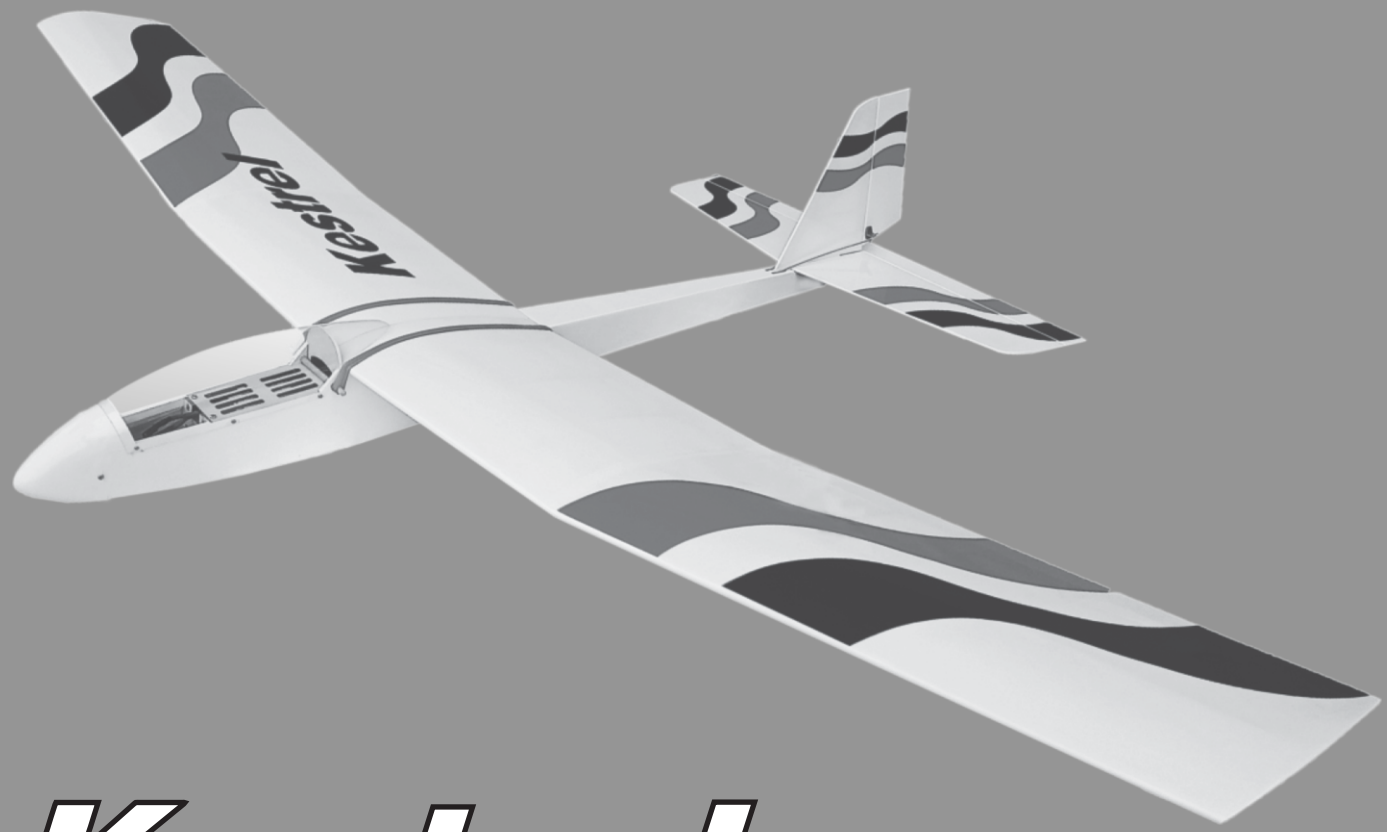
INSTRUCTION MANUAL



Kestrel

RADIO CONTROLLED GLIDER KIT

Kestrel is designed as a sailplane for thermal flying or as an electric powered glider for gentle flying sessions, makes an ideal trainer for beginners. Kit contains two molded cowlings for sailplane as well as EP version. Assembling kit is fairly straight forward. Follow step by step instructions for an enjoyable building experience. Before flying choose a safe flying place free of obstacles. Do not fly near people or near to electric poles. Always fly the plane keeping safe distance in mind. Remember you are solely responsible for ensuring safe flying.

Pay special attention to this symbol!

⚠ **IMPORTANT**

Specifications

- Wing Span: 1570mm
- Length: 930mm
- Flying Weight: 750-800 Grams
- Motor Required: 2212 W/30A ESC

PRE-CONSTRUCTION NOTES

1 **Glues:** Three types of glues are used in construction:

1- Water Based Aliphatic Glue (White Glue): Referred in instructions as glue
2- Cyanoacrylate (Medium Viscosity): Referred as CA
3- Two Parts 30 Minutes Epoxy Glue: Referred as Epoxy

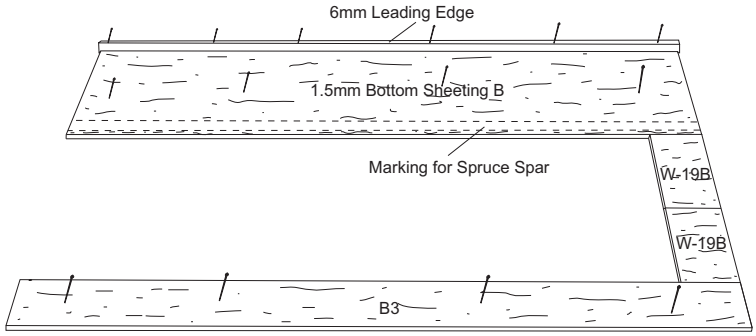
Model is built on a flat building board which can easily accept common pins for holding parts in position. Lay Plan flat on building board and cover the plan with wax paper or clear polythene sheet so that parts do not adhere to plan.
Before commencing assembly, study plan, kit parts and instructions to develop a general idea of overall fit and sequence of assembling. Laser cut parts are retained in panels with breaks, remove breaks using a balsa knife. Remove parts from the panels as and when required.

WING ASSEMBLY

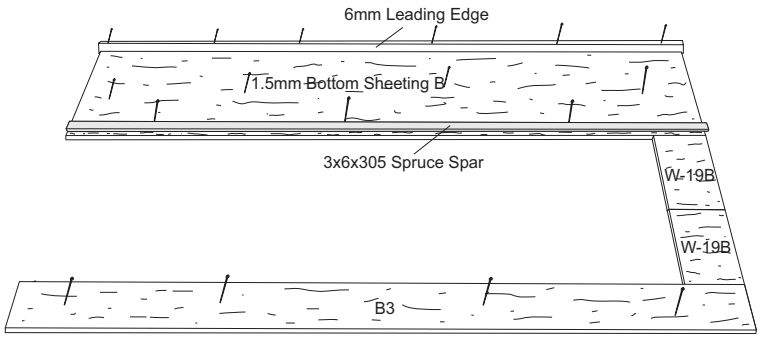
2 Inboard Wing Assembly

Glue and retain in place with common pins parts B, B3,19B and Leading Edge. Ensure marking for spruce location on bottom sheeting (part B) faces upward.

