

INSTRUCTION MANUAL



FALCON

All Balsa and Plywood Kit

Thank you for choosing Falcon Trainer kit. Falcon is a Trainer with stable flying characteristics, kit contains precision laser cut balsa & ply parts Complete hardware including fuel tank, wheels, undercarriage and pushrods are included. Engine mount comes with built-in side thrust. Hope you enjoy to build and fly your Falcon model.

Specifications

- Wing Span: 1580mm
- Flying weight: 2.2 - 2.5kg
- Fuselage length: 1215mm/ 1300 (with engine)
- Engine size: 40-46 cu in. (6.5 to 7.5 cc)

PRE CONSTRUCTION NOTES

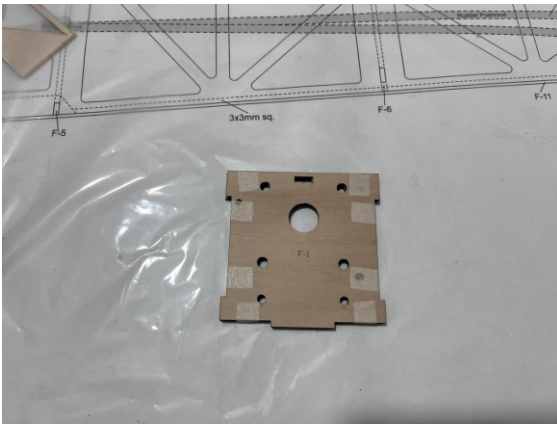
Glues: Three types of glues are required to assemble kit:

- 1- Water Based Aliphatic Glue (White Glue): Referred in instructions as Glue
- 2- Cyanoacrylate (Medium Viscosity): Referred as CA
- 3- Two Parts Epoxy: (30Min Epoxy for better strength recommended) Referred as Epoxy

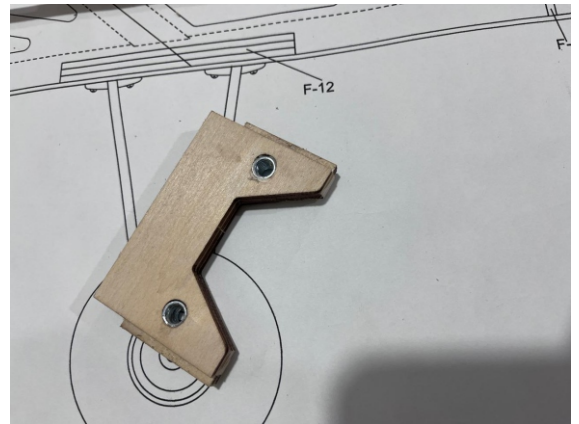
Model is built on a flat building board which can easily accept common pins for holding parts in position. Lay plan flat on building board and cover the plan with wax paper or clear polythene sheet so that parts do not adhere to plan. Before commencing assembly, study plan, kit parts and instructions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

FUSELAGE ASSEMBLY

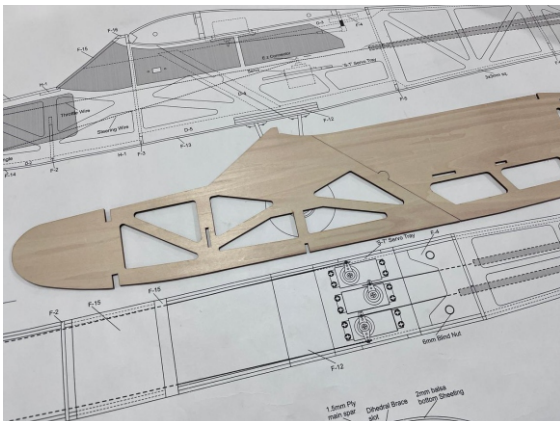
- 1- Join F-1 & F-1A former together with Epoxy and hold them in place with masking tape, and place under weight.



- 2- Epoxy 3 pcs of F-4 together, hold them in place with masking tape and epoxy 6mm blind nuts in F-4.



- 3- Epoxy fuselage two halves together.



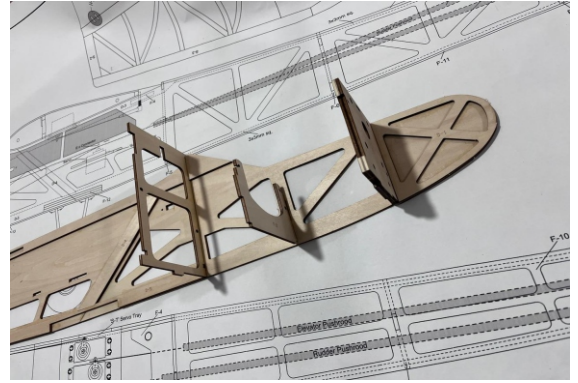
- 4- Glue doublers D-1, D-2, D-3, D-4 and D-5 to fuselage sides. Make one left and one right side.



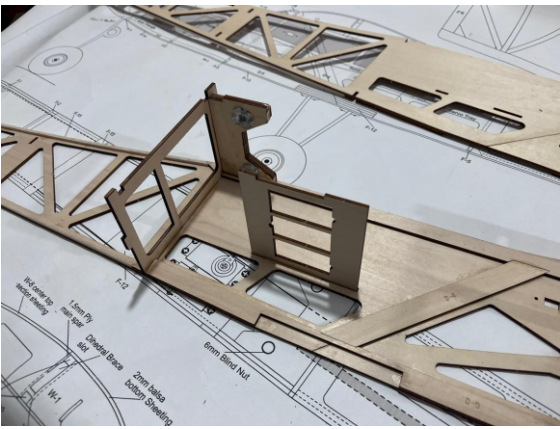
5- Glue 3mm balsa squares to fuselage sides according to plan.



