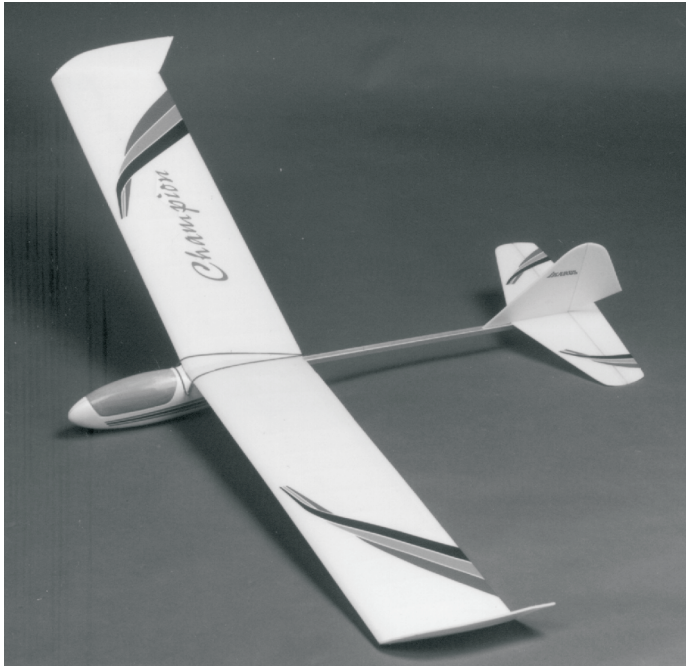


Building instruction



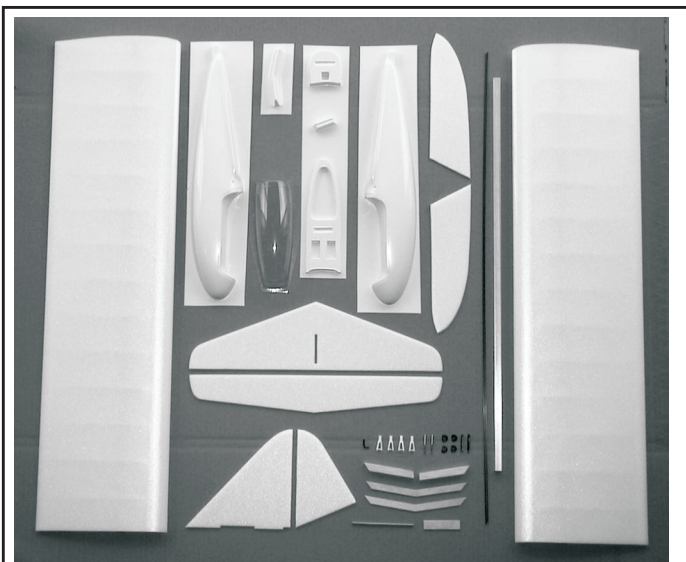
The Champion is an innovative, lightweight 2-4 channel R/C glider. Taking advantage of the latest developments in moulding technology and aerodynamics; Champion is suitable for both beginner and expert alike. Light in weight and incredibly durable; all pilots are guaranteed huge amounts of fun with this model.

Construction is simplicity itself and is easy and fast even for beginners. Flight performance is outstanding for an R/C model of this size. Beginners will quickly develop their flying skills at a rate that will amaze experienced model pilots.

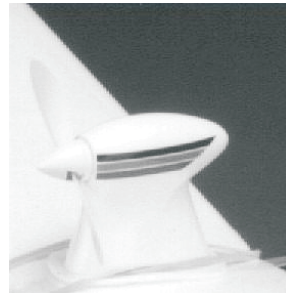
Fly the Champion as a hand launch glider, a tow launch glider, a slope glider or as a power assisted glider (optional power pod is available: part number 160745).

Beginners will be delighted with the stable and easy flying characteristics of the Champion, whilst experts and sports pilots will be amazed by the advanced flight capabilities of the Champion rolls, inverted flight, loops and even outside loops are all possible!

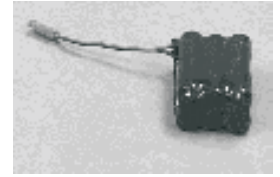
Above all the Champion is versatile and fun.



Champion kit contents



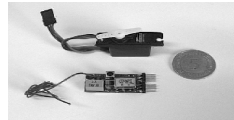
Electric power pod, #160745



Receiver battery pack 4 cell 270 mAh, #721050



Micro speed controller (for 3-4 channel), #160533



Use a standard 2 or 3 channel R/C system with micro servos and micro receiver

(These parts are not included in the kit)

The assembly

Before you start to build your Champion, please take time to read this manual carefully.

Included in the kit are two types of glue that are required to build your Champion.

Cyanoacrylate glue

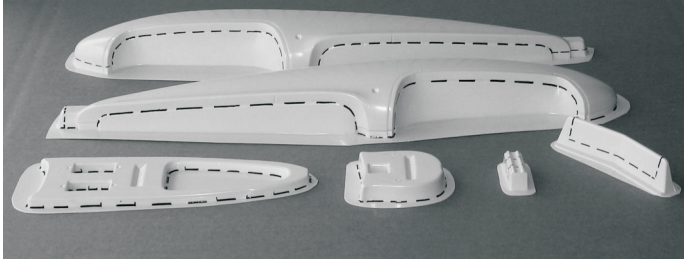
This glue works in seconds. Do not allow children to come into contact with it!

