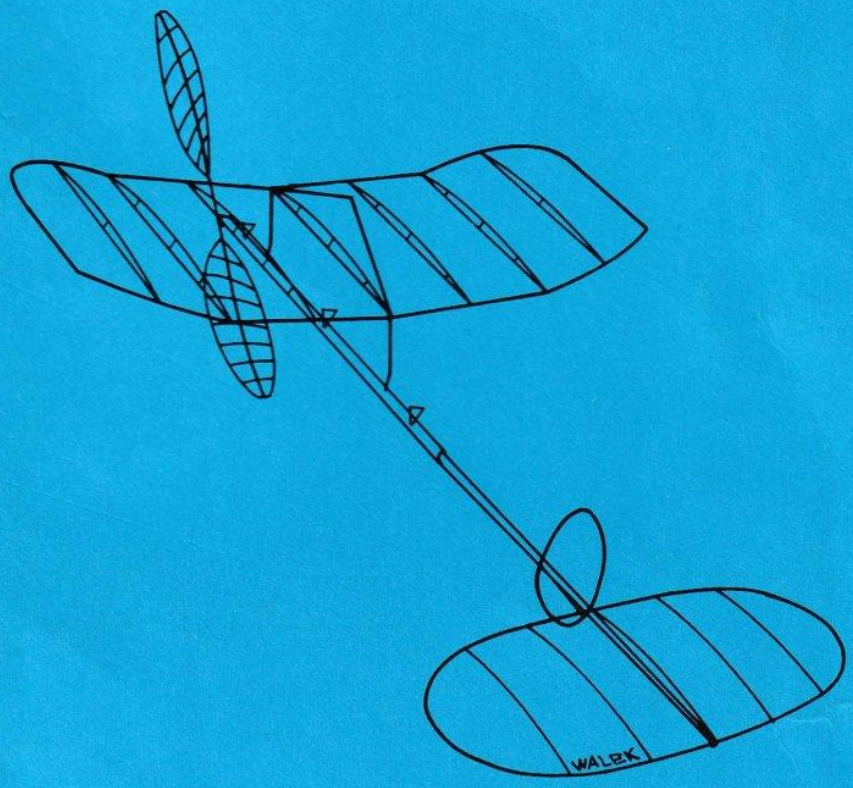
# FAI F1D




## 1986 INDOOR WORLD CHAMPIONSHIPS MODELS

INCL. CARDINGTON PROGRAMME

BY J. KORSGAARD

WL

# DEDICATION

THIS COLLECTION OF F1D WORLD CHAMPIONSHIPS MODELS IS DEDICATED TO MAESTRO LAURIE BARR OF UNITED KINGDOM FOR HIS GREAT EFFORTS TO ASSURE THE CONTINOUS ACCESS TO THE AIRSHEDS OF CARDINGTON, (THE "CATHEDRALS", HE CALLS THEM!)..... AND FOR HIS VERY FRIENDLY HELPFULNESS HE HAS SHOWN OVER THE YEARS.... AND FOR COMING OVER TO THE DANISH NATS IN 1983 TO SHOW US "THE REAL STUFF." THANKS A LOT, LAURIE!

JØRGEN KORSGAARD



# EDITORIAL .... (3RD AUGUST 1986!)

THIS IS THE BIGGEST EVER COLLECTION OF F1D MICROFILM MODELS AT ONE HANDY PLACE...

THE INVITATION TO SEND DRAWINGS WAS FOLLOWED BY MANY COMPETITORS GOING TO COMPETE AT CARDINGTON. SOME OF THE DRAWINGS WERE READY-TO-PRINT, THE REST HAVE BEEN INKED OR RE-ARRANGED BY THE EDITOR. NOT ALL DRAWINGS ARE FULLY DETAILED, BUT THERE WAS NO TIME TO WRITE BACK AND ASK FOR MORE DETAILS...

BOYD FELSTEAD, RICHARD BLACKAM AND THE WALEKS OF CSSR WERE INVITED TO SEND DRAWINGS THOUGH NOT ATTENDING.....

THANKS A LOT TO RAY HARLAN, LEW GITLOW (IMS) AND LAURIE BARR FOR THEIR DONATIONS TO HELP KEEPING THE COST OF THIS "BOOKLET" DOWN.

MAY YOU ALL ENJOY THE EVENT IN THE "CATHEDRAL" OF CARDINGTON 1986.

JØRGEN KORSGAARD

CONTRIBUTORS, DRAFTSMEN ETC.:

| | |
|---|---|
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| CSSR | LEOPOLD WALEK |
| POL | EDWARD CIAPAŁA |
| | RYSZARD CZECHOWSKI |
| | SYLWESTER KUJAWA |
| | JERZY J. KACZOREK |

NB: THE DRAWING WERE ORIGINALLY MADE ON A-4 SIZE PAPER, MOSTLY 1:4 OR 1:5 WITH PROPS ETC 1:1. THEN THEY WERE REDUCED 71% WHICH MEANS THAT BY ENLARGING THE DWGS OF THE BOOKLET BY 141% YOU WILL GET THE ORIGINAL SIZE. MOST MODERN COPY-MACHINES CAN DO THIS.

# EVERYTHING FOR INDOOR FANS


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*ENDURANCE RUBBER MODELS*

THE "EASY B" 18" Span $4.95

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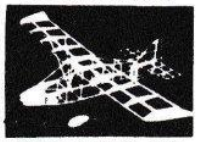
THE SLOWPOKE Span 16" Weight 2 Pennys Plastic Prop $4.95

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13" MINIATURE SCALE AIRCRAFT KITS ea $6.95
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AERONCA K 1937 Span 16" Length 9"

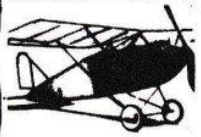
ZIPPY SPORT A.R.V. AERONCA K 1937




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Light Sheet
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NEW TOP FLYING MODELS
FOR CONTEST & SPORT IN AND OUTDOORS
RUBBER POWER
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RUBBER .025 to .090, .005 inc. + 1/8 & 3/16 $2.35
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P-NUT CO-2 ENGINE $34.95 CHARGER $11.95
ADD 10% POSTAGE—MINIMUM POSTAGE $3.95
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BOX 39, GARBERVILLE, CA 95440



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15 HAPPY HOLLOW RD, WAYLAND, MA. 01778, U.S.A.

**BEARINGS**
**BOOM FORMER**
**ULTRAFILM**
**BEAM SCALES**
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14TH YEAR OF PUBLICATION

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U.S.A.

## Guidelines for building F 1 D models

In the recent years the parts of an F 1 D microfilmmodel seem to have the following weights:

Wing: 0,30 grams
Fuselage etc 0,50 grams
Propeller 0,20 grams

Of course there are small deviations from these values from one modeller to another.

If you take the fuselage consisting of motorstick, boom, fin and stabilizer, the average weights are around:

motorstick 0,30 grams
boom 0,08 grams
stabilizer 0,10 grams
fin 0,02 grams

Again small deviations from these values are common. Even High-Tech materials do not seem to affect these "standards" very much except for making parts stronger.

I know from my own experience that I missed a general guideline as for sizes, densities, cuts and weights when building my first F 1 D ships, so the following might be a good help for a newcomer. It will be a little confusing with inches/ounzes and millimetres/grams as is common in this branch!

### The Motorstick:

Dimensions: 375 mm, 6,2 mm I.D.
Wood: C-grain, 0,013-0,014", cut into 375 x 21,0 mm Weight: 0,18 g
4-4,5 LB
When glued/seemed: 0,21 g

Bracing posts (from 5-6 LB balsa), webbing in both ends, bearing and hook, and bracing wires will weigh about 0,08 g.

Finished motorstick then comes to 0,29 grams, when mounted with the papertubes the weight will increase to 0,30 grams.

### The Boom:

Dimensions: 375 mm, blank tapering from 19,5 to 7,0 mm Weight: 0,09 g
Ray Harlan former used.
Wood: C-grain, 0,008-0,009", 4-4,5 LB
When glued: 0,10 grams

Sometimes when the wood seems a little on the soft side I dope both stick and boom adding about 0,015 grams to each part. It also helps against sweaty hands or fingers when handling the motorstick.

### The wing:

Dimensions: 660 x 200 mm, 5% wing section.

3 compressions ribs from: A-grain, 4-5 LB, 0,6x0,6 plus strut
0,6x0,6 - 0,6x1,2 - 0,6x0,6
Weight for all three 0,039 grams

4 normal ribs, A-grain, 4-5LB 0,03 g 0,6x0,6 mm

Spars, B-grain, 0,032" sheet, 5,5 LB,
400 x 0,8 x 1,15 mm 2 off 0,07g

Wingtip outline: A-grain, 0,032" sheet, 5,5 LB
440 x 0,8 x 1,15 - 0,6 x 0,6 - 0,8 x 1,15, 2 off 0,07 g

Complete outline without film: 0,20 g

Cabane 0,7 x 1,0 - 0,7 x 0,7 5-6 LB
Posts 1,5 mm$^{ø}$ - 1,0 mm$^{ø}$ 6 LB

Posts and cabane glued: 0,045 g

Complete, fully braced wing: 0,30 grams

### Stabilizer:

Dimension: 420 x 140 mm, 3% wing section.

Spars: A-grain, 5 LB, 500 x 0,8 x 1,15 - 0,6 x 0,6 - 0,8 x 1,15
2 off 0,06 grams

5 ribs 0,6 x 0,6, C-grain, 4 LB 0,02 g

Complete stab without film 0,09 g

### Fin:

Rear spar 0,6 x 0,6 - 0,6 x 1,1 - 0,6 x 0,6 5 LB
Outline 0,6 x 0,6 5 LB

Complete fin 0,016 g

### Propeller:

Dimensions: 520 x 1000 mm, bladewidth 65 mm

Outline and ribs: 0,5 x 0,5 4,5 LB 2 blades 0,040 g

Propspar: 5-5,5 LB, 0,6 mm$^{ø}$ - 2,00 mm$^{ø}$, incl. shaft 0,11 g

Complete prop without film: 0,17 g

### Remarks:

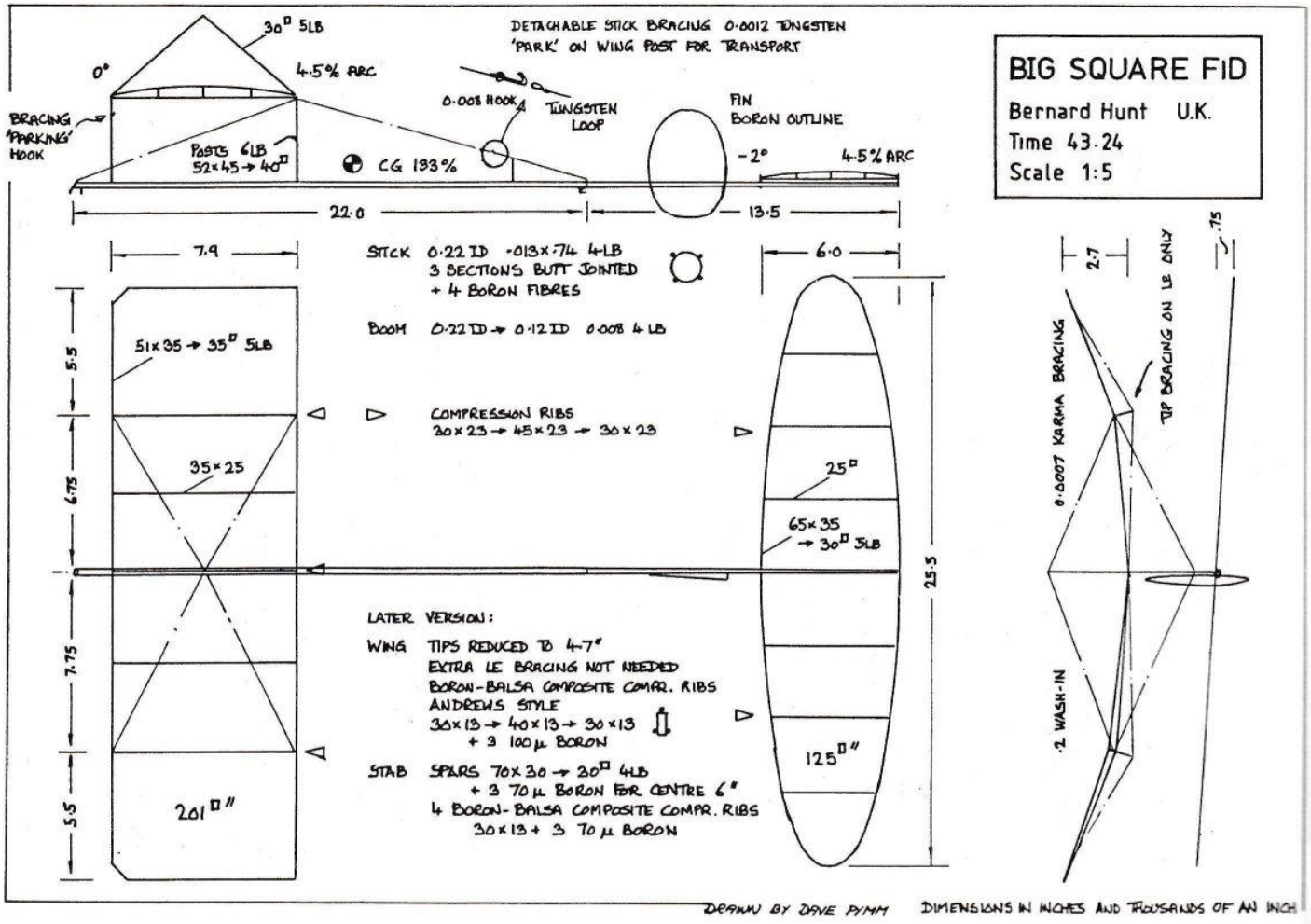
These datas are all approximate, but taken from real models. Keep your own data-book and record every building step. It helps to build light and strong.

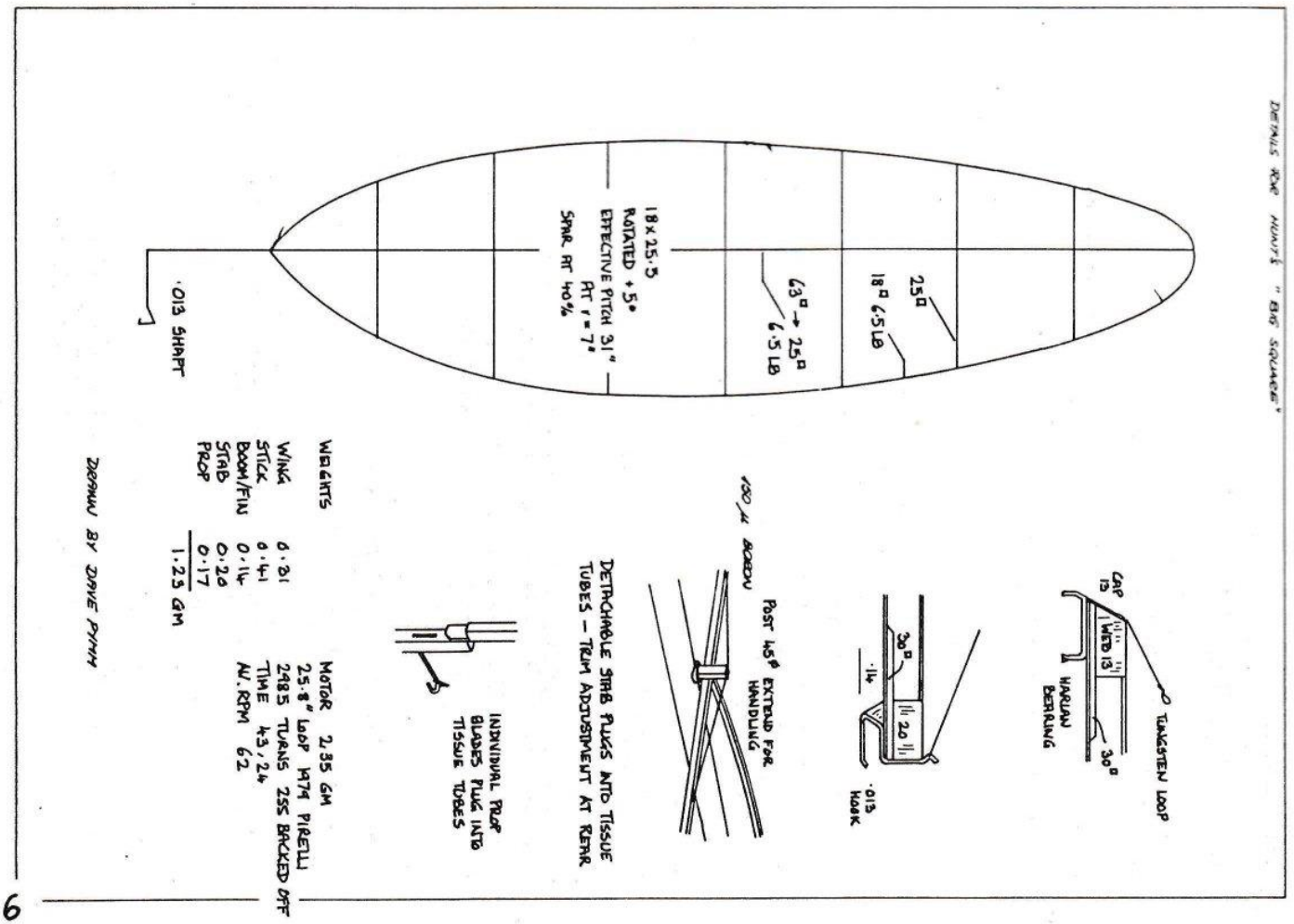
### Metric:

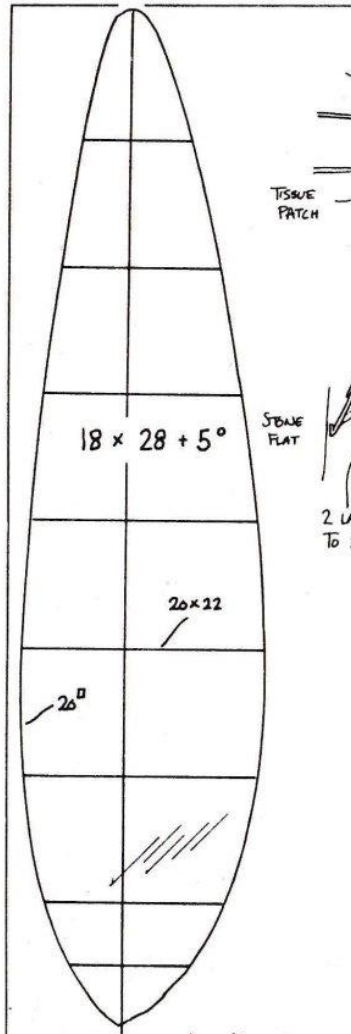
1 oz= 28,35 grams 1 gram= 0,0352734 oz.

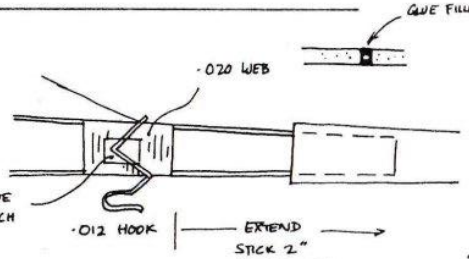
1 inch= 2,54 cm= 25,4 mm 1 mm= 0,039370 inch

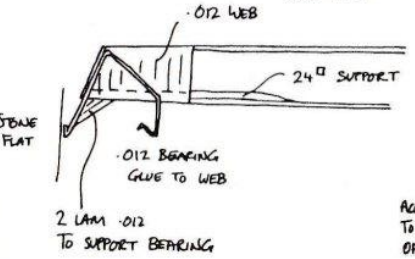
Densities: 4 LB= 64 g/dm$^3$ 5 LB= 80 g/dm$^3$ 6 LB= 96 g/dm$^3$

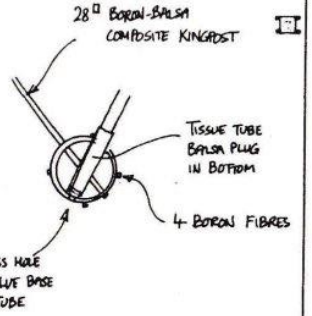

BIG SQUARE FID
Bernard Hunt U.K.
Time 43.24
Scale 1:5
30° 5LB
0°
4.5% ARC
DETACHABLE STICK BRACING 0.0012 TUNGSTEN
'PARK' ON WING POST FOR TRANSPORT
0.008 HOOK
TUNGSTEN LOOP
FIN
BORON OUTLINE
BRACING 'PARKING' HOOK
POSTS 6LB
52×45 → 40°
CG 133%
-2°
4.5% ARC
22.0
13.5
7.9
6.0
STICK 0.22 ID .013×.74 4LB
3 SECTIONS BUTT JOINTED
+ 4 BORON FIBRES
BOOM 0.22 ID → 0.12 ID 0.008 4 LB
51×35 → 35° 5LB
COMPRESSION RIBS
20×23 → 45×23 → 30×23
35×25
25°
65×35
→ 30° 3LB
5.5
6.75
7.75
5.5
201°"
125°"
25.5
LATER VERSION:
WING TIPS REDUCED TO 4-7"
EXTRA LE BRACING NOT NEEDED
BORON-BALSA COMPOSITE COMPR. RIBS
ANDREWS STYLE
30×13 → 40×13 → 30×13
+ 3 100μ BORON
STAB SPARS 70×30 → 20° 4LB
+ 3 70μ BORON FOR CENTRE 6"
4 BORON-BALSA COMPOSITE COMPR. RIBS
30×13 + 3 70μ BORON
2.7
.75
0.007 KARMA BRACING
TIP BRACING ON LE ONLY
·2 WASH-IN
DRAWN BY DAVE PYNN
DIMENSIONS IN INCHES AND THOUSANDS OF AN INCH


DETAILS FOR HUNT'S "BIG SQUARE"
18×25·5
ROTATED +5°
EFFECTIVE PITCH 31"
AT r = 7"
SPAR AT 40%
·013 SHAFT
63° → 25°
6.5 LB
25°
18° 6.5LB
WEIGHTS
WING 0.31
STICK 0.41
BOOM/FIN 0.14
STAB 0.20
PROP 0.17
1.23 GM
MOTOR 2.35 GM
25.8" LOOP H74 PIRELLI
2985 TURNS 25S BACKED OFF
TIME 43,24
AV. RPM 62
DRAWN BY DAVE PYNN
INDIVIDUAL PROP BLADES PLUG INTO TISSUE TUBES
DETACHABLE STAB PLUGS INTO TISSUE TUBES — TRIM ADJUSTMENT AT REAR
130μ BORON
POST 45° EXTEND FOR HANDLING
30°
20"
·14
·013 HOOK
GAP 13
WEB 13
HARLAN BEARING
30°
TUNGSTEN LOOP

