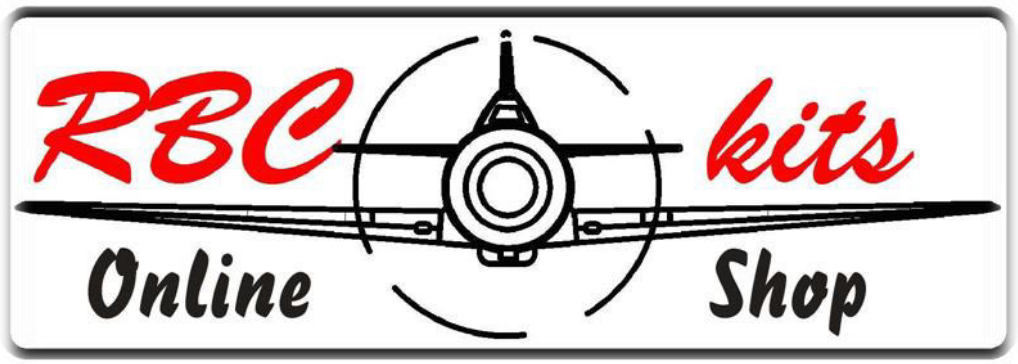


Thank you for purchasing Hawker Tempest V from www.Rbckits.com

For the first time, R/C enthusiasts we have a choice in scale and fun flyer aircraft designs.

Our goal, through computer technology and state-of-the-art production techniques, is to offer aircraft which in the past have not been modelled simply because they weren't popular enough to justify mass production. Our production techniques allow us to produce aircraft which, though not as popular and well known as P-51s and P-47s, still offer historical significance (good or bad!), Good looks and flying characteristics, and a uniqueness that is sure to turn heads wherever you take your airplane!

Your airplane has many unique features in its design:

CAD Design

CAD design allows strength to be built into the airplane without sacrificing weight. Accurate parts design and placement ensures a perfect fit.

CAD Drawn Plans

The plans in this kit are not copied from a master set! They are originals drawn directly from the CAD program where the airplane was designed. We do this because it allows us to use colour, which helps you better visualize the various components of the airplane, and we can use better quality paper, which greatly reduces the possibility of shrinkage.

Since you're going to build directly on the plans, they ought to be the proper size! Also, parts placement is guaranteed to be accurate, so you can build a better, straighter model.

Small and hard-to-produce parts are simply a computer file away, so you get a more accurate airplane.

Lightening Holes

Lightening holes are cut into all ribs and formers where possible and justified. This allows us to keep the weight on each plane to a minimum without sacrificing strength.

The same program that generates the design and plans also drives the cnc cutter, so every part is reproduced exactly as it was designed. cnc cutting also allows us to fit more parts on each sheet of

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wood, reducing the waste, and lowering the cost to you.

Plastics

The cowl and belly pan are accurately reproduced high quality Polystyrene, the canopy is made from PETG

General Building Information

The Hawker Tempest V can be built by a person with average building skills. It is designed for someone who has built a trainer or low wing sport plane. No unusual building techniques are required, although more difficult areas are explained in detail where necessary. Certain steps in the building process must be followed as depicted, or you might find yourself digging back into the structure to redo something. These areas are outlined when necessary. Occasionally hints will be included at certain building steps. These are not required for completion, rather they are tips intended to ease a particular process. The cnc router does cut through the wood, As a result of this, occasionally there will be fraying on the surface of the wood. This is normal, and is only a surface problem and does not affect the wood in any other way. Similarly, the cnc settings are optimized for wood thickness averages, so occasionally, due to variations even in individual sheets, some areas might not cut through completely. Simply use care in cutting the parts from the sheets; most of the time, the parts will break out of the sheets!

Hardware and a motor mount are not included in the kit. There are so many choices for quality hardware that these choices are left to the individual preferences of the builder, rather than include something in the kit that you'll probably throw away anyway.

This aircraft is not a toy. It must be flown in a responsible manner according to the rules set forth by Law. The builder assumes the responsibility for the proper assembly and operation of this product. Rbckits shall have no liability whatsoever, implied or expressed, arising out of the intentional or unintentional neglect, misuse, abuse, or abnormal usage of this product. Rbckits shall have no liability whatsoever arising from the improper or wrongful assembly of the product nor shall it have any liability due to the improper or wrongful use of the assembled product. Rbckits shall have no liability for any and all additions, alterations, and modifications of this product.

