

Zeke's Park Scale Models



Thank you for purchasing the Whim™ Series P-51C from **Park Scale Models**. From a very early age I had a fascination for aircraft of all types, but especially for general aviation aircraft. As a young boy building Comet© and Guillows© models, I developed a passion for planes built from balsa. Nothing could capture my imagination like the balsa structures I'd see in books and magazines and I dreamt of one day having a business that specialized in park flyer sized remote controlled aircraft. Now, 25 years later, technology has made it possible to turn my boyhood dream into reality. I sincerely hope you have as much enjoyment building and flying your Whim™ Series P-51C as I did developing it.

General Building Information

Please be sure to carefully read through the entire instruction manual before building your kit. Having a good understanding of the building process will help to make a more enjoyable experience and greatly reduce the chance of making a mistake. It is strongly suggested that you follow the building sequence in the manual. A great deal of thought and time has been put into making the building sequence as 'fool-proof' as possible.

You will need to have a sharp cutting blade (X-acto© #11 works well) to free the parts from the sheets by cutting the small 'hold-in' tabs. Because balsa is a natural product, the density can vary several places in a single sheet. Occasionally the laser might not cut through the sheet completely when it hits these spots of higher density. You can quickly free these parts by running your cutting blade along the laser cut line.

The Whim™ Series P-51C can be built in two different control layouts:

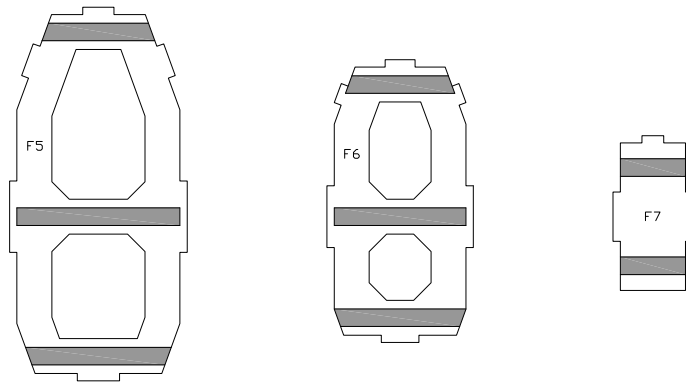
- Ailerons, elevator and throttle (A/E/T)
- Rudder, elevator, ailerons and throttle (R/E/A/T)

Whim™ Series P-51C specifications	
Length:	18.5" (47cm)
Wing Span:	23.25" (59cm)
Wing Area:	~ 91 in ² (587cm ²)
Weight:	~ 4.2oz. (106g)
Wing Loading:	~ 6.5 oz/ft ²
Power System:	Hextronik D1811-2000 10g outrunner (or sim) w/ GWS 5043 prop
Control Functions:	Aileron, elevator & throttle (opt. rudder)
Battery Pack:	Up to 2S 420mAh or 3S 300mAh LiPo

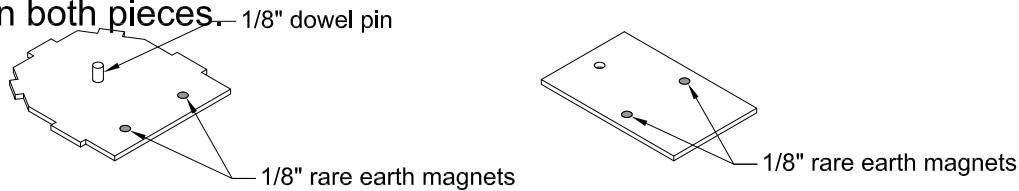
Items needed to complete your Whim™ Series P-51C:

- 4ch micro receiver
- 2 – 3 sub micro servos (4.3 grams or less recommended)
- 6A-7A Electronic Speed Controller
- Hextronik D1811-2000 10g outrunner and a GWS 5x4.3 propeller
- 1 package Du-Bro Micro pushrods (#847)
- 2 packages of Du-Bro Micro control horns (#848)
- 1 roll of light weight covering material
- Misc. building supplies (glue, razor blades, etc.)

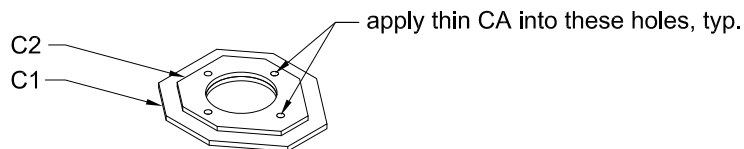
1. Use the laser cut balsa strips to glue cross grain reinforcements to F5, F6 and F7.



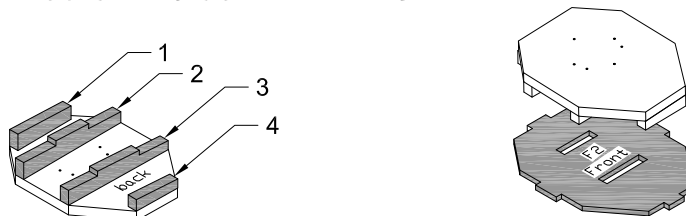
2. Glue two rare earth magnets and 1/8" diameter dowel pin (included) into F4. Glue two rare earth magnets into the removable Receiver/ESC tray. Ensure that the magnetic poles are the same direction on both pieces.



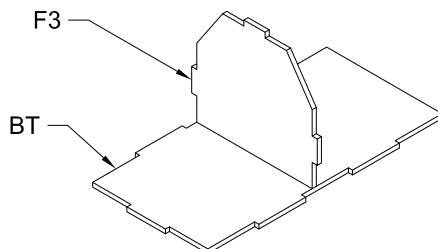
3. Laminate C1 and C2 to form the nose block by applying thin CA into the four (4) 1/8" holes in C2.



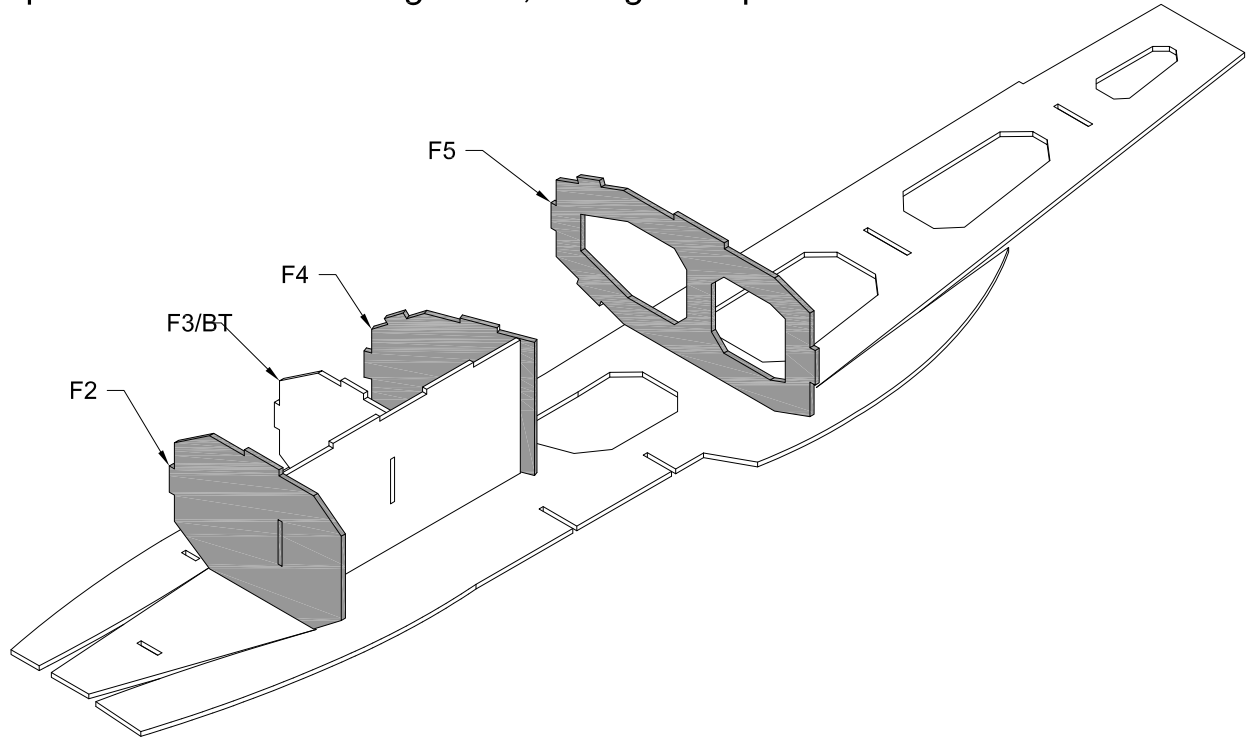
4. Assemble the firewall by first gluing the offset wedges 1 thru 4 to the back of the 1/8" balsa firewall. The Part numbers on the wedges MUST face the top of the firewall and the arrow point to the back side of the firewall. Turn the firewall over and glue it to F1. Harden the motor mount screw holes with thin CA.



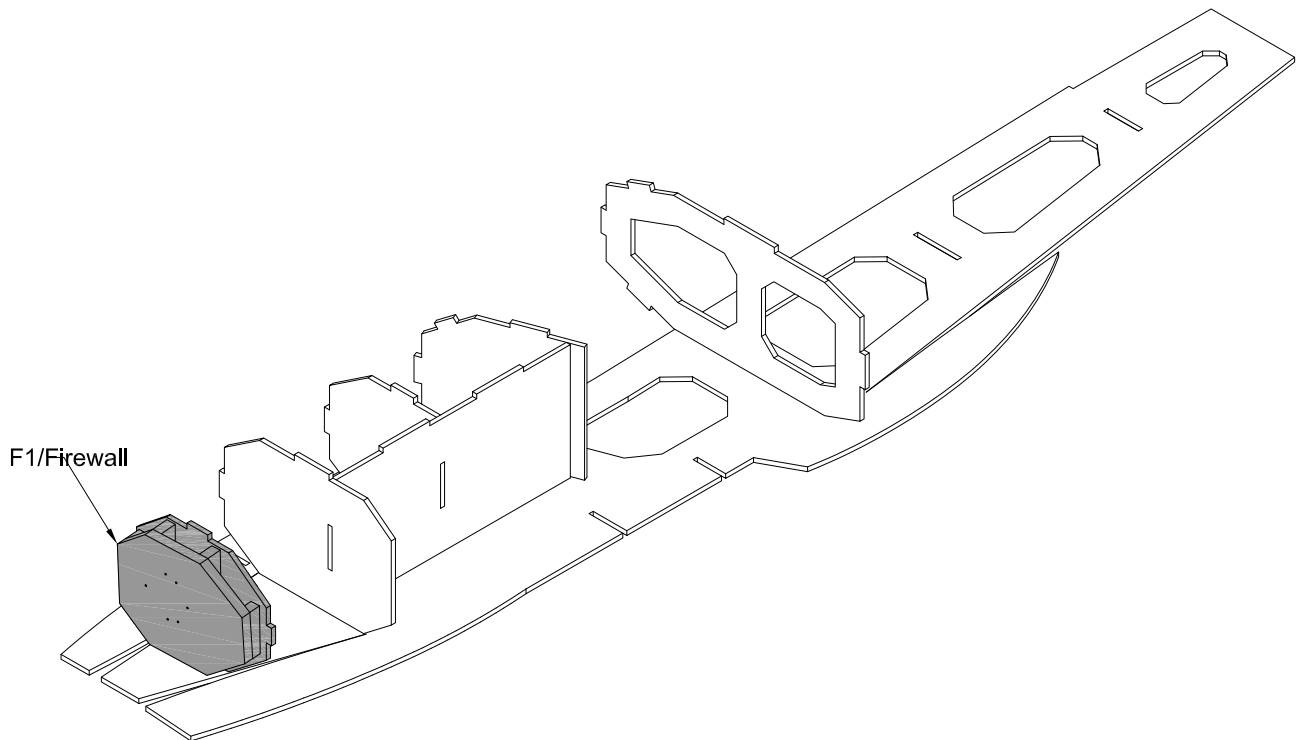
5. Fit F3 into the slot in BT. Ensure that F3 is perpendicular to BT and glue in place.



