

# AVANZ



# NEWS

Newsletter of the Vintage Special Interest Group of Model Flying New Zealand #183



# COMMITTEE NOTICES



## 2022 VINTAGE NATIONALS PROGRAMME

REGISTRATION	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
<b>VINTAGE FF</b> 7am - 12am	Vintage Power Vintage Rubber	Nostalgia Power Nostalgia Rubber Small Power	Vintage Catapult Vintage Glider	Classic Comb R/P/G Vintage Precision	
<b>VINTAGE RC</b> 9am - 5pm	Vintage IC Duration Classical IC Duration Vintage Precision Classical Precision	1/2A Texaco Vintage E Duration Classical 1/2E Texaco Classical E Texaco	Vintage A Texaco Classical E Duration Sport Cabin E Texaco Vintage E Texaco	Open Texaco Vintage 1/2E Texaco Vintage E Rubber Tex	Rain-date for RC
		AGM			
	... Unlimited max events.				
	... 8, 10, and 15 minute max events.				
	... 3, 4, and 5 minute max events				
	PRIZEGIVING : Timing and format yet to be decided				

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**The position of Free Flight CD at the Nationals is still unfilled.**

*Offers to fill this mandatory role should be made to the Committee as soon as possible. Should the position be unfilled when MFNZ requests the submission of each SIG's Nationals programmes, the inclusion of Vintage Free Flight events will need to be reconsidered.*

*On the Cover: Playboys rule at the Gareth Newton Memorial  
 Logo: Edmonds Cookery Book (see miscellaneous page)*

This issue contains a lot of pictorial material. To keep the megabyte count down for posting a higher than usual compression has been applied resulting less clear reproduction in places. A higher resolution version (15MB) is available on request.

### Contributors to 183

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 Dave Richardson Ken Brady  
 Peter Townsend

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## Vintage Championship Events

May 01-31	FF	V.Power, V.Precision, Nostalgia Rubber
May 08-09	RC	Levin All RC events
June 01-30	FF	V.HLG, V.CAT, Nos Power, Classic Rubber

## Non Vintage Championship Events

May 22-23	Blackfeet
Sept 25-26	Selby Memorial, Levin

### AVANZ News 2021 Deadlines:

MAY	25th	JULY	25th
SEPT	25th	NOV	25th



## SOUTH ISLAND

### FREE FLIGHT CHAMPS

24—25 July 2021

MFNZ members are invited to the revived South Island Free Flight Champs hosted by Christchurch MAC on 24 - 25 July 2021.

Flying at the Willows on Saturday 0730 and Sunday 0730. Hall available for indoor Saturday afternoon.



Christchurch Model Aero Club  
Thompson Road,  
The Willows,  
Christchurch.

MINI COMBINED  
3X120  
(A1, 1/2 A1 Power, COUPE)

KENNEDY PRECISION  
3X120

KIWI POWER  
3X120

P30  
3X120

OPEN COMBINED  
3X180

CLG / HLG / TLG  
6X60

HANGER RAT  
& INDOOR HLG

1/2 HLG AGGREGATE

1/2 A Texaco

To register and for  
more information  
please contact:

**Bill Long**  
billlong@xtra.co.nz

## CLOUD TRAMP 2021

The 26th Charles Hampson Grant Memorial International Mass Launch Of Cloud Tramps, or MIMLOCT 2021.

This event is to celebrate the contributions 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 world wide launch on the traditional first Saturday in August, this year it is **Saturday, August 7, 2021**. The goal is to remember Charlie Grant's contributions to aeromodelling and to enjoy flying his most popular design, a design that was intended to introduce modelers to the joy of simple aeromodelling, a simple sheet balsa model that anyone can build.

GRANT MIMLOCT 2021 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 141 participants from all over the World in 2016, 131 in 2017, 196 in 2018, 128 in 2019 and 67 in 2020. Please let us know if you take part in GM 2021 so that your name can be included in the official report and you can be counted in the tally.

Details of the event, plan, and other helpful stuff can be found on the interweb. Search for: [endlesslift MIMLOCT](#)

Free flight indoor contest day  
**Indoor Scale at Morrinsville**  
**Sunday October 17, 2021**

- F4D Rubber Scale • F4F Peanut Scale  
Flown to FAI rules. Refer to link on MFNZ website under Scale FF & CL SIG
- Kit Scale  
Flown to rules on MFNZ website under Scale FF & CL SIG
- Hangar Rat • HL Glider • Modelair Hornet, will also be flown



Hi Bernard

Trust all is well with you

I've only just got back very belatedly to reading issue 182 of your excellent AVANZ Newsletter having been distracted when I started reading it back when you first sent it out.....click and it's out of sight and out of mind for a while at least..... Apologies for that, I normally read AVANZ from start to finish as soon as I receive it.

Anyway, you ask in this issue about the date of Noel William's F1A. I cannot give you a certain date but assuming it is a circle tow model which by the fuselage profile and wing structure looks to be the case, it is almost certainly not pre-1971. I flew against Noel several times flying this model or something very similar in the late 1970's. It flew very nicely and was testament to Noel's very good building and trimming skills. The wing design looks to be loosely based on the model of the 1975 World Champs F1A winner Viktor Tchop.

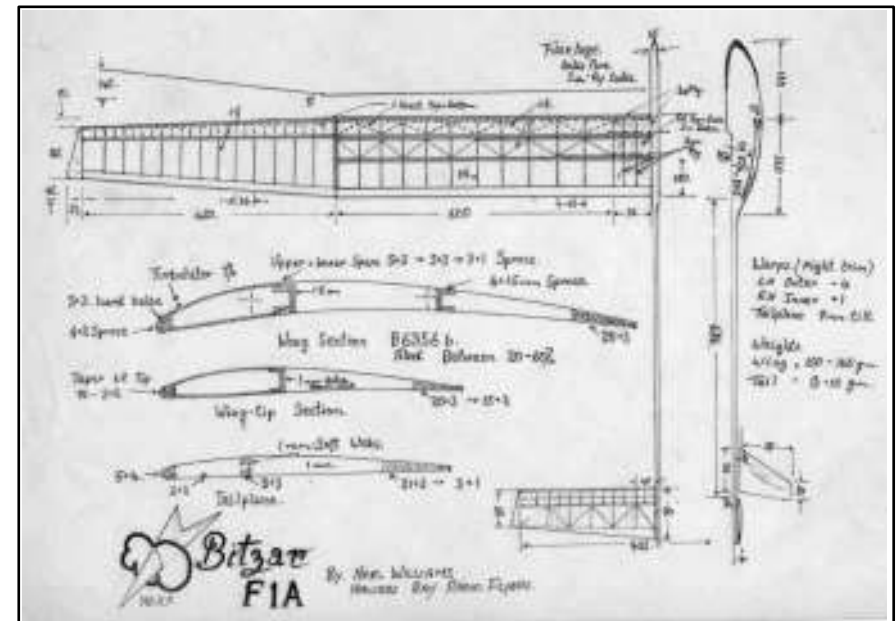
Sliding plate circle tow hooks were first being dabbled with at the 1969 World Champs flown by one or two Russian pioneers. Elton Drew won the 1969 WC with his *Lively Lady* which I'm pretty sure was straight tow. Sliding plate tow hooks were further developed mainly by the Russians in the early 70's by the likes of Viktor Isaenko, Viktor Tchop and Andres Lepp but it was a bit of a dark art in NZ at that time with people marvelling over the Russian drawings of circle tow hooks but no-one really into it. Lepps AL28 was about 1973 and was one of the early D-box models like Noel's. From memory, 1973 WC winner Ekhenkov's (USSR and another Viktor I think) and certainly 1971 winner Pavel Dvorak's models were entirely open structured wings. I think that the models of all three Kiwis sent to the 1973 World Champs and flown by proxy were all straight tow (Douglas, Treen & Lagan). This was the event that Martin Dilly proxy flew Rose Douglas's *Lively Lady* into a 40 strong fly-off. Paul Lagan's *Kiwi 2C* plan which was for circle tow and was published around 1974/75 ish. This was one of the first circle tow models I remember in NZ.

Paul then built a couple of AL29's, a top Lepp design which Dave Richardson also built – again late 70's early 80's from memory. While I think Ian Weston, his brother Richard, and Malcolm Sexton may have had their first sliding plate F1A's about 1975, I was just starting to dabble with circle tow using an offset twanger hook about then flying a *Kiwi 2C*. Noel was flying circle tow about the

time that Ian Weston and Malcolm Sexton were getting seriously into F1A, again, about the mid to late 70's.

I hope this helps but sorry I can't date the model with absolute certainty. I think it fair to say though that it is extremely unlikely to be pre-1971 and eligible for Classic Free Flight. A lovely model though that you could fly quite happily in Open Glider.

Kind regards  
Stew



*Thanks to Stew for sharing this slice of NZ aeromodelling history. We all have recollections of our early aeromodelling days, memories that deserve to be shared before they end in the grave, untold. Starting with the next issue, there will be a section titled "Time Was", a place where aeromodelling experiences may be recounted and celebrated. Dredge your memory banks while you still can and share some of your aeromodelling recollections - before they are lost forever.*  
Editor.

Paolo Rossi, an AVANZ reader in Italy, sent an Easter greetings card, and attached was a photograph of the beautiful glider below. I contacted Paolo for details and received this reply:

Hi Bernard, his name is ALBATROSS. Plans from Aeropiccola Torino, 1949. Plans and documentations you can download from our page here :

<http://www.gruppofalchi.com/albatross.html>

If interested, the CNC short-kit is available from our club member Roberto Viti whose e-mail is : [roberto.viti.6877@gmail.com](mailto:roberto.viti.6877@gmail.com)



Hi Bernard,  
You may be interested in this for next magazine.

At the last Nationals at Carterton I flew a model called *Flying Pencil* in Vintage 1/2A Texaco. This model was originally electric powered and was converted to Cox power for the Nationals. The model had not been flown in this configuration prior to the Nationals. I did not think it would need any trimming since the electric motor and Cox .049 were of similar weight.

At the Nationals I made a couple of test glides which were ok, then fuelled up, tuned the engine, and launched. The model was now very tail heavy and almost uncontrollable. I added more nose weight and flew again but it was tail heavy, so even more nose weight was added. It was now flying well so I kept going but towards the end of the flight the model again seemed to need even more tailweight. This was added and my official flights were made, adding further weight for flight three.

The reason I had to add ever more nose weight for each flight at the Nationals was later revealed. I was using lead shot, loaded into the fuselage directly behind the engine between two formers close together. Remember I said this was originally an electric model? When it was converted to the Cox I had not filled a hole where an electric cable went through the second fuselage former.

Every time I went nose-up in flight the lead shot escaped from the compartment where it should

have been contained and rolled down the fuselage. After the nationals, I sorted the model out. It had never been really fuel-proofed so the fuselage covering was removed and fuel-soaked wood was replaced, fire wall included.



*Alan King, designer of the 1950 Flying Pencil. King and the FP were featured in Issue 151.*

The fuselage was recovered, engine issues were sorted, and the model was made ready for flight on the next fine day. On the *Flying Pencil* flight day there was a hand glide test which was good. First flight was just over 8 minutes. For the second flight the engine was leaned out slightly, making a flight time of 8min 23sec from a better engine run. Refuelled again and the third flight had an excellent engine of over 6minutes. Trim and engine were now "perfect" and I had just to let the model circle, gaining height until it was almost a speck in the sky.

Time to bring the model down a little lower, so I can see it a bit more clearly !!!!! No response to the sticks and it disappeared from sight after about 9 minutes, heading towards Port Waikato. I did not even try to find the model, just packed up and went home.

Thinking about the loss later that evening, I remembered that after the first flight one aerial appeared to be missing from the receiver. As my 2.4 receivers have dual antennae, and there had been no problems controlling the model with just one antenna, it seemed safe to continue with further flights.

Three weeks later there was a phone call from a resident of Patamahoe. He had found my model - could I collect it? The straight line distance from Tuakau to where the model was found is 20 KM, but as it was heading towards Waikato Heads when last seen, it had flown a far greater distance.

A couple of lessons learned from this: 1. replace any suspect receiver 2. keep putting name and phone number on models as without this the *Flying Pencil* may never have been returned.

As to the model's condition after being outside for three weeks - a few minor holes in the wing and the Cox was a bit stiff (*you should be so lucky, Peter !! - Ed*). I have changed the receiver, sorted some minor issues and the model is ready to fly again.

*Peter*



This was our first shot at the decentralised NZ Champs format. The weather promised some light conditions, particularly on Sunday but the weathermen didn't quite get it right so we had strong NE from mid morning on both days but a bit less on Sunday and it was warm and sunny.

Most of us flew *Tomboys* in IC or E Sport Cabin but it was never easy as the dear old TB just doesn't like any sort of breeze. Still, John Beresford, Lynn Rodway and I got a full set of IC times. I was lucky with my Mills as it ran for over 4 minutes. The big slow revving 9x6 wood prop really helps run time.

It was great to see Barry Lenox join the largely CMAC crowd for Sunday although he found the wind tough, broke the wing in flight and crashed the old Paul Lagan *Simplex* with a spectacular shower of debris. We needed an old shopping bag to pick up the bits! Still, the wing could be used again and I could see Barry scheming a rebuild.

It was good to see Sean McCurrie out again. His beautifully built *Long Cabin* and *Tomboys* always look and fly well. The lack of running had gummed up the PAW 2.5 (for A and Open Texaco) and once sorted the wind got too tough to record times. A pity. Lynn and John made a start on some other classes but the small models were soon beaten by the wind.

For my part, I flew a bunch of classes using the bigger heavier models more suited as the wind got up. I think having to fly in these conditions is more familiar to me from Nationals that always seem to blow in the afternoon and it's a case of making do. Not so much fun though.

We get to have another Champs meeting next month. I think we will have to be much fussier about wind and postpone if it's not more suitable.



John Beresford made a start on 1/2A Texaco but the wind won.





Hopefully we will see some more of the vintage machines from the CHCH area like Mark Venter's marvellous *Comet Clipper* and the ex-John Ensoll *New Ruler* (my favourite still) now flown by Stu Grant who has April 17/18 for Round 2 marked on his calendar already.

How about you all planning on being there too?

Finally, a thank you to all those who came out and supported this inaugural event. It is appreciated. Thanks also to CMAC for the use of the "Power Patch".

*Allan Knox CD*

### RESULTS

#### IC Sport Cabin (all flew *Tomboys*)

Allan Knox	464, 507	<b>TOTAL = 971</b>
John Beresford	306, 237	<b>TOTAL = 543</b>
Lynn Rodway	180, 149	<b>TOTAL = 329</b>

#### Electric Sport Cabin

Lynn Rodway	330	<b>TOTAL = 330</b>
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#### Vintage 1/2A Texaco

John Beresford <i>Simplex 1940</i>	309	<b>TOTAL = 308</b>
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#### Vintage IC Duration (Also NDC Event 216)

Allan Knox	253, 260, 260	<b>TOTAL = 773</b>
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#### Vintage E Duration (Also NDC Event 217)

Allan Knox <i>Scram 1938</i>	278, 312, 320	<b>TOTAL = 910</b>
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#### Classical E Duration (Also NDC Event 218)

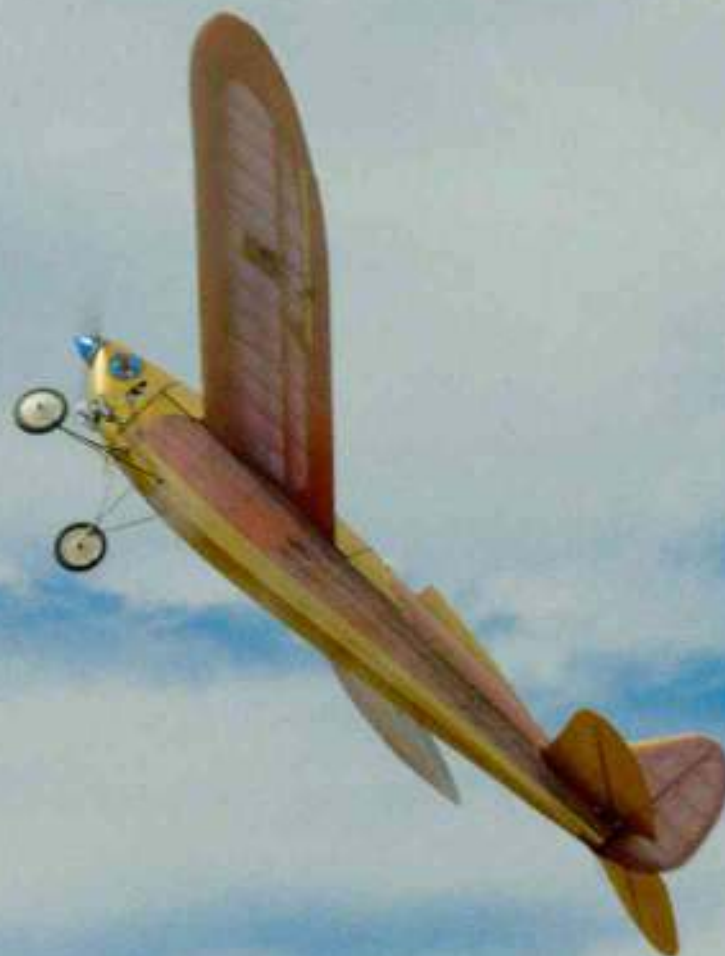
Allan Knox <i>Pulteri 1962</i>	253, 300, 300	<b>TOTAL = 852</b>
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#### Vintage 1/2E Texaco

Allan Knox <i>Lancer 1938, 180 mah 2s.</i>	428, 456	<b>Total = 884</b>
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*Ex -John Selby FF Puleri from the '60s  
Photo: Ross Gray*



Allan's *Cumulus* looking very much like a 1950's Aeromodeller cover



We have completed the Champs in CHCH for the year. Well done to all of you who came along; to fly, to help time or just watch. It's very heartening to see your interest in this area of our hobby. Thank you CMAC committee for exclusive access to the strip and having it beautifully mown, I've never flown vintage off such a good surface.

*Below: Sean rolling into a spot landing on the pristine surface*



Saturday dawned cold, wet and Southerly but the forecast was for clearing skies and dying winds. I headed out early in the drizzle but was greeted by a patchy blue sky and no wind at CMAC. I was alone for a bit but soon fliers started turning up. The dying southerly promised plenty of lift in the unstable conditions and so it was by mid afternoon. About 2:30 Sean and Lynn were having real trouble seeing their little models way up under a cloud. Sean did aeros for quite a while with his IC

Tomboy as a way of killing height and Lynn resorted to a long dive with his 1/2E Miss Fortune X. Both could have milked it for more flight time but flights were still over 15 minutes off just 3 minute engine runs. Sean made the most of his day and it was great to see his Long cabin again. It went well in Tex A as usual but the PAW 2.5 went off a bit in Open so he parked it and flew IC Sport Cabin. He managed a huge score too with his light weight Mills powered Sports Cabin Tomboy.

Sunday was a much nicer day, not a cloud in the sky. Light winds early on had the Free Flighters in our gathering getting there NDC times in before moving on to R/C. The times will count for the Vintage Free Flight Championships too of course. We don't have a wide coverage of the newer classes down here yet except for myself but Stu Grant turned up with a lot of fine Vintage models that could have flown all the older IC classes. Issues with various things like gummed up engines meant he didn't do as much as he would have liked but he had a great day anyway. I really had to go for it to fly all 9 of my models, some in more than one event. This is where I want to say thank you to my club mates who were happy to just time. Roy Gunner and Bruce Bonner in particular were a great help but others too never hesitated to pick up a watch. Without that I would have really struggled. There was no sign of the previous day's vertical development so flight times were not great in the stable conditions.

