WASP

Wasp e2k kit instructions.

The following is intended to be a guide only as to how to construct the Wasp model kit.
A combination of medium and thin cyno was used throughout the build, 5 min epoxy used on stress areas, and white PVA wood glue used throughout the wing construction.
Dry fit each process and trim accordingly before gluing.
No account has been taken for covering in the build sequence; model shown is finished in Polyurethane satin varnish only.
Centre of gravity for first flight 50/55mm The 4 x 1mm holes on the fuselage sides are cg reference points 45/50/55 & 60mm.
Ailerons 8mm high 4mm low
Elevator 6mm high 3mm low

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WASP e2k parts

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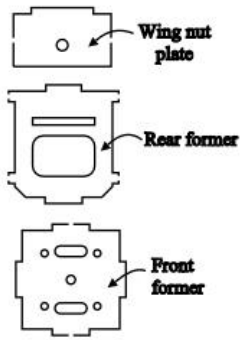
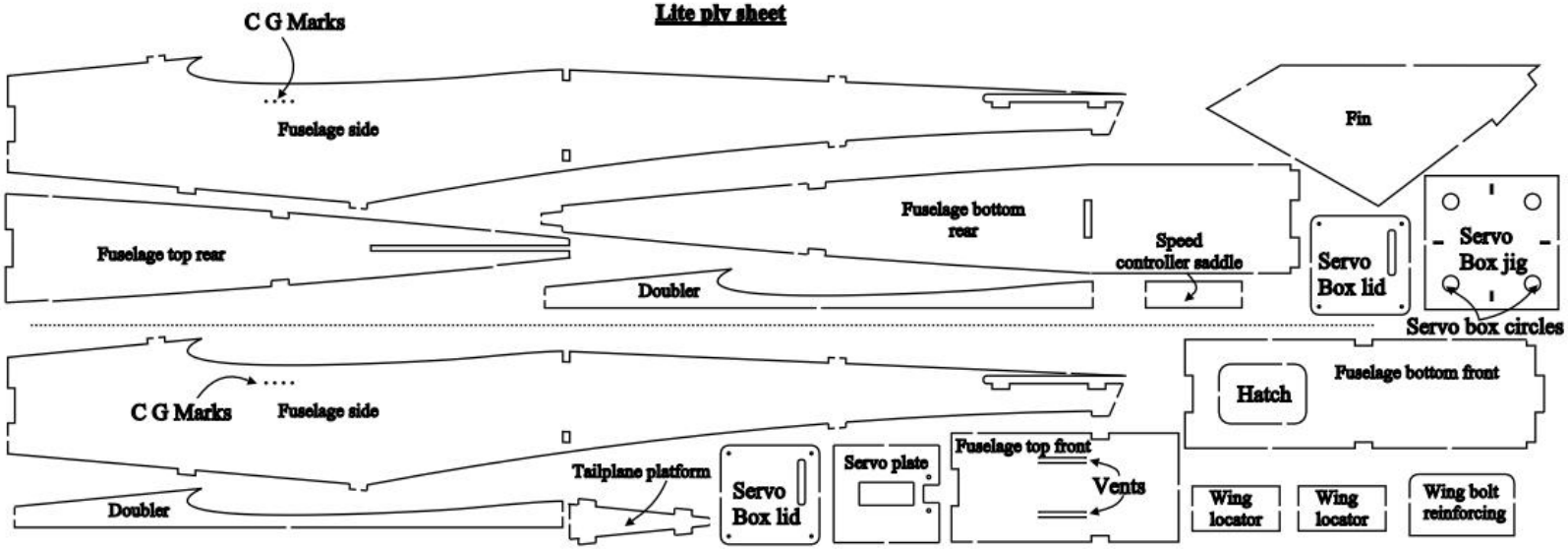
All sizes are nominal
1 wing panel
1 leading edge 6mm x 10mm x 915mm
2 trailing edge insert 9mm x 9mm x 300mm
1 trailing edge/aileron sectioned
2 wing tips shaped
8 servo box dowels
4 servo mounting blocks
1 servo box liner 1.5mm x 75mm x 300mm
3 triangle 6mm x 915mm
1 tailplane 4.5mm x 100mm x 330mm shaped
1 elevator 4.5mm x 23mm x 330mm
1 elevator pushrod 6mm diameter x 300mm

8 No2 x 1/2" screws (Aileron servo lid)
2 No4 x 1/2" screws (Hatch)
3 horns (including screws)
4 threaded rods
4 Quick links
1 x 5mm wing bolt
1 x 5mm T nut
1 x mylar hinge
4 x 3mm T nut (Motor mount)
4 x 3mm screws (Motor mount)