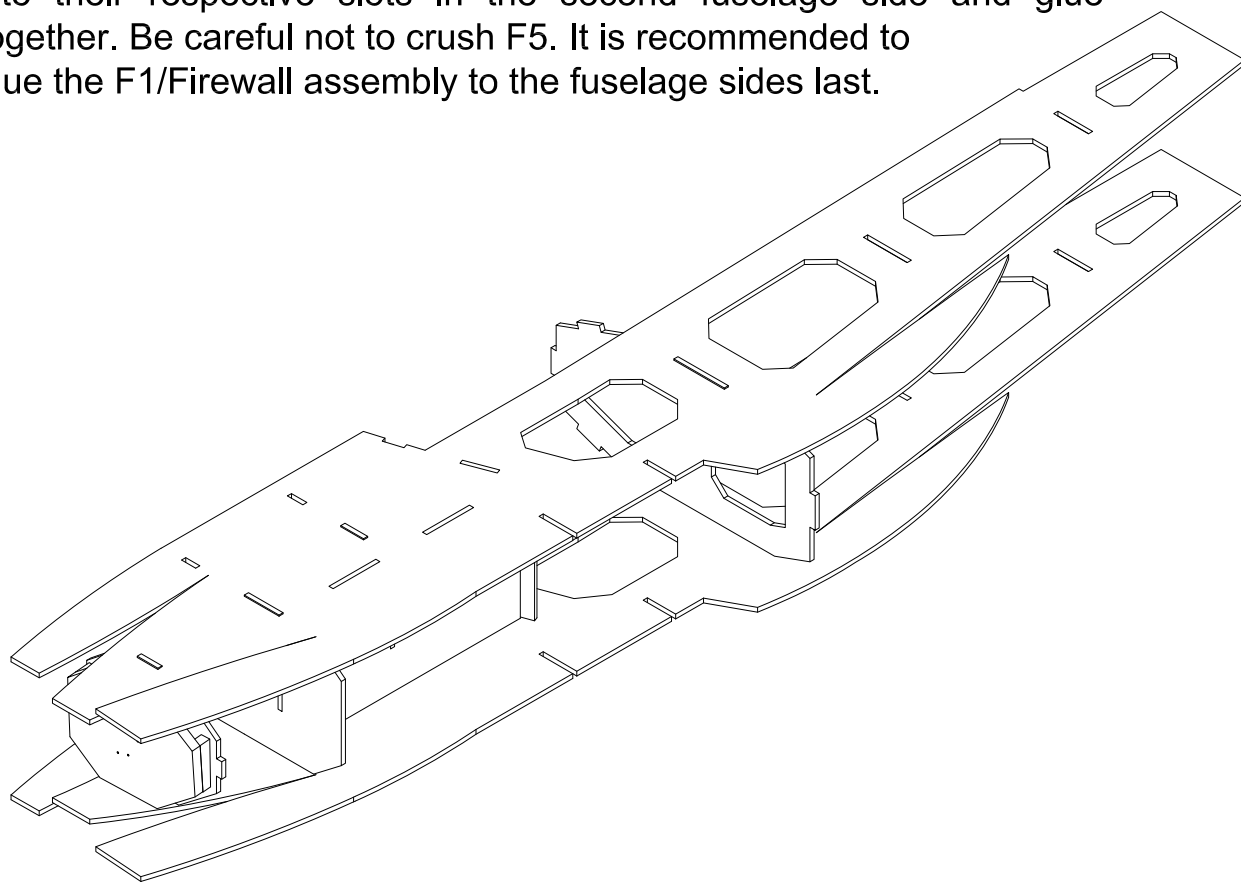
6. Fit BT into the slot in F2 and then fit F2/BT, F4 and F5 into the slots in the fuselage side. Ensure that all parts fit tightly and are perpendicular to the fuselage side, then glue in place.



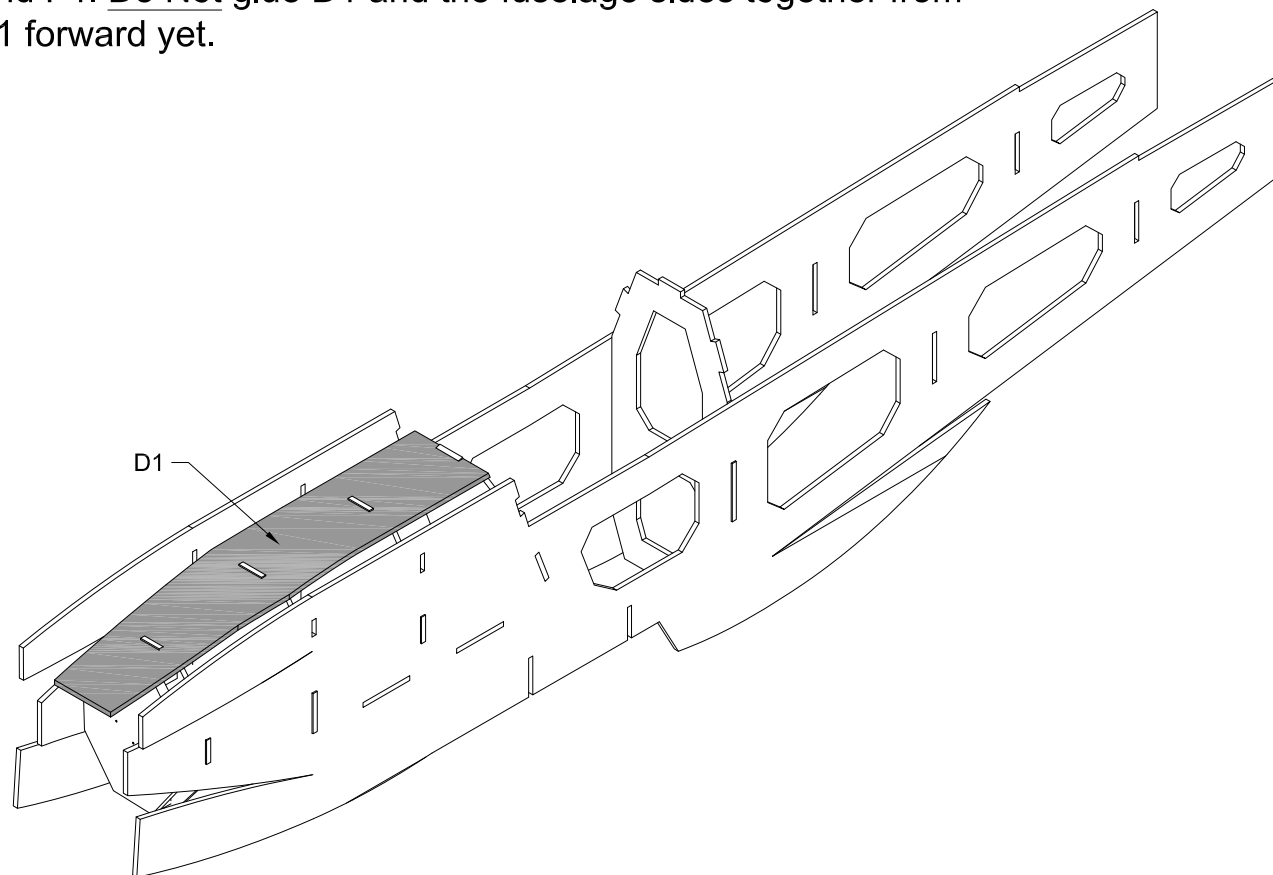
7. Fit the F1/Firewall assembly into the slot in the fuselage side. **Do Not** glue in place!



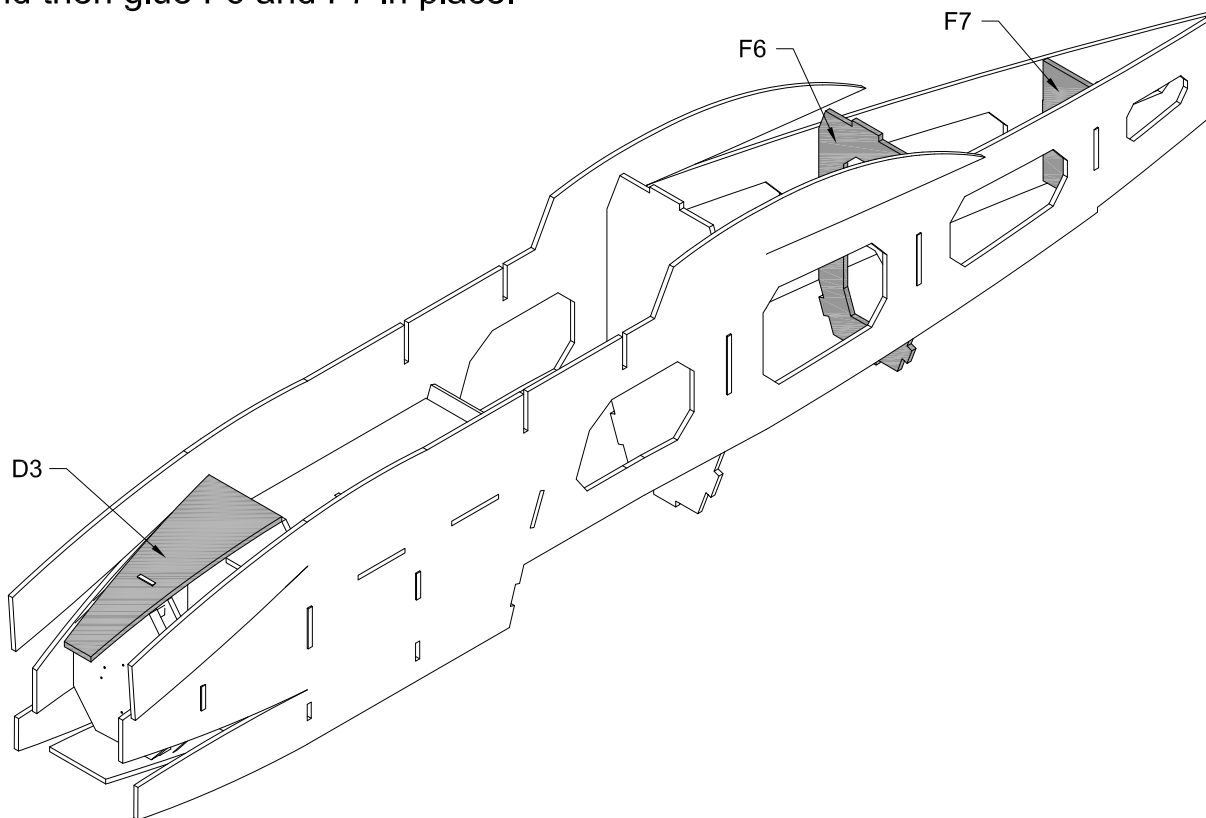
8. Fit the second fuselage side in place. Ensure that all parts fit tightly into their respective slots in the second fuselage side and glue together. Be careful not to crush F5. It is recommended to glue the F1/Firewall assembly to the fuselage sides last.