It wasn't all about competition, It was nice to see Roy Gunner just flying for fun with his beautifully built RC Queen Bee (1950). It's even complete with the big window that originally allowed inspection of the rubber powered escapement. Remember these? Great fun was had by all, hopefully we can get some more RC Vintage models out there flying soon, there are a lot tucked away in sheds around the district. In the meantime keep reading AVANZ and scanning Outer Zone for inspiration.

Report by Allan Knox, CD



**Right:**  
Lynn Rodway  
Stew Morse  
FF Power



**Far Right:**  
Stu Grant  
*Skipper*



**Right:**  
Bruce Bonner  
E-Rubber Texaco  
*Senior Dart*  
1937



**Far Right:**  
Roy Gunner  
*RC Radio Queen*





**Right:**  
Stew Morse  
*Skipper*



**Far Right:**  
Sean McCurrie  
*Tomboy*  
Lynn Rodway  
*Miss Fortune X*



**Right:**  
Stu Grant's  
Vintage A-Texaco  
*Super Simplex*  
PAW 2.5



**Far Right:**  
Allan Knox's  
Vintage E-Texaco  
*5-Foot Gas Model*





# NZ Vintage Champs at Christchurch

## Round 2 Results

RC Vintage Championships Southern Round 2 17/18 April 2021																						
Competitor	Total	Model and Year	Fit 1					Fit 2					Fit 3					Flyoff				
			Flight time	Land	year	Points	Flight time	Land	year	Points	Flight time	Land	year	Points	Flight time	Land	year	Points				
			mins	secs	Bonus	mins	secs	Bonus	mins	secs	Bonus	mins	secs	Bonus	mins	secs	Bonus					
<b>RC Classical Precision</b>																						
Allan Knox	592	Pulteri 1961	2	54	20	0	194	3	0	20	0	200	2	58	20	0	198	N/A				
<b>RC Vintage E Texaco (NDC)</b>																						
Allan Knox	1600	5 Foot Gas 1937	11	32	20	13	725	14	2	20	13	875						N/A				
<b>RC Vintage Precision</b>																						
Allan Knox	583	Scram 1938	2	57	20	12	200	2	56	20	12	200	3	9	0	12	183	N/A				
<b>RC Vintage A Texaco (NDC)</b>																						
Allan Knox	1852	Lancer 45 1938	10	31	0	12	612	11	29	20	12	620	10	51	20	12	620	N/A				
Sean McCurrie	1643	Long Cabin 1935	6	8	20	15	403	10	42	20	15	620	15	17	20	15	620	N/A				
Stu Grant	1395	Simplex 1941	9	2	0	9	551	3	46	0	9	235	13	0	0	9	609	N/A				
<b>RC Classical and Vintage Scale Texaco (1/2A)</b>																						
Allan Knox	1660	Mogow Cub J3 1939	7	23	20	120	560	7	37	20	120	560	7	47	0	120	540	N/A				
<b>RC Vintage 1/2A Texaco</b>																						
Allan Knox	2122	Skipper 1949	8	6	20	1	500	9	28	20	1	500	9	24	20	1	500	10	1	20	1	622
Stu Grant	1025	Skipper 1950	4	24	0	1	265	6	37	0	1	398	5	41	20	1	362	N/A				
<b>RC Sport Cabin Texaco IC</b>																						
Lynn Rodway	389	Tomboy	3	29	0	0	209	3	0	0	0	180	0					N/A				
Sean McCurrie	1646	Tomboy	9	54	0	0	594	17	32	0	0	1052										
<b>RC Sport Cabin Texaco E</b>																						
Lynn Rodway	603	Tomboy	4	50	0	0	290	5	13	0	0	313	0					N/A				
<b>RC Vintage 1/2E Texaco (NDC)</b>																						
Lynn Rodway	1372	Miss Fortune X 1936	15	3	0	14	917	7	1	20	14	455	0					N/A				
<b>RC Vintage E Rubber Texaco</b>																						
Allan Knox	1814	Comet Dart Senior 1937	10	10	20	13	643	10	38	20	13	671	0					N/A				
<b>RC Vintage Open Texaco</b>																						
Allan Knox	1756	Hangar 13 1936	13	22	20	14	836	16	3	20	14	920	0					N/A				
Sean McCurrie	187	Long Cabin 1935	2	32	20	15	187	DNF				0						N/A				



# Gareth Newton Memorial / NZ Vintage Champs at Levin



**CAT Graham Lovejoy**



**Miss America Wayne Elley**

*All photographs in this report are by Stew Cox*



# Gareth Newton Memorial / NZ Vintage Champs at Levin



**Airborn** Bryan Treloar



**Corsair** Trevor Glogau



**Bombshell** Barry Hall



**Miss America** Wayne Elley





## Vintage Precision

Bryan Treloar	Ashhurst	Red Zephyr	1936	600 + 198 = 798
Barry Hall	Wellington	Buzzard Bombshell	1940	590
Wayne Elley	Kapiti	Miss America	1936	589
Terry Beaumont	Kapiti	Playboy Senior	1940	588
John Miller	Kapiti	Buzzard Bombshell	1940	583
Owen Stuart	Kapiti	Playboy Senior	1940	576
Stew Cox	Wellington	New Ruler	1940	561
John Ellison	Kapiti	Tomboy (2x)	1950	459

## Vintage IC Duration

Terry Beaumont	Kapiti	Lanzo Bomber	1938	764
Stew Cox	Wellington	New Ruler	1940	703
John Miller	Kapiti	Buzzard Bombshell	1940	655
Owen Stuart	Kapiti	Playboy Senior	1940	386
Wayne Elley	Kapiti	Miss America	1936	361

## Classical E Duration

John Miller	Kapiti	Mamselle	1955	712
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## Vintage 1/2A Texaco

Stew Cox	Wellington	Playboy Senior	1940	1250
Bryan Treloar	Ashhurst	Rambler	1939	1045

## Vintage A Texaco

Bryan Treloar	Ashhurst	Lanzo Airborne	1938	1860 + 669
Trevor Glogau	Wellington	Corsaire	1945	1218
Stew Cox	Wellington	Brooklyn Dodger	1942	1028



### CD's REPORT

Not a lot to write about this time unfortunately. Saturday started off a bit on the chilly side and even though the sun was shining the weather forecasters had predicted the strength of the wind incorrectly. As a result, no one was in a hurry to get moving, let alone fly.

So for most of the morning there was a lot of talking to be had and as you can see from the results below only a few hearty souls took to the skies. A few others flew but no scores were recorded. By early afternoon the wind hadn't abated and no one was really keen risking an aeroplane for what would have been a miserable flight anyway.

A check of Sundays forecast indicated similar conditions so the call was made at that point to cancel the Sunday.

Thank you to Martin and Paul Evans for hosting the event and to everyone who made the effort to attend. Unfortunately it just wasn't to be.

Dave



### RESULTS

Vintage Precision		R1	R2	R3	Total
Don Mossop	<i>Lanzo Bomber</i>	200	200	189	<b>589</b>

Classical 1/2 E Texaco					
Tony Gribble	<i>1/2A Train</i>	706	483		<b>1189</b>
Dave Crook	<i>Hot Dog</i>	689	459		<b>1148</b>
Wayne Cartwright	<i>?</i>	647			<b>647</b>

### Sports Cabin E Texaco

Bernard Scott					
<i>Tomboy</i>					
421	326				<b>747</b>

### Sports Cabin I.C.

Bernard Scott					
<i>Tomboy</i>					
207	117				<b>324</b>

[L] Wayne and Bernard. Sat, talked, and had eaten lunch at 10am

[R] Rex and Martin, much more energetic, stood while talking. Martin's *Tom Thumb* flew despite the breeze





### VINTAGE PRECISION

1	Don Mossop	600
2	Dave Crook	591
3	Stan Nicholas	587
4.	Brett Robinson	583
5.	Harvey Stiver	565
6.	Barrie Russell	520

### CLASSIC E TEXACO

1.	Don Mossop	697
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### CLASSIC ½ E TEXACO

1.	Bernard Scott	804
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### VINTAGE E DURATION

1	Stan Nicholas	869
2	Barrie Russell	863
3	Don Mossop	806

### VINTAGE ½ E TEXACO

1	Barrie Russell	1378
2	Bernard Scott	1202

### CLASSIC PRECISION

1	Mike Shears	590
2	Barrie Russell	575
3	Brett Robinson	571
4	Grant Fulton	548
5	Stan Nicholas	538

### CLASSIC E DURATION

1	Barrie Russell	1199
2	Brett Robinson	891
3	Wayne Cartwright	825
4.	Mike Shears	741
5.	Don Mossop	713
6.	Dave Crook	694
7.	Bernard Scott	590





# Vintage RC Champs at Awatoto, Hawkes Bay 10 - 11 April

The forecast was not encouraging after weeks of calm sunny conditions, enough to discourage a few contenders. Saturday 10th dawned windy, 20 to 25+ KPH northerlies, but Sunday promised some improvement, 12 to 15 KPH nor'east, and the "Lads" came out to play.

Saturday was a flying write-off with only Stan and myself braving the sky with our Stardusts in Vintage Precision. Stan prevailed, but my effort was far from precise in the conditions. However, all stayed at the field and enjoyed the camaraderie and food. I'm very grateful for the support we received with Dave, Wayne, Don, Bernard and Grant coming down from the North;

Bryan, Ross and Terry from the South; and locals, self, Stan, Brett, Mike and Harvey, all hanging in there and making for a great weekend.

Challenging one must say, but we all prevailed and flew some good competitions. A Saturday evening meal at the Napier RSA was in order for a few. Awatoto field was its usual picture and we were well supported by local members on Sunday with help and timing. "Dad and Dave" did a great job on the barbecue both days, their hamburgers were a real meal in a bun! The billeting worked well and we enjoyed the out of towners' company. Allison and I thoroughly

enjoyed Wayne and Don's company and have encouraged them both to come and stay again and talk Rugby and things and maybe even fly Vintage!

Regardless of the slightly trying conditions, I think everyone went home with smiles on their faces, and we certainly enjoyed hosting the meeting. Thank you for making the effort guys and justifying our field closure, and a big Thank You to MFHB for allowing us to host the meeting at Awatoto Field.

*Cheers, BJ.*



Part of the Awatoto site, before the masses arrived



Terry launching Southerner for Harvey



# Vintage RC Champs at Awatoto, Hawkes Bay 10 - 11 April





### CD's Report

Unfortunately we can't seem to catch ourselves a break these days. With the calendar being mapped out months in advance all we can do is hope for the fine weather we need to enjoy Vintage RC flying on those weekends scheduled.

And once again this weekend came up short. While we did not receive any rain, trying to fly in 20-25 kph winds gusting into the forties is no fun, and with the very real risk of damaging aircraft, not many took to the skies. Those who did fly and achieved results did so on Saturday during a period of approximately an hour while the conditions eased a bit.

On Sunday morning we gathered and hoped for the best but it wasn't to be, and after a lot of chat and copious cups of coffee we were all out the gate and on our way home before lunch.

We have our final scheduled event at Blackfeet in May so all we can do is cross our fingers that we can go out at seasons end with a bang. No pun intended with reference to aircraft.

Many thanks to the Tuakau MAC who hosted the event. Sorry it wasn't the success we were all hoping for.

Dave Crook

### RESULTS

		R1	R2	R3	Total
<b>Vintage Precision</b>					
Tony Gribble	<i>Miss FX</i>	182	175	200	557
<b>Vintage E Duration</b>					
Wayne Cartwright	<i>Top Banana</i>	241	187	211	639
<b>Classical E Texaco</b>					
Pete Townsend	<i>Glow Worm</i>	812	1045		1857
Tony Gribble	<i>Glow Worm</i>	748	471		1219
<b>Classical 1/2 E Texaco</b>					
Tony Gribble	<i>1/2A Train</i>	580	660		1240
<b>Open Texaco</b>					
Bernard Scott	<i>Playboy</i>	910	920		1830



# 2021 VINTAGE RC CHAMPIONSHIP POINTS to 27th April (excludes Nationals)

## Vintage Precision

B Treloar	798
D Crook	790
D Mossop	600
T Gribble	599
J Ryan	599
B Hall	590
W Elley	589
T Beaumont	588
S Nicholas	587
B Scott	586
J Miller	583
B Robinson	583
A Knox	583
O Stuart	576
D Little	575
D Thornley	568
H Stiver	565
S Cox	561
B Russell	520
J Ellison	459

## Classical Precision

A Knox	592
M Shears	590
B Robinson	589
B Russell	575
G Main	553
D.Thornley	553
G Fulton	548
S Nicholas	538
B.Scott	391

## Vintage IC Duration

A Knox	773
T Beaumont	764
D Thornley	757
S Cox	703

J Miller	655
J Ryan	589
D Little	495
O Stuart	386
W Elley	361

## Vintage E Duration

B Russell	950
D Mossop	914
A Knox	910
S Nicholas	869
W Cartwright	639
B Scott	535
P Townsend	310

## Vintage 1/2A Texaco

A Knox	2122
L Rodway	1489
B Treloar	1416
S Cox	1250
P Townsend	1239
S Morse	1233
J Ryan	1110
S Grant	1025
W Cartwright	953
B Scott	746
D Little	528
J Beresford	308

## Classical E Duration

B Russell	1199
B Robinson	891
A Knox	853
W Cartwright	825
M Shears	741
D Mossop	713
J Miller	712
D Crook	694

B Scott	590
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## Classical IC Duration

B Scott	539
D Thornley	514

## Vintage Open Texaco

B Scott	1830
A Knox	1756
S McCurrie	187

## Vintage A Texaco

B Treloar	2529
A Knox	1852
S McCurrie	1643
S Grant	1395
T Glogau	1218
B.Scott	1138
S Cox	1028

## Vintage 1/2E Texaco

W Cartwright	2839
J Butcher	2388
T Gribble	1624
B Russell	1378
L Rodway	1372
B Scott	1202
A Knox	884

## Vintage E Texaco

D Crook	2793
W Cartwright	2317
A Knox	1600
J Butcher	1450
T Gribble	1427

## Classical 1/2E Texaco

T Gribble	1482
-----------	------

D Crook	1437
B Scoitt	804
W Cartwright	637

## Vintage E Rubber Texaco

J Butcher	4570
D Mossop	3835
D Crook	2688
B Russell	2687
J Danks	2533
T Gribble	2026
S Nicholas	1857
A Knox	1566

## Classical E Texaco

P Townsend	1857
T Gribble	1219
D Mossop	697

## Sport Cabin Texaco IC

S McCurrie	1646
A Knox	971
J Beresford	543
L Rodway	389
B Scott	324

## Sport Cabin Texaco E

J Butcher	2382
B Scott	747
L Rodway	603

## Scale Texaco

A Knox	1660
--------	------



## Vintage Precision

B Scott	266
L Rodway	227
J Beresford	201
S Morse	149

## Vintage Glider Duration

L Rodway	236
J Beresford	77
B Scott	33

## Nostalgia Power Duration

B Gibson	469
B Scott	462
K Barnes	431
Rex Bain	85

## Nostalgia Rubber Duration

B.Scott	368
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## Vintage Power Duration

B Scott	466
R Bain	423

## Vintage CAT

## Vintage HLG

## Classic Rubber Duration

## Vintage Rubber Duration

Bernard Scott	305
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## Nostalgia Glider Duration

B Scott	273
---------	-----

## Classic Glider Duration

## Nos / Vin Small Power

## Classic Power Duration

**Not doing so well on the FF front with many events failing to record three entries (at 1st May).**

*Events in Green have earned points in the Championship.*

*Events in Blue still have the potential to earn Championship points - see below.*

*Events in Red are "dead", as they have had less than three entries and there are no further chances to record scores in these events before the end of this year's Championship.*

*Last chances to record or improve FF scores :*

**MAY**      Vintage Power  
Vintage Precision  
Nostalgia Rubber

**JUNE**      *Vintage HLG  
Vintage CAT,  
Nostalgia Power,  
Classic Rubber*



Visiting the MFHB site for the Awatoto round of the Vintage Championship was a trip down memory lane and an object lesson in what a Club may achieve when members cooperate under strong leadership.

The following is my recollection of how the HB Club ended up at Awatoto. I moved from Napier in 2000 so these memories are open to correction by long term members of MFHB.

When I joined the Hawkes Bay Model Flyers, as the Napier and Hastings Club was then called, flying was on a vast flat site next to Roy's Hill on Highway 50. It was a perfect area for all codes of flying and allowed me to cut my teeth on free flight. For one reason or another, the club was given notice to leave HW.50 and there began a wide search for a alternative sites.

There were opportunities to purchase land further south on HW.50, or close to the old site at Roy's Hill. On both of these opportunities club members balked at the prospect of taking on a mortgage and the possibility of increases in membership fees. Looking back from the perspective of today's land costs, both these areas were very moderately priced. After the club declined the more southern site it was purchased by an individual club member who developed it into his own flying site. The Roy's Hill area was later turned into vineyards - had the club been braver back then it would have made the current MFHB a very well-heeled club indeed.

There followed much effort by members of the



Club, but the astute work of Barrie Russell in negotiating with local authorities stands out as the driving force behind it all. Permission was obtained to use the flood overflow area at the confluence of the Tutaekuri and Ngaruroro rivers. This was a daring decision since the area does, every so often, perform its duty and is flooded. As it turned out, this had a benefit as the occasional flooding deposits a flat layer of fertile silt that greens up better than before.

Since moving to Awatoto, the Club's site has progressed impressively and is a testament to

the drive and foresight of its members. As well as the huge flying strip, there are now weather shelters, seating, storage areas, a toilet, tractor and mowing gear, plus a "Men's Shed" for group building and socialising - in fact, just about everything many other larger clubs dream of but lack the energy to pursue.

The scene above shows the official opening of the Awatoto flying site, looking towards the main takeoff area. (1993?)