Birch ply sheet

Lite ply sheet



Wasp e2k wing instructions

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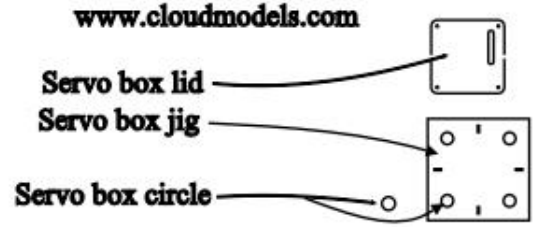
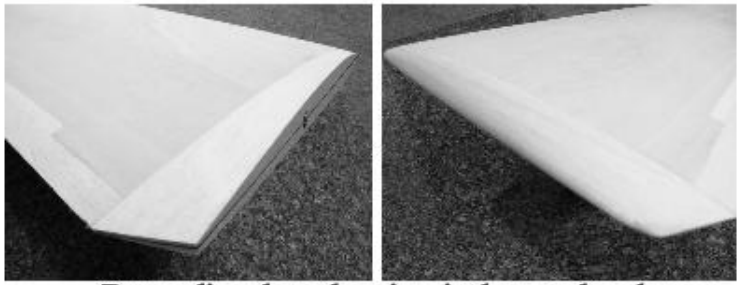
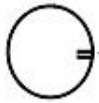




Draw a line along the wing tip then sand to shape

line servo box
with 1.5mm balsa



The following is intended to be a guide as to how the Wasp wing is built you may well have your own ideas on how to make your model fly faster than the rest.

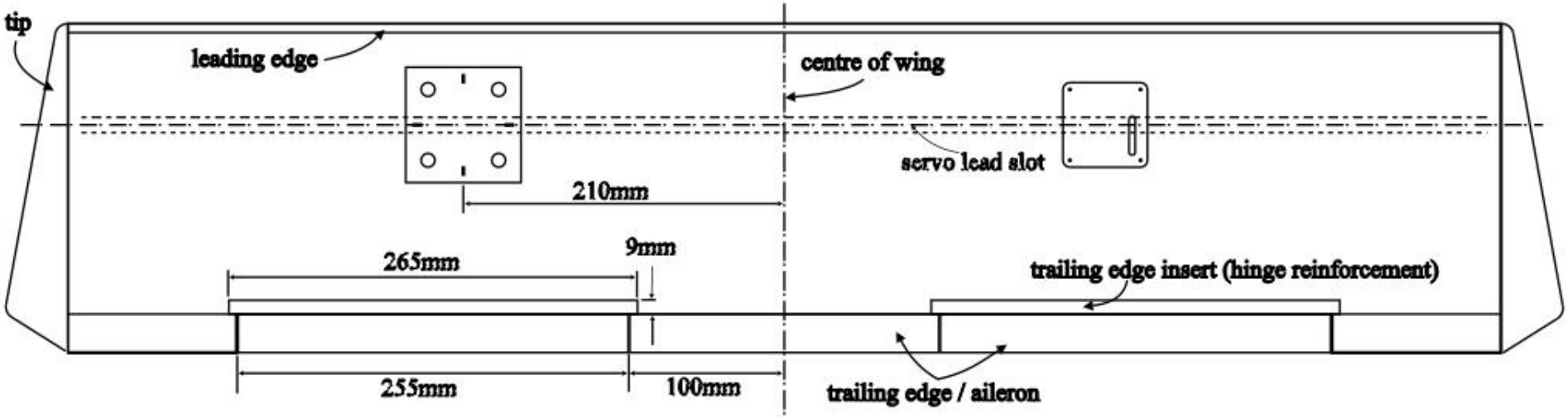
Mark the centre line on the top and bottom of the wing. Mark the position of the balsa hinge reinforcement as per drawing, remove the area, then glue the balsa hinge re - enforcement in place and secure with masking tape . Now fit the balsa trailing edge to the foam core, line the balsa trailing edge bottom with the bottom of the wing, if need be the foam core edge can be sanded with rough sandpaper until it matches the balsa trailing edge , glue in position but only tack the section that will become the aileron use masking tape to secure and check the trailing edge is true along the entire length, the leading edge and wing tips can also be glued on.

Once the glue is set sand all edges to shape being careful not to reduce the thickness of the veneer as this will weaken the wing, with the wing tip draw a line from the centre of the leading edge to the centre of the trailing edge and shape tip to that line, now mark out the ailerons as per drawing and cut out and shape to allow up and down movement and hinge with the Mylar strip .

Draw a line on the underside of the wing from one end to the other along the path of the T - groove, mark out from the line 210mm as per drawing. Place the jig over the marks, cut 4 holes through the jig using a 9mm hole punch twisting gently don't force, a sharpened piece of brass tube also works well.

