

A-10 Warthog

Radio Controlled Scale Model
of the American Fighter Plane
Powered by Electric Motors

Guide for
Construction and Flying

Dear friends,

thank you for your trust expressed by purchase of the model kit from our production. The model is powered by two ducted fans with brushless motors.

The model has controlled ailerons, elevator and motor.

Flying this model is dedicated to experienced pilots. The kit has been considerably revised so that the construction would be easier and faster. We are ready to supply all parts of the kit in case of damages.



The A-10 Thunderbolt II was the first plane of American Air Force designed especially as ground attack aircraft for direct support of ground army units. It is a simple, effective and robust jet aircraft with two engines that can be used against all ground targets including tanks and other armored vehicles. The fundamental means is dreaded 30 mm rotational cannon GAU-8/A of Avenger Gatling type.

The A-10 called also Warthog, Tankbuster or Tankkiller are great at their maneuverability particularly at low speeds and low elevations and are very accurate when using their board weapons. They are capable of operation at low speeds close to the battle zone at elevations below 300 m and visibility 2.4 km. Their extensive attack potential and ability of short take-off and landing enable them to use airfields close to front lines. Thanks to their perfect instrumentation pilots can realize their missions even at night.

The prototype took off on February 2nd, 1975, series production started in 1977 and finished in February 1984 by handover of 713. aircraft.

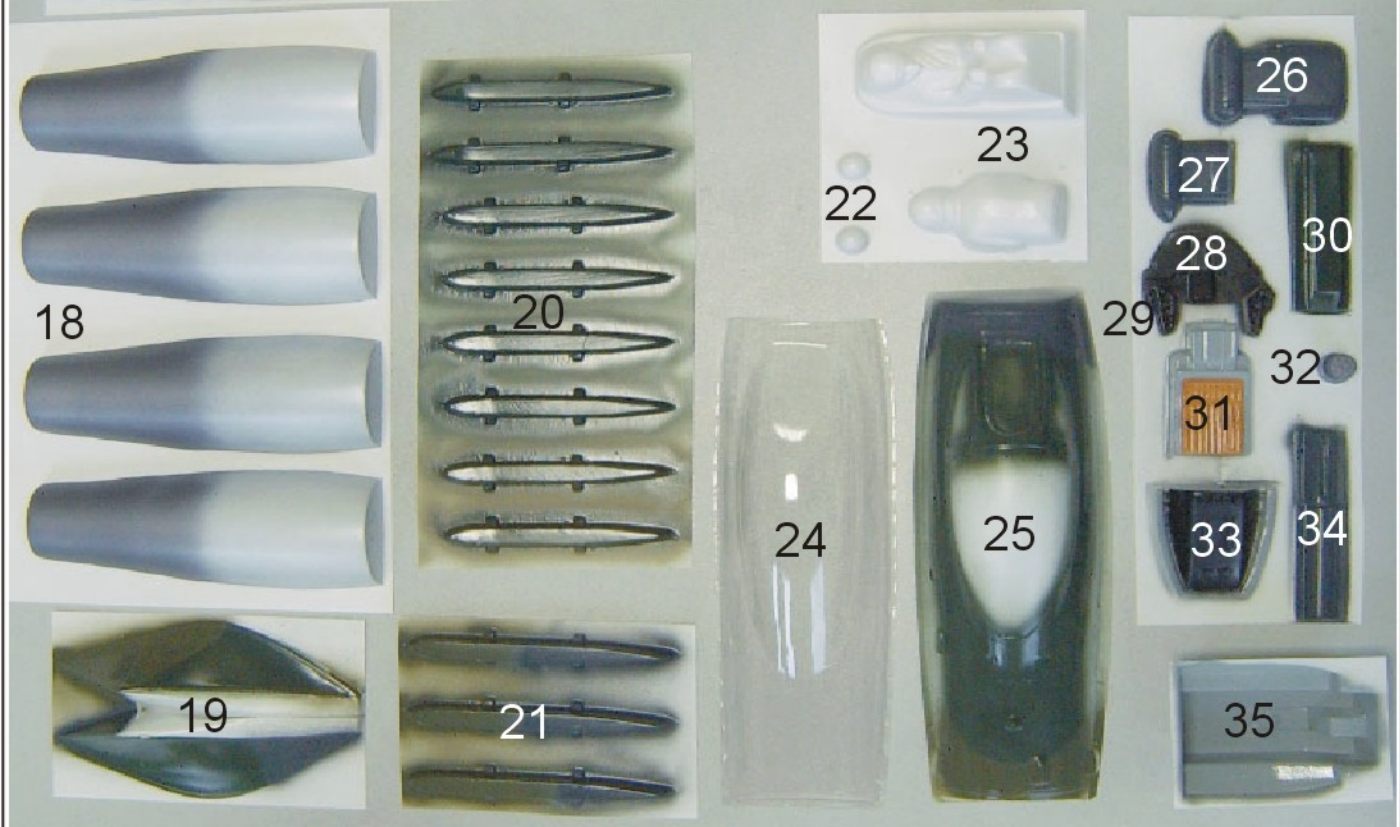
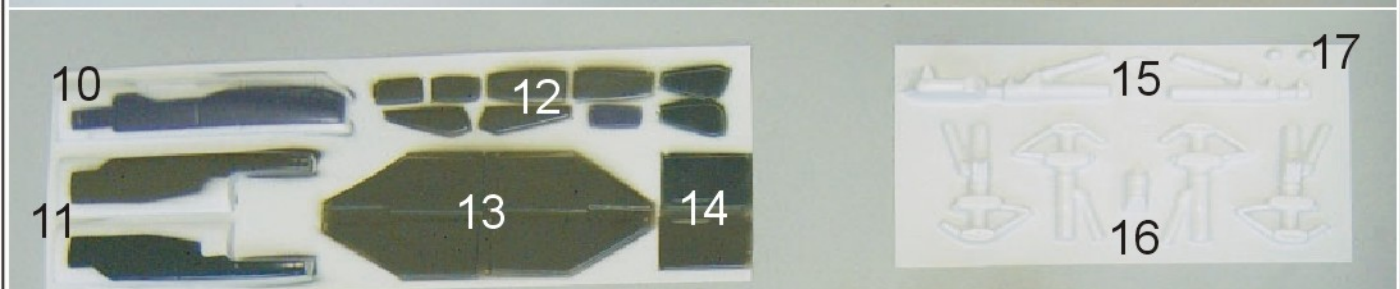
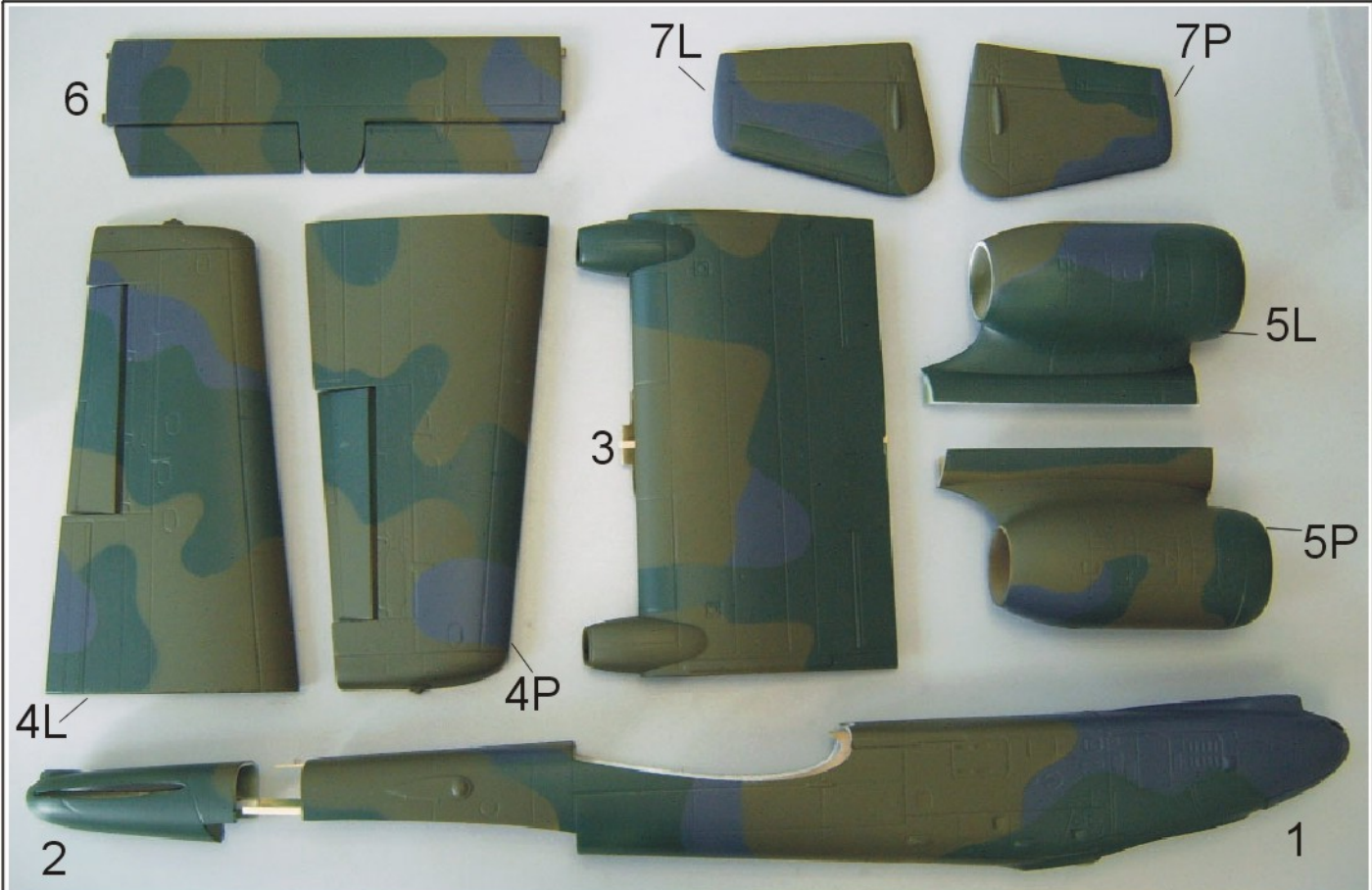
First A-10A aircrafts were supplied to Davis-Monthan Air Force Base in Arizona in October 1975. Their above mentioned qualities showed to be of vital importance later for American and allied forces during the so called Desert Storm (war in Persian Gulf). A-10 aircrafts made for example 8100 combat flights and launched 90% of all used Maverick rockets. In spite of adaptation to version OA-10A (since the eighties) for advanced air operations and in spite of excellent results in the Desert Storm there are only 125 A-10 aircraft in active operation now. Further aircrafts have been released for export to friendly countries.

