P51B/D Mustang

Created by: Martin Elmberg (C) 1993 and 2013

Scale 1/12th

Made for 1/12th scale combat - Aircombat

Engine: .15 IC or 200-400W electro

3-4 servos, 3 channel (aileron, elevator, engine)

November 1993 (Updated February 2013)

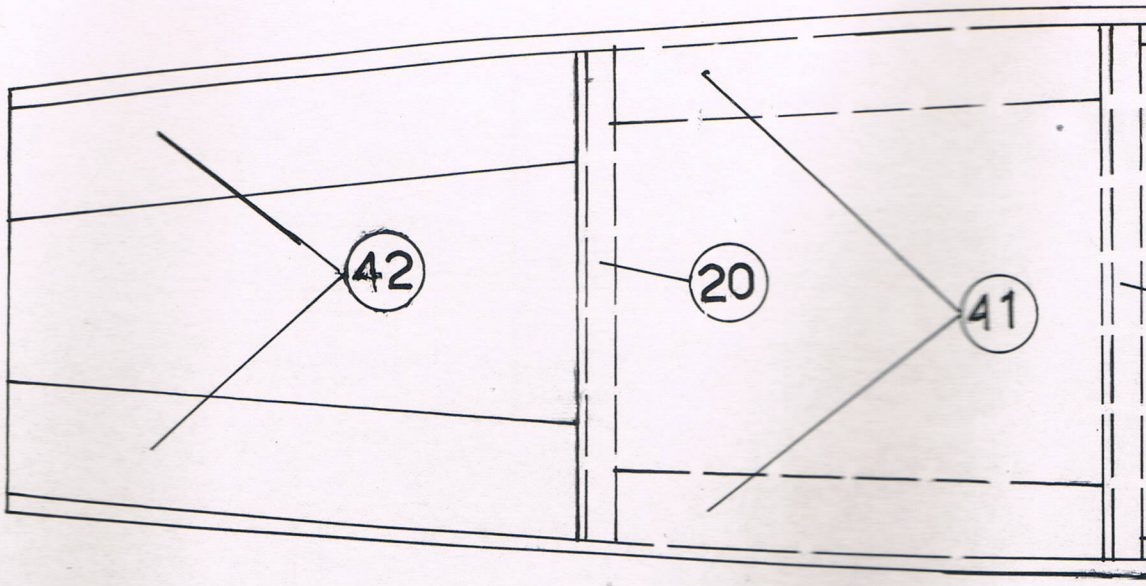
Martin Elmberg

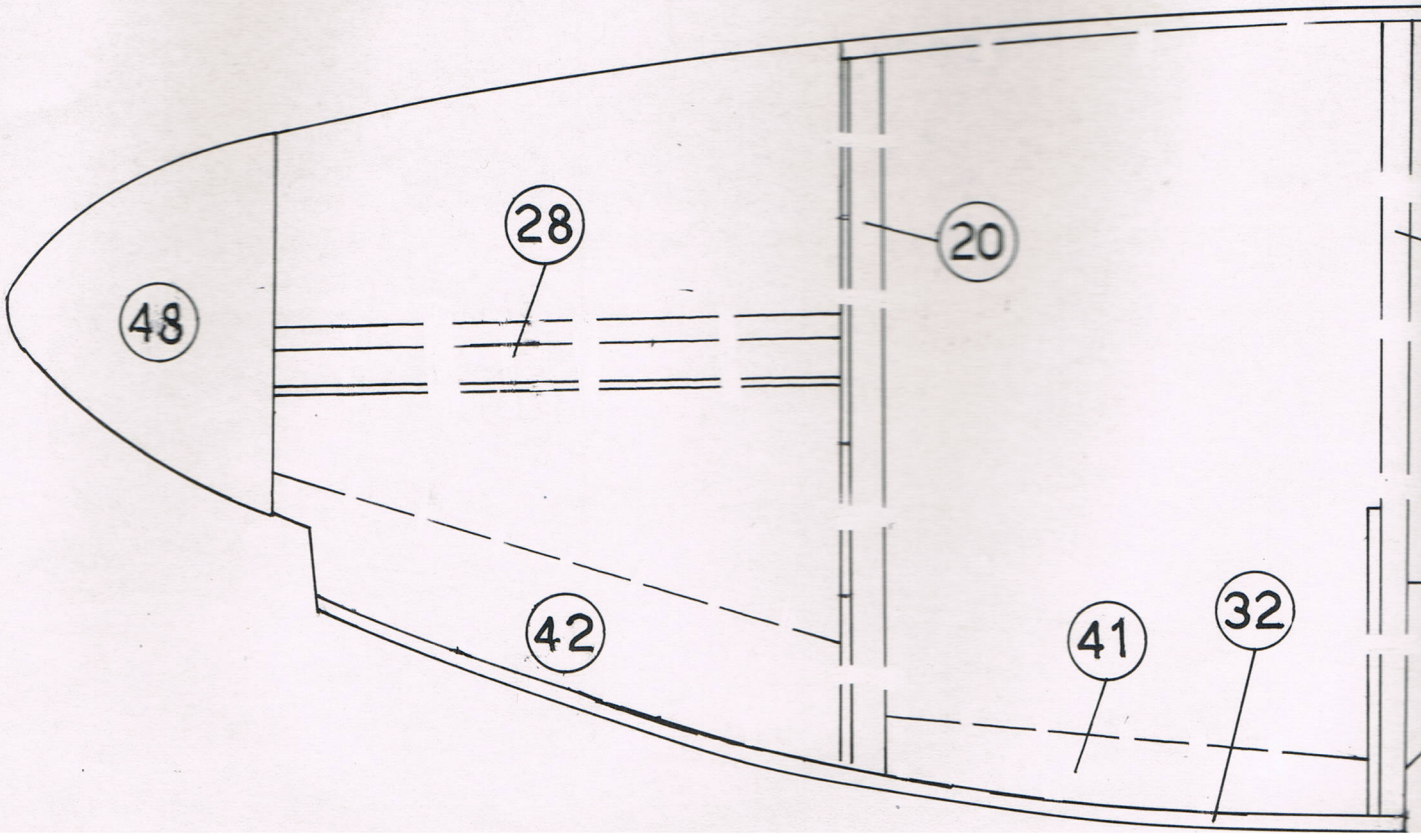
Bergmov. 6A

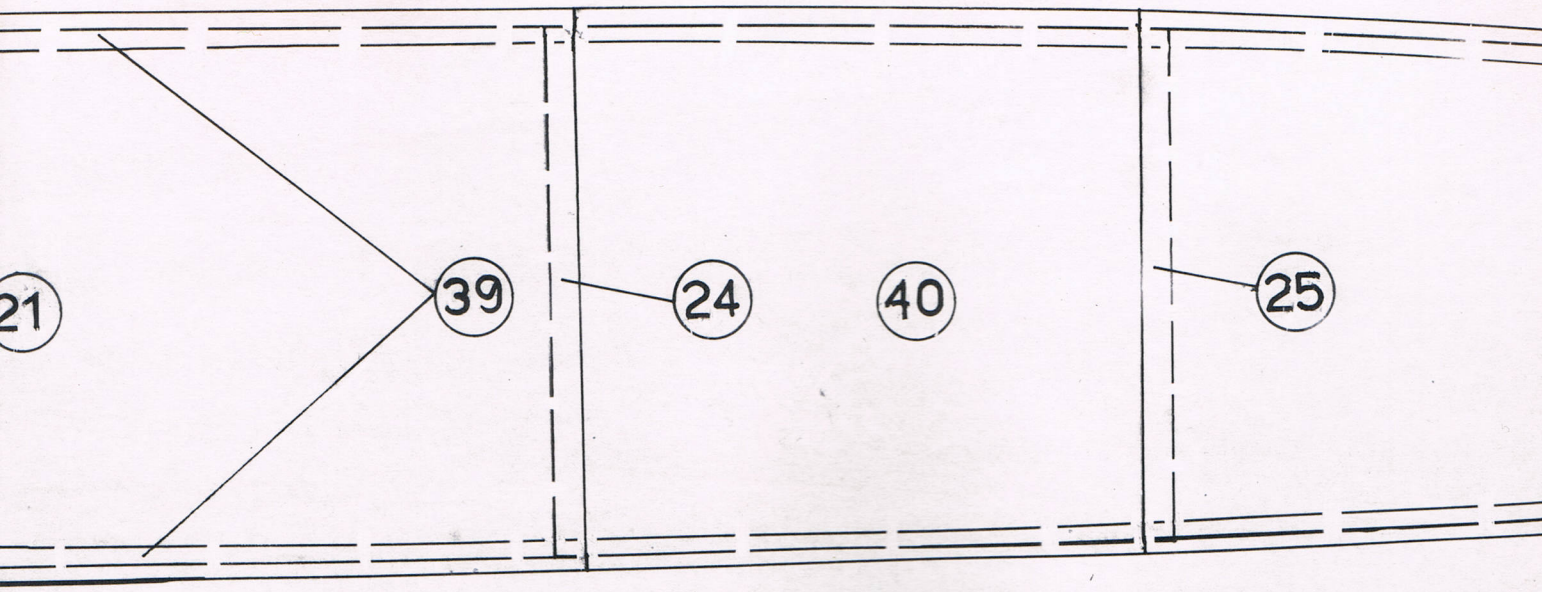
146 37 Tullinge

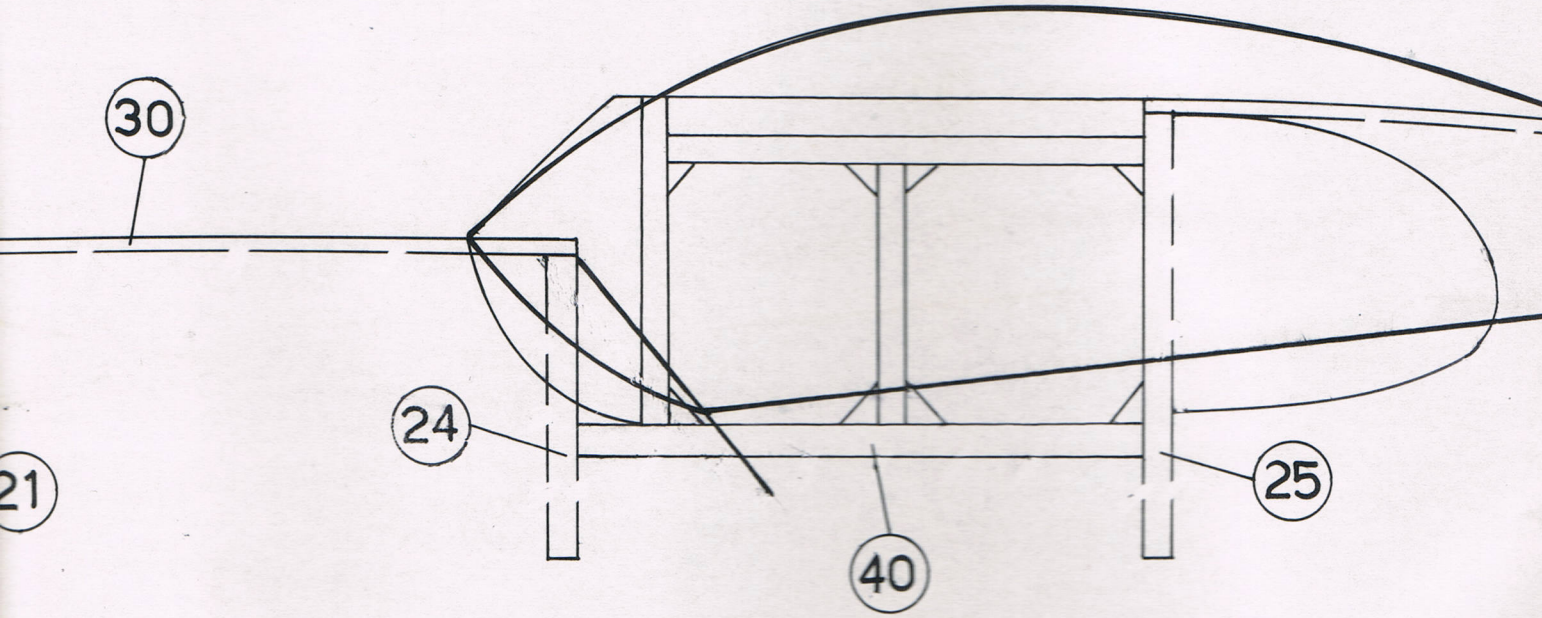
Sweden

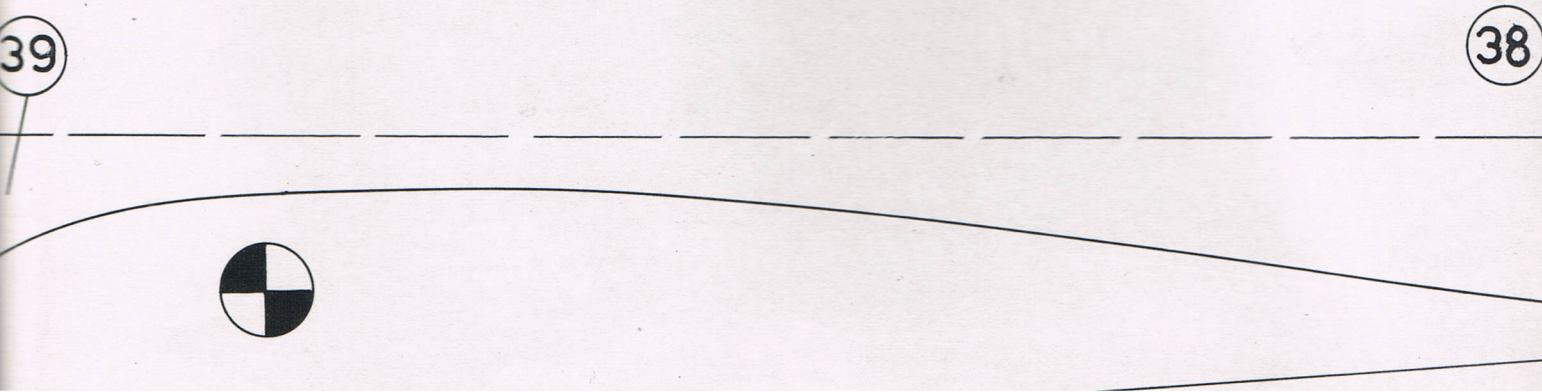
martin.elmberg@gmail.com

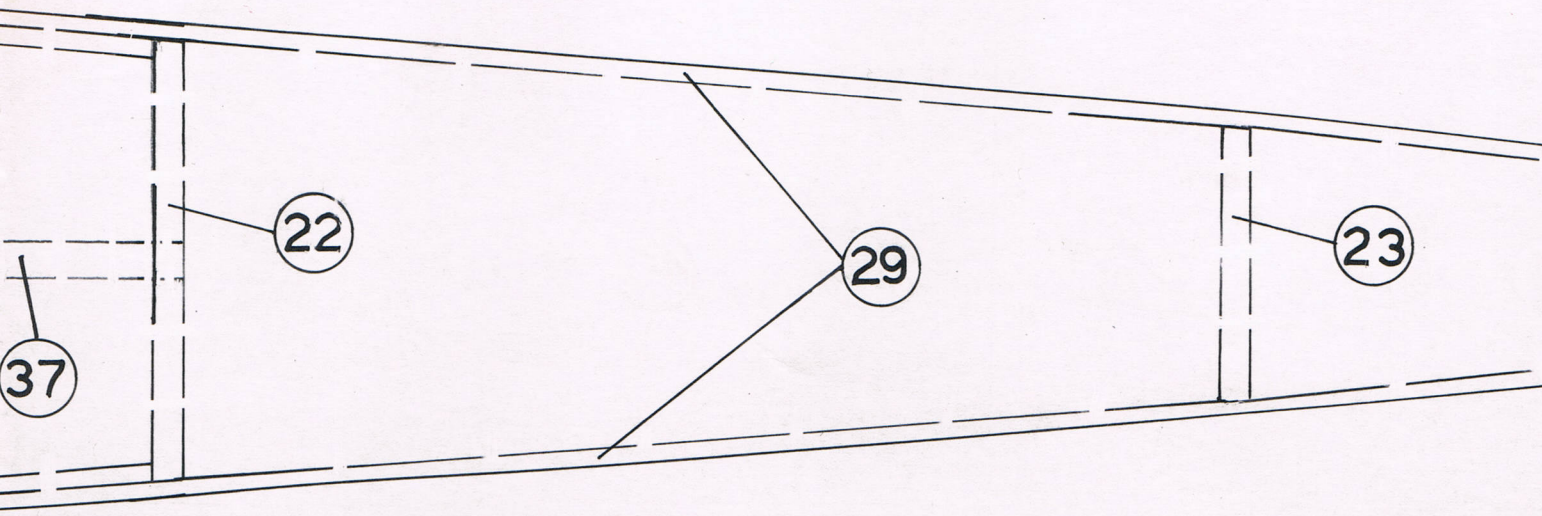

42
20
41

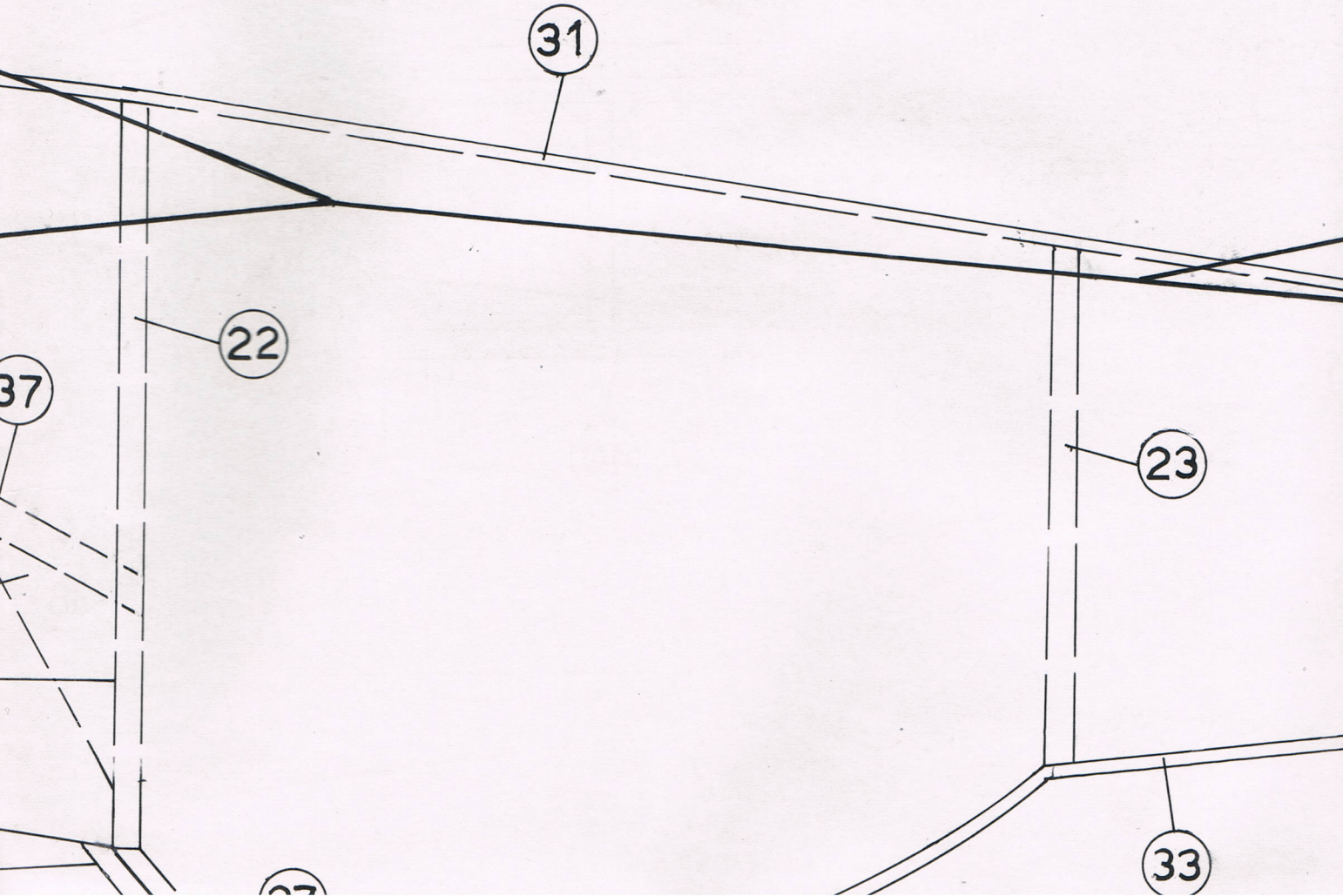

28
20
48
42
41
32

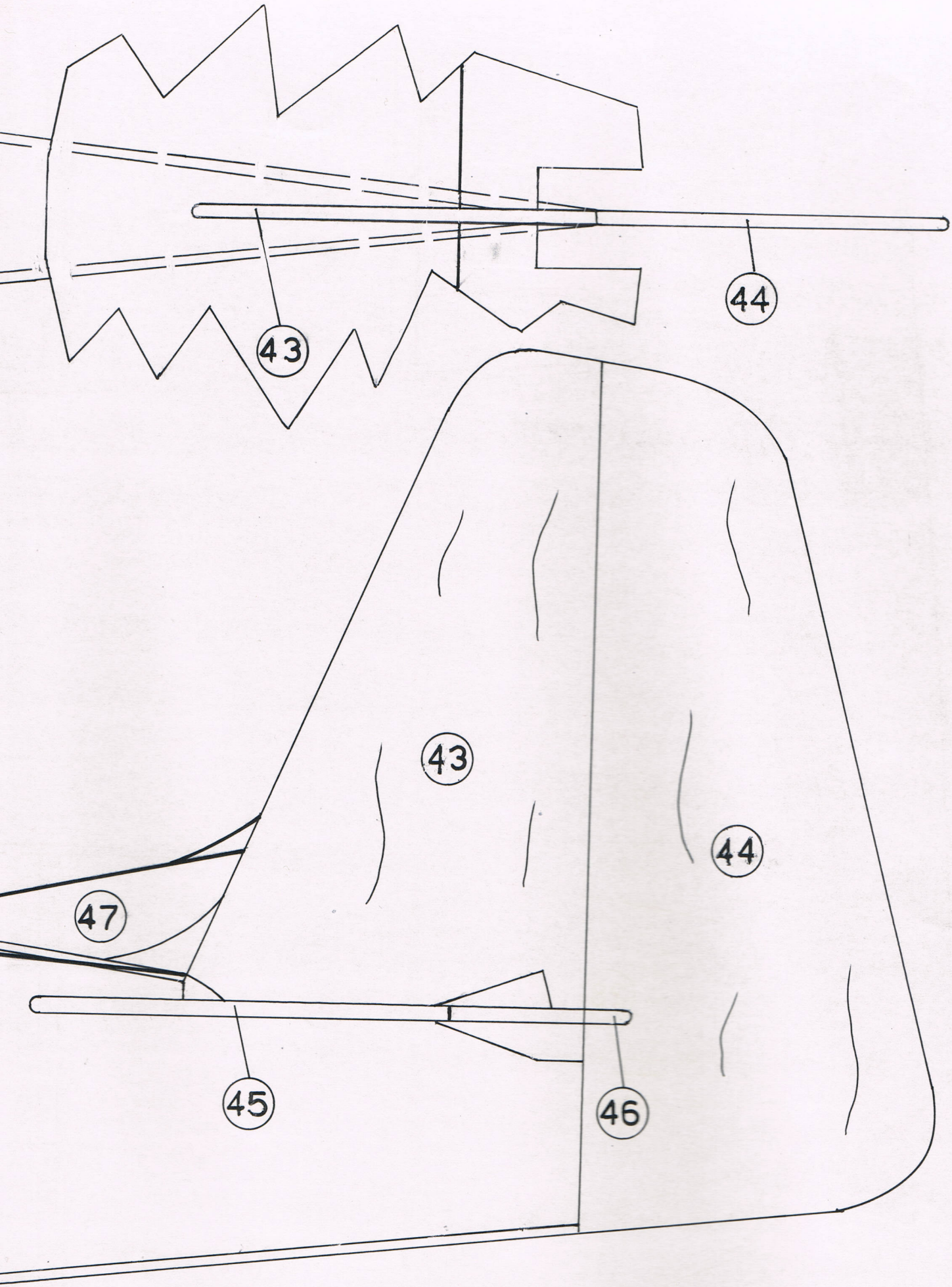

21
39
24
40
25


30
24
21
25
40


39
38


22
29
23
37

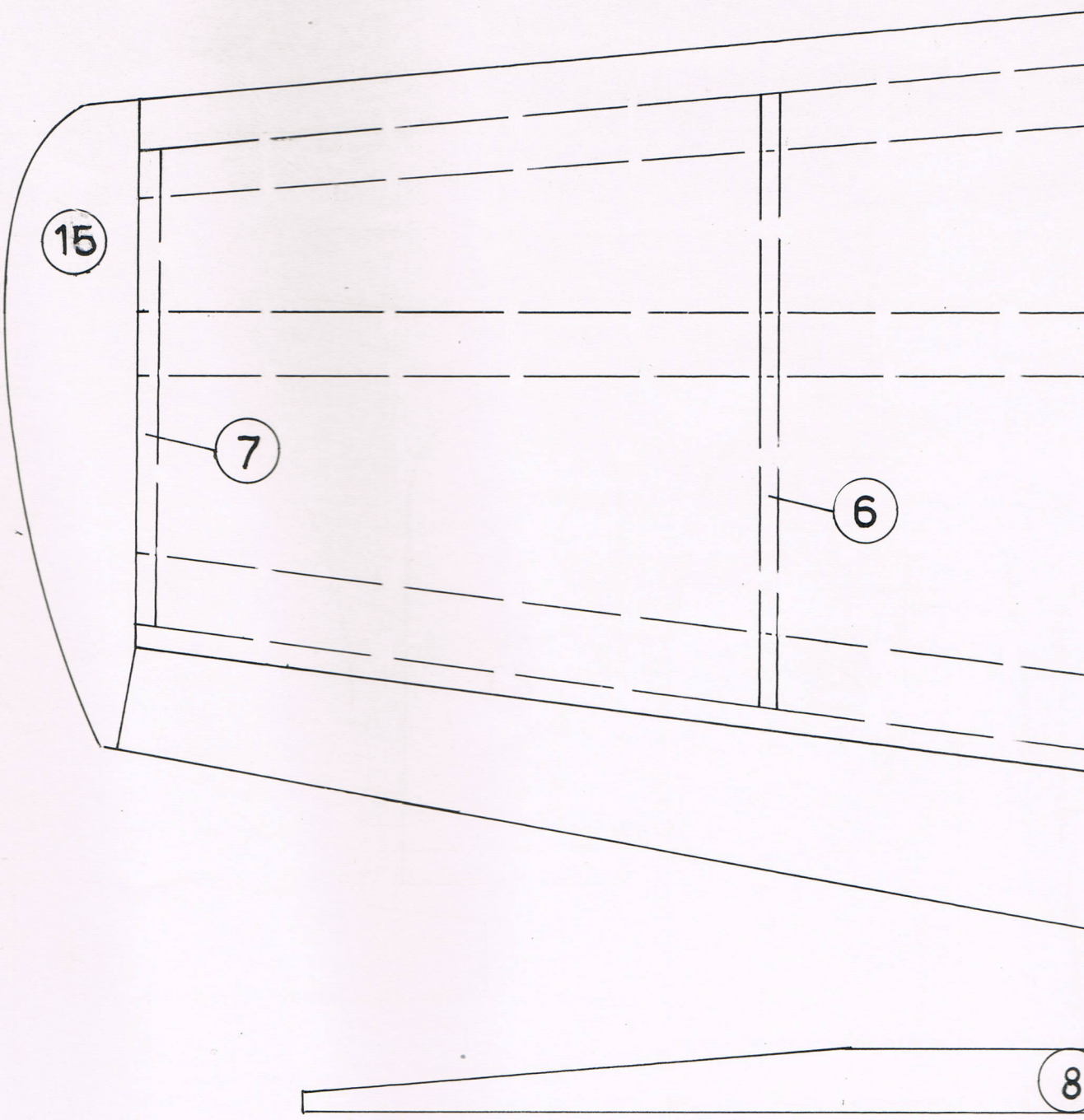