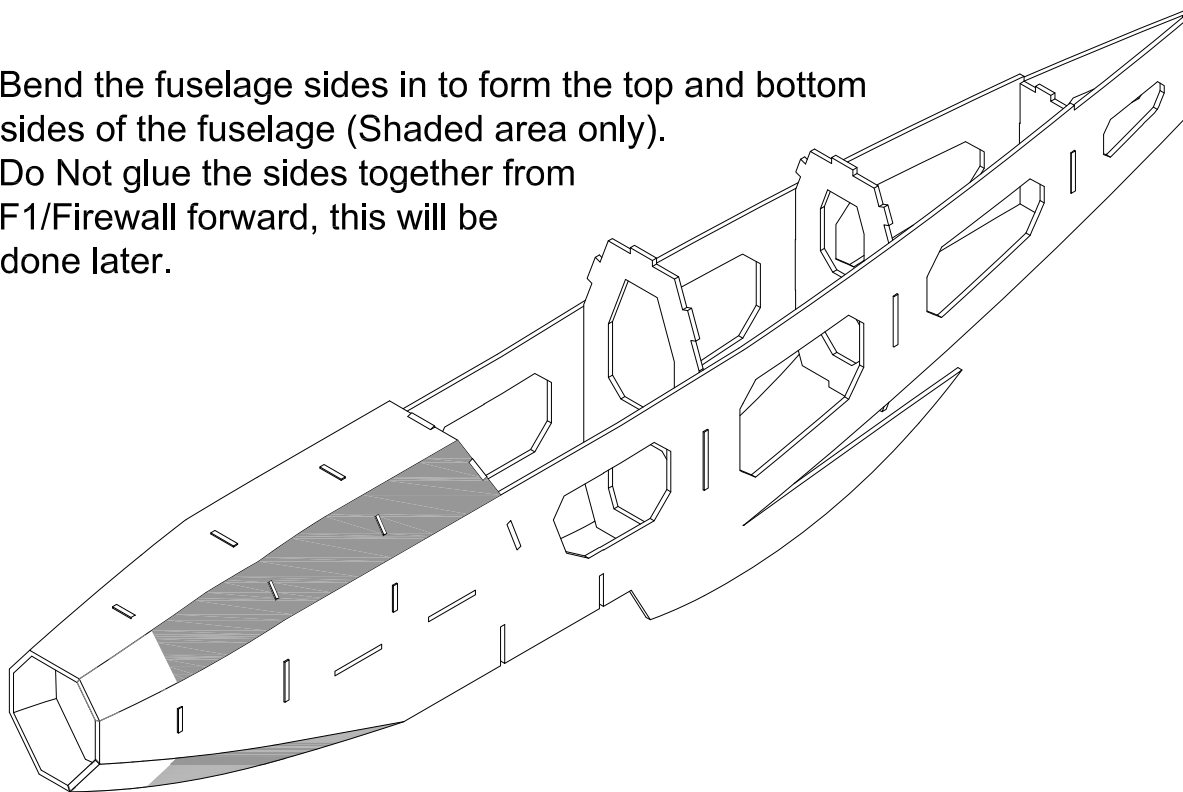
9. Bevel the sides of D1 (about 35 degrees) and then glue to F1, F2, F3 and F4. Do Not glue D1 and the fuselage sides together from F1 forward yet.



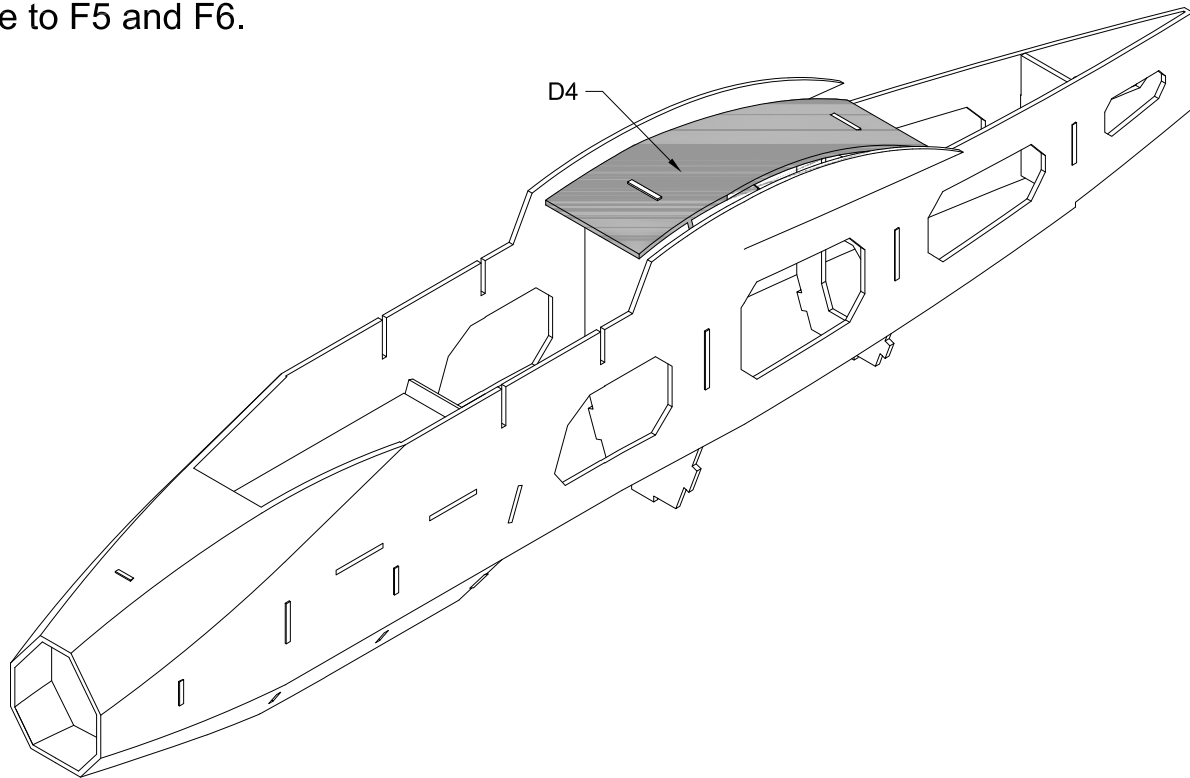
- 10.** Bevel the sides of D3 (about 35 degrees) and then glue to F1 and F2. Do Not glue D3 and the fuselage sides together from F1 forward yet. Also fit F6 and F7 into their respective slots in the fuselage side. It is a good idea to tape the rear of the fuselage together and ensure that the fuselage is straight and that then ends of the fuselage are aligned and then glue F6 and F7 in place.



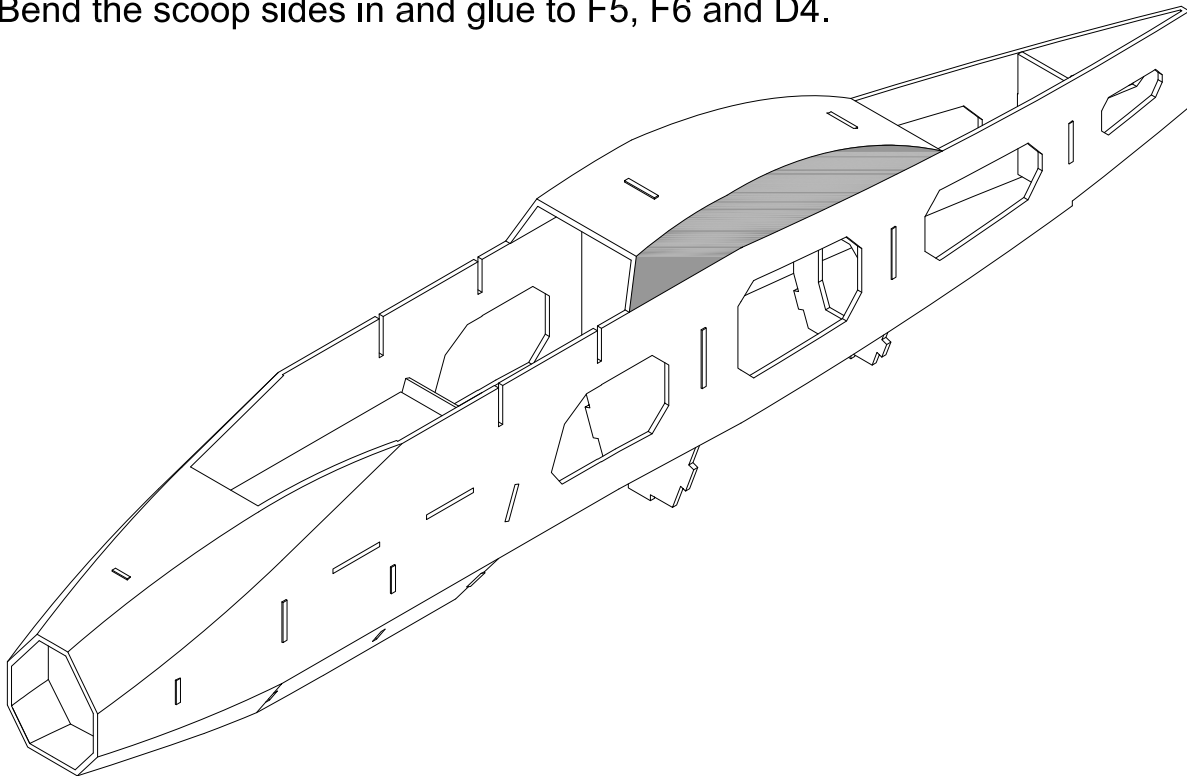
- 11.** Bend the fuselage sides in to form the top and bottom sides of the fuselage (Shaded area only). Do Not glue the sides together from F1/Firewall forward, this will be done later.



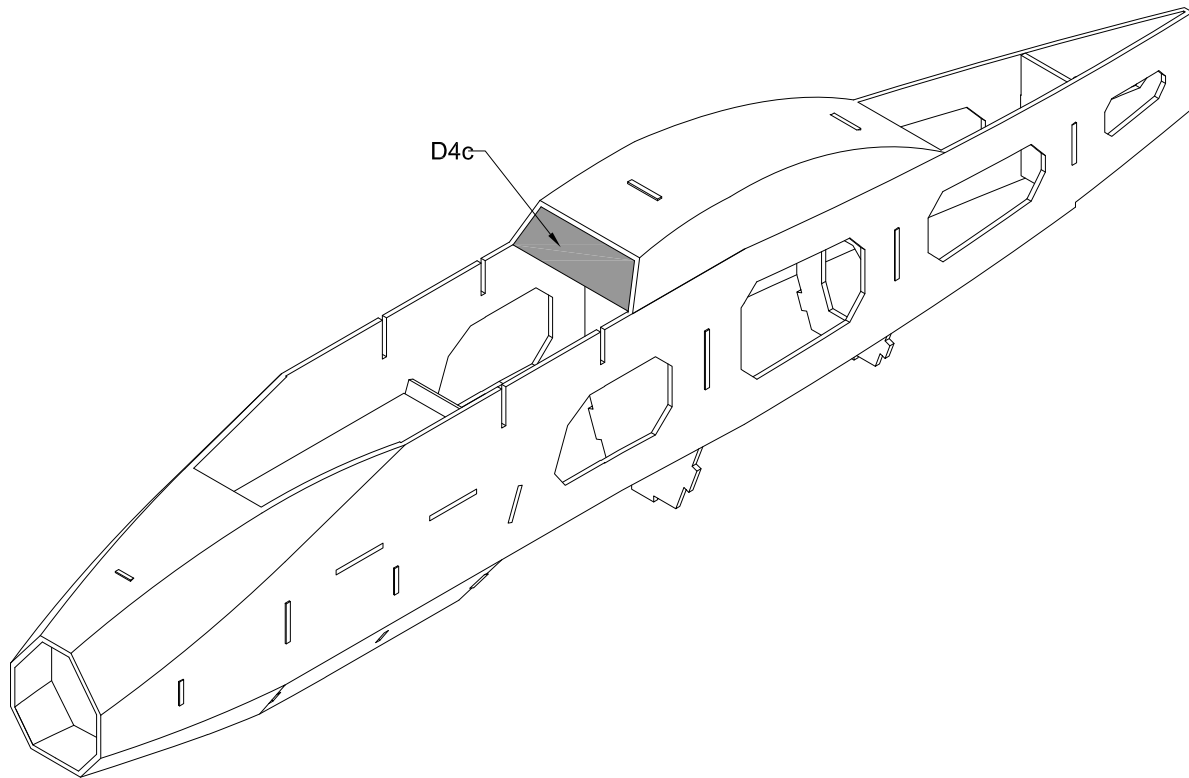
- 12.** Glue together D4a and D4b to form the sheeting for the bottom of the scoop. Bevel the sides of D4 (about 20 degrees) and then glue to F5 and F6.



