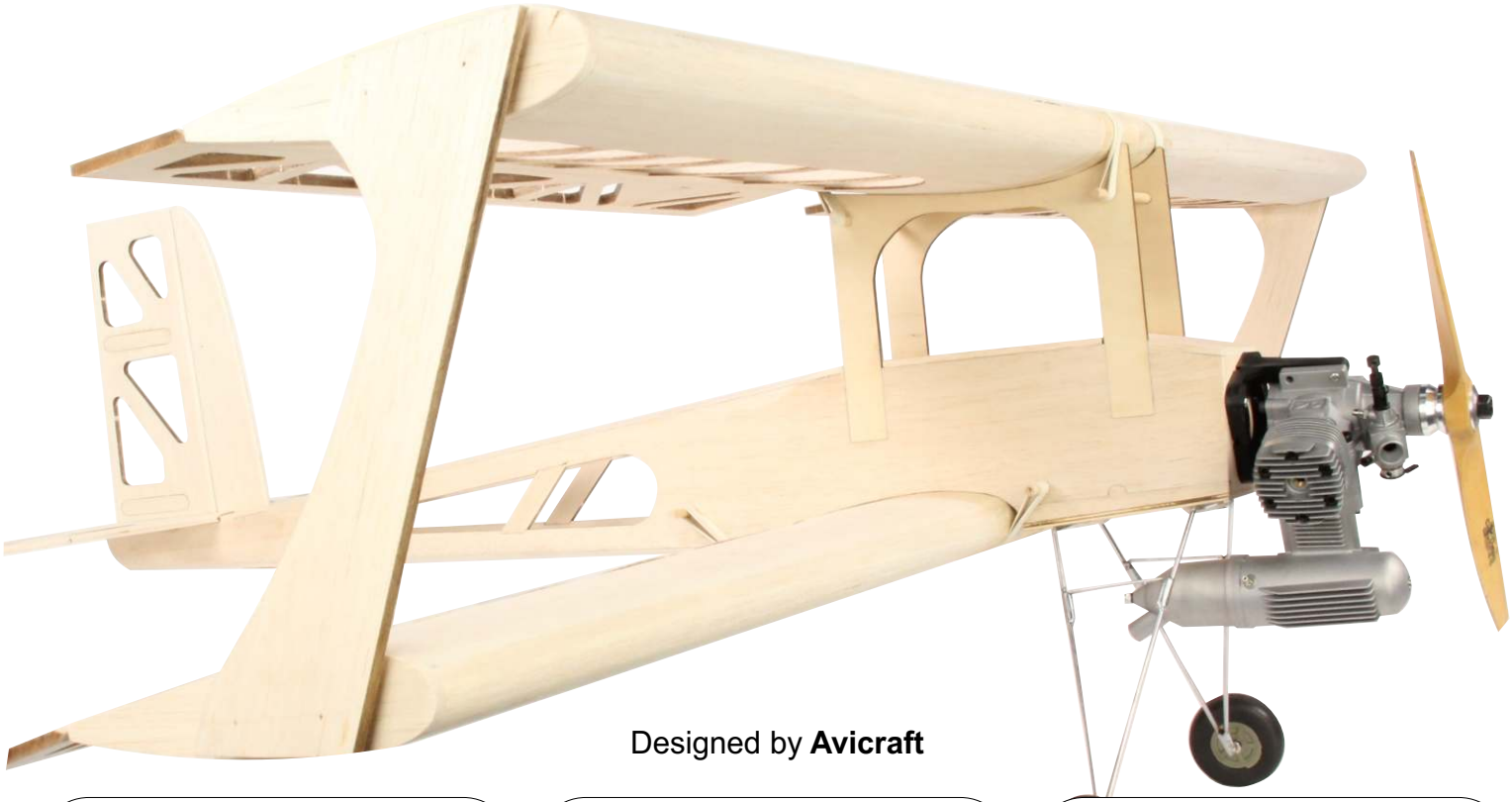
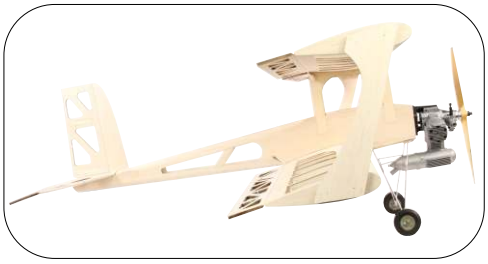
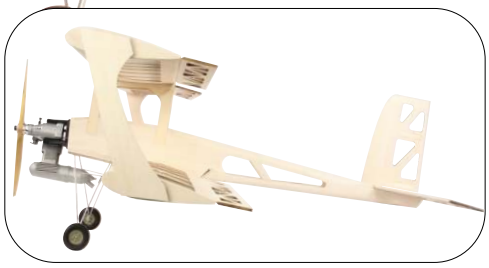
PANIC KIT



Designed by **Avicraft**







Recommended set up:-
Servo`s
Novice - Intermediate - HS635HB
Expert - HS5625MG

Engine I/C - SC61A-S
- SC91A-S

Electric - EnErG C50-20 (IC 60) Brushless motor
ESC - 90A ZTW
Lipo - Radient 4s 4000mAh 35c

Recomended build items:-
Glue - Zap

Tools - Excel

Covering - Oracover

Product specifications are subjected to change without notice. Due to ongoing development, the actual product and recommendations may vary from what is shown.

Distributed by:-
J Perkins Distribution
Northdown Business Park, Ashford Road, Lenham, Maidstone, Kent ME17 2DL
Tel :- 01622 854 300

Please read the instruction fully before commencing your build.

Kit contents:

The kit contains laser cut sheet ply and balsa parts and all the strip wood needed to complete the model. Also included is the wire undercarriage ready to solder, press-studs, wing dowels, undercarriage saddle clamps and engine mount. Check all components against the packing list to familiarise yourself with each part.

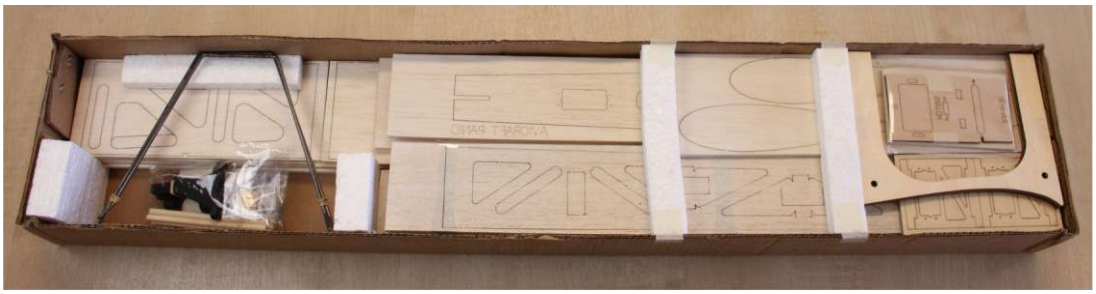


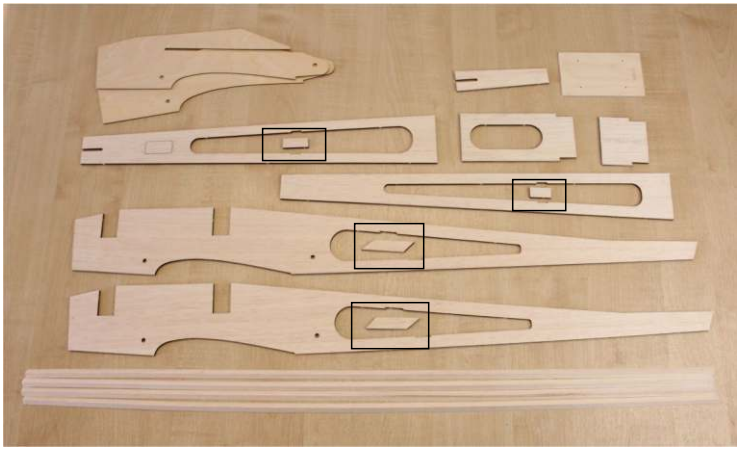
Additional items required are:

Glue, radio equipment, wheels and collets, aileron, elevator, rudder horns, push-rod linkages, closed loop rudder system, control surface hinges x 23, brass tube O/D 8-10mm for undercarriage, servo extension leads, iron-on covering film and propulsion system of your choice.