A small slot along the side of the dowels will help glue disperse when the dowels are inserted in the wing. Glue the dowels in position use the ply circles to push the dowel in until the circle is flush with the surface of the wing. Carefully line up the cover over the dowels and screw the cover in place, use a sharp knife to cut out the remainder of the veneer around the cover. Remove excess foam to allow servo to fit and line the box with 1.5mm balsa. The servo can then be fitted to the cover using hardwood blocks.

The wing is now ready to finish using your desired method.



IMPORTANT PLEASE READ

It is strongly recommended that you carry adequate insurance and only fly in areas designated for model flying keeping well away from people and property. Models are capable of serious injury or even death and should not be abused

The BMFA is a good source for information and insurance.www.bmfa.org

The kits are model aircraft NOT toys and NOT suitable for children.

The builder/flyer is responsible for the safe building and flying of the model. The model should be checked thoroughly for damage and wear particularly linkages prior to every flight and radio equipment should be charged and reliable. If in doubt DO NOT fly fix the problem.

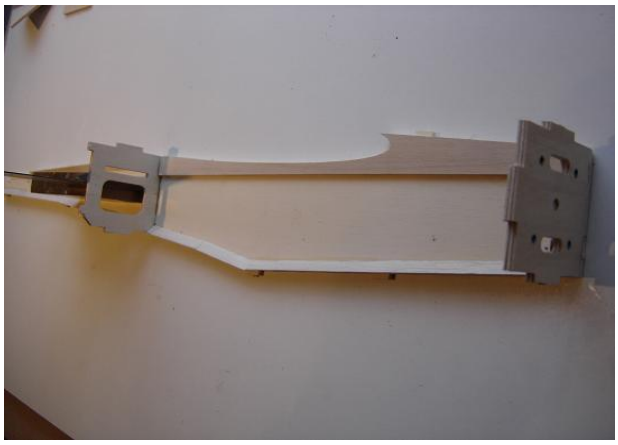
C M Manufacturing (Cloud Models) do not accept any responsibility whilst models are being operated.

If in doubt about building or flying please contact your local model flying club and seek skilled help particularly if you have not flown this type of model get an experienced pilot to test fly and trim your model. If we can be o assistance please e-mail your question sales@cloudmodels.com.

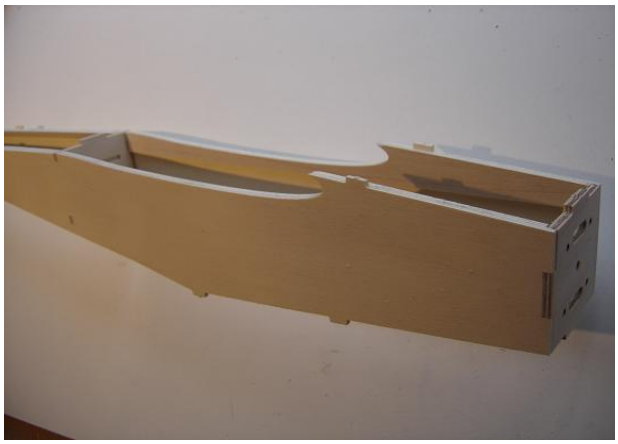
BUILDING THE WASP e2k

- First step is to compete the wing as per **wasp wing instructions**
- Once the wing is complete cut out all the necessary parts to construct the fuselage, **see attached parts drawing sheet** pre sand all parts to remove residue release agents. Ensure fuselage sides are handed, fit wing doubler's and ¼" triangles as picture. Take care to keep to the fuselage edge, not over or under.

- Fit supplied motor and wing bolt captive nuts first, add a drop of 5 min epoxy to ensure no movement. Glue front and rear formers ensuring they are square



