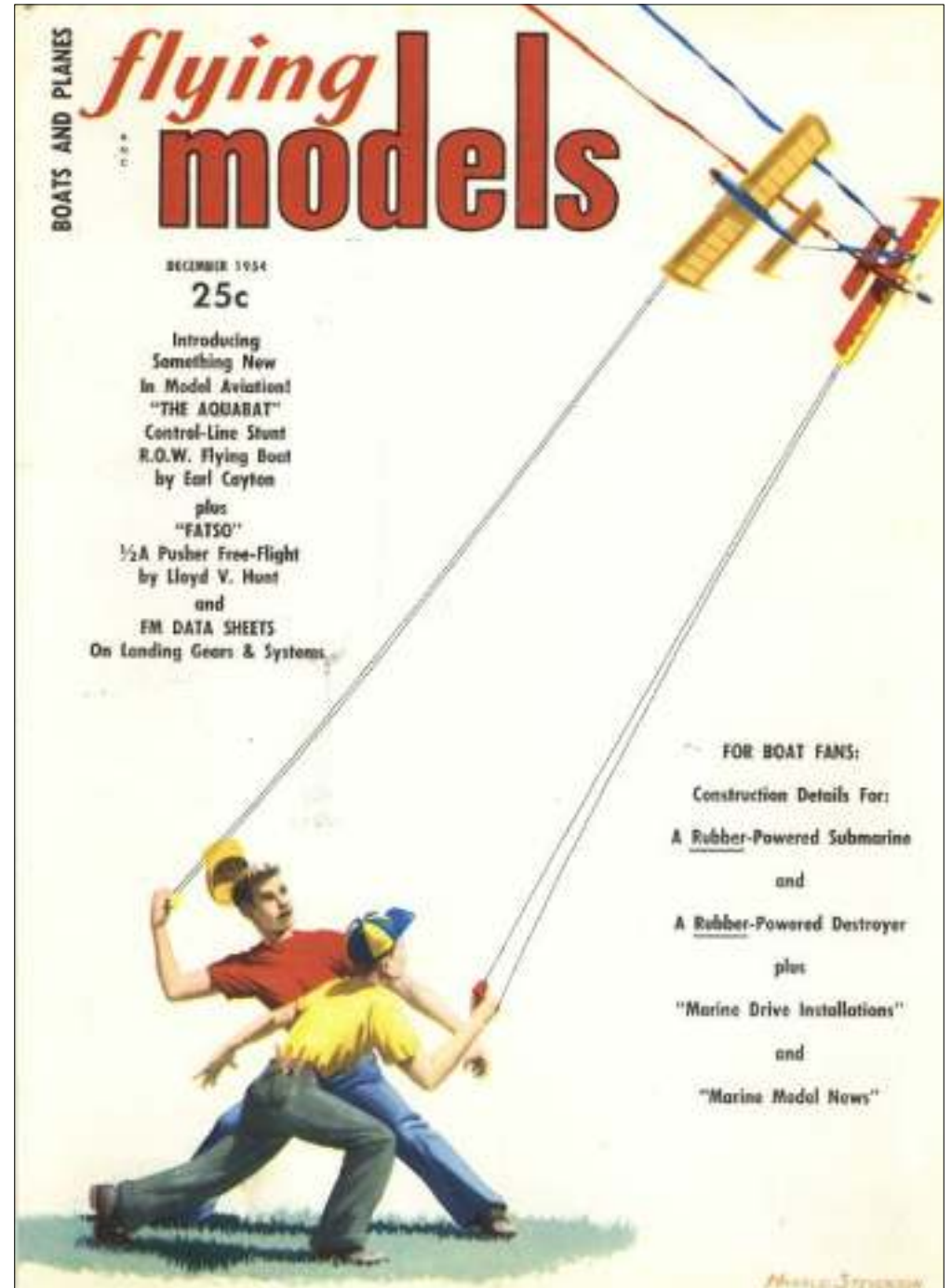
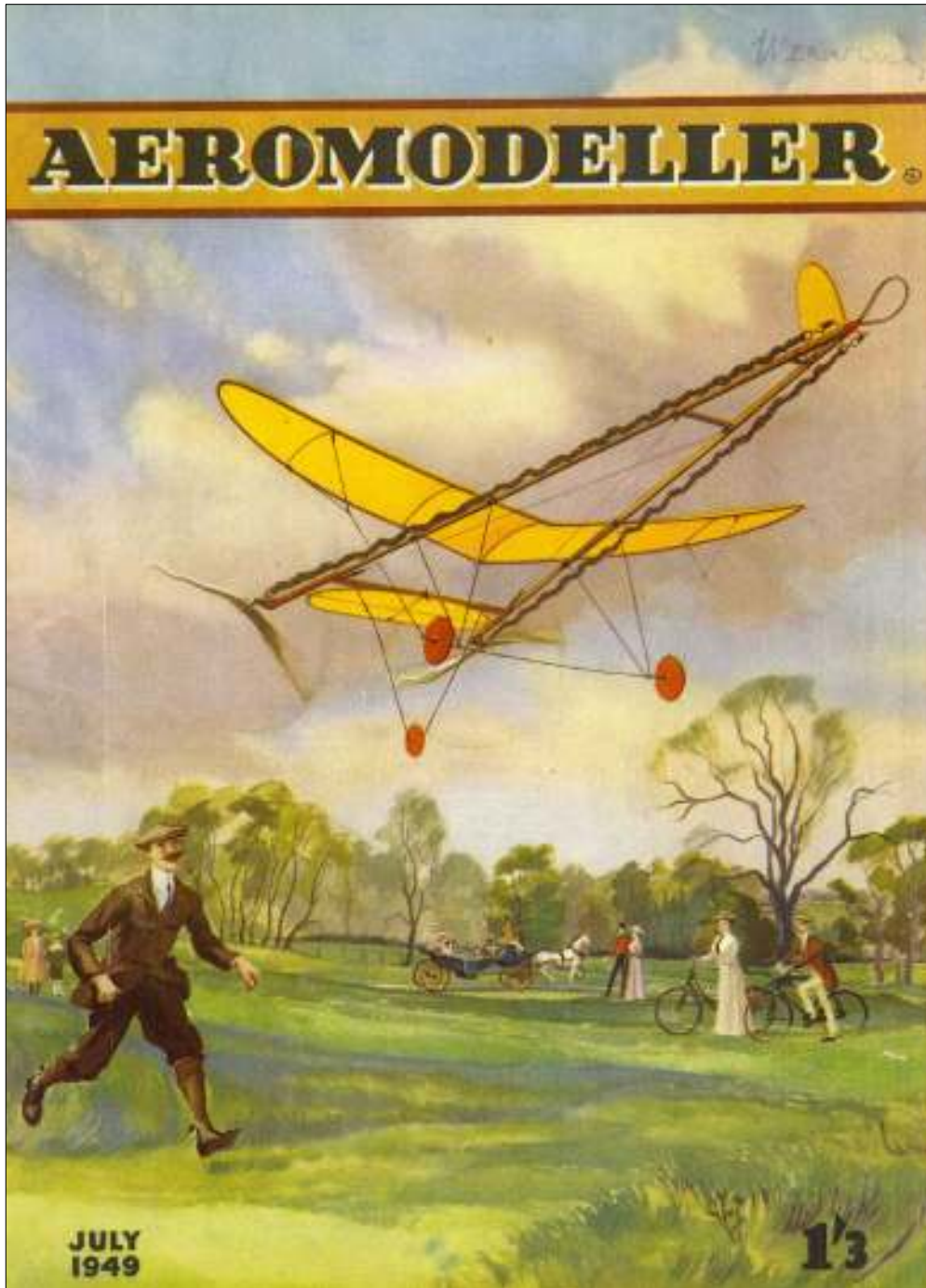
E - RUBBER (2 UNLIMITED FLIGHTS)

