HIGH-END TECHNOLOGY RC
Mig 21 for electric ducted fan

First we want to thank and congratulate you with your decision in buying one of our Kits.

The MIG 21 puts together very easily so there is not much explanation needed.
Just look carefully at the pictures .
This in not a plane for beginners, and you should have some experience with putting together ARFs.

DATA:

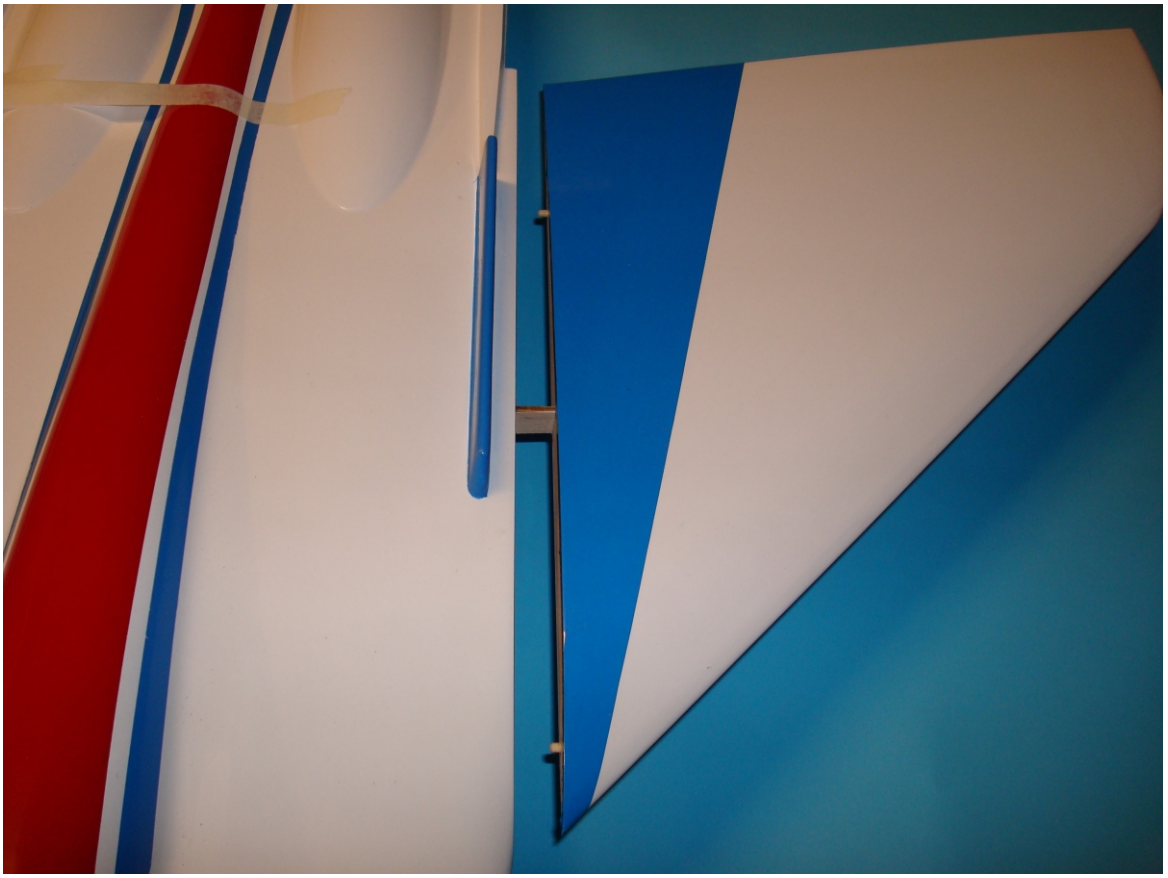
Winspan: 590 mm
Length: 1190 mm
Weight: 1300-1600 gram
Ducted fans 1 x 72mm

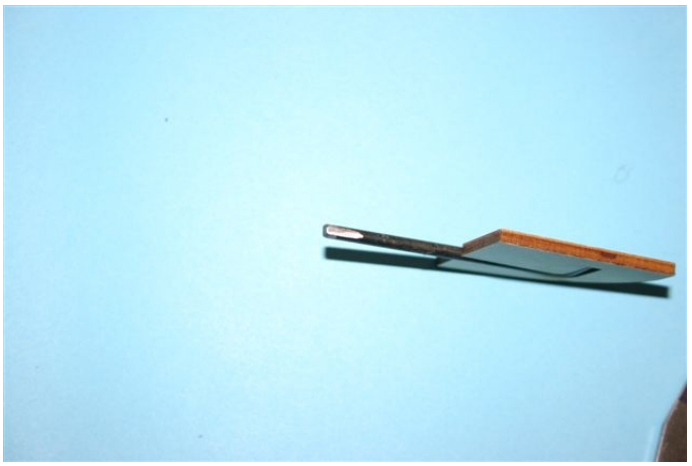
Items needed to complete:.

4 ch. Computer Radio system w/ 2 servos.
1 Electronic brushless speed controllers (HETESC65 or 75)
1 fan-unit 6904 HETFAN
1 480 size brushless motors e.g. EDF 2W20 or 2w23
Lipo battery
5 or 30 minute epoxy
micro balloons
CA Glue w/ accelerator
Velcro.

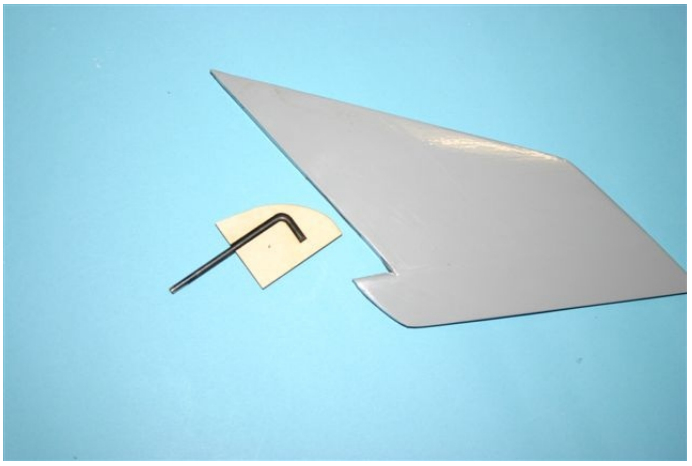
Standard tools:
Drill or Dremel tool
Plyer/cutter
Scissor
X acto Knife
Soldering iron.