Note: Do not use cyanoacrylate glue with styrofoam parts in this model.

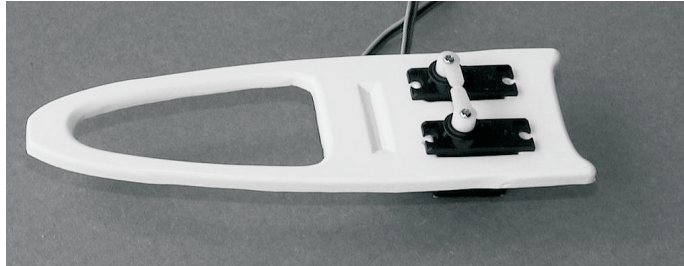
UHU-Por

This is a contact-type glue. Cover both surfaces thinly with the glue and leave to dry for between 10 and 60 minutes before carefully joining the surfaces together.

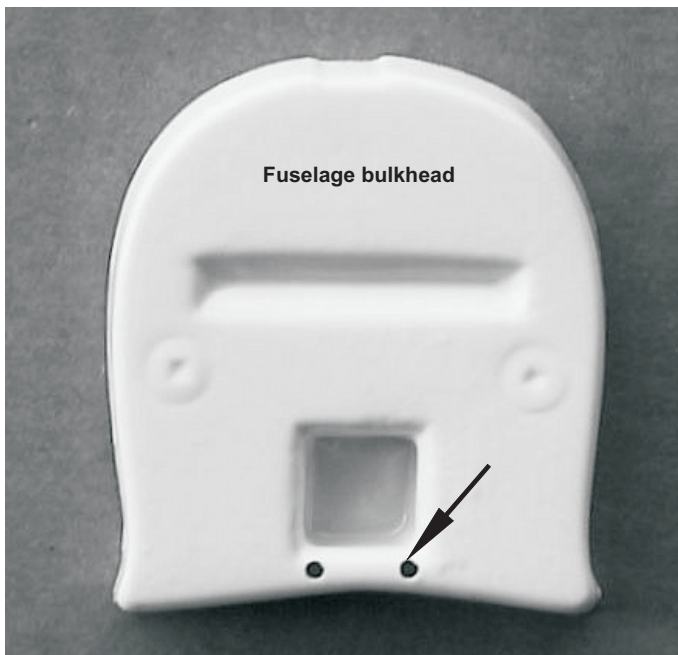
Building the fuselage



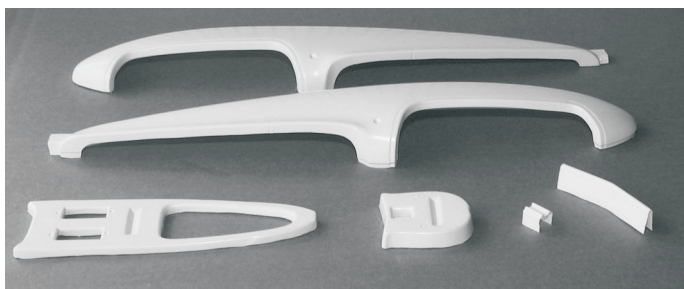
Carefully cut the fuselage mouldings along the dotted lines using a sharp knife or scissors. Smooth the edges afterwards using fine sandpaper.



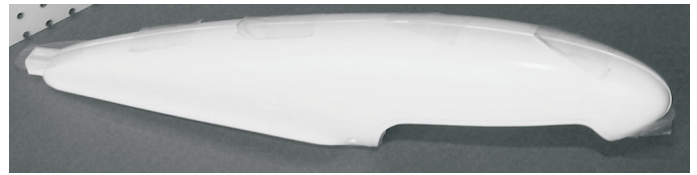
Install the servos into the servo trays as illustrated above.



Drill two 1.5mm holes for the rudder pushrods



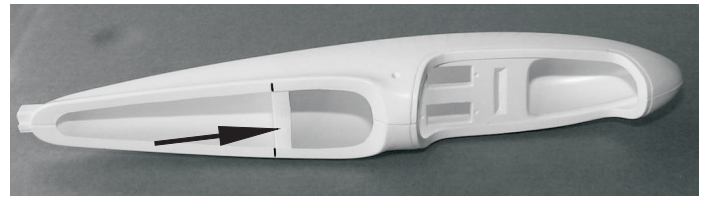
After you have prepared the parts as above, you can start to build the fuselage.



