THE REAL THING

MOCK TWO

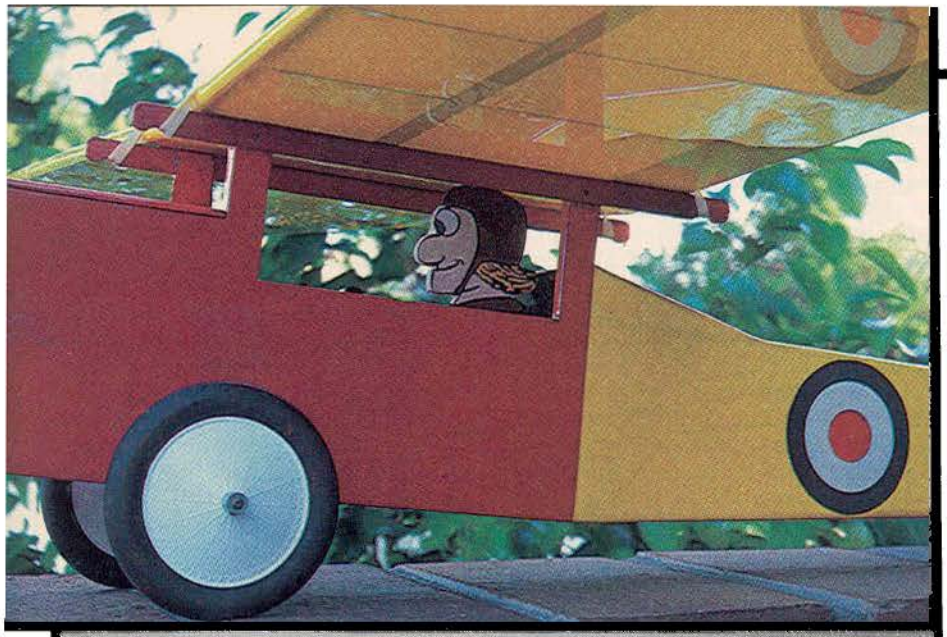
Philo Fecker's Pharasol Phor Phun Phliers and their Phdog Phideaux.

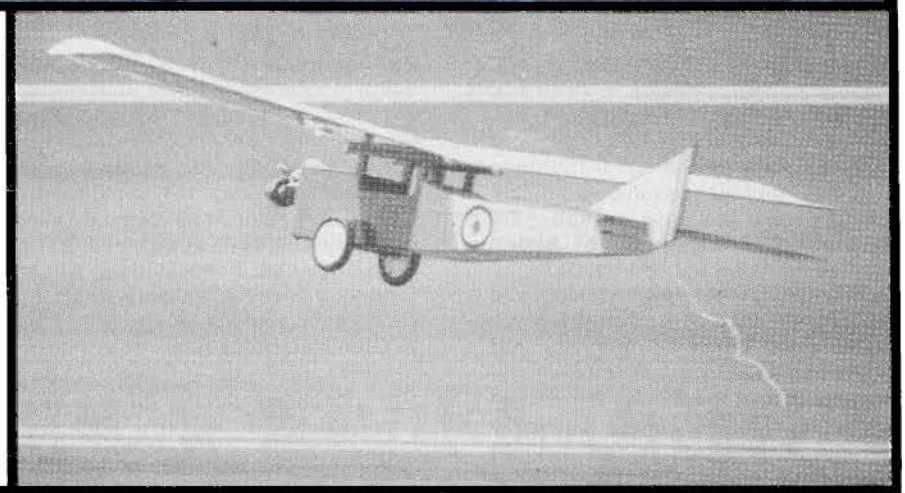
By Gene Wallock

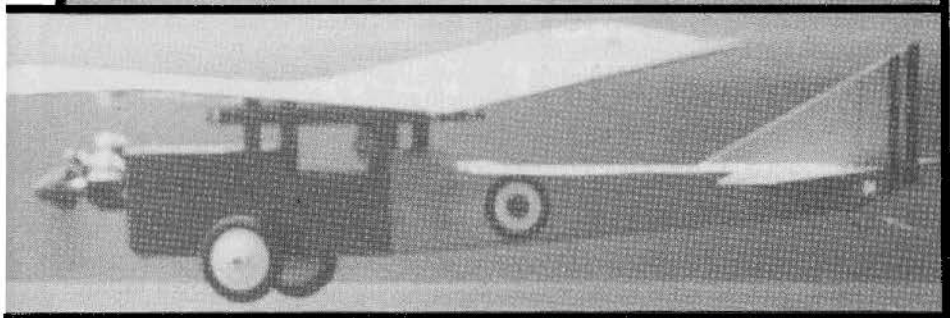
RCM, in an obvious moment of "off the wall," published the original "Real Thing" in August 1973. The data in the article stated that the full size aircraft was built in Kentucky by moonshiners as an aerial observation post to spot revenuers.

