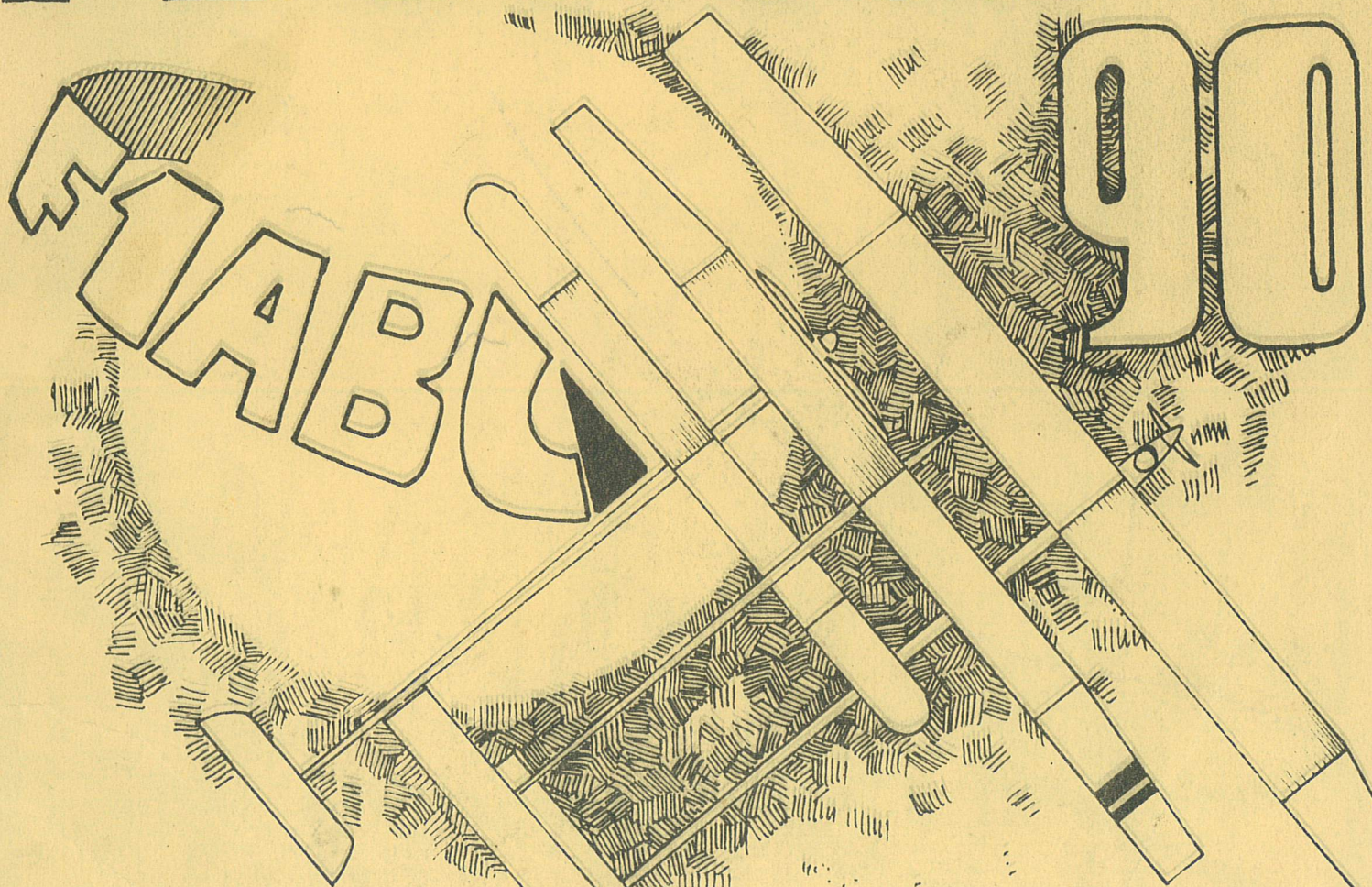


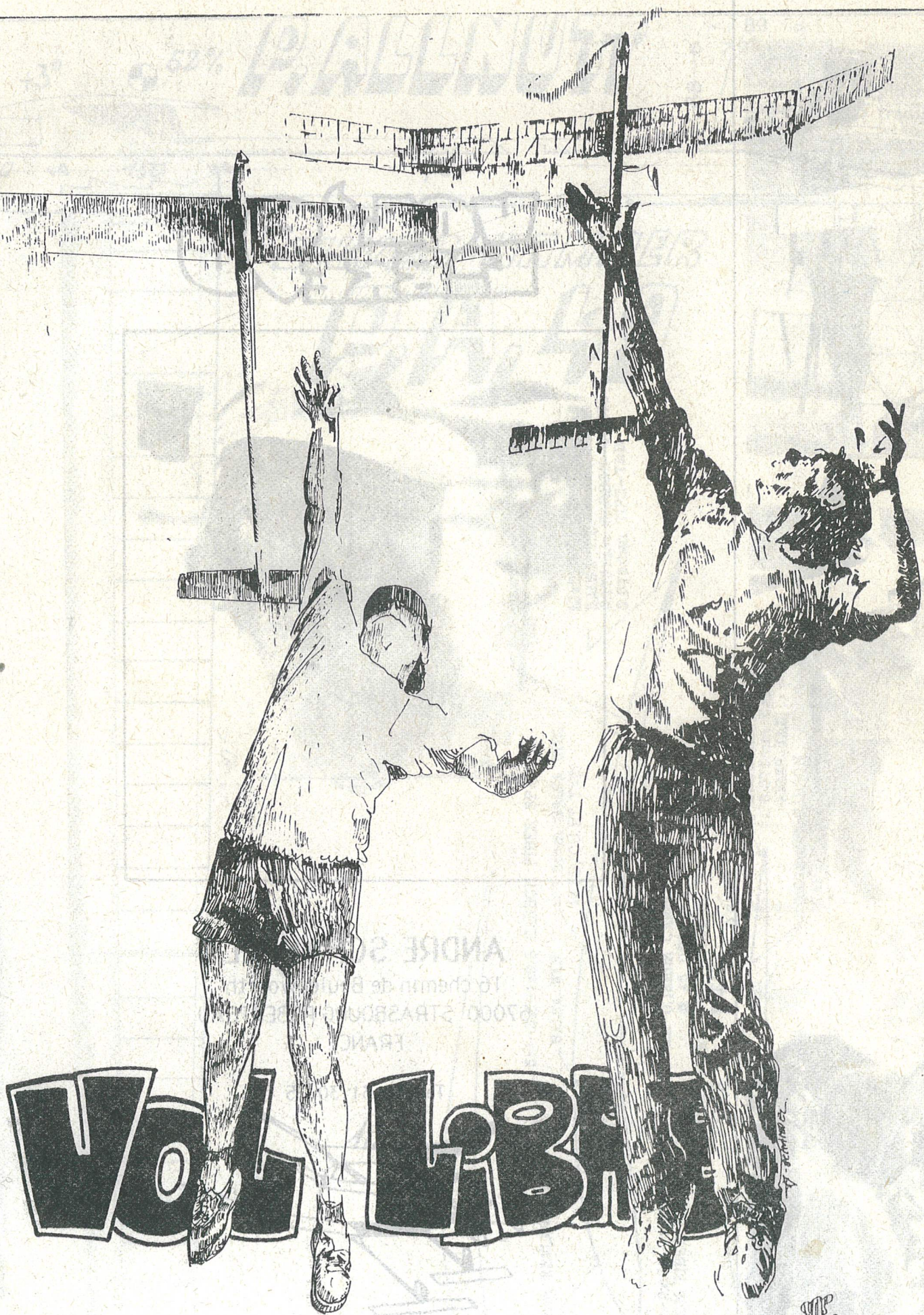
VOL LIBRE

PLANS
PLANBUCH
PLANBOOK



1

A. SCHANDEL

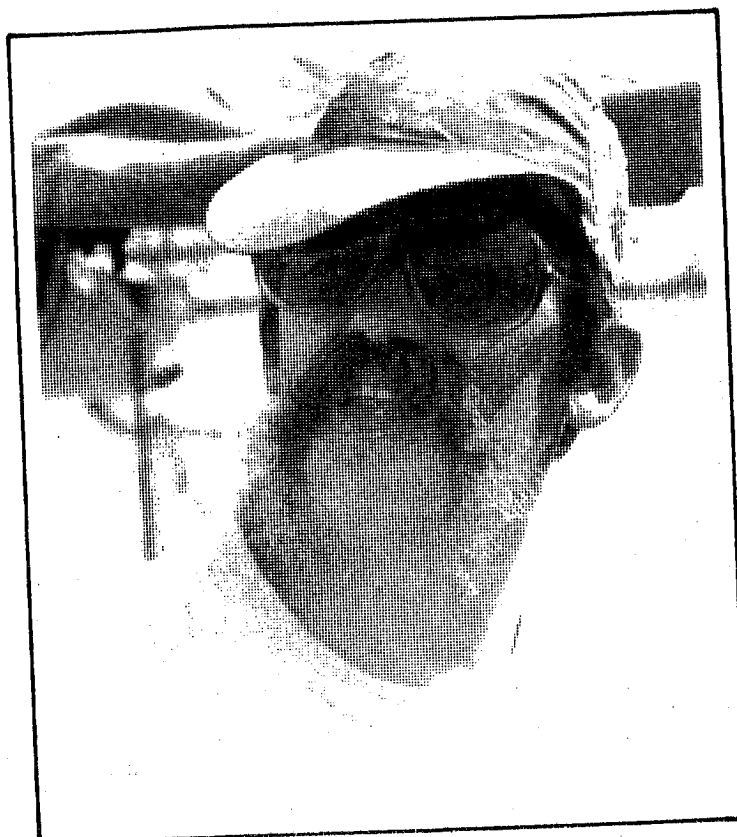


VOL LIBRE

3

André Schanuel

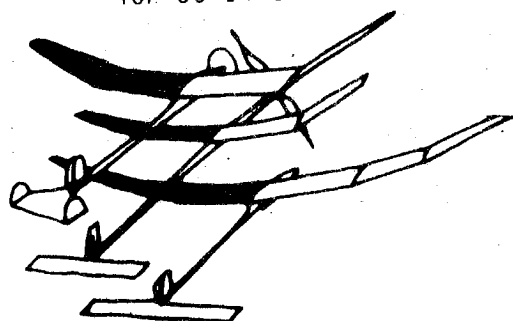
VOL 90 TERRE



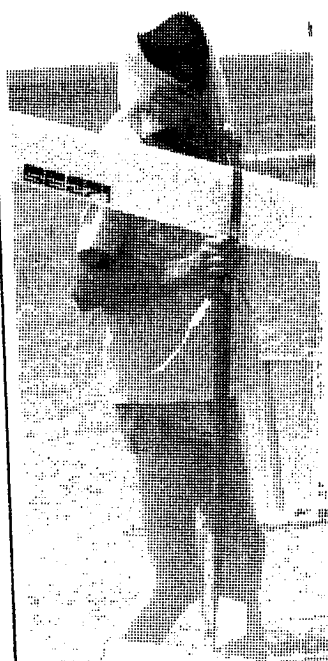
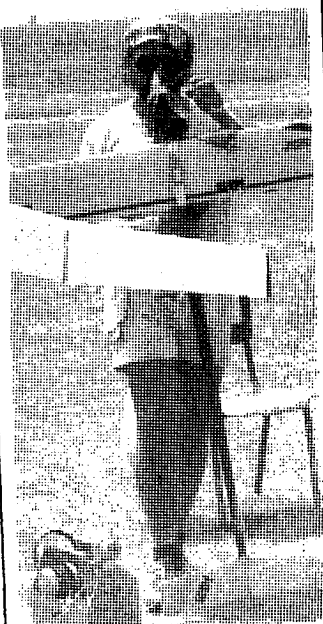
ANDRE SCHANDEL

16 chemin de Beulenwoerth
67000 STRASBOURG ROBERTSAU
FRANCE

Tél. 88 31 30 25



4



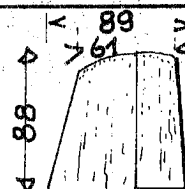
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5/2 13 1/2 373423

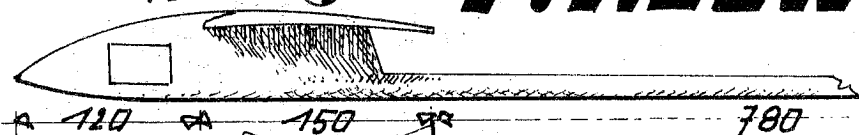
+3°

52%

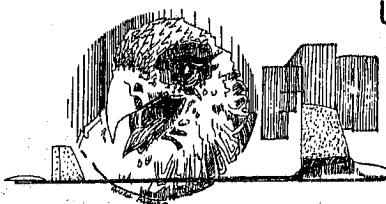
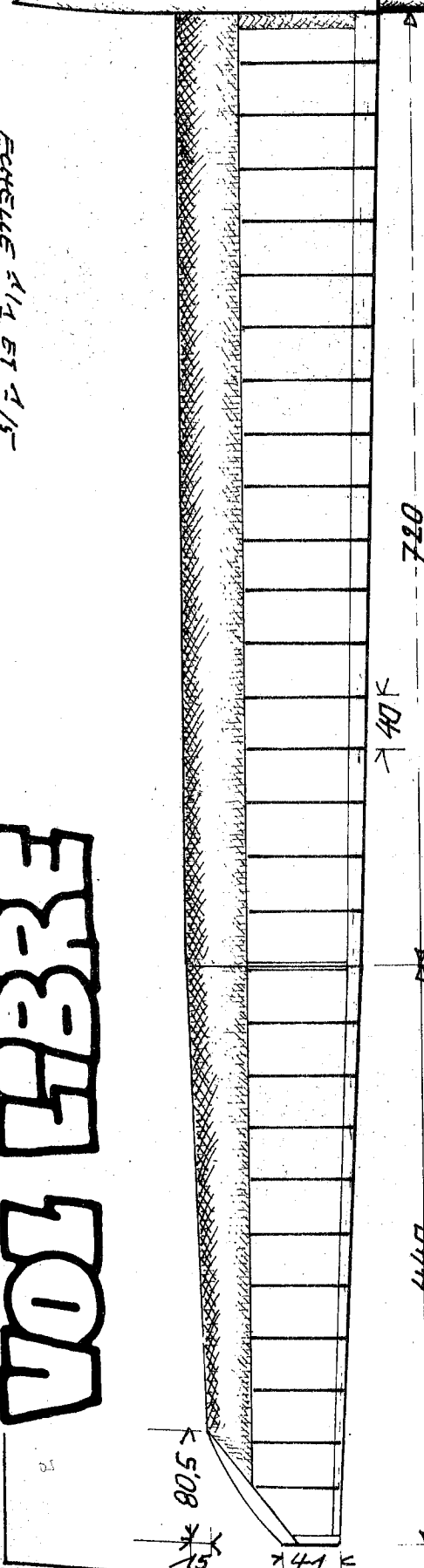
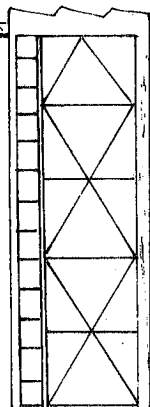
P. ALLNUTT



+0,5 plane
-0,5 treuil



SILVER HAMMER P.A. 49



0.076mm CAP STRIPS
T&B

12x2-9.5x1.7-8x1mm
BALSA T.E.
0.178mm CARBON-CENTRE
0.076mm TIPS-T&B

6x1-3x1-1x0.6 CARBON FIBER SPAR

BALSA WEB
1.5mm BALSA RIBS
12 LB/CU. FT. TYP.

0.18mm CARBON WEB

45 DEG. FOR 200mm
THEN 0.09mm TO DIHEDRAL
BREAK

0.8mm BALSA RIBS

5x1.5mm BALSA
0.076mm CARBON
FIBER T&B

0.076mm CARBON
CAP STRIPS T&B

LAYERS 0.1mm KEVLAR CLOTH
45 DEG.

6x38-3x38-1x38mm
CARBON FIBER SPAR

4mm
MUSIC WIRE
JOINER

0.177x1.6mm
CARBON FIBER
SPARS

4x5
BALSA
1.5mm
BALSA WEB

5

A. SCHANDEL - P. ALLNUTT

A. ANDRIUKOV



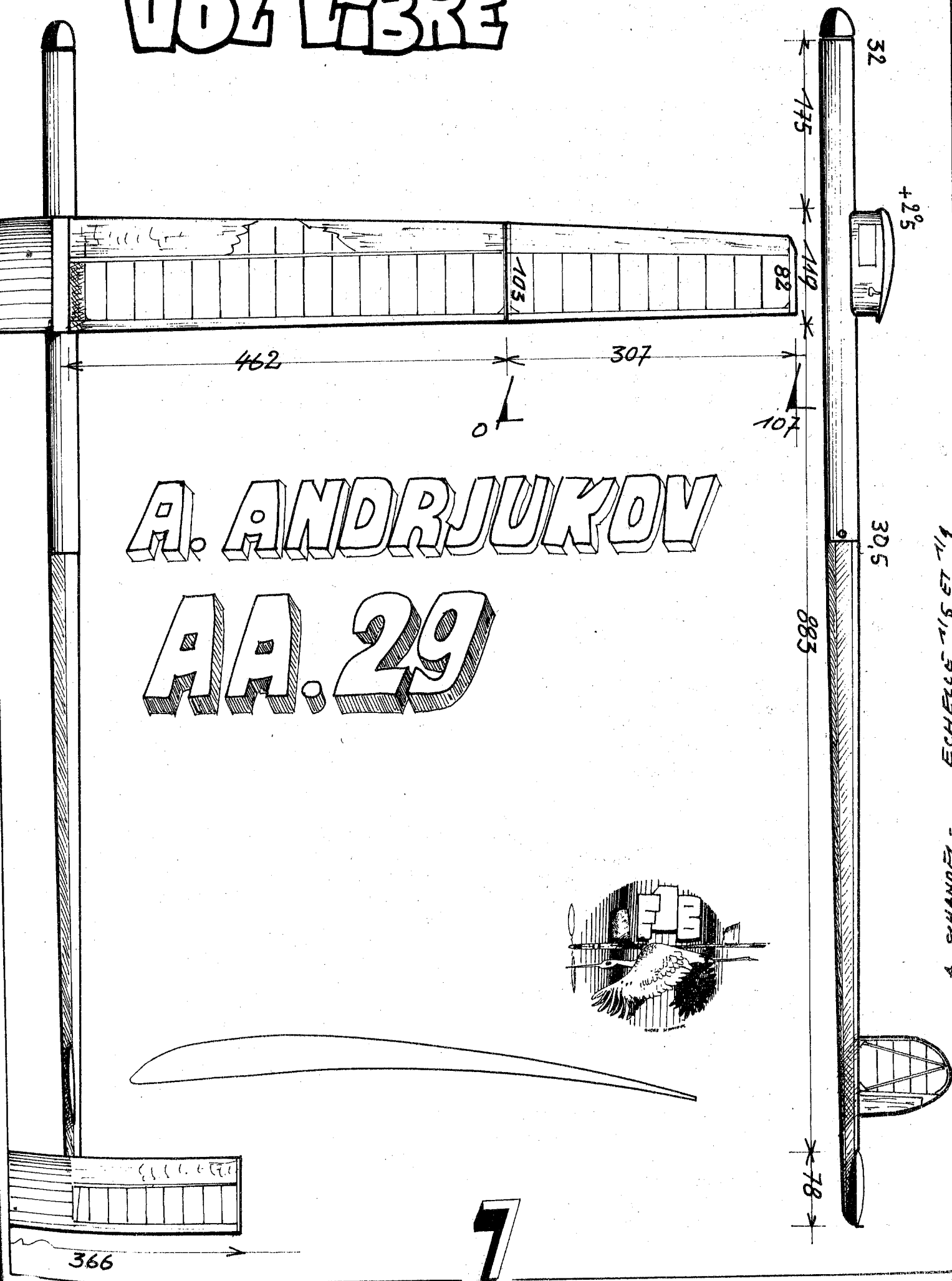
R. ALNUTT



СССР 257002, ЧЕРКАСЫ
ЩЕВЧЕНКО 241-39
А. АНДРИУКОВ. (ANDRIUKOV)



VOZ LIBRE



A. ANDRIUKOV

Alexander ANDRIUKOV

PAGE 7-

I am an aviation engineer (aircraft building) finished aircraft building college in KAZAN in 1981. I was working as an aviation technology engineer till 1988 in Kiev, then moved to Cherkassy (200 km from Kiev) and worked at factory " Rotor " producing machine tools for electronic industry , joint factory USSR - West Germany.

I am married , have a son ten years old.

My first model built in 12 years age , in 1968, first wakefield in 1970. In 1980 I was first USSR Champion. I won USSR Champs. in 1980, 86, 87 Cup of the USSR in 1981, 83, 84, 85, 87, and 88 , socialist country contest in 1981, 85, 87, Europe champs in 1982, 884, 88, W.C. never.

D. BARBERIS

PAGE-9-10-11

BARBERIS DIDIER

Né le 12/04/ 56, Ingénieur de recherches à l'O.N.E.R.A. Début en Vol Libre en 1971, licencié à Mandres depuis 1972. Début en wake en 1975, 1er Ch.ampionnat de France en Wake en 1977. 1980 débuts en A2, 1er Championnat de France en A2 en 1981.

Résultats.

3 participations en F1A aux CH. d'Europe 84, 86, 88

1 participation aux Ch. du Monde 1987.

sélectionné pour les CH. d'Europe 1990.

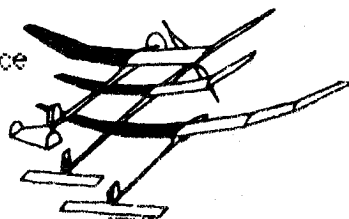
Champion de France F1A à Niort en 1983

CHAMPION d'EUROPE à Pitesti en 1986.

BARBERIS DIDIER

4 Porte de Bouray

91760 ITTEVILLE France



B. BOUTILLIER

BERNARD BOUTILLIER

PAGE 15

47 married with two children R and D Engineer . Modelling for almost 35 years Several times in French team as F1B or F1C flyer, or as team manager .

The number 11 F1C was built for , and used in 88 Eurochamps . This was my first attempt with fully sheeted wings . In fact I jumped directly from open flying surfaces to metal skinned wings . This first set of wings was unfortunately much over weight at 25 g and

are now replaced by an identical pair weighting 200 g. At the same time I have built two other sets of metal wings and stabs for n° 9 and 10 models . For now I am building a BE 48 replica but with a slightly shorter moment arm (because of the length of the Cheneau Kevlar tubes) and a corresponding increase of tail area to keep the same TVO.

Résultats entre beaucoup d'autres .

1975 Champion de France Monotype et Coupe d'Hiver .

1976 Champion de France Monotype

1977 Champion de France Monotype et F1B

1978 1er au Poitou en CH et à Londres.

1981 Champion de France 1/2 A Chef d'équipe à Burgos

(E) CH. du Monde F1B champion du monde .

1982 Champion de France 1/2 A tout comme 83 et 84 .

1987 Champion de France caoutchouc Open .

3ème à Bern en F1B

1988 2ème Champ. de France Caoutchouc open et 2ème en 1/2 A- 2ème à Cambrai F1B

BOUTILLIER BERNARD

18 rue du Parc

18400 ST. FLORENT S/Cher France

J. BRADLEY

PAGE 16-17

I have been involved in aeromodeling for over 30 years. At first I flew only control line and then in the early 1960's I also started Free Flight. Through out the 60's and 70's I flew several events in both , mainly speed in control line and gliders and gas models in Free Flight. From the late 70's I have flown nothing but F1A gliders.

Since I started flying only F1A have been on 3 of the U.S. teams to the World Champs , 83, 85, 87 and I was the alternate for the 89 World Champs . Most recently I have won the MAX MEN 14 round contest in 1988 and the FAI California Invitational in 1989 . I also placed 2nd in the Americas Cup competition in 1989.

I am married and have a 21 year old daughter . I am employed by an electronic company as a Senior Electronic Test Engineer. For most of my life I have lived Florida and because of the climate here I am able to fly year round. My wife , Linda , is my constant flying companion and helper . I fly in as many contests as I can each year , usually 6 to 8 a year . To stay in physical shape for F1A I run 20 to 30 miles a week and swim

BRADLEY JIM

1337 PINE SAP CT.

ORLANDO FL. 32825 USA

8

— PHOTO: A. SCHMIDT —

VOL LIBRE

D. BARBERIS

9

ECHELE 114ET 1/5

ENTD146E - JAPON + MOBELSPAN.

ROHACEL:

$$5^{15} < 98 > 31 <$$

1,5mm CTP + БОИДУР + 1,5 CTP

CARBONE - F.DV.

RENFORT

CELLAR 369

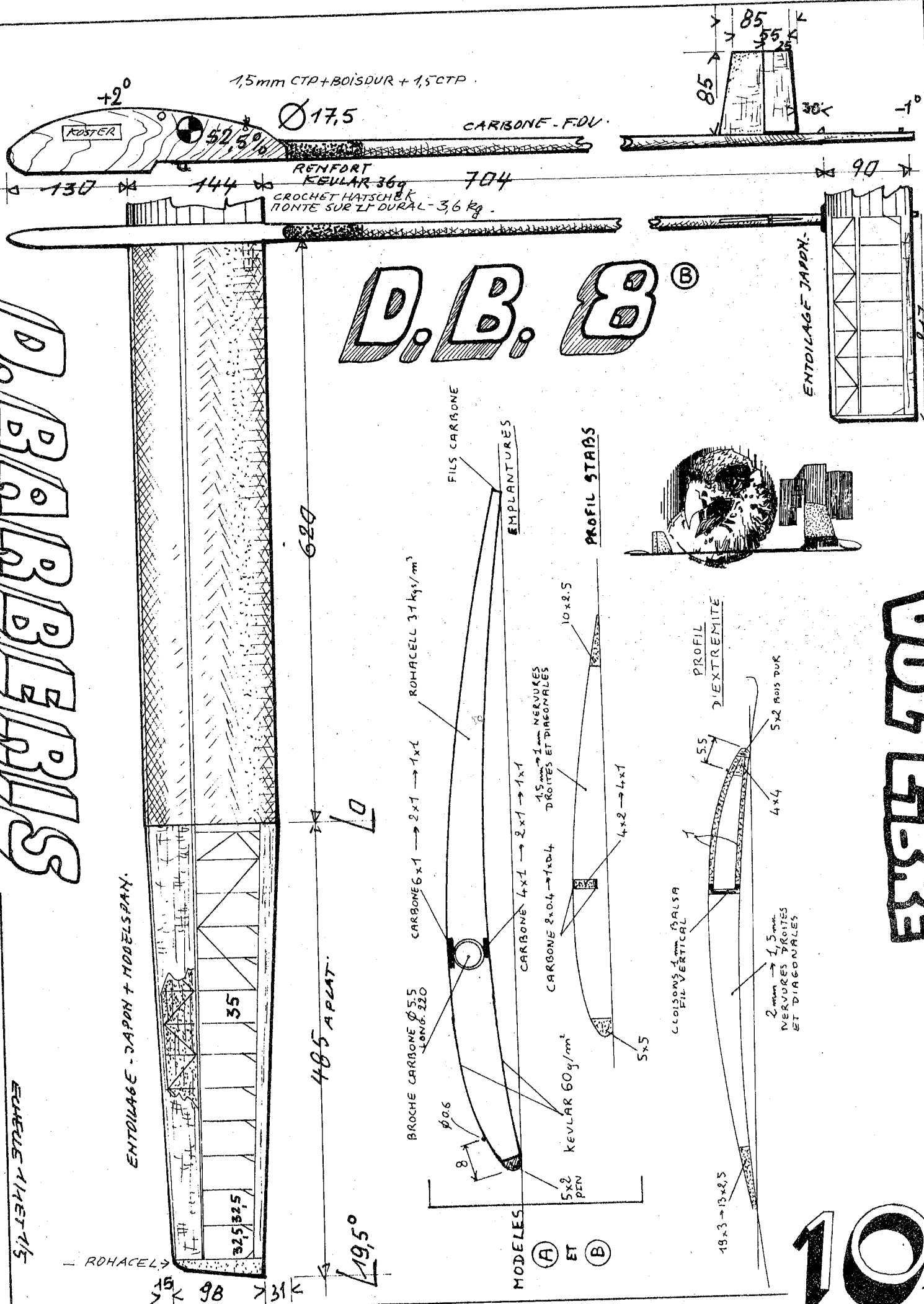
CROCHET HATSCHEK
PONTÉ SUR ZI DURAL - 3,6 kg

ENTON/AGE-JAPDH-

VOL FIBRE

1. SCHANDEL - D. BARBER'S.

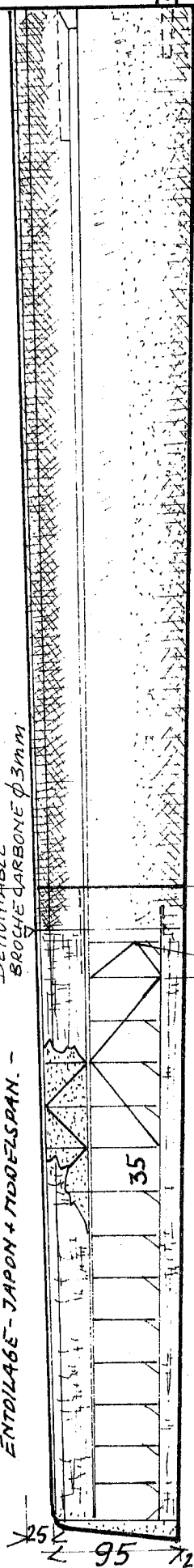
10



D. BARBERIS

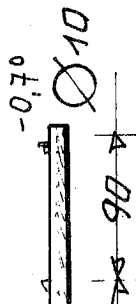
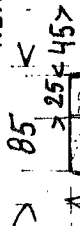
CARBONE. F.D.V.

ENTOILLAGE - JAPON + MOUELSPAN. - DETONNABLE
BROCHE CARBONE Ø 3mm



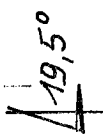
RENFORT
KEVLAR
86g/m²

BALSA - 3mm
RENFORT AU BA-
ARTICULATION
NYLAR -



D.B.®

520 PLAT



CP 1,5mm BOIS DUR + ETP 1,5



CROCHET "HATSCHER"
MONTÉ SUR UN LIEN DURAL
- DEVEROUILLAGE: 3,4 kg -

KOSTER

720

145

120

ENTOILLAGE
JAPON.
217

5

PROFIL JONCTION
RHA CELL-STRUCTURE

5x2 BOIS DUR

PROFIL
D'EXTREME

CLOISONS 1mm Balsa FILVERTICAL
(6 PREMIERES INTERNEVRES)

20x3 → 15x25

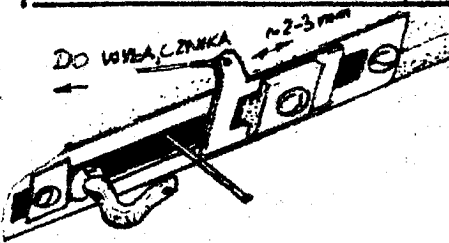
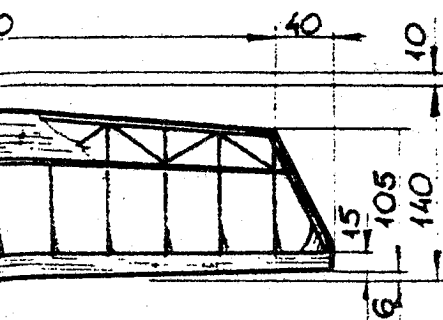
2mm → 1,5mm
NERVURES DROITES
ET DIAGONALES

VOL LIBRE

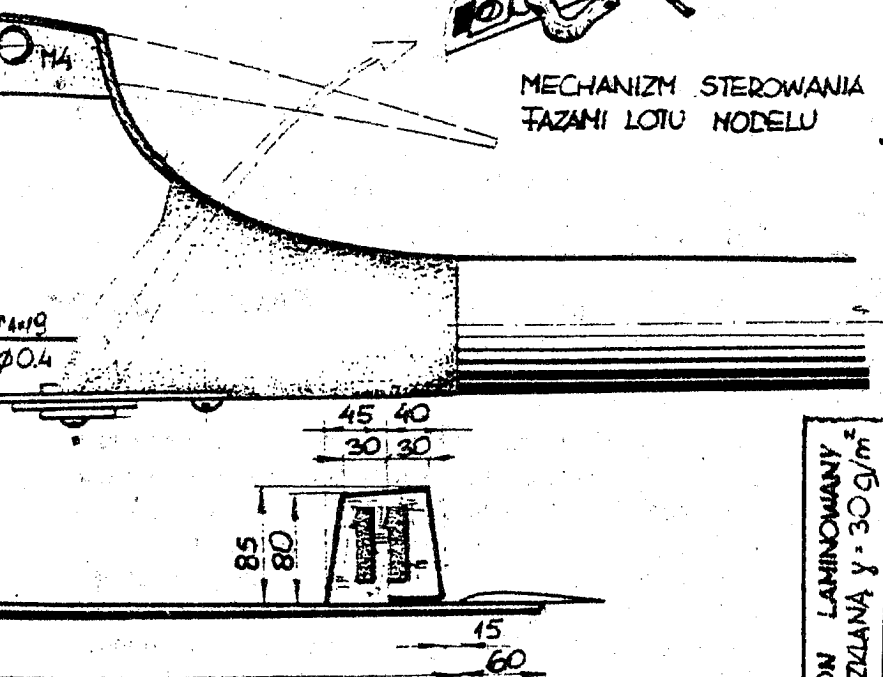
A. SCHAUDEL - D. BARBERIS.

SZYBOWIEC F1A AB-11

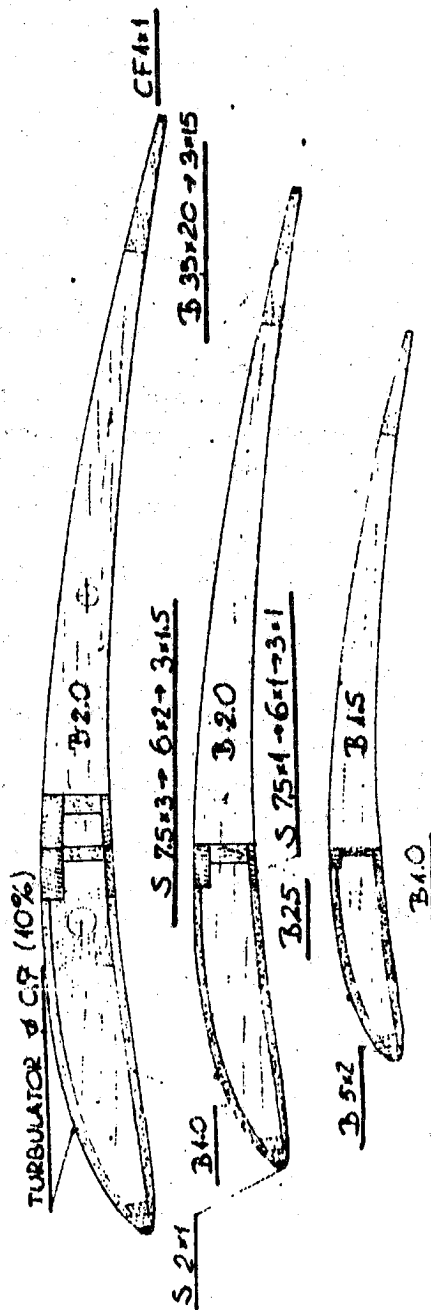
ROZPIĘTOŚĆ	2125 mm
DEŁGOSĆ	1125 mm
POW. SKRZYDEŁ	29.15 dm ²
POW. STAT. PION.	4.50 dm ²
MASA SKRZYDEŁ	172 g
MASA STAT. PION.	7 g
MASA MODELU	415 g



MECHANIZM STEROWANIA
FAZAMI LOTU MODELU



KESON LAMINOWANY
TK. SZYLANĄ Y - 30 g/m²



A.B.11

A. BORKO

ungleicher Rückstellfedern umgeht Cofalik mit einer frei beweglichen Scheibe (5), die zwei um 180° versetzte radiale Schlitz (siehe widok Z) hat, in die die Blattachsen (3) greifen. Diese Scheibe synchronisiert das Aufdrehen beider Blätter, welches sich aus dem Kräftegleichgewicht zwischen dem Aufdrehmoment der 2 Blätter (durch den Luftwiderstand) und der Gegenkraft durch die 2 Federchen um die Blattachsen ergibt. Bei aufgezogenem Gummi wird der Prop durch eine Nase an der frei beweglichen Scheibe gehalten, d.h. durch einen Hebel am Rumpf übertragen. Das Drehmoment wird über die Blattachsen auf die

bewegliche Scheibe geleitet. Es ist erheblich größer als die Blattrückstellfedern und drückt daher das Blatt in den größtmöglichen Anstellwinkel. Nun können die Blätter durch 2 Nasen am Spinner in ausgeklapptem Zustand gehalten werden. Raffiniert hat er auch das Abstellproblem gelöst: wegen der nicht genau definierbaren Position des Stoppsins zur beweglichen Scheibe hat er in diese ein Langloch über den ganzen Verstellbereich des Props eingearbeitet. Rastet nun dieser Pin (2) am Rumpfspant ein, dreht der ganze Kopf aus Trägheit noch bis zum Ende des Langlochs. Hier nun rastet ein zweiter Pin (1) in ein Loch auf der drehbaren Scheibe ein.

VOZ LIBRE

13

C. BREEMAN

CENNY BREEMAN

PAGE 20-21.

I started aeromodeling in 1962, at the age of 14. My first successes were in 1967 when I got a third place on the Dutch nationals and a team place for the world champs in the CSSR, where I was placed thirteenth. In the beginning of the seventies some important changes occurred in life. In 1971 I got married. In 1972 I changed my job from a chemical research laboratory into air traffic control and we moved from the Amsterdam region via Luxemburg to the southern part of the Netherlands in 1973.

Those changes had of course their reflections on modelling.

At the end of the seventies it seemed that I was back again on the Dutch scene.

At this time I started to spend more time on designing which resulted in a whole new serie of models. I was in the opportunity to fly those models up to three or four times a week and it did have effect! In 1982 I could look back at four individual national titles and three times I was almost every year selected for the national team and in 1982 and in 1984 I won the European Championship.

Other noticeable results in this period are;

- 1974 3 Eifelpokal
- 1982 5 Bohemen pokal CSSR
- 1983 3 Midsummernight
- 1983 2 Poitou
- 1984 4 Midsummernight
- 1984 3 Moster
- 1985 3 Midsummernight
- 1985 1 SUNRISE NANCY
- 1985 7 Poitou
- 1986 3 Bohemen Pkal
- 1987 4 Scandinavia Open
- 1987 1 er KUP REPUBLIK ZAGREB
- 1988 4 Poitou
- 1989 5 Holliday on ice

In 1988 I had the pleasure to be the team manager of the first junior W.Champs. in Leszno

In 1983 we moved to Belgium and since 1989 I am allowed to represent Belgium on the international champs.

BREEMAN CENNY

Priestersweg 3 REKEM

3620 LANAKEN Belgique

J.C. CHENEAU

CHENEAU Jean Claude

PAGE 24-25

Chez l'Abbé Route de Cognac
17610 CHAMBERS France

A. BORKO

PAGE 12-13

P. BRUN

PAGE 22

BRUN Pierre

200 Button Apt. 31. J
SANTA CRUZ CA 95060
USA

V. CHOP

PAGE 26-27-28

R. COLLINS

COLLINS ROY

PAGE 31-32-33

19 Highfield Road
Hornchurch Essex G.G.

Roy COLLINS is married with a daughter and a son, he started model planes over 50 years ago. He saw Emmanuel FILLON win the Wakefield Cup in 1937 at Hayes airfield (which is now part of Heathrow).

In the late 40's he found the challenge of power flying more stimulating. His best well known model of the period was his Flamingo, which though it weighed 870 grm proved higher wing loading models could give a good performance.

In the 60's he met George French and FIC was a natural class to build, and has done so ever since.

He has placed 6th and 7th Internationally at Trbod and 3th at Poitou. Gaining many 1st, 2nd and 3rd places in the U.K. and twice reaching the World Championship team to represent the U.K.

Roy has been pattern maker /model maker all his life and retired a few years ago, he enjoys helping model flyers at home and abroad as much as he can by supplying them with plans and model information. He has now returned to part time work as an instructor and helping young people which he finds extremely rewarding.

Jill Collins.

I. CHRA

PAGE 34.

CHRA Ivan

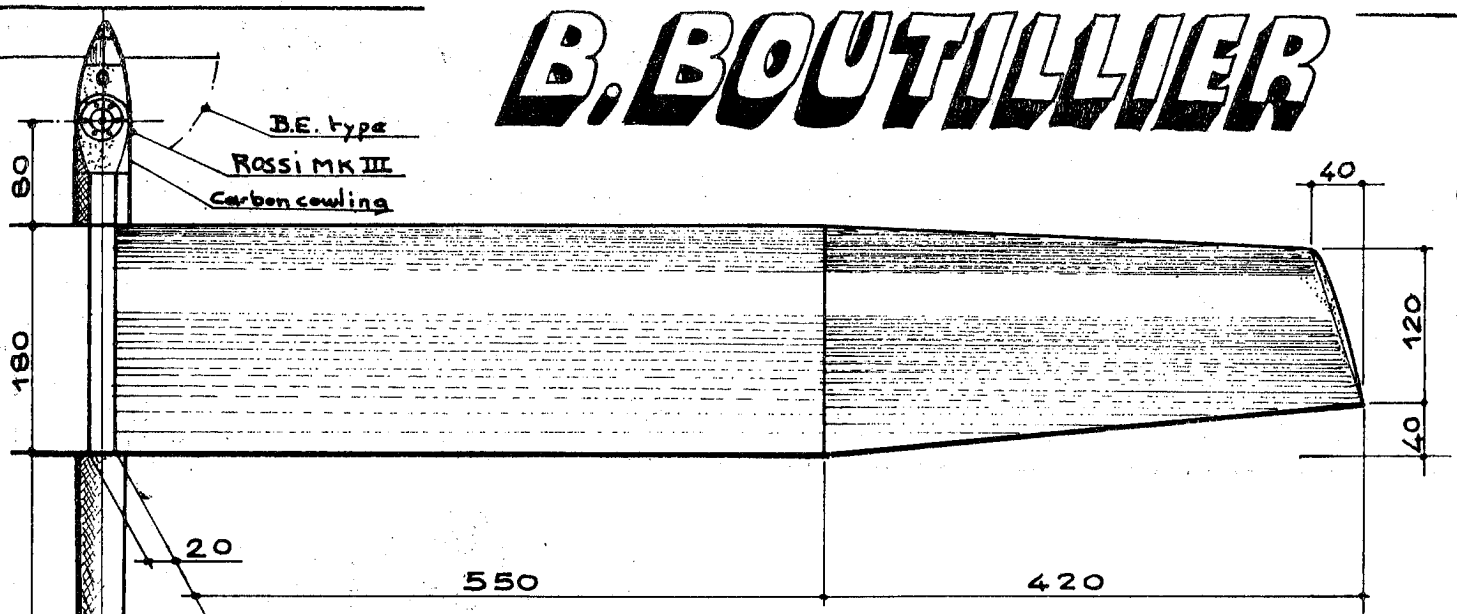
Buchara 987
51401 JILEMMICE
CSFR

14

B. BOUTILLIER

VOL FIBRE

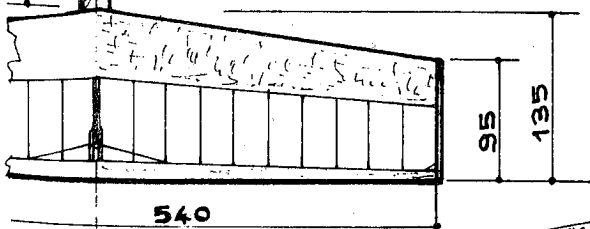
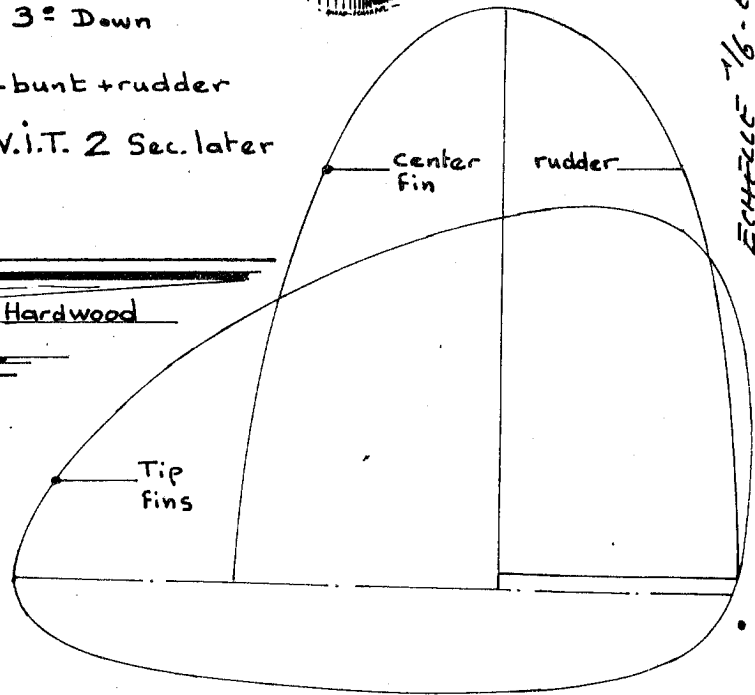
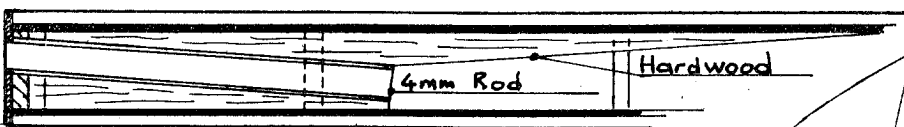
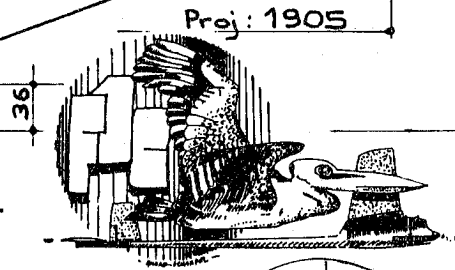
ECHELLE 1/6 ET 1/4 - B. BOUTILLIER.



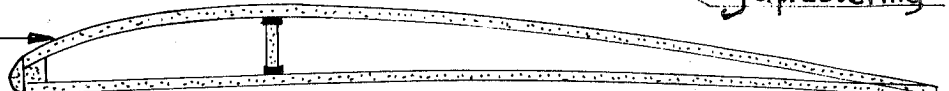
BB11

Kevlar tube

Wing Area: 31,4 sq.dm Wing set at 0°
Tail Area: 6,2 sq.dm Engine 3° Down
Total Area: 37,6 sq.dm Brake + bunt + rudder
Min Weight: 752g Then V.I.T. 2 Sec. later



Dural foil
Carbon spars



B.B.
8/1/89

Scale:
1/6 & 1/4

15

4. SCHANDEL - T. BAILEY - ESTELLE 11/21/75

RONACELL 37 CF NAT "D" BOX-

MAIN SPAR: .38 → .13
6" TAPERED MAPLE WITH EOD TUBE.
TOP SPAR: .03 C.F. BOTTOM SPAR: .007 C.F.
MAPLE IS .375" AT ROOT. Balsa core
WITH .015 PLYWOOD WEBBING FRONT
AND BACK.

61X61
L.E.

FORM 1007 C.F. .25 C.F. WING ROD ALL DIAGONAL RIBS CAP

WITH .003 C.F.

T.E. 13X.5-4.38

3.007 C.F.

T.E. 13X.5

007 C.F. TTP SPAR: .13 → .06

2 PCS. 06 BALSAs WITH .003 C.F.

DIFFERENCES BETWEEN C.E. 003 & 02

THE TWO BATHING SPAS ARE "T" BEAM

OF, 003 C.F.

T. E. 09X.25

132
L. W.

SPBR: 06 → 03 WITH .003 C.F. TOP & BOTTOM

J. BRADLEY

- 20

20

20.3

CARBON FIBER TAILBOOM. -

MAIN SPAR: .38 → .13

6" TAPERED MAPLE WITH ROD TUBE.

TOP SPAR: .03 C.F. BOTTOM SPAR: .007 C.F.

MAPLE IS .375" AT ROOT Balsa Coar.

WITH .015 PLYWOOD WEBBING - FRUIT

and BA:K.

- MAT over

61' X 61'

- MAT over

م

25 C.F. WING ROD

DIAGONAL RIBS CAP

1915.

[illegible]

T.E. 13X.5-4.38

28 TO 30 WASH OUT

AC 800

007 C.F. TIP SPAR: .13 → .06

2 PCS. 06 BALSAM WITH .003 C.F.

DIFFERENCES BETWEEN C.E. 003 & 02

THE AND BATHING SPA "T" BEAM

OF, 003 C.F.

T. E. 09X.25

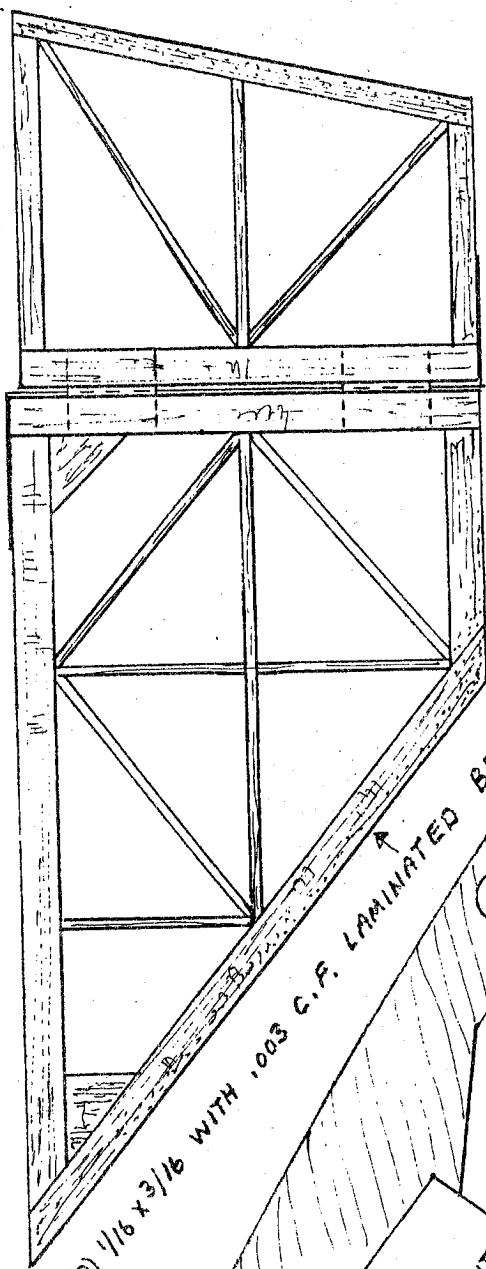
132
L. W.

SPBR: 06 → 03 WITH .003 C.F. TOP & BOTTOM

FREE
VOL
FREE

FLIGHT
LEBBE
FLUG

.020 TORSION WIRE
KLETT NYLON HINGS (2)
.003 C.F. ON ALL BRACING

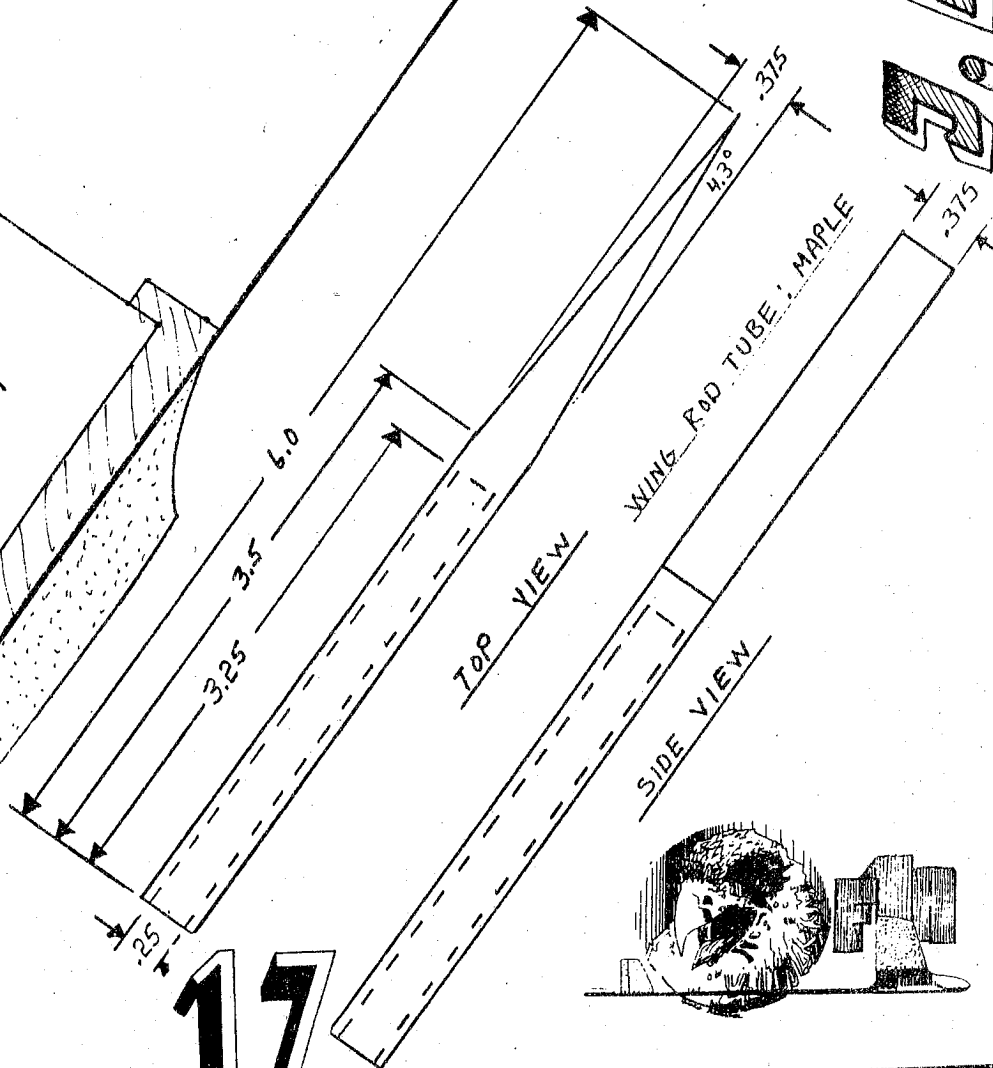


(2) 1/16 x 3/16 WITH .003 C.F. LAMINATED BETWEEN
1/16 BASSWOOD

TAIL BOOM

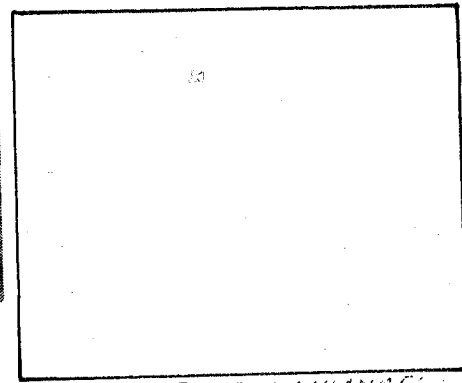
TIMER/TRANSMIT
CUTOUT

9V BATTERY

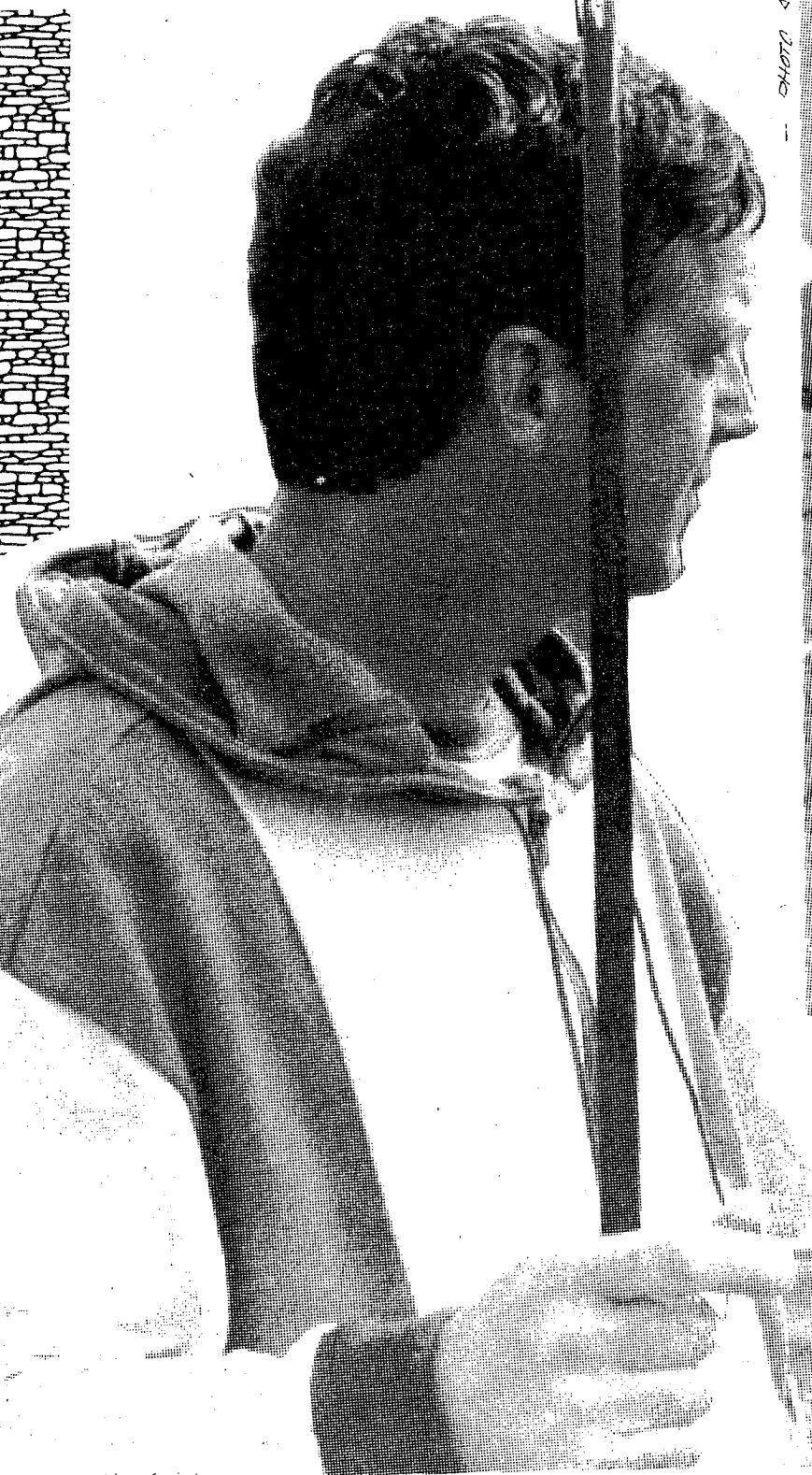


FREE
VOL
FREE

J. BRADLEY
 E. DONDERO
 J. L. DRAPEAU
 B. BOUTILLIER



VOL. 90
FEBRE



I. CRNA

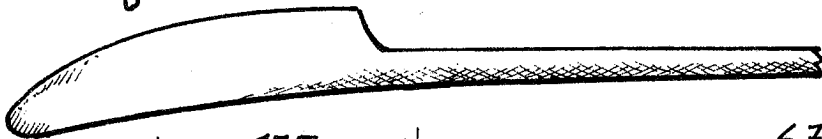
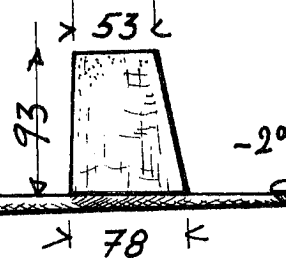
— Photo - A. SCHANDEL. —

CENNY
BREEMAN

19

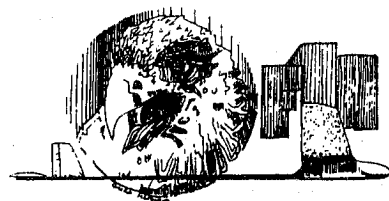
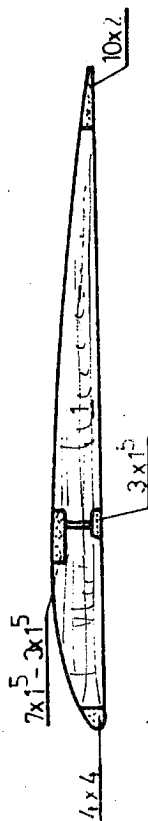
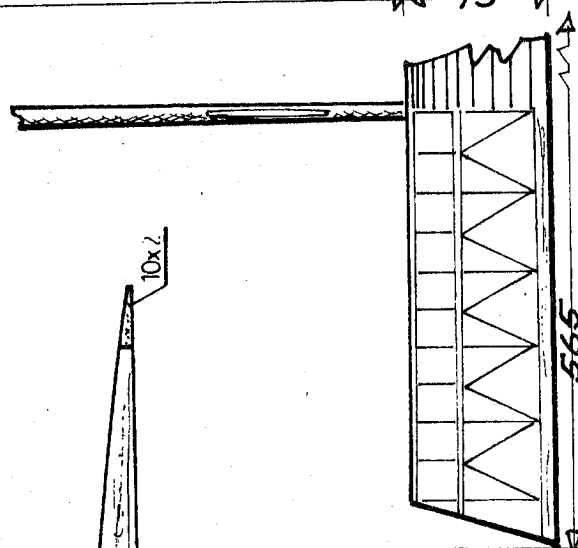
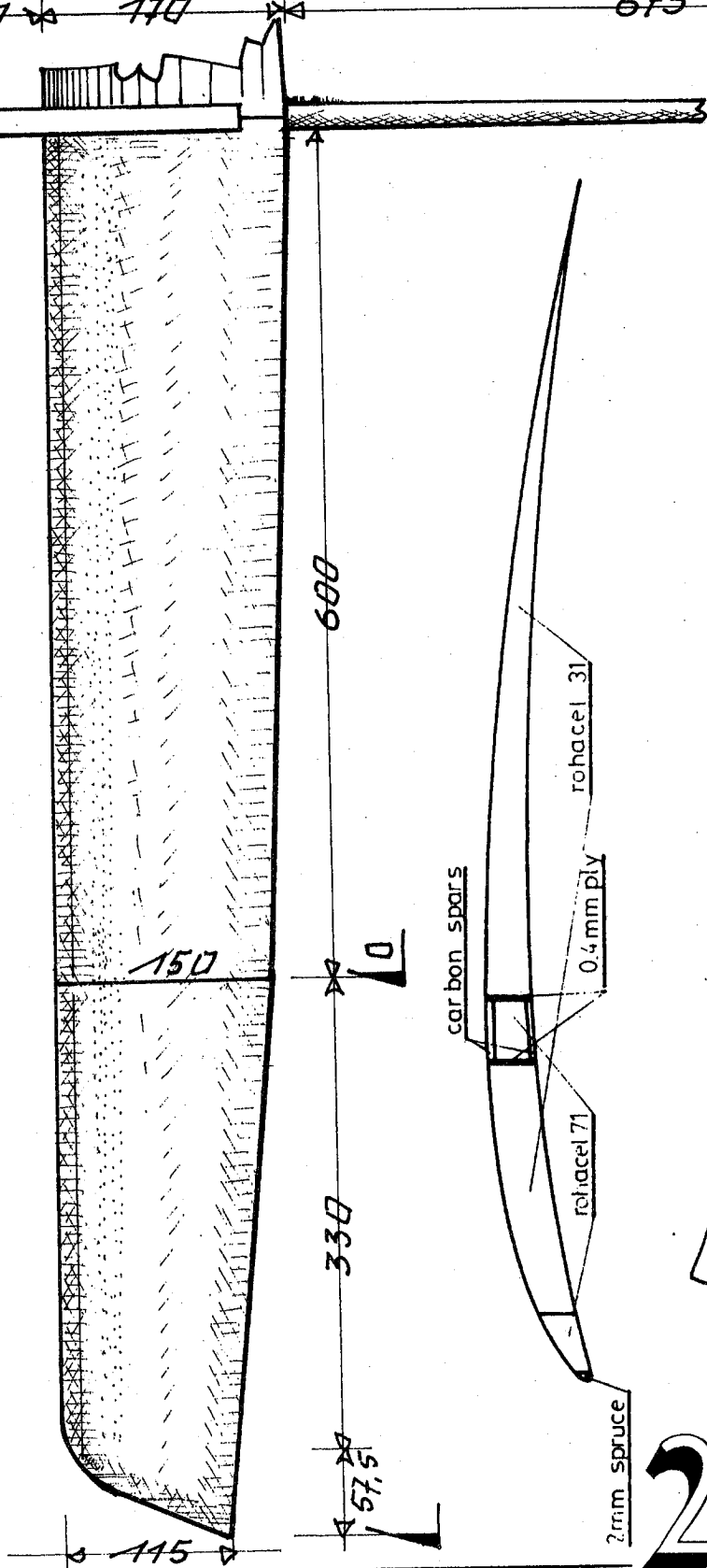
C. BREEMAN + J. SOMERS

0° 52.7%



ECHELLE 1/100

WOLFE

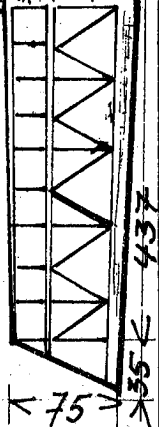


GLURTEL

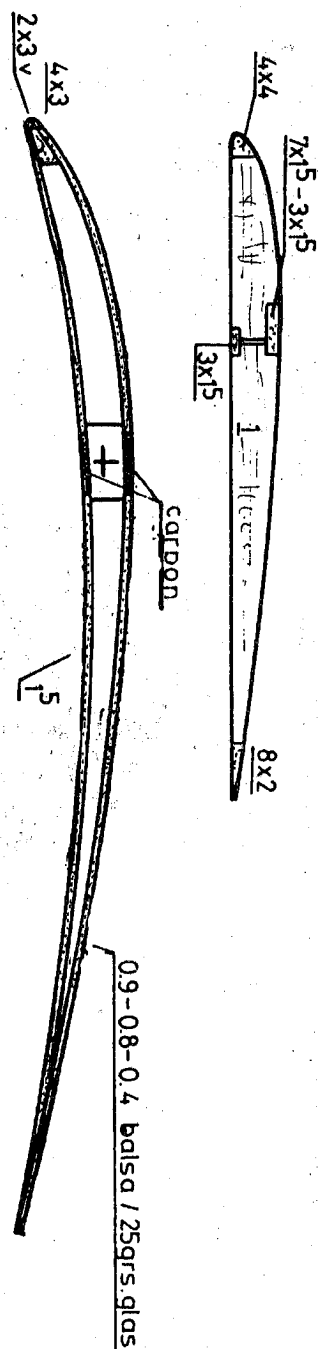
87

20

C. BREEMAN



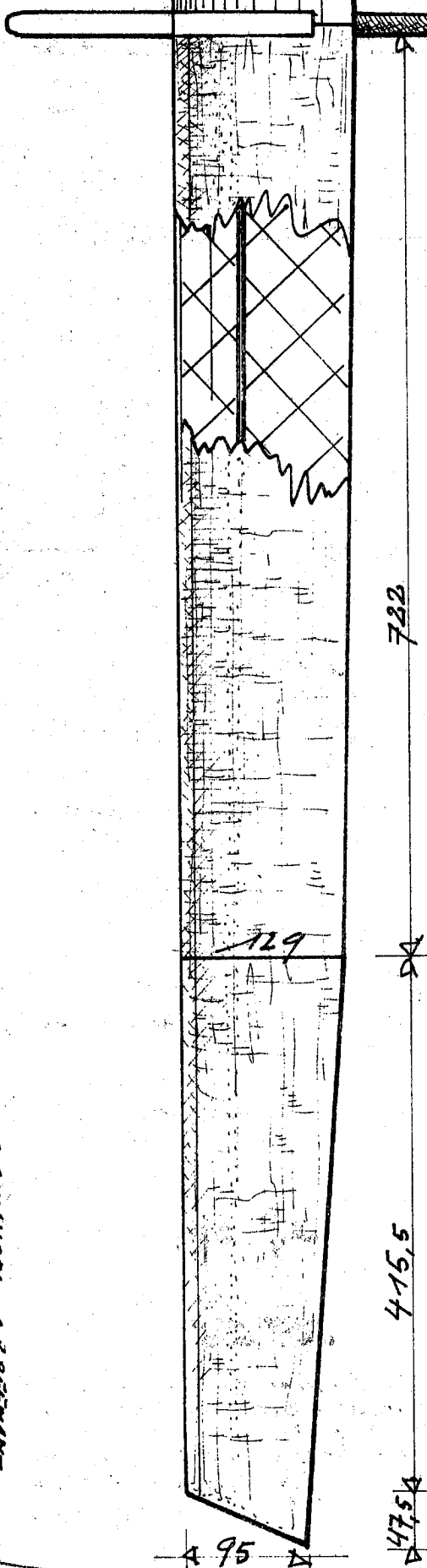
VOL 13RE



52,6%

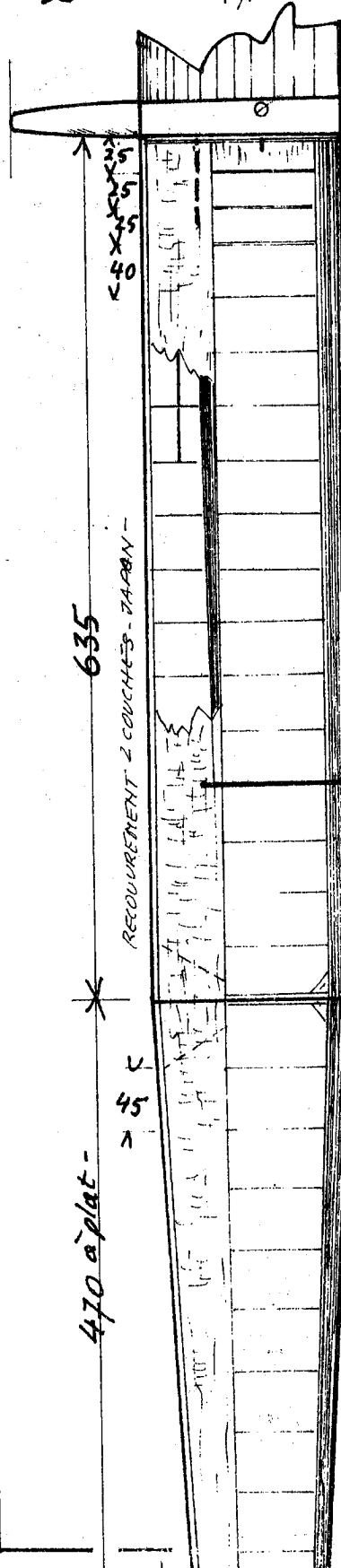
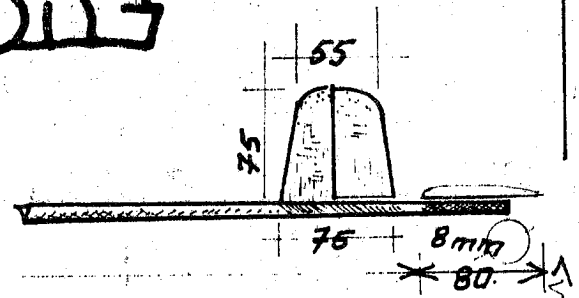
STILL THERE

21



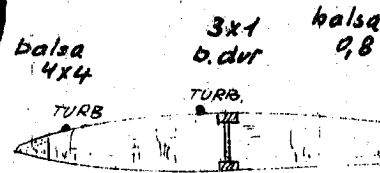
VOZ LIBRE

58%



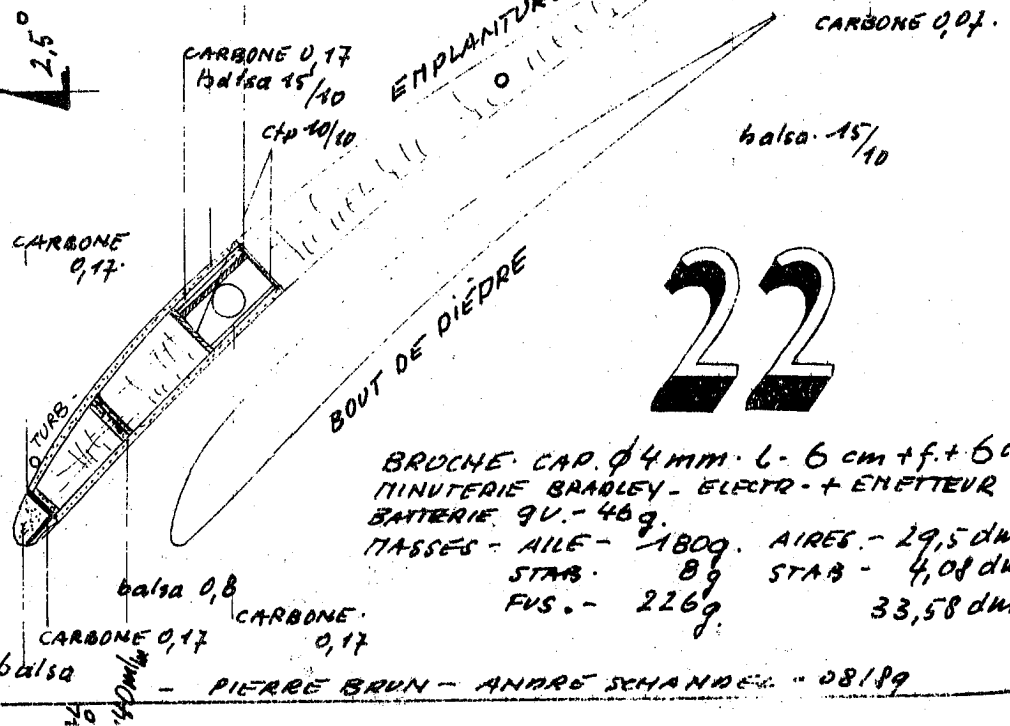
16 mm
TUBE FIBRE DE CARBONE
ctp 10/10 + 30/10
ctp 10/10
ctp 10/10
ctp 30/10
balsa 15/10
SUR TOUTE LA LONGUEUR

**PIERRE
BRUN
U.S.A.**



PROFIL - L.G. DLOFFSON - A.2

PROFIL - B. 63566.
ctp 0,8



22

BRUCHE. CAP. ϕ 4 mm. L. 6 cm + f. + 6 cm
MINUTERIE BRADLEY - ELECTRO - + ENFETEUR
BATTERIE 9V - 46g.
MASSES - AILE - 180g. AIRES - 29,5 dm²
STAB - 8g STAB - 4,08 dm²
FVS - 226g 33,58 dm²

PIERRE BRUN - ANDRÉ SCHANDER - 08/89

F. DAHLIN

PAGE-36.-

DAHLIN Frank

Gjerager 7

6880 TARM D.K.

E. DONDERO

ERNESTO EDUARDO DONDERO PAGE-42-43.-

I am 31. I work with stain less steel in little factory.