31
22
37
23
33


43
44
43
44
47
45
46

P51M

B/D-ver

.15 motor
95cm spv.
0,7–1,0kg
3kanaler



USTANG

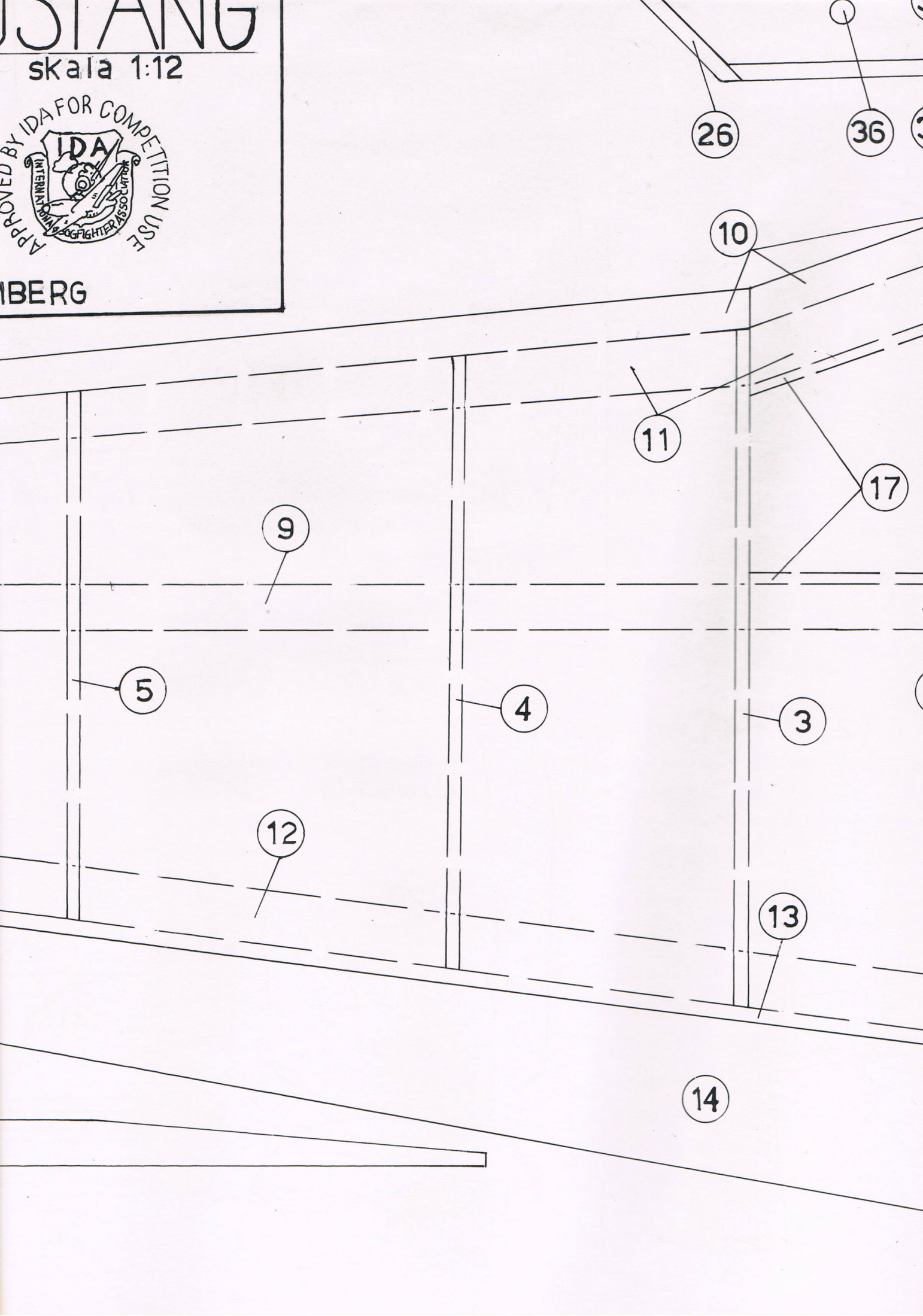
skala 1:12

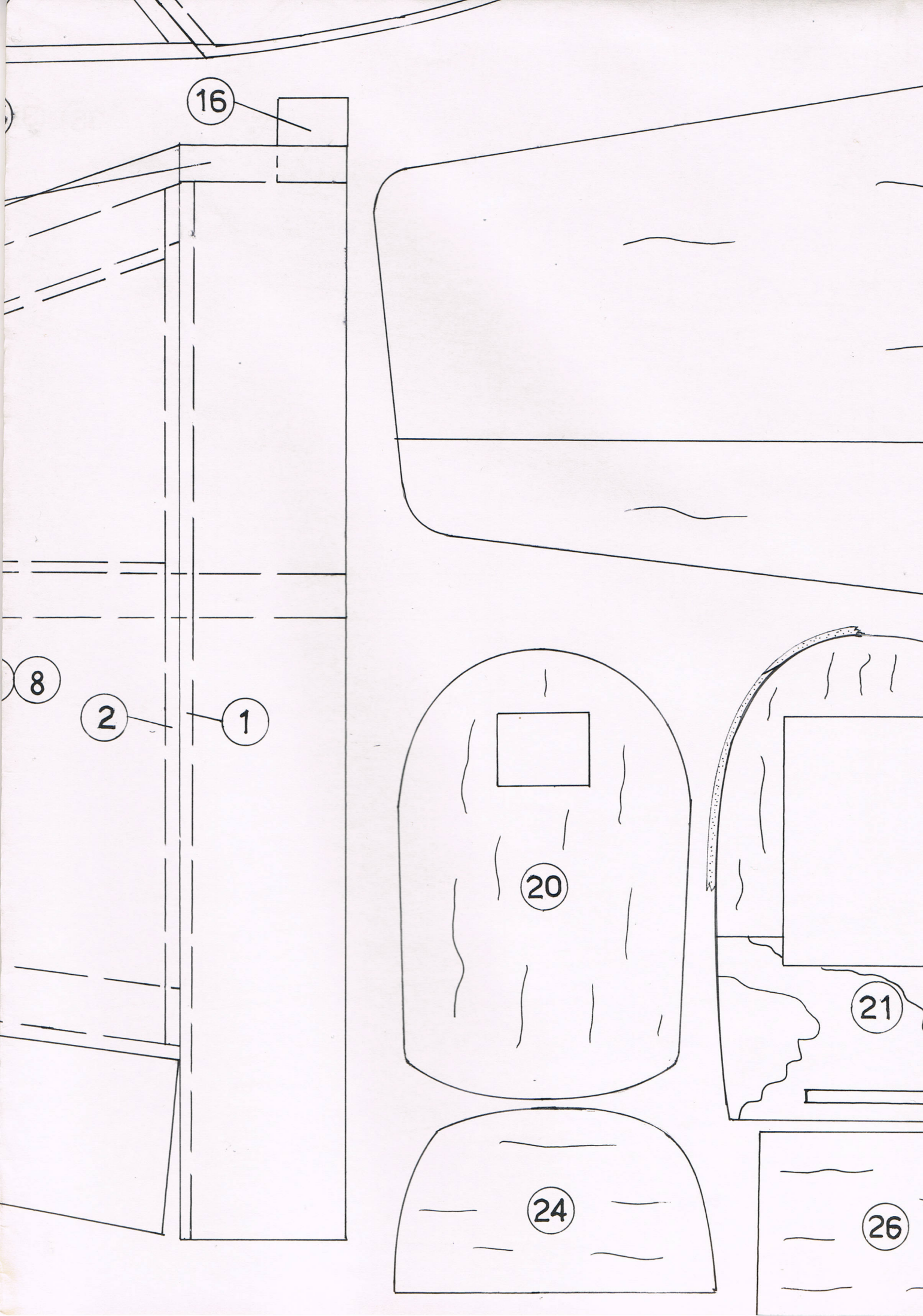
APPROVED BY IDA FOR COMPETITION USE

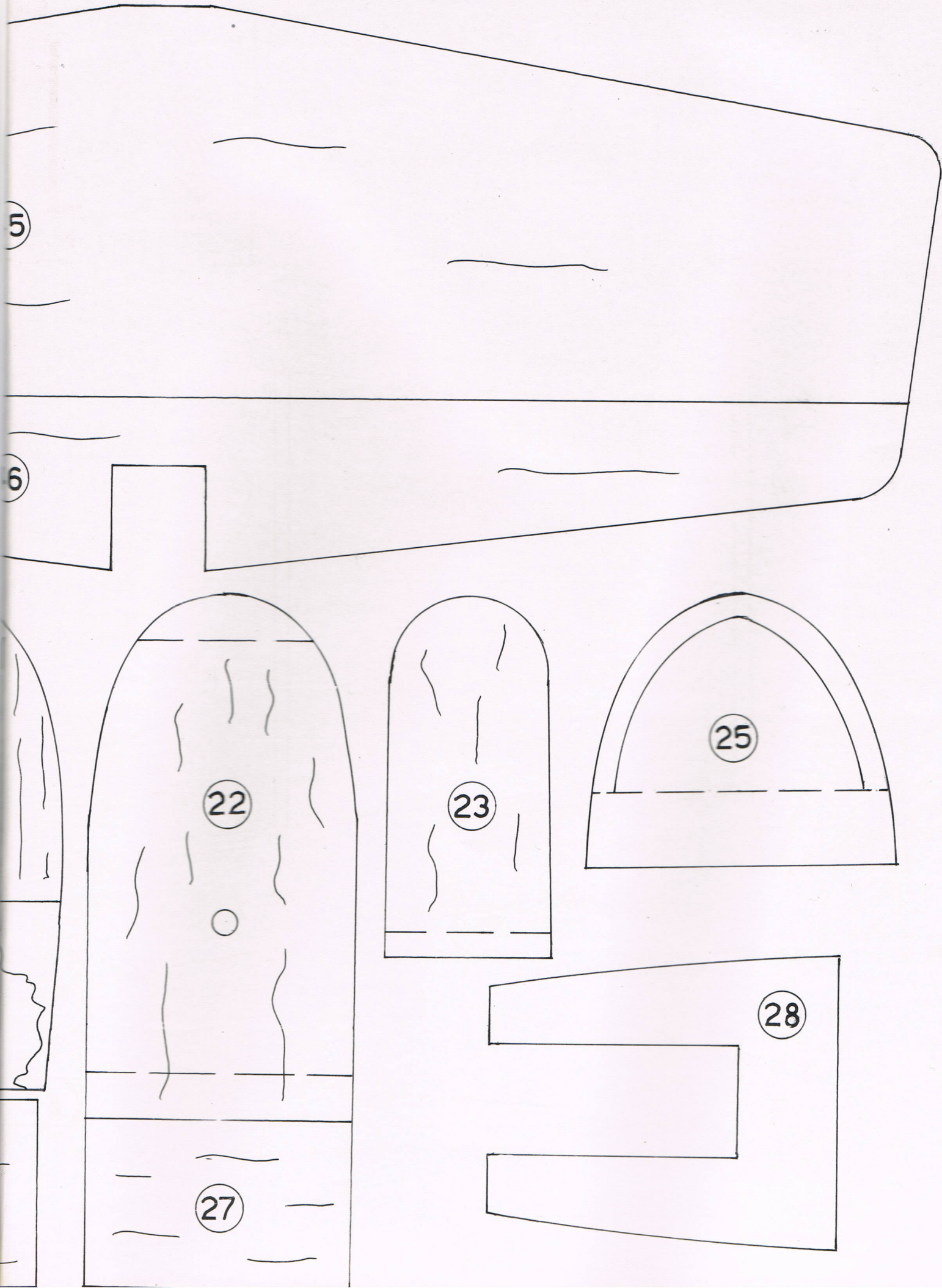
IDA

INTERNATIONAL OLDGFIGHTER ASSOCIATION

MBERG




16
8
2
1
20
21
24
26


5
6
22
23
25
27
28

Instructions P51B/D Mustang 2002

You can choose between either the B- or D-version of the Mustang. The D-version is the most famous, but it is at the same time the most difficult to make a transparent canopy.

The wing:
Glue four 1,5mm balsa sheets together so that you get two single sheets. You do this easiest by attaching tape across the two sheets where you are to place glue. Attach glue and lay the sheets on a flat surface with some pressure on it, and let it dry.
