n°1

Building instructions

The wings

Since the drawings show both wing-panels full-size and the building procedure for both is identical, the two panels can be built simultaneously. Since glue should be prevented from adhering to the drawings, it is advisable to protect the plans with a sheet of clear plastic : an easy source of supply is the backing sheet from any iron-on covering material.

Use either a straig, true and flat building board, or a dihedralled building jig, in which the amount of dihedral can be selected at will.

1 Pin down on the plan the machined balsa leading edge nr 1

2 Pin down on the plan the basa bottom front sheeting nr 2 (540 X 60 X 1.5 mm)

3 Pin down on the plan the balsa bottom central sheeting nr 3 (1.5 X 80 mm)

4 Pin down and glue into place on sheeting nr 2, the 575 X 6 X 6 mm balsa bottom spar nr 4

5 Pin down on the plan the 560 X 30 X 1.5 mm balsa bottom trailing edge nr 5

6 Cut to length and pin down the 14, 6 X 1.5 mm balsa bottom cap-strips

7 Glue and pin down securely wing-ribs nr 7

8 Glue into place the 6 mm sq. balsa top spar nr 8

9 On each side of spars 4 and 8, glue and pin into place the 1.5 mm die-cut plywood braces nr 9 and nr 10

10 Glue into place the two-part center ribs 6b. In order to glue center rib 6a at the correct angle, use the dihedral template nr 58

11 Glue and pin down the 580 X 60 X 1.5 mm balsa front top sheeting nr 11

12 Glue and pin down the 1.5 X 80 mm balsa center top sheeting nr 12

13 Glue and pin down the 560 X 30 X 1.5 mm balsa top trailing edge nr 13

14 Cut to length and glue into place the top cap strips (6 X 1.5 mm balsa)

15 Glue into place the 1.5 mm die-cut balsa wing-tip rib nr 17

16 Glue into place the 1.5 mm die-cut balsa wing-tip top sheeting nr 16

17 Glue into place the 1.5 mm die-cut balsa wing-tip bottom sheeting nr 18

18 Carefully sand the entire wing

19 Glue into place the 1 mm die-cut plywood trailing-edge reinforcement plate

20 Join both wing halves together at the dihedral-angle indicated on the plan

The stabilizer

1 At each end of the 418 X 80 X 5 Mm balsa stabilizer nr 19, the 80 X 20 X 5 mm balsa stabilizer tips nr 20

2 Round off and sand the leading edge as well as the stabilizer tips according to the cross section shown on the drawings

3 Sand the elevator nr 21 as per cross-section shown on the drawings

4 Prepare the slots for hinges nr 22, using a sharp modeling knife. Hinges will be glued permanently into place once the stabilizer has been finished. For added safety, the hinges can be secured by driving a small piece of toothpick (wood) through the stabilizer (and the elevator) and the hinge itself

5 Drill a 3 mm dia. hole into the elevator, to allow for the control-horn nr 23 which will be fastened in place once the elevator has been finished

The fin-and-rudder assemby

1 Round off and sand fin nr 24 according to the cross-section shown on the plan

2 Shape and sand rudder nr 25 according to the cross-section shown on the plan

3 Make slots for hinges nr 26 : these will be permanently glued into place once the model has been covered and/or painted

4 Drill a 3 mm dia. hole into the rudder to make provision for the control-horn nr 27 which will be secured into place after covering of the model

7 Assemble both fuselage-sides together by means of formers nr 36, 37 and 38. Check that the fuselage is properly aligned and allow enough time to dry