I have been flying free-flight models for 17 years. I started with F1H, then radio control gliders F1G and the last F1A exclusive. My other interests include, racing cars, fishing, hunting and diving.

I have represented my country 5 times in world competition. Spain '81, Australia '83, Yugoslavia '85, France '87 and Argentina '89. And 5 times in South American contest, first 2 times, second 2 times and I have been Argentin champion for four times. Other event include 2 th, 17 Critérium P. Trtébod 1981, 4th Poitou 87, 5 th 18 Eifel Pokel Zülrich, my models are based loosely on my good experiences with the Lepp and Chop design.

DONDERO Ernesto

Ave. Constitucion 4279

7600 MAR DEL PLATA Argentine

J.L. DRAPEAU

PAGE-44.-

DRAPEAU JEAN LUC

Né le 26/ 9 / 1953 à Thouars, marié deux enfants. Technicien des Services Vétérinaires, membre du Club Aéromodéliste d'Azay la Brulée. Maire d'Azy le Brulé.

Championnats de France.

1976 2^{ème} à Noize; 1977 3^{ème} Marville; 1981 1^{er} à Poitiers; 1987 3^{ème} Beauvoir; 1988 3^{ème} Ambérieu.

Championnats d'Europe 1978 Ansbach (D) 28

1982 Zülrich (D) 28; 1988 Szrenjanin

(YU) 14

Championnats du Monde 1977 ROSKILDE (DK) 14

1985 Livno (YU) 35; 1989 Cordoba (Argentine)

22^{ème}.

En 1984 Poitou 1^{er}; 1986 Poitou 2^{ème}.

Chef d'équipe de France en 1986, 87 et 90.

DRAPEAU Jean Luc

Jaunay - Azay le Brulé

79400 ST. MAIXANT France

23

P. DE BOER

DE BOER

PAGE-37-38-39-40

A short story about TURBO, what was before and what is the continuation. The basic startet in 1975 with development of a 6-function circle tow-hooke and the balsa /glass covered styrofoam-wings. I think both principals are well known at the moment. The problem at that time was to find a section for all sheeted wings flying at low Re-numbers. After a lot of misfortune it ended up with a set of new profiles, which are published long ago.

Beginning eighties I made a mistake, believing the "Althaus" tunnel results for glider wings. I am now sure you cannot translate results at low Re-numbers measured in a "low" turbulence tunnel to the practice of a model on the field. After bad results in Australia flying a Sokolov section and having crashed almost all models, I started the new method building wings in negative models in 1984. (Sandwich shells vacuum formed in negative molds)

Using again my own "old" section 10-s, and producing wingpannels compounded from two shells, three ribs and one main spar (all "plastic"), TURBO takes its rise. The vacuum formed sandwich pannel consist of 1 layer 36gr. Kevlar outside, 0,9mm Rohacell 51 and 1 layer 25gr. cglasscloth inside. The main spar was renewed lasting à 160 N line tension, using high modules carbonfibre 0.6*5 below, glued on a 7mm high square Rohacell 71 body. After lots of tests and practicing in the following years the final TURBO was revealed.

Now the TURBO model has a long list of performances all over Europe. Not only my club members are building and flying this model, I also know that friends in different countries are flying copies with perfect performances.

In winter 88-89 I developed PIETER with almost the same layout, using a 6.2% thick section to get a "deadair" time close to 4 mn after all. The results from the PIETER model were hopefull last year.

This winter I put most of my time in the JUMBO, which again has the same layout with only small section changes compared to TURBO. Untill now JUMBO is doing very well. It looks like I did not put my expectations too high.

L. DUPUIS

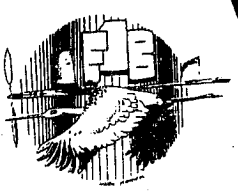
PAGE-45

DUPUIS LOUIS

6 La Perusserie TARGE

86100 CHATELLERAULT France

FREE FLIGHT



Profil stabilo échelle 1

Profils aile échelle 1

Surfaces:

Ailes	15,4	dm ²	+ 0,33	cabane
Stabilo	3,2	dm ²		
TOTAL	= 18,93	dm ²		projetée

Pale ϕ 610
Pas 750 mm

calage 34°

Profil creux 2 mm.

Pied.

BF

BF

Pied.

BF

Pied.

Nez de "WAKE"

25

roulement $\phi 8.3$

accrochage avec bobine dural.

$\phi 23$

12

5

Boîcés de ϕ int. 3 à l'avant.

$\phi 27$

18

1

$\phi 6$

4

$\phi 29$

1

pour verrouillage

$\phi 22$

ressort doux

rondelle soudée.

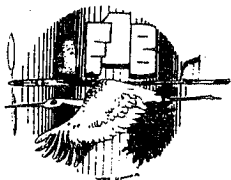
$\phi 18$

15

18,2

$\phi 5$

$\phi 3$



VOZ LIBRE



— PHOTOS A. SCHANDEL —

V. TCHOP



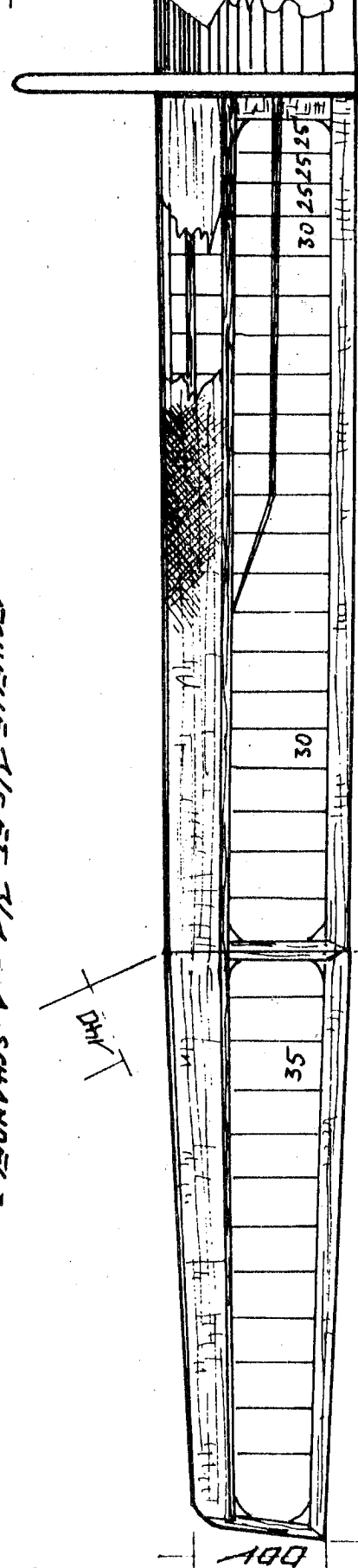
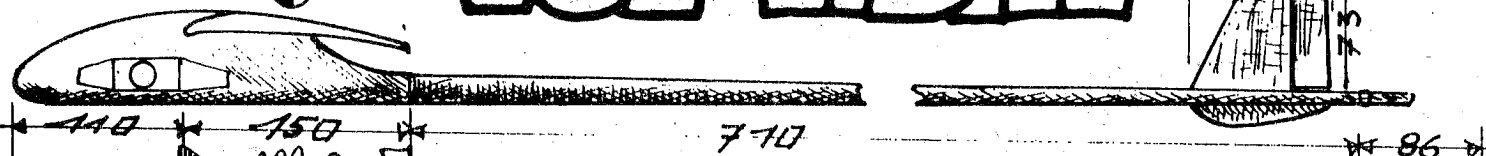
Виктор Чоп (Viktor Tschop)
ул. Львовская 212-151 (ЛВВОВСКАЯ)
270104 Одесса (ОДЕССА)
USSR - СССР

VOY LIBRE

26

VOL LIBRE

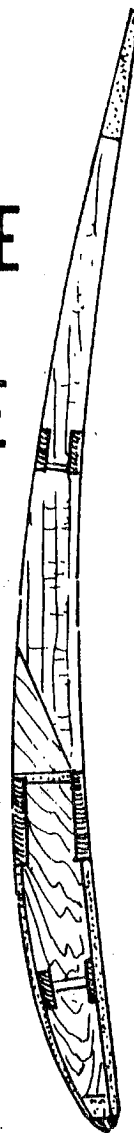
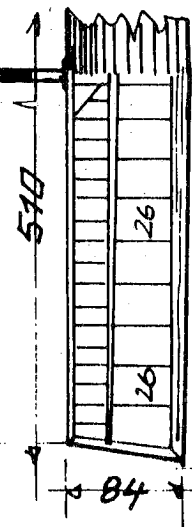
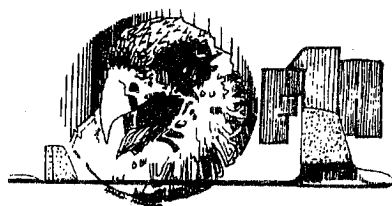
56%



VICTOR CHOP

4.B. 38

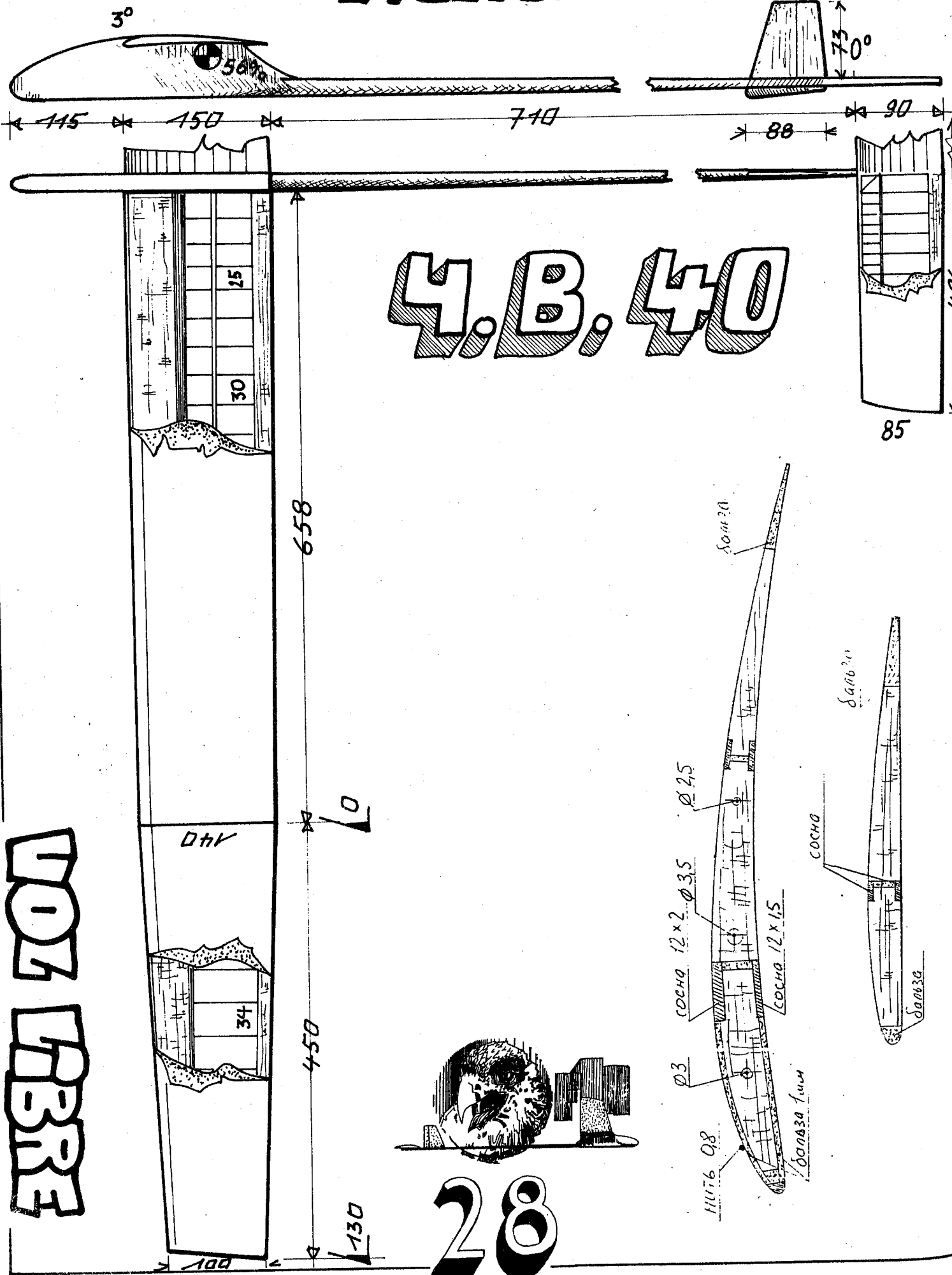
CHAMPION DU MONDE
1987
CHAMPION D'EUROPE
1988



ВАНТОПА ЧОП

27

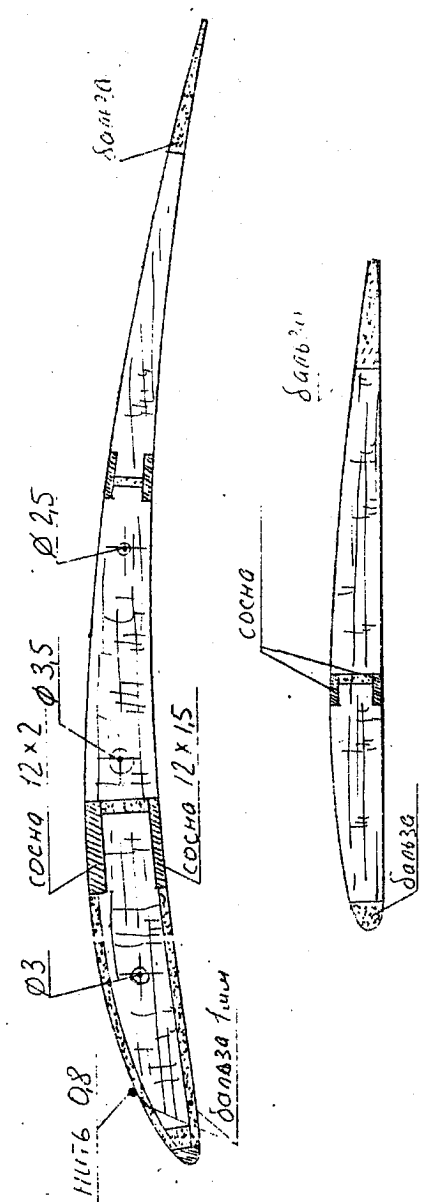
V. CHOP



VOZ LIBRE



28



A. SCHANDEL

E. CORALIK

DIAMETRE 590
PAS 730 constant

$\Delta 2.5$

$\Delta 5^\circ$

185

144

32

$\phi 70\%$

465
450 à gauche

280

MASSSES -

FVS. - 93.9

AILE 55

STAB 6

HELICE 41

TOTAL 195g

30

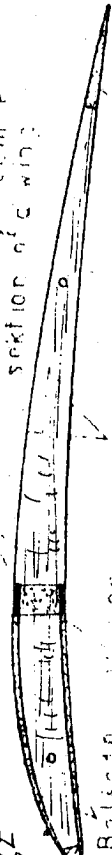
ALU. 0.035 + BALSAL 1.2 → 0.8 + ALU 0.035

C. 17.

CLIM 2.500 120000
2.500 120000

(close to Gard 6409)

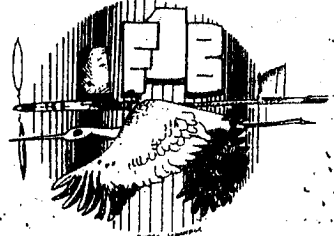
BA - RENFORCE CARBONE



Balsa 2.500 120000

Balsa 2.500 120000

18x01



7% symétrique

HELICE - 0.55
- DERIVE 55
- STAB. 65
- 20

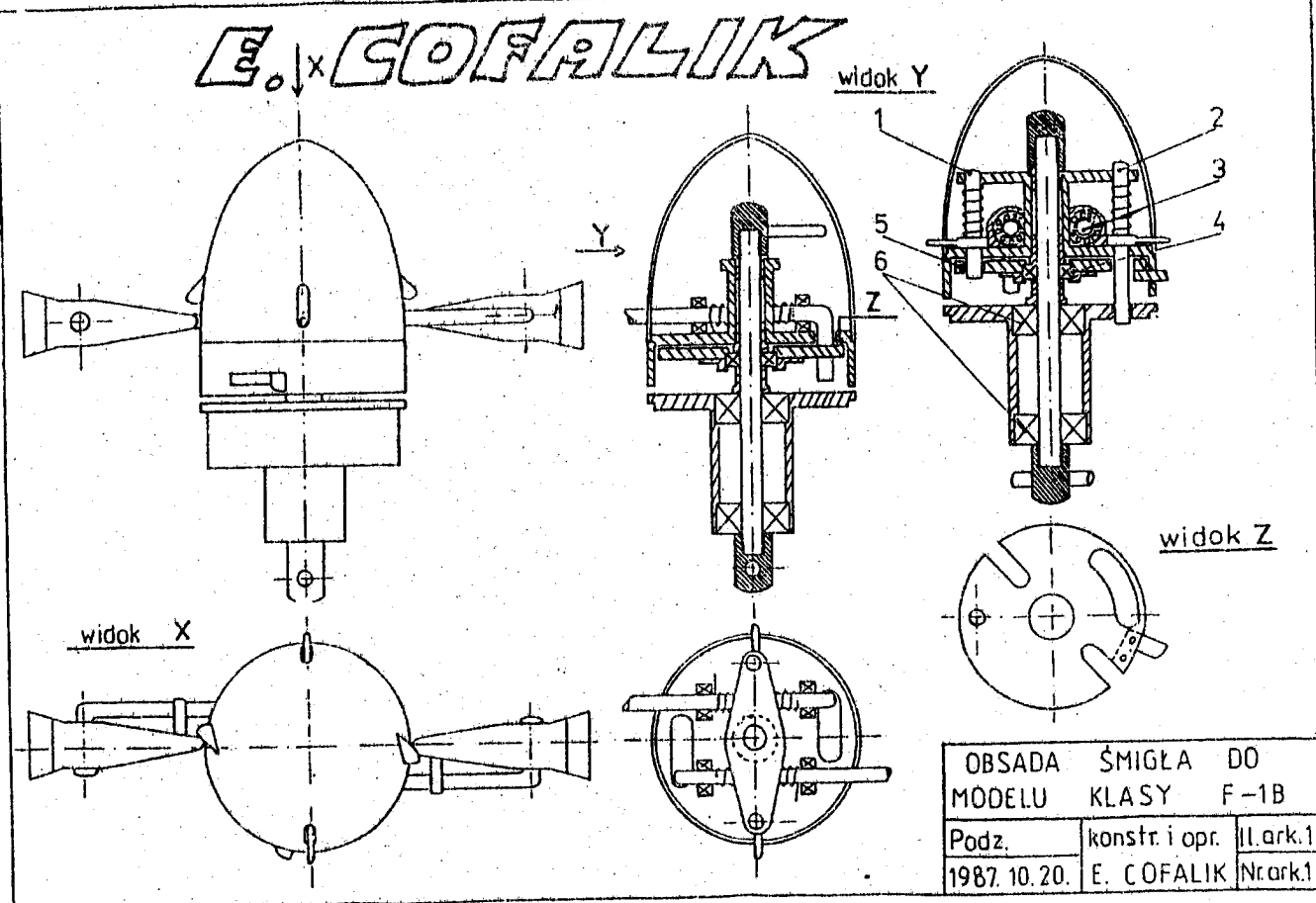
75

10

410

29

NO. 138



I. FERRARI

PAGE 47-

FERRARI Isidoro

Via Statale 21
CASTELVETRO
29010 PIACENZA Italia

W. GHIO

PAGE-52-53

Walt GHIO

My brother and I started flying free flight in 1955. At first we flew small gas models in the AMA classes. We then built the bigger class B and C models.

I started to fly FAI models in the late 1950's. Nordic and power were the first models I flew. In 1964 I built my first Wakefield. At the first my Wakefields did not fly very well, but I continued working on them. After building my first model with VIT, I started to fly much better. When I built my FLUX design in 1972 things really improved. RL.1, Honey and my Shadow design have been very good to me.

I've tried to improve each model with new construction methods and also design.

improvements. The longer prop run has been the most beneficial. Rubber testing takes a lot of time but it is need to keep up a high performance.

My Wakefields take up most of my time. I still build FAI and Nordic models because I enjoy the competition of these events.

World Champ teams: 1977, 79, 81, 83, 85, 89.

WORLD CUP 1988 1st

SIERRA CUP 1978 3rd, 1980 1st, 1981 nd, 1983 1st, 1986 1st, 1988 1st

MAI MEN : 1981 3rd, 1982 1st, 1983 3rd, 1984 4th, 1988 1st, 1990 3rd

Jim PATTERSON Challenge : 1981 3rd, 1984 3rd, 1987 2nd, 1988 2nd.

British Nats : 1986 2nd.

Fulop Sandor CUP 1988 2nd.

Reg Allamby Memorial 1983 1st.

GHIO Walt

1380 Elkhorn Drive
STOCKTON Calif 95209 USA

E. GORBAN

СССР 324071

Крутой Пор

ТОРБАНЬ ЕВГЕНИЙ

ул. Мельникова

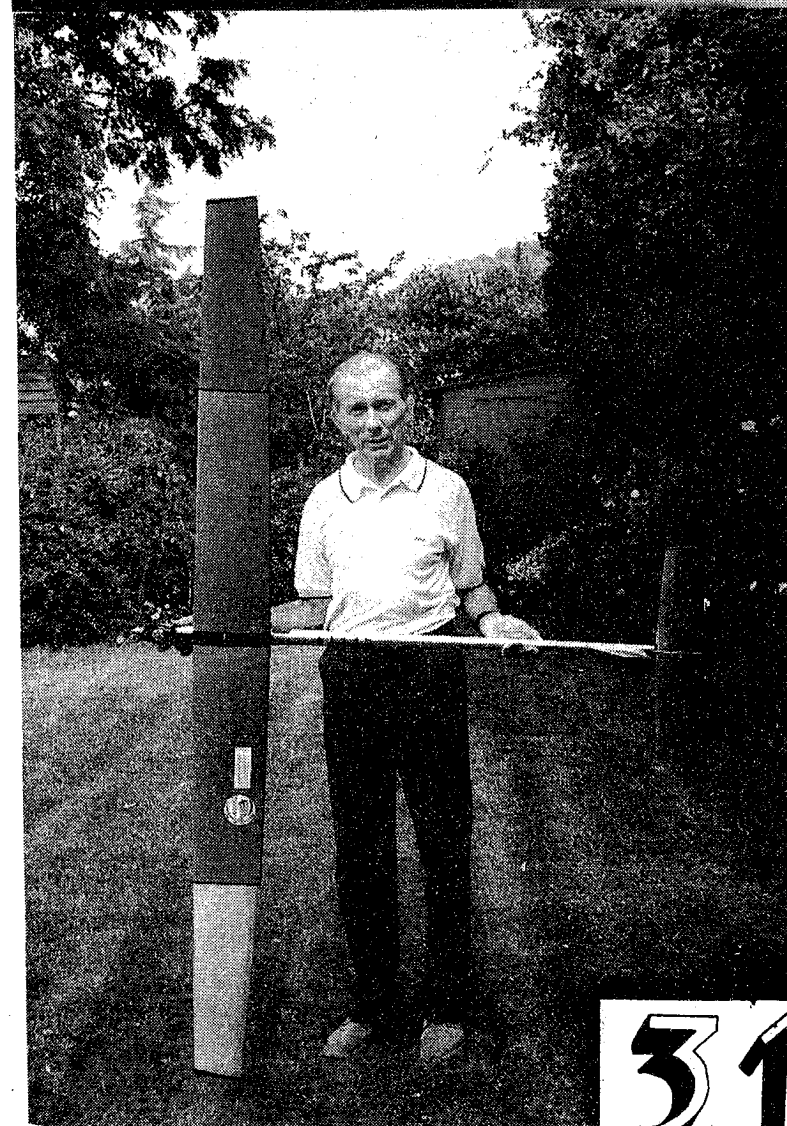
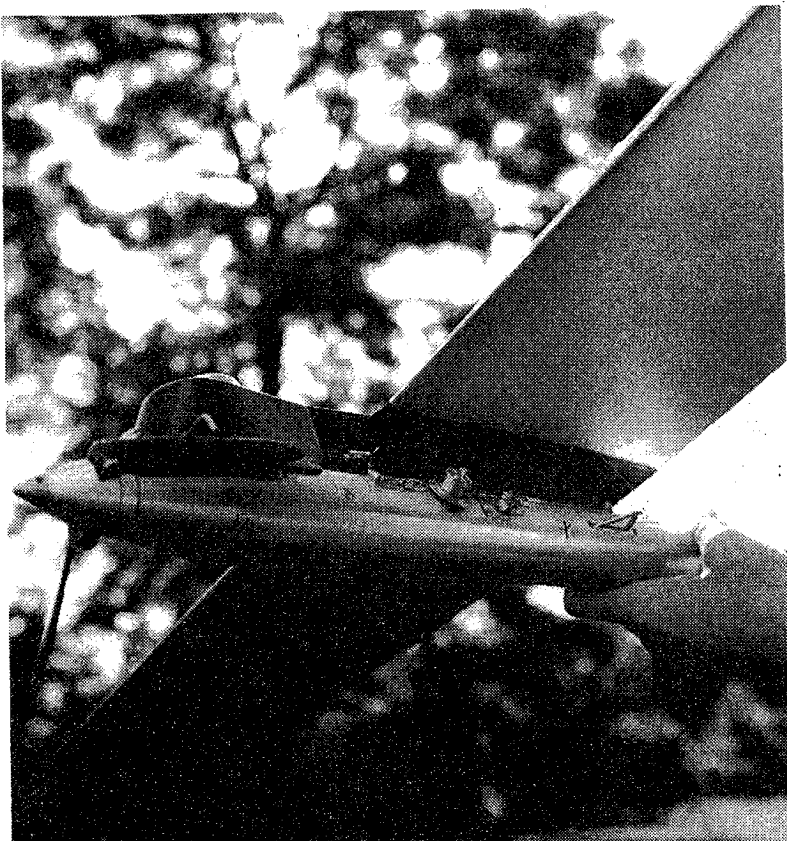
д. 55 кв 57

30

PAGE-54-55.

VOL' 90
LIBRE 90

R. COLLINS



31



— Photo: A. SCHANDEL —

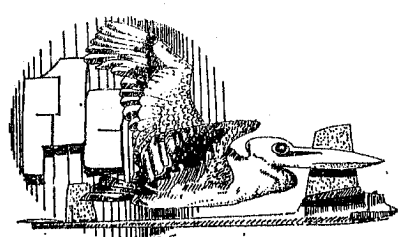
100% FIBRE

ÉCHELLE 1/1 ET 1/5 -

R. COLLINS

R.C.

BALSA - Kevlar -



CARBONE - CQ. NON INDIQUE - F.D.V.

84

PROFIL. MUA-101 -

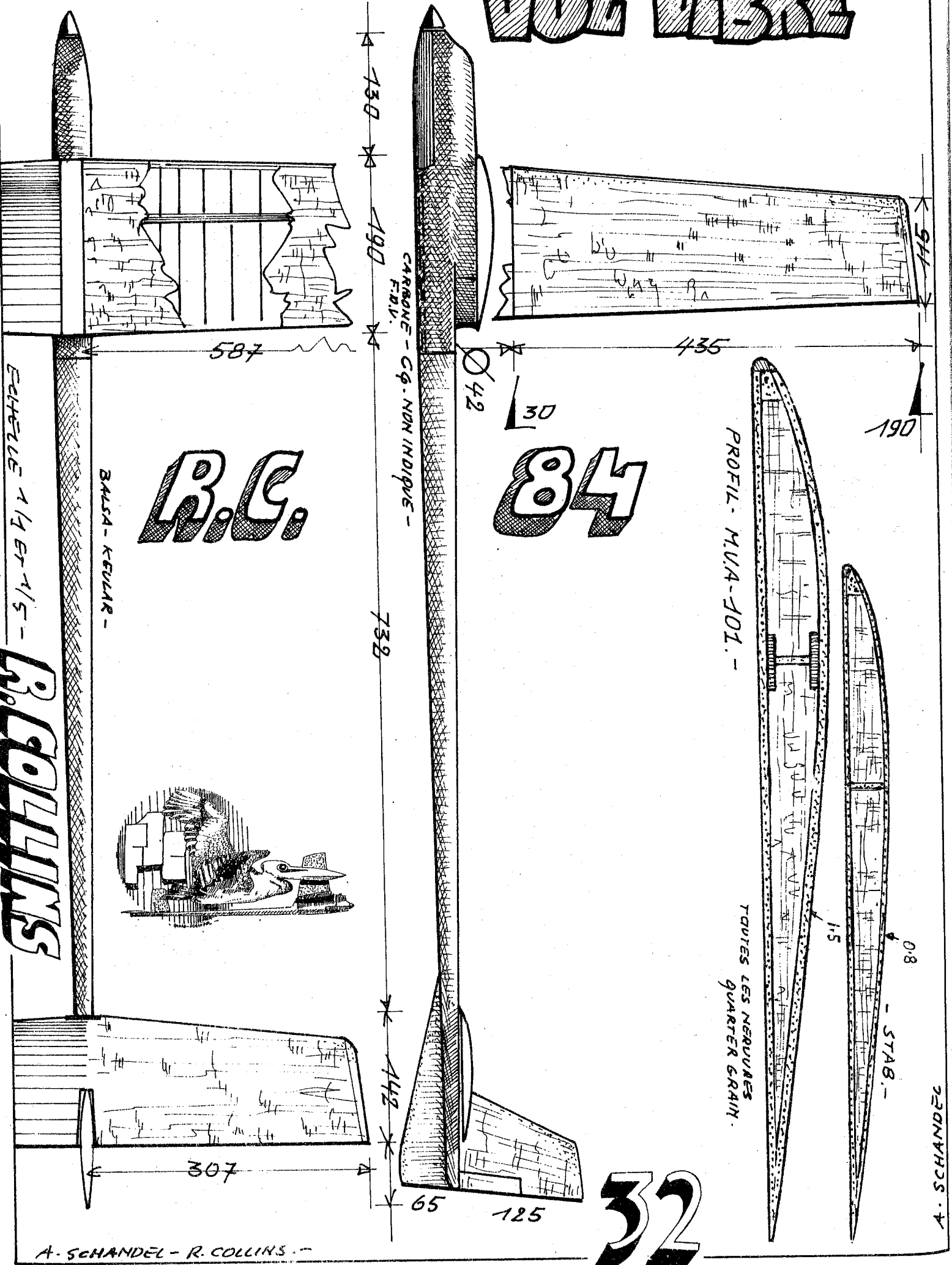
TOUTES LES NEUVES QUARTER GRAIN.

- STAB. -

A. SCHANDEL

32

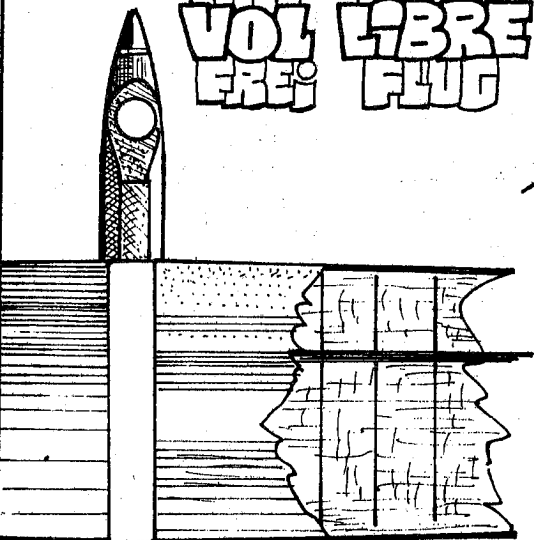
A. SCHANDEL - R. COLLINS -



FREE
VOL
ERE

FLIGHT
LIBRE
FLUG

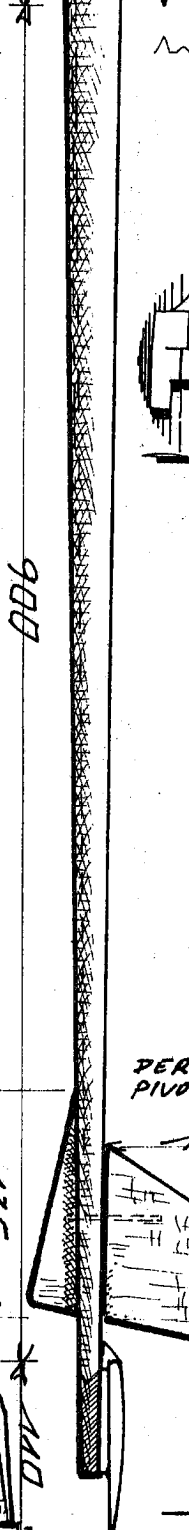
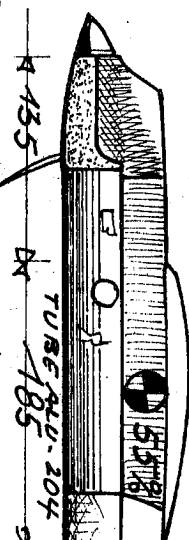
R. COLLINS FLAMINGO 2



Ø 40

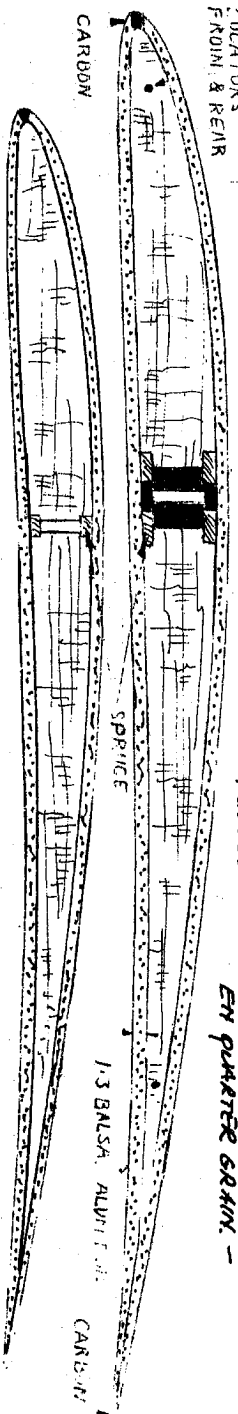
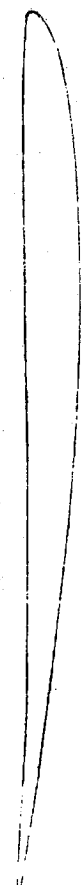
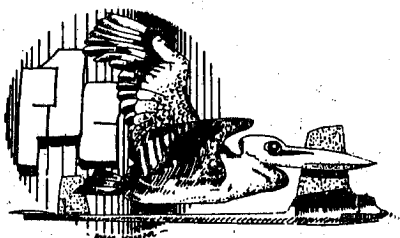
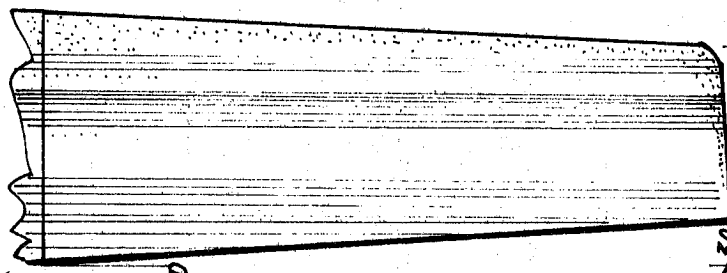
590

KEVLAR - CARBON 90° - BALSA 1/10 - FOL - 114 - ALU. ENT.



PERIVE MOBILE
PIVOT CARBONE

33



TOUTES LES NEVRURES
EN QUATRE GRAM.

7.30NCHS - A

COFFRAGE STAB
RECOUVERT ALU
PARTIE ARRIERE
RECOUVERT MYLAR.

K.H. HAASE

PAGE 58-59

HAASE Karl Heinz

Worthstr. 7

3251 UNSEBURG RDA

K. HALSAS

PAGE-60

HALSAS Kai

Viherkallionjuka 7 A1

02710 ESPOO

Finlande

R. HOFSAESS

HOFSAESS Reiner

PAGE 61

Beethovenstraße 16

7000 STUTTGART 1

RFA



REINER HOFSAESS

52 Jahre , verh. Versuchs Ingenieur bei MERCEDES BENZ.

Ca. 35 Jahre liegen zwischen den beiden Bildern .In der Zwischenzeit habe ich mich mit fast allen Modell-Kategorien befasst (1966 z.B. Mannschaftsrennen zusammen mit Heino Klingenfuss) seit 20 Jahren fast ausschliesslich mit Wakefield . Damit hatte ich 1952 angefangen und 1953 zum ersten Mal an einer deutschen Meisterschaft teilgenommen . Damals kam Karl Heinz Denzin nach Stuttgart , der mir zeigte , wie man Segelmodelle fliegt.

Während der Wehrzeit konnte ich in Amberg beim Modellbau-Club in der Freizeit weitere Modelle

bauen und zusammen mit Rainer Blochel und Richard Nagler alle neuen Ideen testen . Von Rainers A1 übernahm ich dann die Flügelgeometrie , um ein neues Wakefield-Modell zu bauen . Dessen Gleitflug war zwar super , aber es kam nicht hoch.

Ab 1961 arbeitete ich im gasdynamischen Institut der TH Stuttgart . Dort lernte ich von Dr. Gerhard Schwarz die Theorie der Propeller . Damit entwickelte ich einen Verstellpropeller , mit dem mein Modell über 4 min. flog und ich gewann 1962 die Deutsche Meisterschaft und kam beim Europa-Coupe auf Platz 4.

In den nächsten Jahren entwickelte ich am Segler Hakenmechaniken , die am Anfang sehr aufwendig waren , schließlich fand ich den heute doch weit verbreiteten Schnalz-Haken.

1966 erörtere ich mit Arthur Schäffler die Möglichkeiten für ein neues Wakefield. Er hatte sich bekanntlich intensiv mit A1- Modellen (18 dm²) beschäftigt . Der erste Entwurf hatte nur ein Modell für ruhige Luft zum Ziel . Im gleichen Jahr war Herbert Schmidt mit seinem SPL4-A1 so erfolgreich , daß ich mir dann dessen Flügel zum Vorbild nahm . Ein langer Rumpf und ein durch einen 1/2A Motor-Zeitschalter gesteuertes Höhensteuer nach Dieter Siebenmann gaben dem Modell befriedigende Steigflug-Eigenschaften , der Gleitflug war perfekt und es flog anscheinend bei allen Wetterlagen . Da mußte es auch einen Namen bekommen : ESPADA.

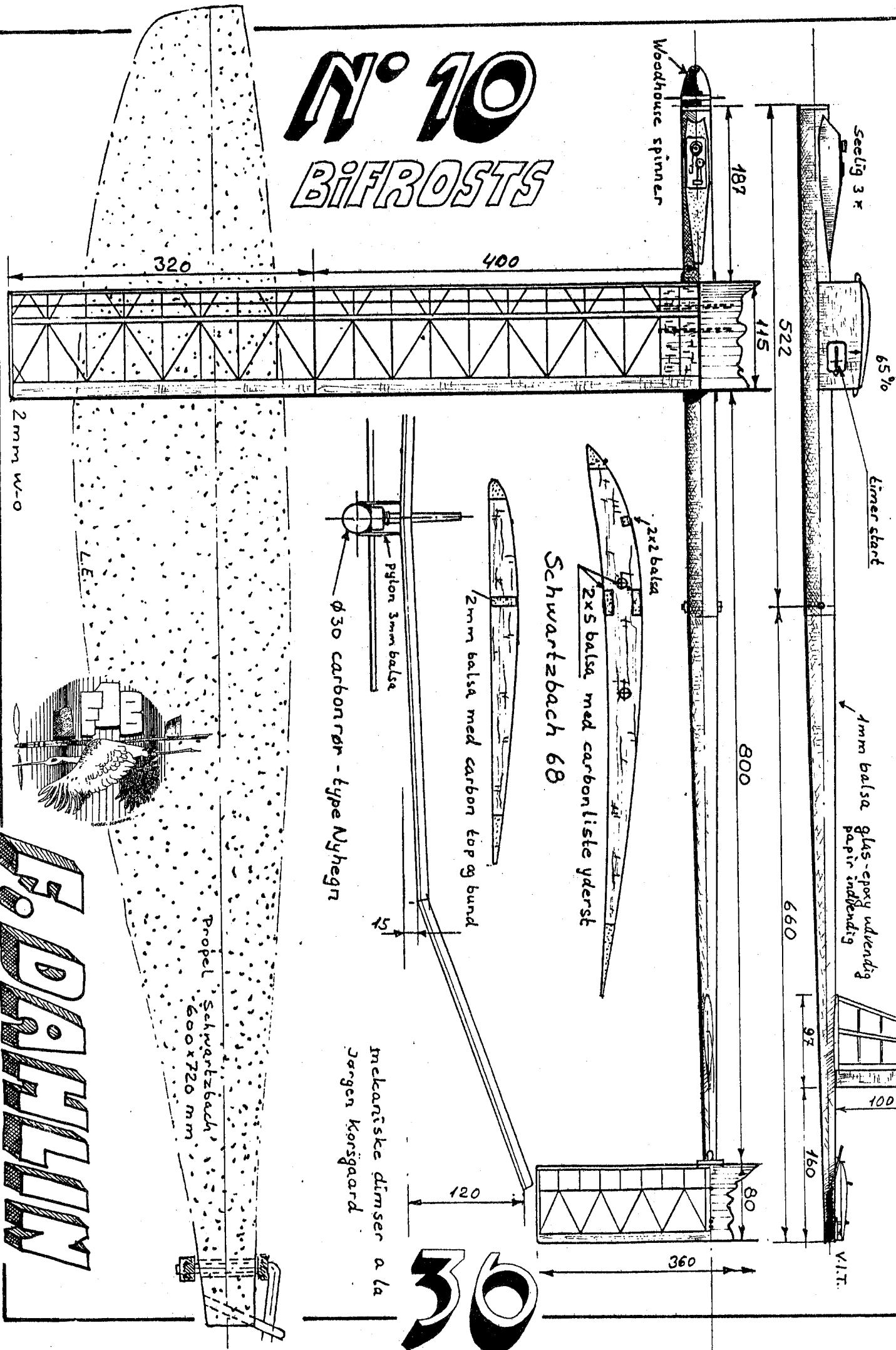
R. HOFSAESS. - VOR JAHREN UND HEUTE... WAS BLIEB GLEICH ? DIE NASE !



VOL 43RE

F/I E 43 5/I E 3123H23

N° 10 BIFROSTS



FREE FLUG

FREE FLAHT

P. DE BOER



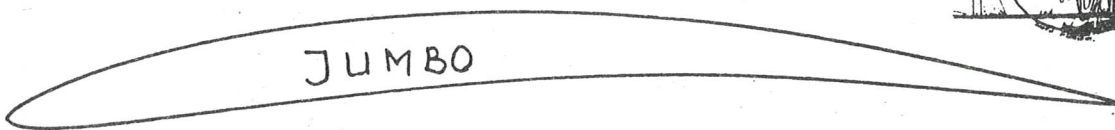
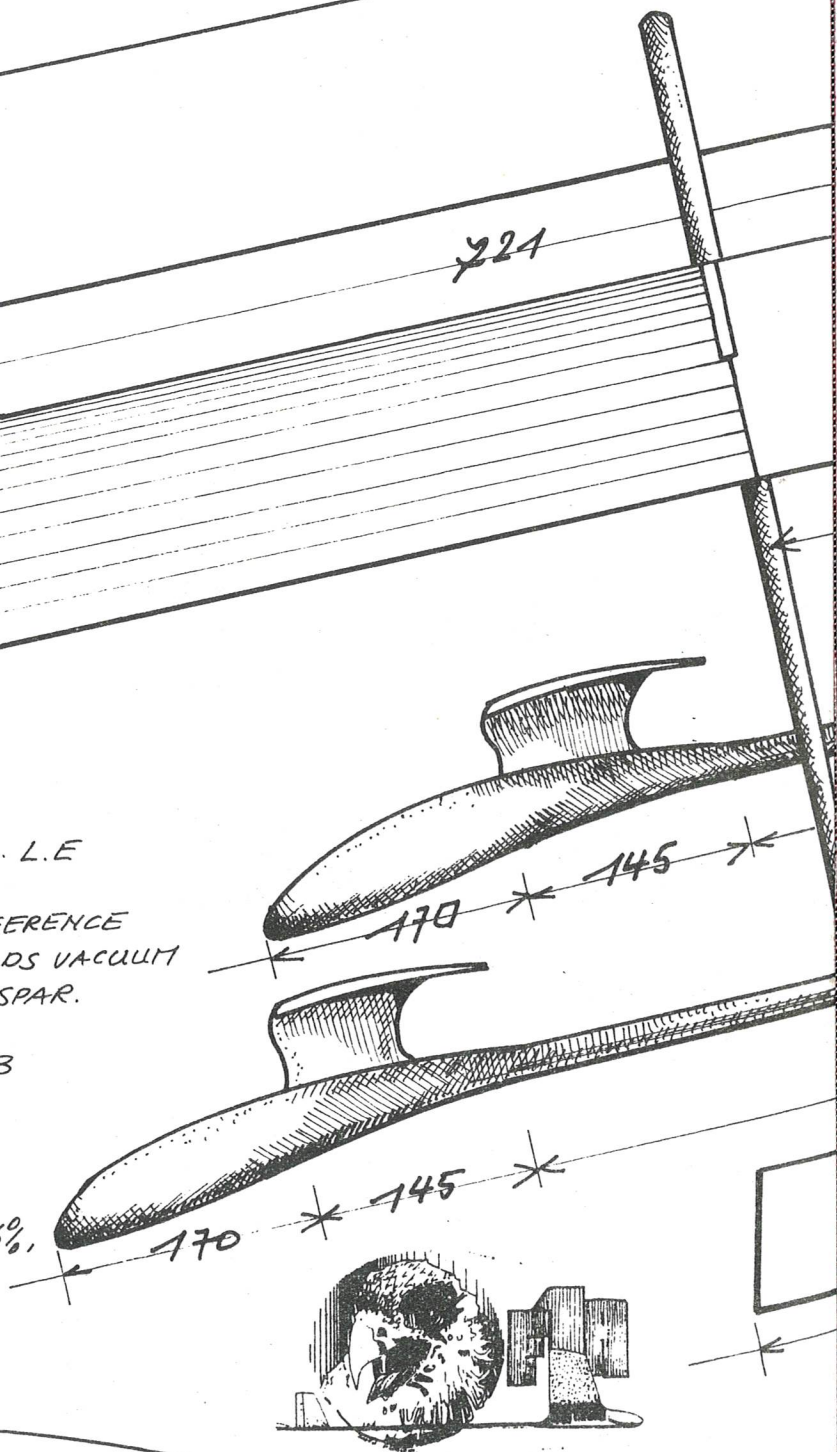
37

R. DE BOER

PIETER JUMBO

JUMBO

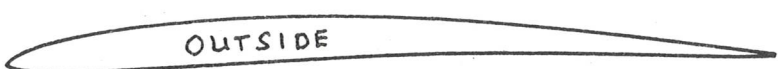
- * C.G. - 58% m.a.c. + 3,12mm = 82.6mm from L.E
- * CENTRE-PANELS ARE FLAT
- * TIP PANELS HAVE 1° WASHOUT + PROFIL DIFFERENCE
- * ALL PANELS CONSIST OF 2, IN NEGATIVE MOULDS VACUUM FORMED, SANDWICH SHELLS AND 1 MAIN SPAR.
- * WING INCIDENCE TO BOOM = 0°
- * WING INCIDENCE LINE = 45min OVER STAB
- * STAB INCIDENCE IN FLIGHT = -1.85°
- * " " CIRCLETOW = -2.7°
- * WING PROFILE JUMBO 6.8506.0
- * TURBULATOR ϕ 0.6 on 17 & 28% CHORD
- * INVIGATORS - 0.15*0.5 on 40%, 52%, 64%, 76%, 88%
- * STAB PROFILE JUMBO 8.0502.0
- * ALL MOVING RUDDER 0.43dm²
- * TAIL-FIN - 0.35dm²



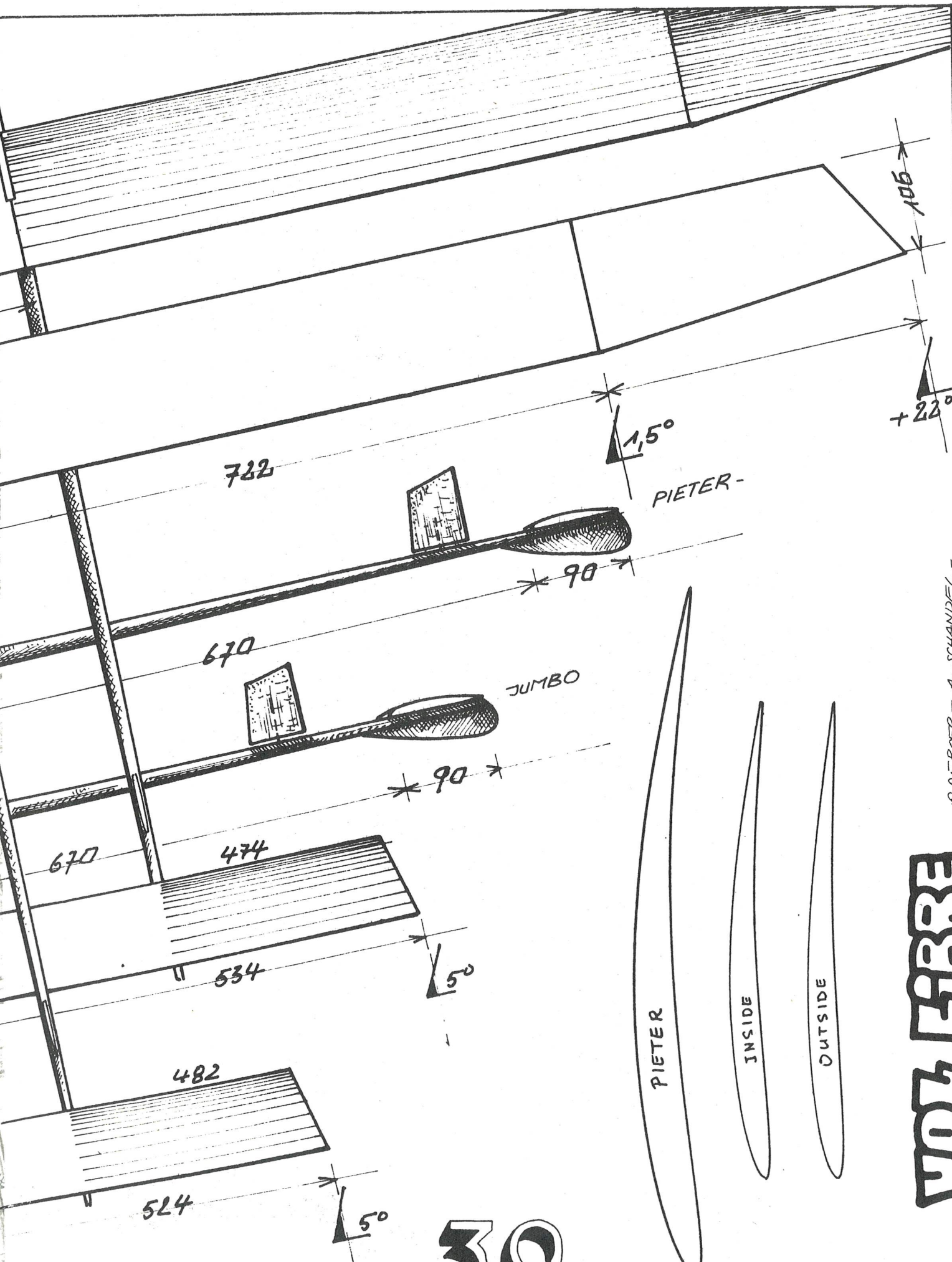
JUMBO



INSIDE



OUTSIDE



P. DE BOER - A. SCHANDEL -

VOL FIBRE

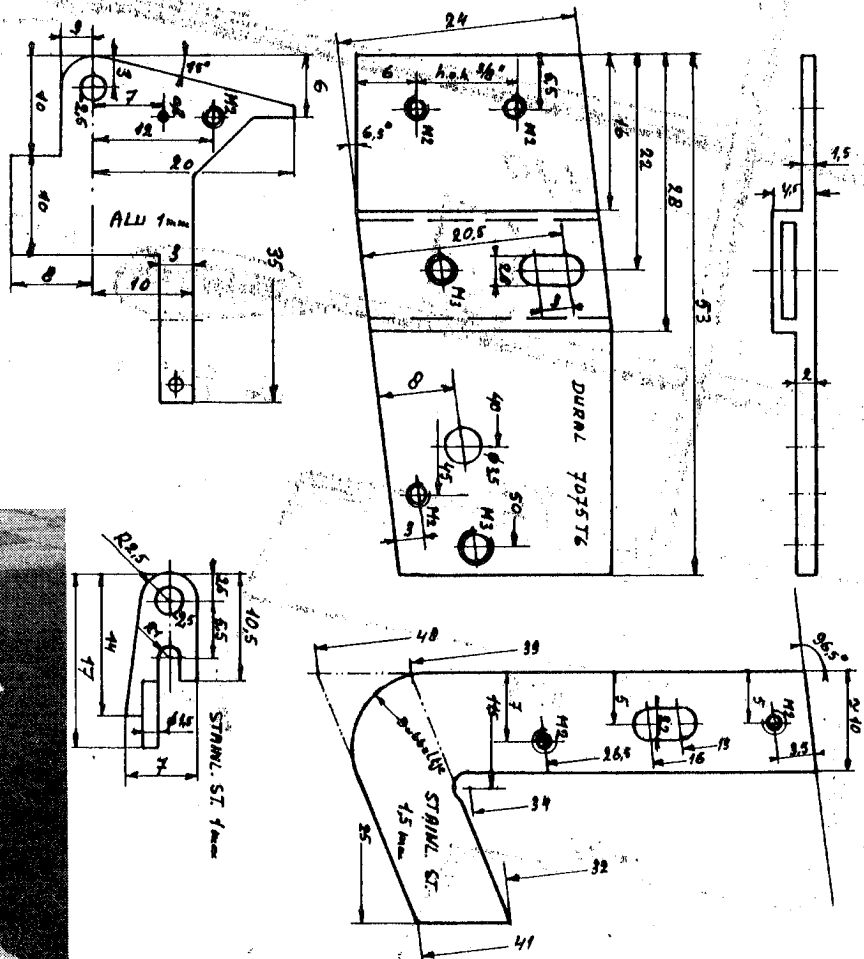
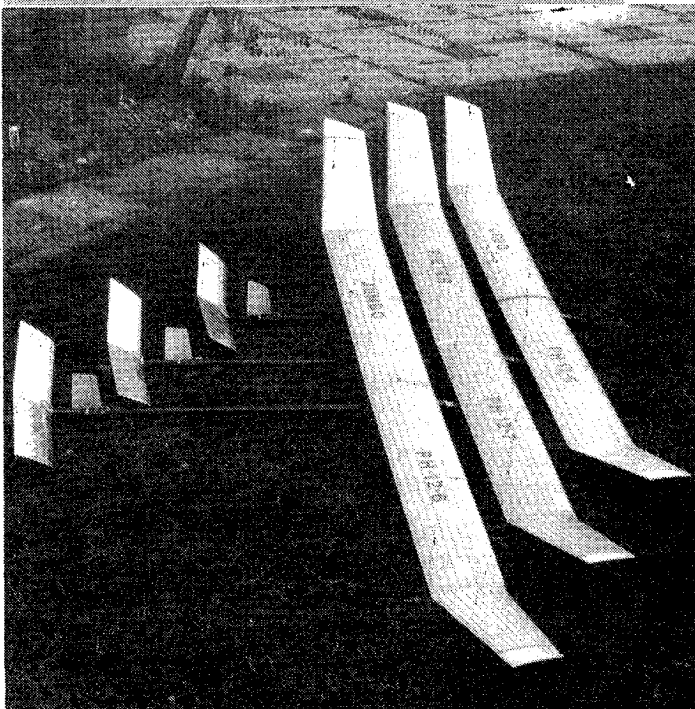
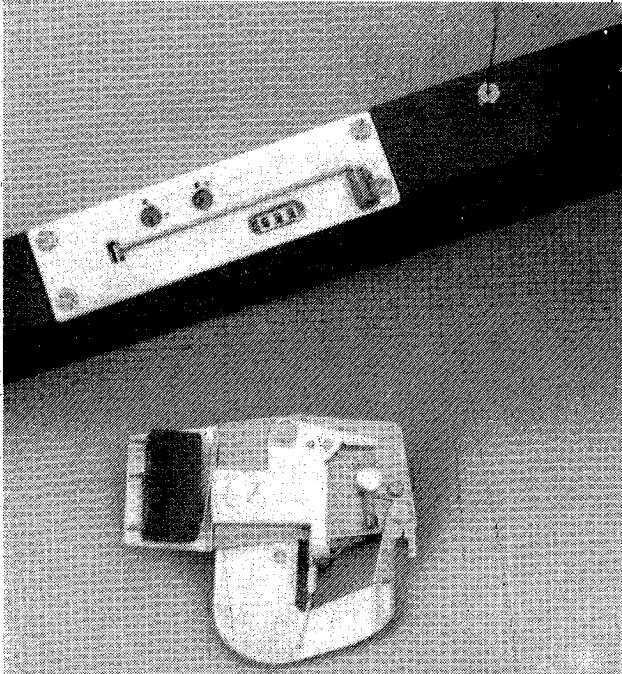
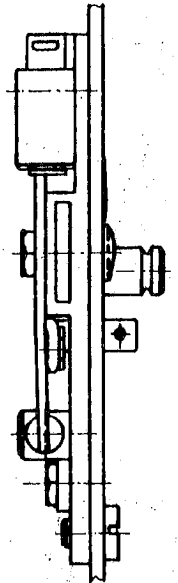
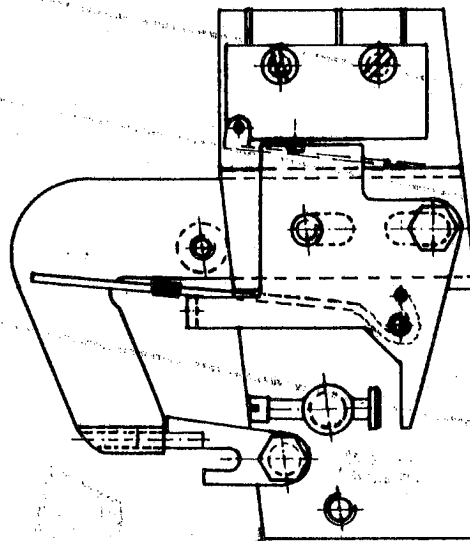
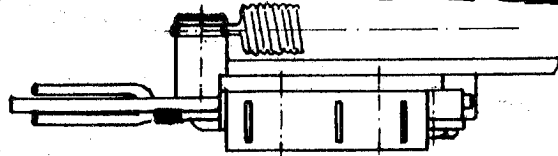
39

ECHELLE 2/1 ET 1/5.

STAB PROFILE - GDE-795
ALL MOVING RUDDER 0,43 dm²
TAIL FIN 0,35 dm²

Getekend: P. de Boer. Mei 1990

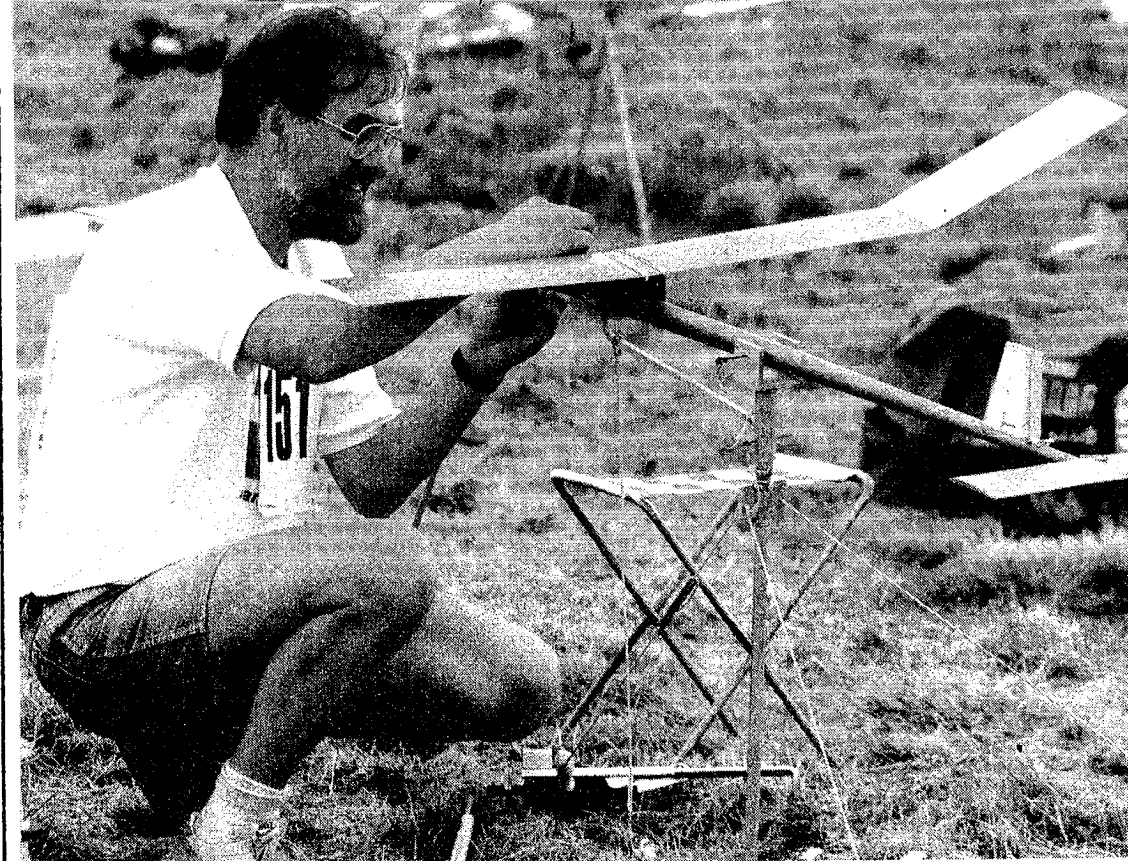
VOL LIBRE



Crochet

40

VOL 90
FEBRE



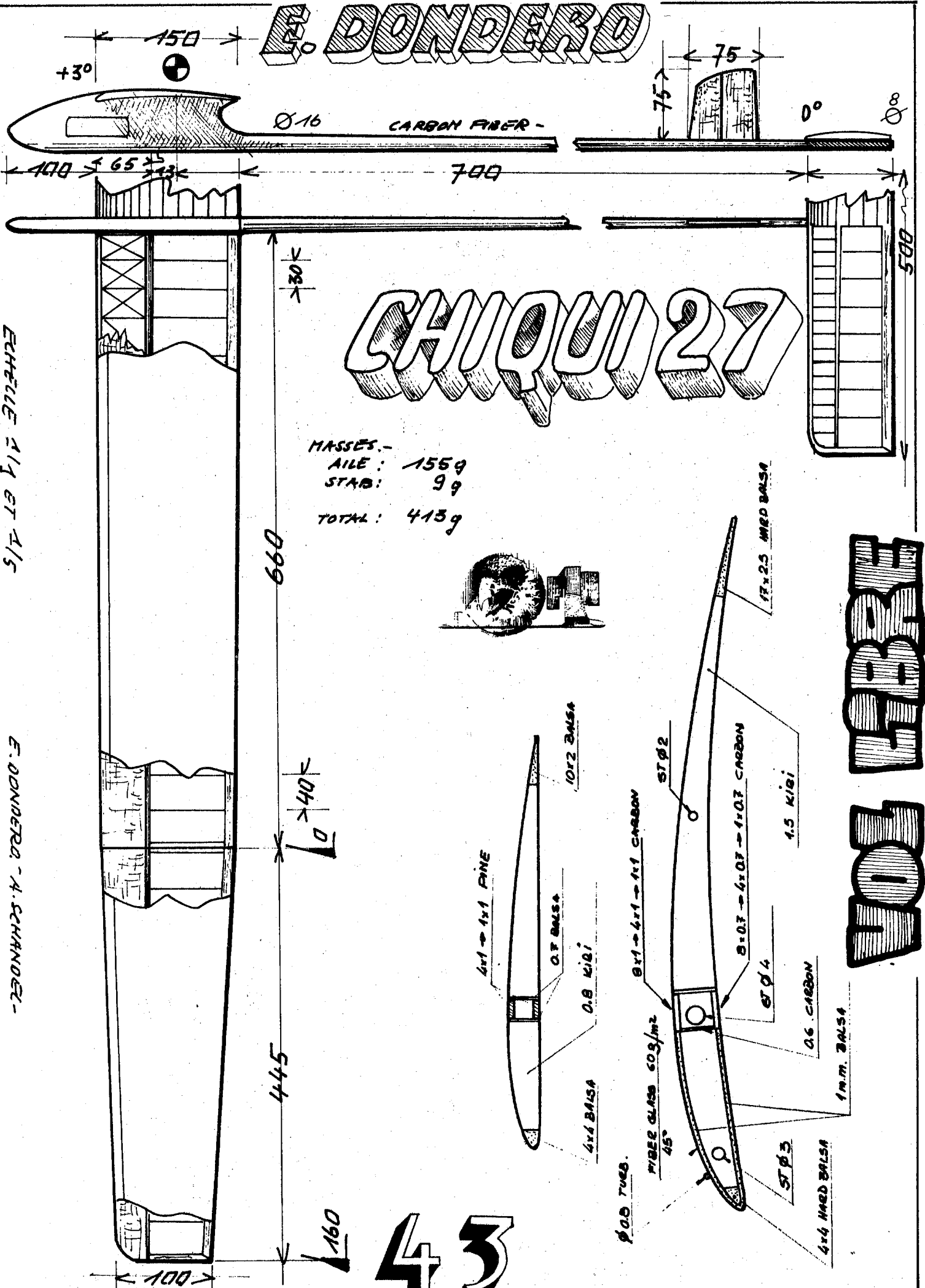
A.
KOPPITZ



J. KORSGAARD
E. DAHLIN 41

VOL FIBRE

E. DONDERO

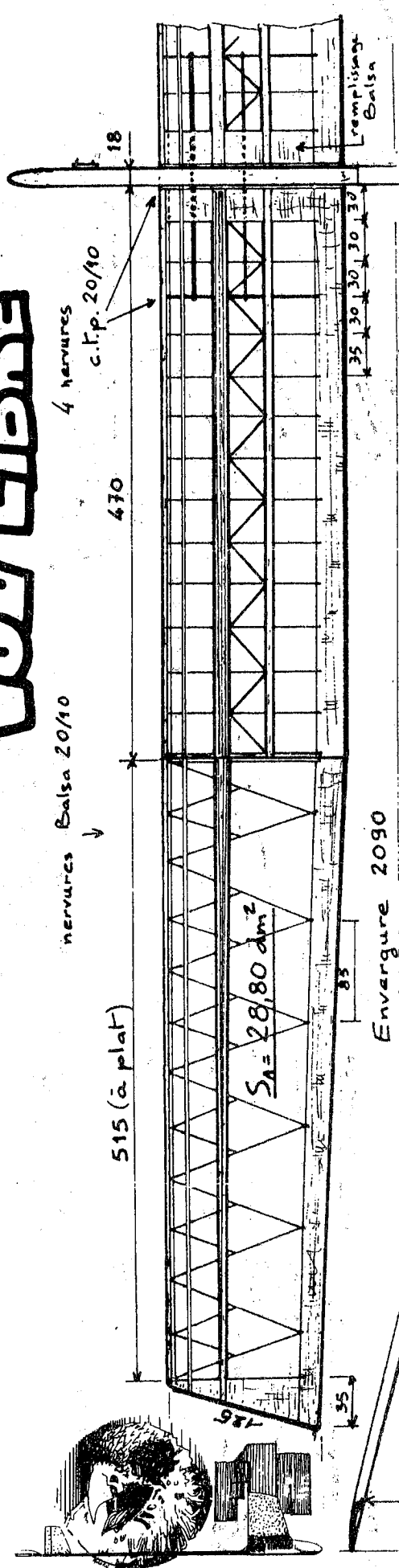


ÉCHELLE 1/1 ET 1/5

E. DONDERO - A. SCHANDLER

101 101 101

43



Flettner
160x10
abaissé de 1 mm.
(aile droite)

Poids :	
Aile	180 g
Fuselage	230 g
Stab	8 g
TOTAL	418 g

1°

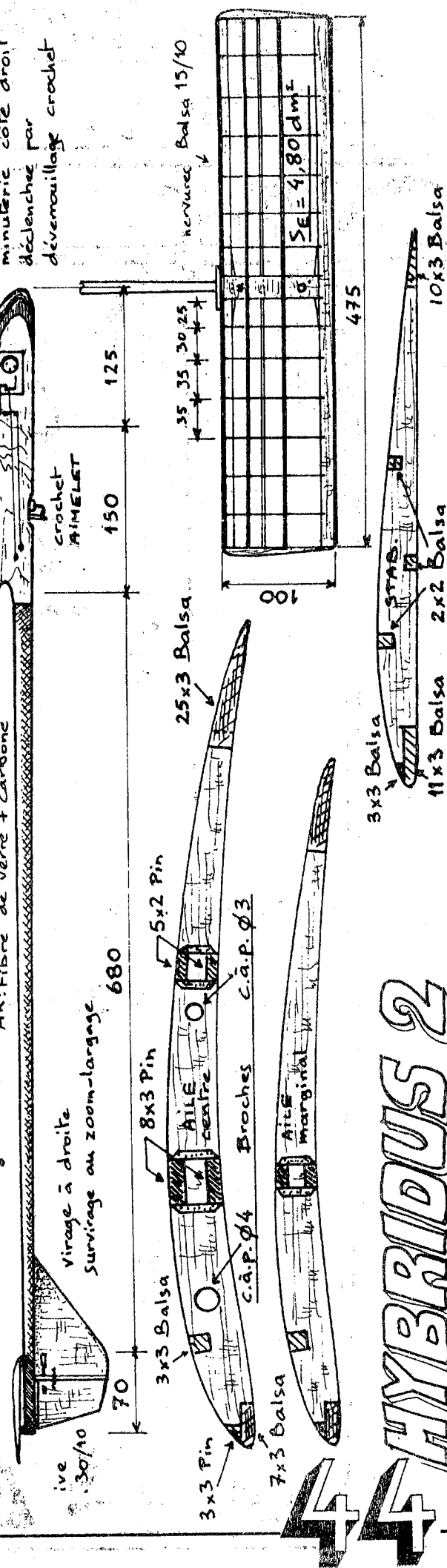
Construction Fuselage:
 AV: sandwich c.t.p. 150/10
 + c.t.p. 15/10
 AR: Fibre de verre + Carbon

Construction Fuselage:

AV: sandwich c.t.p. 150/10
+ c.t.p. 15/10

AR: Fibre de verre + carbone

minuterie côté droit
déclenchée par
déverrouillage crochet

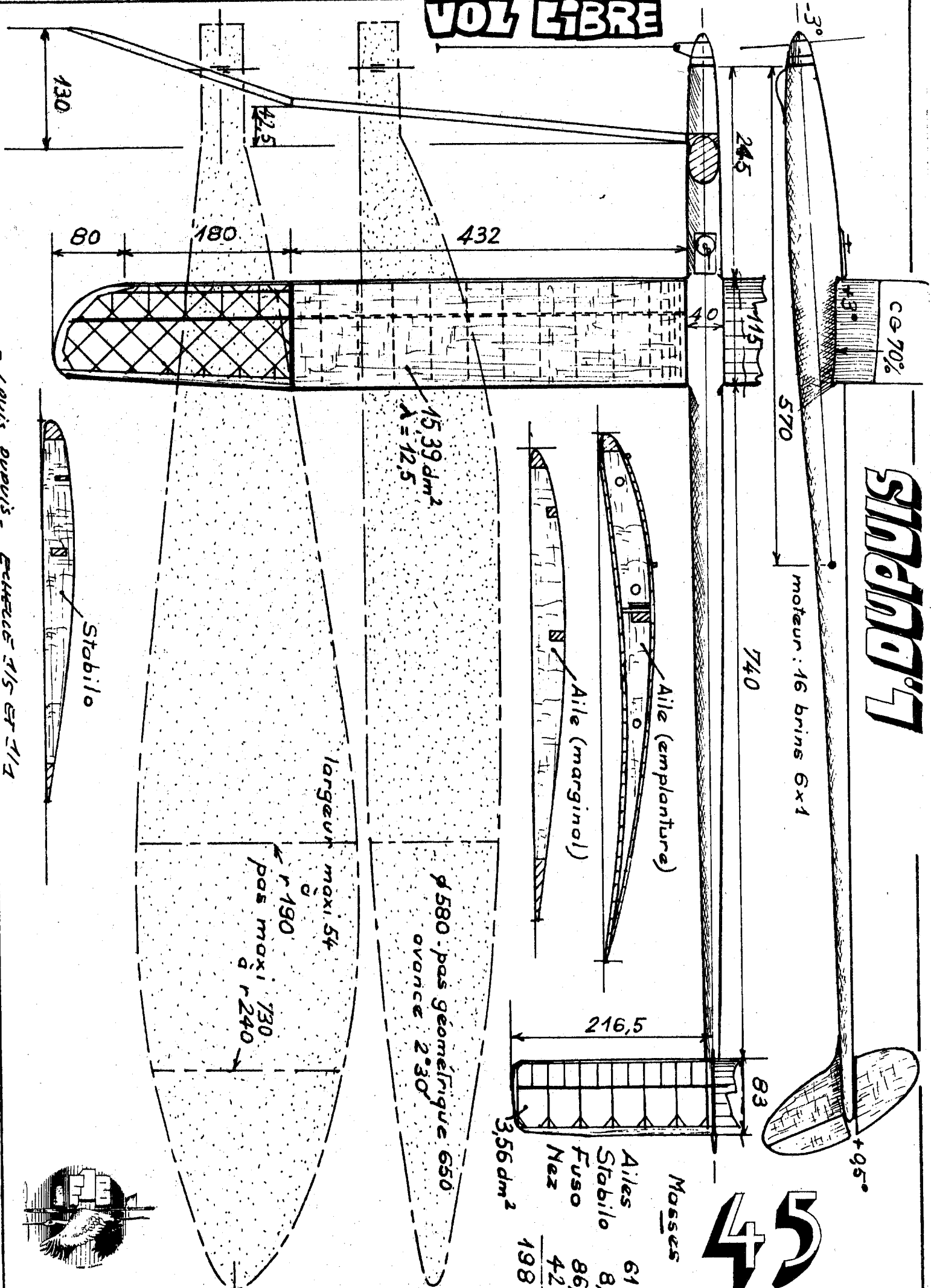


HYBRIDS 2

11x3 Balsa 2x2 Balsa

10x3 Balsa

SINDO 7



CG 70%

motor: 16 brins 6x1

740

10

95+4

Masses

Ailes 61
Stabilo 8,

3106110

7-50

72

198

13,56 dm²

216,5

Aile (marginal)

Aile (marginal)

$$A = 12,5$$
$$x = 12,5$$

580 - pas géométrique 650

ADVANCE: 2-30

largueur maxi. 5

190

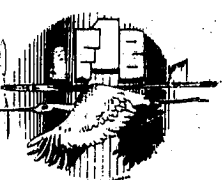
pas maxi 730

Q 1240

Stabilo

45

- LOUIS DUBOIS - BETHLEHEM 1/5 ET 1/1



I. HOREJSI

HOREJSI Ivan
Nad Prehradon
32102 PLZEN
CSFR

PAGE 62

J. KLIMA

KLIMA Josef
Koneveva 1254
41502 TEPLICE
CSFR

PAGE 67-68

O. KILPILAINEN J. KORSGAARD

PAGE 63

PAGE 70

KORSGAARD Jorgen
Ahornsweg 5
2391 ELLUND RFA

P. KING

KING Peter
15 Oakhill Place
LONDON S.W. 15 G.B.

