SAAB Gripen JAS 39 S2710

Technical data

Lenght	1095mm
Wing span	860mm
Profile	S-type, own development
Material	fuselage Gfk, wing Technopor
Wingarea	26.5dm²
Wingload	50g/dm², CP1700 56g/dm², match 2400
Power unit	Fantex 6xx mit X-Speed 18W
No of cells	10
Controls	elevons, motor (3 channel)
Radio	from 3 channel incl. mixer recommended Futaba
Servos	2*13mm servos or smaller recommended Ripmax SD150
Speed controller	according to motor, 40A

Introduction

Thank you very much, that you have decided to purchase the highly advanced Saab Gripen JAS 39 from Scorpio. This model is the most advanced one in the line of Scorpio products. The target of the development was to come up with a ducted fan model that can been flown electric using standard components only. It was important to us to fly the model with only a standard car motor. In order to achieve this goal it was very important to come up with an extremely light but strong airframe. The result was the unusual combination of a fibre glass fuselage with a high density foam wing out of Technopor. With this design, the use of only two servos is possible. Scorpios Saab Gripen is designed fort he experienced pilot although it is very easy to handle and offers full hand launch capabilities. The slow fly characteristics are superb thanks to the design of the unique air intake. Please notice that it is vital to land the aircraft with the motor switched off.
We wish you all the best with this exiting flying machine.

Finish

The wing is initially without finish for a very good reason. We wanted to offer the possibility to fly the airplane with the lowest possible weight for maximum performance. But there will be a few amongst us that wish to put a finish onto the wing and fuselage. The fuselage can be painted with any sort of colour. For the wing can be finished as follows:
1. Paint the wing with water based filler and than with normal paint
2. Paint the wing with normal filler and than with paint
3. Cover the wing with ultra lightweight Orastick self. adhesive film (recommended by us due to weight)

Required tools

Model knife
Pair of sissors
pencil
ruler
model saw
Phillips screw driver
Screw driver
Clear film
Double sided tape
Sandpaper
Drill bits 1.5 mm, 5 mm, 6 mm

CA glue
5 Min Epoxy (Epoxy)
Contact glue Uhu Por (UP)

Assembly

1. Cut out the fan air intake [4] from the moulding leaving an extra 2 mm border. Then trim its edges to fit to the front part of the fan.

2. Trim the an air intake [4] edges to fit the fuselage [1] and the front part of the fan. Then glue (Epoxy) the fan air intake [4] into the fuselage.

3. Assemble the fan complete with motor. Make sure to follow the instruction of fan. Please make sure, that the motor is thoroughly suppressed and that the leads to the motor are long enough.

4. Attach the complete fan to the fuselage [1] and mark the holes. Then drill 1,5 mm diameter holes trough the fuselage [1].

5. Use parker screws [B2-1] to fix the fan to the fuselage [1].

6. Glue (Epoxy) the battery mounting plate [B1-1] into the fuselage[1]. The end of the battery mounting plate is 100 mm behind the air intake holes.

7. Mark holes in the fuselage [1] in compliance with die cut [DC1-3[. Check the symmetrical fit of the die cut [DC1-3] to the fuselage.

8. Drill 6 mm dia. holes trough the fuselage [1].

9. Cut out the marked elevons in wing [2].

10. Glue the elevons to the wing [2]. Use transparent adhesive tape. First attach tape to upper side of the wing and the elevons, next attach tape to bottom of the wing and elevons.

11. Glue (UP, Epoxy) the wing fixing bar [DC1-1] onto the wing [2].

12. Drill 5 mm diameter holes trough the hole in wing fixing bar [DC1-1].

13. Glue (UP, Epoxy) the wing strip [B1-2] into the wing [2].

14. Fill the marked area for the control horns on the wing [2] with epoxy and glue to the top the control horn washers [B2-13].

15. Mark holes in the control horn washers [B2-13] in

compliance with control horns [B2-2, B2-4]. The holes in the control horn must be positioned in the vertical plane of the elevon hinge.

16. Mount the control horns [B2-2, B2-4] using screws [B2-6] and washers [B2-3, B2-5] to the wing [2].

17. Fit the elevon pushrod [B2-10] to the servo arm. Note that the servo arm is in neutral position. Glue the servos to the wing [2] with quality double sided adhesive tape.

18. Attach snaplink [B2-9] to elevons pushrod [B2-10] and install to control horns [B2-2, B2-4]. Make sure that the elevon and servo arm are in neutral position.

19. Put the servo cable into marked slot. Glue the cover strips [B1-5] to the wing [2] with transparent adhesive tape.

20. Cut a hole for the servo connectors in middle of the wing by the slot side. Put the servo connectors trough this hole.

21. Put the servo cable into the marked slot. Glue cover strip [B1-6] to the wing [2] with transparent adhesive tape.

22. Attach the servo covers [B1-7] to the wing with transparent adhesive tape.

23. Glue (UP, Epoxy) wing spacer [3] to the wing [2].

24. Glue (UP, Epoxy) landing slide [DC1-2] and wing fixing bar [DC1-3] to the marked place into the wing spacer [3].

25. Drill a 6 mm diameter hole 10 mm deep into wing fixing bar [DC1-3].

26. Round wing dowels [B2-11] on one side. Glue (Epoxy) dowels into the holes in wing fixing bar [DC1-3]. Make sure that the dowels are 5 mm protruding and parallel.

27. Glue (Epoxy) both canards [B1-4] with canard jumper [B1-9] on the plane board.

28. Attach canards into the fuselage [1] trough slots. Trim the slots where necessary with a flat file.

29. Check the symmetrical position of the canards on the fuselage and fix this position with pins. Then glue (Epoxy) canards and fix on inner bottom connection with canard strips [B1-8].

30. Attach wing [2] to the fuselage [1]. Mark holes for wing bolts. Check the correct symmetrical position of the wing on the fuselage.

31. Drill a 5 mm diameter holes trough the fuselage [1].

32. Glue (Epoxy) the wooden reinforcement [B2-4] into the fuselage [1]. Check the correct position of the holes.

33. Attach wing nuts [B2-7] into the reinforcement [B2-4].

34. Using nylon screws [B2-8] to attach wing to the fuselage [1].

35. Cut out the cockpit using a knife or scissors [5] from the moulding leaving an extra 2 mm border. Then trim the edges to fit it to the fuselage. Paint the cockpit.

36. Cut out the canopy using a knife or scissors [6] from the moulding leaving an extra 2 mm border. Paint the canopy frames from inside of the moulding.

37. Glue (CA) cockpit [5] and canopy [6]. Trim the edges to fit to the fuselage [1]. Glue (CA) the balsa block [B1-3] and canopy wire [B1-12] to the cockpit. Check, that canopy wire [B2-12] leave 10 mm protruding the canopy front edge.

38. Attach the canopy to the fuselage [1]. Attach the canopy at first to the front side of the fuselage, then filt its and push back.

39. If you have not applied all decals during the assembly, now it is the right moment to do so.

40. The centre of gravity should be between 135 and 140 mm back from the leading edge of the wing at the root. For first flights it is recommended that the centre of gravity is at the forward position. Once the speed controller and receiver are installed, the battery pack can be attached to the battery mounting plate using hook and loop tape or similar. The battery can then be moved forward or back to bring the balance point to the correct position.