Place 9 on your building surface, with needles. Glue 2-7 to 9.
Glue 10 and 13 to the wing.
Do the same with the other winghalf. Sand 10 and 13, so that they fit with the profile of the airfoil.
Attach the bottom sheeting of the wing.
Place something under the rear of the wing tip, so that it is raised 5mm. Now attach the top sheeting.
Connect the two wing halves with 8. You get V-angle in wing due to the shape of 8. Take care the wing is not warped.
Glue 10 to the middle of the wing.
Glue 1. Glue 15. Fit the aileron-linkage into place.
Cover the middle of the wing with 19.
Sand the wing.
Cut out 14 and sand into shape. Make slots for hinges in 13 and 14.

The fuselage:
Glue four 2mm balsa sheets to form two bigger sheets.
Glue plywood reinforcements to 20.
If you are building the D-version you should use the smaller versions of 23 and 24.
Cut out 29 out of the two big 2mm sheets. Sand the rear part of 29, to get a surface to glue.
Glue 21, 22, and 23 to one of the two 29.
Glue together the rear parts of the two 29s, and glue the second 29 to 21, 22, and 23. Be aware of getting it all straight! You might use masking tape to hold it all together while the glue dries.
Prepare 20 for attachment of 28 (or attach 28 permanently to 20).
Attach 20, preferably with epoxy. Be aware of angles! The engine should be pointed 2-3 degrees down and to the right.
If you are building the B-version: Attach 24 and 25.
Install push rods to elevator and engine.