Having said that, turn the page and start building the best airplane kits on the market!

Material you might need:
Balsa knife, Stanley knife, straightedge, building board 1500mm
ca glue medium, thin, thick you need approx. 6 bottles, building nails, tape
Or use white glue, and canopy glue, epoxy for the canopy and cowls
Some drilling and bending tools, wire cutter, safety goggles etc. etc.

For finishing you need:
glass 25 gram 3mtr and filler dope 1 litre, brushes sanding paper, paint of your choice
Wheels as on the drawing, controls, motor, battery etc.

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All vacuumformings should be roughened up before gluing

Check the 3d pdf (you need adobe x10) and pictures for additional information, a picture says more as a 1000 words so do look at the pictures on the cd

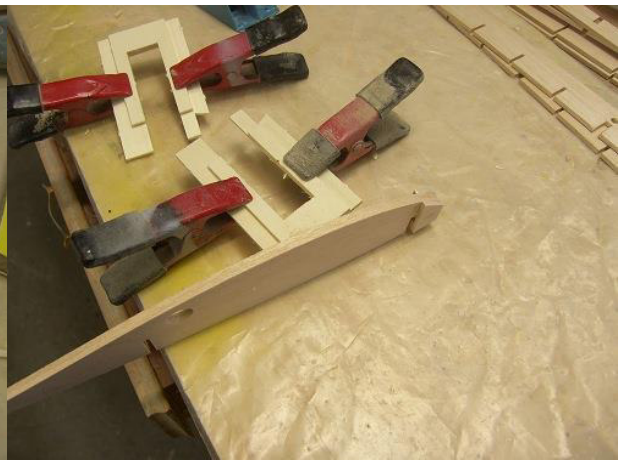
Wings:

Start with a flat building board with the size for the wing and fuselage
Place the drawing of the wing on the building board and protect it with plastic.

Start by making the bottom sheeting from the supplied balsa sheet, place the sheets on the work plate and nail them down , use cello-tape to connect the edges, take them of and glue the edges with thick ca , place on the work plate and sand down the glued edge, turn the sheet over and take of the cello tape and sand the edges, now there will be one smooth side and a lesser smooth side , this is because of the thickness of the balsa is not even, the non smooth side will be the inside of the sheeting.




take out all ribs and formers out of their sheets , you can mark the formers with a soft pencil if you like , sand of all holding tabs.

Join main formers and place rib doublers , check the drawing for the correct position of the doublers

and or retract formers.

Mark the main-formers ribs on the bottom sheeting, place main-formers on sheeting place ribs , do not glue yet , make sure for straightness .

if all seems ok then pin down the main former and start glueing the ribs with thin ca one by one to the bottom sheeting, note roll the ribs over the sheeting and apply ca




Place trailing edge to the end of the ribs to the bottom sheeting.




Place sub leading edge to the bottom sheeting and to the ribs.

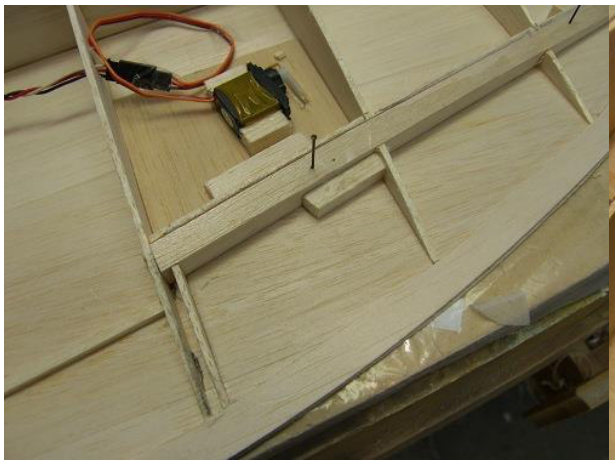



Do this the same for the other side of the wing., sand the sub leading edge to the ribs .
Make the mid sheeting from the supplied balsa , important is that the mid piece is straight so support the sheeting when glueing the ribs and formers to it, place sub leading edge and sub ribs.
Place the trailing edge from 2x12 balsa cnc cut sheet, place also some scrap balsa before the trailing edge to support the wing fasteners

Place aileron formers from 10mm balsa in the ribs by taking out a small piece of the rib , place scrap balsa fill in the horn and hinge positions



Place servo and wires into the wing , place servos on extra 1,5mm balsa , we shrinked the servo in shrinking foil and ca them to the bottom sheeting, with a fill on top, make also a opening for the servo arm in the bottom sheeting.