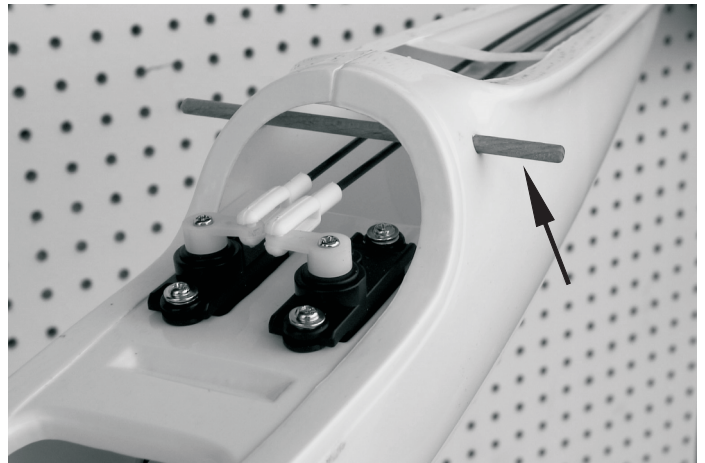
Tape the two fuselage halves together as illustrated above and carefully run a small amount of cyanoacrylate glue along the seams of the fuselage halves.



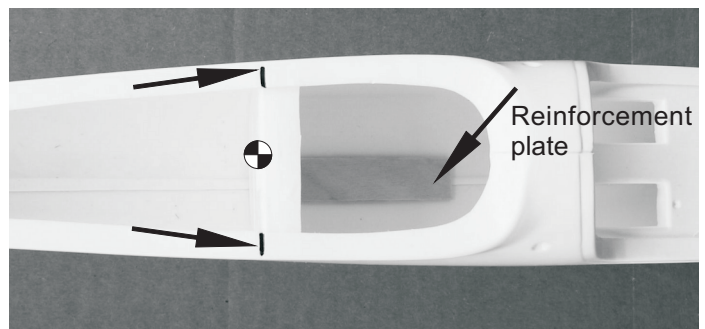
Now place the servo tray into the fuselage making sure that the front of the tray is seated correctly in the nose, then glue with cyanoacrylate.



Now carefully insert the bulkhead into the fuselage at the point illustrated. N.B. There are moulding marks in the fuselage to aid bulkhead location.

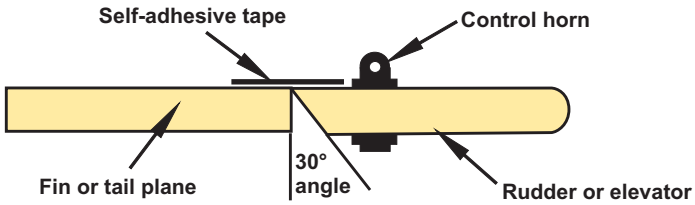


Using a 3mm drill, make two holes in the fuselage for the wing retaining dowel as illustrated.

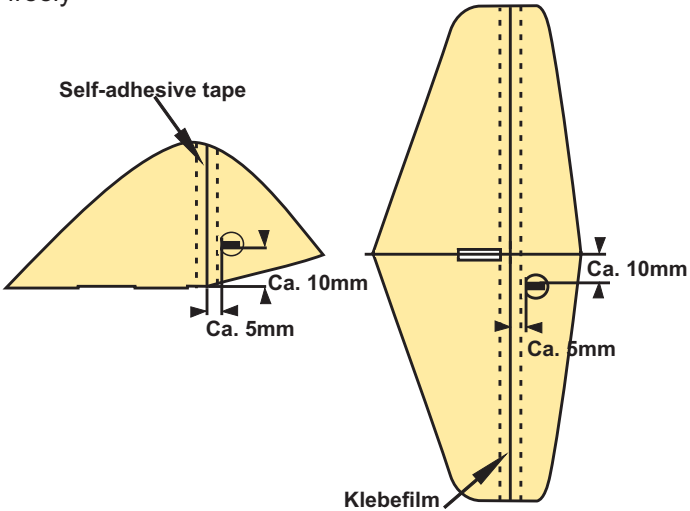


Glue the wooden tow hook reinforcement plate into the fuselage floor using cyanoacrylate. Note that the position of the centre of gravity (☉) is defined by marks in the fuselage moulding as indicated.