In this manual images of our F15/mig29 are mixed, so don't get confused as the build up is identical.
Fit the hardwood wing joiner in the fuselage and wing and see if the wing fit nicely.
Drill small (1mm) holes in the wing root rib and the fuselage root (see above pictures) This for a better joint, the epoxy will go in the small holes
Start by gluing one wing panel with 5 or 30 minute epoxy. First apply some epoxy inside the wing joiner slot in the fuselage. Press the wing joiner inside the fuselage.
Remove excess epoxy. Now apply epoxy in the wing joiner slot in the wing root and also apply epoxy on the wing root. Slide the wing over the hard wood wing joiner and press the wing against the fuselage. Make the leading- and trailing edge align with the fuselage. Remove the excess epoxy with a clean cloth and cleaning alcohol.
When the epoxy has cured you can do the other wing panel the same way.



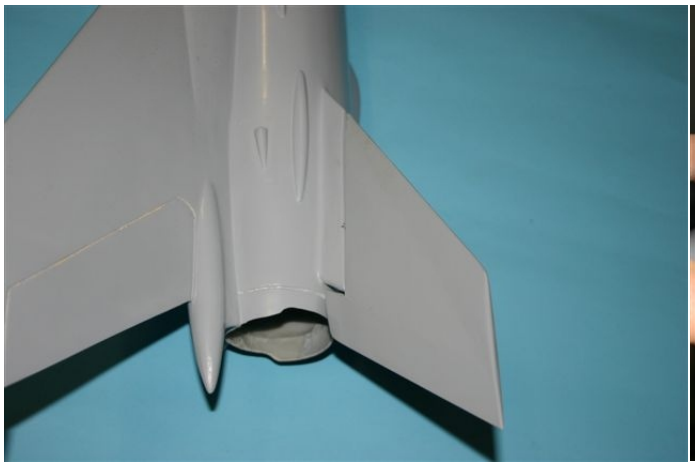


Note the flat side on the pivot-rod, you have to make it little bit bigger with a grinder.

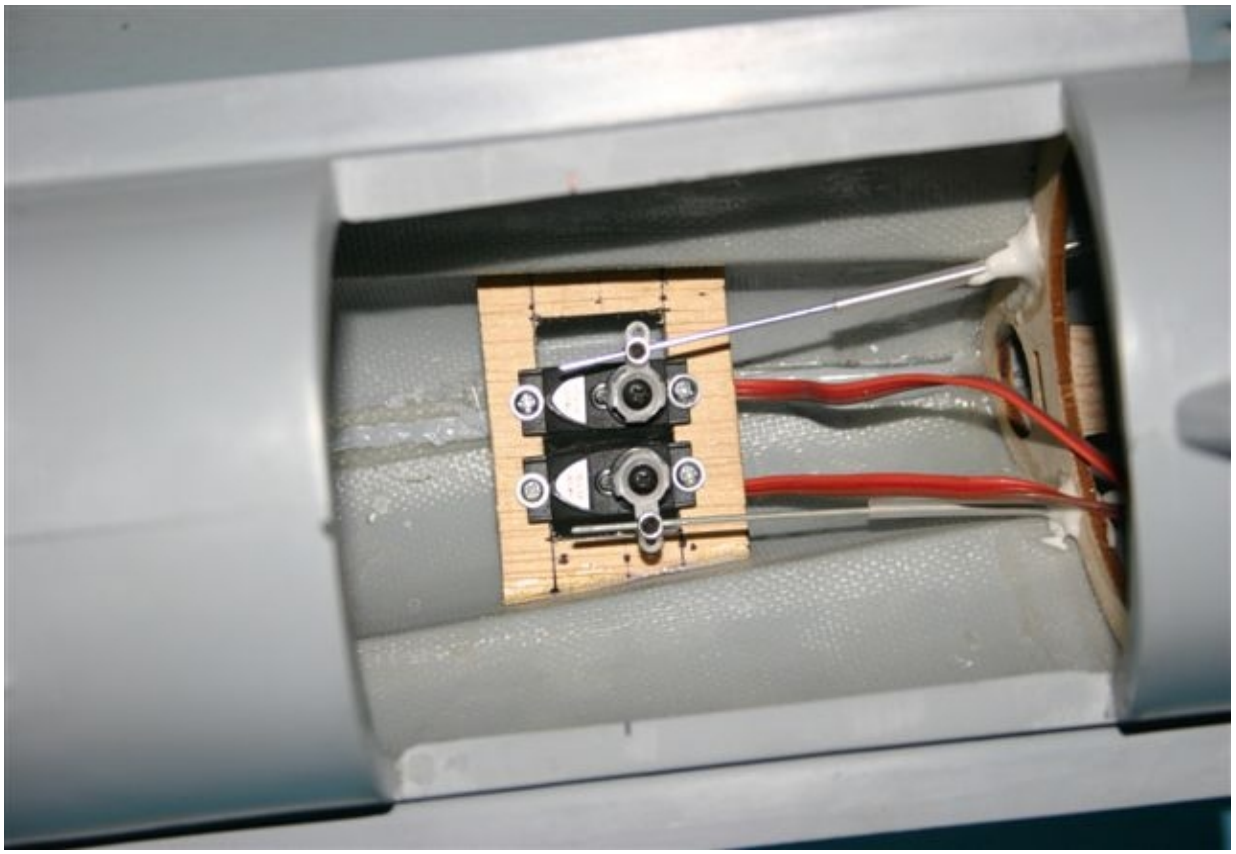


Pivot-rood with plywood insert, glue this inside the stabilizer with 5 minute epoxy..

Mark the position for the Pivot-tube (2 4 mm brass tubes one for each side) 40 mm from the end of the fuselage fairing. Drill the hole in the middle. Drill a little oversized hole in the middle at the marked location. We recommend a 5 mm hole. Wait before you glue the pivot tube in place.



Before you glue the Pivot tube in the fuselage with 5 minute epoxy put tape around the root of the Elevon. And also put tape over the fuselage side. Glue one pivot tube at the time, and check the alignment. Notice the control-horn top hole is trimmed off. The horn is pointing down.



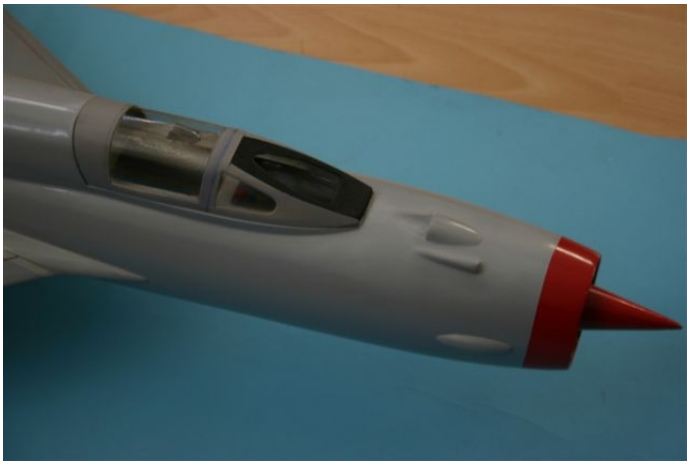
Mark the location of the control horn just behind the pivot hole, also mark the surface. Trim the tab to approximately the same thickness as the elevon. Cut a slot as in the picture for the control horn. Notice the Bowden tubes in both pictures

The Bowden tubes are glued on both sides of the fuselages with some tabs of mixed 5 minute epoxy and micro-balloons

Get the canopy bottom , front and the back plate , place on the fuselage . secure the bottom plate with some tape. Now glue the back plate to plywood canopy bottom. Paint the canopy frame grey.

