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Edge 540 – 103”

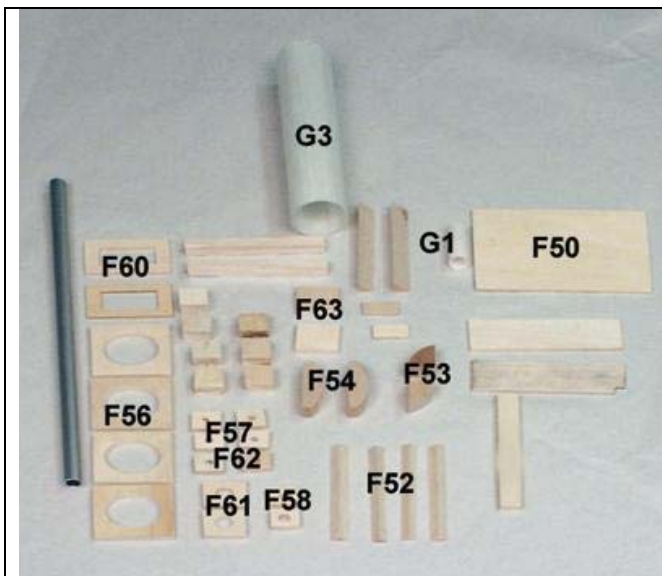
Thank you for purchasing this high performance aerobatic giant scale Airplane. The Edge 540 is terrific for IMAA and IMAC events as well as your Regular flying enjoyment. To get maximum performance and enjoyment from your Edge 540, please read these instructions carefully before completing the model. In addition, we advise the use of high quality servos, particularly on all flying surfaces. We use two servos per aileron, two for the elevators, and two for the rudder depending on how hard you fly. If using two servos on the rudder, make sure they are matched perfectly and do not stall on one another due to unequal throws. This will cause a heavy load on your batteries and a short-lived battery charge. Although there are very few steps left for you to complete, do your best to keep the tail end of the airplane as light as possible. A little excess weight in the tail will add 4 to 5 times that amount in the nose for proper balance. We have provided an access hatch in the back for your servo connections. If you need to place your receiver in the rear of the fuselage, adding a light plywood hatch to the rear bottom is exceptionally easy due to the construction of the fuselage.

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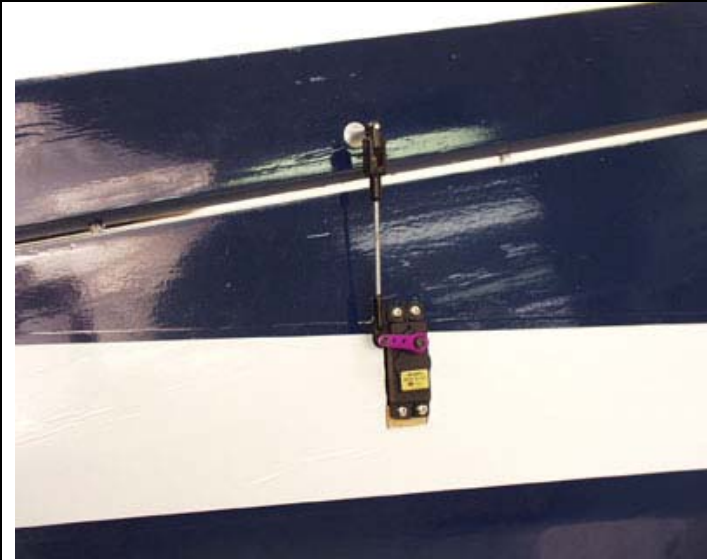
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Edge 540 Parts List & Identification

Part Number	Description	Qty
F51	Fuel Tank Support	1
F52	Support	4
F53	Cowl Fixing Block	2
F54	Cowl Fixing Block	2
F55	Cowl Fixing Block	5
F56	Wing Join Support	4
F57	Wing Anti Roll Pin Support	4
F58	Wing Screw Support	2
F59	Fix Block For Hatch	2
F60	Tail Servo Support	2
F61	Tail Plane Join Support	2
F62	Tail Anti Roll Pin Support	2
F63	Wheel Pants Wood Block	2
M1	Anti Roll Pin	8
M2	Wing Lock Screw	2
M3	Washer for M2	2
M4	Wing Join	1
M5	Tail Plane Join	1
G1	Tail Join Sleeve	1
G2	Landing gear	1



Installation of Wings



The Edge 540 uses two servos per wing panel. Find the servo cut outs in the wing panel and trim away the covering making sure to iron down any loose edges. Your aileron push rods come off the opposite sides of the servo on each wing panel. You will need a Y harness for the connection of the servos make sure that the servo output arm is closest to the trailing edge of the wing. This will help minimize play. Make aileron push rods using at least a 4-40 rod.