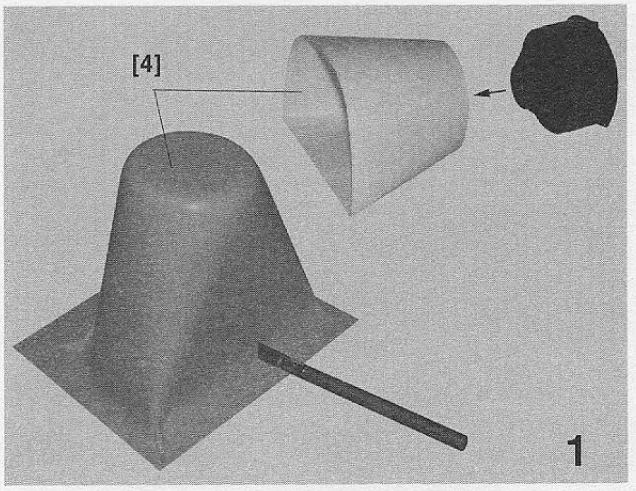
Control Surface Movements

Elevons have to be mixed as follows:
Aileron +10/-6mm
Elevator +15/-11mm
Start optional -3mm trim

Flying the model

The initial flights should take place in a complete calm or in a very light breeze. Long grass is an advantage. Check the control range of your R/C system. Check the model (wings etc.), CG position, throw and sense of deflection of the control surfaces and for smooth operation of the motor. Launch the model horizontally or into a slight climb into wind, with the motor running at full power. Allow the model to climb to a safe height, reduce the throttle slightly and trim the model. Check the response of the model to the control inputs. If your model does not handle correctly, switch off the motor and land. If you are a complete novice, ask a more experienced modeller for assistance. The model will perform all basic and many advanced aerobatic manoeuvres.