Assembly Instructions

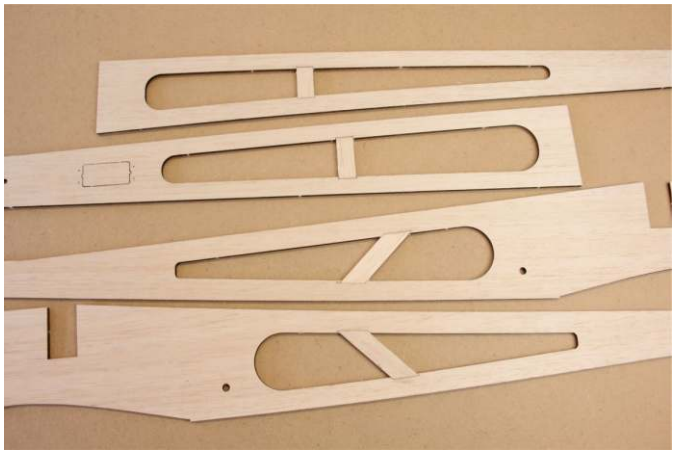
Note: Most joints can be made by the popular method of fitting or holding parts together and wicking a very small amount of thin cyanoacrylate glue (cyano) between them. A strong and lightweight build may be achieved in this way. Be warned however that this makes an instant and permanent bond, so be sure that things are right before you apply the glue. Note also that cyano, especially the thin variety, tends to soak into and harden balsa, This can make subsequent carving and sanding more difficult, and for this reason some modellers prefer using a softer “white” glue for certain jobs.





Remove the excess wood from the fuselage frames ensuring you keep the reinforcing strips highlighted in the image.

Glue in place the reinforcing strips on the fuselage sides and the top and bottom frames. Allow to dry and then sand.

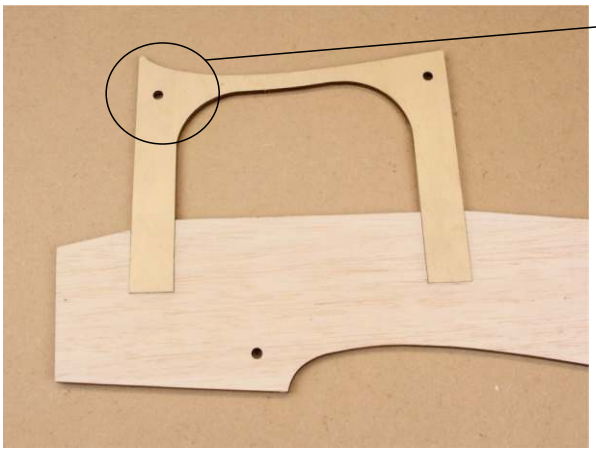




Prepare the four ply centre cabanes. Glue two of the cabanes together as shown in the image, when dry sand the edges but make sure you do not round the edges. Repeat the process for the other two pieces.

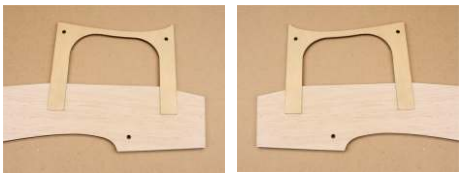
Prepare the two servo trays and glue together. Once dry sand the sides square.





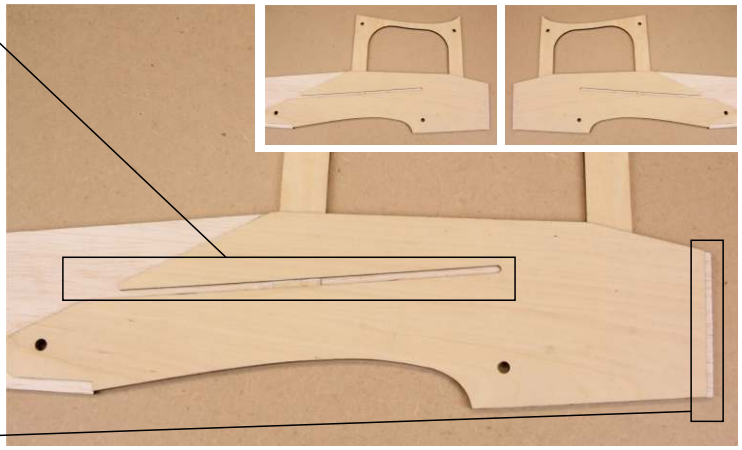
This must be to the front of the plane.

Glue the cabane to the fuselage ensuring the correct orientation (use image for reference). Allow to dry and sand flush to the side you will be using for the port side of the fuselage. Repeat the process and make sure on the second one you sand the fuselage the opposite side to the first (starboard).

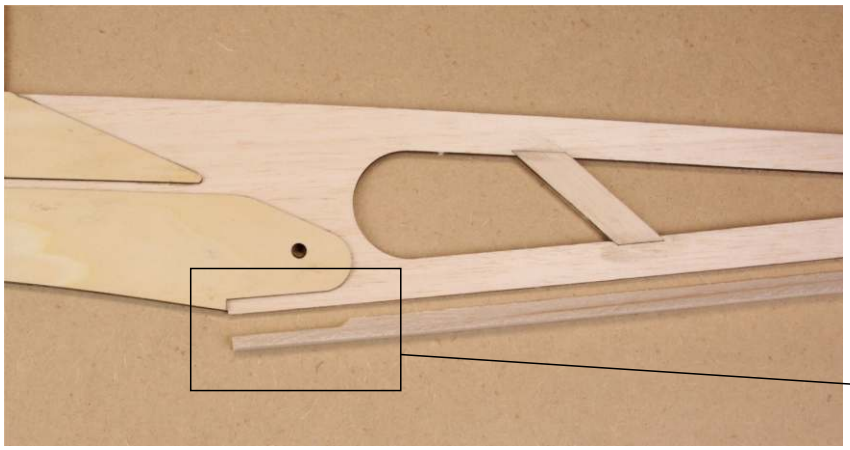


No glue in the servo tray channel.

NOTE - Please make sure you make the two fuselage panel to suit the left and the right (NOT THE SAME) Glue the ply re-enforcer to the inside edge of the fuselage side. Use the dowel holes as a reference point for alignment. When in position you should have enough space for the fire wall to sit just in front of the reinforcing plate but be flush to the external edge of the balsa fuselage at the front. Also ensure the channel for the servo tray does not fill with glue.



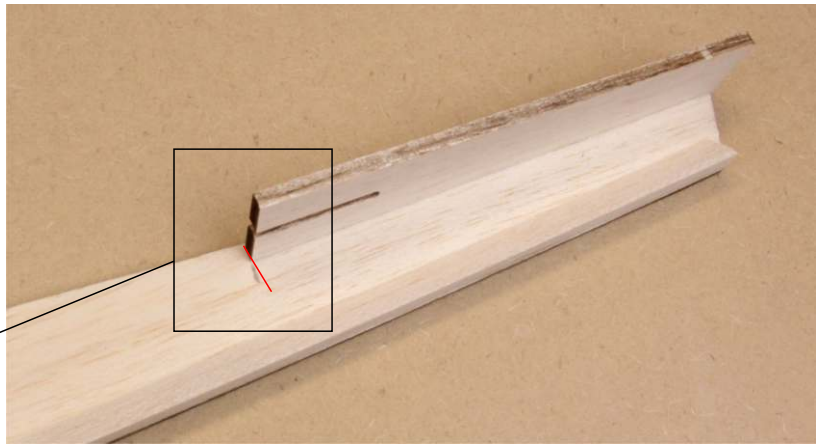
Gap for the firewall.