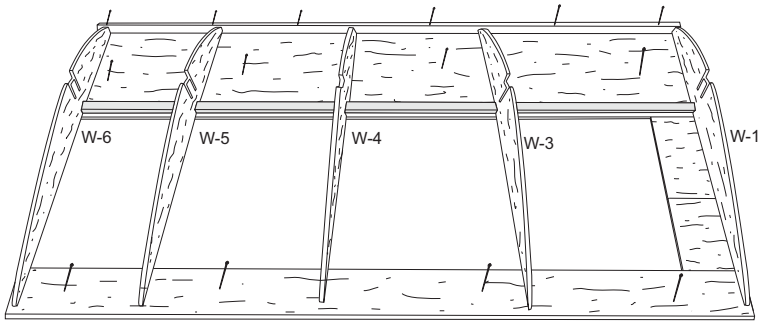
Common Pin →



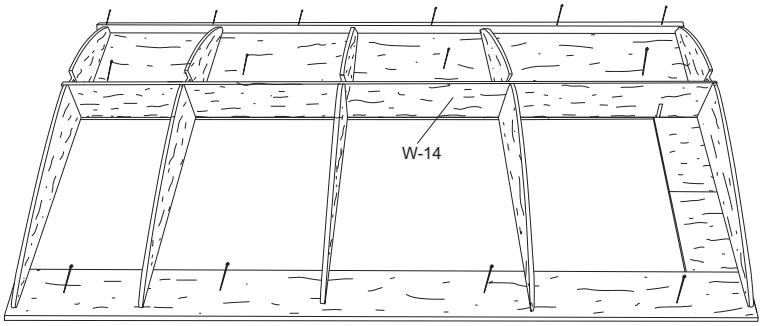
Glue spruce main spar at the marked location on bottom wing sheeting B.



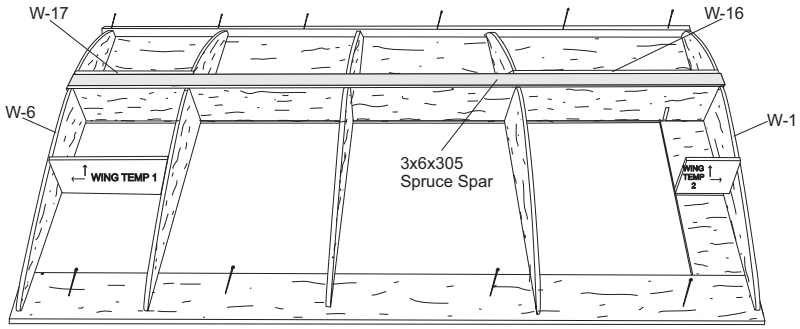
Glue ribs in proper sequence according to plan.



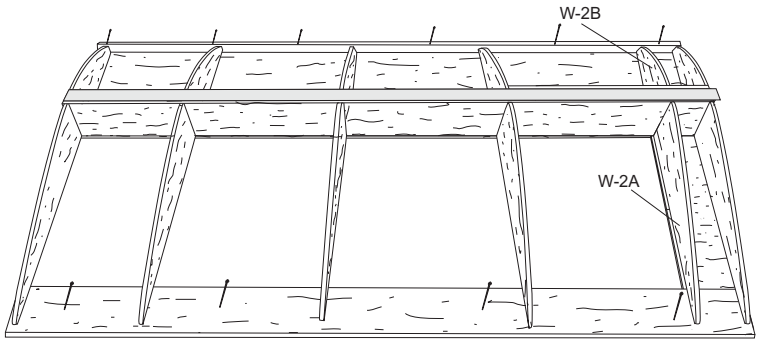
Glue W-14 in place.



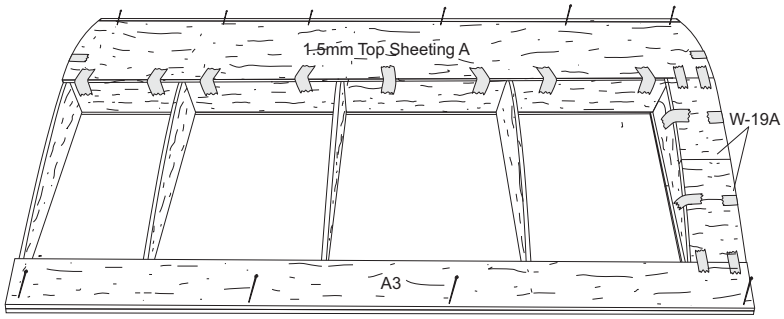
Glue spruce spar in upper slot of ribs and epoxy in place ply parts W-16 & W-17.



Glue W-2A and W-2B rib in place.

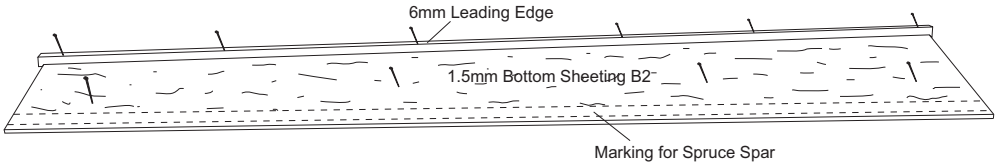


Glue Leading and Trailing Edge top sheeting (A and A3), along with center section sheeting W-19A, holding in place with masking tape, pins and weight as necessary.

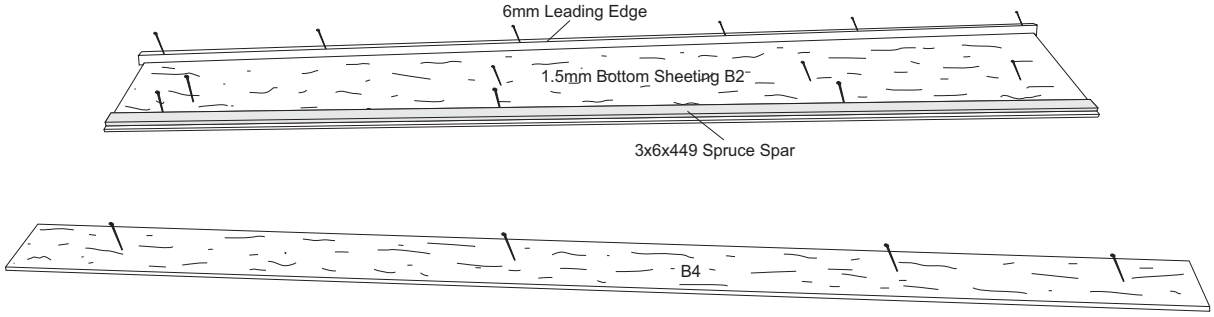


3 Outer Left Panel Assembly

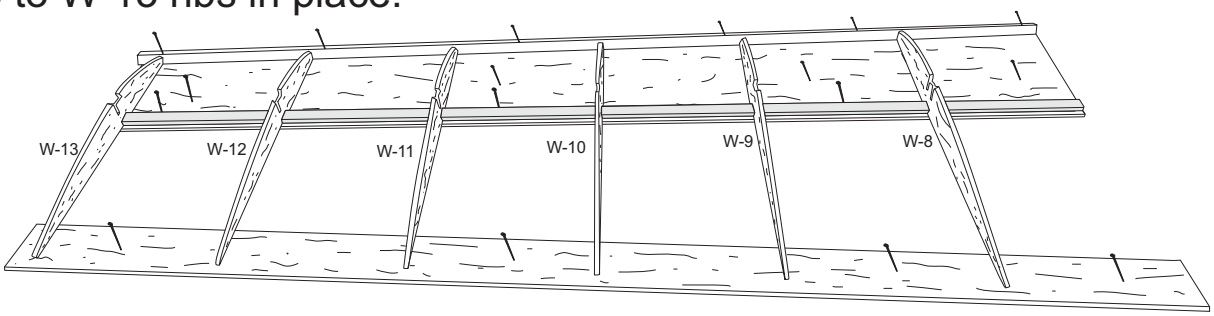
Pin up B2 and B4 as per plan, keep marking for spruce location on part B to face upward. Glue and pin up leading Edge in place.