We wish you many successful flights and happy landings.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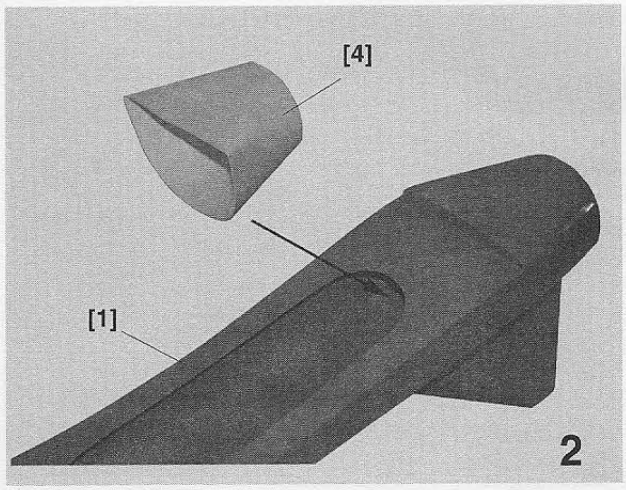
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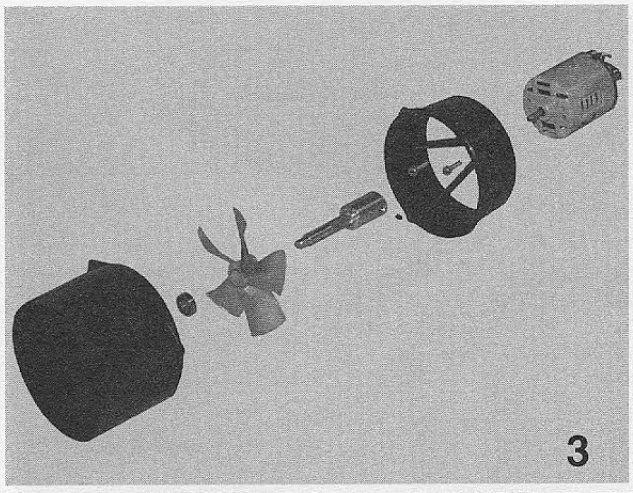
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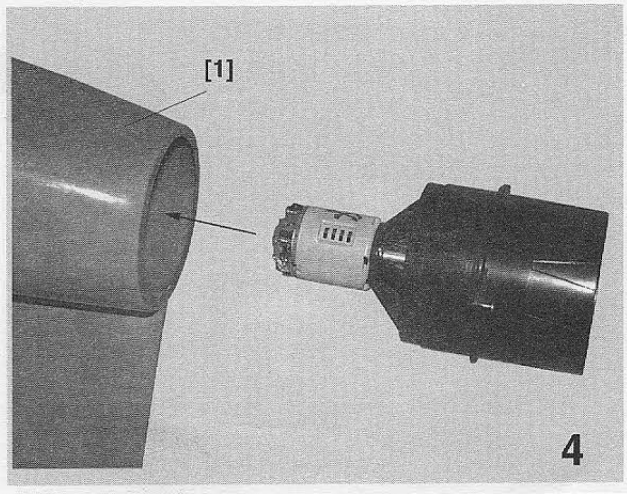
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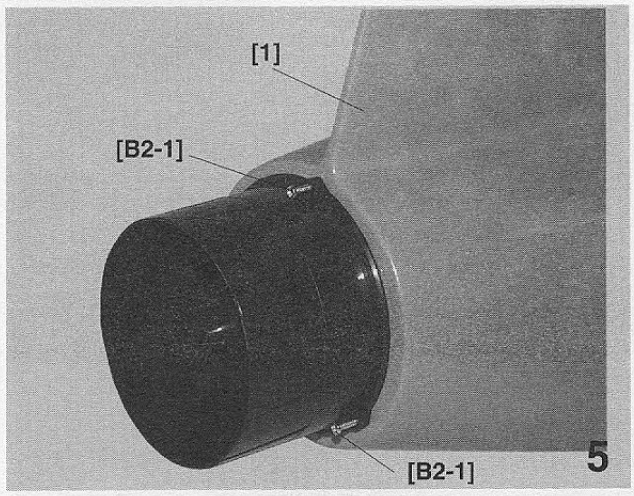
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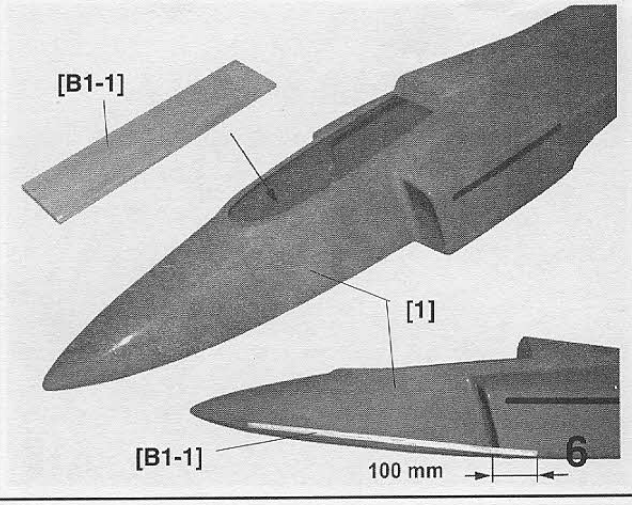
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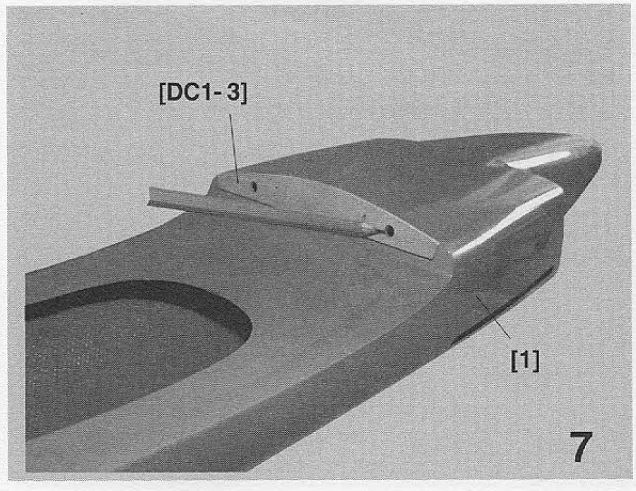
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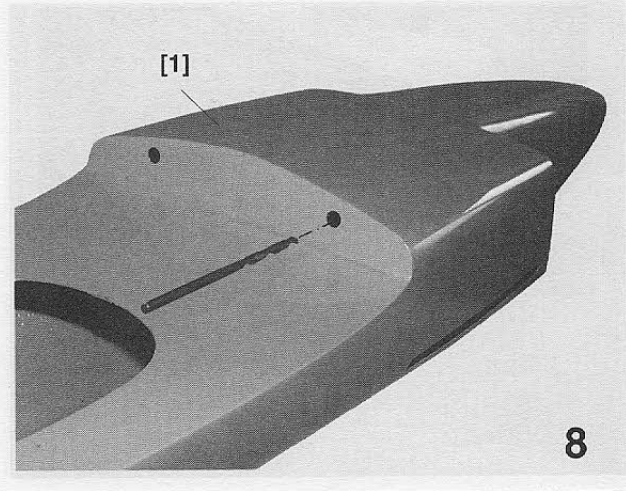
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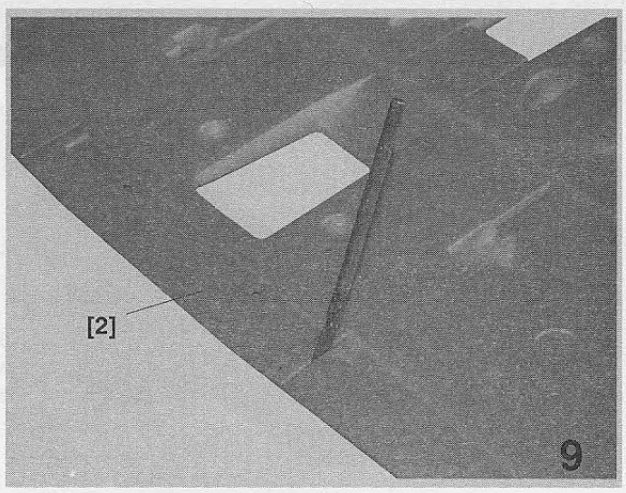
