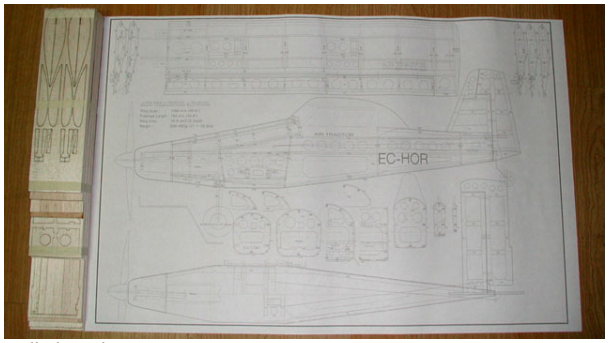
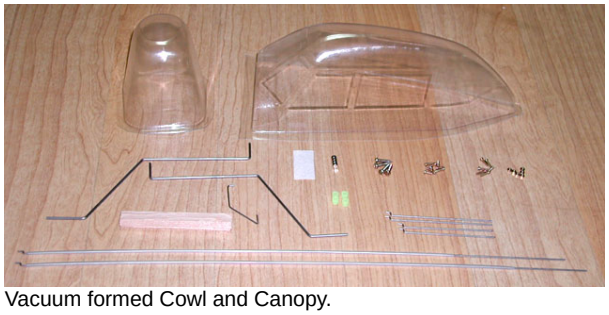
AIR TRACTOR AT-802 INSTRUCTIONS

www.estarmodels.com

● KIT INCLUDES



Full size plan.
Lasercut parts.
- 1.5mm(1/16")xL580mm(23") balsa : 2sheets
- 1.5mm(1/16")xL465mm(18.5") balsa : 7sheets
- 1.5mm(1/16")xL350mm(14") balsa : 2sheets
- 3.0mm(1/8")xL580mm(23") balsa : 2sheets
- 3.0mm(1/8")xL465mm(18.5") balsa : 1sheet
- 3.0mm(1/8")xL350mm(14") balsa : 2sheets
- 4.0mm(5/32")xL465mm(18.5") balsa : 2sheets
- 5.0mm(3/16") Stick(W23) : 2ea
- 5.0mm(3/16") xL330mm(13.2") balsa : 1sheet
- 1.8mm(5/64")xL400mm(16") plywood : 1sheet
- 3.0mm(1/8")xL600mm(24") plywood : 1sheet
- 3.0mm(1/8")xL300mm(12") plywood : 1sheet



Vacuum formed Cowl and Canopy.
Motor mount 10x10x90mm.
Landing gears(2ea), Silicon tubes(4ea) and Tail gear.
2mm bolts and nuts(6sets), 2mm screws(8ea).
3mm Wing screws (4ea).
Neodymium Manetics (4ea)
CA hinge.
Pushrods(6ea) for Rudder, Elevator, Ailerons and flaps.

Instructions and Stickers.

● ITEMS NEEDED TO COMPLETE

GWS EPS-400C-DS(3:1) or
BL motor (5~6:1 geared, 12~15A: Himax 2025 kv4200, Feigao 13084-13L kv4462, Hyperion HP-X22L-3900 recommended).

ESC (15~25A).

Propeller 9070 (2-blades or 3-blades) or APC 9x6E.

Li-Poly 11.1V 1700~1800mAh Battery w/Li-Poly charger.

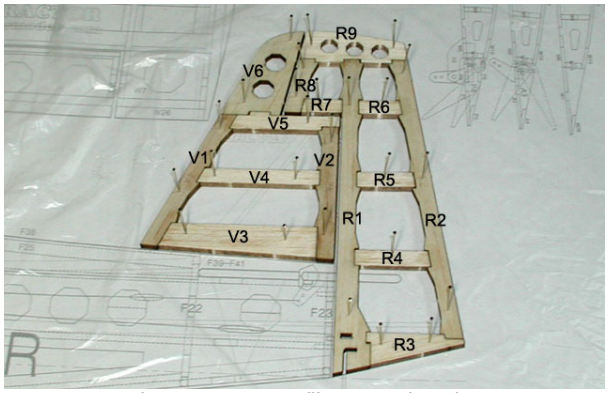
Mini Receiver(5-7 channel).

6 submicro Servos
(Hitec HS-55 / Futaba S3108 / GWS pico servos, or equivalant)
Servo extension cords and Y-harness.

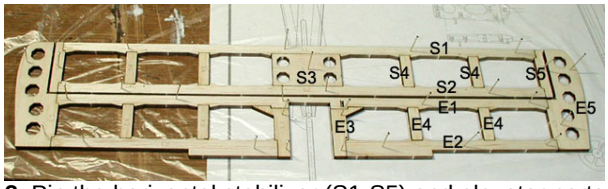
2~3 rolls of covering film.
(Solite/Monokote/Oracover)

50mm(2") Wheels, Wheel Collars (4ea) and Rod adjusters (6ea).

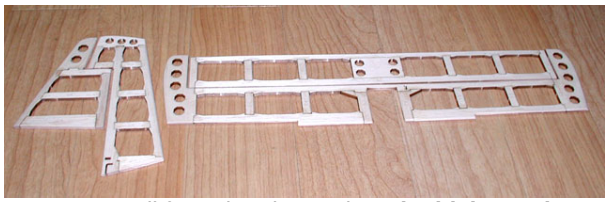
● TAIL CONSTRUCTION



1. Lay waxed paper or PVC film over the plan.
Pin the vertical fin (V1-V6) and rudder parts (R1-R9).
Glue the parts with thin CA.