Do not forget to mark the position of the aileron on the bottom sheeting , by sticking through a balsa knife , this is a lot easier





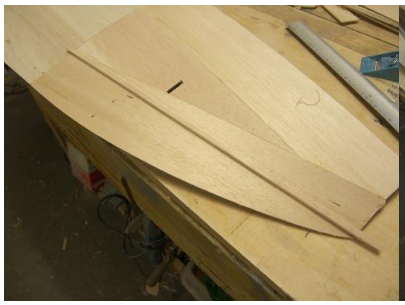
Now make the mid piece of the wing by supporting it with a help-former so the bottom is level to the building board and sheet the top carefully, measuring to the ribs from the outer wings .

Now pin down the outer wing panel on the X marked spots , Place the small help-formers as displayed on the drawing , make them from 6x12 balsa , important is that they all have the same height, this will give the correct washout, place then under the trailing edge as per drawing and pin down the trailing edge .

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Place the tip helpformer from 6x12 (use same as midpanel) and pin down the wing, place the top front sheeting, note that this sheeting locks down the washout





Note that the wing is elliptical you can not sheet it with one piece of balsa
do this the same for the other wing half .

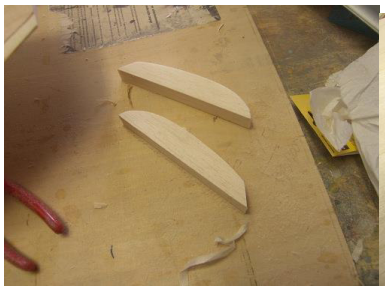
Clean up the edges of the wing and place leading edge




sand leading edge to shape as per plan , place wing-tips and take out ailerons and sand edges as per

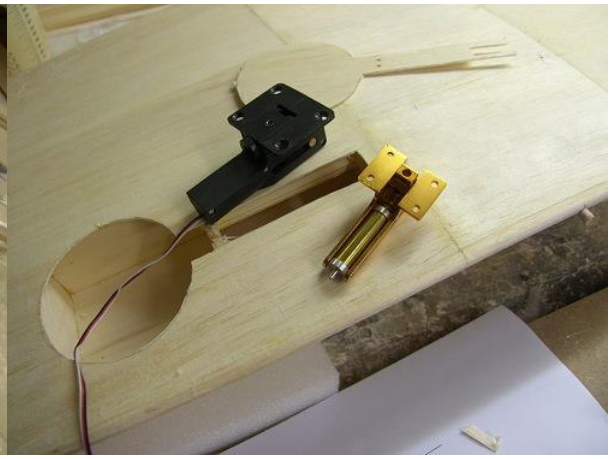
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plan.

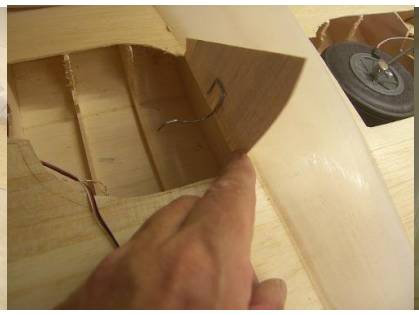
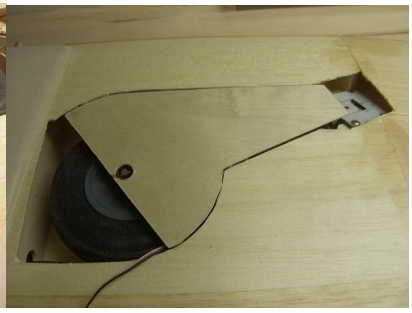




use the supplied hinges for the ailerons they are easy and do perform very well, but do pin them with needles and ca

Choose your retracts and open up the bottom sheeting for taking the retracts and wheels .use the drawing as reference, you can use the cutout of the wing for retract doors, also the small door, strengthen them with extra glass,Place wing dowel .