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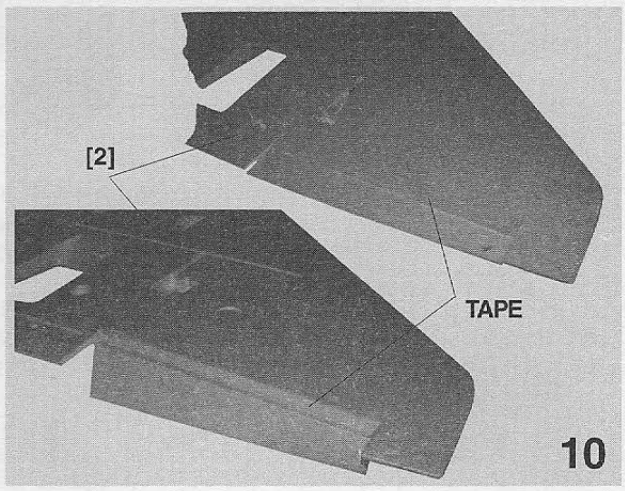
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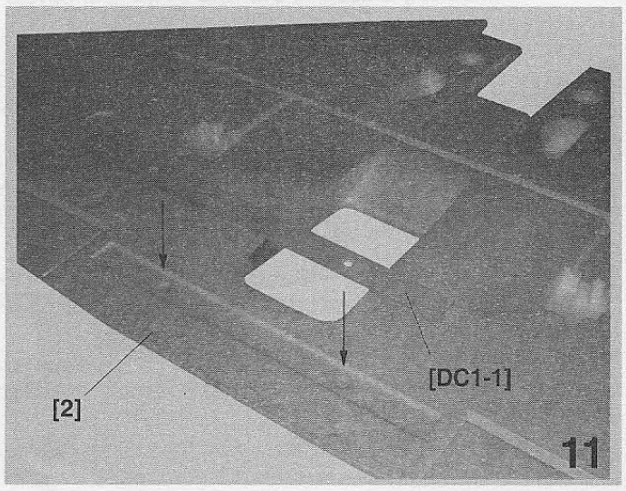
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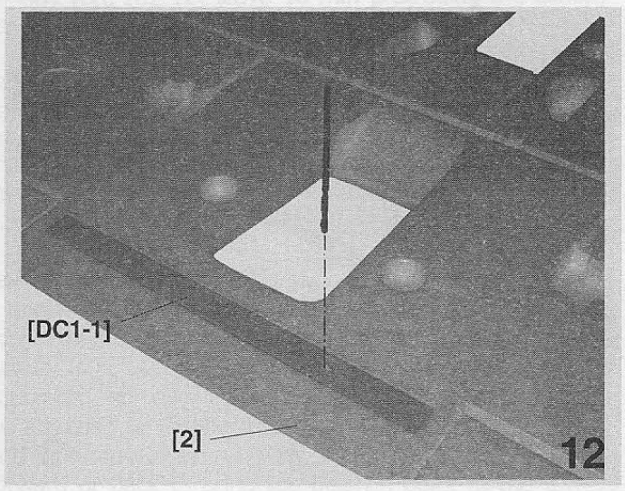
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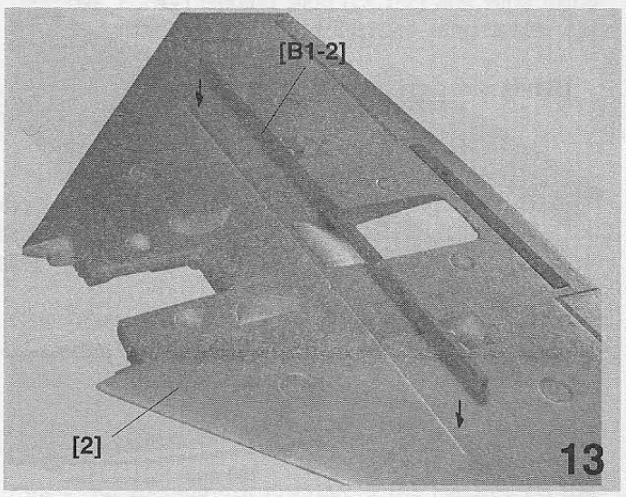
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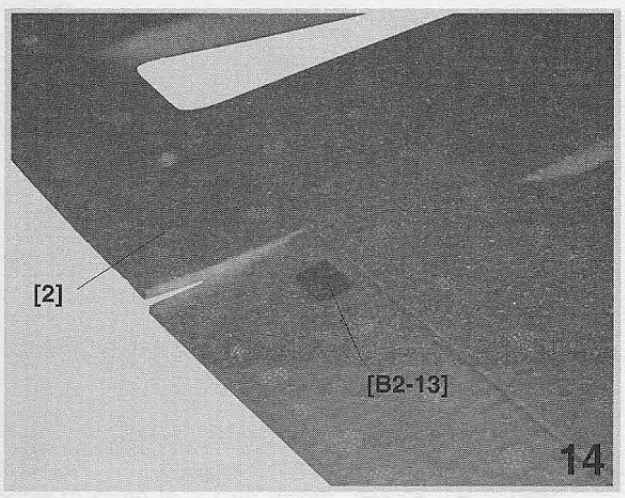
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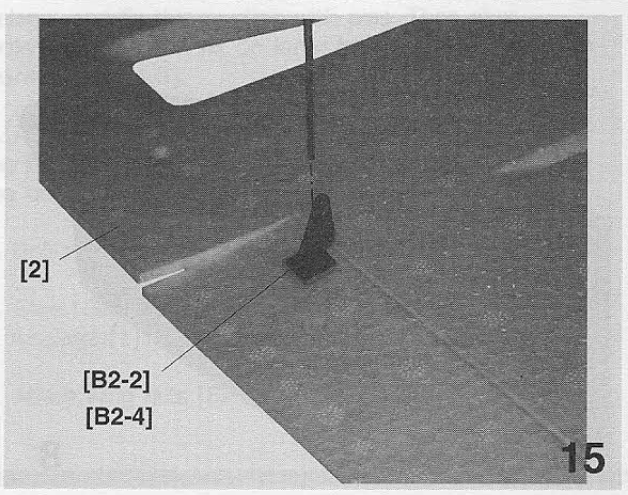
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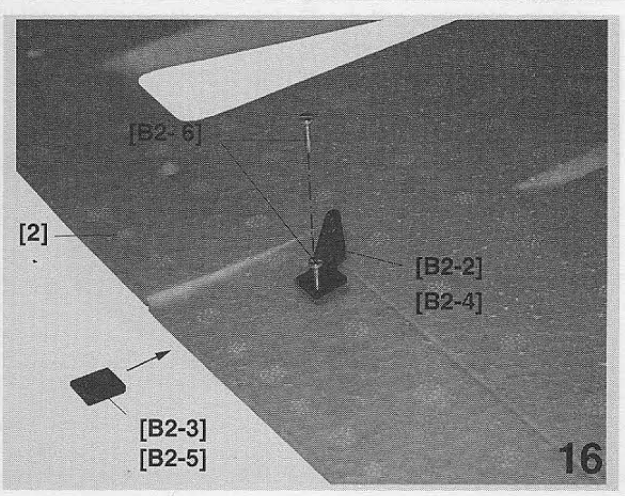
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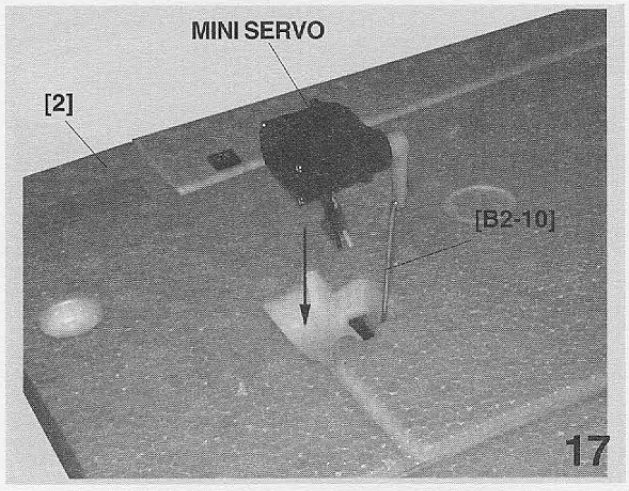
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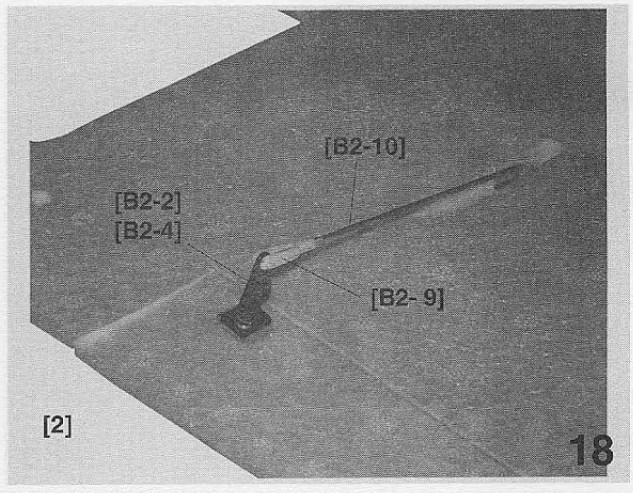
