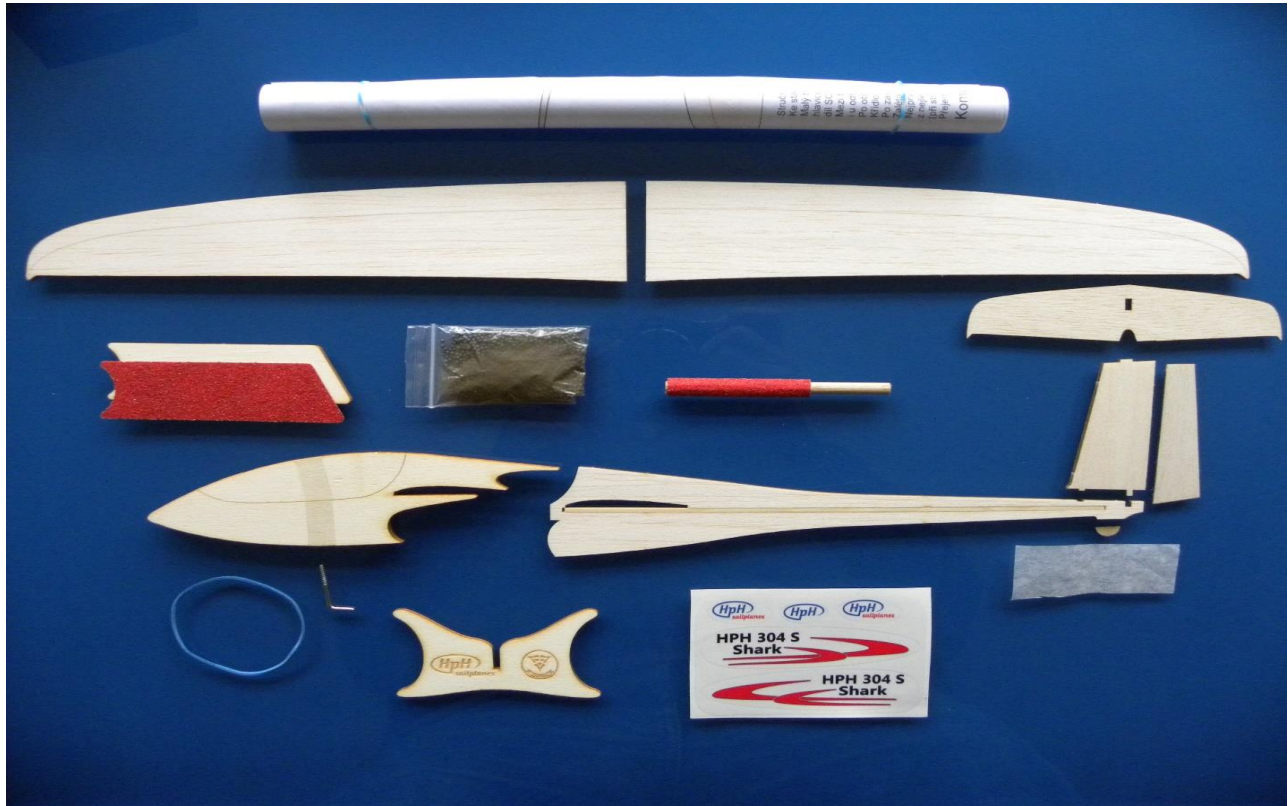


# HPH *TWIN SHARK* Model Sailplane Kit

## Building Instructions



Thank you for purchasing this **TWIN SHARK** model sailplane kit. All parts have been precision laser-cut from high quality balsa and birch ply. The model is quick and easy to build and will provide you with many hours of fun flying. The kit comes complete with sanding blocks and sandpaper to enable you to shape each feature of the airframe prior to final assembly. A wide variety of adhesives can be used to bond the various elements together, but we recommend using UHU Hart when bonding the wings due to its forgiving nature and flexibility. This will help you to achieve the correct dihedral (angle between the wings) with relative ease, using the included plywood stand/dihedral jig.