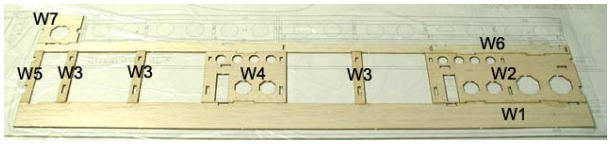


2. Pin the horizontal stabilizer (S1-S5) and elevator parts (E1-E5) on the plan. Glue the parts with thin CA

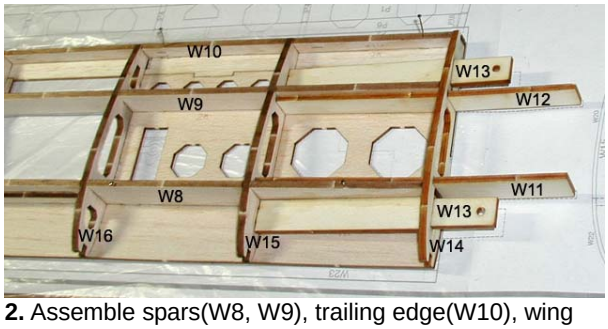


3. Remove tail from the plan and **apply thick CA glue at each joints for reinforcing** and Carefully sand surfaces.

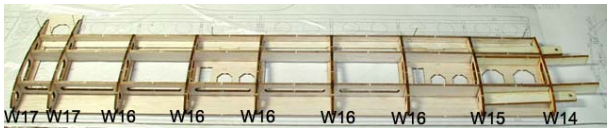
● WING CONSTRUCTION



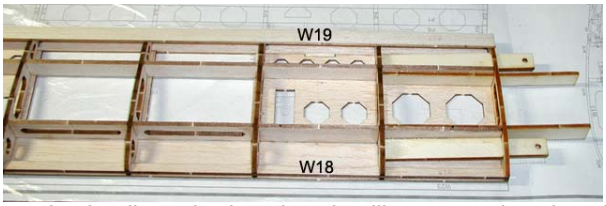
1. Pin the parts(W1-W7) on the plan and glue together with thin CA.



2. Assemble spars(W8, W9), trailing edge(W10), wing joiners(W11-W13) and ribs(W14-W16).

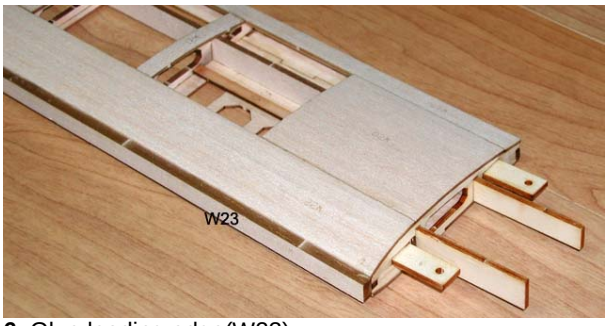


3. Assemble ribs(W16-W17) and then glue together with thin CA.). **Apply thick CA glue at each joints for reinforcing.**

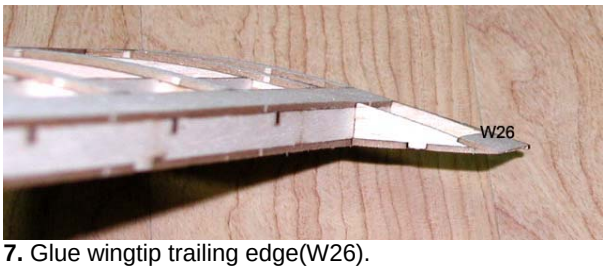


4. Glue leading edge(W18) and trailing upper sheet(W19).

5. Glue upper sheets and cap strips(W19-W22) with **thick CA**.



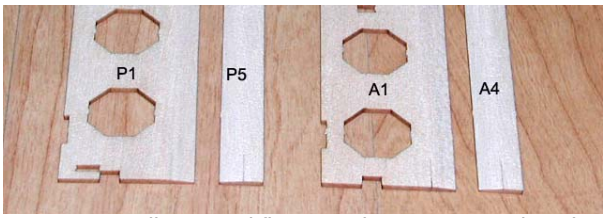
6. Glue leading edge(W23).



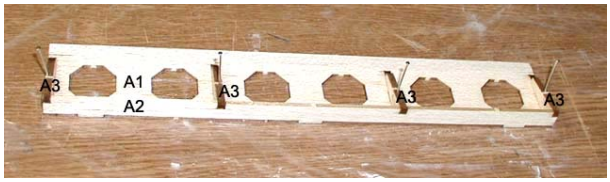
7. Glue wingtip trailing edge(W26).

8. Glue wingtip. (W24, W25).

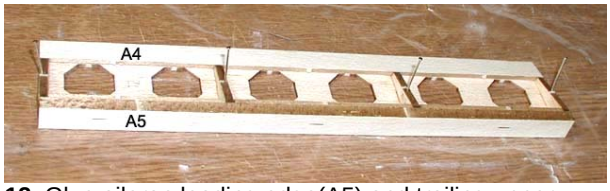
9. Glue plywood servo trays(W28, W29).



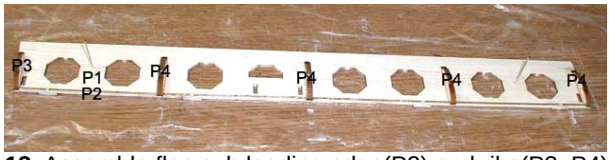
10. Prepare aileron and flap parts(A1, A4, P1, P5) and sand trailing edges.