*(Note the editor's lovely, late lamented, 1966 XP Falcon on the far left )*

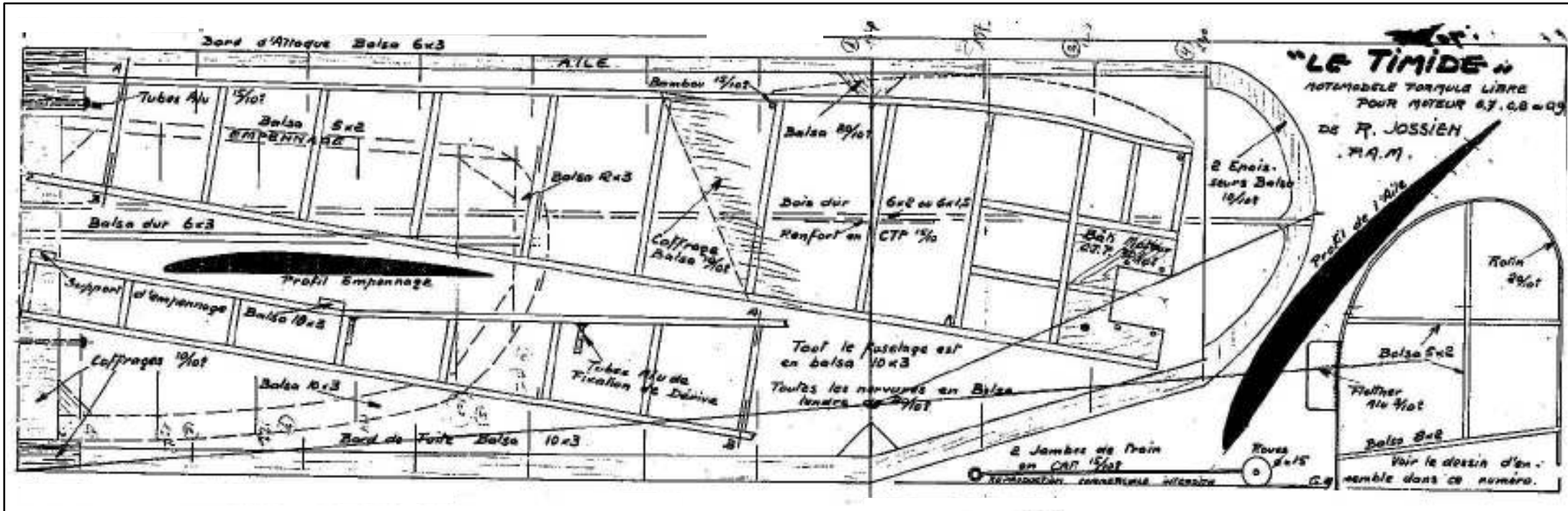


© Ranji Crumble

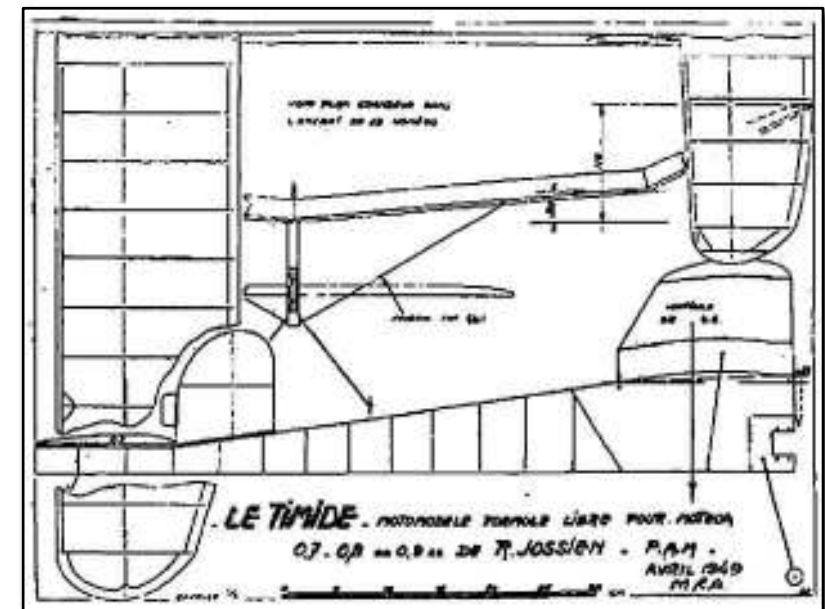
Who, other than  
*"Engines Murphy"*,  
can identify  
this little gem?

# WIRE GAUGE CHARTS

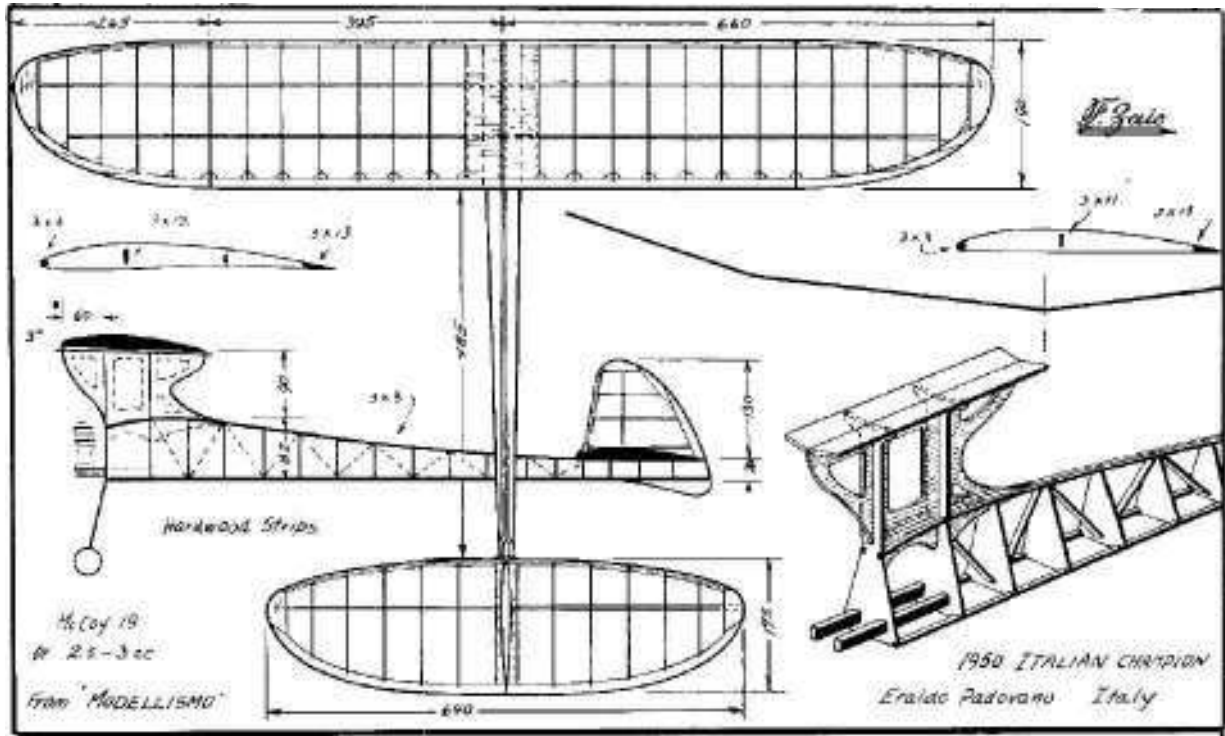
American Wire Gauge AWG		Gauge Number	Standard Wire Gauge SWG	
Inches	mm		Inches	mm
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0.08080	2.052	12	0.1040	2.640
0.07200	1.829	13	0.0920	2.340
0.06410	1.628	14	0.0800	2.030
0.05710	1.450	15	0.0720	1.830
0.05080	1.290	16	0.0640	1.630
0.04530	1.151	17	0.0560	1.420
0.04030	1.024	18	0.0480	1.220
0.03590	0.912	19	0.0400	1.020
0.03200	0.813	20	0.0360	0.914
0.02840	0.724	21	0.0320	0.813
0.02530	0.643	22	0.0280	0.711
0.02260	0.574	23	0.0240	0.610
0.02010	0.511	24	0.0220	0.559
0.01790	0.455	25	0.0200	0.508
0.01590	0.404	26	0.0180	0.457
0.01420	0.361	27	0.0164	0.417
0.01260	0.320	28	0.0148	0.376
0.01130	0.287	29	0.0136	0.345
0.01000	0.254	30	0.0124	0.315
0.00890	0.226	31	0.0116	0.295
0.00800	0.203	32	0.0108	0.274
0.00710	0.180	33	0.0100	0.245
0.00630	0.160	34	0.0092	0.234
0.00560	0.142	35	0.0084	0.213
0.00500	0.127	36	0.0076	0.193
0.00450	0.114	37	0.0068	0.173
0.00400	0.102	38	0.0060	0.152
0.00350	0.090	39	0.0052	0.132
0.00310	0.079	40	0.0048	0.122
0.00280	0.071	41	0.0044	0.112
0.00250	0.063	42	0.0040	0.102
0.00220	0.056	43	0.0036	0.091
0.00200	0.051	44	0.0032	0.081
0.00176	0.045	45	0.0028	0.071
0.00157	0.040	46	0.0024	0.061
0.00140	0.036	47	0.0020	0.051
0.00124	0.031	48	0.0016	0.041



David Ackery,  
Le Timide  
2007 Nationals



Zaic comments that his aeronautic investigations had grown to the point where he had "too many pages" of material for this Yearbook, even before considering contributions and model plans. Presented is a huge amount of experimental work on model stability, much of which later appeared in a dedicated volume, "Circular Airflow". As always, the author's theories are worked through using repeatable experiments, mostly avoiding any reliance on advanced mathematics and readily understandable by their target audience. The scope of topics investigated is remarkably broad: spiral stability, dihedral, torque control, CG issues, choice of airfoil, thrust line, and gyroscopic effect are a few that take up the first 101 pages. While some of what is dealt with may have at the time been understood in full-size aviation, Zaic's skill is in the adaption of full-size principles to model flying, peppering this with his own original and sometimes highly creative research, then presenting it in a practical, easily understood form.



## **WALTER GOOD on the RUDDER BUG**

Good longitudinal and spiral stability are prime requisites of the radio control model. For this size model, Frank Zaic suggested that a 25% stab would be about right for a quick longitudinal recovery. This has been verified in the air. The high lift NACA 6412 wing section is set with its bottom at 0° incidence. The C.G. is at 37% of the wing chord, and the stab is set at -2.5°. During tests, the C.G. was varied from 25% to 40% accompanied by the corresponding stab setting with the above figure giving the best recovery.

The good spiral stability of the model is attributed primarily to the proper relationship between dihedral and fin area, plus the "washed-out" wing tips, which reduce wing tip drag. The wing has 9° dihedral in each panel. The fin area is 5%. The wing tips have a built-in negative twist of about -2.5° which also helps prevent tip stall and promotes clean recovery.

It is desirable that neutral rudder results in straight flight with engine power both on and off. Similarly, fixed left and right rudder deflections must produce equal sized circles. Of course, if the normal torque effects could be eliminated, the problem would be solved. A method is used here which does not eliminate the torque effects, but greatly reduces them. This type of model would normally be expected to turn to left under power. A large portion of the "left turning" torque is due to the spiralling prop wash

acting heavily on the left side of the fin because the fin is usually well above the thrust line. In this model the fin has been lowered drastically such that the thrust line is directed through, or slightly above, the center of fin area. As a result, this model flies straight with no motor off-set! An earlier model which had the whole fin completely below the thrust line turned violently to the right "against the torque" with all adjustments neutral. So don't ignore the spiraling slip-stream. Gene Foxworthy has another solution by removing the fin from the slip stream and using double fins on the tips of the stab.

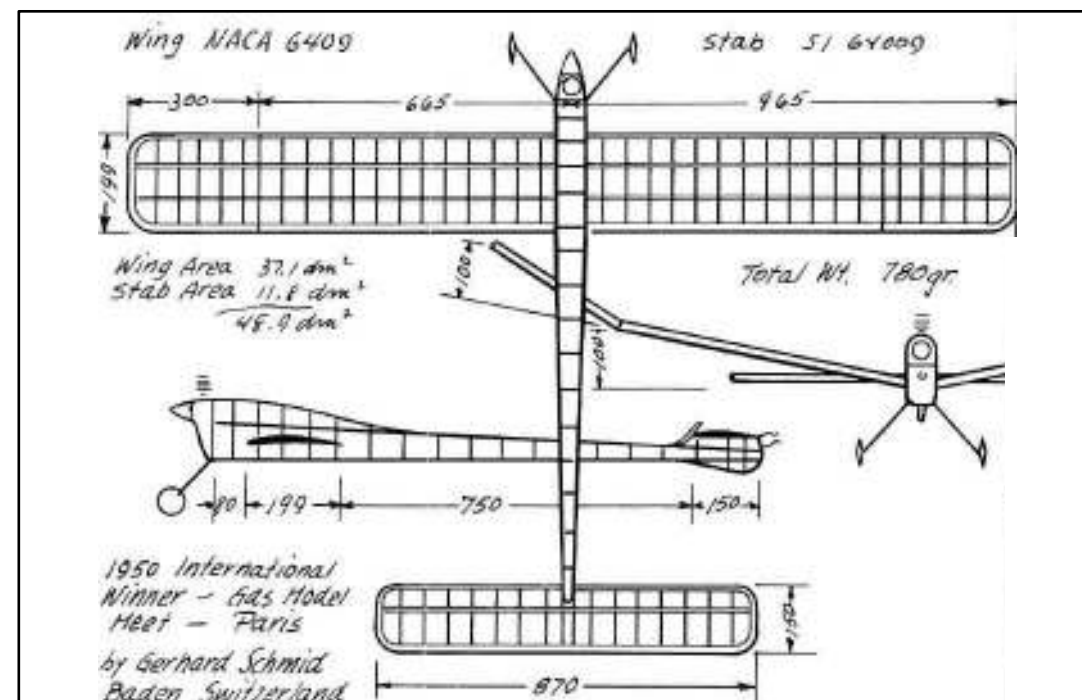
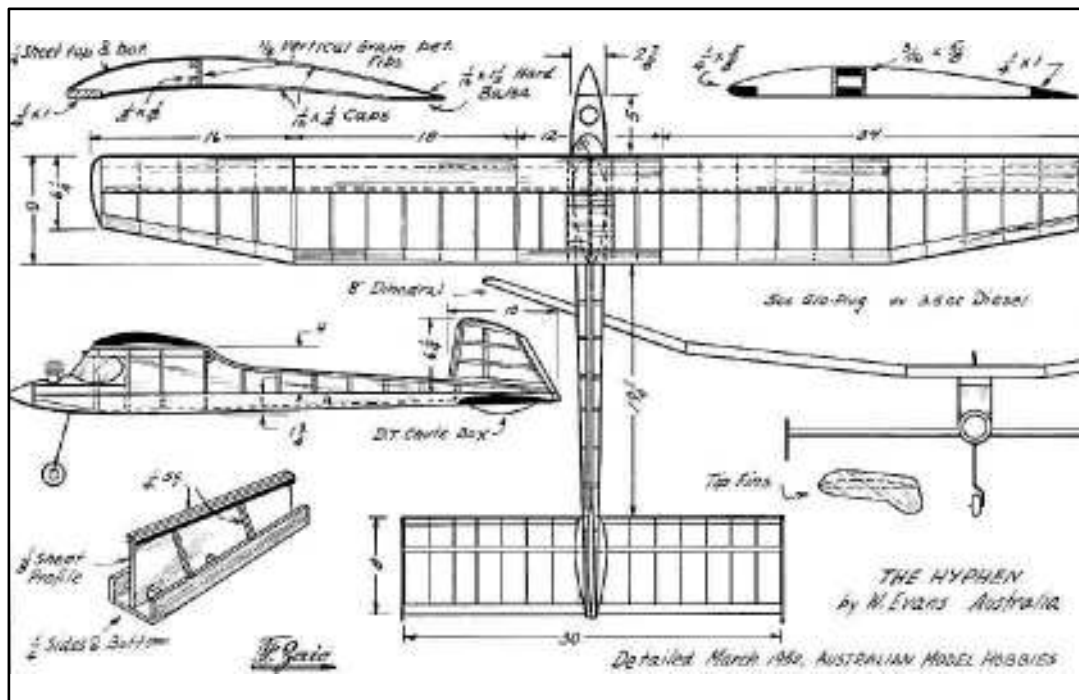
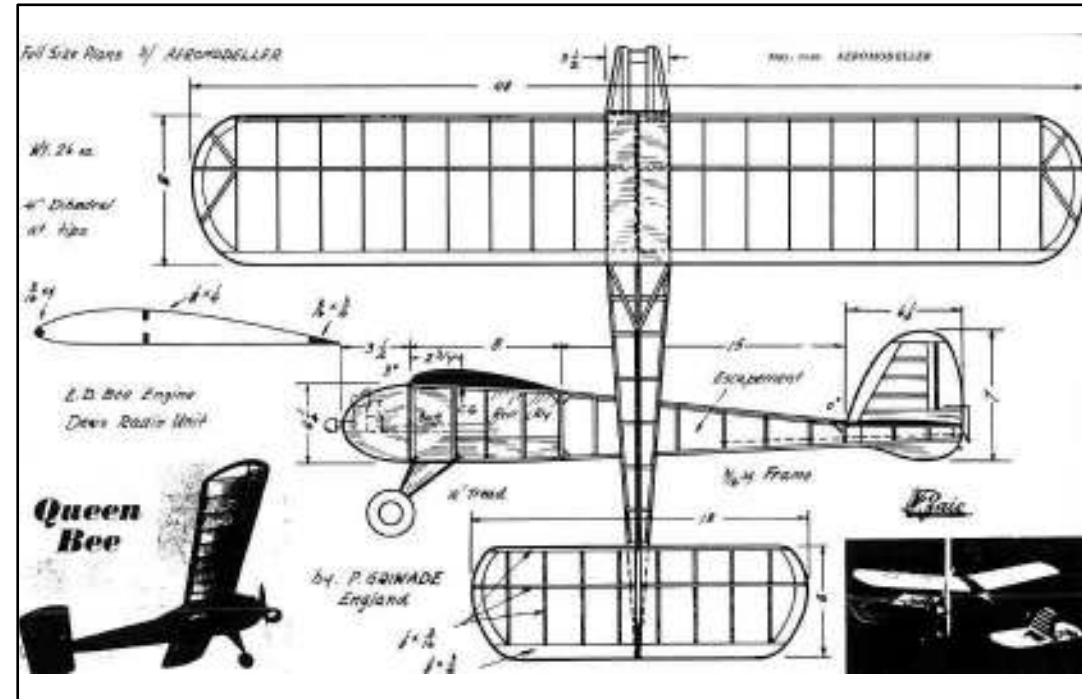
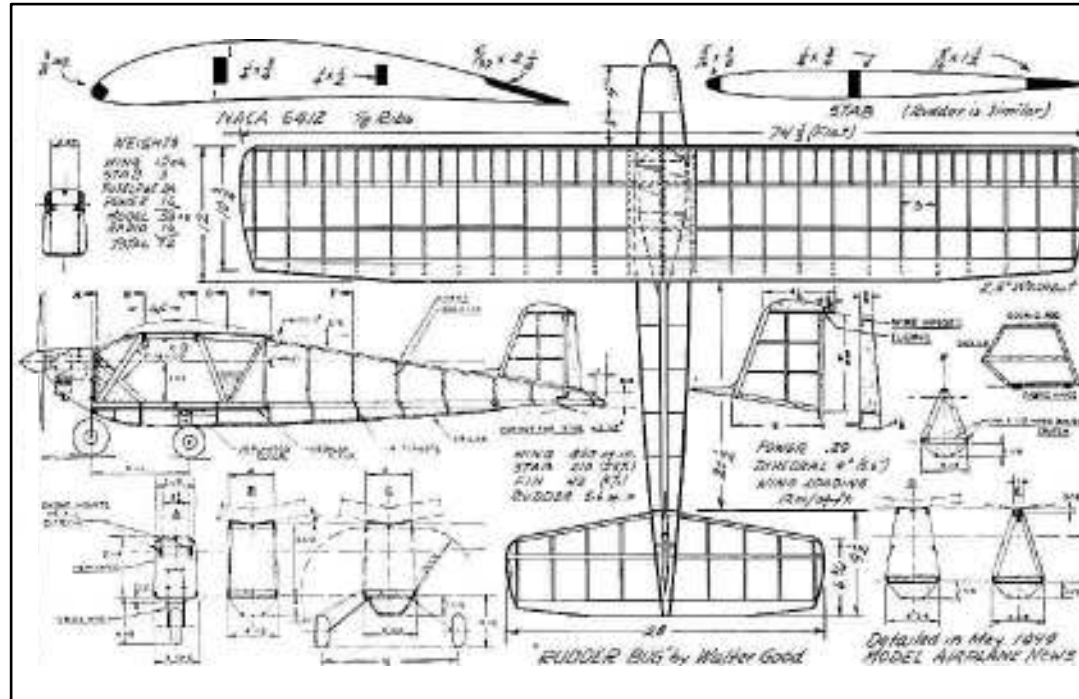
Proness of the two-wheel gear on the old GUFF to cause ground loops led us to try something different. Jim Walker's demonstration of his tricycle gear provided the answer. While all three wheels are fixed it is still possible to "steer" the model with the rudder during the take-off phase. Long, lazily realistic take-offs are made comparatively easy. Landings, too, benefit from the fact that very little bounce results, even on a hard runway. "Flat" landings have been made which exhibited no perceptible bounce followed by a terrific roll she really needs brakes! Remember the wheels absorb most of the landing shock, so choose good rubber ones, especially for the poor nose wheel!