Trim the front, back and bottom edges from the ABS canopy now align it an tape it on the fuselage. Look at the above left picture how the canopy is cut like our mig 29

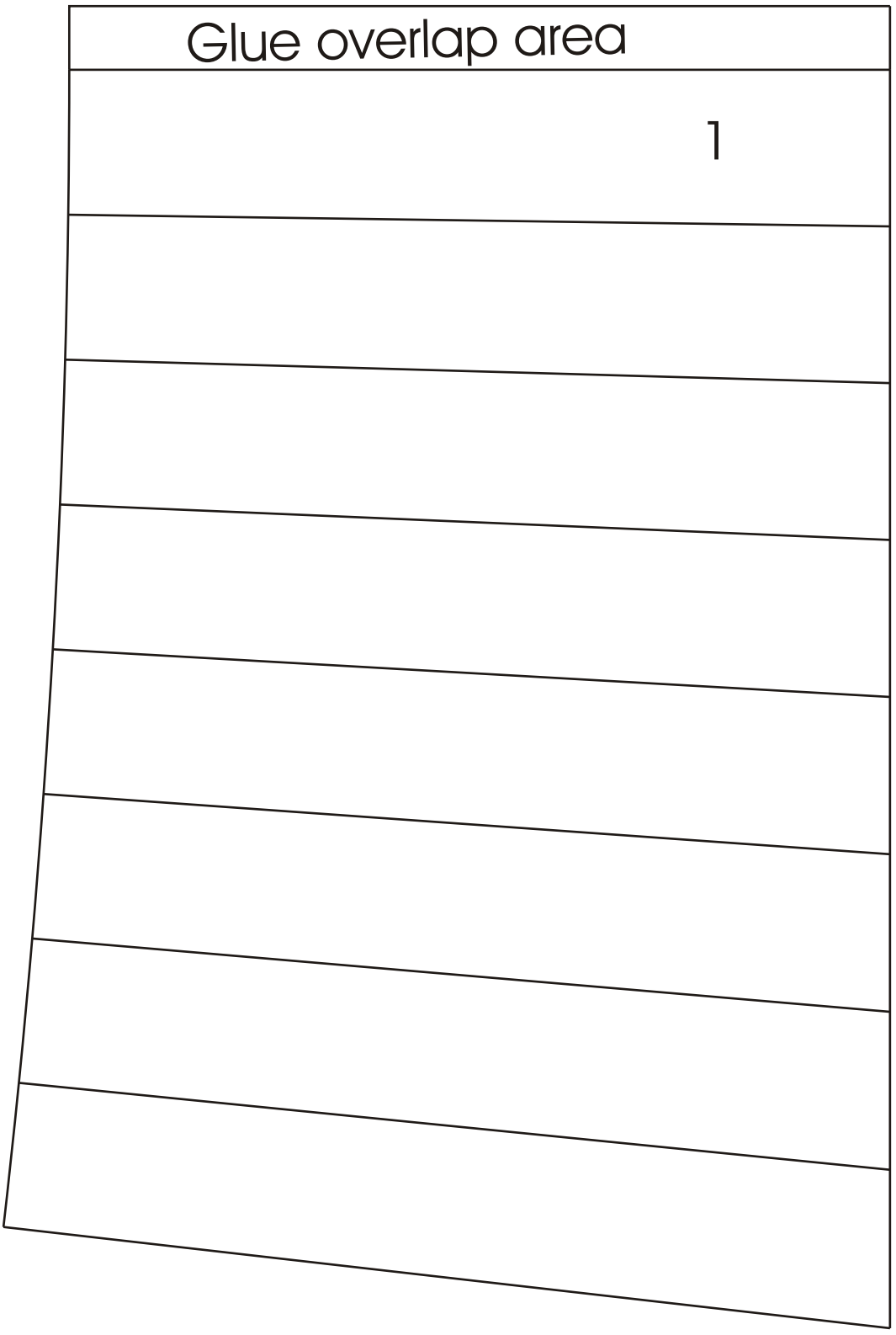
Put masking tape around the frame line on the canopy and spray paint the top. After removing the masking tape your cockpit should look like this (our F104).