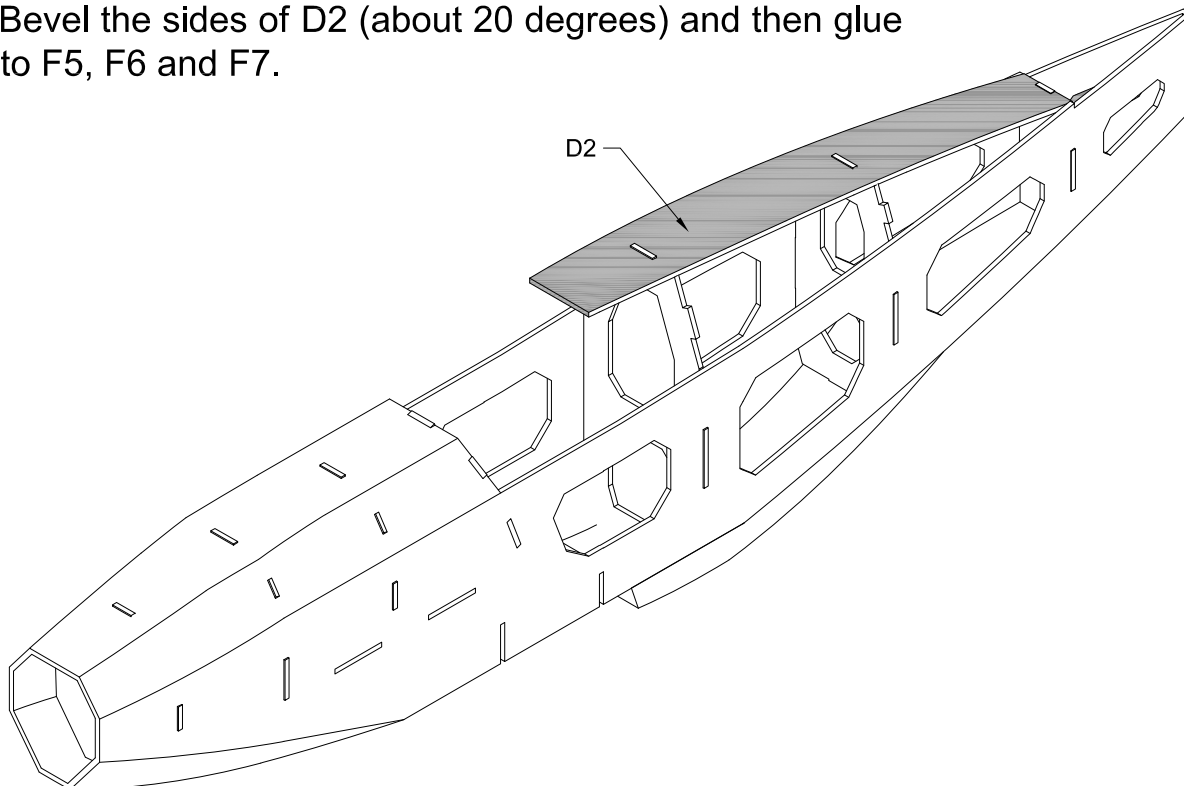
- 13.** Bend the scoop sides in and glue to F5, F6 and D4.



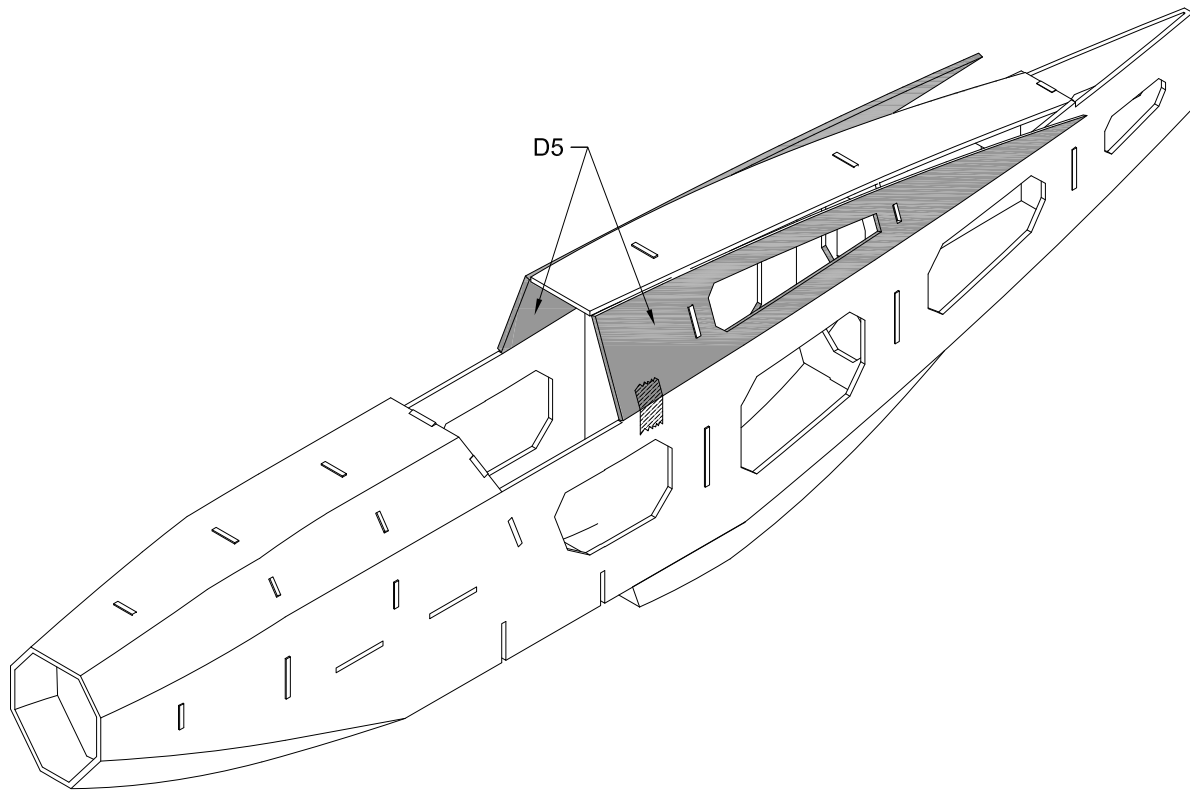
14. Glue D4c to the front of the scoop. Sand as necessary for a good, tight fit.



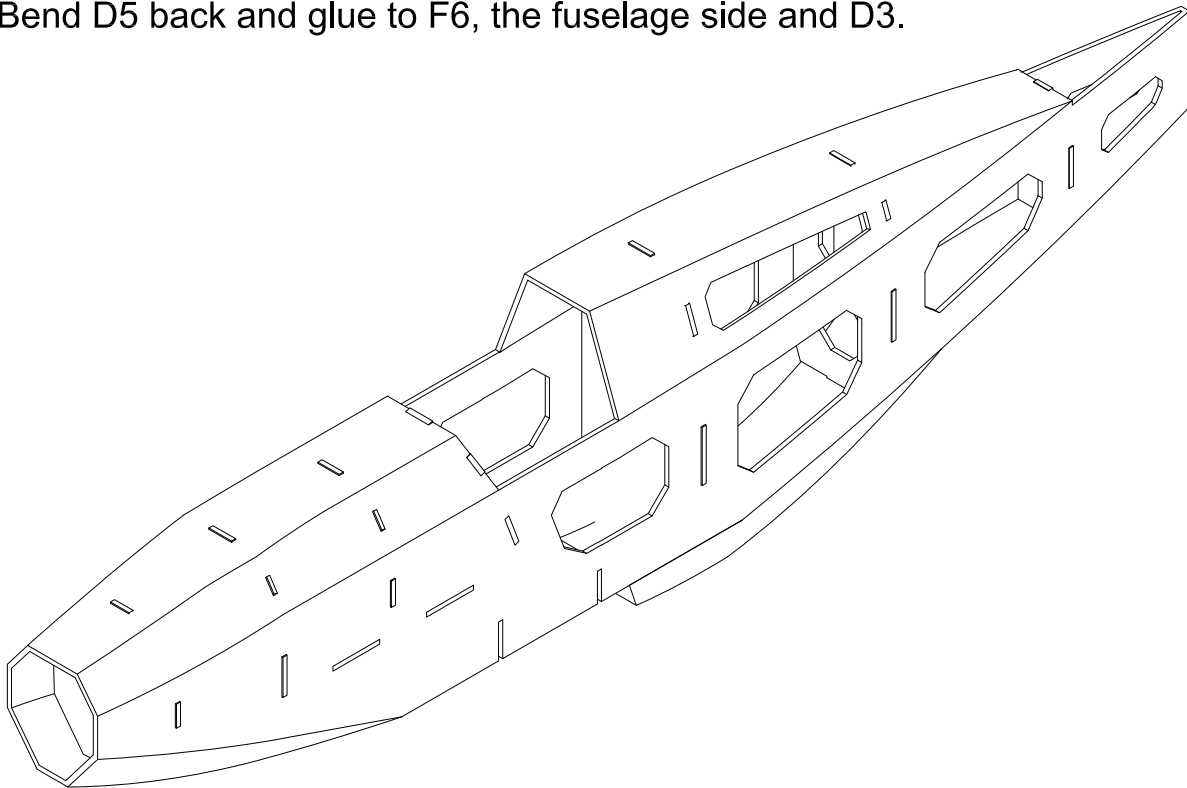
15. Bevel the sides of D2 (about 20 degrees) and then glue to F5, F6 and F7.



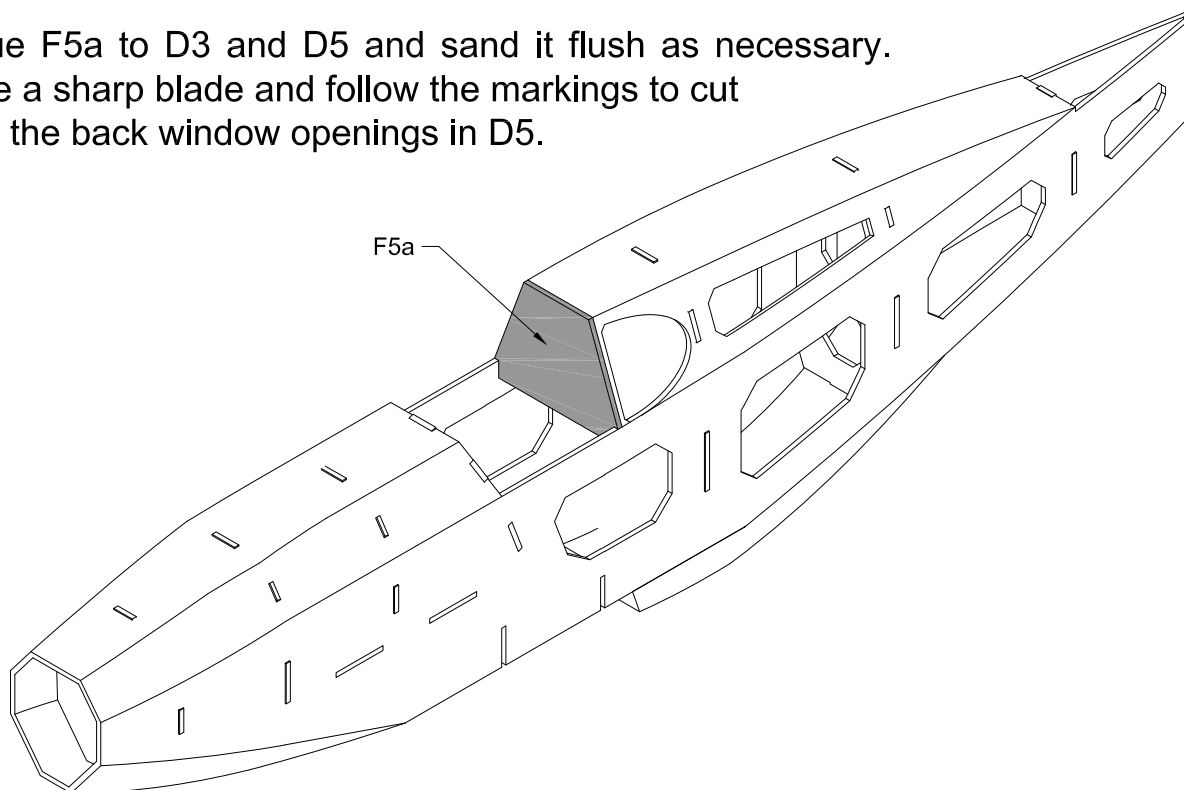
- 16.** Fit D5 onto F5. Use tape to hold D5 to the fuselage side. Glue D5 to the fuselage side from F5 forward and to F5.



