



# OLDTIMER MODELFLYVERNE

Medlemsblad for Dansk Modelflyve Veteranklub

Nr. 2 - 2003

**SAM - 1935**

12. Årgang



**Jørgen Surløkke Petersen - SP -  
med en andemodel fra sidst i 40'erne.**

# Dansk Modelflyve Veteranklub SAM-1935

stiftet den 6. oktober 1991

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Kontingent: 150 kr. årligt

For modtagere af bladet SAM Speaks i alt 270 kr årligt.

Medlemsbladet Oldtimer Modelflyverne udkommer 2-3 gange årligt.

Redaktør: Erik Knudsen.

Hjemmeside : [www.dmvk.dk](http://www.dmvk.dk)

Hans Frederik Nielsen er hjemmesidebestyrer.

Dette blad er udsendt i december 2003

Næste nummer af bladet – nr. 3 / 2003 - vil udkomme i januar/februar 2004.

De næste par numre vil indeholde bl. andet:

- 1 Referat fra Oldtimer SM 2003
- 2 Linestyring
- 3 .Modelflyvestof fra 1954 ( for 50 år siden ).
- 4 Tegninger og stof vedr. modeller fra perioden 1953 -1968
- 6 Artikler af Per Weishaupt
7. Eliteflyverprøverne

På længere sigt er der planlagt stof om :

FJ - modellerne (evt. temanummer), diesel-modeller, vinder-modeller fra wakefieldkonkurrencerne, VM i 1955 og 1956, eliteflyverprøverne ...

Desuden ligger der stof til: Trimning af gummimotormodeller, Wakefieldmodeller ca. 1950 og de nordiske landskampe.

Redaktøren ønsker sig altid stof, fotos og tips om de modeller, man bygger på, gode ideer og synspunkter samt forslag til artikler.

DEAD-line for næste nummer: 15. januar 2004



## OV-47 "Donald Duck"

Da de nye skandinaviske modelregler med bl.. a. A-2 klassen blev offentliggjort i 1945, gik Oscar Vang fra OMF straks i gang med at konstruere denne model efter de nye regler.

Modellen blev bygget i vinteren 1945/46 og trimmet kort efter påsken 1946. Den var forsynet med automatisk kurveklap og en termikbremse udløst af lufttrykstimer.

Alligevel havde den en del bortflyvninger i 1946 - sidste gang blev den først fundet 5 måneder efter. Den fløj sidste gang ved OMF's jubilæumsstævne i 1960. Modellen eksisterer formentlig endnu i Oscars varetægt.

Billedet viser Kurt Sandberg med sin "Donald Duck" bygget efter Oscars tegning.

Denne flotte og detaljerede tegning med alle profil- og spanttegninger har DMV- Poul Rasmussen skaffer en kopi, hvis du får lyst...

## Til medlemmerne

Glædelig Jul og godt Nytår til medlemmerne. Dette nummer af Oldtimer skulle kunne nå alle inden jul, så i den anledning bliver der i bladet "serveret and" efter forskellige opskrifter. Derefter kan man så som dessert nyde Frede Juhls referat fra vores Oldtimer DM garneret med fotografier fra stævnet.

I de stille juledage er der god tid til at studere alle de mange historiske A-2 modeller fra Jim Baguleys imponerende artikler, som findes i dette og sidste nummer. Her kan man finde netop den model, som skal med i nytårsforsættene om, hvilke modeller, der skal bygges i 2004. Også en "Papricanard" skulle måske overvejes.

I næste nummer vil der være referat af Frede Juhl fra det svenske Oldtimer SM - også med en del billeder. I samme blad fortæller Hans. F. Nielsen om sin rekonstruktion af en af Kurt Rechnagels store flyvende vinger.

Desværre tillader vores økonomi ikke, at vi bringer vore billeder som farvebilleder. Men vil man gerne se billederne fra DM og SM i farver, kan jeg fortælle, at Frede Juhls referater kan læses i Model Flyve Nyt fra december. Vi håber så, at artiklerne kan skabe forøget interesse om vores klub. Model Flyve Nyt fås jo ikke længere i boghandelen, men kan købes hos Model Flyve Nyt, Strandhuse 4, 5762 Vester Skerninge. Tlf.: 62 24 12 55

**Indkaldelse til landsmødet den 21. marts 2004 - sikkert i Nyborg.** Dagsorden i næste nummer.

DMV har en hjemmeside !

Hans F. Nielsen er vores webmaster og stadig under uddannelse. Nyt fra Webmasteren: DMV's tegningsarkiv er nu lagt ind på vor hjemmeside. Gå ind på siden under TEGNING og find det meste af karto-teket opdelt efter konstruktionsår-modelbetegnelse—konstruktør og spændvidde.

Links findes nu under ORGANISATION: herfra kan man komme ind på andre hjemmesider af interesse - bl. a. Frit-flyvnings-unionen og RC-unionen.

Adresse : [www.dmvk.dk](http://www.dmvk.dk) Prøv bare ... Svensk hjemmeside : <http://fly.to/smos>

Prøv også en tysk hjemmeside : [www.amd.schoene-zaehne.de](http://www.amd.schoene-zaehne.de)

Den gamle redaktør har måttet bøje sig for tidens ubønhørlige krav og anskaffet E-mail adresse : [erik.knudsen@mail.tele.dk](mailto:erik.knudsen@mail.tele.dk). Har du fået E-mail, så fortæl Fritz det !

### Nyt fra PR-udvalget.

Tak til PR-udvalget for gode initiativer. EK.

#### Bygge / flyve konkurrence

Veteranklubbens medlemmer indbydes hermed til en lille bygge – flyve konkurrence i forbindelse med vort landsmøde den 21 Marts i Nyborg. Der vil blive konkurreret i distance og måske også i varighed. Efter trimning bliver der 3 forsøg pr. deltager. Tidtagere og hjemhentere vil være til rådighed.

Vedlagt en tegning til en lille veteran chuck glider. Du kan vælge at bygge den derhjemme el. vente til landsmødet, hvor der vil være et samlesæt til alle. Medbring blot lidt sekundlim og en stærk kastehånd. **God fornøjelse.**

#### STOR MODEL TRÆF

Endvidere inviterer vi til et STOR MODEL TRÆF på Skjern enge en Søndag i April/Maj måned næste år. En sandsynlig dato er Søndag den 2. Maj. Konkurrencen afvikles samtidig med fritflyvernes VÅR 2 konkurrence.

Vi håber med dette initiativ at se rigtig mange Veteraner med deres store og flotte modeller f.eks. FJ-6, Diogenes, Ølhunden, Opvind, TH-31 og mange flere.

Vi flyver fra kl. 11.00 til kl. 15.30. Vi håber at alle kan nå 2 måske 3 flyvninger indenfor nævnte tidsrum. **Vel mødt.**

Nærmere oplysninger ved PR-udvalget.

Poul Rasmussen, Frede Juhl og Hans Fr. Nielsen.

*Til medlemmerne*

*Billedet af Min Old*

#### ! Rettelse !

**Forsidebilledet** i sidste nummer : Haslevklubben Ikaros havde nr. 201 - 207 var Ørnen i Næstved. Det viser sig også, at personen på billedet ikke er Bent Schmidt, men derimod hans "mekaniker" Henning Strit Jørgensen - en anden kendt modellflyver fra Haslev. Jeg er dybt beskæmmet. EK.

Sådan ser et eliteflyverbevis ud :



# DANSK MODELFLYVER UNION

(D. M. U.)

TILSLUTTET  
DET KONGELIGE DANSKE AERONAUTISKE SELSKAB

MEDLEM AF  
FÉDÉRATION AERONAUTIQUE INTERNATIONALE  
(F. A. I.)

# A

## ELITEFLYVERBEVIS

Nr.: *S-29*.

Udstedt: *10' Okt. 1944.*

Det attesteres herved at

Hr. *Jørgen Sørlykke Petersen*  
fra  
*"Eagle"*

har bestaaet Eliteflyverprøven med følgende Præstationer:

Model: *SP-92, Anders And* Klasse 10 .

1. Flyvning: *5 Min. 34.9 Sek.*

2. Flyvning: *4 --- 27.8 ---*

3. Flyvning: *5 --- 28.5 ---*

Samtidig meddeles, at De har Ret til at bære Unionens Guldemble.

For Dansk Modelflyver Union

*Jørgen Sørlykke*  
KONKORDPROTOKOLLEDER

# Contest Gliders

PART TWO OF A NEW  
SERIES BY Jim Baguley

The author completes his summary of World Championship winners with the current title holder and continues with outstanding British and foreign designs which have placed high and have influenced design.

1959 World Glider Championship Winner by G. Ritz U.S.A.—“The Continental”.

Diagram 11.

Here indeed was proof that U.S.A. have made the grade with A/2's after an initial shaky start.

Gerry Ritz had a foretaste of a World Championship event when he proxy flew Jim Daley's A/2 in 1957 at Mlada Boleslav.

The man/model combination was probably only equal to many at the contest who were less fortunate, especially Jiri Sokolov.

*Continental* seemed unreliable on tow during the contest but this was made up for by extensive test flying during the contest, particularly when reserves had to be brought into action following loss of the first line model. The wing section was fairly conventional but the undersurface of the tail section was a little unusual. The fuselage construction was similar to Lindner's. The tailplane area (72 sq. ins.) and proportions generally are, the writer would suggest, an optimum for current knowledge of airfoils and construction.

The renowned Ritz wing construction was reminiscent of Czepa, who resided with Ritz for some time and was a good simple answer if one likes carving balsa. Lift hunting was, by this time, so well accepted that the *AEROMODELLER* report dealt extensively with this aspect. Ritz was a master of towline tactics and has since written a good explanation of his methods in *Model Airplane News* which although it does not agree entirely with witnessed reports of his technique, illustrates his unique technique of hooking a thermal.

1950 World Championship British Team Model by J. Bennett—“Satu.”

Diagram 12.

For the time it was quite an advanced model. The proportions were quite orthodox and now outdated as are the airfoils.

The use of offset towhooks was a somewhat dicey feature of the time which is now entirely ousted by the auto rudder.

It was probably equal to any other model at the contest but was ruled out after two maximums by a low flight in thermal-happy conditions to eventually place sixth, times were 360, 360, 62.

1951 World Championship British Team Model by R. Monks—“Quickie”.

Diagram 13.

Contests were won by this design for years after the 1951 World Championships. It provided a repeat of Bennetts disappointment in 1950 and placed fourth with times of 300, 300 (putting it in 1st place) then 154, total 754 secs.

The design was well proportioned for the large tailplaned designs of the time and started a trend of simple construction.

Aerodynamically it was nothing startling but would still make a good basis for a rough weather model.

The wings were strut braced with stub dowels and although the idea never caught on this makes a neat solution for those with transport difficulties.

1953 World Championship British Team Model by G. C. M. Byrd—“Pistol Packing Mama.”

Diagram 14.

The 1953 British A/2 team never managed to get their models to the contest, through no fault of their own, but this was the leading model at the Trials. The design was very simple and proportions which would suggest a model of not exceptionally high performance but great reliability. Wing section was a Loughborough College Club development and apart from a very forward upper camber, would be right up to date.

Note that this design and Ray Monk's design both employ airfoil sections of moderate undercamber and thickness with tailplane sections using flat undersurfaces. Both have a fairly rearward C.G. at 60 per cent. or more and have moderate moment arm to tailplane area set ups which means that they are basically the ultra stable British A/2 described by Hans Hansen but with C.G. taken back to make stability of the correct order.

Current British practice of the time was to take the C.G. further forward and make the model too stable.

1955 World Championship British Team Model by R. Gilroy—“Bobcat.”

Diagram 15.

This simple, practical design only just missed winning the 1955 World Championships. It had thermal assistance on all but one of the five flights which indicates that it was flown well as its still air performance was undoubtedly inferior to that of many more complex designs present.

It employed similar wing and tail airfoils both with built in droop, the wing airfoil and the design generally being a little reminiscent of *Shorty* by J. Hancock who was after all, a close modelling associate.

Outstanding features were moderate aspect ratio, very short nose with light boom and tailplane, moderate tail area and moment arm with optimum C.G. position giving an alleged very rapid recovery from stalling which the writer can well believe. The pylon mounted wing did not apparently give any towing troubles.

The writer may by this time be thought to have a “thing” about tow hooks being placed a long way from the C.G. and while this does not necessarily lead to trouble it often does so, but this belongs to a different section of this series!

A rear mounted fin, the writers preference, was employed.

The two piece wing fixing was built in very neatly and this, with the main spar layout, is the method favoured by the writer as the tongue is surrounded by the strongest part of the wing, the main spar, which has merely been made into a completed box section. Times at Finthen were, 160, 180, 180, 180, 180, total 880 seconds.