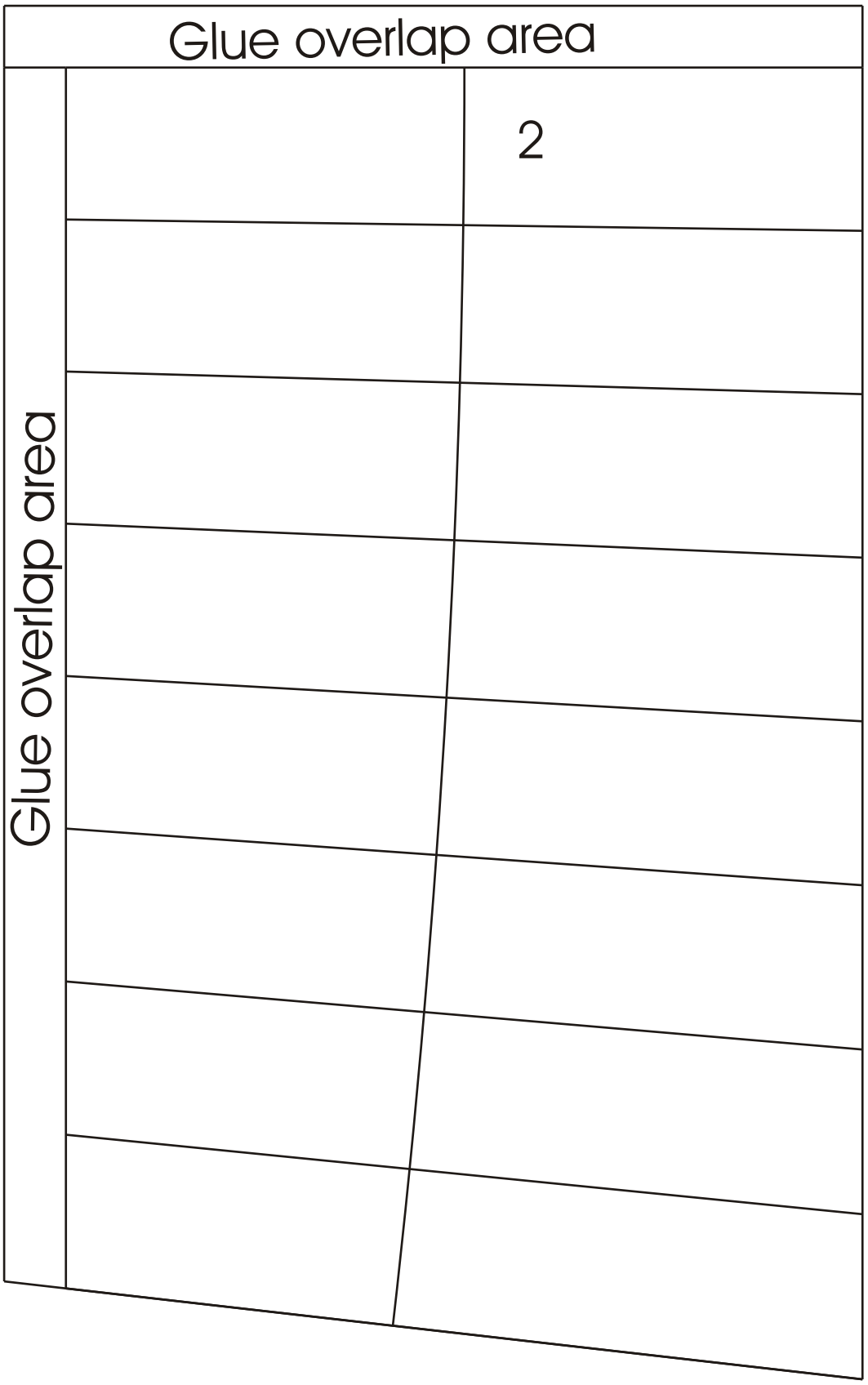
When you have finished the painting u can cut out either the front window or all 3 front window. This will act as an extra intake. You can also or instead of, cut cheater-holes under de fuselage Under the wing root on both sides 1 round hole 20 mm diameter.