8 Glue into place the nose gear reinforcement plate nr 39 : this plate is made of two 1 mm plywood pieces glued together

9 Glue the main undercarriage mounting block nr 42 into the slots provided in fuselage side-doublers nr 30 and 31

10 Glue into place the torsion-bar arresting blocks nr 43

11 Glue the 77 X 40 X 5 mm balsa windsheid nr 44 into position

12 Glue the 2 mm printed balsa fuselage bottom nr 40 into position

13 Glue into place the fuselage top sheeting nr 41 (2 mm printed balsa)

14 Prepare the engine mounting plate nr 46 : cut the plate according to the engine you are going to use

15 Fasten the engine mounting plate 46 on the beams using Parker screws

16 Adapt tank compartment hatch nr 45 (77 X 75 X 5 mm balsa)

17 Sand the entire fuselage

18 Mount the main undercarriage : 2 legsnr 52 (torsion bar), using the metal plates nr 54 and the wood screws nr 55

19 Mount nose landing gear bracket 50 onto former nr 36 using screws M3 X 16, washers and nuts

20 Mount wheels nr 53 and secure them on the landing gear with the special 3 mm dia. locking washers nr 56

21 Screw in wood screws nr 48 to fasten the tank compartment hatch

22 Once the fuselage has been covered and/or painted, glue into place the wing holding dowels nr 57

23 Glue into place the stabilizer and the fin-and-rudder assembly. Check that these are properly aligned with the fuselage

Packing-list

1	Machined leading edge	2	Balsa, 560 mm long
2	Front bottom sheeting	2	540 X 60 X 1.5 mm balsa
3	Central bottom sheeting		1.5 X 80 mm
4	Bottom spar	2	575 X 6 X 6 mm balsa
5	Trailing edge bottom sheeting	2	560 X 30 X 1.5 mm balsa
6	Center rib	6	1.5 mm die-cut balsa
7	Wing-rib	16	1.5 mm die-cut balsa
8	Top spar	2	575 X 6 X 6 mm balsa
9	Dihedral brace	1	1.5 mm die-cut plywood
10	Dihedral brace	1	1.5 mm die-cut plywood
11	Front top sheeting	2	580 X 60 X 1.5 mm balsa
12	Center top sheeting		balsa 1.5 X 80 mm
13	Trailing edge top sheeting	2	560 X 30 X 1.5 mm balsa
14	Cap strip	26	115 X 6 X 1.5 mm balsa
15	Trailing edge reinforcem. plate	2	1 mm die-cut plywood
16	Wing tip top sheeting	2	1.5 mm die-cut balsa
17	Wing tip rib	2	1.5 mm die-cut balsa
18	Wing tip bottom sheeting	2	1.5 mm die-cut balsa
19	Stabilizer	1	418 X 80 X 5 mm balsa
20	Stabilizer tip	2	80 X 20 X 5 mm balsa
21	Elevator	1	458 X 30 X 5 mm balsa
22	Nylon hinge	5	Injection moulded nylon
23	Elevator control horn	1	Injection moulded nylon
24	Fin	1	Band sawn 5 mm balsa
25	Rudder	1	180 X 30 X 5 mm balsa
26	Hinge	3	Injection moulded nylon
27	Rudder control-horn	1	Injection moulded nylon
28	Left fuselage side	1	2 mm printed balsa
29	Right fuselage side	1	2 mm printed balsa
30	Left fuselage side doubler	1	1 mm die-cut plywood
31	right fuselage side doubler	1	1 mm die-cut plywood
32	Left engine mounting beam	1	170 X 8 X 8 mm hardwood
33	right engine mounting beam	1	170 X 8 X 8 mm hardwood
34	Triangular reinforcements		8 X 8 mm balsa - t.l. 2620 mm
35	Braces		10 X 2 mm balsa - t.l. 1200 mm
36	Nose gear mounting plate	1	3 mm die-cut plywood
37	Main fuselage former	1	3 mm die-cut plywood
38	Rear fuselage former	1	3 mm die-cut plywood
39	Landing gear reinforc. plate	1	2 mm die-cut plywood (2 X 1 mm glued together)
40	Fuselage bottom	1	2 mm printed balsa
41	Fuselage top sheeting	1	2 mm printed balsa
42	Main undercarriage mounting	1	Slotted hardwood 73 X 20 X 12