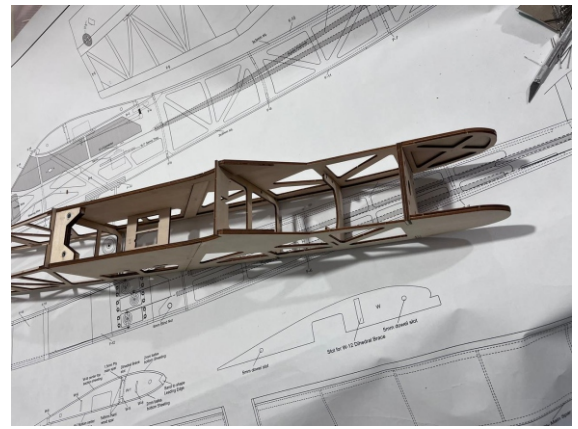
6- Epoxy formers F-1, F-2, F-3 and F-4 making sure formers are aligned 90 degree to fuselage side. Make sure that the holes for the Steering Pushrod & throttle in F-1, F-2 and F-3 are aligned with proper orientation as per plan



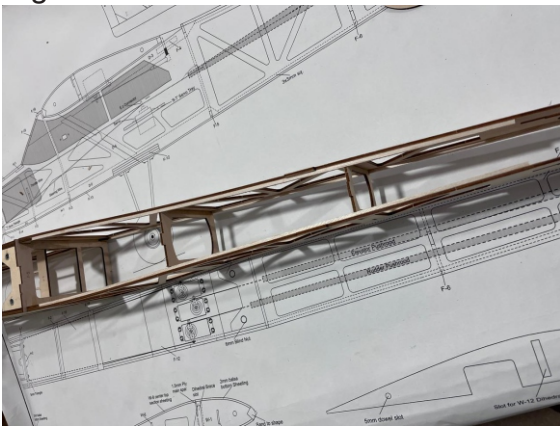
7- Epoxy formers S-T, F- 4 and F-5 making sure all are aligned 90 degree to fuselage side.



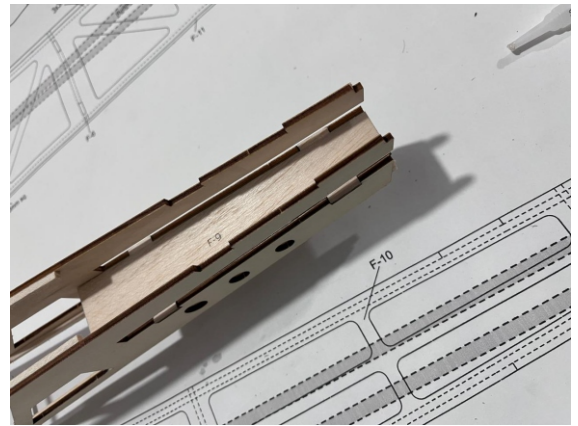
8- Apply epoxy to S-T, and Formers F-1 to F-5 and fix the other fuselage side, and hold in position under weight till the epoxy is set.



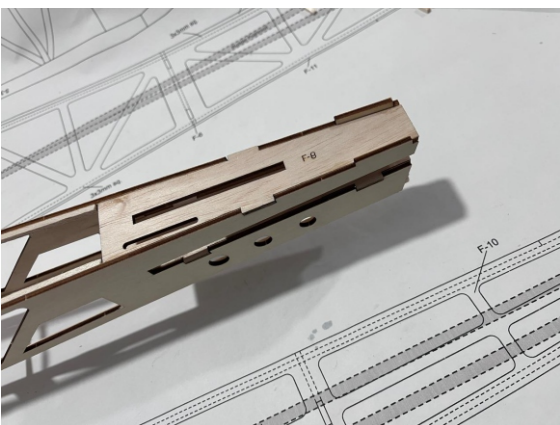
9- Glue formers F-6 and F-7 in between fuselage sides. Align fuselage with plan to make sure its straight!



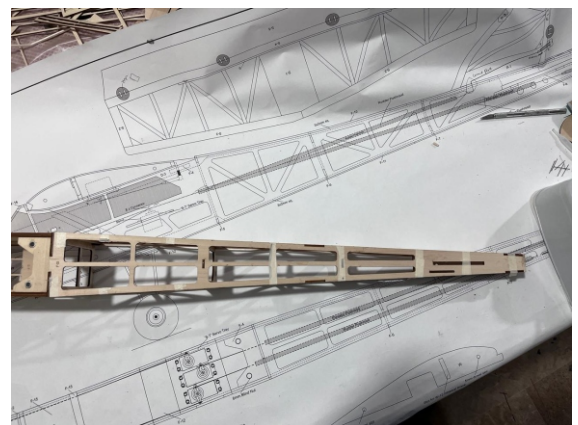
10- Glue Tailplane platform F-9 at the rear.



11- Glue part F-8 at the top rear fuselage.



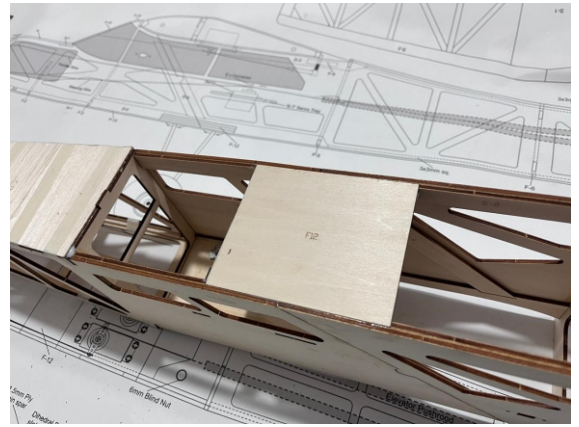
12- Glue top sheeting F-10 and hold in place with masking tape.