1955 World Championship British Team Model by G. Lefever—“Altair”.

Diagram 16.

In both 1955 and 1957 this design topped the A/2 trials.

It has a high aspect ratio of 15 and with a comparatively large tailplane of nearly 90 sq. ins. and well matched airfoils, the moment arm of  $4\frac{1}{2}$  chord and the C.G. position of 65 per cent. are well in keeping.

It still carries the encumbrance of a deep fuselage complying with cross sectional area requirements. The construction generally is sensible but a point the writer would mistrust is the lack of extra strengthening at the centre section in the form of bandage, gussets and ply facing ribs where the wings dowl together. A conservative two minute time with no lift assistance is quoted but surely the design is capable of more than this, say around 2½ min? Times at Finthen were 90, 167, 137, 55, 97 total 546 seconds.

1956 World Championship British Team Model by R. C. Amor—“Lucifer”.

Diagram 17.

Much credit for this design is also due to the preceding model, clubmate G. Lefever's *Altair*.

The similarity left is still noticeable but whether the changes are improvements is a matter of opinion. Certainly both are very good designs. The aspect ratio is lowered to 12 but the moment arm is still  $4\frac{1}{2}$  chords, the tailplane is reduced very slightly in area but a flat undersurfaced tailplane section is used, necessitating a more forward C.G. of 55 per cent.

A thinner wing section, surprisingly modern in fact for those who have seen it for years is used, a Benedek B6356b.

Summarising this comparison, stability wise it is the writer's opinion that the *Altair* would fare better in windy weather, by having more similar airfoils and less incidence difference while the *Lucifer* would have a better still air performance by virtue of its wing section and reduced cross sectional area.

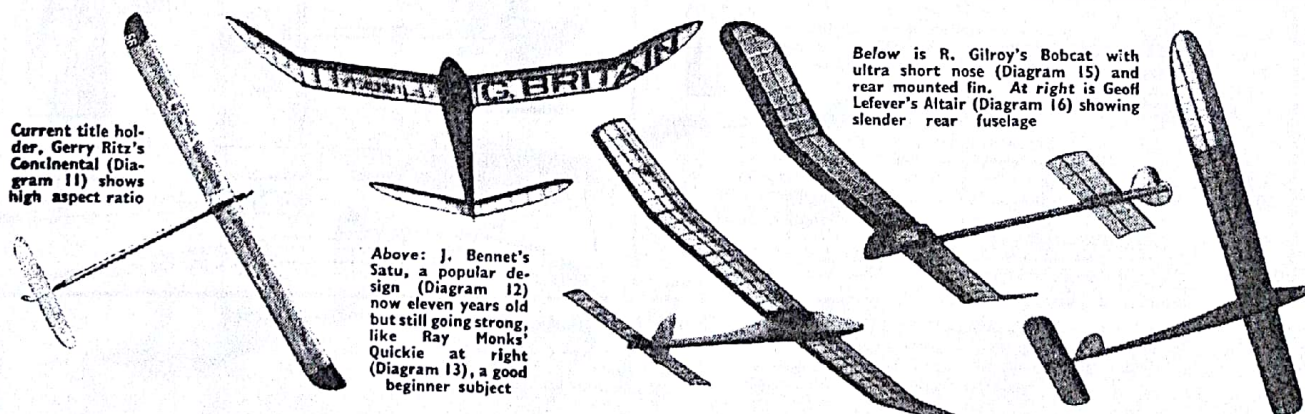
It is noticed that Amor's design carries detail constructional improvements, particularly at the wing root where the lack of strengthening was noted on the *Altair*. Times for the Florence were 180, 180, 180, 180, 115, total 835 seconds for second place.

1957 World Championship British Team Model by J. B. Hannay—“Topscore.”

Diagram 18.

This highly successful design, among its many attributes, placed top of both 1954 and 1957 British Team trials.

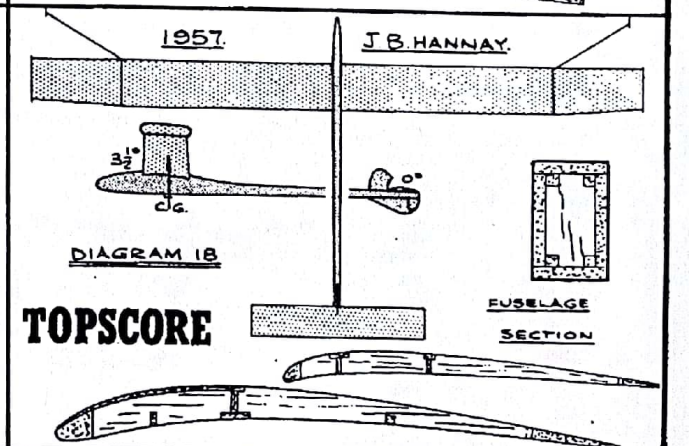
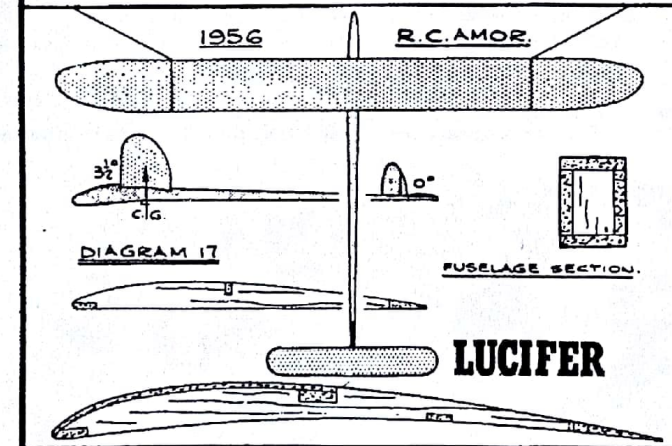
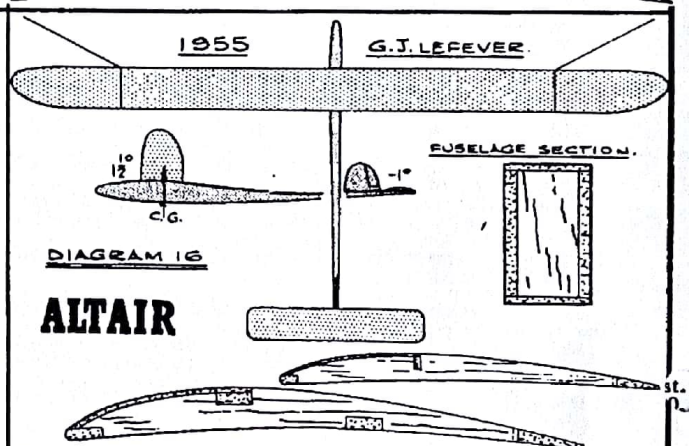
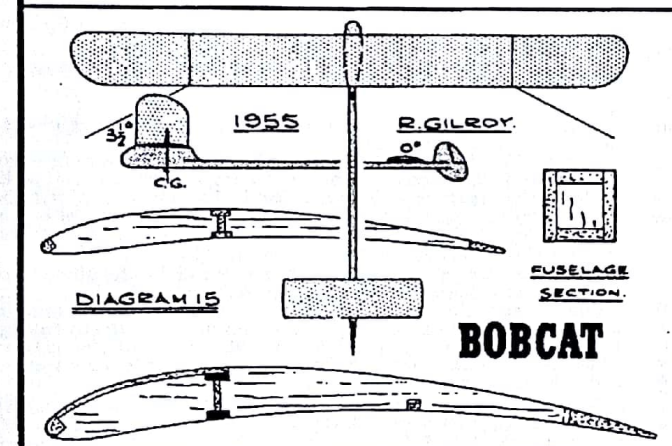
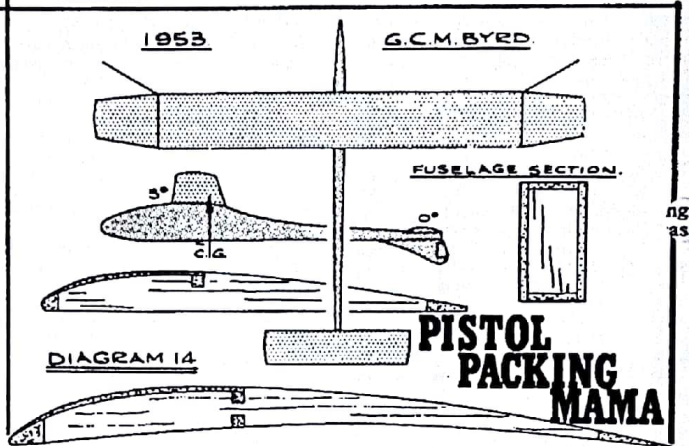
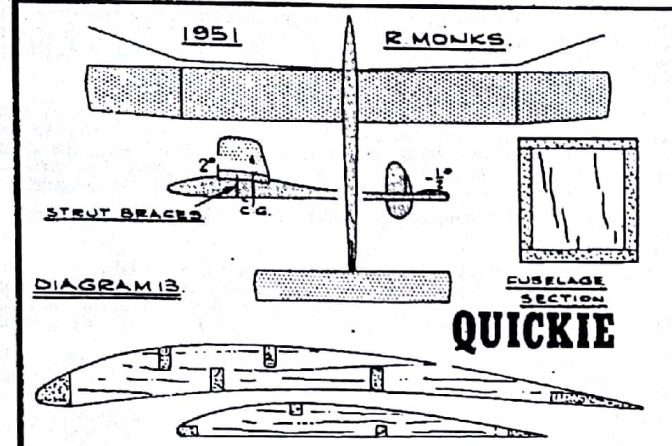
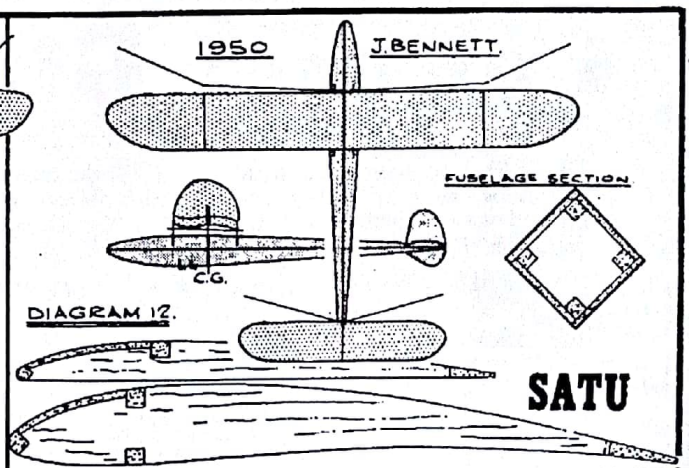
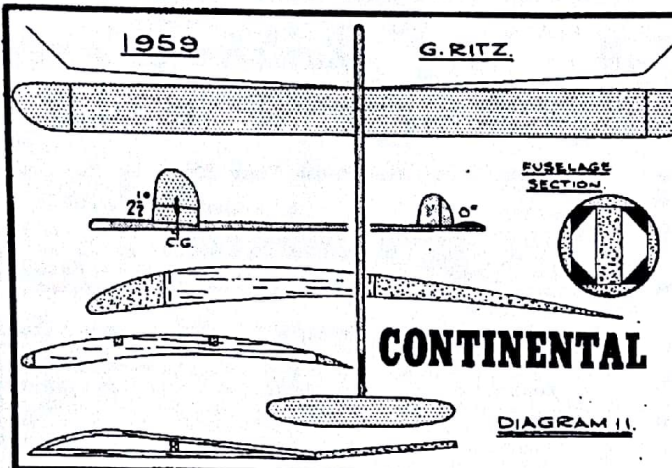
The 1957 design had been modified from the 1954 version by increase



Current title holder, Gerry Ritz's Continental (Diagram 11) shows high aspect ratio

Above: J. Bennett's Satu, a popular design (Diagram 12) now eleven years old but still going strong, like Ray Monks' Quickie at right (Diagram 13), a good beginner subject

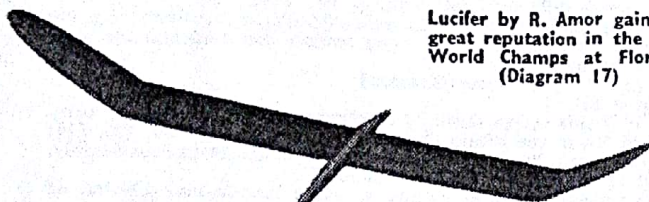
Below is R. Gilroy's Bobcat with ultra short nose (Diagram 15) and rear mounted fin. At right is Geoff Lefever's Altair (Diagram 16) showing slender rear fuselage



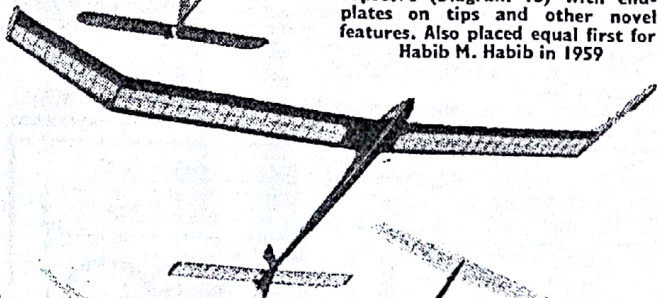
ALL DRAWINGS ARE TO A COMMON SCALE FOR SIZE COMPARISON

Jim Baquley var en meget kendt engelsk modelflyver. I sidste nummer af vores blad havde han fundet en del A-2 vindere fra verdensmesterskaber og andre top A-2 modeller frem. Adskillige danske var imellem ... Her fortsættes med andre topmodeller fra perioden indtil 1961 - så alle vil kunne flyve med i danske og svenske oldtimerstævner. Der findes tegninger til mange af dem - så byg bare løs ! F. eks. Sokolovs model fra 1959 ?