With the passing of time, heretofore top secret Air Force documents were declassified and made public. The facts are as follows:

On September 31, 1949, the Air Force was testing an R/C full size Lifting Body vehicle at Edwards AFB. On that same fateful day, an intrepid aviator was testing his full size Eindecker E-III at El Mirage Dry Lake. The E-III pilot, lacking proper instruments flew into Edwards Air Space. The R/C Lifting Body was making a high speed roll down the main runway into that same air space. The results were inevitable: The E-III flying upright had a head-on with the inverted Lifting Body. The hybrid vehicle produced by this spontaneous coupling was immediately classified Top Secret. (Top Secret Classification means data invaluable to our country's security or; someone goofed, so bury that sucker in the archives for







THE REAL THING MOCK TWO

Designed By: Philo Fecker

TYPE AIRCRAFT
Sport (fun type)

WINGSPAN
44½ Inches

WING CHORD
7½ Inches

TOTAL WING AREA
324 Sq. In.

WING LOCATION
Parasol

AIRFOIL
Clark Y

WING PLANFORM
Constant Chord

DIHEDRAL, EACH TIP
1½ Inches

O.A. FUSELAGE LENGTH
26¼ Inches

RADIO COMPARTMENT SIZE
(L)5½" x (W)2¾" x (H)2½"

STABILIZER SPAN
20½ Inches

STABILIZER CHORD (incl. elev.)
4¼ Inches (Avg.)

STABILIZER AREA
76¾ Sq. In.

STAB AIRFOIL SECTION
Flat

STABILIZER LOCATION
Top of Fuselage

VERTICAL FIN HEIGHT
3¼ Inches

VERTICAL FIN WIDTH (incl. rudder)
5" (Avg.)

REC. ENGINE SIZE
.09-.11

FUEL TANK SIZE
4 Oz.