PAGE - 64. 65

J. KRISTENSEN

KRISTENSEN Jens B.
Gardhojen 1
4690 HASLEV
DK.

PAGE - 74-75
76-77.

A. LEPP

LEPP Andres
Lemnakani -20-9
TARTU-202 400 EST SSR URSS

PAGE 80

A. KOPPITZ

KOPPITZ Albert
122 Leopoldstr.
7514 LEOPOLDSHAFEN EGGENSTEIN RFA

PAGE 69

LIZYURA

PAGE 81-82

D. MEISSNEST

MEISSNEST Dittmar
Odenwaldstr. 6
7336 UHINGEN 5
RFA

PAGE-83

A. MUKHIN

PAGE 85

252021 - Киев / KIEV.
пер. Убаха Марбалаенко
г. 14 kb57
А. Мухин
ALEXANDRE MUHIN.



46

iSIdORO
FERBARI
F.I. 88

ECHELLE 1/1 ET 1/5

**MONTREAL
STOP**

of Δ

725°

TROIS PREMIERES
NERVURES CTP. 15/20

BORD D'ATTAQUE

Ø 600 PAS 750

MOTEUR: FAI 14-1X6
380 TOURS

607TINGEN-449

PASSES -

AILE 559
STAB 6
FUS. 93
HEL. 40
1949

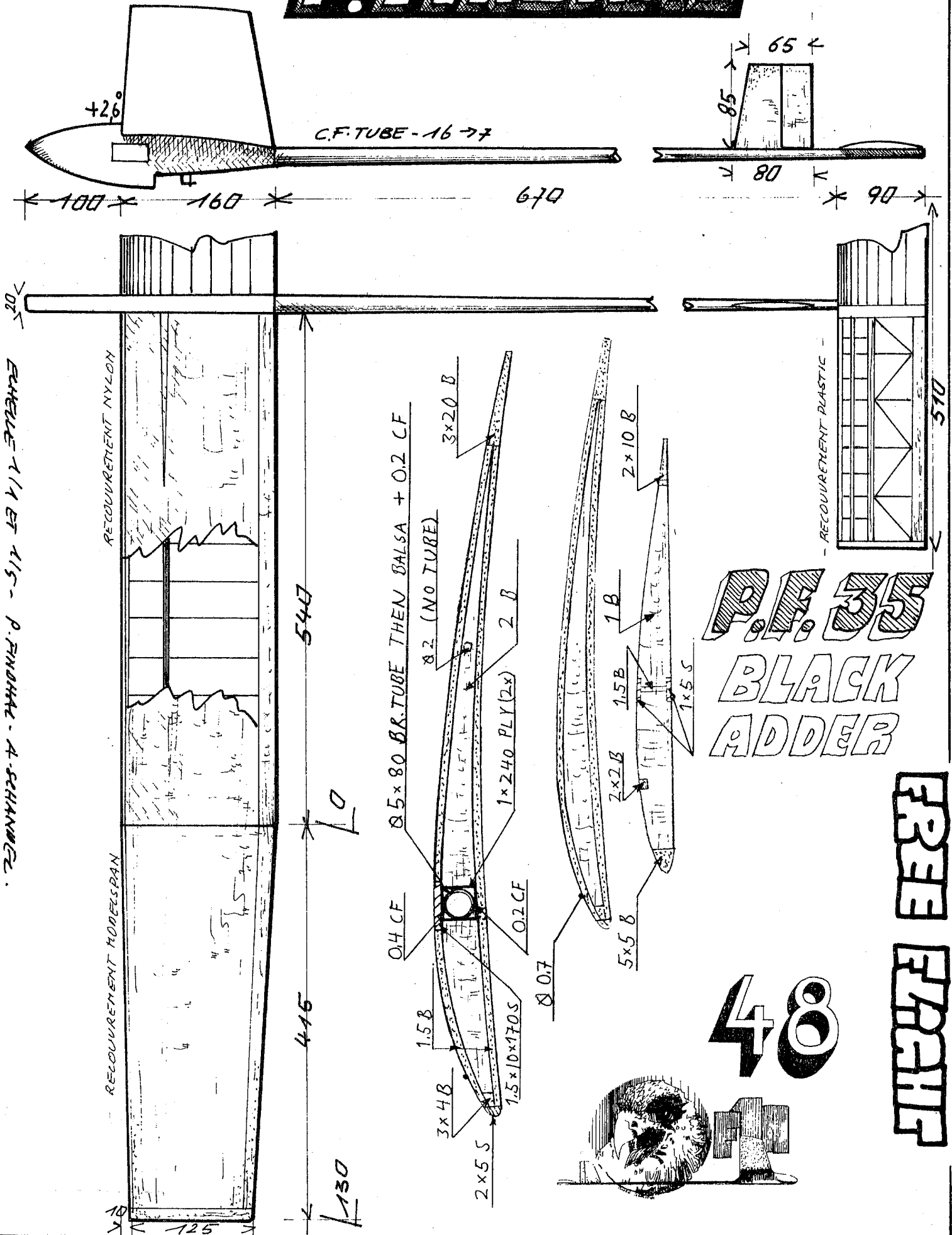
AIDES -

AILE 16 dm²
STAB. 3
19 dm²

A-SCHANDEL - T. FERRARI -

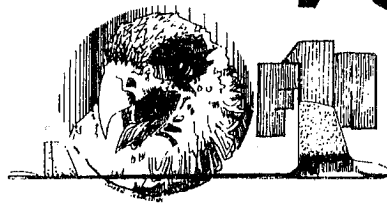
VOZ LIBRE 47

P. FINDHAL



P.F. 35
BLACK
ADDER

48



FREE PLANS

P. FINDHAL

+2,6° 56%

Ø CFTUBE 15 → 9

65
80
85

100 150 720

87

PF 34. BLACK ADDER

- ENTOILAGE PLASTIC -

480

WARPS - VRILLAGE -
R.T CENTER - 1 W. IN
R.T TIP - 1 W. OUT
L.T CENTER - FLAT
L.T TIP - 2 W. OUT
- RIGHT TURN
- VIR. DROITE.

	MASSSES.	AIRES
AILE	193g	29,1 dm ²
STAB.	10g	4,3 dm ²
FUS.	217g	0,3 dm ²

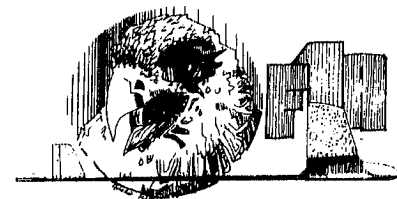
GLID RUDDER
DELAYED ~ 5sec.

- DEUX COUCHES MODELSPAN - LEGER

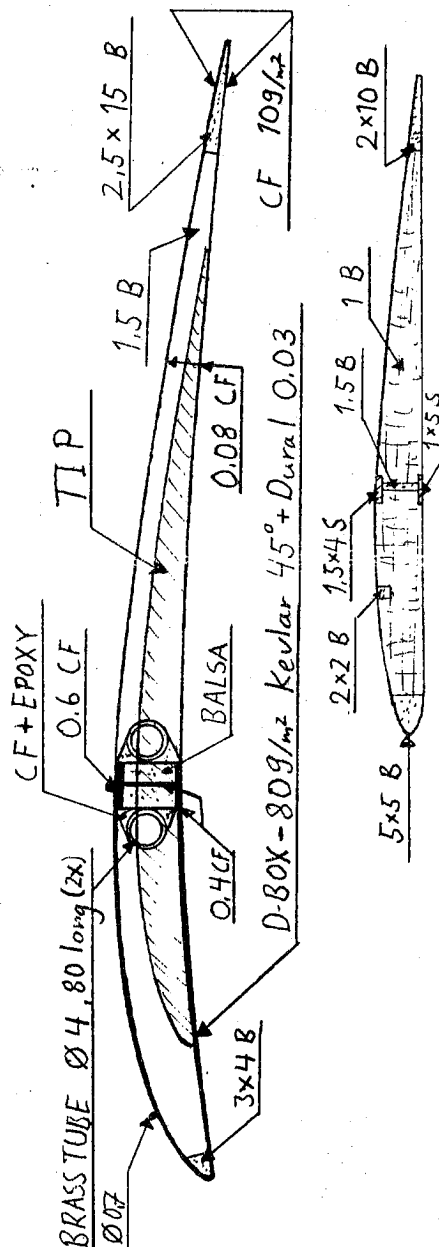
640

- UNE COUCHE MODELSPAN LEGER -

445

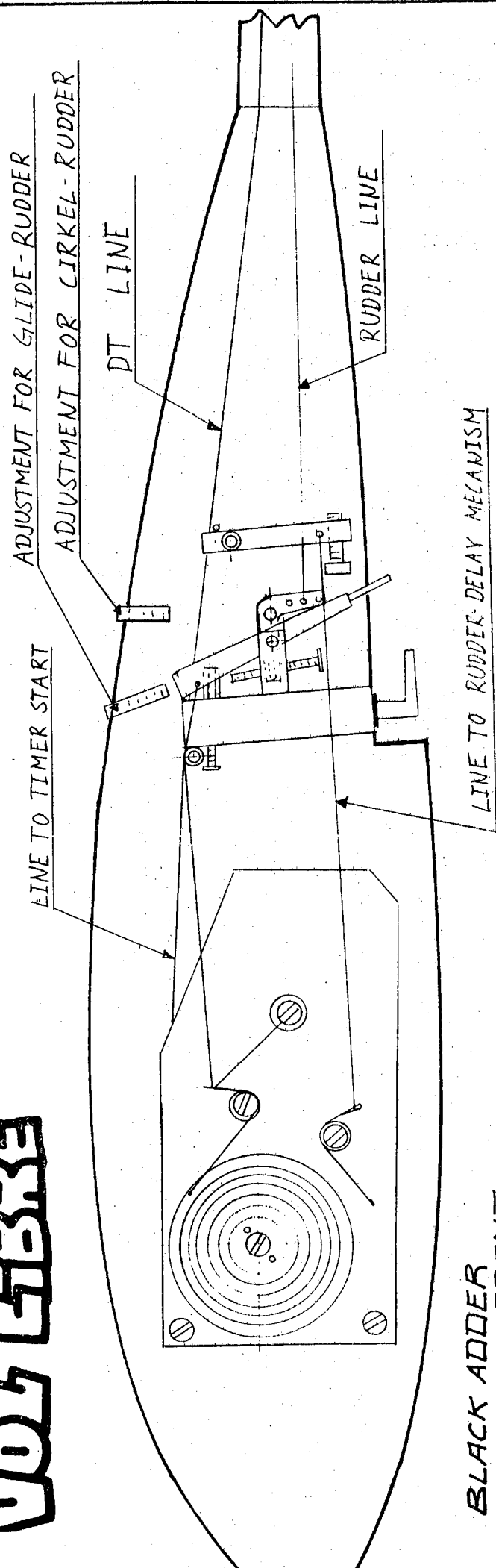


49



VOL FIBRE

ECHELLE 1/14 ET 1/15 - P. FINDHAL - A. SCHANDLER



PER FINDHAL

I'm 21 years old I have been flying free-flight since I was 9 years old I also fly line control and radio control, but I like free-flight most I think it's the most difficult category to fly Free-flight is the category that's mostly a sport and I like to compete.

In free-flight I fly F1H, F1A and F1E. My main class is F1A I like to fly F1B very much too, but we haven't got any big fields to fly on, so I can't practice F1B. And I think free-flight is a sport where it's important to practice F1A flying 2-4 times every week, and I also run and play badminton to keep in good shape.

FINDHAL Per
Fagerstavägen 27
77800 NORBERG Suède

50

P. FINDHAL

FREI FLUG



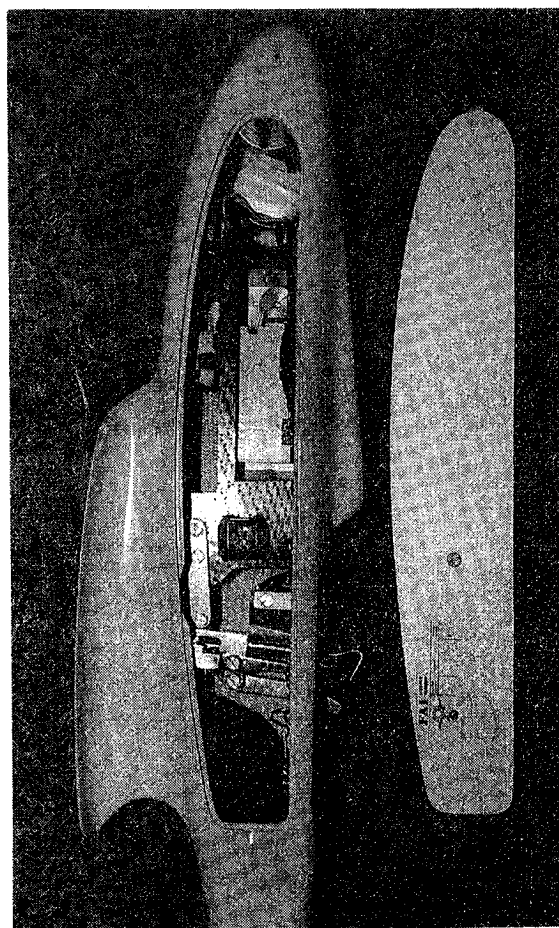
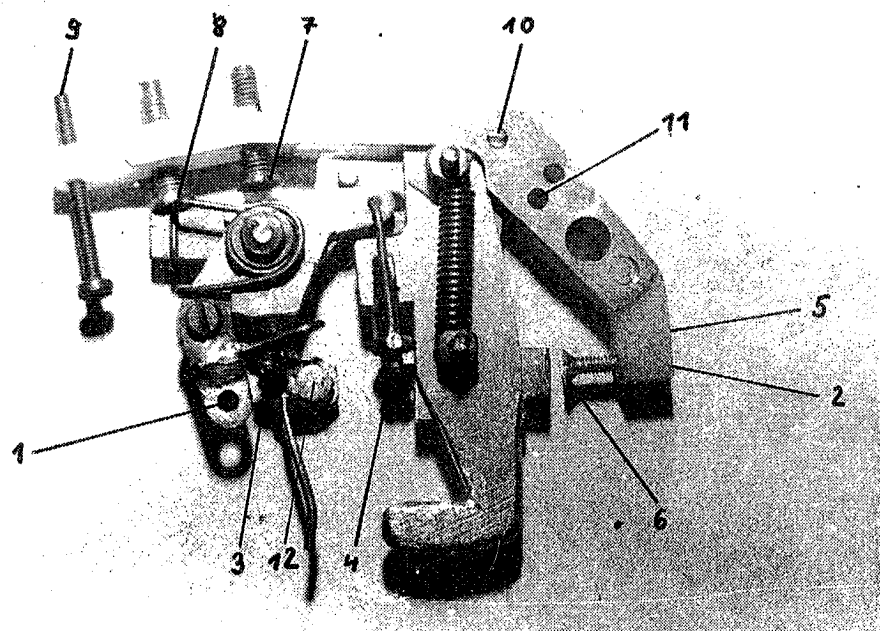
Ailes en construction mixte , panneau central kevlar et dièdre classique de D. BARBERIS . Cette construction mixte est imposée pour éviter l'augmentation de masse (kevlar) de l'aile et le déplacement vers l'extérieur de son centre de gravité. A remarquer également la séparation p.c dièdre après la cassure de de dièdre et le longeron principal en carbone.

VOL 90 LIBRE

Fuselages de wakes coréens d'une finition parfaite avec repliement des pales sous les ailes. Incidence variable sur les ailes.

Vue intérieure fuselage de A. Van Wallene (NL) , montrant tous les éléments et mécanismes : crochet , minuterie , émetteur radio, batterie, cablage

Crochet d'Uwe Rusch :
1-pour commande de volet ; 2- pour minuterie; 3-vis de réglage volet ; 4- vis de réglage pour zoom ; 5- arrêt avant; 6-arrêt crochet



sur partie mobile; 7-arrêt virage treuillage ; 8-arrêt virage plané; 9-arrêt arrière de la partie mobile; 10- axe du crochet ds. partie mobile; 11-axe partie mobile; 12 -point d'ancrage pour arrêt minuterie.

W. Ghio

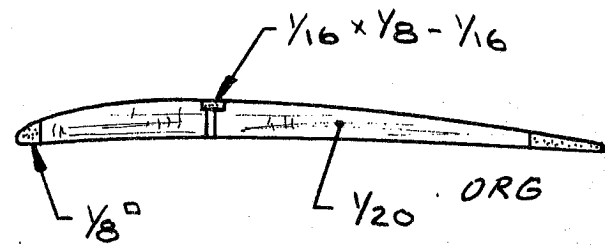
PROP-SCHWARTZBACH
INCREASED TO 23" DIA
24 ST-1/8" FAI RUBBER
* W/ TRANSMITTER

1/16 BALSALW/KEVLAR
INSIDE-LIGHT
FIBERGLASS-CLOTH OUT
SIDE.

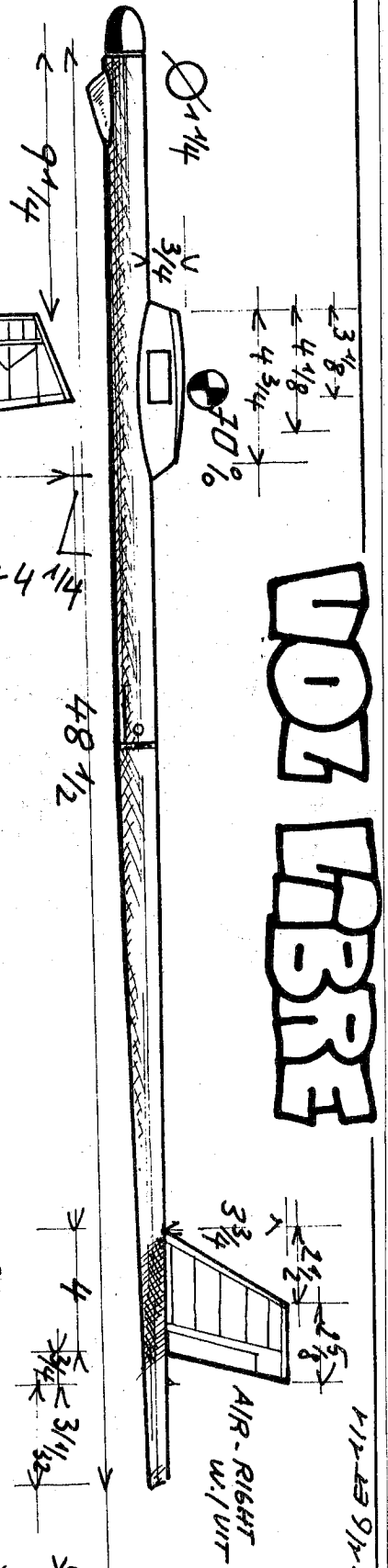
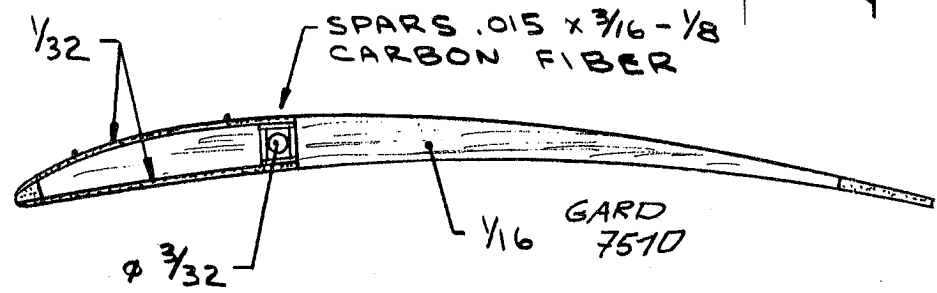
1/35 ROLLED BOOM

SHADOW 89

- MASSSES -
- AILE: 52.9
 - STAB 4.5
 - MOTOR TUBE * 76
 - TAIL BOOM - 19
 - PROP ASSY 37/4
 - PEG & HOOK

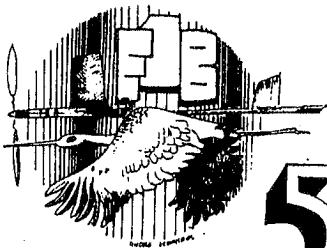


RECOURVEMENT MYLAR.



VOZ LIRE

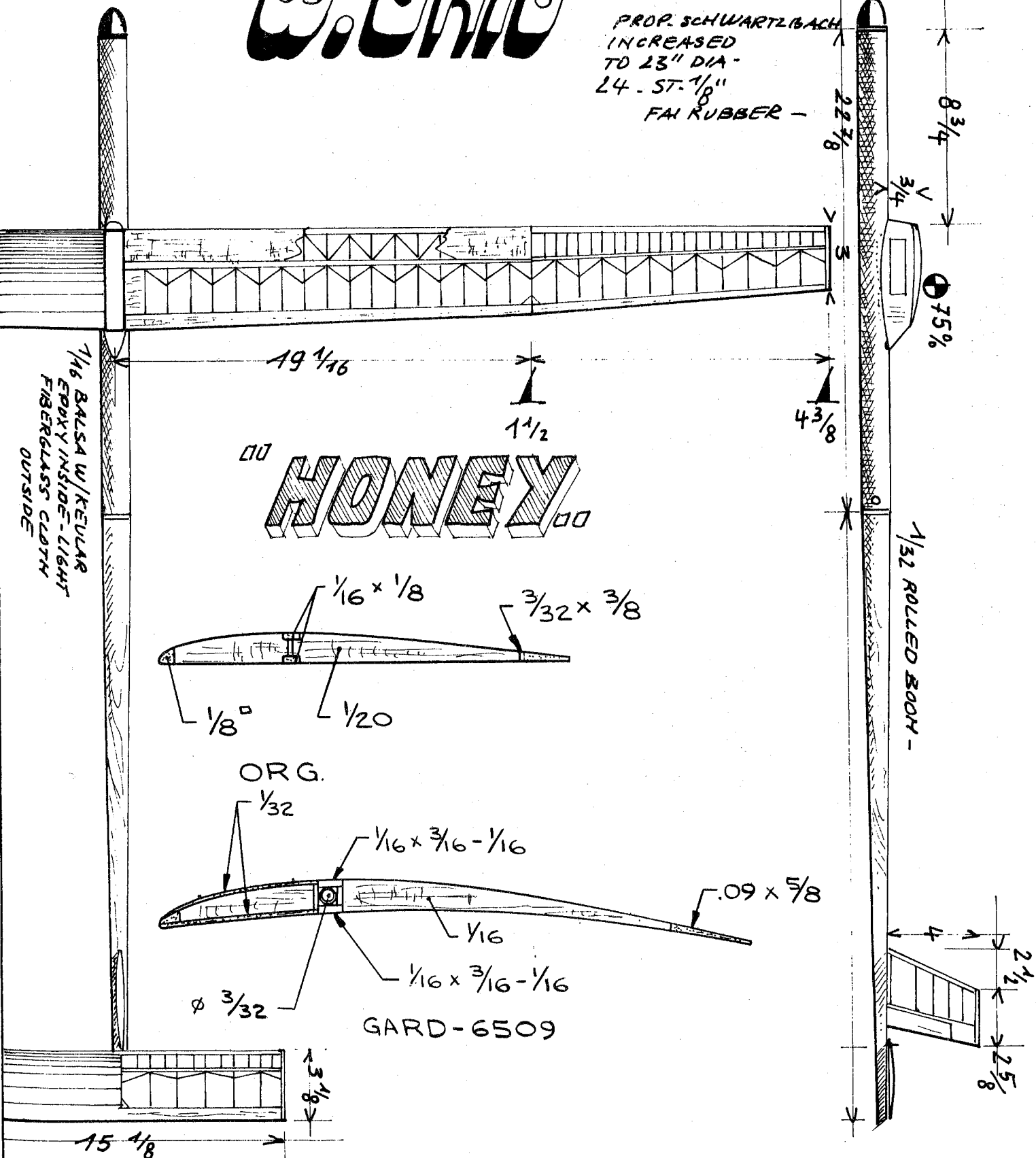
1/12 13 9/16 37/124 7/3



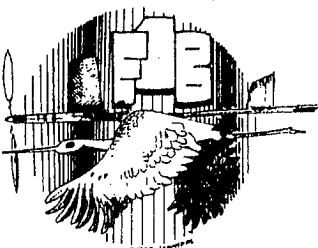
52

W. Ghio

PROP. SCHWARTZBACH
INCREASED
TO 23" DIA -
24 - ST. $\frac{1}{8}$ "
FAI RUBBER -



HONEY



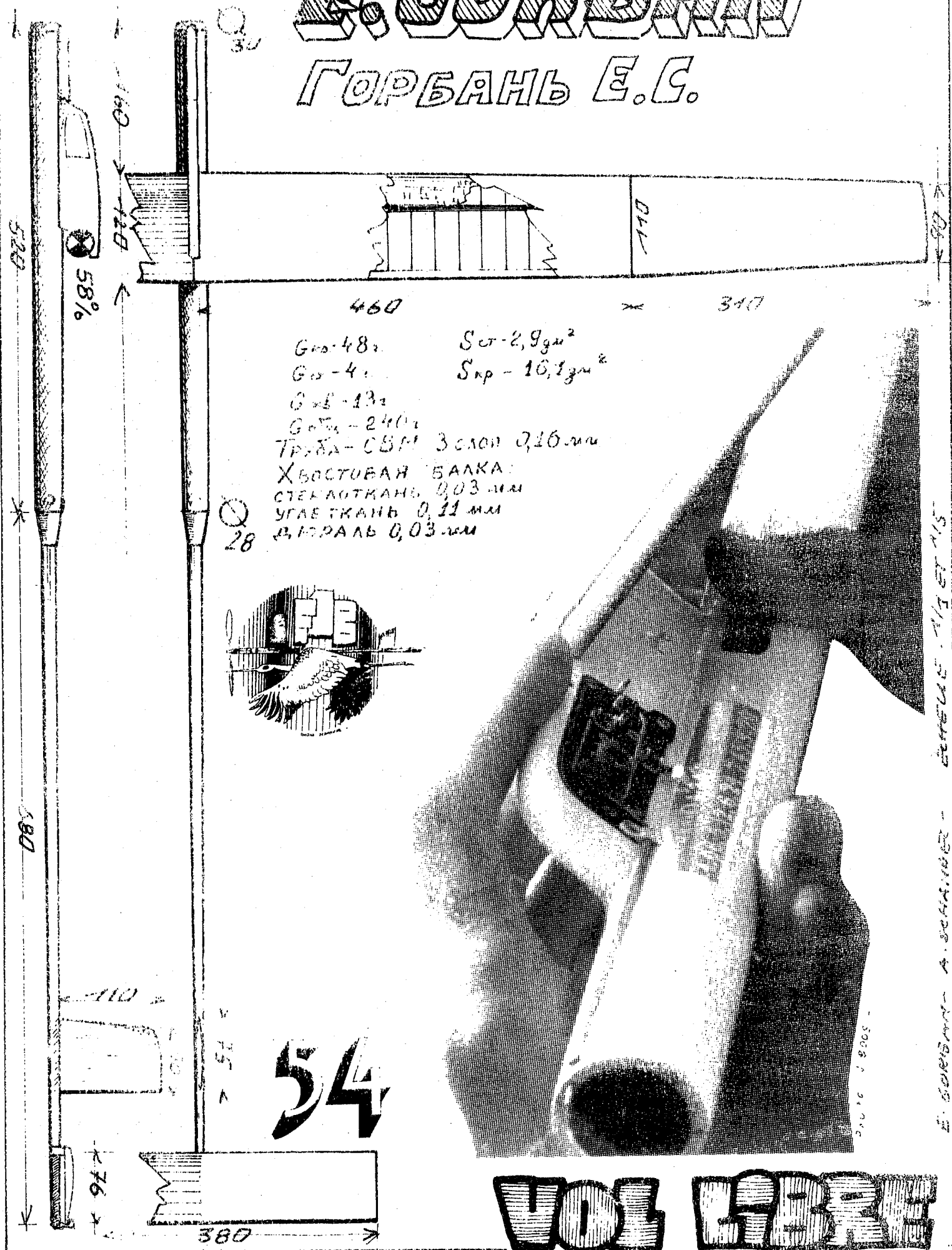
53

FREE
VOL
ERE

FLIGHT
LIBRE
FLUG

A. GORBAN

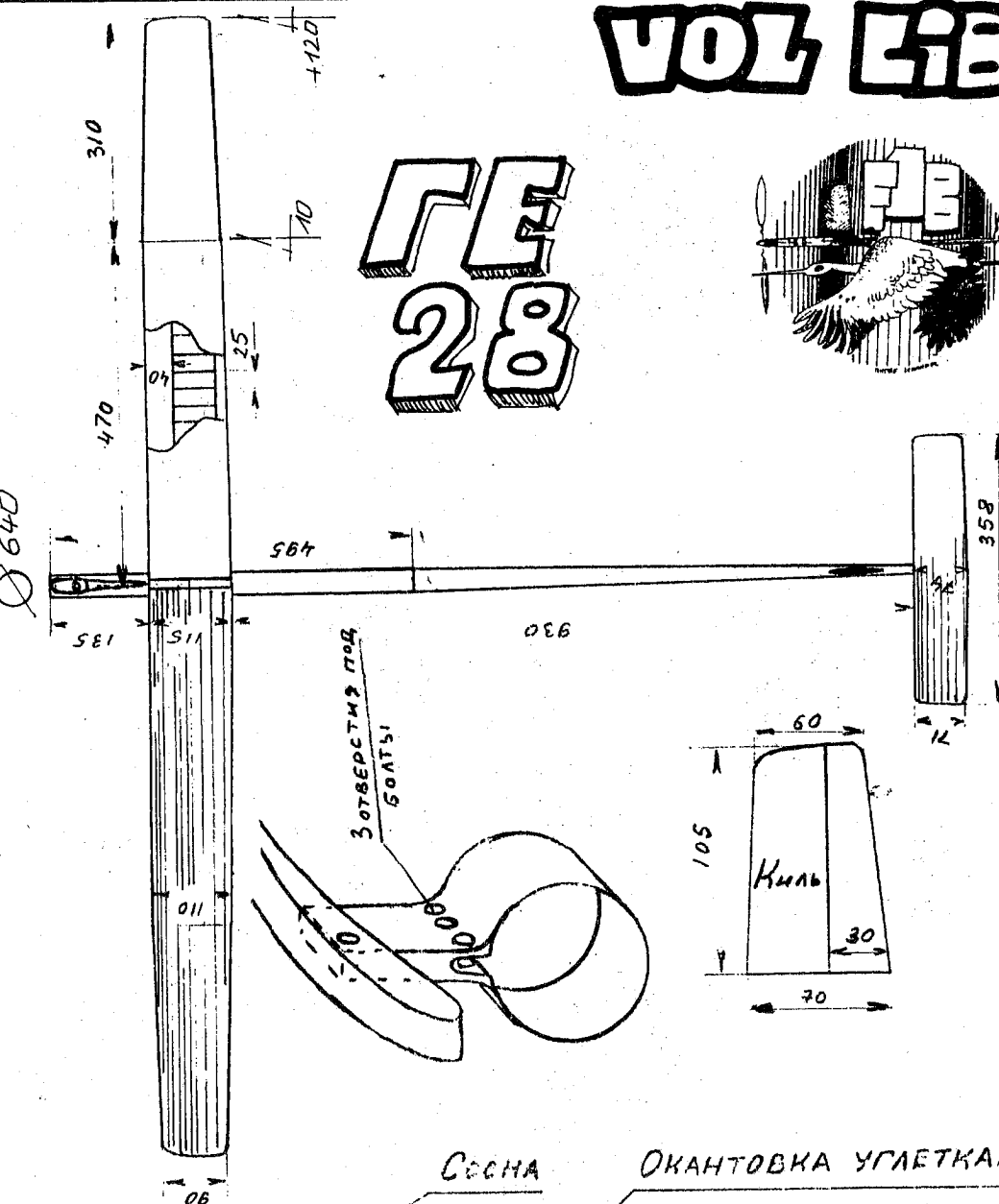
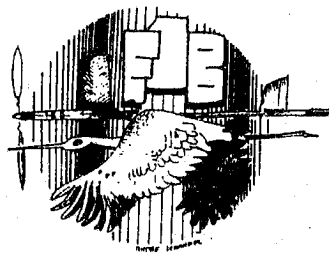
ГОРБАНЬ Е.С.



ВОЛГА

VOL LIBRE

**ГЕ
28**

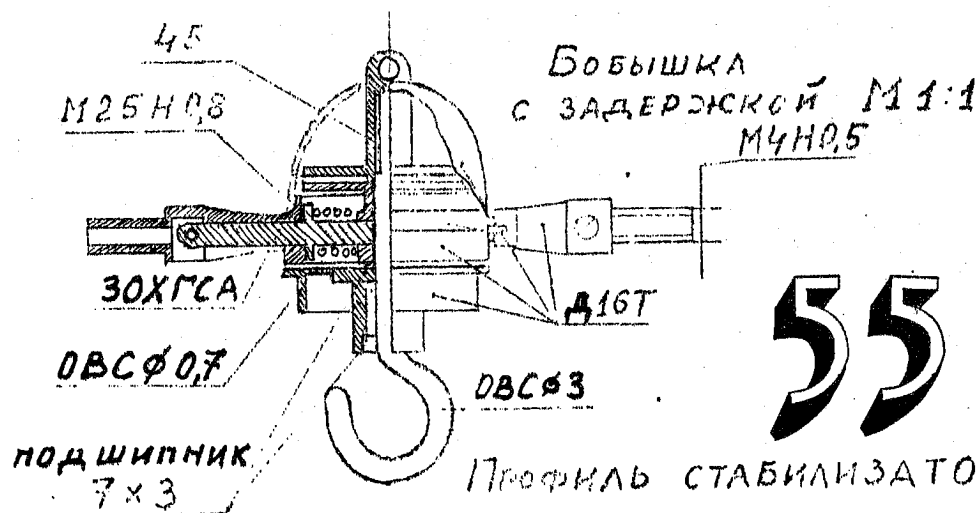
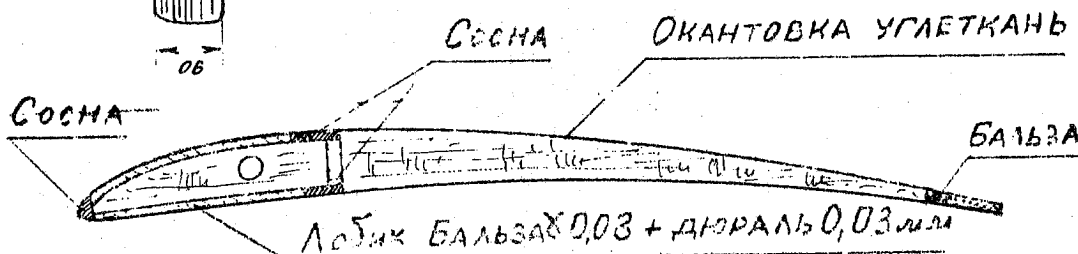


ОКАЧТОВКА
ЛИПА 0,8 мм

ВИНТ
Ø 620 Н-750
БАЛБЗА
ГНУТЫЙ НА
ФОРМЕ

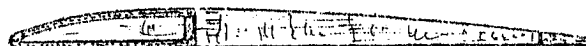
ОБТЯНУТ
СТЕКЛОТКАНЬ
0,05 мм.

СВМ с двух
сторон



55

Профиль стабилизатора



F. GORBAN. — *Судья* 111



Photo. A. SCHANDEL. -

I. HOREJSI

Un trio de "motoristes" d'Union Soviétique : A. Mukhin, V. Korban, et E. Verbitsky aux derniers Championnats d'Europe en YU. Durant les dernières années la catégorie F1C fut nettement dominée par les Russes. Seules quelques incursions polonaises et américaines sont venues rompre la domination soviétique. On peut néanmoins noter les derniers temps une remontée des "autres" en F1C.

56

VOL LIBRE

VOL LIBRE 90

J. KLIMA



Ivan HORESJI (CSFR) est ce qu'Andree Lepp fut longtemps en URSS, toujours le deuxième et bon pour une des premières places. On peut lui souhaiter de réussir lui aussi, comme Lepp en Argentine, un grand coup. Ses modèles se caractérisent par une construction impeccable, une finition parfaite, et par une lignée très pure depuis de longues années. Ici photo prise à LIVNO le paradis du Vol Libre.

E. GORBAN



GORBAN EUGENE

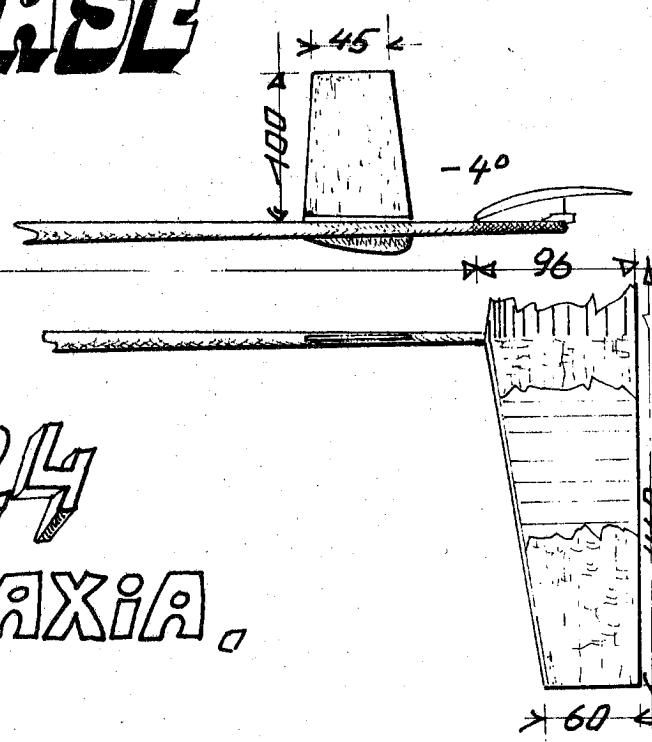
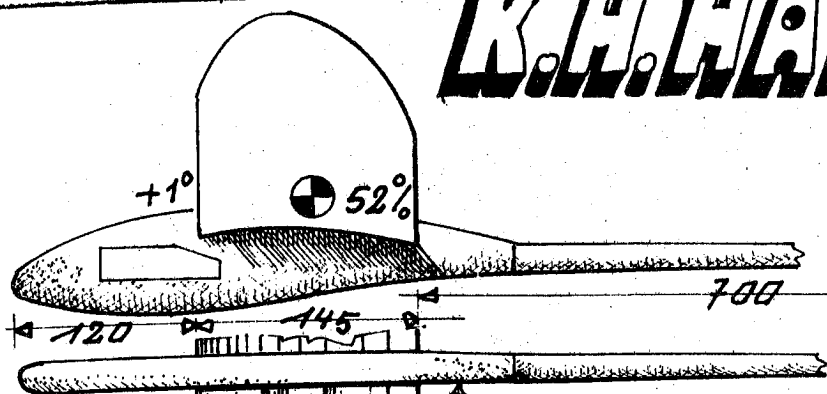
Né le 3 mai 1956; études à l'institut pédagogique, avec spécialisation dans les disciplines techniques générales. Depuis 1973, anime une section de jeunes, tout en étant leur entraîneur. Fait partie de l'équipe Vol Libre d'URSS depuis 1979.

Meilleurs résultats

- coupe d'URSS 1981, 3^{ème} place ; 1983, 2^{ème} place, 1986, 1^{ère} place.
- Championnat d'URSS 1983, 4^{ème} place ; 1985, 3^{ème} place ; 1987, 2^{ème} place
- Championnats d'Europe 1984, 3^{ème} place
- Championnats du Monde 1981, 4^{ème} place ; 1989, 6^{ème} place.

Josef KLIMA (CSFR) est également une figure quasi légendaire du VOL LIBRE tchèque en FIB, depuis de longues années. Malgré sa déjà longue carrière, on peut penser qu'un jour ou l'autre il réussira lui aussi à monter sur un "grand podium".

K.H. HAASE

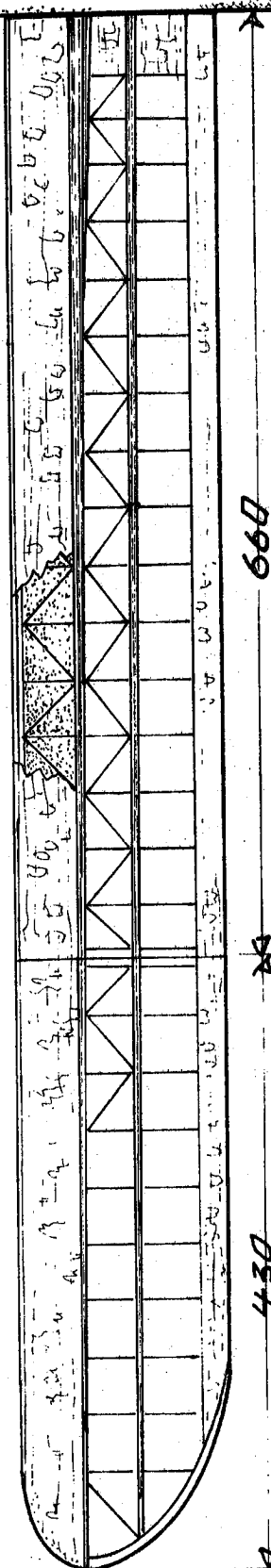


H.S. 24 'ATARAXIA'

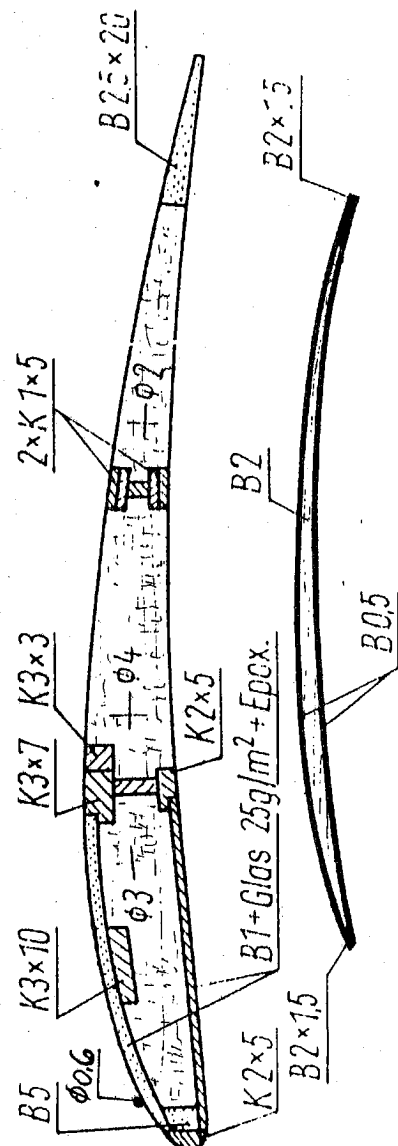
* MASSES
 AILE : 182 g
 STAR : 99 g
 FUS : 223 g
 TOTAL : 414 g

ECHEC 1/1 ET 1/5

VOZ LIBRE



58

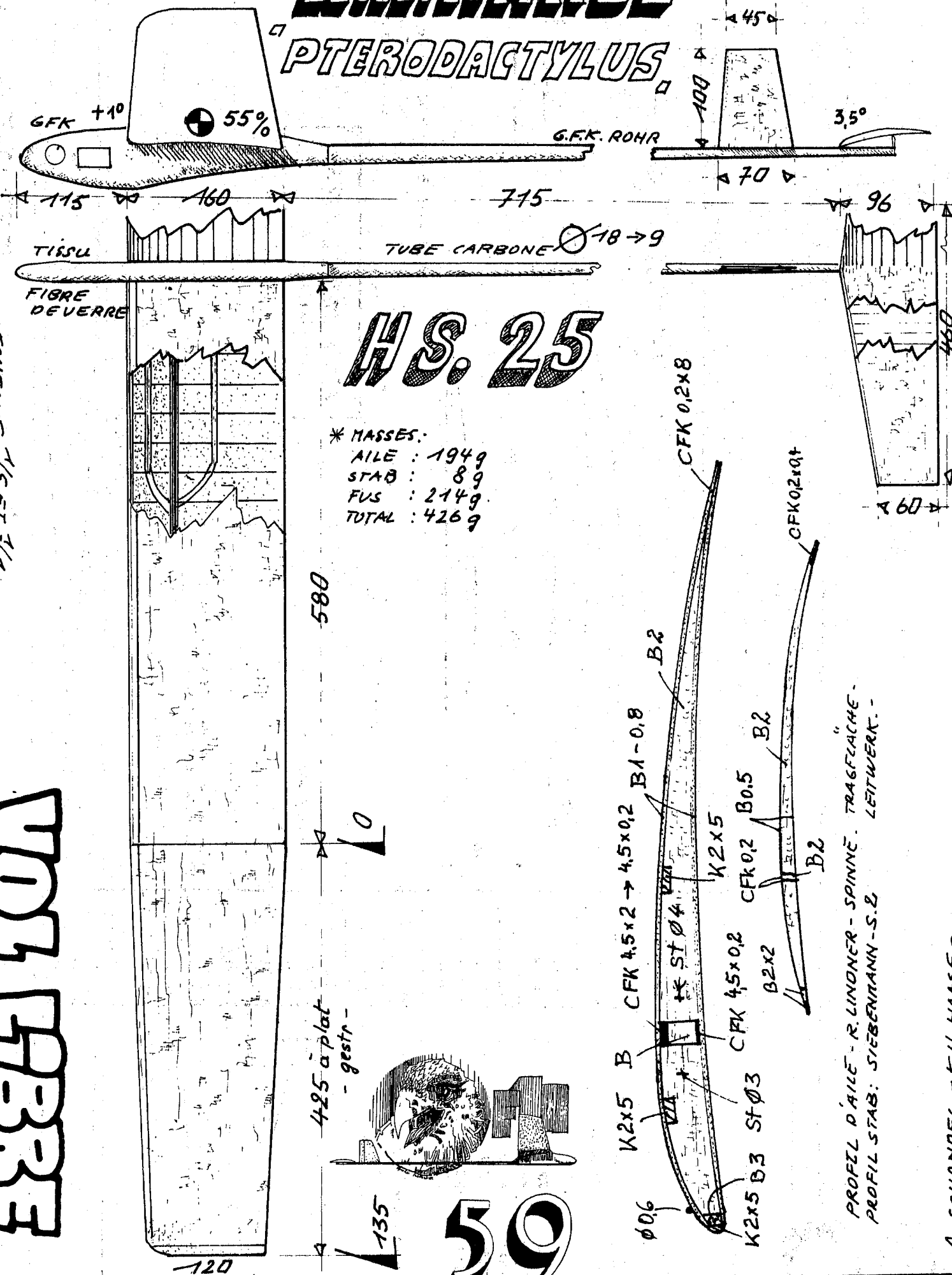


K.H. HAASE

PTERODACTYLUS

ECHELLE 1/5 ET 1/1

VOI 433E



PROFIL D'AILÉ - R. LINONER - SPINNÉ. TRAGFLÄCHE.
PROFIL STAB: STIEBENRANN - S.2. LEITWERK.

A-SCHANDEL - K.H. HAASE -

59



KAI HALSAS

FLETCHER TIMER (AUS.)

28.5"

STAB & FIN MELINEK COVERED (PLASTIC)

113

8"

18"

106

1173

522

182

120

KEVLAR TUBE FUSELAGE

SLIGHT RIGHT & LIP THRUST!

WING 16.15 DM²
STAB 2.80 DM²

WING 59.9 G
FUSEL 78.4
PROP 49.0
STAB 5.9
TOTAL 193.1 G

PROP UNIT: KLENOVSEK

TURBULATORS & INVIGORATORS 157 MM WIDE TAPE.

2x5 SPRUCE

"TILKA" WING SECTION

2x5 SPRUCE

30 15 15 15 15

40

KARHILA PROP: 600 x 726
30° AT R=800 MM
WIDTH 50 MM

F1B MODEL NO 35
KAI HALSAS, SF

NO WING WARPS

ONE-PIECE WING, CENTRE FLAT, TIP DIHEDRAL 120 MM

CARBON/EPoxy ON T.E. & L.E.

L.E.

T.E.

T.E.

L.E.

10

270

420

J.A. 90

VOL FIBRE

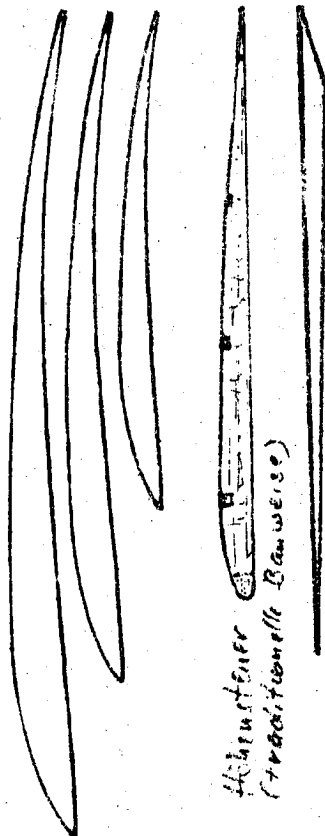
R. HOF SASS⁰⁰

ROHAZELL / KEVLAR.-

ESPADADA CLEAN

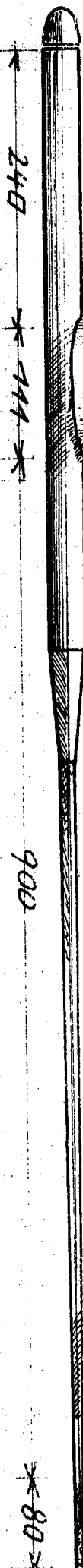
VOL LIBRE

" SANS TURBULENCES
FLÜGEL OHNE STÖRERKANTEN - !



Hinterer
(traditionelle Bauweise)

Seitenruder



545

60

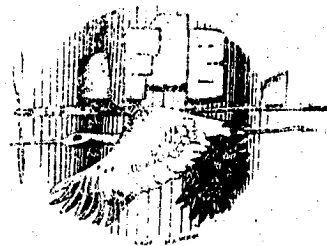
352

190

900

120

80

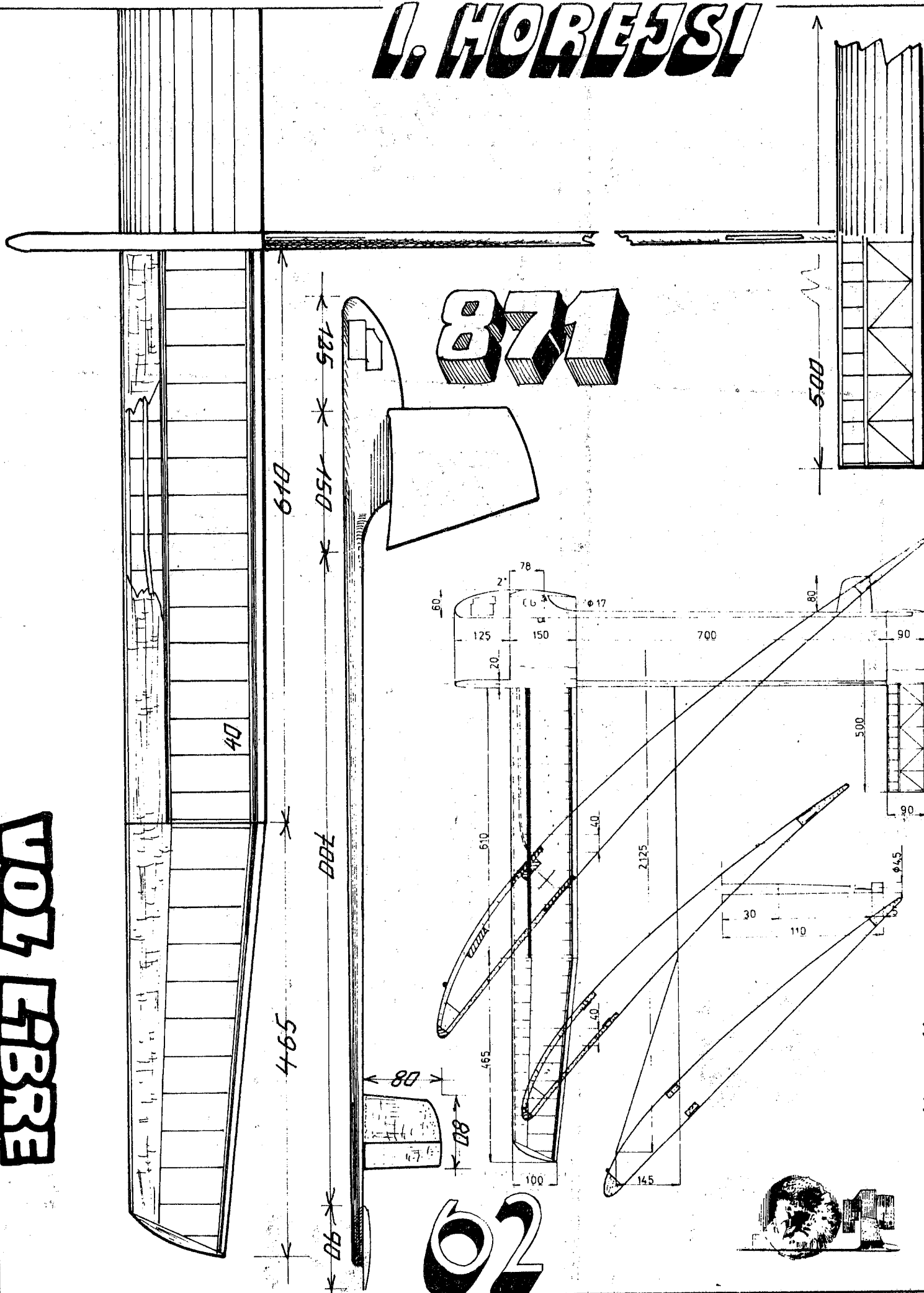


CONSTRUCTION
CLASSIQUE

375

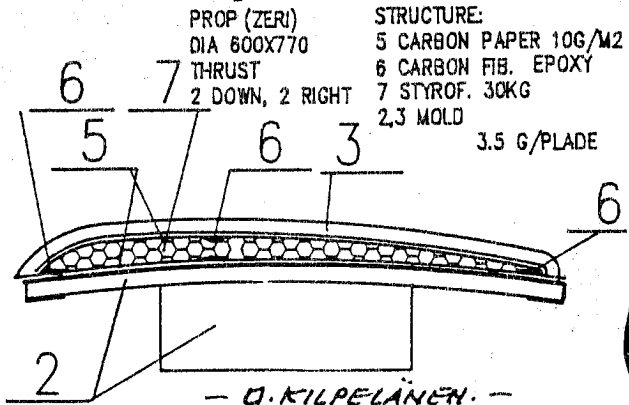
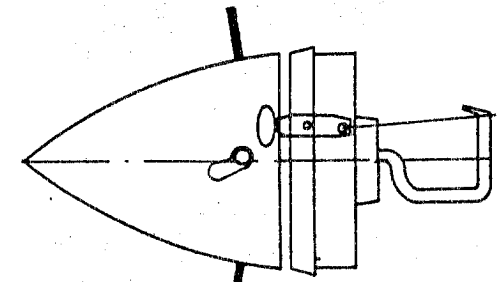
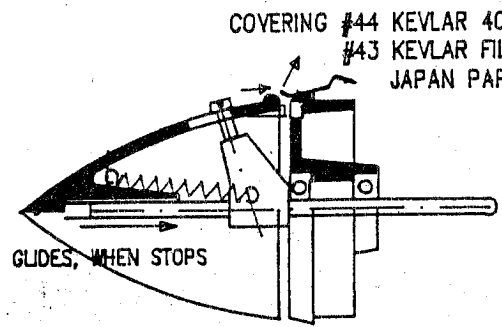
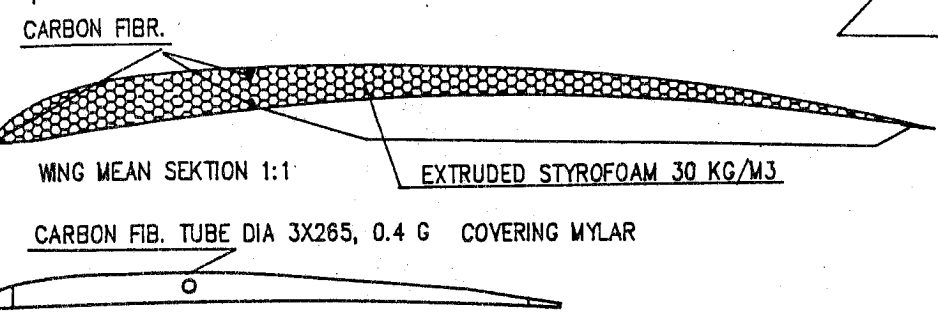
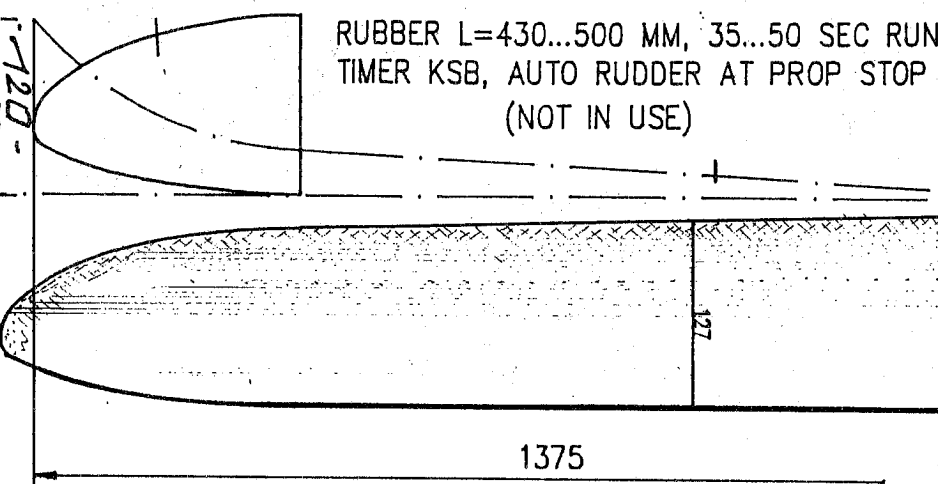
VOL 17RE

62

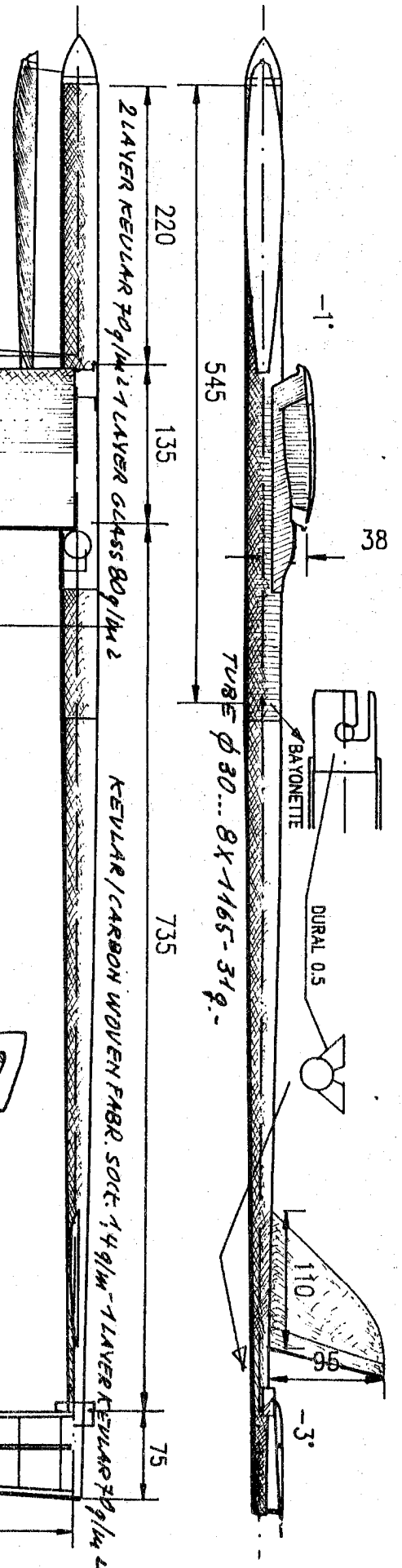
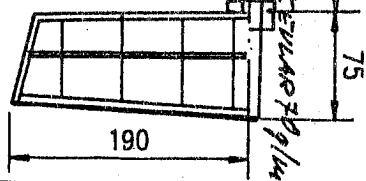


5/15 13/15 21/15

O. KILPELANEN



OLOKKO 44



63 VOL LIBRE

PKING



65

P. KING

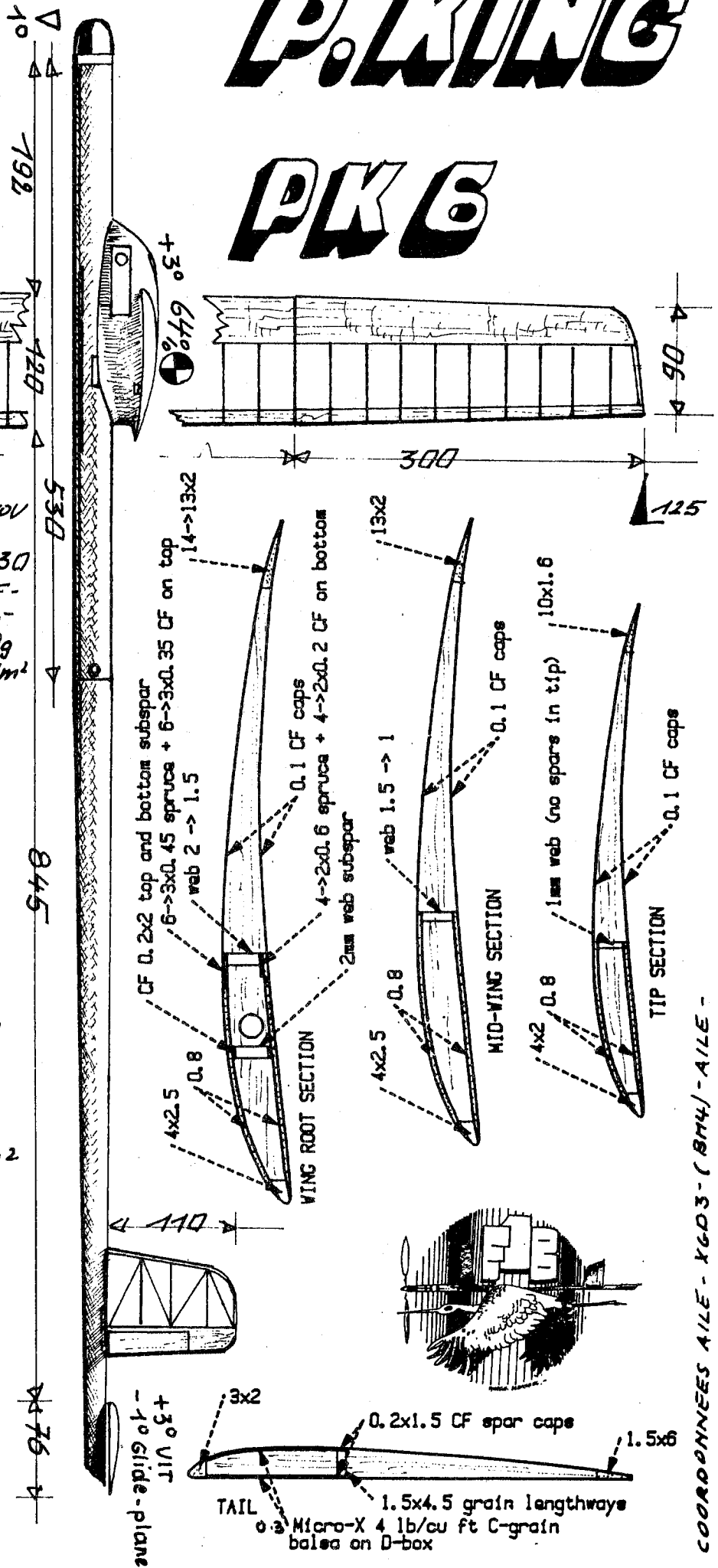
PK 6

ECHELLE - 1/5 ET 1/12

* HELICE ANDRUKOV
 $\phi 600 \times 680$
 PAS-680-750-630
 NEZ-WOODHOUSE-
 * PORTE ECHEVEAU-
 TUBE-KEVLAR 60g
 Balsa 1mm + 25g/m²
 F.D.V.
 * POUTRE

* MASSES-
 AILE 55g
 PORTE ECH. 72g
 POUTRE 16g
 STAB. 4,2g
 HELICE. 42g
 DIVERS 2
 TOTAL: 191,2g

* AIRES PROJ.
 AILE. 15.90
 STAB. 2.95
 10,85dm²



COORDONNEES AILE - Y603-(BM4)-AILE -

	0	1.25	2.5	5	7.5	10	15	20	25	30	40	50	60	70	80	90	100
c	0	1.25	2.5	5	7.5	10	15	20	25	30	40	50	60	70	80	90	100
YU	0.65	2.20	3.2	4.5	5.6	6.5	7.7	8.5	9.0	9.20	9.1	8.5	7.50	6.26	4.75	2.9	0.5
YL	0.65	0.00	0.1	0.3	0.5	0.7	1.2	1.6	2.1	2.55	3.2	3.7	3.75	3.15	2.27	1.2	0.0

G. NOCQUE

NOCQUE G rald

PAGE 87-88-89-

4 rue de l'Anse

91150 ETAMPES France

C'est comme la majorit  d'entre nous , mon int r t pour l'aviation (le fait d'habiter pr s d'un a rodrome qui f t l'un des berceaux de l'aviation n'y est pas  tranger) qui m'a conduit tout naturellement , et aussi diverger , vers l'a romod lisme . (Pas tr s original) .

Il y a donc maintenant environ 25 ans (d j ) que j'ai r ussi   construire , terminer , et faire voler quelque chose capable de tenir l'air . Pendant longtemps je fus un mod liste isol  et ind pendant . A cette  poque les revues mod listes disponibles en kiosque vous permettaient de d buter seul et m me de progresser en vol libre !

Cependant en 1972 je prenais ma 1 re licence au Mod le Air Club de Mandres , en 73 je participais pour la premi re fois au Ch. de France , en planeur inter d j  , et tout le reste constitue depuis , ce qui commence   ressembler   une " carri re " mod liste , au moins par la dur e et les souvenirs !

Depuis le concours de s lection de 1980 , j'ai r ussi   obtenir chaque ann e un r sultat int ressant en wake ou en planeur , soit au Poitou , au Ch. de France et Ch. d'Europe , ou aux concours de s lection . (pour moi jusqu'au 3 me class  avec une certaine obstination pour la 2 me marche du podium) . Ma meilleure ann e : 1988- 2 me au Ch. de France en F1A et en F1B , 1 r par  quipe au Ch. d'Europe F1B par  quipe .

Je peux aussi faire le bilan de mes  checs mais cela serait aussi ennuyeux et beaucoup plus long . Malgr  les apparences ma cat gorie pr f r e est le planeur , mais on, ne choisit pas toujours sa voie

Les mod les : le 11 (d'apr s la corde de l'aile) construit en 1979 , c'est mon 2 me wake , dessin commun   Didier Barberis, repr sente un bon mod le de d but...et plus . C'est le mod le qu'j'ai utilis  le plus   ce jour , car simple   mettre en  uvre , un peu d licat au l cher (pas de fonctions m caniques au d part) , mais tol rant cependant . Robuste et ayant demand  peu d'efforts de construction , je l'utilise chaque fois que voler et r cup rer devient hasardeux , donc souvent . Aussi je n'arrive pas   le mettre   la retraite bien que je poss de des mod les plus performants dans le vent .

Le 12 (de la s rie) construit en 88 , c'est mon dernier wake . Bien que de m me allongement que le n 2 (le 11) le dessin a  volu  en 9 ans , ainsi que la construction et les r glages ! Donc conception moderne , je pense , caisson avant moul  , longerons en carbone (depuis le n 8) r glage multifonctions (depuis le n 4) , trop cette fois ci car pour l'instant le r glage n'est pas

termin    cause de sa complexit  et du temps n cessaire .

L'autre mod le utilis  r guli rement le n  6 a d j   t  publi  dans VOL LIBRE . C'est le mod le que j'ai le plus de plaisir   faire voler , c'est aussi le plus efficace .

F. NUTINI

PAGE 93-94

NUTINI FABIO

Ave Gal Ataliba LEONEL 789

02033 SAO PAULO Bresil

Born in Sao Paulo 1957

I began with model airplanes following my father's footsteps , in '64 (I was 7 years old) . Since then I've made all Kind of models (radio & c. control too!) but always competing in free flight . From '73 til '75 I've competed only with Coupe d'Hiver models , getting away awhile from gliders . In '77 I've got the Brazilian nordic team and never went out again . I've participated of all south american champs between '77 and '88 , been three times vice champion and once team champion . Since '79 I've taken part on W.C. (except Australian) and as I wote before my best finish was in '85 . My worst result was in France , going through one of my worst intimate crisis and alone on the jarney (only with my wife, Ana) . I won for three times the national champs and many times our regional contests .

Other sports : tennis and aerobic gym.