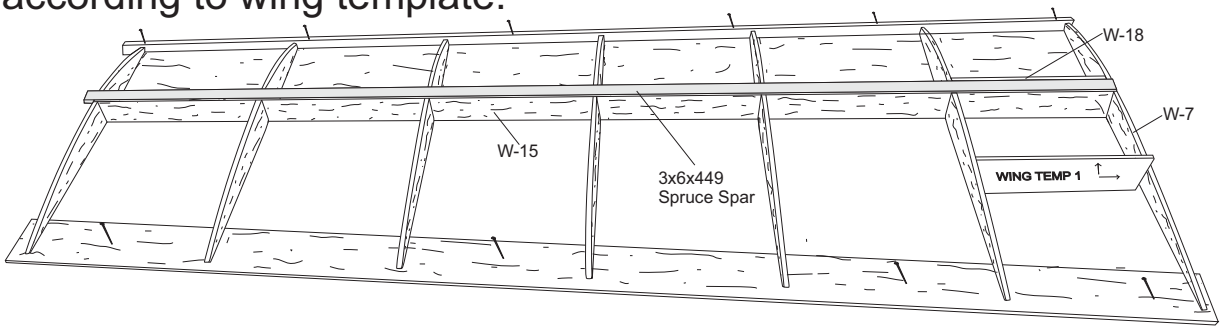
Glue spruce spar on bottom sheeting at marked location.



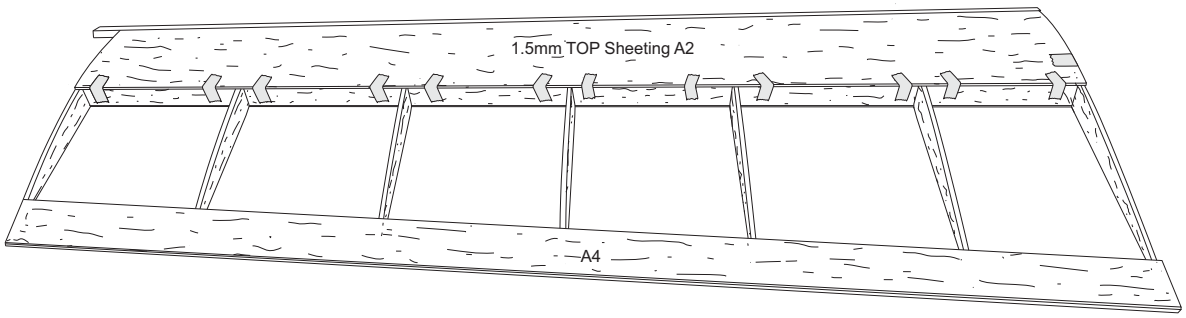
Glue W-8 to W-13 ribs in place.



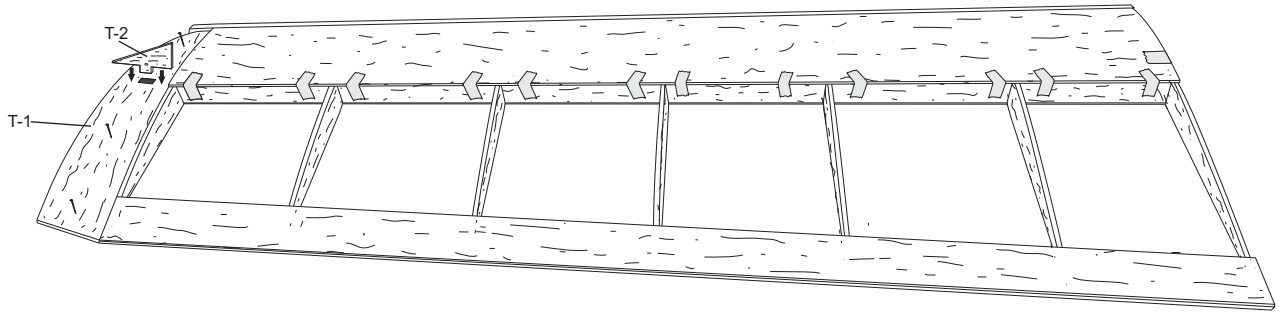
Glue W-15, spruce spar and W-18 in their respective locations. Glue W-7 rib & adjust tilt according to wing template.



Glue leading and trailing edge top sheeting A2 and A4 holding in place with masking tape. When dry sand trailing edge and spruce spar, flush with rib W-13. **Do not trim the leading edge**. Sand sheeting, spruce spar, leading and trailing edge flush with rib 7.

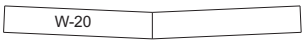


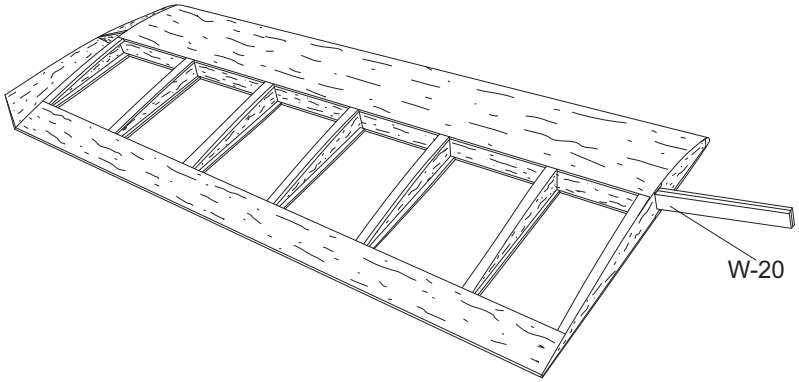
Add tip T-1 reinforcing with T-2 triangle part as shown. When dry, sand the leading edge to match tip. Sand entire leading edge for roundness.



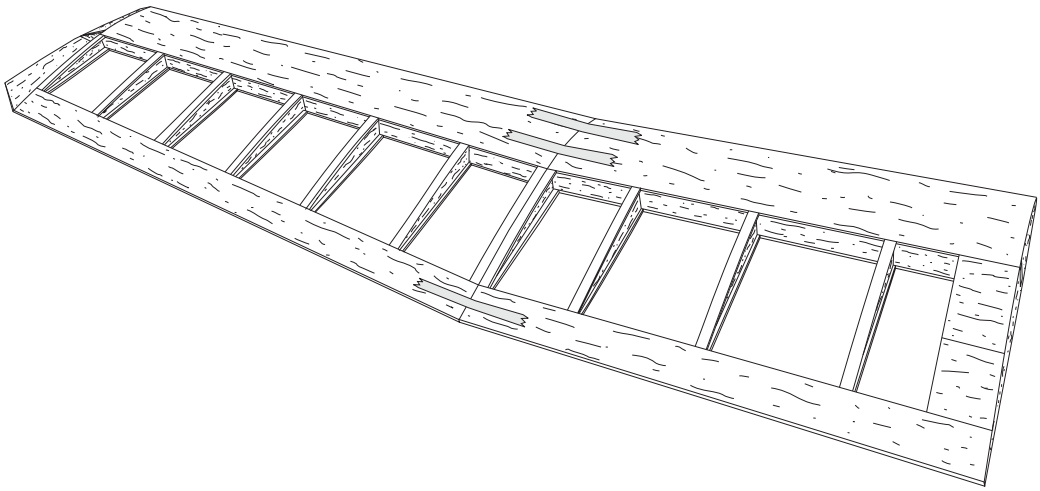
Join two dihedral braces W-20 together, trail fit in between wing center section and outer wing panel. Apply epoxy to half portion of dihedral brace and fix in center section rib W-6