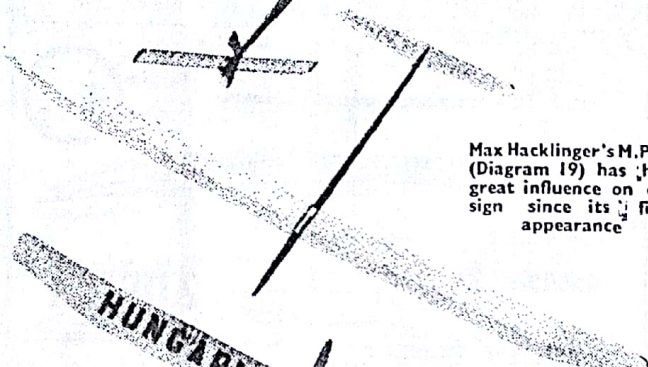
Lucifer by R. Amor gained a great reputation in the 1956 World Champs at Florence (Diagram 17)



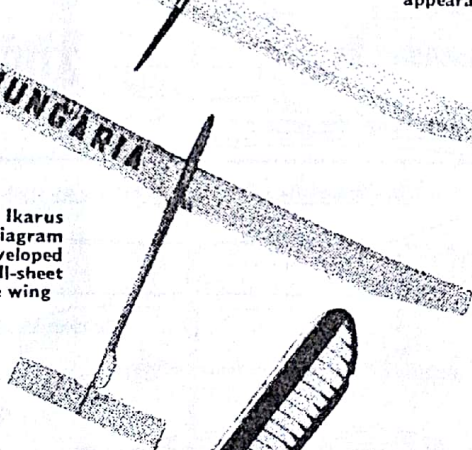
Extremely popular is John Hannay's Topscore (Diagram 18) with end-plates on tips and other novel features. Also placed equal first for Habib M. Habib in 1959



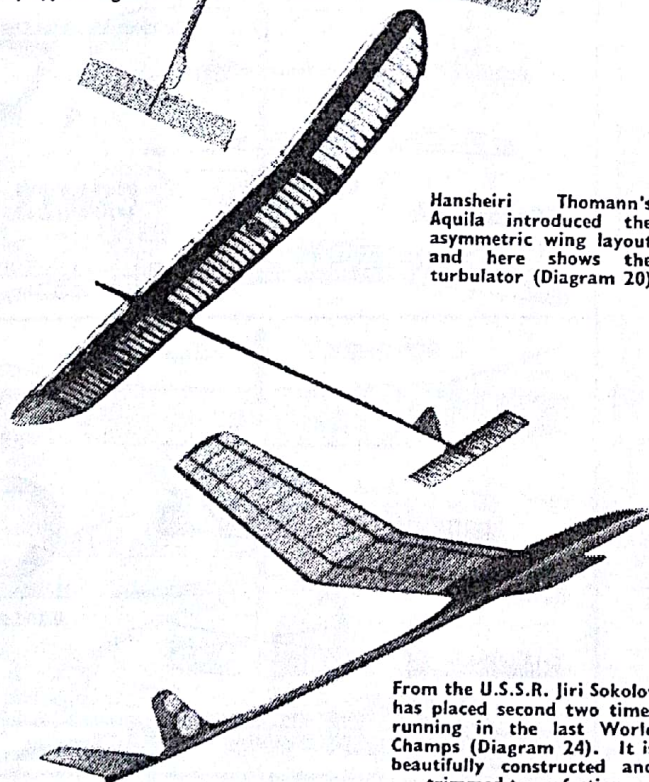
Max Hacklinger's M.P.12 (Diagram 19) has had great influence on design since its first appearance



Otto Roser's Ikarus IV design (Diagram 23), also developed with an all-sheet Jedelsky type wing



Hansheiri Thomann's Aquila introduced the asymmetric wing layout and here shows the turbulator (Diagram 20)



From the U.S.S.R. Jiri Sokolov has placed second two times running in the last World Champs (Diagram 24). It is beautifully constructed and trimmed to perfection.

of aspect ratio and thinning of sections apart from structural modifications. Many detail modifications were made over the years due to its adaption as a club design.

Proportion wise, the design is fairly orthodox with aspect ratio of  $12\frac{1}{2}$ , moment arm of 4 chords, tailplane area of 85 sq. ins., longitudinal dihedral of  $3\frac{1}{2}$  deg. and C.G. of 60 per cent. with very similar wing and tailplane airfoils, but in detail design it is far from orthodox. The wing and tailplane sections are most unusual in having their maximum under-camber almost at the same position as maximum top camber which in any case is well forward at approximately 35 per cent. Seemingly, this would disprove any ideas about the superiority of a lower airfoil surface whose maximum camber lies at 60 per cent. or more back from the leading edge as the stability and sinking speed of the design are excellent.

The method chosen of reducing tip vortices is the end plate, the merits of which the writer has always been in some doubt about; however, detailed comments belong elsewhere in this series.

The construction is in places a little unusual i.e.  $1/32$  in. "T" spars in the tailplane and use of leading edge sheeting to complete a  $1/16$  in thick I spar on the wing with auxiliary spars on the undersurface providing little structural benefit. This adds up to a very flexible wing and as the method of joining the wings is also very flexible they should take a lot to break. A detail criticism is of the wing tongue lightening holes which cause a sudden change of section just inside the wing tongue boxes. This can lead to early tongue failure with disastrous results to the tongue box, even using tough aluminium alloy, before the wings themselves show signs of failure (I have seen it happen!)

The use of an underlung auto rudder is noted again but a top fin is also present. The writer has great respect for this design, and in fact recommended it to a comparative beginner who was resuming aeromodelling after a lapse of five years. A modified version was flown to equal first place in the 1959 Contest by the Pakistani Habib M. Habib. Times in the 1957 event were 75, 180, 180, 180, 180, total 795 for 8th place.

MP-12 by M. Hacklinger (Germany).  
Diagram 19.

Max Hacklinger was Germany's leading light in A/2 contests and in World Championships and placed 2nd in 1952 (247, 300, 263, total 810 secs.) 14th in 1953 (187, 300, 215, total 702 secs.) and 11th in 1954 (69, 105, 180, 80, 40, total 474 secs.).

His MP12 was developed from his still air design by lowering aspect ratio, changing to polyhedral and shortening the moment arm. A still air time of 3 minutes is quoted. Aerodynamically the design was orthodox except in using an underfin and dihedralled tailplane. Constructionally it is quite a model Parasitic drag was kept to a minimum by using an internal spring wire front tailplane fixing and plug-on wings.

The fuselage section was the most rigid flat sided shape, triangular, and cement longerons are formed when the sides are stuck together. The wings are an education but must be fairly heavy and thus introduce inertia laterally. They were basically a wing with narrower chord, no spars, diagonal bracing and closely spaced ribs which had sheet added to and overlapping the upper surface thus increasing the chord. Despite being a 6 year old design the only real difference aerodynamically between it and present day models is the turbulator; indeed many present day designs owe a lot to Max Hacklinger.

Once more note washed out tailplane tips, but in this instance flat wing tips presumably to eliminate loss of efficiency which occurs with wash-out.

"Aquila" by H. Thomann (Switzerland).  
Diagram 20.

Like Max Hacklinger, Hansheiri Thomann is a successful theorist. The design has a record as good as any, placing 8th in 1954, 180, 68, 20, 180, 40, total 488, 6th in 1955, 166, 180, 180, 180, 130 total 836 secs., and 3rd in the 1956 World Championships, 139, 142, 180, 180, 180, total 821 secs.

Its proportions are the writer's idea of the ideal. Aerodynamically its only peculiarities are the use of a wing turbulator and the asymmetrical balanced wing. The latter idea is entirely original and was described in AEROMODELLER, March 1958 when the design was published. The idea was to keep the inner circling wing away from a stall, the difference in wing length being calculated from the circle diameter of flight required. Apparently the only possible difficulty is towing but this had not been encountered.

It is indeed an excellent innovation, if one feels like going to the trouble of building it in and more will be said about it later.

The model is full of good ideas constructionally and shows an appreciation of many problems. Fuselage cross section is a bare minimum and has the best shape (annular). Ballast is massed at the wing leading edge as the tailplane is kept about as light as is reasonably possible using tapered spars and diagonal bracing. Wing has a tapered spar which is a sandwich of hardwood with balsa webs' effectively the equivalent of a hardwood "I" spar and the ribs are covered with tissue and their rear ends braced to the trailing edge with gussets.

The latter points eliminate the usually most troublesome feature connected with warps, a bowed trailing edge due to the collapse of ribs, which is sometimes not readily visible. This trouble has plagued the writer for years when wood which is a little too soft has been chosen for ribs!

Like myself, Thomann apparently hates tongue and box put at the centre of an A/2 wing, but where I use a one piece wing he chooses the unusual but, apart from the outboard weight, commendable idea of making the tips detachable.

"Duha" by V. Spulak (Czechoslovakia).  
Diagram 21.

Spulak designed many models and was the leading Czechoslovakian glider designer. He was 6th in 1956 World Championships using Duha (155, 132, 180, 167, 180, total 814) and 18th in 1957 (175, 88, 148, 136, 180, total 727 secs.) This design has been selected as his best.

Aerodynamically it is orthodox with a moment arm of 4 chords and tailplane area of approx. 90 sq. ins. which is a little large. The other proportions match.

Hybrid balsa and hardwood construction was used throughout with adequate diagonal bracing and spars, passing through ribs. A model with no peculiarities, just good basic design and a Davis type wing section.

"Cemis 55" by V. Horyna (Czechoslovakia).  
Diagram 22.

This design is similar to Spulak's and placed consistently high for several years at the World Championships, in 1955 times 8th place were 180, 180, 133, 180, 152, total 25 seconds and for 8th place again in 1956, 177, 138, 142, 180, 152, total 789 seconds.

Its disposition of side area is unusual as is the use of an offset towhook with no auto rudder. A small under fin and very large side area at the nose are used. A friend built this design using an auto

rudder and had much trouble in towing and in obtaining a glide circle even though different hook position, etc., were tried.

It is suggested that the side area disposition may have been the cause of this. An MVA 123 wing section was used and the glide seemed brilliant.

"Ikarus IV" by O. Roser (Hungary)  
Diagram 23.