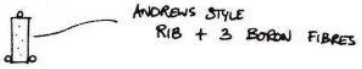


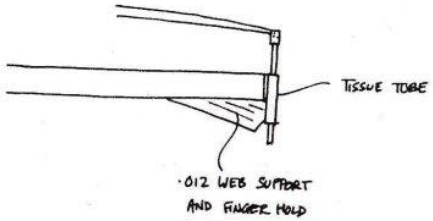



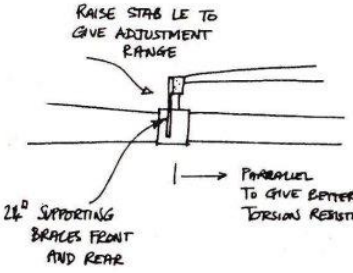

MOTOR STICK CROSS SECTION

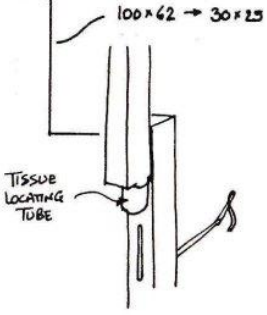



COMPRESSION RIB CROSS SECTION

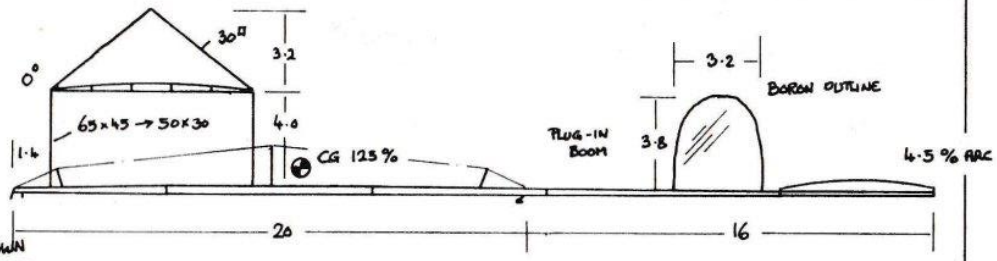



INCIDENCE ADJUSTMENT AT REAR OF STAB



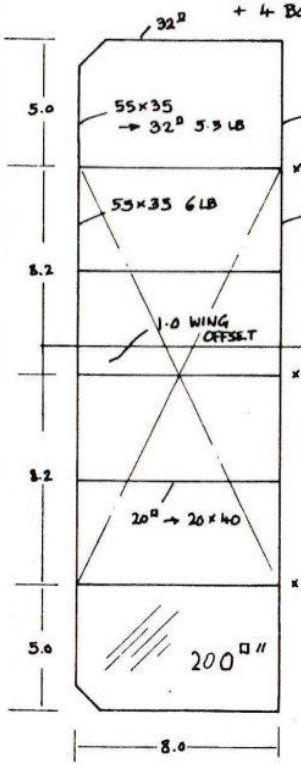

PROP BLADES SET SEPARATELY




2° DOWN
2° RIGHT

STICK 3 SECTIONS ·012/·018 4.2 LB
NOSE 0·21 ϕ → 0·26 ϕ
CENTRE 0·26 ϕ
REAR 0·26 ϕ → 0·20 ϕ
+ 4 BORON FIBRES

BOOM 2 SECTIONS ·008 4 LB
9 × 0·24 ϕ → 0·17 ϕ
6 × 0·17 ϕ

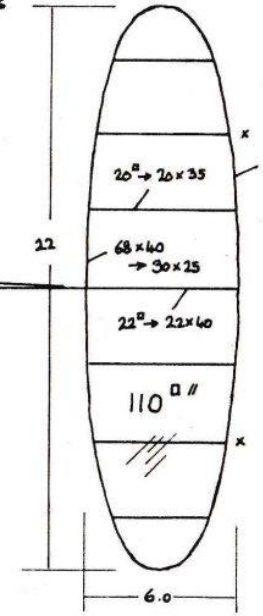



20□ BUILT UP COMPRESSION RIB

ALL RIBS 4.5 LB ANDREWS

WING COMPRESSION ×
20□ → 20×40
+ 3 BORON FIBRES

STAB COMPRESSION ×
13×20 → 13×30
+ 3 BORON FIBRES

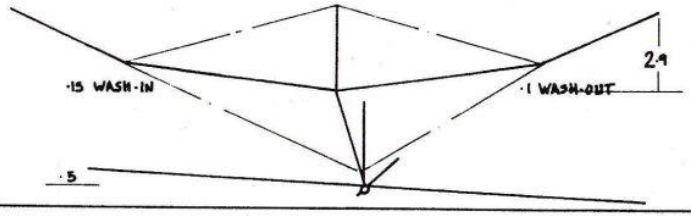


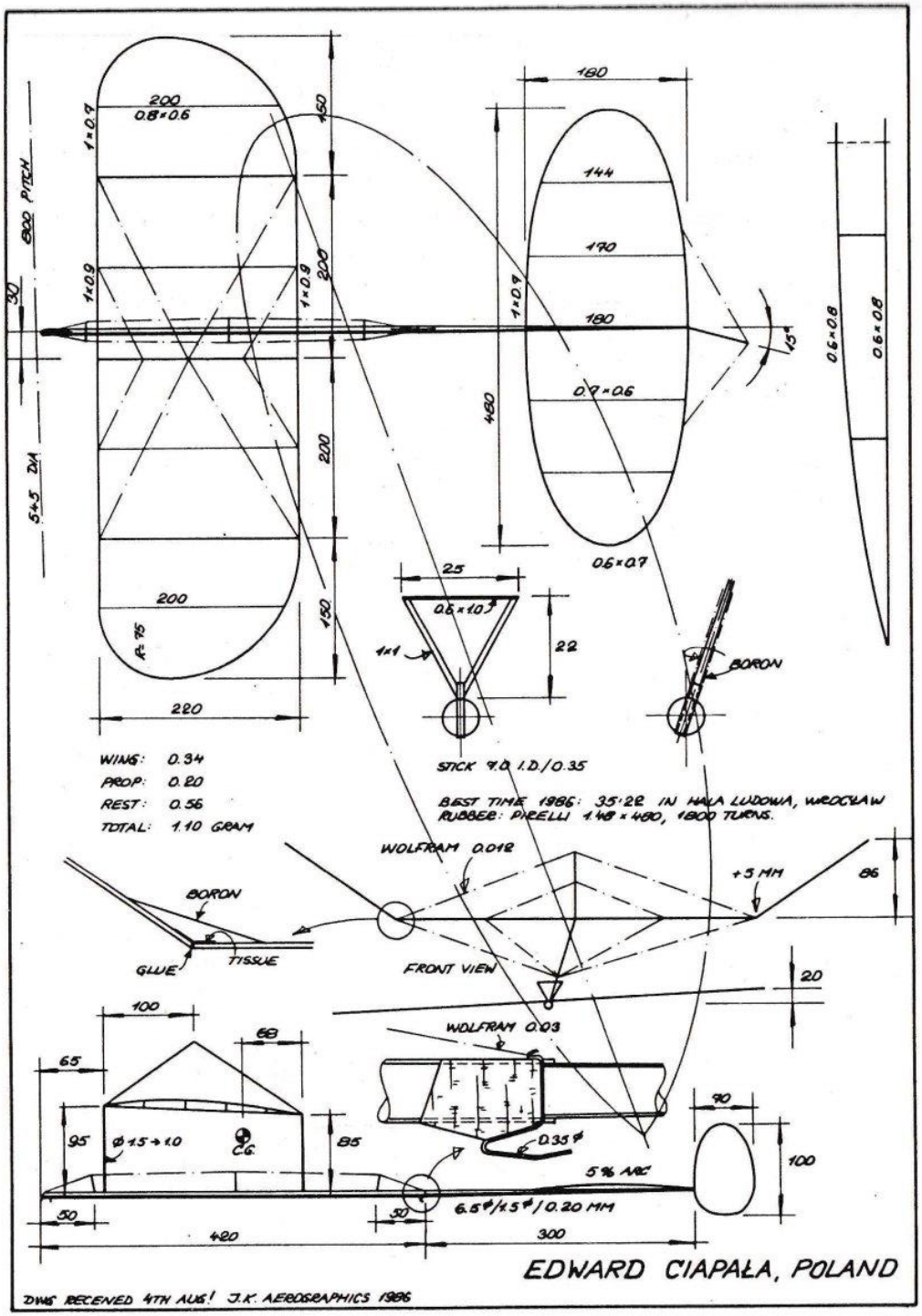

WEIGHTS

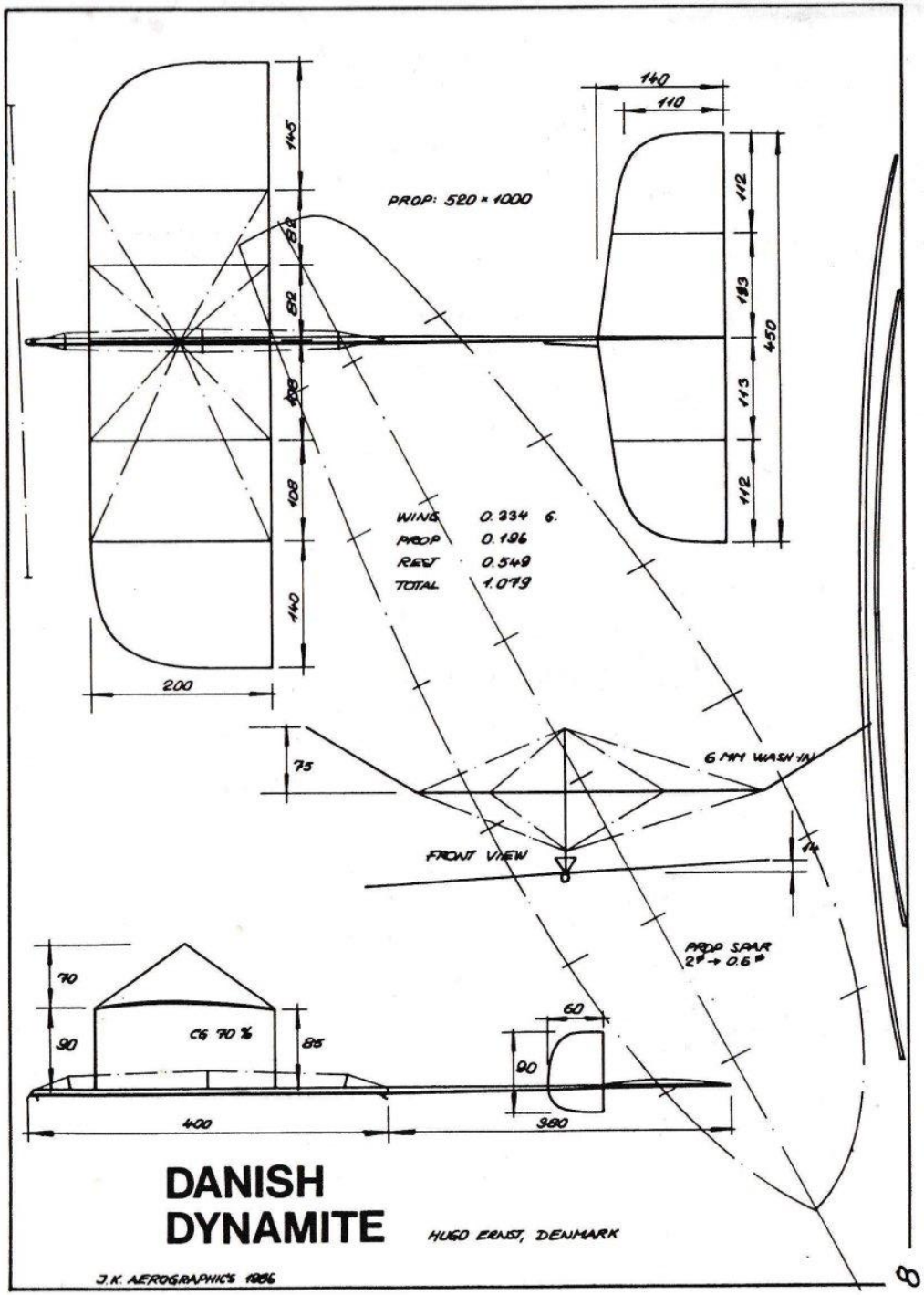
| | |
|---|---|
| WING | 0·32 |
| STICK | 0·40 |
| BOOM/FIN | 0·11 |
| STAB | 0·18 |
| PROP | 0·17 |
| | 1·18 |

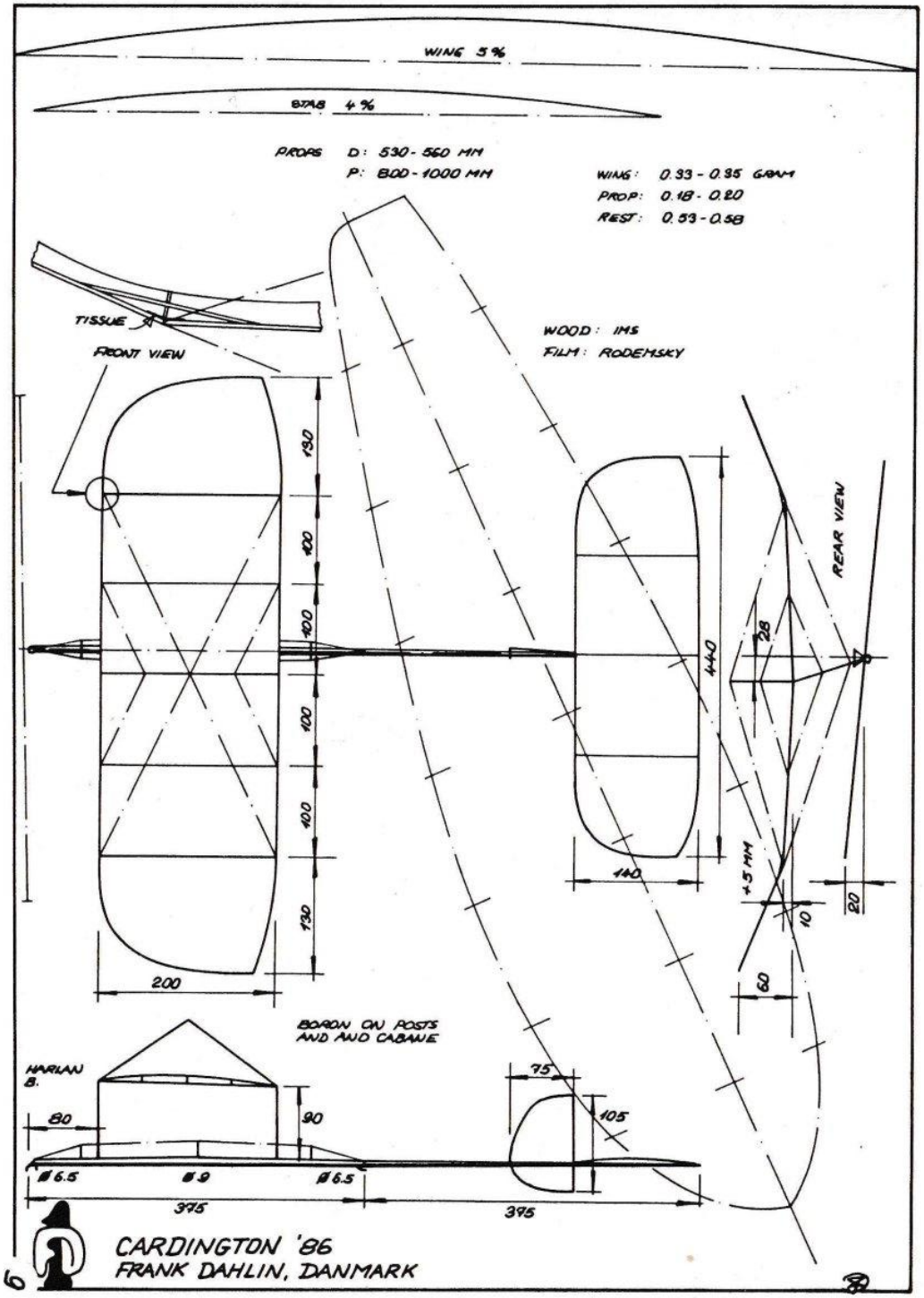
MOTOR
22·5 LOOP 2 GM

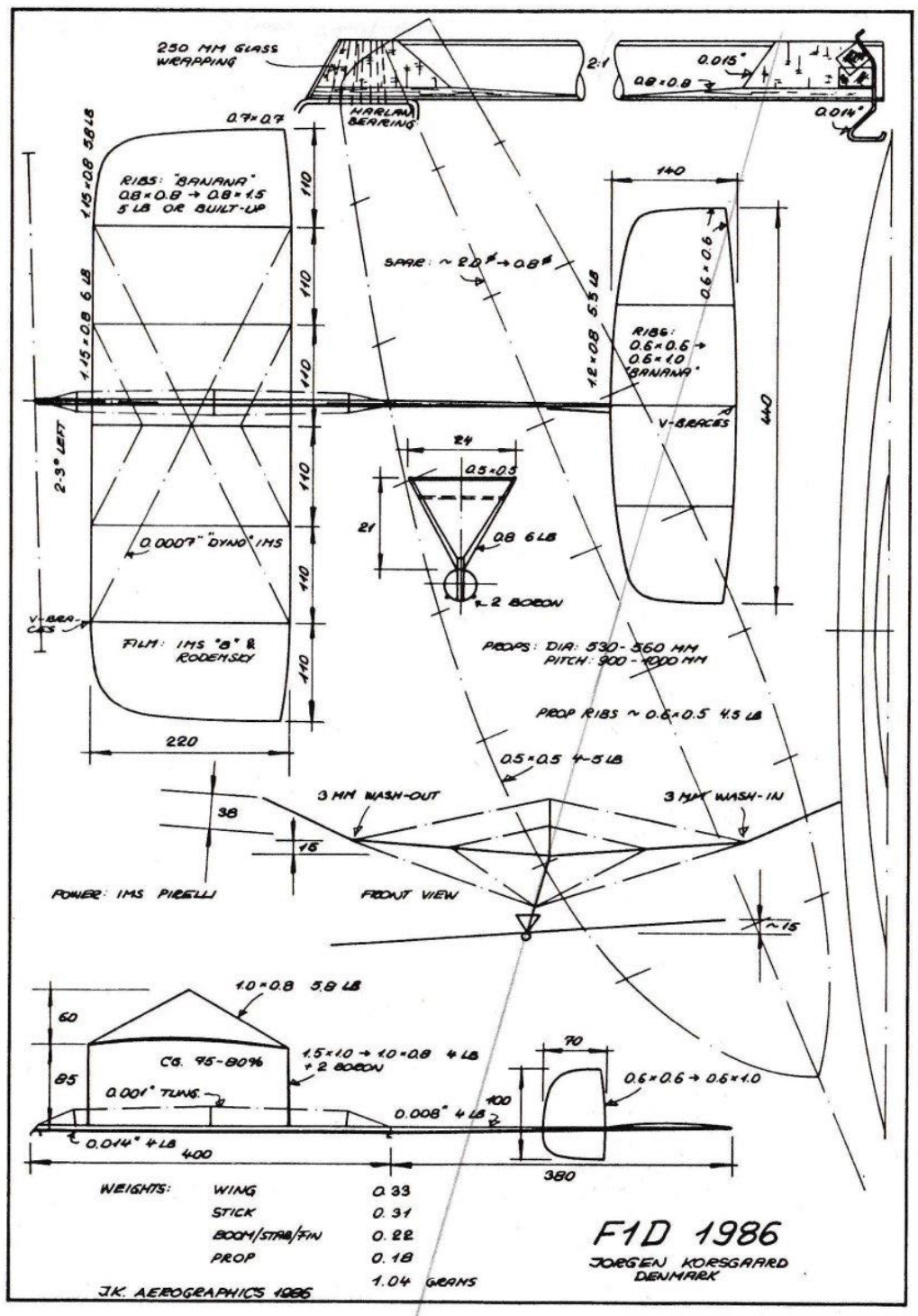
# 1986 F1D #20 DAVE PYMM

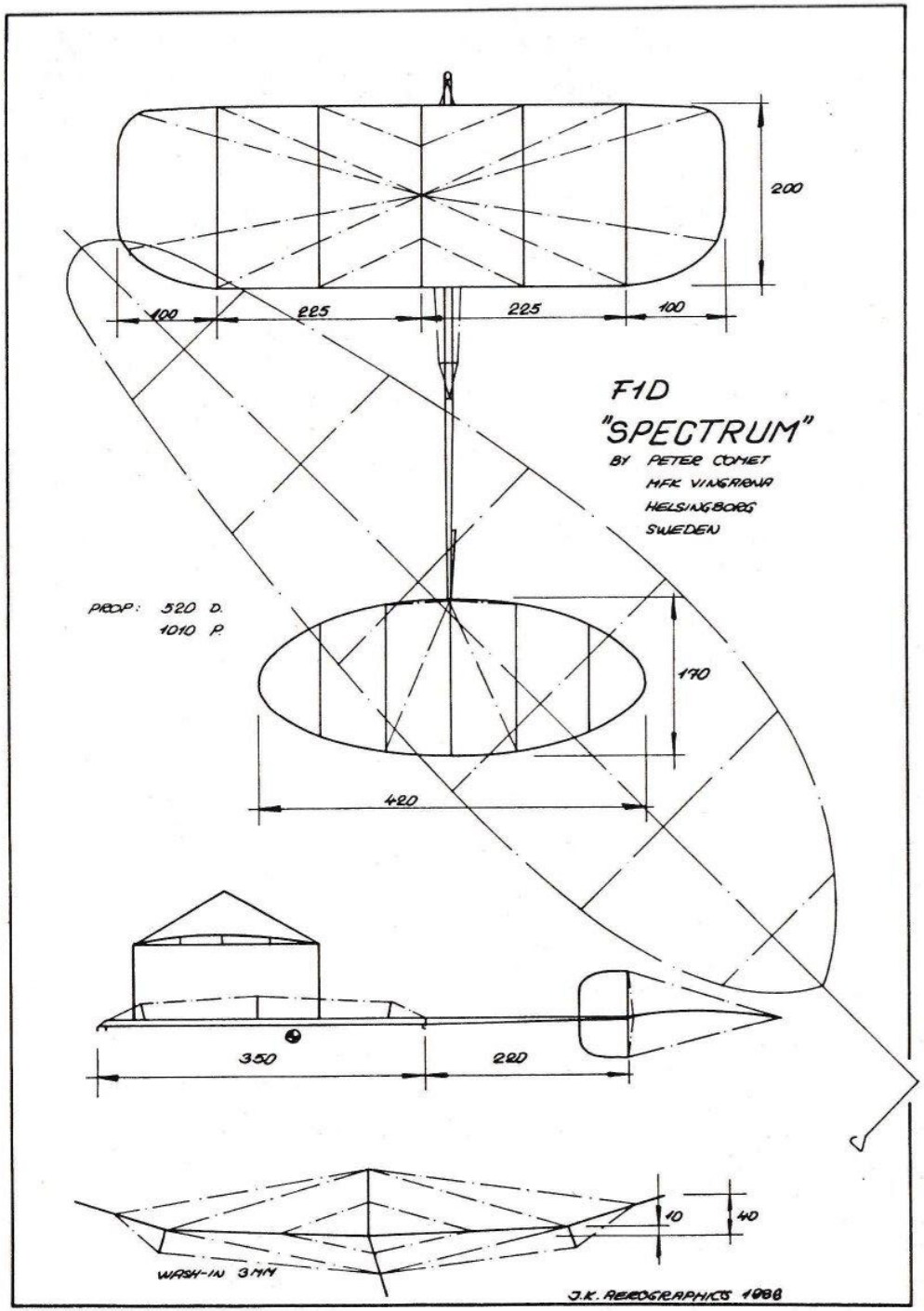


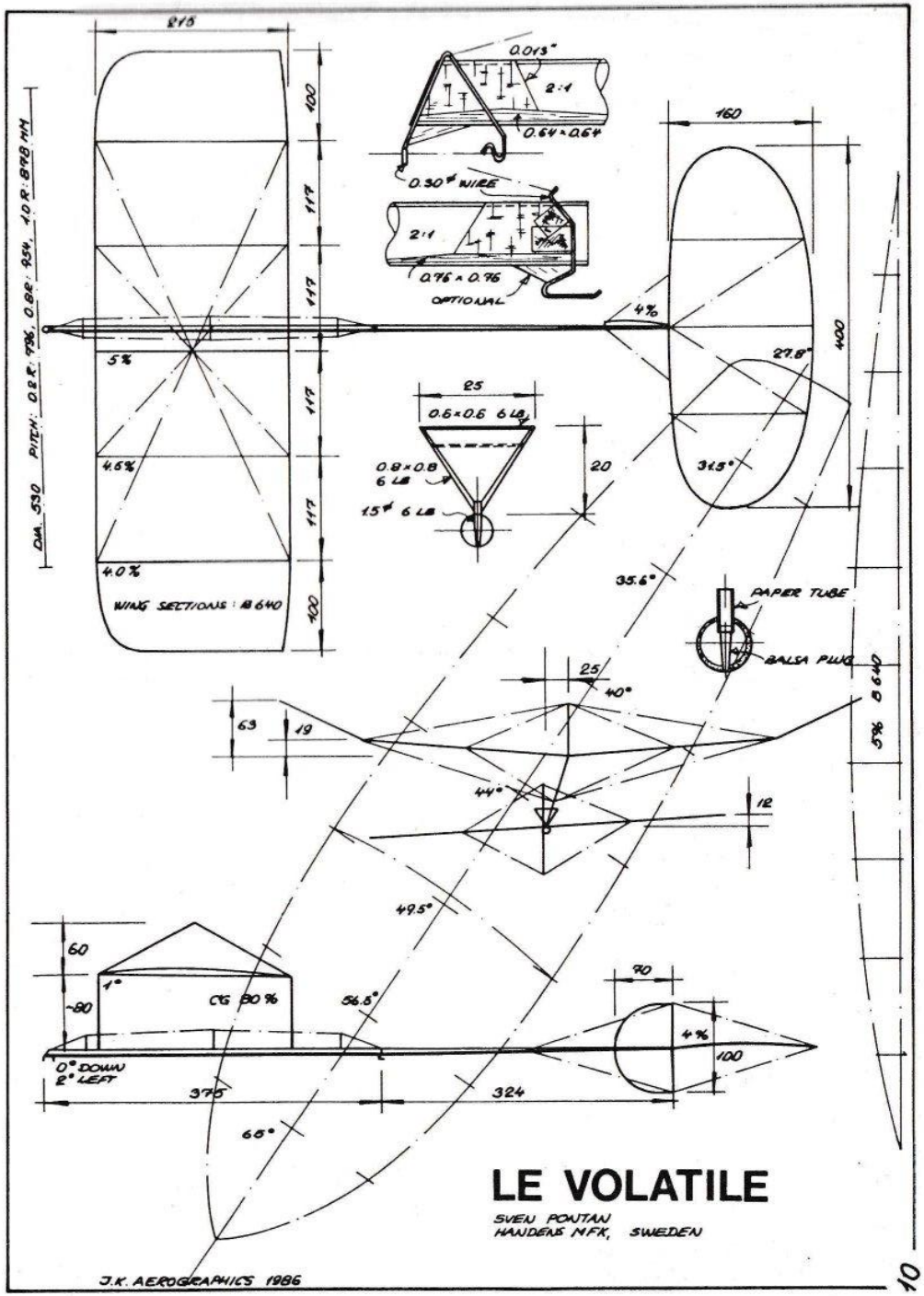

200
0.8×0.6
150
1×0.9
200
180
144
190
180
0.7×0.6
480
0.6×0.8
0.6×0.8
0.6×0.7
30
800 PITCH
54.5 DIA
200
150
200
R=75
220
25
0.5×10°
1×1
22
BORON
STICK 9.0 I.D./0.35
WING: 0.34
PROP: 0.20
REST: 0.56
TOTAL: 1.10 GRAM
BEST TIME 1986: 35:22 IN HALA LUDOWA, WROCLAW
RUBBER: PIRELLI 1.48 × 480, 1800 TURNS.
WOLFRAM 0.012
+5 MM
86
BORON
GLUE
TISSUE
FRONT VIEW
20
100
65
68
95
Ø 1.5 → 1.0
CG
85
WOLFRAM 0.03
0.35 Ø
5% REC
90
100
6.5 Ø/1.5 Ø/0.20 MM
50
30
420
300
EDWARD CIAPAŁA, POLAND
DWG RECEIVED 4TH AUG! J.K. AEROGRAPHICS 1986