End template

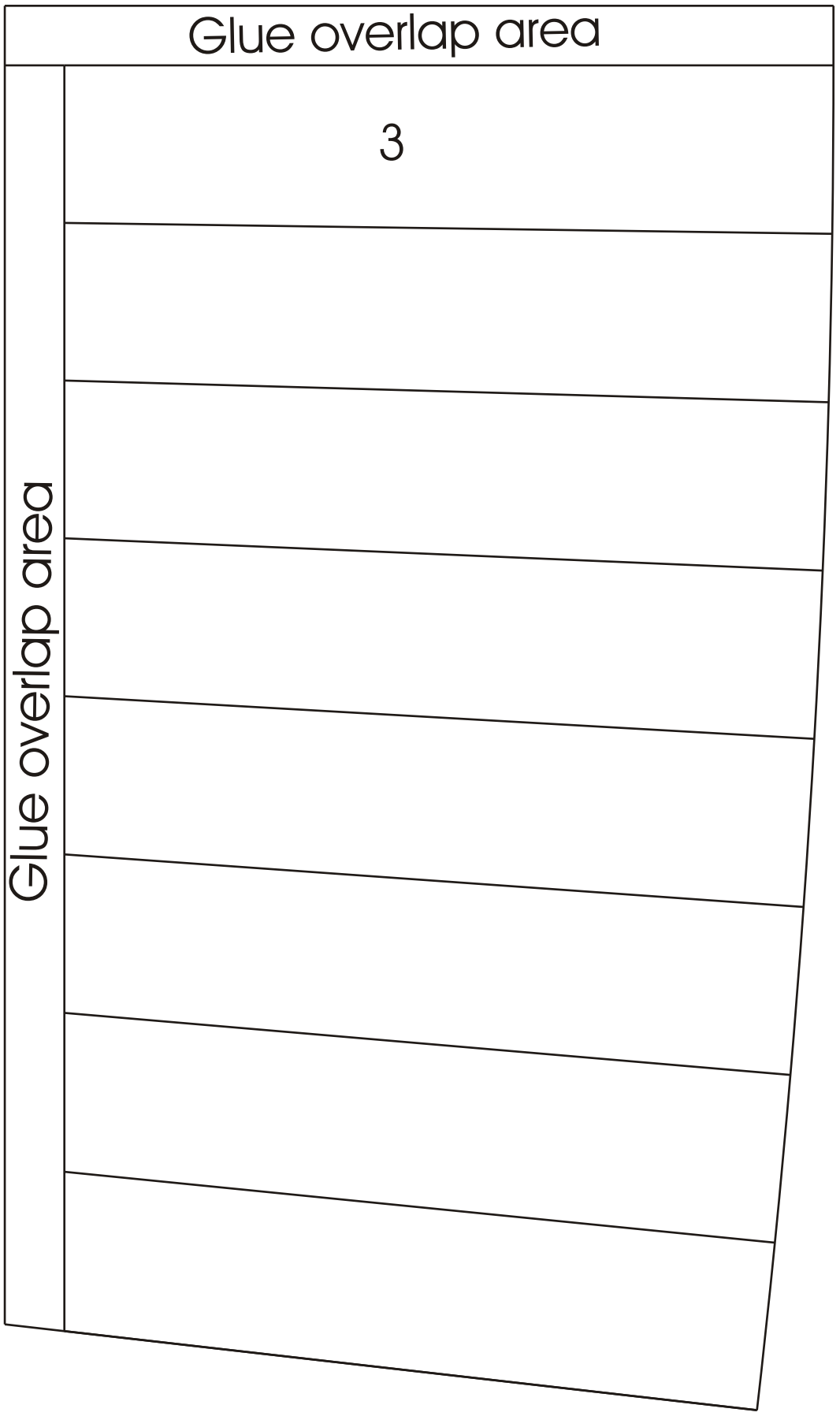
Trusttube
template

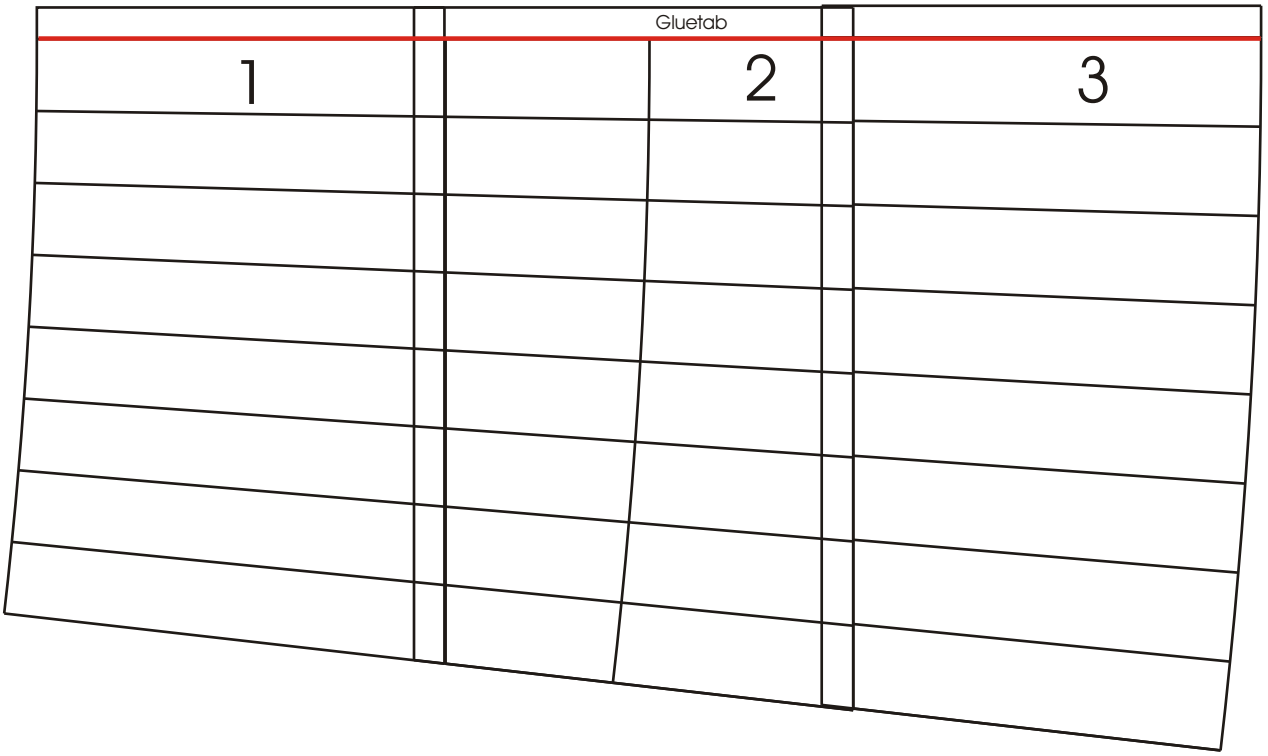


Middle template

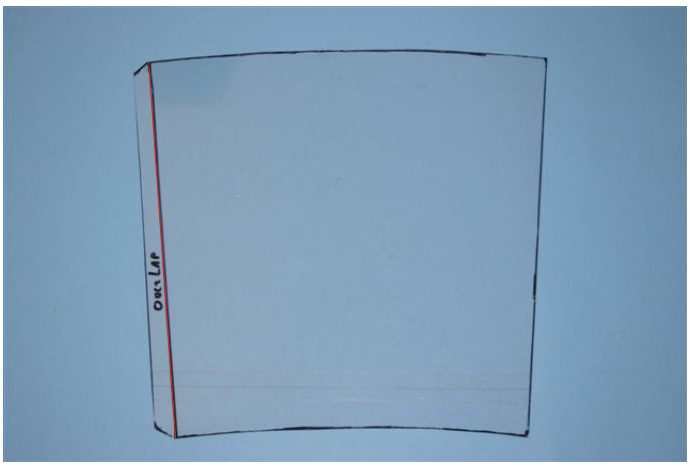


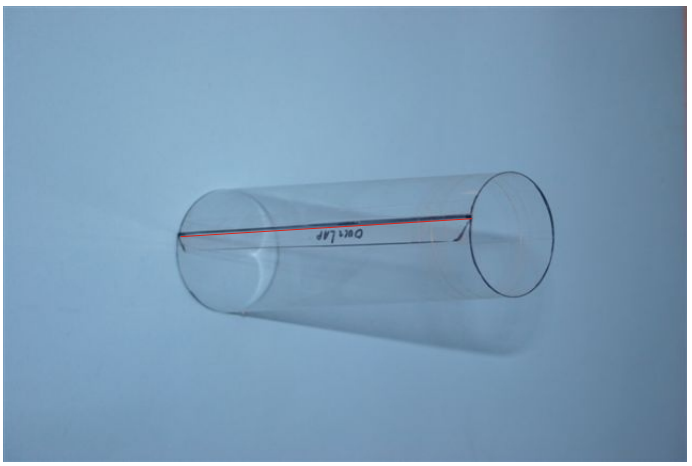
Begin template fan-unit side





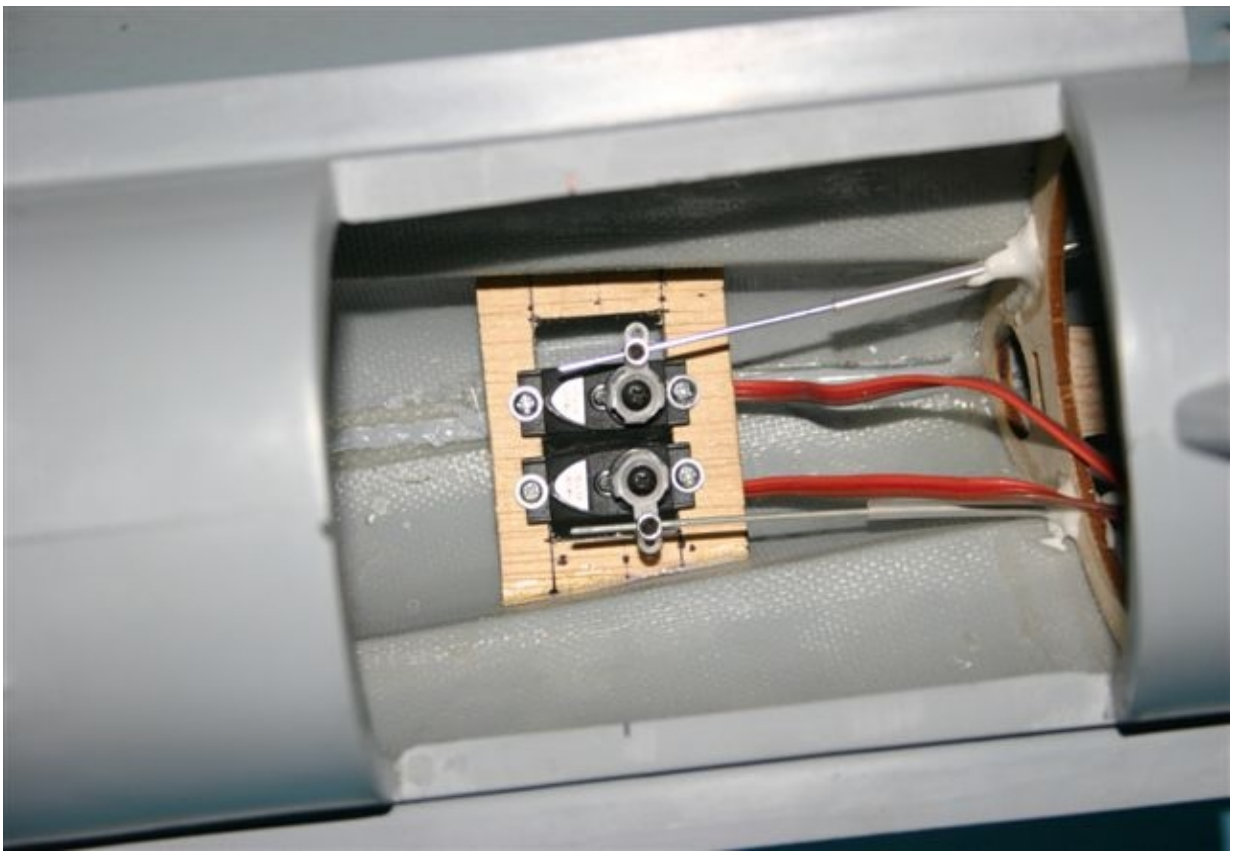
Glue the 3 templates togetther like above drawing
Place the template under the supplied pvc sheet and trace the outline with a marker.