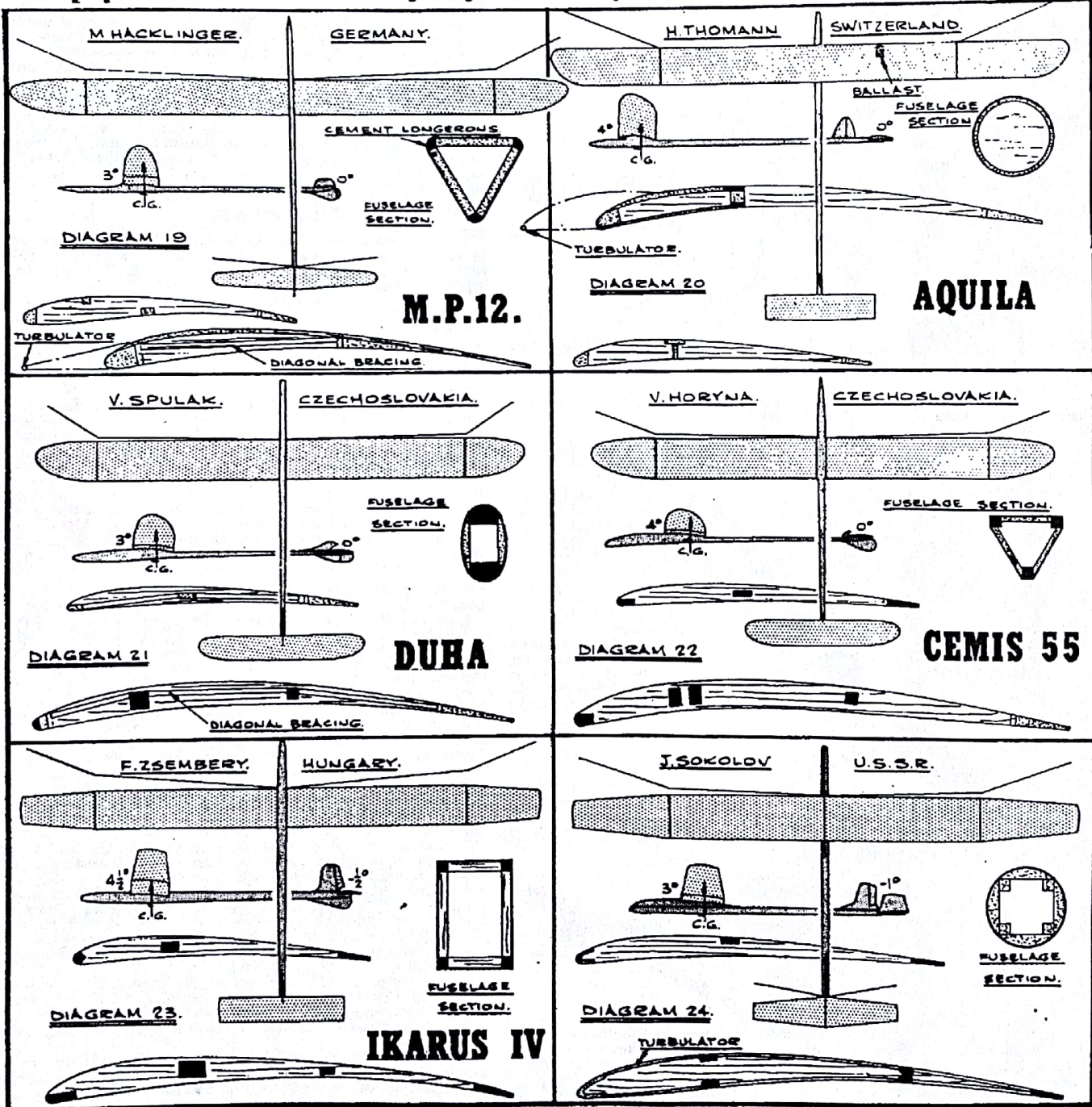
In 1957 this design flown by a young modeller, Ferenc Zsembery, finished 5th in the World Championships (180, 180, 180, 180, 114; total 834 secs.). Benedek probably influenced the design considerably, including the airfoil which was B.6456f.

The proportions were orthodox, but a longitudinal dihedral of 5 deg. was presumably made necessary by a 60 per cent. C.G.

The wing and tailplane constructions followed usual Continental practice but the fuselage was built up from longerons and spacers with warren girder bracing. This feature which is peculiar to Hungary nowadays resulted in quite a reasonably slim fuselage which must have been very light. Side area was quite large, but then so was the polyhedral to match.

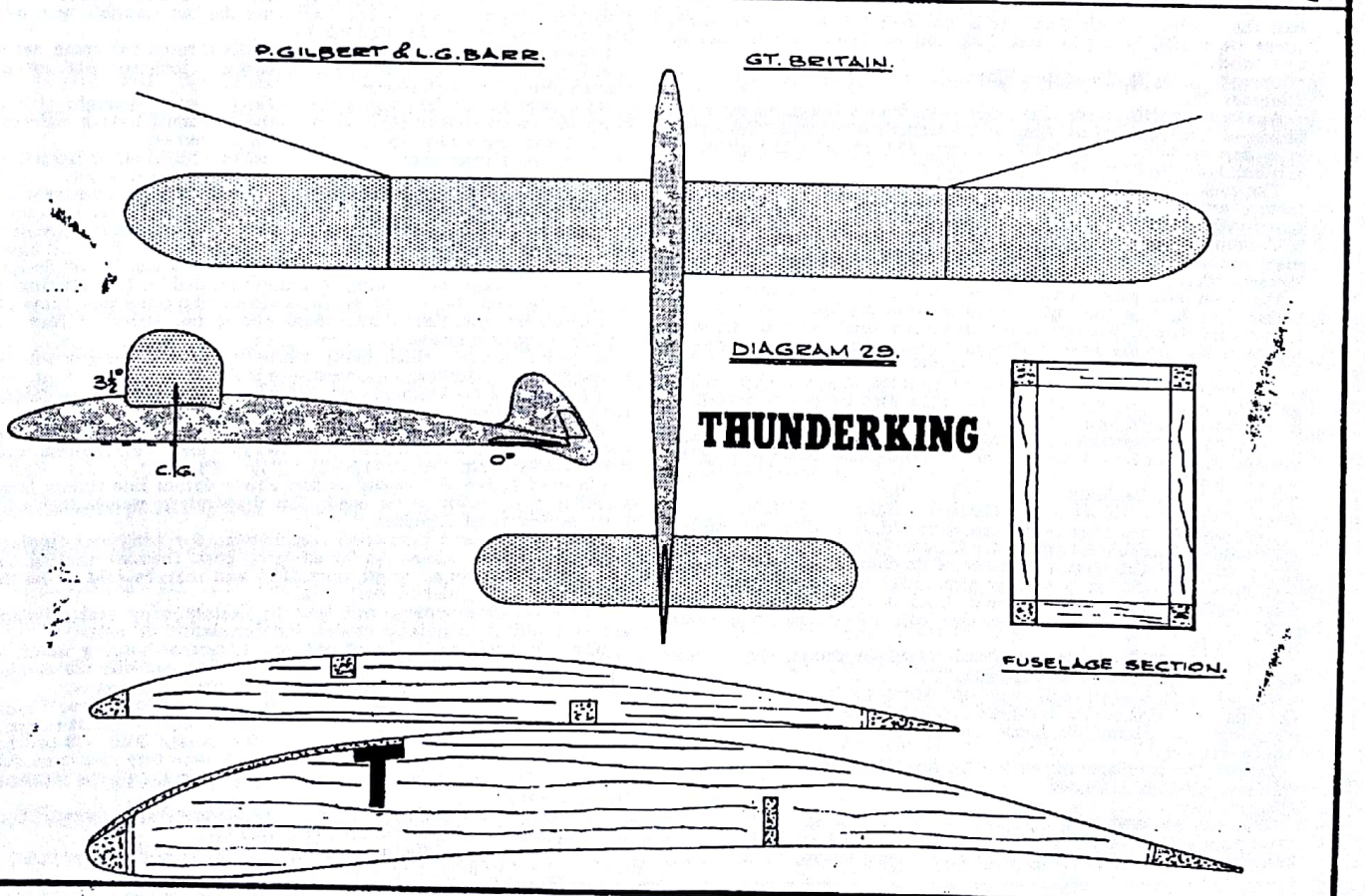
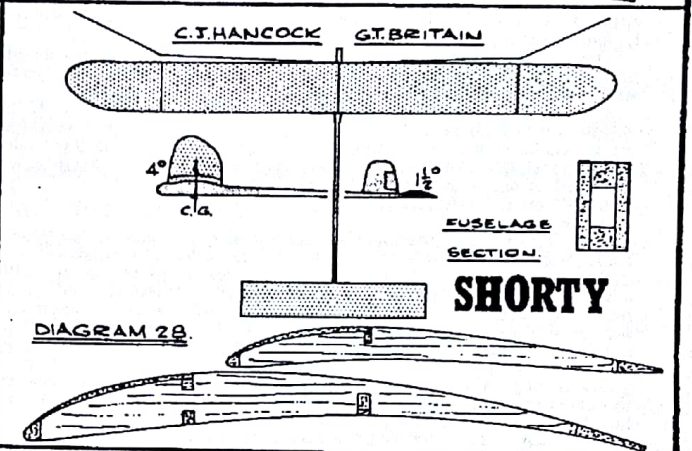
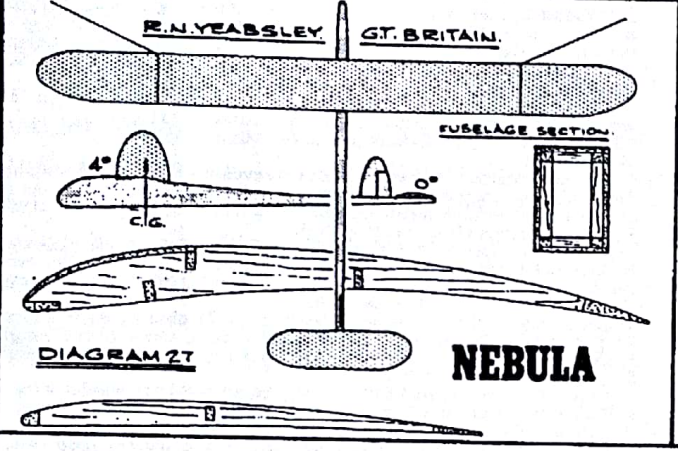
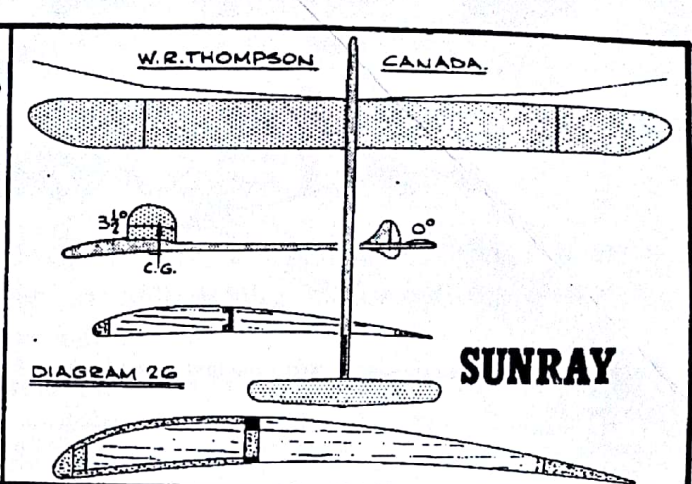
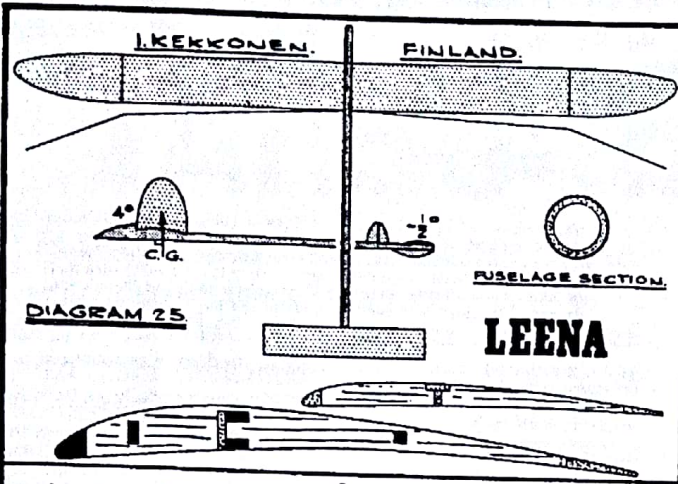
"A/2" by J. Sokolov (U.S.S.R.).  
Diagram 24.

Sokolov was actually equal to Gerry Ritz at the 1959 World Championships but had to be content with the frustrating experience

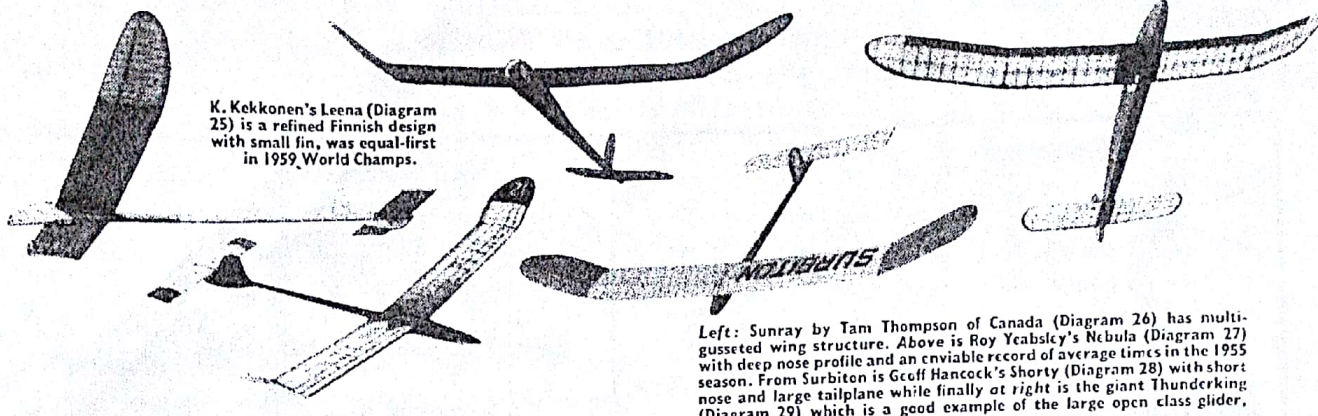


ALL DRAWINGS ARE TO A COMMON SCALE FOR SIZE COMPARISON





ALL DRAWINGS ARE TO A COMMON SCALE FOR SIZE COMPARISON



K. Kekkonen's Leena (Diagram 25) is a refined Finnish design with small fin, was equal-first in 1959 World Champs.

Left: Sunray by Tam Thompson of Canada (Diagram 26) has multi-gusseted wing structure. Above is Roy Yeabsley's Nebula (Diagram 27) with deep nose profile and an enviable record of average times in the 1955 season. From Surbiton is Geoff Hancock's Shorty (Diagram 28) with short nose and large tailplane while finally at right is the giant Thunderking (Diagram 29) which is a good example of the large open class glider,

of being 2nd twice in succession! Times for 1957 were 180, 180, 180, 149, 165; total 854 secs. and in 1959, 180, 180, 180, 180, 180 and 329 in the fly-off.