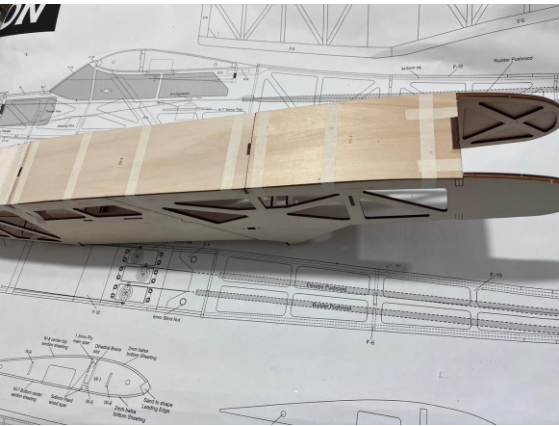
13- Glue bottom sheeting F-11 and F-11B and hold in place with masking tape.



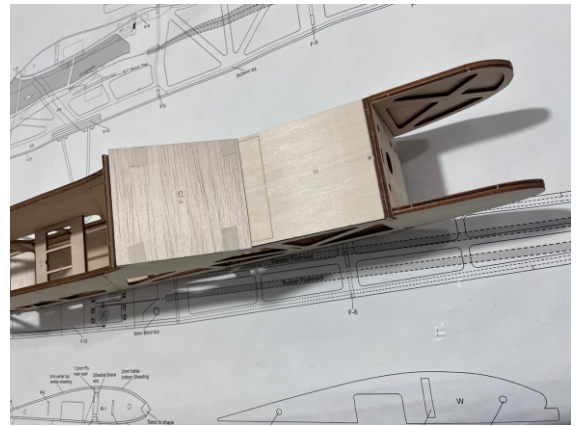
14- Epoxy three F-12 parts together and epoxy in fuselage.



15- Glue F-13 and F-14 and hold in place with masking tape.



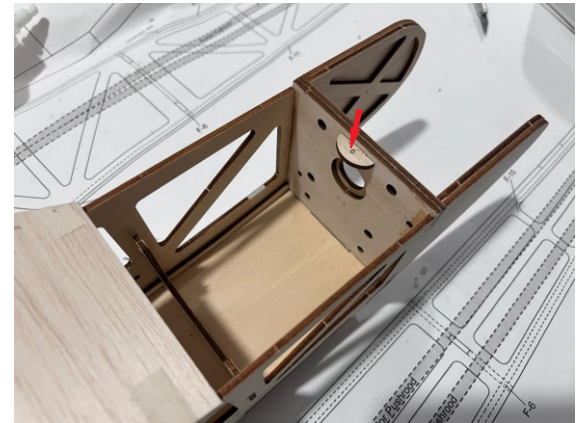
16- Sand F-15 according to plan and glue in place, use hatch part "H" as a guide to align F-15.



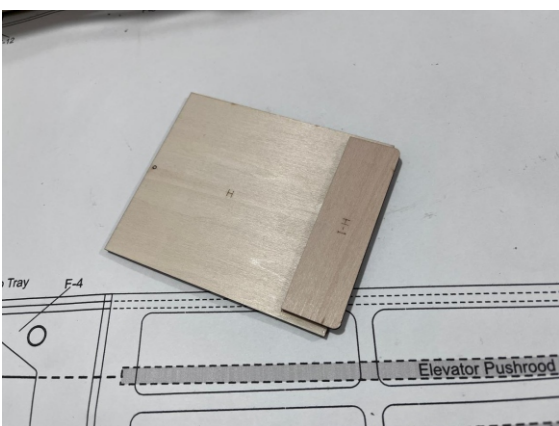
17- Glue F-15 in place and hold with masking tape.



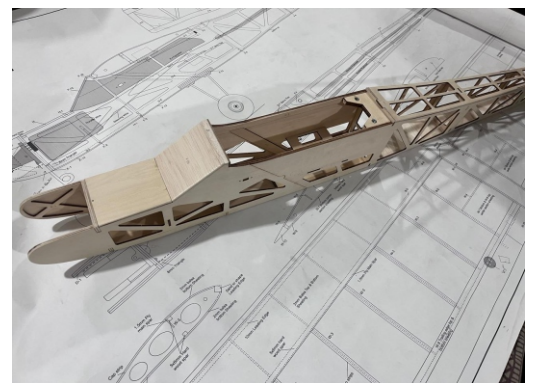
18- Epoxy H-2, hatch screw retaining part in Former F-1 slot.



19- Glue H-1 on location marked on Hatch "H".

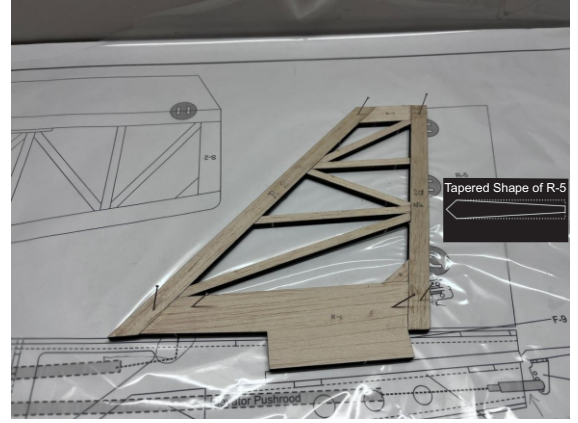
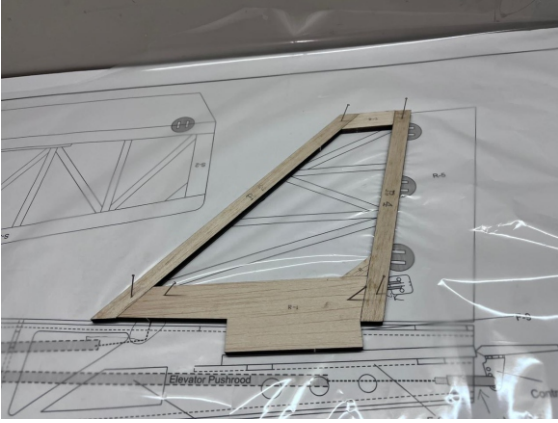


20- Sand the entire fuselage with emery paper, sand fuselage sides slightly round. Fuselage is ready for covering.