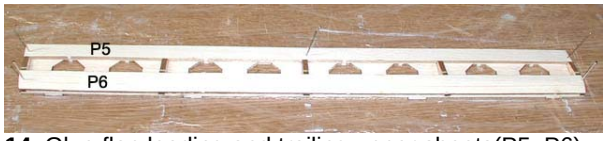
11. Assemble aileron sub leading edge(A2) and ribs(A3) and then, glue them.



12. Glue aileron leading edge(A5) and trailing upper sheet(A4).

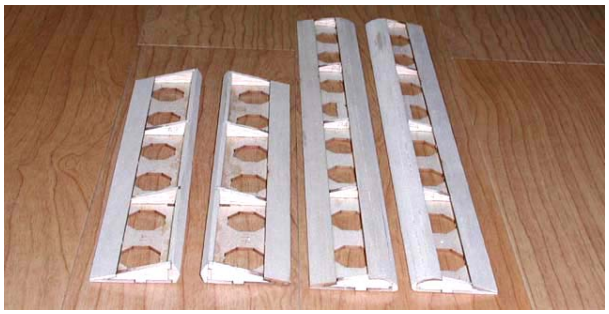


13. Assemble flap sub leading edge(P2) and ribs(P3, P4) and then, glue them.



14. Glue flap leading and trailing upper sheets(P5, P6).

15. Glue flap leading edge(P7).



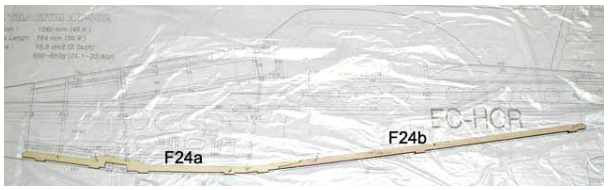
16. Carefully sand surfaces.

17. Glue trailing edge(W27) with **thick CA**.
Refer to the wing section on the drawing and use cardboard to make a gap.

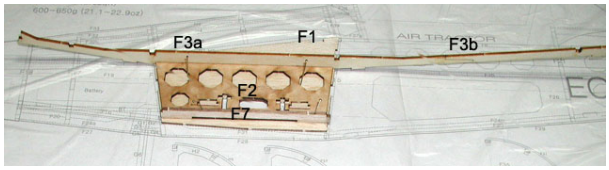
18. Carefully sand surfaces.

● FUSELAGE CONSTRUCTION

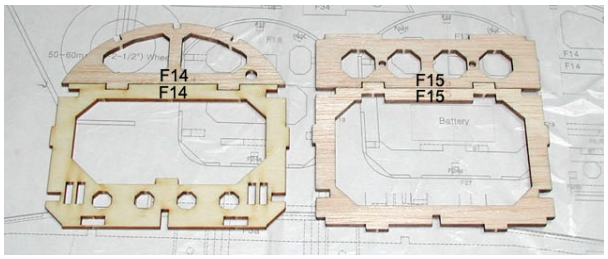
1. Glue the longerons (F3a, F3b) together on the plan.



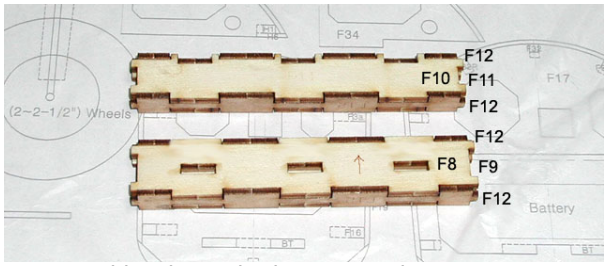
2. Glue the longerons (F24a, F24b) together on the plan.



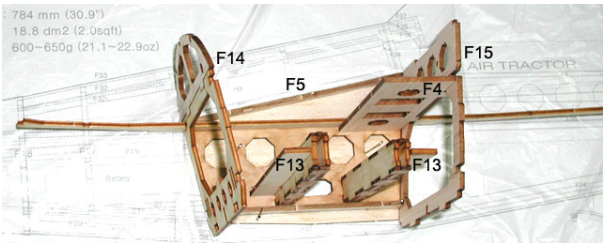
3. Lay right side panel(F1) on the plan and temporary assemble plywood doubler(F2) and longerons(F3, F7).



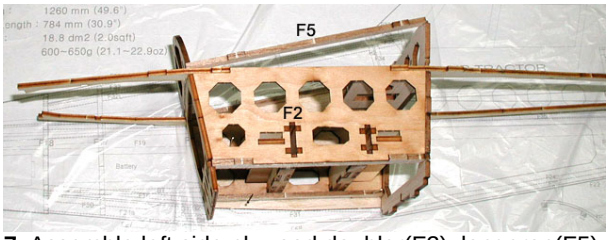
4. Glue Bulkheads(F14, F15) together.



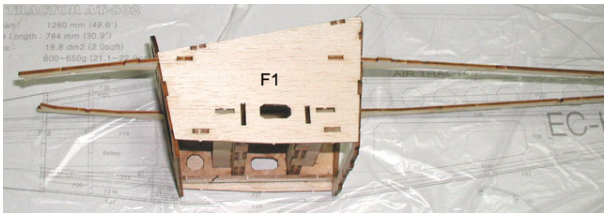
5. Assemble plywood wing mounts(F8-F9, F12 & F10-F11, F12).
After insertion check the wing joiners(W11, W12) and then glue each other.



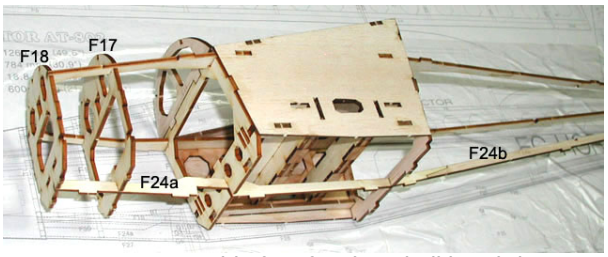
6. Temporary assemble right longeron(F5), bulkheads (F14, F15) servo bed(F4) and wing mounts(F8-F13).