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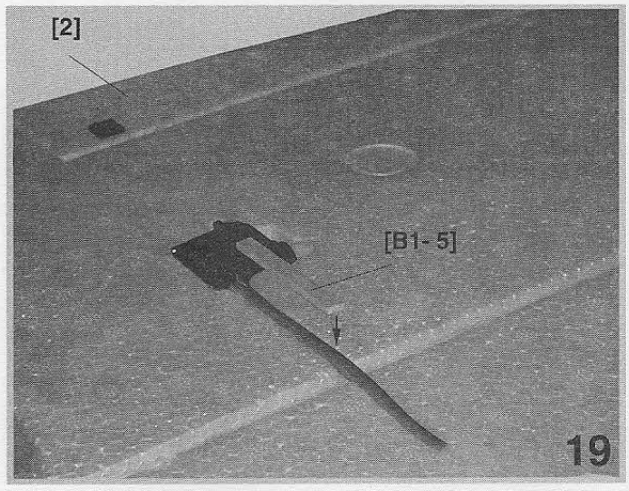
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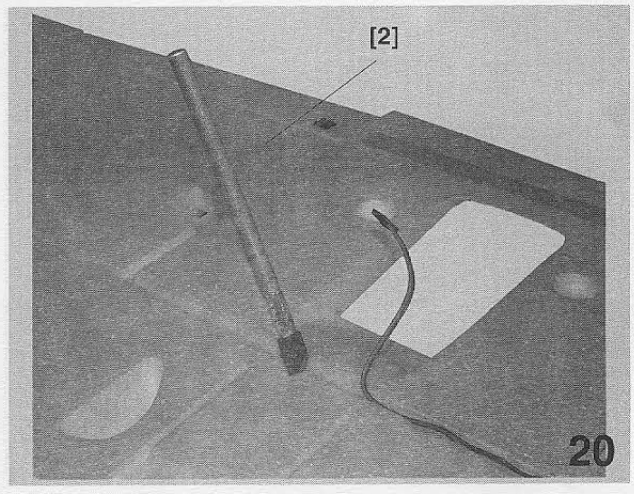
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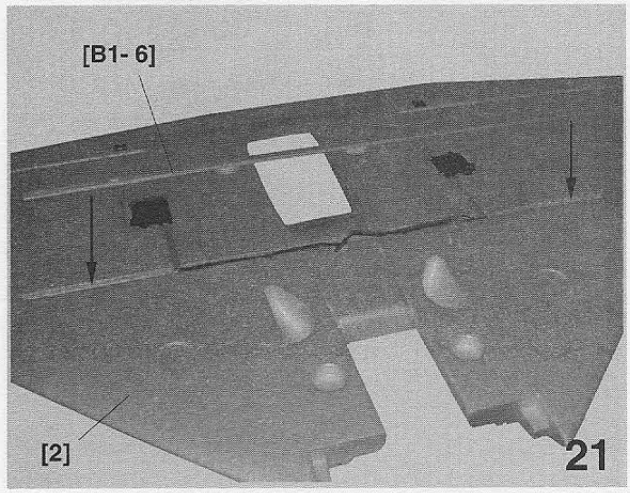
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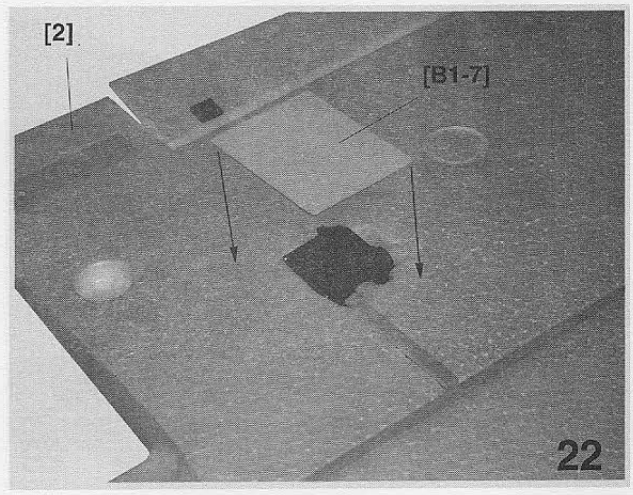
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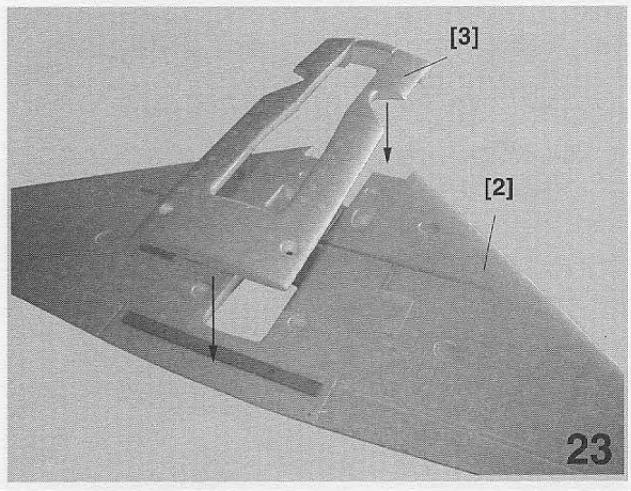
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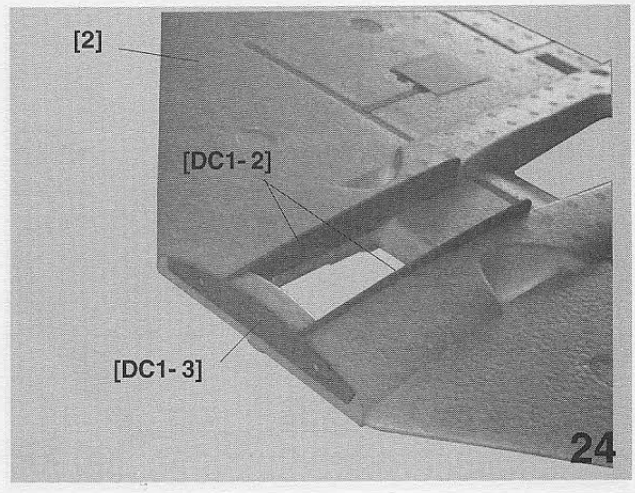
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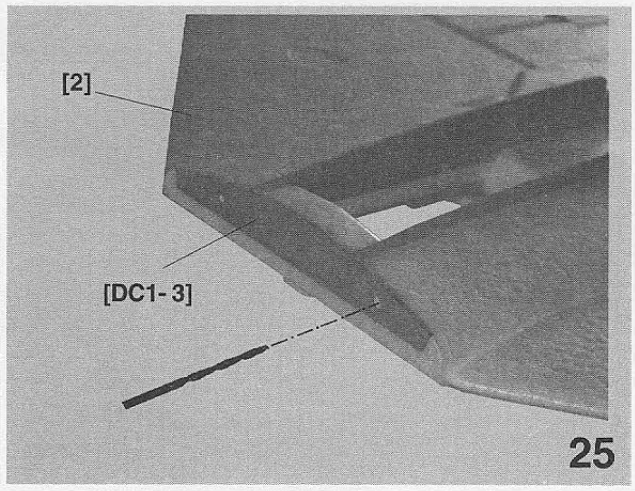
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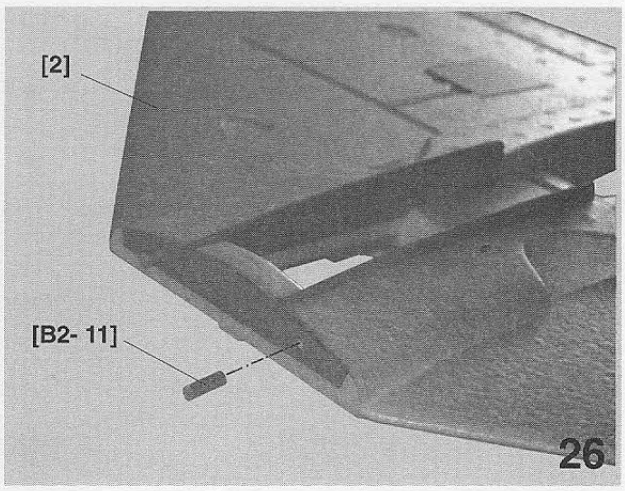
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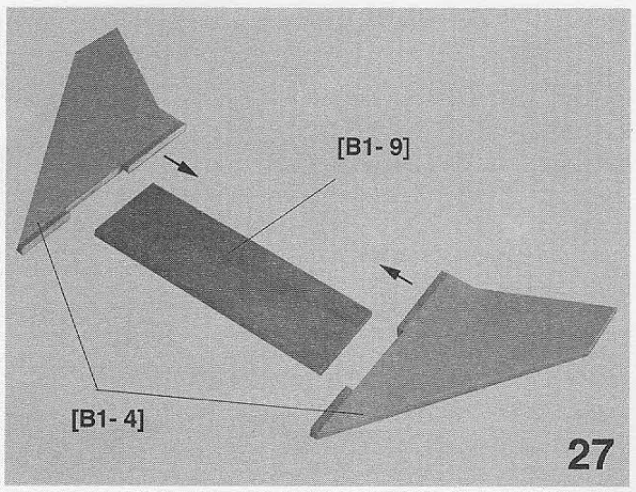