Join two dihedral braces together



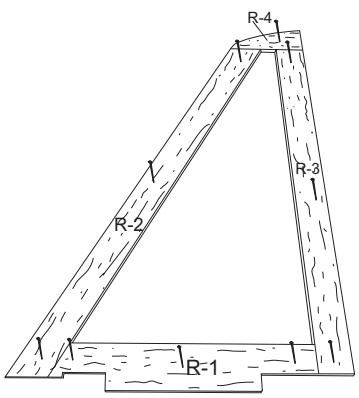


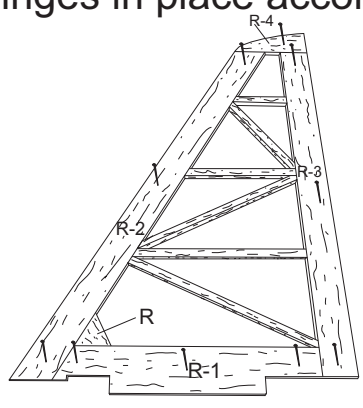
Apply epoxy to exposed portion of dihedral brace, W-6 rib of center section and W-7 rib of the outer wing panel and join them together. Build the right side wing using above instructions. Sand the entire wing smooth, wing is now ready for covering.

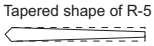


4 Fin Assembly

Glue and pin up parts R-1, R-2, R-3 and R-4 on the plan. Glue 3mm squares as per plan along with gusset “R”. Round off leading edge R-2 and top R-4 of the fin and sand entire surface with emery paper. Slightly tapper both sides of rudder R-5. Fin and rudder are now ready for covering. Make hinge slot as shown on plan. Once covered CA hinges in place according to plan.

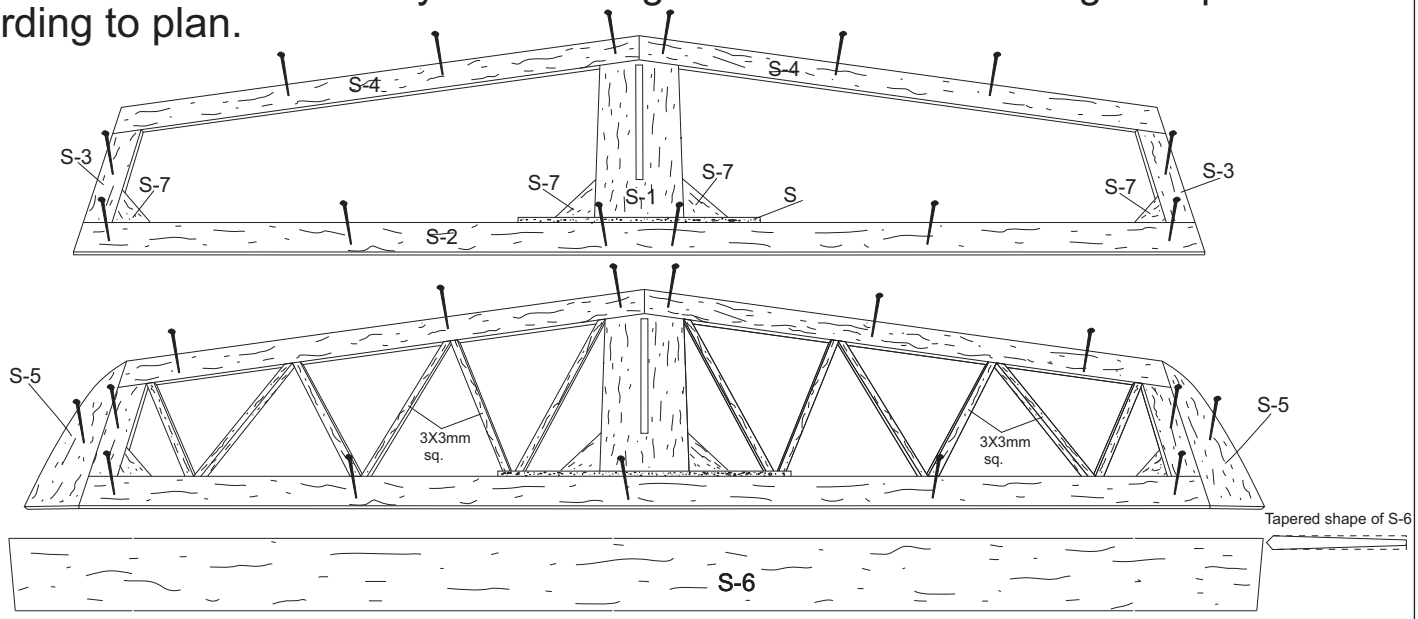






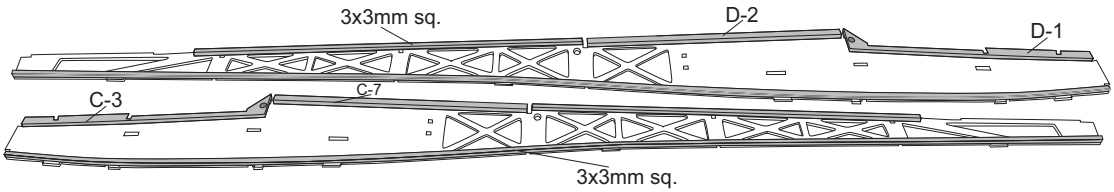
5 Stab Assembly

Glue and pin up the frame of stabilizer, add the tip and 3mm squares, when dry sand round leading edges and the tips of stabilizer. Slightly sand elevator S-6 to taper. Stabilizer is now ready for covering. Once covered CA hinges in place according to plan.

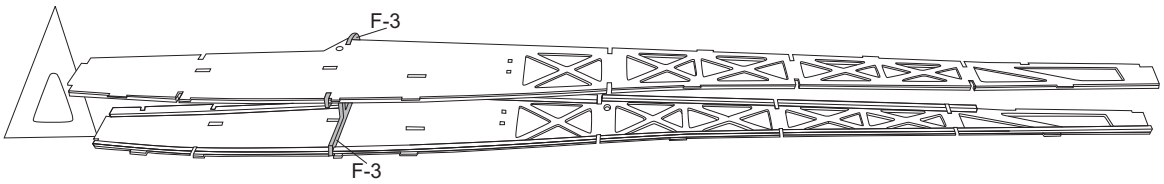


6 Fuselage Assembly

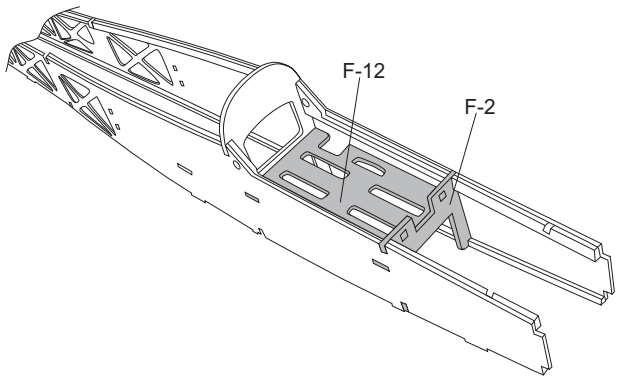
Glue doublers D-1, D-2 and 3mm balsa squares according to plan. Make sure to make one left and one right side.