A. NUTTGENS

PAGE 90-91-92

J. OCHMAN

PAGE - 98-99-100. -

-101-102-103. -

OCHMAN JAN

Popowicka 144/21

54238 WROCLAW

Pologne

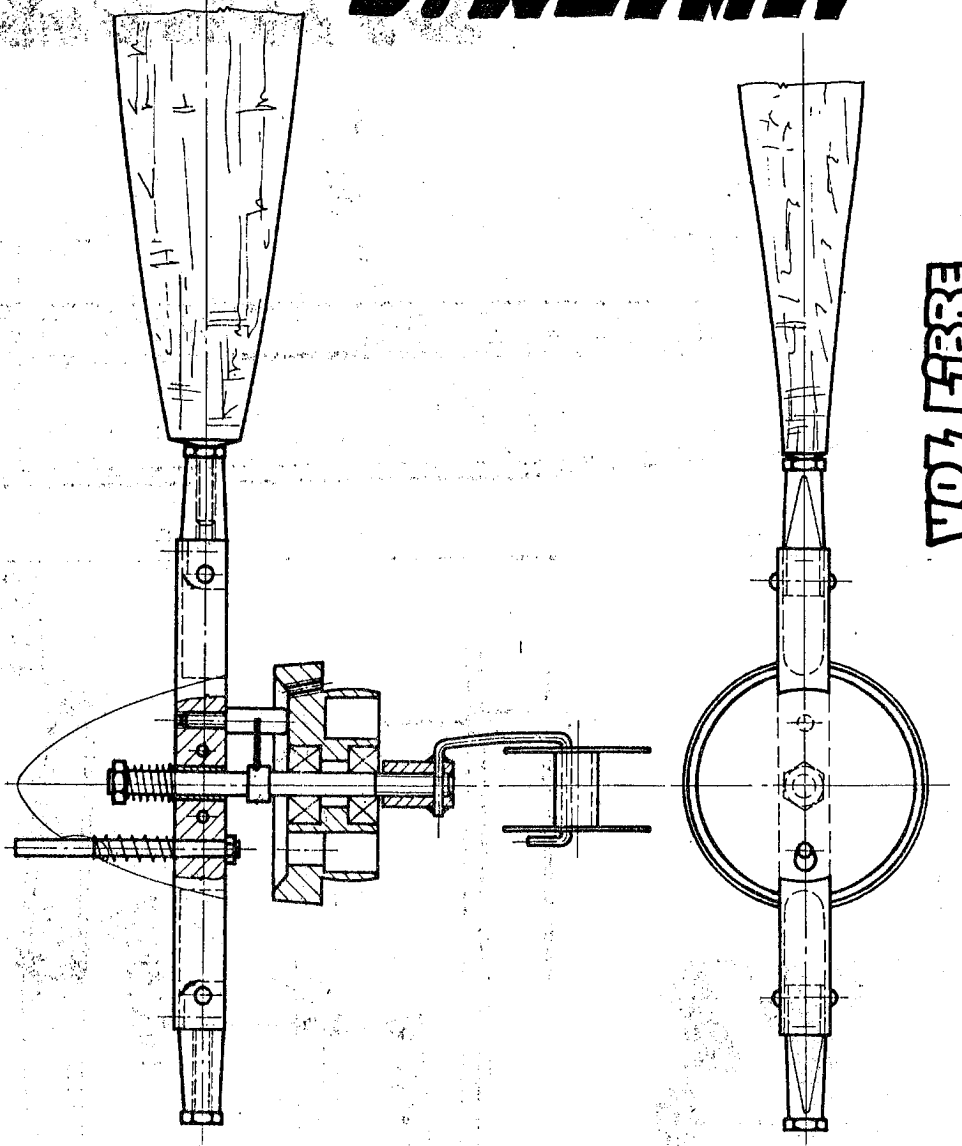
G. ODGERS

PAGE - 106 -

FREE FLUG 66 VOL LIBRE

J. KLIMA

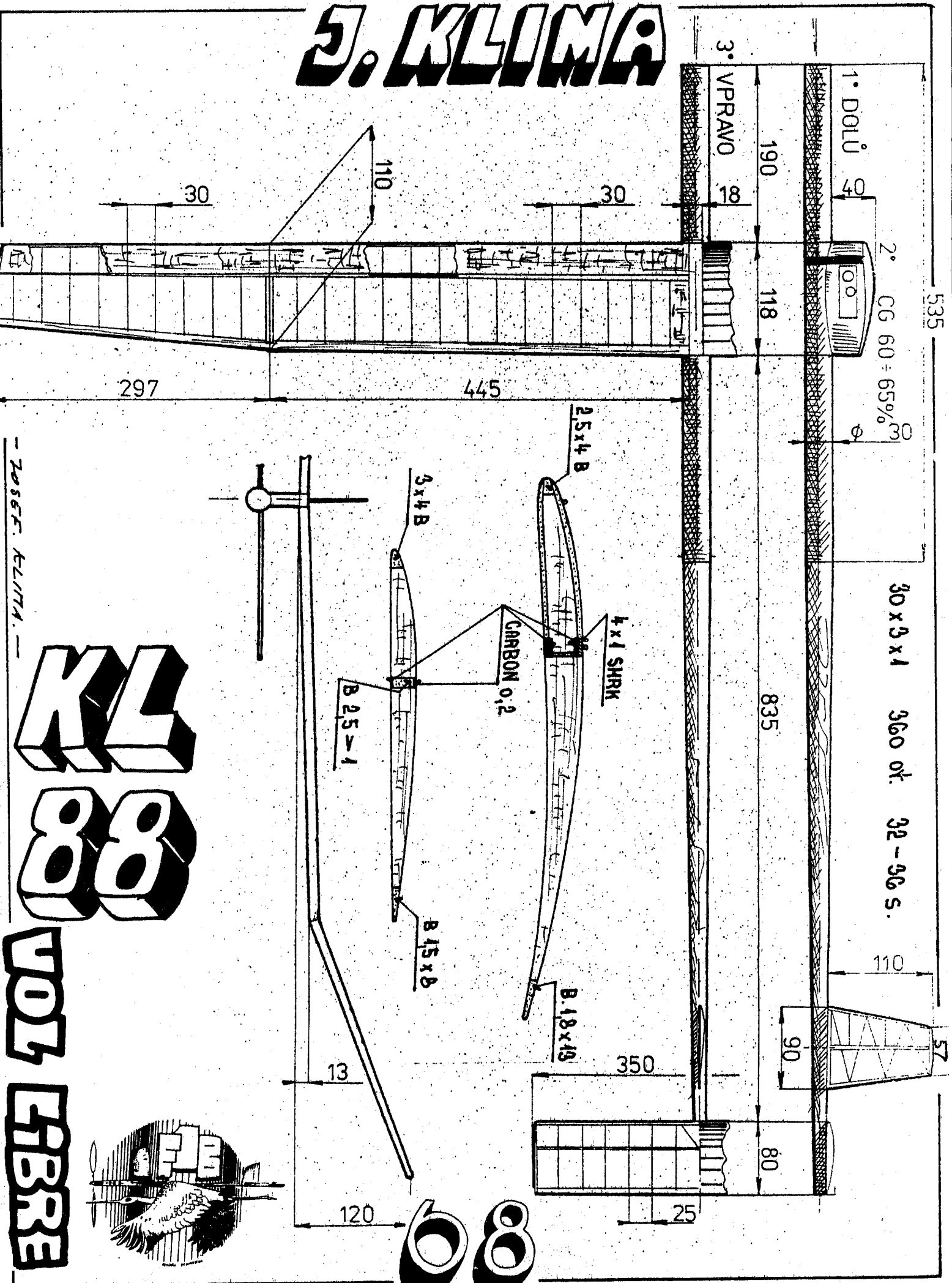
VOZ LÍBRE



67

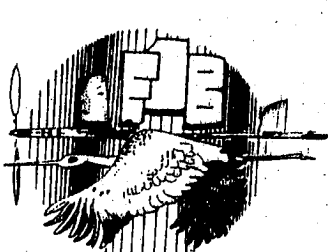


5. KLIMA



- 7085F. KL17A. -

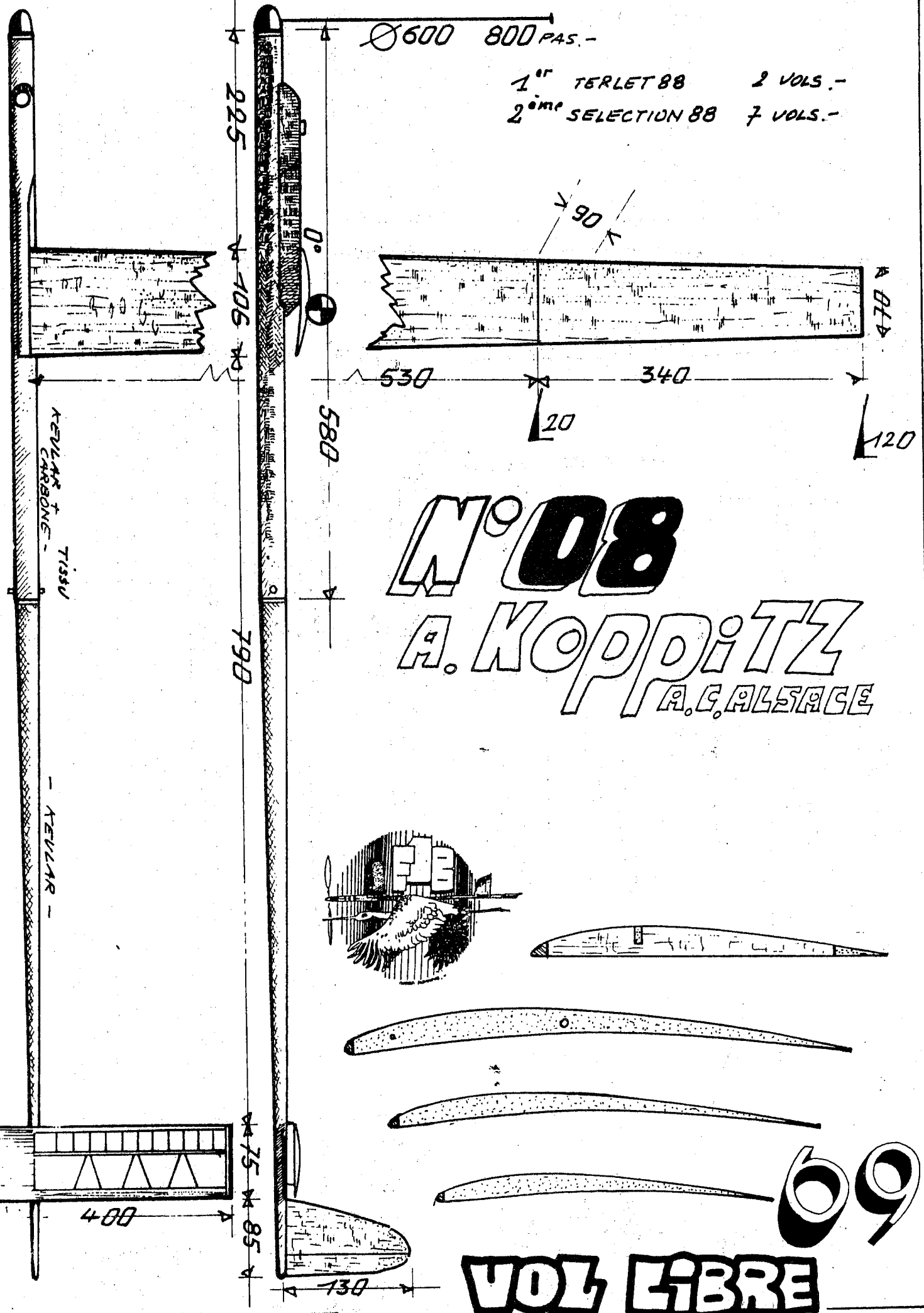
**KL
88
VOL LIBRE**



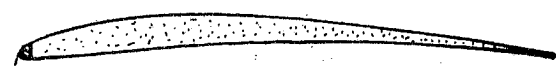
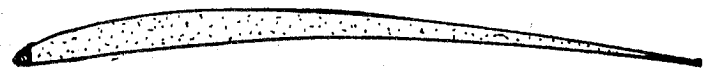
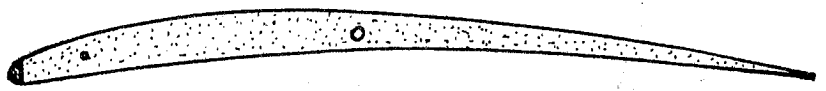
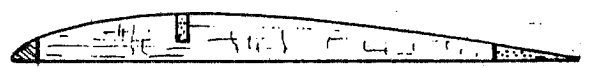
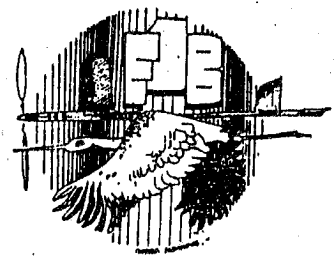
SAISON 1/5 ET 1/4 - A. SCHANN - A. KOPPIZ.

Ø 600 800 PAS.-

1^{re} TERLET 88 2 VOLS.-
2^{ème} SELECTION 88 7 VOLS.-



N° 08
A. KOPPIZ
A.C. ALFACE



69

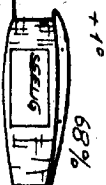
VOL LIBRE

REG. DRONE/DRONE
TRIM: RIGHT/RIGHT

WING 49 G.
STAB. 5 G.
FUS. ETAL 87 G.
PROP 39 G.
BALLAST 11 G.
TOTAL 191 G.

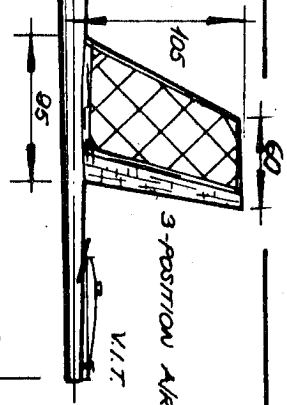
MECHANICAL PARTS AS
WITH DIMPLE '85

FLOWN AT SCANDINAVIAN
OPEN 1989 TOGETHER WITH
DIMPLE '85

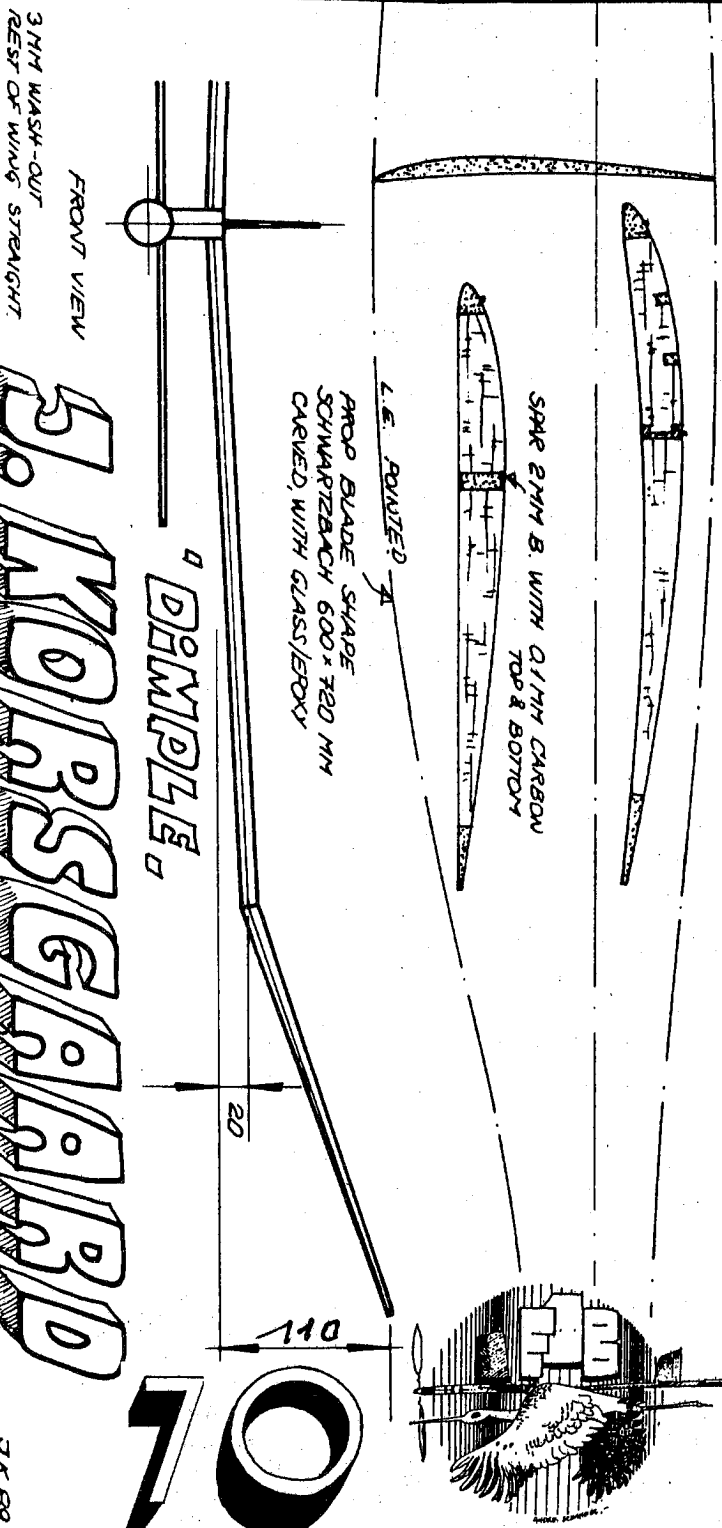
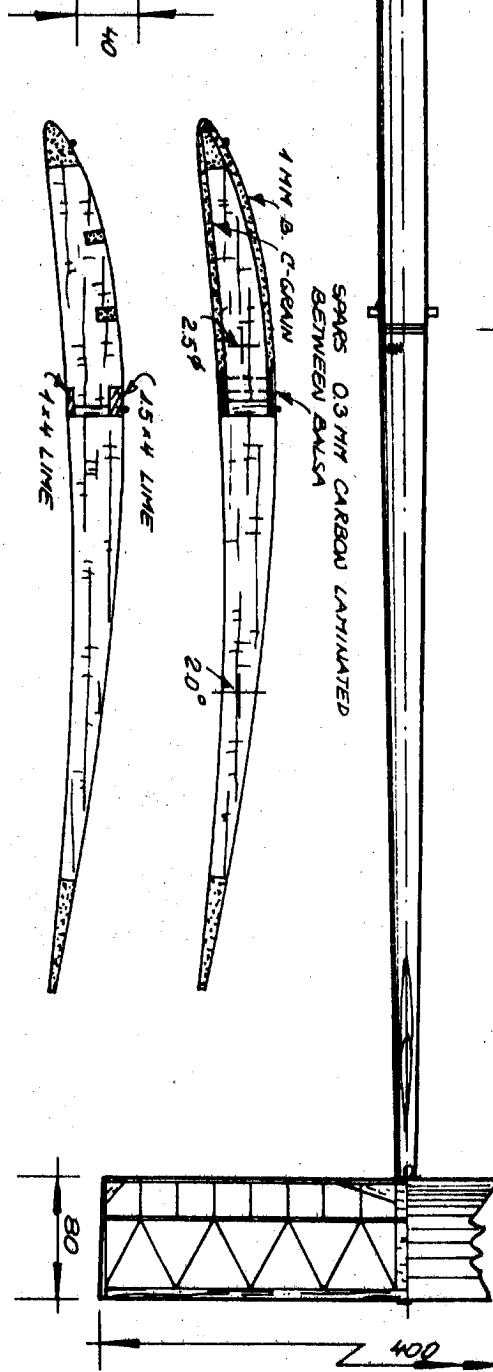
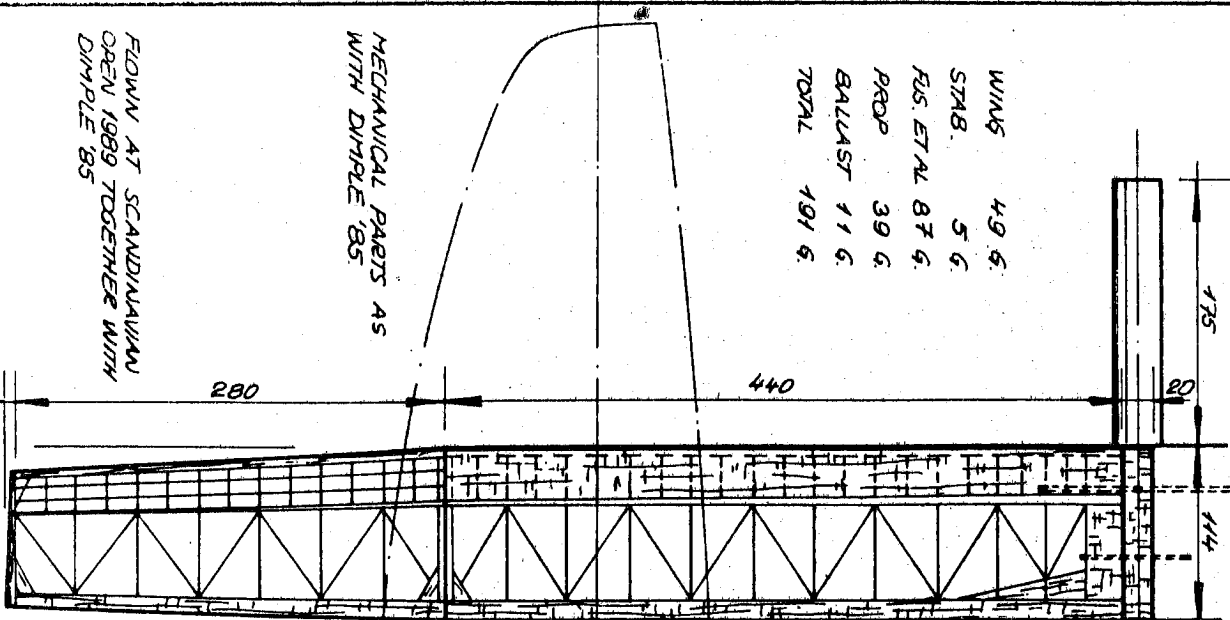


BALSA 2mm+2 COUCHES
FOL. INT. ET EXT.
2mm BALSA WITH 2 LAYERS
OF GLASS/EPXY IN & OUT

BALSA 1mm+FOL. EXT.
1mm BALSA WITH GLASS
IN & OUT

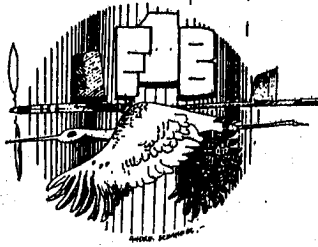


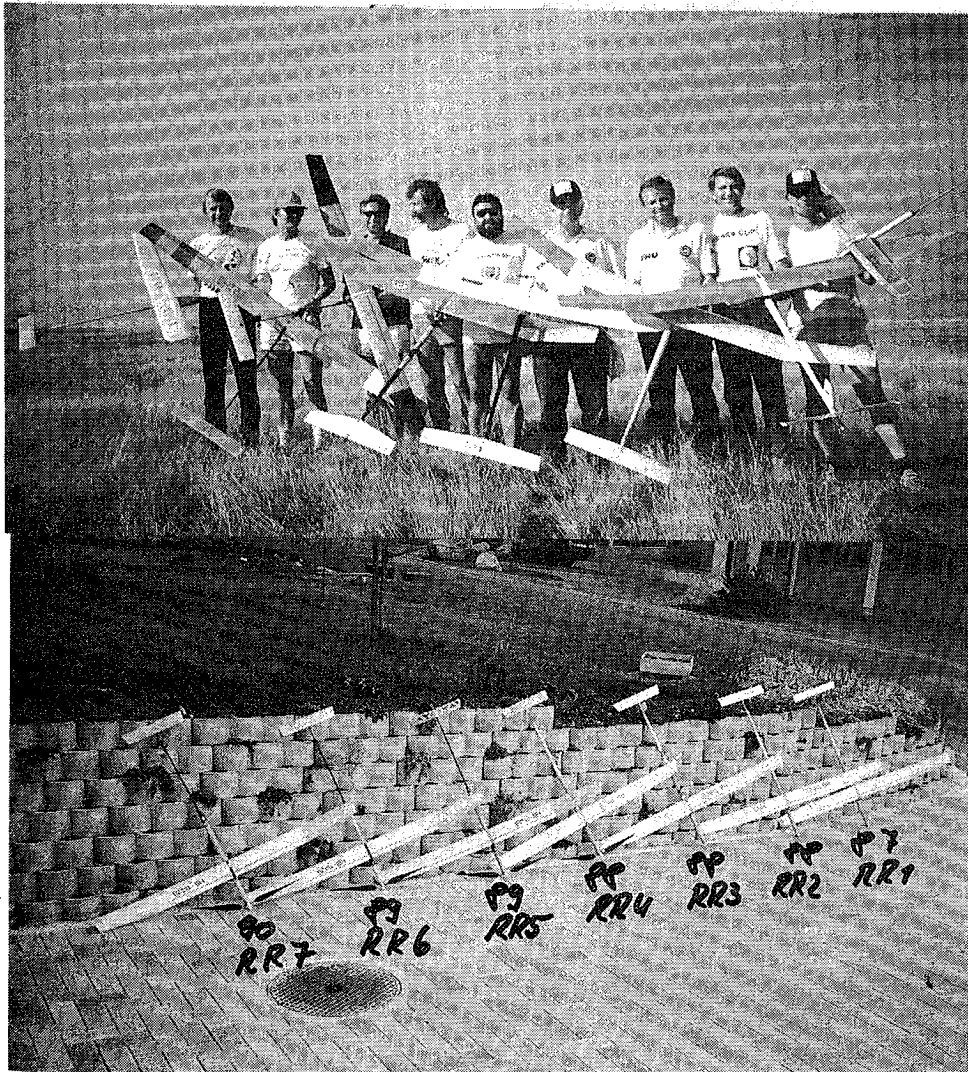
VOZ LIBRE



3. KOPSGEBO

70





Ivan HOREJSI lorsqu'il était encore un peu plus jeune, avec un fuselage, poutre balsa, en deux ! Ivan reste un des "meneurs" au niveau mondial dans la catégorie F1A.

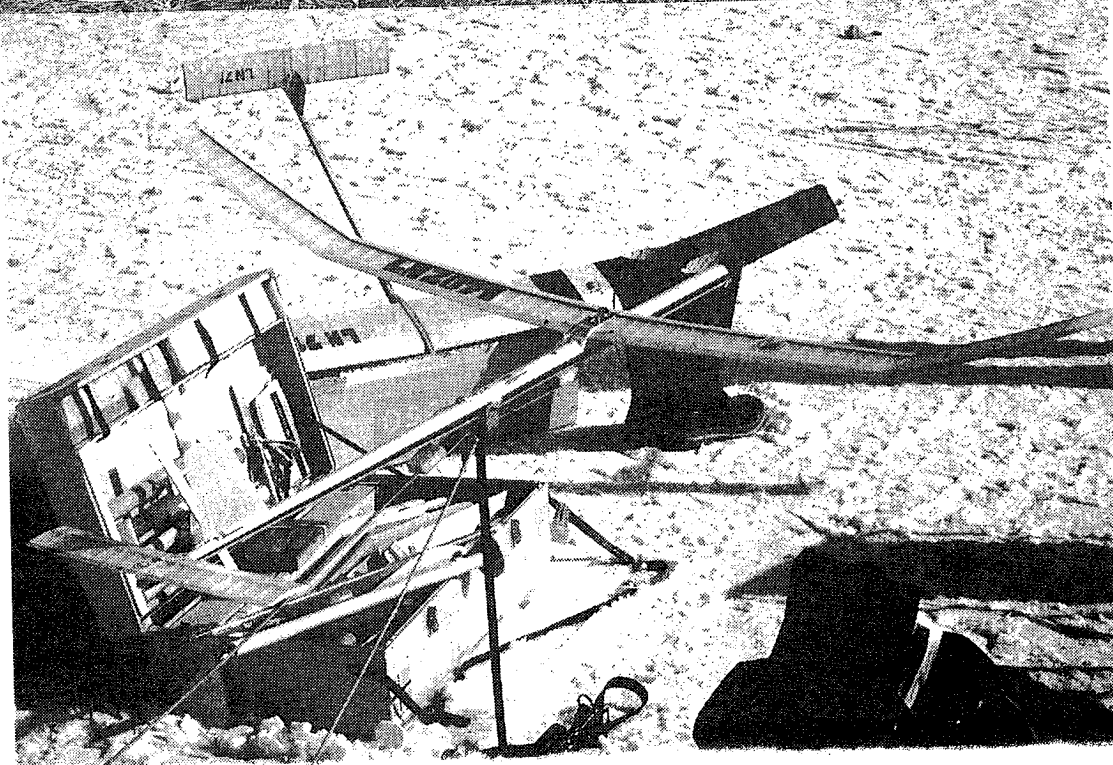
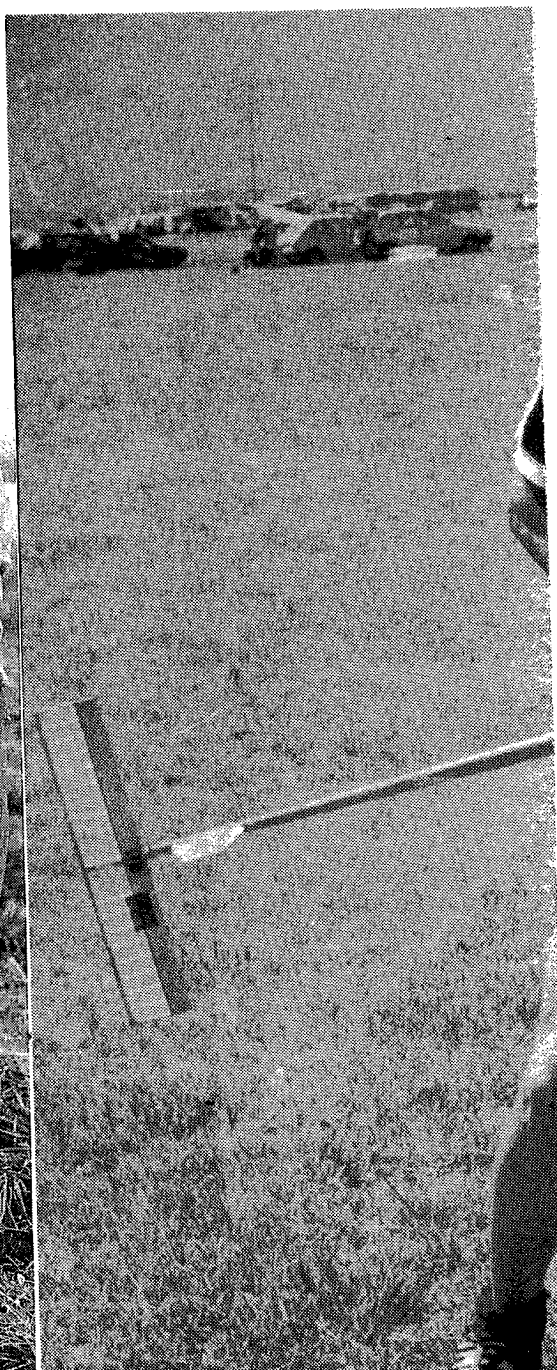
Au printemps 1990, sur la côte ouest des USA, un rassemblement de quelques grands, venus d'Europe (Ouest et Est !) on reconnaît entre autres, Lepp, Fantham, Zsengeller, Maczko, Seelig, Stäbler, Verbitsky;

Un alignement, avec évolution de wakes, du Suisse R.Ruppert, pas mal comme clôture !!

I. Horejsi als er noch jünger war

Europa Ost und West in den. USA
Frühjahr 1990 an der Westküste.

Modelle F1B von R.Ruppert (CH) eine schöne Linie in der Auffahrt.



Muhkin et
Stefanchuk

Gorban et
Goulogonov

F1B de Ole
Torgersen

Carré d'as
hollandais
Somers, Hacken
Ruyter, Zeri .



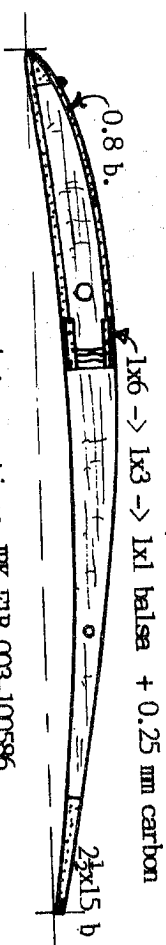
PHOTOS - A. SCHANDEL -



VOY LIBRE

73

Areas:	
Wing	16.00
Tailplane	<u>2.80</u>
Total	18.80 dm ²



2 balsa with 0.2 mm carbon

Wing	47.5
Tailplane	4.7
Front fusel.	73.6 (with timer)
Rear fusel.	15.1
Propeller	48.8
Rubber bands etc	<u>0.5</u>
Total	190.2

Technical drawing of a mechanical assembly, likely a valve or actuator, showing two views with dimensions in millimeters (mm).

Top View (Left):

- Overall length: 616 mm
- Distance from left end to the start of the truss structure: 110 mm
- Distance from the start of the truss structure to the right end: 115 mm
- Truss structure height: 68 mm

Bottom View (Right):

- Overall length: 531 mm
- Distance from the right end to the start of the truss structure: 30 mm

Rear fuselage: 0.8 balsa with 18 g/m² glasscloth in- and outside.

Tail surfaces PVC film
(kitchen variety!)

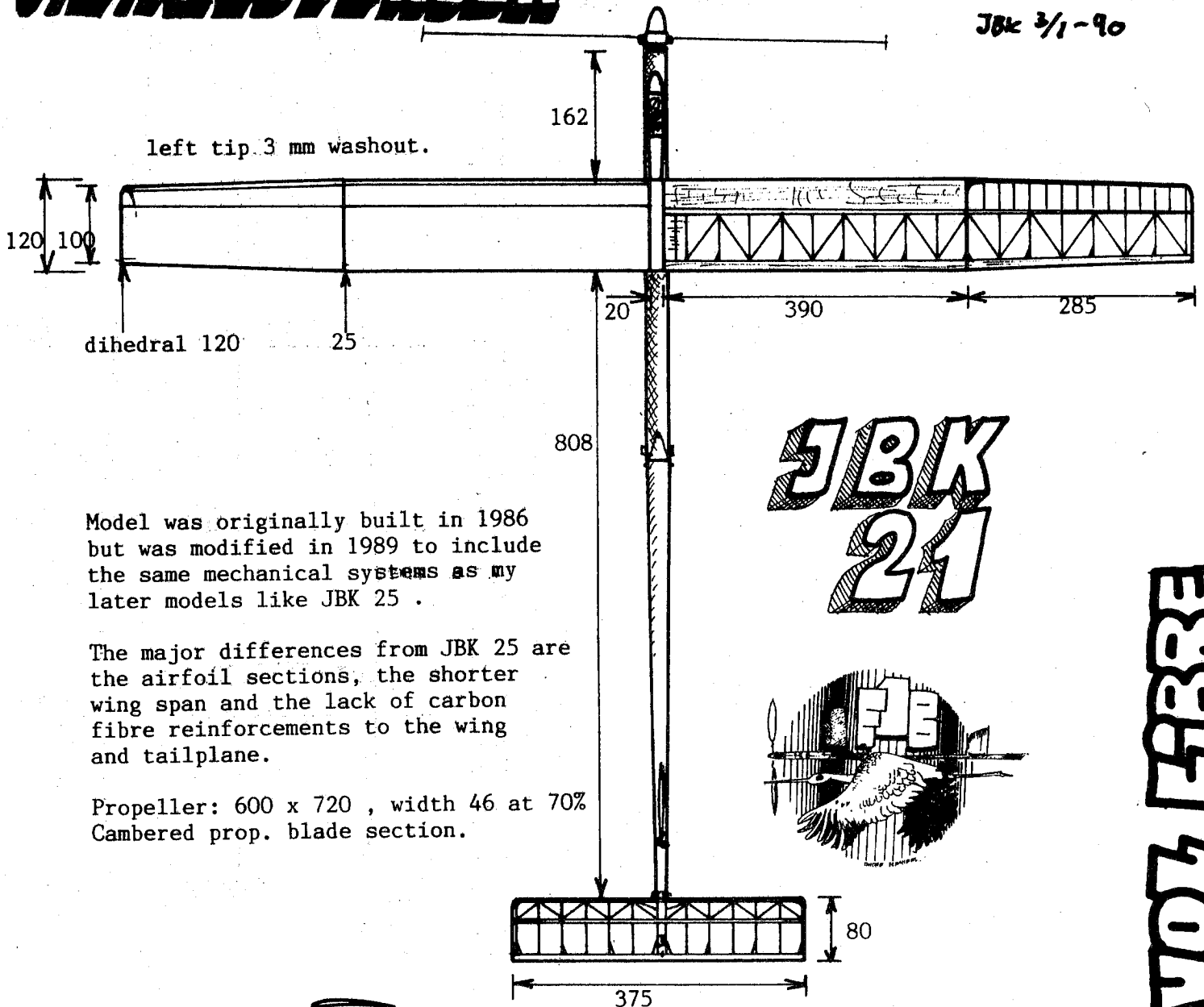
Wing +1° , Tail -2° (glide)
Siderust 1.5 - 2°
No downrust
Center of gravity at 67%

74

Escritura 7/4 - 7/8 - J.B.K.

J.B. KRISTENSEN

JBK 3/1-90



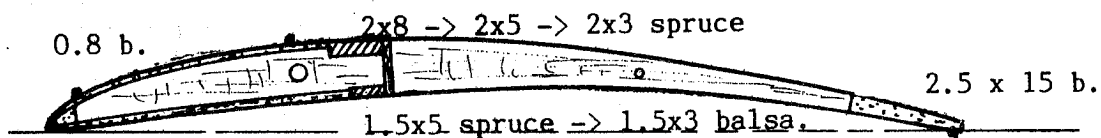
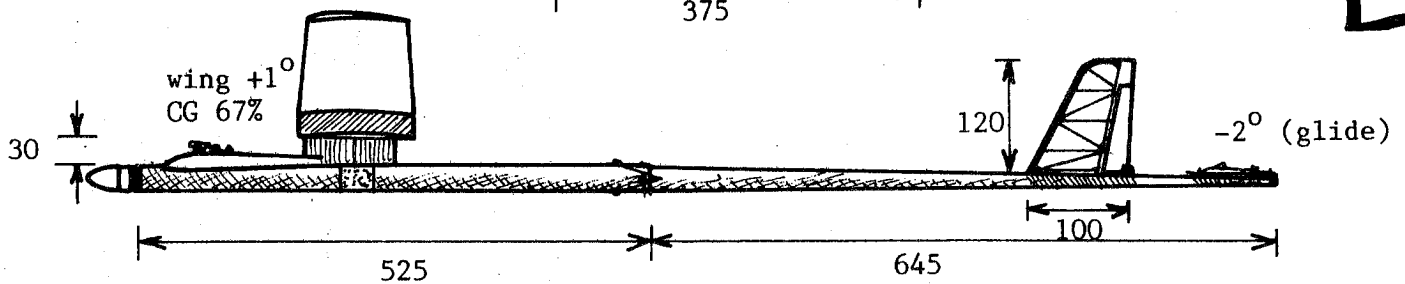
Model was originally built in 1986 but was modified in 1989 to include the same mechanical systems as my later models like JBK 25.

The major differences from JBK 25 are the airfoil sections, the shorter wing span and the lack of carbon fibre reinforcements to the wing and tailplane.

Propeller: 600 x 720, width 46 at 70% Cambered prop. blade section.

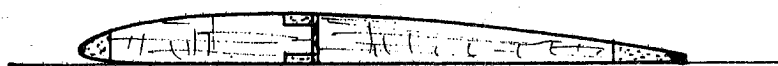
JBK 21

FREE FLIGHT



Wing section JBK F1B 101-070985

75



Tailplane section Gö 795.

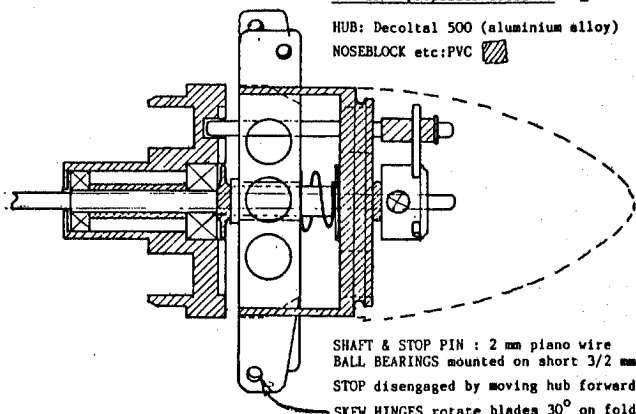
SCHELE 1/18 J.B.K.

FREE FLIGHT

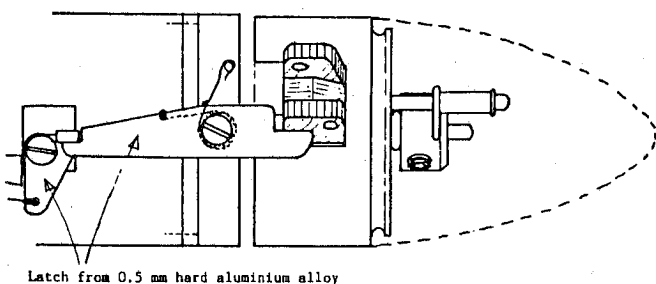
J.B. KRISTENSEN

JBK 25 propeller details. 1

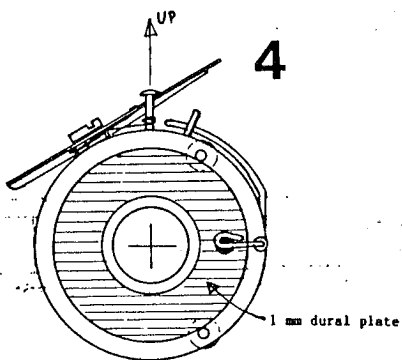
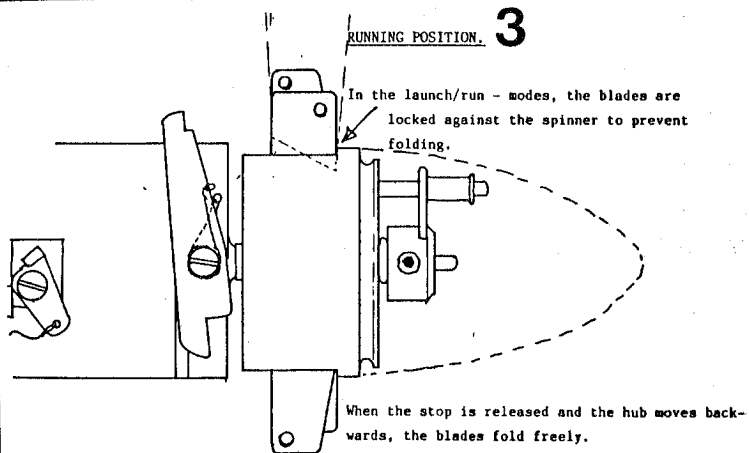
HUB: Decoltal 500 (aluminium alloy)
NOSEBLOCK etc: PVC



LAUNCH POSITION. 2

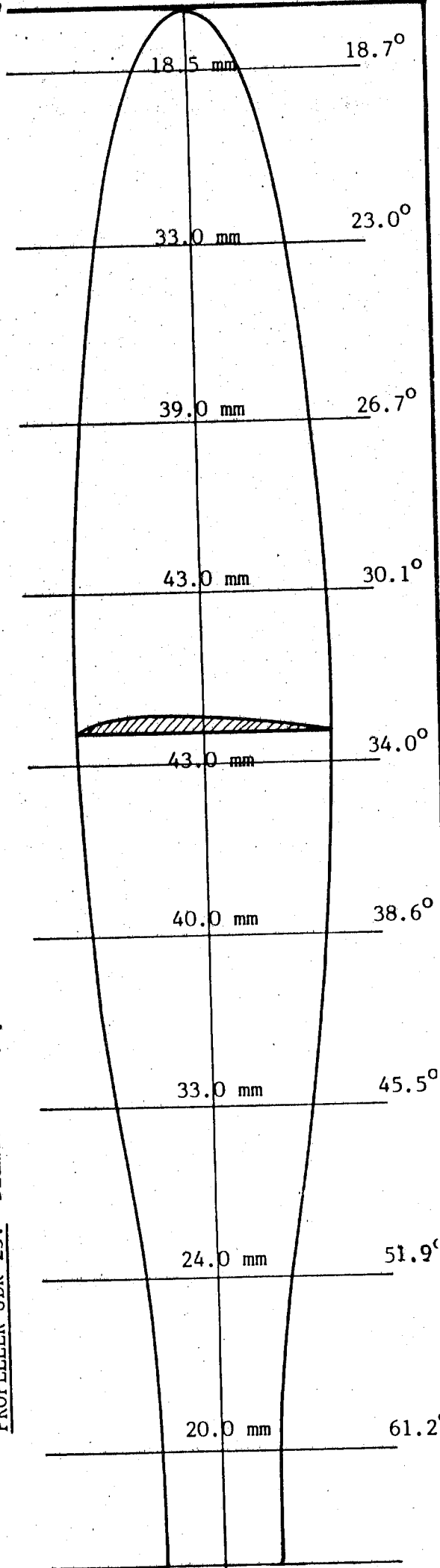


RUNNING POSITION. 3



NOSEBLOCK FROM FRONT. - to show the respective positions of release latch, rudder release mechanism, adjustment screws etc.

PROPELLER JBK 25. Diameter 620, pitch 760 at 70% radius. Thickness 3 mm at root, 6% on outer half.



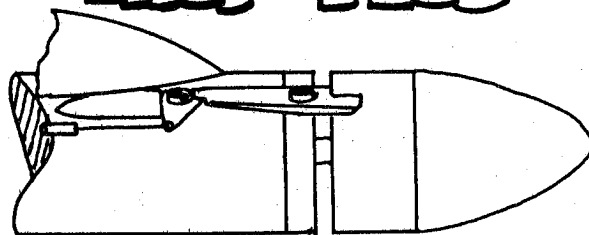
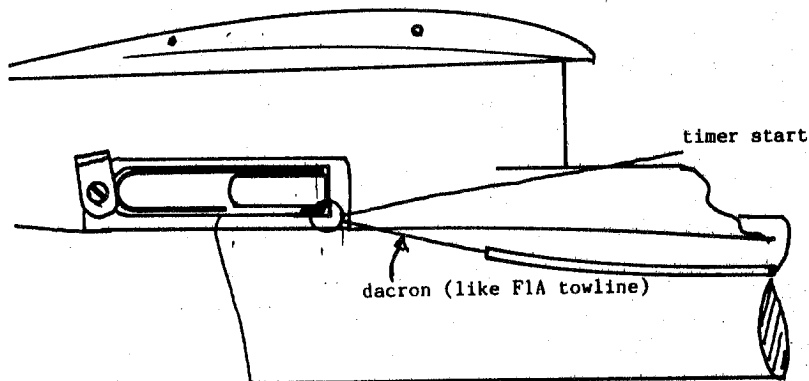
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VOL LIBRE

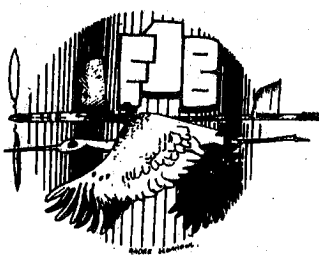
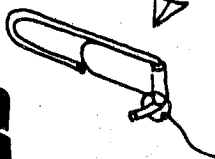
J.B. KRISTENSEN

FREE
VOL
FREI

FLIGHT
LIBRE
FLUG



JBK 25 PROPELLER AUTORELEASE SYSTEM.



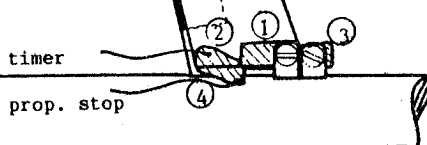
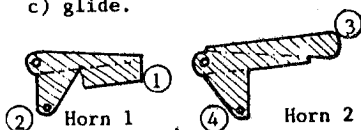
JBK 3/1-90

JBK 25 - rear end details.

/// = 0.3 mm dural.

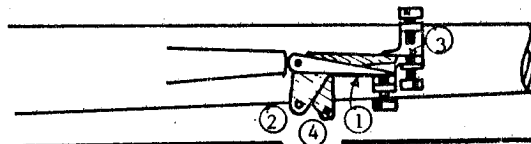
RUDDER. Three positions.

- a) Power burst (3 sec)
- b) rest of climb until prop stop
- c) glide.



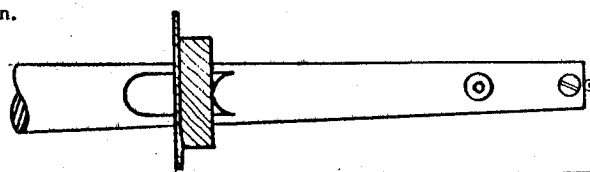
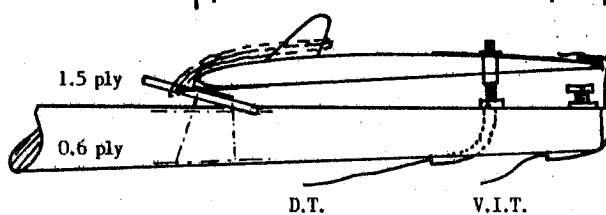
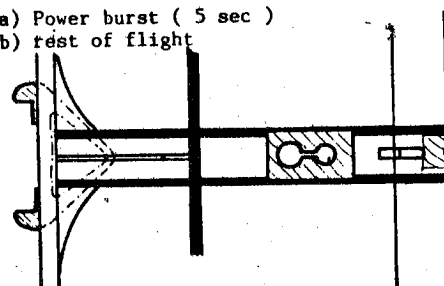
M2 adjustment screws in 1 mm dural mounting

Horn 1 and horn 2 are joined by a 1.5 mm pin.
Horn 1 is cemented to the rudder.



TAILPLANE. Two positions

- a) Power burst (5 sec)
- b) rest of flight



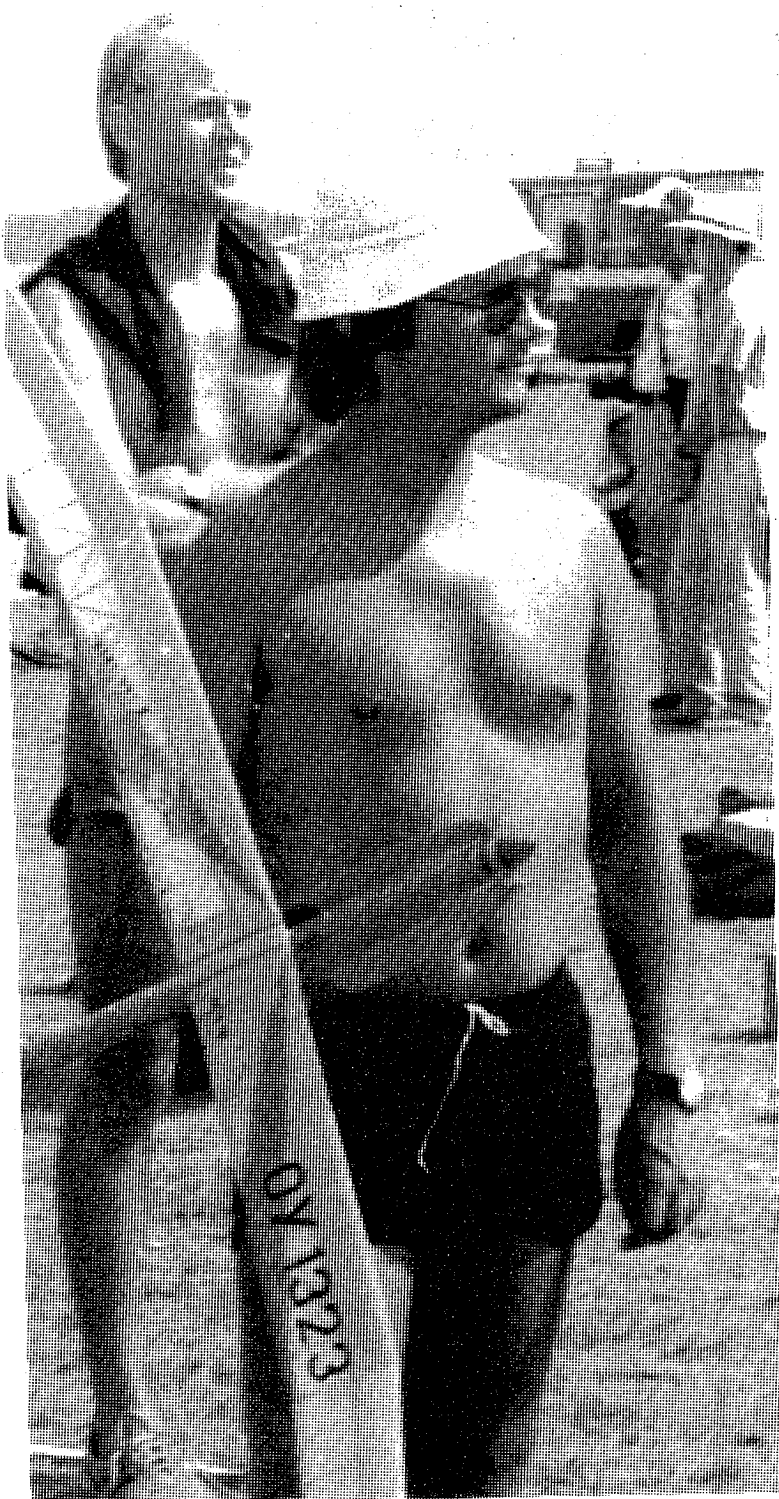
JBK F1B 003 100586

x	yo	yu
2.50	2.67	-0.32
5.00	3.92	0.01
10.00	5.66	0.68
20.00	7.64	1.75
30.00	8.52	2.51
40.00	8.64	3.04
50.00	8.19	3.33
60.00	7.24	3.36
70.00	5.88	3.11
80.00	4.15	2.52
90.00	2.15	1.52
95.00	1.08	0.85

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J.B. KRISTENSEN

PHOTO A. SCHANDER



JENS B. KRISTENSEN

I started flying FIB (and Free Flight ') in 1973 , when I was 19 , after having been crazy with aeroplanes since I was 10 . Until 1982 I cooperated with my father Povl Kristensen , who started flying FIB at the same time . We put a lot of effort into the models and the flying in the years 78-81 , when we formed the danish wakefield team together with Peter Rasmussen , and I think it's fair to say that we achieved a number of really good results - third team place in Ansbach 78; second place (team) at Taft '79 (when I finished 9 th.) and

second team place in Mostar '80 (when my father finished second). I regard it as bad luck that one of us (or the team) didn't win one of the important championships.

Since then , I have had a period with less spare time. I finished my education (theoretical physics at the University of Aarhus) in '82 , moved to another part of the country , and so on. I now work as a teacher of Physics and Mathematics at the " Gymnasium " level. Like many other places in the world , Denmark is short of teachers in those subjects , so I have to work alot - this is a good for my income , but bad for the modelling !

I returned to the FIB team in '85 , when I missed the flyoff by 5 seconds . My most succesful year since then was 1987 , when I finished third in the first FIB World Cup .

In the past two-three years , I have put a lot of work into the models as shown in the drawings . I was unable to attend the World Champs in Argentina , so I had the whole year for experimenting . I even had one of my classes measure the aerodynamical characteristics of my models as part of a physics project ! I hope 1990 will produce some contest results !

1978

- 2 place nordic contries champs
- 8 place E. champs
- 3 team E. Champs
- 1 place danish champs.

1979 1 place Holland Internat.

- 9 place W. champs.
- 2 team place W. Champs.

1980 2 place Holland Internat.

- 2 team place E. Champs.
- 1 place danish champs.

1981 12 place W. Champs.

- 7 place team place W. Champs.
- 2 place danish champs.

1983 1 place Eifelpokal

- 1 place danish champs.

1985 1 place Nordic champs.

1986

- 1 place 10 start comp. Denmark
- 2 place nordic champs.
- 1 place Eifelpokal

1987 1 place Midsummernight Trophy

- 4 place Scandinavia Open
- 3 place FIB World Cup

1988 1 place 10 start compet. Denmark

- 7 team place e. champs.

KRISTENSEN Jens

Gardhojen 1

4690 HASLEV D.K.

78

K. PHAIR

PAGE-107-108-109

KEN PHAIR

Ken started flying model airplanes at age 7. He flew control line, free flight and radio control models. At age 16 he began flying in free flight

competition. With the energy of youth he competed in most glider and power events. Early competition successes were mostly in hand launch glider and F1A. Increasing interest in F1C resulted in participation in the 1969 U.S. team selection program. Ken has been a finalist in every U.S. team selection program from 1974 to the present. For the past ten years ken has concentrated almost exclusively on F1C.

In this other life ken is a Mechanical Engineer for Stows and Webster Engineering Corporation. He is involved with the engineering design of piping systems for power plants. Ken and his wife Denise live in Denver, Colorado USA.

- 1981 1st Sierra Cup
- 1985 1st US team selection finals.
 - 1 Max Men International
 - 7th Izet Kurtalic (YU)
 - 14th W. champs Thouars France.
- 1989 1st US Team selection finals
 - 2nd Max Men International
 - 38th World Champs.

PHAIR Ken

3022 SO YARNELL C.T.
DENVER-CO 80231 USA

R. RISERCHIO

PISERCHIO ROBERT

PAGE-110-111

I became interested in Wakefield models in 1974. Up to that time I had built a few old time rubber models and only did some fun flying. Fudo Takagi recommended that I build on of Bob White's planes as a good way to get started in the F1B category. I sent for the plans and as soon as I built it, and flew it, I was hooked on Wakefield models for life. One model led to another and after becoming acquainted with Bob we soon began flying together every Sunday and making

small changes in our planes. The first plane that was incorporated in this model was make asymmetrical wings with right panel having a half inch longer panel. This seemed to help control the power burst and also since it is a right left pattern it helped to thermal better. With this model I made the US Freeflight team in 1977 and in 1979 plus a number of first place wins a number of contests at Taft.

After that I made several more models with the asymmetrical wings but used thinner airfoils. While these planes flew well they were not the equal of #10. I next experimented with two models that were a short wing version of the same style plane, with a span of 48 to 50 inches instead of the 56 inches of the previous models. These planes showed a lot of promise having a very good climb but only an average glide. I was not completely happy with the model and abandoned it to try something else. Little did I know the Bob White would later build a short wing version but with a different airfoil and he got it to climb and glide well and won the World Championship with this model in 1987.

In 1982-83 I decided to go in the opposite direction and build longer wingspan planes, by stretching the wings out to 62 inch spans. These planes used a Gard 7510 airfoil but still used the twin fines characteristic of White's planes. These planes were quite successful again placing high number of Taft contests. In 1985 after watching some of the planes at the world championships I decided to build a variable pitch prop to improve the climb. With some help and ideas from Walt Ghio and Bob Wilder I built a variable pitch prop assembly and installed it in my high aspect wing planes. After much experimentation the device was adjusted to vary the pitch from 36 inch pitch at the burst to 21 inch pitch at the end of a 40 to 42 second prop run. This variation is much more than most others use in their variable pitch props but I feel that it works very well and has improved the climb of the planes significantly along with a modification of the Gard airfoil. I found that thinning the front portion the airfoil improved the climb, but did not harm the glide. With this style plane I was able to do over 6 minutes at dawn to become the only member of Jim Quinn's 360 club. (Jim formed a standing offer to become a member to anyone who does 360 seconds within a time window of 15 minutes of sunrise.)

Still trying to improve the climb I decided to install a timer and use auto surfaces and my two newest models have this change. The use of the autosurfaces enables the plane to be launched nearly vertically making much better use of the burst of the rubber. I flew the newest of these planes #33 at Livno and at Poitou in the summer of 1989 and came in 2nd and 13th. At the present time I have two more of these

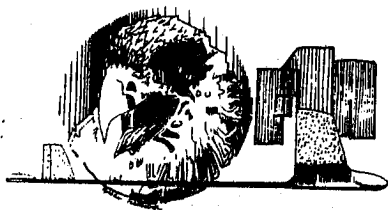
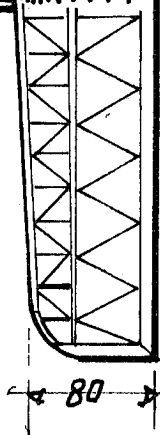
VOL 12BRE 79 FREE FLIGHT
SUITE.P.



VOL LIBRE

A. SCHANDER

094



M. LIZYURA

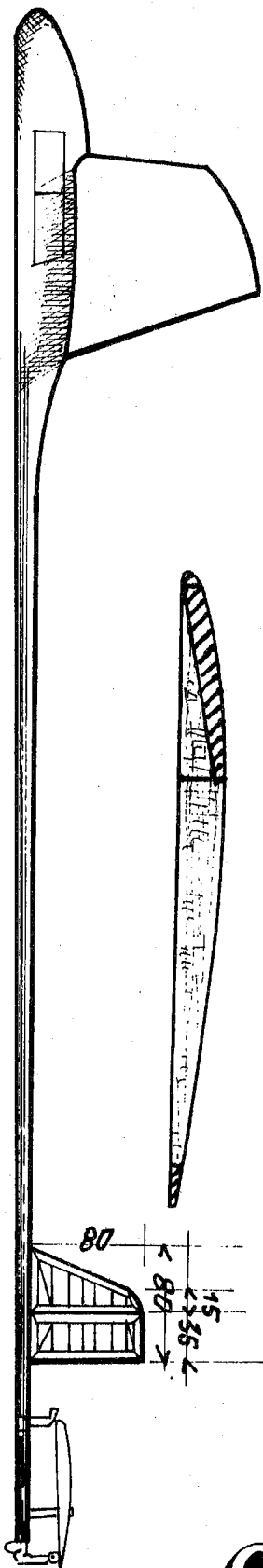
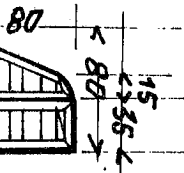
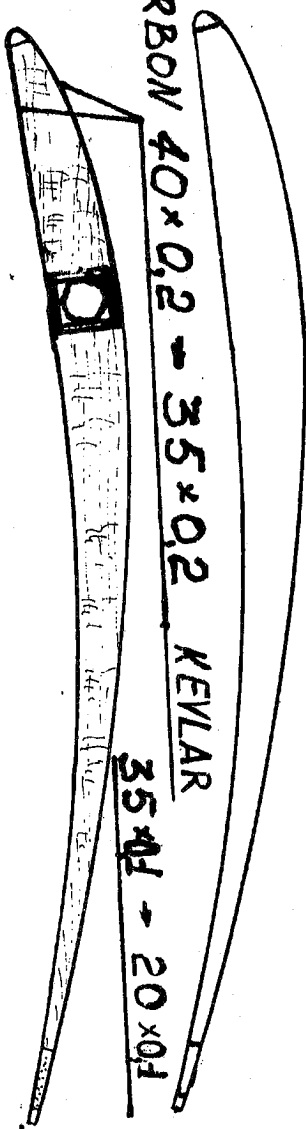
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Y ₀	0.8	3.98	4.55	6.8	7.99	9.8	11.23	12.4	13.23	14.4	14.95	14.9	14.6	14.45	14.39	26	24	24	0.7
Y ₀	0.8	9.15	0.5	0.3	4.26	2	2.66	3.37	4.1	5.55	6.8	7.7	8.2	8.35	7.65	6.07	3.85	1.0	0

LA. 01489

ESBET 70A

CARBON 40x0.2 - 35x0.2 KEVLAR

35x0.1 - 20x0.1



400 445

750

07

90

026

111

123

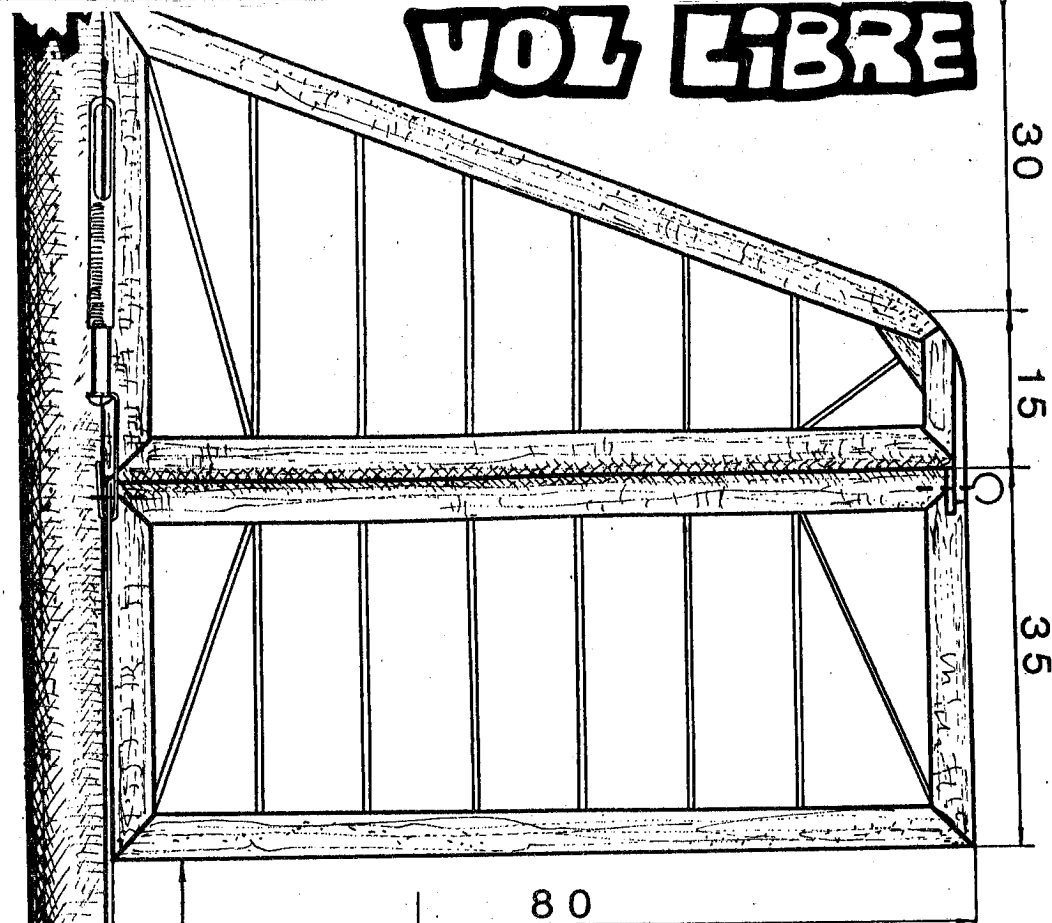
15

20 90

81

ESBET 70A ET 115 - A. BRANDE

VOL LIBRE

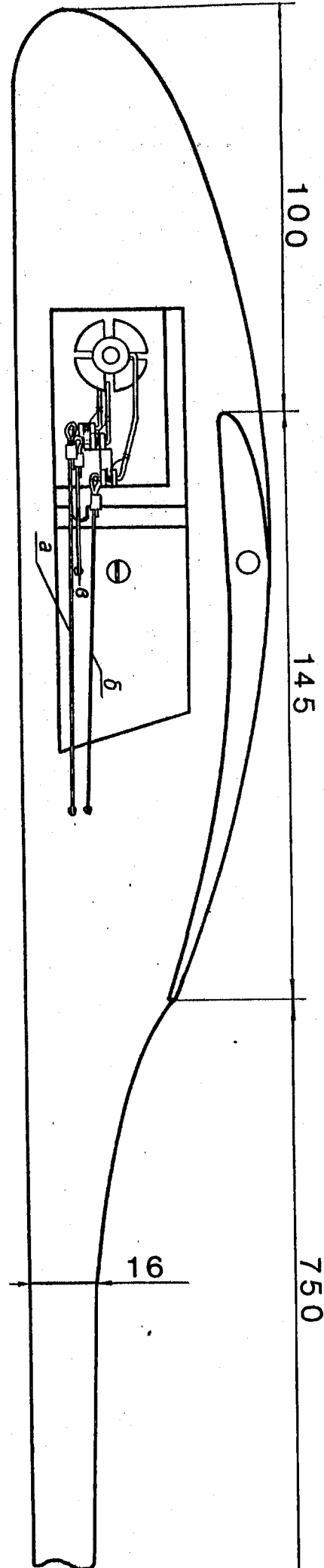
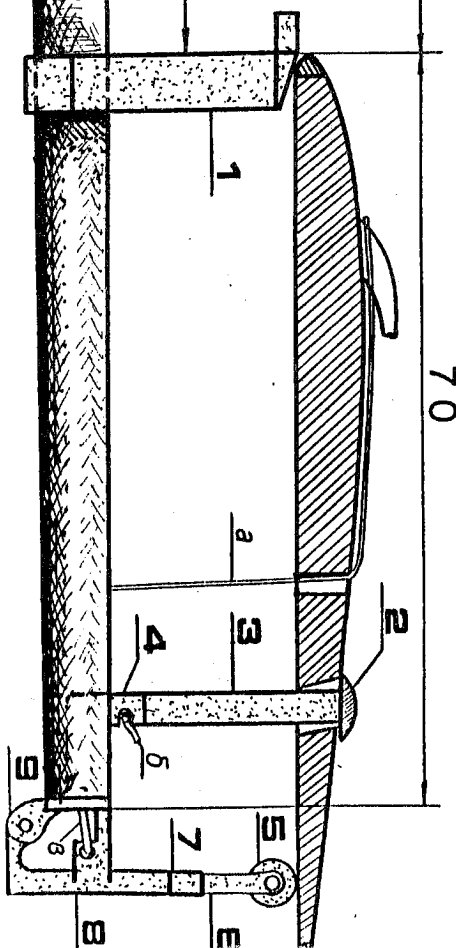


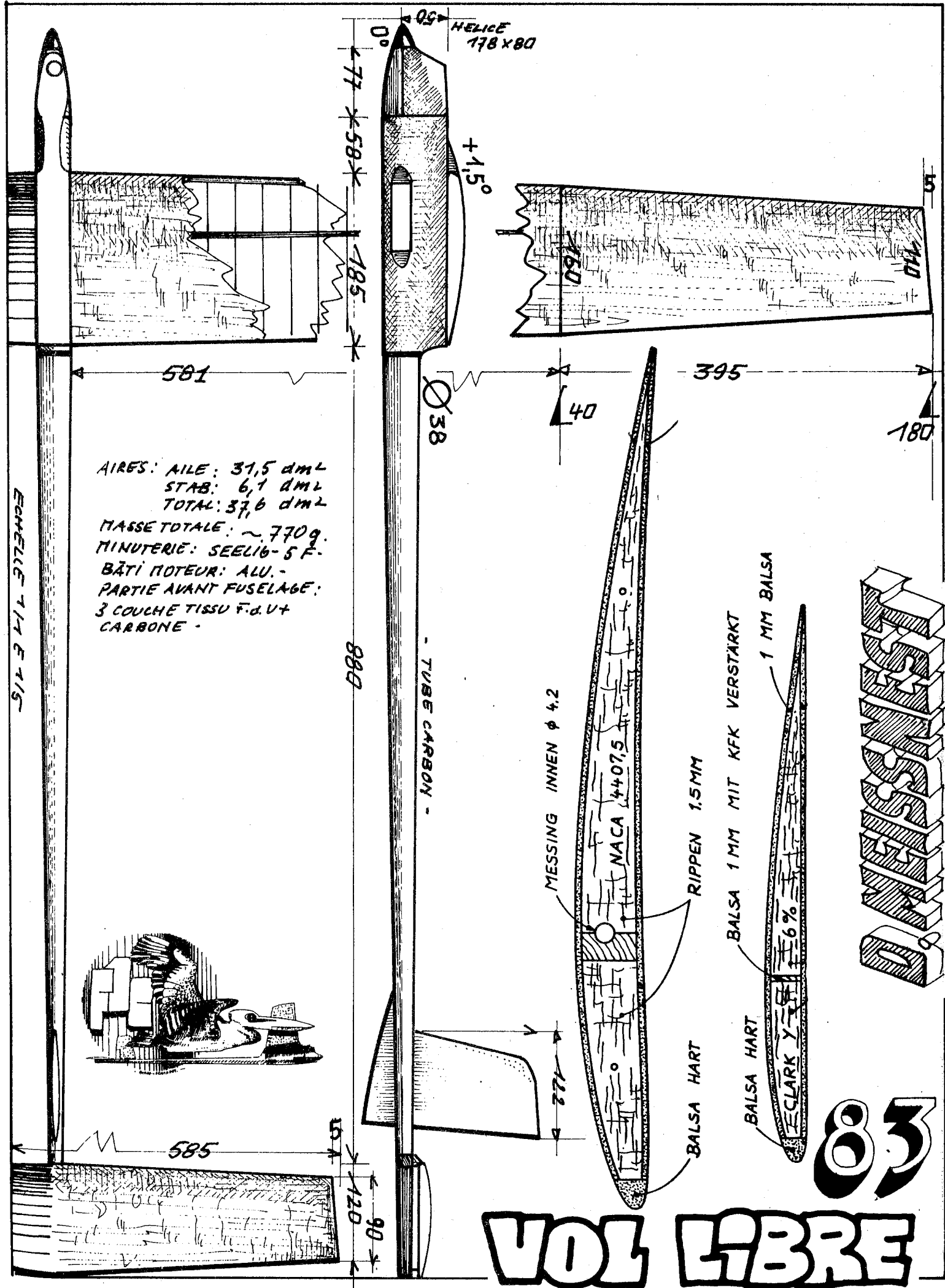
Makarov Serguey

né en 1962, études Ecole Supérieure d'Aéronautique, diplôme d'ingénieur. Marie, une fille. Pratique le modélisme et la compétition depuis l'âge de 12 ans, toujours en F1A. Meilleur résultat Vice champion d'Europe en 1986, autre sport : skide fond.

Alexandre POUATCHENKO, joue le rôle d'entraîneur, champion du monde par équipe F1A en 1969. Les constructions sont inspirées de celles de Youri YABLOKOV (Leningrad) trois fois champion d'URSS. Caractéristiques, grand allongement, D "BOX", maintenant construite avec du carbone, largage "BUNT" (dernière phase ressemblant à celle de la catégorie F1C).