3 Pin down on the plan the balsa bottom central sheeting nr 3 (1.5 X 80 mm)

4 Pin down and glue into place on sheeting nr 2, the 575 X 6 X 6 mm balsa bottom spar nr 4

5 Pin down on the plan the 560 X 30 X 1.5 mm balsa bottom trailing edge nr 5

6 Cut to length and pin down the 14, 6 X 1.5 mm balsa bottom cap-strips

7 Glue and pin down securely wing-ribs nr 7

8 Glue into place the 6 mm sq. balsa top spar nr 8

9 On each side of spars 4 and 8, glue and pin into place the 1.5 mm die-cut plywood braces nr 9 and nr 10

10 Glue into place the two-part center ribs 6b. In order to glue center rib 6a at the correct angle, use the dihedral template nr 58

11 Glue and pin down the 580 X 60 X 1.5 mm balsa front top sheeting nr 11

12 Glue and pin down the 1.5 X 80 mm balsa center top sheeting nr 12

13 Glue and pin down the 560 X 30 X 1.5 mm balsa top trailing edge nr 13

14 Cut to length and glue into place the top cap strips (6 X 1.5 mm balsa)

15 Glue into place the 1.5 mm die-cut balsa wing-tip rib nr 17

16 Glue into place the 1.5 mm die-cut balsa wing-tip top sheeting nr 16

17 Glue into place the 1.5 mm die-cut balsa wing-tip bottom sheeting nr 18

18 Carefully sand the entire wing

19 Glue into place the 1 mm die-cut plywood trailing-edge reinforcement plate

20 Join both wing halves together at the dihedral-angle indicated on the plan

The stabilizer

1 At each end of the 418 X 80 X 5 Mm balsa stabilizer nr 19, the 80 X 20 X 5 mm balsa stabilizer tips nr 20

2 Round off and sand the leading edge as well as the stabilizer tips according to the cross section shown on the drawings

3 Sand the elevator nr 21 as per cross-section shown on the drawings

4 Prepare the slots for hinges nr 22, using a sharp modeling knife. Hinges will be glued permanently into place once the stabilizer has been finished. For added safety, the hinges can be secured by driving a small piece of toothpick (wood) through the stabilizer (and the elevator) and the hinge itself

5 Drill a 3 mm dia. hole into the elevator, to allow for the control-horn nr 23 which will be fastened in place once the elevator has been finished

The fin-and-rudder assemby

1 Round off and sand fin nr 24 according to the cross-section shown on the plan

2 Shape and sand rudder nr 25 according to the cross-section shown on the plan

3 Make slots for hinges nr 26 : these will be permanently glued into place once the model has been covered and/or painted

4 Drill a 3 mm dia. hole into the rudder to make provision for the control-horn nr 27 which will be secured into place after covering of the model

The fuselage

1 Cut out the 2 mm balsa printed fuselage sides

2 Glue upon each fuselage-side, using contact cement, the corresponding 1 mm die-cut plywood fuselage side-doubler, i.e. left side nr 28 doubler nr 30, right side nr 29 doubler nr 31

3 Glue engine beam mount nr 32 on doubler nr 30 of the left fuselage side nr 28. Find out the exact position of this beam mount nr 32 using formers nr 36 and nr 37

4 Proceed in the same way with the right engine beam mount nr 33 and the right fuselage side nr 29

5 Glue into place on each fuselage side the 8 X 8 mm balsa triangular reinforcements nr 34

6 Glue into place the horizontal and vertical fuselage braces as well as the stabilizer saddles nr 35 (10 X 2 mm balsa)

15 Fasten the engine mounting plate 46 on the beams using Parker screws

16 Adapt tank compartment hatch nr 45 (77 X 75 X 5 mm balsa)

17 Sand the entire fuselage

18 Mount the main undercarriage : 2 legsnr 52 (torsion bar), using the metal plates nr 54 and the wood screws nr 55

19 Mount nose landing gear bracket 50 onto former nr 36 using screws M3 X 16, washers and nuts

20 Mount wheels nr 53 and secure them on the landing gear with the special 3 mm dia. locking washers nr 56

21 Screw in wood screws nr 48 to fasten the tank compartment hatch

22 Once the fuselage has been covered and/or painted, glue into place the wing holding dowels nr 57

23 Glue into place the stabilizer and the fin-and-rudder assembly. Check that these are properly aligned with the fuselage