Real ruggedness is required to withstand violent maneuvers and an occasional rough landing. Experience has shown that the radio equipment is far more shock resistant than the model. So if you have to

retire from the field early, it's more likely to be due to an unrugged model. Also, there is a payload aboard which stresses the model structure too. Plywood firewall and plywood landing gear platform aid the strength. The nylon covering has held up well even though two bad landings; one in a tree, the other downwind into a fence. In fact, total damage was a broken prop and a few dents. The nylon is strongly recommended.

The original model was test flown with no radio gear aboard. The purpose was to obtain approximate trim adjustments, become familiar with the model's characteristics and provide a "shakedown" test. With no payload the wing loading is about 10 oz. per square foot, which makes testing easy. Balance the model at 37% (4/4" behind the leading edge) by adding weight at the nose or tail. Check the motor for no off-set. It is assumed all warps have been removed. Glide test for a clean fast glide with no sign of a turn. Alter stab and rudder setting to accomplish this. When satisfied, you are ready for power flights.

Using medium power and a 20-30 sec. motor run, try an easy hand launch into the wind. The first job is to adjust for straight glides by changing the rudder angle. Then, if necessary, adjust motor angle for straight power flights. You can stop now, but if you wish, several flights may be made with small amount of left and right rudder to observe the turning characteristics. However, remember that 1/8" of rudder is a very tight turn, so go easy!





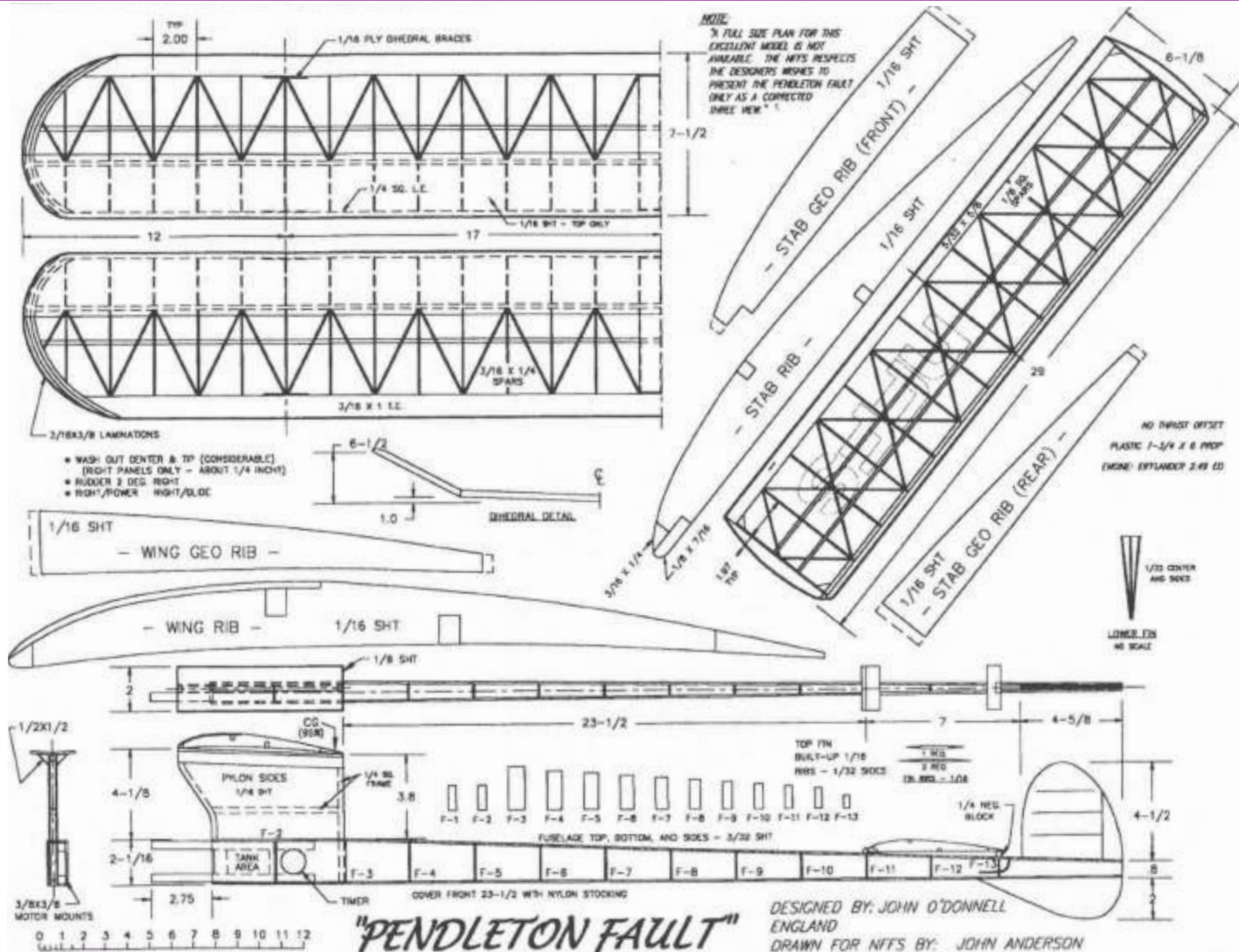
### WANGANUI MODEL AEROPLANE CLUB 1932

Front: Roy Eaton, Brian Smaller, Barry Read, Len Simonson, *STAN WALL*.

Centre: Bill Lee, Stan Armitage, Sheldon Smith, Walter Read, Sandy Newton, David Smaller

Rear: Bob Howell, James Allen Ward, Maurice Rogerson (obscured), Colin Toop, Mr Doug Smaller, Mr W.T. Eaton.







An Open Class Rubber Motor Model Suitable for Novices.

**DELINQUENT**

DESIGNED BY  
**J. O'Donnell**

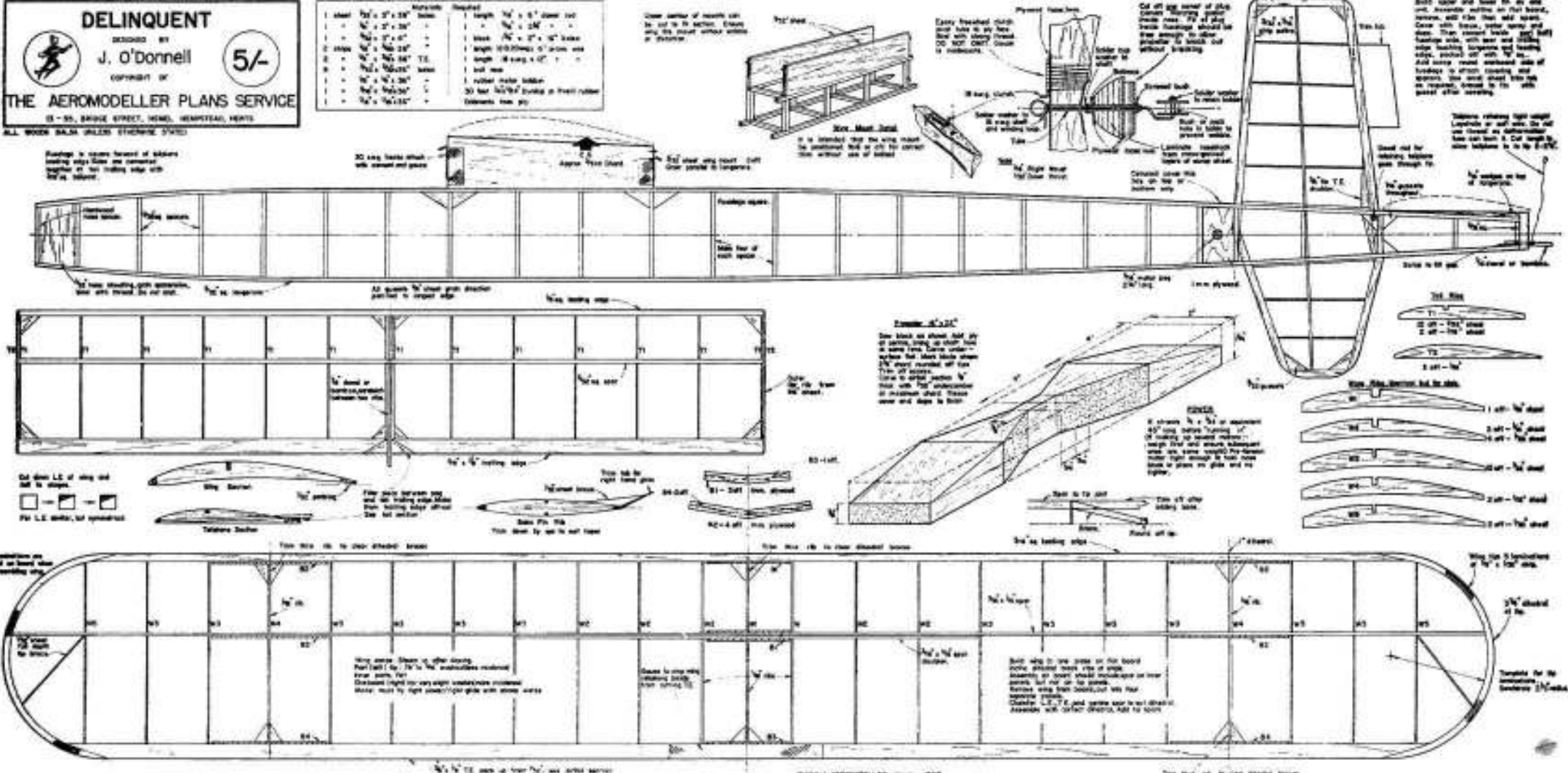
COPYRIGHT BY  
**5/-**

**THE AEROMODELLER PLANS SERVICE**

13 - 55, BRIDGE STREET, WIMBORNE, DORSET, ENGLAND

ALL WOOD BALSA UNLESS OTHERWISE STATED

Sheet	Size	Material	Quantity
1	12" x 24" x 1/8"	plywood	1 sheet
2	12" x 24" x 1/8"	plywood	1 sheet
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Cox engines have always been a tinkerer's delight. Their simplicity means a complete strip-down and rebuild can be achieved in less than an hour while the low-cost of engines and parts encourage experiment. Cox itself tinkered, and its first attempt at a "Super-Bee" was a Babe Bee with rear rotary induction fitted within the fuel tank -



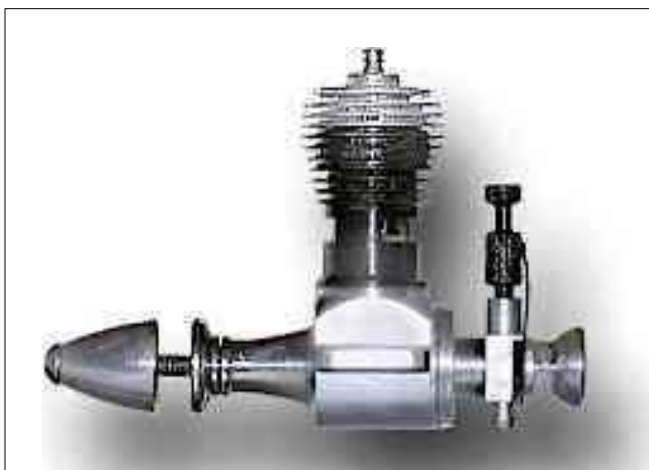
### The RR1 1956 - 1965

With a rotary valve, the RR1 lost the ability to run in either direction, a deficiency corrected with right- and left-handed valves and handed 6x2 propellers. The extra power of the rotary valve was negligible and in 1965 Cox returned to the simpler and cheaper reed valve system. The RR1 has become a collector's item that in 2008 was valued at \$300.



### Space Hopper 1958 - 1961

The Space Hopper was a BB without the fuel tank or internal carburetor. Using an external carburetor, that was later fitted to the TD, performance was much improved and a 6x2 propeller could be turned at 17,500. But this



high performance was the reason for its short production run as lessons learned here enabled the TD series of engines which took over when the Space Hopper was discontinued in 1961.



### Black Widow 1973 - 1996

Marketed as a high-power combat engine and distinguished by its all-black body, red rubber spinner and larger tank with dual tank vents to enable inverted running. Inside, the cylinder had dual bypasses and the venturi was slightly larger. Towards the end of production, the TD spinner was used (as above) and the cylinder was changed to dual bypass with twin slit exhaust - the latter supposedly to prevent fires. A long production run ensured that the Black Widow became the most common of the high performance Bees.

**Killer Bee .049** 1995 -1996  
**Killer Bee .051** 1995 -1996

The tapered cylinder and sub-piston induction that had given TD engines their performance edge were used in the Killer Bee, along with a stronger, balanced crankshaft and a different reed shape. A yellow plastic extension to the needle valve was said to reduce vibration and movement of the needle valve when the engine was running.



KB .049  
Genuine

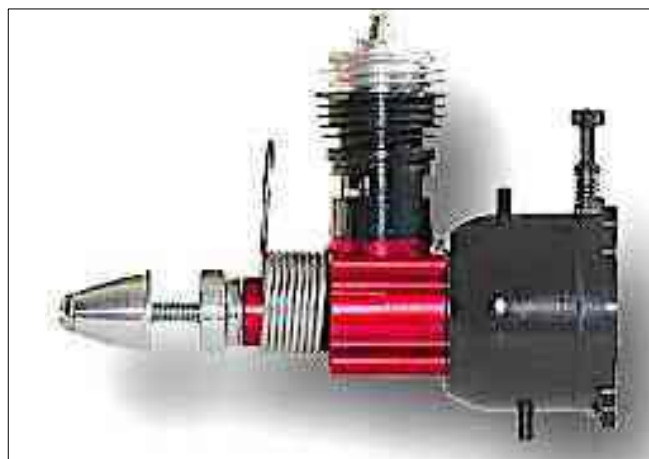
Cox was sold to Estes in 1996 and under this ownership there was an issue of further "KB"s from 2002, however these are KBs in name only, as they are simply Babe Bees with an anodised crankcase. The only visible identifier of these fake KBs is that the yellow needle valve extension of the genuine article is replaced with the standard metal one.



KB .051  
Post 2002

**1996 Venom .049** 1996

The last attempt at a very fast reed-valved engine for use in "Mouse Racing", that is,

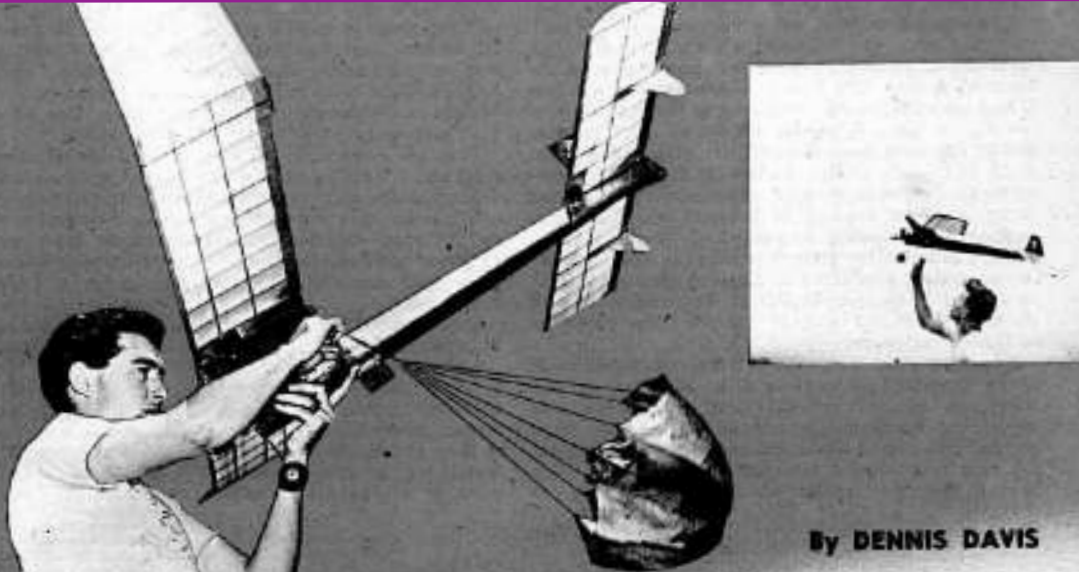


control line racing using models powered by a Cox reed valve engine. The demands placed on the engines in this usage can be judged from this extract from a mouse racing newsletter from 2016 :

*"Using Sig 35% nitro fuel, an APC 4.75D X 4P prop & Galbreath head, 19,000 rpm is my minimum standard. 20,000 is quite a good engine & 21,000+ is superior. Increasing nitro content can easily give a boost of 1000+ rpm over these figures, BUT the engine/glow plug reliability goes down proportionally".*

The Venom was a fast engine, but because of a mistake during its one production run - the piston was lightened too much - it had a habit of blowing the top of the piston off at high speed. Only 1000 were made before this fault put a stop to manufacture, making a genuine Venom one of the rarest Cox engines.

As with the Killer Bee, many engines advertised as Venoms are fakes - low performance look-alikes assembled from Babe Bee parts.



By DENNIS DAVIS

# San De Hogan

Here's one of the outstanding free-flights of all time

**W**HY San De Hogan? It's a combination of "San Diegan" and Hogan—the latter inspired by a now famous local California disc jockey, the former handle in honor of the ship's hardy ancestors.

The job was designed, flown, rehearsed and generally run through the mill before the plans presented here were drawn. An important contribution was the local all-year-round flying weather which made it possible to literally fly the dope off the ships; not only by me but by some promising young junior and senior modelers who gave the design a great deal of help and contest proving. The youngsters have done very well with the ship too—needless to say the design was arrived at largely with them in mind.

Consistent competition demands a lot of any model design with ruggedness a most important factor. Achieving strength yet light weight was the consideration which finally led to the finished, ready-to-build product presented here. A low-drag factor was achieved by incorporating a thin, flat undersamber wing section and a minimum fuselage profile with very small cross section. The low drag shows up in the climb, which incidentally is the ship's middle name. Altitude and hardware are synonymous with this baby. Install a hot .28, put in some preliminary test time, then start opening it up. Don't be

afraid to use plenty of downthrust and some more right thrust, but we'll say more on adjustments later.

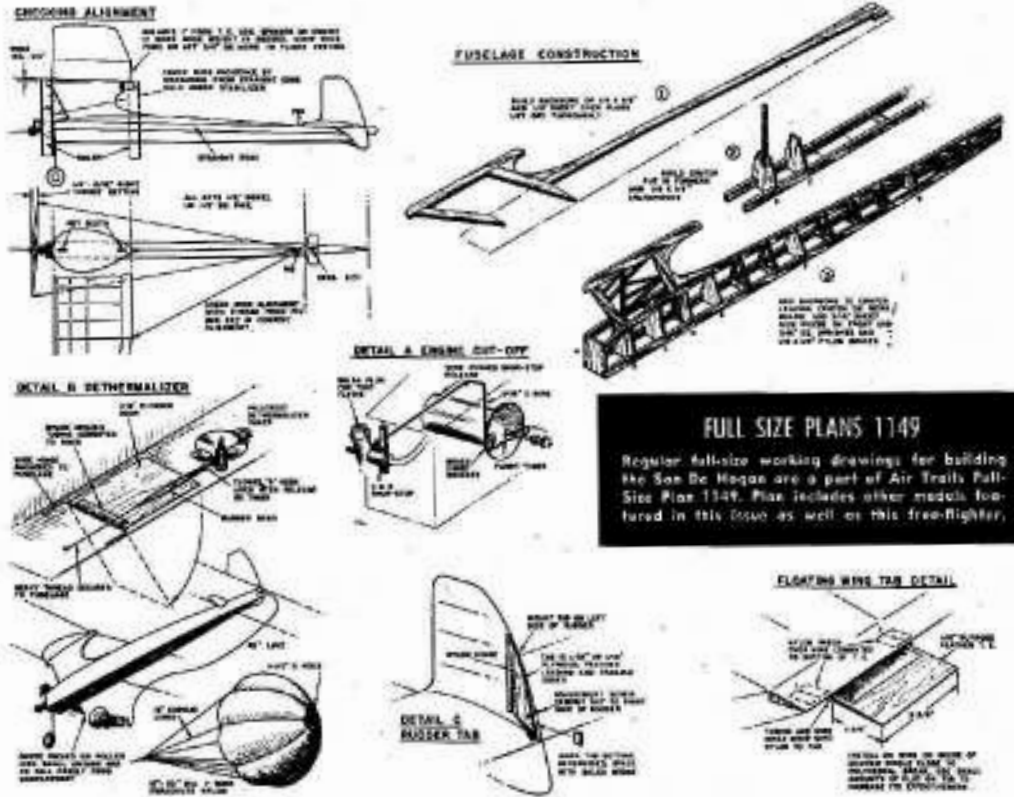
The ship has quite a reputation on the West Coast, the latest achievement being the Class C record (with K&B 32) of 30 minutes total for three flights at the Bakersfield meet this year. It also netted 1st in Class C and won the Sweepstakes trophy for high time of the day. A Class A version (flown by Bill Trumble, one of the youngsters I spoke of) placed 2nd. First in Class C open at the '48 Detroit Plymouth Internationals was its first major achievement. Also, it has many 1sts, 2nds, and 3rds to its credit in contests here on the coast, including our rugged All-Western Opens. Tom Moffitt, another youngster who has added laurels to the design, placed 1st in Class A junior and 2nd in Class D junior at the Detroit Internationals with the design, and 2nd in Class A junior at the Nationals in Olathe last year.