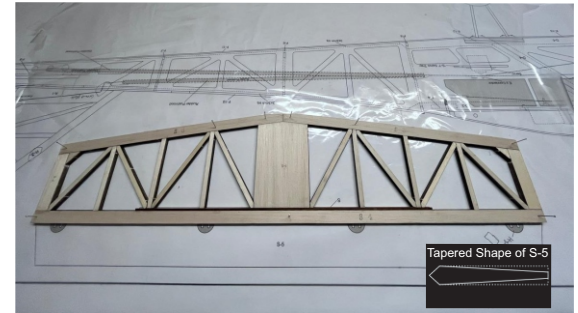
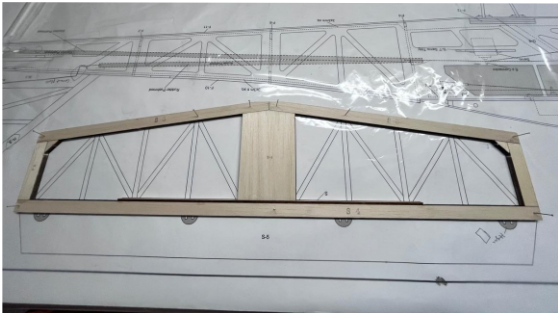
FIN ASSEMBLY

- 1- CA and pin up Fin parts R-1, R-2, R-3 and R-4 on the plan. CA gusset "R" in place.
- 2- CA 5mm laser cut balsa squares in correct order. When dry, sand round leading edge R-3, R-2, top of the fin R-5 and sand entire Fin surface with emery paper. Make hinge slots in Fin and Rudder according to plan. Sand both sides of rudder R-5 to a taper. Make slots in rudder and Fin for Hinges. Fin and Rudder assembly is ready to cover.



STAB ASSEMBLY

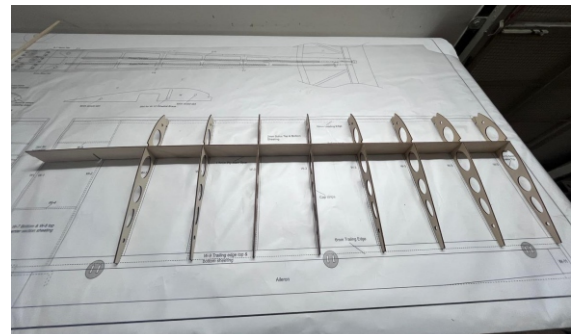
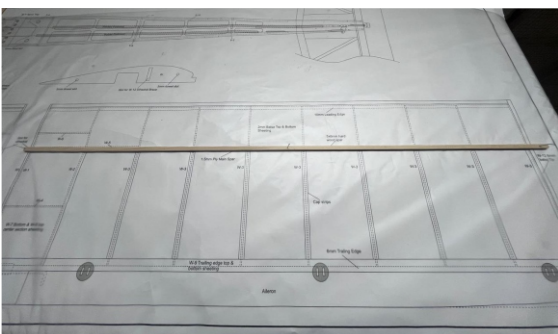
- 1- CA parts S, S-1, S-2, S-3 and S-4 on full size plan. CA gussets S-2 and S-3 on respective locations.
- 2- CA 6mm laser cut balsa squares as per plan. Round off leading edge and side tips of stab. Make hinge slots in stab and elevator. Sand elevator S-7 to a slight taper. Stabilizer is now ready for covering.



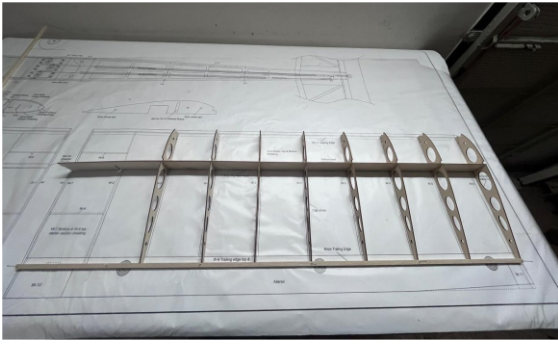
WING ASSEMBLY

Pin bottom hard wood spar on the plan .

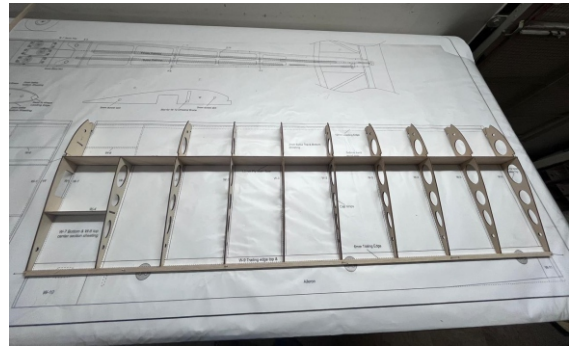
Glue W-3 balsa ribs in place onto 1.5mm ply main spar & spruce spar according to plan. Ribs sit on tabs at the front, these tabs will be removed later. Make sure ribs are placed at right angles.



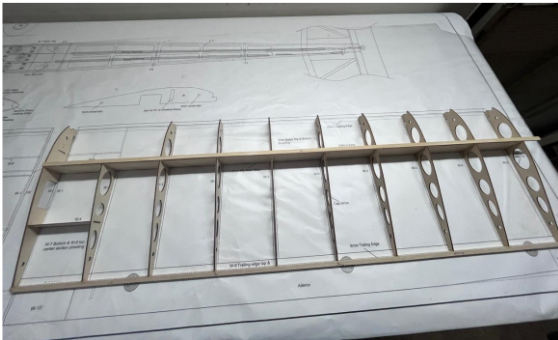
Pin up and CA 6mm trailing edge.