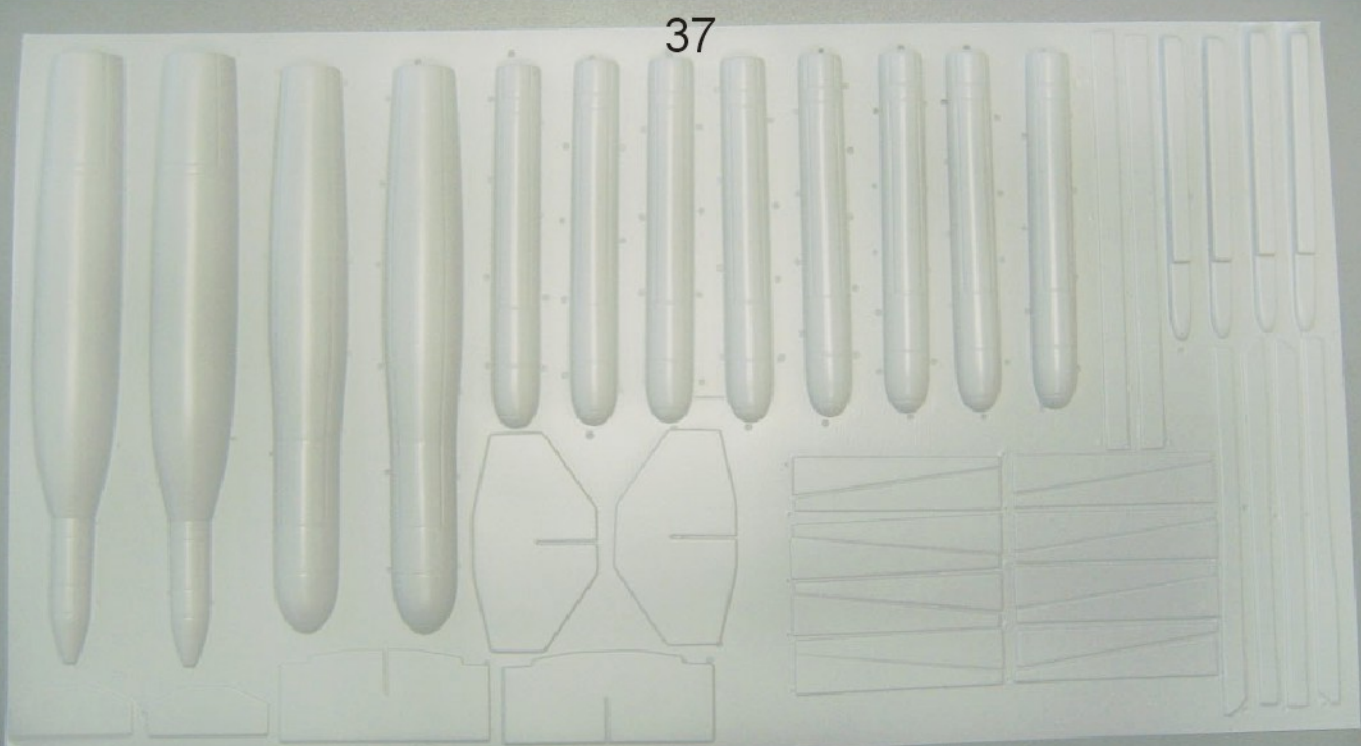
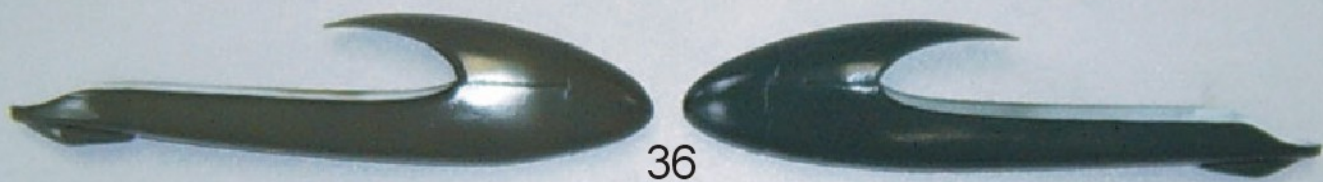
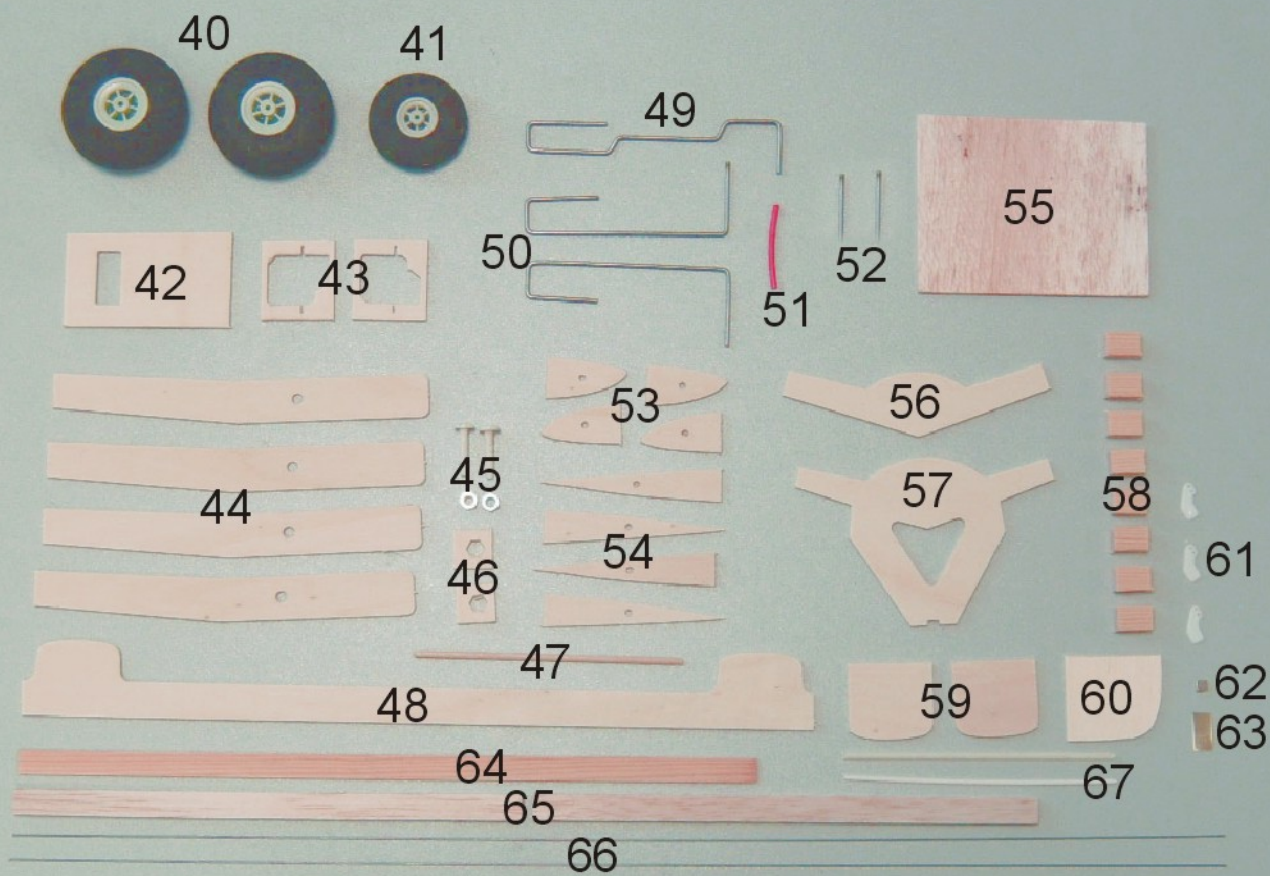
Page	Guide contents
1	Title sheet with main parameters
2	Kit parts - PP a PSH
3	Kit parts - remaining parts
4	List of parts
5-28	Construction procedure with photographs



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Specification		
Wing span	mm	1010
Length	mm	890
Flight weight	g	850-950
Wing area	dm ²	16.35
Controlled components	elevator, ailerons, engines	





#	Title	Qty
List of foam parts		
1	Fuselage	1
2	Rear part of fuselage	1
3	Center wing section	1
4	Wing L+P	1+1
5	Mototr nacelle L+P	1+1
6	Horizontal stabilizer	1
7	Vertical stabilizer L+P	1+1

List of foil parts		
10	Doors of front landing gear	1
11	Doors of main landing gear L+P	1+1
12	Antenne parts	9
13	Aerodynamic panel L+P	2+2
14	Cover panel of servo	2
15	Landing gear leg L+P	1+1
16	Landing gear leg L+P	2+2
17	Light	2
18	Jet blowers	2+2
19	Fairing fuselage-center wing L+P	1+1
20	Rocket carriers	8
21	Rocket carriers	3
22	Ducted fan spinner	2
23	Pilot L+R	1+1
24	Canopy glass	1
25	Canopy frame	1
26	Outside part of radar	1
27	Inside part of radar	1
28	Instrument panel	1
29	Gunsight frame	2
30	Cover of controller cooling	1
31	Seat	1
32	Cannon barrel	1
33	Instrument panel cover	1
34	Cannon	1
35	Cockpit interior	1
36	Undercarriage nacelles L+R	1+1
37	Bombs	1

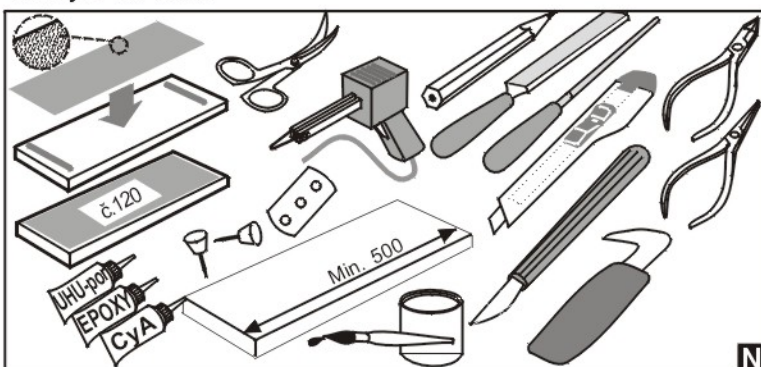
Other parts		
40	Main wheels	2
41	Front wheel	1
42	Servo frame	1
43	Servo frame	2
44	Wing spar	4
45	Plastic screws	2+2
46	Nut frame	2
47	Wooden pin	1
48	Gear lock	1
49	Front undercarriage leg	1
50	Main undercarriage leg	2
51	Bowden	1
52	Wheel axles	2
53	Wing firewalls	4
54	Wing firewalls	4
55	Balsa	1
56	Nacelle firewall	1
57	Nacelle firewall	1
58	Pine stick	8
59	Main undercarriage lock	2
60	Front undercarriage lock	1
61	Micro lever	3
62	Magnet	1
63	Metal plate	1
64	Pine stick (2x 15 cm or 1x 30 cm)	2(1)
65	Balsa	1
66	Steel wire	2
67	Bowdens	2

Other parts		
	Building instruction	1
	Decals	1
	Extra PP for testing	1
	Extra PSH for testing	1
	Color set	1

Optional equipment - not included in kit!

	Ducted fan Vasafan 55 or FSK 56	2
	Motors AXI 1215/16 or Park 400	2
	Receiver JETI 5 CH	1
	Servo HS-55	3
	Mototr controller JETI SPIN 33A	2
	Battery 3 cell 2000 mAh Li-Pol	1
	Leads, connectors, switch	Set

Tools you will need:



Sharp Utility knife · Pair of scissors · Small flat and round files · A pair of pliers · Emery paper #120 and #240 · Epoxy (5 min.), Fast drying glue, UHU-por glue · Soldering iron · Pencil · Small set of non-corrosive paints for coloring the pilot's figures and occasional touch up repairs.

Applying Decals:

Cut out the decal about 0.5 - 1.0 mm from the edge of the marking and soak it in water (40 degrees Celsius = 100 F) for about 15 seconds or until the decal begins to slide off the backing paper. Now remove the decal from the water and slide the decal from the backing paper to the surface of the model. Carefully position the decal as desired. Using your fingers, slowly and carefully press out the air bubbles. Once the decal is in place and any air bubbles removed, use a cotton swab or tissue to dab and dry the decal to finish.



Tools that you will need to install the waterslide decals on your model. Sharp scissors, artist brushes (square tip), Gluto glue, damp pad of paper towel.