Construction of the model is largely orthodox, some of the important points being illustrated on the plans. Wing and tail construction is simple and needs little explaining. An aluminum template of the main wing and tail ribs should be cut out and used in cutting out the ribs (cut around template on  $\frac{3}{32}$ " sheet with blade). Pin ribs together after they have been out

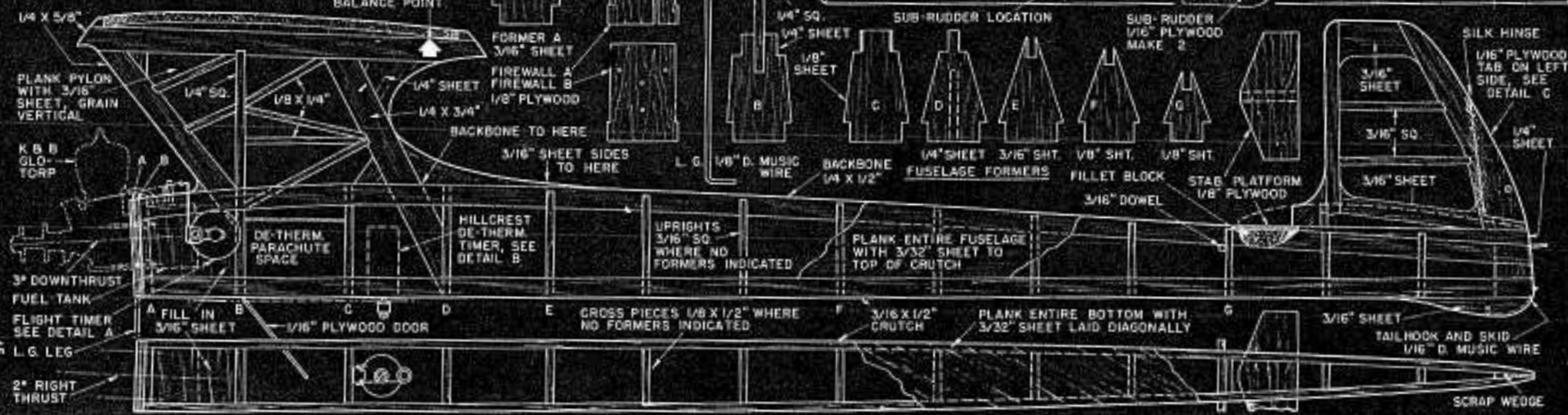
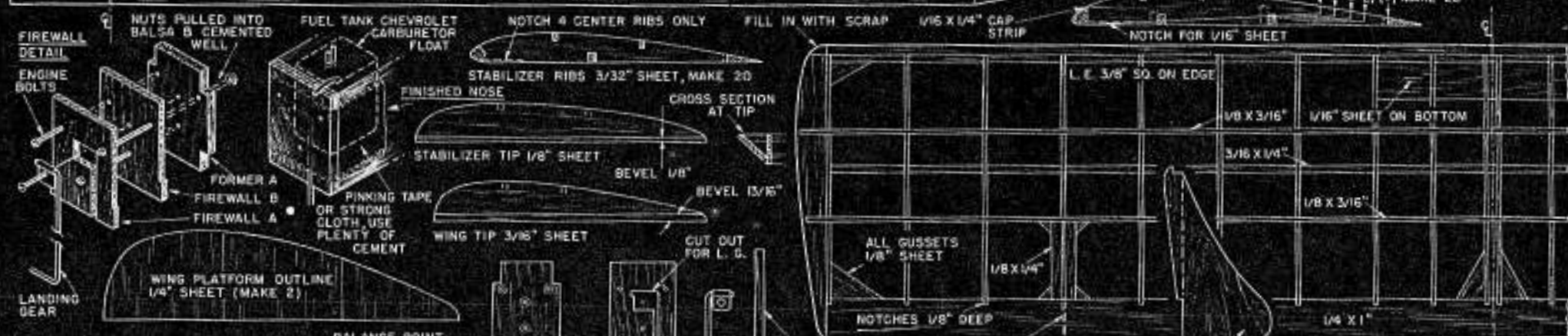
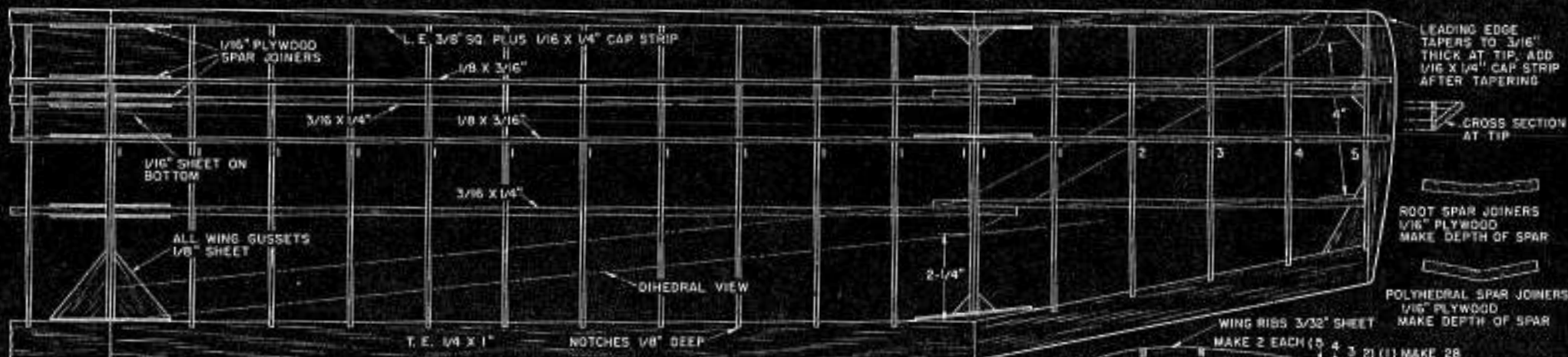
to cut spar notches. This is a big help and time saver (skip spar notches on tip ribs). Don't put the two top spars in until wing has been assembled and all dihedral installed. Don't forget spar and leading and trailing edge reinforcements and triangular gussets. Use light balsa in the tail assembly construction. Weight consciousness is important here. Use light  $\frac{3}{16}$ " mahogany plywood for the sub-rudder.

Fuselage construction is easy and interesting. The wing and tail incidence is built in right from the start. The simplicity and accuracy possible with this type of construction was responsible for its incorporation. I call it "crutch-Goldberg Interceptor-Davis" type construction with due respect for Carl Goldberg whose pioneering shines all over the place as far as I am concerned.

First: build fuselage backbone and pylon outline as illustrated over the plans. While this is drying build the crutch over the plans and install formers A, B, C, D, E, F, and G. Let them dry, then remove the backbone assembly from plans and set in place on former notches. Add  $\frac{3}{16}$ " sheet side pieces, tapering so they will fair into  $\frac{3}{16}$ " x  $\frac{1}{2}$ " backbone at former E. Install  $\frac{3}{16}$ " square uprights and pylon braces. At this point it is a good idea to (Continued on page 76)



**FULL SIZE PLANS 1149**  
Regular full-size working drawings for building the San De Hogan are a part of Air Trails Full-Size Plan 1149. Plan includes other models featured in this issue as well as this free-fighter.





I couldn't put it off any longer. Beautiful weather here, so I headed out to the willows to try the Hangar 13. I have run in the PAW and it is now on it's low oil fuel . With a 10 x 6 it is running around 10 minutes on the ground at what I guessed was climb power. As it turned out lots of my club mates were on the field so I had an audience for better or worse. I cranked her up, tuned up the throttle curve, tanked her up and opened

the throttle. No need to worry, she tracked well and was soon up and away. I have very little side thrust so right trim was needed but pitch was perfect. This model is for Open Texaco so I'm looking for 15 minutes off just 11.2 cc of fuel. After a long slow climb the motor cut at about 10mins30. The glide was surprisingly flat and floaty. She landed at 14 mins 23, just short of target. The handling was nice, stability good and the Pig Lipstick

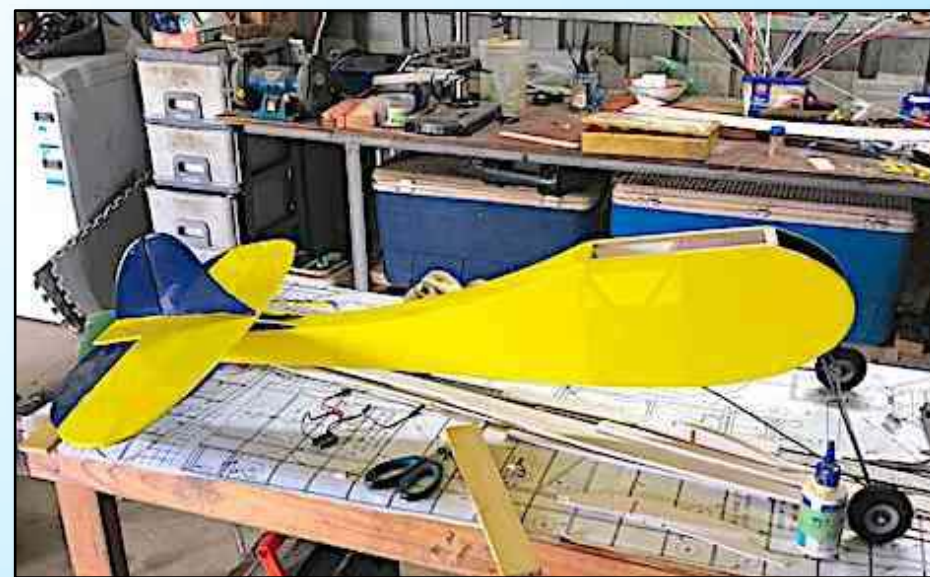
Pink covering showed up well against the sky. After some further tweaking of the low speed end I tanked up again. This time the flight was 15 mins 36 and finished with a spot landing when I hit my cap that I had thrown onto the strip as a target. I'm well pleased and hope Gary was up there watching proceedings. It looks like his Choice of a Hangar 13 was a good call.  
*Allan*







A couple of photos of my new model. The *Guff* flies a treat with an ASP.30 for power. At 1/3 throttle it is getting four minute engine runs. Still working on that.





## 1938 Dragonfly - from FF rubber to RC electric

Weight - 125 grams; motor - Turnigy 1811/3800kv, battery - Nanotech 180 mAh 2s, ESC - HobbyKing 10 amp ubec, 5" folding prop. A light weight linear servo is mounted in fin for rudder only. Undercarriage is in two pieces held in with rubber bands. Stall speed approx 9 mph. Wing loading 3.50 oz/foot square. Webocalc says that it would be 3D capable and runs at 182 watts/pound.

A full charge gives at least 20 minutes flying at part throttle, full throttle will most like rip the wings off after it finishes porpoising all over the place. The first photo is as it was with rubber power, 2nd and 3rd photos are of it stripped of its tissue and ready to convert to electric. 4th, 5th, and 6th are of it in its current state.

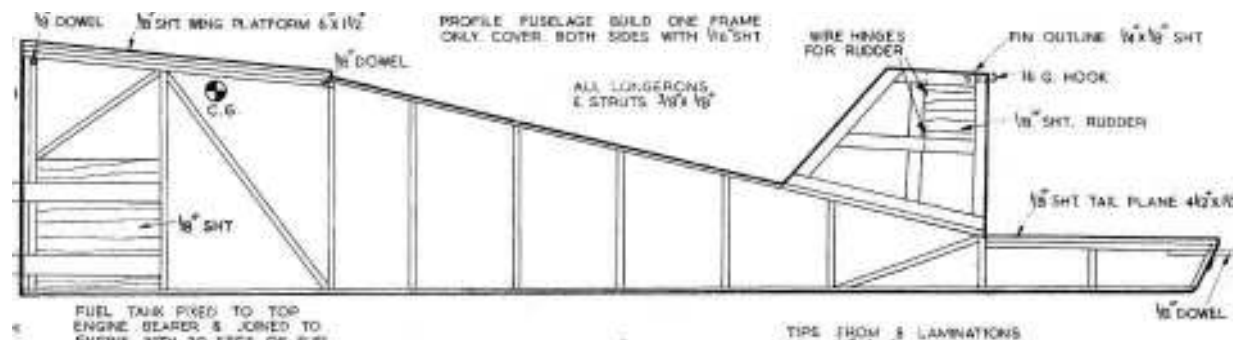
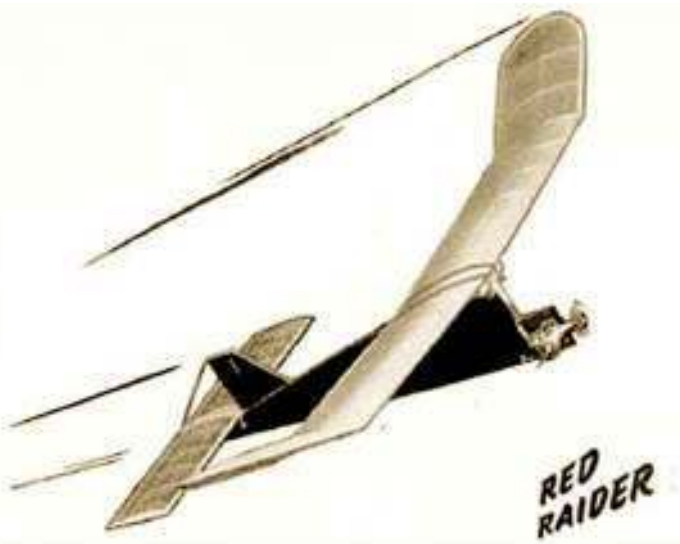
*Dayle is offering the Dragonfly for sale. \$150 ono  
Custom-made carry case included. Ready to fly, just add your receiver.*





## Red Raider - Reprise

The RR in Issue 180 was intended as a "fun-flyer" with possible use in Aggregate. It has been out at most trimming sessions since completion, sporting increasingly assertive measures to correct Dutch-roll. Not the usual roly-polly swing from side to side but full 90 degree left and right knife-edges, repeated while climbing gently until the engine cut. Side area was first added in the form of a clear plastic strake before the fin, giving the perception of an unaltered side profile but this did nothing to correct the rolling. Was the rudder, and strake, being blanketed by the sheet fuselage? Adding a second rudder of about the same area as the top one to the bottom of the fuselage corrected all Dutch-rolling tendency. With two rudders and some extra left thrust the RR finally flew smoothly but these modifications rule it out for Vintage events. And, it's not an Aggregate machine after all, just a cute fun-flyer - but that's ok.



A short piece of 0.031" piano wire is inserted through an extra hinge half and the hinge half to be inserted into the slot. Grasp the tang of the exposed hinge half, push the opposite hinge tang down into the slot, and at the same time align the wire parallel with the stab's leading edge. [1]

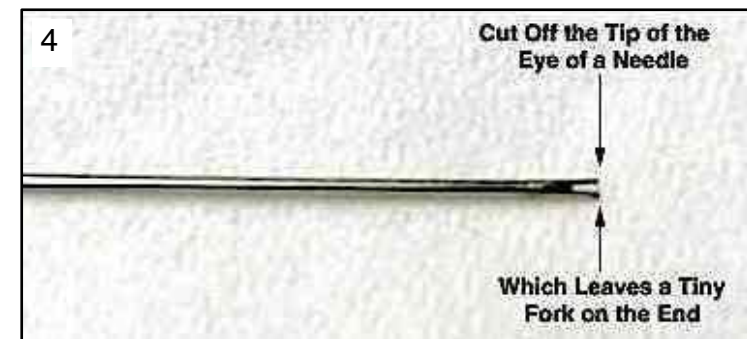
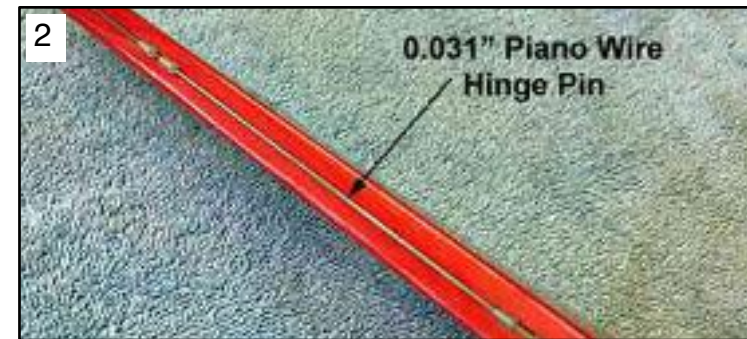
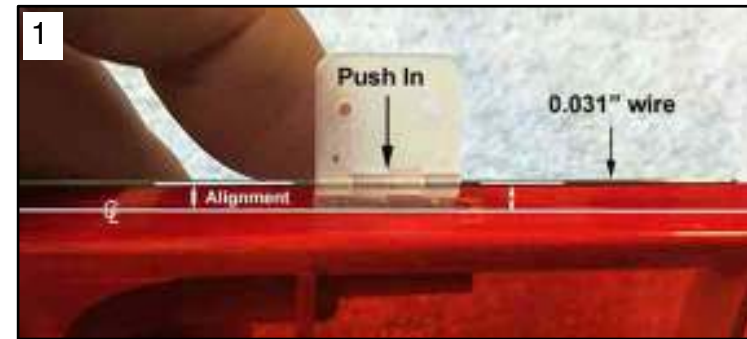
Then a long piano wire is used to check the axial alignment of the three hinge halves on one side of the stab. [2]

Drops of thin CA are wicked down in between each hinge tang and the balsa slot in several places to permanently secure the hinge balsa slot in several places, which takes a pretty steady hand and lots of time. Care has to be taken because if the CA wicks into the hinge loops you are in deep trouble. [3]

For years I have blunted the tip of a straight pin with a file so that a drop of CA can be applied to the blunted end of the pin to apply the CA to the hinge half. You waste a lot of thin CA trying to get the drop to stay on the end straight pin but it can be done, given enough time and patience.

Then a friend clued me in on how to accomplish this task almost effortlessly. He used a sewing needle with the tip of the eye cut off. [4]

When a drop of thin CA is put on the needle, the drop will almost always catch and stay in the fork due to surface tension. Then the fork is touched to the desired spot on the hinge and the CA goes right into the opening.