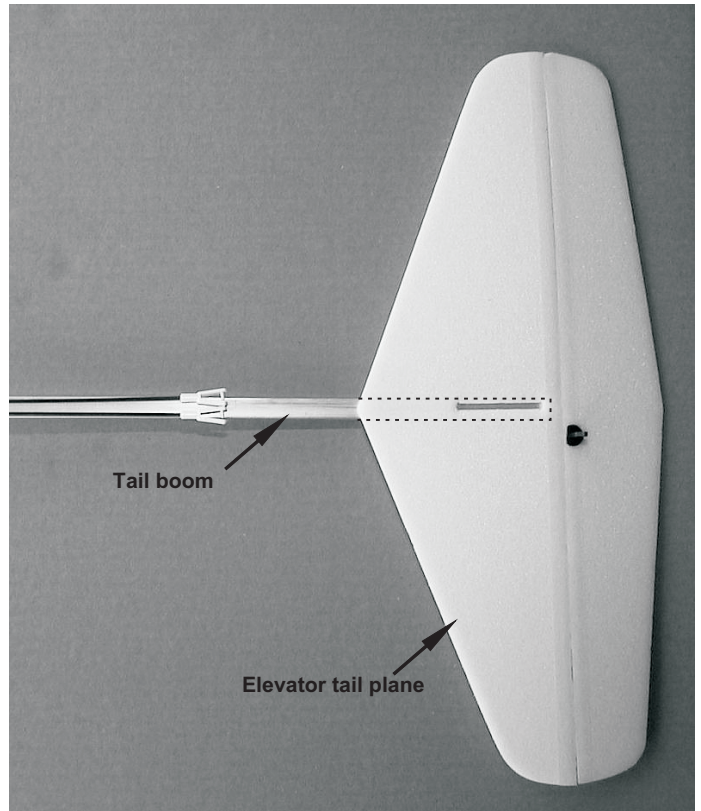
Building the tail section



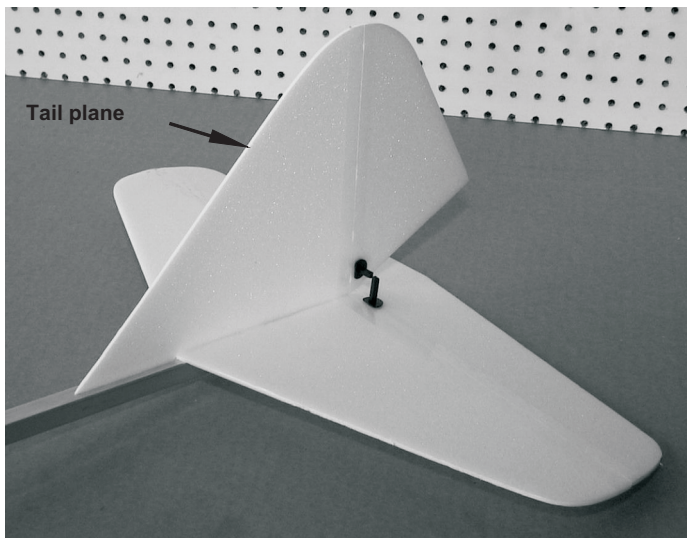
Attach the rudder and elevator as illustrated in the diagram above using self-adhesive tape. N.B. Sand the leading edges of the two control surfaces to a 30 degree angle before attachment. Make sure the control surfaces move freely



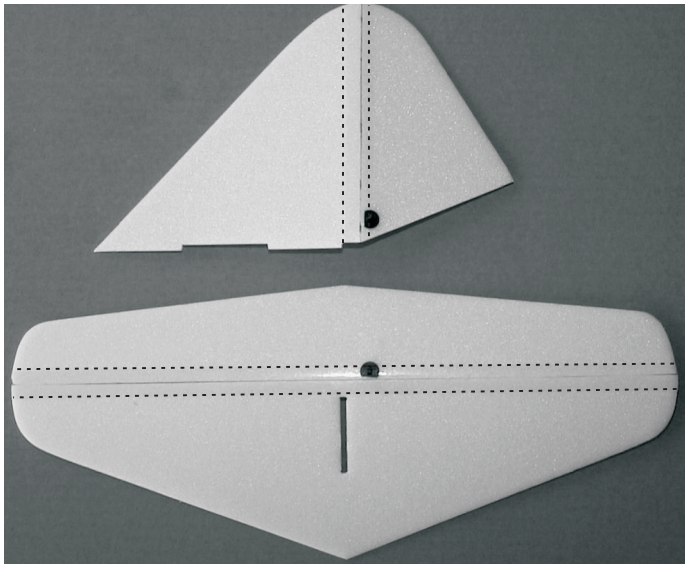
Make a 3mm hole in both control surfaces to accept the control horn. Apply a small amount of UHU-Por to the horn and control surface. Leave to dry for 10-60 minutes and then press the horn into position. Carry out the same procedure for both elevator and rudder.



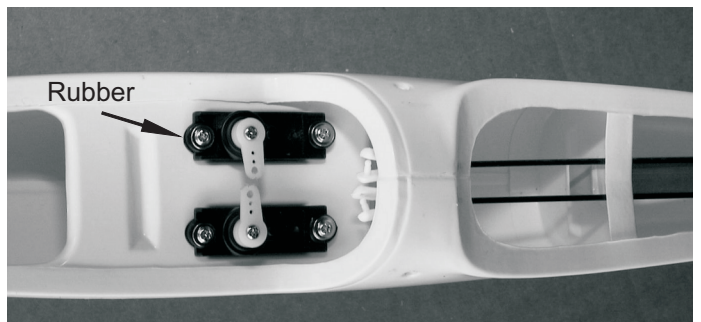
Centre and mark the tail plane as illustrated then attach it to the tail boom using UHU-Por.



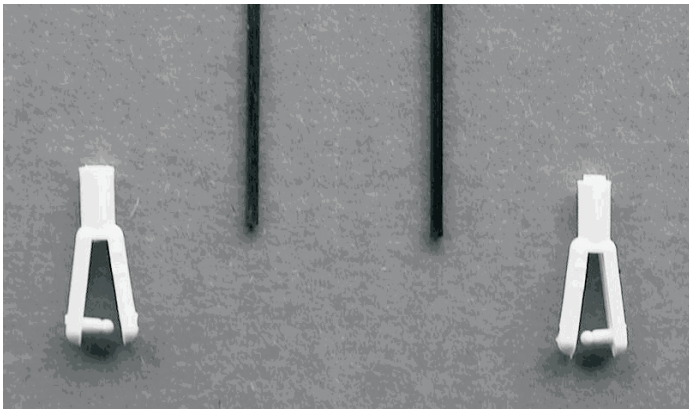
Make sure that the tail surfaces are attached squarely to the tail boom.