Although all of our kits are thoroughly inspected prior to leaving our factory, it is possible there may be some missing parts or parts which have been damaged during shipping.

If you do find any parts which are missing or have been damaged in this kit, please contact the dealer from which you purchased the kit or you can contact us directly.

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Recommended general procedures warranting best results of kit assembly.

Polystyrene parts should be **handled with care**, do not put down heavy objects on them, do not put them on sharp edges, so that you would not damage their surface (by impact, too high finger pressure, etc.). These damages could be repaired by hair dryer or steam (it should be tested on a material sample!).

Fit up parts for one operation on the desk without gluing. If necessary modify them and when they fit perfectly glue them in correct position.

The parts are painted with alcohol-based paints, which are not resistant to paint thinners. **In such areas where glue has to be applied, use the glue sparingly so that it would not flow out and with extreme care as not to damage the paint.**

Cut all PSH parts out with small overlap (cca 1 mm), modify them by grinding before gluing. Repair edges by a paint.

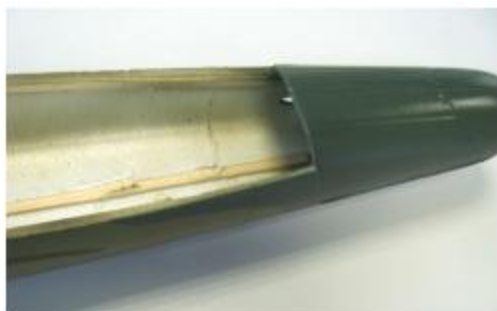
Make the openings in PP parts with a safety razor, sharp knife or a scalpel. Blunt knife tears edges, the cut is not smooth!

Glue the PP parts together with the UHU-por glue (or LA glue if necessary). Apply thin layer, spread/well, let dry for a while and press parts together. Excessive UHU-por glue can be washed by gasoline (does not damage alcohol based paint). **Glue strength joints with EPOXY. Tack the PSH parts (not PP parts!) with instant glue** (CyA glue in the guide). Recommended type of glue is mentioned in the assembly illustrations.

Clean milled edges of wooden parts by grinding with sandpaper before assembly.

Assembly Procedure:

- 1) Glue both parts of fuselage **1** and **2** together.



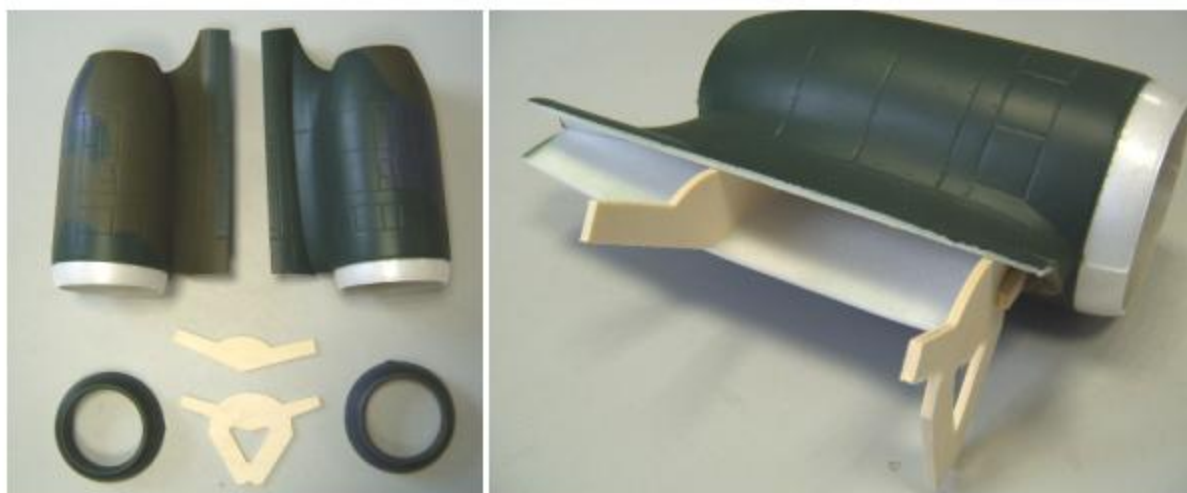
- 2) Glue micro lever **61** into cut out of elevator **6**.



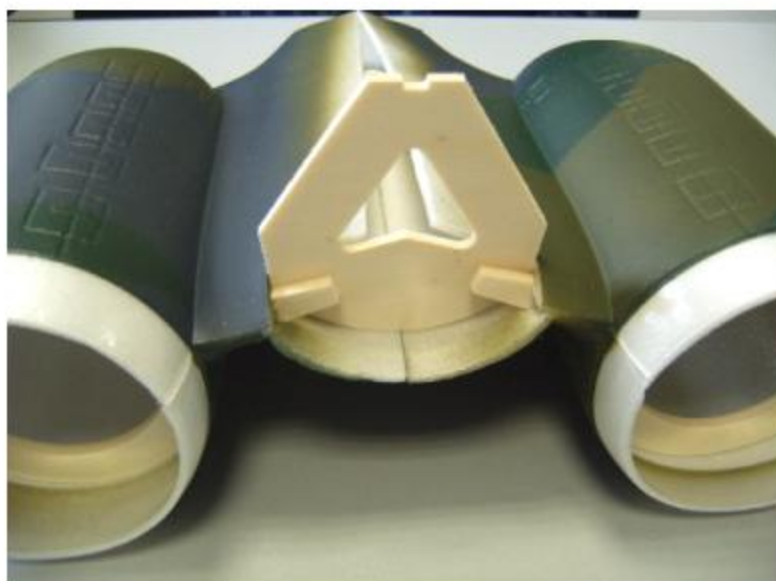
- 3) Glue right vertical stabilizer **7P** to right side of horizontal stabilizer **6**. Insert horizontal stabilizer **6** into cut out from right side, check free movement of elevators, glue it from inside of fuselage and glue left vertical stabilizer **7L**.



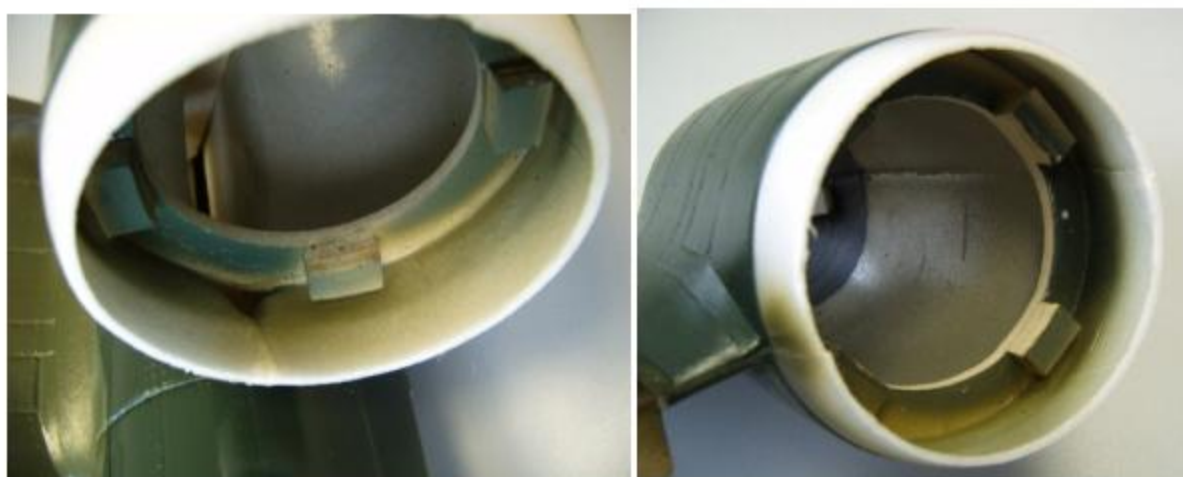
- 4) Set engine nacelles **5L** + **5P** together, glue bulkheads **56** and **57** in (bulkhead 57 shall be glued to circle bulkhead in the nacelle).



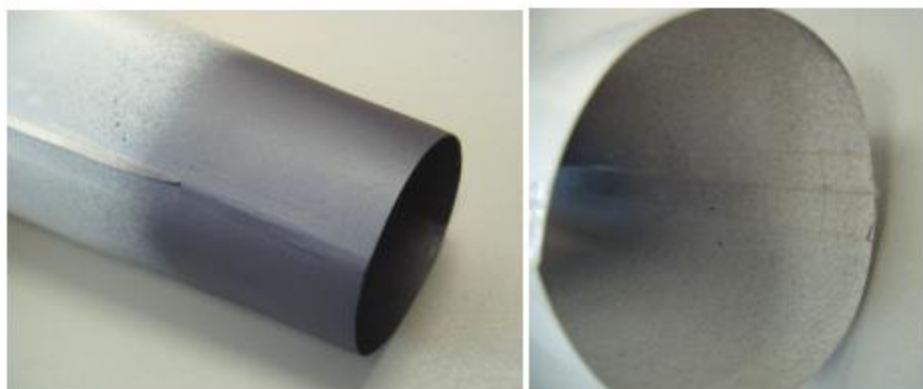
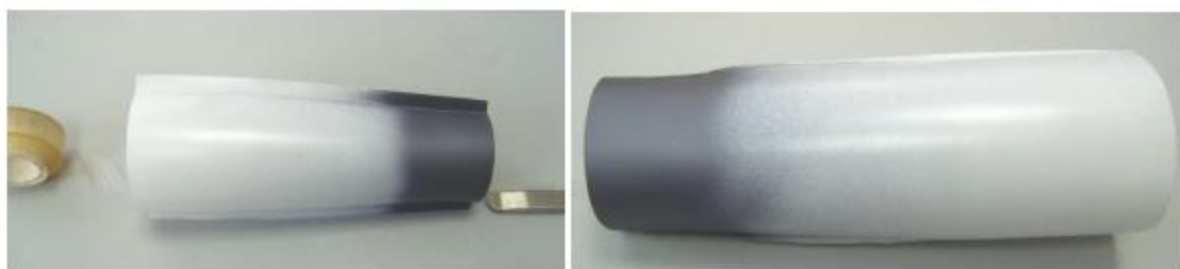
- 5) Glue nacelles together and glue plywood circle bulkheads in nacelles for installation of blowers by epoxy resin.



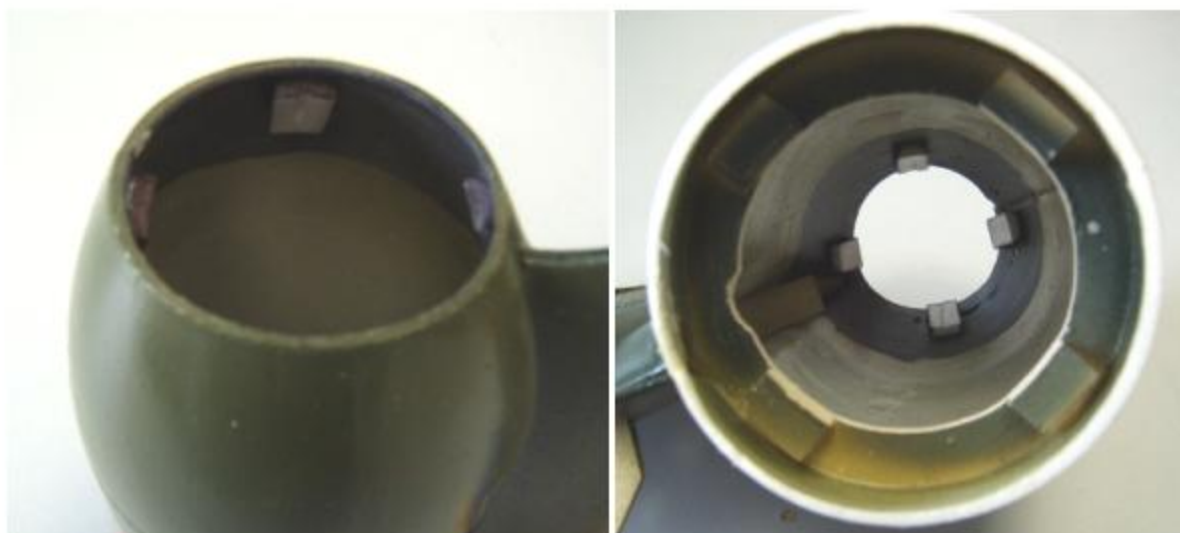
- 6) Glue plates **58** to nacelles in position for blower screws.