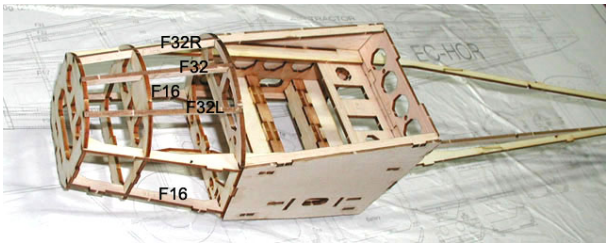
7. Assemble left side plywood doubler(F2), longeron(F5) and glue with thin CA.



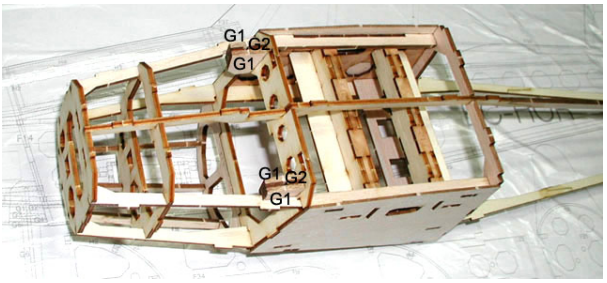
8. Assemble left side panel(F1) and glue with thin CA.



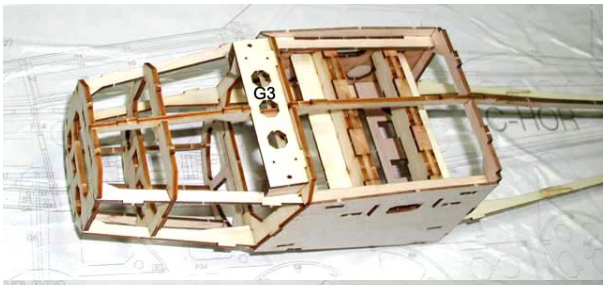
9. Temporary assemble fore fuselage bulkheads(F17, F18) and longeron(F24).
Make sure to pay attention to bulkheads F17, F18 the numbers should be facing forward.

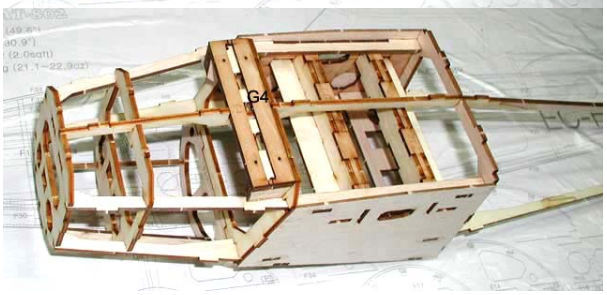


10. Temporary assemble longerons (F16, F32). Glue all the parts with thin CA.
Apply thick CA glue at each joints for reinforcing.

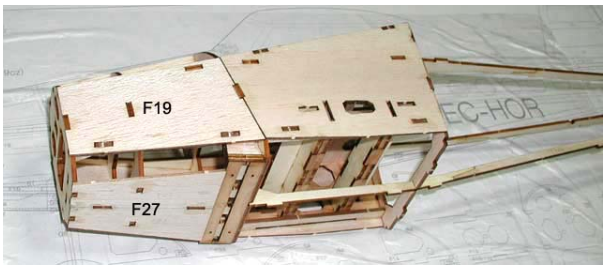


11. Glue landing gear mounts(G1, G2) with **thick CA**.

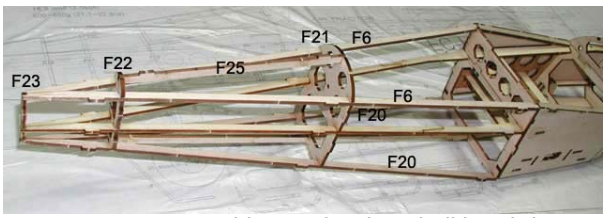




12. Glue landing gear mounts(G3, G4) with **thick CA**.

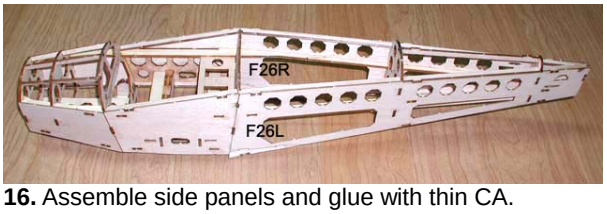


13. Assemble left side and bottom panel(F19, F27) and glue with thin CA.

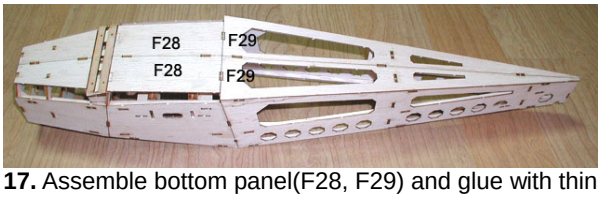


14. Temporary assemble rear fuselage bulkheads(F21-F23) and longerons(F6, F20, F25).

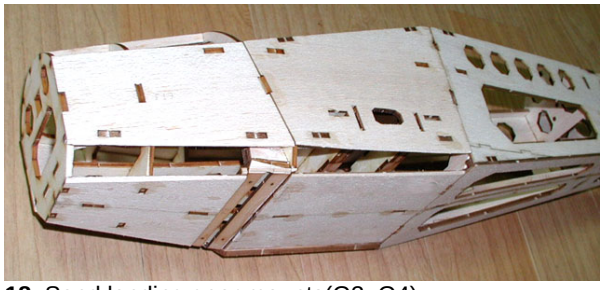
15. Prepare side panels(F26R, F26L).