Sand the upper parts of the two 29s, so that the upper covering fits. Note 30 and 31 are to overlap 29 a bit.
Attach 27 and 39 to the 29s.
Attach 33 with fibres aligned across the fuselage length.
When 30 and 31 has dried, you should sand these until they fit in shape with the 29s.
If you build the B-version: Attach 40 to the fuselage. Cut out the rear "peepholes" with a sharp knife.
If you build the D-version: Take a scrap bit of 3mm balsa and attach it to cover the hole in the cockpit.
Attach 38 to the fuselage sides. Drill holes for 37.
Attach 37.

Scope
When the fuselage is ready, you can start with the scope. Attach 27 so that the wing fits to the fuselage.
Glue 34 to the wing. Glue 26.
Finally you should cover your wing with fabric covering.

Stabiliser and fin:
Install hinges in 45 and 46.
Glue 43 and 44 together.
Attach 45 to the fuselage. Be careful to attach 45 in 0 degree angle.
Before you attach 43 and 44 to the fuselage, 46 should be in place, and covered if you are planning to cover your model with film/fabric.
Attach 43 and 44 to the fuselage. Be careful with angles!
Attach the type of 47 you like. The bigger type was used on later D-versions.

Canopy and enginehood:
B-version: Attach a front 25. Cover hood with transparent plastic.
D-version and enginehood: There are a lot of ways to make a "bubble"-canopy and a enginehood. You can make it yourself by warming up plastics and push it down over a plug. You can build one out of balsa, foam or by means of papier-maché. You can also try to find a ready-made hood, and try to adjust it. The choice is yours...

Installation:
Adjust wing so that it fits well to the fuselage. The alpha on the wing should be about 1-2 degrees.
Place the batteries under or side by side with the fuel tank, to get the CG correct.

Check out where CG is. This is important! CG might be a little rearward compared to what is marked out on the plan, but not very much. A dogfighter with CG too far aft usually only flies once!

Covering:
The design demands an outer covering of fabric. You might use fabric which is already coloured in olive drab or aluminium, to save weight. This is important - you should try to avoid building up weight in finishing your fighter. Decorate by your

own heart. There are a lot of alternative paintings on this bird!