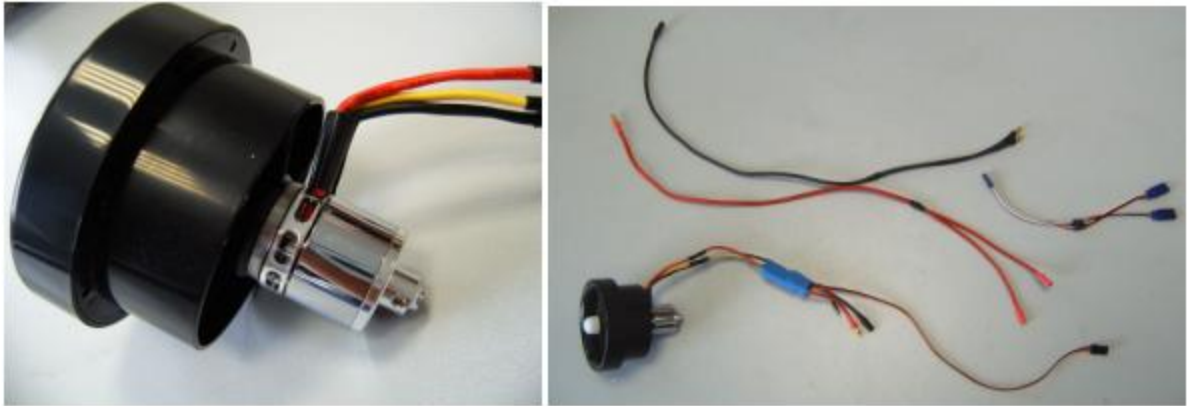
- 7) Assemble left and right jet of blowers **18**, do not interchange left and right halves of jets. Seal the joints from inside by splicing tape for better strength and smoothness of internal surfaces.



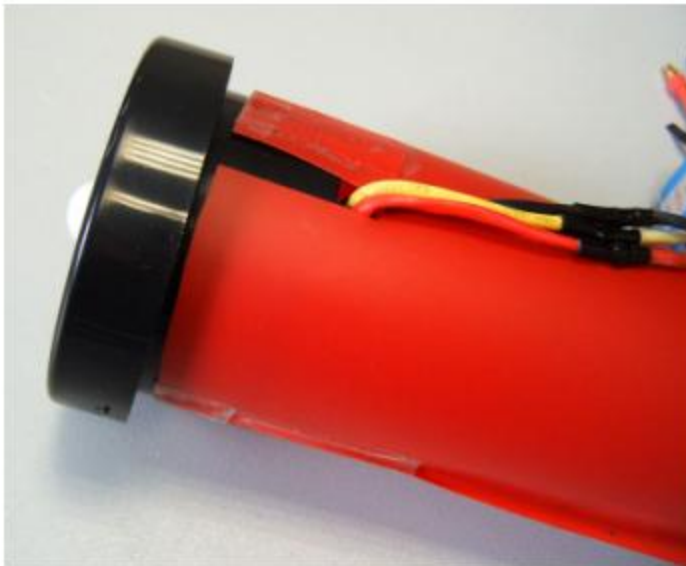
- 8) Glue PP plates to rear internal surfaces of nacelles for setting position of jets protruding **18** from nacelles. Try inserting jets into nacelles. Do not glue yet.



- 9) Install motors into blowers, connect regulator wires, prepare extension cables and V cable for regulators connection. Set up all RC equipment with motors "on the table" and test correct functions of motors, regulators and servos before installation into the model.



- 10) Try insertion of jets on blowers **18** and make cut outs for leading motor cables from jets.



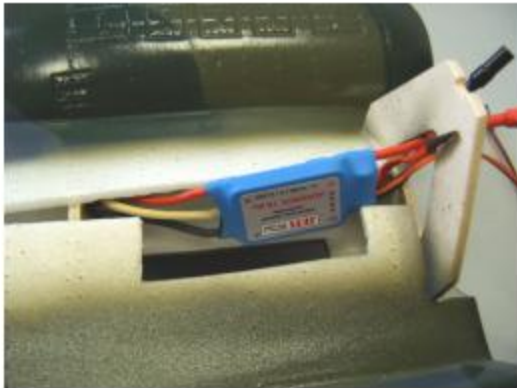
- 11) Remove ring covers from nacelles, remove front fairing from blowers. You can glue spinner **22** on ducted fan.



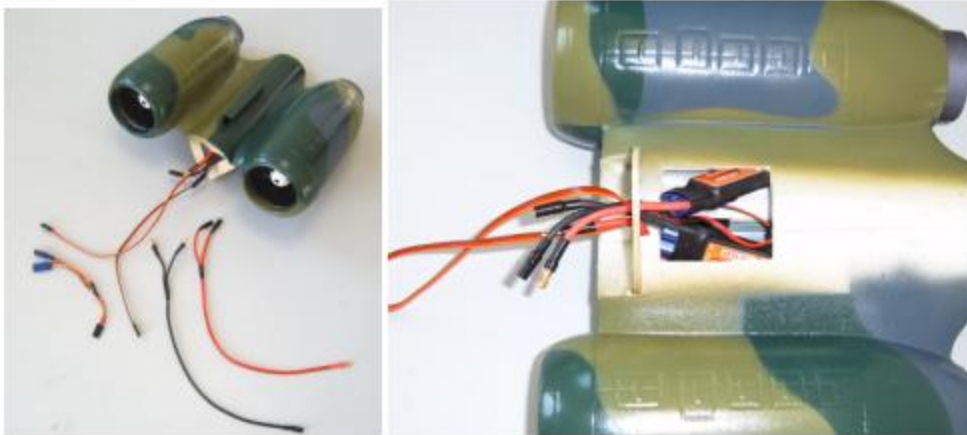
12) Insert jets with blowers into nacelles and at the same time run wires with regulators through and screw blowers to glued plates **58** on bulkheads. Jet ends shall be directed upwards.



13) Adjust positions of regulators.



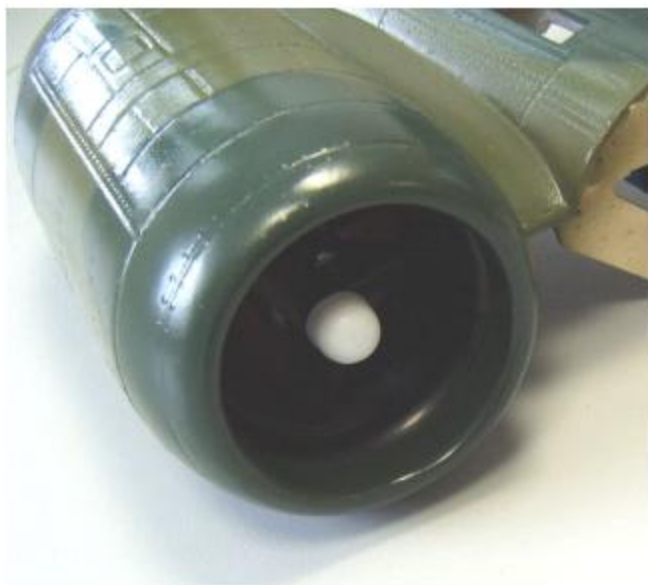
14) Run wires through bulkhead **57**.



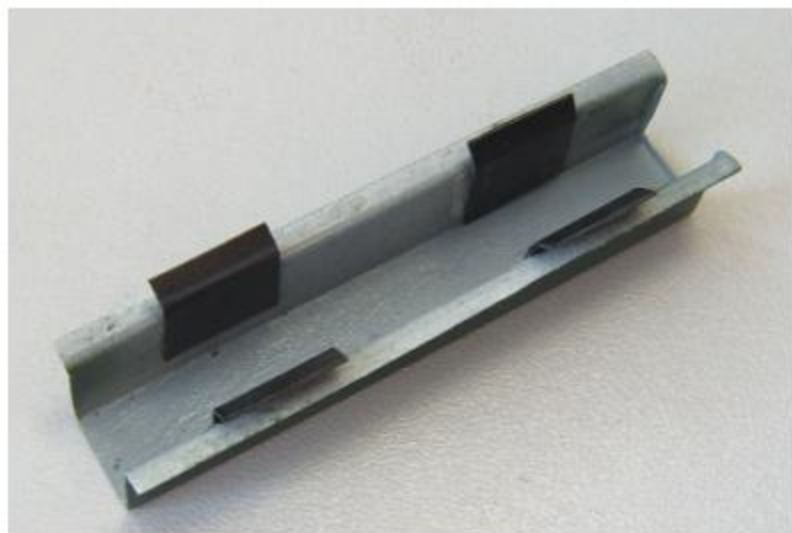
15) Connect extension cables and V cable.



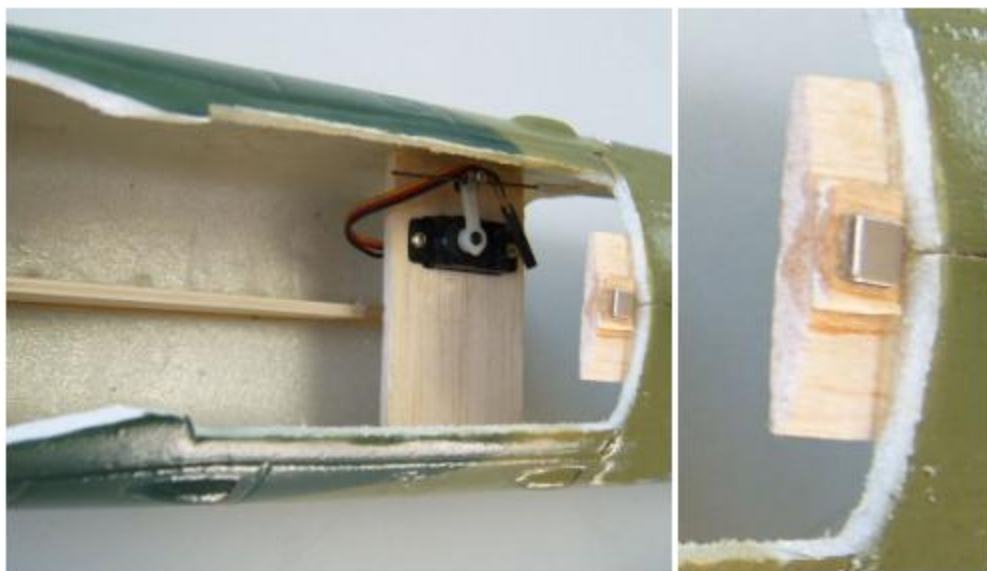
16) Install blower covers and glue ring covers of nacelles.