Dowel & Hinge Installation



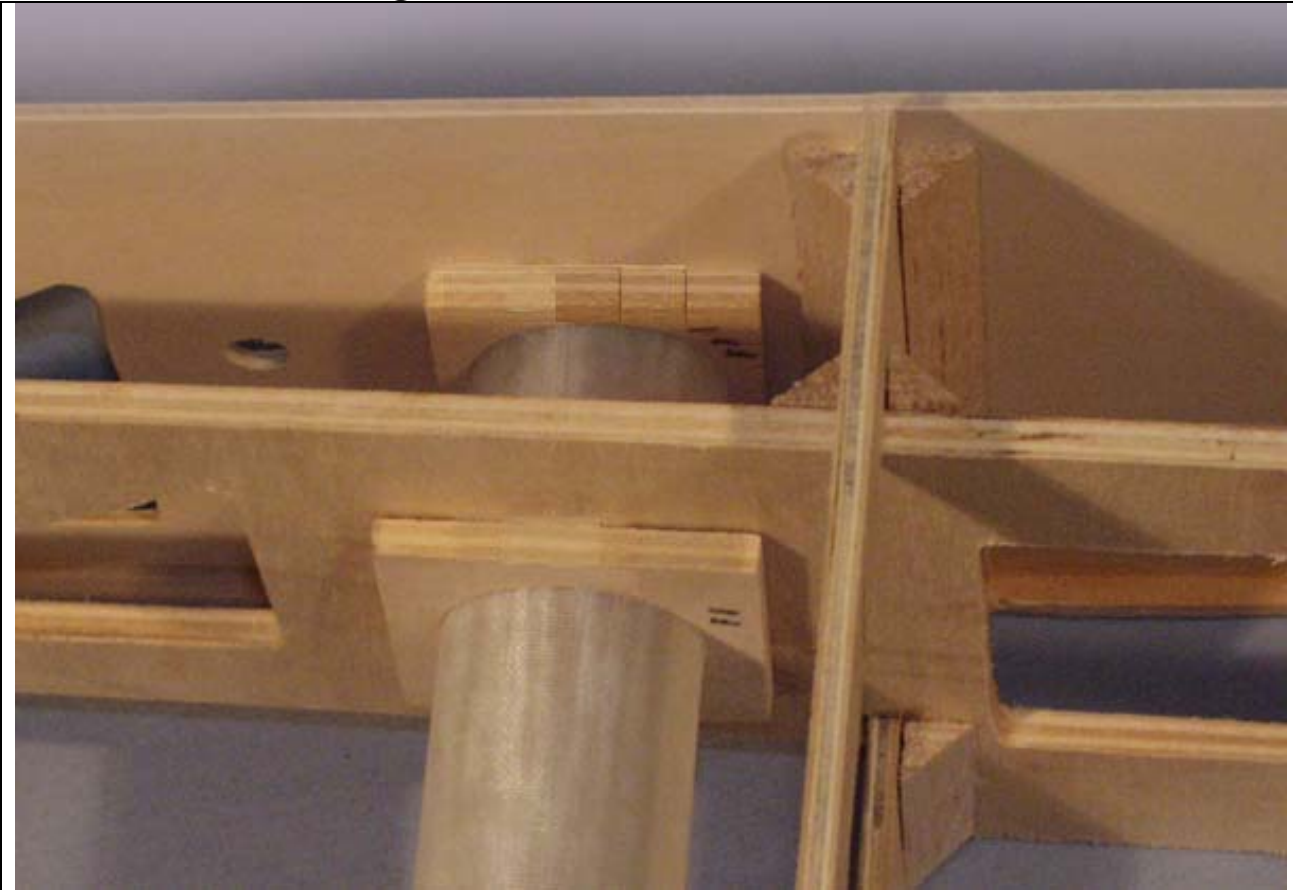
Dowel Installation

Locate **M1**, the anti rotation dowels for the wings. Holes are provided in the plywood root rib for the installation of these dowels. It is imperative that these two dowels are installed parallel to the wing tube not to the root rib. As a guide slide the wing tube into each panel. Epoxy the dowels into each hole allowing 5/8 of an inch protruding.