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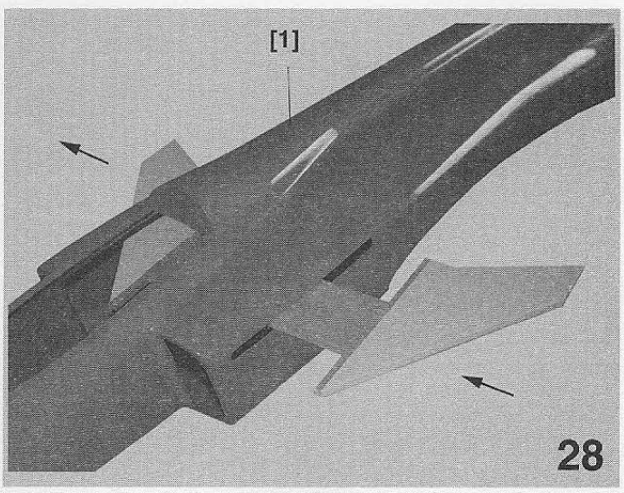
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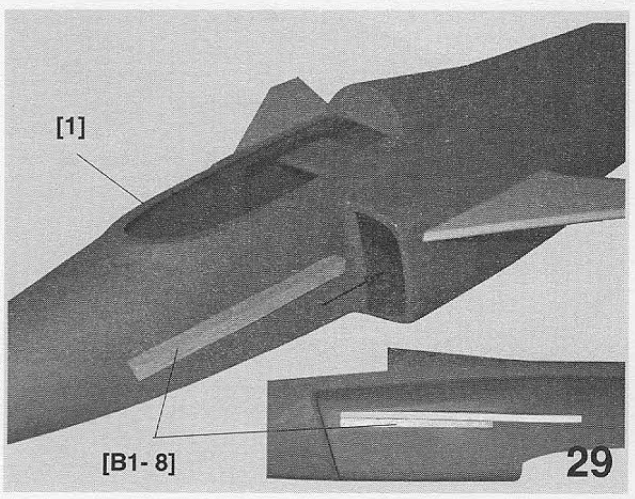
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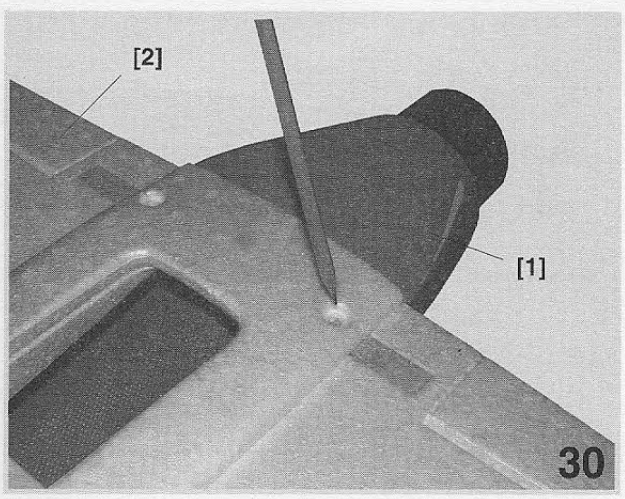
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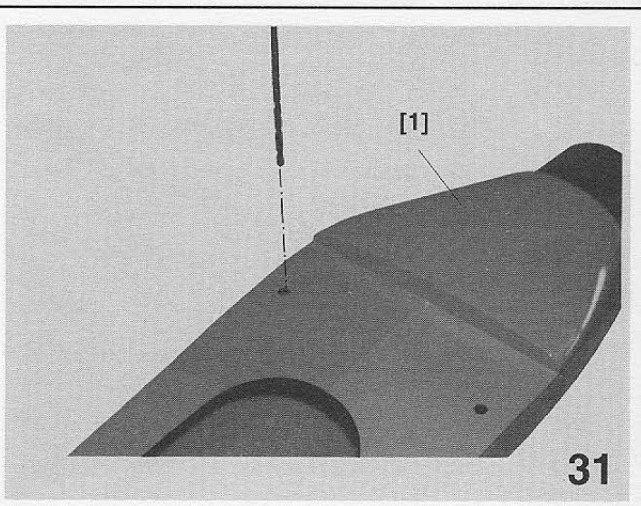
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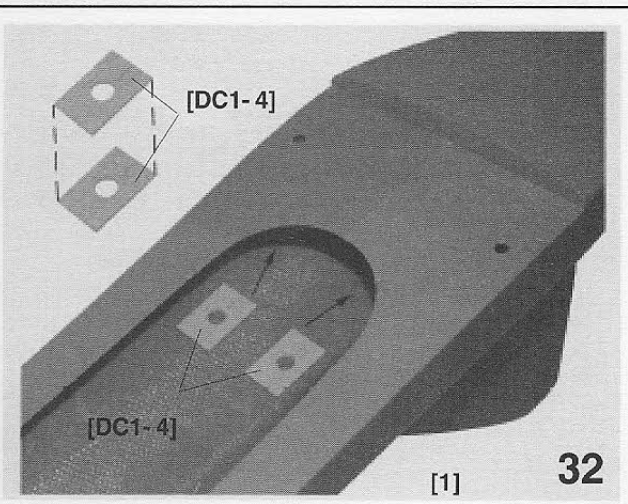
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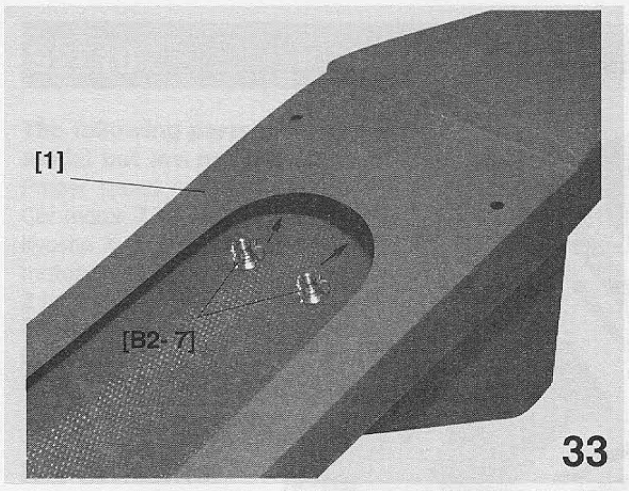
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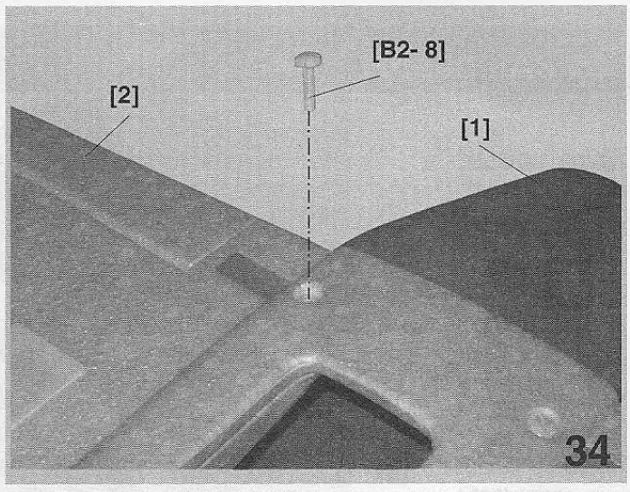
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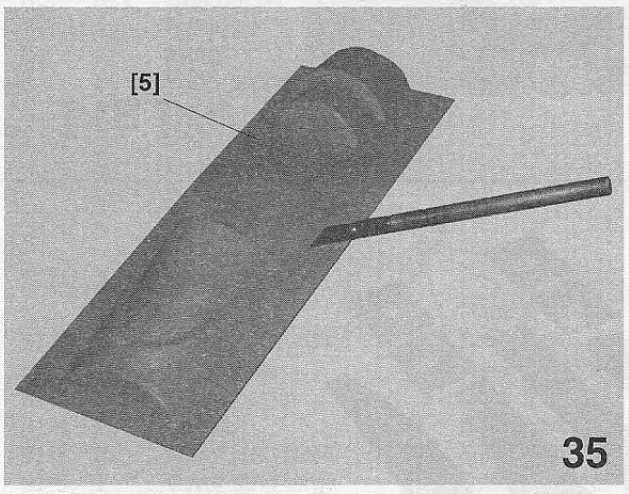