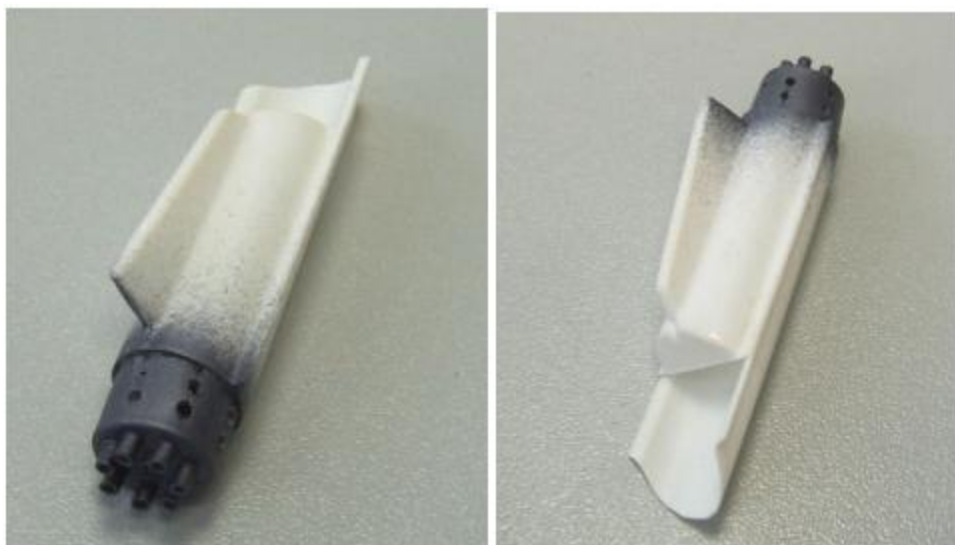
17) Cover for ventilation of regulators **30** between nacelles can be equipped with locks from PSH strips for access to regulators or can be glued firm.



- 18) Cut out a plate 10x40 mm from balsa **55** and glue it from inside to fuselage so that it would overlap edge of fuselage cut out by cca 10 mm. Glue a pad and magnet to overlapping surface so that the magnet **62** would be sunk below outside fuselage surface by cca 2 mm. Prepare a pad from balsa or PSH.



- 19) Assemble cannon from parts **32** and **34**, make holes in front section of part **32** and glue cannon barrels cut from bowden **67**.



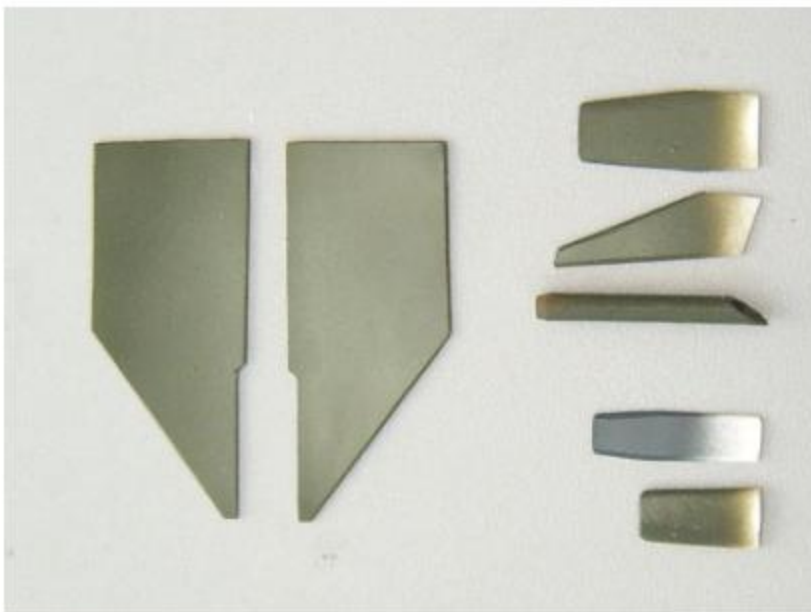
- 20) Glue cannon into fuselage. Make cutout in cannon cover and glue antenna post **12** in.



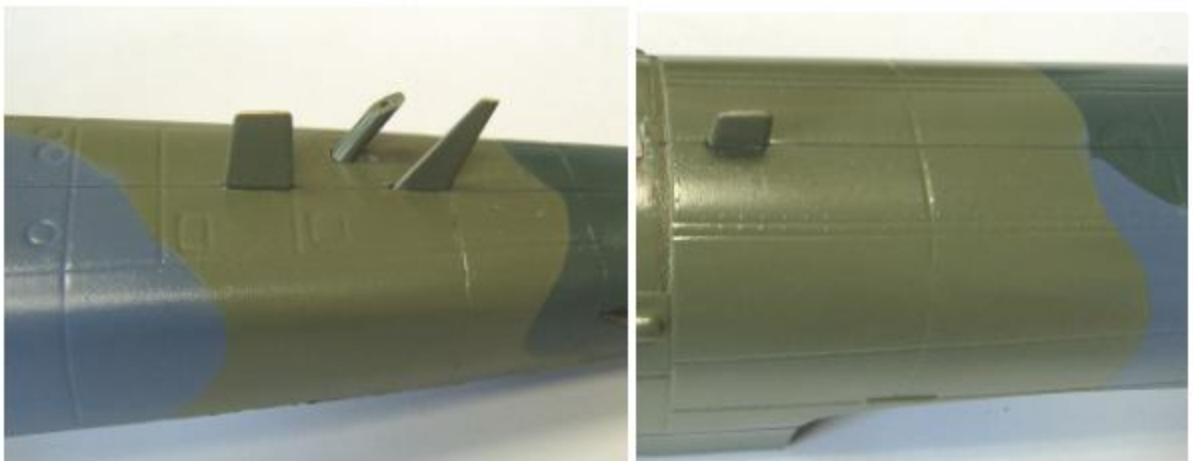
21) Assemble radar from parts **26**, **27** and glue it to fuselage. Radar body can be cut off and just its carrier installed.



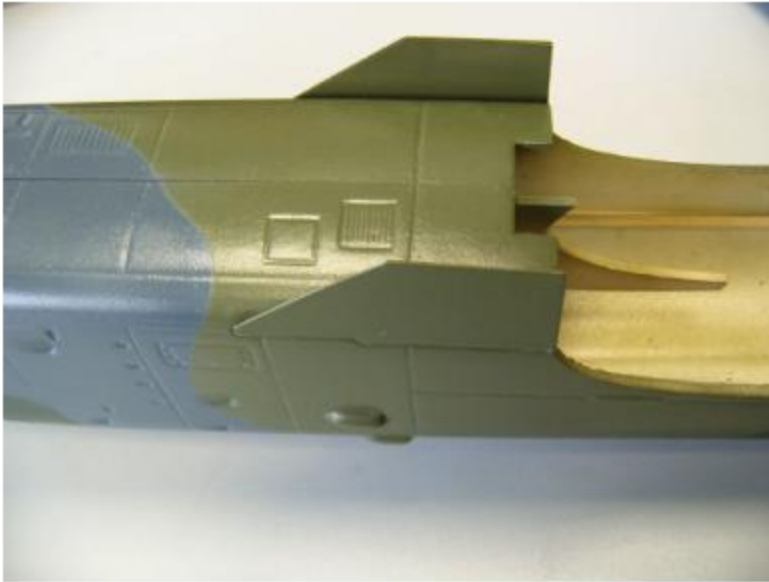
22) Assemble antennas from parts **12** and aerodynamic panel **13**.



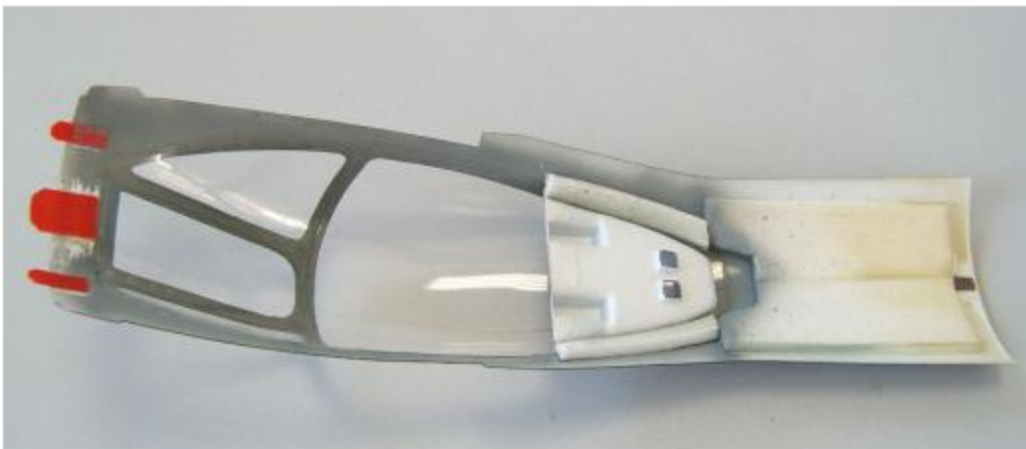
23) Stick antennas **12** in cut outs from below of rear part of fuselage and stick a tube prepared from rolled paper. Make a cut out in upper part of fuselage and stick antenna post **12** in.



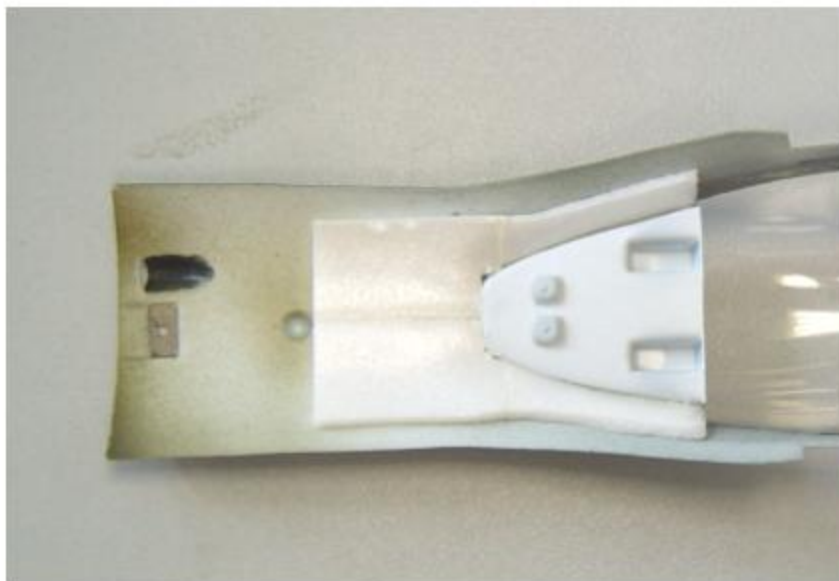
24) Assemble aerodynamic panels from parts **13** and stick them to extruded parts of fuselage.



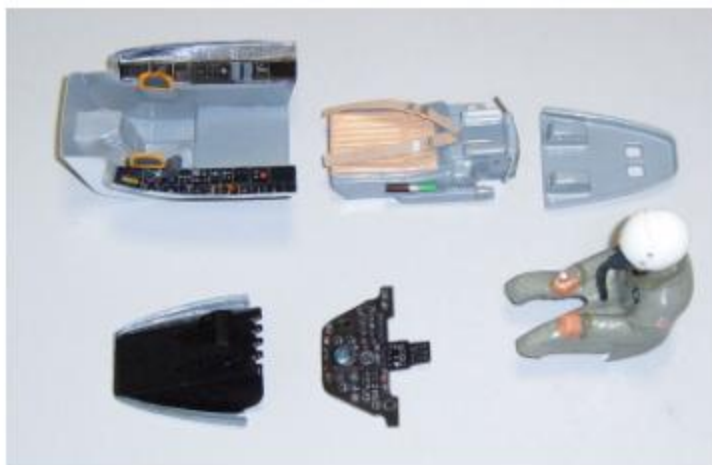
25) Assemble transparent canopy **24** with frame **25**, glue cut off part of fuselage from PP from below so that you would place part on fuselage, apply glue and put frame with canopy on. Glue 3 strips 10x25 mm from PSH to the front of canopy frame from below that secure canopy in front fuselage cover.