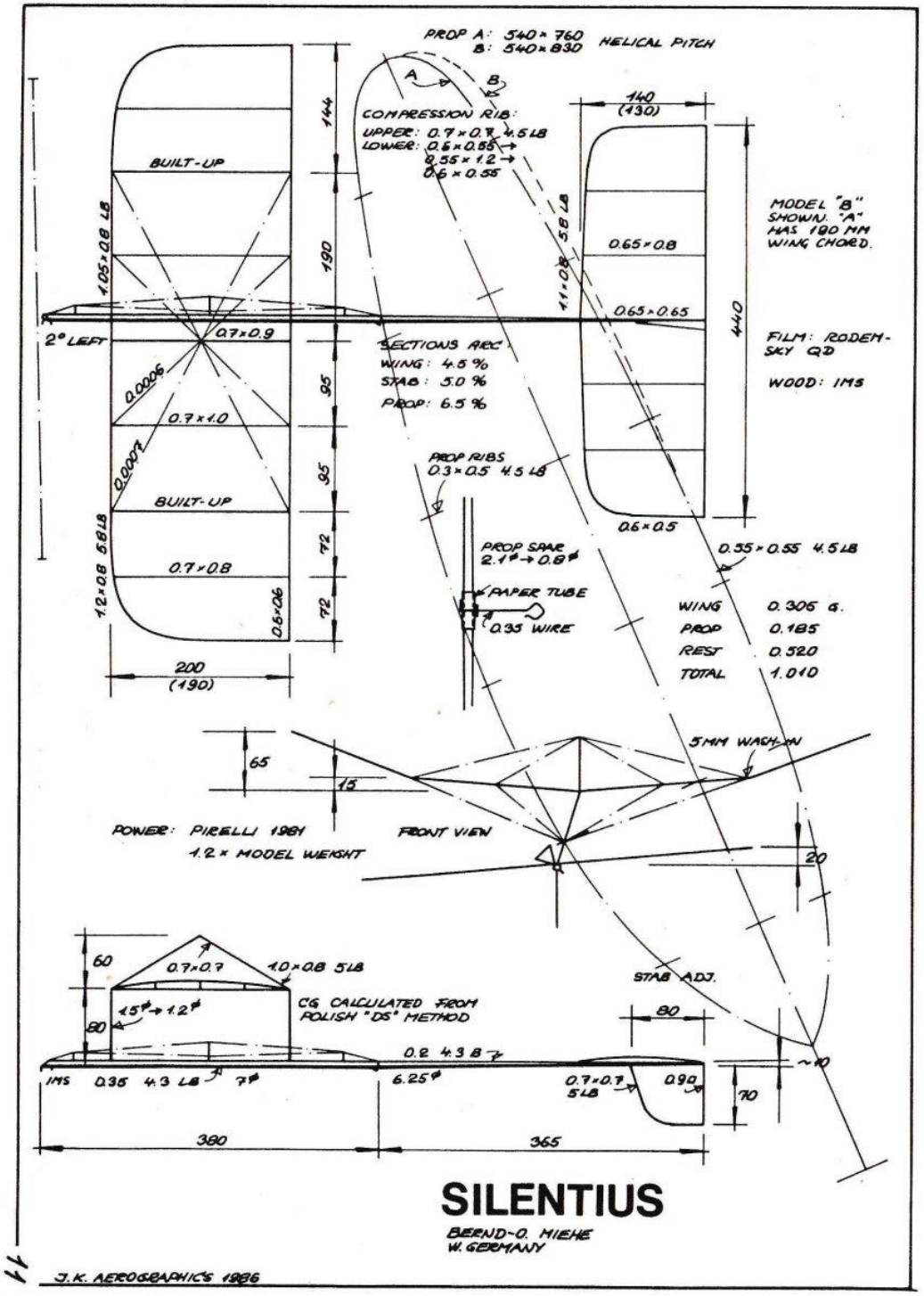

140
110
145
PROP: 520 × 1000
82
82
108
108
140
112
113
113
112
450
WING 0.234 G.
PROP 0.196
REST 0.549
TOTAL 1.079
200
75
6 MM WASH-IN
FRONT VIEW
14
PROP SPAN
2 Ø → 0.6 Ø
70
90
CG 70 %
85
60
90
400
380
DANISH
DYNAMITE
HUGO ERNST, DENMARK
J.K. AEROGRAPHICS 1986


WING 5%
STAB 4%
PROPS D: 530 - 560 MM
P: 800 - 1000 MM
WING: 0.33 - 0.35 GRAM
PROP: 0.18 - 0.20
REST: 0.53 - 0.58
TISSUE
FRONT VIEW
WOOD: IMS
FILM: RODEMSKY
REAR VIEW
130
100
100
100
100
130
200
140
440
28
+5 MM
10
20
60
BORON ON POSTS AND AND CABANE
HARLAN B.
80
90
75
105
Ø6.5
Ø9
Ø6.5
375
375
CARDINGTON '86
FRANK DAHLIN, DANMARK


230 MM GLASS WRAPPING
2:1
0.015"
0.8×0.8
0.014"
HARLAN BEARING
0.7×0.7
1.15×0.8 5.8 LB
RIBS: "BANANA" 0.8×0.8 → 0.8×1.5 5 LB OR BUILT-UP
1.15×0.8 6 LB
SPAR: ~ 2.0 → 0.8
110
110
110
110
110
110
2-3° LEFT
0.0007" "DYNO" IMS
FILM: IMS "B" & RODEMSKY
V-BRACES
220
140
0.6×0.6
1.2×0.8 5.5 LB
RIBS: 0.6×0.6 → 0.6×1.0 "BANANA"
440
V-BRACES
24
0.5×0.5
21
0.8 6 LB
2 BORON
PROPS: DIA: 530 - 560 MM
PITCH: 900 - 1000 MM
PROP RIBS ~ 0.6×0.5 4.5 LB
0.5×0.5 4-5 LB
3 MM WASH-OUT
3 MM WASH-IN
38
15
POWER: IMS PIRELLI
FRONT VIEW
~15
1.0×0.8 5.8 LB
60
85
C.G. 75-80%
1.5×1.0 → 1.0×0.8 4 LB
2 BORON
0.001" TUNS.
0.008" 4 LB
0.014" 4 LB
400
70
100
0.6×0.6 → 0.6×1.0
380
WEIGHTS:
WING 0.33
STICK 0.31
BOOM/STAB/FIN 0.22
PROP 0.18
1.04 GRAMS
F1D 1986
JORGEN KORSGAARD
DENMARK
J.K. AEROGRAPHICS 1986


F1D
"SPECTRUM"
BY PETER COMET
MFK VINGARNA
HELSINGBORG
SWEDEN
PROP: 320 D.
1010 P.
200
100
225
225
100
170
420
350
220
10
40
WASH-IN 3MM
J.K. AEROGRAPHICS 1988

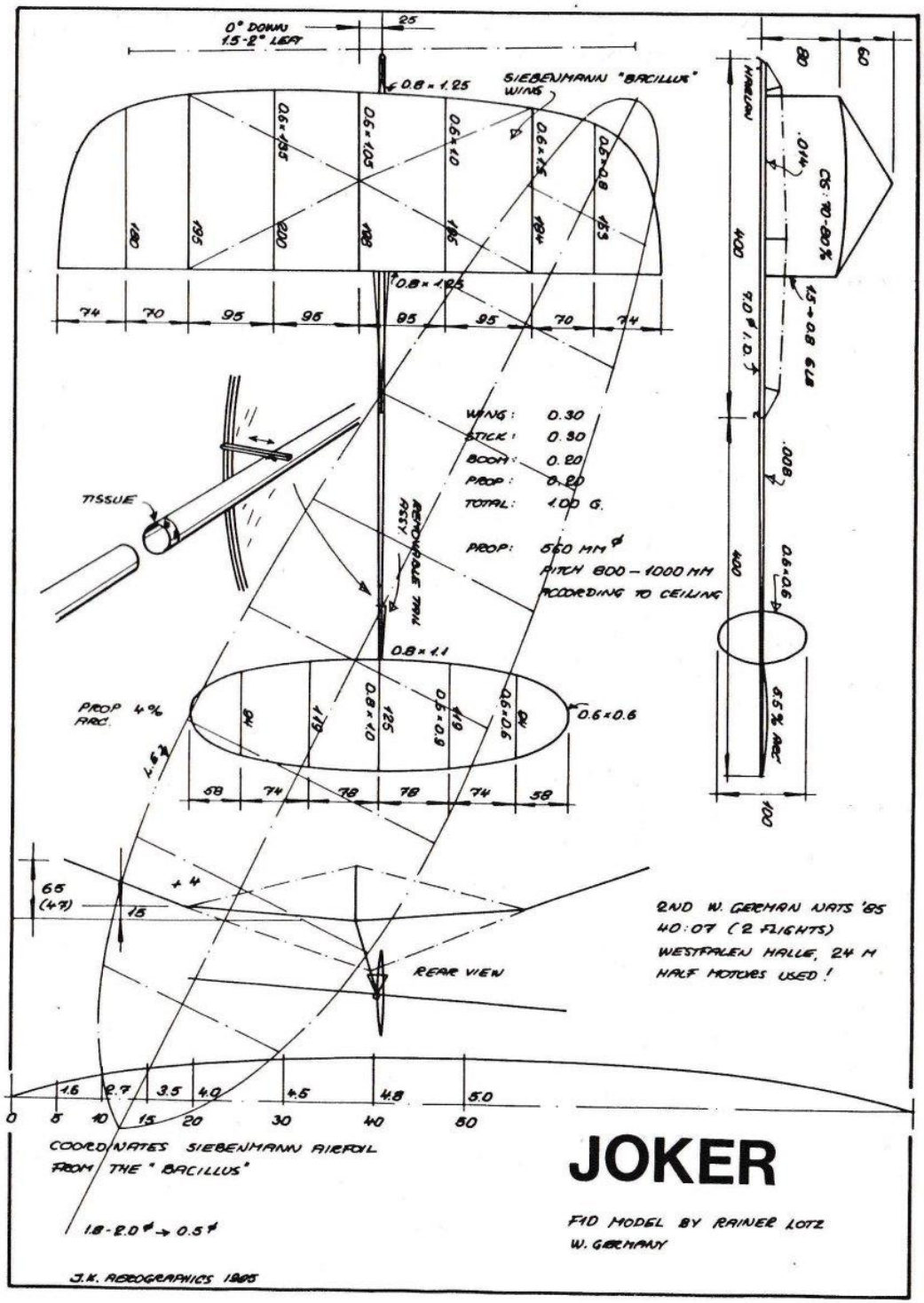

LE VOLATILE
SVEN PONTAN
HANDENS MFK, SWEDEN
CM 530 PITCH: 0.8 R: 738, 0.8 R: 454, 10 R: 878 MM
215
100
117
117
117
117
100
5%
4.5%
4.0%
WING SECTIONS: #640
0.013"
2:1
0.64×0.64
0.30" WIRE
2:1
0.76×0.76
OPTIONAL
160
4%
27.8°
400
31.5°
25
0.6×0.6 6 LB
0.8×0.8
6 LB
1.5" 6 LB
20
35.6°
PAPER TUBE
BALSA PLUG
25
40°
63
19
44°
12
49.5°
60
1°
~80
CG 80%
56.5°
90
4%
100
0° DOWN
2° LEFT
375
324
65°
400 D 3%
J.K. AEROGRAPHICS 1986




# SILENTIUS

BERND-O. MIEHE
W. GERMANY

J.K. AEROGRAPHICS 1986

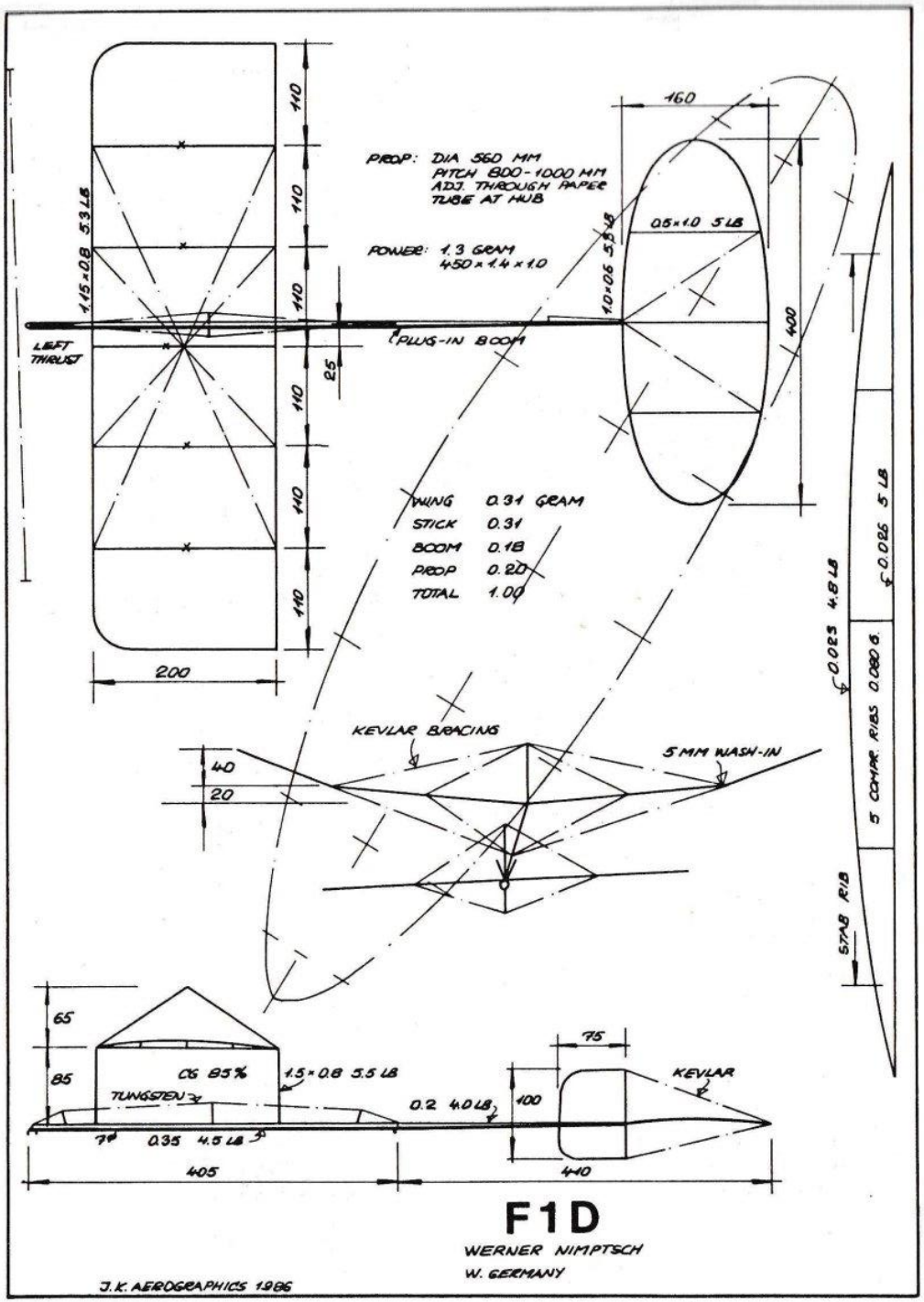



# JOKER

F1D MODEL BY RAINER LOTZ
W. GERMANY

2ND W. GERMAN NATS '85
40:07 (2 FLIGHTS)
WESTFALEN HALLE, 24 M
HALF MOTORS USED!