KOTCHKAREV Mikhaïl, né en 1960, termine l'Ecole Supérieure d'Aéronautique, ingénieur marié, sans enfant. Pratique l'aéromodélisme depuis l'âge de 14 ans, entre dans la compétition à 16 ans, toujours en F1A. Palmarès : second aux CH. d'Europe de 1988. Passionné de la théorie de vol des modèles réduits, travaille sur l'expression mathématique du vol des modèles. Son modèle est analogue à celui de MAKAROV ; ils travaillent ensemble. *SUITE P. 86.*

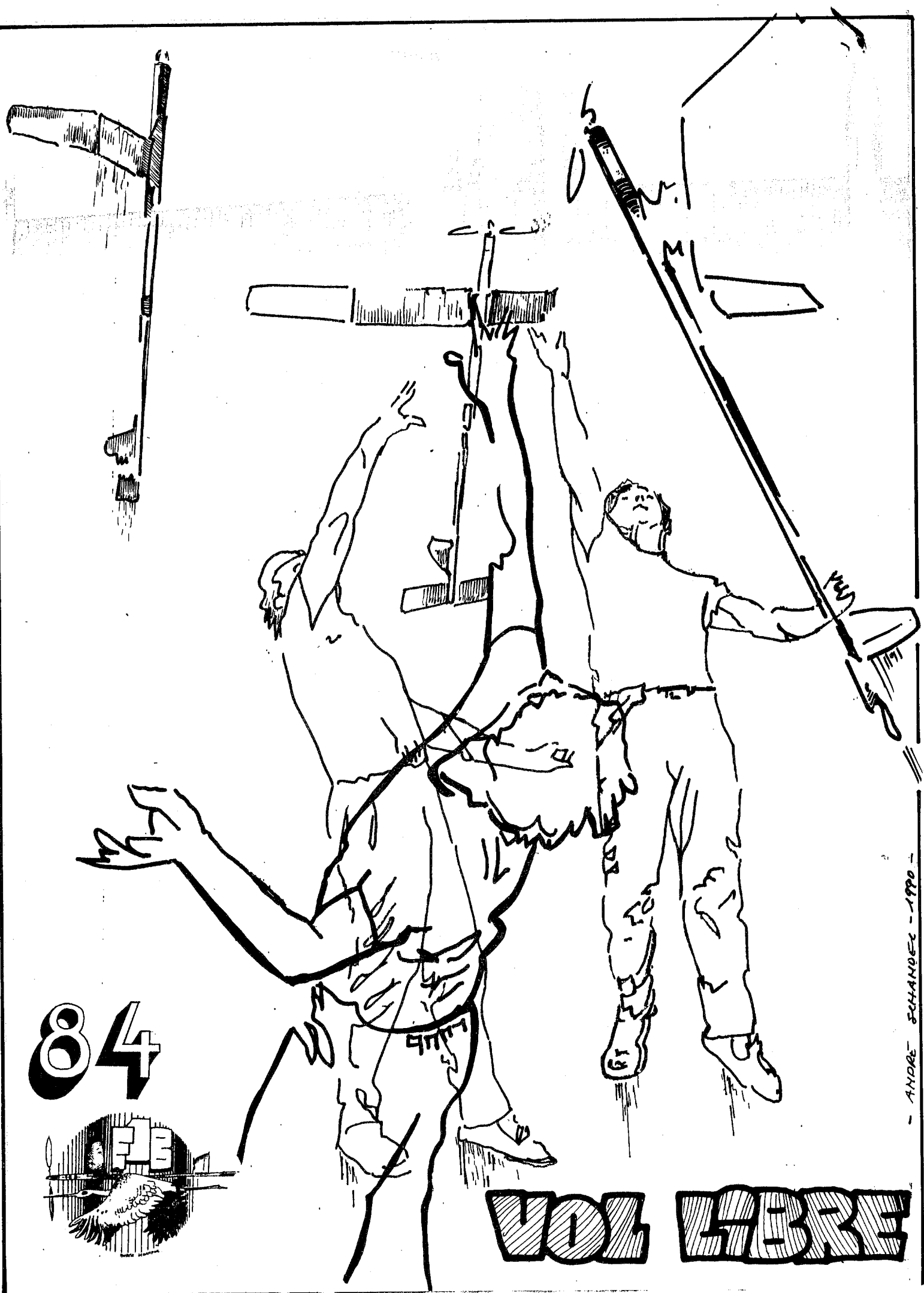




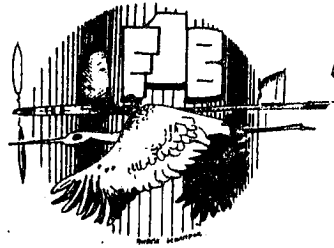
LESTEN

83

VOL LIBRE



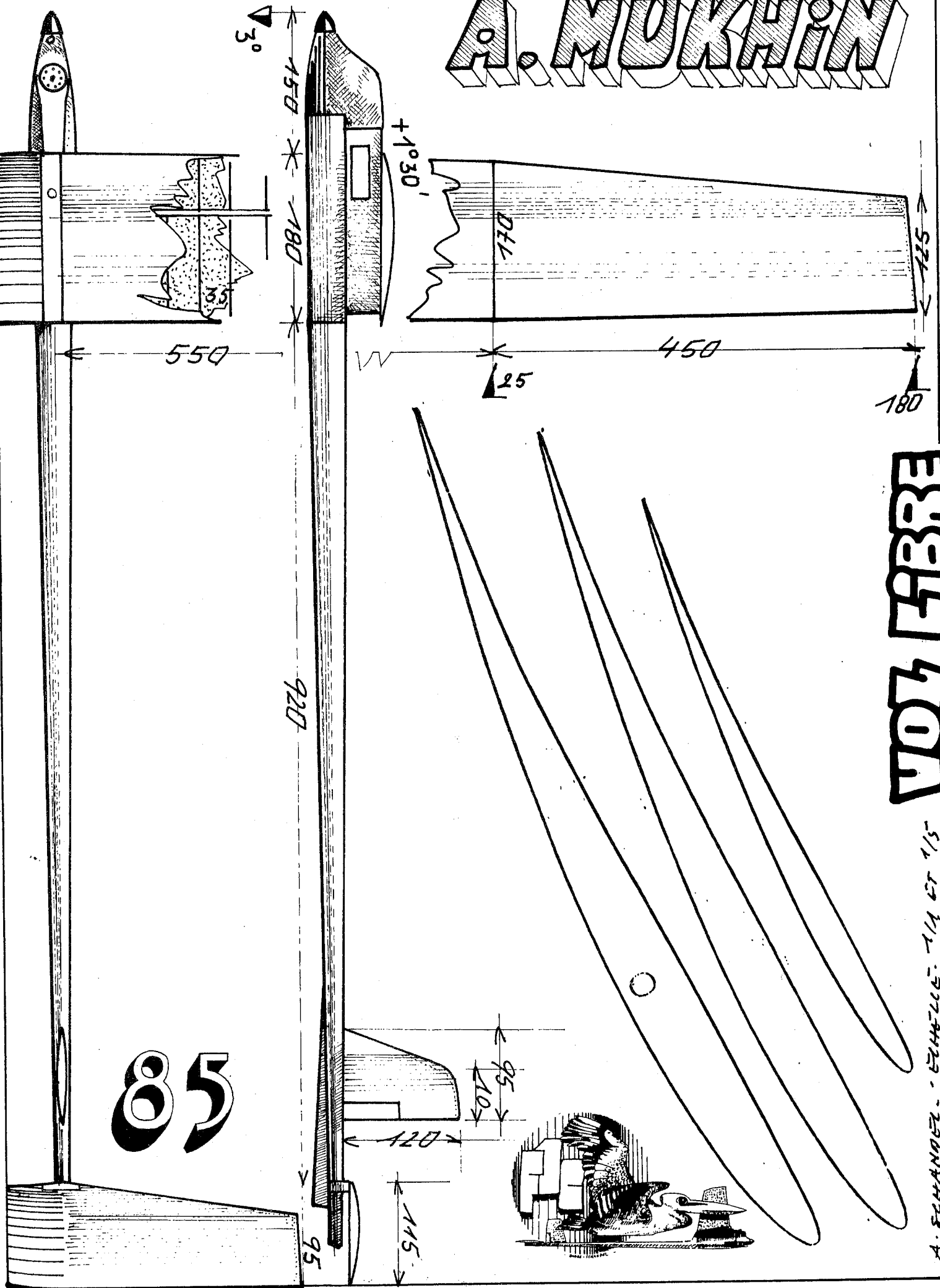
84



VOL LIBRE

- ANDRE FERNANDES - 1990 -

A. MUKHIN



Aux Ch. d'URSS 1990 en FIA 1 -KOVALEV
E. 2-MAKAROV s. 3-KOTCHKAREV M. tous du
club de Moscou. Tous les trois utilisaient le
largage "Bunt "

KOVALEV Eugène est "un jeune", il n'a que 21
ans, étudiant à l'Ecole Sup d'Aéronautique, modèle
identique à ceux de ses camarades de club.

A. LIZYURA, un des créateurs de ce système de
largage, termine 19 ème, mais remporte le
premier Concours International (Coupe du Monde
) de Kiev.

A. MUKHIN



models under construction with just some minor
changes from #33.

PISERCHIO Robert

5227 Stone Court
SAN DIEGO CA 92115 USA

M. PREUSS
PAGE-112

MANFRED PREUSS

37 Jahre alt, von Beruf Tischler. 1962 als Schüler
mit dem Modellflug begonnen. Seit 1978 Mitglied
der DDR Auswahlmannschaft.

Nationale Erfolge 1976 DDR Meister
1982 3 Platz.

Internationale Erfolge

- 1977 1 Platz Böhmerwaldpokal
- 1986 2 Platz Mannschaft EM Rumänien
- 1985 2 Platz Vorb. Wett. Soz. Länder
- 1987 1 Platz " " " "
- 1987 3 Platz WM Frankreich
- 1989 2 Platz Böhmerwald Pokal
- 1989 4 Platz Eifel Pokal

Das Modell Nr. 6 Baujahr 88 entstand in
Anlehnung meiner über viele Jahre bewährten
Grundkonzeption. Durch den Einsatz von CFK
beim Bau der Tragfläche konnte ich die
Verzugsfestigkeit verbessern und das Gewicht der
Tragflächen verringern. Die Bepunktung ist von
innen mit einem CFK Taster beklebt. Ebenso sind
alle Rippen und die Endleiste mit CFK beklebt.
Das Modell ist mit einer Einstellwinkelsteuerung
ausgerüstet. Für den Kreisschlepp wird das
Höhenleitwerk etwa 1' mehr negativ angehoben.
Um ein Unterschneiden bei großem
Ruderausschlag für den Kreisschlepp zu
verhindern. Für den Dynamischenstart wird das
Höhenleitwerk um weitere 3' bis 4' negativ
angehoben um mit großer Ausklinkkraft den
Übergang zu fliegen.

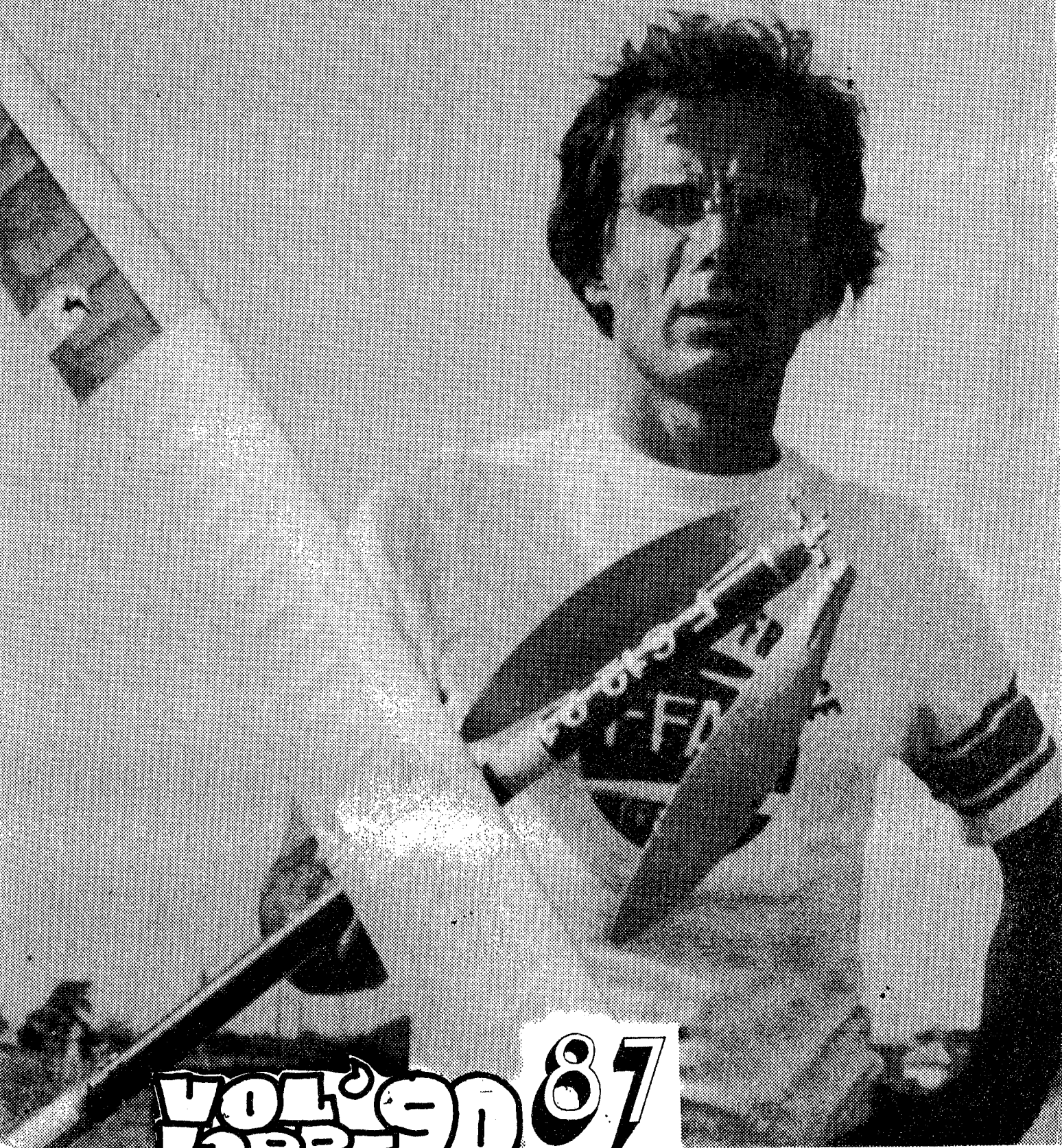
S. RUMPP

WORLD CUP 87.88.89.
NERVURE D'OR 1989
DEUTSCHER MEISTER 1990

86

RUMPP Stefan
Buckenbühlerstr. 45
7430 METZINGEN RFA

G. NOCQUE



VOLUME 87
LIBRE

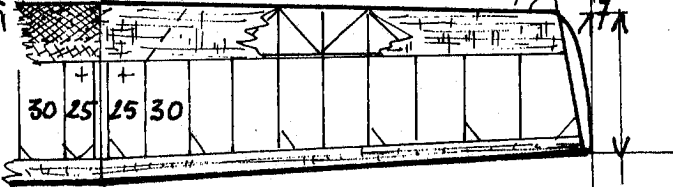
— Photo: J. BOOS. —

1381701

NEZ "WOODHOUSE"
ANNEAU-60
HELICE-
Ø 600x750
LARGEUR PALE
45

G.N. 12

LIMITE COFFRAGE
INTRAADDS



345 aplat-

10°

23°

* AILE: ENTILAGE: P. CENTRAL-NOELSPAN + JAPON INTRAADDS
DIEDRE- BF-2x15-712
LONGERON EXTRAADDS-0,4x1 CARBONE VERTICAL
" INTRAADDS-IDENTAUX HORIZONTAL
AILE Balsa-10/10 - B.A.-SPRUCE-1,6-71
COFFRAGE EXTRAADDS + Balsa-3x3
Balsa 10/10-6%

* STABILIS: PROFIL PLAT-CLARK-6%
NERVURES 8/10- LONGERONS-0,3x1 CARBONE AILE Balsa
15/10- DERIVE IDENT- BA-3x3- BF-1,5x9-76

AILES -
AILE: 15,98dm²
STAB: 3,00 "
DERIVE 0,80dm²

MASSES -
AILE: 53g
STAB: 4,5g
TOTAL: 200g

2 ELEMENTS FUS. F.O.V. BRAUD - CONSENSEUL-13g.

coffrage moulé en forme épaisseur 0.15

1 couche de Kevlar 62g/m² (à 45°)
+ 1 couche de fibre de verre 17g/m²

carbone 0.4x4-71

1.4 densité 0.2

carbone 0.3x1 - longueur 120

broche 120 x Ø 3.15 carbone (sans tube)

bords de nervure et cloison 10/10

collier alu 0,3x7

section de fuselage poids 13,5g (complète)

* DERIVE: PROFIL SYMETRIQUE-NACA 6%
AIRE-0,80m²- 3 POSITIONS BRAQUAGE-
MASSE: 2g.

89

G.NOCQUE

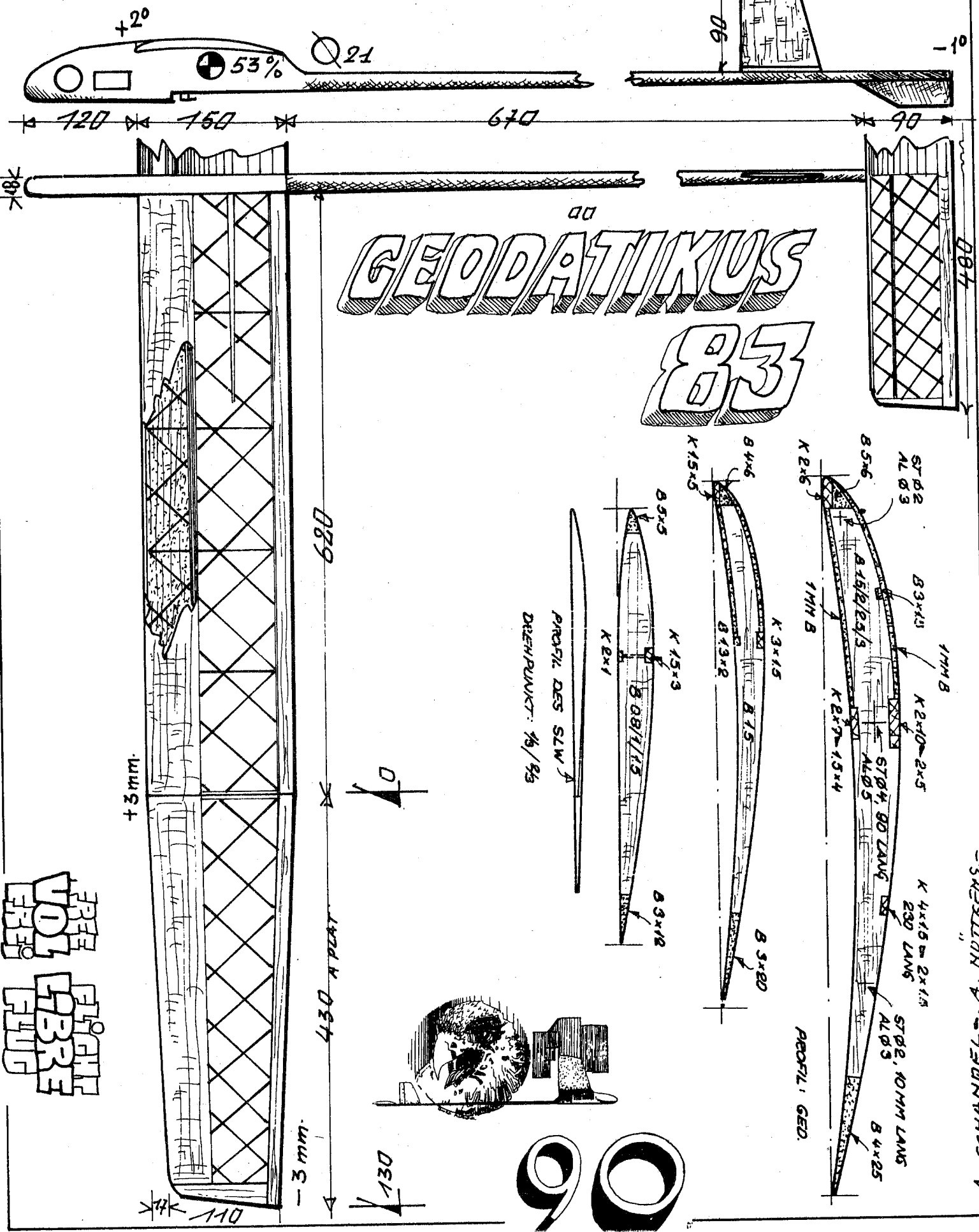
A. SCHANDEL - G. NOCQUE

ENTILAGE
- JAPON -

3 positions
INCIDENCE

ENTILAGE
- JAPON -

A. NÜTTGENS



A-SCHANNDEL. A. NOTTENS.-

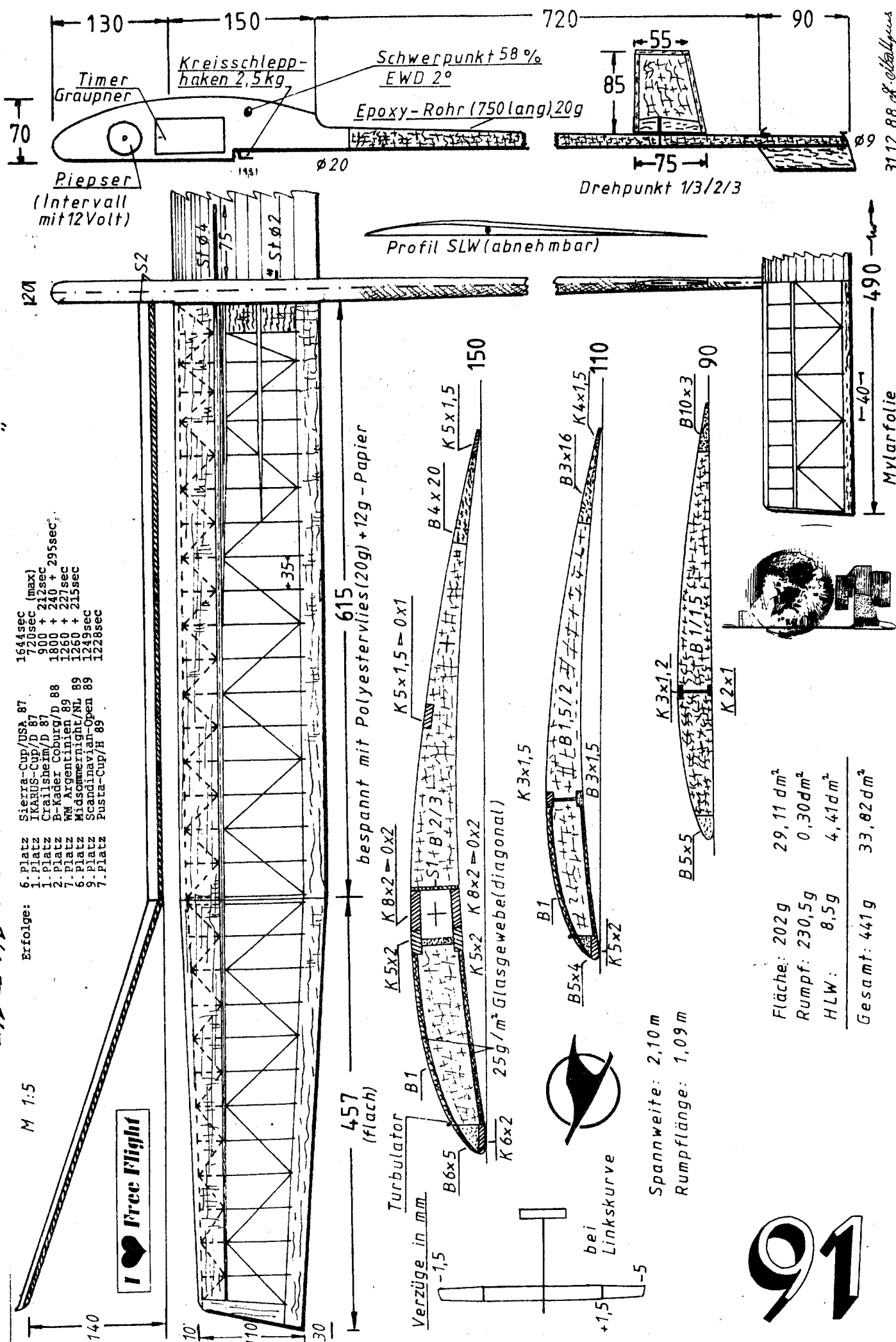
M 1:5

Erfolge:

Sierra-Cup/USA 87

	Sierra-Cup/USA 87	1644sec
5 Platz	IKARUS-Cup/D 87	720sec
6 Platz	Crailsheim/D 87	900 + 215sec
7 Platz	B-Kader Coburg/D 88	1800 + 240 + 215sec
8 Platz	WM Argentinien 89	1260 + 221sec
9 Platz	Midsommerlight/NL 89	1260 + 215sec
10 Platz	Scandinavian-Open 89	1249sec
11 Platz	Pusta-Cup/H 89	1228sec

I ♥ Free Flight



Mylarfolie

3917 88 *H. citrulligenus*

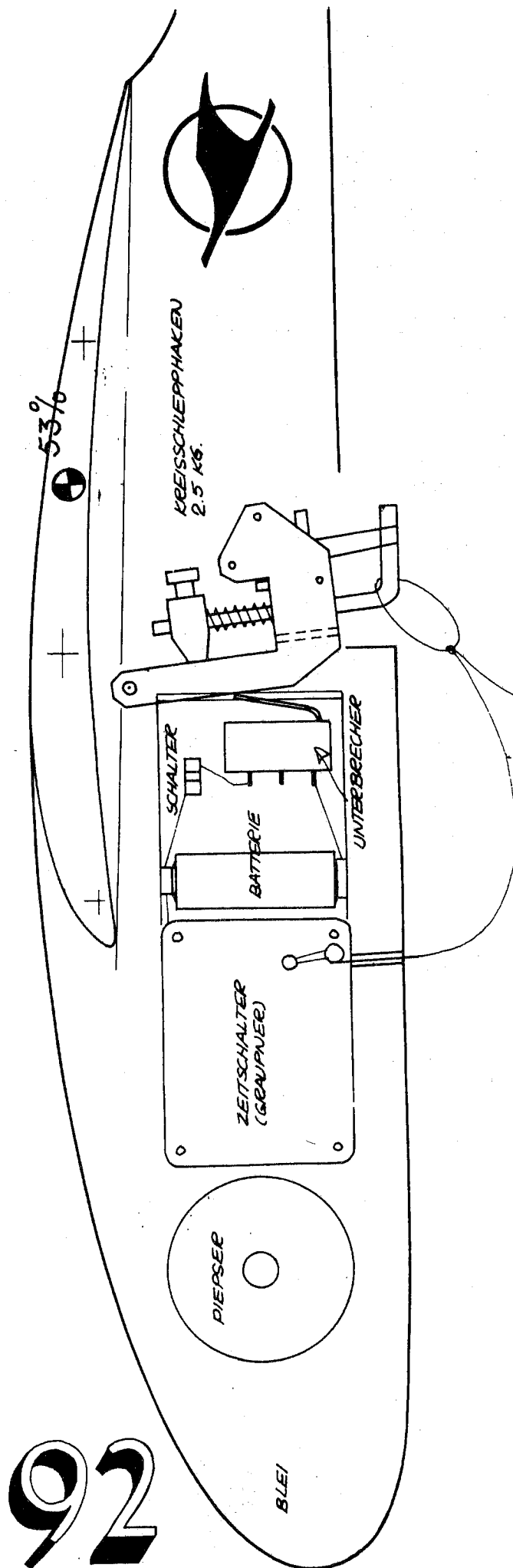
Spannweite: 2,10 m
Rumpflänge: 1,09 m

Fläche: 202 g	29,11 dm ²
Rumpf: 230,5 g	0,30 dm ²
HLW: 8,5 g	4,41 dm ²
Gesamt: 441 g	33,82 dm ²

ANNOUNCEMENTS

VOL LIBRE

91



A. NÜTTGENS

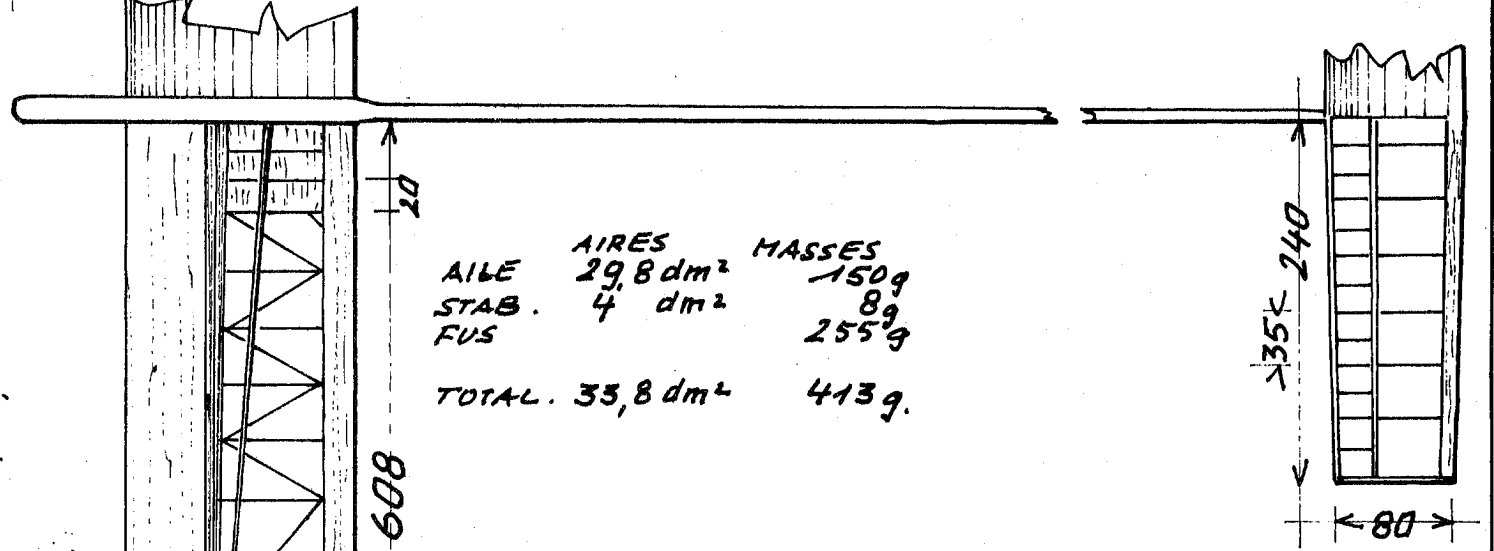
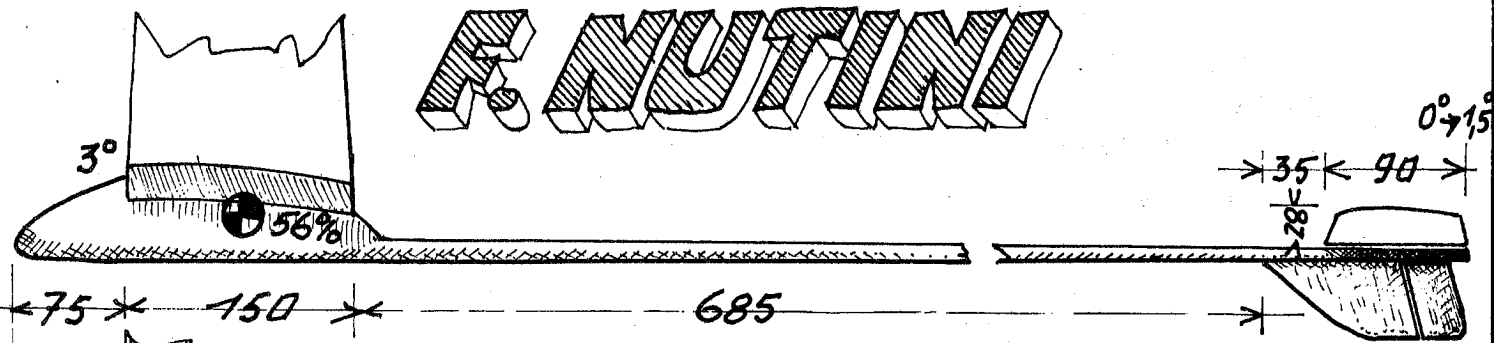
NÜTTGENS ANSGAR
Bergstraße 49
6601 RIEGELSBERG D

29 Jahre ledig, nach Abitur und Wehrdienst Ausbildung zum Bankkaufmann seit 1982 im Rechnungswesen und Controlling der Deutschen Bank Saar AG in Saarbrücken beschäftigt. Andere Hobbies, Reisen, Tischtennis, Jogging.

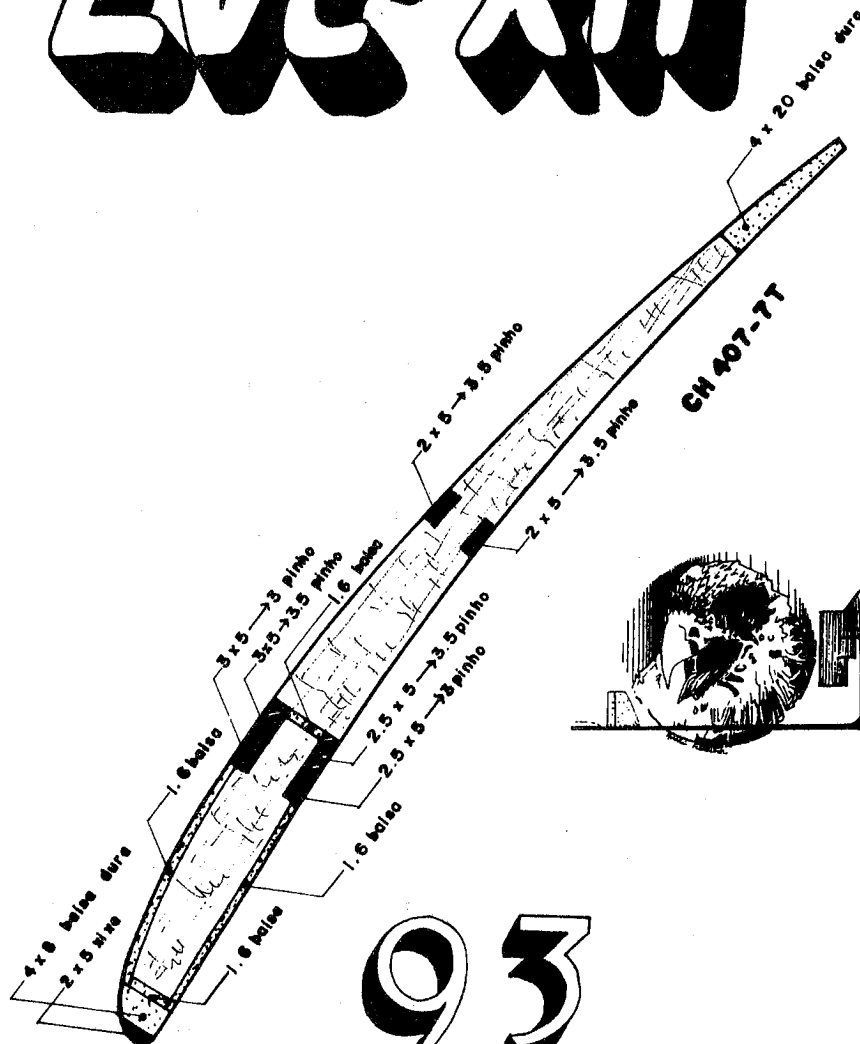
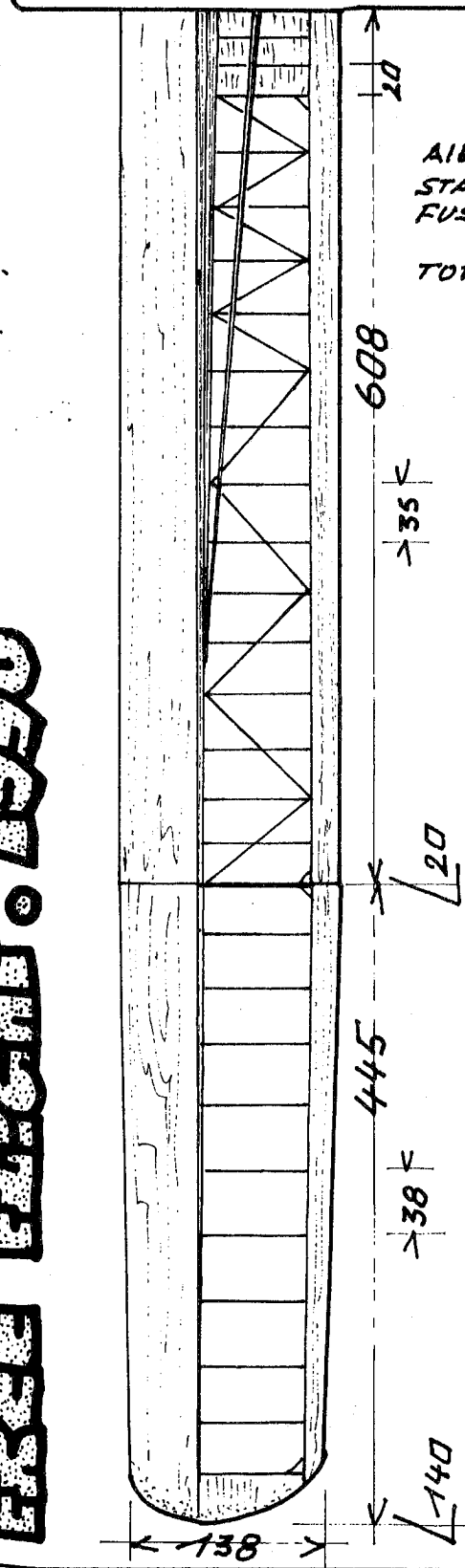
Modellfliegerische Erfolge.

1974 mit 14 Eintritt in "IKARUS" Riegelsberg. 1976 Deutscher Jugendmeister in Mengen; 1981-1. er Platz Jyllandslaget DK. 1983- 3. Platz SOKO CUP Mostar YU; 1984 - 1.ter Platz Silvesterpokal Salzburg A; 1985 - 2. Platz Bern CH; 1987 - 3. Platz Invitational Taft USA, 6. Platz Sierra Cup Sacramento USA; 1988 Leistungsabzeichen in Gold mit 3 Diamanten; Mannschaftsführer EM Zrenjanin YU; 1989 7. Platz WM in Rio Tercero Argentinien. 6.-Platz Midsummernight Trophy, 9. Platz Scandinavia Open, 7. Platz Pusta Cup Dömsöd H

A NUTINI



LVC XII



93

FABIO NUTINI - A. SCHÄFFNER -

0561 1990
1937
1937
1937

- ECHAFUS 1/1 - 1/5

SISTEMA DE INCIDÊNCIA VARIÁVEL . FÁBIO NUTINI . BR

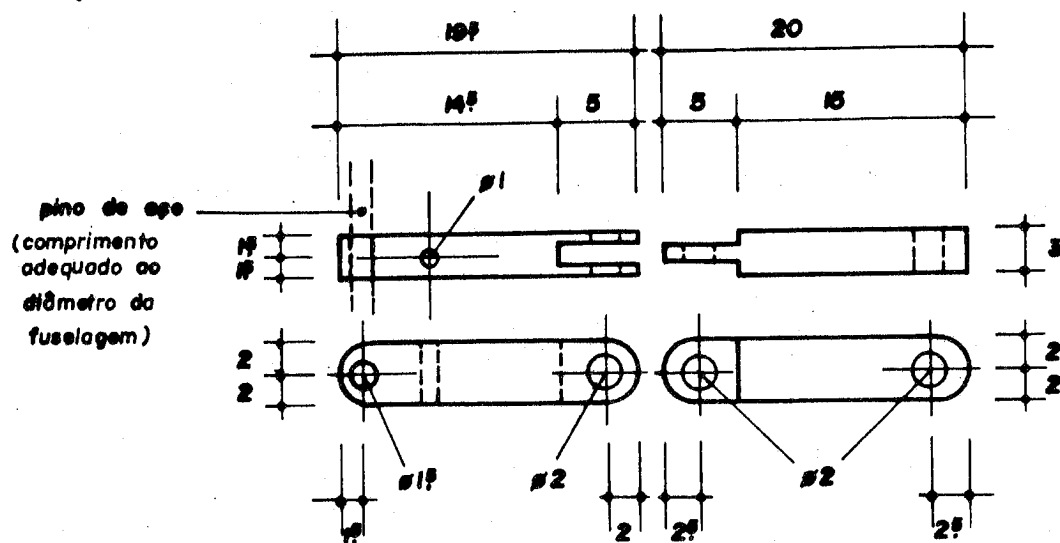
SISTEMA UTILIZADO NOS MODELOS FN 17, 18, 19, 20 e 21

Modelos atualmente em uso: FN 18, 20 e 21

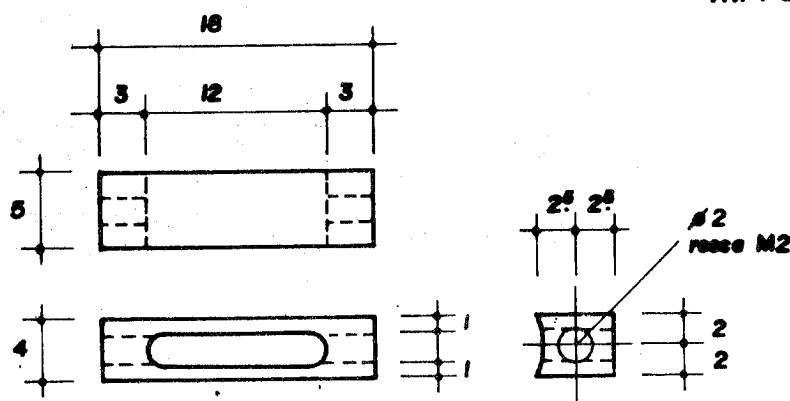
(VIT - variable incidence tail)

medidos em milímetros
escala : 2:1

PEÇAS

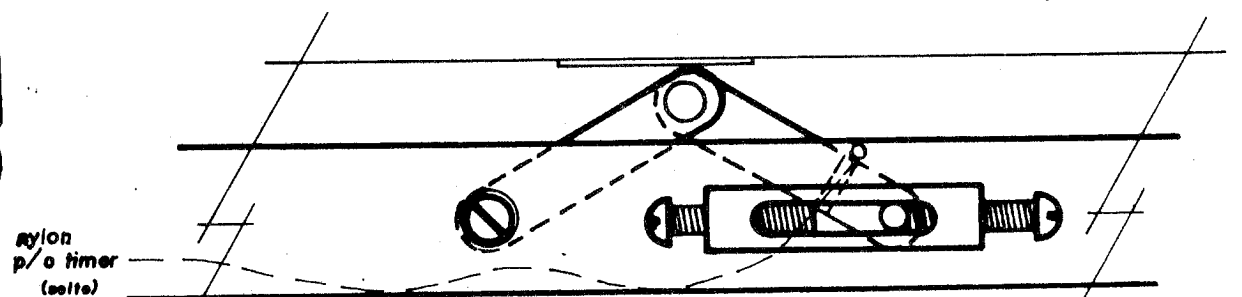


1.1. Peças móveis

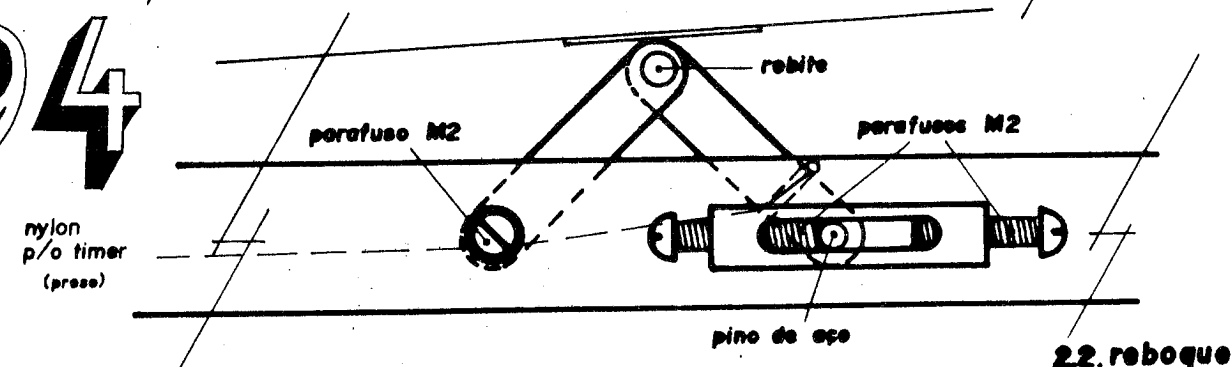


1.2. Peça fixa

FUNCIONAMENTO



2.1. planoio



2.2. reboque

VOL LIBRE

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VOL LIBRE, internationale Fachzeitschrift für den Freiflug - aller Klassen - erscheint jeden zweiten Monat, mit 60 Seiten. Pläne, fotos, Berichte, Ranglisten, Technik und Theorie sowie Leitartikel über den Freiflug allgemein sind vertreten, in drei Sprachen, Französisch, Deutsch und Englisch. Über 900 Abonnenten in 39 Ländern der ganzen Welt, genießen diese "Freiflugluft".

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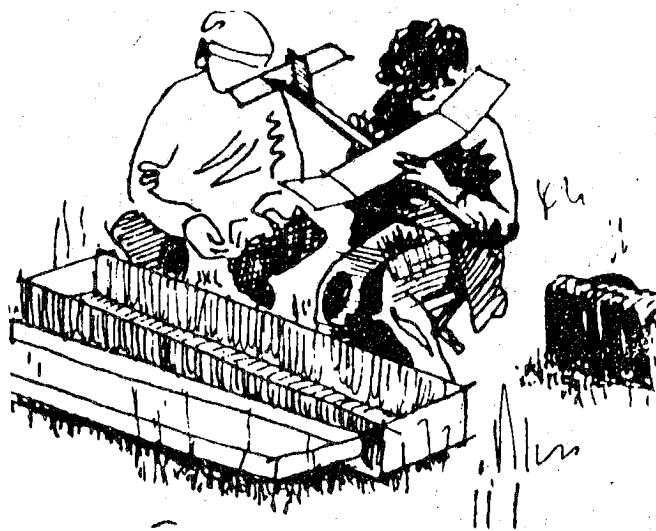
Tous les paiements sur le nom de André SCHANDEL, mandats, chèques, CCP.

Alle Einzahlungen auf den Namen André Schandel.

All paiements to André Schandel (USA and Canada to P. Brocks).

A. Schandel CCP 1 190 08 STRASBOURG

Post Sch.K 1 190 08 Strasbourg
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086 9727 60



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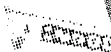
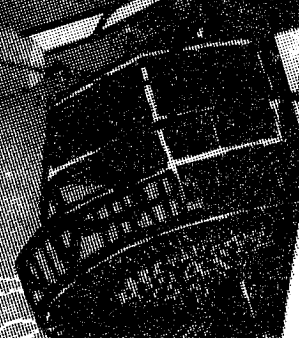
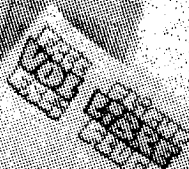
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VOZ LIBRE . FREI FLUG . FREI



VOL 90
LIBRE 90



THE FLIGHT.

97

LEME #2 PLYWOOD #1

yellow
PANO WERE Ø 1

black

OCHMAN

black

BALSA # 2

BALSA # 1.2

PLYWOOD # 1.5
/CONNECTOR/



white

98

VENTILATING HOLE

910

- .. SCANDINAVIA OPEN .. SWEDEN
180, 180, 180, 180, 240, 300, 354 * 1614 1 place * 25 points
- .. REESA DDR INTERNATIONAL .. GDR
1320 + 334 * 1654 6 place * 9 points
- .. SEZEMOVO LISTE .. CZECHOSLOVAKIA
1380 + 360 + 416 * 2156 2 place * 20 points

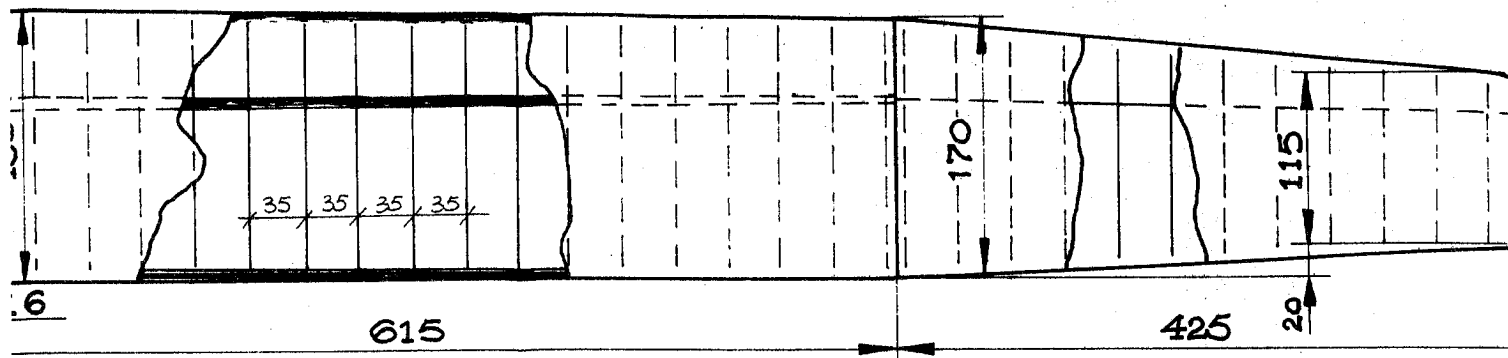
1 place F1C 54th points

WORLD CUP 1989

• VOL PERE • FREE FLUG •

Apollo 35

POLISH POWER
MODEL F1C



DIHEDRAL WING

TOTAL WEIGHT 795 g

CARBON FIBRE

BALSA # 3 > 1.5

DURALUMIN SHEET 0.03 &
& BALSA # 0.4

CARBON FIBRE & 5x BORON Ø 0.1

CARBON FIBRE & 5x BORON Ø 0.1

DURALUMIN SHEET # 0.03 & BALSA # 0.6

PLYWOOD # 1.5

CONNECTOR

DURALUMIN SHEET # 0.03 & BALSA # 1.2

DURALUMIN SHEET # 0.03 & BALSA # 0.6

CARBON FIBRE & EPOXY

WING DOUBLE TEE SPAR CARBON FIBRE

CARBON FIBRE

DURALUMIN SHEET # 0.03 & BALSA # 1.2

99

• FREE FLIGHT • 1990

ARTEMIS 35

by JAN OCHMAN

AEROMODELLING CLUB • OLD BOY •
WROCLAW • POLSKA • POLAND • POLOGNE

100

PLYWOOD # 1

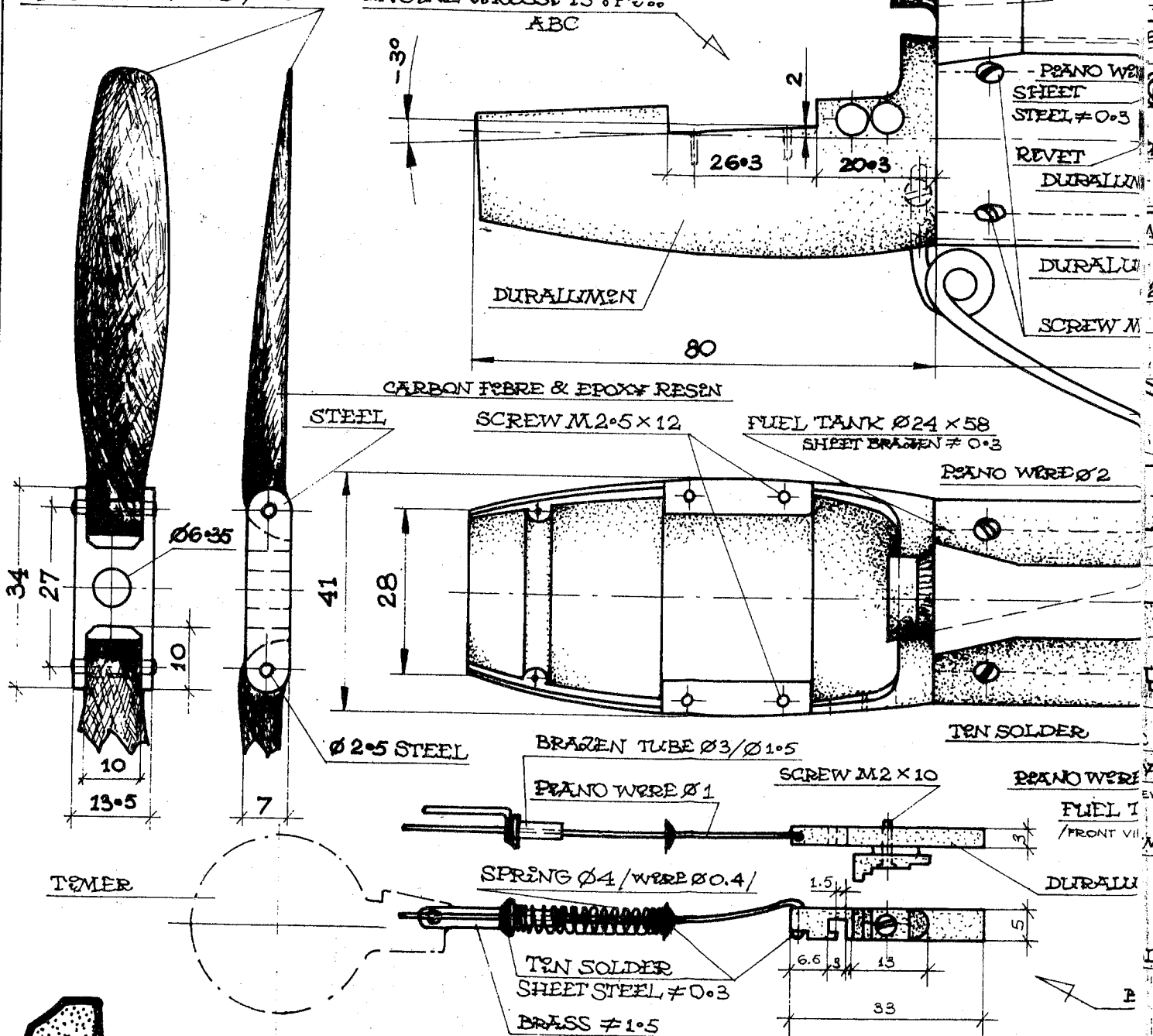
PLYWOOD # 0

BALSA # 10

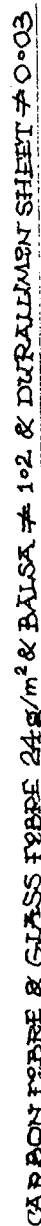
PROPELLER Ø178, H80

ENGINE • ROSSE 15 • F2 •

ABC



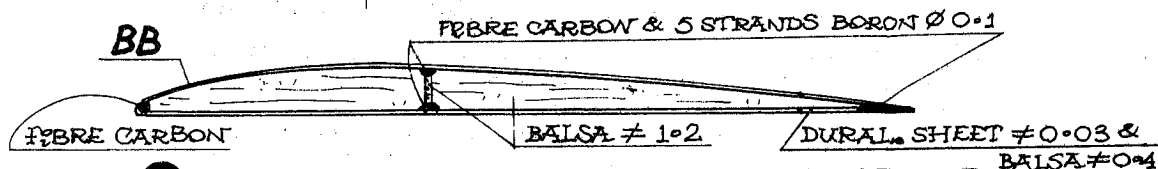
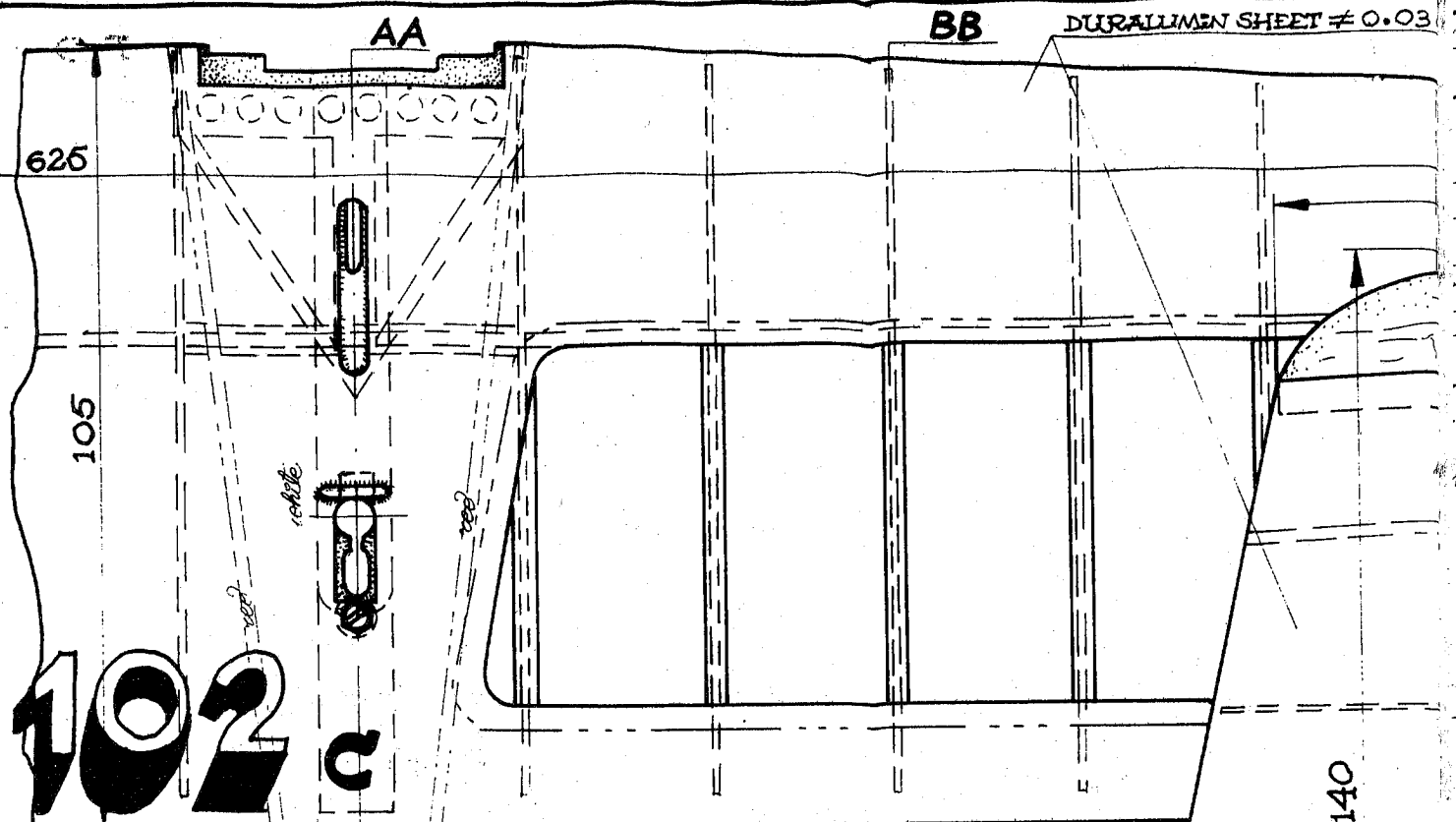
1 PLACE • WORLD CUP 1989



702

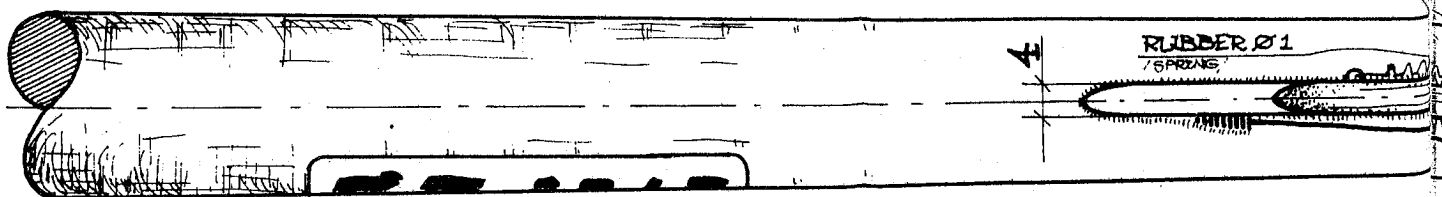
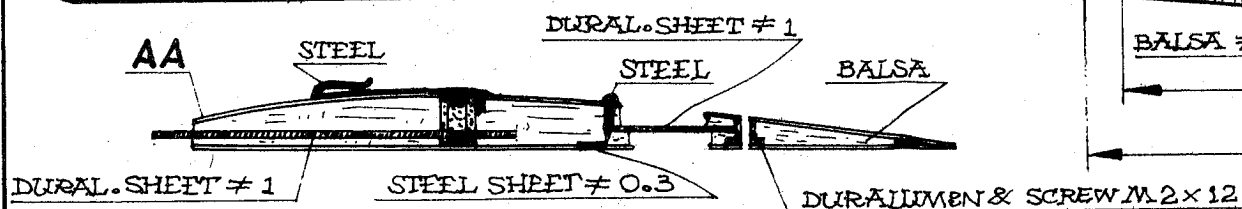
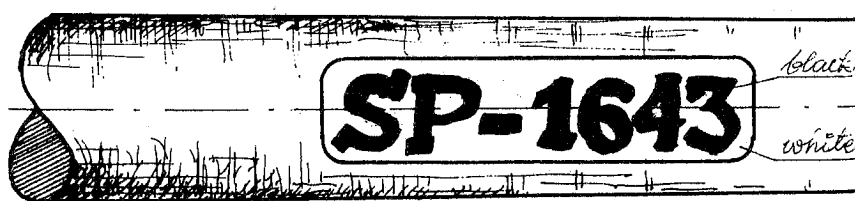
VOL LIBRE

JERZY J. KACZOREK
AEROMODELLING CLUB
* OLD BOY * WROCLAW *
POLAND ——— POLOGNE



POLISH POWER MODEL F1C by JAN CHMAN, AEROMODELLING CLUB „OLD BOY”, WROCLAW **FIRST PLACE • WORLD CUP '89**

STABILIZERS & DETAILS

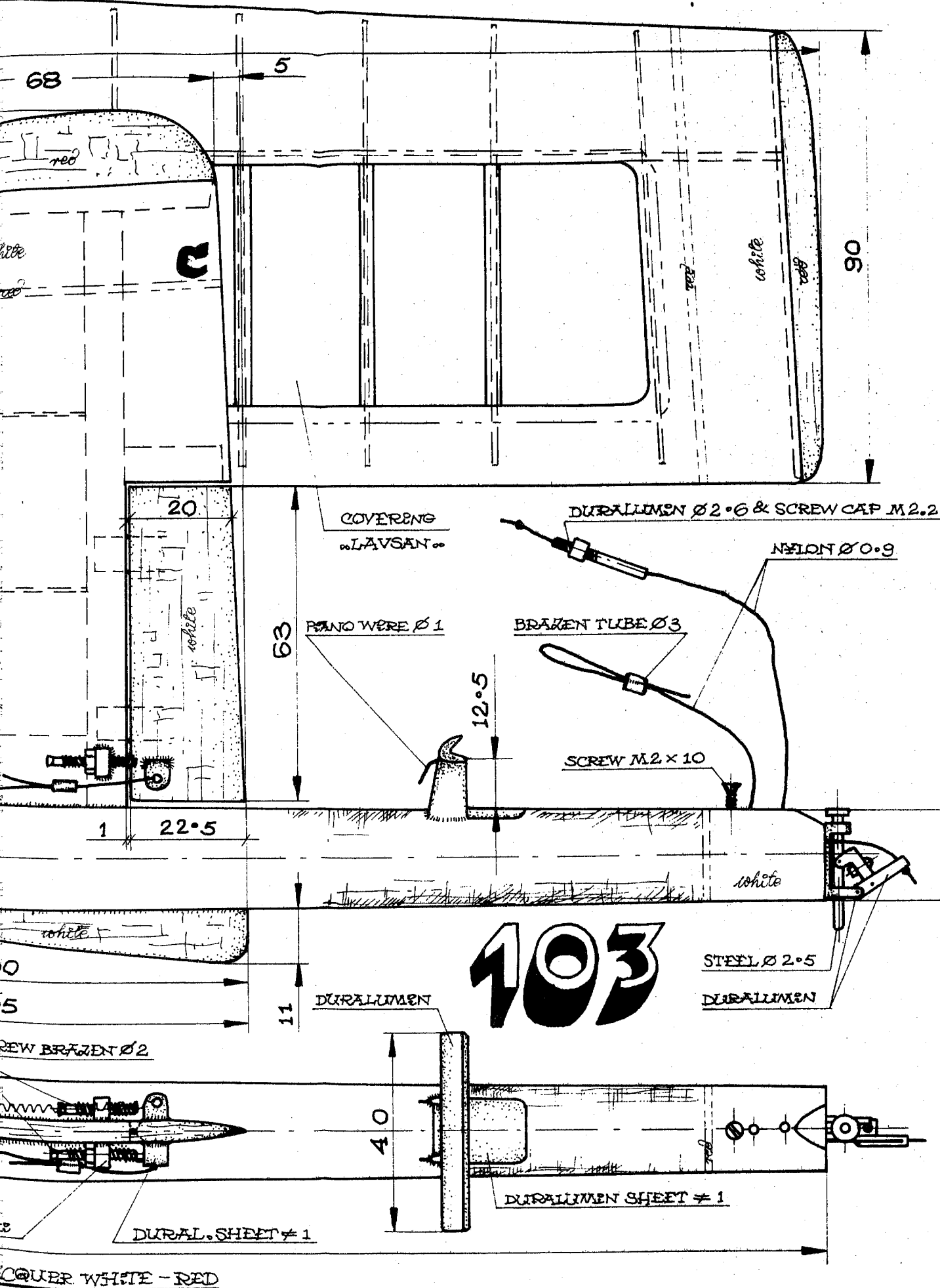


988 CARBON FIBRE & GLASS FIBRE 24 g/m² & Balsa # 1.2 & DURALUMIN SHEET # 0.03

•• **MODEL 35** ••

EPOXY GLUE & POLYURETHANE / ACRYLIC

• VOL LIBRE • FREE FLIGHT •



103

DRAWING FOR "VOL LIBRE", JERZY J. KACZOREK, NewClaw * Aeromodelling Club * Old Boy * Bland * Bologne.

R. RUPPERT

ROGER RUPPERT PAGE-118-119-120-

Geboren im März 1971. Da mein Vater Privatpilot ist, bin ich durch ihn zum Modellflug gekommen. Ich habe mit Freiflugsegeln begonnen und habe mich dann mehr für Fernsteuern interessiert, allerdings nicht sehr lange. Mit 13 Jahren (1984) baute ich mein erstes Saalflugmodell. Meinen ersten Freiflugwettbewerb flog ich anfangs 1985 in der Klasse F1A. 1985 begann ich auch Wurfgleiter und CO 2 Modelle zu bauen, und flog gleich meinen ersten Wurfgleiterwettbewerb. In der Klasse Wurfgleiter hatte ich mich schnell etabliert, aber im Saalflug tat ich mich sehr schwer.

1986 baute ich mit 15 Jahren mein erste Kevlar F1A Modell. 1986 gewann ich auch meinen ersten Wettbewerb, die Coupe de Suisse für Wurfgleiter. 1987 gewann ich den ersten F1A Wettbewerb und flog in diesem Jahr meinen ersten internationalen Wettbewerb in Bern. Damals noch mit F1A. In F1D war ich mit 16 bereits das erste Mal an einer Europameisterschaft. Ich entschied mich dann, die beiden Klassen F1A und F1D miteinander zu verbinden, und so kam ich dann zu den Wakefields. 1988 hörte ich mit F1A auf und konzentrierte mich voll auf F1B, und F1D. 1989 war ich das erste Mal an einer Weltmeisterschaft dabei. 1989 gewann ich meinen ersten Welt Cup Wettbewerb und baue seit 1990 auch wieder in F1A.

Die Modelle.

Die BUMBLE BEE'S 87 und 88, RR 1 bis 4, sind von der Konstruktion her konventionell ausgelegte Modell, wie sie z.B. Gönsli fliegt. Die Flügel erstmals in Kevlar Rohacell Bauweise, der Motor-stick in Kevlar und der Leitwerksträger aus Balsa. Leitwerk in Holzbauweise. Propeller Auslösung einfacher L-Hebel. Steuerung Seelig 3 Funktionen.

Mit diesen Modellen flog ich unter anderem die Junioren WM 1988 in Polen, die Schweizermeisterschaft 1988 und die Teamausscheidung 1988 für die WM 89.

Ende 1988 begann ich mit dem Bau der neuen Generation, den BUMBLE-BEE'S 89. Die Mechanik wurde zum großen Teil von Siebenmann übernommen und weiterentwickelt. Propeller Auslösung innerhalb des Kopfes, nach Siebenmann. Neu auch die Einführung des Snoopy Timers, der sicherer funktioniert, als der Seelig Timer (vorausgesetzt man arbeitet wie Seelig mit Kurfenscheiben). Siebenmann entwickelte ein neues Propellerblatt, das besser Leistungen brachte. Eine wesentliche Neuerung die gewickelten Carbon Leitwerksträger aus dünnen Rovingen. Der Flügel Aufbau

wurde in seiner Struktur durch Kevlar Nasenleisten und Endleisten wesentlich verbessert. Die Leitwerke baue ich jetzt auch aus Kunststoff. Bei diesen Modellen wurden die Flächen mit Rot und Gelb eingefärbt. Mit diesen Modellen flog ich auf der WM 89 und im Weltcup. Im Herbst 89 wurde mit Siebenmann ein neuer Verstell/Delay Propeller entwickelt, gleichzeitig habe ich die RR 7 mit Schwerpunktänderung gebaut.

Erfolge

- 12 - Midsummernight Trophy '88
- 8 - WM. Junioren '88
- 3 - Schw. Meisterschaft '88
- 3 - WM Auscheidung '88
- 24 - WM 1989 Argentinien.
- 1 - Midsummernight Trophy '89
- 7 - Poitou '89
- 5 - Zülrich '89
- 4 - Domsöd '89
- 3 - Schw. Meisterschaft '89
- 11 - Bern 89

RUPPERT Roger

Bubikonerstr. 42

8635 DÜRNEN

C.H.

U. RUSCH PAGE-123-124-

Geboren am 15.04.1961, wohnhaft in Bernburg/Saale, verheiratet, eine Tochter. Beruf Dipl. Ing. für Maschinenbau, beschäftigt in der konstruktionsabteilung eines Landmaschinenbetriebes.

Flugmodellbauer seit 1970; 1970-71 Klasse A1 seit 1972 Klasse F1A. Seit 1972 habe ich an allen DDR Meisterschaften (Ausser 1981 Armeedienst) in den entsprechenden Altersklassen teilgenommen. Mitglied der Auswahlmannschaft der DDR seit 1977 (ausser 81-83) sportliche Erfolge:

- mehrfach 1, 2 und 3 Plätze bei regionalen Meisterschaften, DDR Pokalwettkämpfen, DDR Meisterschaften im Jahreswettbewerb der DDR.
- 3 x DDR Meister (2 x Junioren 1 x Senioren)
- WM85 5. Platz in Einzelwertung
- EM 1986 11. Platz in Einzelwertung
2. Platz in Mannschaftswertung (Petrich und Preuss)
- WM 1987 11. Platz in Einzelwertung
5. Platz mit der Mannschaft (Georgi und Preuss)

UWE RUSCH - Lange str. 6 - 4350 BERNBURG DDR.

N°22

Das Modell 22 habe ich 1987/88 gebaut. Nach intensiven Flugerprobungen bewährte es sich 1989 bei mehreren Wettkämpfen gut. Als Tragflächenprofil kommt eine Kombination der Profile B-8356-b/3 und B-6365-B zum Einsatz. Die Tragflügel wurden auf einer profilierten Helling (Unterseite) gebaut. Der Hauptholm ist als Kasten ausgebildet und sehr stabil. Den Bereich der Tragflügelwurzel verstärken Bindfadenbandage und Sperrholzstreifen. Der Torsionskasten besteht aus mit Kohlefaser verstärktem Balsa. Das Kohlefaserraster ist auf der Innenseite aufgetragen. Nasen-Endleisten und Rippen sind ebenfalls mit Kohlefasern verstärkt. Die Rippenabstände betragen 20 mm im Tragflächenwurzelbereich und vergrössern sich im Mittelstück gleichmässig bis auf 34 mm. Im Tragflächenohr betragen sie konstant 35 mm. Das Höhenleitwerk ist eine ebene Platte. Die im robusten Rumpf eingebaute Mechanik arbeitet funktionssicher und wartungsarm. Dem Kreisschlepphaken habe ich nach sowjetischem Vorbild, mit entsprechenden Veränderungen, nach meinen Vorstellungen, gebaut. Ein zusätzlicher Mechanismus ermöglicht im Schlepp eine grössere Anstellwinkeldifferenz. So kann das Modell mit einer engeren Kreisschleppkurve geflogen werden.

N° 23

Als Vorlage für das Modell 23 diente das Modell 22. Ich habe es 1988/89 gebaut. Nach der Wettkampfsaison 1989, in der dieses Modell nur bei einem Wettkampf zum Einsatz kam, wurde es noch einmal umgebaut (neuer Rumpf).

Bei einigen Details gibt es Unterschiede zum Modell nr° 22. Das Tragflächenprofil ist das HBC. Das Kohlefaserraster des Torsionskastens befindet sich auf der Aussenseite. Der Tragflächenwurzelbereich ist mit Kiefernurnier verstärkt. Die Tragflächenverbindung erfolgt mit einem Hochkantstahl.

Im Höhenleitwerk habe ich ein symmetrisches Profil verwendet und den Rumpfkopf konnte ich um 10 mm verkürzen.

P. RUYTER

PAGE 125

Born in 1938 I am a model builder-flyer since 1952. In my early years I started with A2 gliders, in the late 1950's I made my first Wakefield (80 grams). At that time I made a break in my model building career for military service and starting a family. In 1968 I picked-up my hobby again to start wakefield flying and so far I have not stopped yet. Today I am the service manager for a medium size Computer Company and live in Harmelen a small town near

Utrecht. I am a member of the " Silent Flight " free flight club an assembly of free flihters in the centre of Holland.

The number of Wakefield flyers in Holland has always been small, the total number of participants in any contest has never exceeded the 10. Although the number is small, the quality and level of technology has always been at a good level. Within this small group I still feel my self at ease.

Up to now I have been 11 times National Champion since 1971 and been able to participate in at least half of the European and World Champ's since 1970.

Up to the World Champ's in Wiener Neustadt in 1973 I have been making models of various design just searching for my own style. At the W. C. in Wiener Neustadt I got fed up with my models due to the poor performance, I burned my models and started with some thing radical different. This resulted in the series of models called " Dutch T(h)reat " today I use the 7 th generation.

The common dominating factor is the use of the Benedek 6456 F flapped airfoil, rather long geodetic tips, short wingmount with the timer in front of the wing and as much weight as possible concentrated toward the centre of gravity. At that time I was influenced by the so called Skandinavian school. That I was on the right track was proved by the European Championship in 1974 Homburg Saar. After a fly-off with Reiterer (A) and Löffler (DDR) I placed (Dutch T(h)reat mk 1). At the European Champ's in 1978 Ansbach Germany I placed 1 st with (Dutch T(h)reat mk 2). Although my placing at the W.C. were never better than average, again during the European Champ's in 1982 in Zülrich Germany I reached the fly-off again and placed 3rd after Andrujkov and Landeau (Dutch t(h)reat mmk 3). For shure I still have difficulties to fly in weather which is different from the weather I am used to in Holland and the German weather is not much different from Holland. My most recent success in Poitou 1989 with the Dutch T(h)reat mk6.

RUYTER Pim

Ambachtsheerelaan 78

3481 GM HARMELEN

NL.

A. SANAVIO

PAGE 126

Dieses Modell hat sich schon gut bewährt, beim ersten internationalen Wettbewerb hat es den ersten Platz, mit großer Sicherheit eingenommen.