Using the four lengths of triangle section cut to length a section to travel from the rear wing seat area to the rear of the fuselage. You will need to make a slight cut as shown in the image to allow to lay flat.

Make a small cut to allow to lay flat.

Place the tailplane seat in position and mark the forward most point on the fuselage side. This is to prevent the triangle section going any further than this point.



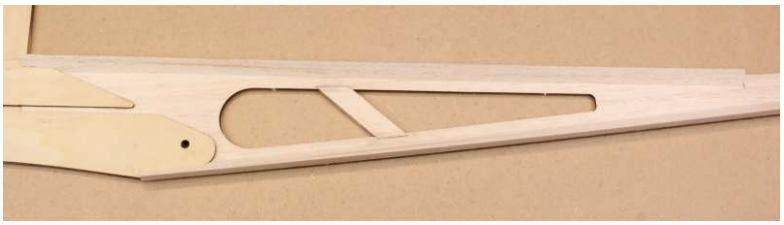
Mark this position.



Trim to allow the triangle section to lay flat.

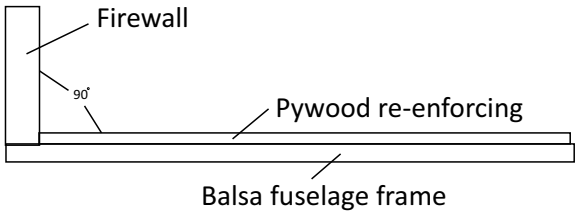
Repeat the process as per the bottom section of triangle strip. Remember to run the triangle section to the position you marked just in front of the tailplane seat.

The rear of the fuselage should look like this. Repeat the process on the other fuselage frame but to suit the opposite side.





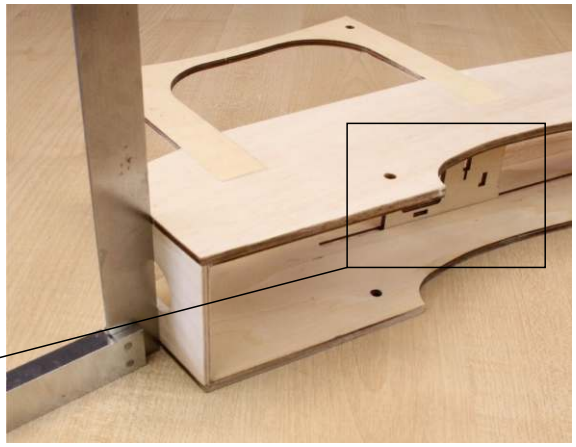




Glue the firewall in place in the recess created by the reinforcing ply and the front edge of the fuselage frame. It is imperative this is glued in the vertical position and allowed to dry.

Note: please use image on next page in conjunction with this step.

Glue the other side of the fuselage in place at the firewall only. Use the servo tray as a temporary spacer to keep the fuselage frames parallel but do not glue the servo tray in position.



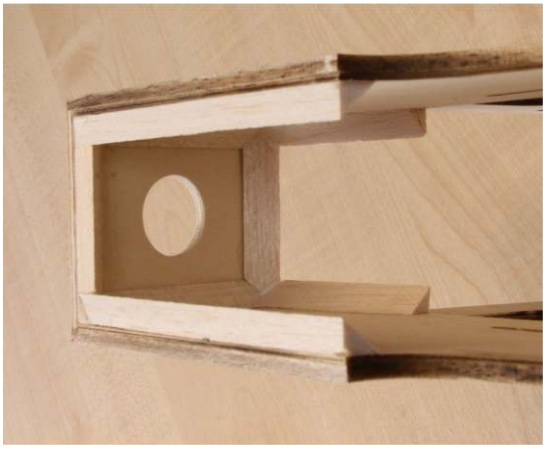
Use servo tray as a spacer(do not glue in place).

While gluing the two sides to the firewall make sure you keep the two frames parallel to each other.



Insert the tailplane seat between the two fuselage frames and glue in place. It is very important when you glue this in place that you do not induce a banana shape to the fuselage.

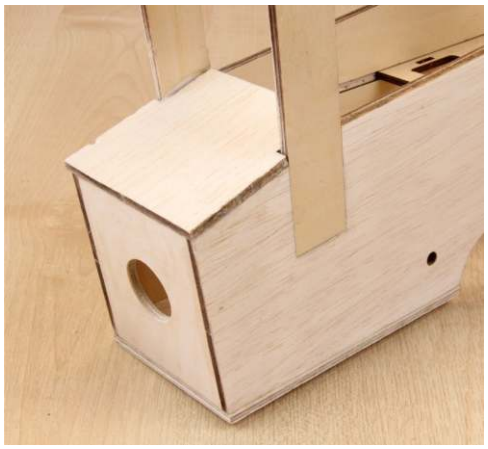




With the remaining triangle section re-enforce the firewall, undercarriage plate and top plate.

Glue in place the undercarriage plate.





Glue in place the top plate ensuring it aligns with the centre cabanes.

Ensure the frame aligns perfectly with rear wing seating area

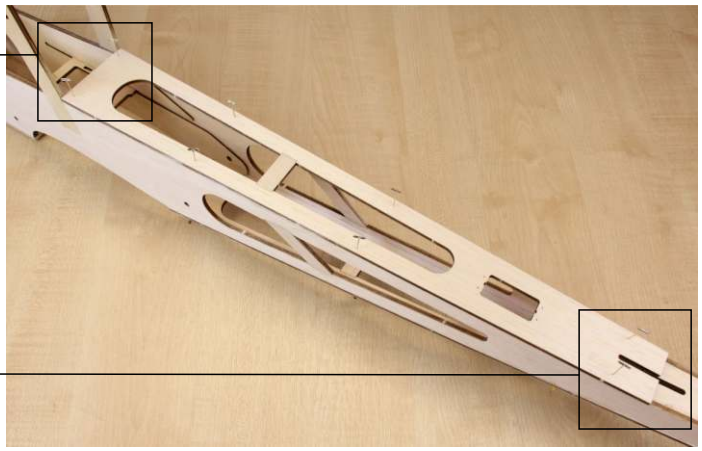


Glue the underside frame in place. Ensure the frame aligns perfectly with the rear trailing edge wing seating area.



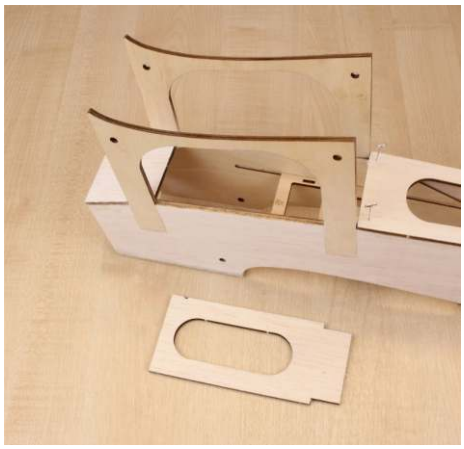
Before gluing the top frame in place you need to decide if the rudder servo will be located at the rear or inside the fuselage. If your choice is at the rear please install the servo blocks on the inside of the frame. If your choice is inside then please use a piece of scrap balsa to blank the servo hole.

Ensure the frame butts up to the rear of the cabanes.



Glue the top frame in place ensuring the fin post cut out aligns to the tailplane seat and the frame butts up to the rear of the cabanes.