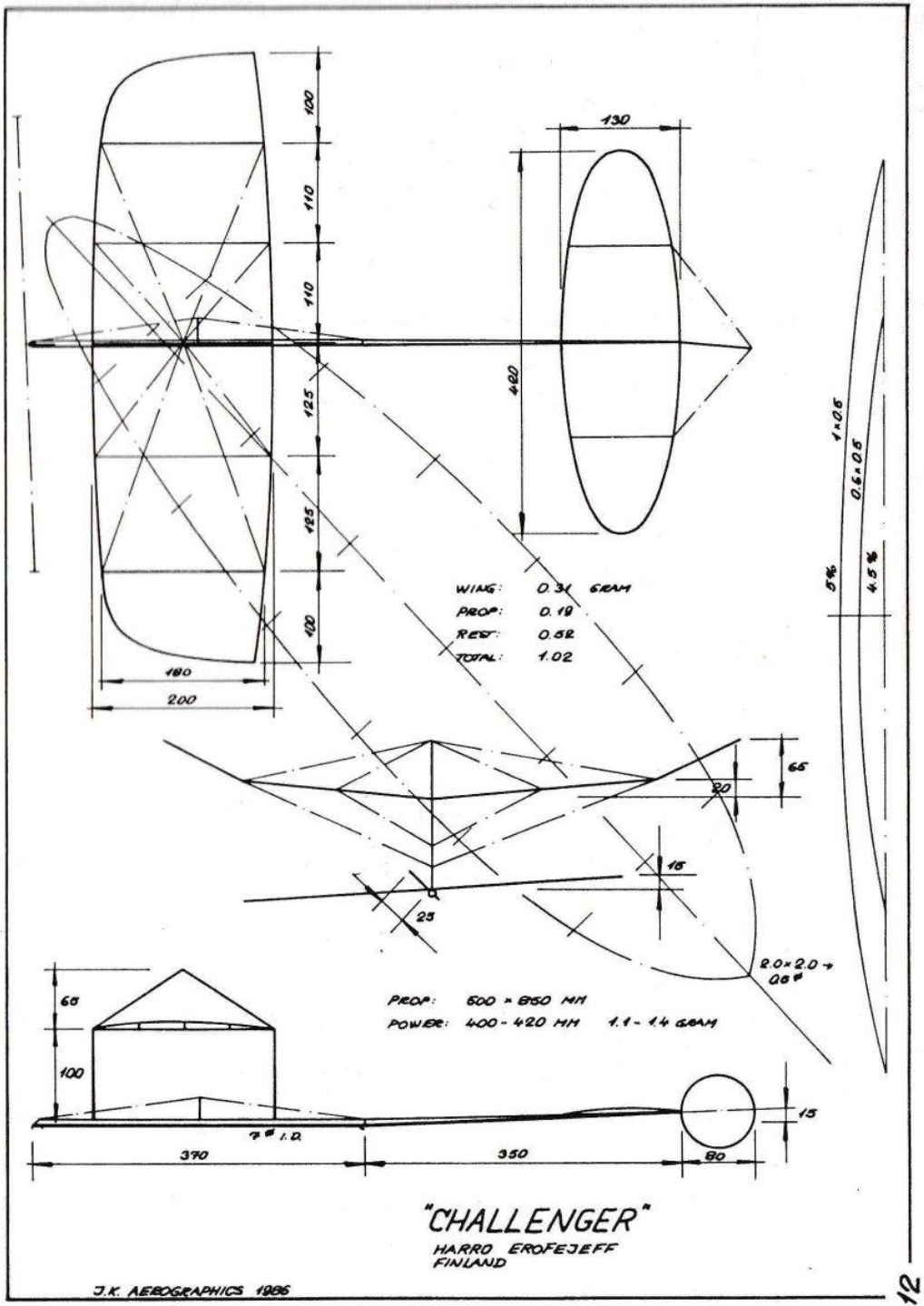
J.K. AEROGRAPHICS 1985




# F1D

WERNER NIMPTSCH
W. GERMANY

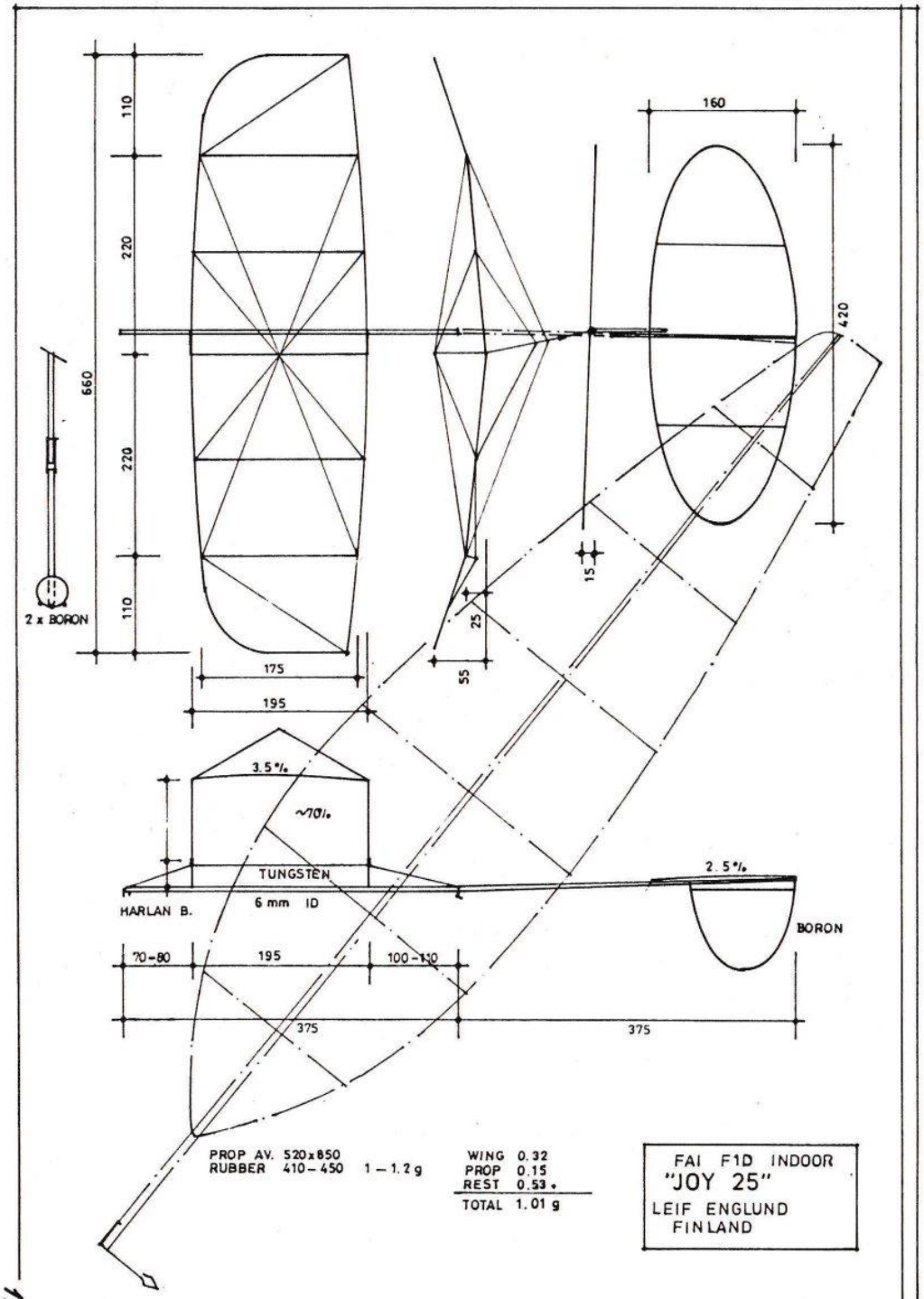
J.K. AEROGRAPHICS 1986

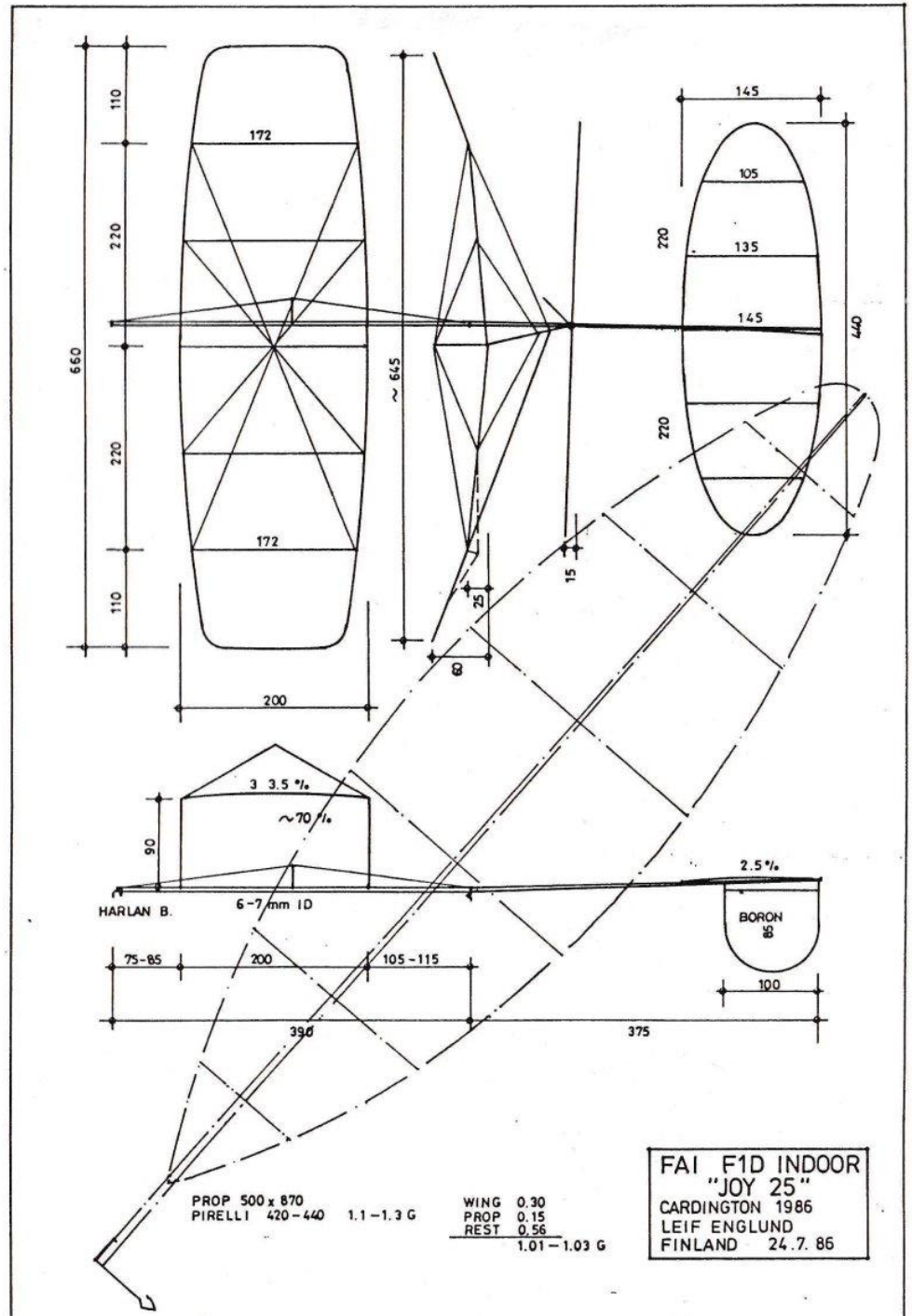


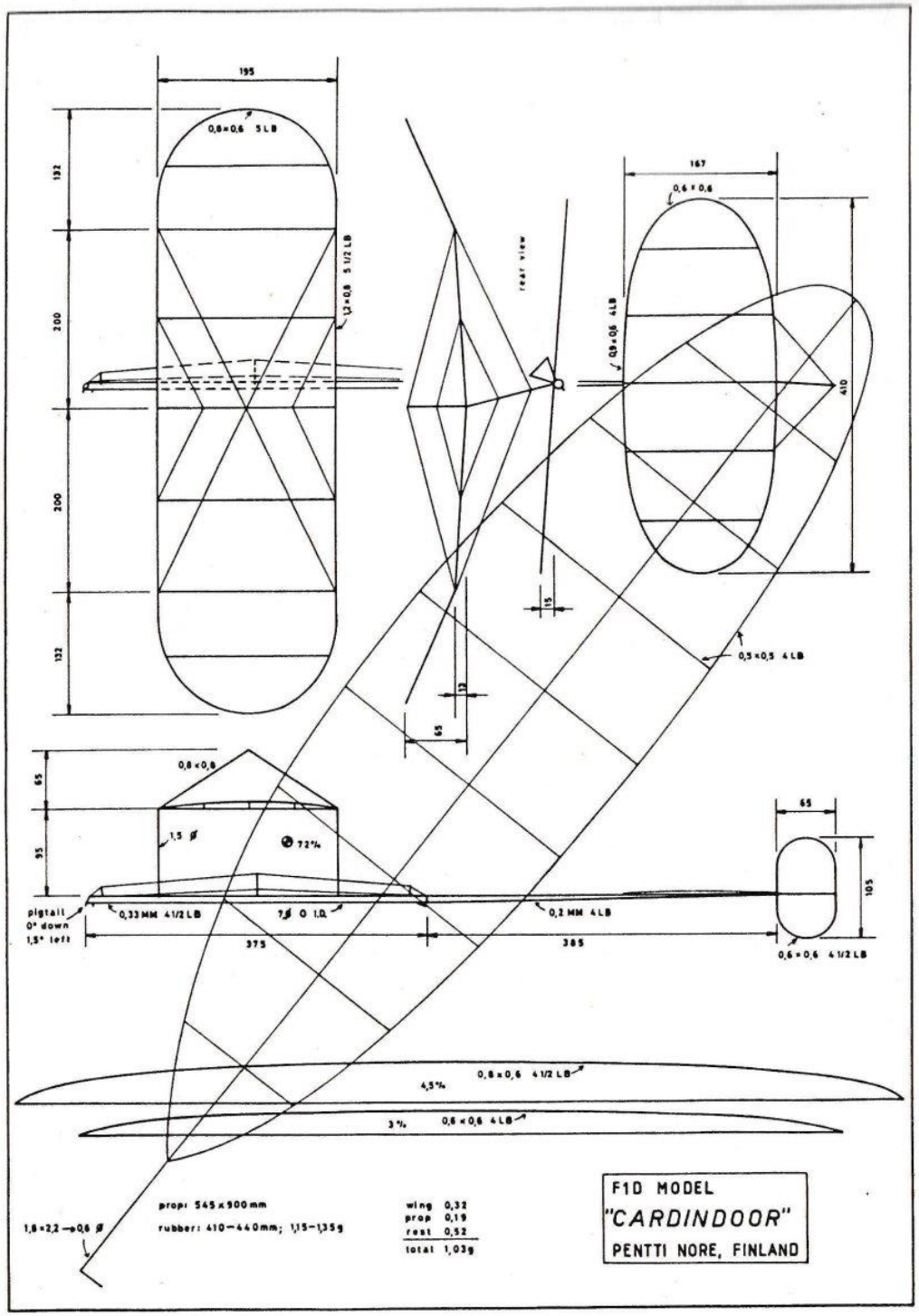

# "CHALLENGER"

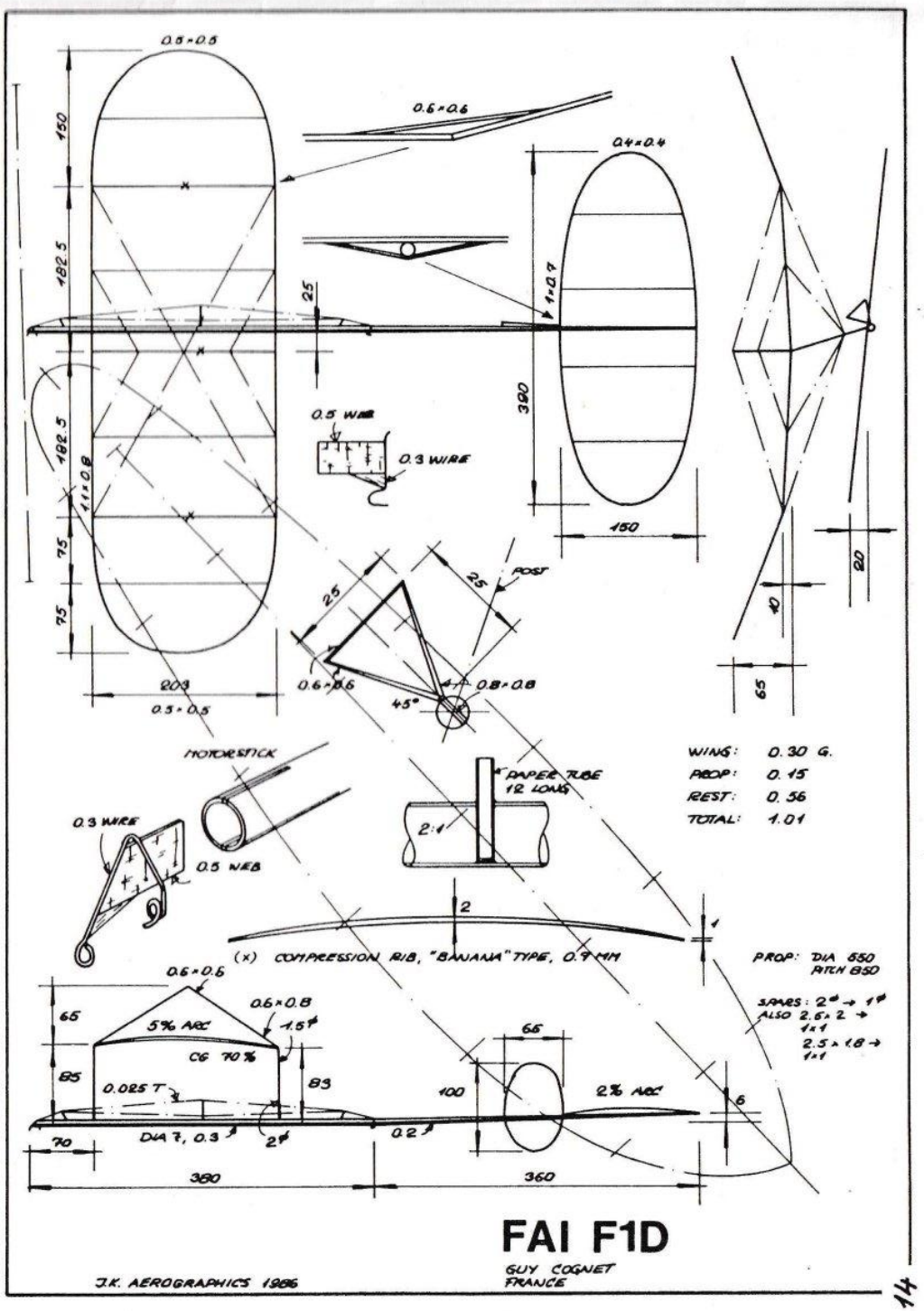
HARRO EROFEJEFF
FINLAND

J.K. AEROGRAPHICS 1986


110
220
660
220
110
160
420
15
25
55
175
195
2 x BORON
3.5 %
~70 %
TUNGSTEN
6 mm ID
HARLAN B.
2.5 %
BORON
70-80
195
100-110
375
375
PROP AV. 520x850
RUBBER 410-450 1-1.2 g
WING 0.32
PROP 0.15
REST 0.53
TOTAL 1.01 g
FAI F1D INDOOR
"JOY 25"
LEIF ENGLUND
FINLAND


110
220
660
220
110
172
172
~ 645
145
105
135
145
220
220
440
15
25
60
200
3 3.5 %
~70 %
90
2.5 %
HARLAN B.
6-7 mm ID
BORON
85
75-85
200
105-115
100
390
375
PROP 500 x 870
PIRELLI 420-440 1.1-1.3 G
WING 0.30
PROP 0.15
REST 0.56
1.01-1.03 G
FAI F1D INDOOR
"JOY 25"
CARDINGTON 1986
LEIF ENGLUND
FINLAND 24.7.86

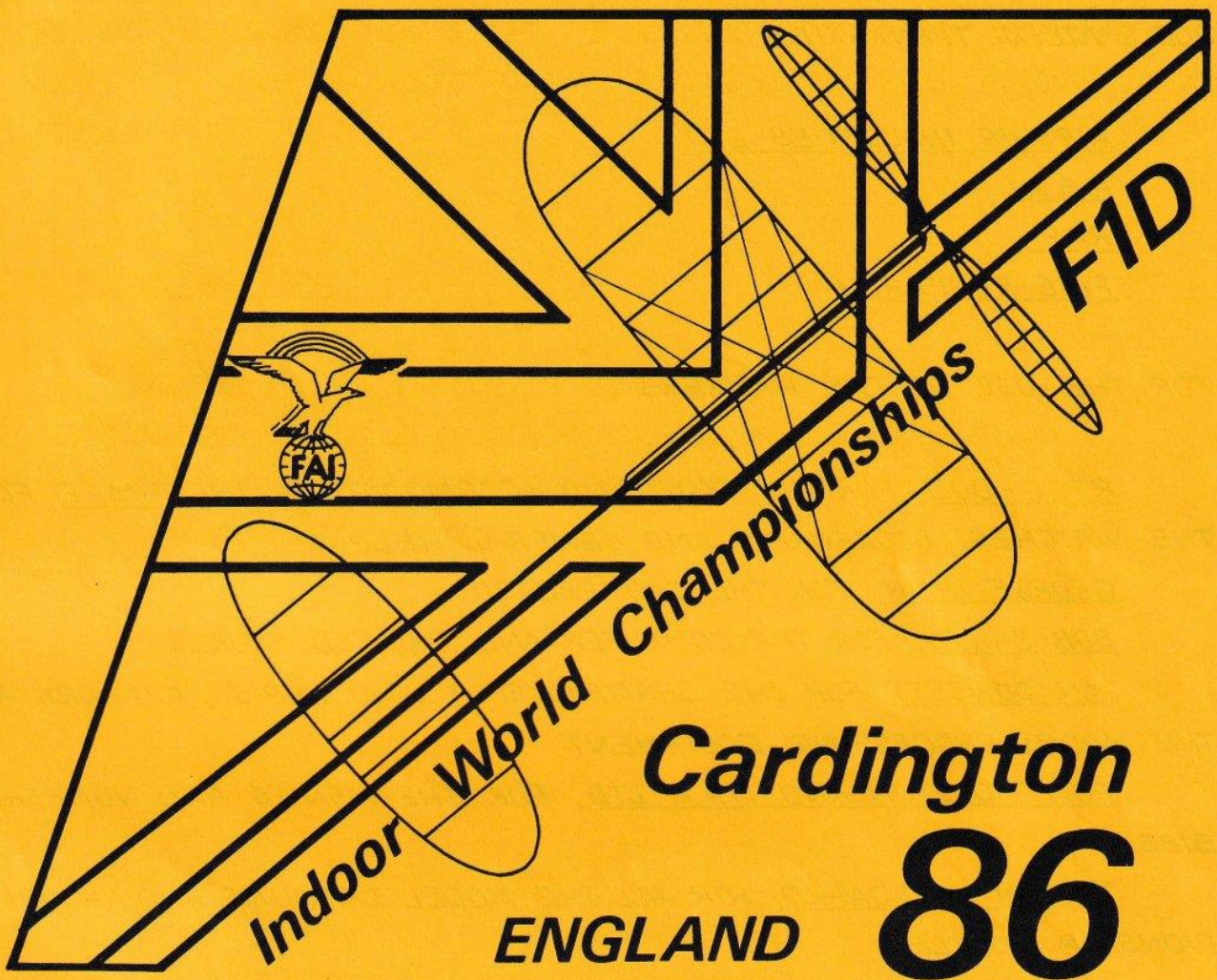



# FAI F1D

GUY COGNET
FRANCE

J.K. AEROGRAPHICS 1986




# PROGRAMME

## SCORE CHARTS
## ACKNOWLEDGEMENTS
## SCHEDULE

# ACKNOWLEDGEMENTS

OUR GRATEFUL THANKS TO -

AIRSHIP INDUSTRIES LTD.
P.S.A.
RAF
FIRE RESEARCH

FOR THE USE OF THE HANGERS.

RTCC-DOE, FOR THE FOOD AND ACCOMODATION, THE SMAE FOR THE WATCHES, SCORECARDS AND GENERAL HELP.

GEORGE LYNN, FOR THE SCOREBOARD.

BOB BAILEY, FOR THE COMPUTER AND PRINTED SCORES.

IAN DOWSETT, FOR THE CHAMPIONSHIP LOGO DESIGN, ARTWORK AND THE MODEL PROCESSING EQUIPMENT

RON MOULTON AND M.A.P. LTD., FOR THE MENU'S AND NUMBERED BIBS.

JORGEN KORSGAARD, FOR ALL THE MODEL DRAWINGS AND THE CHAMPIONSHIP BOOKLET.

AGM GROUP LTD.
AERONAUTICAL & GENERAL MODEL MAKERS LTD.
MASTER MOULDERS LTD.
MASTER MODELS LTD.

FOR RE-MAKING THE RUSHBROOKE TROPHY AND THE USE OF THEIR MINI-BUS & DRIVER, FOR ORGANISING AND UNDERWRITING THIS EVENT ON BEHALF OF THE SMAE.

TO THE INDOOR TECHNICAL COMMITTEE, FOR INPUT AND MULTI-TASKS THIS WEEKEND:

BOB BAILEY (CHAIRMAN)
BERNARD HUNT (SEC. & TREASURER)
LAURIE BARR (CARDINGTON LIAISON)
BUTCH HADLAND (SCALE)
REG. PARHAM
BERNARD ASLETT

LAST BUT NOT LEAST! -

- TO ALL OF OUR TIMEKEEPERS WHO GIVE UP THEIR WEEK-END TO DO SEVERAL HOURS OF NECK BREAKING WORK FOR LITTLE REWARD! - AND WITHOUT THEIR ENTHUSIASM THIS EVENT IS NOT POSSIBLE.

CARDINGTON 1986.

LAURIE BARR (EXECUTIVE DIRECTOR)
BUTCH HADLAND (CONTEST DIRECTOR)
GEORGE LYNN (CHIEF TIMEKEEPER)
IAN DOWSETT (PROCESSING)

# SCORE CHARTS

| NO | NAME | CTY | 1 | 2 | 3 | 4 | 5 | 6 | SUM | |
|---|---|---|---|---|---|---|---|---|---|---|
| 401 | JIM RICHMOND | '84 CH. | | | | | | | | |
| | | | | | | | | | | |
| 402 | EDUARDO GRIPPO | ARG | | | | | | | | |
| 403 | NEREO BEGIATTI | ARG | | | | | | | | |
| 404 | CYCILO EDMUNDO | ARG | | | | | | | | |
| | | | | | | | | | | |
| 405 | RON HIGGS | CAN | | | | | | | | |
| 406 | MIKE THOMAS | CAN | | | | | | | | |
| 407 | CARL SCHUELLER | CAN | | | | | | | | |
| | | | | | | | | | | |
| 408 | HUGO ERNST | DEN | | | | | | | | |
| 409 | FRANK DAHLIN | DEN | | | | | | | | |
| 410 | JORGEN KORSGAARD | DEN | | | | | | | | |
| | | | | | | | | | | |
| 411 | LEIF ENGLUND | FIN | | | | | | | | |
| 412 | HARRO EROFEJEFF | FIN | | | | | | | | |
| 413 | PENTTI NORE | FIN | | | | | | | | |
| | | | | | | | | | | |
| 414 | ROBERT CHAMPION | FRA | | | | | | | | |
| 415 | GUY COGNET | FRA | | | | | | | | |
| 416 | JEAN-MARIE CHABOT | FRA | | | | | | | | |
| | | | | | | | | | | |
| 417 | BERNARD ASLETT | GB | | | | | | | | |
| 418 | BERNARD HUNT | GB | | | | | | | | |
| 419 | DAVE PYMM | GB | | | | | | | | |
| | | | | | | | | | | |
| 420 | ANDRÁS REE | HUN | | | | | | | | |
| 421 | LÁSZLÓ REE | HUN | | | | | | | | |
| 422 | DEZSÖ ORSOVAI | HUN | | | | | | | | |
| | | | | | | | | | | |
| 423 | CARLO COTUGNO | ITA | | | | | | | | |
| 424 | LUCA MASCIULLO | ITA | | | | | | | | |
| 425 | GIACOMO DE ANGELINI | ITA | | | | | | | | |

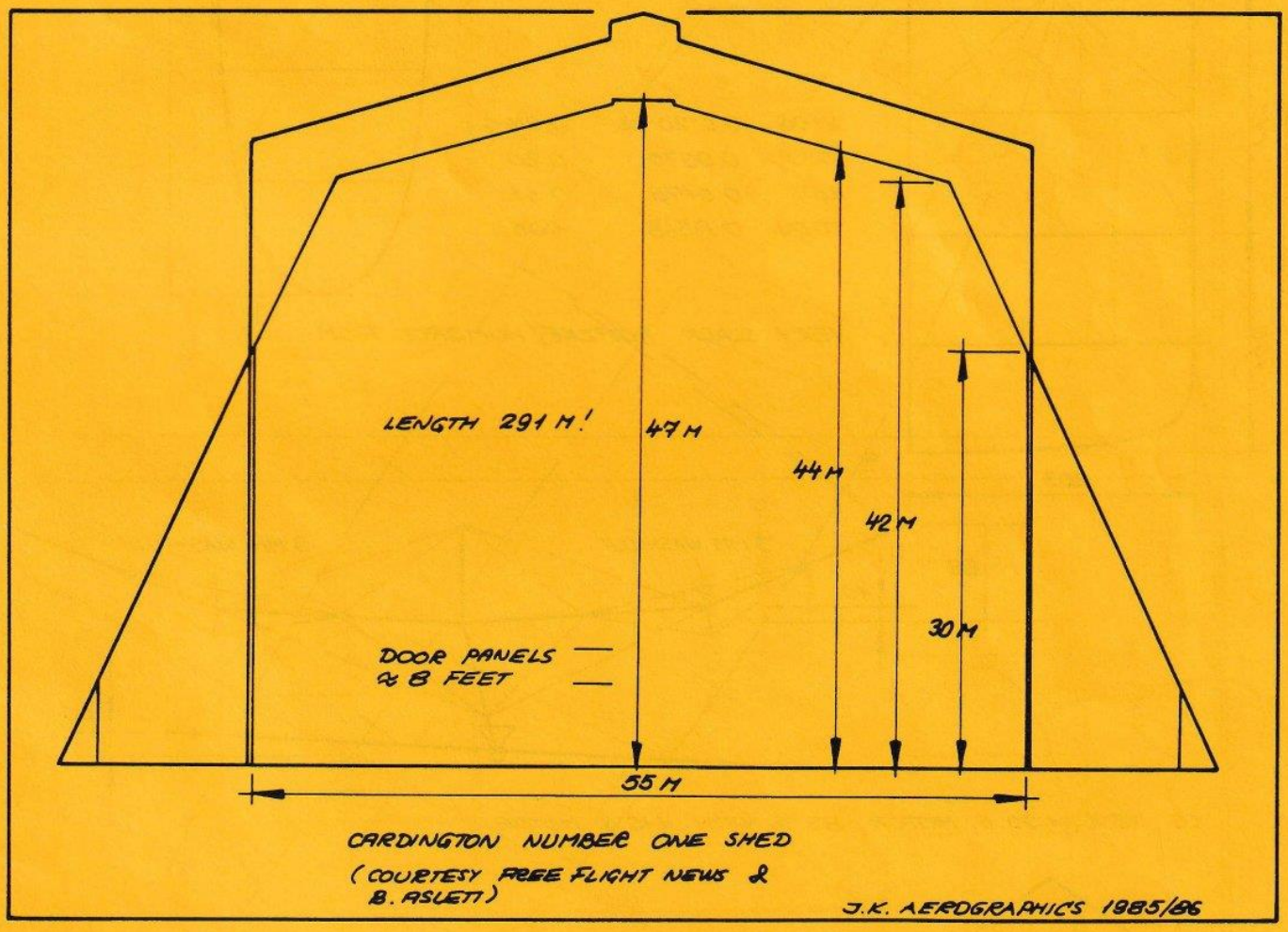
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 426 | HIDEYO ENOMOTO | JPN | | | | | | | | |
| 427 | KAZUMASA KIHARA | JPN | | | | | | | | |
| 428 | KEN'ICHI OHTA | JPN | | | | | | | | |
| | | | | | | | | | | |
| 429 | THEDO ANDRÉ | NL | | | | | | | | |
| 430 | EDMUND LIEM | NL | | | | | | | | |
| 431 | OTTO RODENBURG | NL | | | | | | | | |
| | | | | | | | | | | |
| 432 | SYLWESTER KUJAWA | POL | | | | | | | | |
| 433 | EDWARD CIAPAŁA | POL | | | | | | | | |
| 434 | RYSZARD CZECHOWSKI | POL | | | | | | | | |
| | | | | | | | | | | |
| 435 | AUREL POPA | RUM | | | | | | | | |
| 436 | AUREL MORARU | RUM | | | | | | | | |
| 437 | NICU BEZMAN | RUM | | | | | | | | |
| | | | | | | | | | | |
| 438 | SVEN PONTAN | SWE | | | | | | | | |
| 439 | PETER COMET | SWE | | | | | | | | |
| | | | | | | | | | | |
| 440 | RENÉ BUTTY | CH | | | | | | | | |
| 441 | DIETER SIEBENMANN | CH | | | | | | | | |
| 442 | PETER KELLER | CH | | | | | | | | |
| | | | | | | | | | | |
| 443 | CEZAR BANKS | USA | | | | | | | | |
| 444 | BOB RANDOLPH | USA | | | | | | | | |
| 445 | LARRY CAILLIAU | USA | | | | | | | | |
| | | | | | | | | | | |
| 446 | BERND-O. MIEHE | GER | | | | | | | | |
| 447 | WERNER NIMPTSCH | GER | | | | | | | | |
| 448 | RAINER LOTZ | GER | | | | | | | | |
| | | | | | | | | | | |
| 449 | MASTNAK MILAN | YUG | | | | | | | | |
| 450 | | YUG | | | | | | | | |

TEAM MANAGERS:

| | | | | | |
|---|---|---|---|---|---|
| ARG | EDUARDO GRIPPO | CAN | JACK HUMPHREYS | DEN | LENE KORSGAARD |
| FIN | KARI HEIKKALA | FRA | JACQUES VALERY | GB | PAUL MASTERMAN |
| HUN | ANDRÁS REE | ITA | G. MASCIULLO | JPN | HIDEYO ENOMOTO |
| NL | WIM BEEKMEJER | POL | RYSZARD KUNCE | RUM | |
| SWE | HERBERT HARTMANN | CH | THOMAS URBAN | USA | BUD ROMAK |
| GER | RAINER LOTZ | YUG | | | |

# SCHEDULE

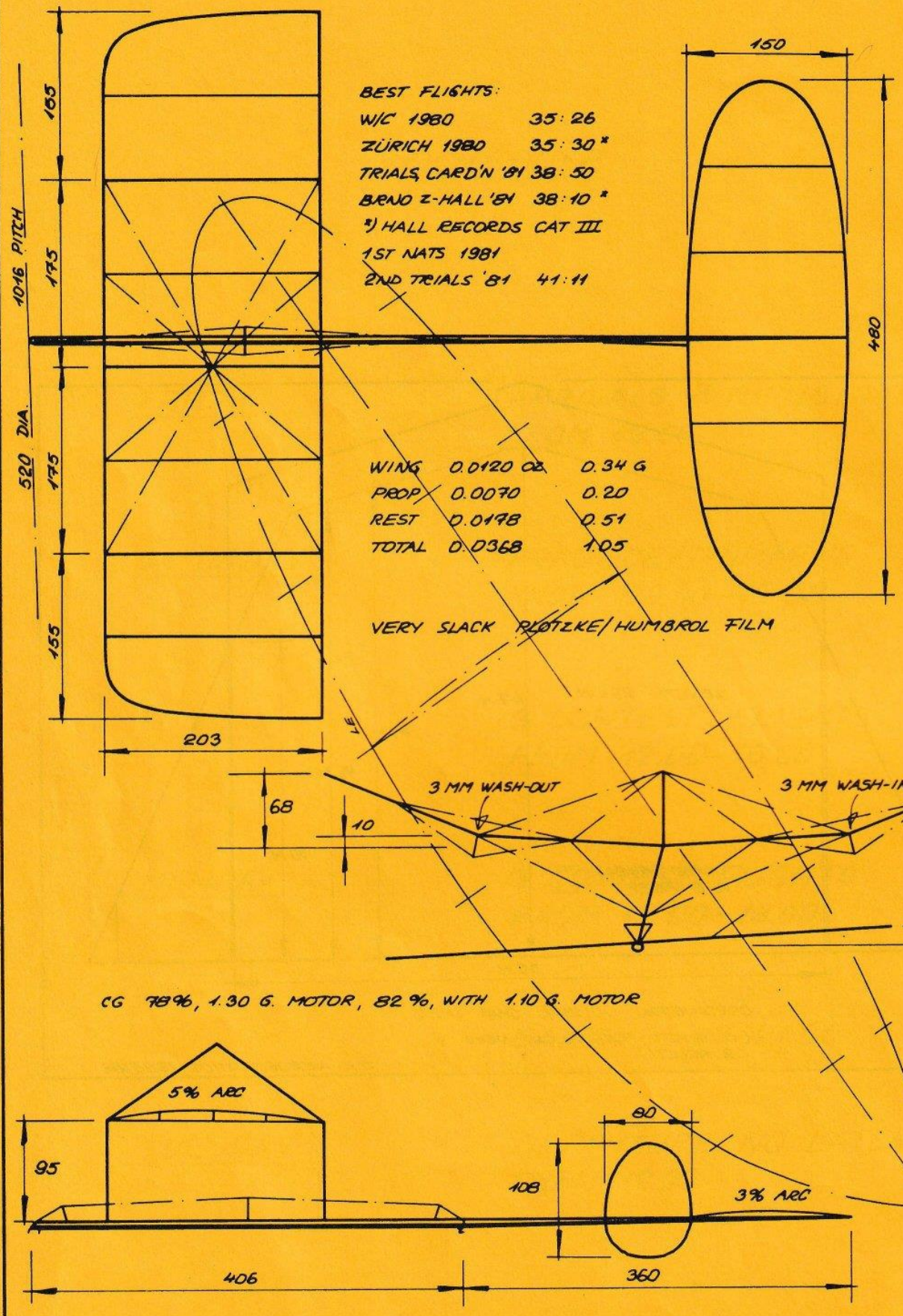
| | |
|---|---|
| FRIDAY | ARRIVALS & REGISTRATION<br>FROM 12.00 |
| SATURDAY | PRACTICE/TRIMMING<br>FROM 09.00 - 19.00 |
| SUNDAY | 3 CONTEST FLIGHTS<br>FROM 12.00 - 18.00 |
| MONDAY | 3 CONTEST FLIGHTS<br>FROM 12.00 - 18.00 |
| | BANQUET AT 21.00 |
| TUESDAY | DEPARTURE NO LATER<br>THAN 12.00 |