19/09/2019		ROUND									
		1				2					
		AGE				AGE				GRAND	
NAME	MODEL	FLIGHT	LAND	BONUS	TOTAL	FLIGHT	LAND	BONUS	TOTAL	TOTAL	
BARRIE RUSSELL	VOODOO	3648	20	1	3669	1815	20	1	1836	5505	



New E-Rubber Texaco record set at the Hawkes Bay club's field, breaking previous record by more than eleven minutes.

Well done, Barrie Russell.





A The late Peter Stott

B Peter Stott's son Wayne

C Barry Kotoul

D Arthur Kotoul's C/L SE 5A

E 1950 Ray Acord's
"Monster" HLG a Kaiapoi club
favorite

F I believe the late Peter
Wheeler of the Kaiapoi Club

Wanted

OS Max FS-20 Four Stroke in good running order.
Willing to pay premium price for good engine.
Contact Trevor Glogau tglogau@liquip.co.nz
or phone 021 422000.



NZ ICON #174

" Mmm ... chocolate and bubble-gum. It's like - like they had a beautiful child! "



Pineapple Lumps

"In the beginning some countries got luckier than others and New Zealand more so than most - that's because we got Pascall Pineapple Lumps. Delicious, chewy pineapple centres, smothered in a chocolate coating. Those other countries can keep their gold, diamonds and oil - we've got the most scrumptious National Treasure of them all !!" (TV Ad.)