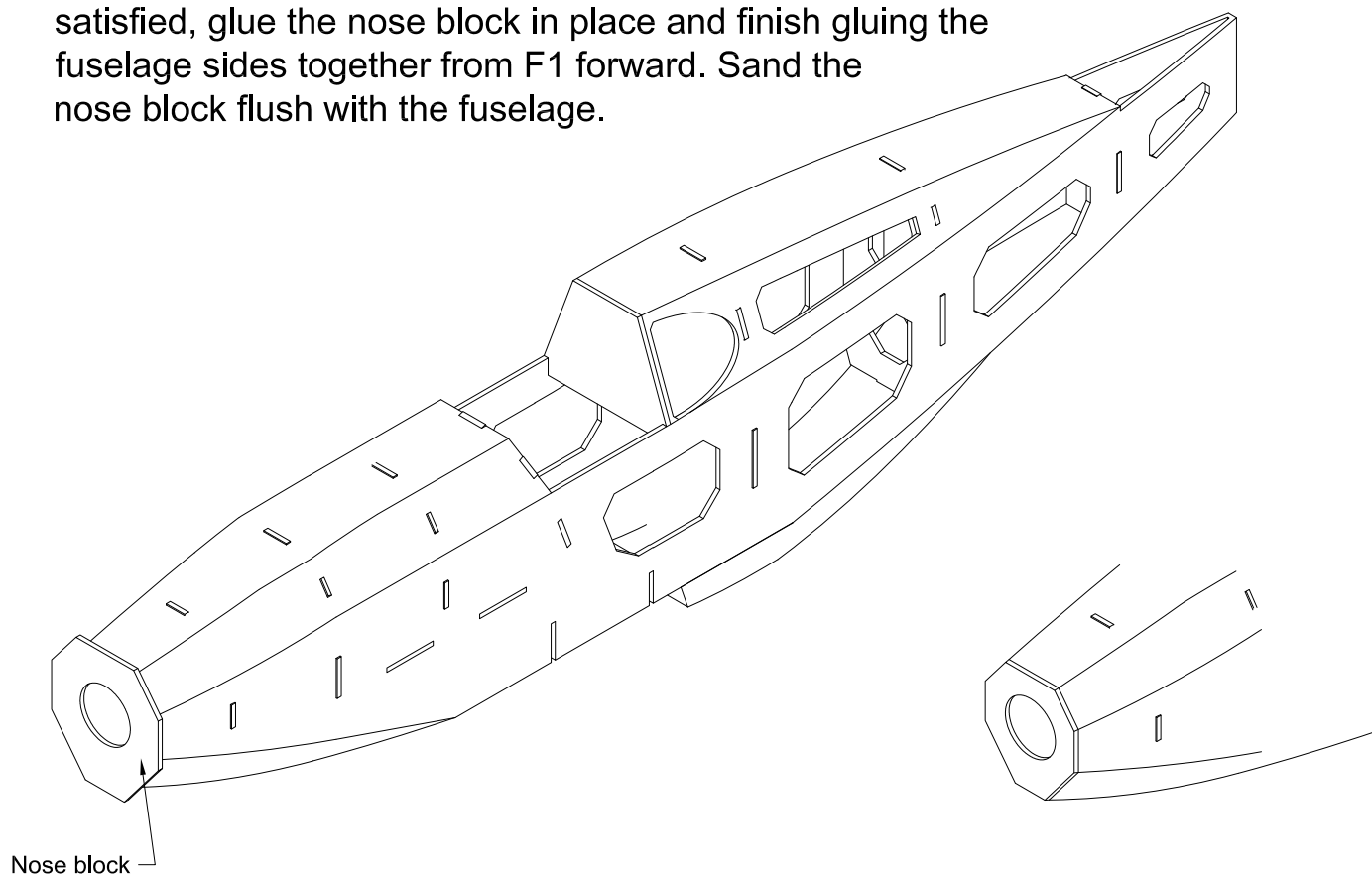
- 17.** Bend D5 back and glue to F6, the fuselage side and D3.



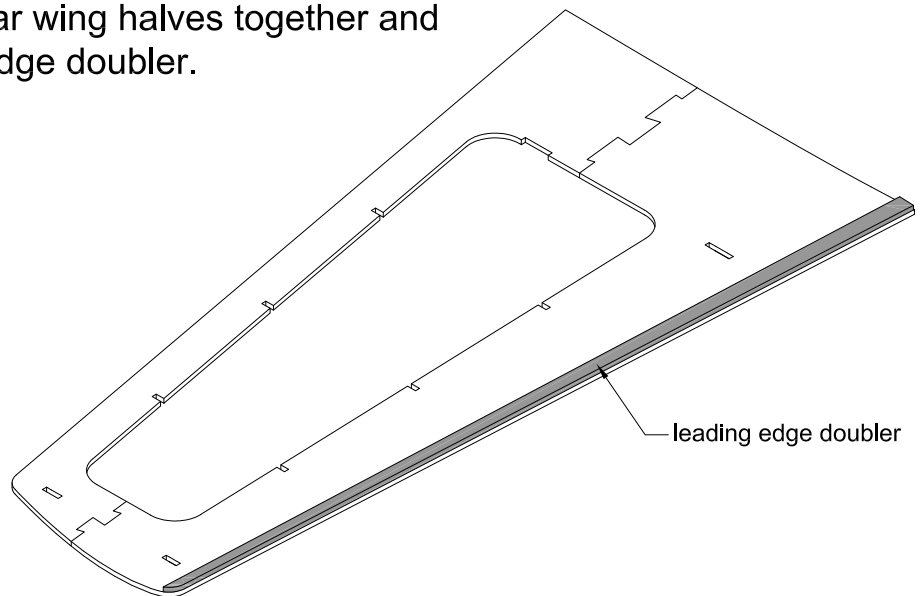
- 18.** Glue F5a to D3 and D5 and sand it flush as necessary. Use a sharp blade and follow the markings to cut out the back window openings in D5.



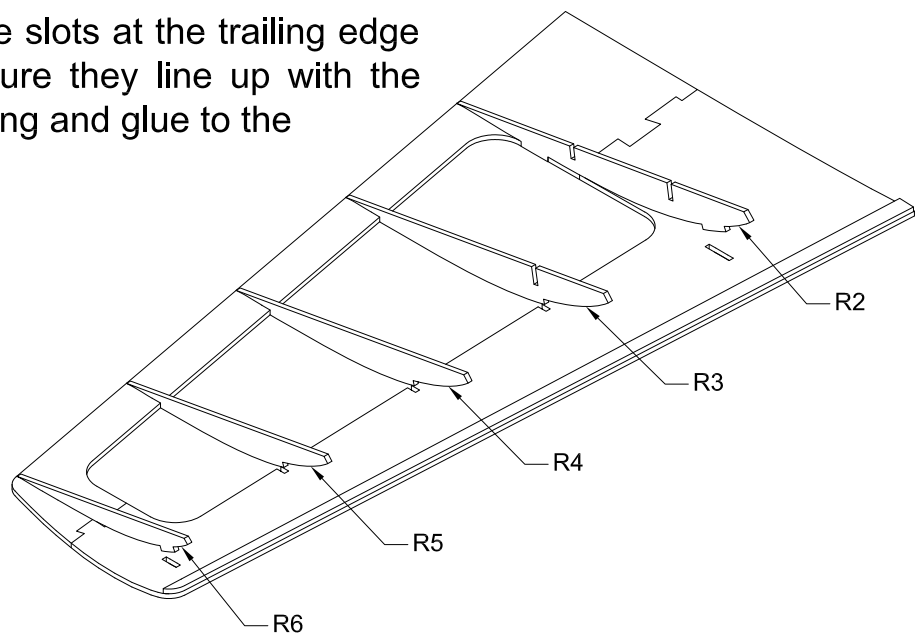
- 19.** Screw the motor mount to the firewall at this time. Put a rubber band or two around the nose to draw D1, D3 and the fuselage sides together and fit the nose block in place. Check that the fuselage sides align well with the nose block, sand as necessary for a good fit. When satisfied, glue the nose block in place and finish gluing the fuselage sides together from F1 forward. Sand the nose block flush with the fuselage.



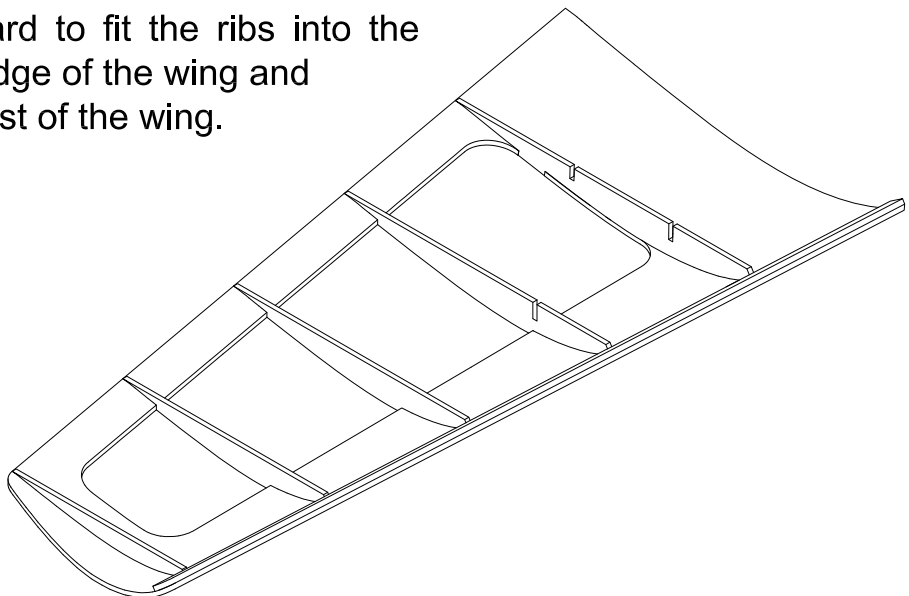
- 20.** Glue the front and rear wing halves together and glue on the leading edge doubler.



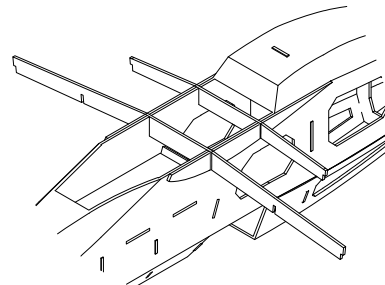
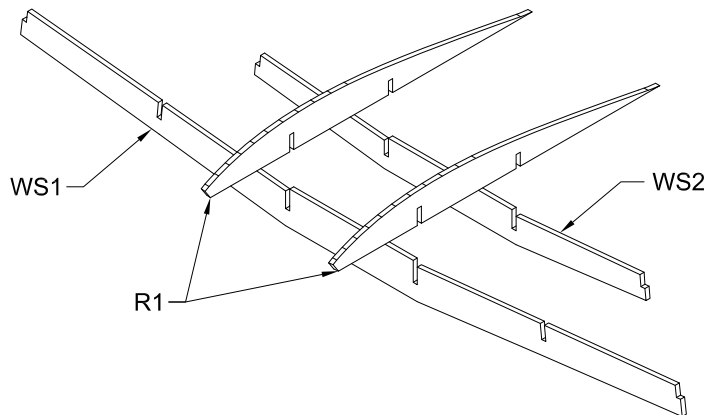
- 21.** Fit ribs R2 - R6 to the slots at the trailing edge of the wing. Make sure they line up with the slots in front of the wing and glue to the trailing edge.