Hinge Installation

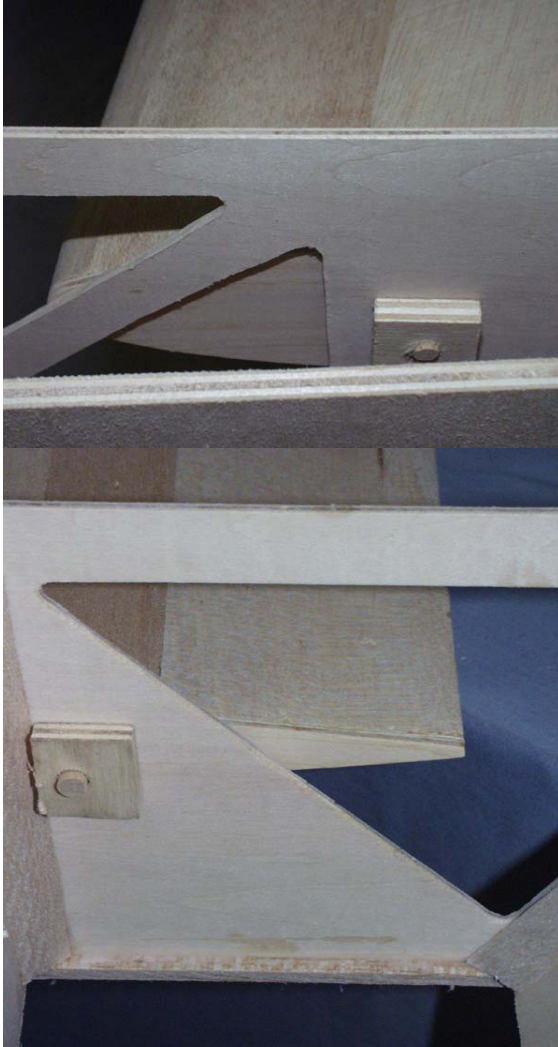
Do not use CA type hinges, as it will damage the wing. We recommend the use of Robart Hinge Points or equivalent type. Use at least 8 hinges per wing panel. The cleaner the installation of the hinges the better the plane will fly

Wing Tube Installation



Locate 9-inch fiberglass tube sleeve. Lightly sand outside of tube to accept epoxy. Locate the wing tube doublers marked F56. Take the fiberglass tube and insert it into the fuselage, put the doublers on the inside of the formers. Slide the doublers over the fiberglass tube at the appropriate times so that the doublers are on the insides of the formers. Slide in the wing tube into fuselage, Now slide the wing panels onto the wing tube making sure wing panel are flush against the fuselage. Make sure that the fiberglass inserts remains centered in fuselage. Measure distance from the trailing edge of the wing tip to rear fuselage. Insure distance is exactly the same on both sides of the airplane. Adjust wing-tube assembly if necessary. When satisfied that everything is true epoxy the wing tube doublers into place making sure that the top of the doublers are parallel to the top of the fuselage sides. Be careful that no epoxy gets onto the wing-tube and remove the excess epoxy from the outside of the doublers.

Setting Wing Incidence



Locate the four F57 dowel hold-downs. These will hold the anti-rotation dowels at the proper incidence once installed. Slide the wing-tube into the panel. Find a flat building surface for the fuselage. Raise tail until the fuselage sides above the wing-tube are level.

Slide wing and tube onto fuselage. (One side at a time) From the inside of the fuselage slide F57 over the protruding dowels. (Do not glue at this time) Install 8mm screw. Place incidence meter on wing and set to zero and tighten 8mm bolt. It is recommended that you take scrap balsa and CA it the fuselage to hole the wing at zero incidence point.

Remove F57 and carefully epoxy them in place over the dowels, be careful not to get any epoxy on the dowels. When dry remove wing panel and repeat procedure for other side. Remove scrap balsa from side of fuse and sand to remove CA from surface.

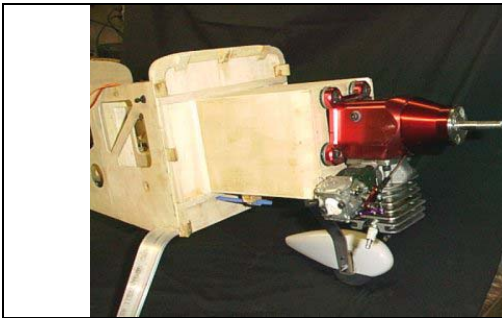
Installing wing pin doublers will require a steady hand.

When installing the anti-roll pin support there is a limited amount of space to reach your hand in to glue these in. There are two easy methods of installing these. One is to take the sharp point on an x-acto knife and poke it into the wood block. Put the pin into the fuselage. Apply your epoxy to the block and carefully place the block over the pin you placed in the fuselage. When the epoxy on the block sets up remove the pin.

Engine Installation

The Engine's thrust line is located $2 \frac{5}{32}$ " down from the top of the motor box and the vertical is $1 \frac{11}{32}$ right of center. Motor box has 1.5-degree right thrust offset built in. To find engine location: Mark a centerline down the top of the engine box; use a straight edge to extend centerline to forward of firewall. Position engine so that prop shaft lines up with straight edge. Mark engine mounting points and drill holes for motor mount. The proper spinner size is $4 \frac{3}{4}$ ".