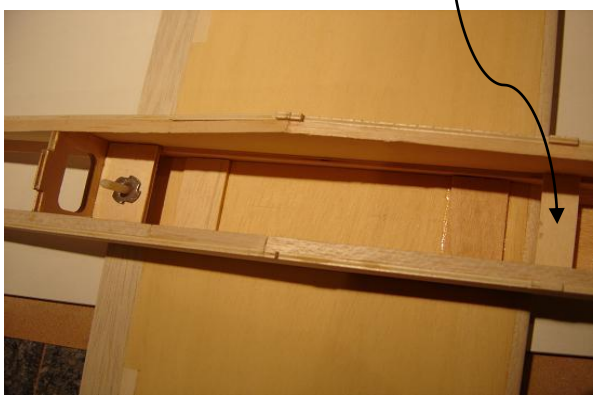
- Join both halves together keep square



- Now fit the wing bolt seat

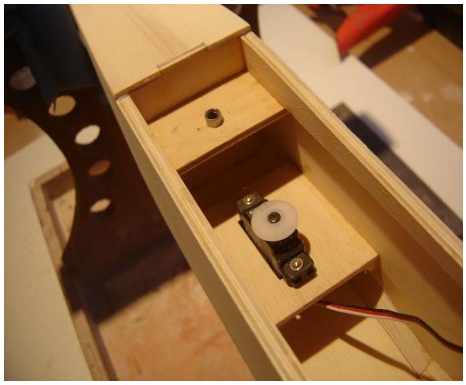
- The wing is now needed, ensure the wing seating is accurate, and centred exactly, should be a nice snug fit. Drill the appropriate holes in the wing and wing bolt reinforcing plate. Take the front top deck and sand underneath the wing end as per picture, a nice snug fit should be achieved

- Now flip over and attach the 2 ply wing locators, these are not a tight fit, now fit the speed controller saddle (RHS of photo) exact location is your choice but can be added later in the build if desired

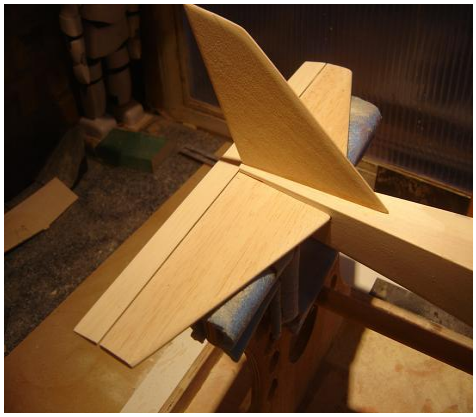


- Remove the wing, fix the bottom front deck first, then fit the rear lower deck, this is perhaps the most fiddly one, use cyno activator if needed and have a couple of small clamps handy, some trimming may be needed, then fit the tailplane saddle, the rear ¼ triangle stock below the saddle will need sanding on the last 2" to allow the sides to pull together, followed by the rear top deck . The whole fuselage should be dead straight when eyed along its length. Sand and round edges as required

- Servo tray has been cut for the HS85mg servos, full size servos can be used equally well . Glue ¼ triangle stock to the sides of the servo tray bottom, fix servo to tray and fit in desired position



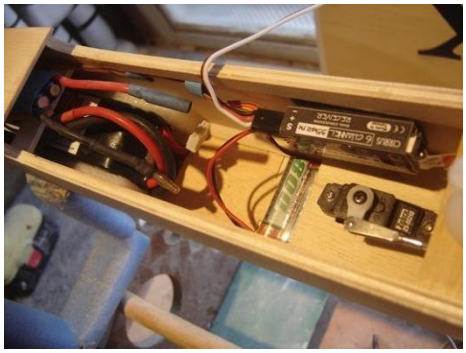
- Tailplane, fix the elevator to the tailplane with the supplied Mylar strip (or desired method) sand edges to desired shape. Dry fit into the tailplane slot and align diagonally with the fuselage, mark and glue, thin cyno wicked worked well with a wood finish and white PVA glue worked well with an iron on finish.
  Sand the edges as desired to the fin, ensure the fin is up right and glue



- You should now have something that looks like this, with a weight of aprox 1lb

- Make up pushrod to the desired length, keep the metal rods as short as possible, drill a hole aprox 1 ½" in on each end and make a groove for the rod and fix with glue and cotton/fishing line as below, **tip** use a battery drill to wind the cotton/fishing line on

- Using scrap material glue 2 tabs either end of the bottom inspection hatch and screw the hatch on **WARNING** cut the screws lengths so no sharp objects protrude into the battery bay



- Radio installation can now be completed.

TIPS

It is advisable to use an **opto** speed controller (80amp ideal) with a separate receiver battery pack, ideal size is 2/3rd AAA 400mha+, do not fit it to far rearward.
The s/c will fit above the s/c saddle loose.
Securing of the main battery is best done with Velcro, use the battery to achieve the desired c of g, mark internally the battery location at each c of g, this will be useful on race day if you need to change it quickly, ensure there is as much dense foam between the battery and the front bulkhead to protect the battery on impact, e2k rules do allow for the removal of the rear motor shaft if desired
The wasp will be sensitive in pitch at all c of g positions, excessive elevator movements are not needed and the use of expo recommended, same to for the ailerons, duel rates will be needed for landing and racing.
At least 60% of pylon success can come from a plane well trimmed for its attended job, so don't skip this side, 3s lipos are still more than adequate for a reasonably fast flight, ideal for trimming and test flights
We hope you enjoy the **e2k WASP** and get hooked on short course pylon racing.
More details for e2k racing can be found at www.e2kpylon.co.uk **Cedar Racing**