26) Stick metal sheet **63** to lower rear edge of canopy.



27) Set up pilot figure **23**, adjust instrument panel **28**, instrument panel cover **33**, cockpit interior **35** and pilot seat **31**. Apply instrument decals.



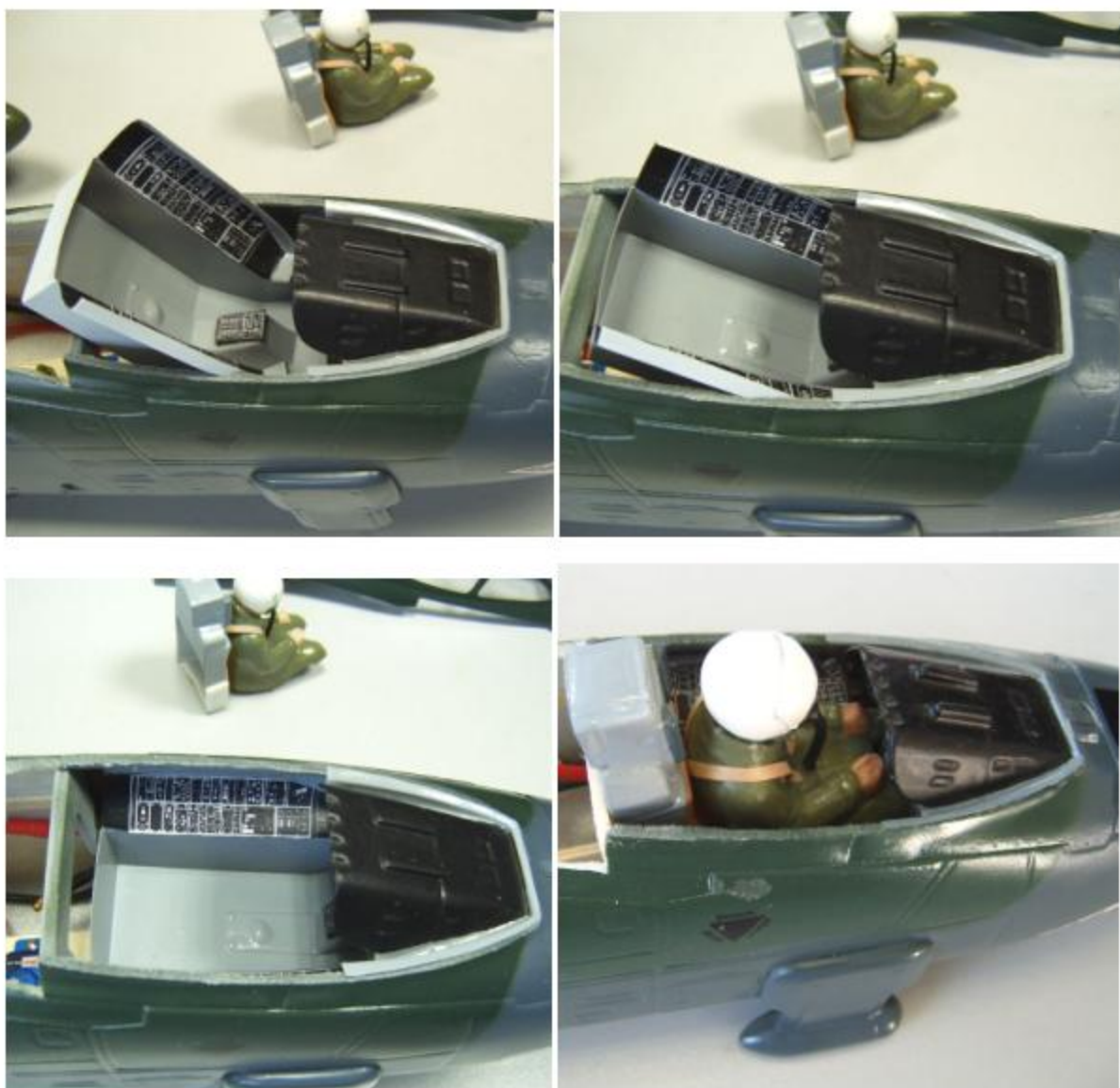
28) Stick pilot figure to the seat, infill rear part of seat with polystyrene strip glued in. You can prepare seat belts of pilot from paper strips and oxygen apparatus hose from spaghetti. The pilot has a white helmet, oxygen mask is dark grey, overall is grey-green.



29) Cut out and stick gunsight frame to instrument panel cover 29. Glue instrument panel cover 33 and instrument panel 28.



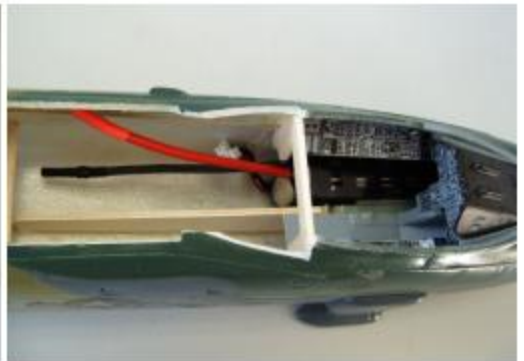
30) Cockpit interior, pilot and seat are just inserted in place without using any glue due to batteries replacement.



31) Try and/or modify cockpit insertion and its fixation by a magnet.



- 32) Try insertion of batteries, determine their position after assembly of complete model so that it would correspond to the center of gravity. There are two polystyrene bulkheads inserted in fuselage that would be glued when battery pack position is determined.



- 33) Stick bulkheads **53**, **54** to center-wing section **3**, glue 4 pins in openings of bulkheads **53** and **54** in center-wing section. When glue is dry stick bulkheads **53** and **54** in wings and check until glue is dry whether all parts fit in when wing ends are slipped on.



34) You can fly the model without landing gear (gear retracted) or with landing gear (gear extended). Choose one option.

35) **Version with landing gear retracted:**

Glue balsa plates in from inside of both gear nacelles **36** and make openings of 2 mm dia for wheel axles **52**.



36) Insert wheels **40** into shafts and insert wheel axles **52** without using glue. Glue nacelles to center-wing section **3**, do not interchange left and right nacelle. Cut off polystyrene in center-wing section **3** in position of wheel axle plates.

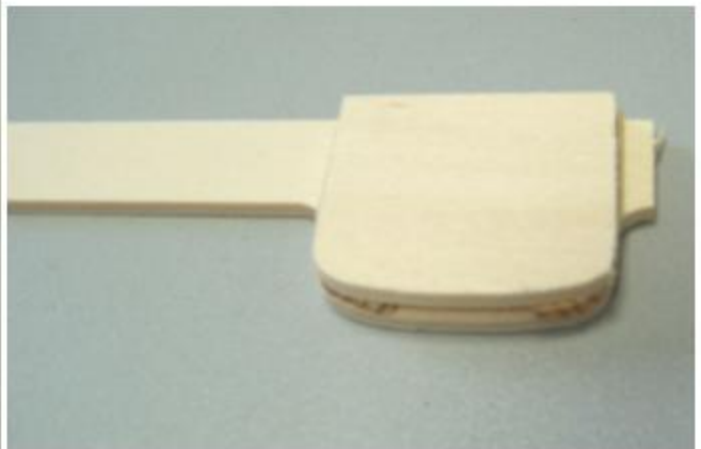
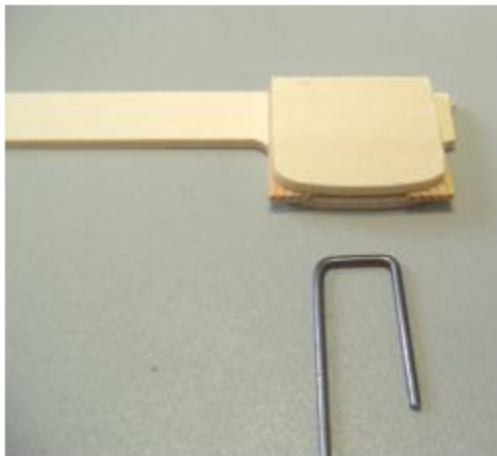
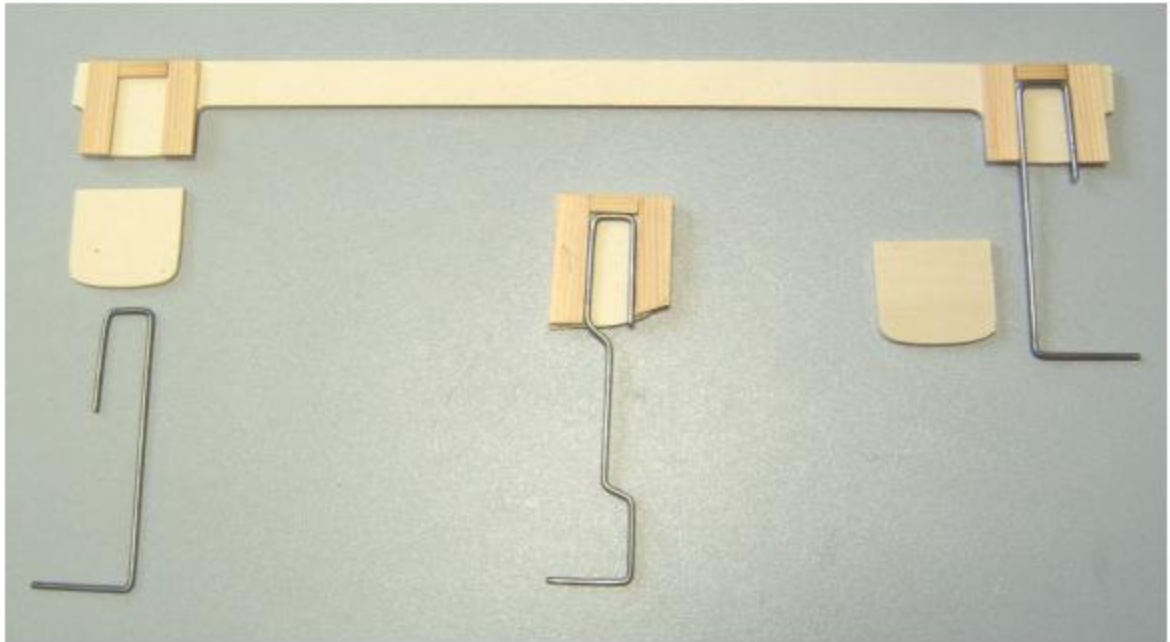


37) Stick aerodynamic panels **12** to leading edges of center-wing. Then proceed from point 42.



38) **Version with landing gear extended:**

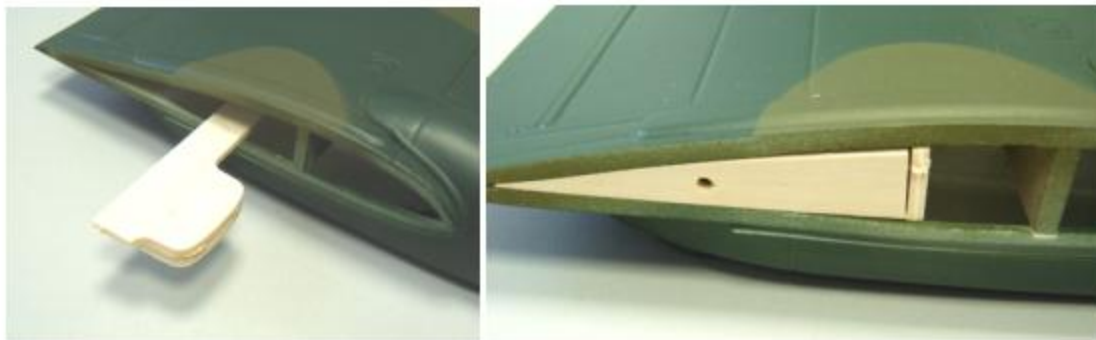
Glue lock of front gear leg from parts **60** and spruce plate **64**, glue locks of main gear from parts **48**, **59** and **64** so that steel wires of landing gear **49**, **50** could be tightly inserted into locks.