CARDINGTON NUMBER ONE SHED

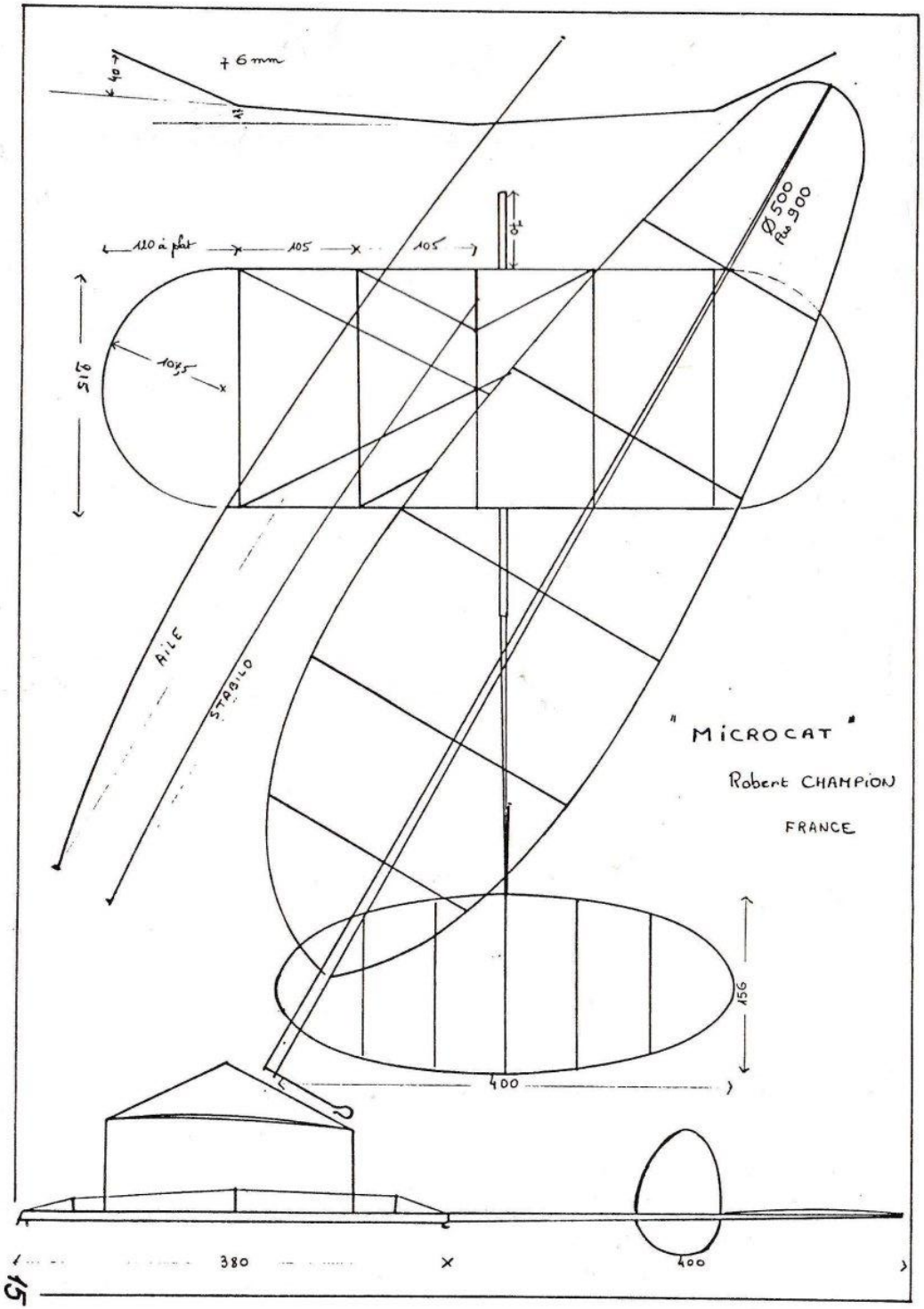
(COURTESY FREE FLIGHT NEWS & B. ASLETT)

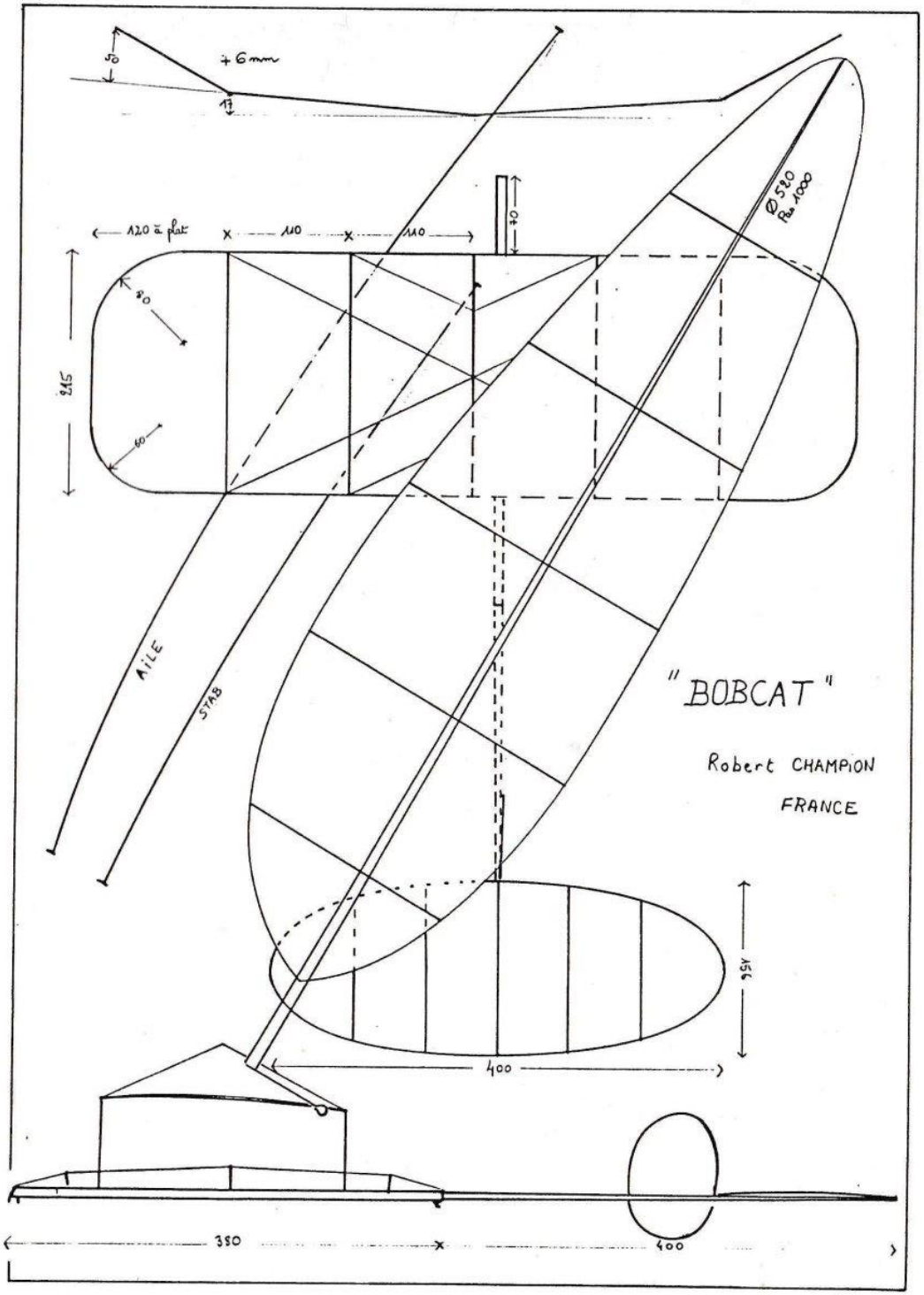
J.K. AERODRAPHICS 1985/86




# »FIDDLER ON THE ROOF«

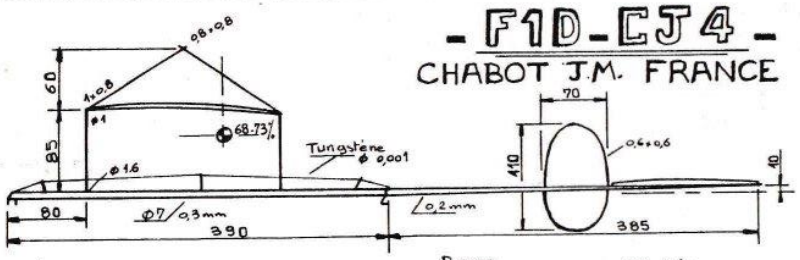
BY LAURIE BARR
ENGLAND

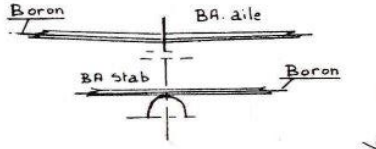

+6mm
40
12
120 à plat
105
105
10
Ø 500
Re 900
315
10x5
AILE
STABILO
"MICROCAT"
Robert CHAMPION
FRANCE
156
400
380
400


+6mm
50
17
120 à plat
110
110
10
Ø 510
Re 1000
315
80
50
AILE
STAB
"BOBCAT"
Robert CHAMPION
FRANCE
156
400
380
400

# - F1D - CJ4 -

## CHABOT J.M. FRANCE

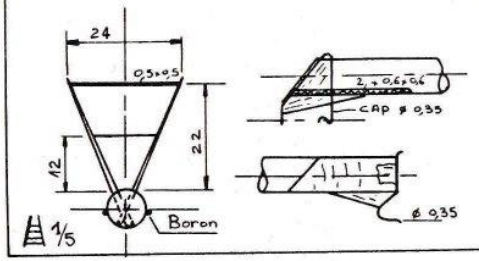


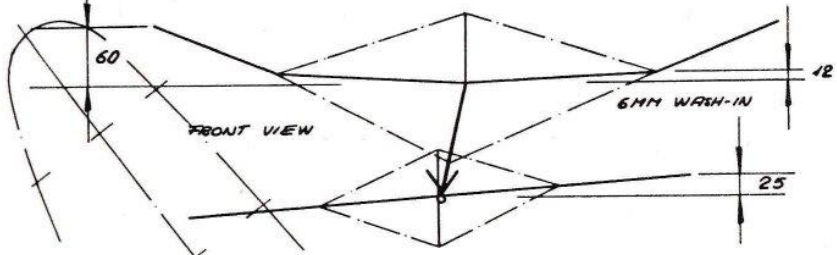







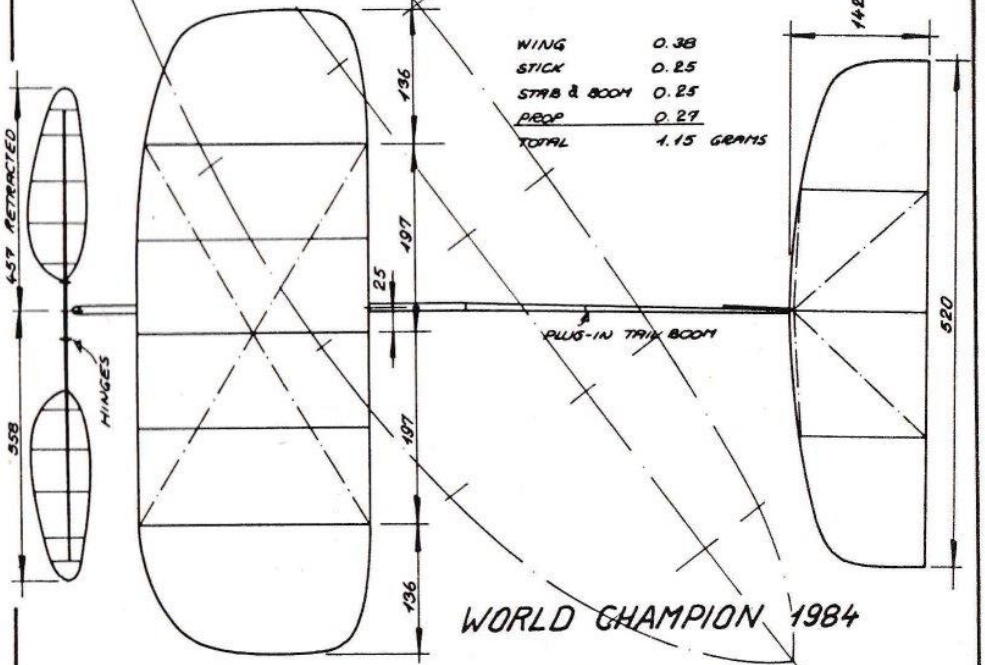
Aile 0,35
helice 0,20
Fusel+Stab+deri 0,55
1,10




0.0007" KARMA BRACING

LETTER FROM JIM (17TH JULY, 1986) SAYS THAT HE HASN'T DECIDED WHAT PROP TO USE, A V/D ONE OR THE ONE SHOWN HERE! 22" DIA "CAT WALKER".




| | |
|---|---|
| WING | 0.38 |
| STICK | 0.25 |
| STAB & BOOM | 0.25 |
| PROP | 0.27 |
| TOTAL | 1.15 GRAMS |

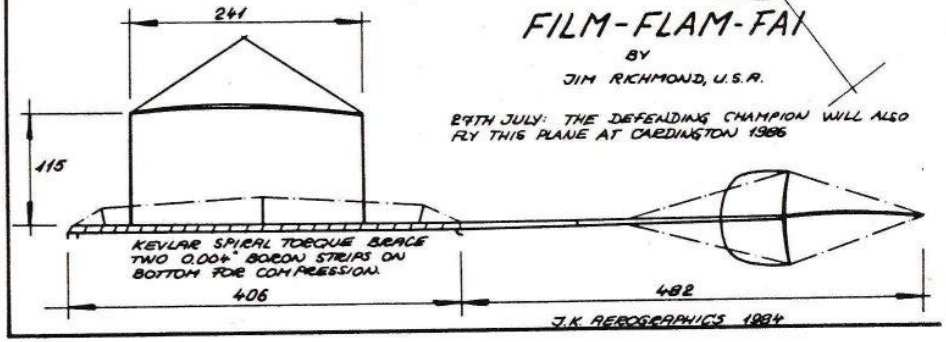
# WORLD CHAMPION 1984

## FILM-FLAM-FAI

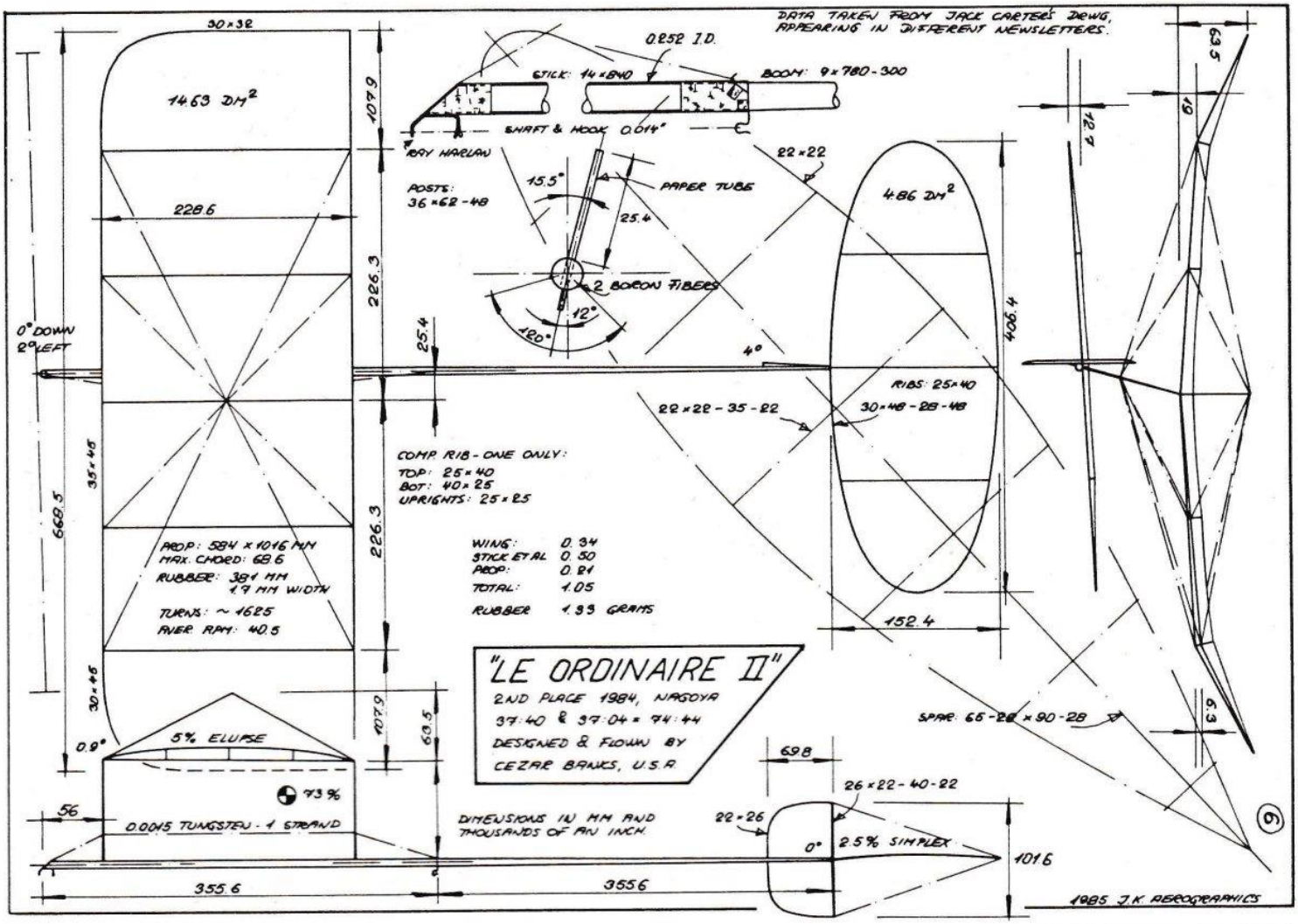
BY

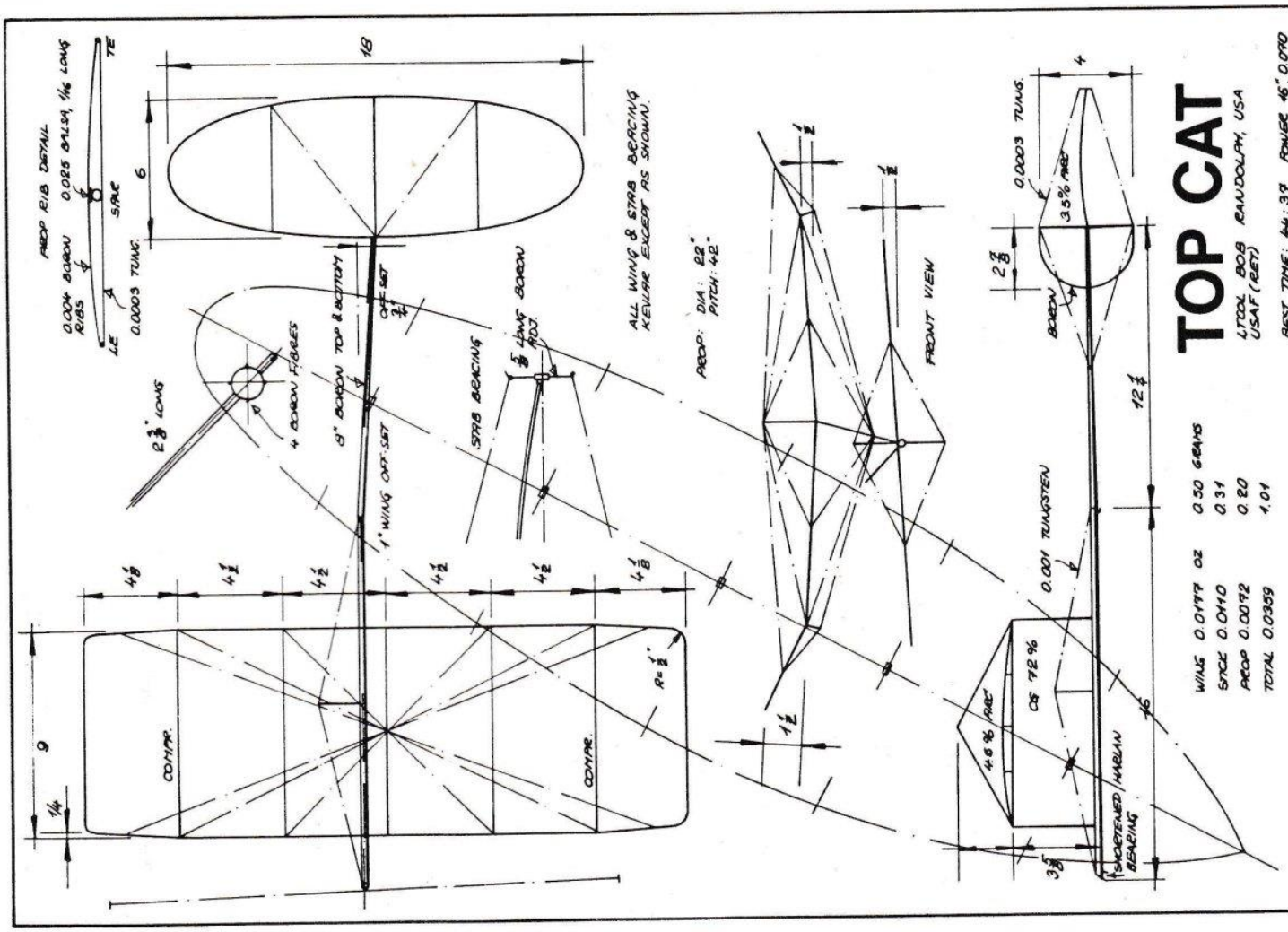
JIM RICHMOND, U.S.A.