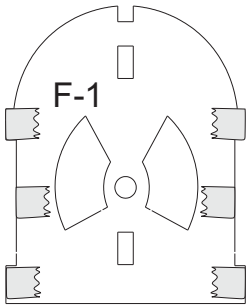
Epoxy F-3 in between two fuselage sides, making sure fuselage is aligned 90 degrees at front.



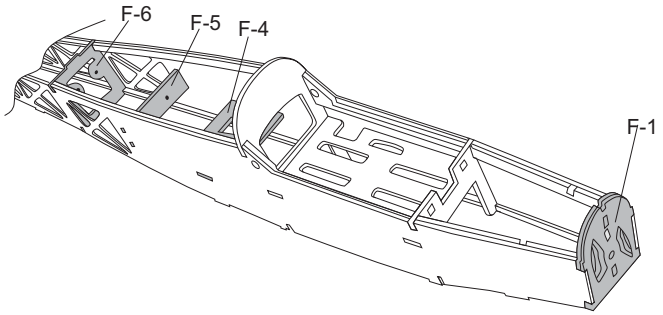
Epoxy formers F-12 and F-2.



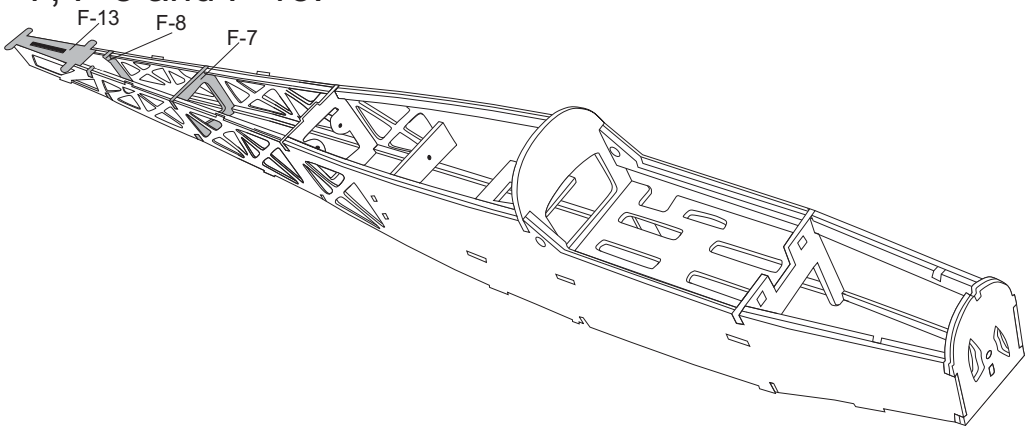
Epoxy two F-1 formers together and hold them with masking tape and place under weight.



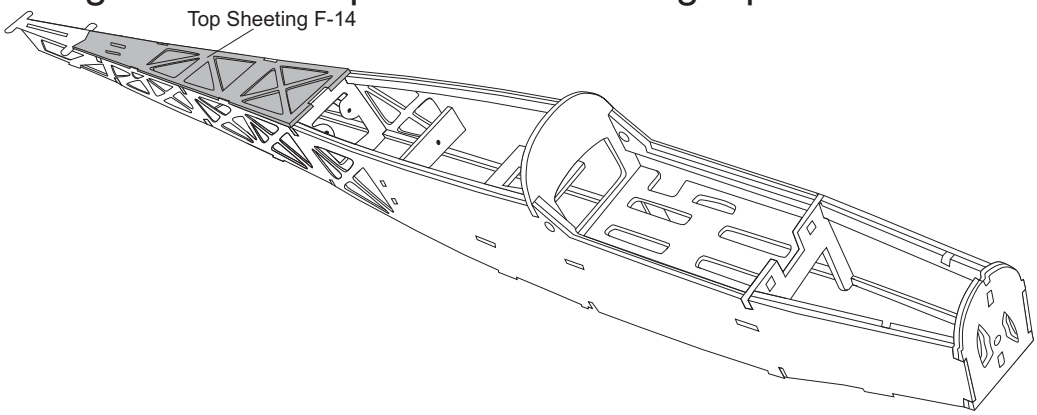
Epoxy formers F-4, F-5 and F-6 at fuselage aft and former F-1 in fuselage front.



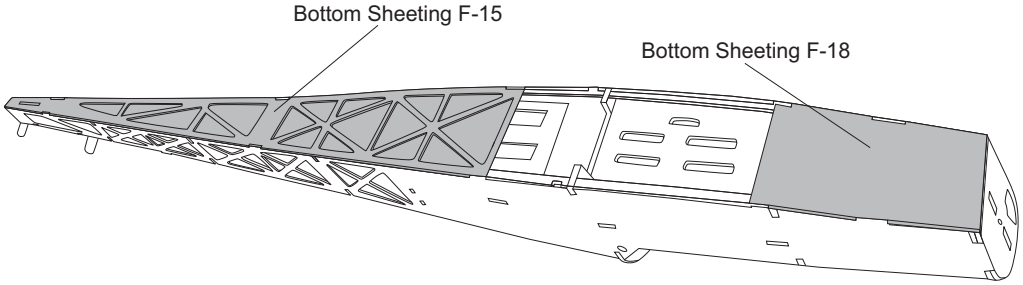
Epoxy formers F-7, F-8 and F-13.



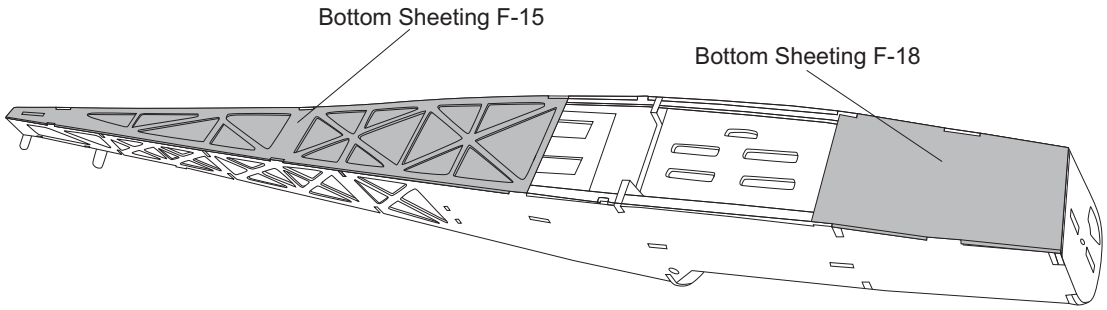
Glue top sheeting F-14 hold in place with masking tape.



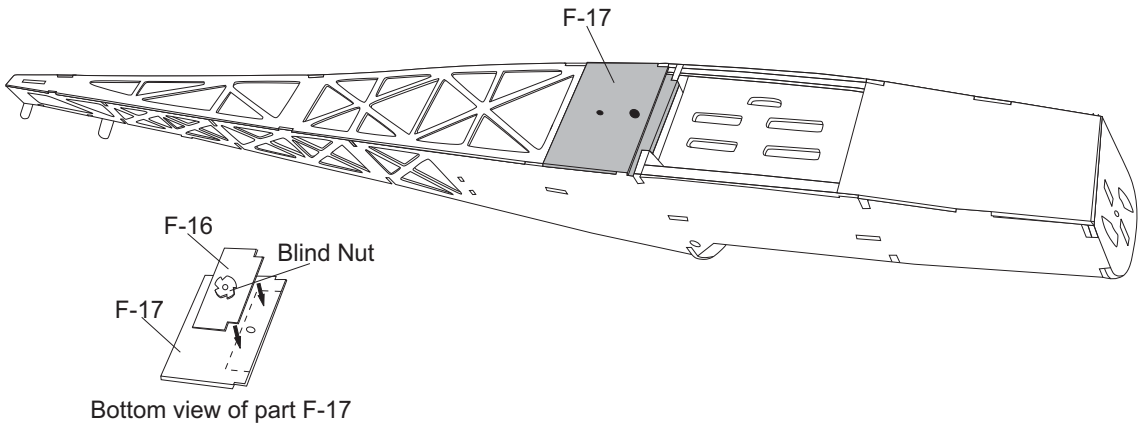
Glue bottom sheeting F-15 and bottom sheeting F-18 in place.