39) Stick lock of front gear in fuselage, cut out (open) doors of landing gear shaft. You can prepare inside walls of shaft from polystyrene plate.



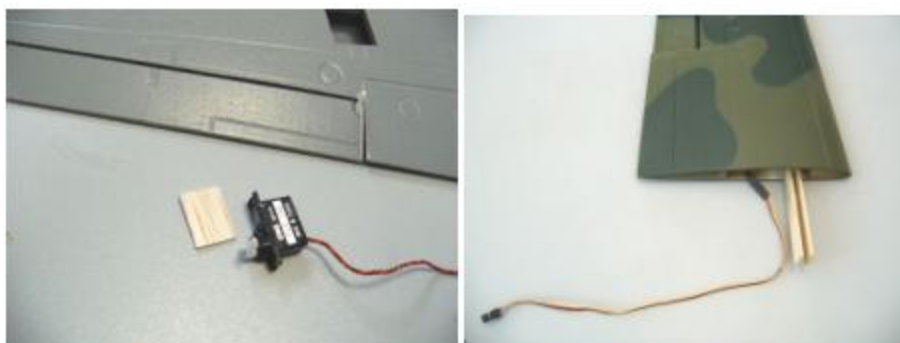
- 40) Stick assembled locks of landing gear legs to center-wing section, at the same time stick rear wedges **54** between center-wing coverings. Observe correct positions of locks.



- 41) Cut out doors of nacelle shafts and stick them to center-wing section. Stick aerodynamic panels on (see step 39).



- 42) Stick servos in frames **43**, connect extension cables and stick them into shafts in wings - run cables out of wings. Glue balsa pads between servo frames and shaft bottoms if necessary.



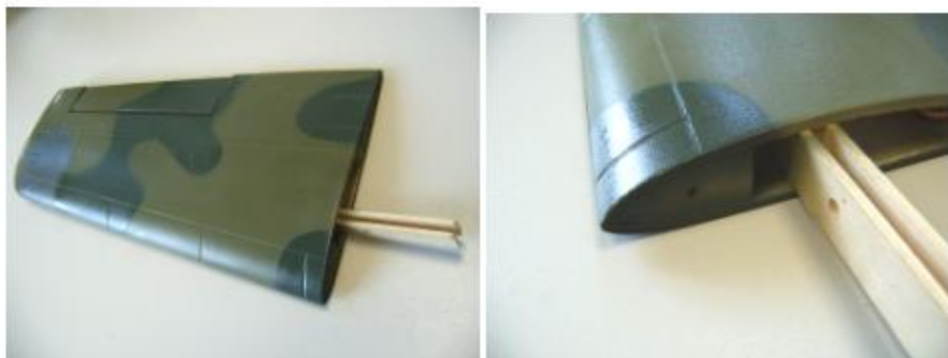
- 43) Glue micro levers **61** in aileron cutouts. Stick covers of servos **14**, observe correct cutouts in covers for free servo levers movement. Make connection rods from steel wires **66** and connect servo levers with micro levers.



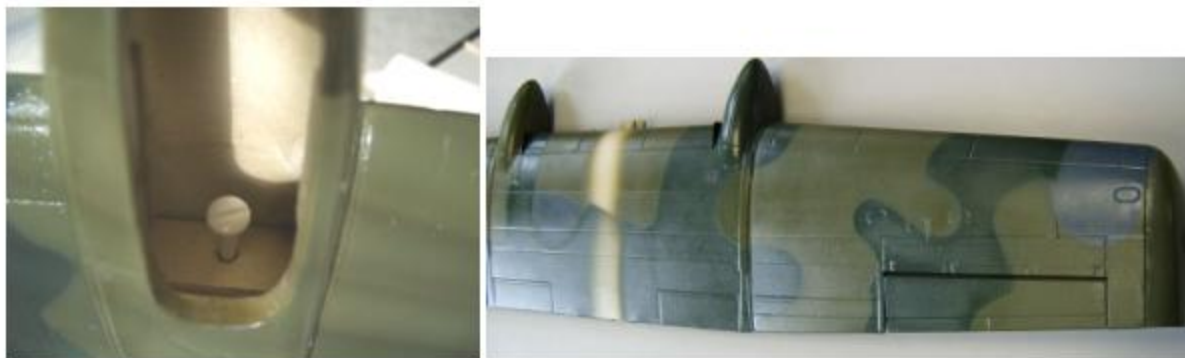
44) Stick nuts **45** into plates **46** and stick them on wing spars **44**.



45) Insert spars and stick them to balsa spar in wings, glued plates with nuts shall be at the rear towards wing trailing edge.



46) Connect wings with center-wing section, screw them with screws **45** by landing gear shafts, do not forget to run wing servo cables into center-wing section. This operation can be made during final model assembly. You can fasten wings with center-wing section firmly if you do not need removable wings.



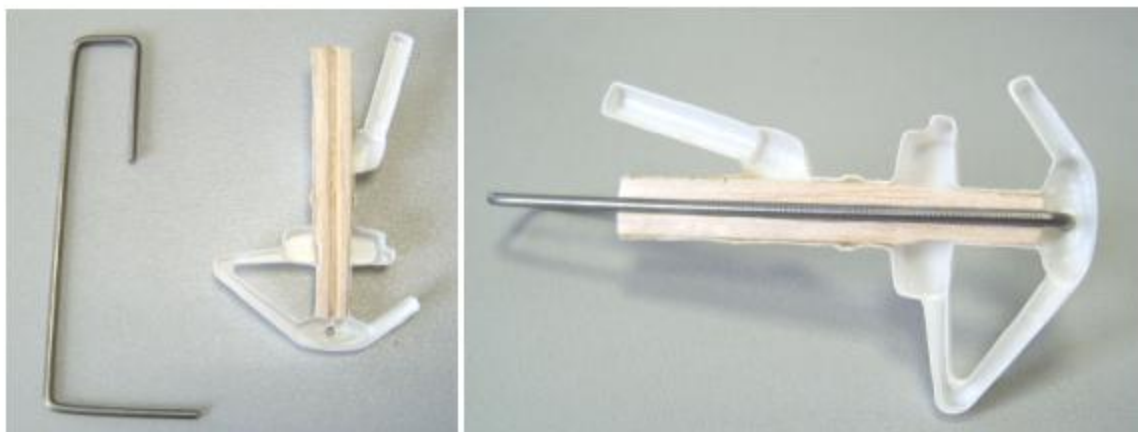
47) Glue bulkhead **42** into fuselage and install servo for elevator. Run steel wire (link) through bowdenns. At the same time modify both ends of bowdenn in position of connection of both parts **1** and **2** of fuselage.



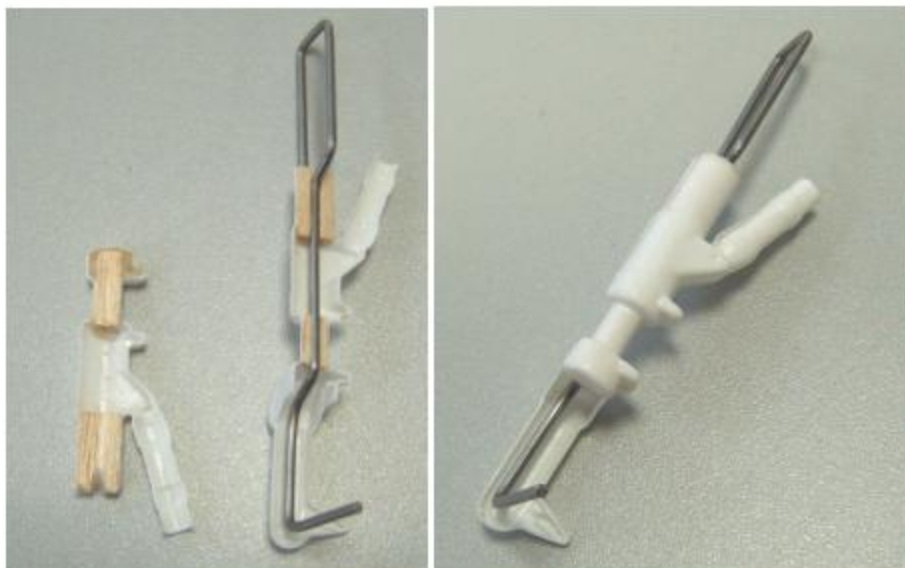
- 48) Connect the link with micro lever **61** at elevator **6** and with servo in fuselage. ATTENTION! Elevator shall not have clearance due to partial blowing by blowers!!



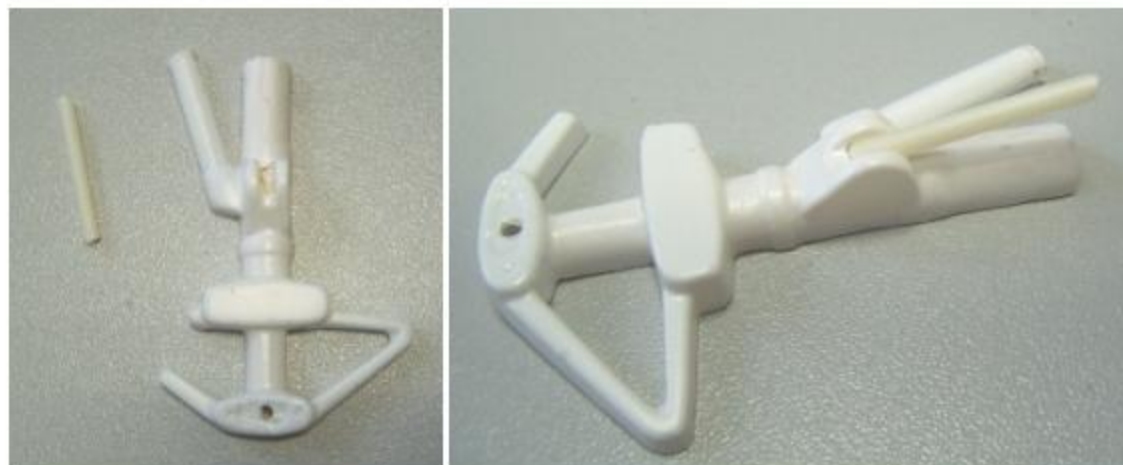
- 49) Stick ground balsa plates **65** to both halves of landing gear legs **16** and prepare grooves for steel wire **50** in them. Make hole of 2 mm dia in marked positions of both moldings for shaft 50 insertion. Glue steel landing gear legs **50** in grooves, glue both parts together.



- 50) Assemble front landing gear leg in the same way **15,49,65**.