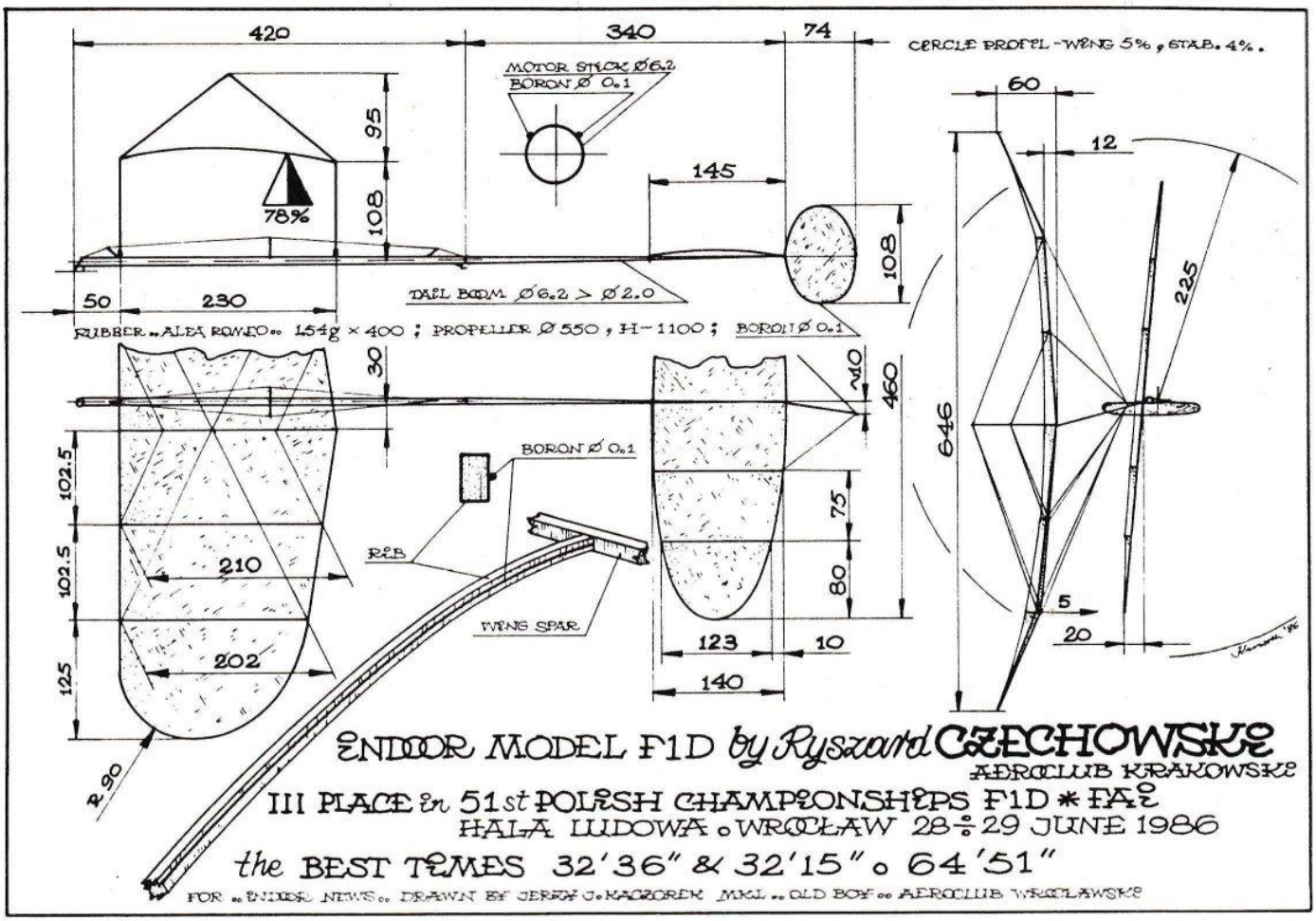
19TH JULY: THE DEFENDING CHAMPION WILL ALSO FLY THIS PLANE AT CARDINGTON 1986

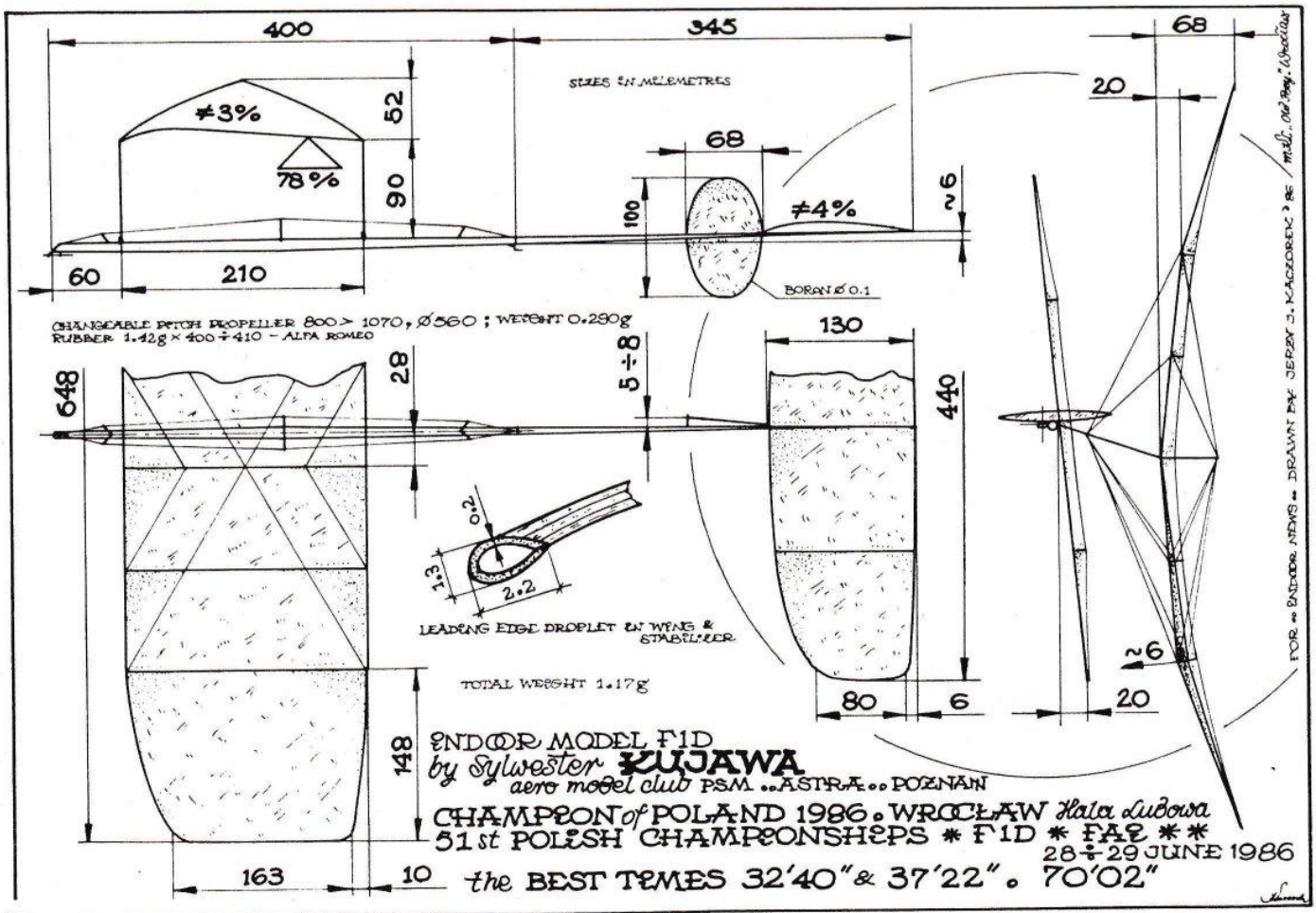



J.K AEROGRAPHICS 1984

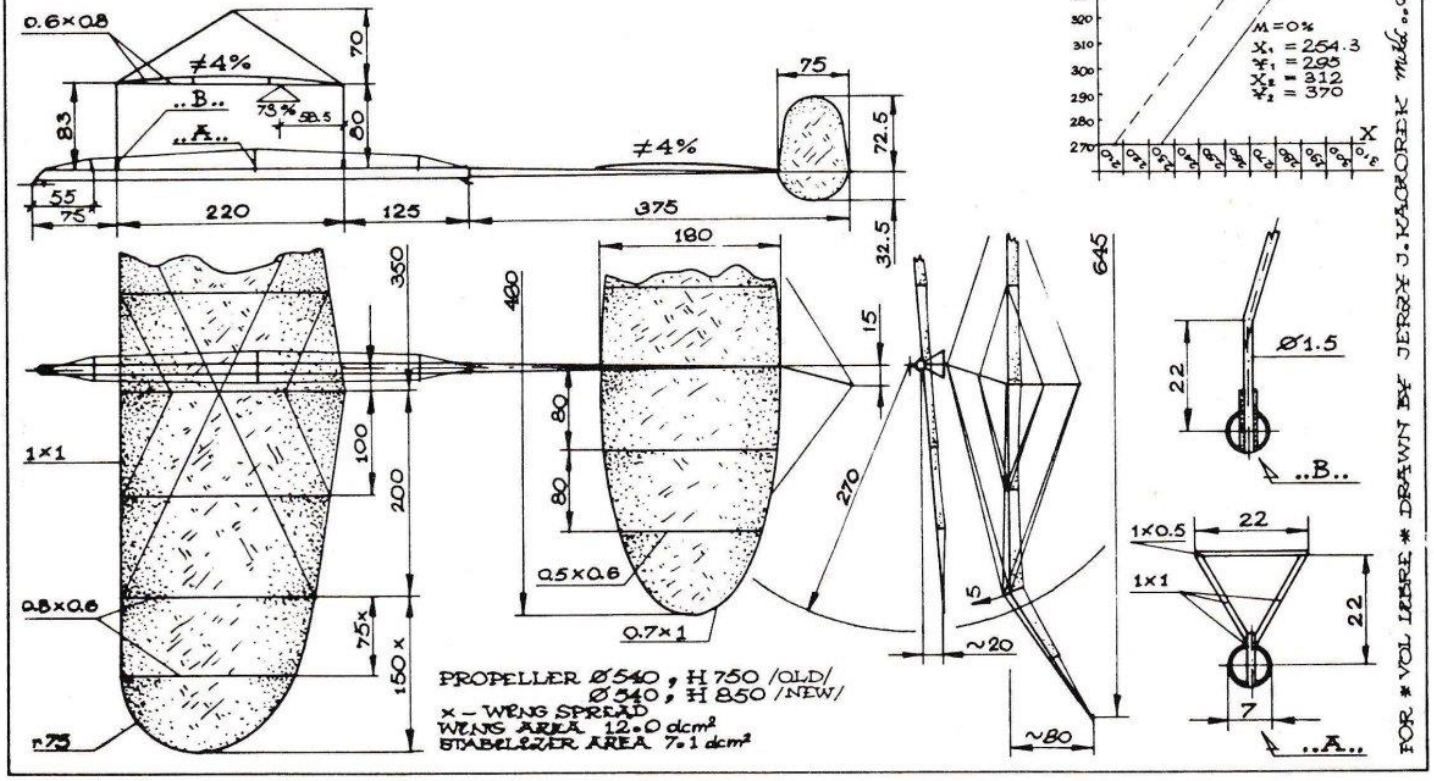

DATA TAKEN FROM JACK CARTER'S DRWG, APPEARING IN DIFFERENT NEWSLETTERS.
30×32
14.63 DM²
107.9
228.6
226.3
668.5
35×45
30×45
0.9°
5% ELUPSE
73%
56
0.0045 TUNGSTEN - 1 STRAND
355.6
3556
0.852 I.D.
STICK: 14×840
BOOM: 9×780-300
SHAFT & HOOK 0.014"
RAY HARLAN
POSTS: 36×62-48
15.5°
PAPER TUBE
25.4
2 BORON FIBERS
12°
120°
0° DOWN 2° LEFT
4°
22×22
4.86 DM²
406.4
RIBS: 25×40
22×22-35-22
30×48-28-48
152.4
COMP. RIB - ONE ONLY:
TOP: 25×40
BOT: 40×25
UPRIGHTS: 25×25
PROP: 584 × 1016 MM
MAX. CHORD: 68.6
RUBBER: 391 MM 1.9 MM WIDTH
TURNS: ~ 1625
RIVER RPM: 40.5
WING: 0.34
STICK ETAL 0.50
PROP: 0.81
TOTAL: 1.05
RUBBER 1.33 GRAMS
"LE ORDINAIRE II"
2ND PLACE 1984, NAGOYA
37:40 & 37:04 = 74:44
DESIGNED & FLOWN BY
CEZAR BANKS, U.S.A.
DIMENSIONS IN MM AND THOUSANDS OF AN INCH
SPAR: 65-28 × 90-28
69.8
26×22-40-22
22×26
0° 2.5% SIMPLEX
101.6
63.5
19
12.7
6.3
9
1985 J.K. AEROGRAPHICS


TOP CAT
LTCOL BOB RANDOLPH, USA
USAF (RET)
BEST TIME: 44:39 POWER 46", 0.070
PROP R/B DETAIL
0.004 BORON RIBS
0.025 BALSA, 1/16 LONG
SPAR
LE
TE
0.0003 TUNG.
18
6
2 3/8" LONG
4 BORON FIBERS
9" BORON TOP & BOTTOM
OFFSET 1/4"
1" WING OFFSET
STAB BEARING
3/8 LONG BORON ROD
ALL WING & STAB BEARING KEVAR EXCEPT AS SHOWN.
PROP: DIA: 22" PITCH: 42"
FRONT VIEW
0.0003 TUNG.
35% REC.
BORON
2 3/8
4
12 1/4
0.001 TUNGSTEN
CG 72%
48% REC.
SHORTENED HARLAN BEARING
WING 0.0177 OZ 0.50 GRAMS
STICK 0.0410 0.31
PROP 0.0092 0.20
TOTAL 0.0339 1.01
J.K. AEROGRAPHICS 1986


420
340
74
CERCLE PROFIL - WING 5%, STAB. 4%.
MOTOR STICK Ø6.2
BORON Ø 0.1
95
108
78%
145
108
50
230
TAIL BOOM Ø6.2 > Ø2.0
RUBBER "ALFA ROMEO" 1.54g × 400 ; PROPELLER Ø 550, H-1100 ; BORON Ø 0.1
60
12
225
646
30
10
460
BORON Ø 0.1
102.5
102.5
125
210
202
R 90
RIB
WING SPAR
75
80
123
10
140
5
20
ENDOOR MODEL F1D by Ryszard CZECHOWSKI
AEROCLUB KRAKOWSKI
III PLACE in 51st POLISH CHAMPIONSHIPS F1D * FAI
HALA LUDOWA • WROCŁAW 28÷29 JUNE 1986
the BEST TIMES 32'36" & 32'15" • 64'51"
FOR "ENDOOR NEWS" DRAWN BY JERZY J. KACZOREK MKL "OLD BOY" AEROCLUB WROCŁAWSKI


400
345
SIZES IN MILLIMETRES
≠3%
52
78%
90
68
100
≠4%
≈6
60
210
BORON Ø 0.1
CHANGEABLE PITCH PROPELLER 800 > 1070, Ø560 ; WEIGHT 0.290g
RUBBER 1.42g × 400 ÷ 410 - ALFA ROMEO
130
5÷8
648
28
440
0.2
1.3
2.2
LEADING EDGE DROPLET ON WING & STABILIZER
TOTAL WEIGHT 1.17g
80
6
68
20
≈6
20
148
163
10
ENDOOR MODEL F1D
by Sylwester KUJAWA
aero model club PSM "ASTRA" POZNAŃ
CHAMPION of POLAND 1986 • WROCŁAW Hala Ludowa
51st POLISH CHAMPIONSHIPS * F1D * FAI **
28÷29 JUNE 1986
the BEST TIMES 32'40" & 37'22" • 70'02"
FOR "ENDOOR NEWS" DRAWN BY JERZY J. KACZOREK 2 SC / mkl. "Old Boy" Wrocław

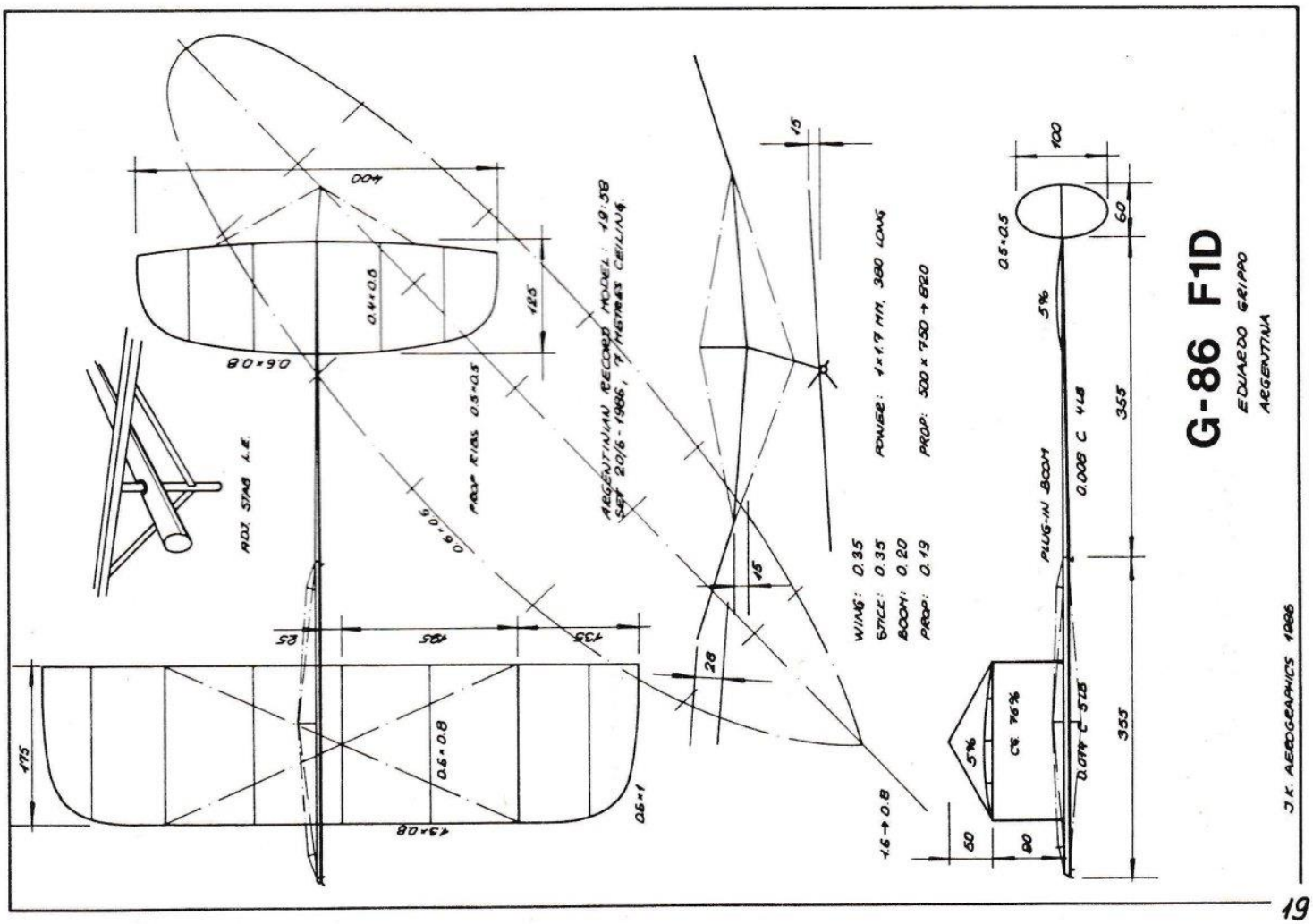
# INDOOR MODEL F1D by EDWARD CIAPAŁA. Aeroclub Śląski
## CHAMPION of POLAND 1985 . WROCŁAW
## HALA LUDOWA
## 50th POLISH CHAMPIONSHIPS * F1D * FAI
## 34:16 & 33:12