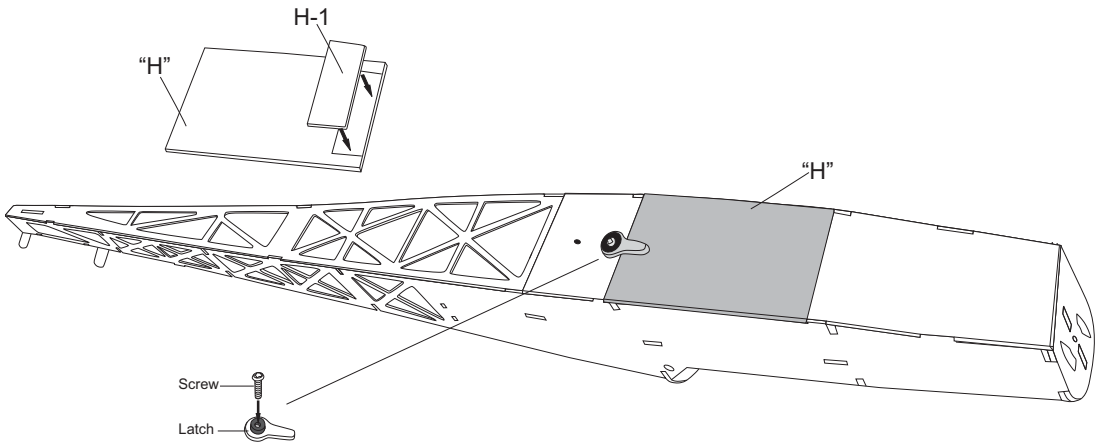
Glue bottom sheeting F-15 and bottom sheeting F-18 in place.



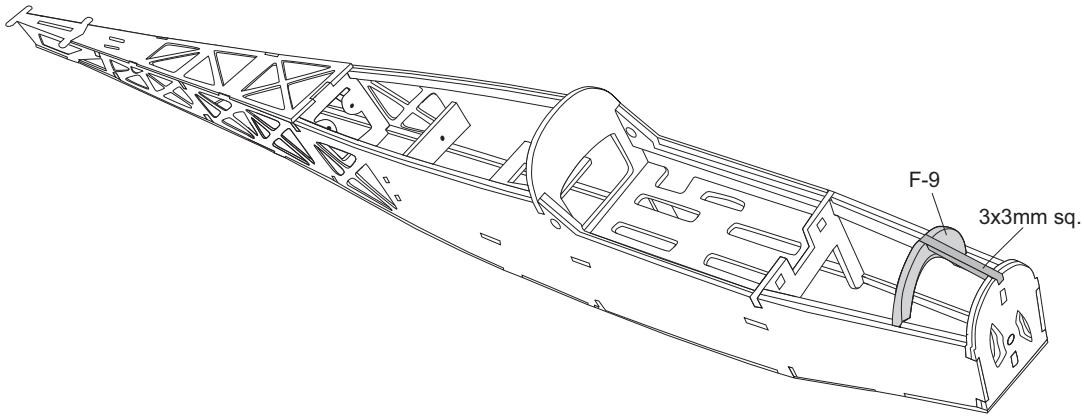
Epoxy blind nut and press fit on ply part F-16, glue F-16 at the marked location on ply part F-17 and glue this assembly to fuselage.



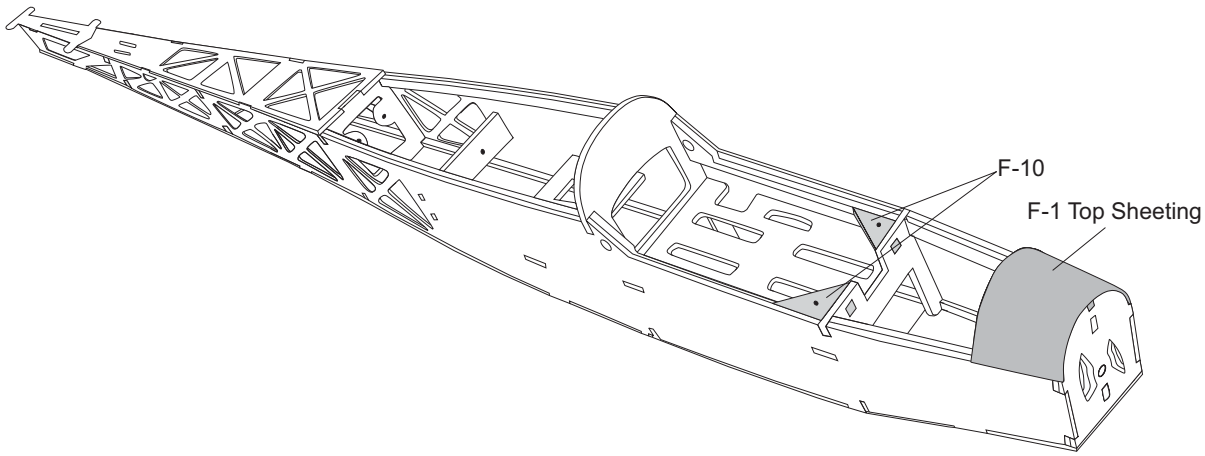
Glue part H-1 to battery cover “H”, battery cover is removable. Assemble latch and retain with screw.



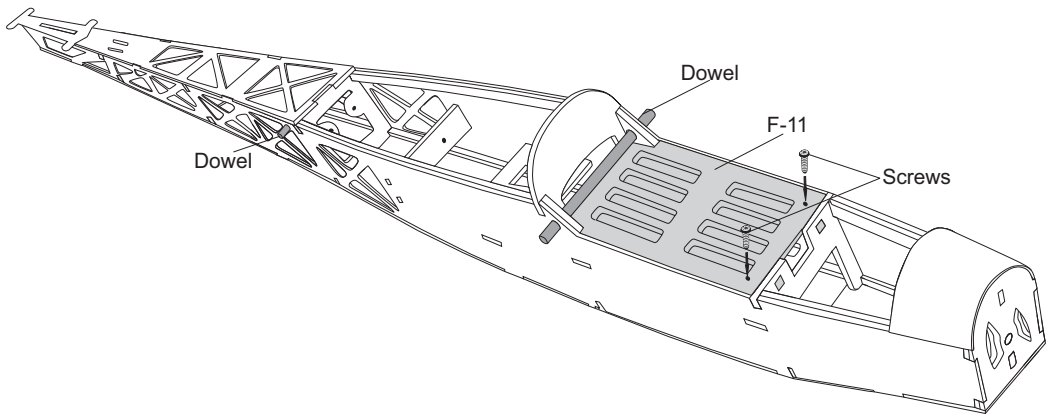
Epoxy F-9 at nose section and glue 3mm sq. between F-9 and F-1.