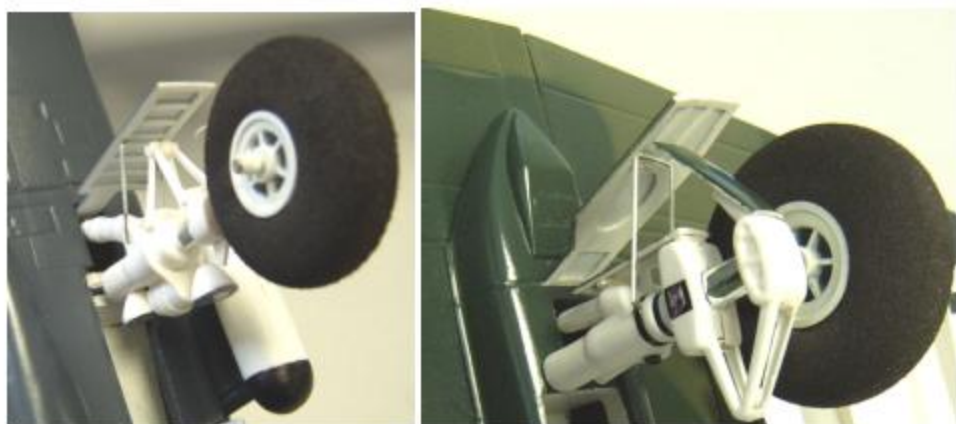
5f) Stick links from bowden to main landing gear legs, install wheels **40** on shafts and secure them with spaghetti. Stick small parts **17** of front landing gear leg in, install wheel.



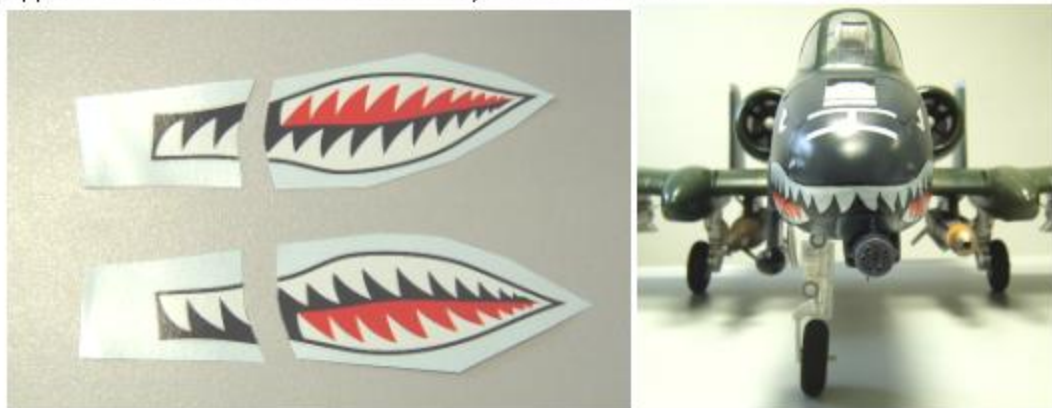
- 52) Insert landing gear to locks and stick partial doors of shafts **10** and **11** to landing gear legs. Inside parts of doors can be provided with details cut from PSH plate. Coloring - gear shafts, legs and inside walls of doors are white.



- 53) Stick doors of landing gear shafts to shafts. Door braces can be made from steel wire.



- 54) Application of decals before model assembly is recommended.







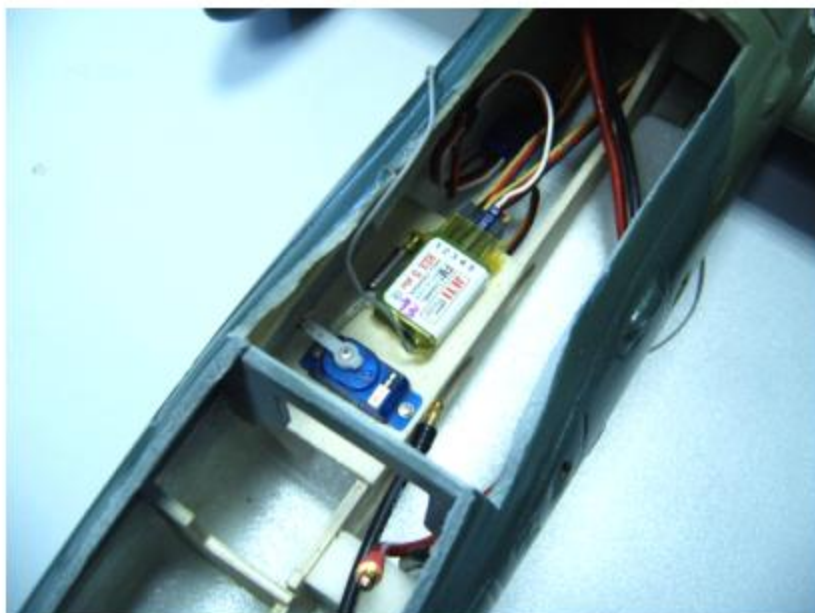
55) Stick nacelles in fuselage, run cables into fuselage at the same time and/or modify contact surfaces to fit.



56) Stick center-wing section into fuselage cutout, glue plastic fairings **19** fuselage -- center-wing section.



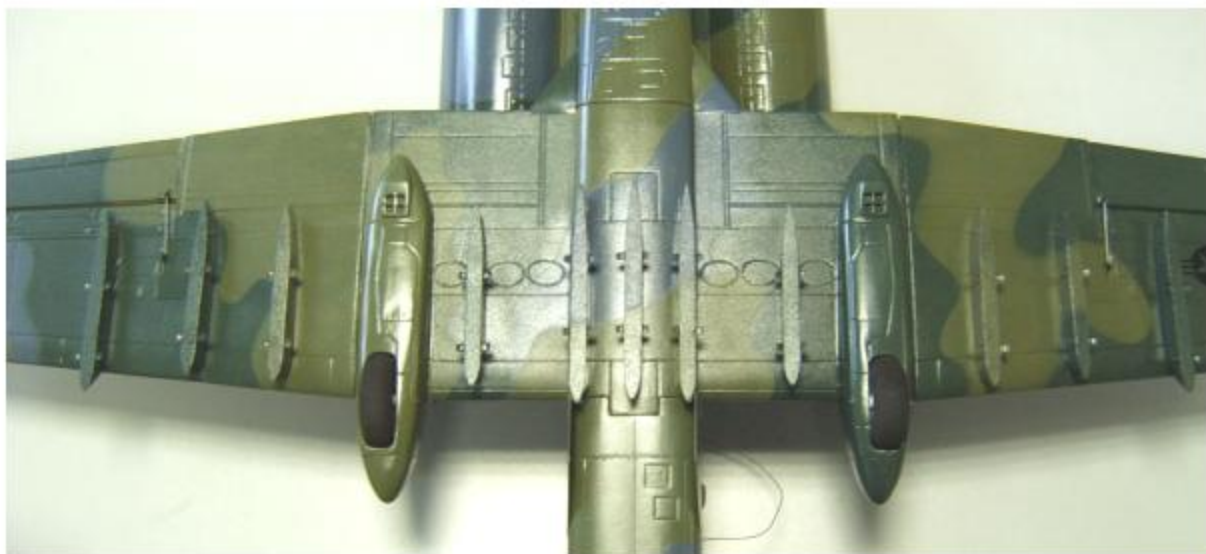
57) Attach receiver to bulkhead **42** in fuselage, screw wing ends, connect cables of servos and regulators to receiver. Insert battery and adjust **center of gravity by its movement - 45 mm from leading edge of center-wing section.**



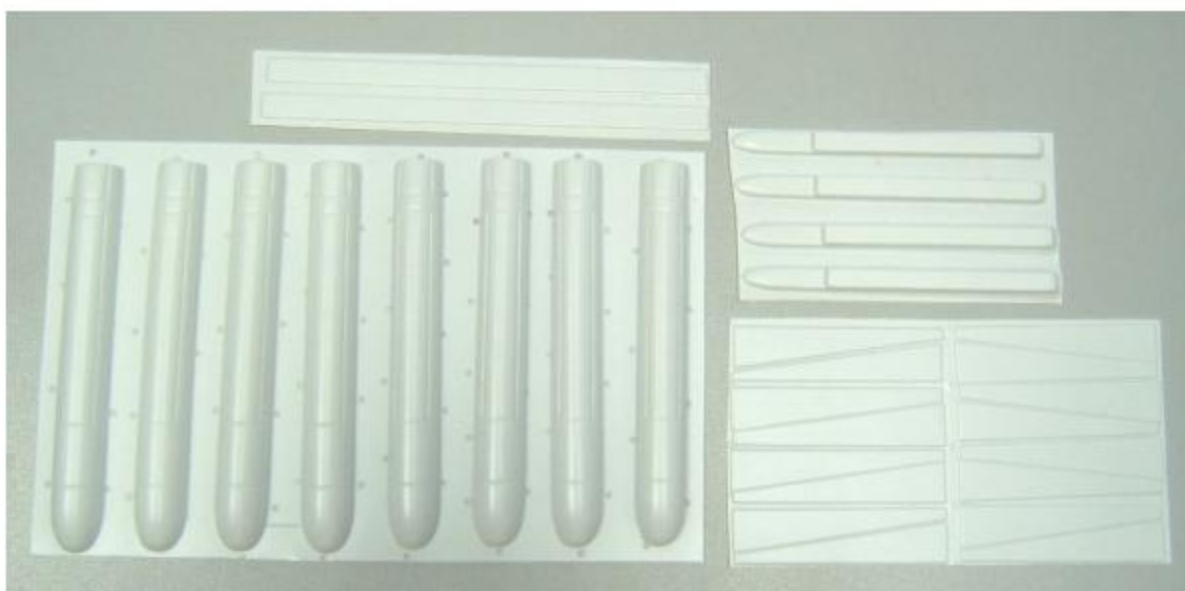
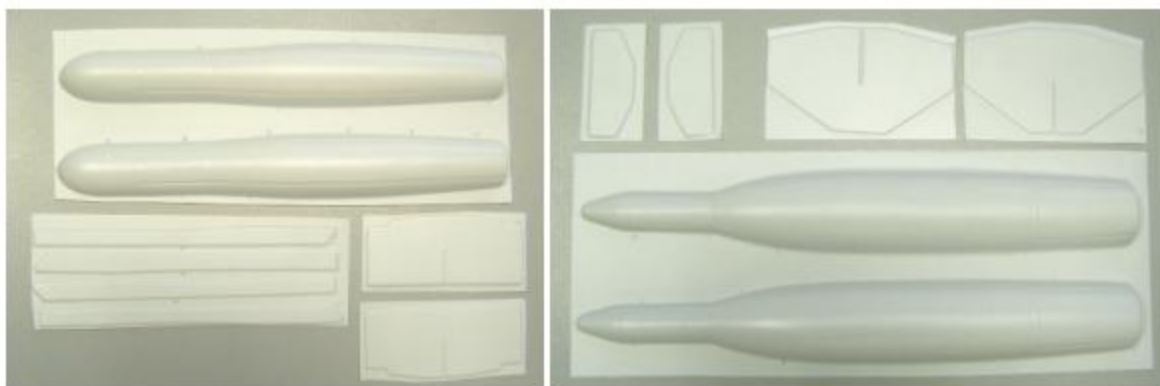
58) Cut infilling to rocket carriers **20, 21** from PP plate and stick them in. Prepare notches for rockets insertion in them.



- 59) Stick carriers to lower side of wings and center-wing section so that they would correspond to color surfaces of wings and center-wing section.



- 60) Winglets layout of individual rockets 37.



61) Assemble rockets, make cutouts in them, stick PSH plates in them for their insertion into carriers. Coloring - smallest rockets (Maverick) are white, front side is silver, black strip between winglets on periphery. Big rockets are khaki, rocket with rounded tip has silver front part with yellow strip.



62) Insert rockets into carrier cutouts without using glue, they can release during landing and do not damage carriers or wings.



63) Complete instructions with further color images can be found on our websites www.flyingstyrokit.cz

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