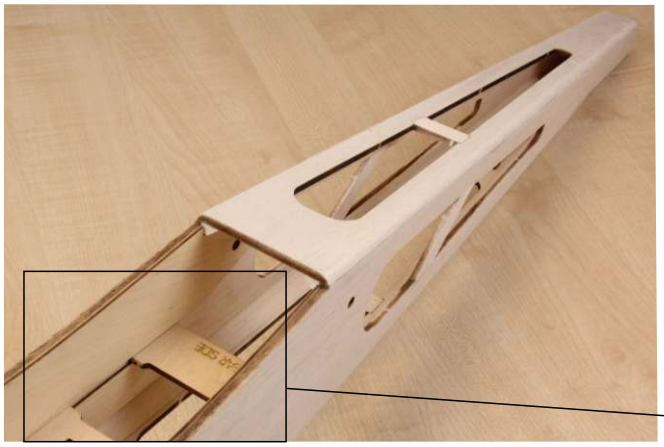
Ensure the fin post cut out aligns with the cut out in the tailplane plate .



Before glueing the centre top plate in place a decision needs to be made. If your intentions for this Panic are to go electric now is the time to fabricate a tray system and hatch for your battery.

If you have chosen to go for the IC setup then please glue the top plate in place.



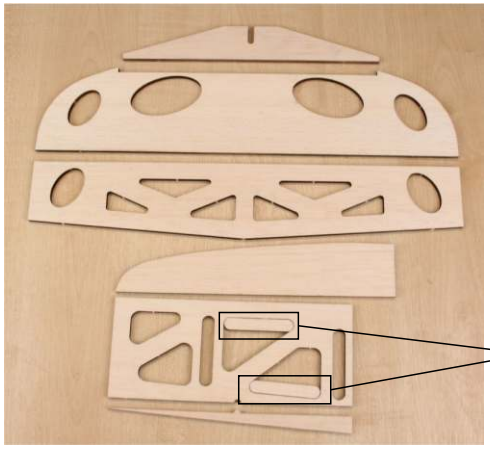


Now the fuselage is complete sand all edges and round the rear fuselage corners. How much you round the rear of the fuselage is up to you but weight can be saved by increasing the radiuses. You can now glue the servo tray in place making sure the rear of the tray aligns with the reinforcing edge. Make sure you leave adequate space between the two servo trays to fit your servos. If you have chosen to put the rudder servo inside the fuselage and you are installing a throttle servo you will need to remove the parts shown in the image below.



Insert the dowels supplied to the centre cabane and the lower fuselage.



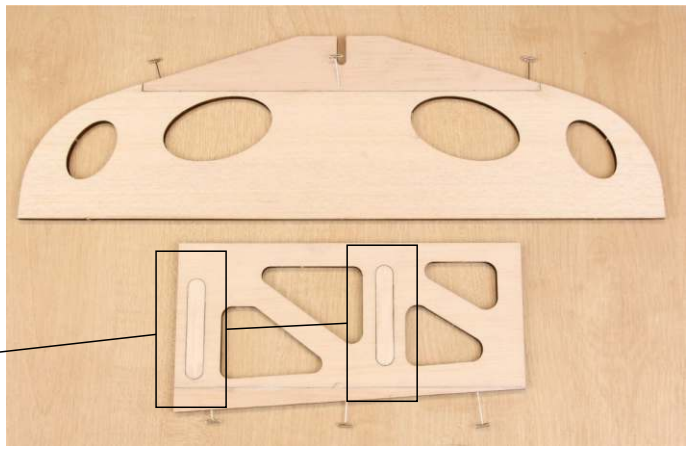


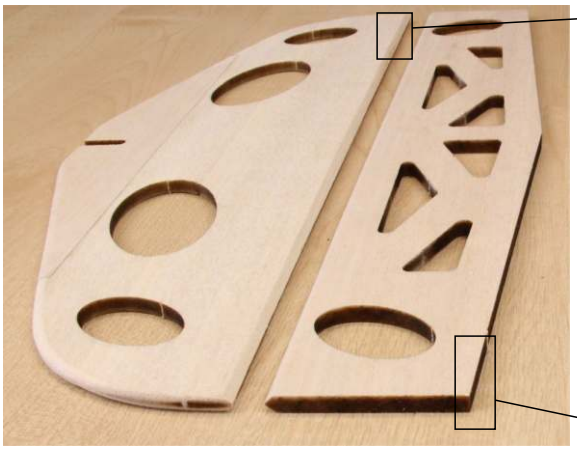
Remove all excess balsa from the tailplane and fin. Please make sure you keep the two sections highlighted in the image.

Keep these two reinforcing strips.

On a flat surface glue the leading edge on the front of the tailplane and glue the trailing edge of the rudder to the rudder. Insert the reinforcing into the rudder.

Glue the reinforcing strips in place.





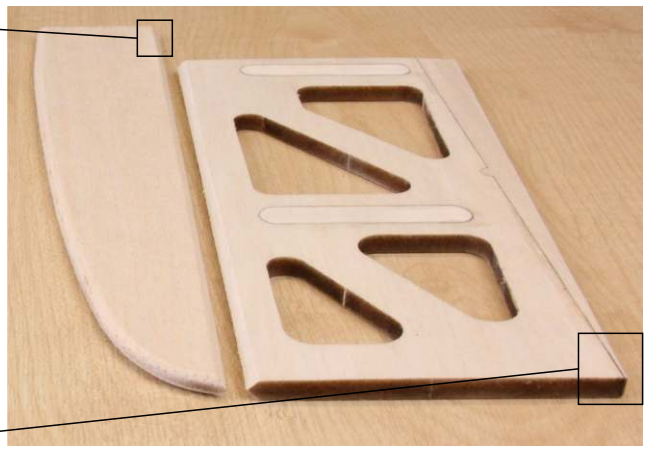
Do not round trailing edge. Either sand flat or V shape.

Sand the tailplane flat and round the leading edge as shown in the image. The trailing edge of the tailplane you can either leave flat or you can shape to a V which aids extreme movement. Under no circumstances round the trailing edge of the tailplane as it restricts movement of the elevator. The elevator will need to be V-shaped on the leading edge and the trailing edge needs to be left flat. Do not round the trailing edge of the elevator as this will make the control surface less effective.

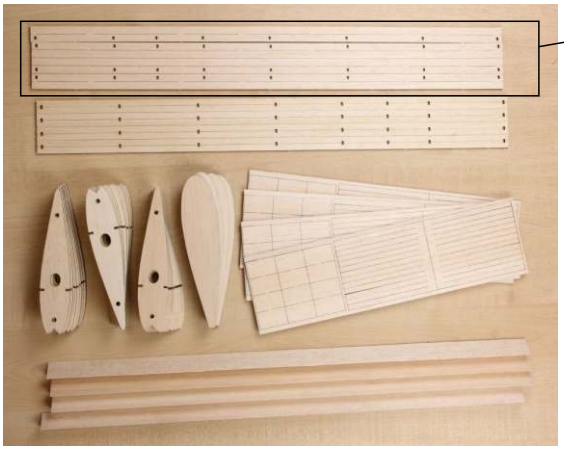
Do not round trailing edge.

Do not round trailing edge. Either sand flat or V shape.

Sand the leading edge of the fin as shown in the image. The trailing edge of the fin you can either leave flat or you can shape to a V which aids extreme movement. Under no circumstances round the trailing edge of the fin as it restricts movement of the rudder. The rudder will need to be V-shaped on the leading edge and the trailing edge needs to be left flat. Do not round the trailing edge of the rudder as this will make the control surface less effective.



Do not round trailing edge.