## 1930 Joe Ehrhardt USA

The third Wakefield International Cup contest was again held at Halton, Aerodrome, England, on July 19th. Three Americans, Ray Thompson, Bill Chaffee, and Joe Ehrhardt came to compete against the five man Team GB, and Team Canada. They came with Wakefields, all balsa wood, weighing about 4 ounces including the T-56 brown rubber motors of 10 strands 1/8"x 1/30". These motors were usually wound from 1100 to 1200 turns, providing a 60 second motor run, using a 17" diameter propeller with 28" of pitch. Ehrhardt used a modified NACA 6409 airfoil on a wing of 32" span. The Team GB Wakefields were low winged, with an area of about 200 square inches, following the pattern set by R N Bullock, the 1929 Wakefield Champion, who was on hand to defend his title.

Pelly-Fry was quoted in the September 1982 AeroModeller as saying: "The American (Joe Ehrhardt) ended up by walking off with first place to the tune of 155 seconds ROG, that made us sit up and take notice (of balsa wood).

A British entry made the first trial and flipped over before it left the runway. This as called a 'no flight', for he hadn't had a chance to test conditions. His next try was more successful and made 35 seconds.

Joe Ehrhardt flew next. He used the same plane that had won the AMLA

(Nationals) Contests three weeks before, though he had extra wings and props and fuselage ready. His plane weighed about 3 ounces - that first British ship weighed 10. Joe's ship had power, as shown when it held it's own against the strongest wind of the day. His first flight was 64 seconds. The next British entry - the Captain of the British Team made 84 seconds. Applause and yells from the sidelines.

Flights continued. Bill Chaffee did 26.6 seconds, which was good enough to get him sixth place. Ray Thompson did 37 seconds, but the flight was disqualified because he accidentally pushed his plane in launching. But the wind and not the judges gave Ray the count, for he picked up his ship with a dustpan. Bill did the same thing on his next flight.

But in the meantime Joe's turn came again and he had three minutes written all over his face. He had so much power in his ship that it went almost straight up - snickered at the wind - then lit out for points north. His official time was 155 seconds. England had seen its best fuselage flight, and the crowd certainly appreciated it. Joe Ehrhardt of St Louis, Missouri was the 1930 Wakefield International Cup Champion, the first American to win the Ole Mug. He was a child, 18 years of age".

## 1931 Joe Ehrhardt USA

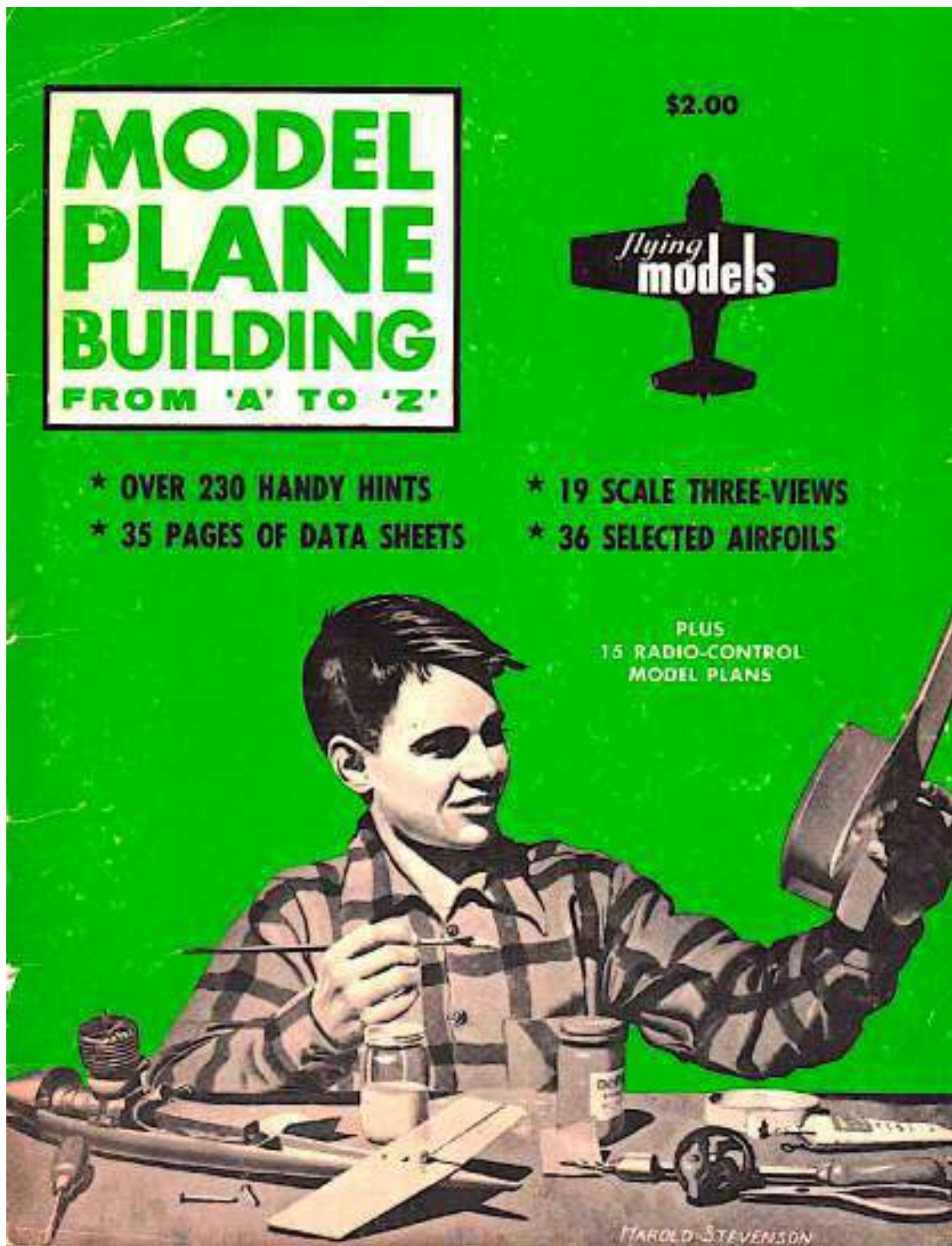
This year for the first time the Wakefield International Cup's venue was located in a foreign country. This necessitated Great Britain sending their Wakefield team aeromodels to the United States of America in boxes, another first. The contest was scheduled for June 10, 1931, at Wright Field Dayton, Ohio. The "Great Depression" had yet to affect the fourth US Nationals, the NAA, and the AMLA were the joint sponsors of the big contest which was held the previous week.

The USA Wakefield Team was selected at the Nationals, beginning the early Team selection tradition, used until the 1950's. This year Carl Carlson entered an 11 foot wing span petrol powered Wakefield weighing 9.5 pounds, allowed by the current SMAE Wakefield Rules. Carlson's petrol model unfortunately crashed just after it took off, ending the threat of petrol power domination, this year.

The contest began at 9:00am, with the reigning Champion Joe Ehrhardt ready to fly with a new Wakefield. Again it was an all balsa wood Wakefield, but this time the entire plane weighed 1.25 ounces, including the 0.49 ounce rubber motor of 8 strands of 1/8".

Joe Ehrhardt was also a "US Nationals Outdoor Champion!" As light as it was Ehrhardt's Wakefield had a 37 inch wingspan, with a fuselage length of 32 inches, and it was well adjusted for flight, using a right turn under power, and a left turn in the glide pattern. Ehrhardt, not one to hesitate, wound his "T-56" brown rubber motor to 1000 turns, outside of the fuselage on a steel wire device which was inserted into the fuselage to transfer the motor.

Ready at the board Joe set the ship for ROG and it was off! Needless to write his Wakefield climbed straight, fast and very high, for a perfect flight of 4 minutes and 24.8 seconds. Ehrhardt used the same propeller he had used on his 1930 Wakefield, but this time he equipped it with a freewheeling device, to improve the glide (a first). Joseph Ehrhardt was the 1931 Wakefield International Cup Champion, the first aeromodeller to win The Wakefield International Cup Event consecutively.



**FLYING MODELS** has always been my favorite modelling publication as it covered the whole gamut of aeromodelling from delicate indoor to heavyweight wireless models. It was also one of the few that continued with free flight and control line columns when these codes were overshadowed by wireless control. It had none of the "hip" drivel found in other publications. If you don't know what is meant, try this, from a 1941 Flying Aces: *"If you are the outdoor type model flyer, then this dipsy-doodle dandy is the thing for you. You'll have lots of fun with this little fellow, thrills that will make you want to shout."*

FM's plain-speaking columnists peddled no such twaddle. They were experts in their fields and their advice was lucid and trustworthy.

Part of the Editors' Introduction to this Flying Models handbook is reproduced below and uses the same plain-speaking approach. As hinted at, this handbook would be most valuable to anyone starting in the hobby, and even for the established modeller there are suggestions that could refine their aeromodelling skills.  
*Editor*

*"FLYING MODELS has for many years set the pace for informative material which has been of help to both beginner and expert. The highly popular "Data Sheets" can be considered one of these pacesetters and many a beginner found it easier to start in this fulfilling hobby because of them. This material also jogged the memories of experts who had drifted away from many usable techniques. It's the effort of this handbook to compress the maximum of usable information into one handy reference.*

*To do this, we've taken material which has created the greatest interest in modelers over the years and "compartmented" it into this publication. This material has been refined down to its most usable form.*

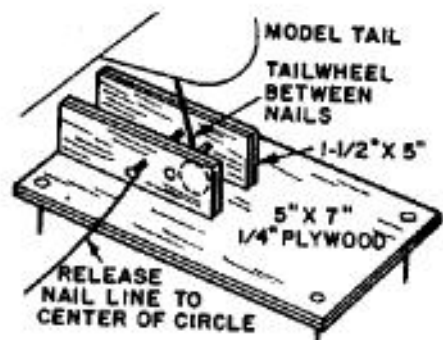
*We feel that this book will prove to be an excellent guide for clubs and schools with projects in model plane building. It should also serve to indicate how broad the field of modeling spreads, its complexities and solutions, its simplicities and pleasures. What you find here is a condensation of many years of effort by many excellent model builders, designers and artists.*

*We hope you enjoy this publication and gain many time-saving knacks to make hobbying more pleasant. And, we suggest that you keep close tabs on this edition. It is a limited printing and will prove to be a scarcity as have the five previous Handbooks".*

## HINTS

### PLYWOOD STOOGIE

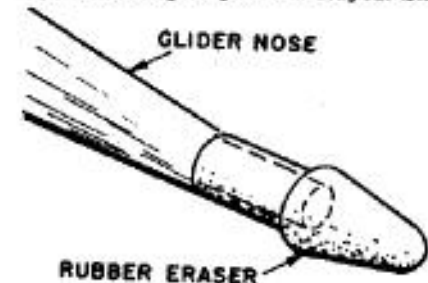
Here is a handy helper that can be made from scrap plywood or thin lumber. The base has two pieces of wood nailed in place vertically with space between them for the tailskid and tail-wheel of a model. One nail is fixed, the



other one movable to release skid. Fish-line to center of circle pulls the release nail. One release nail may be used if the skid is bent with an eye in end. RAY-BURN WILTON, Mt. Brydges, Ont.

### NOSE GUARD

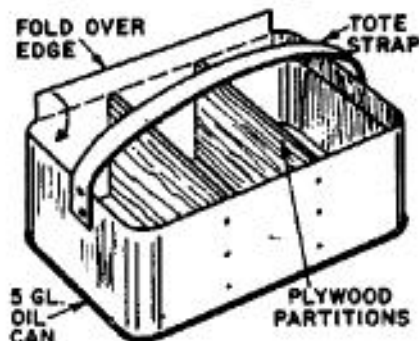
H/L glider noses really take a beating and soon get split and frayed. Slip



a rubber pencil eraser over the nose and let the rubber do the bouncing.

### ACCESSORY KIT

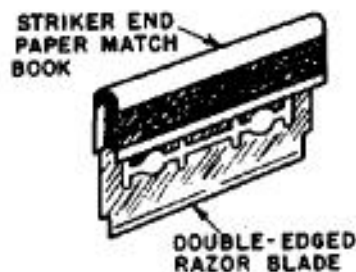
If you need a kit to carry tools, props, fuel and batteries to the flying field, here is an inexpensive idea: Obtain a 5 gallon oil can and cut off the bottom, leaving the sides 6" to 9" high. Cut each



corner down about 1" and then fold edge over inwards so there will be no exposed sharp edges. Rivet or bolt a belt or strap across top for a carrying handle. Put in plywood partitions as required. WESTLEY GLISSON, Titusville, Fla.

### FINGER SAVER

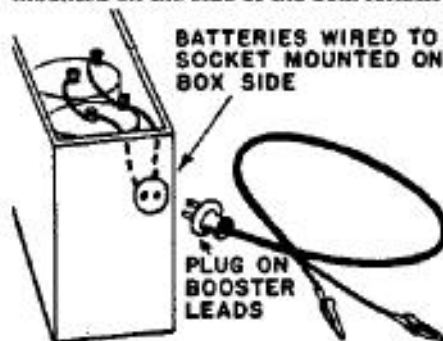
When using double-edged razor blades for cutting balsa, protect your fingers with this handy wrinkle: Tear off the striker end of a paper match book and then slide razor blade between the match cardboards and up against



the staple. This will avoid quite a few nicks in the fingers. CHARLES KELLOGG, JR., West Newton, Mass.

### Plug-In Booster Leads

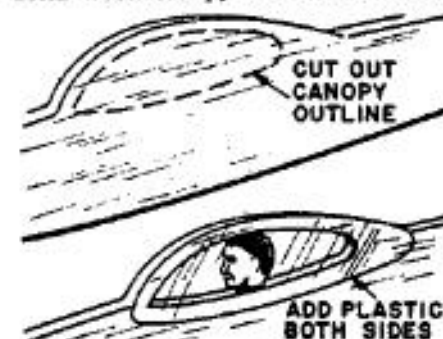
If you use a field box to keep your fuel, props and booster batteries handy to your model, this trick will help you. Mount your booster batteries inside the box and run leads to a socket mounted on the side of the box. Attach



a plug to one end of your booster leads and alligator or Kwik-clip to the other end. Booster leads can then be plugged in to use, and unplugged, rolled up, and put in box when not in use, thus preventing possibility of shorting out. If available use small plug and socket of the type used for R/C models. MURRAY HEARD, Lima, Peru.

### Profile Cockpit Canopy

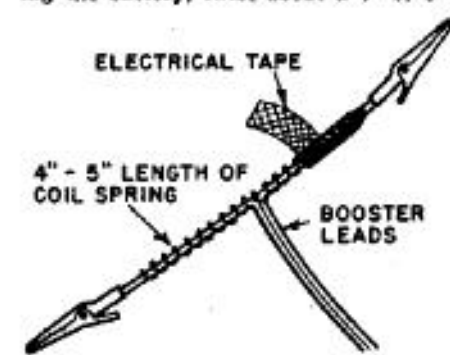
To help dress up your solid plank profile model, make a cockpit canopy as shown. Cut out the center of the solid wood canopy and then cement



clear plastic on each side. Put in a silhouette pilot's head if desired. ARTIE WIESE, Bay Shore, N. Y.

### NO-SHORT BOOSTER LEADS

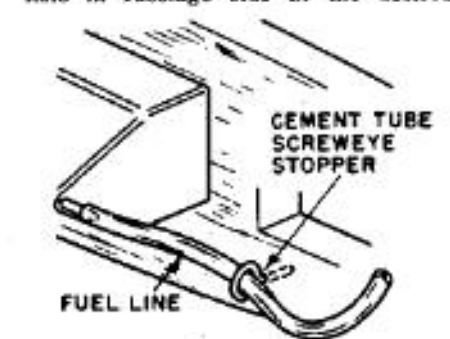
Booster battery leads with alligator clip ends often touch when dropped after starting an engine. To keep the clips from touching, shorting and draining the battery, twist about a 4" or 5"



length of 1/4" diameter coil spring onto the leads and wrap with electrical tape. Spring will keep clips apart when not in use, but is flexible enough so that clips can be put on the engine easily. BILLY CENTNER, Westport, Conn.

### FUEL-LINE GUIDE

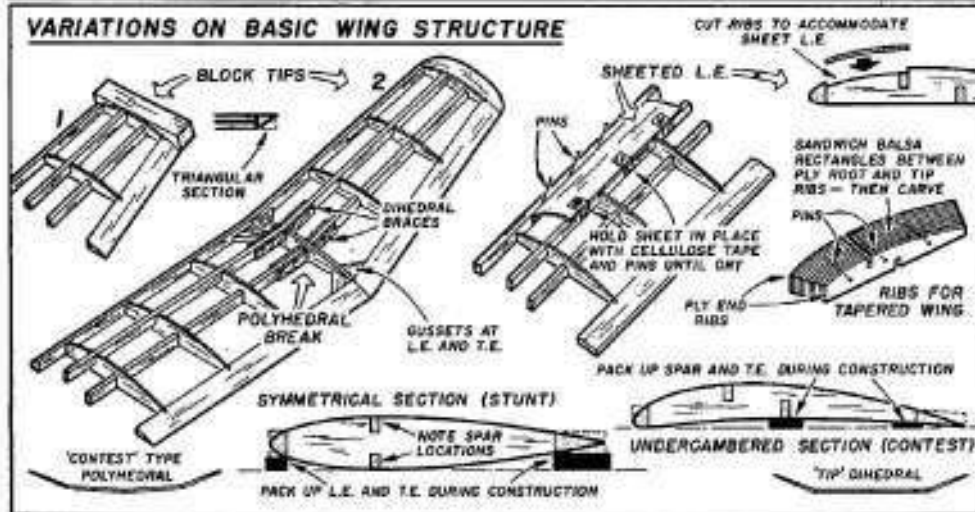
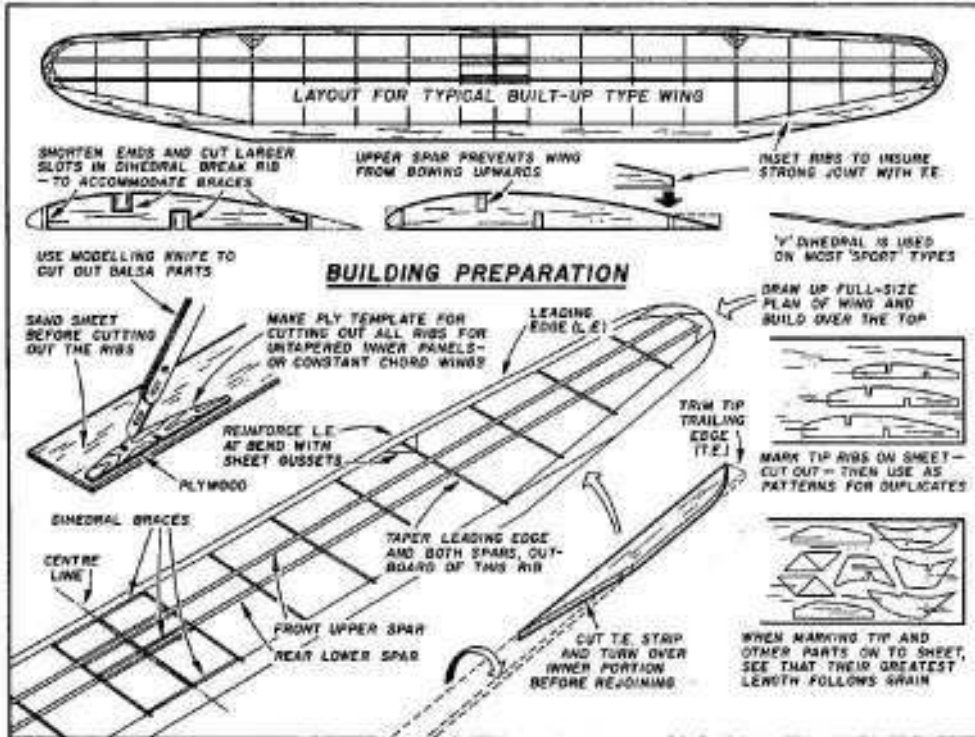
Screw-eye stoppers from cement tubes can be used to hold down floppy fuel lines leading from tank to engine on profile models. Drill a small pilot hole in fuselage side at the desired



location. Screw eye into place, and thread the fuel line through the eye. It will keep the fuel line away from engine heat. WAYNE BROWN, Drumheller, Alberta, Canada.