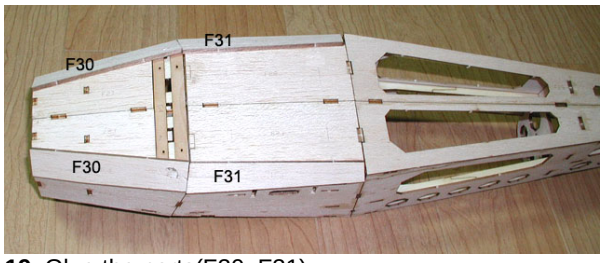
16. Assemble side panels and glue with thin CA.
Apply thick CA glue at each joints for reinforcing.



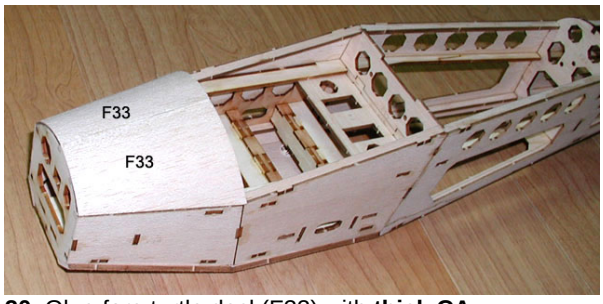
17. Assemble bottom panel(F28, F29) and glue with thin CA.



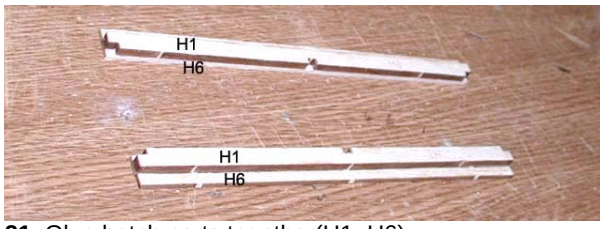
18. Sand landing gear mounts(G3, G4).



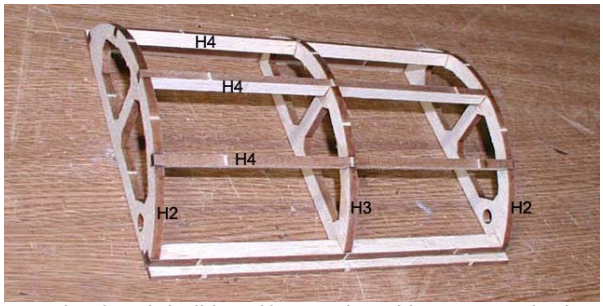
19. Glue the parts(F30, F31).



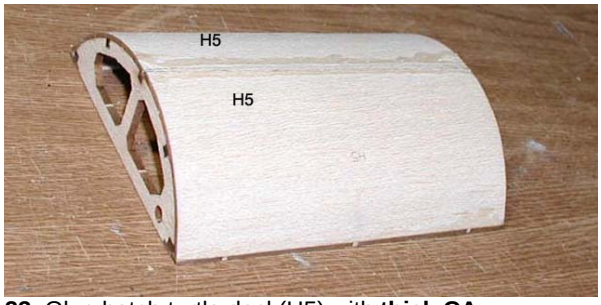
20. Glue fore turtle deck(F33) with **thick CA**.



21. Glue hatch parts together(H1, H6).



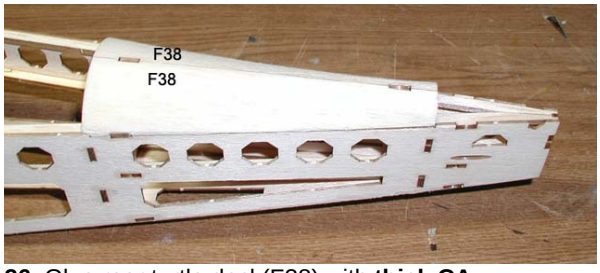
22. Glue hatch bulkhead(H2, H3) and longerones(H4).



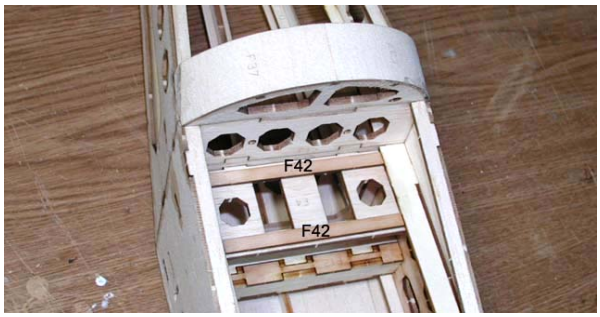
23. Glue hatch turtle deck(H5) with **thick CA**.

24. Temporary assemble hatch and then glue bulkhead(F34, F35) and longerones(F36) with **thick CA**. Use PVC film or waxed paper to prevent bonding with hatch.

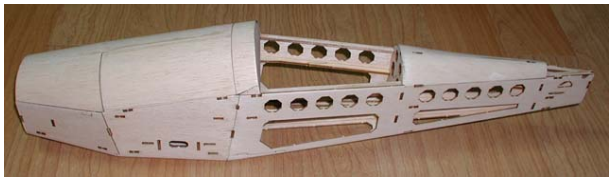
25. Glue turtle deck(F37) with **thick CA**.