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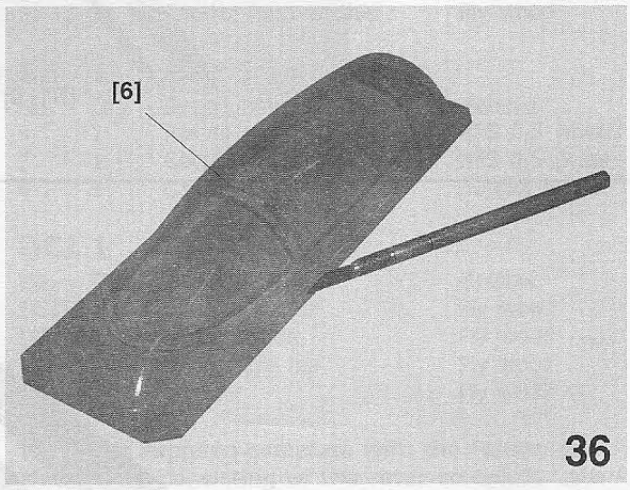
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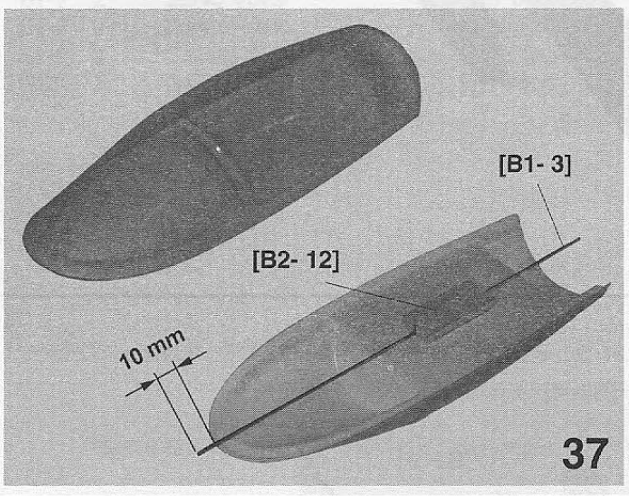
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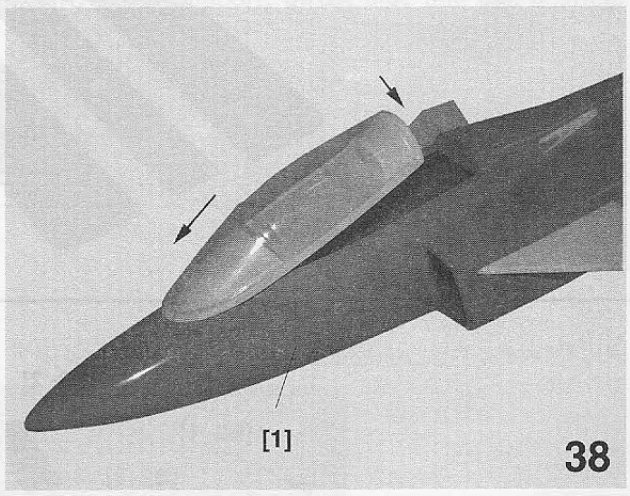
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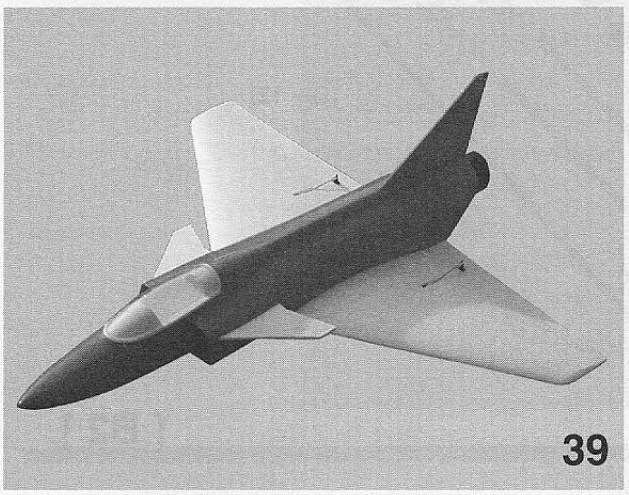
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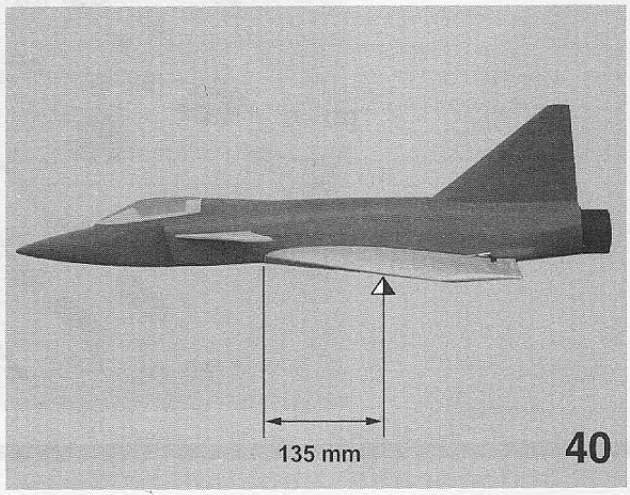
135 mm
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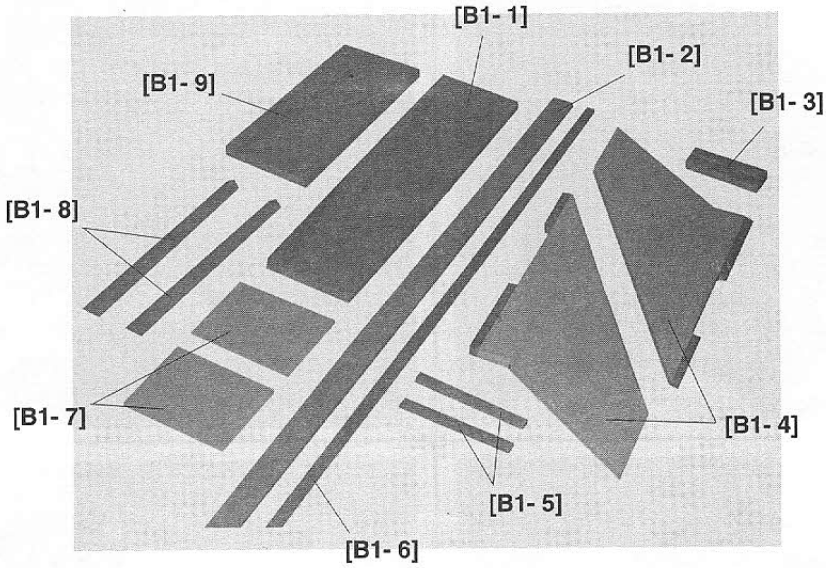
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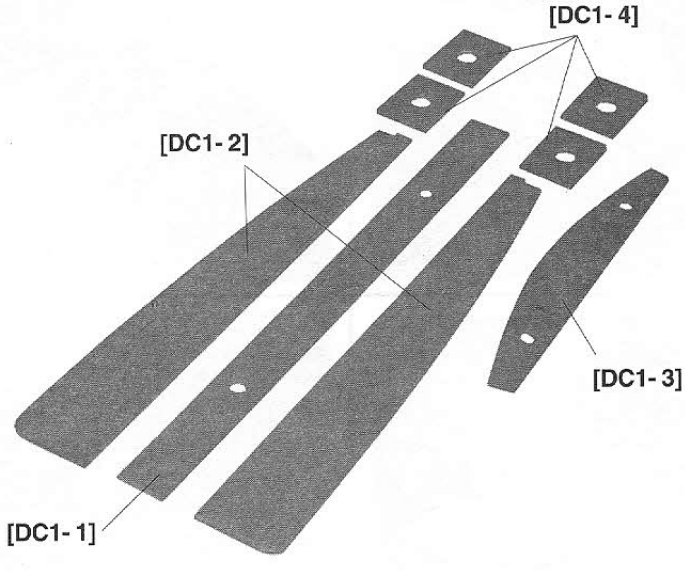
[B1]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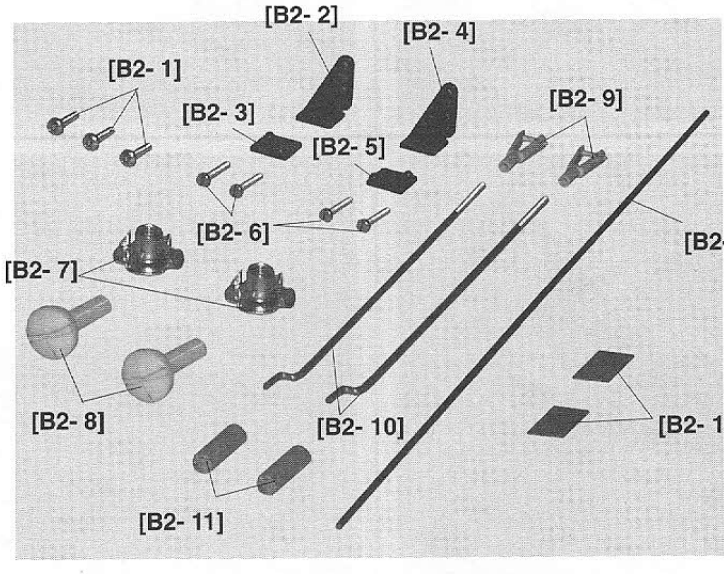
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[B2- 12]
[B2- 7]
[B2- 8]
[B2- 10]
[B2- 13]
[B2- 11]