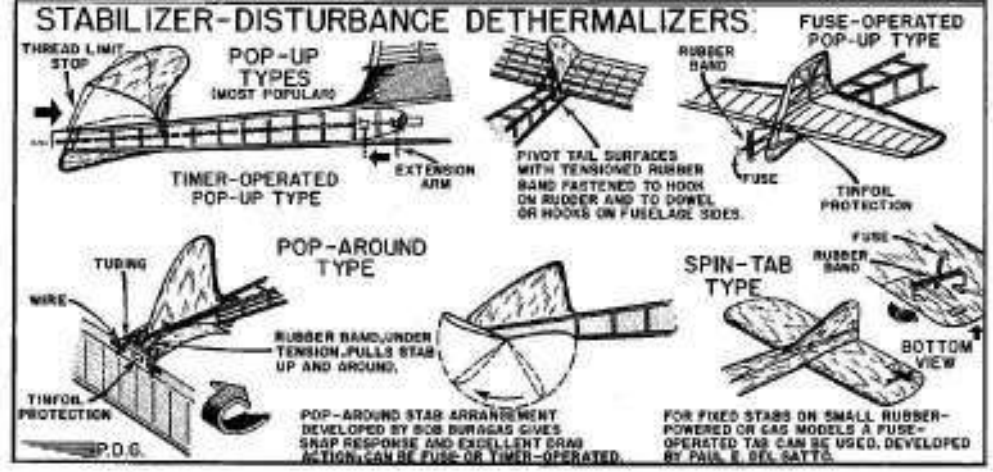
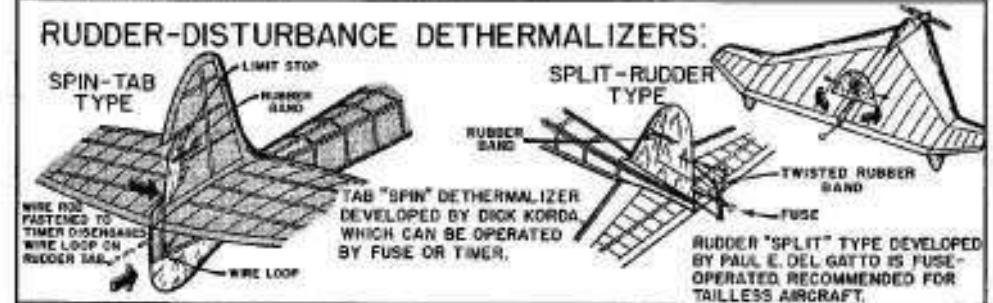
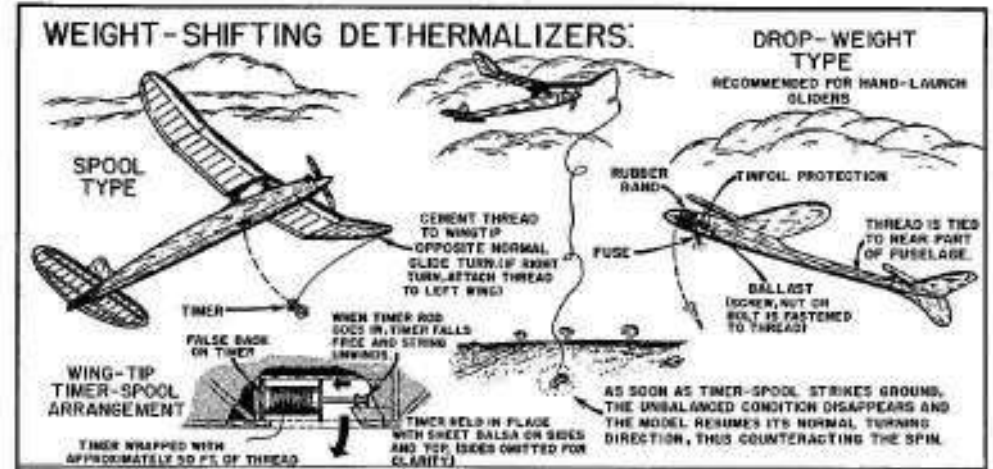
# FM CONSTRUCTION SHEETS

BUILT-UP WINGS

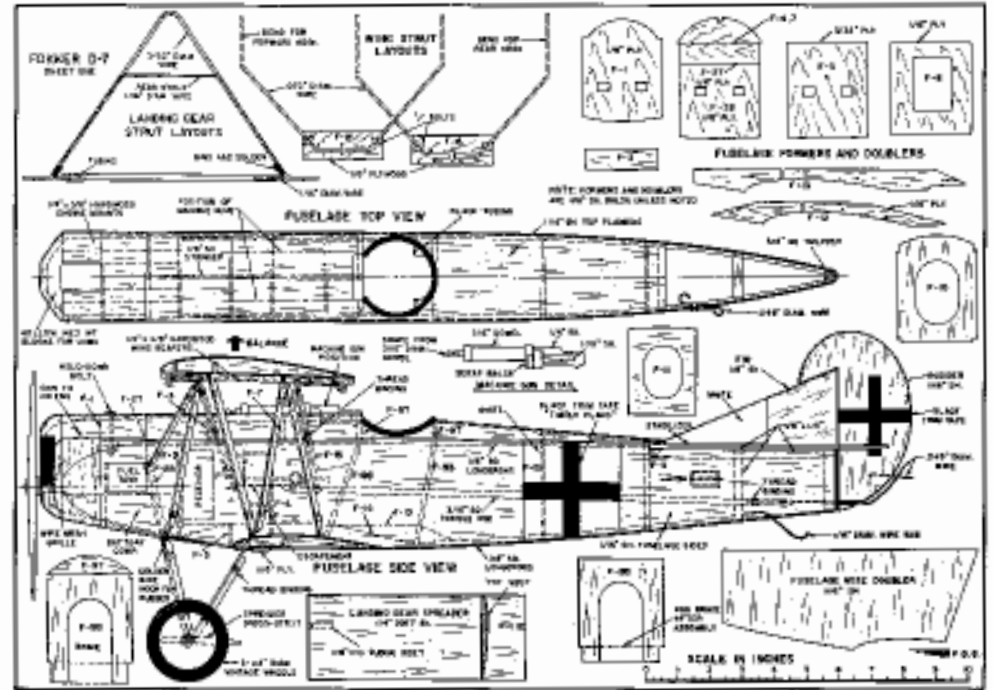
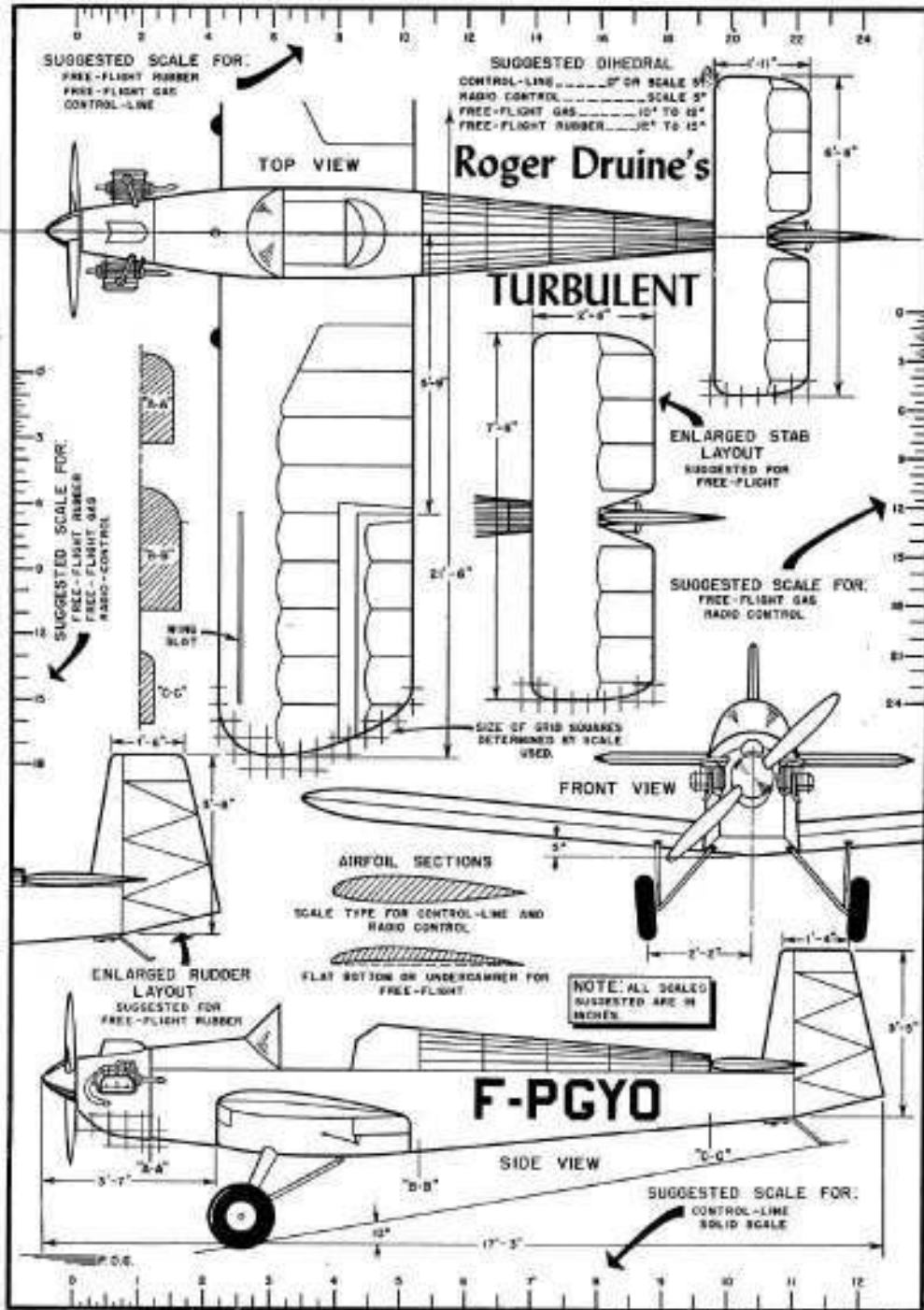


# FM DATA SHEETS

DETHERMALIZERS AND HOOK-UPS

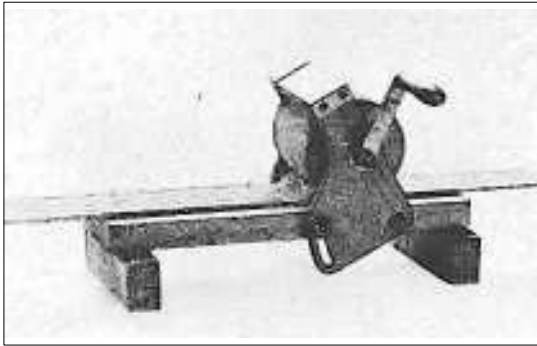








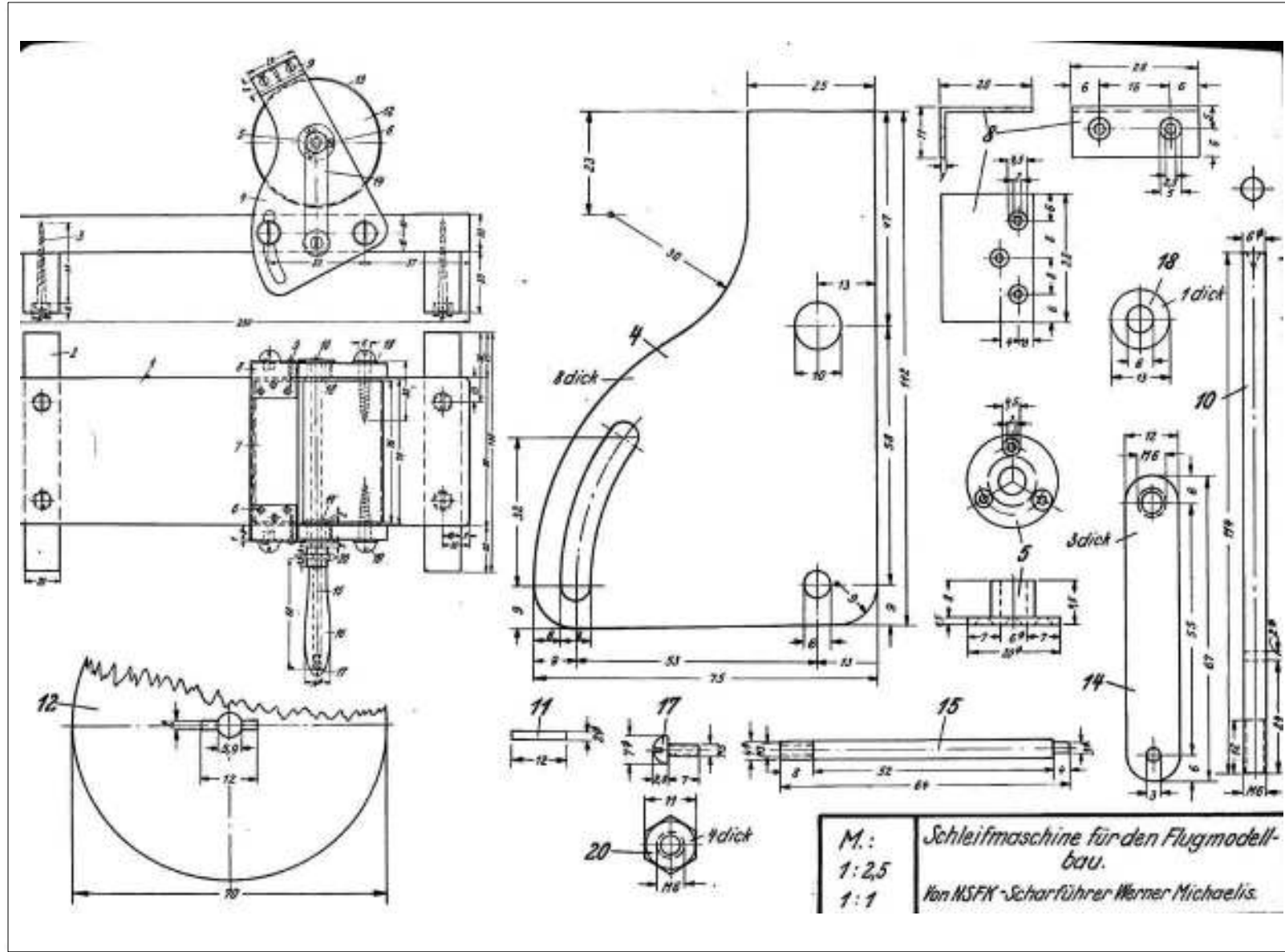
# "Grinding Machine for Aeromodel Construction"

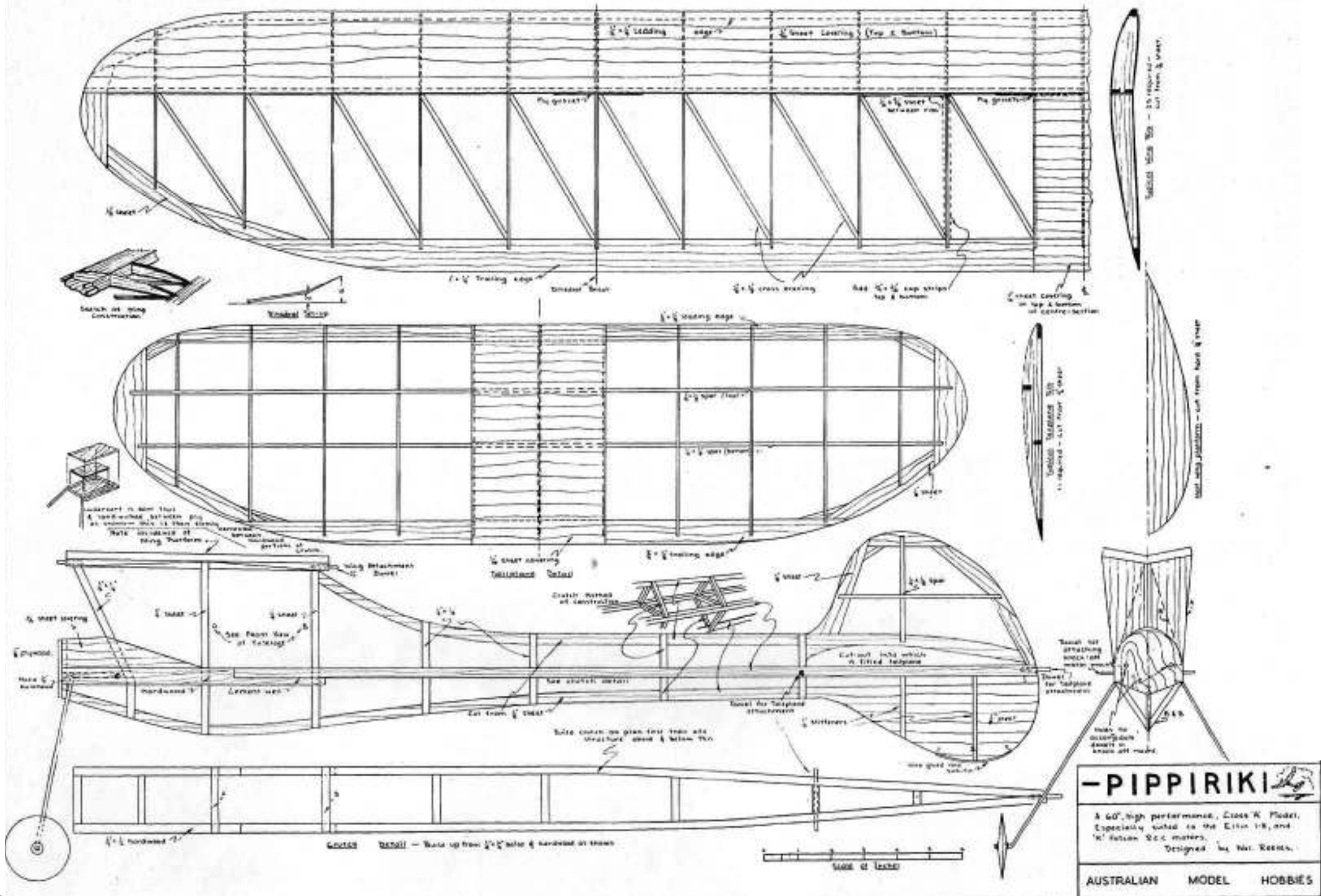


Probably better translated as a "thicknesser", this device dates from the 1940s, a period during which model aviation was strongly supported by German authorities through the National Socialist Flyers Corps.

Hostilities hardly slowed the vigorous and demanding activities of the NSFK, although ingenuity was required to overcome shortages of modelling supplies.

In the absence of aeromodelling woods, salvaged timber could be reduced to usable thicknesses with devices such as this. One problem solved, another created - where to obtain metal to build the thicknesser?