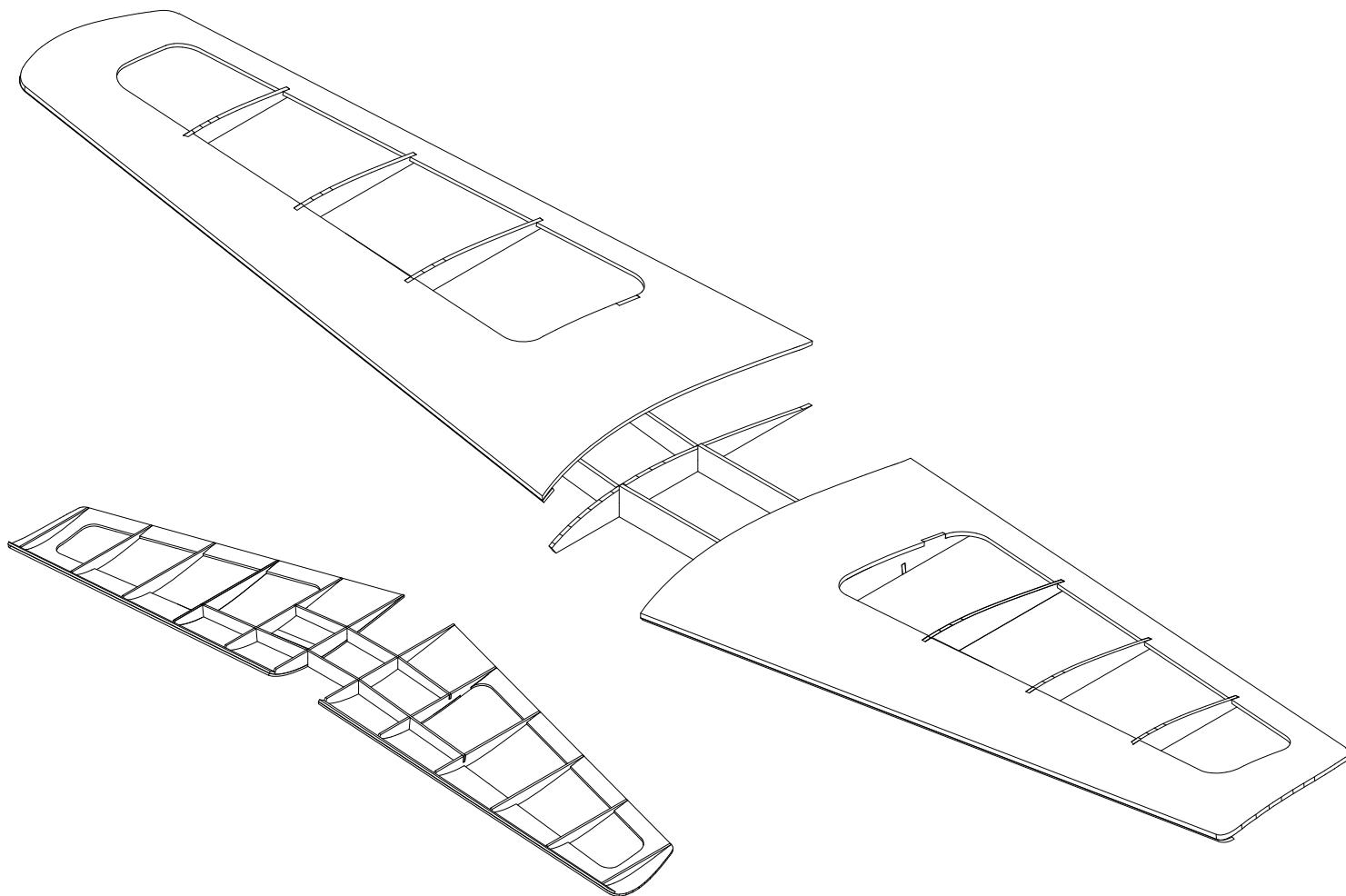
- 22.** Bend the wing forward to fit the ribs into the slots at the leading edge of the wing and glue the ribs to the rest of the wing.



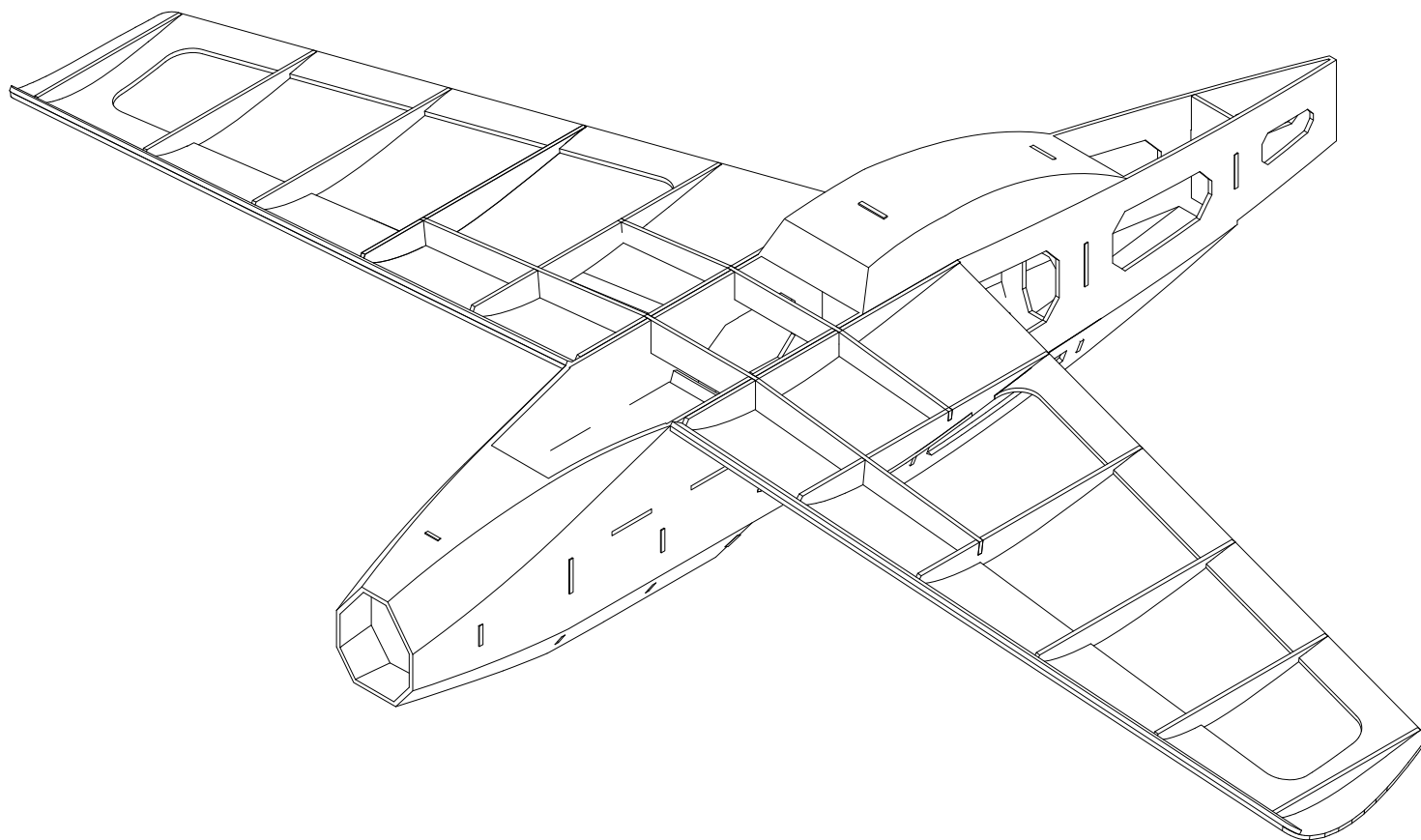
- 23.** Dry fit the wing spar structure together by fitting wing ribs R1 into the slots in WS1 and WS2, but Do Not glue together yet. To ensure proper alignment of the ribs/spars, carefully fit the wing spar structure into the slots in the fuselage. Make sure the spars are fully seated into the slots and carefully glue the ribs R1 to the spars. Do Not glue the ribs or spars to the fuselage! When dry, remove the wing spar structure from the fuselage.



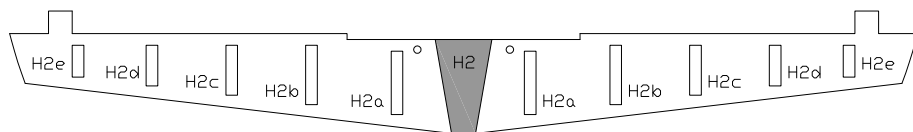
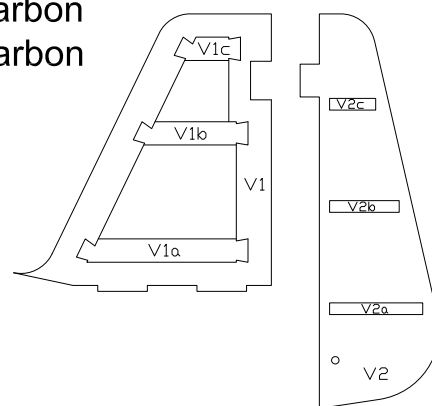
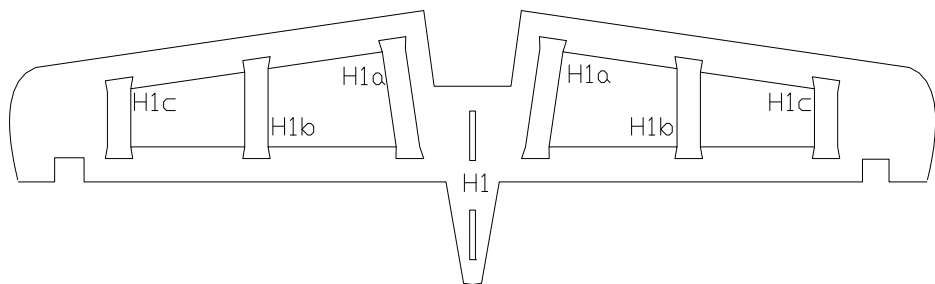
- 24.** Fit the wing spars into the slots in R2 and R3 and glue the wing panels to the wing spars. Carefully glue the ribs R1 to the wing panels, keeping the edge of the wing panels flush with the inside of the ribs R1.



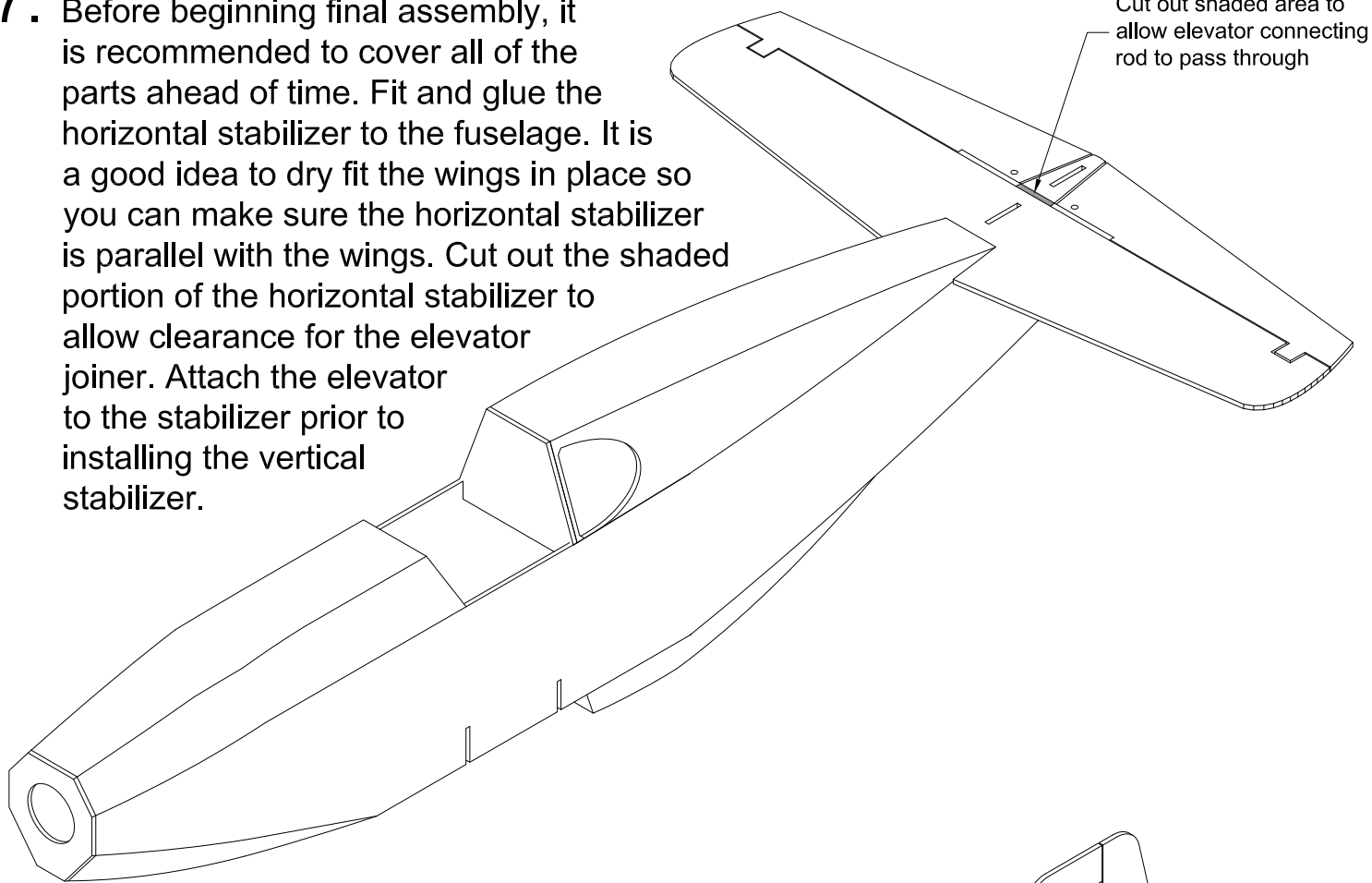
- 25.** Check the fit of the wings to the fuselage. Don't force the wing into the fuselage, sand as necessary to achieve a good fit.