CA gussets F-10 in ESC compartment and glue top sheeting between former F-9 and F-1.



Fix dowels, slide F-11 in place and fix two screws. Sand the entire fuselage with emery paper, sand fuselage sides slightly round.

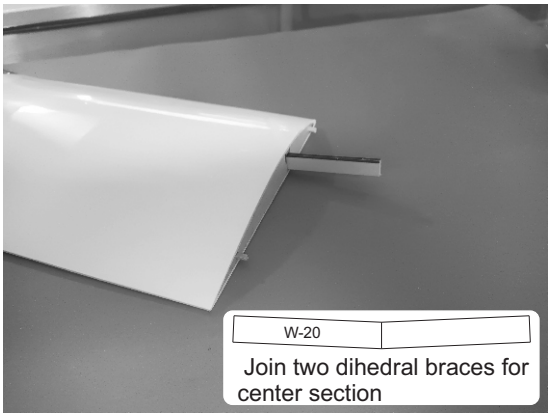


⚠ IMPORTANT

Insert the Rudder/Elevator pipes in fuselage according to full size plan. Fuselage is now ready for covering. Cover fuselage with your favorite covering.

FINAL ASSEMBLY

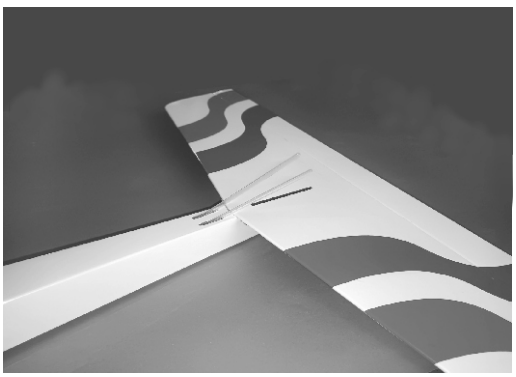
Mix epoxy and spread on half portion of Dihedral Brace, insert brace in wing slot, make sure the center line mark on dihedral brace is barely visible. Epoxy dowels immersed half way through W-1 rib. When Epoxy is dry move to next step.

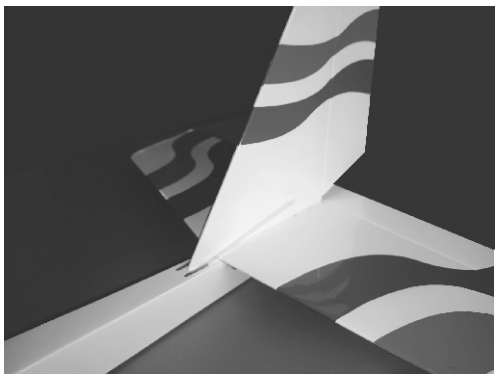


⚠ IMPORTANT

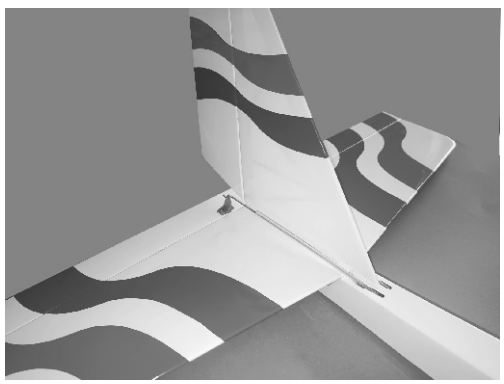
Spread epoxy liberally on center section rib "W-1" of both wing panels, dowels and dihedral brace. Carefully join two wing panels ensuring dihedral brace and dowels enter in their respective locations. Apply sufficient epoxy for a strong center section joint. Clean excess epoxy with alcohol. Retain two wing panels together with masking tape applied in the center.

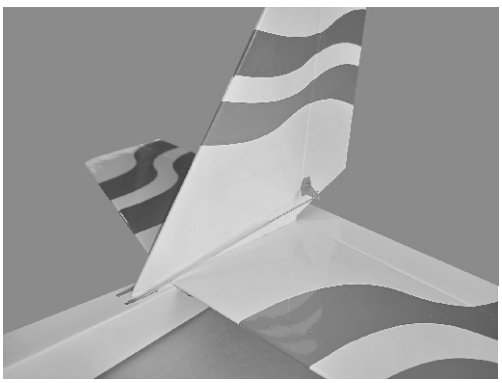
Epoxy stabilizer & rudder in their respective slots.



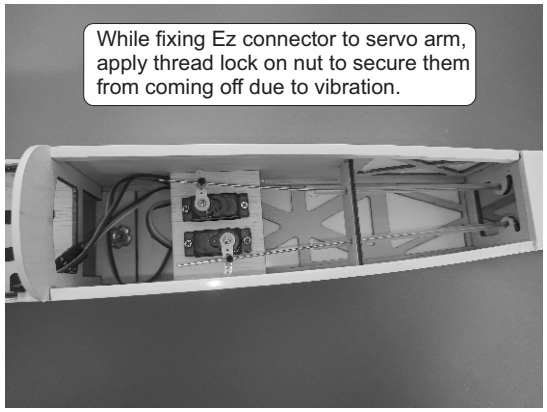


Pass Z bend side of pushrods through control horn, insert the pushrod in plastic tube and fix control horns to rudder & stabilizer with screws..

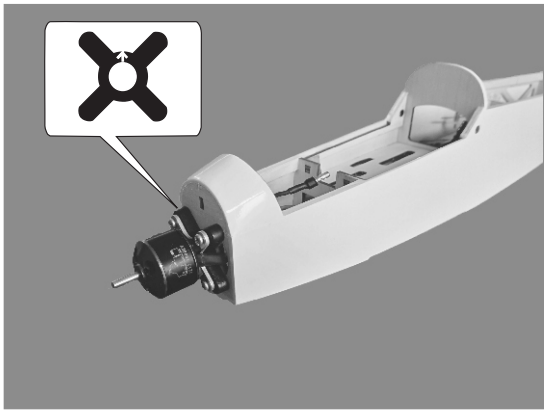




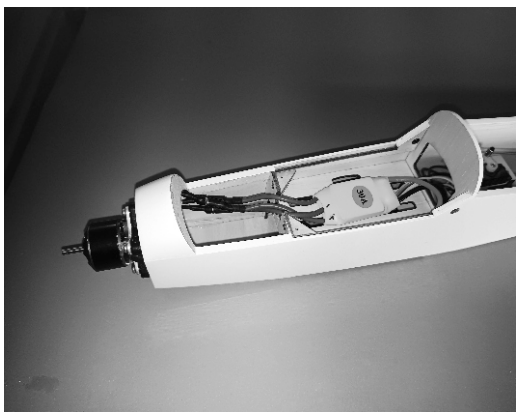
Fix rudder & elevator servos n fuselage with screws. Fix Ez connectors on horns. Pass steel pushrod through Ez connector, keep rudder & elevator in neutral position before tightening Ez connector screws.

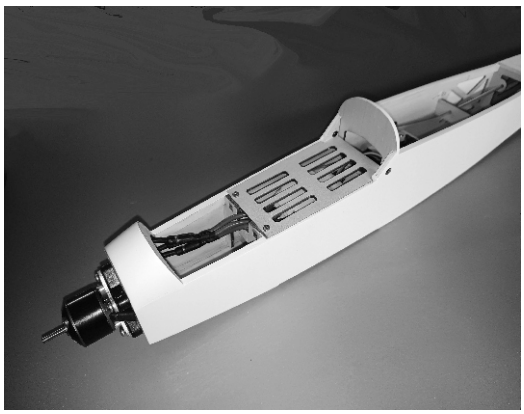


Fix motor on the firewall former with shim placed in between for right thrust. Keep the arrow marked on shim upwards.

