



Building instructions

Please read slowly and carefully!

Thank you for purchasing this kit. It was designed to be an extremely aerobatic and agile indoor (or light wind outdoor) model, optimized for the Aeromusicals category and radical unlimited 3D.

Please refer to the Diagram Sheet while building this model.

You will note, that this time we have made all the necessary cuts for you – no more uncertainty over placement of components. Hole for the rudder servo is prepared for Waypoint 060, BMS 306 or similar sized servos. If you intend to use different type, customize the hole to your particular servo.

Note: Gluing Depron – there are several different types of glue available. One of them is foam friendly (“styro”) CA (Cyanoacrylate). The CA is often used, admittedly making the parts joint somewhat fragile. Our preferred option is contact glue - one brand tested to satisfaction is foam UHU-Por. You have to apply the glue on both parts (one trick is to apply more of it to one glued part and to “stamp” this part to the other one to transfer some of the glue) and wait about 5 minutes, until the glue is almost dry (yet still a bit tacky), then stick the parts firmly together. You have to be precise; once glued, the parts are very difficult to take apart, such attempt sometimes resulting in damage to one or both of them.

Sometimes polyurethane glue is used where extra strength is required. One such brand is Purex (available in the Czech republic; equivalents should not be difficult to find). Servos can be also very well glued in by a hot glue.

Any new kind of glue should be always tested on a scrap piece of Depron... you never know...

Note#2: To cut Depron, use a very sharp hobby knife (and a steel straight edge). Depron tends to wear out the edge of the knife quite fast – change your blades often.

Ok, let's start the building...

Diagram 1

Cut a bevel to all edges where elevator meets the stabilizer and ailerons meet the wing (always to both facing parts). The controls are to be top hinged (so make sure which side is the upper side of the respective part)!

Diagram 2

Dry assemble the horizontal part of the fuselage, elevator and the wing halves on a straight building board (the plane should be in “upside down” position). Glue the wings and the elevator to the fuselage. Note: there is hole for elevator servo arm in the front of the fuselage. If you have plane turned upside down, the hole must be on the right side (see also diagram 6).

Diagram 3

Glue the carbon strip (3 x 0.45 x 105mm) into the elevator.

Diagram 4

Using UHU Por or similar glue, attach a flat carbon strips 3 x 0.5 x 400 mm (shorten the included strips if necessary) on the edges of the wing.

Diagram 5

Attach the elevator using clear adhesive tape (we recommend priming the Depron under the tape with a thin layer of contact glue and we like the 3M clear, highly adhesive 15 mm tape). Be sure that your tape holds well on Depron (try on scrap piece first). The hinge tape should be interrupted in the area of the elevator horn (see also diagram 10).

Diagram 6

Glue the lower part of the fuselage to the backbone. Keep it in 90° angle in relation to the wing until a glue is hardened.

Diagram 7

Install the strut anchor (small plywood part, as per the Diagram). Sharpen one 1,5x30 mm carbon rod, push it through a hole in the anchor and glue everything together.

Diagram 8

Locate 4 carbon rods of 1,5mm diameter and 250 mm in length. These will make the wing struts. Install them as per the diagram, one end into the wing (there are precut slots) and the other end should rest easily in the corresponding slot in the strut anchor – going on their way through a slit in the strut support. Make sure that the wings are flat on the building board and that the fuselage is perpendicular to the wing plane. If you are satisfied, glue the struts into the wing (styro CA or better Purex, this time no Uhu Por) and into the strut anchor (styro CA or, if you are careful, non-styro CA). Check three times before using the glue, remember that you are fixing the future geometry of the model!

Diagram 9

Finish the complete bracing of the fuselage, using 1 mm carbon and CA glue. Move from front to back, beginning in the strut anchor. Keep checking the geometry of the whole plane.

Diagram 10

Attach the ailerons using clear adhesive tape same as you did with the elevator.