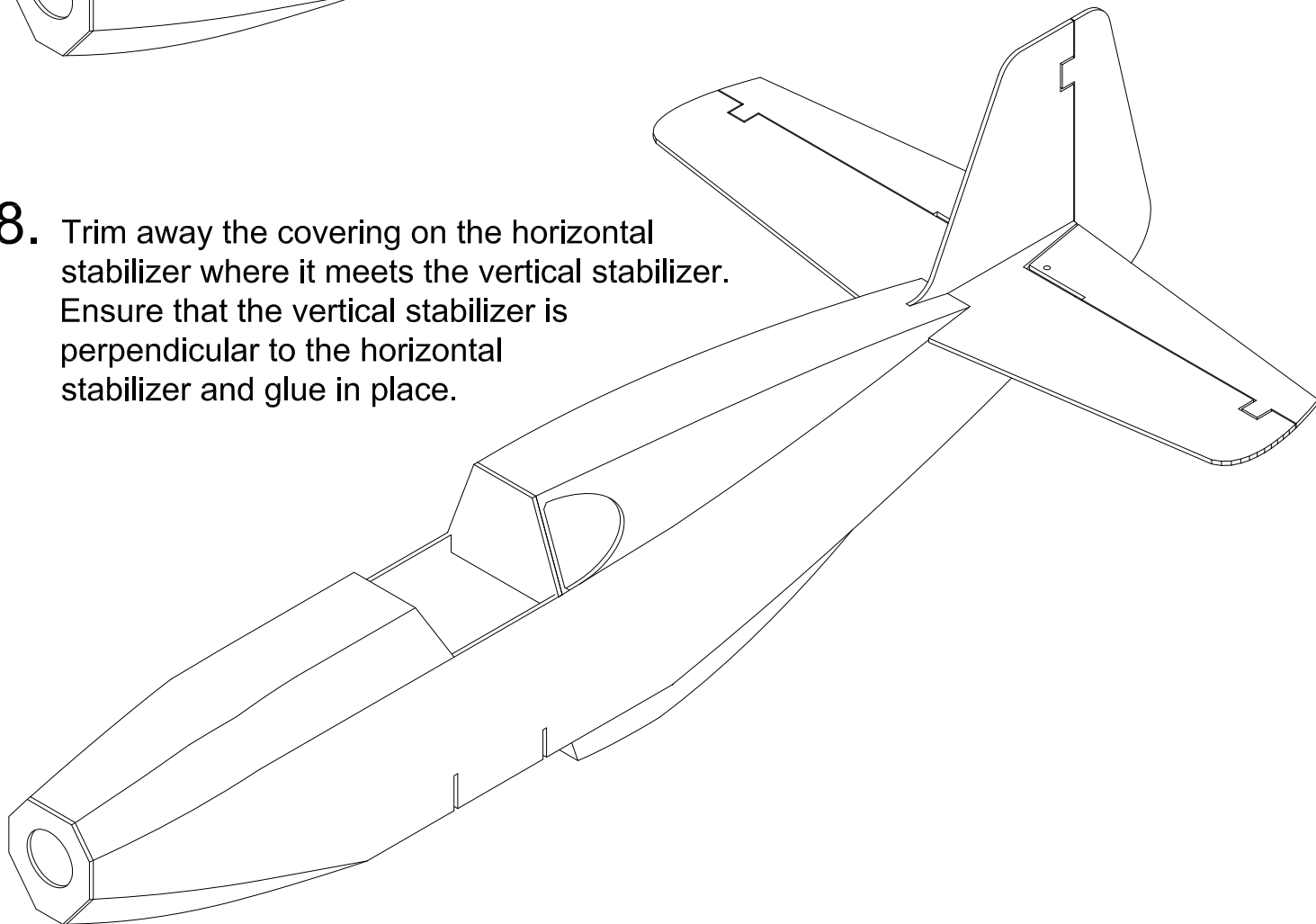
- 26.** Glue the horizontal and vertical stabilizer structures together. Join the two elevator halves together with the included carbon rod. Cut out the shaded portion of the elevator once the carbon rod is glued in place.



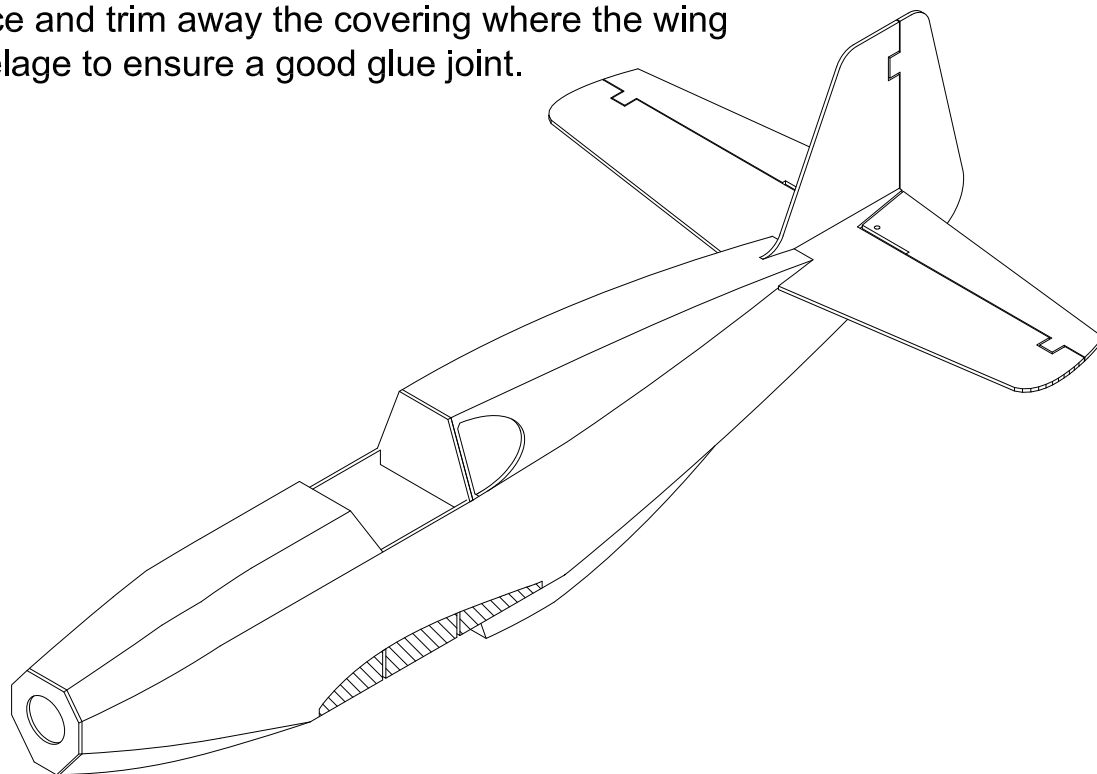
27. Before beginning final assembly, it is recommended to cover all of the parts ahead of time. Fit and glue the horizontal stabilizer to the fuselage. It is a good idea to dry fit the wings in place so you can make sure the horizontal stabilizer is parallel with the wings. Cut out the shaded portion of the horizontal stabilizer to allow clearance for the elevator joiner. Attach the elevator to the stabilizer prior to installing the vertical stabilizer.



28. Trim away the covering on the horizontal stabilizer where it meets the vertical stabilizer. Ensure that the vertical stabilizer is perpendicular to the horizontal stabilizer and glue in place.



29. Fit wing in place and trim away the covering where the wing meets the fuselage to ensure a good glue joint.



30. Use small spring clamps if available to hold the wing tight against the fuselage while gluing. Once the wing has been glued in place, cut away WS2 as shown in fig.1. Glue the fuselage reinforcement WD to the inside of the fuselage between WS1 and the scoop (fig. 2).

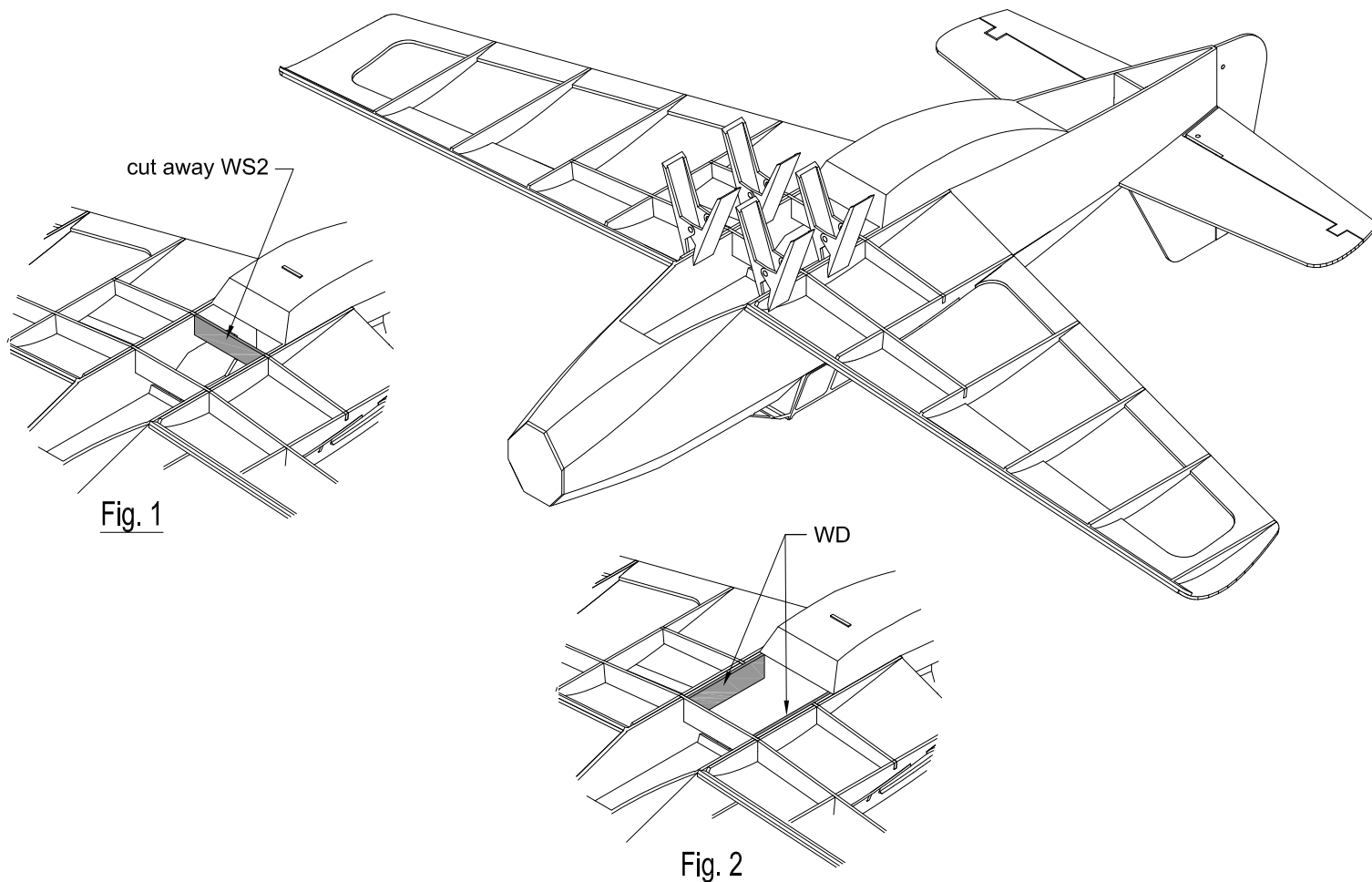
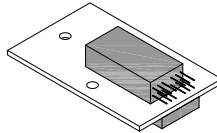
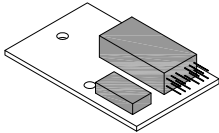


