

Giantscaleplanes.com

Cap 232 – 80”

Thank you for purchasing this high performance aerobatic giant scale Airplane. The Cap 232 is terrific for IMAA and IMAC events as well as your Regular flying enjoyment. To get maximum performance and enjoyment from your Cap 232, 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 one servo/aileron, two for the elevators, and one or two for the rudder depending upon your level of hard flying. 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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| <i>Exclusively Distributed by:</i> | Phone: (610) 282-4811 Fax: (610) 282-4816 |
| <i>GiantScaleplanes.com & Hobbies & Helis International 201 South 3rd. Street Coopersburg, PA 18036</i> | Email: HHI@fast.net Websites: www.Giantscaleplanes.com www.hhiheli.com www.quickheli.com |

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CAP 232 Parts List & Identification

| Part Number | Description | Qty |
|-------------|----------------------------------|-----|
| F50 | Fuel Tank Support | 1 |
| F57 | Fuel Tank Support Mount | 2 |
| Hardwood - | Throttle Servo Support | 1 |
| Hardwood - | Throttle Servo Support Mount | 2 |
| F54 | Cowl Fix Block | 4 |
| F64 | Cowl Fix Block | 4 |
| F55 | Wing Tube Doublers | 4 |
| F56 | Wing Anti-Rotation Dowel Blocks | 4 |
| F56 | Tail Anti-Rotation Dowel Blocks | 2 |
| F58 | Tail Tube Doublers | 2 |
| F61 | Servo Doublers | 1 |
| F60 | Servo Doublers A | 1 |
| F62 | Wheel Pants Block | 2 |
| Wood. | Wood Block for Hatch Fixing | 2 |
| Man. | Main Wings Alum. Dowels | 8 |
| Alm. | Main Wing Tube | 1 |
| Alm. | Tail Wing Tube | 1 |
| Man. | 8mm Bolt for Main Wing | 2 |
| Man. | 8mm Washers for Main Wing Bolts | 2 |
| Fibgl. | Fiberglass Main Wing Tube Sleeve | 1 |
| Fibgl. | Fiberglass Tail Wing Tube Sleeve | 1 |
| Fibgl. | Fiberglass Landing Gear | 1 |

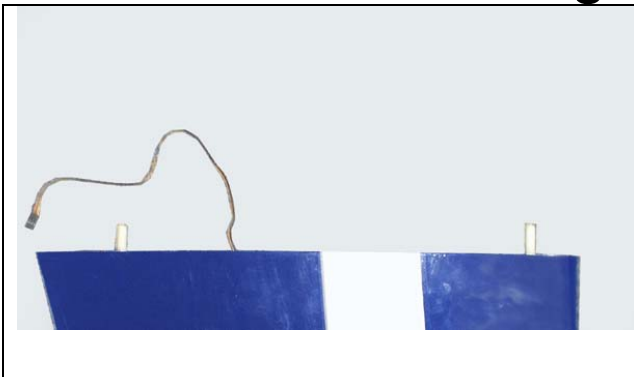
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Installation of Wings



The Cap 232 uses one servo per wing panel. Find the servo cut out in the wing panel and trim away the covering making sure to iron down any loose edges. Therefore 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 when installing the wing 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 , 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 6 hinges per wing panel. The cleaner the installation of the hinges the better the plane will fly

Wing Tube Installation




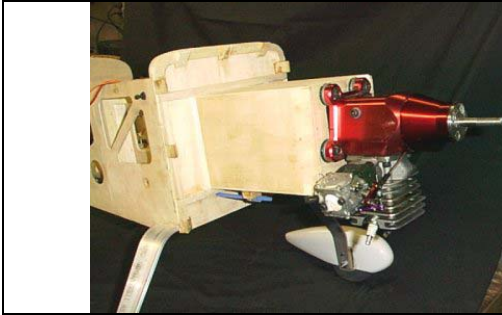
Locate 9-inch fiberglass tube sleeve. Lightly sand outside of tube to except epoxy. Locate the wing tube doublers marked F55. Slide the sleeve into the fuselage immediately F55. After it pushes through the inner former slide on two F8 and after passing through the other inside former slide on the last F55. See photo for orientation. 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

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|  | <p>Locate the four anti-Rotation 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.</p> <p>Slide wing and tube onto fuselage. (One side at a time)</p> <p>From the inside of the fuselage slide F6 over the protruding dowels. (Do not glue at this time)</p> <p>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.</p> <p>Remove F6 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.</p> |
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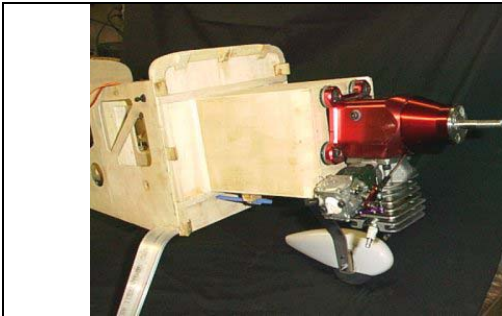
Engine Installation

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|  | <p>Engine Installation Engine thrust line is located in the center of the motor box. Motor box has built in 1.5-degree right thrust offset. Engine must be mounted on the in the center of the firewall for proper spinner/cowl fit. To find engine location: Mark a centerline down the top of the engine box; use a straight edge to extend centerline to forward of</p> |
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firewall. Position engine so that prop shaft lines up with straight edge. Mark engine mounting points and drill holes for motor mount.

Cowl Installation



Glue (4) small cowl mounting blocks F64, to top and sides of former F-1 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



Using hardwood & Some scrap Balsa build up the hatch as shown in the picture. Line up and drill thru the fuselage and the installed wood block Pieces after drilling install a 6/32 blind nut behind Complete the installation by insuring the fit.

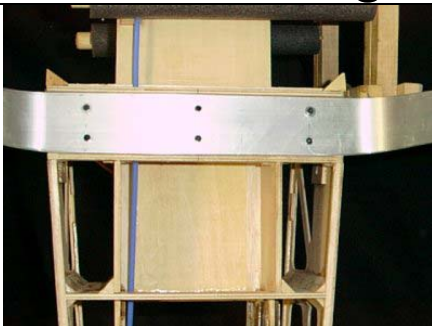
Rear Stab & Rudder Installation



Prepare the stabs by hinging the elevators using at least 5 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 (6) Robart Hinge points. Now that your rudder is hinged and installed, locate the Fiberglass tube Sleeve , and the tail

tube doublers (F58). 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 add it's accessories are in position put the stabs into position and set the stabs to zero incidence and mark the side of the fuselage for there 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.

Landing Gear Installation



Landing Gear installation can be several different ways but are recommendation is to us 6 ¼-20 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.

Wheel Pants Installation



The wheel pants installation is very simple Locate the 2 Wheel pants blocks marked (F62) and Epoxy the wood to the inside of the wheel pants the drill the wheel pant to the required size recommended by the axel manufacture

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. Also if there are any questions or comments, please direct them to Stefan@ewtech.com