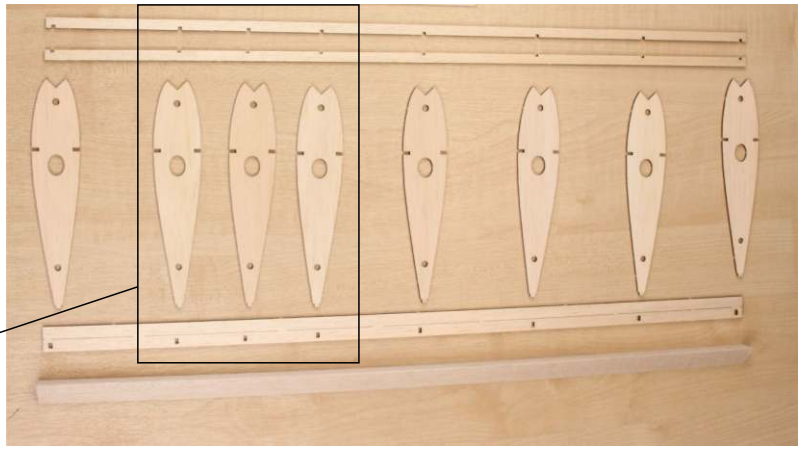
Separate the trailing edge strip as per the image above. The lower part of this section is used as a wing build jig, but also used as part of the wing build later. Do no discard.

Remove all excess wood from the wing ribs and prepare items as shown in the image. Please be careful not to split the trailing edge strips as these have a strip attached to it for building the wing on a flat surface.

Lay out the necessary parts to build one wing panel. This comprises of :–

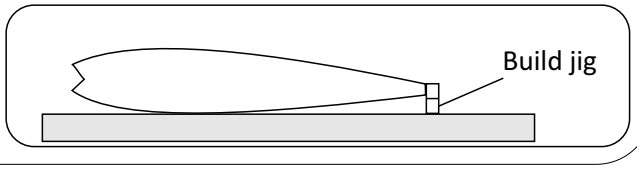
1 x Triangle leading edge
1 x Trailing edge with build jig attached
2 x Top and bottom strips
8 x Wing ribs

IMPORTANT - Please note that the three ribs that are grouped together should always form part of the inboard wing as this area is for the servo points.



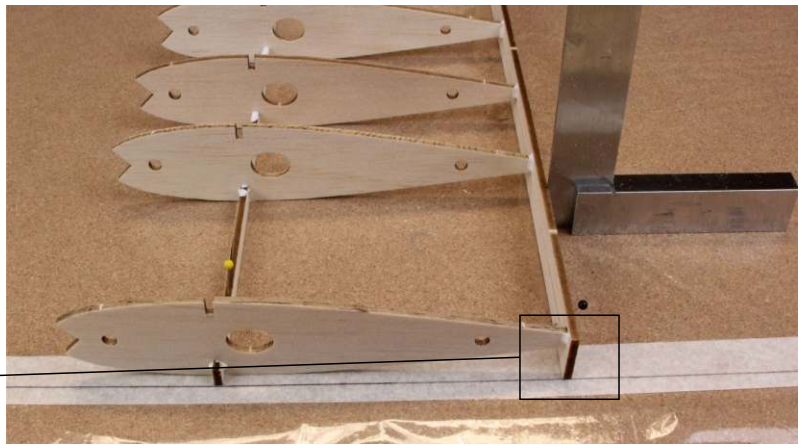


We recommend you build the wing on a building board so you can pin the trailing edge and wing ribs square to each other. It is imperative the wing is built square otherwise when you come to join the wing panels together it will be hard to align the wing panels. Before you pin the parts to the board glue the ribs to the trailing edge strip using a slow setting glue to allow working time.



Glue the lower strip in place with a slow setting glue to allow working time. Now place the wing section on your build board and pin in position making sure everything is square. At this point you can see the importance of the trailing edge build jig spacing the wing profile from the board.

Build jig spacing the trailing edge off the build board.

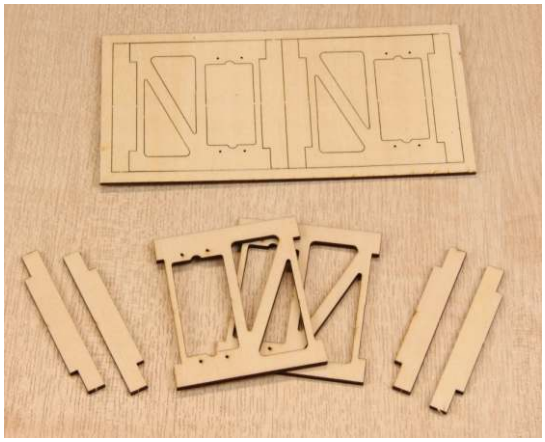




Make sure the wing ribs are sitting vertical to the build board. As mentioned before this is imperative for when it comes to joining the wing panels together.

Glue and pin the triangle leading edge in place and allow to dry.





Before starting on the servo trays you have to decide if you are going to use four servos for ailerons or just two in the lower wing with joiner rods to the top ailerons. Remove the excess plywood from the servo trays and ensure the surfaces are clean.

Glue the servo trays in place as shown.
IMPORTANT – it is imperative the servo tray fits between the ribs on the outboard side of the three ribs that are positioned closer than the rest. Also it is imperative that the servo tray is flush with the surface of the rib, if set deeper into the rib the servo will protrude past the surface of the wing on the reverse side when installed.

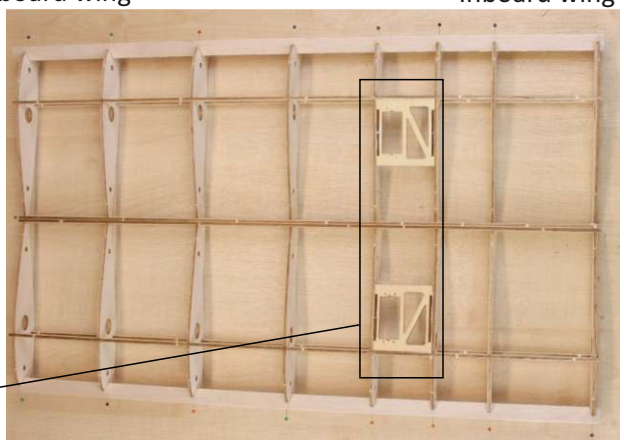


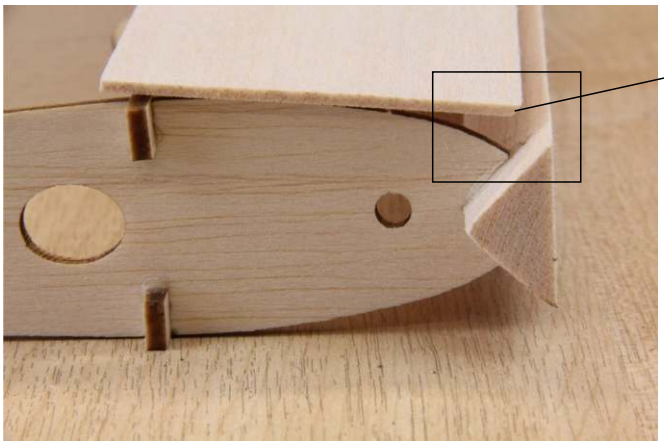


Servo trays must be in this position.

Outboard wing

Inboard wing





Angle the section to allow for a good surface contact to the triangle leading edge.

Obtain one of the eight sheets of leading edge sheeting. The leading edge of the sheet you need to slightly chamfer the edge so it aligns with the triangle leading edge when glued in place.

Glue the sheet in place and leave to dry in this position. Do not attempt to roll the balsa sheet back into position until fully dry.





When the glue has set on the leading edge run slow setting glue on the ribs.

Carefully pull the balsa sheet back over the front of the ribs and pin in place and allow to dry. Repeat the process on the reverse side.