Fig. 1

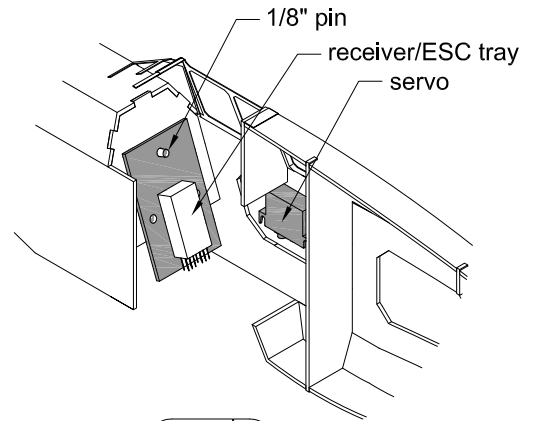
Fig. 2

Final Assembly

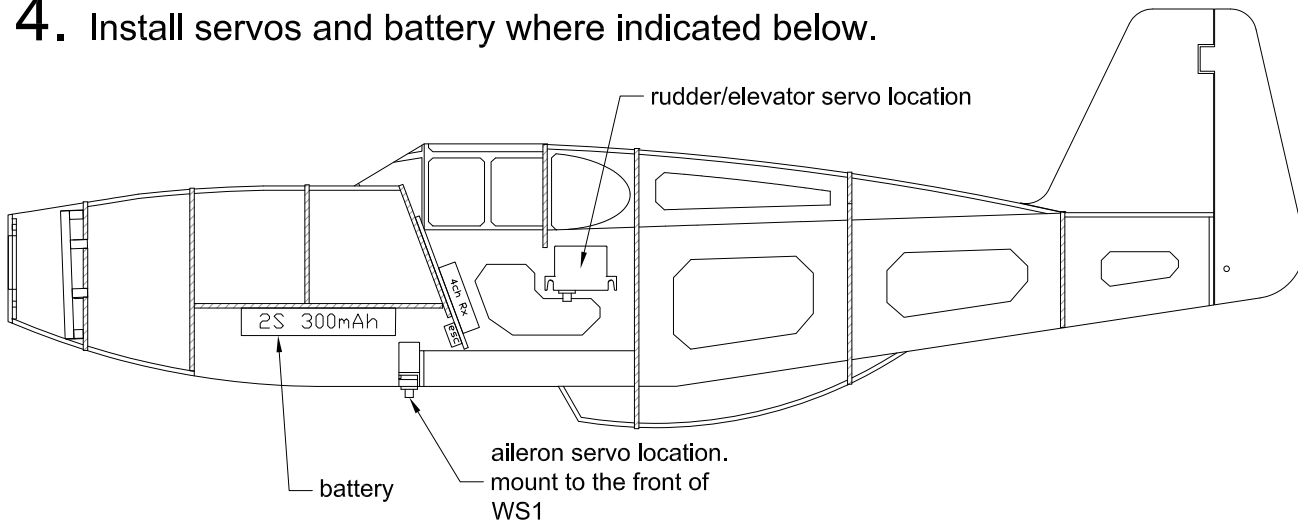
1. Attach control surfaces (ailerons, elevator, rudder) to flying surfaces with clear packing tape, covering material or similar. Install controls horns in the precut holes in the elevator, ailerons and rudder.
2. Secure the receiver and ESC to the removable receiver tray. Depending on the size of your electronics, the receiver and ESC can both be secured to the front of the tray or the receiver can be on the front and the ESC on the back of the tray.



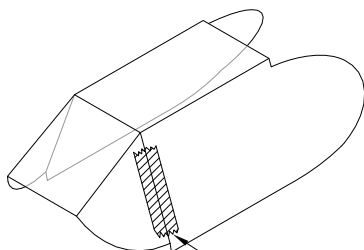
3. Put receiver tray in place by slipping the top hole over the 1/8" dowel pin in F4 and allowing the magnets to hold it in place.



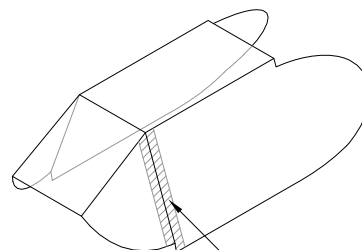
4. Install servos and battery where indicated below.



5. The canopy can be formed in two ways:
 - Apply a temporary piece of tape to the outside of the joint and coat the inside of the joint with canopy glue. Remove tape when dry.
 - Apply a strip of clear packing tape to the inside of the joint.



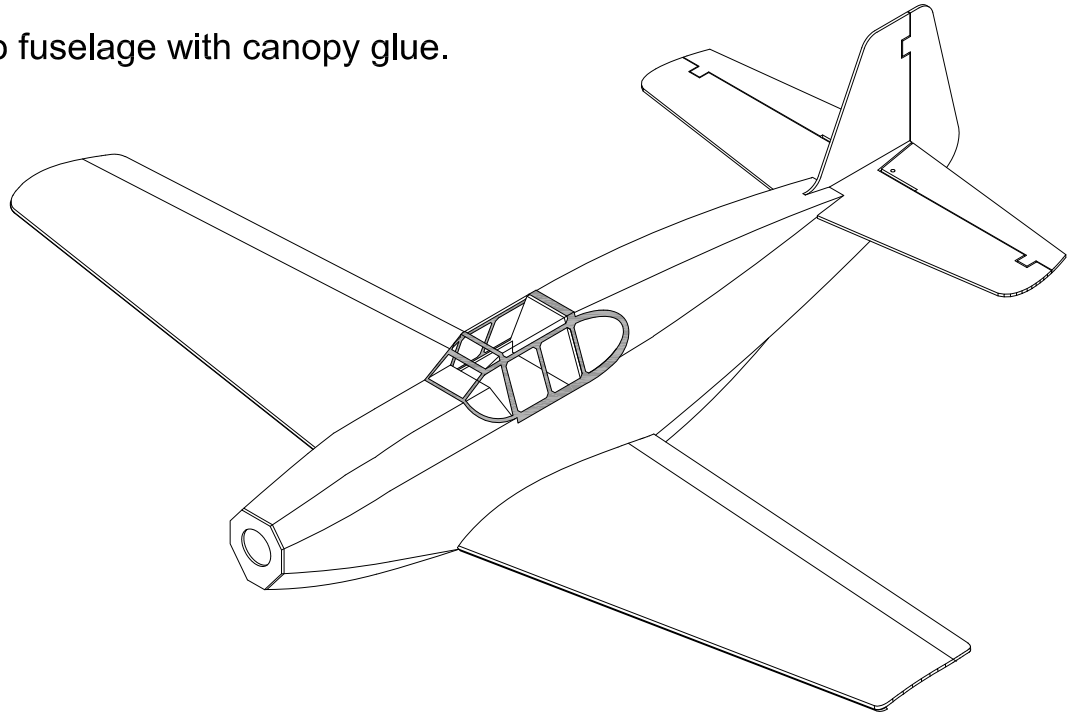
tape on outside, apply glue to inside of joint



clear packing tape on inside of joint

Final Assembly

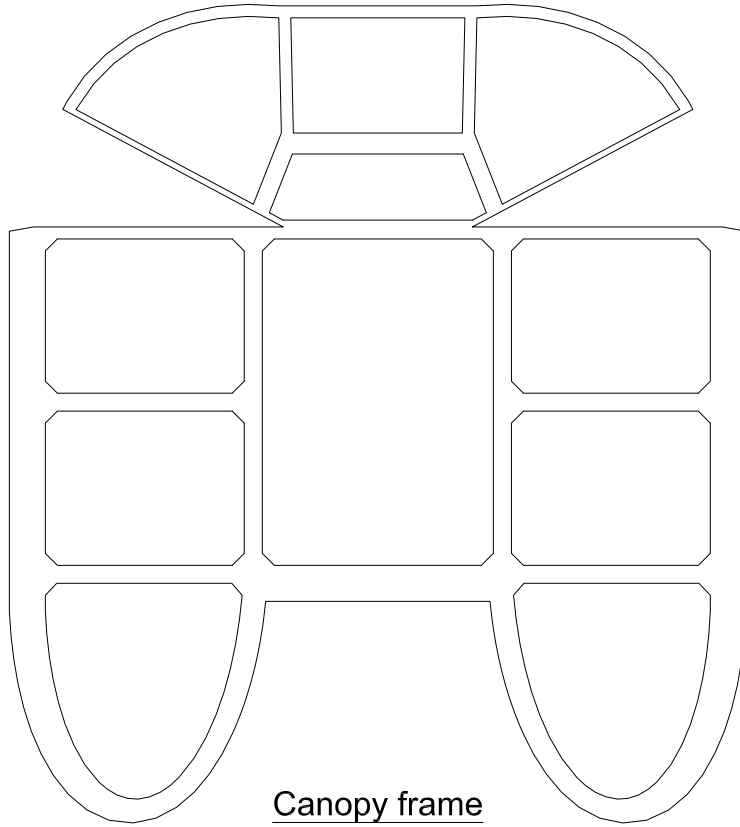
6. Secure canopy to fuselage with canopy glue.



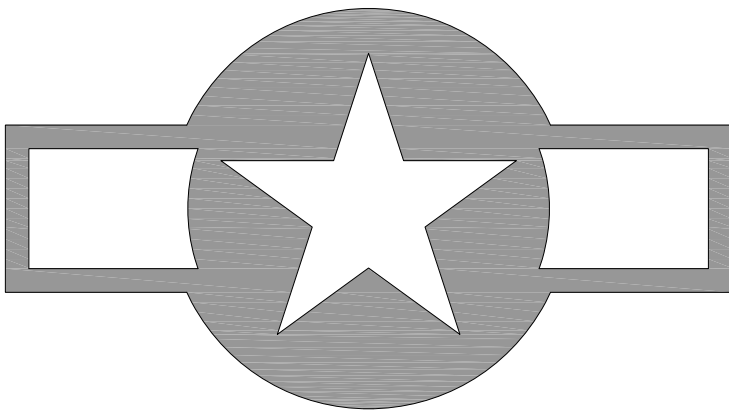
Set up and Flying

1. Balance your P-51 on the main wing spar WS1. Shift battery as necessary to balance.
2. Set the throws for the control surfaces:
 - Ailerons - 1/4" up/down
 - Elevator - 1/4" up/down
 - Rudder - 3/8" left/right
3. Due to the undercambered wing, the P-51 will climb aggressively under full power. This can be countered by mixing in some down elevator with the throttle. Start at 5% down elevator and adjust as desired.
4. Setting up exponential throws (Expo) is a great way to help prevent over controlling your plane. A setting of 40% to 70% will provide smooth control response while still allowing for aggressive maneuvering.
5. ****CAUTION**** The Whim Series P-51C was not designed to be a high speed plane. Over powering or high speed dives may cause wing flutter and possible structural damage.

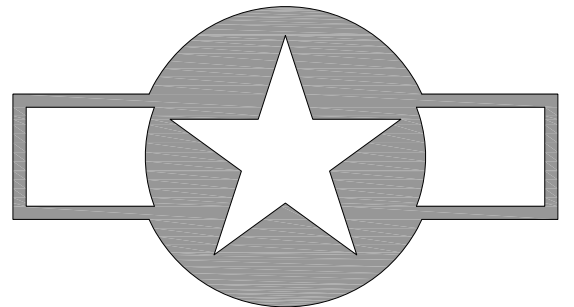
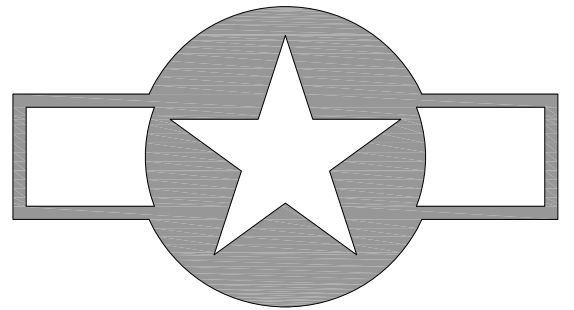
Templates



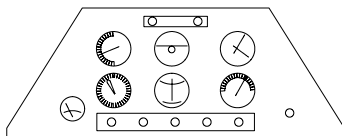
Canopy frame



Wing roundel



Fuselage roundel



Instrument panel