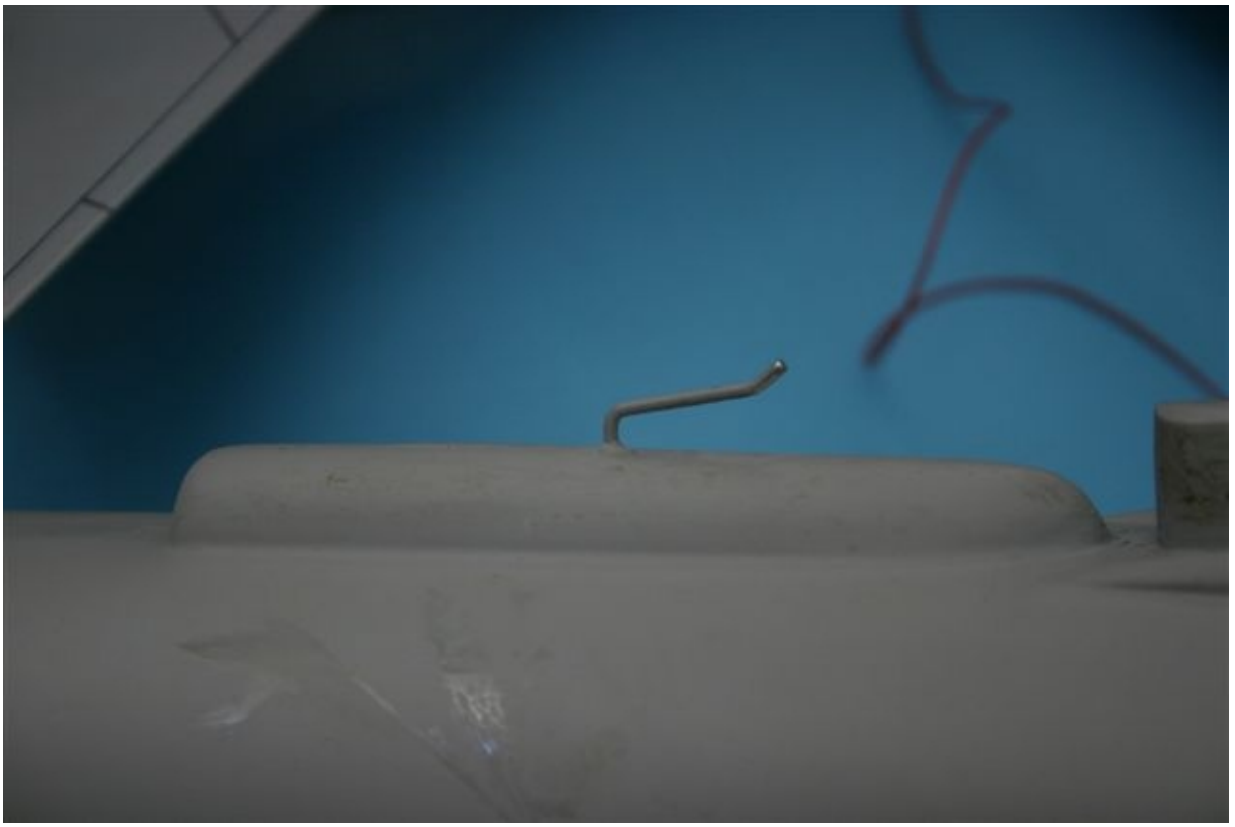


Cut out the unrolled surface for both trust tubes. Put the ovelap area inside. Roll the pvc to a tube and apply outside adhesive tape. The Edge should match the innerline of the overlap area. Now you have a perfect conical trust tube.

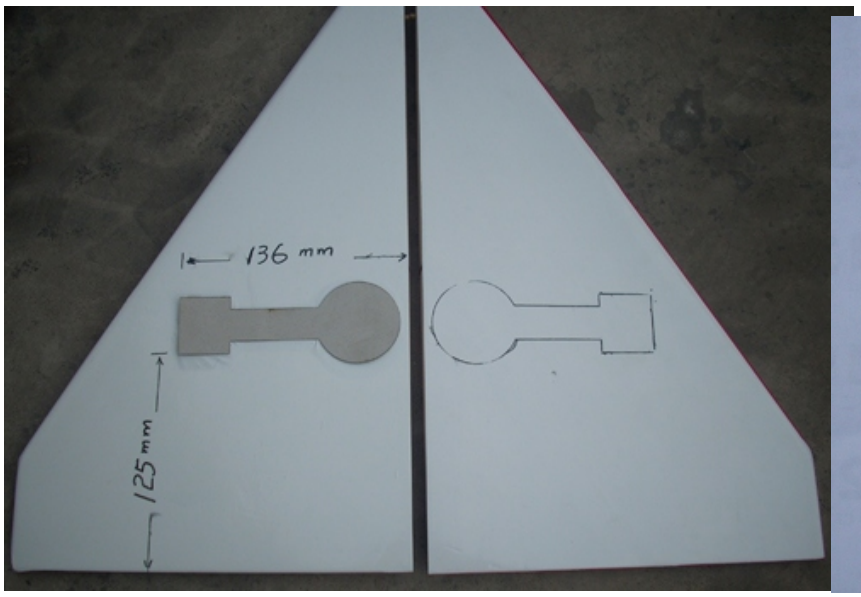
Read the installation instruction from your fan-unit first. Install motor and ESC first. You can either install the ESC inside the thrust tube or outside. We recommend to place the ESC behind the motor inside the thrust tube.