Cowl Installation



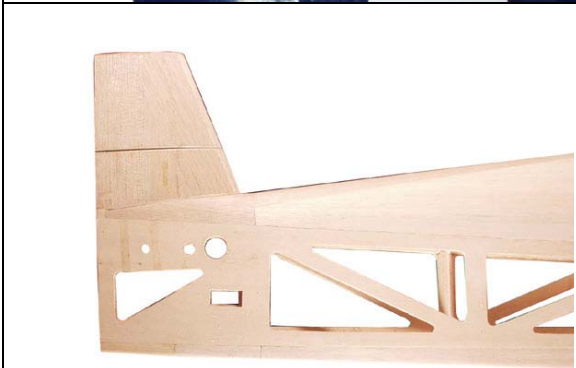
Glue (5) small cowl mounting blocks to top and sides of former. Use scrap balsa to fill in area between blocks. Trial fit cowl and trim rear edge to final fit to spinner. Trimming the cowl will be based on the engine dimensions cut so the spinner will have proper clearance.

Hatch Installation



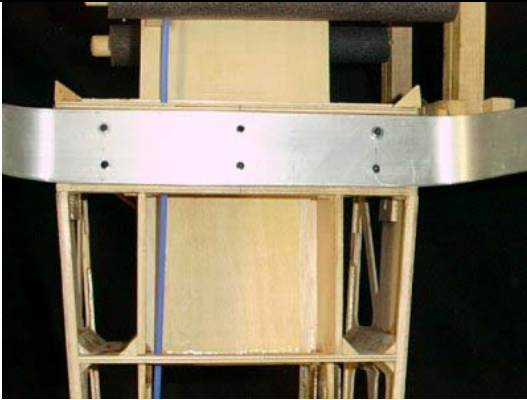
The hatch can be installed with two different methods. The first is to use blind nuts and bolts, and the other is to use self-tapping screws.

Rear Stab & Rudder Installation



Prepare the stabs by hinging the elevators using at least 6 robart hinge points per elevator. After hinging each elevator half Glue the Anti Rotation Dowel in place parallel with the Stab Tube. Place the stabs aside and hinge the rudder with no less than (7) Robart Hinge points. Now that your rudder is hinged and installed, locate the Fiberglass tube Sleeve (G1) and the tail tube doublers (F62). Level the fuselage as you did earlier for the installation of the main wings. After the fuselage is level. Locate and trim out the holes that are predrilled in the side of the fuselage. Find and remove the lower Tail hatch. The fiberglass tube and tube doublers will have to be dry fit into the pre-established position. After the tube and its accessories are in position put the stabs into position and set the stabs to zero incidence and mark the side of the fuselage for their location. Trim back the covering to allow a place to adhere the inner root of the stab to the side of the fuselage. After you are sure you have everything center and zeroed glue everything with a 1hour epoxy. Another method of installing the stabilizers is to just glue the stab tube into one of the stabilizers. The last method of installing the stabs is to drill a hole into each stab and tap the stab tube so that it accepts bolts. Also when installing the vertical stab one should glue this in place using white glue or epoxy. White glue is ideal because it has good bonding and is light. Do not use CA.

Landing Gear Installation



Landing Gear installation can be several different ways but our recommendation is to use 6, 1/4-20 bolts with locknuts and washers. If so desired you may want use 6 nylon bolts the use of nylon bolts prevents damage to the fuselage of the aircraft if hard landing should occur. It has also been suggested that one can cut some material out of the center of the landing gear if it is thought to be too wide.

Wheel Pants Installation



The wheel pants installation is very simple Locate the 2 Wheel pants blocks marked (F63) and Epoxy the wood to the inside of the wheel pants the drill the wheel pant to the required size recommended by the axel manufacturer. The recommended wheel size for the two main wheels is 3 3/4" to 4". The recommended tail wheel is 1 1/4".

Install the servos using the servo doublers provided. Also provide are the Fuel tank and radio tray platforms once the motor and servos are installed. Find the ideal location for those two platforms that will benefit the CG. Remember the CG is located 1/3 back from the leading edge of the wings. The fuel tank should be installed directly over the CG. The recommended starting points for travel are 3/8" for the ailerons and the elevators. The starting point for the rudder doesn't matter, use whatever you can get. After your first flight you can put more travel in for 3D and aerobatics. Anything over 1/2" in travel will be sensitive and should be used for 3D. If you want to use a push-pull method with two servos for your rudder, you will need to shim out one or both of the servos. It is important that the modeler makes sure that there are no loose edges on the covering to ensure there is no flutter. Also if there are any questions or comments, please direct them to Stefan@ewtech.com