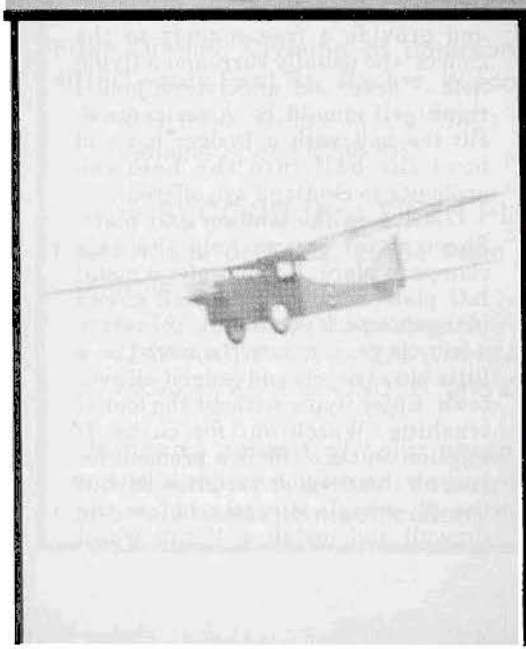
LANDING GEAR
Conventional

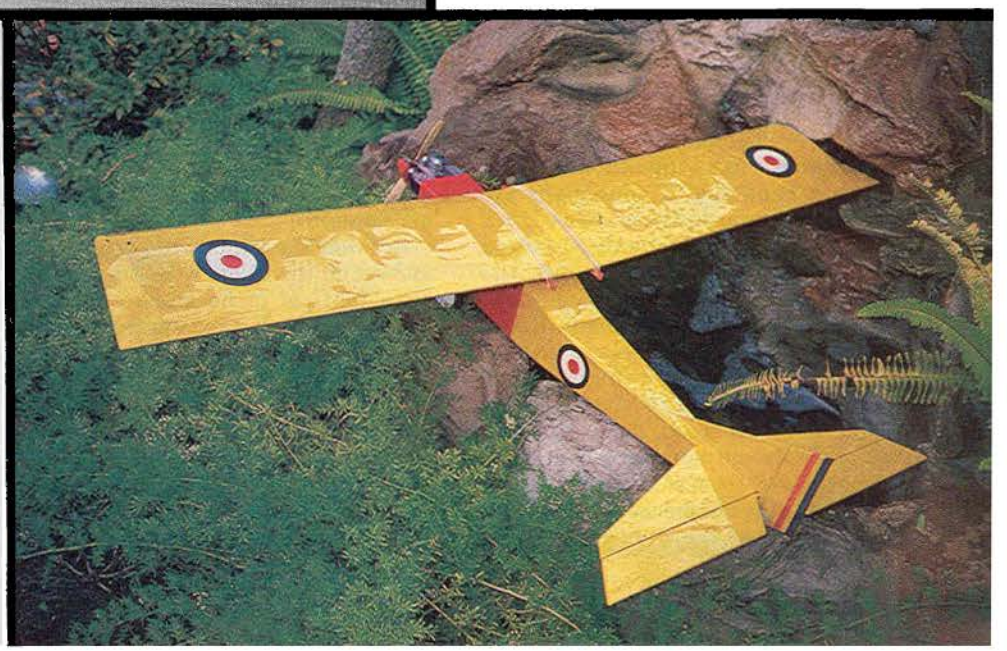
REC. NO. OF CHANNELS
3

CONTROL FUNCTIONS
Rud., Elev., Throttle

BASIC MATERIALS USED IN CONSTRUCTION

Fuselage ..... Balsa, Ply & Lite Ply
Wing ..... Balsa & Spruce
Empennage ..... Balsa
Wt. Ready To Fly ..... 40 Oz.
Wing Loading ..... 17.7 Oz./Sq. Ft.

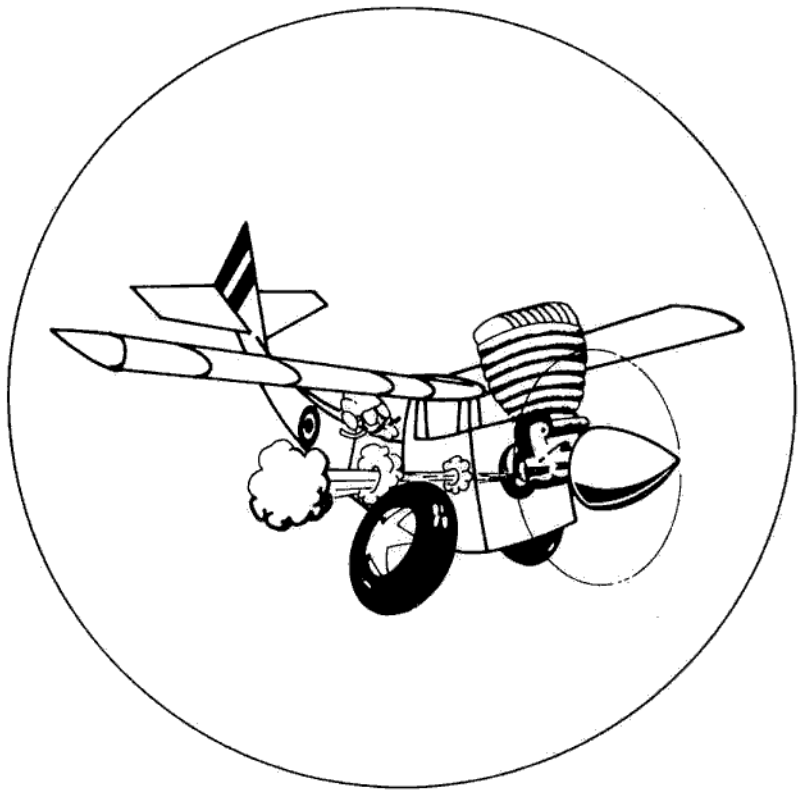




33 years.) The vehicle was smuggled into Kentucky and hidden in the hills because it flew better than the Lifting Body vehicle and was a source of embarrassment to the contractor and government officials. What happened to the intrepid aviator "Doof McScrewloose" who piloted the E-III? you ask. Well, he gave up his full time job as a railroad track layer and joined the opera as a coloratura soprano.

Modeling the "Real Thing — Mock Two" is very easy. The lifting bodies four strut gear with skids formed the straight cabanes and wing mount rails. The E-III wing and tail group (though slightly deformed) are typical of the simpler life style and designs of decades gone by. The landing gear defies comment.

The only Boondocker .09 in existence is in Dave Brodsky's collection. He was offered 38 cents for it but he refused to sell because its historic value is priceless. For practical purposes, use an .049 with two channels or an .09-.12 with three channels.



CONSTRUCTION:

Due to the lack of curves, building tools consist of an almost straight yardstick and a combination square that hasn't been dropped more than three times. Normally I don't advocate pinning through the wood, but in this case, who cares!

(1) Prefab the model before starting construction. If two or more identical parts are required (like fuselage sides and wing ribs) it's a good idea to make them within 1/16" of each other. This tolerance latitude will give you the opportunity to expound on your corrugated laminar flow wing theory and torque twist compensated fuselages (previously only applied to gum-band model fuselages). As a bonus, this size mismatch will not affect flying performance. The round L.E. cut-outs in the wing ribs may be made with a brass tube hole cutter or gnawed out by termites who worked in the Aero-Space industry and are used to going around in circles.