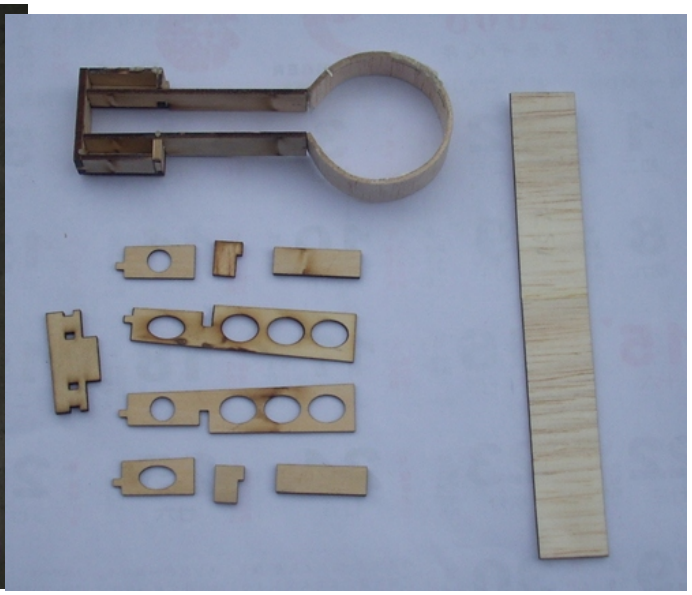


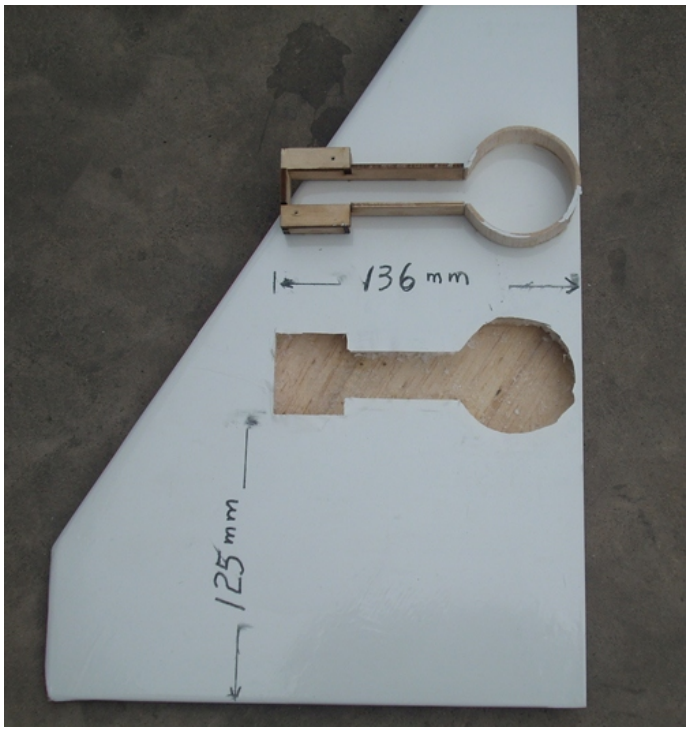
A 4 channel micro receiver can be attached to the top of the fuselage with Velcro. After the servos

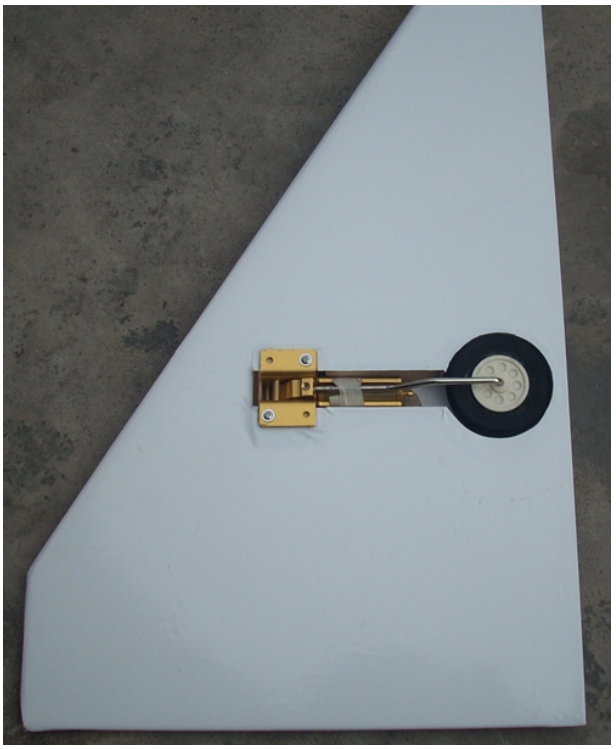


For the installation of the bungee hook , look at the above picture.
First glue in the bump the supplied hardwood block 20 x15 x 10 mm with 5 minute epoxy
Make sure all edges and the bottom is covered with epoxy.
Than drill a 2 mm hole for the hook. Glue the bungee hook in with 5 minute epoxy.