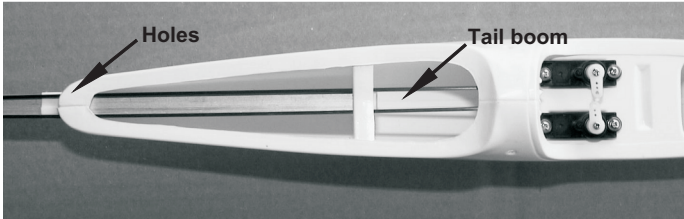
Now the tail surfaces are ready to be attached to the tail boom.



Drill 1mm holes in the servo trays to accept the servo retaining screws and fit the servos into position as illustrated.

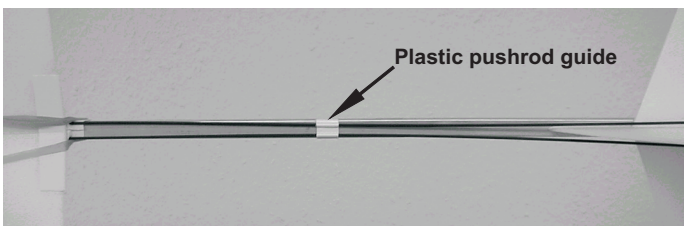


Glue the plastic clevises to the carbon fibre pushrods using cyanoacrylate adhesive. Slightly sand the rods before glueing.

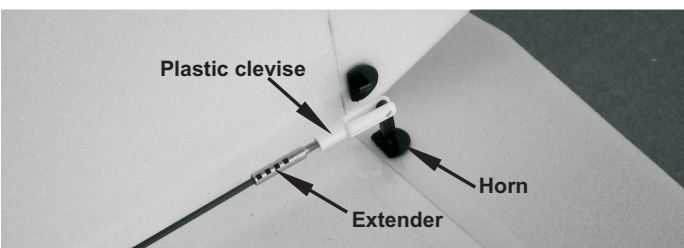


Drill two 1.5mm holes in the rear of the fuselage to accept the rudder and elevator pushrods as indicated above. Slide the pushrods into the fuselage by feeding them from the front of the aircraft through the fuselage bulkhead holes and out through the holes in the rear of the fuselage. Make sure that the servo horns are aligned as illustrated and snap the pushrod clevises onto the servo horns. Slide the tail boom fully home into the rear of the fuselage, but do not glue into position just yet!

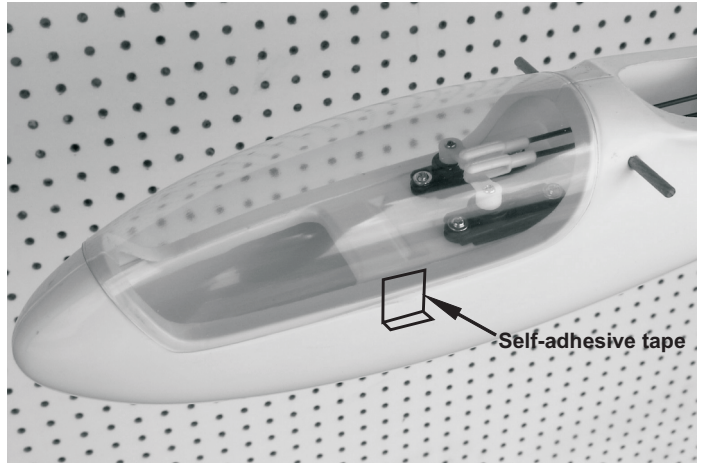
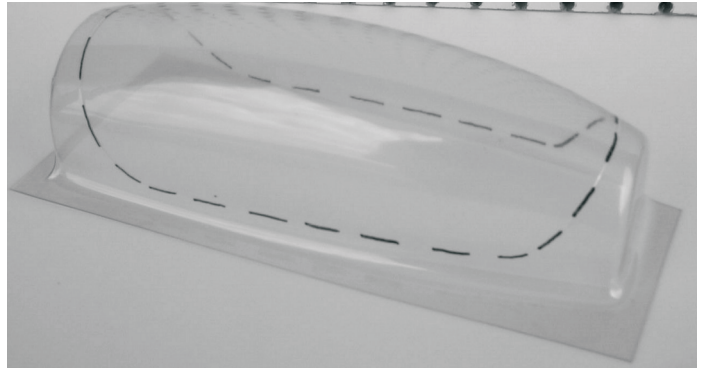
Check that the tail boom is sitting squarely in the fuselage and that the pushrods run out from the fuselage rear along the top of the boom in a straight line to the tail surfaces. When you have checked this carefully, glue the tail boom into position applying cyanoacrylate glue to the point where the boom fits into the fuselage bulkhead and to the point where the boom attaches to the fuselage rear.