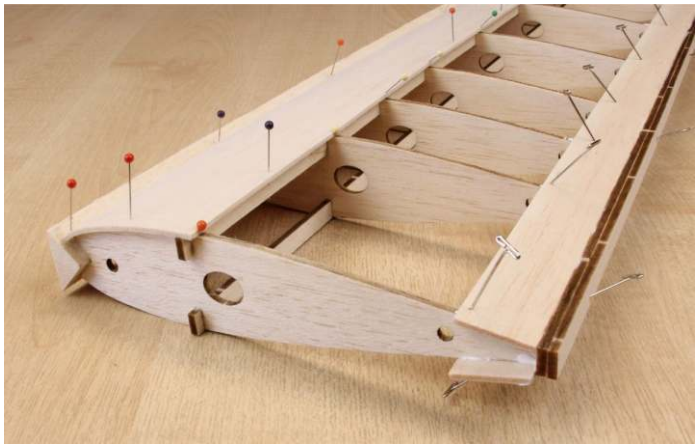




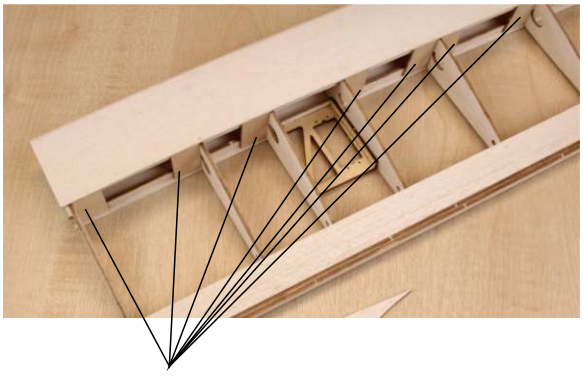
Carefully remove the trailing edge jig strip and sand the trailing edge to ensure it is flat.

Now glue the jig strip on the back of the trailing edge as shown and pin in place.



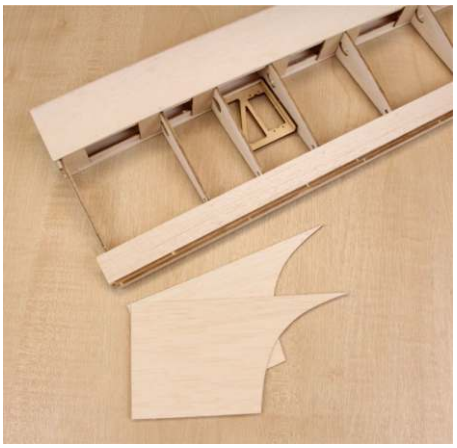


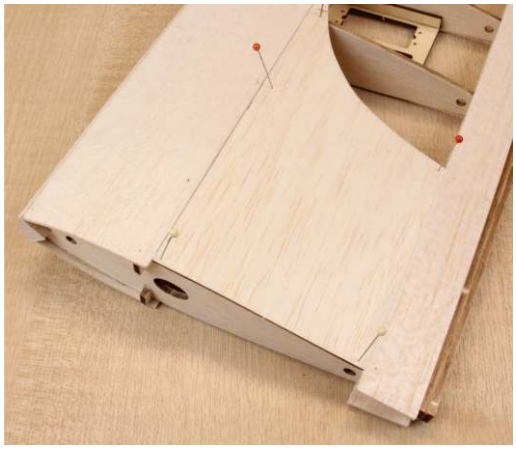
Obtain one of the eight trailing edge strips and glue in place as per the image and repeat the process on the reverse side.



Install the reinforcing strips as shown in the image along the length of the wing.

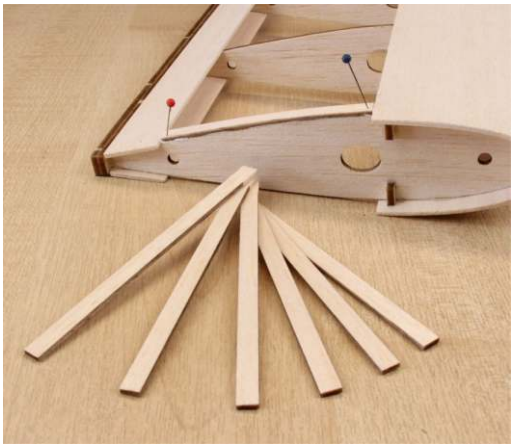
Remove the excess balsa from two of the eight centre balsa sheets as shown in the image.

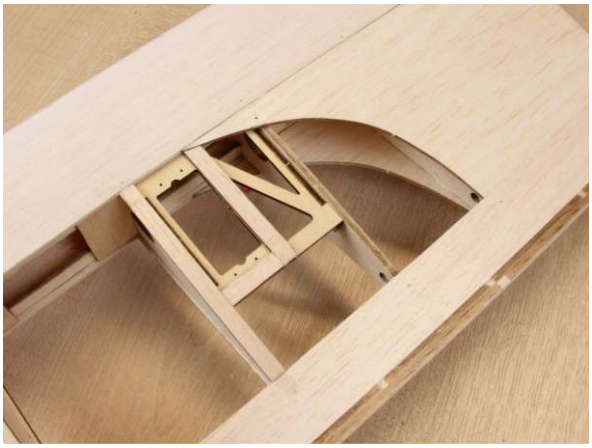




Glue the centre balsa sheet in place cutting it at the trailing edge to fit the gap between the front and rear sheet. Please note this is to be attached to the inboard wing area closest to the servo tray which should always be inboard of the wing NOT outboard. Remove the excess balsa from the wing rib capping strips and cut to size and glue in place on both the top side of the wing and bottom.

Remove the excess balsa from the wing rib capping strips and cut to size and glue in place on both the top side of the wing and bottom.



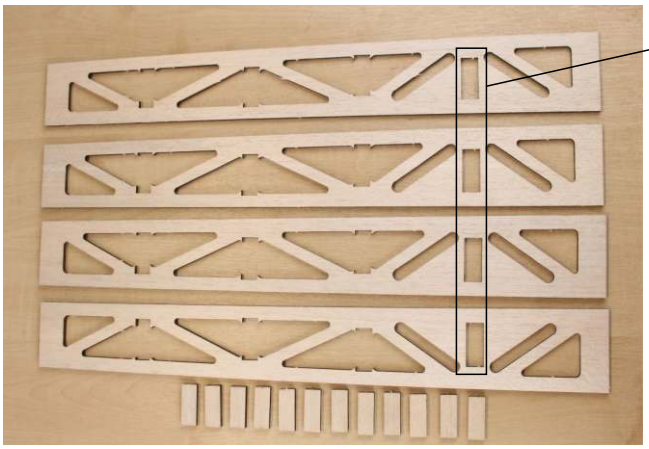


Using the wing rib capping strip make a box area around the servo tray as shown in the image.

Remove all excess wood overhanging the wing ribs on either end of the wing and sand flat. Once removed glue one of the four wing tips in place. IMPORTANT – Please make sure this is glued on the out board wingtip.





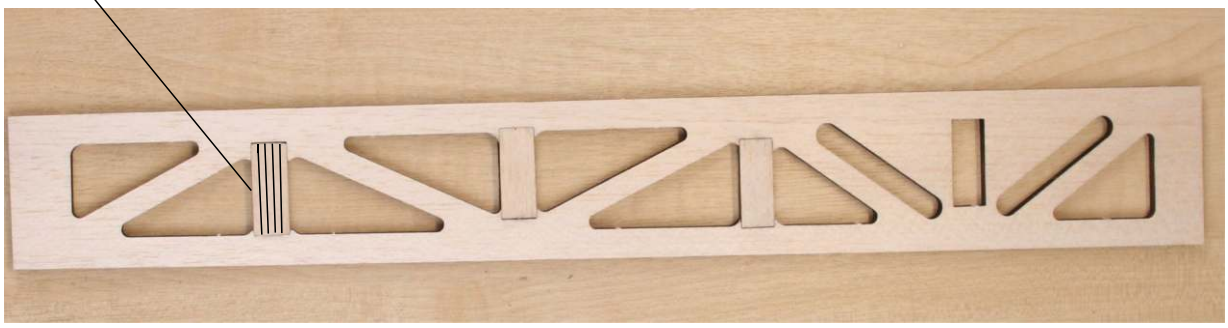


Remove these and discard so not to get confused with the others.