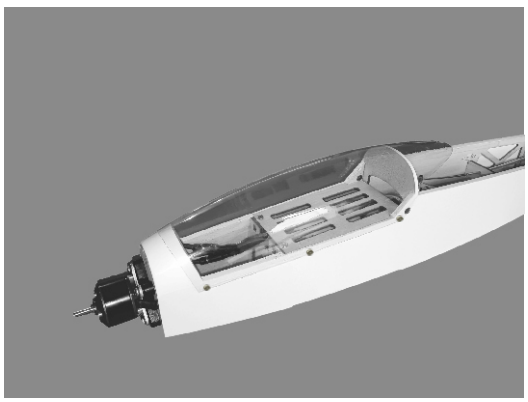


Remove ESC compartment cover screws and attach ESC wires to motor, route battery connector to battery compartment attach receiver lead of Esc to receiver. Fix Esc compartment cover with screws.

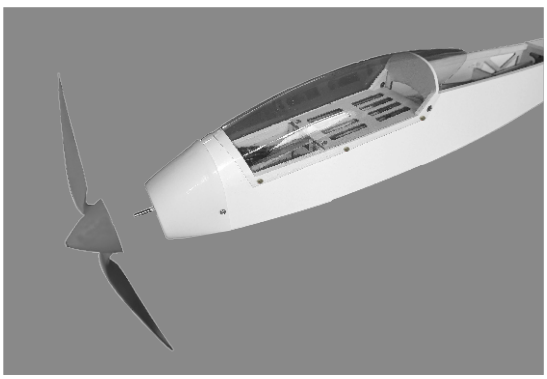




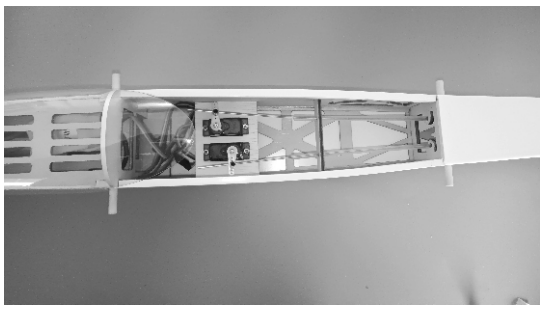
Use a scissor to cut canopy along the cutting lines marked. Drill holes in the canopy. Canopy is fixed to fuselage with six screws.



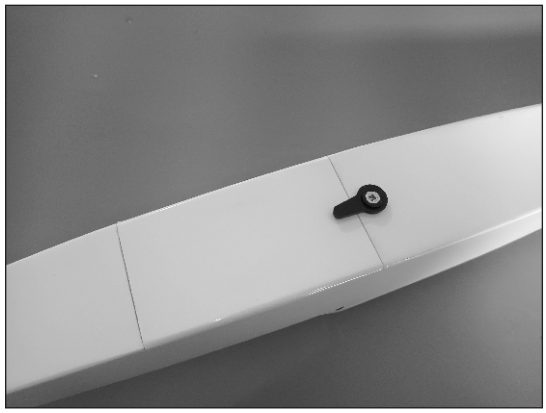
Cut cowling to size & fix to fuselage with screws. Fix propeller on the motor.



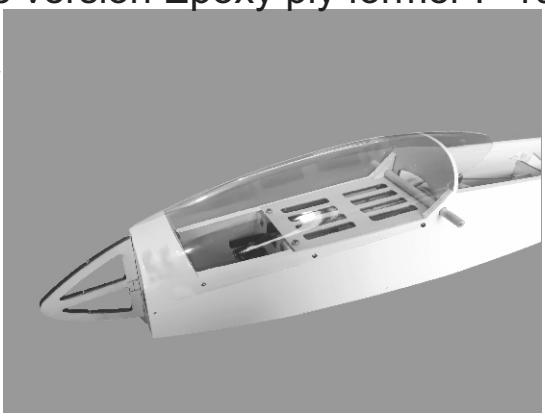
Fix dowels in fuselage.

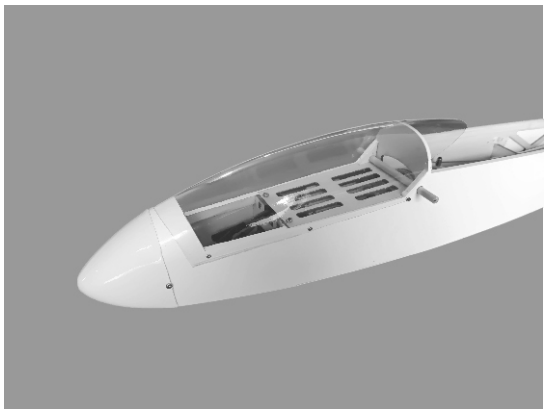


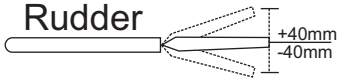
Apply Velcro tape to battery and battery compartment.
Secure battery in the battery compartment.
Before flying connect battery connecter to the ESC connecter and close the hatch.

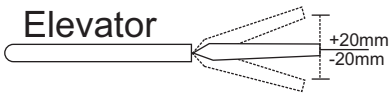


If you opt for sailplane version Epoxy ply former F-19 on firewall and fix nose cowling with screws balance the model by placing nose weight in the nose compartment.

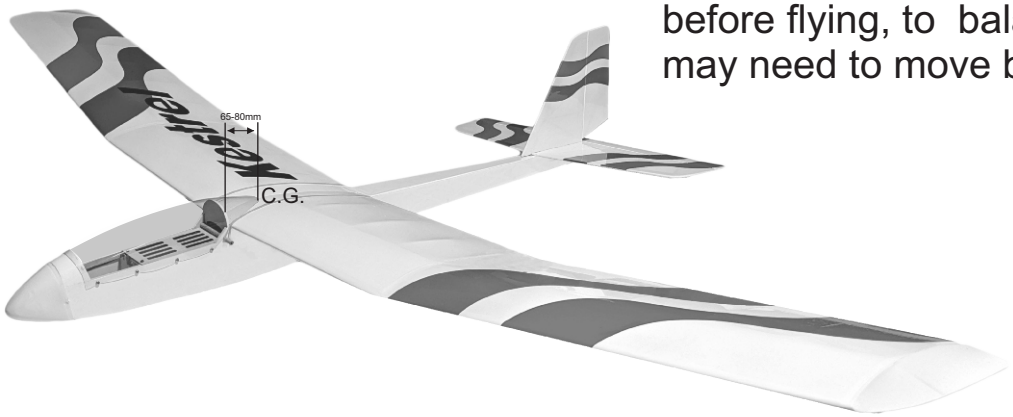








Adjust control throws as shown. These throws are good for general flying. Later you may adjust throws according to your personal preference.



The C.G. range is 65-80mm behind the leading edge of wing. Check the C.G. before flying, to balance the model you may need to move battery to & fro.

PRECAUTIONS:

- Always remove li-po battery from the plan. Do not operate the model with low transmitter batteries.
- While charging li-po battery, follow all safety instructions. Careless handling may lead to fire hazards.
- Once flight battery is installed, be careful to keep throttle stick to low position, any accidental movement of throttle stick may case injuries.
- While fixing Ez connectors, always apply thread lock on the retaining nut, so that these do not come-off due to vibration.

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