Nach einer Baupause, dedingt durch meien Arbeit, habe ich wieder neue Flugmodelle mit Plasrikflügeln (Polistyren + Glas / Kevlar) gebaut. Ich halte diese neue "Plastiktechnik" wesentlich besser als die traditionelle Bauweise. Die Flügel sind sehr stabil und neutral bei jeder Wetterlage. Die Profile können sehr dünn gebaut werden und

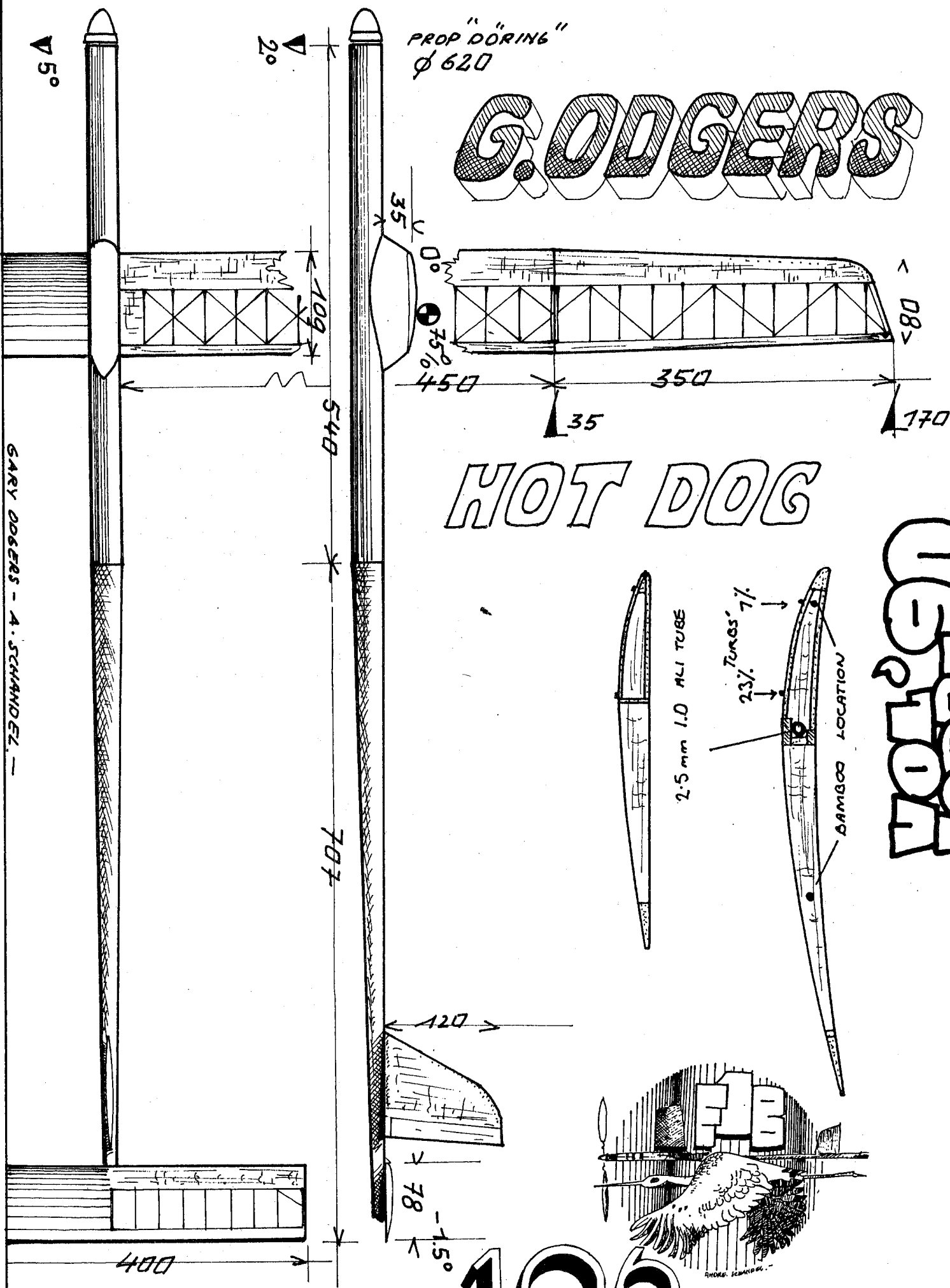
105

5°

2°

PROP "DÖRING"
Ø 620

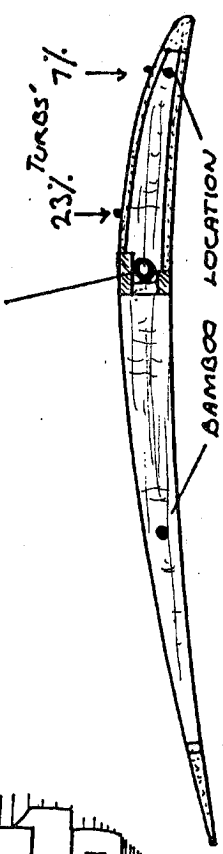
G. ODGERS



HOT DOG



2.5 mm I.D. ALI TUBE

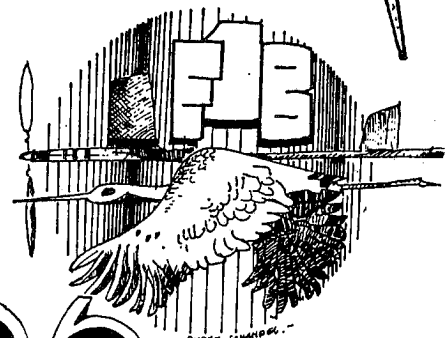


23%

7%

BAMBOO LOCATION

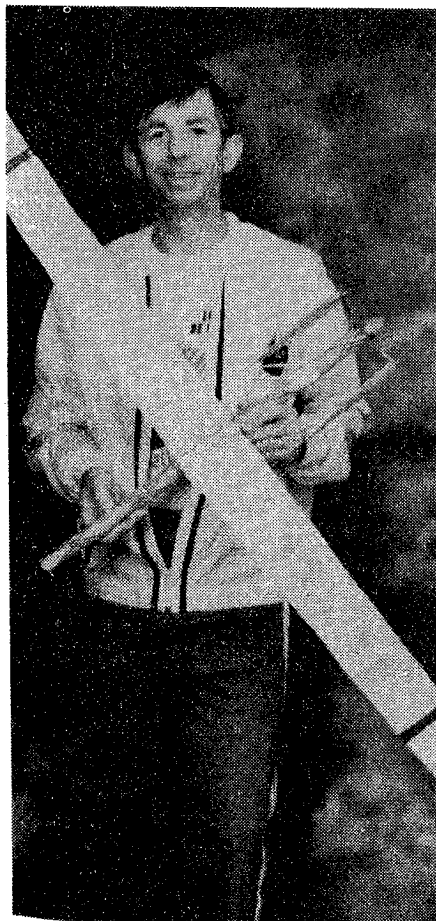
106-109



106

GARY ODGERS - A. SCHAUDEL -

**ROBERT
PISERCHIO**



J.C. CHENEAU

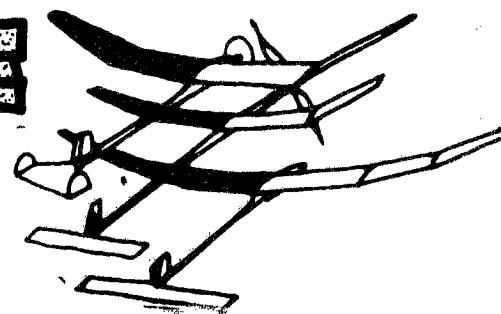


KEN PHAIR

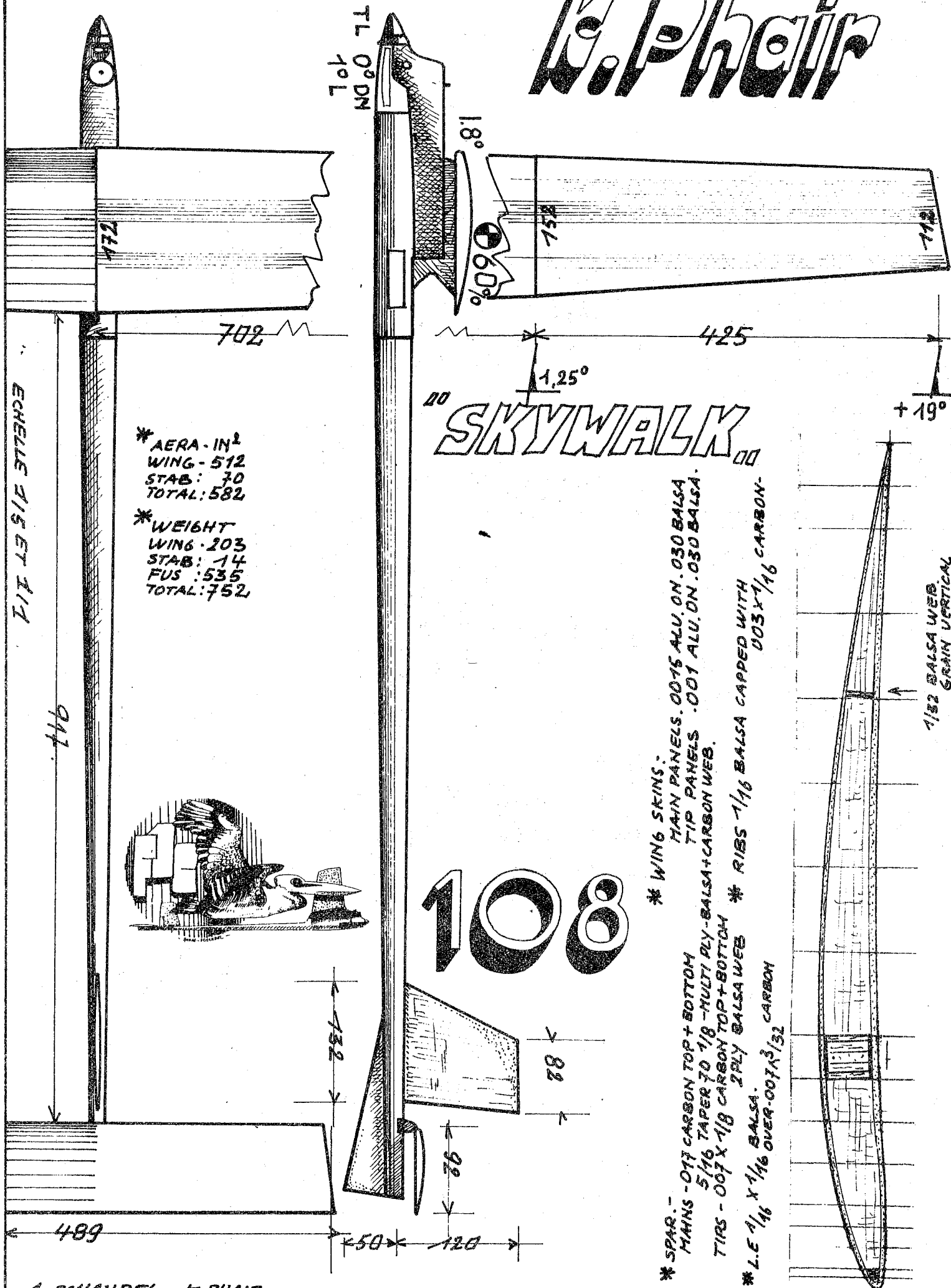
PHOTO A. SCHANDEL

VOL LIBRE

107



K. Phair



* AREA - IN²
WING - 512
STAB - 70
TOTAL - 582

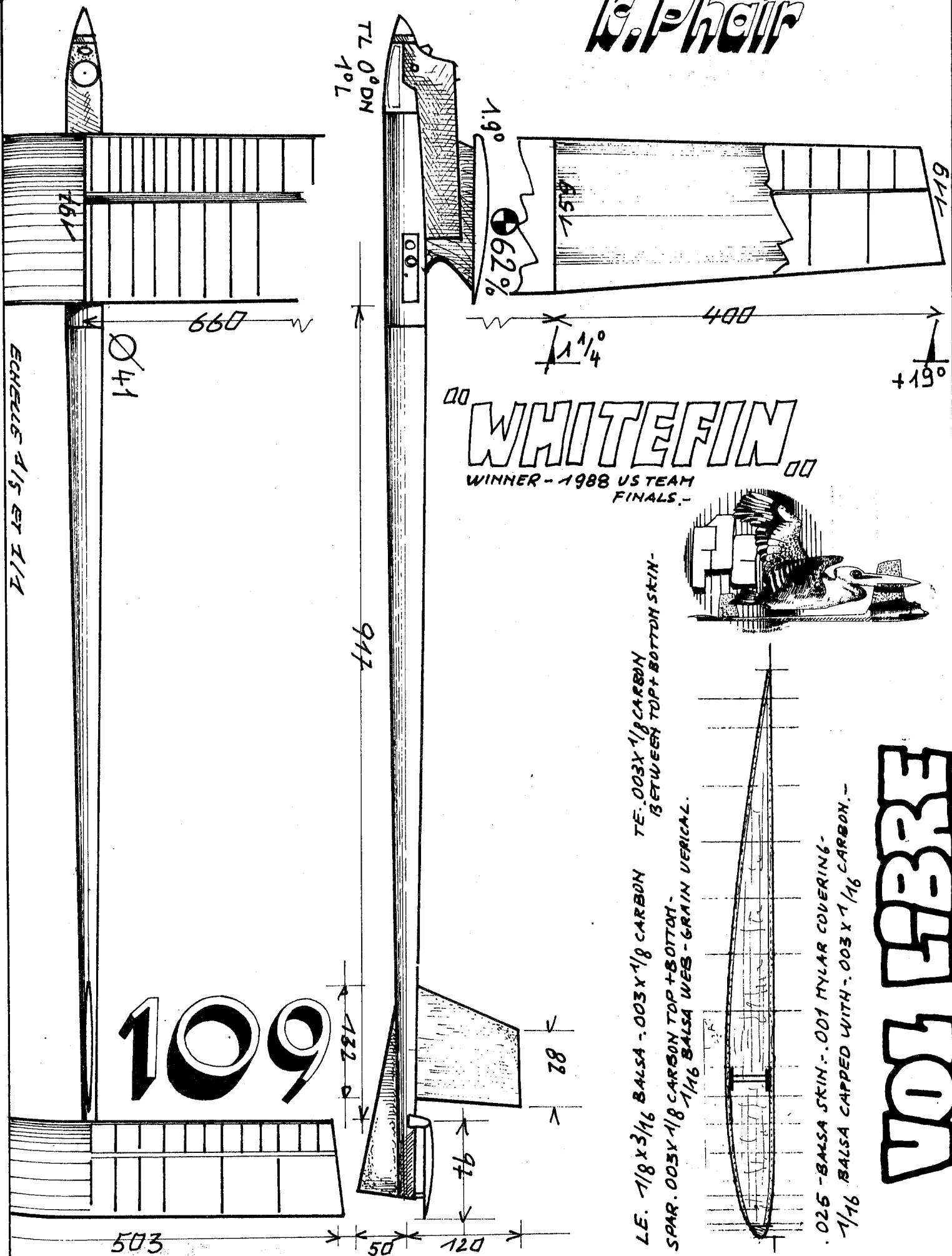
* WEIGHT
WING - 203
STAB - 14
FUS - 535
TOTAL - 752

SKYWALK

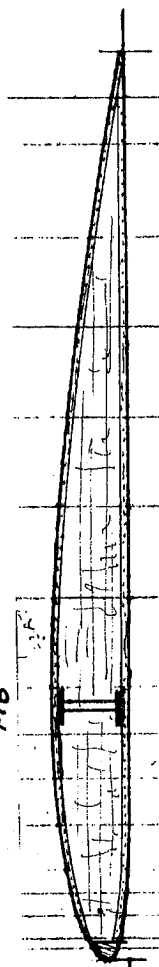
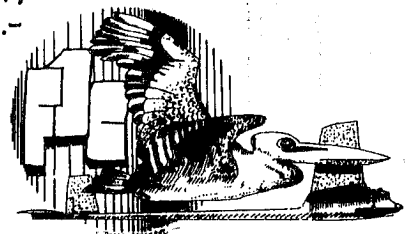
108

* WING SKINS:
MAIN PANELS - .0015 ALU. ON .030 Balsa
TIP PANELS - .001 ALU. ON .030 Balsa
* WING SKINS:
MAIN PANELS - .0015 ALU. ON .030 Balsa
TIP PANELS - .001 ALU. ON .030 Balsa
* RIBS - 1/16 Balsa capped with .003 x 1/16 CARBON-
* SPAR - .017 CARBON TOP + BOTTOM
MAINS - 5/16 TAPER TO 1/8 - MULTI PLY - Balsa + CARBON WEB.
TIRS - .007 x 1/8 CARBON TOP + BOTTOM
2 PLY Balsa WEB
* L.E. 1/16 x 1/16 Balsa.
OVER .007 x 3/32 CARBON

K. Phair

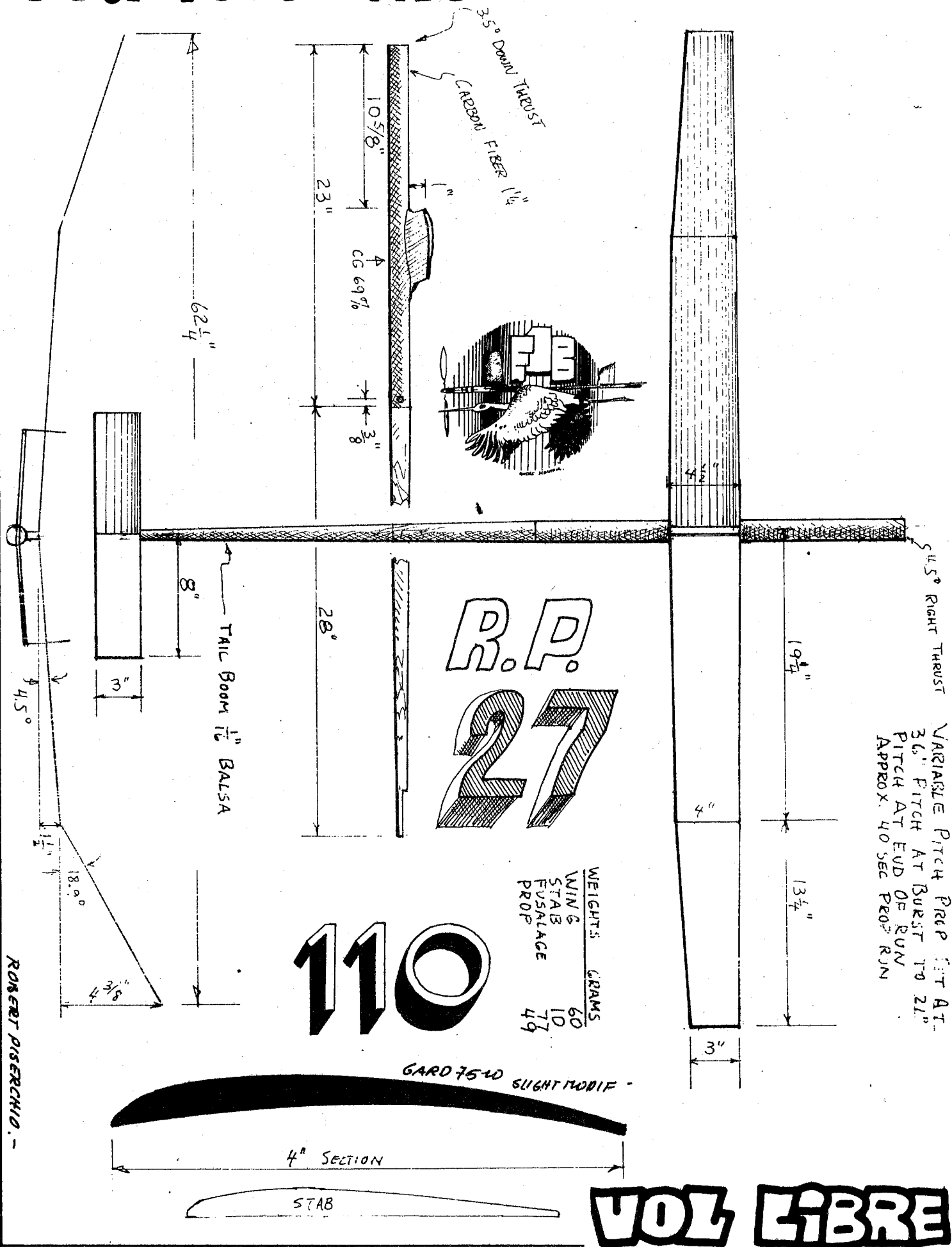


WHITEFIN
WINNER - 1988 US TEAM FINALS -



EVERETT

R. Piserchio

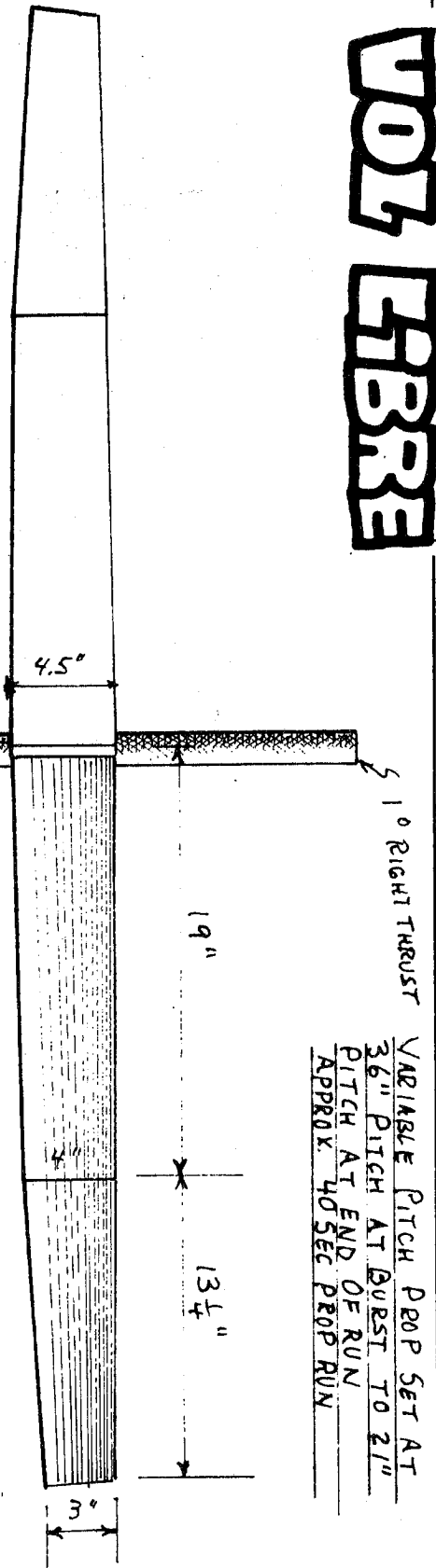


ROBERT PISERCHIO.

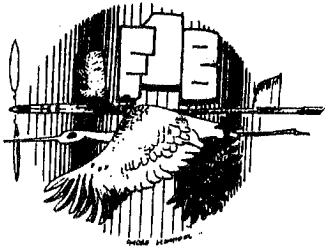
VOL LIBRE

VOL FIBRE

VARIABLE PITCH PROP SET AT
36" PITCH AT BURST TO 21"
PITCH AT END OF RUN
APPROX. 40 SEC PROP RUN



R.P.
33

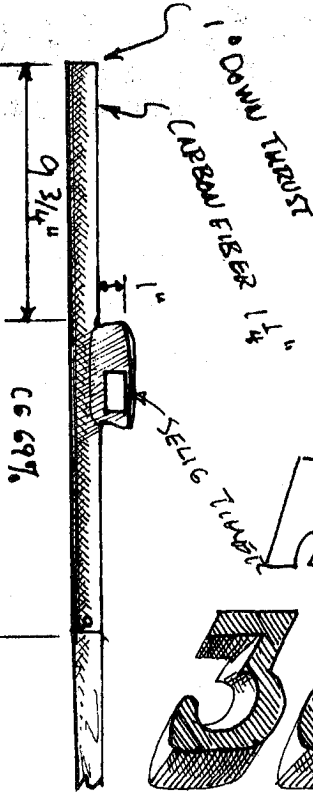


WEIGHTS	GRAMS
WING	52
STAB	6
FUSelage	65
PROP	46
TAILBOOM	24

AUTO STAB AT 5 SEC
AUTO RUDDER AT
16-18 SEC



27.5"



62 1/4"

TAIL BOOM 1/2" Balsa GLASS INSIDE
8"

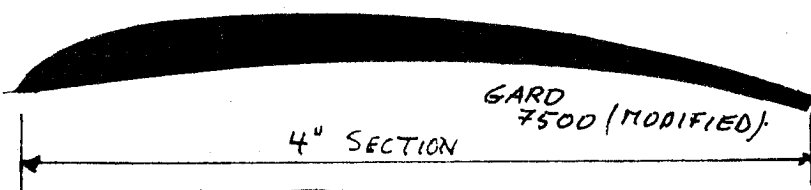
3"

4.5°

11 1/2"

18.9°

4 3/8"



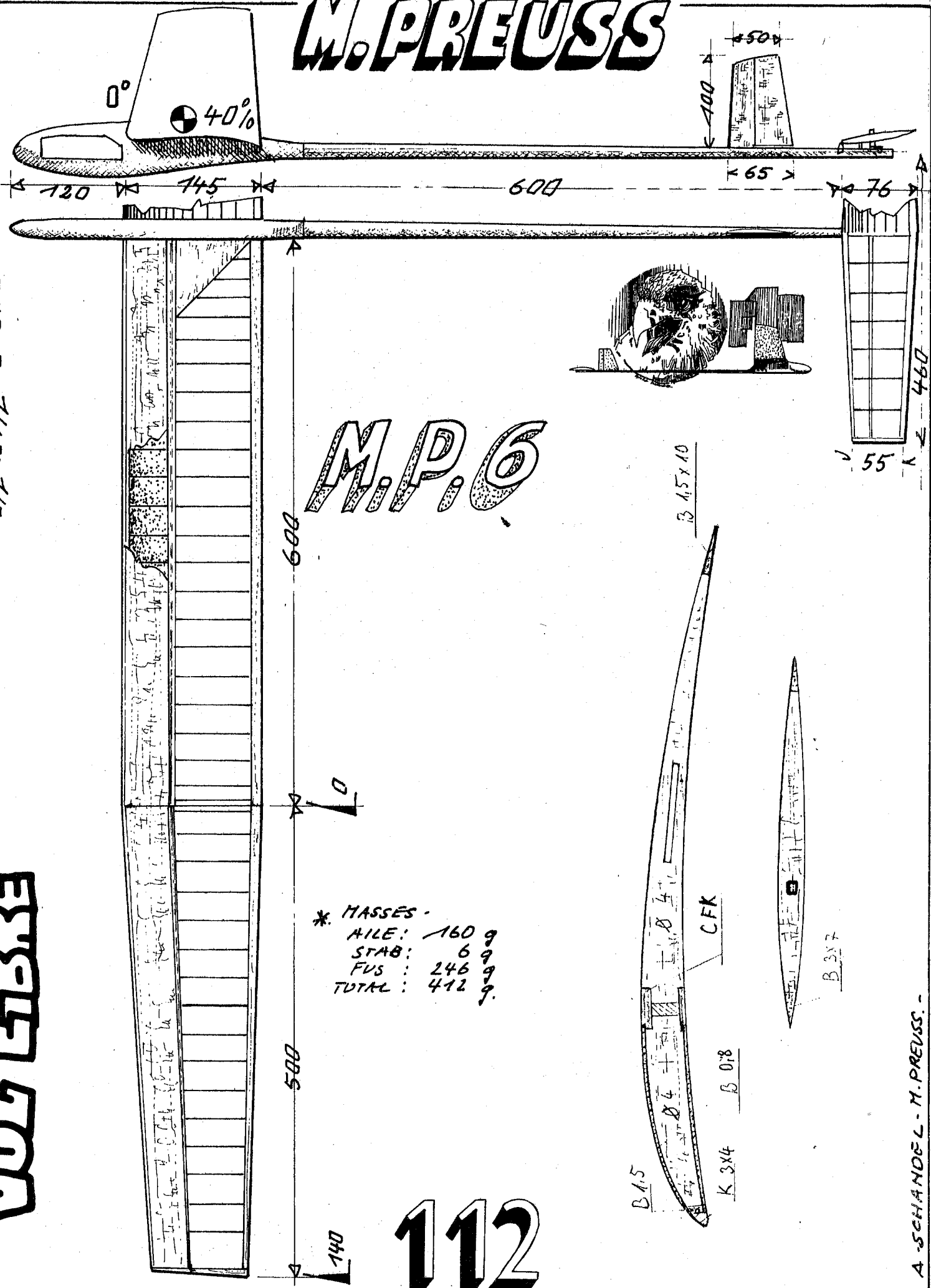
R. Piserchio

111

VOL LIBRE

ECHELLE: 7/11er 1/5

M. PREUSS

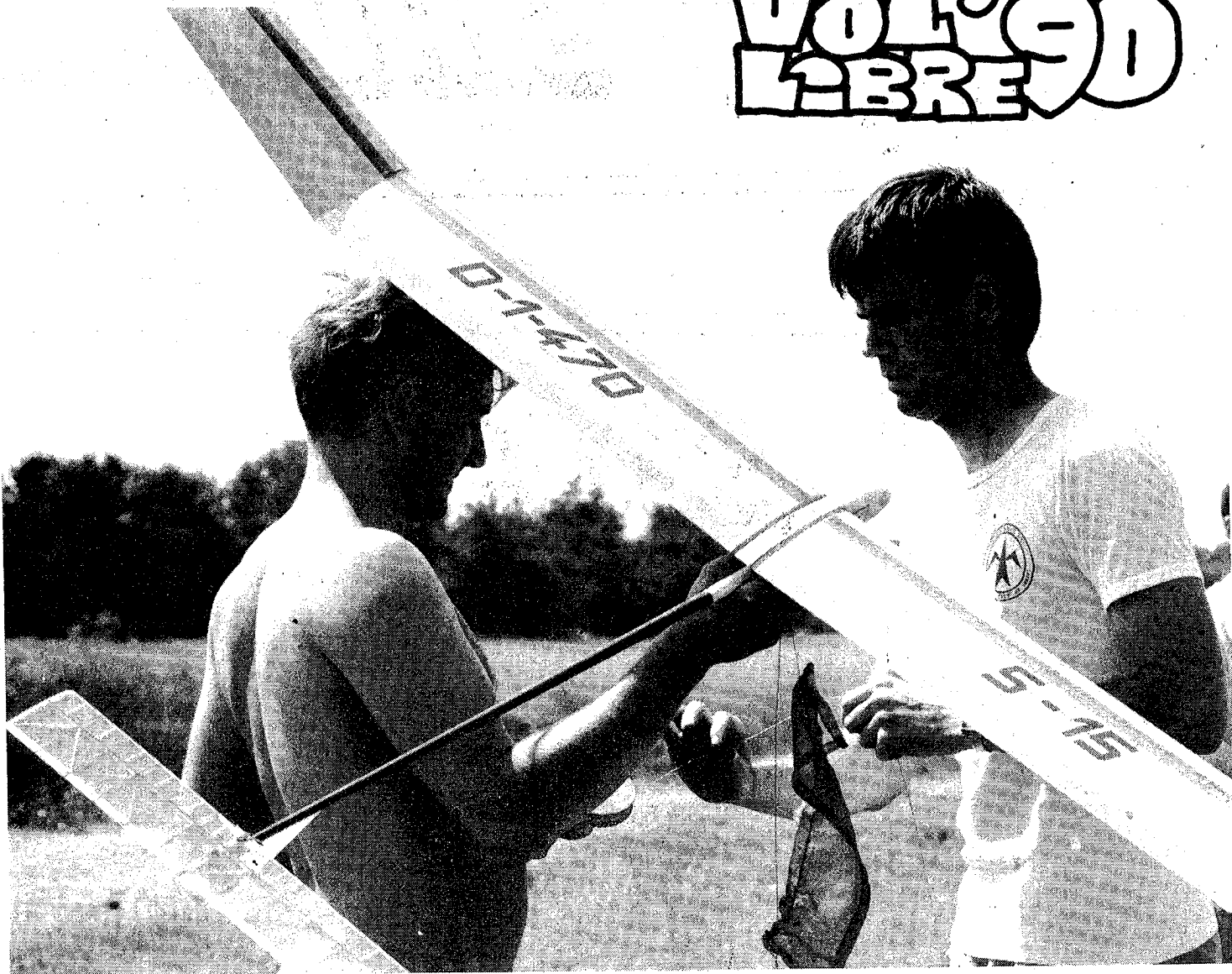


M.P.6

112

A. SCHANDL - M. PREUSS.

VOL 90 LIBRE

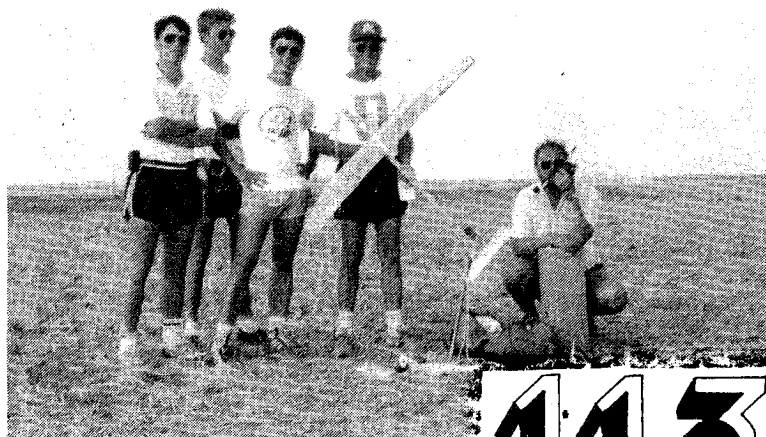


S. RUMPP

WELTPOKALSIEGER F1A
1987-88-89.
NERVURE D'OR 1989 - VOL LIBRE



Robert PISERCHIO



Pim RUYTER

113

S. RUMPP

740

90

+2,5° 52%

120 67 150

110 38

S-14

ALLROUND

AILES -
AILE 29,4 dm²
STAB 4,5 dm²
TOTAL 33,9 dm²

MASSE TOTALE 418g

ECHELLE 1/5 ET 1/1. - ST. RUMPP - A. SCHANDEL -

670

405 PROI -
428,5

10

140

KEVLAR

ROMACELL 31

TILLEUL LINDE

EXTRADOS - TSCHOOP - W 674 D 585
INTRADOS - A. HAKKEN -

DIEDRE DROIT
RECHTER KNICK

DIEDRE GAUCHE
LINKE KNICK

DIFFERENCE DE CREUX - 0,3% - VIRAGE A DROITE -
UNTERSCHIEDLICHE WÖLBUNG - DIFFERENZ - 0,3% - RECHTSKURVE -

SAUVON DIEDRES - DEUX CÔTÉS

114

VOL LIBRE



2294

427

720

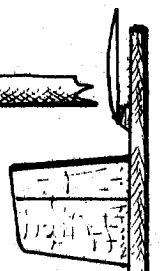
130

115

140

39

+2,5



S. RUMPP

85

810

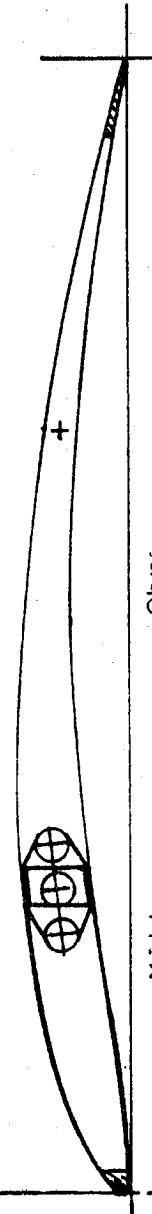
450

85

S-16
ARIANE

470

Profil: Makarov Turbulator bei 9% d=0.7mm



	Mitte:	Ohr:
Holm oben:	8*0.5 ... 3*0.5	Roving 12000 Filamente
Holm unten:	6*0.5 ... 3*0.5	Roving 12000 Filamente
Kevlar-		
schalen:	2* 63g/m ²	2* 36g/m ²
Endleisten:	11 ... 9mm	9 ... 7mm

Flächenverbindung: 1*Stahldraht d=4mm + 2*Kohlestift d=4mm

FREE FLIGHT. FREE FLIGHT.

S. RUMPP

Auf dem nachfolgenden Plan ist mein neuestes Modell dargestellt, welches durch den nachgedrückten Übergang schon für viel Aufsehen sorgte.

Das Modell ist im Prinzip identisch mit meinem alten Gleiter S-12, der sich bereits in vielen Wettbewerbseinsätzen bewährt hatte. Dies schien mir eine gute Basis zu sein, um den neuartigen Übergang zu testen.

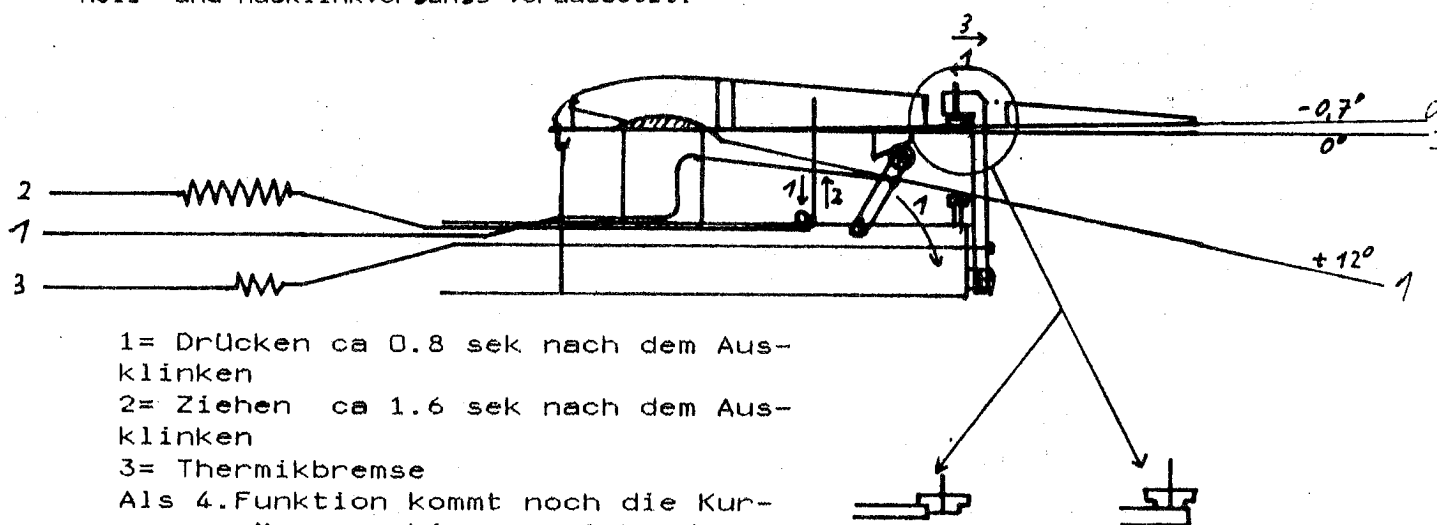
Der Name wurde dem Modell von A. Bezak verliehen, als er den Übergang mit dem wahnsinnigen Höhengewinn erstmals sah. Mir gefiel dieser Name gleich, ist er doch in doppeltem Sinne richtig, denn wie die Rakete so schoß auch das Modell in der Anfangsphase etwa jeden 25. Start mit einer abenteuerlichen Kunstflugfigur vom Himmel. Dies zeigt auch gleich die ganze Problematik der neuen Technik, denn sie ist in gewisser Weise eine alles oder nichts Technik, die ein sehr gutes Modell mit hoher Festigkeit und Steifigkeit, eine ausgefeilte Mechanik, sowie ein sehr diszipliniertes Fliegen mit sehr gleichmäßigem Zug auf der Leine und immer gleicher Aufteilung des Anheiz- und Ausklinkvorgangs voraussetzt.

So erfordert es z.B. beim Ausklinken ein völliges Umdenken gegenüber der konventionellen Starttechnik, weil man unter keinen Umständen den Startvorgang nach dem Öffnen des Hakens abbrechen darf, um das Modell ruhig von der Leine schwimmen zu lassen.

Wichtig ist, daß man beim einfliegen mit sehr viel Überlegung und Geduld zu Werke geht. Zunächst muß man das Modell so trimmen, daß es von der Leine weg in einem Viertel-Looping nach oben steigt und zuverlässig senkrecht am Himmel steht. Hierzu war es nötig, das Modell im Schlepp mit ein wenig mehr EWD zu fliegen. Hierzu ist, wie auf der Zeichnung dargestellt, an der Schraube des Winkelhebels ein kleines Drehteil angebracht in dessen Stufe das Leitwerk während des Schlepps arretiert ist. Beim Drücken geht nun das Leitwerk nach unten, wodurch der Winkelhebel ein wenig nach vorne klappen kann, so daß das Leitwerk nach dem Ziehen unten gegen diesen Hebel schlägt und auf der normalen Gleitflugstellung arretiert wird.

Erst wenn dieses Aufstellen zuverlässig klappt, sollte man mit dem Drücken beginnen.

Noch ein Wort zur Mechanik: Der Winkelhebel sollte in jedem Fall aus CFK gefertigt werden. Ich hatte ihn zunächst



1= Drücken ca 0.8 sek nach dem Ausklinken

2= Ziehen ca 1.6 sek nach dem Ausklinken

3= Thermikbremse

Als 4. Funktion kommt noch die Kurvenverzögerung hinzu, welche das Seitenruder bis ca. 1 sek nach dem Ausklinken auf Geradeausstellung hält.

aus Aluminium gefertigt. Bei einer Baumlandung wurde er dann verbogen, ohne daß ich dies bemerkte, wodurch das Modell nach dem Drücken auf den Rücken ging und so auch landete und den Flügel beschädigte. Glücklicherweise war dies bisher die einzige Panne, bei der das Modell unsanft den Boden erreichte...

Noch ein Wort zu den erreichbaren Zeiten: Beim Karlsruher Sunrise konnte ich bei ca. 2-3m/s Wind einen Schnitt von 258,6 sek. erreichen und bei einem morgendlichen Trainingsfliegen in Poltringen flog das Modell zwischen 5.00 und 6.30 Uhr konstant Zeiten zwischen 255 und 270 sek.

S. RUMPP

+2°30' 54%

700

MISTRAL

S-15

AILES
AILE 29,5 dm²
STAB 4,5 dm²
TOTAL 34,0 dm²

MASSE TOTALE 412g

117

CARBON 8x0,5-73x0,5

KEVLAR 2x36g
CARBON - 6-73x0,5

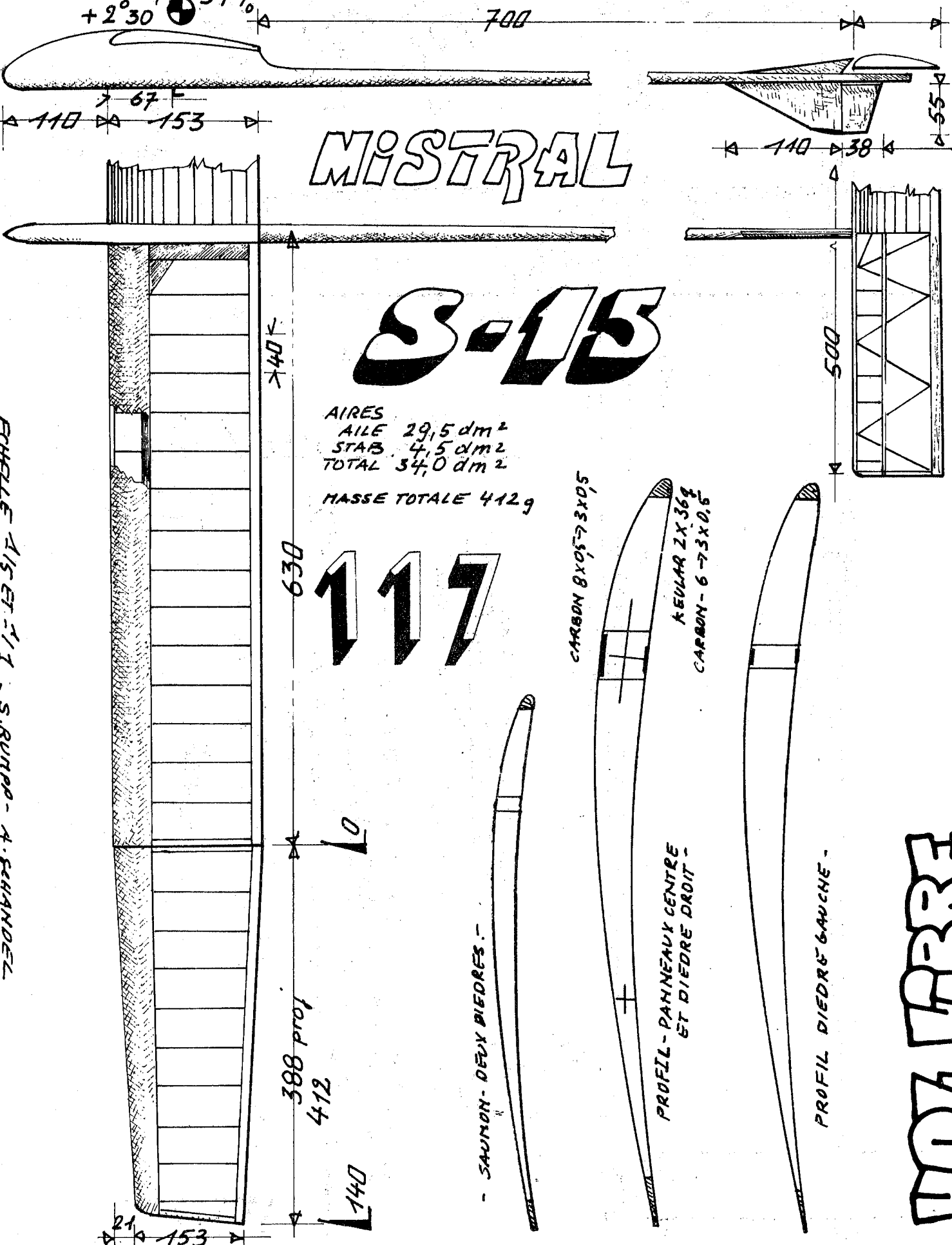
- SAUMON - DEUX BIEDRES -

PROFIL - PANNEAUX CENTRE
ET DIEDRE DROIT -

PROFIL DIEDRE GAUCHE -

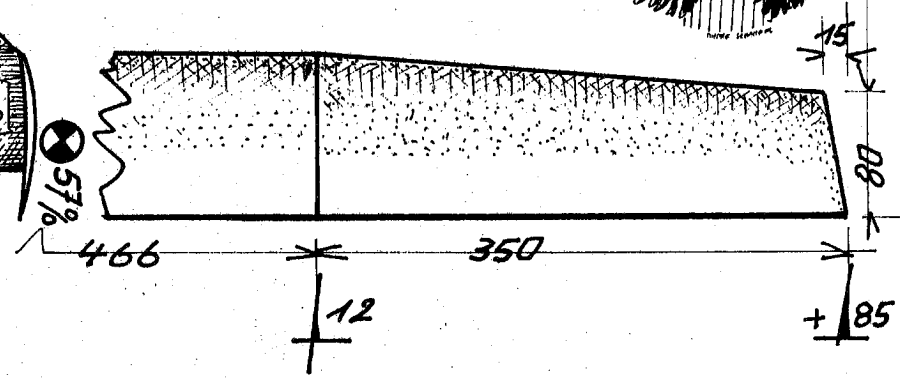
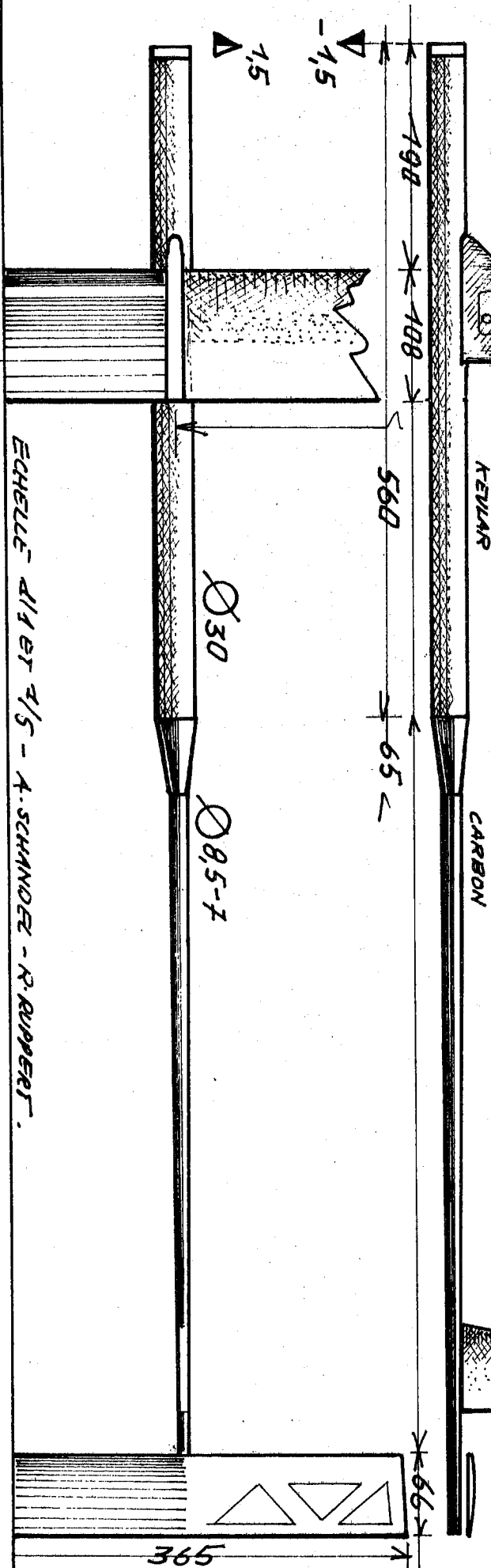
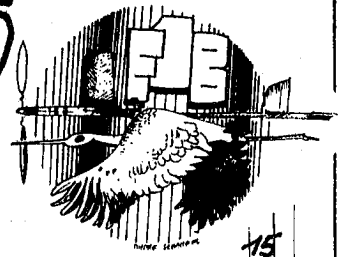
VOZ LIBRE

ECHELLE 1/15 ET 1/11 - S. RUMPP - A. SCHANDERL

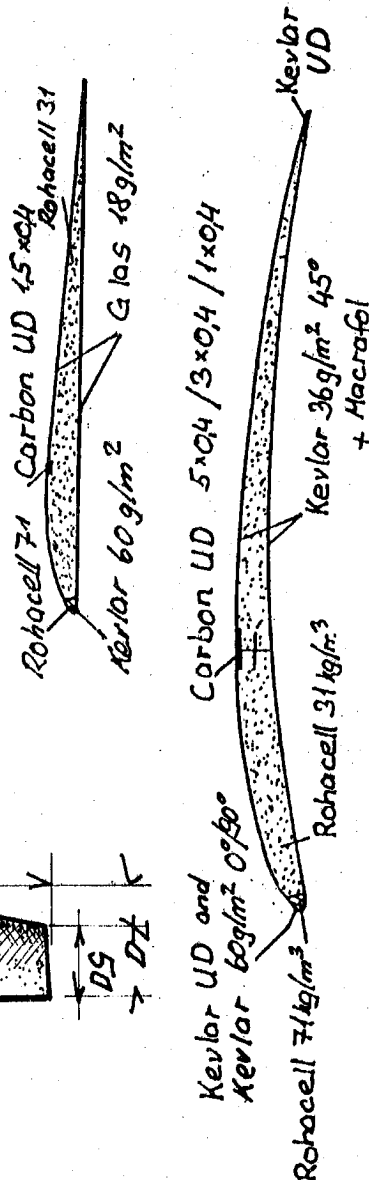


R. RUPPERT

R.R.5



BUMBLE BEE 89



Wing sections : d 4,5% at 15% f 6,7% at 40%
 y_o 8,6% at 35% y_u 4,8% at 40%

Stab section : Wölbeking 7%

118

VOL LIBRE

ECHELLE 1/1 ET 2/5 - A. SCHANDER - R. RUPPERT.

PROPELLER $\phi 665$ -PITCH 800 (690+40)+125=40
 CORE ROHACELL 71 OUTSIDE CARBON 83g/m³-600
 SECTION
 $d 4,5\%$
 $+5,9\%$
 MAX CHORD
 45mm-35%

R. RUPPERT

R.R. 7

MOTOR
360 TURNS 44s

16,6 dm²

ECHELLE 1/1 ET 1/5 -

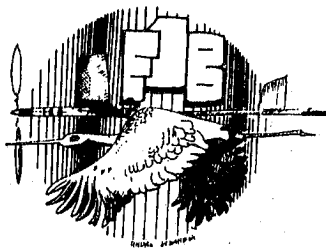
A. SCHANDEL - R. RUPPERT -

KEVLAR

$\phi 30$

- CARBON -

$\phi 8,5 \rightarrow 7$



2,4 dm²

365

119

- SNOOPY -
 PD. 0,3s
 VIT 1. 2,5s
 VIT 2. 4,5s
 VIW. 10s
 AR. 77s
 CGS. 48s
 DT. 183s

WEIGHTS:-
 WING. 57
 STAB. 4,5
 FUS. 56
 TAIL. 20
 PROP. 57g.

Carbon UD 6x0,4 / 3x0,4 / 0,8x0,4

Kevlar UD.

Kevlar 36g/m² 45°
 + Macrafel

Rohacell 31kg/m³

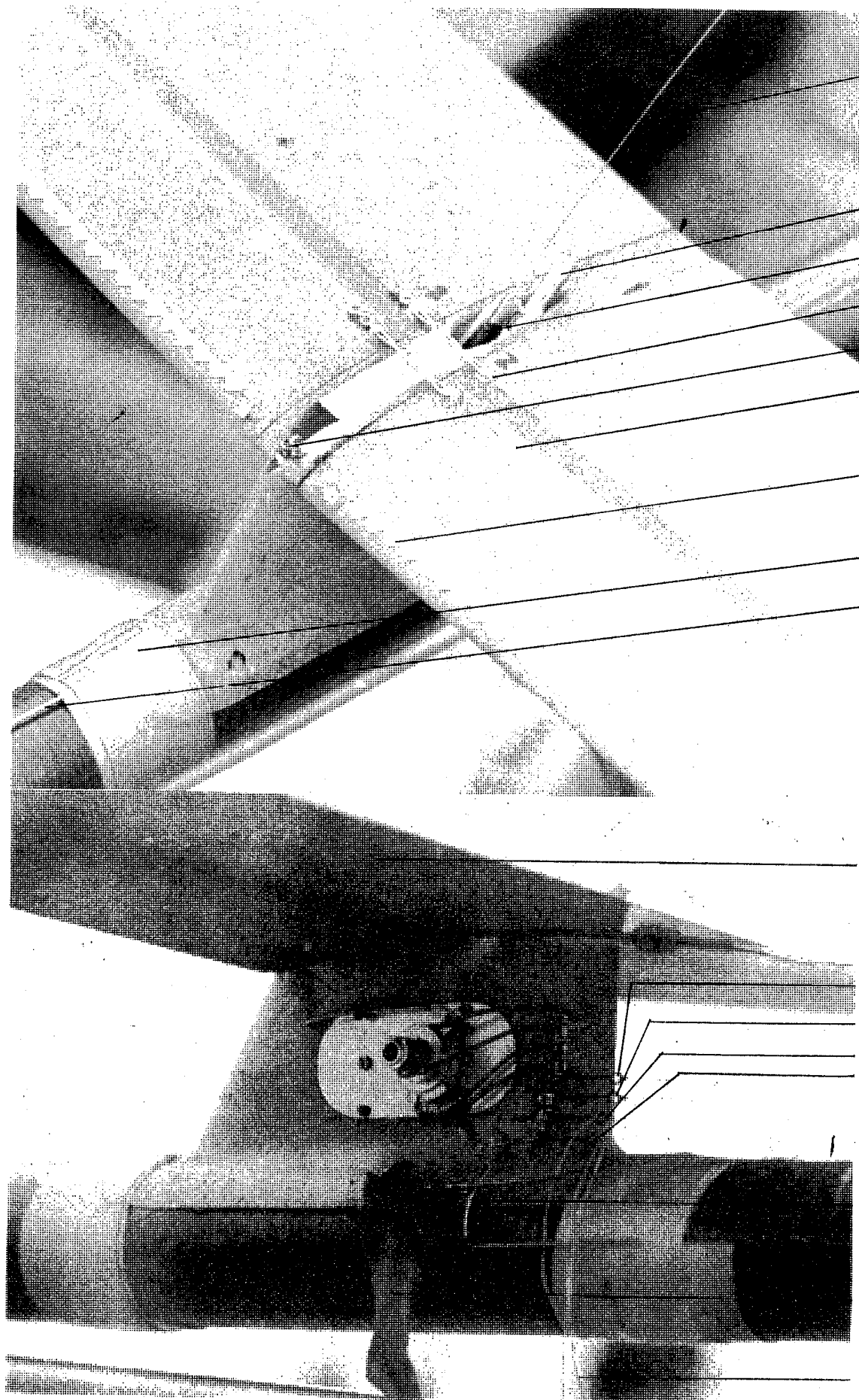
Kevlar UD und
 Kevlar 60g/m² 0°/90°

Rohacell 71kg/m³

Wing sections : $d 4,5\%$ at 15% $f 6,7\%$ at 40%
 $Y_o 8,6\%$ at 35% $Y_u 4,8\%$ at 40%

Stab sections : Wölbeking 7%

VOZ WERE



Suchsenderantenne
Antenne

Senderbatterie
Batterie

Peilsender
Emetteur

Flügelverbindung
Attaches ailes.

Flügelverstellung VIW
Incidence aile IV

Invigorators

3 D Turbulator
Turbulateur tridim.

Pylonbefestigung
Fixation cabane

Propellerstart
Départ hélice

Flügel Rohacell Kevlar
Aile Rohacell Kevlar

Seitenruder AR
Volet Direction

Bremse DT
Déthermalo

Differenz 1 VIT
Incidence var. 1

Differenz 2 VIT 2
Incidence var. 2

Timerstart
Départ minuterie

Timerblockierung
vor dem Start.

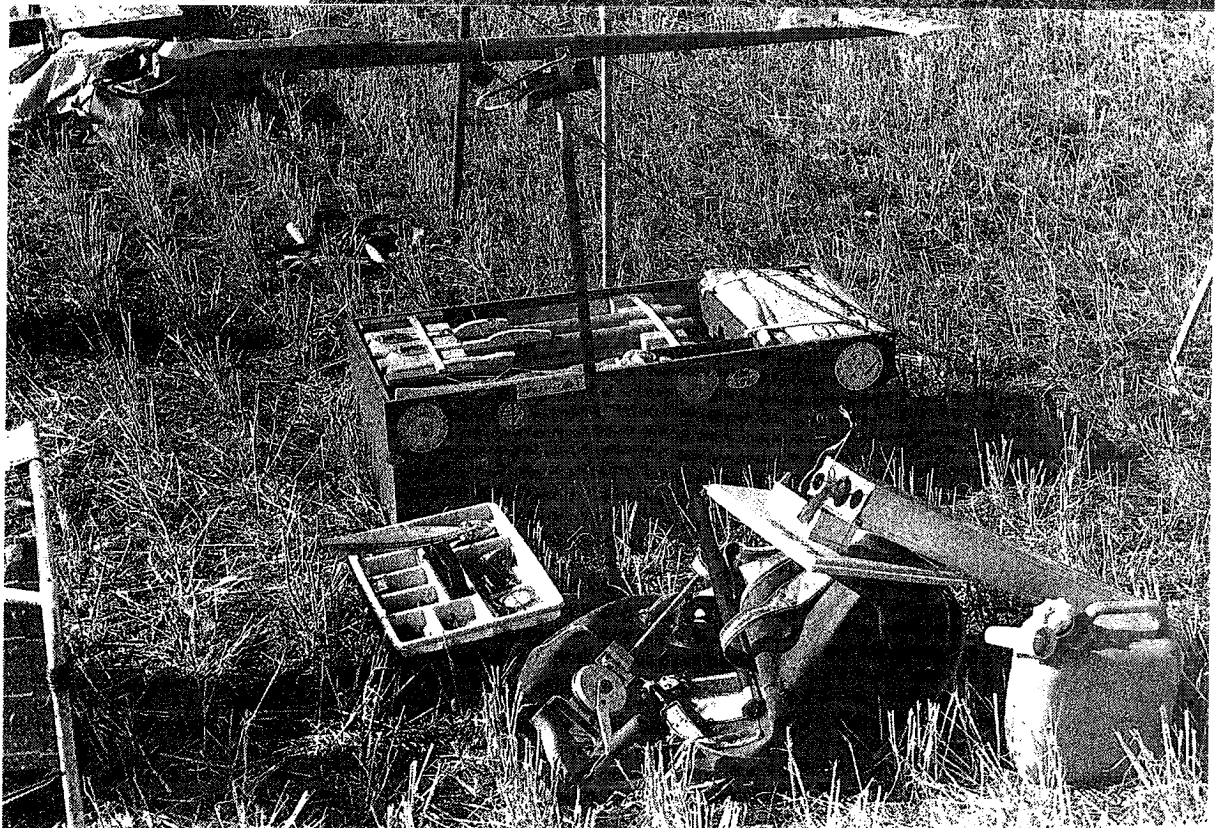
Arrêt minuterie
avant départ.

VOL LIBRE . 12 **DETAILS F1B**
R. RUPPERT-C.H.



VOL LIBRE 90

R. RUPPERT
 U. RUSCH
 M. PREUSS
 K.H. HAASE
 - ACCESSOIRES
 F1B.
 A. HACKEN



das Gewicht kann heute von 50 bis 55 Gramm sein.

Meinen besten persönlichen Ergebnisse sind:
1 Platz in der Mannschaftswertung bei E.M. - 2 Platz
in der Mannschaftswertung bei W.M. Zweimal
italienischer Meister, und sechsmal in der
italienischen Nationalmannschaft.

SANAVIO Antnio

Via Tito Speri n° 4

30030 MAERNE VENEZIA Italie

S. SCREEN

SCREEN Stafford

PAGE-127

66 Stevens Rd. WOLLESCOTE

STOURBRIDGE West Midlands

DY9 OXN G.B.

M. SEXTON

PAGE-128

D. SIEBENMANN

PAGE-129

Seit einiger Zeit erobern die Schweizer mit ihren
Hochtechnologiemodellen aus Plastik den F1B-
Himmel - Balsa ist verpönt.

Einer von ihnen, Dieter Siebenmann, der geniale
Konstrukteur ist auf den Dreh mit den aus Kohle-
faser gewickelten Rohren gekommen, genannt Carbon
Filament Winding.

Seit dem fliegen einige Schweizer nur noch mit
den 6,5 g leichten Kohlekonussen, die - so ein
bekannter W-Flieger- wie ein gestriegelter Gaul
aussehen.

Erstaunlich ist daher, daß ein so kleines HLW
5,5 g wiegt. Wahrscheinlich ist dies in Voll-
schaumbauweise die unterste Grenze.

In der Tragfläche verwendet er als Nasen- und End-
leiste vorgeformte Kevlarleisten. Hier wurde
der untere Holm ganz weggelassen.

Von schweizer Seite kam dazu schon die Aussage,
daß beim Durchbiegen die Zugkräfte in die Kevlar-
leisten übergehen.

Beachtenswert sind auch die Propellerblätter, die
aus Rohacell als Stützstoff diagonal mit 83 g/m²
Kohlegewebe beschichtet sind. Da das Kohlegewebe
längs zu den Blätter verstreckt wird, erhöht sich
das Flächengewicht. Leider weiß ich nicht wie
viel, bei 36g Kevlargewebe bringt Verstreckung
bis zum Anschlag ein Flächengewicht von ca 68g/m²
Allerdings sind die Löcher im Kohlegewebe kleiner
was eine geringere Flächengewichtserhöhung be-
deutet.

SIEBENMANN Dieter

Schnallerweg 5

8332 WILHOF B/ RUSSIGEN

J. SOMERS

PAGE-20-21

SOMERS JAN

B.P. 177

8170 AD VAASSEN NL.

Jan SOMMERS

Jan was born in 1944 and started aeromodelling when
he was 13 years old and only quit temporarily to work on
his education. He completed a 10-year study to be an
auditor (= chartered accountant, Wirtschaftsprüfer,
expert comptable.) and he also worked some years as
such. For a long time already he works as Director
Finance and Economics, which job he performed with
various big Dutch companies.

After completing his education he and Cenny Breeman
entered in a "joint-venture" to do their aeromodelling
together. Based on Jan's "old" Guurtje design they
developed the, now well known series of Guurtje, Hihi and
Still-There.

Publications on (the construction of) these models took
place in various Free Flight magazines in october /
november 1984 and in july/august 1989.

The National Free Flight Society of USA presented the
model "HIHI" with the 1985 "Model of the year" award.

Jan was a member of the Dutch F1A team in 1984,
1986 (but did not travel to Pitesti), 1987, 1989,
1990; winning his country's team-trials for the
Championships in 1986, 1987, 1989.

Jan's best results in international contests are:

1981: 8th Poitou

1982: 7th Poitou

1983: 9th Poitou.

1984: 1st Kurtalic Memorial Livno, 3rd
Midsummernight cup Arhem, 3rd Eifelpokal Zülpich.

1985: 1st Poitou, 5th Bern, 9th Kup Republike
Zagreb.

1986: 3rd Poitou.

1988: 3rd Midsummernight Cup Arnhem., 6th Poitou

1989: 1st Holiday on Ice, 5th Bern.

122

FREE VOL FREE

FLIGHT LIBRE FLUG

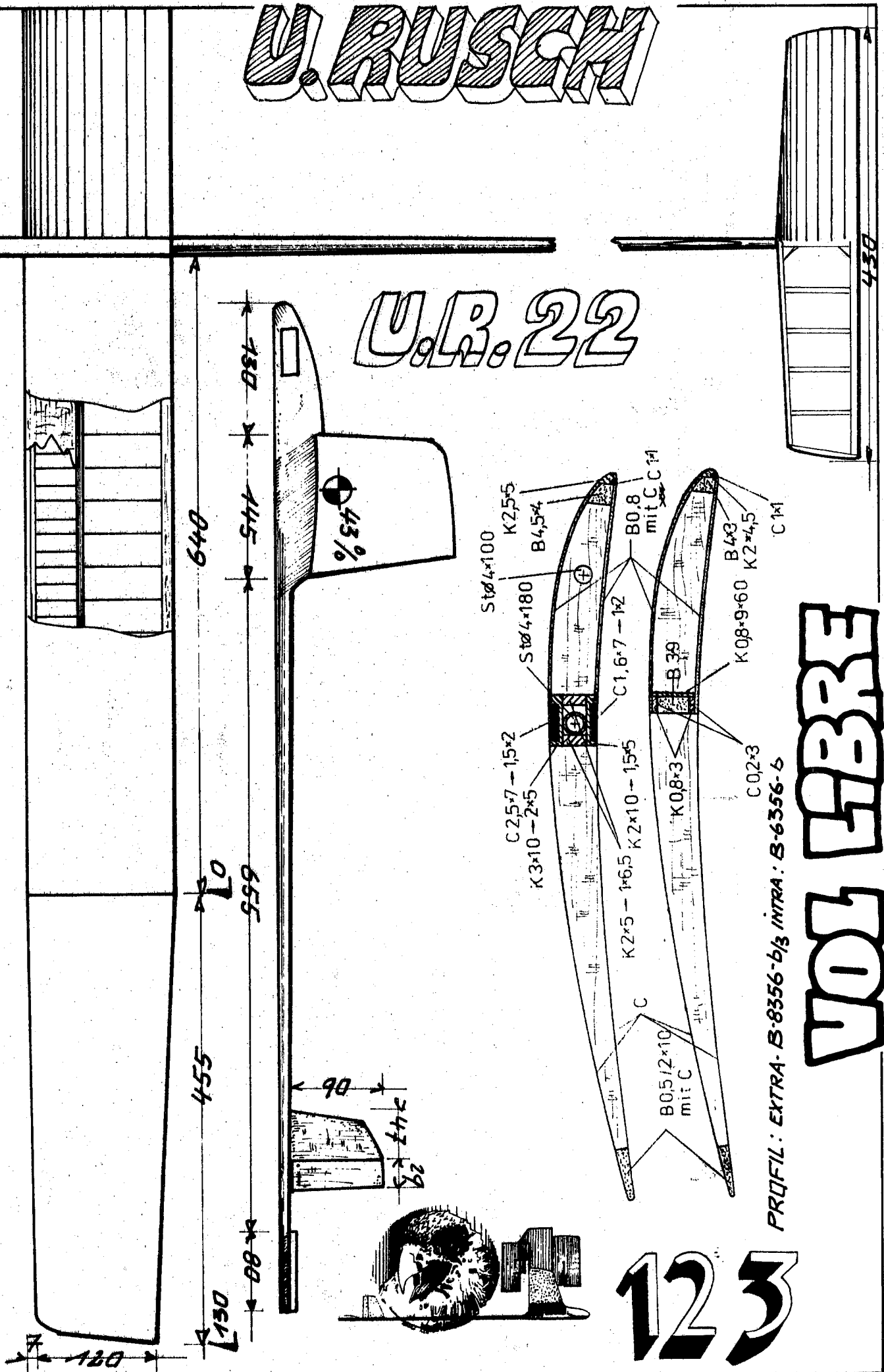
V. RUSCH

U.R. 22

VOL LIBRE

PROFIL: EXTRA-B-8356-b/3 INTRA: B-6356-b

123



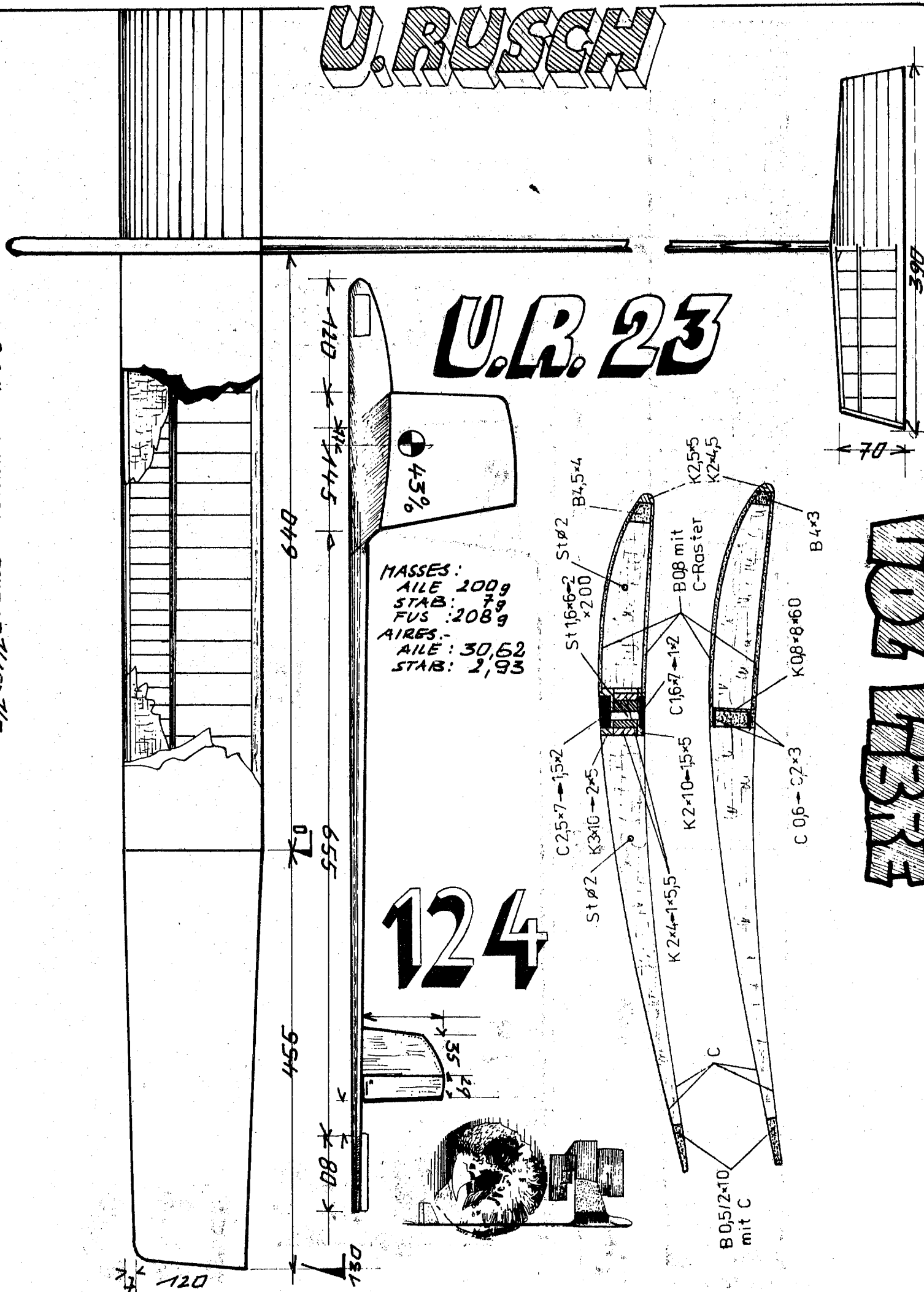
UWIE RUSCH - A. SCHANDER -

U.R. 23

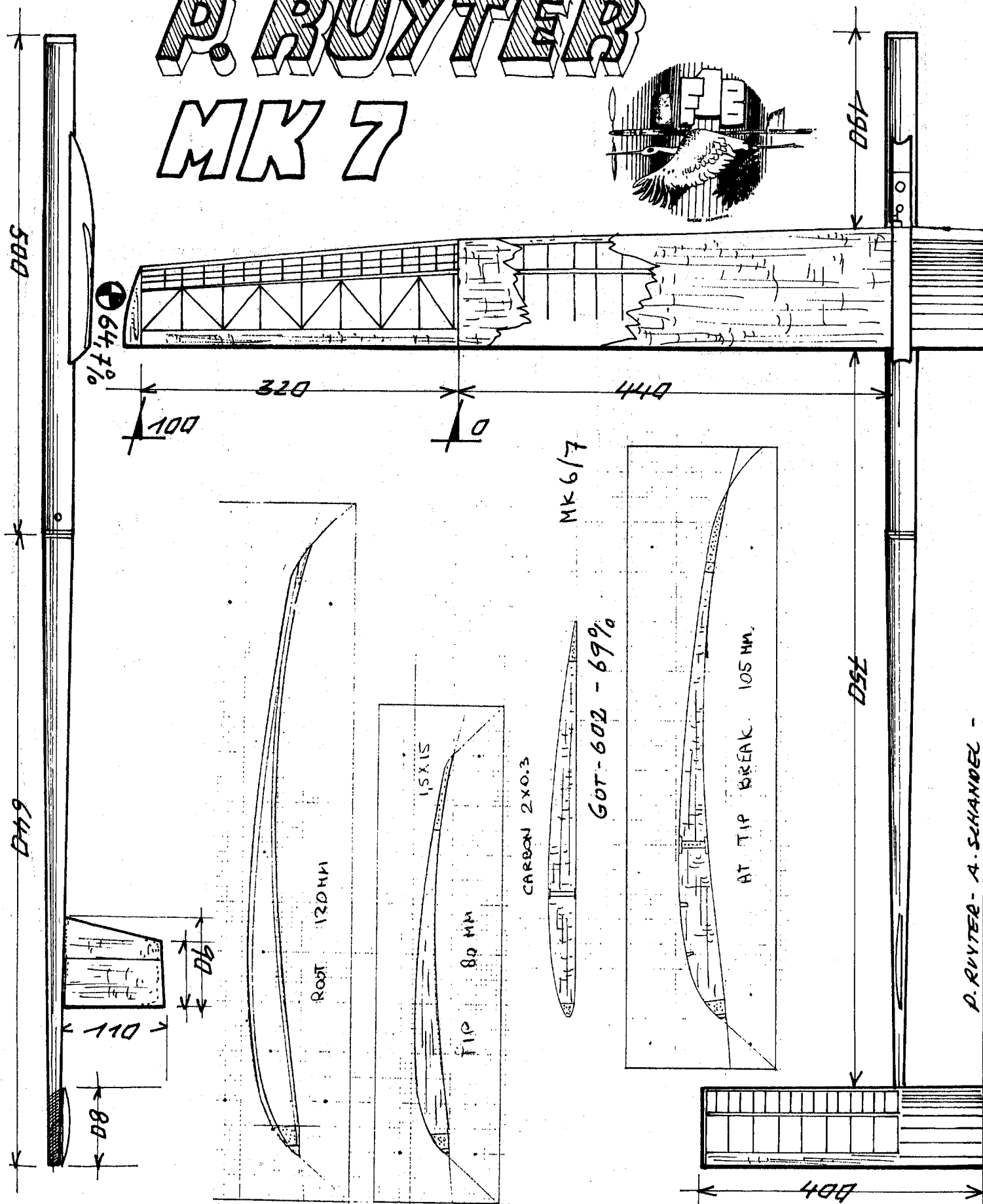
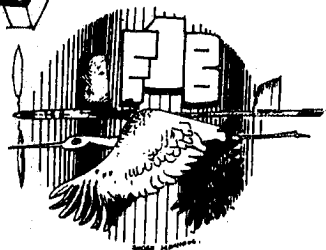
124

GOOSE

UWE RUTH. A. SHANDEL - FHEILE 7/1/67 7/5



P. RUYTER MK 7



VOZ LIBRE 125

ECHELLE 1/4 ET 1/5

P. RUYTER - A. SCHAEDEL

VOL LIBRE

DEROULEMENT
MOTEUR -
35-37. s.