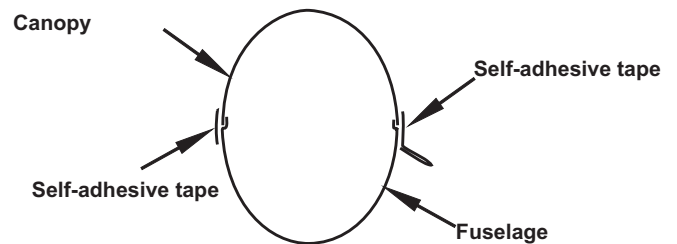
Carefully glue the two plastic pushrod guides into position on the upper surface of the tail boom as illustrated. Make sure the rods are moving without friction.



Screw the plastic clevises onto the metal extenders. Glue the metal clevis extenders to the tail end of the carbon fibre pushrods using cyanoacrylate adhesive. Attach the clevises to the rudder and elevator horns. Check that servo horns are still in their central position and that the rudder and elevator are in their central position. The rudder and elevator must be in their central positions. Adjust the clevises if necessary.

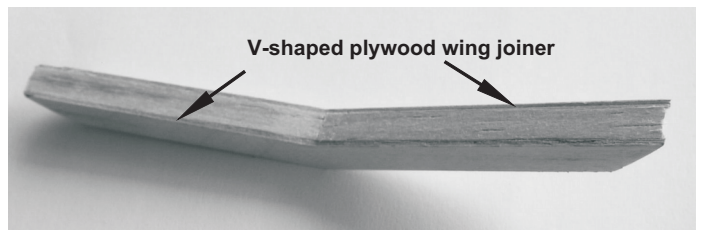
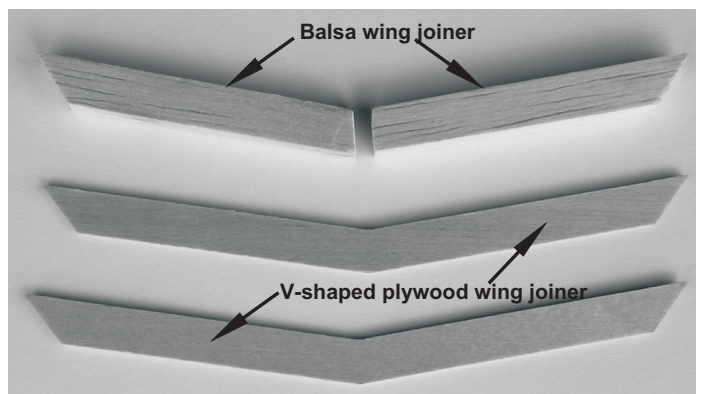


Using sharp scissors, carefully cut out the clear canopy along the dotted line as illustrated.

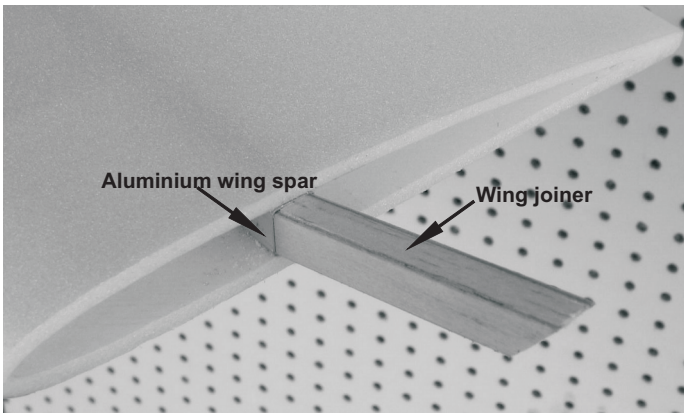


Attach the canopy to the fuselage using self-adhesive tape as above.

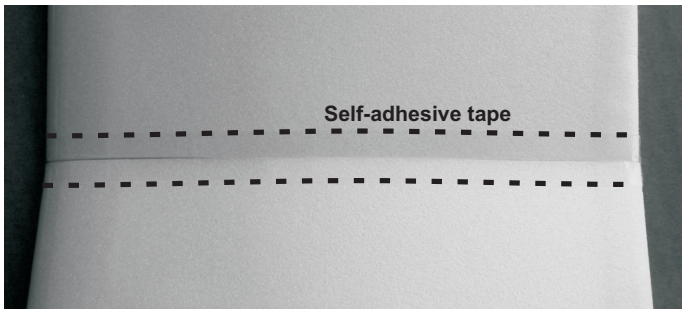
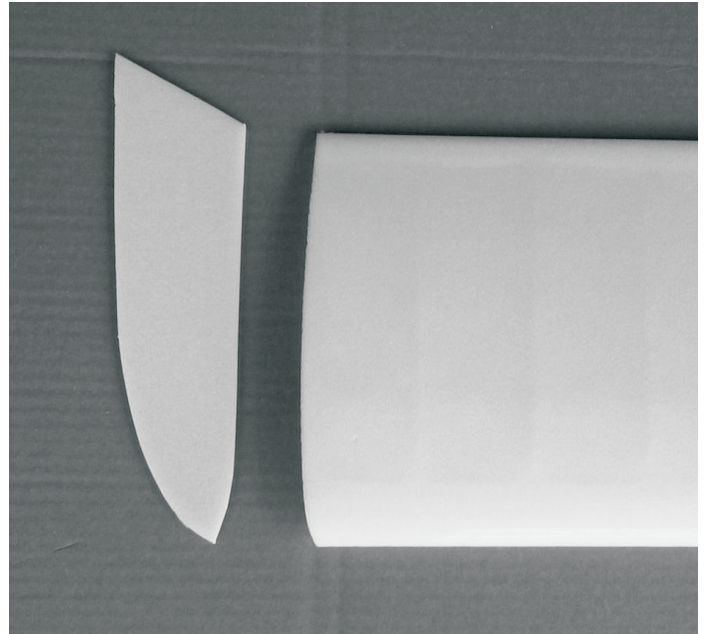
Joining the wings