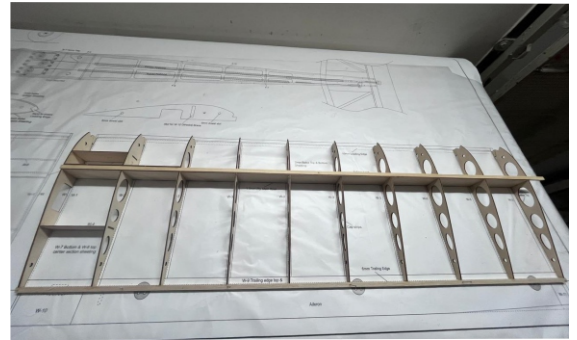
Epoxy W-4 and W-2 in place. Align W-1 for a correct dihedral angle.



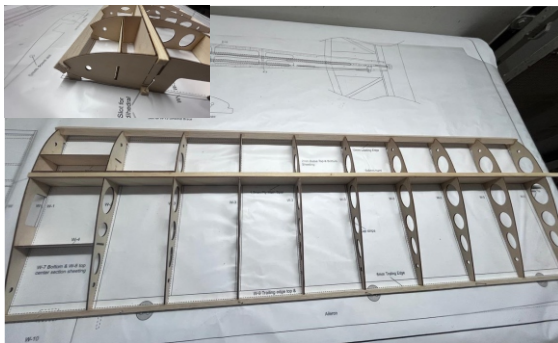
Glue Top hard wood spar in place.



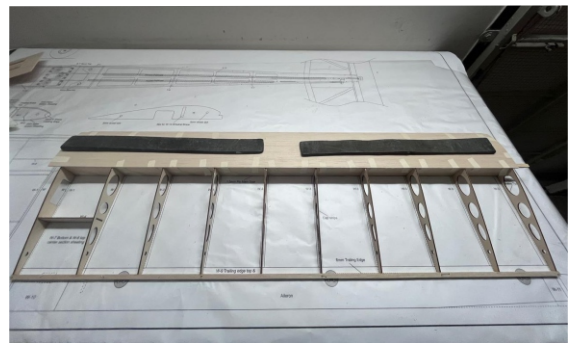
Glue part of W-2, next glue W-5 and W-6 in place.



CA 10mm leading edge



Lightly moisten 1.5mm balsa sheet with warm water to make it easier to bend. Glue this sheeting to top side of wing ribs, hold rear and front side with masking tape by placed some weight on sheet.



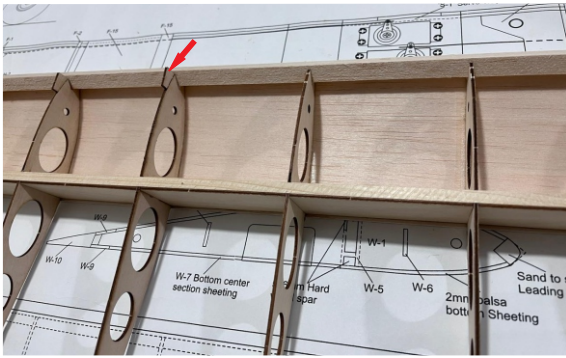
Glue center section sheeting W-8 and W-8B hold in place with masking tape.



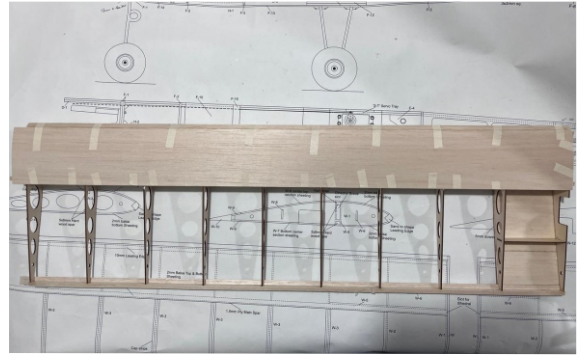
Glue and pin up W-9 as shown on plan. After dry remove the pins and masking tape.



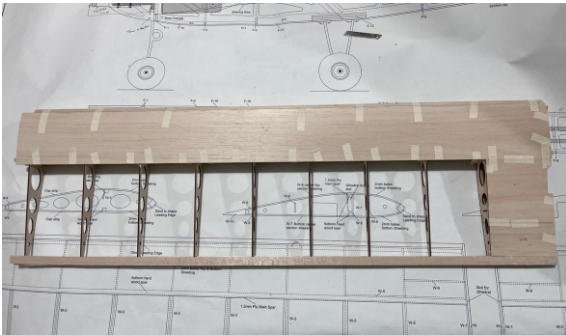
On the underside of wing trim tabs on front of ribs with balsa knife.



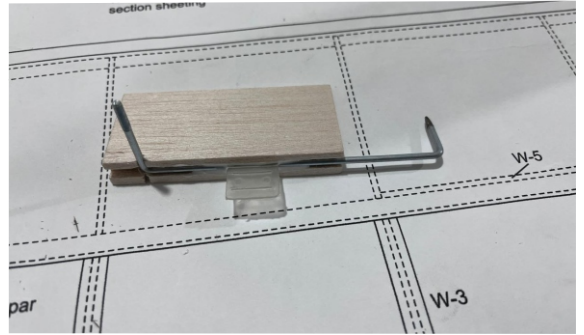
Lightly moisten 1.5mm balsa sheet with warm water to make it easier to bend. Glue this sheeting to underside of wing, hold rear and front side with masking tape and place some weight on balsa sheet.



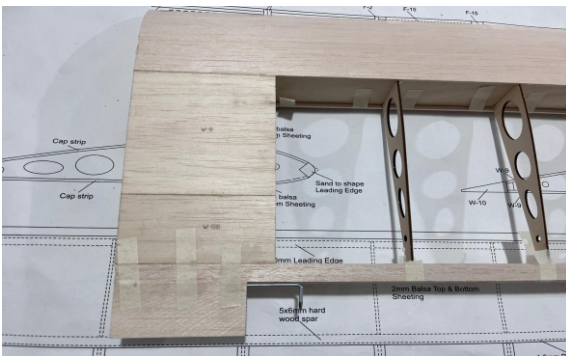
Glue center section sheeting W-7, W-7B and W-9 retain in place with masking tape.