PROP. 0,5
VIT 45
AR 105
L/W 253

+2°30' ⊕ 58%

2°

540

460

- PLAGE DE VERRE -
- GLASS -

R.L.
120° $\alpha = 2^{\circ}30'$
110° $\alpha = 2^{\circ}30'$
90° $\alpha = 1^{\circ}$
WING -
16dm² 53g
STAB
2,9dm² 3,7g
PROP - 43g
FUST. 87g
V. 10g

- F.O.U. - CARBON - Balsa - F.O.U. -

870

690

90

78

- 188 ENT. MYLAR -

90

295

10

115

POLYSTYRENE + GLASS + MACROFOL

BALSA

CARBON 0,25

(110) MAX f 4% (90) MAX f 4%

MAX T 4,5%

MAX T 5%

(120) MAX f 6,1-43%
MAX Y 0 8,4 35%
MAX Y 4 42 52%
MAX T 58 30%

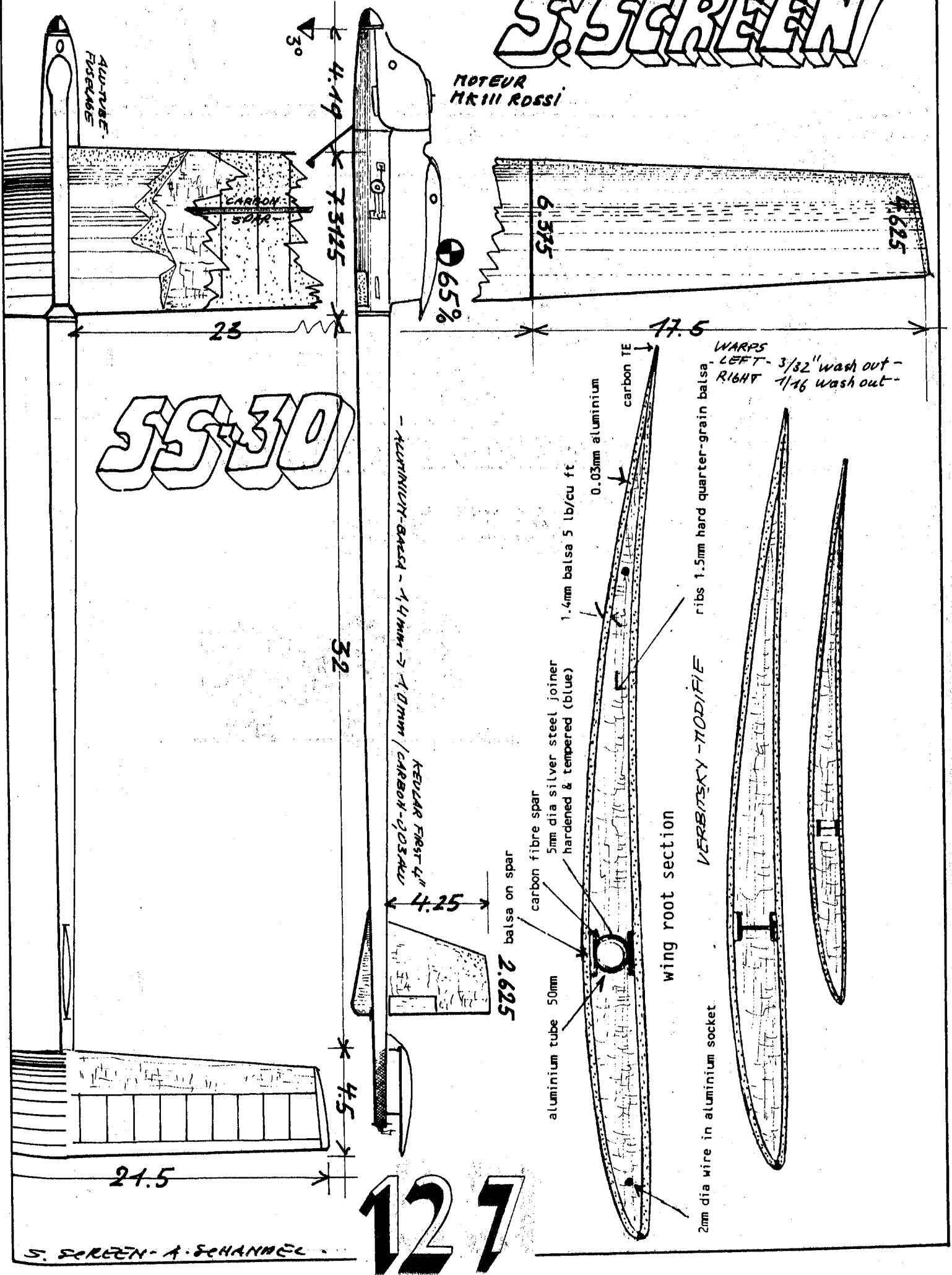
597H 0090

126

A. SANAVIO

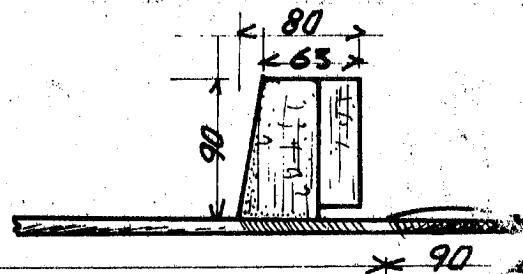
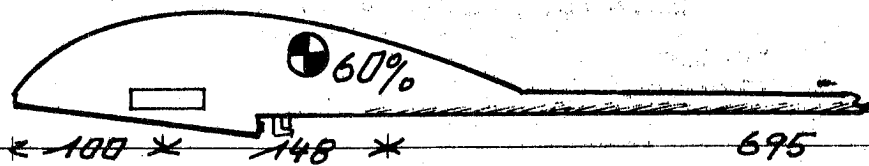
S.SCREEN

MOTEUR
MK III RDSI



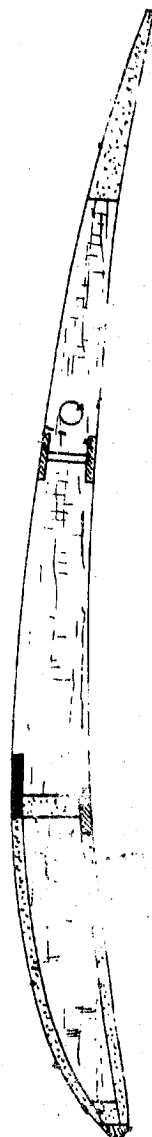
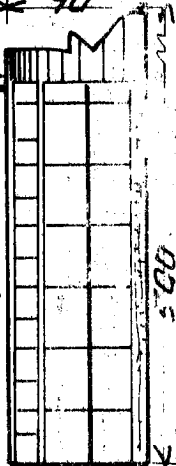
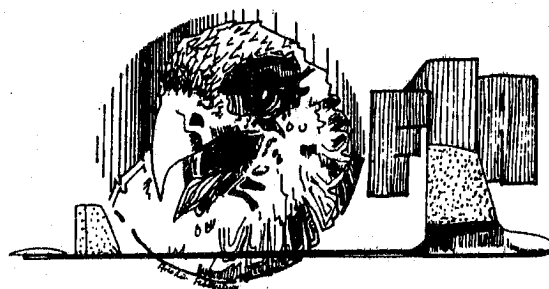
127

VOL LIBRE



TAMA STILL MALCOLM SEXTON

WARPS
 - LEFT INNER FLAT
 LEFT TIP -1.5 WASHOUT
 RIGHT INNER 3 WASHIN
 RIGHT TIP 4 WASHOUT



A. SCHANDER. N. HARRIS. FEN.

ECHELLE 1/14 ET 1/15

128

D. SIEBENMANN

TRANQUILLO

5/1 1/1 1/1 3734327

3857 10A

A. SCHAEDEL - D. SIEBENMANN -

1,5°

660 dia x 690.
PITCH + 4° SECTION
4,5° THICK - 5,9°
MAX CAMBER
ROHACELL 72 kg/cum
COVERED WITH
83g/sqm CARBON

1,5°

+1°

53%

TUBE - CONE - POUTRE - CARBONE.

* AILE	MASSÉ	AIRÉS
STAR	57g	16,48 dm ²
TUBE	55g	2,50 dm ²
POUTRE	49g	
HELICE	11g	
	44g	

TOTAL: 190,5g.

* SEQUENCES - FONCTIONS -		
VIT 1	2,5s	-3,5°
VIT 2	5s	-1,5°
UW (Int)	10s	-0,7°
AR	25s	
MOTOR RUN 42s / 380 TONRS.		

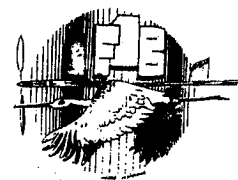
SECTIONS - AILES -
EPAISS. MAX. 4,6% A 15°
CAMBER. MAX. 6,7% A 40°
HAUT. MAX. EXTRA: 8,7% A 35°
HAUT. MAX. INTRA: 4,8% A 40°

C.F. 5x0,4 → 3x0,4 - 15x0,4

KEVLAR

KEVLAR 36g/m² + MACROFOL

KEVLAR
ROHACELL 72 kg/m³



129

PROFIL CLARK Y
5,8° - 3-1 kg/cm³
ROHACELL
18g/m² GLASS
COVERING -

TILT STAB. PARAL.
PAN. CENTR. DROIT

3,6° THICK 35°
1,8° MAX CAMBER
4T 35° - FLAT
SIDE ON LEFT
(Pilot sur la gauche.)

198

88

846

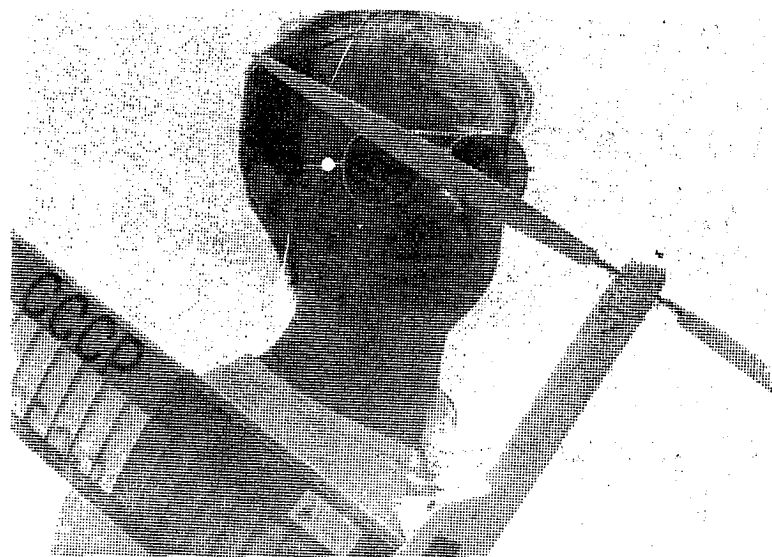
660

70

69

123

60



V. STAMOV

PAGE - 132-133

STEFANCHUK

PAGE - 136-137

290010 UDSSR
г. Аб Зов
ул. Пескова 17 кв 624
Стефанчук - Сіменан.
Спрославович

V. STRUKOV

PAGE - 137

M. VAN DIJK

VAN DIJK Marteen

PAGE - 144-145

Bankven 7

5052 BA GOIRLE NL

A. TERNHOLM

PAGE 138

130

O. TORGERSEN

PAGE 140

TORGERSEN Ole

Lyngveien 9

2830 RAUFOSS Norvège.

J. VALERY

PAGE 141-142-43

VALERY Jacques

988 ave de Vignau

40 000 MT. de MARSAN

France

JACQUES VALERY

PAGE - 141-142-143.-

50 ans marié trois enfants, études scientifiques à l'Institut de Mécanique des Fluides de Strasbourg. Ancien pilote de l'Armée de l'Air avec 6500 h de vol sur 25 types d'avion.

Actuellement instructeur simulateur de vol Airbus à Toulouse.

Carrière modéliste -

Pratique le M/R de compétition depuis 1950 et la Wakefield depuis 1954 (ça ne nous rajeunit pas !). Plusieurs fois second aux Ch. de France, mais, tel Poulidor, jamais premier. Membre de l'équipe de France Wake en 1965 à Kauhava où un certain Koster fit des débuts remarquables.

Autres activités M/R.

Responsable CTVL de 1983 à 1988. Souvent chef d'équipe. A beaucoup pratiqué le Vol Circulaire (Acrobatie et Team Racing). Actuellement spécialisé dans le F1B et Micromodèles. Animateur avec G. Loubère de l'Aéro-Club des Landes où il a formé des kyrielles de jeunes, dont plusieurs champions de France Cadets et juniors, sans oublier François DUCASSOU membre de l'équipe de France Junior F1B cette année à Mostar

Projets:

Un wake entièrement en matériaux composites avec aile à flèche inverse, flaps et winglets.

Signe particulier : entre autres défauts, très porté sur les sous-dérives.....

A. VAN WALLENE

PAGE 146-147-148

VAN WALLENE

Dreef 9

3628 BJ KOCKENGEN NL

Allard M.A. van WALLENE

Born 1963 in Amsterdam

Single

Technical University, mechanical engineering and specialized in fibre technology.

Currently serving in the army in W. Germany

FF related hobbies: electronics, photography.

Contest successes with HI BRID, Plastic 1 and Hi Brite:

'87 2nd Poitou - '88 2nd Poitou, 5th Bern, 4th

Eifelpokal - '89 3rd Bern, 6th Scandinavian Open.

World Cup 4 place in '87

Dutch W.C. team member in '83, '85, '87, and 89

Dutch E.C. team member in '88.

I started designing my plastic models back in '85. Several problems had to be overcome like wing-wake turbulence over stabilizer, moisture resistance, finding that symmetrical glassfibre to avoid warps, buckling of upper surface, bending of joinervires, speeding-up building time and making wearproof, temperature proof and reliable moulds.

To solve all these problems, I ended up with these designs featuring a three element wing, that can be screwed on to the fuselage. The complete innersections are made in one huge mould of 1,5 meter with built-in heating temperature control and vacuum tubes. The Styrofoam core is hot-wire cut. I'm still looking for a fine weave 80 gr/m2 symmetrical glassfibre cloth to replace the currently 106 gr/m2 cloth to cut down the weight a little. The ribs (center and where the panels are separated) are formed during the vacuum process by a mixture of epoxy, microballons and milled fibres. The bright orange color is obtained by mixing pigment powder with the CIBA XB 3052 resin.

Fuselage is made of a sandwich core made of 1,5 mm balsa covered with 200 gr/m2 carbon cloth. The two shells to form the nose are made of glass and epoxy, reinforced with carbon rovings. The hatch to reach all the inner parts is made of orange-anodised aluminium. The fuselage contains a nicad battery, a digital timer, a VHQ (stands for very high quality or very high quartz frequency) beacon transmitter a russian style towhook and for the future in the Plastic 1 models an audio thermistor. The tailboom is a symmetrical build-up of 106 gr/m2 glassfibre cloth at $\pm 45^\circ$ and 0,25 mm unidirectional carbon prepreg.

Fin and stabilizer are quite straightforward. Carbon is used to cut down the weight to a minimum.

Further developments will be improving the launch height of my still-air glider by changing the wing airfoil using a new core foam which is called Styrofoam Modellbau made by Dow Chemicals, trying to find and to use 80 gr/m2 glassfibre cloth, training with the on board thermistor that transmits an audible tone to my walky talky during circletowing.

131

E. VERBITSKY

U.R.S.S. - 357002 - CHERKASSY-2
UL. - KOMSOMOLSKAYA - 1. AP. 40



PHOTO: JEAN BOOS

NERVURE D'OR 1987

I am 51 years old. I am engineer of aircraft. In 1961 I finished the aviation institute (college) in Kharkov. Some years I worked in research institute of aircraft in Kharkov and some years I worked in Kharkov's Pioneer Palace by instructor of aeromodeling. In 1987 I moved to Cherkassy (this town is 200 km to south of KIEV). Now I am working in a factory of machine tools for electronic industry (Rotor factory). My job is chief of laboratory of precision mechanic. I am married I have one son 25 years old, and one grandson 1,5 years old.

I start to build the models in 1951. From 1958 I am member of Soviet team FIC.

1987 - World Champion.

1965 and 77 3th place in W.C.

1975 and 81 2nd place in W.C.

1971 and 85 4th place in W.C.

1958, 84, 86 European Champion

1959, 88 2nd place in E.C.

1964, 69, 72, 75, 79, and 1981 champion of contests of Soc. countries.

1959, 63, 70, 73, 76, 78, 84, 85, 88 champion of the U.S.S.R.

1989 Champion "Sierrea CUP" in Sacramento USA.

56%

~~Q 14~~

0.

$\times 100 \times 150 \times 720$

✓ 85 ✓

472 87

48

крыло:
- центроплан
 пленка лавсановая
 метализированная 0,02 мм
 + бумага (верх)
 "Граупнер" 0,03 мм
- консоль
 пленка лавсановая
 метализированная 0,05 мм
 + бумага (верх)
 "Граупнер" 0,03 мм

стабилизатор:
пленка лавсановая
металлизированная 0,015мм

CB
43

Весовые данные:

-крыло	145г
(в т.ч. вставка под штырь	15г
-стабилизатор	7г
	412г

Хвостовая балка:
+ фольга АМГ-0,03 мм
+ углерента - 0,1 мм (2 слоя)
+ фольга АМГ-0,03 мм
Связующее - К-153
Масса при $l=900$ мм - 18,5 г
 $\varnothing 14 \rightarrow \varnothing 7$ мм

132

Матрица Φ 0,5

$\phi 5 \times 185$

УЧУД - 38403400 01.12.30
генератор

FILED 111 ET 125-

12

48-3-15

030

1

0.12

1

37

172

0.8

А)

2c.
1M

MM
03

U,
r-

mo
A

el
mba

$$+ \frac{L}{Q}$$

•

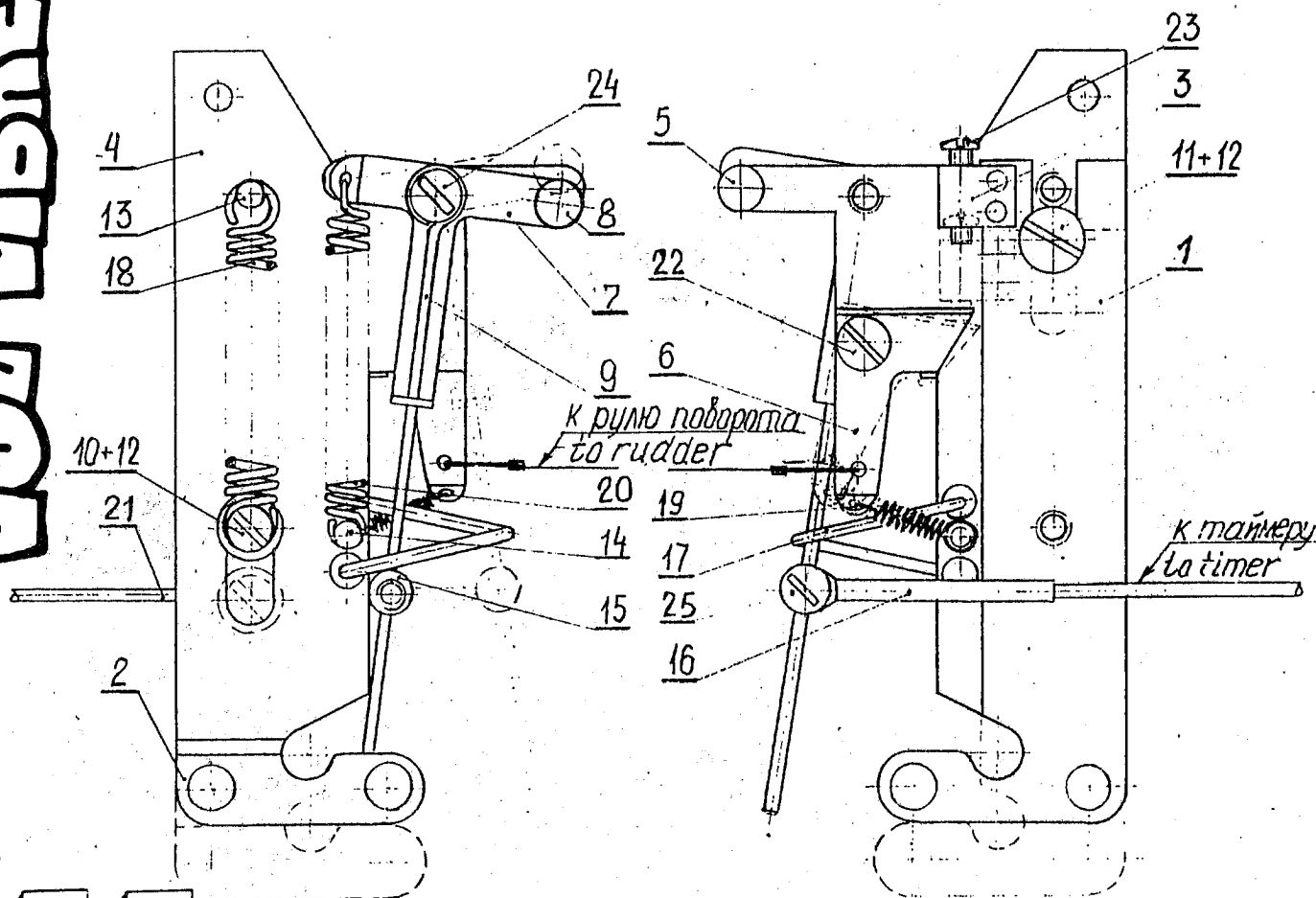
•



11

1

FOR FREE



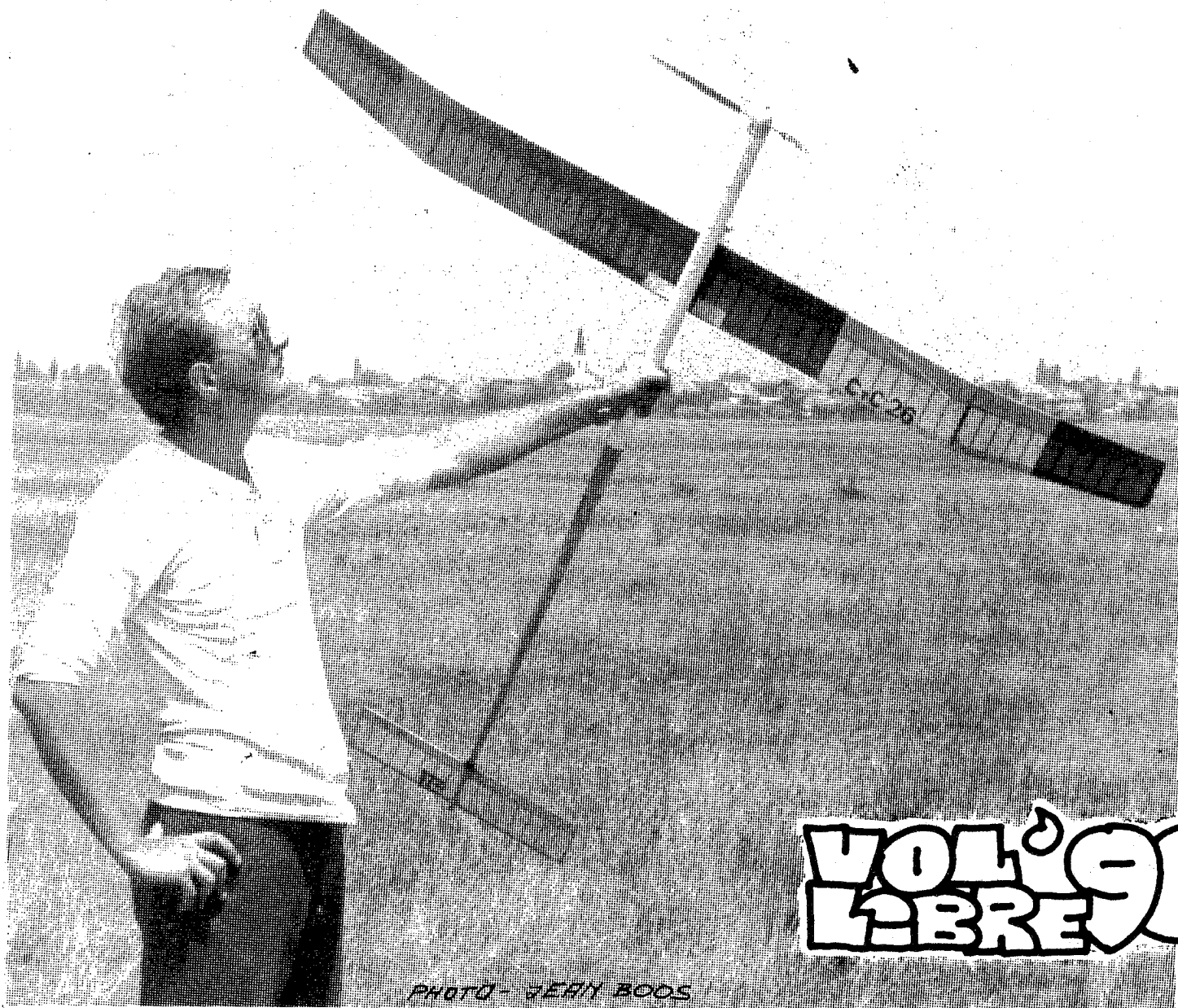
Буксировочный крючок для F1A В.Стамова
V.Stamov's F1A towhook

№ детали Detail No.	Материал Material
1,2,3,4,5,8	Д16Т Dural
6,7	Латунь лист 0,4 Brass sheet 0,4
9	Проволока 2а кл. Ø1,0 Piano wire Ø1,0
10,11,12,15,16	ЛС-59 Brass
13,14	Проволока 2а кл. Ø2,0 Piano wire Ø2,0
17	Проволока 2а кл. Ø0,5 Piano wire Ø0,5
18	Пружина D=33; d=0,6; n=25 Spring
19	Пружина D=17; d=0,3; n=14 Spring
20	Пружина D=3,2; d=0,5; n=26 Spring
21	Трос Ø 0,8 сталь steel
22	Винт M2 x 2 сталь steel
23	Винт M1,6 x 6 сталь steel
24	Винт M2 x 3 сталь steel
25	Винт M2 x 3,5 сталь steel

Детали 1 и 2, 1 и 3 соединить заклепками Ø2 и Ø1 соответственно.
В дет. 2 в два отв. Ø1,3 вставить медные или латунные трубки Ø1,3; l=2 и развальцевать. Дет. 17 паять к дет. 4 оловом.

Детали из Д16Т покрыть твердым анодом.

Connect details 1 and 2, 1 and 3 with rivets, Ø2 and Ø1 accordingly.
Insert copper or brass tubes Ø1,3; l=2 in detail 2 in two holes Ø1,3 and expand. Solder detail 17 to detail 4. Dural details hard anodized.

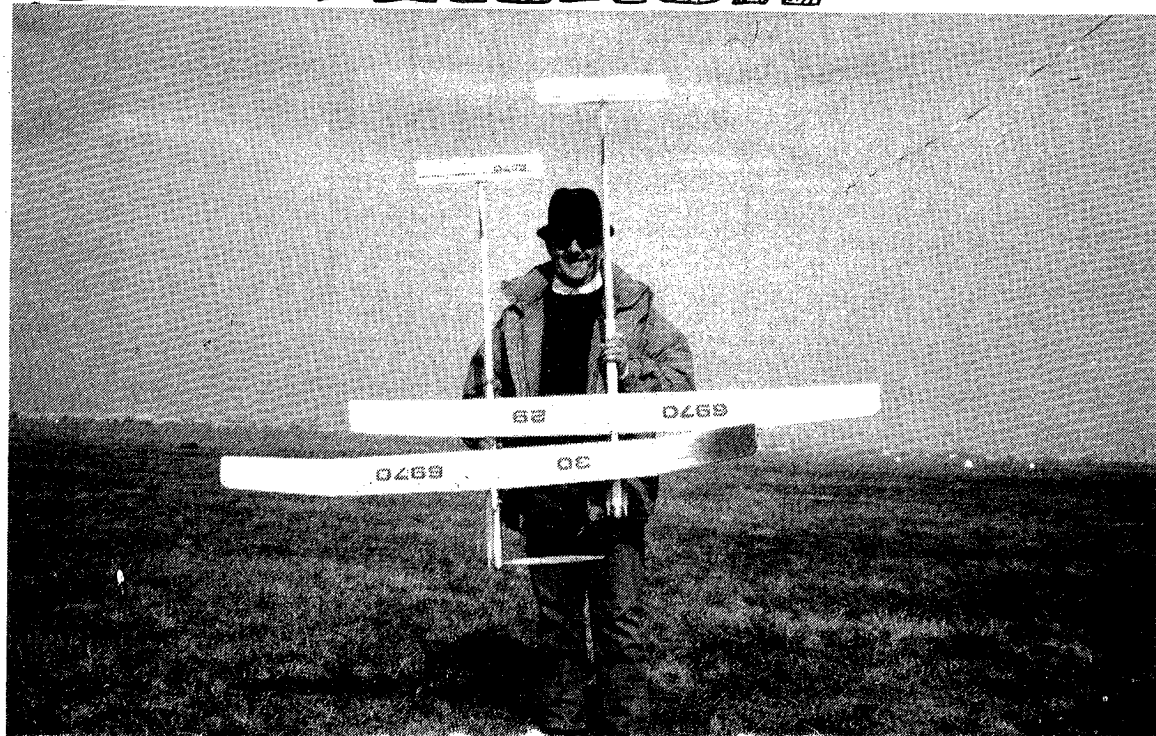


**VOL' 90
LIBRE 90**

PHOTO - JERRY BOOS

STEFANCHUK

A. SANAVIO



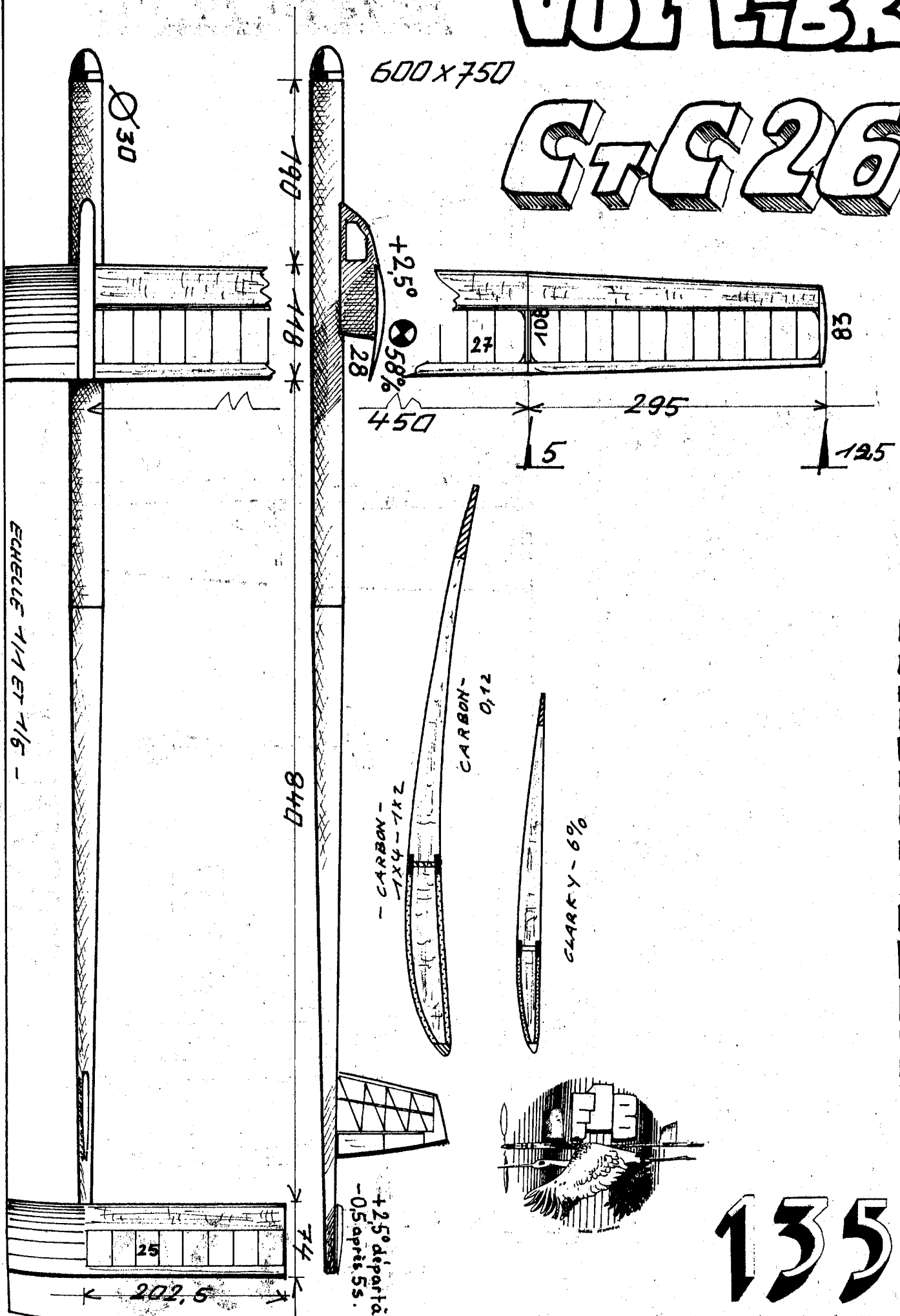
134

VOL LIBRE

G+C 26

NOUVEAUX

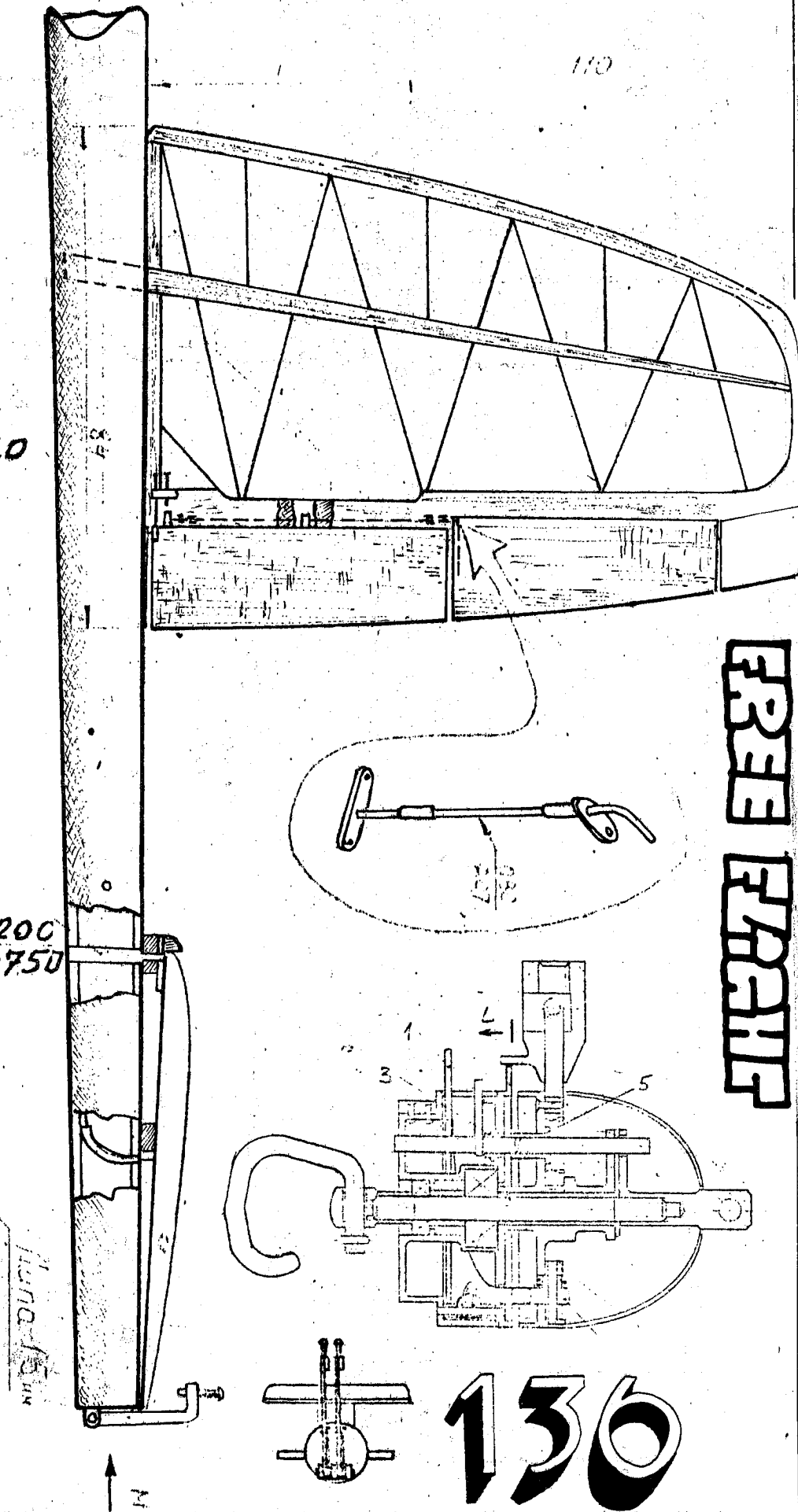
135



STEFANCHUK

110

8-6,4	13,4	R 40
6,7	16,8	
6	22	R 80
5,2	27,8	
4,7	33,2	R 120
4,2	37,5	
3,6	40,3	
3,2	41,8	
2,7	40,2	R 200
2,4	37,1	H=750
2,1	32,4	
1,7	25,7	
1,5	25,7	
1,2	18	R 300

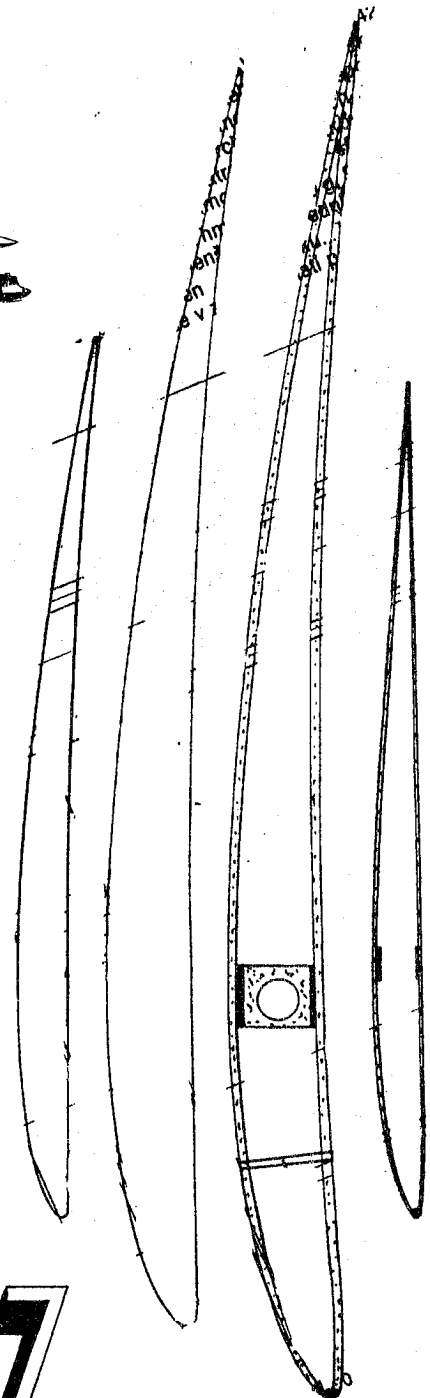
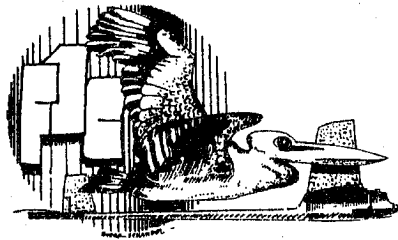
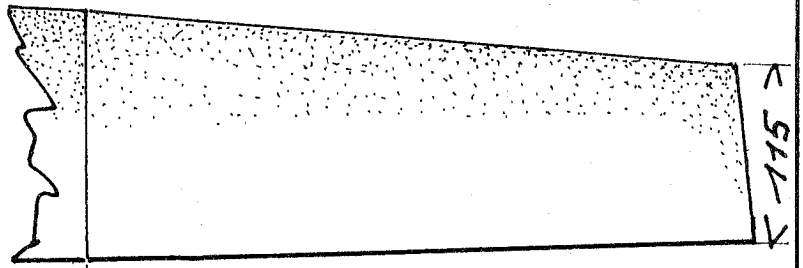
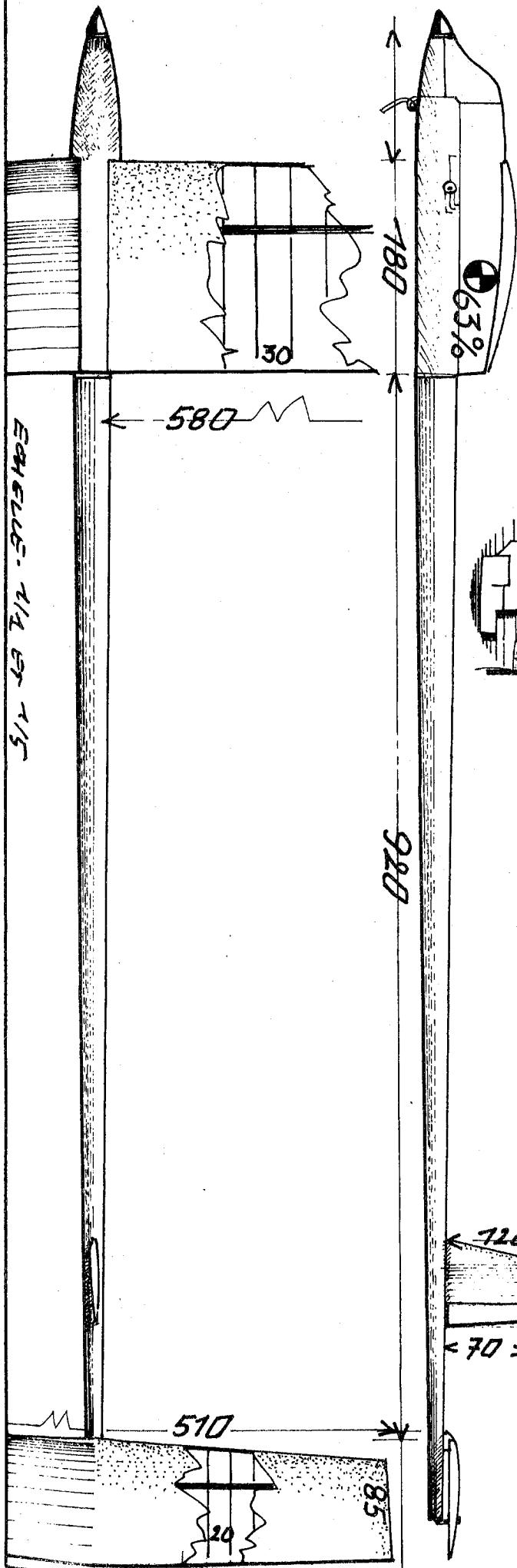


FREE FLIGHT

136

V. STRUKOV

SV 40-42

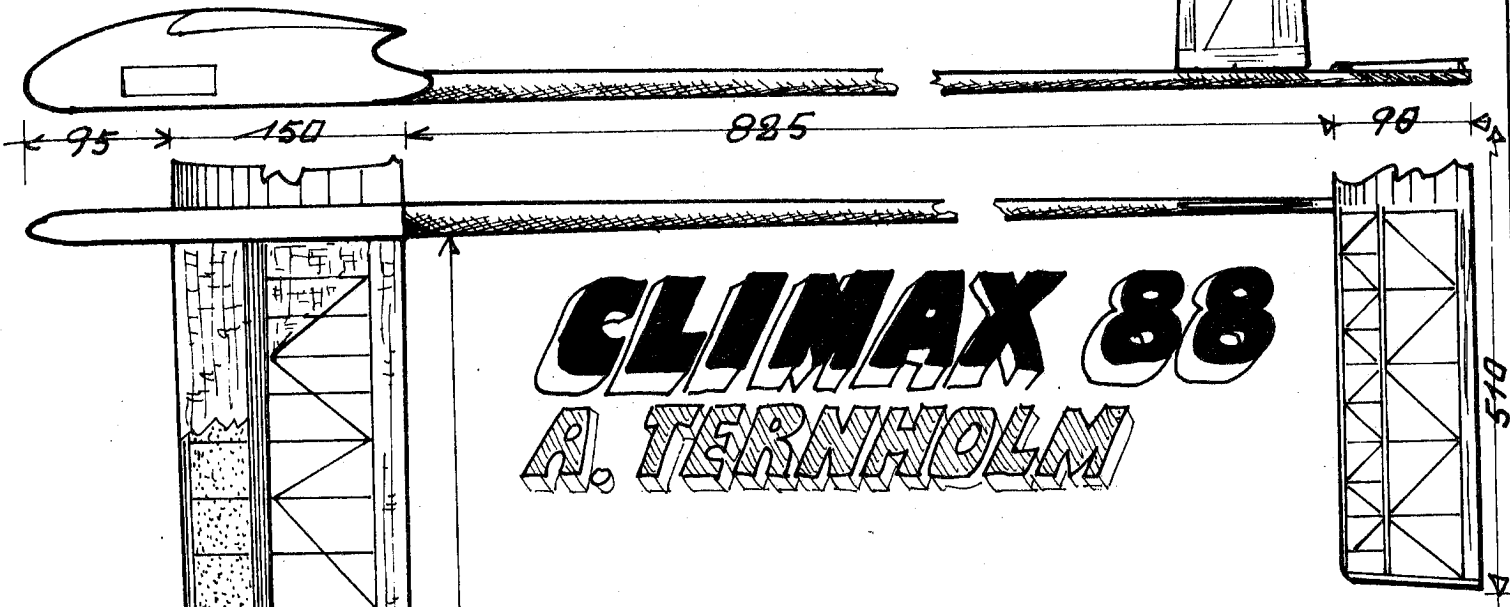


137

FOR THE BEST OF THE

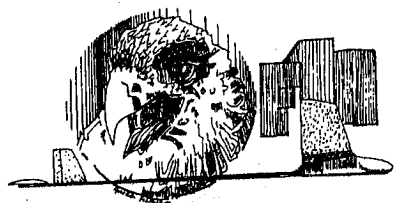
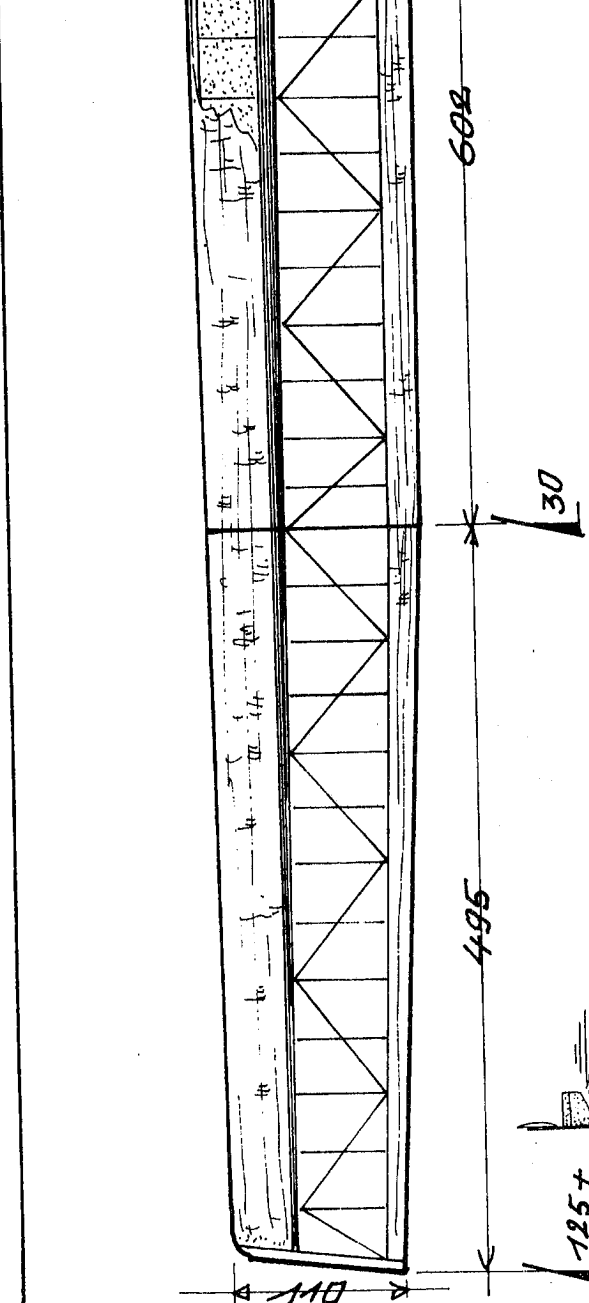


FREE FLIGHT
VOL LIBRE
FRIJ FLUG



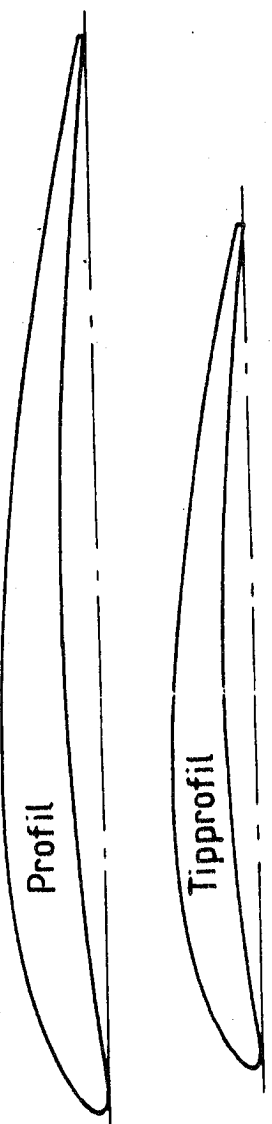
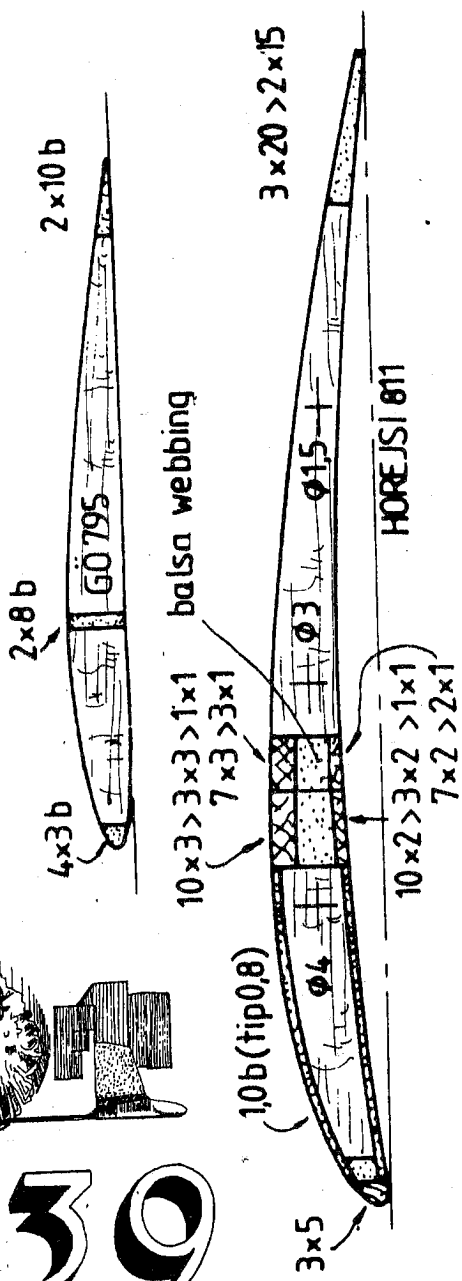
CLIMAX 88

A. TERNHOLM



125+

139

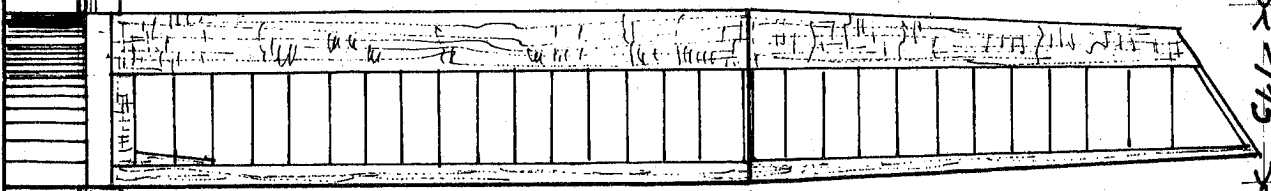


O. TORGERSEN

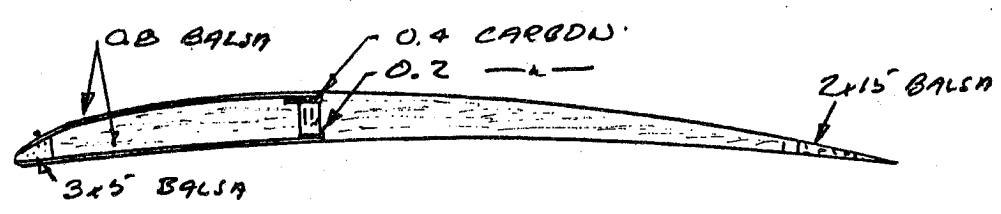
"MUNIN"

▷ 20°
BALSAS + KEVLAR
INSIDE + GLASS. OUTS.

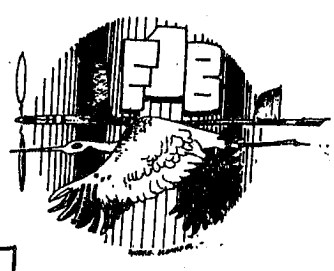
◁ 10°
Ø 32,5
40
0°
62%



420 330
25K 15
50 143



AILES
AILE. 15,67 dm²
STAB. 3,00 dm²
18,67 dm²

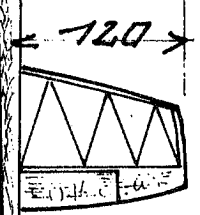


FREE
VOL
FREE
FLIGHT
LIBRE
FLUG

140

OLE TORGERSEN - A. SCHANOEL -

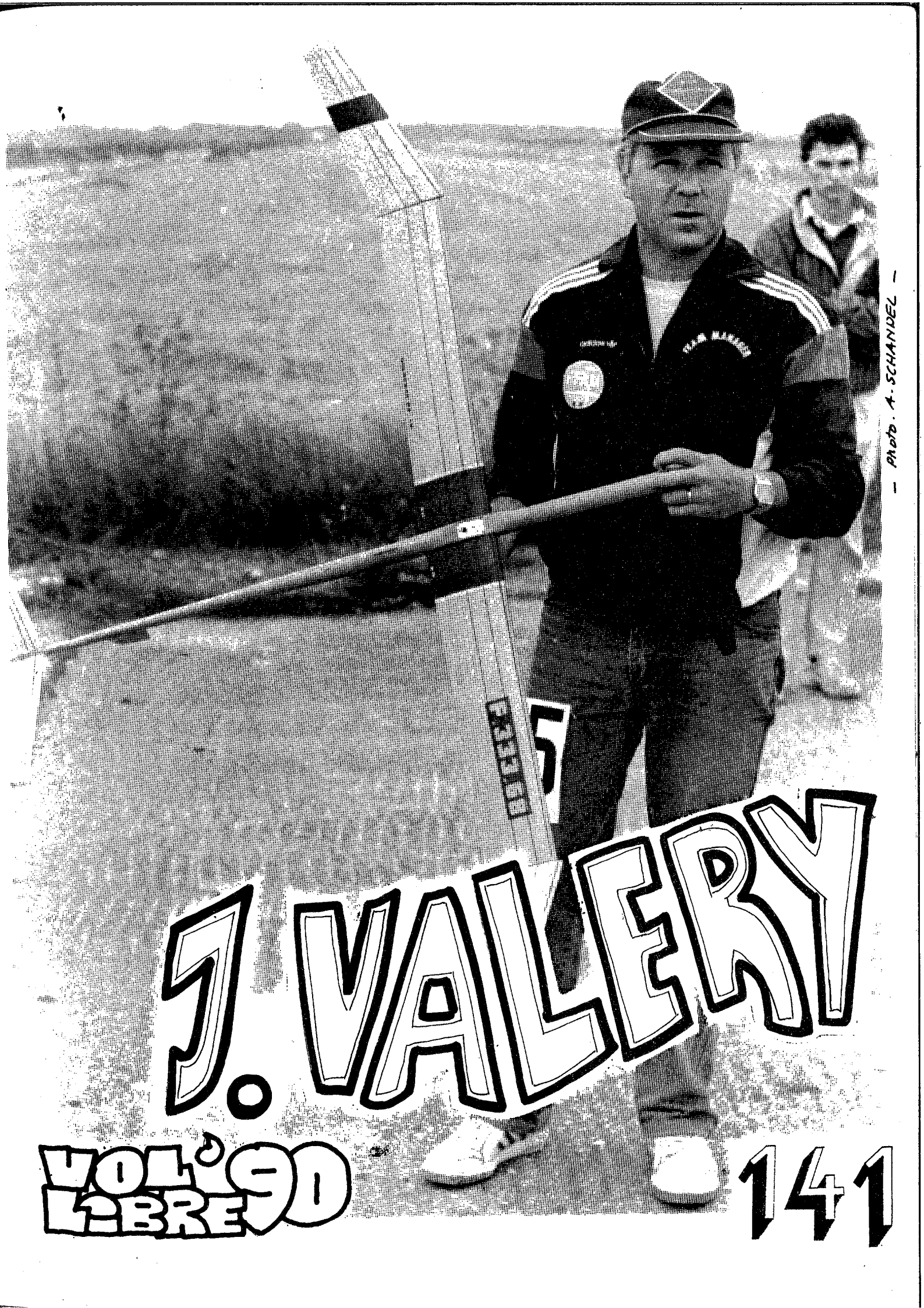
817
BALSAS + GLASS FIBER - OUTSIDE



3 POS

2 POS

375
F. 1/1 ET 1/5



— PHOTO A. SCHANDEL —

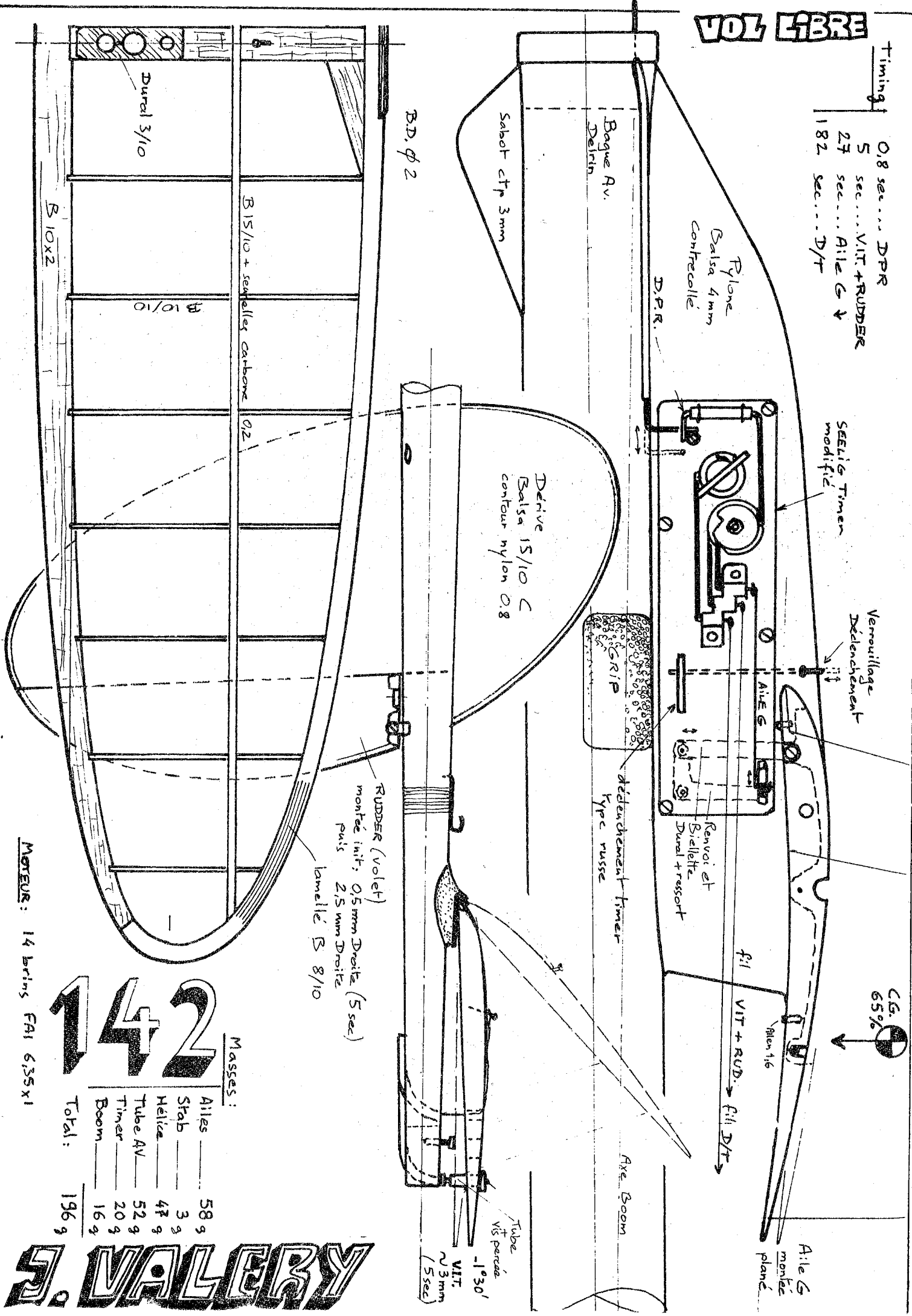
J. VALERY

**VOL. 90
LIBRE 90**

141

VOL LIBRE

Timing
 0,8 sec... DPR
 5 sec... VIT + RUDDER
 27 sec... Aile G
 182 sec... D/T



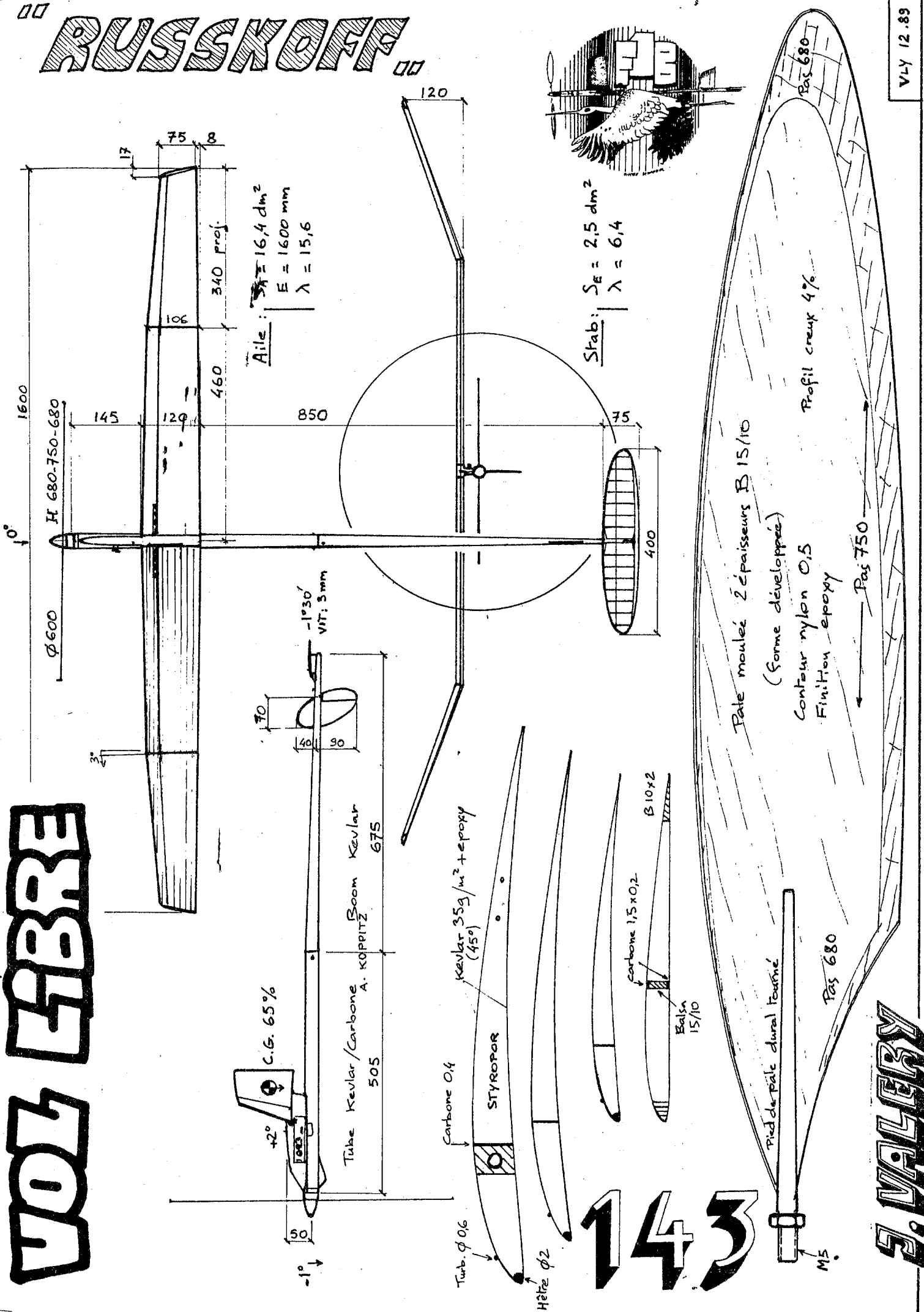
142

Masses:

Ailes	58 g
Stab	3 g
Helice	47 g
Tube AV	52 g
Timer	20 g
Boom	16 g
Total:	196 g

MORSEUR: 14 brings FAI 6,35x1

J. VALERY

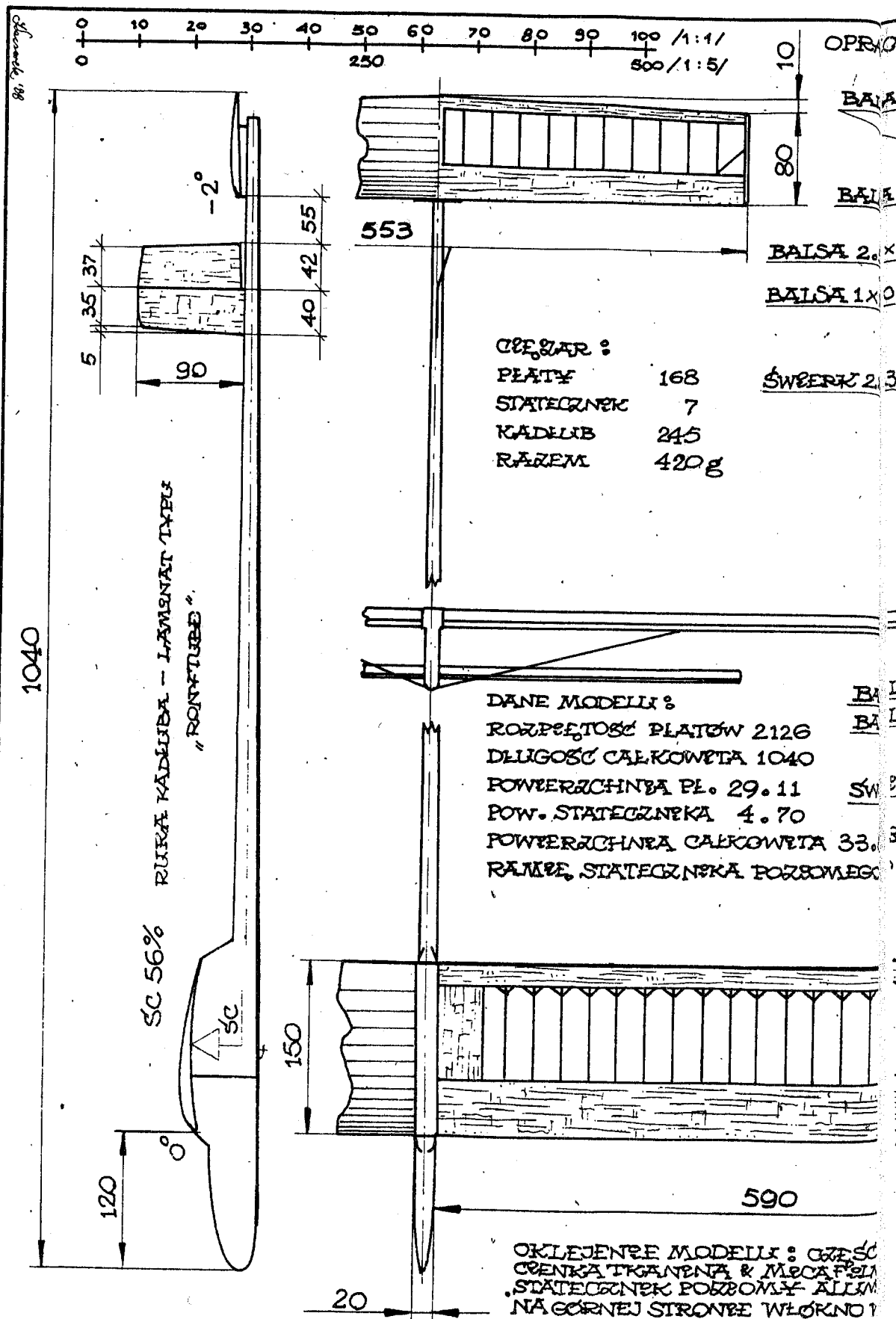


M. VAN DIJK

CHAMPION DU MONDE
JUNIOR 1988

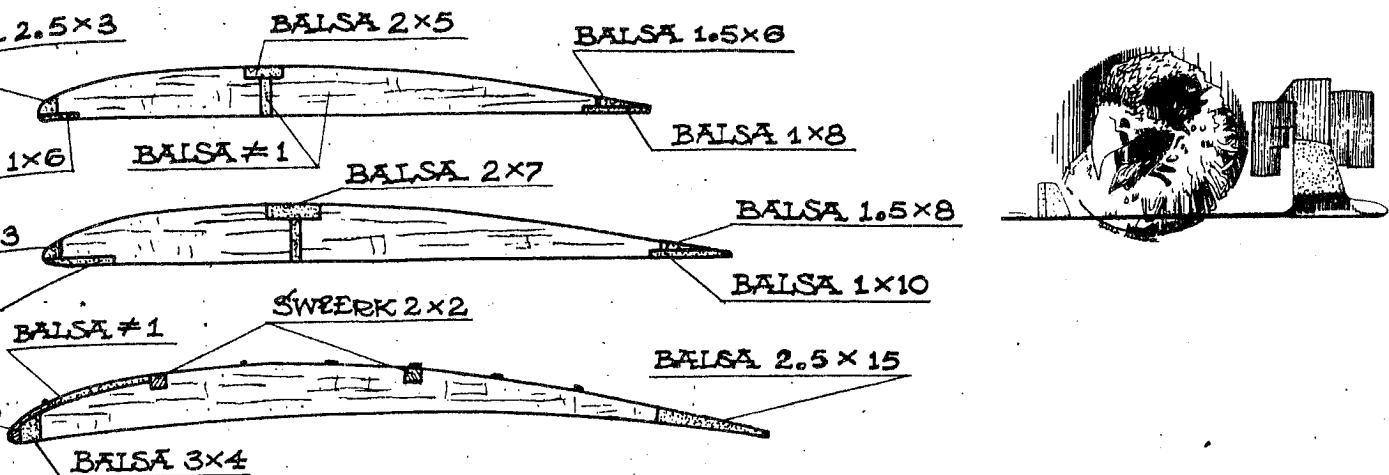
VOZ FBRE

144



MODEL SZYBOWCA KL. F1A
konstruował MAARTEN VAN DIJK

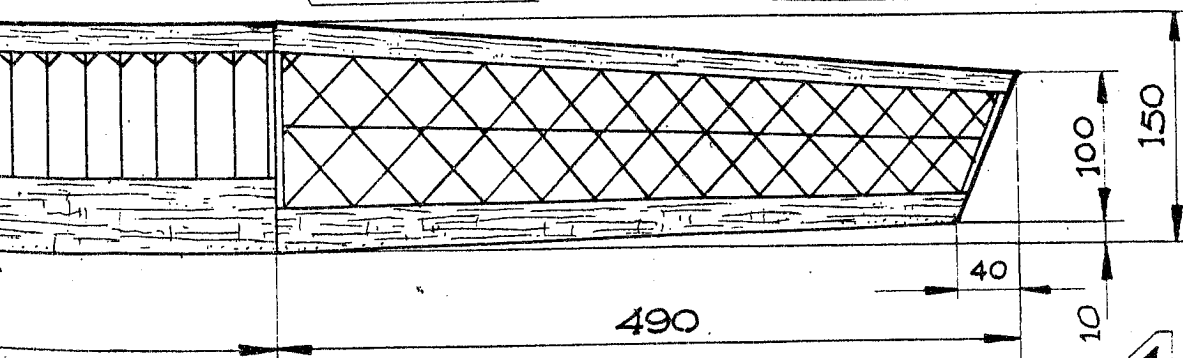
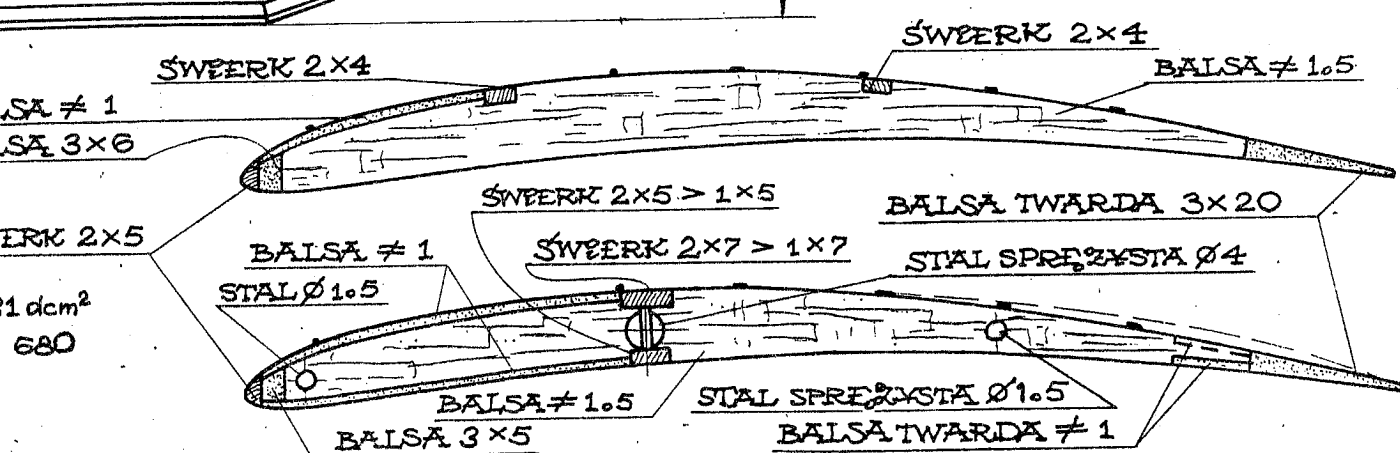
FREE FLUG



SKRĘCENIE PRAWEGO LUCHA 4mm
 W CELU UZYSKANIA PŁASKIEGO
 KRĄŻENIA W LEWO

160

PROFIL PLATA
 DE BOER 705366 mod.