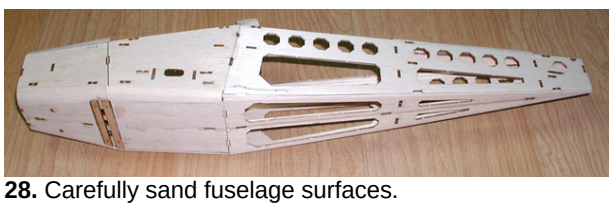


26. Glue rear turtle deck(F38) with **thick CA**.



27. Glue plywood servo trays(F42).

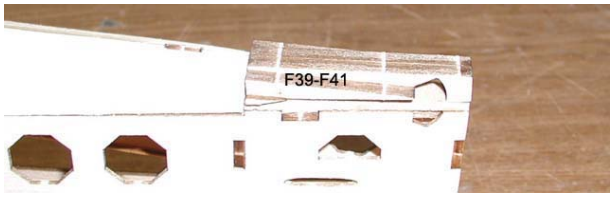




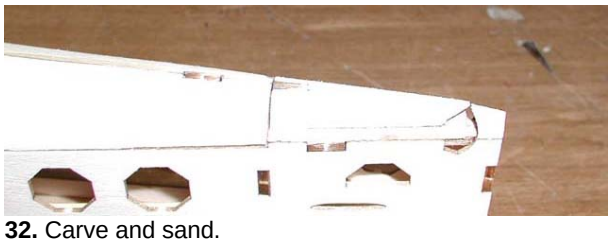
28. Carefully sand fuselage surfaces.

29. Carefully sand fuselage surfaces.

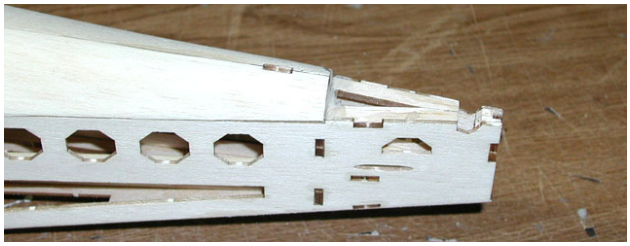
30. Glue the parts(F39-F41) together.



31. Temporary glue to the fuselage. (Use 4mm scrap balsa to fit the gap of stabilizer.)

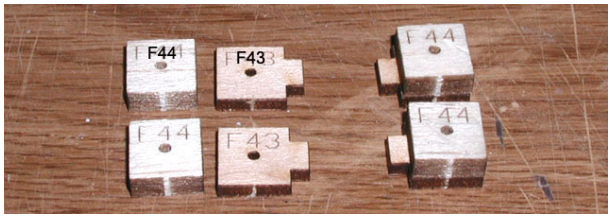


32. Carve and sand.

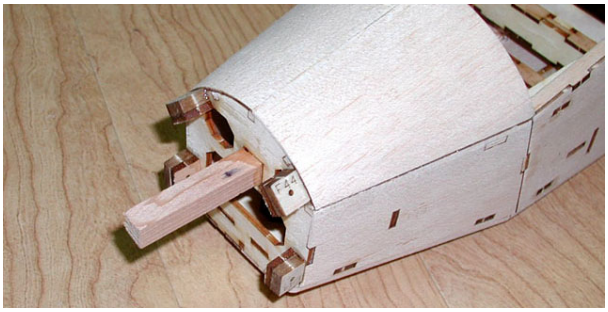


33. Remove carefully.

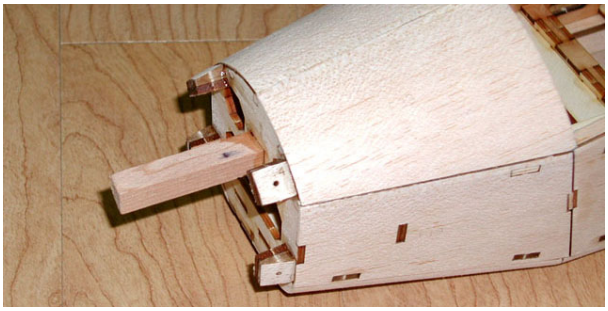
34. Cut cowl and canopy.



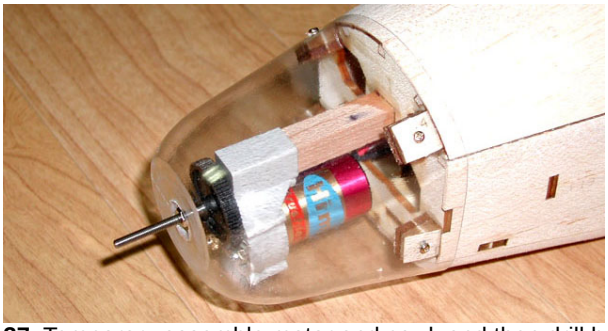
35. Glue cowl mounts(F43, F44) together.



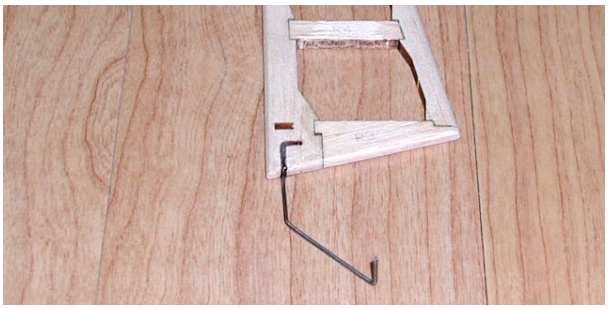
36. Glue motor mount stick and cowl mounts firmly with **thick CA**.