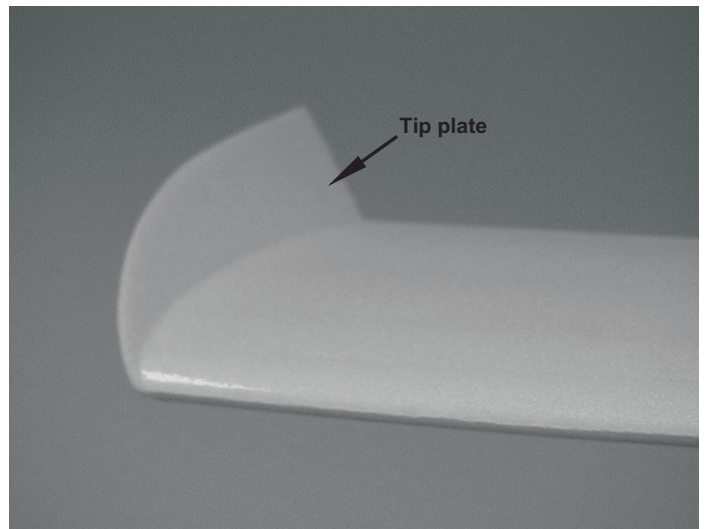
Using cyanoacrylate adhesive, glue the two balsa wing joiners to the V-shaped plywood wing joiners. Note that the balsa joiners are sandwiched between the ply joiners.



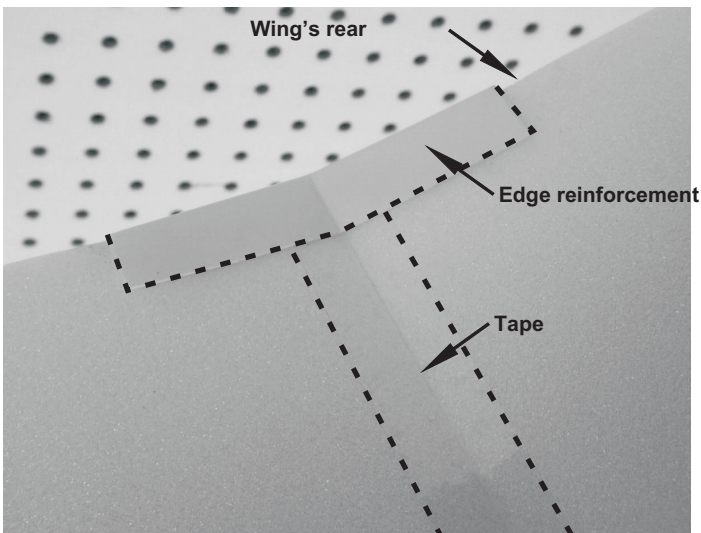
The wing joiners must be a smooth sliding fit into the aluminium wing spars. Sand the joiners carefully so that they fit smoothly inside the wing spars. Apply CA glue to an aluminium wing spar and slide the wing joiner deeply inside the wing spar. Apply UHU-Por to the contact edge of the wing. Apply CA glue to the other wing's spar, then slide the wing onto the wing joiner until the contact edges of both wings fit together. Leave the wing to dry for approx. 30 min.



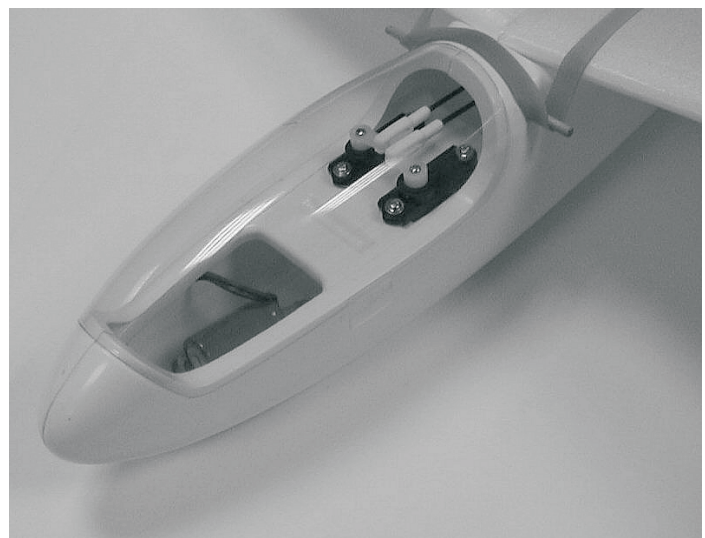
Reinforce the contact edge using one strip of self-adhesive tape.