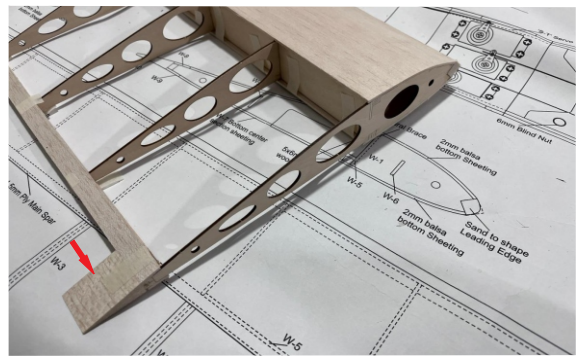
Place aileron bellcrank in W-10 Trailing Edge piece



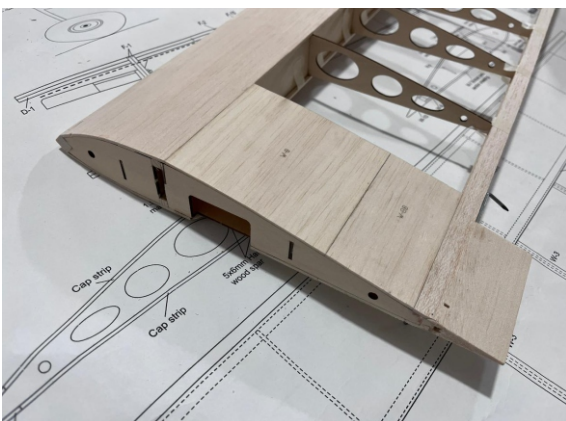
Glue Bellcrank as shown below.



Glue W-11 as shown below, sand the tip section.



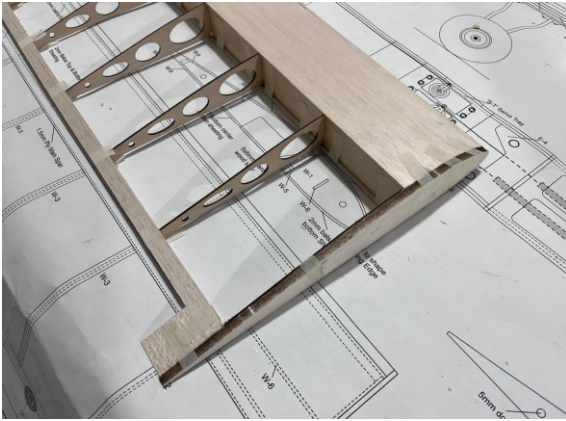
Sand W-1 lightly.



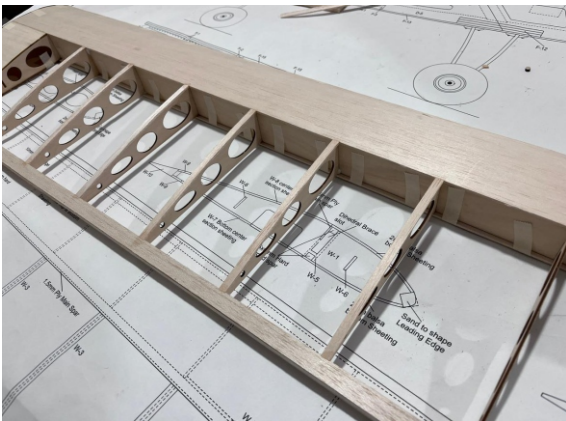
Glue W rib.



Glue 6mm balsa tip W-12.

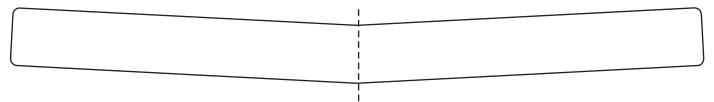


CA cap strips at top and bottom of ribs. make hinge slots in wing.

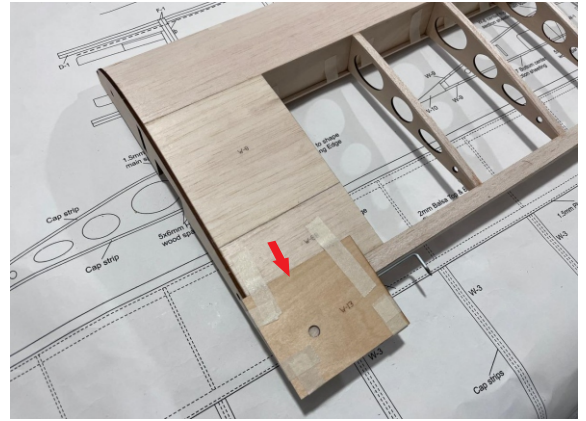


Assemble left side wing the same way, be careful one is left side wing and other is right . When dry, sand the entire wing.

Epoxy two dihedral braces, hold them together using masking tape.



Glue 1.5mm ply piece W-13 in place and Make holes for wing bolts.



Make slots in wing trailing edge and ailerons to accept the hinges as shown in plan.

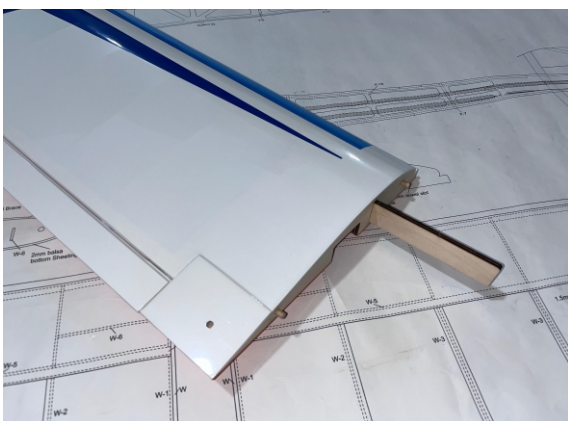


Cover the entire model with iron on covering of your choice.