36. Sand cowl mounts.

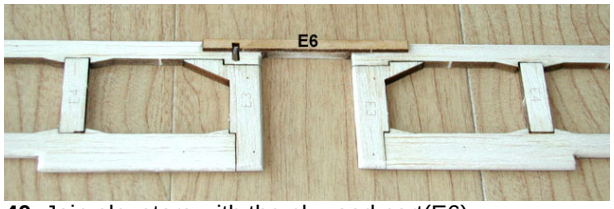


37. Temporary assemble motor and cowl, and then drill holes for fixing screws.

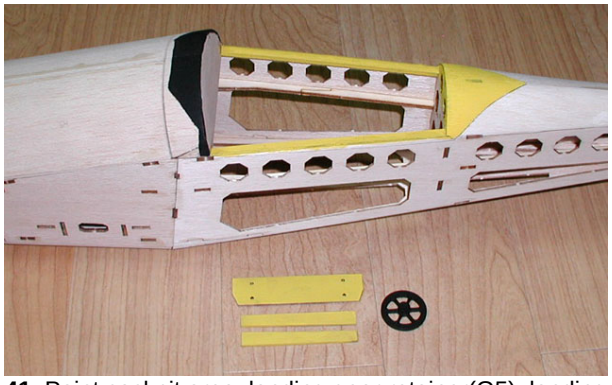


38. Fix tail gear with **thick CA**.

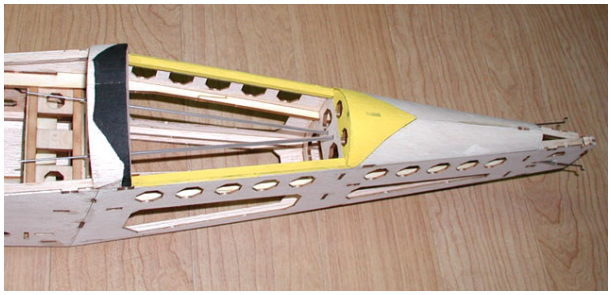
39. Assemble plywood tail wheel.



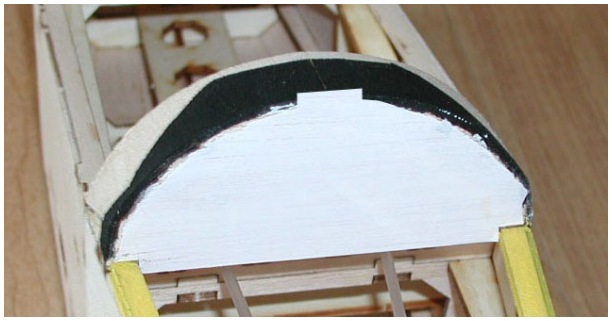
40. Join elevators with the plywood part(E6).



41. Paint cockpit area, landing gear retainer(G5), landing gear struts and tail wheel.



42. Insert and glue plastic pipes for elevator and rudder pushrods.

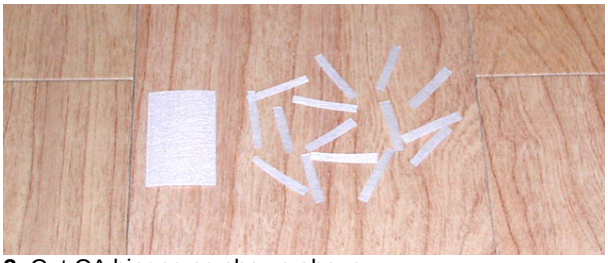


43. Paint instruments back panel.

44. Attach instruments panel sticker.

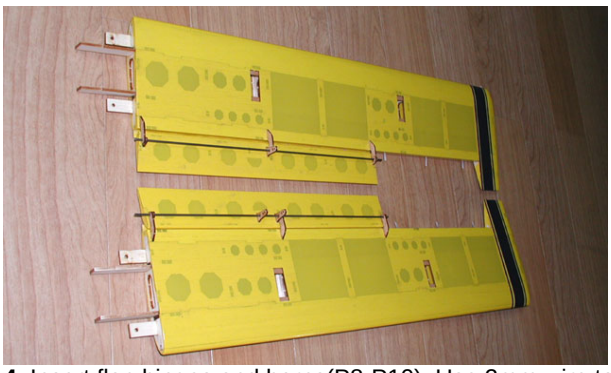
● COVERING AND EQUIPMENT INSTALLATION

1. Cover and paint cowl, canopy with your own color scheme.

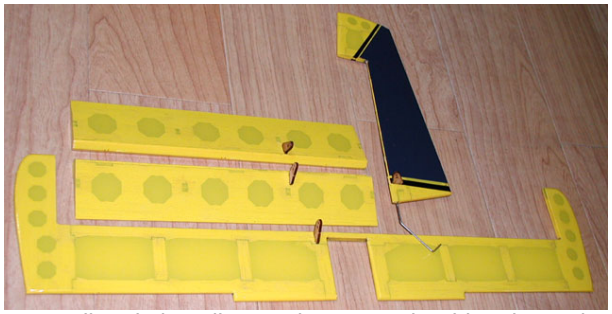


2. Cut CA hinges as shown above.

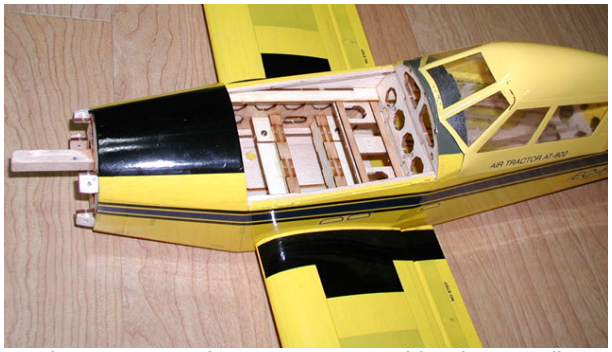
3. Make hinge slots and install hinges. **(Do not glue hinges to the control surfaces in this step.)**