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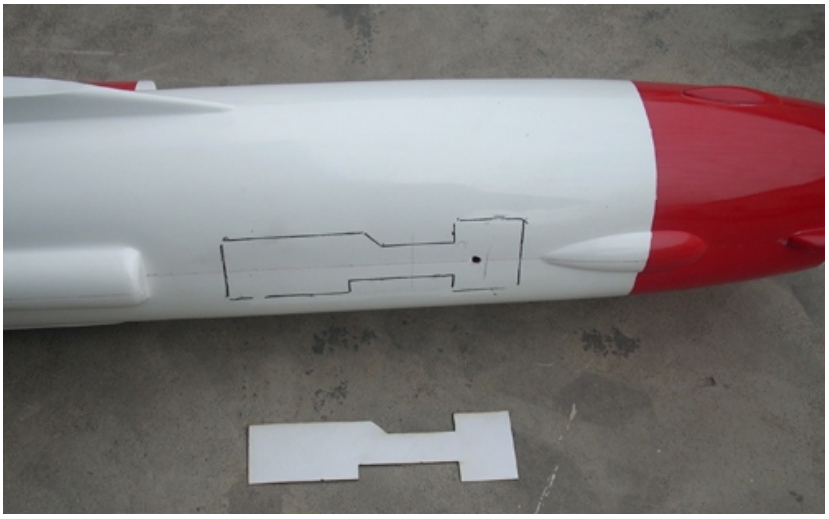
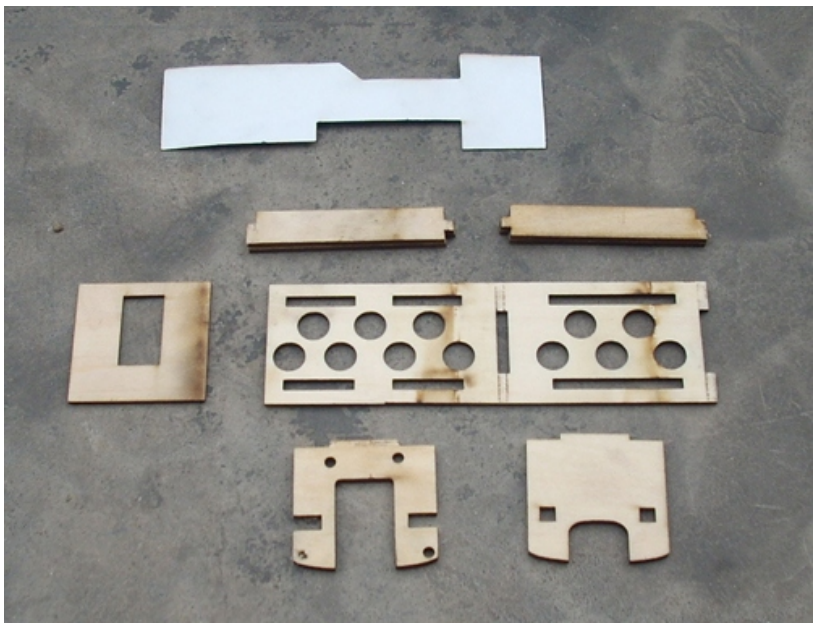
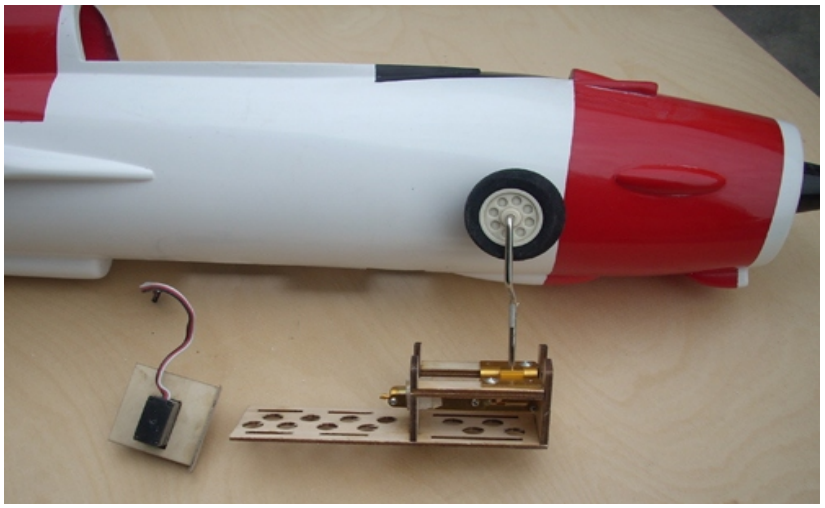
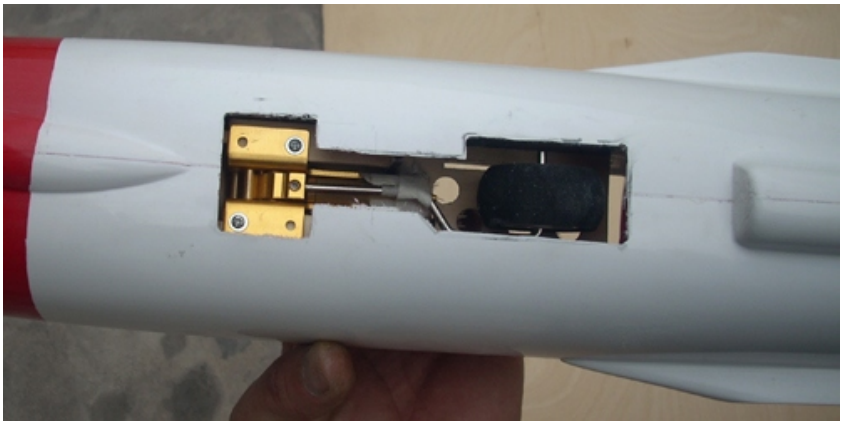
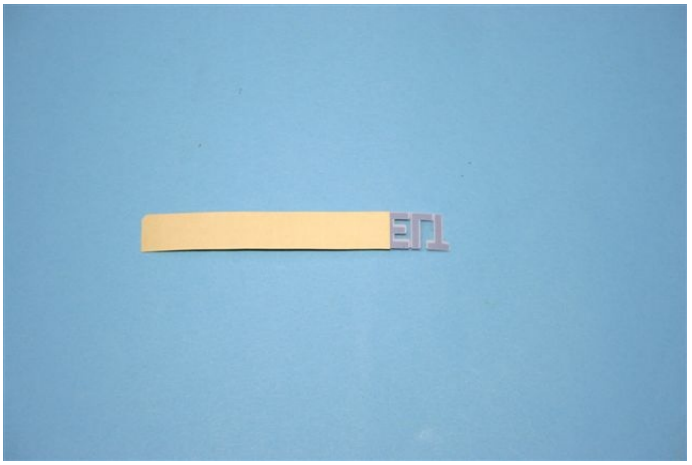








This page shows you how to apply decals (our phantom is shown here)



Cut the decal from the decal sheet leave the protective back on the decal. Trim of 10 mm from the protective back.

Line out the decal on the area where you want to put the decal. Press the adhesive part. Check if the decal is ligned out and remove the rest of the protective back.

Do this for all the decals

Settings:

C.G. 240 mm from the **TRAILING EDGE** of the wing.
Elevator throws 10 mm up 10mm down. Use 50% exponential
Ailerons throws 10 mm up 10 mm down. Use 50% exponential.

First Flight.

Use a bungee to start the plane. Before start is good to use some up trim. After start level the plane don't attempt to turn, climb and trim the plane. The mig 21 can be flown very slow with a high AOT But never make turns with a high angle of attack (nose high position) You risk to drop a wing.

You will find the airplane is very nimble but has excellent stability. Loops and snap rolls are easily obtained with adequate entry speeds.. **Just remember to land level; as to avoid damage to the plane** . Happy Flying.

WARNING!

Although the Mig 21 is a stable airplane, it is not a trainer or first EDF airplane. This airplane is capable of very high speeds and therefore can cause serious personal injury and property damage. We strongly urge you to seek the help of an AMA approved instructor if this is your first aircraft of this type. Please use common sense

Fly in suitable areas for a high-speed aircraft such as an AMA approved field.

High-end Technology Holland assumes no liability for the operation or performance of this product. It is the responsibility of the operator to use this product in a safe and responsible manner.