FOR * VOL LIBRE * DRAWN BY JERZY J. KAGOREK mdc . OLD BOF . Wrocław POLAND

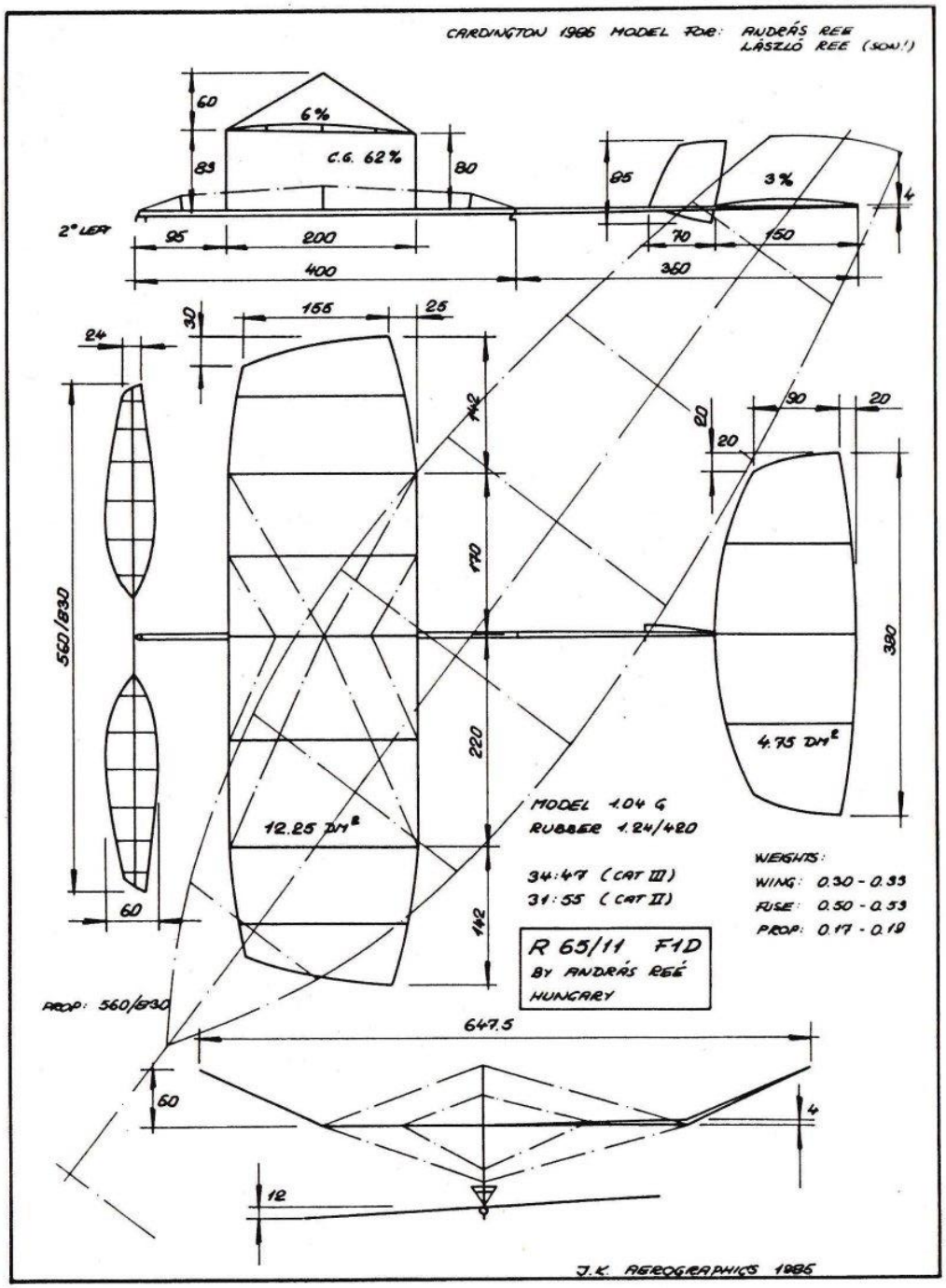


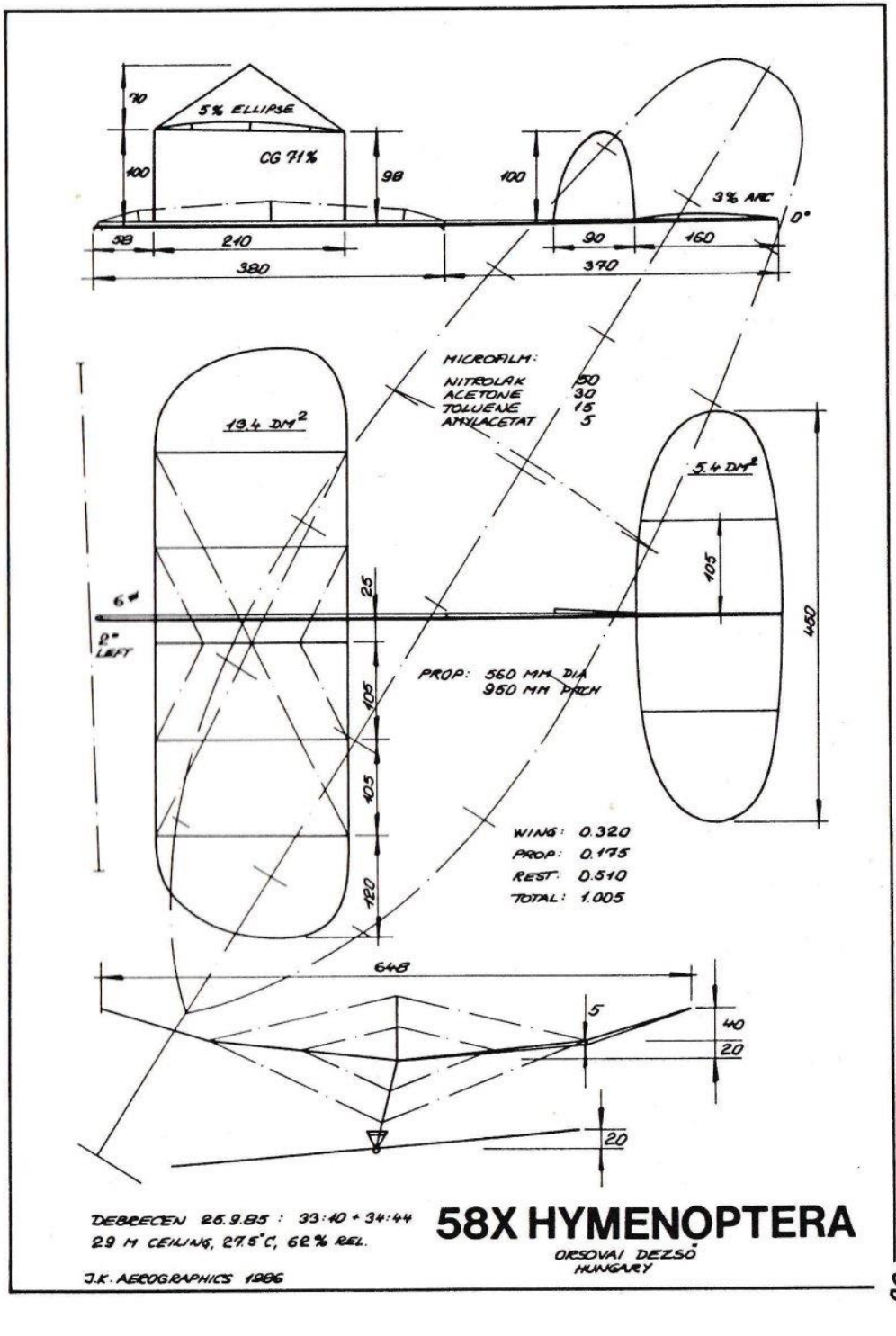

# G-86 F1D

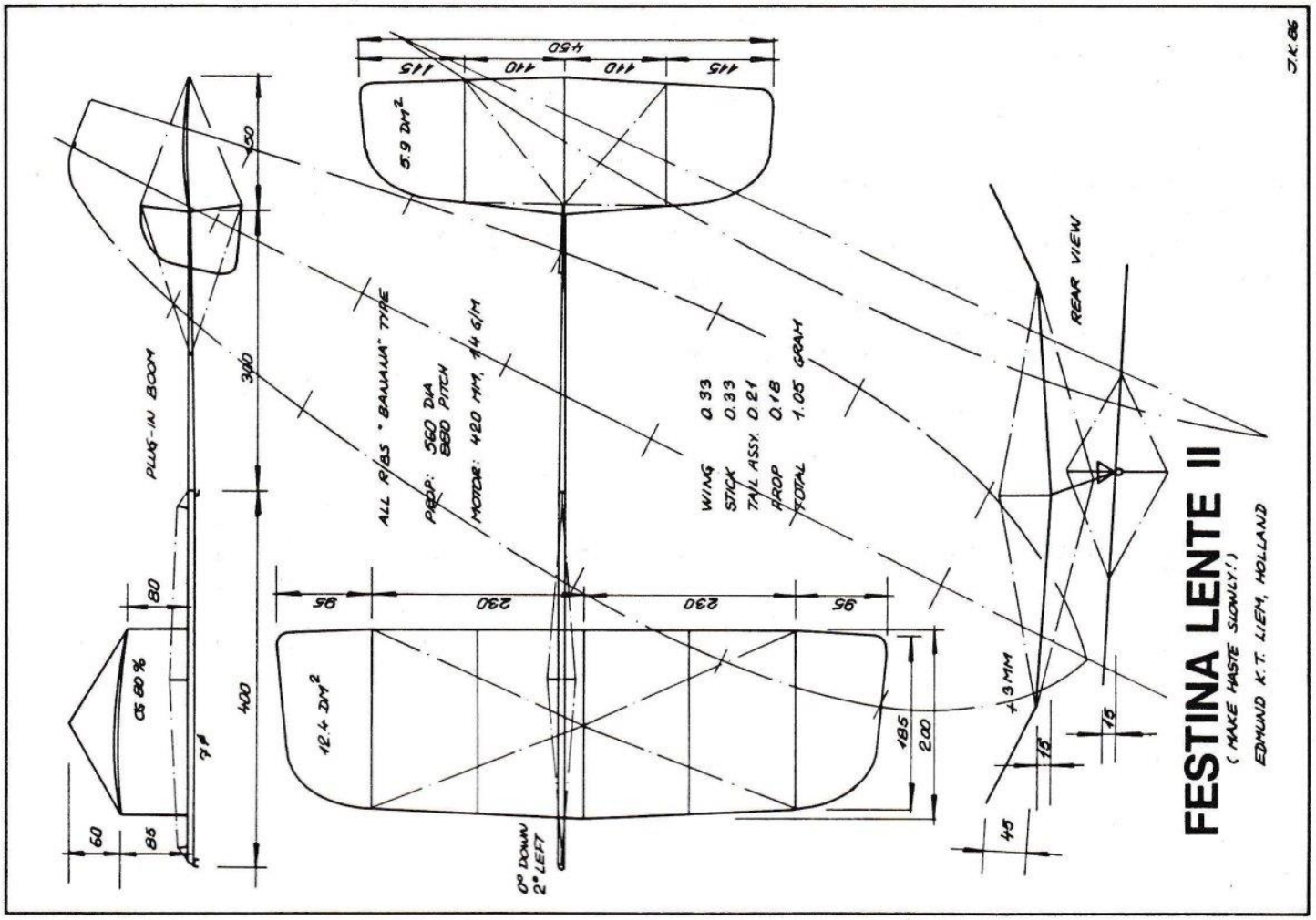
EDUARDO GEIPPO

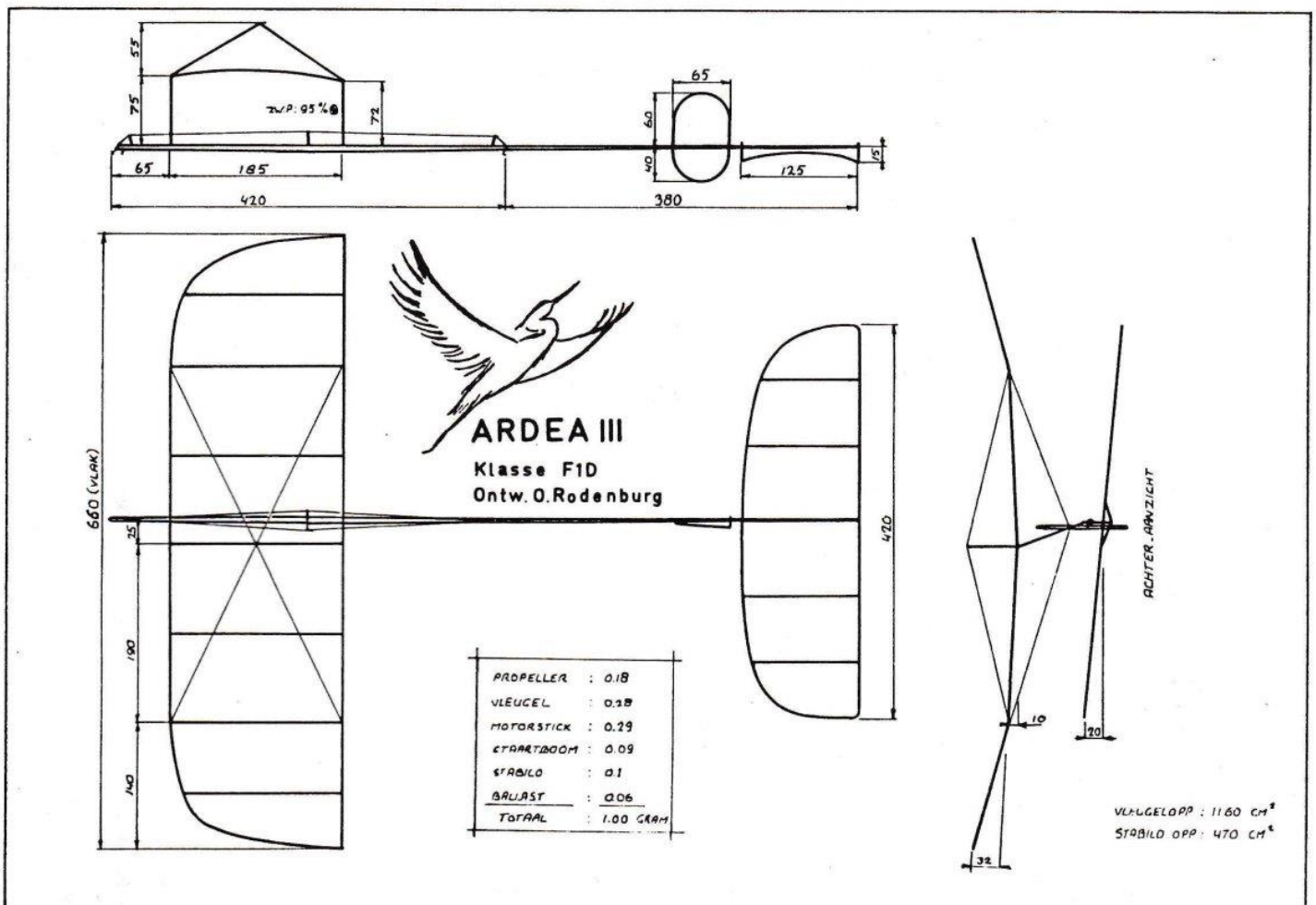
ARGENTINA

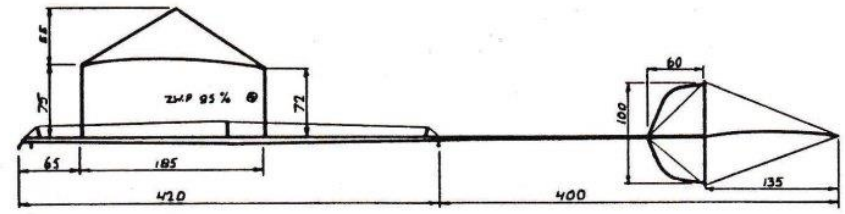
J.K. AERODRAPHICS 1986

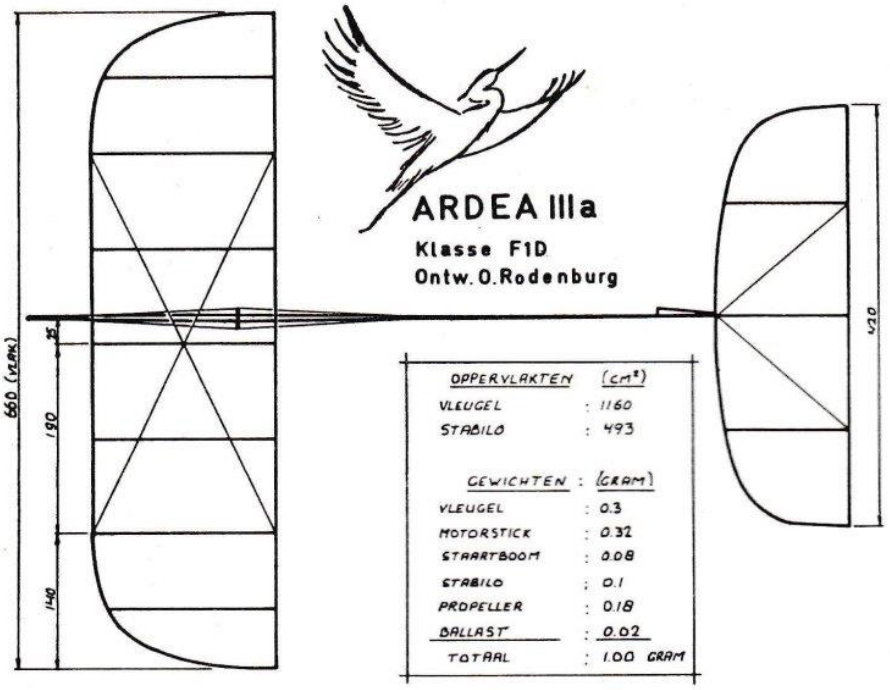

CARDINGTON 1986 MODEL FOR: ANDRÁS REE
LÁSZLÓ REE (SON!)
60
6%
C.G. 62%
83
80
2° LEFT
95
200
400
85
3%
4
70
150
360
30
155
25
24
142
110
220
142
560/830
60
12.25 DM²
20
90
20
20
4.75 DM²
380
MODEL 1.04 G
RUBBER 1.24/420
34:47 (CAT III)
31:55 (CAT II)
WEIGHTS:
WING: 0.30 - 0.33
FUSE: 0.50 - 0.53
PROP: 0.17 - 0.19
R 65/11 F1D
BY ANDRÁS REÉ
HUNGARY
PROP: 560/830
647.5
60
4
12
J.K. AEROGRAPHICS 1986


70
5% ELLIPSE
CG 71%
100
98
100
3% ARC
0°
58
210
380
90
160
370
MICROFILM:
NITROLAK 50
ACETONE 30
TOLUENE 15
AMYLACETAT 5
19.4 DM²
5.4 DM²
105
6°
2°
LEFT
25
105
105
120
450
PROP: 560 MM DIA
980 MM PITCH
WING: 0.320
PROP: 0.175
REST: 0.510
TOTAL: 1.005
648
5
40
20
20
DEBRECEN 26.9.85 : 33:40 + 34:44
29 M CEILING, 27.5°C, 62% REL.
58X HYMENOPTERA
ORSOVAI DEZSÖ
HUNGARY
J.K. AEROGRAPHICS 1986


FESTINA LENTE II
( MAKE HASTE SLOWLY ! )
EDMUND K.T. LIEM, HOLLAND
7.K.86
REAR VIEW
PLUG-IN BOOM
ALL RIBS "BANANA" TYPE
PROP: 360 DIA
6&0 PITCH
MOTOR: 420 MM, 14 G/M
WING 0.33
STICK 0.33
TAIL ASSY. 0.21
ARDP 0.18
TOTAL 1.05 GRAM
5.9 DM²
12.4 DM²
Ø 80 %
0° DOWN
2° LEFT

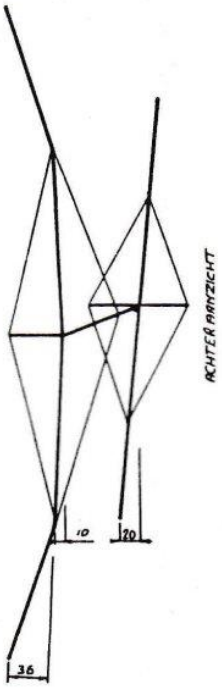

ARDEA III
Klasse F1D
Ontw. O. Rodenburg
ZWP: 95%
PROPELLER : 0.18
VLEUGEL : 0.28
MOTORSTICK : 0.29
STAARTBOOM : 0.09
STABILO : 0.1
BALLAST : 0.06
TOTAAL : 1.00 GRAM
VLEUGELOPP : 1160 CM²
STABILO OPP : 470 CM²
ACHTER-AANZICHT

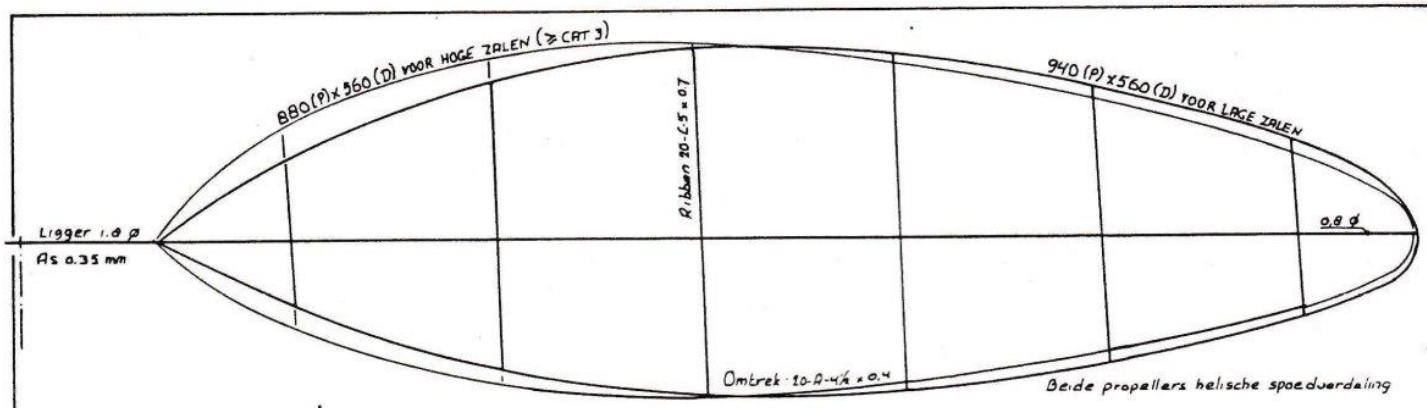



| OPPERVLAKTEN | (cm²) |
|---|---|
| VLEUGEL | : 1160 |
| STABILO | : 493 |

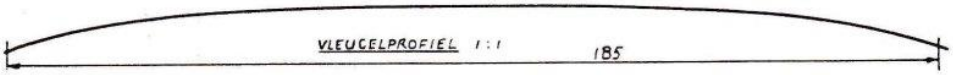
| GEWICHTEN | : (GRAM) |
|---|---|
| VLEUGEL | : 0.3 |
| MOTORSTICK | : 0.32 |
| STAARTBOOM | : 0.08 |
| STABILO | : 0.1 |
| PROPELLER | : 0.18 |
| BALLAST | : 0.02 |
| TOTAAL | : 1.00 GRAM |

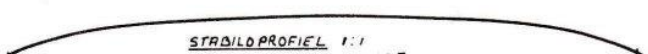


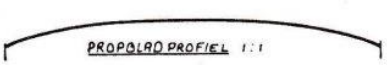



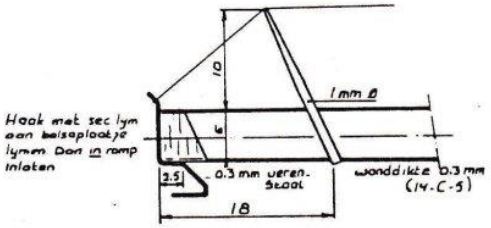

Beide propellers helische spoedverdaling

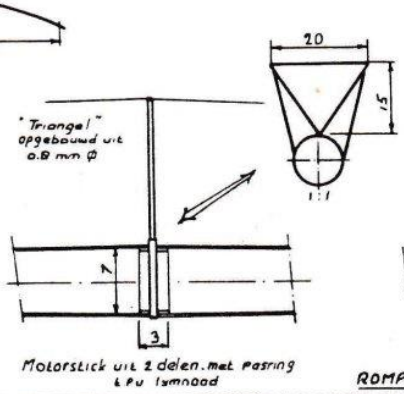


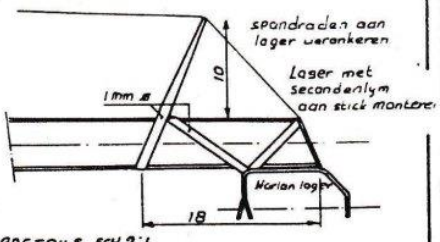



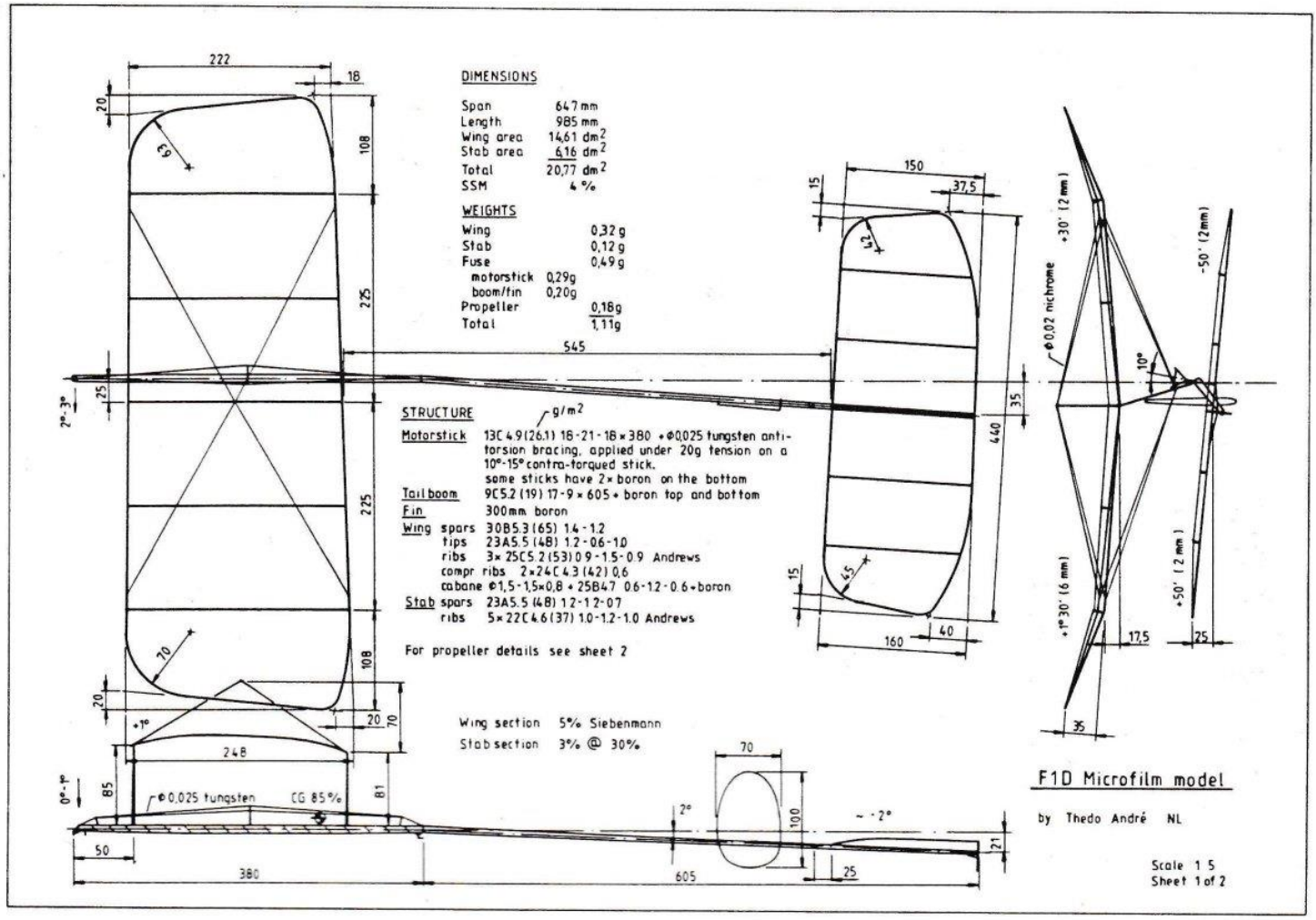



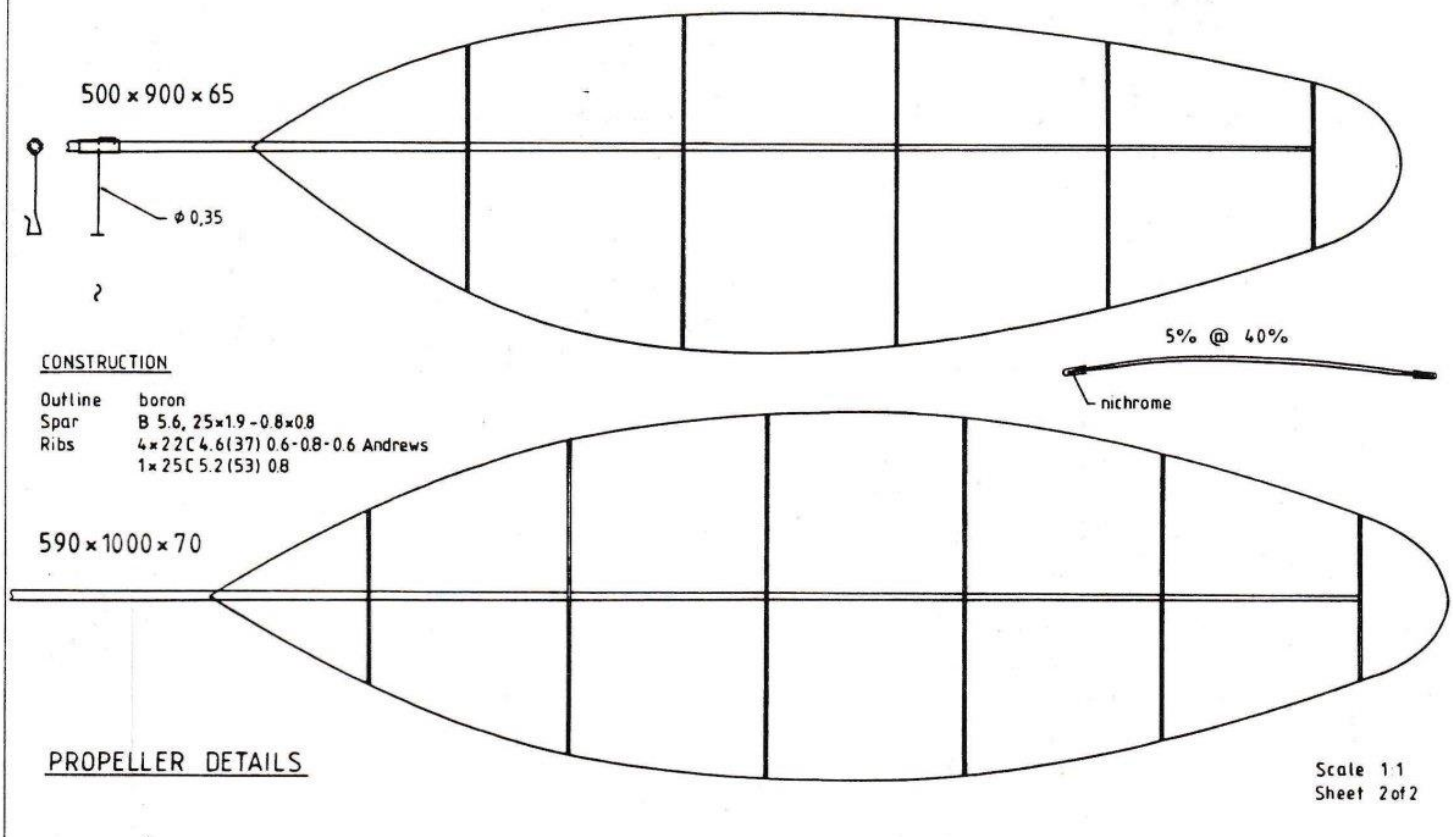



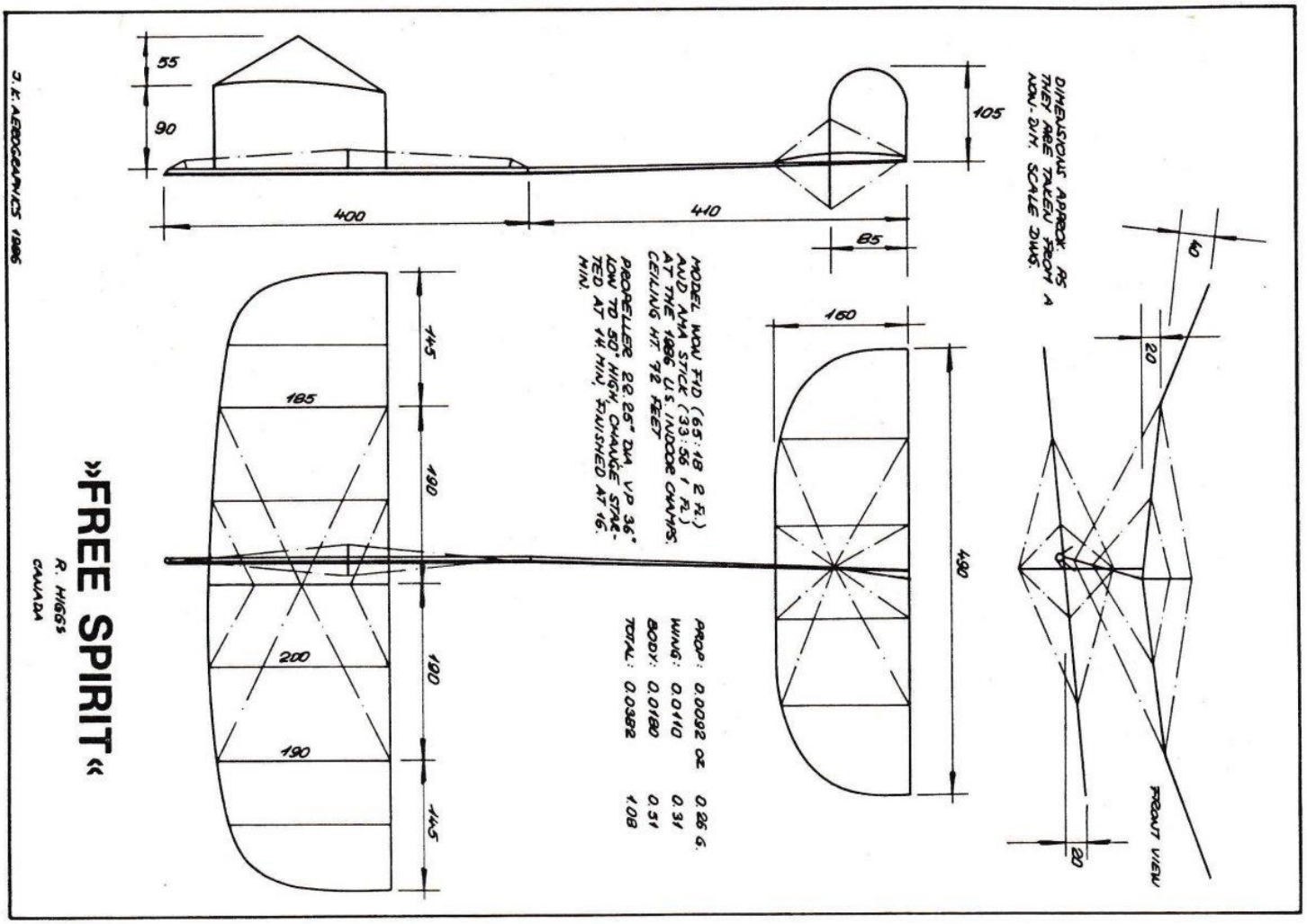




ROMPDETAILS SCH 2:1


DIMENSIONS
Span 647 mm
Length 985 mm
Wing area 14,61 dm²
Stab area 6,16 dm²
Total 20,77 dm²
SSM 4 %
WEIGHTS
Wing 0,32 g
Stab 0,12 g
Fuse 0,49 g
motorstick 0,29g
boom/fin 0,20g
Propeller 0,18g
Total 1,11g
STRUCTURE g/m²
Motorstick 13C 4.9 (26.1) 16-21-18 x 380 + Φ0,025 tungsten anti-torsion bracing, applied under 20g tension on a 10°-15° contra-torqued stick. some sticks have 2 x boron on the bottom
Tail boom 9C 5.2 (19) 17-9 x 605 + boron top and bottom
Fin 300mm boron
Wing spars 30B 5.3 (65) 1.4-1.2
tips 23A 5.5 (48) 1.2-0.6-1.0
ribs 3 x 25C 5.2 (53) 0.9-1.5-0.9 Andrews
compr ribs 2 x 24C 4.3 (42) 0,6
cabane Φ1,5-1,5x0,8 + 25B 47 0.6-1.2-0.6 + boron
Stab spars 23A 5.5 (48) 1.2-1.2-0.7
ribs 5 x 22C 4.6 (37) 1.0-1.2-1.0 Andrews
For propeller details see sheet 2
Wing section 5% Siebenmann
Stab section 3% @ 30%
Φ0,02 nichrome
+30° (2 mm)
-50° (2mm)
+1°30' (6 mm)
+50° (2 mm)
F1D Microfilm model
by Thedo André NL
Scale 1 5
Sheet 1 of 2