Packing-list

1	Machined leading edge	2	Balsa, 560 mm long
2	Front bottom sheeting	2	540 X 60 X 1.5 mm balsa
3	Central bottom sheeting		1.5 X 80 mm
4	Bottom spar	2	575 X 6 X 6 mm balsa
5	Trailing edge bottom sheeting	2	560 X 30 X 1.5 mm balsa
6	Center rib	6	1.5 mm die-cut balsa
7	Wing-rib	16	1.5 mm die-cut balsa
8	Top spar	2	575 X 6 X 6 mm balsa
9	Dihedral brace	1	1.5 mm die-cut plywood
10	Dihedral brace	1	1.5 mm die-cut plywood
11	Front top sheeting	2	580 X 60 X 1.5 mm balsa
12	Center top sheeting		balsa 1.5 X 80 mm
13	Trailing edge top sheeting	2	560 X 30 X 1.5 mm balsa
14	Cap strip	26	115 X 6 X 1.5 mm balsa
15	Trailing edge reinforcem. plate	2	1 mm die-cut plywood
16	Wing tip top sheeting	2	1.5 mm die-cut balsa
17	Wing tip rib	2	1.5 mm die-cut balsa
18	Wing tip bottom sheeting	2	1.5 mm die-cut balsa
19	Stabilizer	1	418 X 80 X 5 mm balsa
20	Stabilizer tip	2	80 X 20 X 5 mm balsa
21	Elevator	1	458 X 30 X 5 mm balsa
22	Nylon hinge	5	Injection moulded nylon
23	Elevator control horn	1	Injection moulded nylon
24	Fin	1	Band sawn 5 mm balsa
25	Rudder	1	180 X 30 X 5 mm balsa
26	Hinge	3	Injection moulded nylon
27	Rudder control-horn	1	Injection moulded nylon
28	Left fuselage side	1	2 mm printed balsa
29	Right fuselage side	1	2 mm printed balsa
30	Left fuselage side doubler	1	1 mm die-cut plywood
31	right fuselage side doubler	1	1 mm die-cut plywood
32	Left engine mounting beam	1	170 X 8 X 8 mm hardwood
33	right engine mounting beam	1	170 X 8 X 8 mm hardwood
34	Triangular reinforcements		8 X 8 mm balsa - t.l. 2620 mm
35	Braces		10 X 2 mm balsa - t.l. 1200 mm
36	Nose gear mounting plate	1	3 mm die-cut plywood
37	Main fuselage former	1	3 mm die-cut plywood
38	Rear fuselage former	1	3 mm die-cut plywood
39	Landing gear reinforc. plate	1	2 mm die-cut plywood (2 X 1 mm glued together)
40	Fuselage bottom	1	2 mm printed balsa
41	Fuselage top sheeting	1	2 mm printed balsa
42	Main undercarriage mounting block	1	Slotted hardwood 73 X 20 X 12 mm
43	Torsion bar arresting block	2	Hardwood block
44	Wind shield	1	77 X 40 X 5 mm balsa
45	Tank compartment hatch	1	77 X 75 X 5 mm balsa
46	Engine mounting plate	1	3 mm sawn plywood 70 X 60 X 3
47	Engine mounting plate screws	4	
48	Tank compartment hold. screws	2	
49	Nose gear fixing screws	4	M3 X 16 screws with washers and nuts
50	Nose gear bracket	1	
51	Nose gear leg	1	Ready formed
52	Main undercarriage leg	2	Ready formed
53	Wheel	3	50 mm dia.
54	Main undercarriage mounting straps	2	Metal
55	Holding wood screws	2	10 mm long screw
56	Wing stop washers	6	3 mm dia. special washer
57	Wing holding dowel	2	105 mm long 6 mm dia. dowel
58	Center rib dihedral template	1	3 mm die-cut plywood