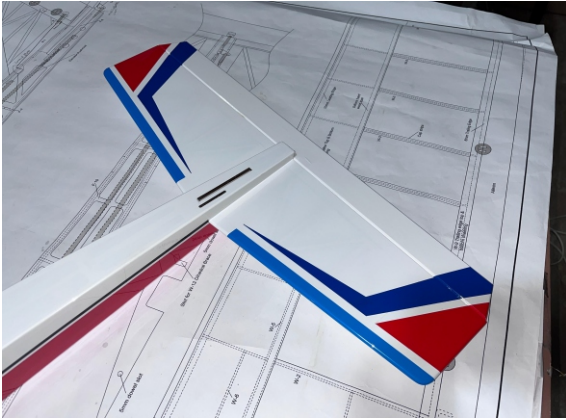
FINAL ASSEMBLY

Epoxy 5mm alignment dowels in center rib, epoxy half of dihedral brace in center section rib. When dry proceed to next step.

Liberaly apply glue to 5mm dowels, dihedral brace and center section ribs and join the two wings together. Retain two wing panels together with masking tape. **CA Hinges on all flying surfaces.**

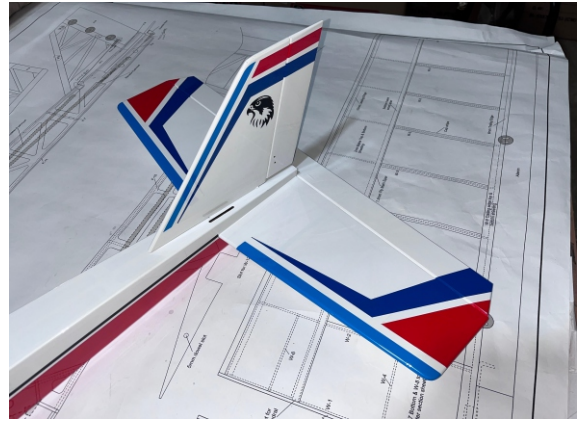


Epoxy stabilizer in appropriate slot.



Fix control horn to rudder. Next insert rudder pushrod in fuselage, fix plastic link at the rear of pushrod and connect plastic link to control horn. **Note: Metal link is used on Elevator.**

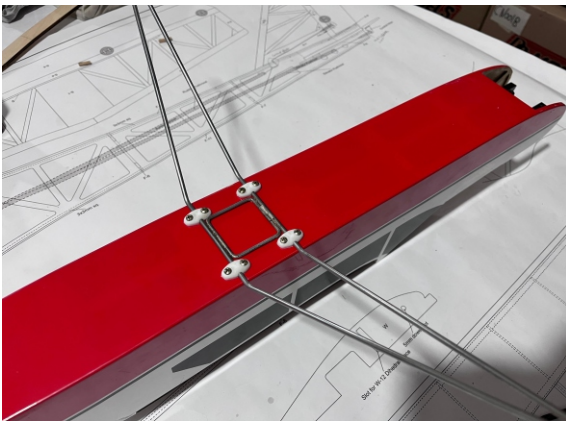
Epoxy rudder in appropriate slot.



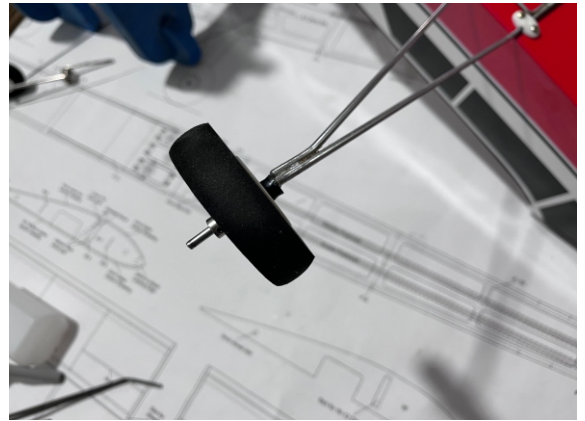
Fix control horn to stabilizer. Next insert stabilizer pushrod in fuselage, fix metal link at the rear of pushrod and connect metal link to control horn.



Fix main gear with screws as shown below:



CA plastic wheel collar on inner side of wheel and metal wheel collar on the outer side of wheel.



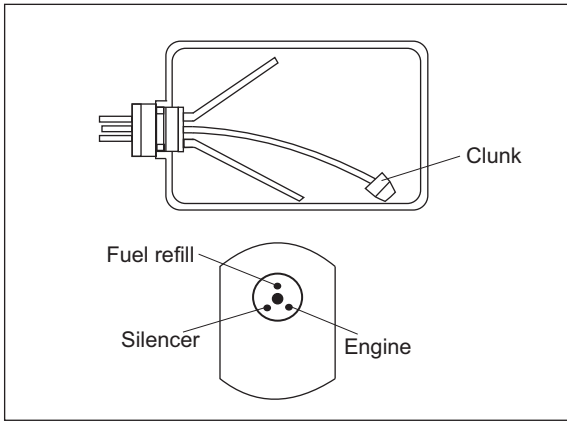
Fix nose block and engine mount with screws. Next drill the holes in engine mount according to engine.



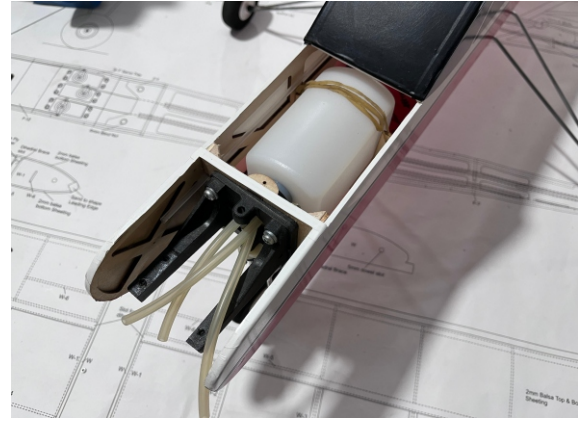
Pass Z-bend side of steering wire pushrod through steering and insert in tube fixed in fuselage. Fix nose gear as shown.