Diagram 11

Glue rudder servo into the fuselage. The servo must be oriented as shown in the diagram, the shaft heading forward.

Diagram 12

Turn the model around and glue the upper fuselage part to the “backbone”.

Diagram 13

Attach the rudder to the stabilizer and fuselage and use 1mm carbon rod to support the stabilizer (as shown in the diagram).

Diagram 14

Glue the motor mount. The motor mount can be glued to the front of the fuselage with contact glue and ideally should be also secured with some of the clear (or glass filament) adhesive tape. Then reinforce the fuselage with two depron rectangles.

Diagram 15

Glue all remaining servos to the place. We highly recommend two servos (for example Dymond 47S, Waypoint 060, BMS 306, 308, HS 50, ...) for ailerons. You'll get extra strong and precise control over your plane even in hardest 3D maneuvers and that is worth one more servo! Now glue aileron horns to the place and install linkages. Z-bend should be on aileron side, and variable linkage stopper on the servo side. You may need to use the extension servo arms to achieve the desired throws.

Diagram 16

This Diagram shows how the elevator and rudder control horns are to be installed. Note that this system allows for more precise and longer lasting pull pull control arrangement.

Diagram 17

According to the diagram assemble the extension servo arms. Glue them to the plastic servo arms using CA. Note the pull pull strings to the control horns on the elevator and rudder, then secure the nodes with drop of CA glue. Use the screws in servo arms to tighten strings.

Diagram 18

Assemble the landing gear. Locate the two 1,5 mm carbon rods – those are your landing gear legs. On one end, CA glue the wheel axle joint as per the diagram. Find the 15 mm long pieces of 1,5mm carbon and glue them into the elongated hole in the joint. Slide your wheel and the T-shaped stopper on the axle. Use small drop of CA to fix the stopper on the end of the axle. Glue the wheel pant on the T-shaped stopper. Repeat for the second LG leg.

Diagram 19

Install LG legs and plywood reinforcements in the model as per the Diagram – note the pre-cut slots in both the lower fuse and the backbone. Make sure that your wheels are parallel to the direction of flight and that both wheels are in equal elevation above the building board. If you are satisfied, use CA glue to fix the landing gear in place.

Diagram 20

By placing Rx, ESC and battery set the CoG 70mm behind the leading edge of the wing.

Set 35° deflections on all controls. Check all systems and go fly. To trim the plane correctly, you have to be indoors or it has to be absolutely calm outdoors. First, trim all controls coarsely to make the plane appear to fly straight. You should need about the same amount of elevator for both inverted and normal flight. If you have enough clearance, you may try vertical dive to trim the neutral elevator.

Your aileron trim should be the same in normal flight and inverted. If it is not, you may have a lateral balance issue. Try to move the battery pack sideways (say to the opposite side of the fuselage), if you can, to fix this problem.

After this, you may play with the thrust line to setup for clean and effortless hover without any tendency to “pull out” to any side. This may take a while and require quite a few tests. This airplane is not too sensitive to the thrust angle though.

Next thing, the C of G. We prefer the plane to fly almost “hands off”, just the slightest bit of elevator needed for level flight.

Move the C of G vertically (by moving the battery pack) to get a perfect knife edge without any tendency to roll. Our prototype ended up with the battery above the backbone, on the leading edge of the wing, attached by Velcro tape to the right side of the fuselage – but your best solution may differ.

We will be glad to hear about your experience with our products at info@rc-factory.cz.

Enjoy your new **Edge 540T!**

Your RC Factory team.



Technical specs:

Wingspan: 84 cm

AUW: 135 - 165g

Motor: any 18 to 25g type that can produce insane thrust ☺

Battery: 2s 240 to 450 mAh lipo

Servos: good quality 6 g servos (we found that the cheapest servos of obscure origin very often do not center well or have a “skipping” motion – if you want satisfactory results, do not try to save here).

ESC: brushless, 8A or more (as light as possible).