CENTRALNA PŁATOW-
 A, USZY PŁATOW - MECAPOLM;
 SŁUSZOWANA FOLIA MYLAROWA.
 WEGLOWE & KEVLAR/PLATY/.

LOTY : 7 x 180 + 189

145

GOI.356. Mistrz Świata Juniorów
 HOLANDIA LESZNO. WRZEŚEŃ '88

FREE FLIGHT VOL LIBRE

VOZ LIBRE

A. VAN WALLENE

ANTENNE-

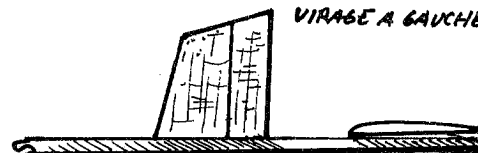
0°



56%

NEZ COQUILLES F.O.V.
PATIN- CARBONE-

VIRAGE A GAUCHE



120 150

700

90

POUTRE F.O.V. CARBONE-

PLASTIC 1

* MASSES:-
AILE: 207.
STAB: 7
FVS: 201

* AIRES:-
AILE: 29,45
STAB: 4,50

AILE EN TROIS PARTIES -
JOINTS - CARBONE Ø 5mm -

635

80

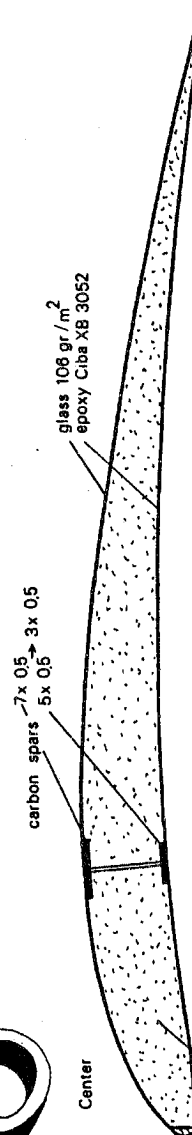
430

DIEDRE DROIT - 4mm -
VIRAGE -

50

120

146



carbon spars 7x 0,5 → 3x 0,5
5x 0,5

glass 106 gr/m²
epoxy Ciba XB 3052

0,6 plywood webbing

Styrofoam 31 kg/m³

0,5 0,5
carbon 3x 0,25 → 1x 0,25

Tip

all balsa

1mm

3x 0,25 carbon

Stab

Mylar covering

8x15

A. SCHANDEL

**VOL'90
LIBRE**

Photo. A. SCHANDEL

**A. VAN
WALLENE**

147

A. VAN WALLENE

ANTENNE -

0°

57%

HEL F.D.V.
PATIN-CARBONE.

VIRAGE A GAUCHE -

80

-30

120 150 700 90

3 VIS 113
- NYLON -

HI BRID

* MASSES:-
AILE: 196g
STAB: 7
FUS: 212 TIGER 15
BAT: 25
TOTAL: 415g
* AIRES:-
AILE: 29,45 dm²
STAB: 4,5 dm²
* CROCHET:-
- 4,5 → 4,8 kg.

SEPARATION AILE
EN 3 PARTIES. - JOINTS CARBONE 0,5 mm.

660

10

426
VAILLAGE
DIEDRE DROIT - 4 mm -

149

50
102

8 x 0,5
→ 3 x 0,5

carbon spars

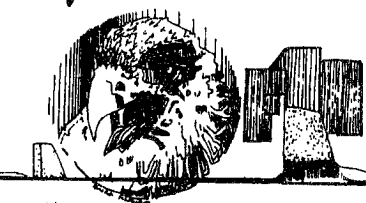
106 gr/m² glass at 45° / epoxy

06 plywood

styrofoam
31 kg/m³

1 x 0,50
carbon 3 - 1 x 0,25

glass 25 gr/m² mylar



carbon capstrips
1mm ribs
8 x 1,5 balsa
mylar covering
carbon 2,5 → 0,8 x 0,25
3 x 3
balsa

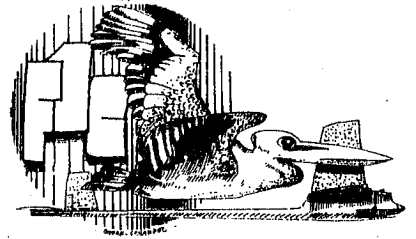
148

VOZ LIBRE

ECHELLE 3/4 ET 1/15

A. SCHANDEL - A. VAN WALLENE

E. VERBITSKY



BE 43

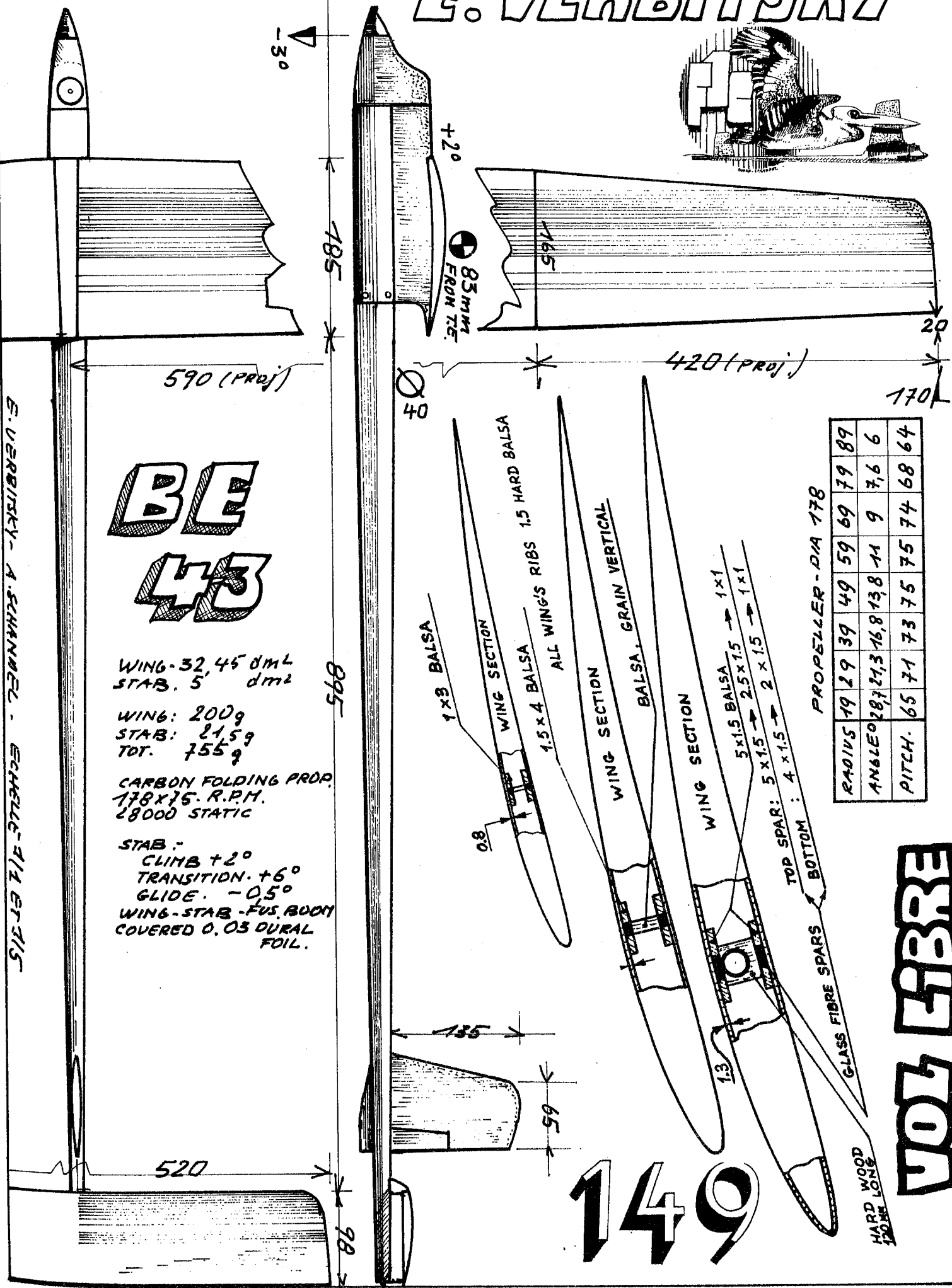
WING - 32,45 dmL
STAB. 5 dmL

WING: 200g
STAB: 215g
TOT. 755g

CARBON FOLDING PROP.
178x75. R.P.M.
28000 STATIC

STAB: -
CLIMB +2°
TRANSITION +6°
GLIDE -05°
WING-STAB-FUS. BODY
COVERED 0.03 DURAL
FOIL.

E. VERBITSKY - A. SCHANNEL - ECHELLE 1/1 ET 1/5



PROPELLER - DIA 178

RADIVS	19	29	39	49	59	69	79	89
ANGLE	28,7	21,3	16,8	13,8	11	9	7,6	6
PITCH	65	71	73	75	75	74	68	64

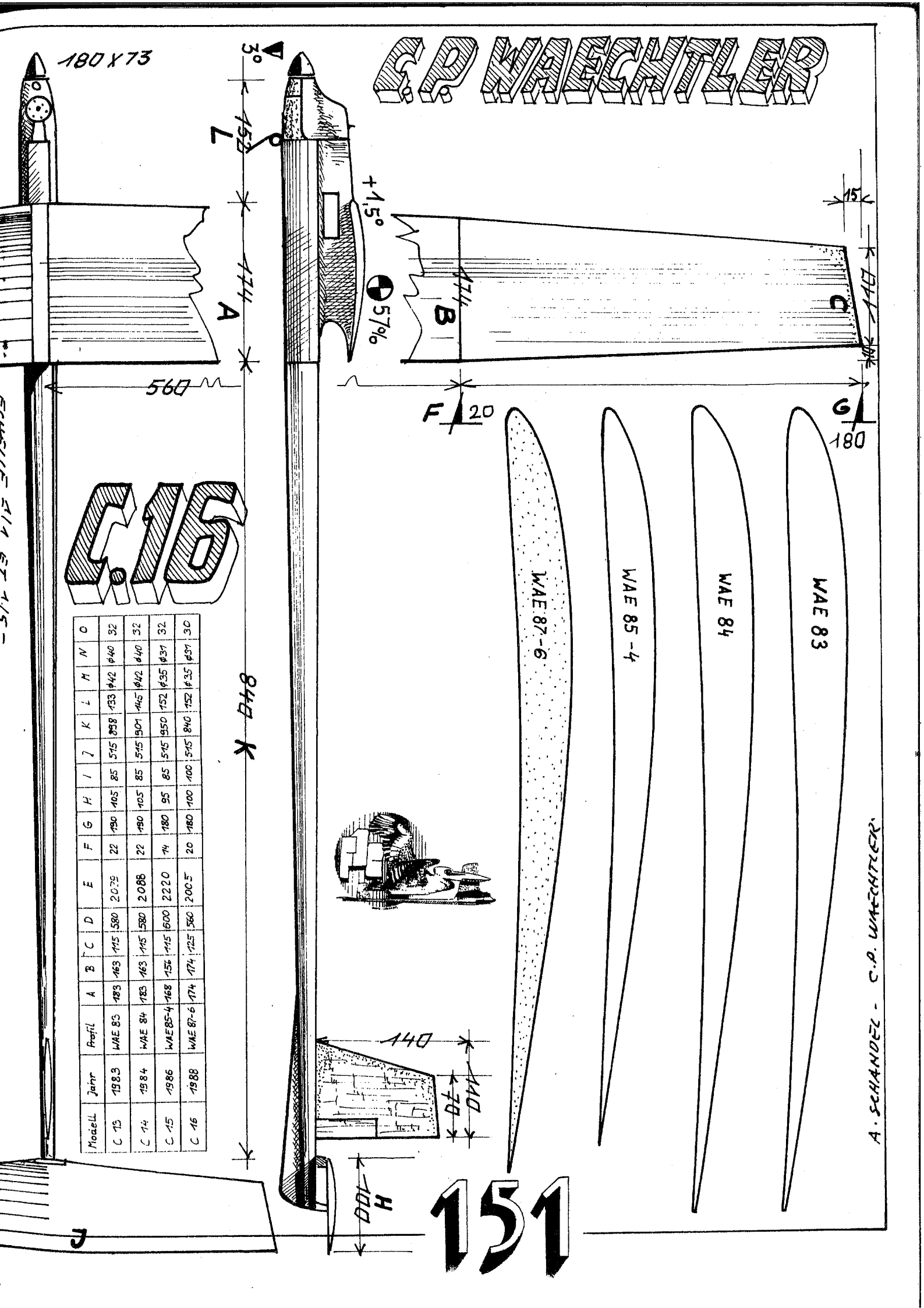
VOLEBIRE

149

HARD WOOD
120cm LONG

VOL FIBRE





C.15

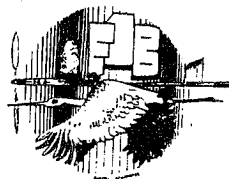
Modell	Jahr	Profil	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
C 13	1983	WAE 83	183	163	115	580	2075	22	190	105	85	515	858	133	142	140	32
C 14	1984	WAE 84	183	163	115	580	2088	22	190	105	85	515	901	145	142	140	32
C 15	1986	WAE 85-4	168	158	115	600	2220	14	180	95	85	515	950	152	135	137	32
C 16	1988	WAE 87-6	174	174	125	560	2005	20	180	100	100	515	840	152	135	137	30

840 K

J. WANTZENRIEGER

hélice 540/800
pour 16 brins
-anneau $\varnothing$ 100

→ 1,8°



J. WANTZENRIEGER 11-12-13-14

129

121

15,59 dm²

98

265

410 proj.

dièdre
150

FULL TOP

152

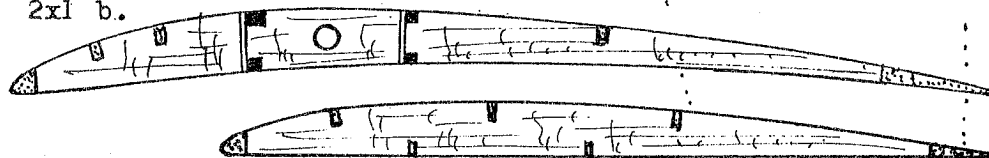
CG 73 %

685

Vrillage aile
symétrique -2mm
Plané à droite
par tilt et
pales.
Piqueur 2,3°
Calage aile 0°.

Pin 2x3 1,5x1,5

2xl b.



Bouts d'aile : 7 longerons balsa 2xl
Broche CAP 25/10

Stabilo surélevé
sur pilotis CAP 15/10

77

2,90 dm²

328

102

Aire dérive 0,7 dm²

VOZ LIBRE

J. WANTZENRIEGER

**WOL 90
LIBRE 90**



- Photo - A. SCHANDEL -

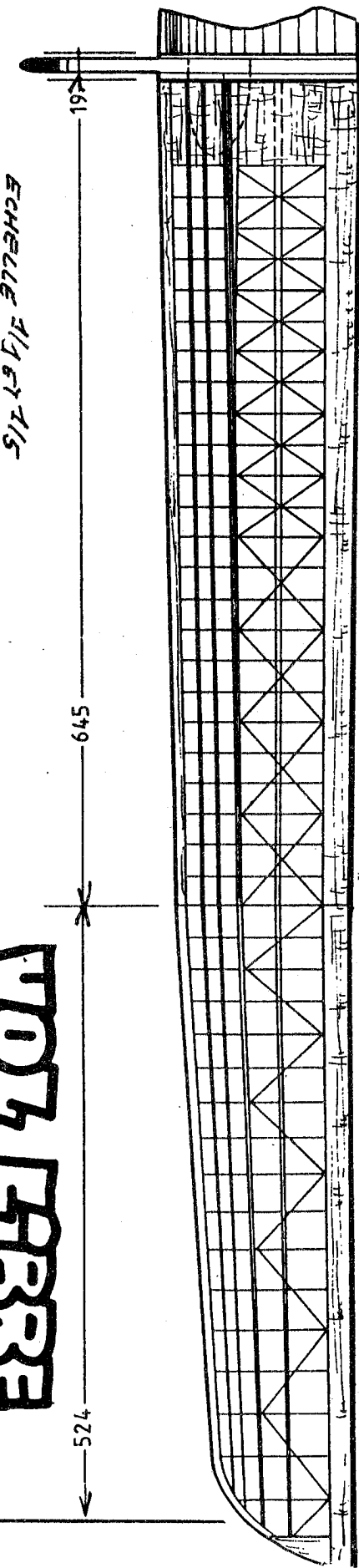
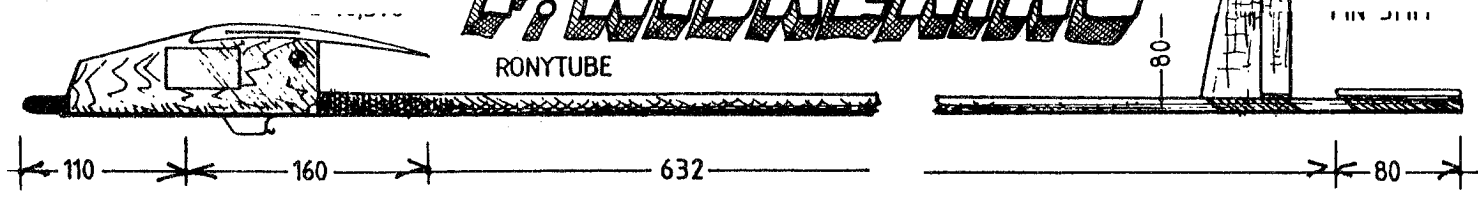
F. WILKENING

153

G.P. WÄCHTLER



RONYTUBE

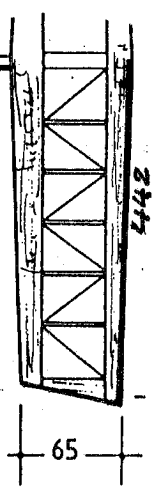
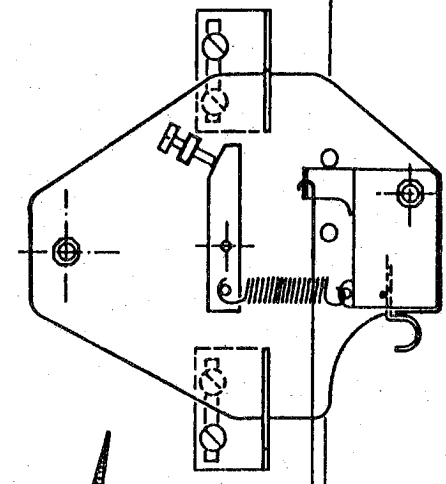
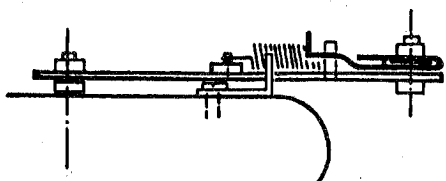
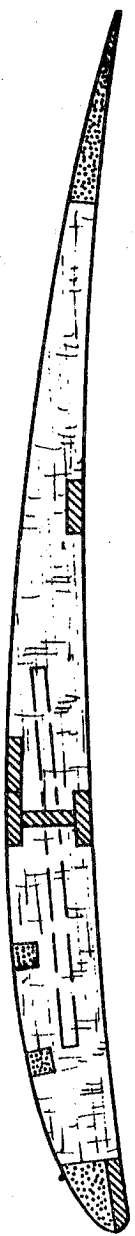


WARPS:
R.H. TIP: 3MM WASHOUT
R.H. CTRE: 1MM WASHIN
L.H. TIP: 5MM WASHOUT
L.H. CTRE: FLAT

WEIGHTS:
WING 190
FUSELAGE 232
TAIL 7
TOTAL 429 GMS

AREA:
WING 30,78
TAIL 3,20
TOTAL 33,98

154



WING SECTION
RIBS: 2 MM Balsa
DIAGONALS: 1 MM Balsa

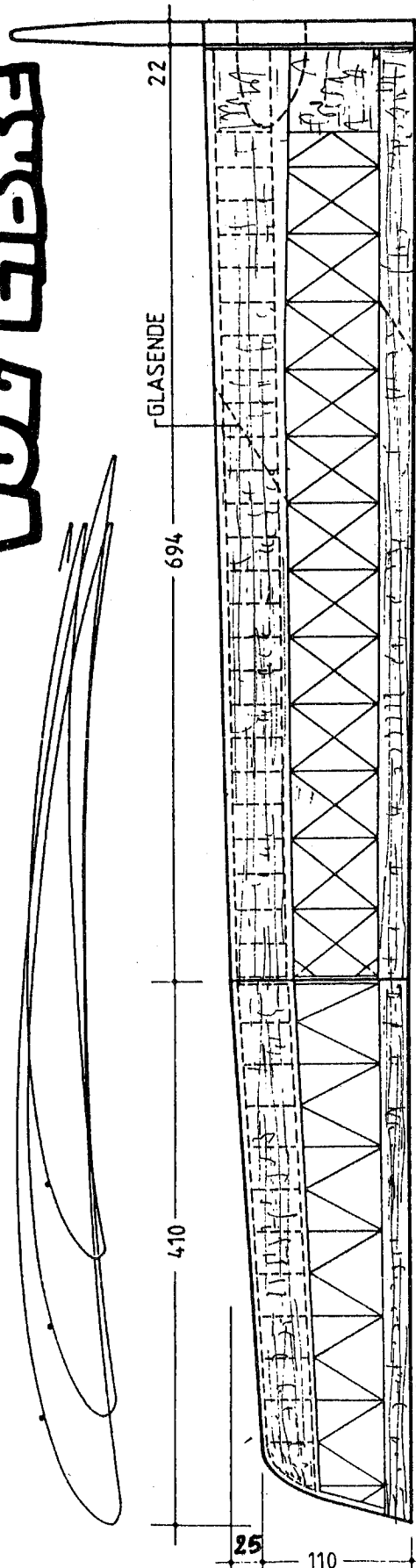
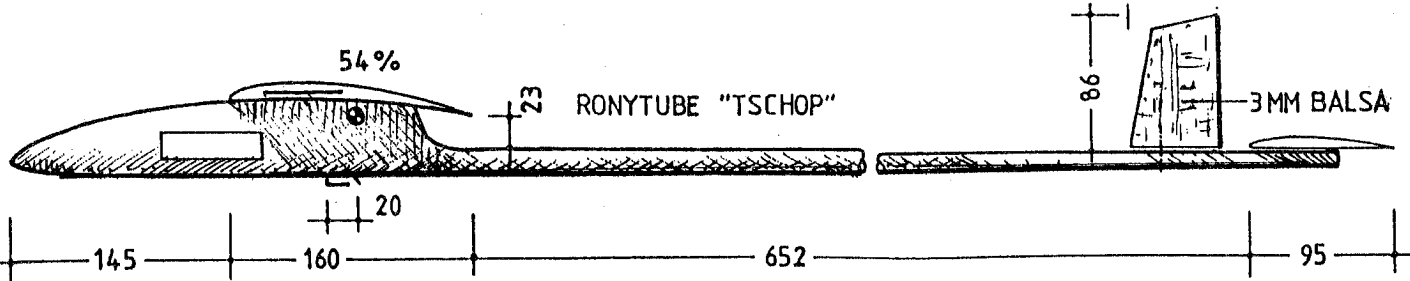
1/4

TAIL SECTION
RIBS: 4 MM Balsa
DIAGONALS: 2 MM Balsa

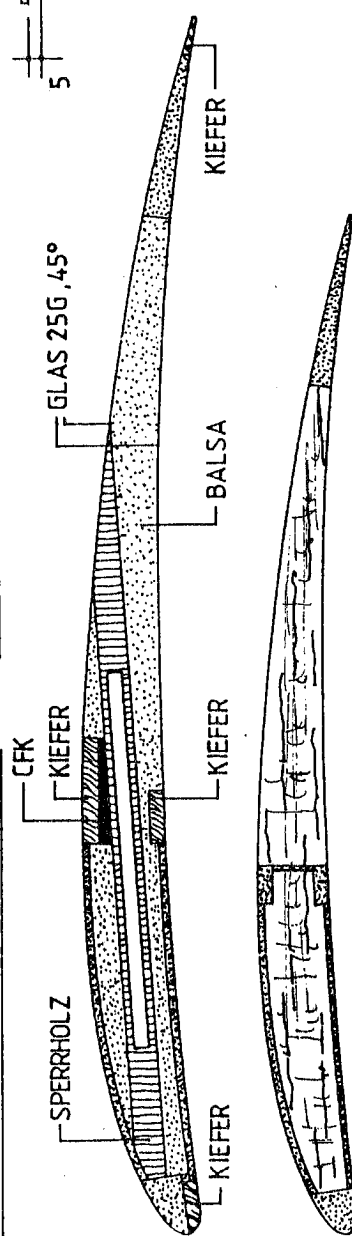
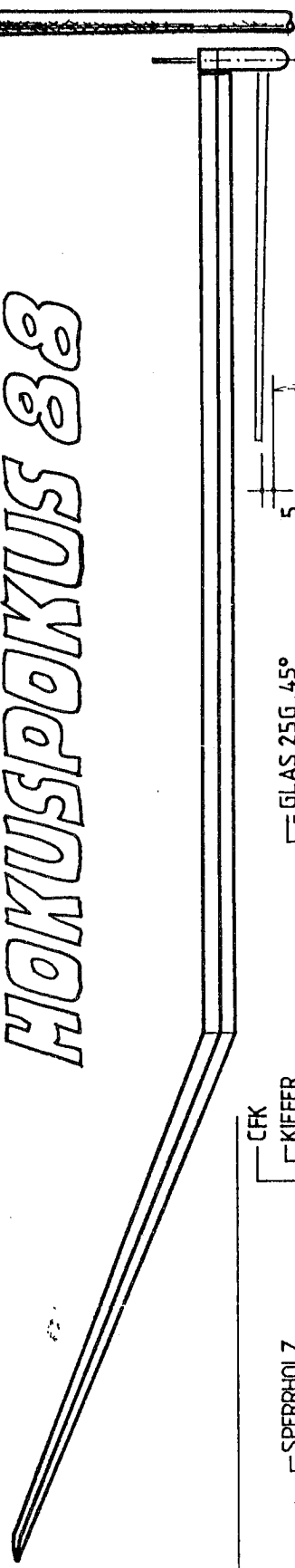


GRUNSCHNABEL

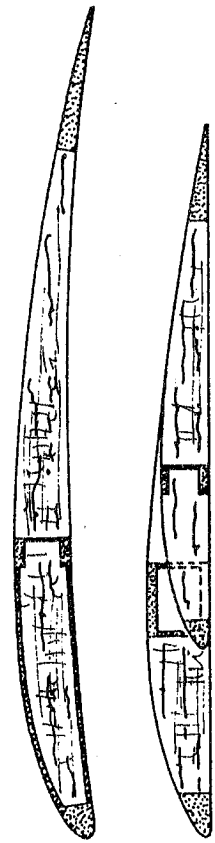
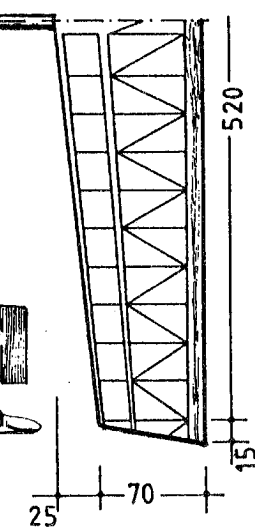
VOL 4BRE



HOKUSPOKUS 88



155



F. WILKENING

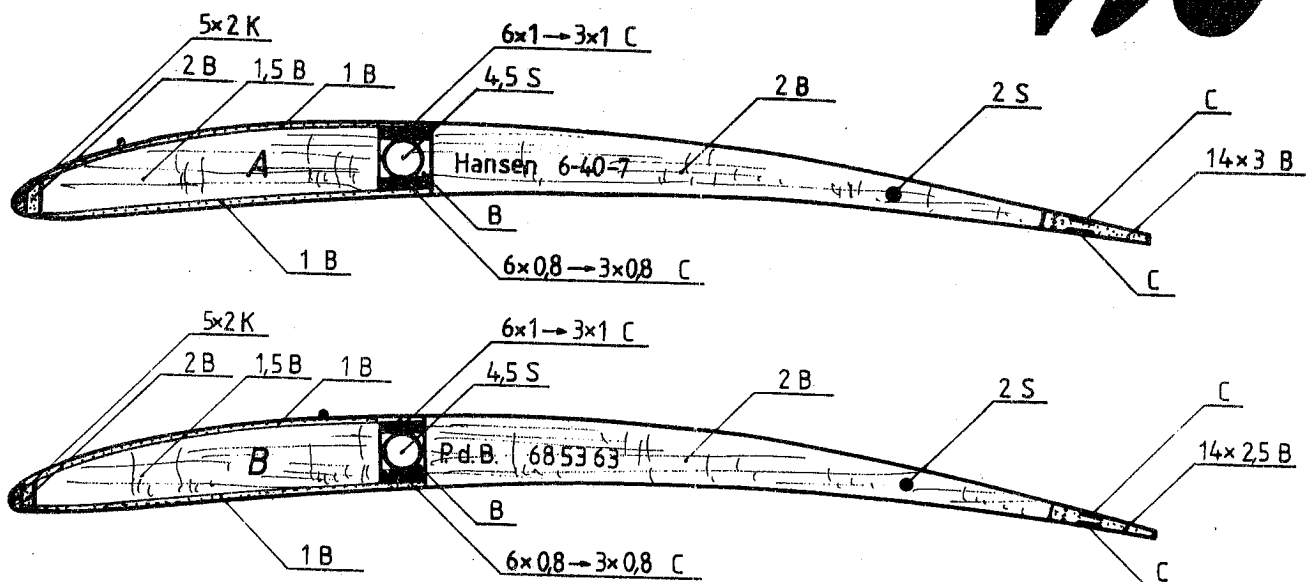
ÉCHELLE 1/11 ET 1/5 - F. WILKENING.

F1A 86/87 mod.

	S	E
A	53%	2,6°
B	56%	2,4°

m	Flügel	Leitwerk
A	150 g	7 g
B	163 g	7 g

B=Balsa K=Kiefer C=Carbon S=Stahldraht
alle Maße in mm



156

REALLY?

J. VÖRÖS

PAGE 150

C.P. WÄCHTLER

Claus Peter WÄCHTLER PAGE 151
Pfarrhübel 46 (78-36)
9054 Karl MARX STADT-CHEMNITZ
Claus Peter WAECHTLER

Ich wurde am 05/03/1959 in Karl Marx Stadt geboren. Von Beruf bin ich Diplomingenieur. Ich studierte von 1980 - 1985 Strömungsmechanik an der Technischen Universität Dresden. Ich bin verheiratet und Vater von zwei " zukünftigen F1C Fliegern " Mario ist 4 Jahre und Marcel 14 Wochen (Heute 28/2/90).

In dem Modellsport habe ich 1968 im Alter von 9 Jahren begonnen. F1 C fliege ich seit 1974. Unserer Auswahlmannschaft gehöre ich seit 1980 an. Mit den ganz großen Erfolgen bin ich bis heute noch nicht üppig bedacht worden. Allerdings gab es auch noch nicht sehr viele Gelegenheiten dazu. Von 1980 bis 84 war ich nicht für Wettkämpfe im NSW (damals " Nichtsozialistisches Weltsystem " genannt) bestätigt. Aus diesem Grund mußte ich damals sogar darum kämpfen überhaupt in der Mannschaft verbleiben zu dürfen. Außerdem konnte unsere Mannschaft 1981-82-83-84-88-89 aus finanziellen Gründen nicht an Europa- und Weltmeisterschaften teilnehmen. Eine private Finanzierung war auch ausgeschlossen! So bleibt nur die WM 85, wo ich im ersten Durchgang nach dem Steigflugbremse, die E.M. 1986, wo mein Modell im 1. Durchgang bei 176 Sekunden in 6 Meter Höhe eine Hindernislandung machte und die W.M. 87, wo wir Vizeweltmeister in der Mannschaft wurden. Ich belegte damals Platz 9 in der Einzelwertung.

Bei internationalen Wettkämpfen und später auch Welt-Cup-Wettbewerben an denen ich teilnehmen konnte, belegte ich folgende Plätze:
- Böhmerwaldpokal CSSR 1980 - 4 ter; 1986 - 2 ter;
1989 - 9 ter. Wolgograd SU 1981 - 1 ter. Leipzig DDR 1983 - 3 ter; Wettkampf der sozialistischen Länder DDR 1985 - 5 ter; CSSR 1987 - 4 ter; UNG. 1989 - 4 ter.
Riesa DDR 1987 - 4 ter; 1989 - 3 ter; Dömsöd 1989 UNG. 8 ter. Zülpich BRD 1989 - 2 ter.

Ich war 1988 DDR Meister sowie 4 X DDR Mannschaftsmeister. Dazu kommen noch zahlreiche zweite und dritte Plätze bei der DDR Meisterschaften.

JEAN WANTZENRIETHER

WANTZENRIETHER Jean PAGE 152

Rue la Mairie
Bourdonnay
57810 MAIZIERES LES VIC France

F. WILKENING

PAGE 154-155

WILKENING Fritz

Trift 64
3040 SOLTAU RFA.

157

R. ZIEGLER

ROGER ZIEGLER

PAGE 156

Geboren am 30.11.1968 in Stuttgart. Aktiver Modellflieger seit etwa 10 Jahren im Aero Club Stuttgart. Zum Modellflug bin ich über meinen Vater Gerhard (mehrmaliger WM Teilnehmer in F2 A) gekommen. Große Unterstützung habe ich auch von Wolfgang Gerlach erfahren.

Deutscher Jugendmeister in A1 und F1A, EM Teilnehmer 1986, einige Platzierungen bei int. Wettbewerben.

Seit 1989 studiere ich Luft- und Raumfahrttechnik an der Universität Stuttgart. Wenn an der Uni mal nichts los ist, dann trifft man mich beim Skifahren, Squashspielen oder Radfahren, oder einfach in der Kneipe um die Ecke.

In diesen Modellen habe ich zum erstenmal faserverstärkte Werkstoffe eingesetzt. Die Modelle sind eine Konstruktion von 1986/87 und waren damals in konventioneller Holzbauweise aufgebaut. Ich werde bei diesem Konzept bleiben und als nächstes die Balasabeplankung durch eine Kevlarschale ersetzen.

Erläuterungen:

- Im Wurzelbereich sind die Rippenfelder mit Rohacell ausgefüllt und mit Glasgewebe überzogen.

- Holzverbund ca. 20 cm lang von der Wurzel aus mit Kohlerowings umwickelt.

- D Box wird zuerst komplett fertig gemacht. Anschließend wird das hintere Flügelteil stumpf angeleimt. Die Verbindung erhält seine Stabilität durch die, zum Schluß, über die Rippen gezogenen Kohlerowings.

VOL. 90
LIBRE 90

PHOTO - A. FERNANDEZ -

A. ZERI

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Technical drawing of a propeller with the following dimensions:

- Tip width: 50
- Distance from tip to first station: 132
- Distance from first station to second station: 290
- Hub diameter: 60
- Hub height: 80
- Distance from hub to end: 95
- End diameter: 15
- Scale: 60%
- Overall length: 590
- Overall length: 725
- Section label: sec. - end

Right wing: +15': 0-35 sec.
-50': 35-end

Fin: Y
0°: 0-3 sec.
right: 3-end

Seedling 5 fz.

$$S = 15.85 \text{ dm}^2$$
$$s = 2.945 \text{ dm}^2$$

Propeller 595 x 745 (at 0.75 R)

Motor 32 strands 3x1

380 ÷ 400 turns

Motor run ~ 38 sec.

Wing Airfoil

Wingtip Airfoil

Stab. Airfoil

Stab.:

+40' : 0-3 sec.

-40' : 3-11 sec.

-1 50:11-dt.

Wing + joiner	48 gr.
Stabilizator	3.7 gr.
Motor tube	80.7 gr.
Tail boom	18.6 gr.
Propeller	35.8 gr.
Ballast	5.2 gr.
Total	192.0 gr.

FREE FLIGHT

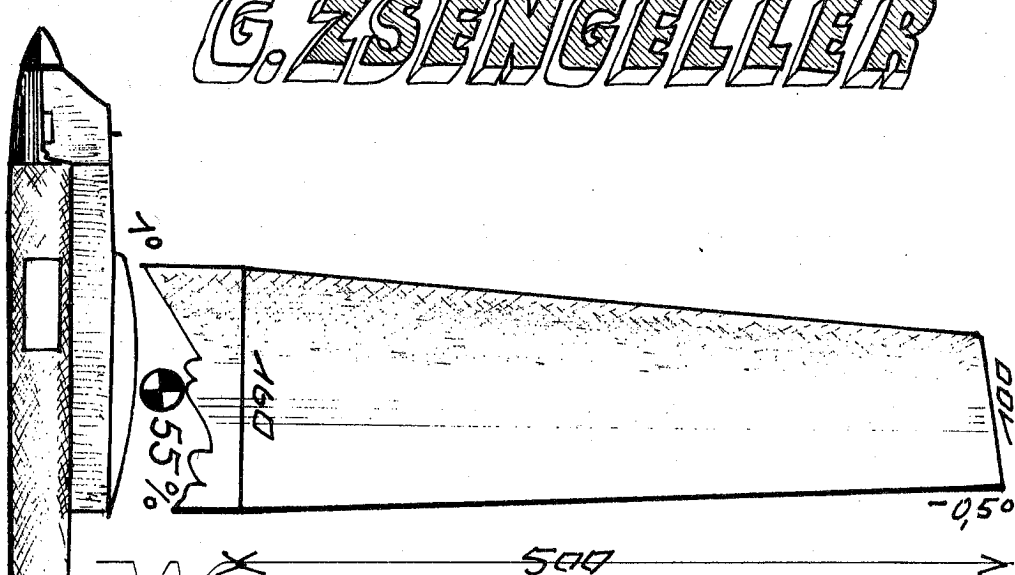
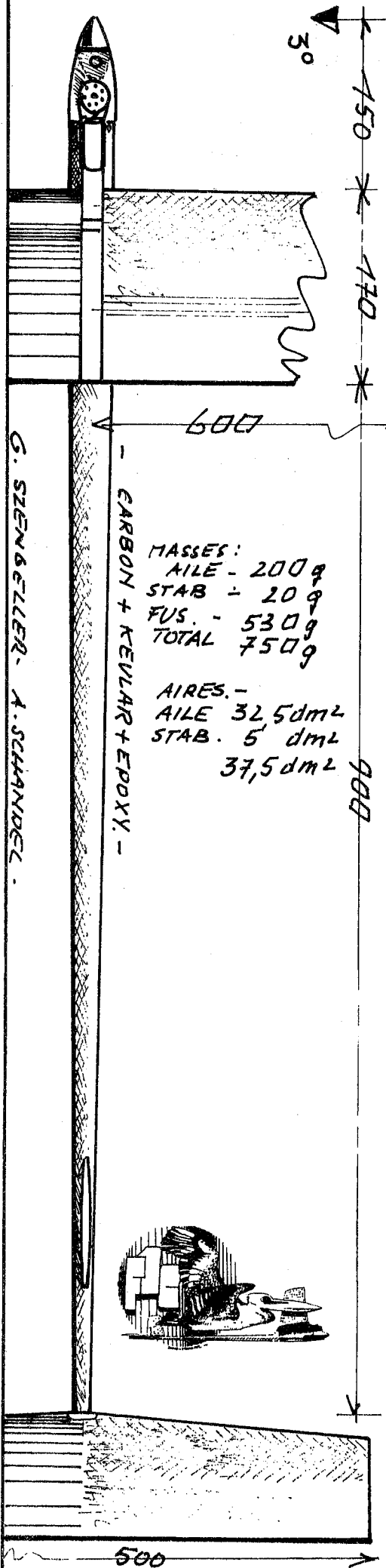
A stylized logo for 'PARA VÍS'. The word 'PARA' is in a bold, sans-serif font, with the 'P' and 'A' connected. The word 'VÍS' is in a larger, bolder, sans-serif font, with the 'V' and 'S' connected. The letters are black with a white outline. The logo is integrated with a stylized bird-like shape, where the bird's head and beak form the 'P' and 'A', and its body and tail form the 'V' and 'S'. The bird is facing left.

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A-ZERI-

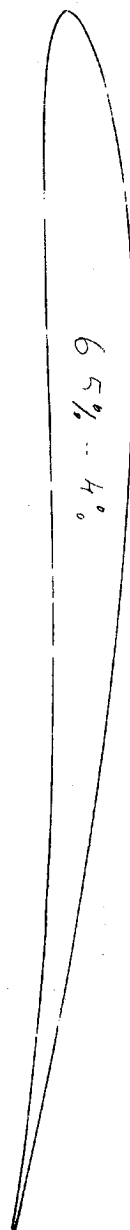
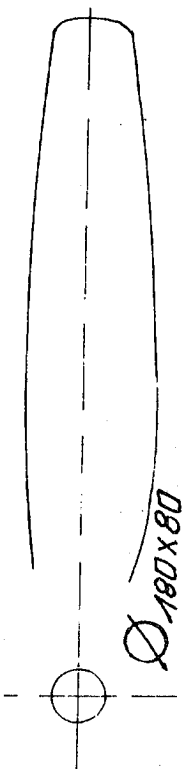
G. SZENGELLER

G. SZENGELLER - A. SCHANDLER



HIGHWALKER

5113112 3172423

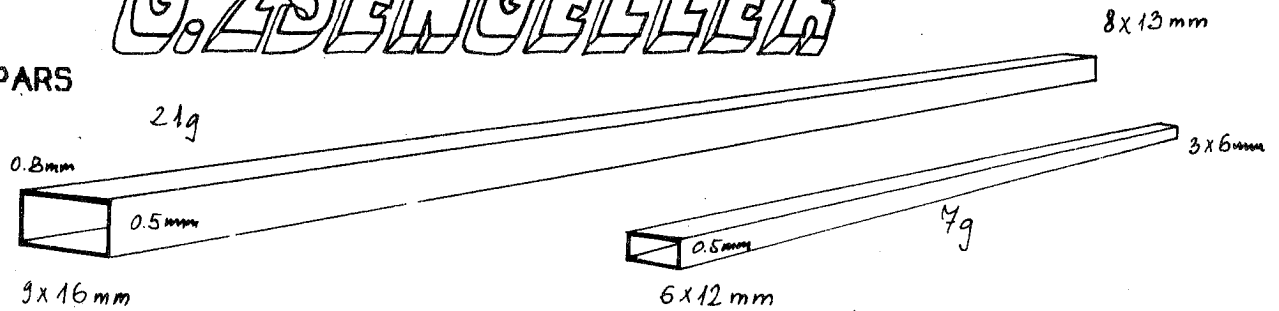


VOL FIBRE

160

G. ZSENGELLER

1 CARBON SPARS



Wingspans are
Made on 90°C
Under high press

Stab

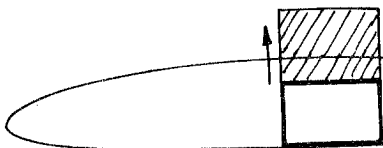
2 FOAM SEED

FOAM

(expl: Barradur GSF 3 BB15 5-1) white

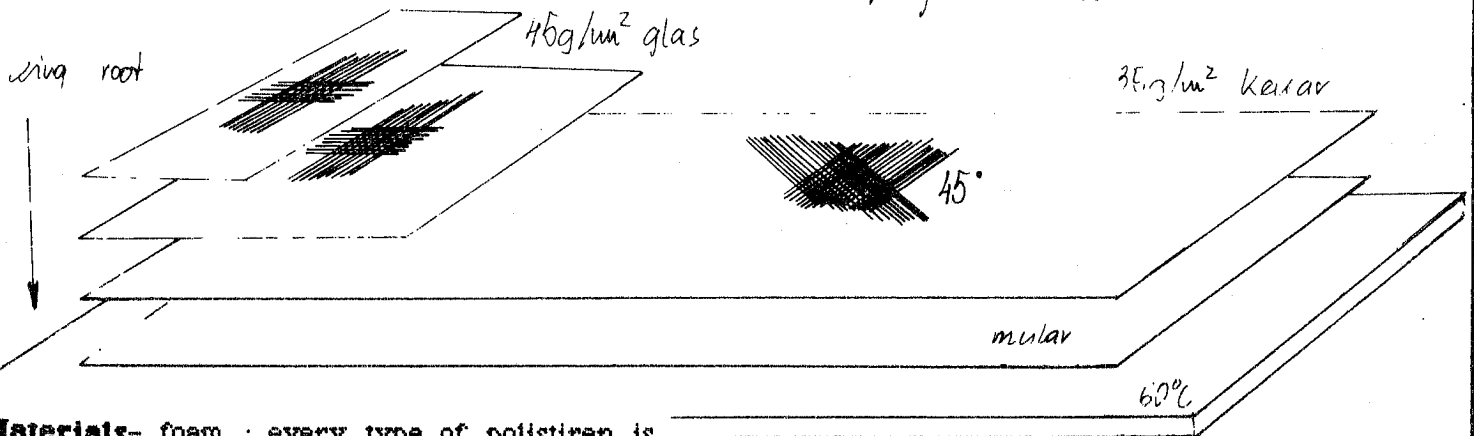
cut with hot wire 0.3

3 SPARS IN



VOL LIBRE

4 EPOXY TO CLOATH



Materials- foam : every type of polistiren is usable . I use 30-35 kg/m³ in wings , and 18-20 kg/m³ in stabs.

-Spars : self made , every type of carbon iis usable - epoxy : XB-3052 - glas : for stabs 30-40 g/m² ; - kevlar : 35 g/m² ; - mylar 5-15 micron thin.

Tools: profil cut set 2,5 mm plywood and diam 0,3 mm steel pins 35-40 mm length . - 0,3 mm steel wirw cutting foam , with 4-8 volts in 650-700 mm length. Necessary test cutting with the differntly foams. -vakuum set.

Building - spaars for stabs and wings . Below draw 1 - Foam seed . Below draw 2 ; - spars to foam seed Draw 3 ; - epoxi to glas and kevlar Draw 4.-

cloath on seed . Draw 5. - finish works . Draw 6. - **Airfoil** : that is very easy , and the best . Let make the $w = z + i11/2$ complex conform transformation , where is w-s are point of circle , and z-s are point of the profil .

My mesurements are: in the root: 7%-4,5%
in the root tips 6,3%-4%
in the tips 4,5%-2%

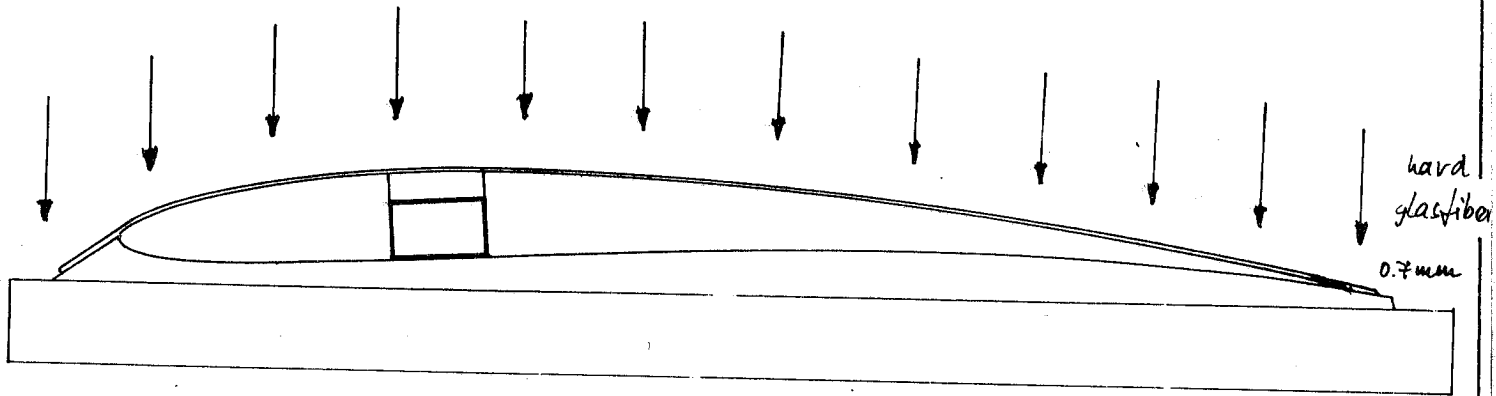
stabs profiles are Clark Y type , with 4 % diameter of noseround , and 6,2 thinth.

Weights: wings : 190-210 g
stabs 18-21 g

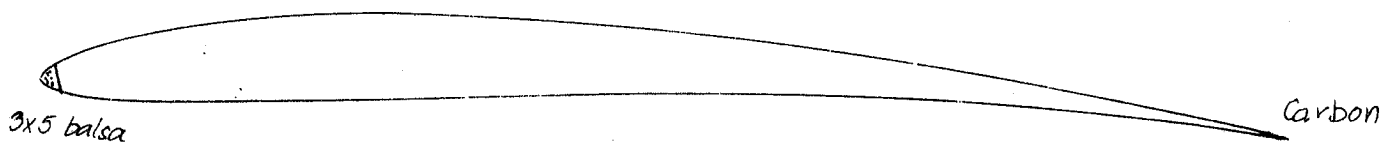
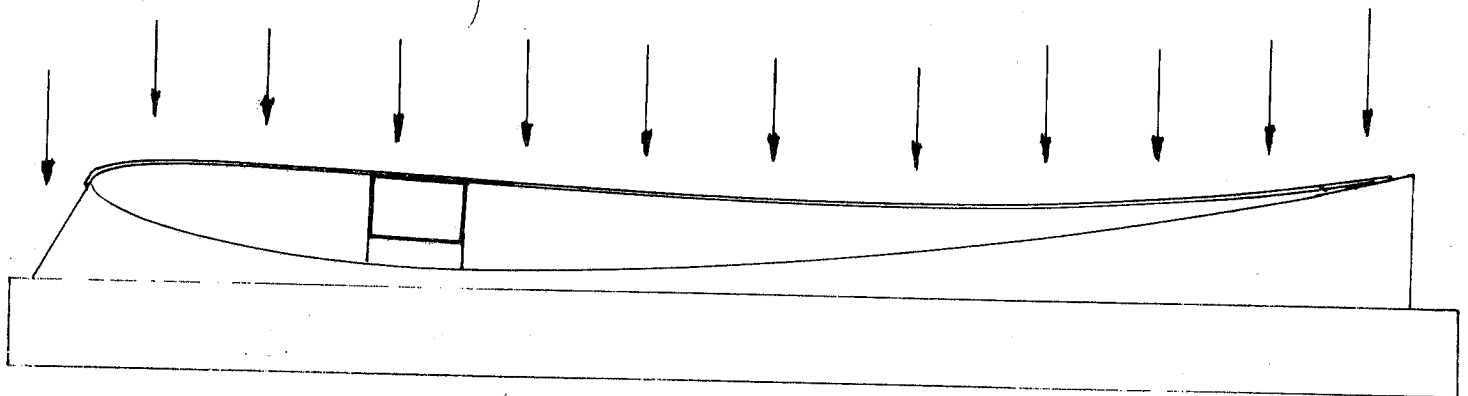
161

First the upper side

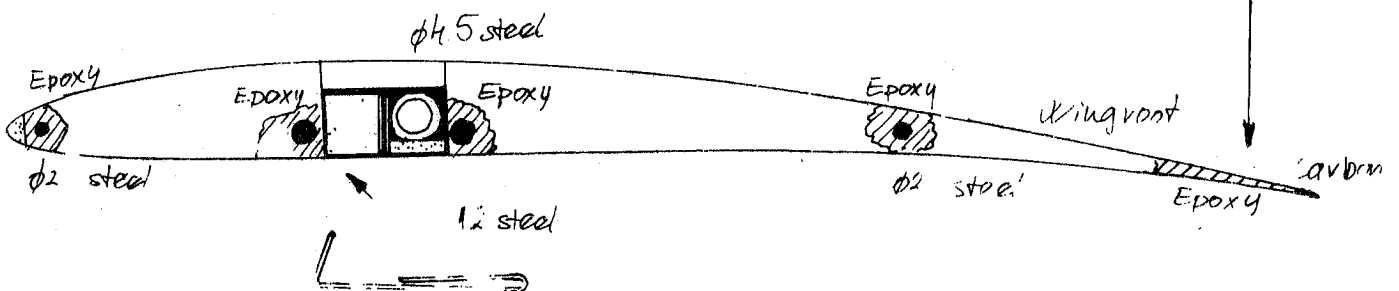
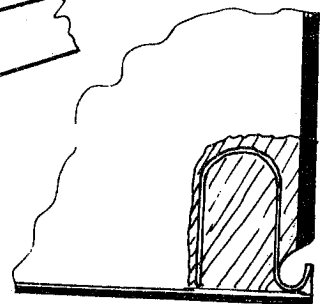
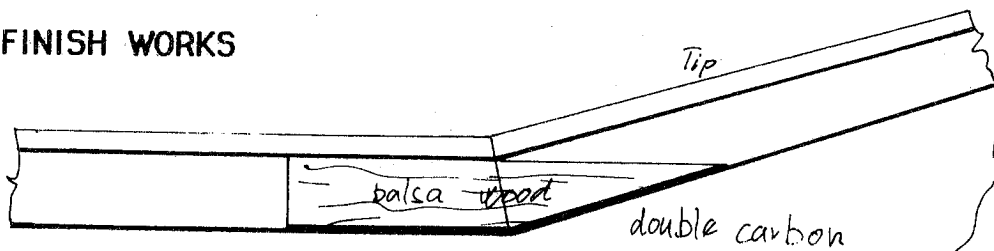
5 PRESS IN VAKUUM



Second day - lower side



6 FINISH WORKS



VOL 47B3E

G. ZSENGELLER

162

Gabor ZSENGELLER

I was 10 years old, when I began to build aeromodels. I was 15, when I built my first power model. It was Ferenc Csizmarik's plan. In this time Hungarian team was very strong, and then was very-very difficult, made good results in the national competitions.

First time I was in the Hungarian FIC team in 1978 in an international contest in Romania - without any result. Second time in Poland in 1983 on the Socialistic Countries Competition I was 3rd after Nakonechny and Ablamsky. Since that I'm in the National FIC team of Hungary. 1985 was the best year of my modelling. In Livno we won the WC with Andras Meczner and Oskar Maczko. I won the first time the Hungarian National Championships in 1987 and we were fifth in France in team on the WCH. Then started World Cup, and I like much that system because not only one day the contest. Every year I was on two World Cup contests, and my results are following: 1987- 17th, 1988- 7th and now I'm 6th (?) on the list.

Verzüge : hier ist es immer schwierig, etwas konkretes anzugeben. Ich fliege bei Rechtskurve:

-beide Mittelstücke eben / rechtes Ohr negativ / linkes Ohr deutlich negativer.

-beide Modelle sind mit einem Sender und einem Pfeiffer ausgestattet.

Quelle: Sender / A. van Wallene

Haken: Stoyan Kraev

Holme: Jaromir Orel

Zeitschalter: Graupner

Ich bevorzuge bei meinen Konstruktionen eher das unkomplizierte, robuste Allroundmodell.

Natürlich ist man dann vielleicht einmal im

Stechen aufgeschmissen, wenn nicht die 2' 40"

Superorchidee in der Kiste liegt - aber im Stechen

muß man eben erst mal kommen, und dabei ist ein unkompliziertes Modell oft ein Vorteil.

ZIEGLER ROGER

Schwieberd nigerstr. 43 a

7000 STUTTGART RFA

'NERVURE D'OR' 1984

A. ZERI VOL 90

ZERI Anselmo PAGE
158-59

De Colman 21

2291 JK. WATERINGEN (ZH) N.L.

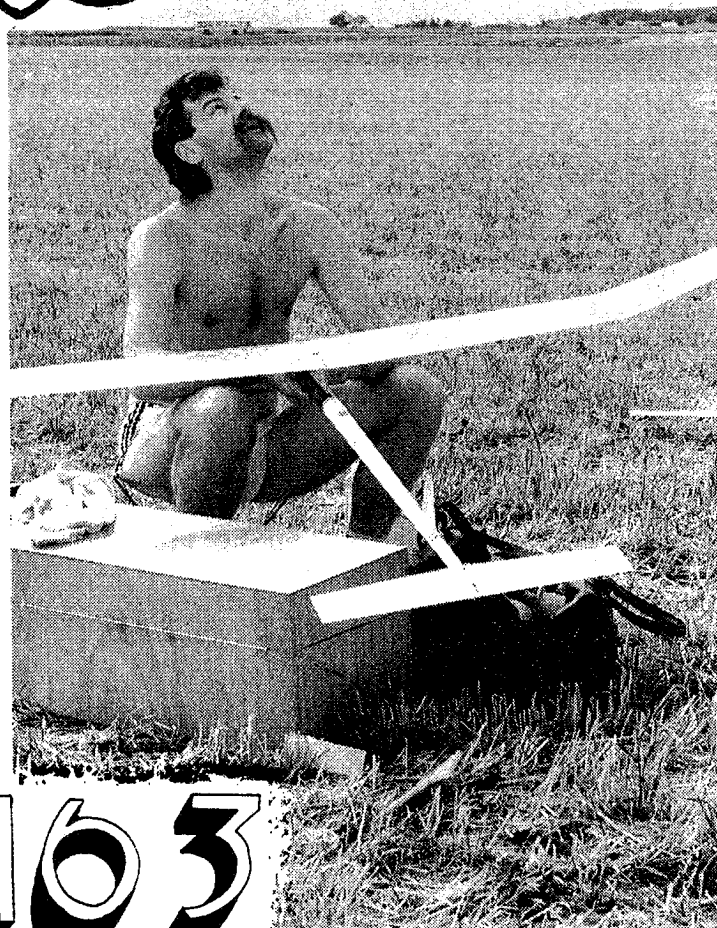
Anselmo ZERI is born in Italy, he's married with Tiziana and they have daughter, Claudia, actually 11 years old.

After his P.H. degree in Aeronautical Engineering at the Politecnico of Milano he worked a few years as aerodynamicist by Agusta Helicopters.

He left as chief of the Aerodynamic Department, and moved to Holland, by the European Patent Office, where he's actually in charge of the aviation field. Busy, from more than twenty years, with rubber powered models, since his move to Holland he "specialized" in wakefield models, with some good results, every now and then.

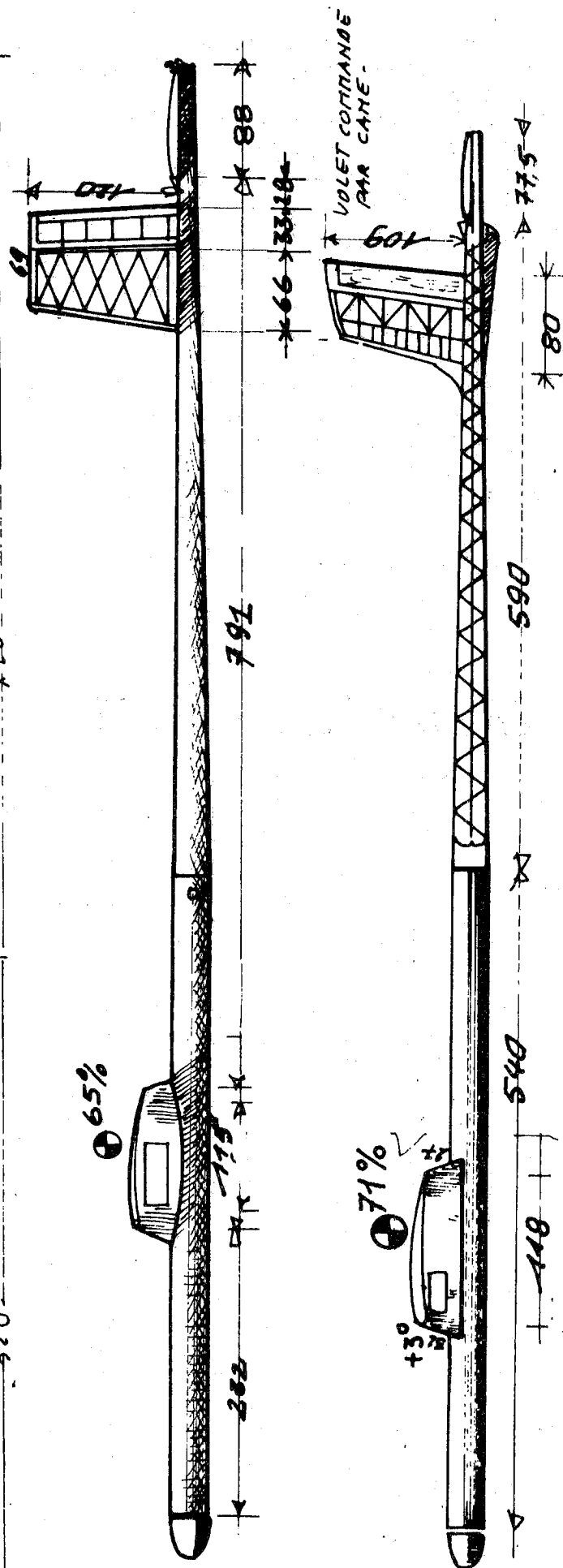
Among other results were 2nd place at the W.C. '83 in Australia, 13th in the big fly-off at the W.C. '85 in Livno, 9th at the last W.C. '89 in Argentina. Some first places at the Holland Free Flight International, Midsummer Night Contest (a couple), Poitou (a couple), Marigny (the last one), Trofeo Italcantieri in Maniago, and other minor or less minor contests.

His model family, RARA AVIS, got the "Model of the year" award in 1984, in the same year he got the "Golden Rib" from VOL LIBRE.



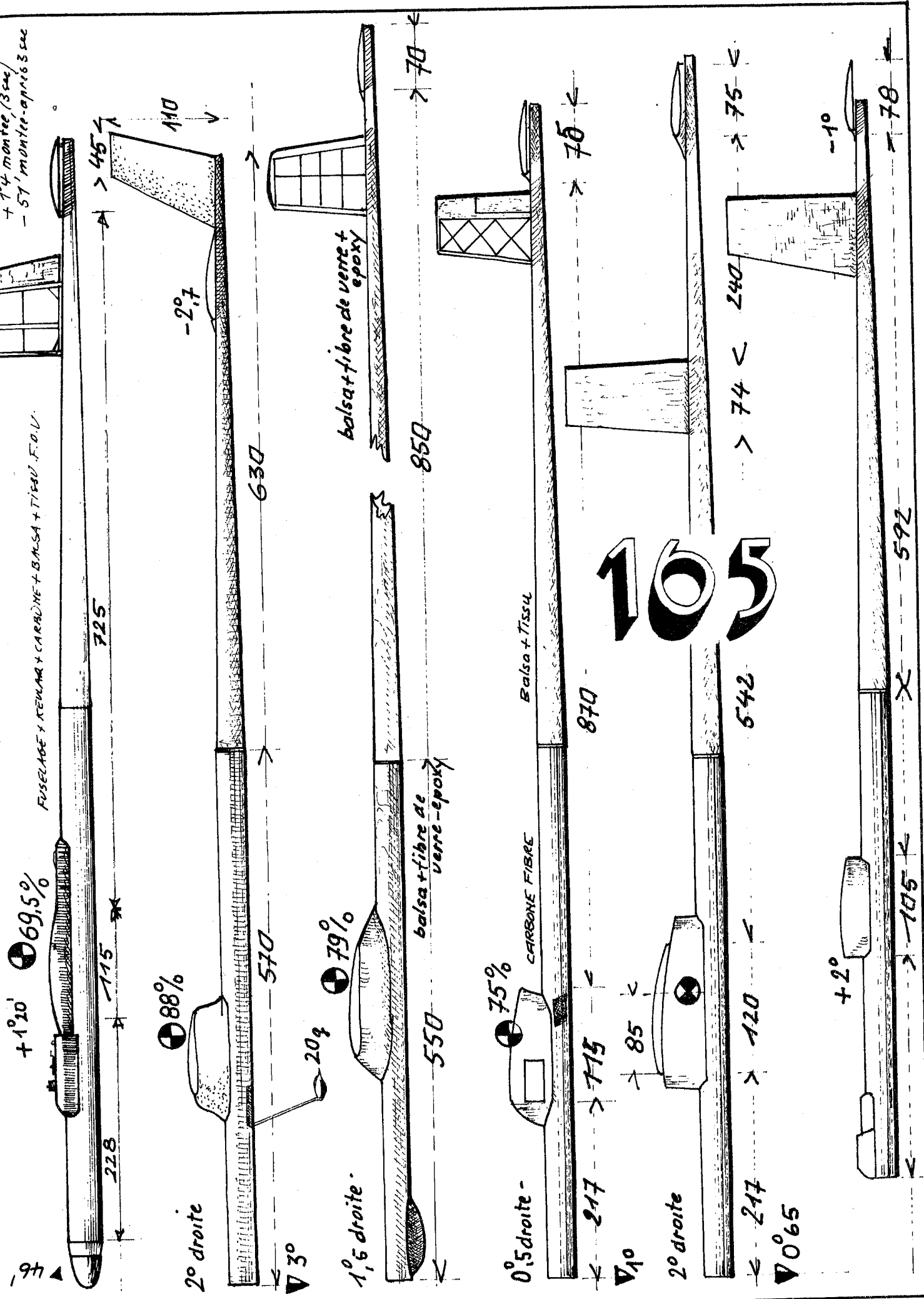
163

$+1,5^{\circ}$ 68%



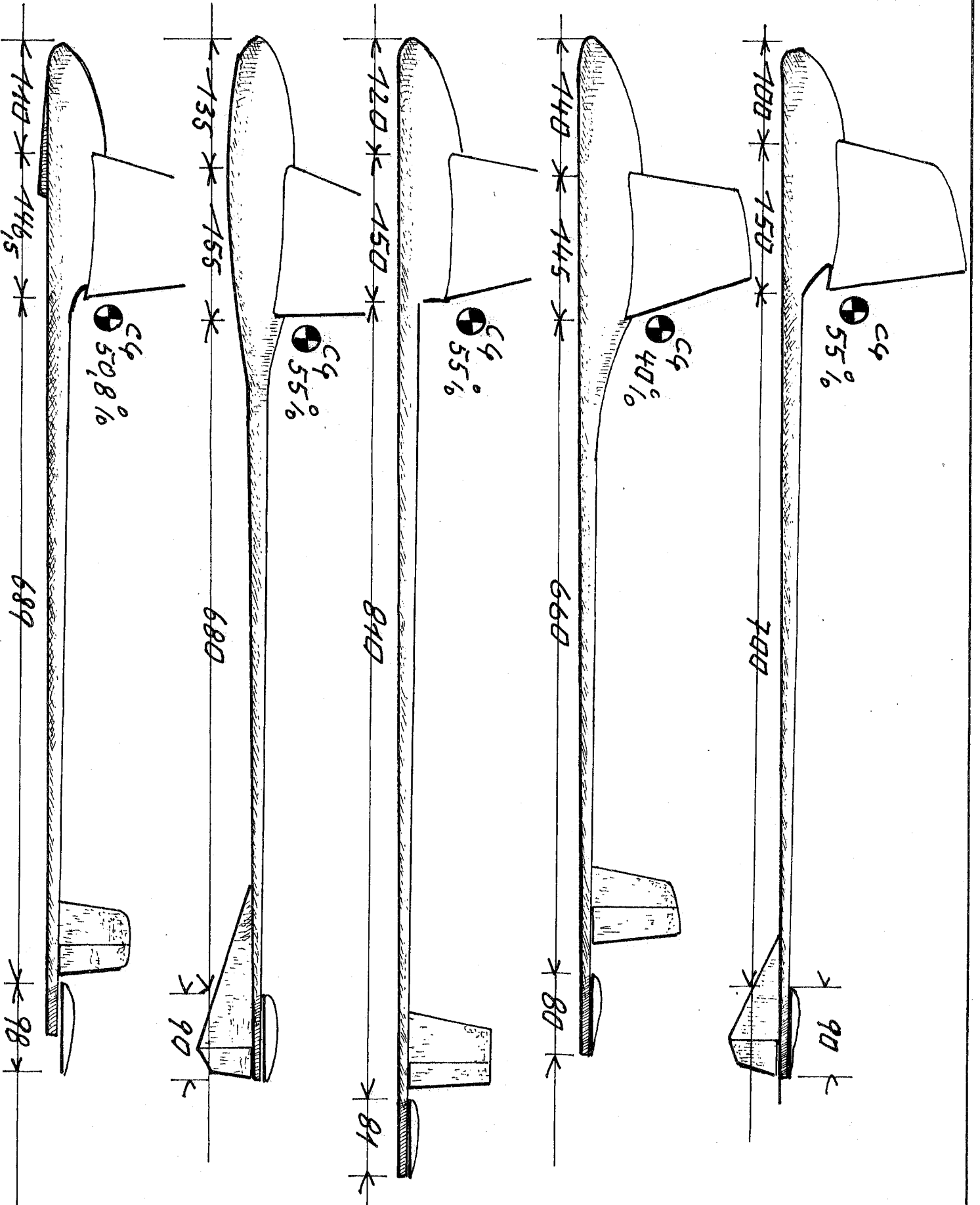
+ 1°4' montage (3 sec)
- 57' montage apres 3 sec

FUSelage + KEMAR + CARBONE + Balsa + TISSU F.O.V.



165

10% FIBRE



100



FREE FLUG

FREE FLUG

FREE FLUG

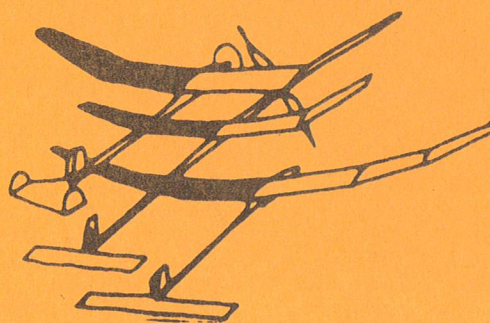
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5 -	ALNUTT P.	Canda	F1A
7-	ANDRUIKOV A.	URSS	F1B
9_10_11	BARBERIS D.	France	F1A
12-13	BORKO	Pologne	F1A
15-	BOUTILLIER B.	France	F1C
16-17	BRADLEY J.	USA	F1A
20-21	BREEMAN C.	Belgique	F1A
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24-25	CHENEAU J.C.	France	F1B
26-27-28	CHOP V.	URSS	F1A
29-30	COFALIK E.	Pologne	F1B
31-32-33	COLLINS R.	G.B.	F1C
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37-38-39-	DE BOER P.	N.L.	F1A
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45-	DUPUIS L.	France	F1B
47-	FERRARI I.	Italie	F1B
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52-53	GHIO W.	USA	F1B
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58-59-	HAASA K.H.	D	F1A
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61-	HOFSSÄSS R.	D	F1B
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63-	KILPELAINEN	Finlande	F1B
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93-94	NUTINI F.	Bresil	F1A
98-99-101	OCHMANN		
102-103	OCHMAN J.	Pologne	F1C
106-	ODGERS G.	Austrlie	F1B

108-109-	PHAIR K.	USA	F1C
110-111-	PISERCHIO R.	USA	F1B
112-	PREUSS M.	D	F1A
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118-119-	RUPPERT R.	CH	F1B
123-124	RUSCH U.	D.	F1A
125	RUYTER P.	NL.	F1B
126-	SANAVIO A.	Italie	F1B
127-	SREEN S.	GB.	F1C
128	SEXTON M.	AUSTRALIE	F1A
129-	SIEBENMANN D.	CH.	F1B
132-133	STAMOV V.	URSS	F1A
134-135-	STEFANCHUK	URSS	F1B
137-	STRUKOV V.	URSS	F1C
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141-142-	VALERY J.	France	F1B
144-145-	VAN DIJK M.	NL.	F1A
146-147-	VAN WALLENE A.	NL.	F1A
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158-159-	ZERI A.	Italie	F1B
160-61-62	ZSENGELLER G.	Hongrie	F1C

La rédaction de VOL LIBRE remercie tous les amis modélistes à travers la monde qui ont bien voulu répondre à la sollicitation initiale; sans eux ce recueil de plans n'aurait pu être réalisé.

DieRedaktion von VOL LIBRE bedankt sich herzlich bei all den Freiflieger, der ganzen Welt, die auf Nachfrage geantwortet haben, ohne sie hätte dises Planbuch nicht erscheinen können.



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