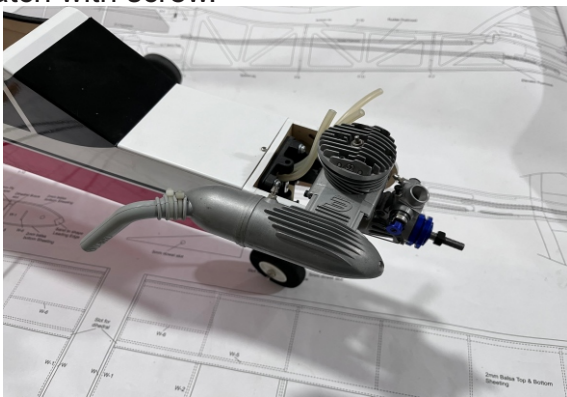
assemble fuel tank as shown below:



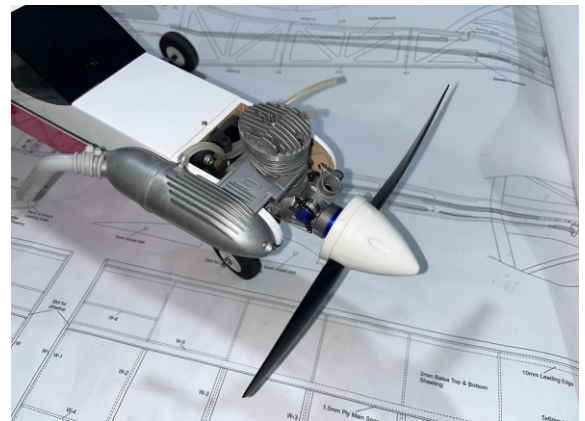
Insert fuel tank in fuselage and secure in place with rubber band.



Pass Z-bend side of throttle wire through throttle arm pass throttle wire in fuselage and fix engine in engine mount with screws. Next close the hatch with screw.

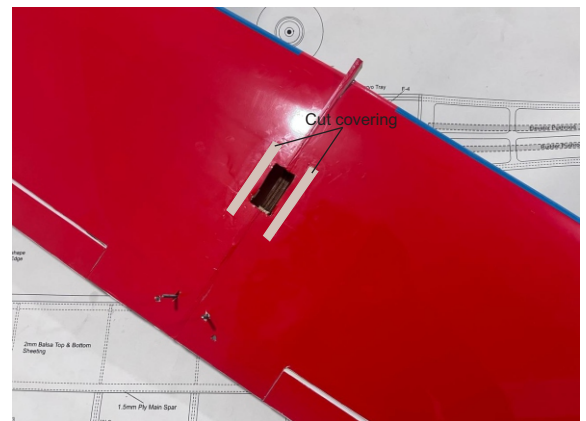
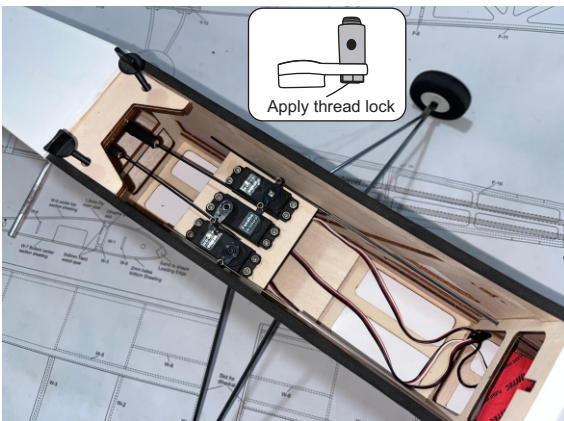


Propeller spinner installation.



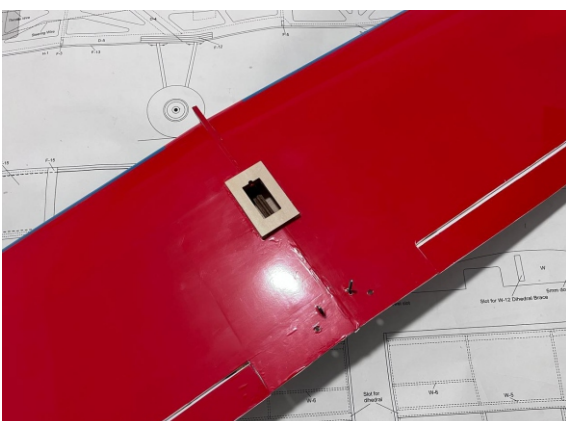
Fix Servos, pushrods with keepers on rudder & elevator, Fix E z connectors on steering and throttle control.

Place servo tray on the wing servo section and cut the covering as shown.

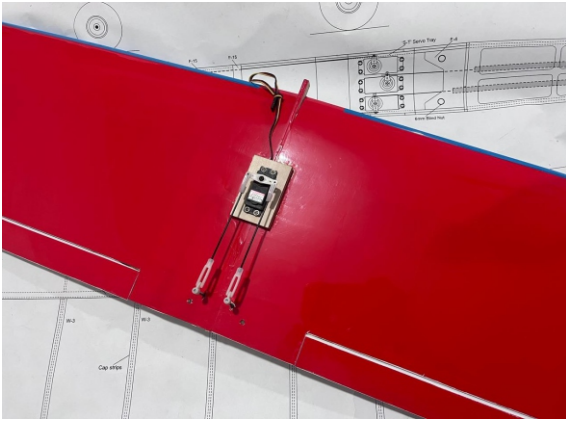


Epoxy servo tray in place and fix servo with screws.

Keeper assembly.



Balance point 93mm from leading edge.



Preflight checks:

- Remember batteries are fully charged.
- Ensure control surfaces move in correct direction
- Airplane should face into the wind.
- Fly model in a open area
- If it is your first experience to R/C flying take help from a R/C Flying Club.

Warning: This is not a toy

Fly model in open area and keep a safe distance from people and property. Safe flying is entirely your responsibility and you are solely responsible for operating model that ensures safety to your self and people and property of others.