[B2]

The following parts are necessary to finish the model but are not included in the kit
Proper speed controller according to motor
Car motor 7.2V with min 32.000 idle rpm, for example Kyosho X-speed 17W or 15T, LRP V10 Spec 3 or brushless motors
2 mini servos
Batteries 2000 mAh, 10 cells,
Battery charger
RC system w/mini receiver, minimum 3 channels

Kit contents:

No.	Qty	Description	Material
1	1	Fuselage	GFK
2	1	Wing	Elapor
3	1	Wing spacer	Elapor
	1	Decals	
	1	Bag 1	
	1	Bag 2	
	1	Bag 3	
	1	Instruction	

B1 1 Bag 1

No.	Qty	Description	Material
B1-1	1	Battery mounting plate	Balsa 5x50x300
B1-2	1	Wing strip	Wawa 5x13x460
B1-3	1	Canopy strip	Balsa 5x15x40
B1-4	2	Canard	Balsa covered
B1-5	2	Cover strip small	Balsa 2x5x55
B1-6	1	Cover strip large	Balsa 2x5x460
B1-7	2	Servo cover	HPS 0,5
B1-8	2	Canard strip	Balsa 6x6
B1-9	1	Canard jumper	Balsa 5x50x145
DC1	1	Die Cut DC1	Ply wood

B2 1 Bag 2

No.	Qty	Description	Material
B2-1	3	Parker screw	Steel 2.2x9
B2-2	1	Left control horn	Plastic
B2-3	2	Control horn washer left	Plastic
B2-4	1	Right control horn	Plastic
B2-5	2	Control horn washer right	Plastic
B2-6	4	Screw	Steel M2x20
B2-7	2	Wing nut	Steel M5
B2-8	2	Wing bolt	Nylon M5x20
B2-9	2	Snap link	Plastic
B2-10	2	Elevon pushrod	Steel
B2-11	2	Wing shafts	Ramin dowel 6
B2-12	1	Canopy wire	Steel wire
B2-13	2	Control horn washer	Ply wood

B2 1 Bag 3

No.	Qty	Description	Material
4	1	Fan air intake	HPS 0,5 white
5	1	Cocpit	HPS 0,5 white
6	1	Canopy	Durofol 0,5 tr.

DC1 1 Die Cut 1

No.	Qty	Description	Material
DC1-1	1	Wing fixing bar	Ply wood
DC1-2	2	Landing slide	Ply wood
DC1-3	1	Wing fixing bar	Ply wood
DC1-4	4	Washer	Ply wood

This kit is supplied complete with the Fantex 6xx electric fan consisting of the rotor complete with shaft, motor support, thrust pipe and ball bearing.