To start construction, you will need a straight, flat worktop, modelling pins (or pegs/clamps), glue (UHU Hart recommended for wings), thin CA glue (Cyano Acrylate) or PVA. Your choice of paint can also be applied to customize the model.

In these instructions we describe the basic building steps required to complete the model. If necessary, please consult the help and advice of someone who has the acquired skills required to complete the model.

Prior to building the model, we advise making two sanding blocks to facilitate shaping and finishing of each element of the model. The kit includes a large piece of sandpaper and corresponding plywood block and a small strip of sandpaper and wooden dowel block. Glue the sandpaper pieces to the matching block and allow to dry. These two sanding blocks will enable you to sand complex curves and leading/trailing edges as per the profiles shown on the plans.

The nose section of the fuselage, comprising 3 parts, has been taped together in the correct sequence of assembly. Carefully remove the tape keeping the parts in the same sequence for gluing together. Glue and pin/clamp the parts ensuring that they are perfectly aligned. When the glue has set, use the sanding blocks to shape all edges of the nose section. This is far easier to achieve prior to assembly of the rear fuselage section.

Insert the plywood spar reinforcing strip into the slot in the rear fuselage section and glue in place. Lightly sand and shape the edges and sides of the rear fuselage section. Again, this is far easier to achieve prior to assembly with the nose section.

Sand the leading edge of the vertical fin and horizontal stabilizer to a rounded aerodynamic section.

Working on a flat surface, assemble and glue the vertical fin into the top of the rear fuselage section and ensure that the whole assembly is kept perfectly flat whilst the glue sets. Fit and glue the dummy rear wheel profile into place.

Fit and glue the rudder onto the rear of the vertical fin and keep the assembly flat whilst the glue sets.

Fit and glue the horizontal stabilizer into place and ensure that it is perfectly perpendicular to the vertical fin before allowing to dry.

Using the large rectangular sanding block, shape the wings into an aero-foil section as shown on the plans. When the correct wing shape has been achieved test fit each wing section into the wing slot in the fuselage and ensure an accurate fit.

Using UHU Hart glue or similar, glue the two wing sections together on a flat surface and the glue to partially cure. Now fit the fuselage into the slot in the top of the plywood dihedral jig. Slide the wings into the wing slot in the fuselage and adjust until they are perfectly centered. The flexibility of the UHU Hart glue will allow the wings to take up their correct dihedral (angle of the wings). Using a length of wood or a ruler, carefully measure from each wing tip to the same point on the top of the tailplane and make sure that the measurement is identical for each wing.

Now permanently glue the wings in place using UHU Hart or similar glue. Check alignment with the horizontal stabilizer and double check the wingtips to tailplane measurement. Correct airframe symmetry is critical for stable and efficient flight characteristics.

Reinforce the joint between the vertical stabilizer and the rear of the fuselage using the included tissue paper and PVA glue or similar. Sand the edges to remove any excess tissue paper once it is dry.

If desired, fit the supplied metal tow hook as shown on the plan. Apply the desired paint finish and decals.

**Adjusting the Centre Of Gravity (CofG):** In order for the model to maintain stable flight it is important to establish the correct Centre Of Gravity. Using the supplied bag of ballast balls, pour these into the hole in the top of the fuselage nose section and temporarily plug the hole with a piece of scrap balsa. Conduct several short test flights to see how the model performs. Adjust the amount of ballast until the desired flight characteristics are achieved. Glue the wooden plug into place to seal the ballast compartment. The model is now ready for flight and can be launched by using the supplied elastic band or by hand chucking it into wind. For longer duration flights it is also possible to use a short bungee made up of elastic and fishing nylon.

The *TWIN SHARK* model is not a toy. It is important to take great care in constructing the model and in its safe operation.

Wishing you many successful and enjoyable flights with your new *TWIN SHARK* glider.



Watch out for new additions to our model aircraft range on our website:

[www.craftyproducts.co.uk](http://www.craftyproducts.co.uk)