The model is orthodox aerodynamically except for using a turbulator at 12 per cent. chord and a dihedral tailplane. Constructionally it is orthodox except for the hollowed leading edge form which is a good idea but a lot of trouble and the use of a dural spine as a kind of pylon mount for the wing, all of which adds up to an unusual appearance.

The wing spar layout and tongue box anchorage to same is sensible and should ensure a flat strong wing with an uninterrupted (by spars) surface by the use of cap strips.

Apparently he has used the same layout (with different airfoils) for a long time. One gets the impression that the model probably has an appreciably higher sinking speed than Ritz's, but is far more reliable and, therefore, equally deserving; certainly it is of magnificent standard of construction and obviously much-flown.

"Leena" by I. Kekkonen (Finland).

**Diagram 25.**

This design was chosen as the simplest of the three Finnish World Championship 1959 models which were remarkably similar.

Once more we note the increasingly frequent proportions, but with a longitudinal dihedral of 4½ deg. and slightly forward C.G. of 53 per cent. Tankapaa's model had a smaller tailplane of symmetrical section and so needed a C.G. position of 42 per cent., but with less longitudinal dihedral of 3 deg. Leena used a sensible hybrid hardwood and balsa wing construction, but with the complication of spars going through the wing. The wing tongue apparently went between the mainspars and thus to the strongest part of the wing. The fuselage had the best cross section, tubular from the wing back.

The main reason for their success was said to be their thermal hunting ability, although they also used good practical designs which had the merits of both Ritz's and Sokolov's designs. Kekkonen's times were 180, 180, 180, 180, 180, and no fly-off due to loss of two models.

"Sunray" by W. R. Thompson (Canada).

**Diagram 26.**

Again, proportions are usual, and apart from a higher aspect ratio tailplane, are identical to those of the writer's latest A/2. The airfoil is a flapped and turbulated Gottingen 359 and the tail airfoil is similar, both slightly thicker than usual.

The model is said to have remarkable stall recovery, and essential feature and to need large auto rudder deflection for turn which is apparently useful for thermal holding as the model lacks sensitivity.

Thompson placed 17th in 1959 World Championships after four maxs and a poor last flight (180, 180, 180, 180 and 70 seconds; total 790 seconds).

He is an authority on thermal hunting and wrote a good article about this in the December 1959 AEROMODELLER. One gets the impression that he has developed an ultra stable, tough model with a reasonable sinking speed and uses it as a thermal-catching tool — A/2 flying as it should be, in other words!

A torsion box leading edge and spar system is used. This feature gave the writer considerable trouble when used on power models as it was far too rigid and did not like shock loads.

Thompson's, however, is used on a higher aspect ratio and incorporates hardwood spars and in these circumstances may be a good choice.

"Nebula" by R. Yeabsley.

**Diagram 27.**

Although the design is over seven years old, it is still good and has achieved considerable success in the hands of many people, especially D. Partridge of Croydon, a member of its club of origin.

Generally the design is well up with latest practice except for the deep fuselage which has sometimes been noted to give trouble in gusty conditions on two and in the form of sudden inexplicable spiralling in.

The wing airfoil shows considerable built-in droop, the amount having been determined by experiment.

Flying surface construction would seem to be a little flimsy; D. Yeabsley's British Team model of 1955 had a badly-warped tailplane and D. Partridge's have shown signs of wing weakness in windy weather.

Despite the criticisms the writer still rates it an excellent design.

"Shorty" by C. J. Hancock.

**Diagram 28.**

This was an interesting approach of six years ago which gained great popularity and had several successes. It achieved its main aims in being fairly simple with a reasonable sinking speed, good stability

and a good stall recovery due mainly to its dumpy proportions and concentration of mass.

It towed well but sometimes one had to go carefully as its wings were inclined to be flimsy if wood was not chosen carefully.

It was supposed to be flown in large diameter circles but with this trim it was sometimes observed to "mush" into wind with a rapid loss of height. This failing has been noted with several designs and if the model is not overstable due to the C.G. being too far forward the solution is either to lead it into its natural turn from the top of the line, to tighten the circle or to stall it off deliberately if it has a good stall recovery when it will soon settle down and not in a mushed condition.

The airfoil may have been thought to cause this although the writer used it with no trouble but with a different layout.

"Thunderking" by P. Gilbert and L. G. Barr.

**Diagram 29.**

This large model was included because even now it can still compare favourably in competition. It was originally design by P. Gilbert in collaboration with Laurie Barr in 1948 and Laurie won the 1949 British Nationals glider event with it.

Recently he has built a slimmer modified version which, although it does not seem to live up to its full capabilities as he remembers them, has achieved 3 maxes + 3:00 to place third in its only competition entered, the C.M.A. Cup 1960.

The design is, however, dated by using a 2½ chord moment arm, 26 per cent. tailplane area, an ultra thick wing section, and longitudinal dihedral of 3½ deg. which must have given a C.G. of around 50 per cent. of wing chord.

As an A/2 sized model this would give an outdated model with a still air time of around 2 min. This, however, is where the difference due to model size comes in as the writer would guess the large model to be capable of between 3 and 2½ mins. The originals, used offset towhooks or auto rudders and parachute d/t but Laurie's new one uses auto rudder and tip tailplane d/t.

Construction of the design was quite neat throughout using hardwood in some places for the wing spars and a longeron and spacer warren girder braced fuselage.

As a large glider design it is not so far outdated as might at first imagined as scale effect plays its part and one must have a different set of ideas, especially where airfoils are concerned.

The writer's own large glider development which will be described in the next instalment will show this latter fact up even more.

- We have now seen the trends of A/2 design. Mainly these are:—  
 1. Higher aspect ratio. 2. Thinner similar airfoil sections. 3. Longer moment arm. 4. Smaller tailplane. 5. Reduction of side area (mainly due to dropping of cross sectional area ruling). 6. Use of hybrid balsa and hardwood construction universally. 7. Less diversity of design. 8. Lighter fuselages aft of wing. 9. Lighter tailplanes. 10. Tapering of wing strength and 11. Use of less freak ideas and more logical thought.

Turbulators generally have come and gone. Dihedral form is generally tip or polyhedral.

A typical model, which many of the preceding designs will be found to fit is as follows:— Chord:— 6 in. Tailplane area: 75 sq. ins. = 3½ in. by 22 in. Moment arm: 30 in. = 5 chords. C.G. = 50 per cent. Longitudinal dihedral:— 3 deg.

Wing and tailplane sections thin and moderately undercambered and no turbulators. Minimum of frontal side area with minimum fin area decided from this.

Fin area above and below or just above datum line unless large positive wing incidence is used. Tip dihedral or polyhedral with little centre panel dihedral.

Hybrid balsa and hardwood construction for wing and fuselage with very flexible wings. As far as flying goes, thermal hunting has become universally accepted since 1955 and may be said to be the major aspect of glider flying.

Structural development will lead to thinner wing and tailplane sections and more reliable models by elimination of warps.

Much has still to be found out about thermal hunting which as yet is in its infancy. Steel towlines may be used more with the coming of the 11lb extension test; certainly, I am now trying one out.

Although with a steel towline we will be able to feel thermals more easily, the lack of elasticity will make towing more difficult as gusts will slacken or tighten the line with little warning. This will call for some rapid footwork in windy weather and some very elastic models i.e. more flexible wings to bend rather than break under a suddenly applied load.

It is interesting to note that of the 29 designs just reviewed, 10 of them appear in AEROMODELLER Plans Service.

*To be continued next month.*

Fortsættelsen følger jo i Aeromodeller June 1961 - desværre har jeg ikke adgang til det nummer! **Kan nogen hjælpe ???**  
 Mange af modellerne er udgivet som tegninger af Aeromodeller Plans Service. Andre kan måske findes ved fælles hjælp ???  
 Send en notits, hvis du skal bruge en tegning - så vil vi efterlyse den ... **Jim Baguley gjort et godt stykke arbejde her...**

Denne artikel hidrører fra bladet **HOBBY** fra ca. 1960. Modelflyvestoffet blev redigeret af *Egon Briks Madsen*. Her fortæller SP selv om andemodeller. Desuden en tegning til *en A-2 andemodell fra 1959*. Den kan altså bruges i vore konkurrencer ... **Byg den før din klubkammeret !!!**



# Ande-modeller

Gennem næsten to år har vi rykket en af dansk modelflyvnings »veteraner«, *Jørgen Surlykke Petersen*, Odense, for en artikel om andemodeller — et område af modelflyvesporten, han har studeret mere end nogen anden herhjemme, og på hvilket han uden tvivl er en af verdens største specialister!

På vor foranledning gik »SP« (som han kaldes i daglig tale) i gang med konstruktion og bygning af en moderne andemodell, men hans stadig voksende arkitektforretning har medført, at modellen kun yderst langsomt tager form.

Derfor har vi allerede nu fået tegningen til modellen overladt — og enhver vil for-

håbentlig give os ret i, at **PAPRICANARD** er en ualmindelig velformet og tiltalende modell.

Samtidig har »SP« lånt os et par skitser af sine gamle succesrige modeller, ligesom vi har »fisket« et par stykker fra et heden-gangent svensk hobbyblad.

Må vi lige påpege, at flyvemaskinekonstruktører i øst og vest for tiden arbejder på at skabe fremtidens flyvemaskiner efter andeprincippet, samt — hvad der mere er af interesse for modelflyverne — at alle former for modelplaner, skala-, radio-, line-styrede osv., kan laves som andemodeller.

Vi håber med »SP«, at hans artikel må skabe:

## RØRE I ANDEDAMMEN

Når en emeritus, der ikke har deltaget i modelflyvning den sidste snes år, vil til at genoptage sin hobby, opdager han, at der er sket en enorm udvikling i den forløbne tid.

Men han vil sikkert ikke føle sig tiltalt af det uniformelle præg, der er over svæve-modellerne af i dag. Han ser, at fire femte-dele af modellerne i fritflyvningskonkurrencerne er A2'ere, og at den overvejende del af disse er konstrueret og bygget efter samme principper — og derfor ligner hinanden til forveksling.

Lysten til at eksperimentere er tilsyneladende forsvundet.

De såkaldte eksperter har jo allerede gjort de erfaringer, der skal gøres, så hvorfor i alverden skal man byde sig selv den anstrengelse at tænke? Man har jo hele det erfaringsmateriale til disposition, som eksperterne har samlet, og det siger, at skal man bygge en A2'er, så skal den sør'me se sådan og sådan ud.

At deltage i en konkurrence med for eksempel en haleløs modell vil vist være utilrådeligt på grund af faren for massechok hos de øvrige deltagere.

— Har jeg stillet sagen for meget på spidsen?

NEJ! Prøv noget nyt, prøv at arbejde selvstændigt med din hobby, lad dog være med at synke helt væk i A2-monotonien.