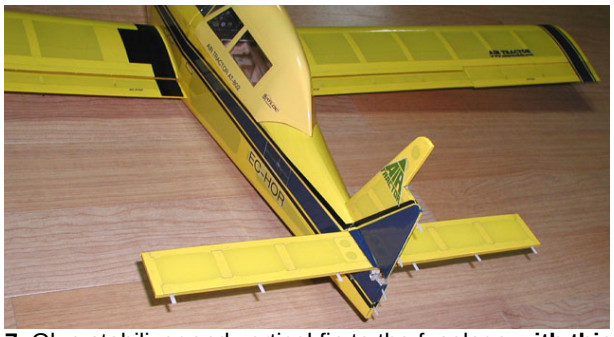
4. Insert flap hinges and horns(P8-P10). Use 2mm wire to align easier. Temporarily glue with small amount of CA. After throwing check, and then glue them firmly.



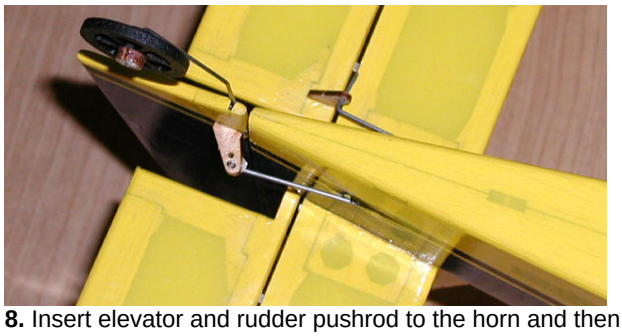
5. Install and glue aileron, elevator and rudder plywood horns with **thick CA**. Apply thin CA to the horns for reinforcing.



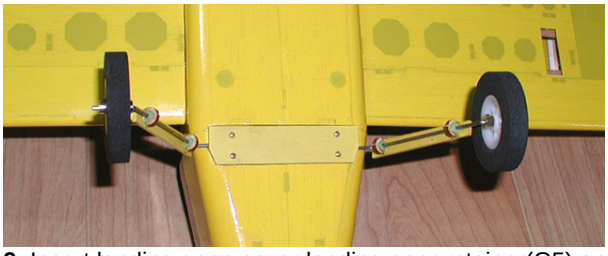
6. Glue canopy and temporary Assemble wings to align tail feathers.



7. Glue stabilizer and vertical fin to the fuselage **with thick CA. (Horizontal tail must be paralleled with wing and vertical fin must be at right angle to horizontal tail.)**



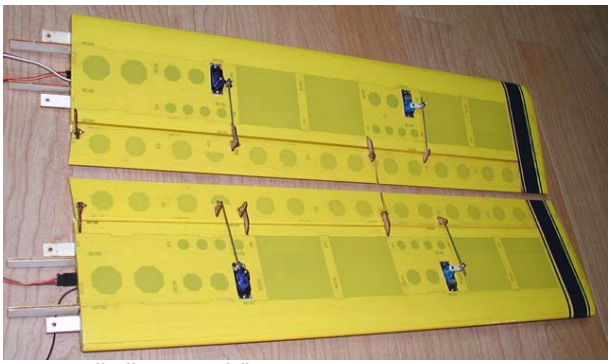
8. Insert elevator and rudder pushrod to the horn and then glue hinges with small amount of thin CA.



9. Insert landing gear, cover landing gear retainer(G5) and fix with screws. Assemble dummy landing gear with silicon tubes, holders and landing gear struts. Fix wheels with wheel collars.

10. Install and glue neodymium magnetics with thin CA. Use scotch tape on the other side as a hinge of hatch.

11. Install elevator and rudder servos.

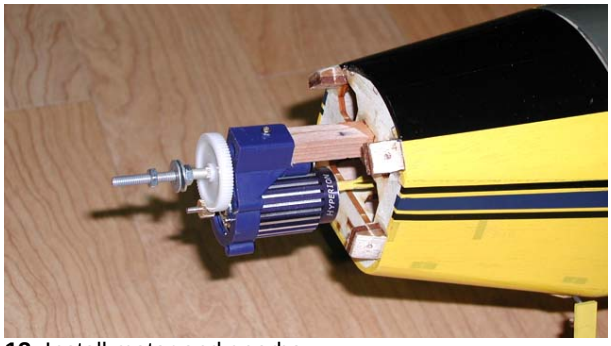


12. Install aileron and flap servos.
Above servo installation shows for 6channel receiver.

5channel receiver
aileron(Y-extension), elevator, throttle, rudder, flaps(Y-extension)

6channel receiver
aileron1, elevator, throttle, rudder, flaps(Y-extension), aileron2(mixed).

7channel receiver
aileron1, elevator, throttle, rudder, flap1, aileron2(mixed), flap2(mixed).



13. Install motor and gearbox.

14. Fix cowl with screws and fix battery with Velcro tape.

15. Congratulations! Enjoy flying.

Control Throws

The following control throws are recommended starting points. After you are familiar with this plane, you may increase, or decrease.

- Ailerons : 16mm(5/8”) up, 10mm(3/8”) down.
- Elevator : 16mm(5/8”) up and down.
- Rudder : 19mm(3/4”) right and left.
- Flaps : takeoff-20degrees, landing-45degrees

(Set flap-elevator mix if required.)