Fuselage :

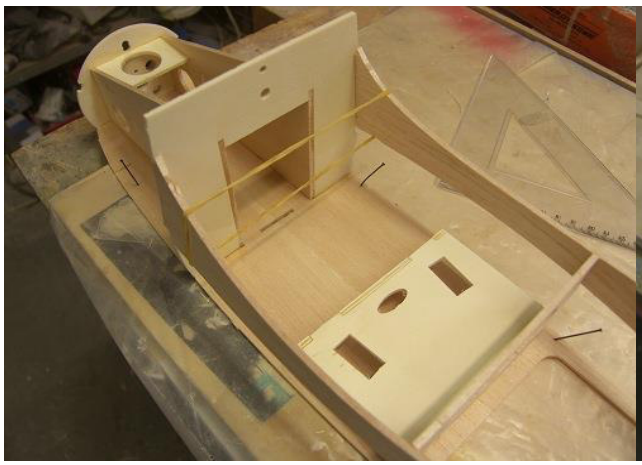
Make the main crutch and place on building board , let the front over hang at the edge of the building board to take nose formers., shown is the NTM drive option, the back mount option is on the drawing and delivered in the kit , we found the ntm drive to complicated , but it is also shown on the drawing as alternative option.

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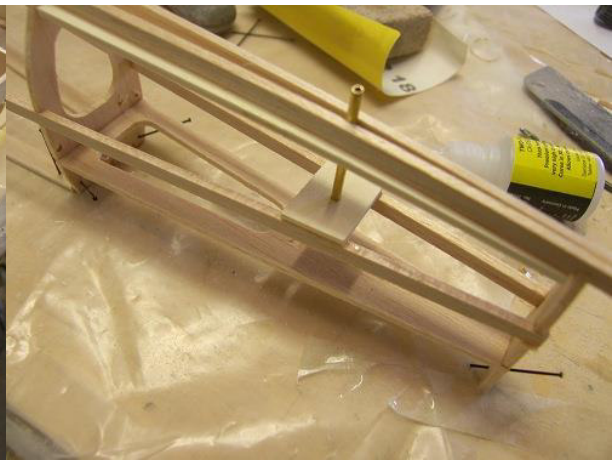



place formers as per drawing, make sure for straightness ,place bottom sheet over formers and sand to shape.place self clinching nuts with epoxy

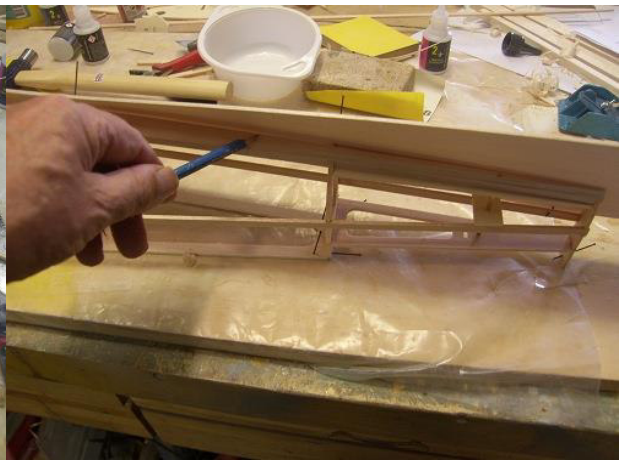








Place the stringers and the tailwheel assembly and formers

make the side sheeting as per plan a bit oversize and glue to side of fuselage to the stringer and formers .

place wing seat plywood , use wing for test fitting .