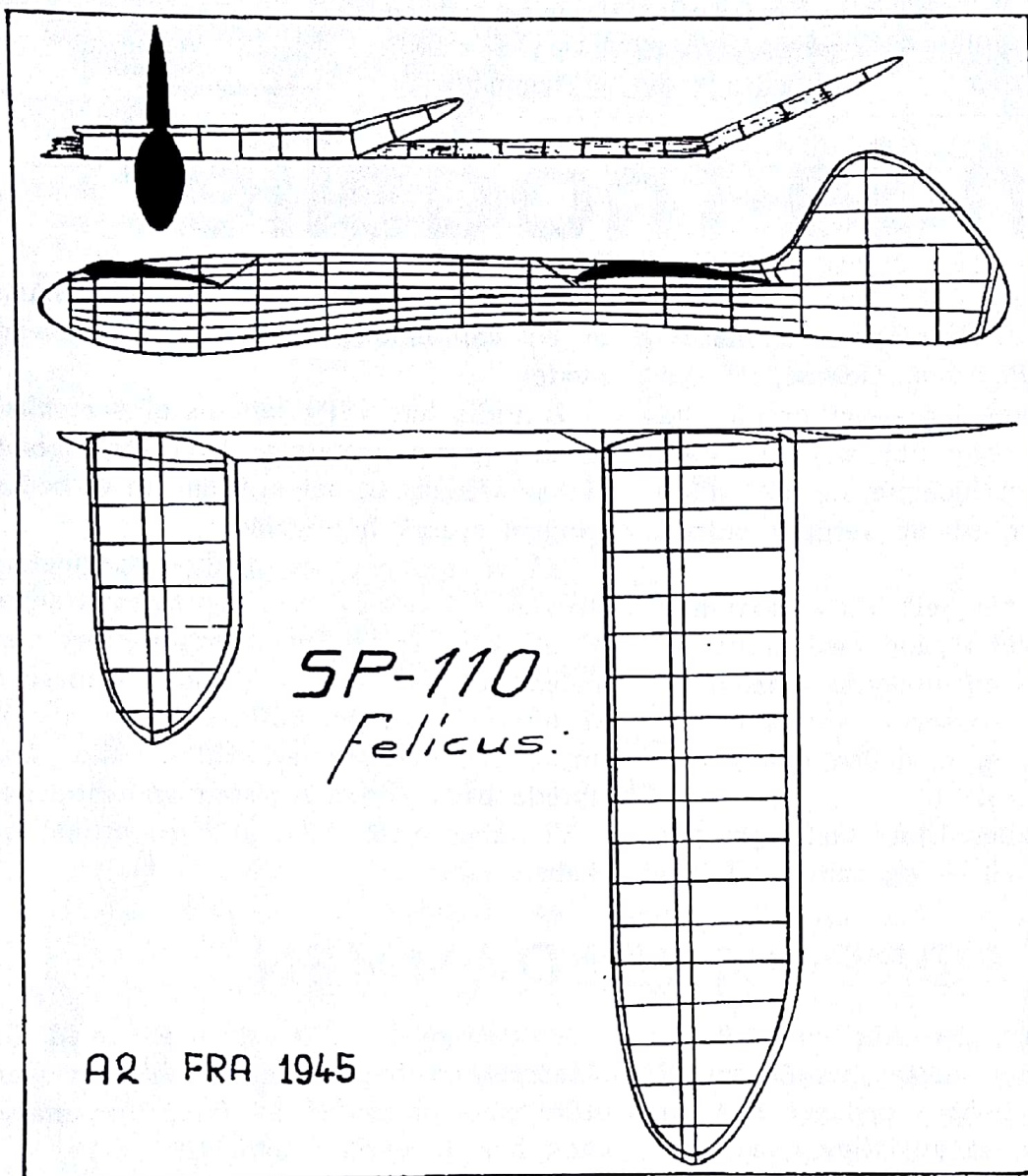
Byg for eksempel en haleløs eller en andemodell.

Jamen, kan sådanne mærkværdigheder da bringes til at flyve bare nogenlunde?

Javist kan de så, og de kan bringes op på resultater, der fuldt ud er på højde med almindelige modeller.

Det blev blandt andet bevist i sommerlejren 1948, hvor et par schweizere vandt en nationskonkurrence mod et dansk, et norsk, et svensk og et hollandsk tomandshold — og de fløj med haleløse modeller.

Kurt Rechnagel fra Haslev var engang indehaver af verdensrekorden for haleløse



*En velformet andemodell fra 1945 FELICUS. På daværende tid krævedes, at kroppen havde et vist tværsnit.*

modeller (med tugt at melde var den dog ikke imponerende). Oscar Vang fra Odense og undertegnede ekscellerede i andemodeller, og udover klasserekorder i den daværende klasse for specielle modeller omfattede vore resultater såvel årsrekorder for svævemodeller som eliteprøverne (datidens diplomer) og sejre i de løbende distriktskonkurrencer.

Folk, der første gang ser en andemodell flyve, påstår med megen nidkærhed, at den flyver baglæns!

Årsagen er, at den flyver med stabilisatoren (haleplanet) foran planet.

Konstruktionsprincipperne for andemodeller adskiller sig fra almindelige svæve-

modeller på flere punkter, men hvad trimning og flyvning angår, er de lige så lette at have med at gøre.

Den største konstruktive forskel er, at stabilisatoren, der her kaldes forplanet, har større indstillingsvinkel end planet.

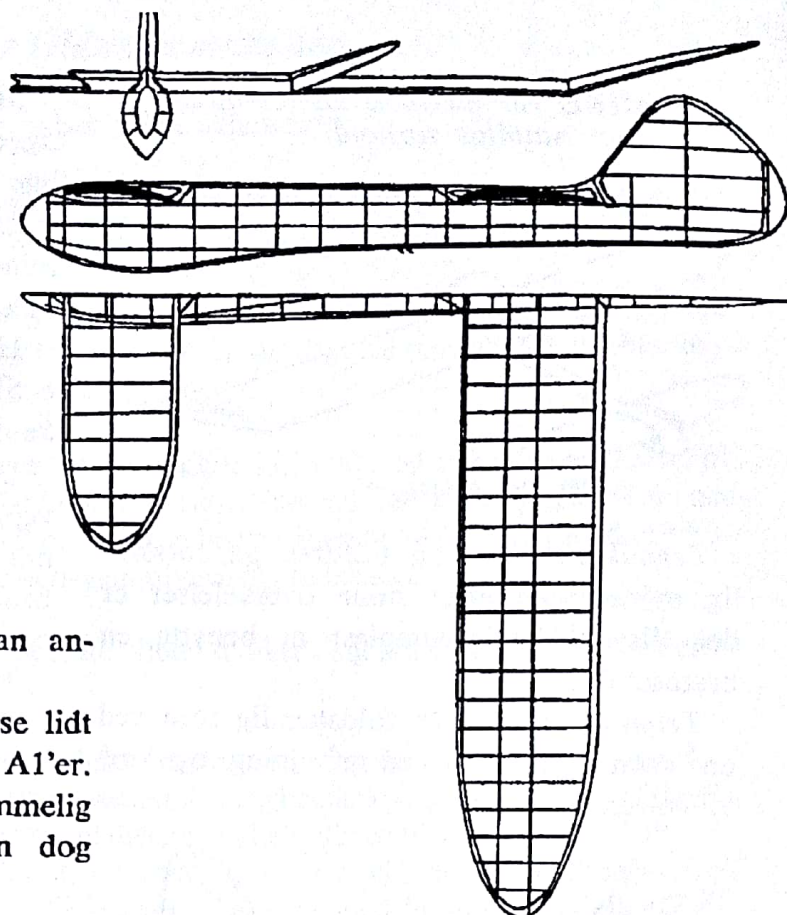
Forplan og plan udføres begge lige med ører eller med almindelig V-form, og forplanets areal skal helst være 25—30 % af planets.

Afstanden mellem forplan og plan kan passende sættes til tre—fire gange planets dybde.

Profilerne kan være almindelige planprofiler, men man kan på grund af typens store egenstabilitet benytte tyndere og mere

*Forhåbentlig kan en mere detaljeret tegning til Felicius findes - A-2 klassen indførtes i 1946...*

Selvfølgelig har »SP« også haft en andemodell ved navn »Anders And«. Den er hele 2200 mm i spændvidde og har et samlet planareal på 67 dm<sup>2</sup>. Den bestod den eftertragtede »Elite-flyveprøve« med tiderne 5 min. 35 sek., 4,22 og 5,43 med 150 m højstartssnor.



hvælvede profiler, der ellers kun kan anvendes til rene godtvejrsmønstre.

Forplansprofilet skal man dog passe lidt på — specielt hvis man bygger en A1'er. Det skal være spidst, tyndt og temmelig hvælvet. Af styrkehensyn skal man dog ikke overdrive.

Indstillingsvinklerne er som sagt noget for sig selv. Vinkelforskellen skal være 4—5°, men for at modellen ikke skal få en forkert flyvestilling med næsen arrogant mod sky, så må man ikke gå den vej at give planet negativ indstillingsvinkel. Den skal være fra 0—2°, og følgelig skal forplanets vinkel være fra 4—7°.

Tyngdepunktet. Tjah, man kan få en andemodell til at flyve med de mærkværdigste variationer af tyngdepunktets beliggenhed. For at kunne angive en nogenlunde rigtig beliggenhed til afvejningen skal vi kende trykcenterafstanden, der måles fra plankordens forreste trediedel til det tilsvarende punkt på forplanets korde.

En tommelfingerregel, jeg tit har brugt, lyder:

$$\text{Afstanden} = F : 0,9 : (100 + F),$$

hvor F er forplanets areal, udtrykt i % af planets areal.

Som eksempel har vi et forplan på 28 % og får så:

$$\text{Afstanden} = 28 : 0,9 : (100 + 28)$$

= ca. 25 % af Tc-afstanden fra planets Tc.

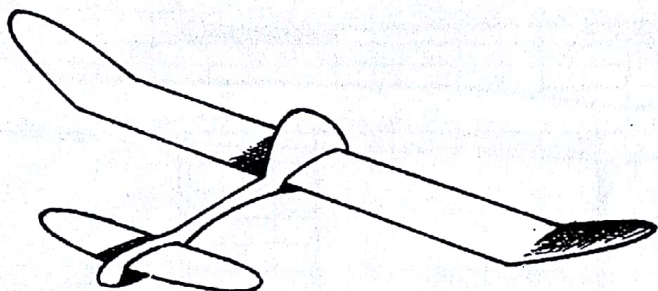
Lateralcentret (Lc) skal ligge noget bag tyngdepunktet. Hvis man således placerer Lc 5—10 % af Tc-afstanden bag det fundne Tp, skulle det være passende (angående modellerens lateralcenter henvises til HB nr. 16, side 49). Det skal lige bemærkes, at en kurveklap er nødvendigt udstyr, idet modellerne i sig selv er temmelig retningsstabile.

Kroppen skal være helt vridningsstiv mellem forplan og plan. Det kan således ikke anbefales at anvende en »pind«. En krop med kvadratisk (lodret diagonal) eller rundt tværsnit og en sidelinie, respektive diameter, på 2—3 cm og udført med balsabeklædning vil være at foretrække til en model i A2-størrelse.

Planerne skal monteres, så de sidder ordentlig fast. Hvis der under en højstart sker en lille vridning af kroppen, eller forplanet rokker lidt i forhold til planet, skrider modellen uvægerligt ud og vil ikke kunne rettes op.

Højstartskroppen placeres som ved en almindelig model i forhold til Tp.

MIKE var nærmest en A1-model efter nutidige forhold.



SP 90 "Mike"

Termikbremsen kan udføres på forskellig måde, men efter mine overvejelser er det tilsyneladende simplest at benytte en bremsefaldskærm.

Trimningen foregår fuldstændig som ved en normal model med afvejning og små vinkelrettelser.

Modellens tyngdepunkt før afvejningen ligger umiddelbart i nærheden af det endelige tyngdepunkt. Det vil derfor være hensigtsmæssigt at udføre modellen med ikke mindre end tre blykamre: et foran, et i halen og et i tyngdepunktet.

Hvis det »afvejede« Tp ligger foran det rigtige, benytter man det bageste blykammer.

Da der er tale om små mængder afvejningsbly, er man tilbøjelig til at bygge modellen for let, og er derfor nødt til at bruge Tp-blykammeret til ballast for at opnå minimumsvægten.