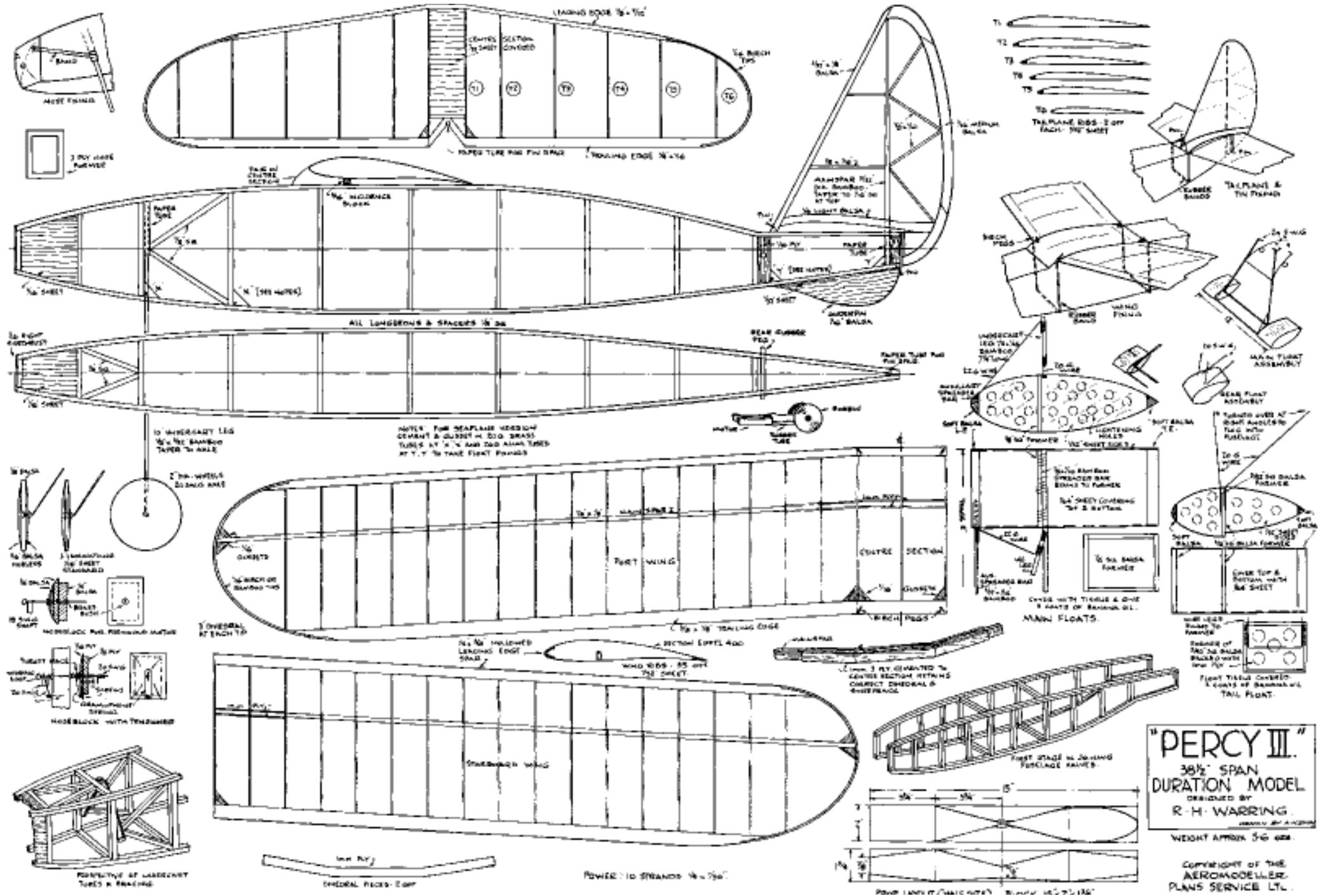




**-PIPPIRIKI**

A 60" high performance, EASA W Model, Especially suited to the Elin 18, and 1/4" Action 2cc motors.  
Designed by W. Reeves.

AUSTRALIAN	MODEL	HOBBIES
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# MODEL AIRCRAFT



*W. G. ...*  
9



CORONATION FEATURE ARTICLE  
"Royal Wings"

## IN THIS ISSUE

JUNE 1953

• THE NEW CENTRIFUGAL FAN PROPULSION • FACTS ON GLIDER DESIGN • ALLBON "SPITFIRE" ON TEST  
• AN INTERESTING JA TEAM RACES PLAN • INTERNATIONAL POWER REVIEW PART III—MODEL DESIGN

# 1'6

## Cover Story

His Royal Highness the Duke of Edinburgh, who showed his keen interest in the model world when he opened The Model Engineer Exhibition last year, recently aroused considerable interest in aviation circles by embarking on an R.A.F. pilot training course, and the cover picture shows the controls of a Chipmunk aircraft being explained to him.



## RC Top 10 Leader Boards 2021

The purpose of the Vintage SIG RC Leader Boards is to increase enjoyment of competition flying by showing fliers how well they are performing relative to others. Scores are posted from the results of contests, NDC, and independently-timed flying.

The Leader Boards run for each calendar year, and are updated throughout. At the end of each year they are cleared and started afresh. The record for each class is maintained over time, and shown in blue italics with the year in which it was set.

The many new postings are shown in red. They are from NDC and events at Christchurch, Levin, Pukekawa, Blackfeet, Awatoto, and Tuakau.

It is great to see several new names on the Boards.

There is one new record – Sean McCurrie in Sport Cabin Texaco IC.

I am sure we are all pleased to see an increased number of postings compared to earlier years. Seven of the Boards already have ‘full house’ ten postings.

Please email me if you spot any errors or omissions.

Wayne Cartwright  
rwcartwright4@gmail.com

## Precision Classes

### Vintage Precision

*Record: B Russell (2020) 600 + 200 + 200*

1.	B Russell	600 + 199
2.	A Knox	600 + 198
3.	B Treloar	600 + 198
4.	D Mossop	600 + 193
5.	D Crook	600 + 190
6.	T Gribble	599
7.	J Ryan	599
8.	B Hall	590
9.	W Filley	589
10.	T Beaumont	588

### Classical Precision

*Record: B Harris (2016) 598*

1.	A Knox	594
2.	M Shears	590
3.	B Robinson	589
4.	B Russell	575
5.	D Mossop	570
6.	G Main	553
	D Thornley	553
8.	G Fulton	548
9.	S Nicholas	538
10.	B Scott	391

## Duration Classes

### Vintage IC Duration

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

1.	A Knox	773
2.	T Beaumont	764
3.	D Thornley	757
4.	A Knox	740
5.	S Cox	703

6.	J Miller	655
7.	J Ryan	589
8.	B Russell	575
9.	R Anderson	515
10.	D Little	495

### Vintage E Duration

*Record: B Harris (2018) 960 + 600*

1.	B Russell	950
2.	D Mossop	914
3.	A Knox	910
4.	S Nicholas	869
5.	W Cartwright	639
6.	B Scott	535
7.	R Anderson	521
8.	P Townsend	310

### Classical IC Duration

*Record: D Thornley (2017) 900 + 600*

1.	B Scott	539
2.	D Thornley	514

### Classical E Duration

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

1.	B Russell	900 + 299
2.	B Robinson	891
3.	D Gush	875
4.	A Knox	853
5.	W Cartwright	825
6.	P Townsend	772
7.	M Shears	741
8.	D Mossop	713
9.	J Miller	712
10.	D Crook	694

## Texaco Classes

### Vintage 1/2A Texaco

Record: A Knox (2018) 1500 + 1833

1. A Knox 1500 + 622
2. L Rodway 1489
3. B Treloar 1416
4. S Cox 1363
5. B Scott 1240
6. P Townsend 1239
7. S Morse 1233
8. D Gush 1222
9. J Ryan 1110
10. S Grant 1025

### Vintage A Texaco

Record: A Knox (2018) 1860 + 1870

1. B Treloar 1860 + 669
2. A Knox 1852
3. B Treloar 1844
4. S McCurrie 1643
5. S Grant 1395
6. T Glogau 1218
7. B Scott 1138
8. S Cox 1028
9. J Butcher 614

### Vintage Open Texaco

Record: B Treloar (2018) 1840 + 1703

1. B Scott 1830
2. A Knox 1756
3. B Russell 744
5. I Munro 686
3. S McCurrie 162

### Vintage 1/2E Texaco

Record: P Townsend (2020) 3689

1. W Cartwright 2839

2. J Butcher 2388
3. K Fisher 1964
4. T Gribble 1624
5. B Russell 1390
6. B Scott 1313
7. A Knox 884

### Classical 1/2E Texaco

Record: D Crook (2020) 2774

1. T Gribble 1482
2. D Crook 1437
3. W Cartwright 637

### Vintage E Texaco

Record: A Knox (2020) 3000

1. D Crook 2793
2. W Cartwright 2317
3. B Russell 1735
4. A Knox 1600
5. J Butcher 1450
6. T Gribble 1427
7. B Scott 1388
8. D Mossop 1188
9. R Anderson 1170
10. B Russell 639

### Classical E Texaco

Record: A Knox (2020) 3310

1. D Mossop 2697
2. A Knox 2291
3. P Townsend 1857
4. K Fisher 1636
5. B Russell 1335
6. T Gribble 1219
7. B Scott 804
8. D Thornley 512

### Vintage E Rubber Texaco

Record: B Russell (2019): 5685

1. J Butcher 4570
2. D Mossop 3835
3. D Crook 2688
4. B Russell 2687
5. J Danks 2588
6. K Fisher 2037
7. T Gribble 2026
8. S Nicholas 1857
9. A Knox 1566
10. D Gush 1268

### Sport Cabin Texaco IC

Record: S McCurrie (2021) 1646

1. S McCurrie 1646
2. A Knox 971
3. J Beresford 543
4. L Rodway 389
5. B Scott 324

### Sport Cabin Texaco E

Record: K Trillo (2019) 4457

1. K Fisher 3116
2. J Butcher 2382
3. B Scott 1779
4. R Anderson 1422
5. B Russell 1243
6. P Townsend 1222
7. M Evans 1134
8. L Rodway 603

### Vintage and Classical Scale Texaco

Record: A Knox (2020) 1680 + 786

1. A Knox 1660



## VINTAGE PRECISION

<i>G.Burrows</i>	<i>2014</i>	<i>411</i>
1. B.Scott	NDC	266
2. L.Rodway	NDC	227
3. David Ackery	Nationals	223
4. J.Beresford	NDC	201
5. S Cox	Nationals	200
6. Bryce Gibson	Nationals	193
7. Chris Murphy	Nationals	178
8. S.Morse	NDC	149
8. R. Bould	Nationals	128
10. Kyla Fisher	Nationals	93

## VINTAGE POWER

<i>Anderson / Bain / Scott</i>	<i>540</i>
1. B.Scott	NDC 466
2. R.Bain	NDC 423
3. Rex Anderson	Nationals 175
4. C.Muyrphy	Nationals 160
5. A.Koerbin	Nationals 92

## VINTAGE RUBBER

<i>McGarvey / Koerbin</i>	<i>540</i>
1. A.Koerbin	Nationals 525
2. P Squires	Nationals 455
3. C.Murphy	Nationals 430
4. R.Pilcher	Nationals 375
5. B Scott	NDC 305
6. W.Lightfoot	Nationals 304
7. B.Gibson	Nationals 195

## VINTAGE GLIDER

<i>R.Anderson</i>	<i>2018</i>	<i>436</i>
1. D.Ackery	Nationals	277
2. L.Rodway	NDC	236
3. S.Cox	Nationals	220
4. J.Beresford	NDC	77
5. M.Evans	Nationals	38
6. B.Scott	NDC	33

## NOSTALGIA POWER

<i>Bain / Scott</i>	<i>540</i>
1. R Bain	Nationals 502
2. B.Scott	Nationals 479
3. B.Gibson	NDC 469
4. K.Barnes	Nationals 465
5. R.Anderson	Nationals 436
6. B.Gibson	Nationals 372
7. C.Murphy	Nationals 281

## VINTAGE CAT GLIDER

<i>J.Butcher</i>	<i>2012</i>	<i>339</i>
1. D.Richards	Nationals	297
2. R.Brown	Nationals	255
3. K.Barnes	Nationals	253
4. G.Lovejoy	Nationals	243
5. J. Butcher	Nationals	233
6. R.Pilcher	Nationals	223
7. J.Warner	Nationals	212
8. A.Knox	Nationals	211
9. A.Reed	Nationals	209
10. A.Fuller	Nationals	208

## NOSTALGIA RUBBER

<i>L.Vincent</i>	<i>2021</i>	<i>1011</i>
1. L.Vincent	Nationals	1011
2. P.Squires	Nationals	872
3. W.Lightfoot	Nationals	488
4. G.Lovejoy	Nationals	477
5. B.Scott	NDC	462
6. B.Gibson	Nationals	435
7. C.Murphy	Nationals	427

## NOSTALGIA GLIDER

<i>M.Evans</i>	<i>470</i>
1. B.Scott	NDC 273

## SMALL POWER

<i>B.Scott</i>	<i>2016</i>	<i>353</i>
1. S.Cox	Nationals	261
2. B.Scott	Nationals	253
3. R.Anderson	Nationals	150

## CLASSIC POWER

<i>Bain / Murphy</i>	<i>540</i>
1. C.Murphy	Nationals 540
2. K.Barnes	Nationals 432
3. D.Ackery	Nationals 283

## CLASSIC GLIDER

<i>R.Anderson</i>	<i>2015</i>	<i>540</i>
1. R.Anderson	Nationals	400
2. A.Knox	Nationals	294
3. M.Evans	Nationals	197
4. M.Vincent	Nationals	130

# "CARBON" WING, DYE, DOCULAM, and AUSTRALIAN PAINT

At the Waikato FF Champs, my Vintage Rubber *Mercury* stalled down, two flights out of three, with its rubber motor bunched at the rear of the fuselage. Something had to be done so I re-covered the wing. That did nothing to stop the bunching, but it did cure another problem - fingers going through the brittle tissue - and gave an opportunity to try a covering material that was new to me.

Top right is the newly-recovered wing, practising getting treed. Looks rather carbon-ish despite being of all-balsa construction. The stripped wing was dyed black before re-covering with Doculam.

The transparent Doculam reduces visibility to almost nothing - the reason for dyeing the wood - so colour was added to the tips using the fourth most useful product to come out of Australia. (The first three, as you will certainly know, are the wobble-board, ugg boots, and the Hills Hoist). Australian Export Fluoro paint is available in NZ from Super Cheap Auto at \$7.99 per can. It is sold as an enamel but for me it has behaved more like a dye on model surfaces. Resistance to nitro fuels is low so it is used mainly on wing tips.

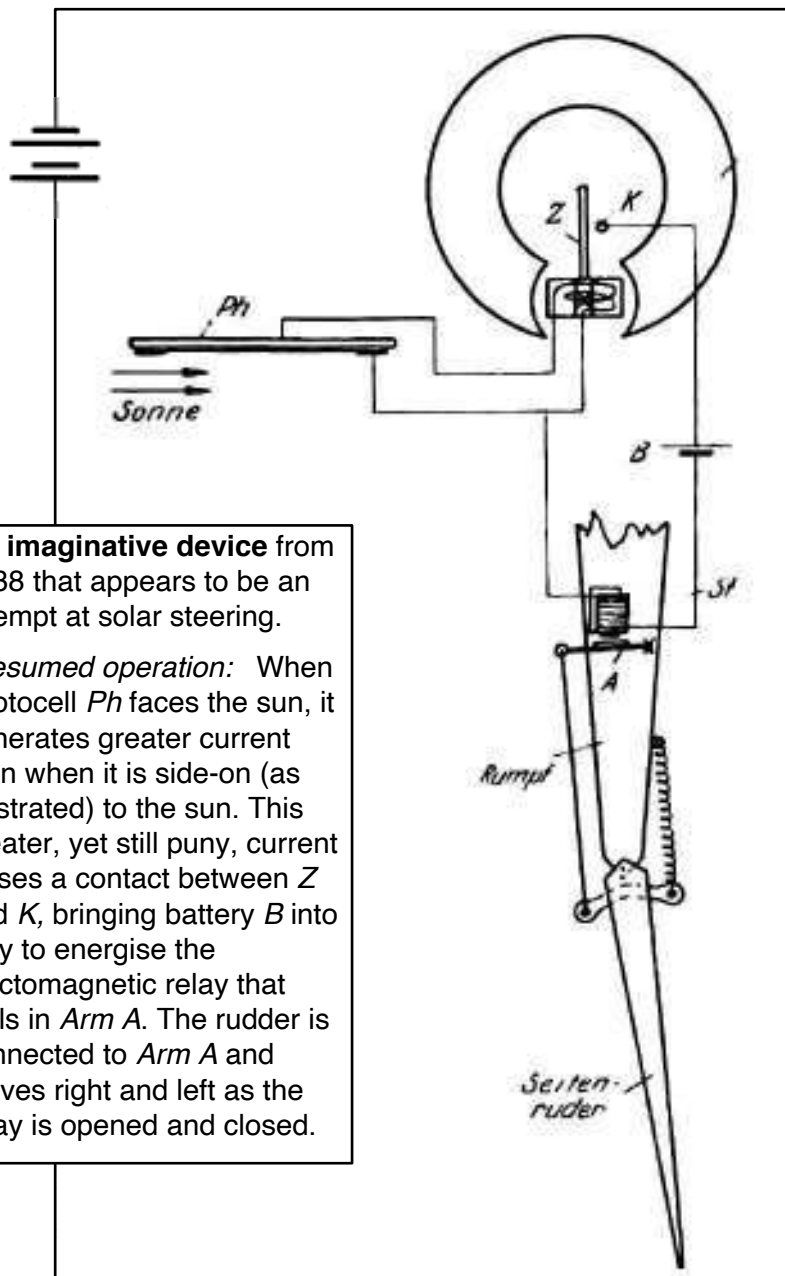
Weight of the dyed, Doculamed, and coloured wing is 1.5 grams more than the original tissue covered wing, but without the painted tips, it is lighter than the original. Compared with tissue, Doculam's rigidity is similar, and puncture resistance is very much greater. It has its own adhesive layer which, unlike some other films, does not stick to itself. It adheres at low temperatures and shrinks (a lot) at much higher temperatures. Despite the large amount of shrinkage, it did not induce warps on the lightweight wing.

Now to deal with that stalling problem.

Bernard Scott



# MISCELLANEOUS



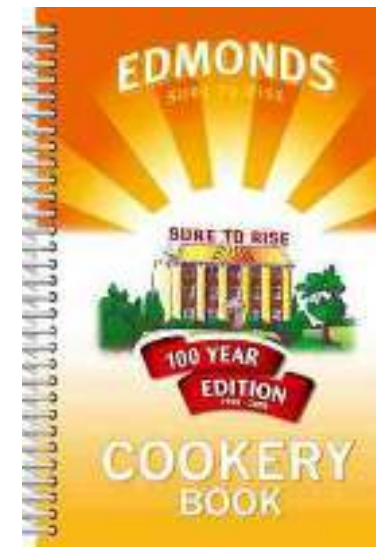
**An imaginative device** from 1938 that appears to be an attempt at solar steering.

*Presumed operation:* When photocell *Ph* faces the sun, it generates greater current than when it is side-on (as illustrated) to the sun. This greater, yet still puny, current closes a contact between *Z* and *K*, bringing battery *B* into play to energise the electromagnetic relay that pulls in *Arm A*. The rudder is connected to *Arm A* and moves right and left as the relay is opened and closed.

The  
"Little  
Gem"  
on  
page  
18 is  
a  
1946  
Elf

## ICON #183 Edmonds Cookbook

Described as "*just as much a part of New Zealand kitchens as a stove and knife*", and at one time sent unsolicited to every newly engaged couple in New Zealand. A must for first time flatters and those wanting a wide variety of healthy and easily cooked meals without having to buy exotic ingredients. Over 3,000,000 copies have been sold and it is New Zealand's fastest selling book of any type with over 200,000 copies sold in one year.



*Ellie was sad to miss Aggregate and decided on a checklist for next time so she did not leave her model behind*