Remove the excess wood from the ailerons but keep the small squares as shown in the image. Please discard the squares removed from the highlighted points on the image so they are not confused with the others as the grain direction differs from the two types. Also please keep the outer part of the aileron in particular the end section.

Glue these into place as shown paying attention to the grain direction.

Grain direction front to back.





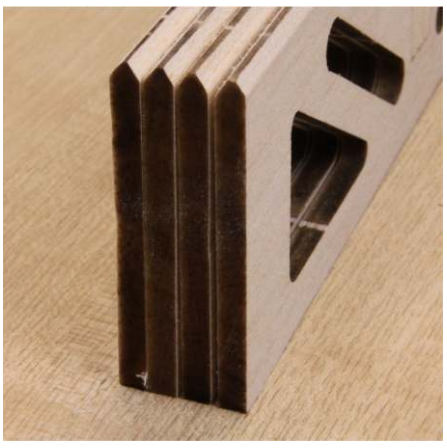
Using the outer section of the aileron that you kept from two steps ago, cut a section to fit the section shown, noting the grain direction, and glue in place.

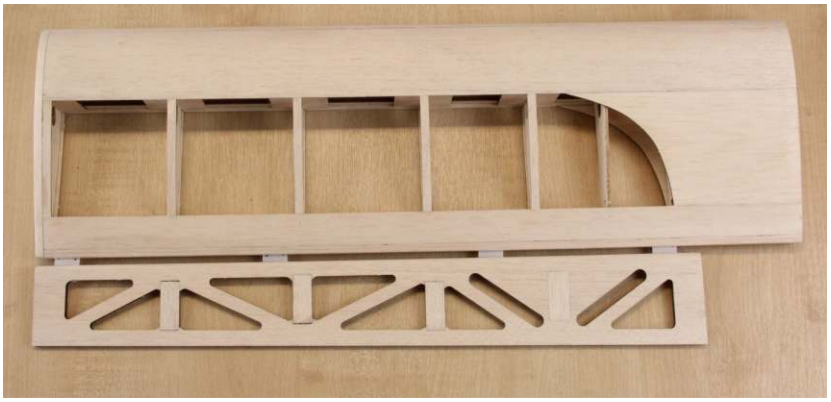
Grain direction front to back.

Please V-shape the leading edge of the ailerons as shown in the image.
Pay attention to the image below to show which side is the leading edge.

Leading edge of aileron.







Please note this is for reference only for positioning of the hinges as this is normally done once the covering of your choice has been applied. We recommend four hinges per aileron. Hinges are not supplied in the kit.

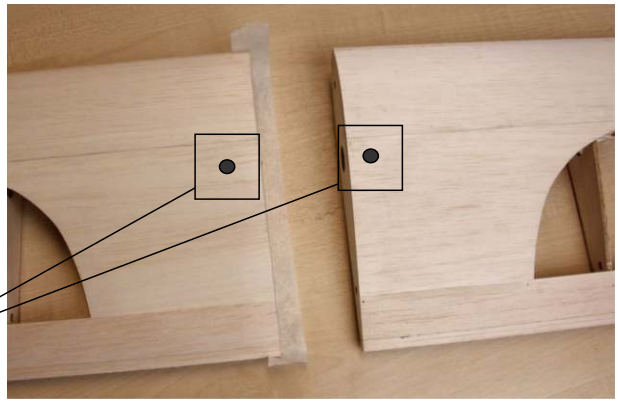
Please note this is for reference only for positioning of the hinges as this is normally done once the covering of your choice has been applied. We recommend three hinges for the rudder. Hinges are not supplied in the kit.





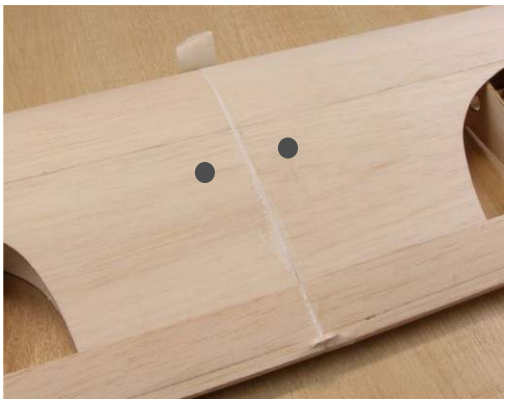
Please note this is for reference only for positioning of the hinges as this is normally done once the covering of your choice has been applied. We recommend four hinges for the elevator. Hinges are not supplied in the kit.

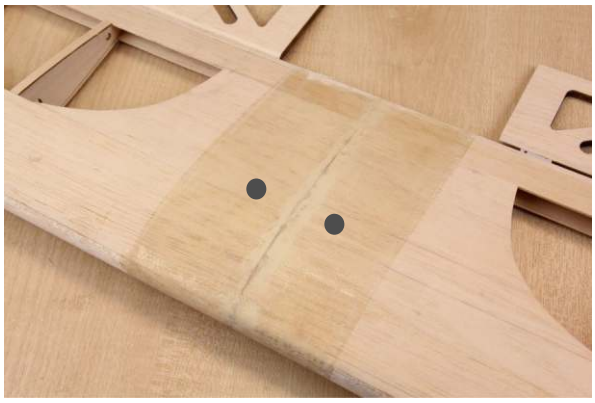
Prepare the four wing panels to be glued together. Before you commence gluing you need to finalise the exit points for your aileron servo leads so they exit the wing inside the fuselage. Install some drawstring to make it easy when it comes to installing the servos. Run a section of masking tape around the lower part of the wing ready to receive the other wing panel.



Exit holes for servo leads.

Apply the glue and push the two wing panels together, the masking tape on the bottom will prevent any glue seeping out from the bottom. Whilst drying the wing will need to be kept under constant pressure from wingtip to wingtip so find some good weights to push the two wing panels together.

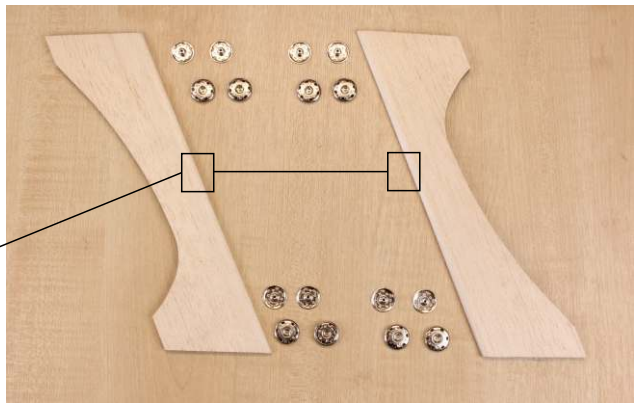




Using glass cloth (not supplied) run a section around the centre wing section and seal the wing. We recommend ZAP finishing resin. Repeat the process with the other wing. When dry cut out the holes for the servo leads.

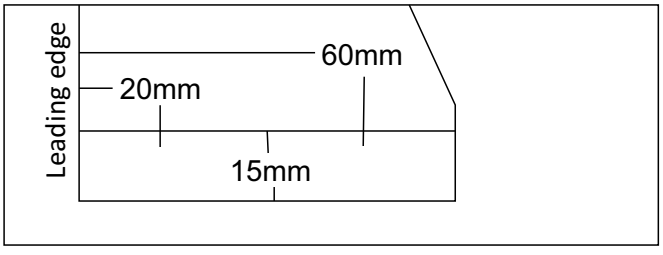
Please round the leading edge of the wing tip struts.
To secure the wing tip struts use the 19mm press studs.
You will require eight pairs for the build.