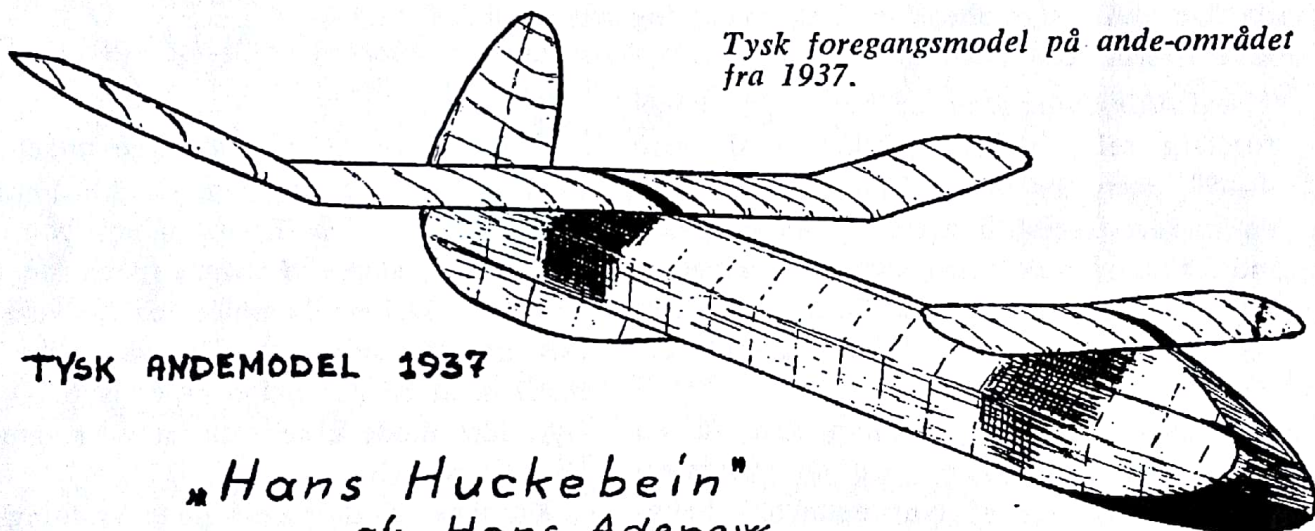
Herudover har jeg kun ét godt råd:

Husk endelig at kaste modellen den rigtige vej!

God vind!

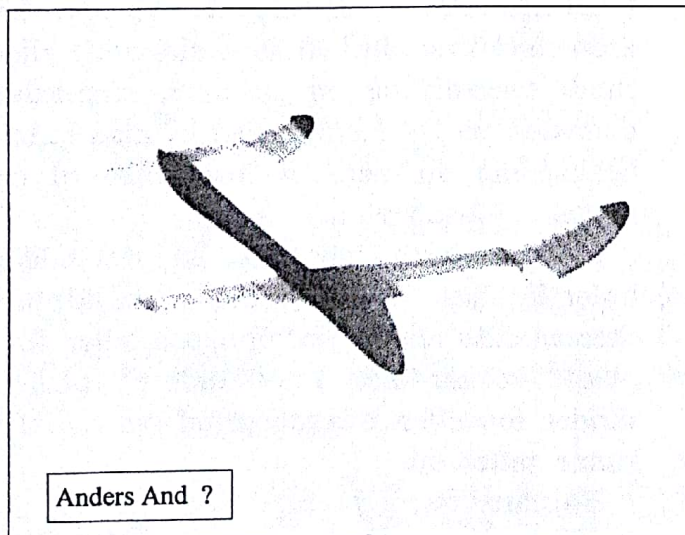
S. P.

Tysk foregangsmodel på ande-området fra 1937.



TYSK ANDEMODEL 1937

»Hans Huckebein«  
af Hans Adenau.



Anders And ?

Medens SP eksperimenterede med andemodeller i det sønderjyske, arbejdede *Oscar Vang, OMF*, på at udvikle andemodeller på Fyn.

Også han tog eliteflyverprøven med en andemodel og konstruerede en and til den nye A-2 klasse. Fra Oscar Vangs hånd har vi en flot nøjagtig tegning til modellen - udført af ham selv. Endnu har ingen dansker bygget den, men *Kurt Sandberg* fra Sverige har et flot bygget eksemplar, som også har udført fine flyvninger ved Oldtimer SM.

*Kopi af tegningen fås hos Poul Rasmussen.*

*Tegning til SP's Papricanard-59 på bagsiden !!!*

Velbekomme !

## DM for Oldtimermodeller

6. – 7. september 2003 i Skjern Enge

For 3 uger siden afholdt Sverige de svenske mesterskaber for oldtimermodeller og nu var det så Danmarks tur til afholdelse af de danske tilsvarende.

Vejrprofeterne havde primo ugen bebudet godt vejr, men jo nærmere vi kom weekenden jo mere trak de i land. Nå, men solen skinnede dog trods alt. Værre var det med moder vind, der blæste lystigt uden hensyntagen til en flok modelflyvere.

De mødtes i øvrigt på **Amagerskolen**, hvor der var briefing kl.13.00 med efterfølgende kørsel til flyveområdet. Vinden kom fra en sydøstlig retning og startstedet valgtes i behørig afstand fra nogle store vindmøller. Max-tiden aftaltes til 2 minutter og linelængden til 50 m. Perioden skulle begynde kl. 14.00, så der var tid til lidt trimmeri samt tilvæning til blæsten.

Værsgod, så var der serveret, og selv om de kære piloter trykkede sig lidt i blæsten, kom der efterhånden skred i flyveriet.

Selvom der flyves med handicaptillæg for modelkonstruktioner til og med 1953, var der kun få der opnåede maxer, men det må blæsten tage ansvaret for. Og bemærk venligst, at nogle af de modeller der blev fløjet med, konstruktionsmæssigt daterer sig helt tilbage til årene 1937, 1938, 1944, 1946 og 1948. Men de kan stadig kunsten at flyve og så har de charme! Men lidt fornyelse i modelvalget ville ikke skade, thi der er en tilbøjelighed til at flyve med de samme modeller år efter år. Der er jo et righoldigt udvalg af alskens modeller, så fat værktøjet og byg nogle andre gode og charmerende fly. Og hvorfor ikke gøre det nu i vinterhalvåret!

Vi blev da heldigvis også præsenteret for to gamle modelkonstruktioner, vi ikke har set i luften i mange, mange år. Det var den gamle kæmpe **Poul Rasmussen**, der præsenterede dels en **TH-35 med Vikingmotor** samt den legendariske **SP andemodell Wrap**, som Poul har rekonstrueret ud fra gamle data.

Begge modeller fløj fortræffeligt, men holdt sig beskedent uden for konkurrencen. Men vent bare, til de bliver toptrimmet!

Der var selvfølgelig også svensk deltagelse i år, idet **Thomas Johansson** og **Thycho Andersson** traditionen tro var deltagere og også formåede at kapre pokaler og præmier. Blot lidt trist at så få af vore svenske medlemmer deltager. De har mødt talstærkere før og forhåbentlig sker det igen. Lad os ikke glemme, at tiden ligger foran os, vi behøver blot at række ud efter den, men vi ved ikke hvor længe, så der er god grund til at gøre brug af den.

Her i Vesten siger vi, vi skal skynde os at leve livet, thi det er så kort. I Bolivia siger de, det gælder om at leve livet langsomt, thi tiden går så hurtigt. Hvad siger du ?

Nå, men efter disse filosofiske betragtninger nærmede periodeafslutningen sig og i takt hermed aftog vinden, så det ville have været ideelt at fortsætte en tid endnu, men trætheden og længslen efter varm mad begyndte at gøre sig gældende efter en lang dag i felten. Erik Knudsen motiverede os til slut med oplysningen om, at søndag skulle vinden blive mere human iblandet et enkelt drys fra oven. Aftenen afsluttedes med fællesspisning på et af Skjerns spisesteder.

### Søndag

Søndag morgen oprandt med diset vejr efter grumme regnbyger om natten, men vinden havde lagt sig ned og det opstemte sindet.

den mødtes vi alle på startstedet, der forblev uændret i forhold til i går. Vinden var svag og kom i dag fra syd. Ved periodens begyndelse kl. 9.00 var det fortsat diset med lidt drys fra oven, men efter en lille halv times tid begyndte solen at gøre sig gældende og snart var det ganske rart at være modelflyver.

Modeller i diverse størrelser og design blev hevet ud af gemmerne og sendt på togter ud over Skjern Enge af og til med lidt hjælp af forbigående små blå termiske bobler. Og ih, hvor de nød det. Modellerne og piloterne. At deltagerne nød også at blive serviceret af **Jens Arne Lauridsen**, der begge dage opholdt sig i modellernes landingsområde, hvor han dels lokaliserede dem, dels hentede dem og sågar i nogle tilfælde bragte dem til startstedet, siger sig selv. Blot ærgerligt han ikke selv deltager. Jeg er sikker på han kunne.

Bortset fra en enkelt model, der satte sig til rette i en trætop for at nyde udsigten, forløb perioden uden dramatiske hændelser og snart var atter et DM til ende.

Kl. 15.00 rundedes det af med overrækkelse af pokaler og præmier og et på gensyn næste år.

Frede Juhl



Herover ses **Bjarne Jørgensen** med sin meget velflyvende model fra 1938 **RX - 1**. Den blev fremstillet som byggesæt af **Dansk Modelflyveindustri**, Skjern, hvor **Svend Greig** ved konstruktionen havde kigget meget efter en tegning i *Model Airplane News* af den amerikanske model **Thermalider**.

Til højre øverst **Tycho Andersson** med **Thomas Johanssons Trumf (1938)**, som han fløj "proxy". **Thomas** ses bagest.

Forneden til højre er det **Poul Rasmussen** med sin klassiske amerikanske **Korda - 37** model. Velbygget og velflyvende, Denne model satte verdensrekord i 1937. **Dick Korda** vandt wakefieldkonkurrencen i 1939 med samme konstruktion udstyret med en enbladet fældbar propel i stedet for friløbspropellen





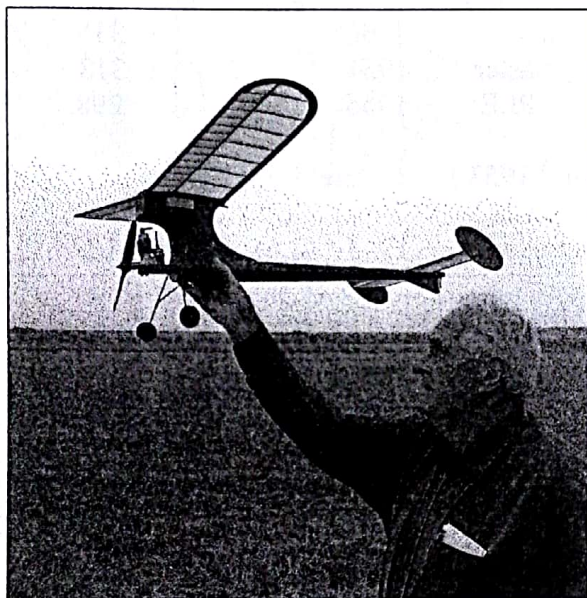
Set ved Oldtimer DM 2003



En flot Pjerri-69 (1950) med den stolte ejer Sten Agner



Poul Rasmussen med sin SP-84 Wrap (1944).



Tv.: Poul Rasmussen med TH-35 forsynet med en Viking motor. Tage Hansen konstruerede den i 1946 til den da helt nye Monsun motor.  
Th.: Bjarne Jørgensen med sin C-2 model Torpedo også fra 1846. Byggesæt fra Greig er med abachitræ, da balsa var en mangelvare ca. 1950.



Herunder til venstre Kristian Andersen med sin Fidusia (1950) - en Fritz Neumann konstruktion. Til højre hjælper han Poul Rasmussen med Korda - 37



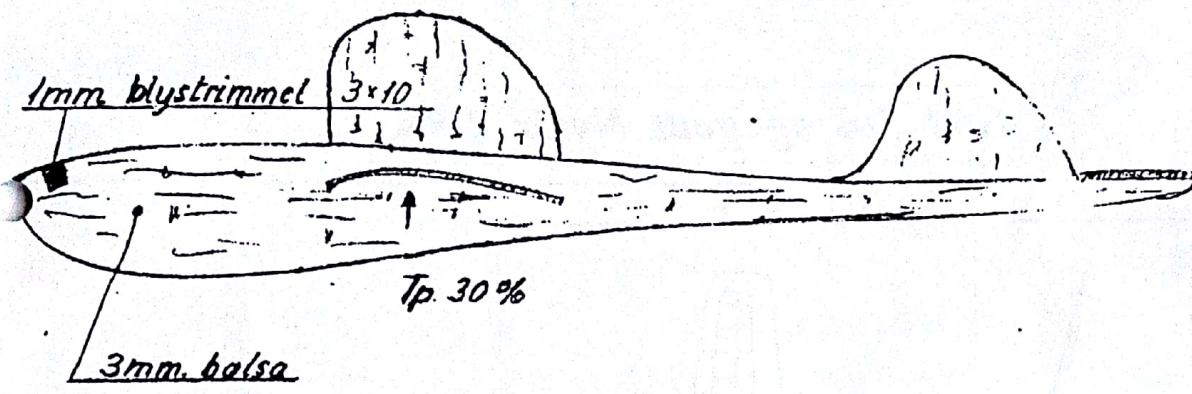
Fotograferet af Erik Knudsen.

## Resultatliste for DM med Oldtimermodeller 2003

Tallene i parentes er Handicaptal.