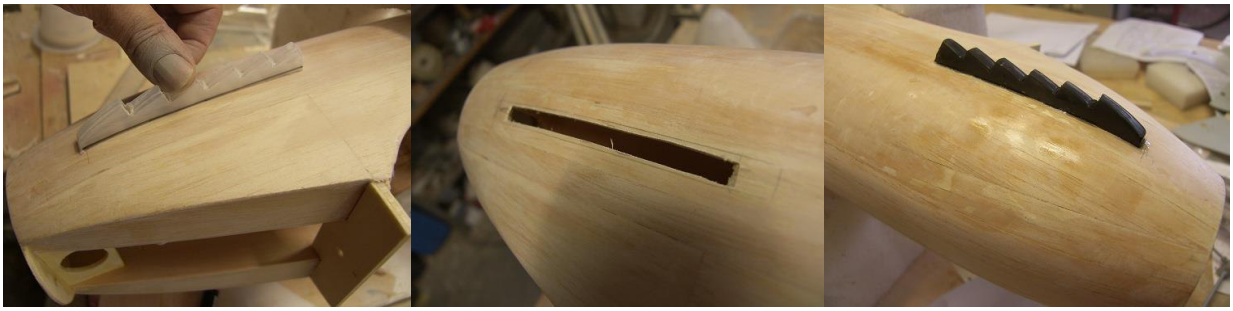





Test fit wing and place fairing sheeting drill holes for wing retainers



place fairing and belly pan

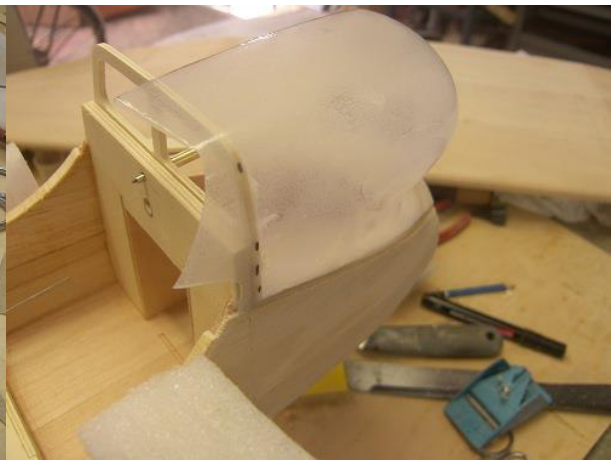


Make cooling opening under dummy exhaust

Finish fuselage by placing all sheeting and fairing formers and sand to shape ,

Place cowl formers and cut cowl with oversize trial and fit the vacuumformed parts glue with ca.

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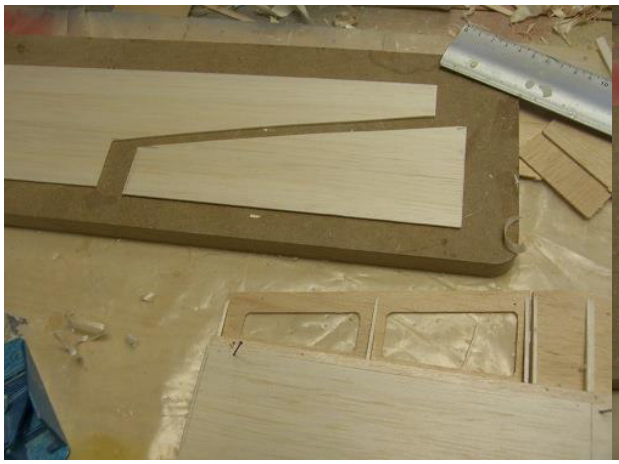
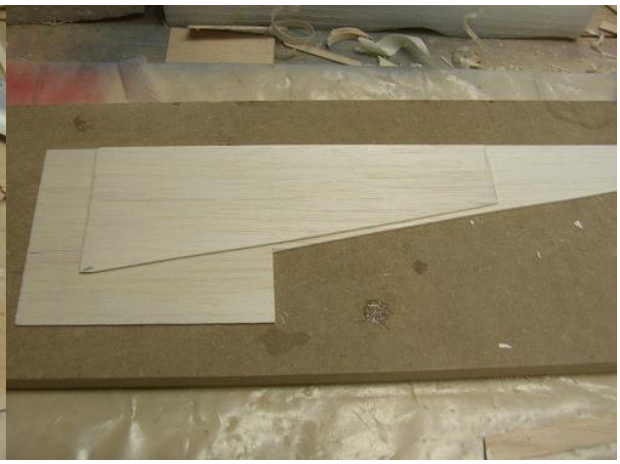





Stabilizer:

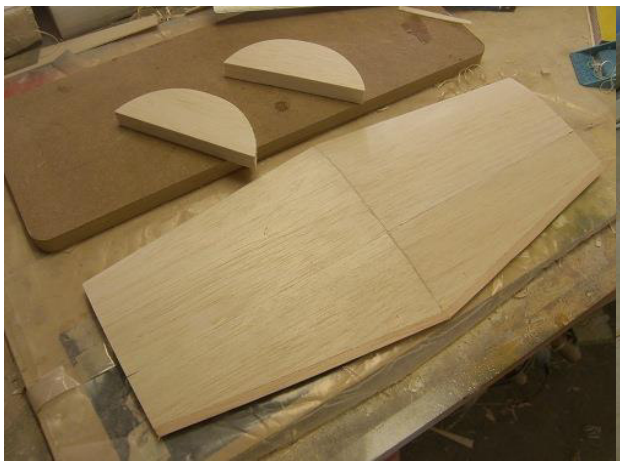
Make the stabilizer from the cnc cut parts glue and sand to shape .sheet with balsa, turn over assembly and place ribs and formers and sheet again other side with balsa .