Flight:
Be aware of that this is a fighter! If you are not experienced as a pilot, you should take help the first couple of flights. It might be good if there is a little head-wind on the premiere flight. The Mustang might need this during the first few seconds of flying. If you have the opportunity, you should try to fly the first flight over higher grass or snow. In this way you minimise damage in smaller escapades.
Use a helper to launch your aircraft. He should throw the aircraft a little bit upwards. Hopefully your model should fly in straight level, but if it does not you should be alert and correct its level. Be aware of the throttle, when you have come to some height. If you are not used to fast aircraft, you should take it a little easy. It is easy to build up speed, and this might become a chock!
Be sure to keep up speed in landing. Otherwise it's likely the aircraft will stall and crash. In this case, it's preferable to be over high grass!

Materials:

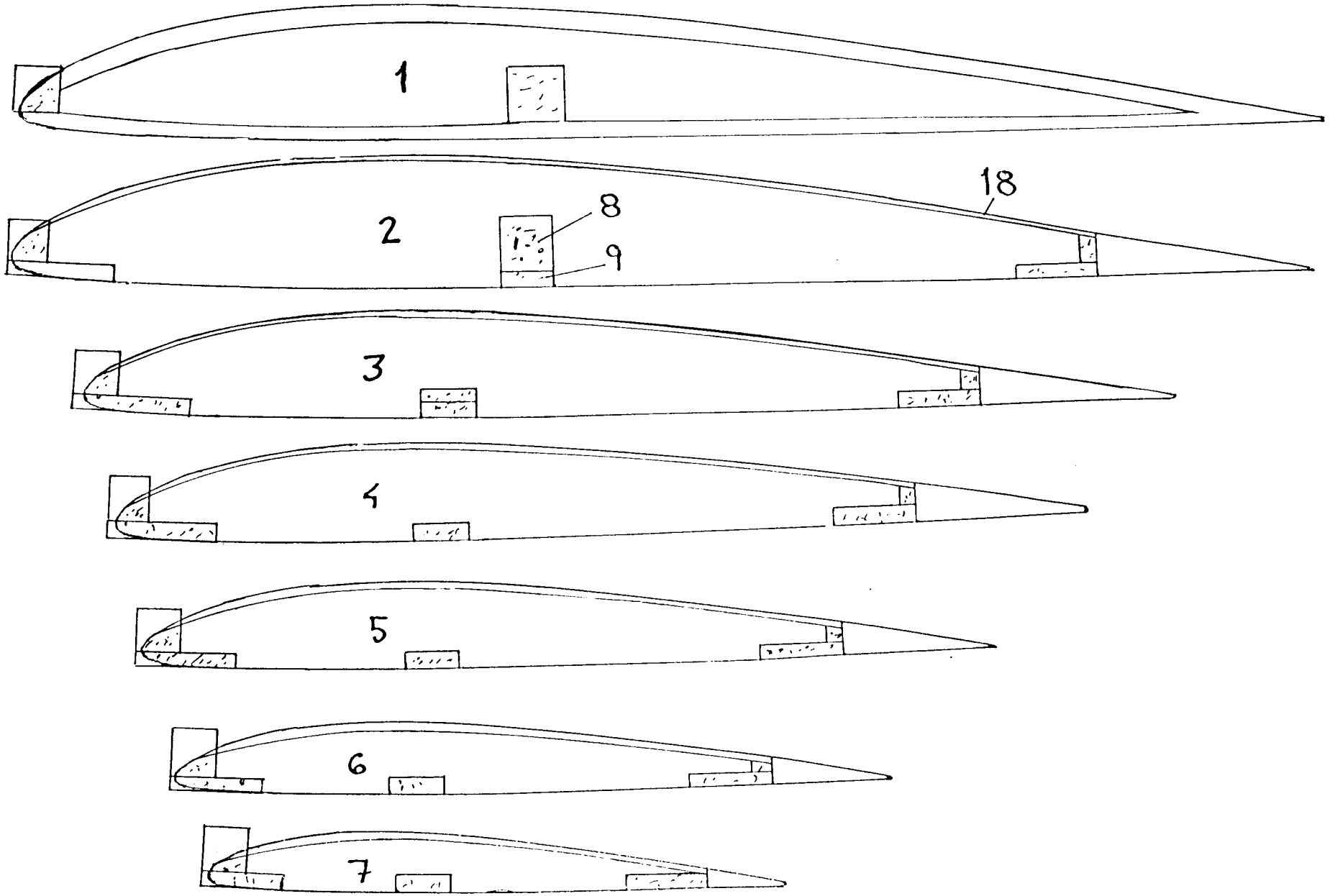
4pcs	1,5x100x1000mm	balsa
5pcs	2x100x1000mm	balsa
3pcs	3x100x1000mm	balsa
1pcs	4x100x1000mm	balsa
1pcs	10x100x1000mm	balsa
(1pcs	3x5x1000mm	balsa)
(1pcs	3x10x1000mm	balsa)
1pcs	8x8x1000mm	balsa
1pcs	10x10x1000mm	balsa
(1pcs	10x40x1000mm	wedgedbalsa)
1pcs	1,5x100x1000mm	plywood
(1pcs	3x100x1000mm	plywood)
1pcs	5mm	rod

Materials within paranthesis can be made out of other materials - 3mm plywood can be made out 2x1,5mm plywood, etc.

Numbered parts:
(Some numbers are missing, this is correct)

1. 3mm balsa
2. 3mm balsa
3. 3mm balsa
4. 3mm balsa
5. 3mm balsa
6. 3mm balsa
7. 3mm balsa
8. 10x10 balsa
9. 3x10 balsa (3mm balsa)
10. 8x8 balsa
13. 3x5 balsa (3mm balsa)
14. 10x40 wedged (10mm balsa)
15. 10mm balsa
18. 1,5mm balsa
19. 3mm balsa
20. 1,5mm plywood+4mm balsa+1,5mm plywood
21. 4mm balsa
22. 4mm balsa
23. 4mm balsa
24. 4mm balsa
25. 4mm balsa
26. 3mm balsa
27. 3mm balsa
28. Nylon engine mount
29. 2mm balsa
30. 2mm balsa
31. 2mm balsa
32. 10mm balsa
33. 2mm balsa
34. 3mm balsa
35. 3mm balsa
37. 5mm rod
38. 1,5mm plywood
39. 3mm balsa
40. 2mm balsa
43. 3mm balsa
44. 3mm balsa
45. 3mm balsa
46. 3mm balsa
47. 3mm balsa
48. 50-60mm dia spinner (Dependant on fuselage width)
49. 100cc tank

Good luck and good hunting!


1
2
18
8
9
3
4
5
6
7