				Point:
<b>Veteran Klasse A-1 (til og med 1953) 7 tilmeldte - 5 fløj</b>				
1.	Frede Juhl	Grimponimus	1944 (1,5)	349
2.	Kristian Andersen	Fidusia	1950 (1,1)	249
3.	Hans F. Nielsen	HFN Fox	952 (1,0)	240
4.	Frede Juhl	Pjerri 75	1953 (1,0)	228
5.	Sten Agner	Fidusia	1950 (1,1)	164
<b>Veteran Klasse A-2 (til og med 1953) 7 tilmeldte - 5 fløj</b>				
1.	Hans F. Nielsen	Sherif	1953 (1)	360
2.	Sten Agner	Pjerri-69	1950 (1,1)	302
3.	Tycho Andersson	Victory	1953 (1)	294
4.	Erik Knudsen	AH-24	1950 (1,1)	251
5.	Fritz Neumann	FN-23	1953 (1)	128
<b>Oldtimer Klasse A-2 (1954 - 1968) 3 tilmeldte - 3 fløj</b>				
1.	Tycho Andersson	Stratos	1960	335
2.	Tycho Andersson	Skymaster	1954	313
3.	Frede Juhl	A-2 PLE	1956	298
<b>Veteran Klasse A-3 (til og med 1953) 2 tilmeldte - 2 fløj</b>				
1.	Hans F. Nielsen	Diogenes	1946 (1,25)	360
2.	Frede Juhl	Ølhunden	1944 (1,5)	187
<b>Veteran Klasse C-0 2 tilmeldte - 2 fløj</b>				
1.	Thomas Johansson	Whipit Quick	1948 (1,1)	175
2.	Tycho Andersson	Trumf	1938 (1,6)	162
<b>Veteran Klasse C-1 4 tilmeldte - 3 fløj</b>				
1.	Bjarne Jørgensen	RX-1	1938 (1,6)	360
2.	Bjarne Jørgensen	AH-19	1948 (1,1)	332
3.	Thomas Johansson	High Climber	1938 (1,6)	245
<b>Veteran Klasse C-2 2 tilmeldte - 1 fløj</b>				
1.	Bjarne Jørgensen	Torpedo	1946 (1,1)	120
<b>Veteran klasse C-3 (Wakefield) 3 tilmeldte - 2 fløj</b>				
1.	Bjarne Jørgensen	Korda - 37	1937 (1,6).	360 + 100
2.	Poul Rasmussen	Korda - 37	1937 (1,6)	360
Poul Rasmussen afstod fra sin fly-off start (manglende tid).				
<b>Veteran klasse D 1 tilmeldt - 1 deltog</b>				
1.	Poul Rasmussen	TH-35	1946	??

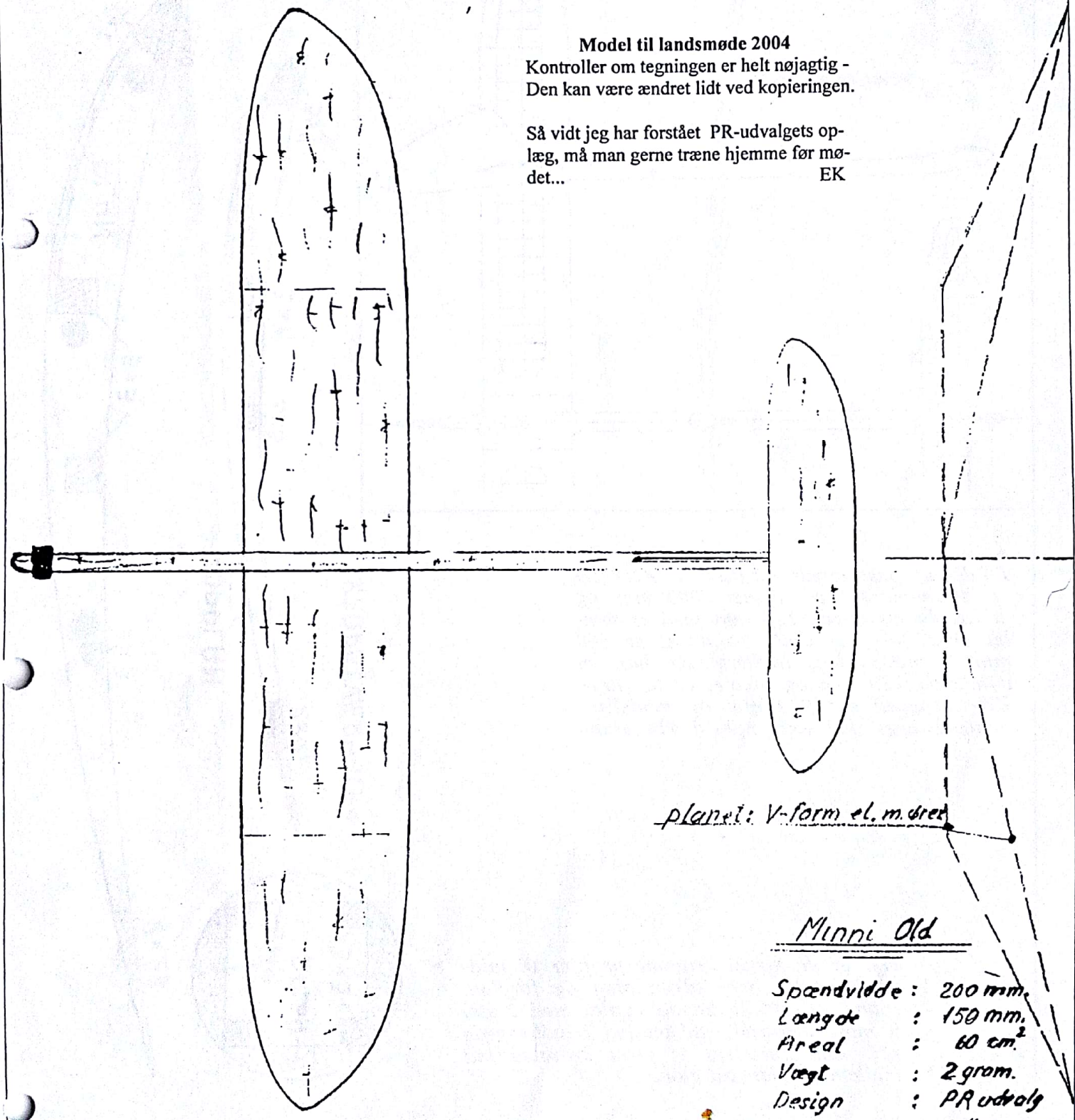
I alt 28 tilmeldte modeller, hvoraf 24 fløj i konkurrencen.



plan.- haleplan - finne = 1mm balsa

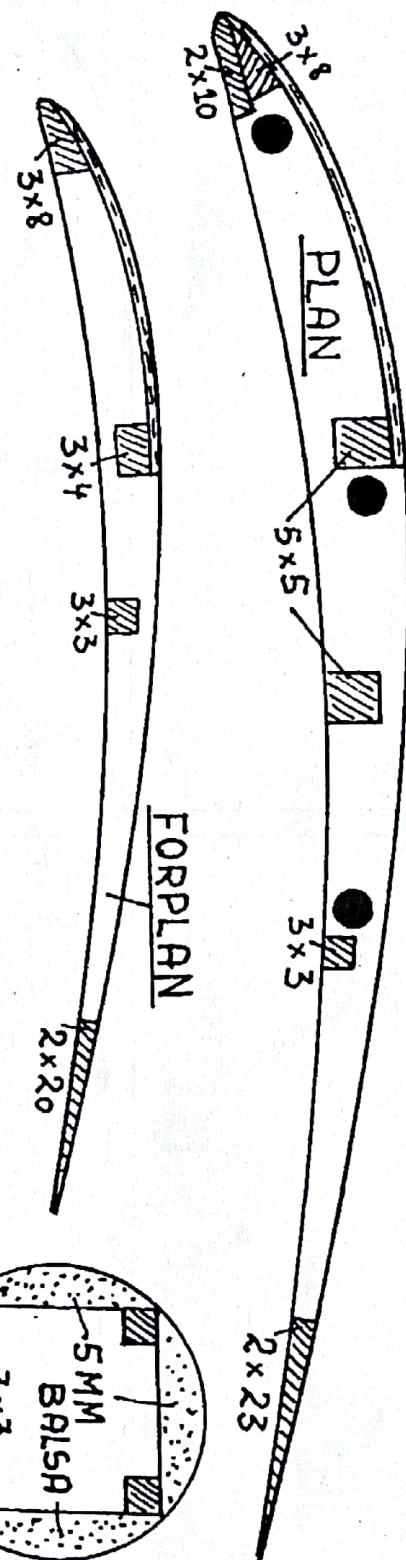
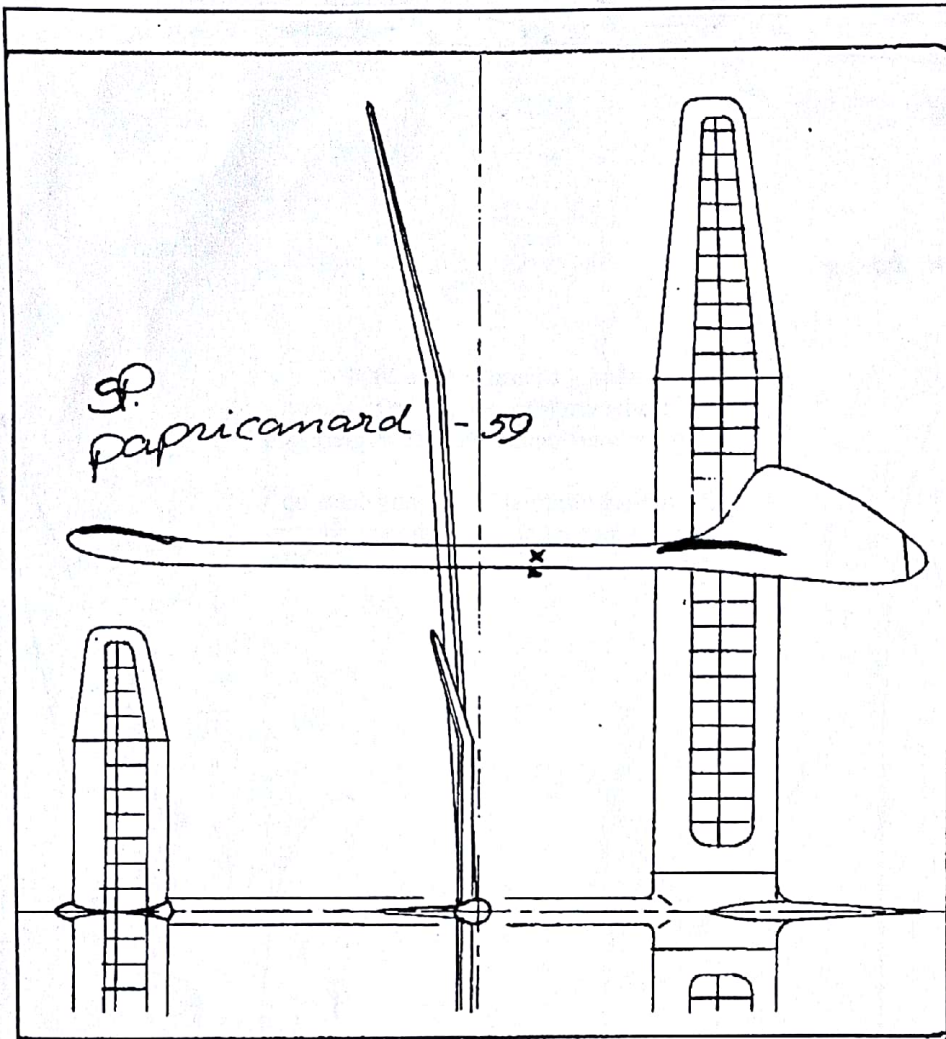
**Model til landsmøde 2004**  
 Kontroller om tegningen er helt nøjagtig -  
 Den kan være ændret lidt ved kopieringen.

Så vidt jeg har forstået PR-udvalgets op-  
 læg, må man gerne træne hjemme før mø-  
 det... EK



planer: V-form el. m. dret

Minni Old  
 Spændvidde : 200 mm.  
 Længde : 150 mm.  
 Areal : 60 cm<sup>2</sup>  
 Vægt : 2 gram.  
 Design : PR udvalg  
 Solbjerg 231103.



↑  
 På den nykonstruerede A2 PAPERKANARD er spændvidden på planet 2000 mm og midterplanet dybde 150 mm med et samlet areal på 27,3 dm<sup>2</sup>. Forplanet er 660 mm i spændvidde, midterplanet har en dybde på 110 mm og arealet er 6,6 dm<sup>2</sup>. Kropslængden er 1020 mm og modellens samlede vægt skal være mindst 410 gram.

Her er de meget krumme profiler til midterplanet på henholdsvis plan og forplan. Planet er adskilleligt og samles med 3 stk. 3 mm pianotråd, stukket ind i indbyggede rør. Endvidere ses et givet kropsværsnit mellem forplan og plan.