Round the leading edges.

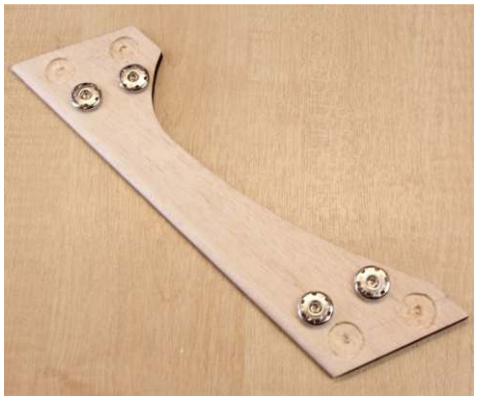


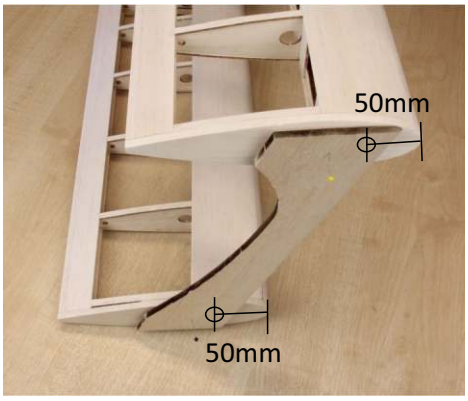


Mark a line 15mm in from either end of the wing strut. Then measure from the leading edge of the strut back 20mm along that line. Then measure again from the leading edge of the strut 60mm back. This is the position for the studs. When positions have been found press the stud down to mark the outer ring.



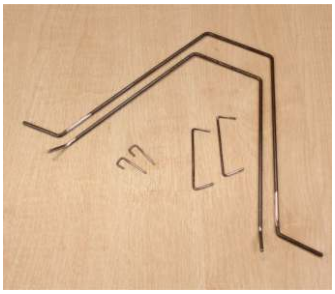
Recess the area of the stud about 3-4mm so the base can sit below the surface of the strut which makes it easier to glue into place. Do not glue the studs in place as it is easier to cover the strut first, then remove the covering from the recessed areas and glue the studs in place. It will be necessary to temporarily tack them in place to mark the position on the wing tip studs.

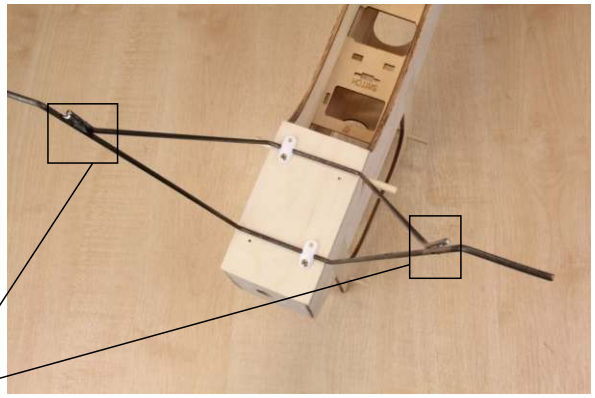




Position the wings on the plane and pin the strut to the top and bottom so the stud foremost is 50mm from the leading edge on both the top and the bottom. Repeat the same process on the other side. When you are happy with the positioning of the struts gently press the strut against the wing tip to make an impression on the wing tip so the press stud position can be located.

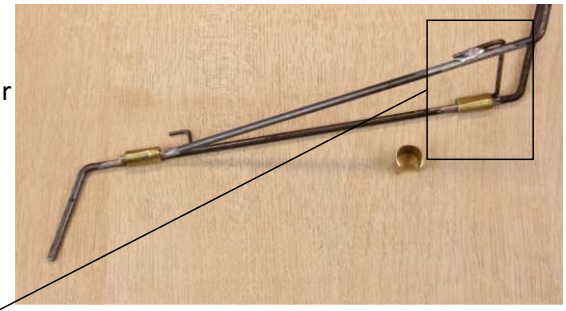
Position the undercarriage wire on the plane as shown and mark the joining positions of the wire. Remove and clean all metal joints with a file. Place back on the plane and temporary solder the main undercarriage together.





Solder these points temporally.

Position the rubber band supports according to the metal length. If you have an IC engine and have the silencer running under the fuselage it may be necessary to lower this to allow the pipe to pass and not interfere with the rubber bands. Cut 8 – 10mm diameter brass tube and slit so it creates a C shape. Wrap this round the joint and solder in place. Once complete fit the undercarriage with the supplied saddle clamps.



This may need to be lowered to allow for the pipe.



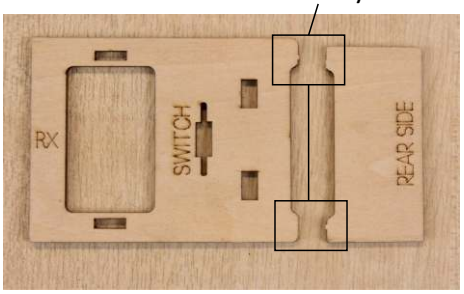
The most common servo installation:-
2 x Servos on the lower wing for the ailerons with links to the upper wing ailerons.
1 x Rudder servo in the rear of the fuselage with closed loop control wire.
1 x Elevator servo in main servo tray.
1 x Throttle servo in main servo tray.





If you have chosen to put the rudder servo in the main servo tray please ensure you modify the servo tray before installation.

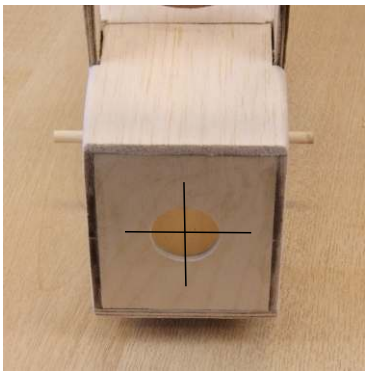
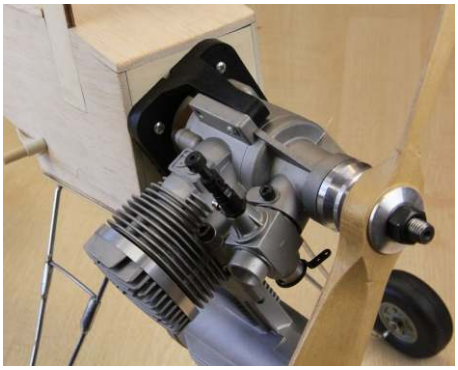
Remove before tray installation.



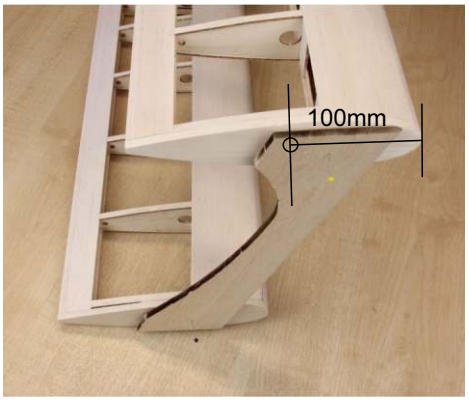




The line of thrust on the Panic is centred around the hole in the firewall, Any power system you are installing please use this as the centre of your installation.

With the panic covered and everything installed the C.O.G will need to be checked. This should be 100mm from the leading edge of the top wing.



Control movement

Experienced pilots
Aileron. 25mm (1”) each way.
Elevator. 40mm (1” 5/8) each way.
Rudder. Up to 80 degrees each way

Not quite so experienced pilots
Aileron. 15mm (1/2”) each way.
Elevator. 20mm (3/4”) each way.
Rudder. Up to 50mm (2”) each way



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