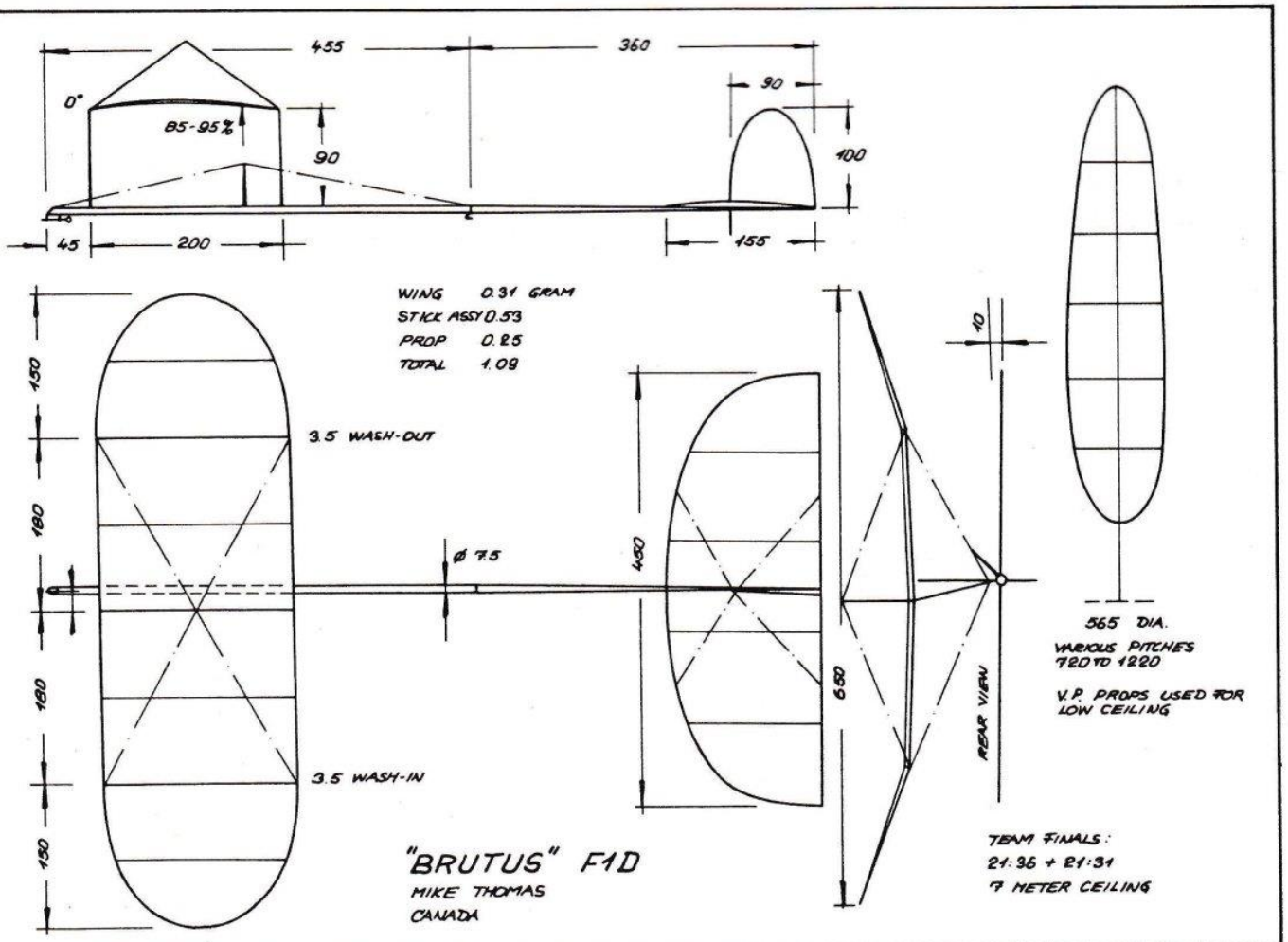

500 x 900 x 65
Φ 0,35
5% @ 40%
nichrome
CONSTRUCTION
Outline boron
Spar B 5.6, 25x1.9-0.8x0.8
Ribs 4 x 22C 4.6 (37) 0.6-0.8-0.6 Andrews
1 x 25C 5.2 (53) 0.8
590 x 1000 x 70
PROPELLER DETAILS
Scale 1 1
Sheet 2 of 2




# »FREE SPIRIT«

R. HIGGS
CANADA

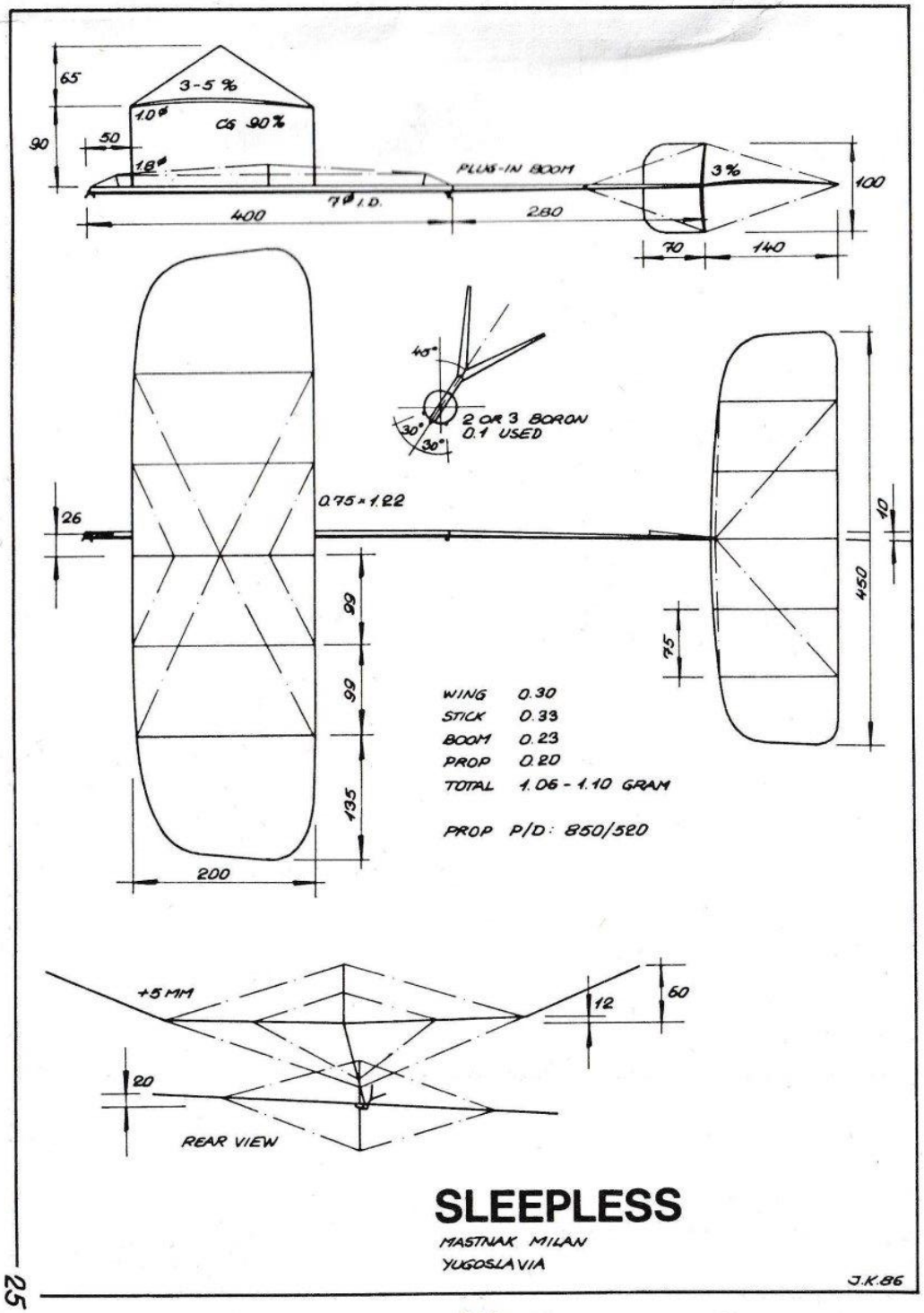
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## "BRUTUS" F1D

MIKE THOMAS
CANADA

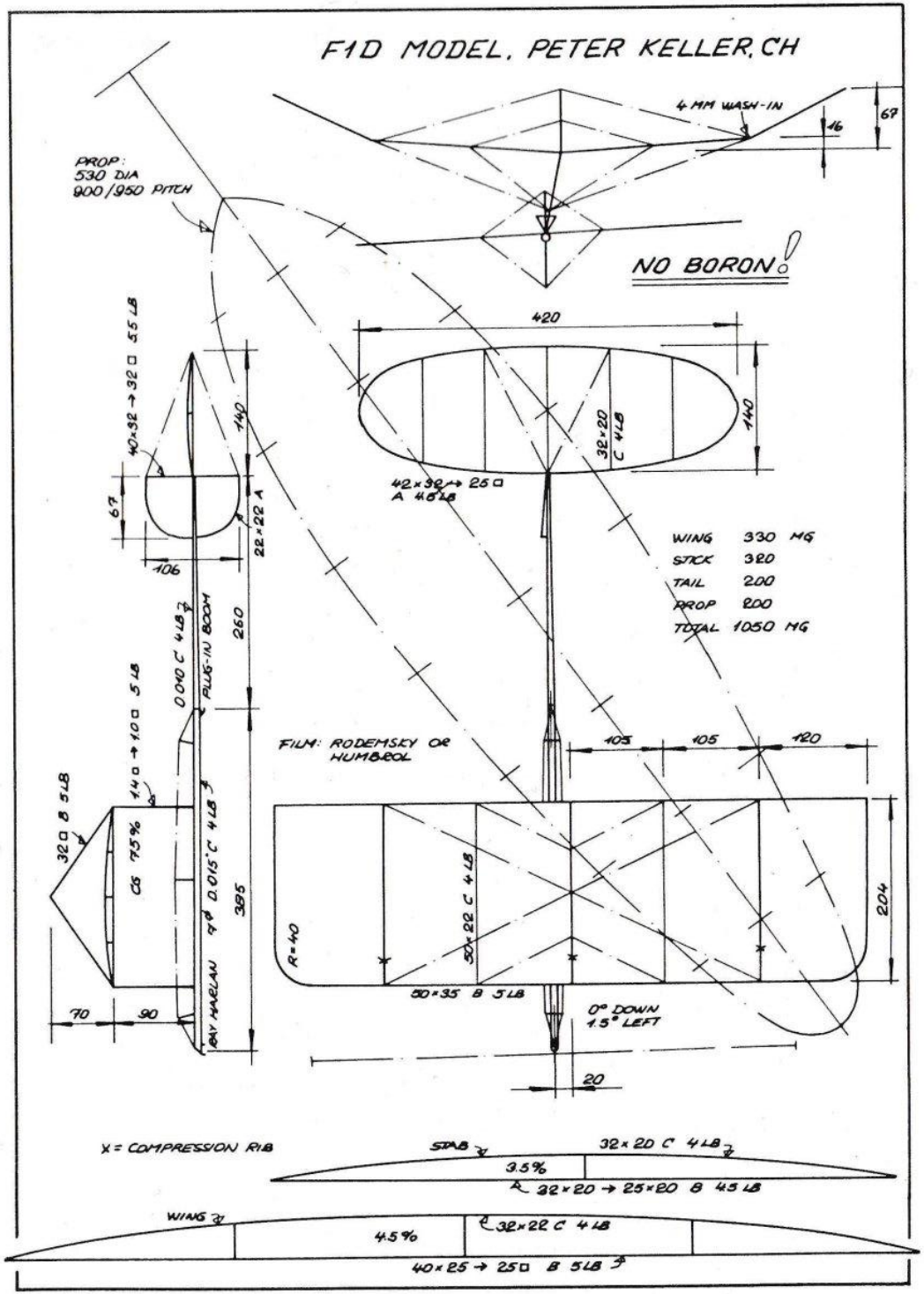
TEAM FINALS:
21:36 + 21:31
7 METER CEILING

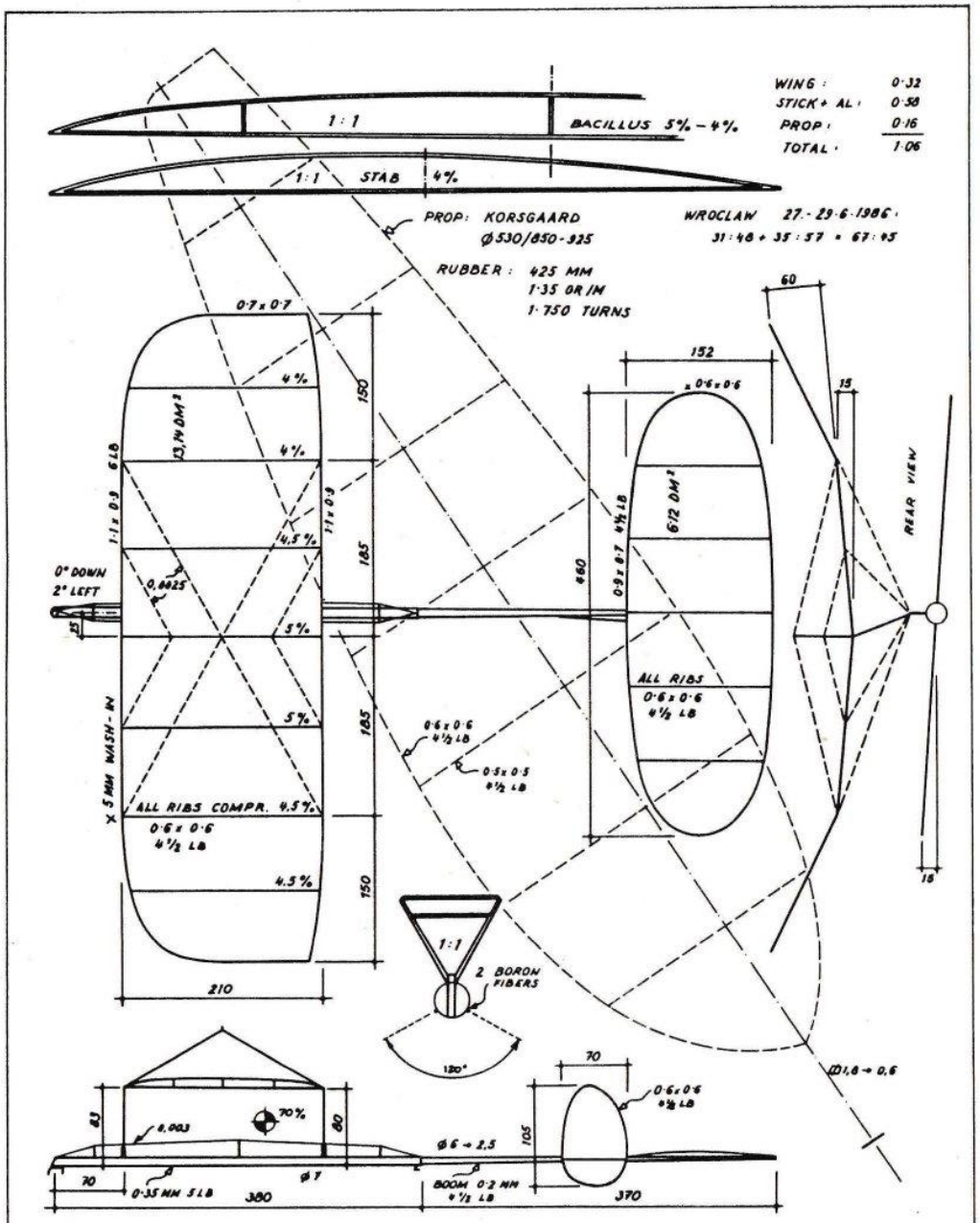



# SLEEPLESS

MASTNAK MILAN
YUGOSLAVIA

J.K.86

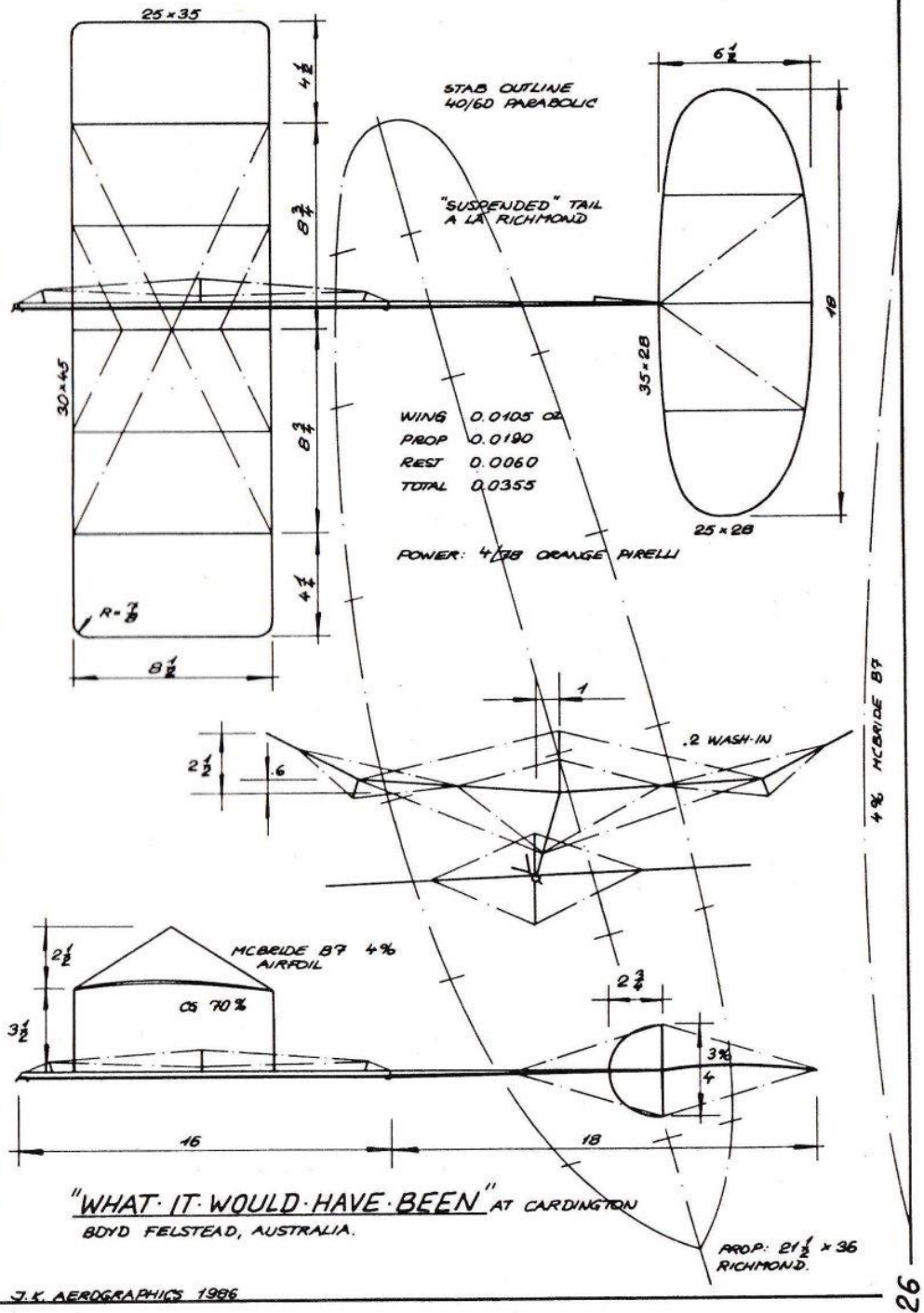





BY
LEOPOLD & VÁCLAV WALEK
CZECHOSLOVAKIA

F I D 1986

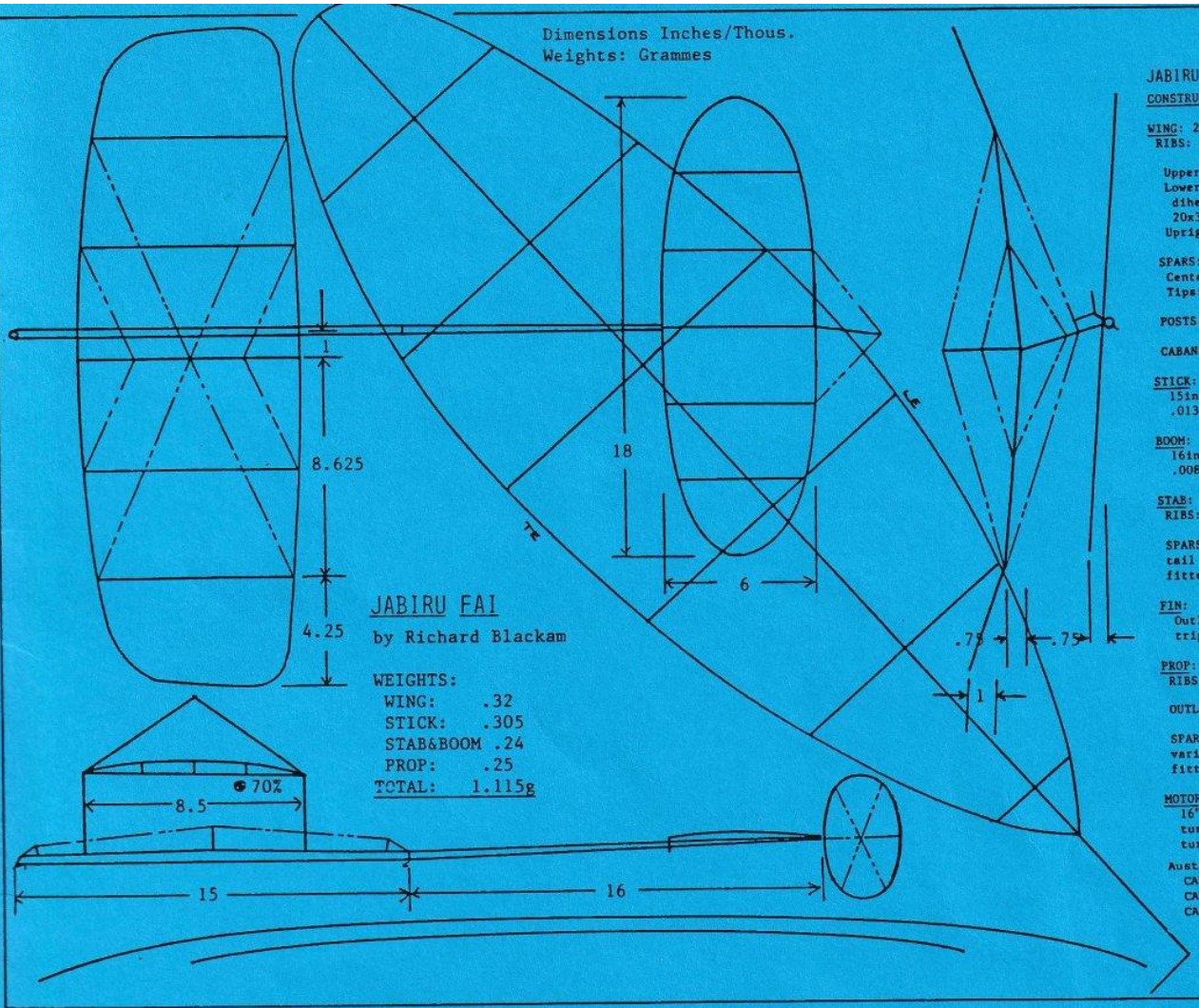
tukuma




"WHAT·IT·WOULD·HAVE·BEEN" AT CARDINGTON
BDYD FELSTEAD, AUSTRALIA.

J.K. AEROGRAPHICS 1986

Dimensions Inches/Thous.
Weights: Grammes




## JABIRU FAI

by Richard Blackam

WEIGHTS:

| | |
|---|---|
| WING: | .32 |
| STICK: | .305 |
| STAB&BOOM | .24 |
| PROP: | .25 |
| TOTAL: | 1.115g |

## JABIRU FAI

CONSTRUCTION NOTES

WING: 207 sq. ins.
RIBS: all built up compression type.
Upper chord: 20 sq.
Lower chord: 20x35 except for dihedral breaks: 20x30+20x70+20x30
Uprights: 15x20

SPARS:
Center: 34x50+34x40+34x50
Tips: 28x50+20x40+28x50

POSTS: 55sq.+55x30

CABANE: 30x40+25sq.

STICK:
15ins. long 13/16"+1"+13/16"
.013/.014 sheet 5-5#

BOOM:
16ins. long 3/4"+1/4"
.008 sheet 5#

STAB: 90 sq. ins.
RIBS: 20sq.+20x35+20sq.

SPARS: 28x48+20x30
tail incidence adjustment fitted.

FIN:
Outline: 25sq.
triple wire brace

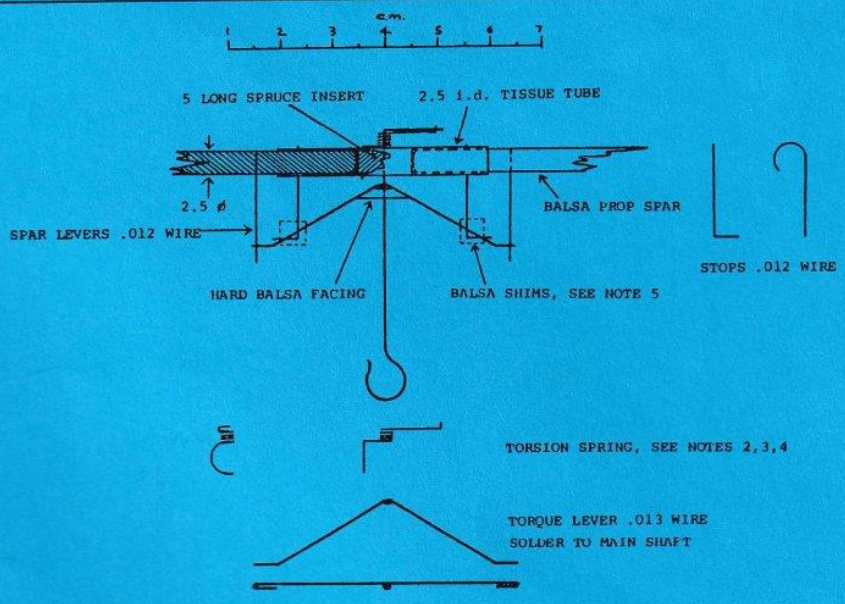
PROP: 20 inch dia.
RIBS: 20sq.

OUTLINE: 25sq.

SPAR:50x65+25sq.
variable pitch mechanism fitted.

MOTOR: 1.5 g/m stock
16" loop : 1.22g
turns at launch: 1600
turns remaining: 90

Australian records held:
CAT.1, 1/ 1/86- 18min.50sec.
CAT.2, 5/10/85- 33min.12sec.
CAT.3,18/10/84- 33min.47sec.




NOTES:

1. ALL MUSIC WIRE SIZES IN INCHES, ALL OTHER SIZES IN mm.
2. TORSION SPRING .008 TO .011 WIRE, DEPENDANT ON PROP DIAMETER AND AREA. FOUND EXPERIMENTALLY FOR EACH NEW DESIGN.
3. TORSION SPRING PRE-LOAD IS ADJUSTED TO ACHIEVE THE APPROPRIATE PITCH VARIATION FOR A GIVEN MODEL CON-FIGURATION AND FLYING WEIGHT.
4. ONCE SPRING IS ADJUSTED AS IN 2,3 TUNING FOR DIFFERENT SITES IS DONE BY VARIATION OF MOTOR LENGTH AND CROSS-SECTION AS IS USUAL EXCEPT THAT MAXIMUM ALTITUDE IS CONTROLLED BY ADJUSTING TOP STOP INSTEAD OF MORE USUAL BACKING OFF OF TURNS.
5. THIN BALSA SHIMS GLUED TO STOPS FOR FINE ADJUSTMENT OF TOP AND BOTTOM PITCH.

VARIABLE PITCH PROPELLOR HUB

BY RICHARD BLACKAM


The World of New York Times

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