Using UHU-Por, glue the tip plates to the wing tips as illustrated. Cut out the decal set and apply it accordingly to the pictures shown on the kit's cover.

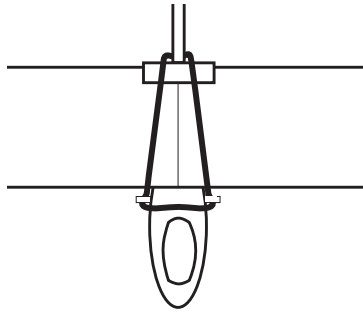


Using UHU-Por, glue the trailing edge reinforcement onto the rear of the wings as illustrated.



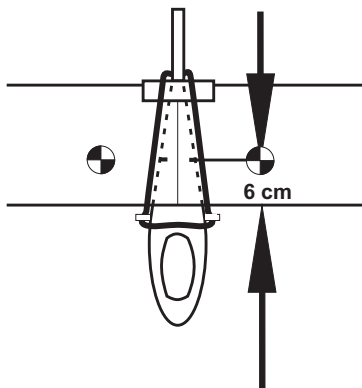
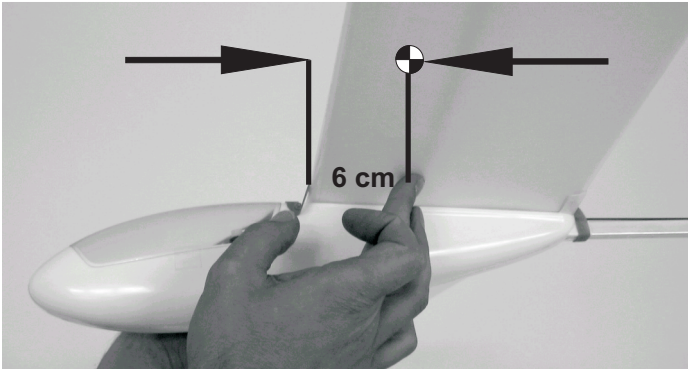
Fit your receiver, nicad and switch harness into the front of the fuselage using foam packing to hold these components into position and also to protect them. Run the receiver aerial along the under side of the tail boom and attach to the boom using self-adhesive tape.

Attaching the wing



Attach the wing squarely onto the fuselage and retain using a rubber band as illustrated.

Obtaining the correct centre of gravity (C G)



Before your first flight; make sure that the CG is correct. The aircraft must balance level when supported by the tips of your fingers at the CG. It is OK if the nose is slightly down when your Champion is supported at it's CG position. See illustration above.

If the CG is not correct then move the battery pack forwards or rearwards to achieve the correct position. If necessary, then add some weight to the nose or to the end of the tail boom.

Make sure that your battery pack is firmly secured and cannot move in flight.

First switch on your transmitter and then your receiver. Stand behind your Champion and operate the rudder first. When you move your transmitter stick to the right, the rudder must also move to the right.

The maximum angle of rudder deflection must not exceed 25 degrees each side of the centre position.

Pull your elevator stick back to give up elevator. The elevator on your Champion must move up. The elevator deflection must not exceed 25 degrees each side of the centre position.

Pre-flight checks

Before you fly; make sure that your R/C system is functioning correctly and that your batteries are either new

or fully charged. Check the range of your R/C system as per your R/C manufacturer's instructions.

Special note for newcomers to R/C flying

If you have never flown R/C models before; then you should seek advice from your supplier concerning the correct procedures required for safe and successful R/C model flying.

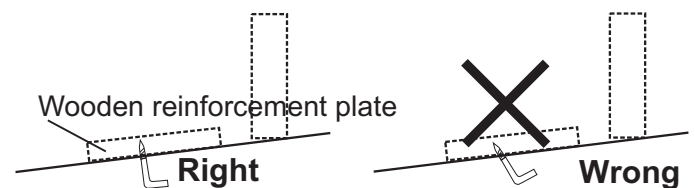
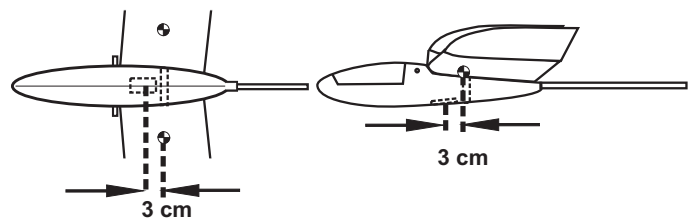
Attaching the high start hook

With the included high start hook the model can be launched without motor set

use an elastic launching cord or ask a helper to assist you with a cord.

Pls. only use the high start hook when the pre-flight checks are finished successfully. Therefore first make sure the model flies properly and problems, e.g an incorrect centre of gravity, have been solved.

The hook is fitted with a thread to be threaded in wood. Pls. thread the hook as illustrated into the wooden reinforcement glued into the inside of the model. Make sure the distance between the centre of gravity and the hook is 3 cm.



To succeed in launching the model make sure to apply an angle of attack of about 10 degrees. Make sure the launching cord can easily be separated from the model after launching e.g. by applying a metal ring to the cord's end.

The Ikarus team hope you have lots of fun flying your Champion R/C glider.

Great flying and may the sun shine every day!