Cut sheeting as supplied.make small opening fort he 10x4 spruce rudder former




Place tips sand to shape and cut elevators from stabilizer

Place the fill parts to the fuselage and place stabilizer assembly to the fuselage , make sure for straightness. fill and sand the edges of fuselage and rudders.



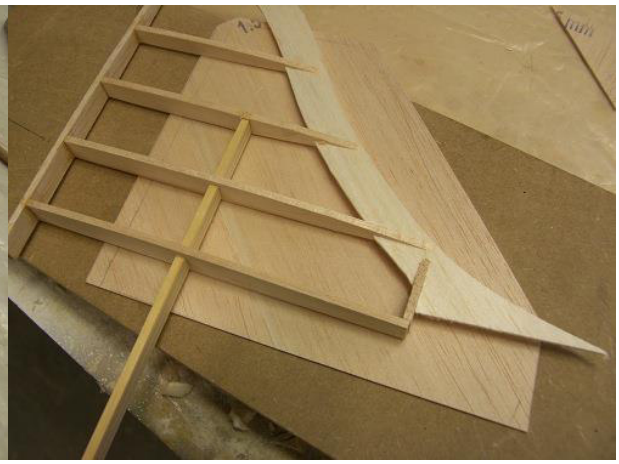

Vertical stabilizer:

Draw up rib lines on rudder core Rc1 and glue rudder core to Rle, place ribs from 1,5x8x1000mm balsa and sand to shape , place fill from scrap and cover rudder with solartex, place rudder trim tab





Make vertical stabilizer from parts as on the drawing, and carefully sheet with 1,5mm balsa

Place 10x4 spruce core and sand to shape




Place hinges make sure for smooth movement in conjunction with the steering cables and horns.

Secure hinges with a pin.

Spinner (spitfire spinner shown but sequence is the same)

cut the edges of the spinner and backplate but leave a few mm standing for lining out the spinner
Place the spinner backplate formers with ca in the backplate with help from the 4mm dowels.




Make opening in spinner for your prop, the template gives a bit of lead to the shape.Place spinner to backplate , now you see why the edges need to be there , the spinner edge rest on the backplate , this is very precise drill holes to take the 2,2x9mm screws and screw the spinner to the backplate , it should run straight now .. Yes ? else do it again .

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Make the tail wheel assembly as per drawing , make the controls steering with z-bends , this is a dead sure connection.
Place the canopy with ca , but first clean the canopy with window cleaner and use gloves , grease makes the canopy fog , do not forget a pilot .
Place other vacuum formed parts as per drawing use ca and do sand the parts very well




Finishing:
The whole airframe is covered in 25gr glass and doped with filler dope, DO NOT USE SHRINKING DOPE EVER.
Filler dope is not too hard to sand, and filled with some extra talcum powder sands great and smooth, when ready a thinned layer of sanding dope is OK
Now finish with... Vallejo, humbrol or we used cheap spray cans... take care for the vacuumformings as some paints will not hold as good.
Canopy:
Cut oversize.. And test fit to fuselage, glue with canopy glue, or ca and make it lively with pilot, radios, etc. The canopy framing can be painted on

Have you found an error in the drawing or parts or instructions, just mail us at info@rbckits.com

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I am sure we can find a solution for your build.

Some tips:

We used electric retracts for the tempest , and we used a separate battery for the retracts this makes it safer, , air set is also possible , the weight difference is none

We used a low rpm motor so we can drive a large prop, keep in mind the airspeed for the large prop and it will work out fine, wheels, we used dubro treaded lightweight 100mm wheels , and we used 4mm wheel legs, you can go better to 4,5mm is a bit stiffer.
Keep tail as light as possible , CG measure with wheels in.

Flying :

The Tempest easy lifts of and is easy to fly you do not need flaps , but if you like you can always make them in, landing: plan it in and land it as usual low speed as possible but do not make it to slow .

A 4S battery is powerfull enough, but we do need the weight in the nose so we used a 5S

Throws of the rudders etc , we like them big , but it might be to much so always, make them large and have a dual rate button in your fingers, to small throws is most of the time problems, to large .. it is in your fingers

If you need additional pictures, just ask.

Have Fun with the Hawker Tempest V

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