(2) Build the fuselage first by pinning down the right hand side and glue in the doublers, firewall, (2) F-1's, (2) cabanes and a wing rail. Start with the left hand side if your plans are printed backwards (these are assigned serial numbers and for only $1.00 you can have your name put into the computer for up-date information, printed backwards of course). If you forgot to mark both fuselage insides, with part locations — wing it! If one side is made from 12# stock and the other from 4# stock, don't sweat it. This will strengthen your torque twist compensated theory. Build left side.

(3) Glue the tail pieces together. It is important that the stab/elevator and fin/rudder joints are not glued together to avoid servo overload.

(4) Use whatever engine mount and tank that will complement your engine selection. Nothing exists that complements a Boondocker .09. If you forgot to install the mount T-nuts and tank compartment, I don't feel sorry for you. This model is professional modeler class (definition: A professional modeler sold his/her piece of junk to a P.T. Barnum follower for $25.00 including a trashed $50.00 engine. He/she kept the 2 channel, 2 stick for a new Quadra powered Blivit.

(5) Before I digress too far from reality, several new adhesive products and bi-products have appeared on the market and are ideal for quick-build models and quick or slow builders. Zap CA and Zap-A-Gap CA + are excellent glues for variable wood combination models (balsa, spruce, birch, ply, poplar light ply, and cedar, to mention a few). Two complementary products called Zip Kicker and Z-7 Debonder are invaluable to modelers. Here's how these products are used:

A. Glue all joints with Zap CA for penetration.

B. Fillet the joints with Zap-A-Gap and set off the fillets with Zip Kicker. Nice feature is no smoke or wild fumes. The Zip Kicker works with any cyanoacrylate.

C. The Z-7 Debonder is a wonder product by itself. I'm sure all of us have done the following things while building a model:

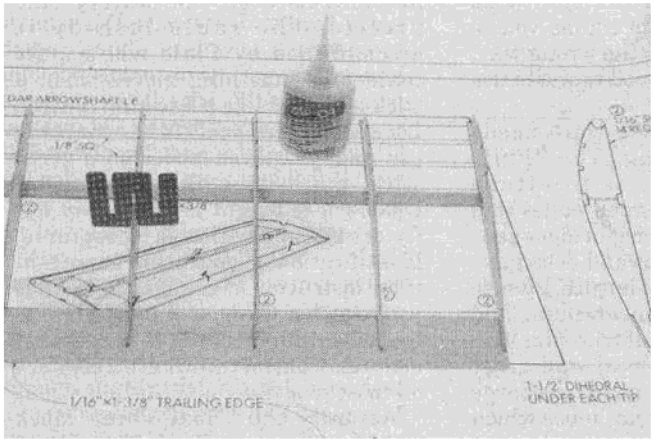
1. Glued our pants to our leg because we weren't wearing our bifocals and completely missed the glue joint.
2. Glued our nose to the work surface because we were wearing the wrong bifocals.
3. Glued our index finger to our nose while picking it because we weren't wearing any bifocals and couldn't understand why we couldn't see.
4. Any combination of the above.

The Z-7 Debonder will release these unwanted glue joints by turning the hard glue to a jelly which may be quickly wiped off. (I'd have mentioned gluing our fingers together, but no one does that anymore.) Further uses of Z-7 Debonder will be discussed in pre-flight preparation.

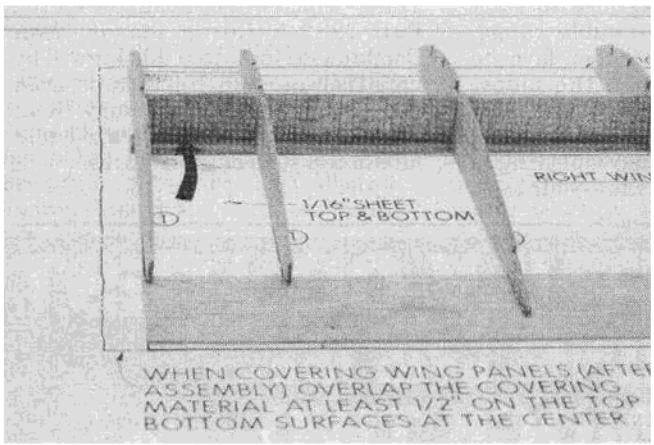
(6) Install your favorite radio in the fuselage. I prefer an AM-FM with 8-Track capability so the Glen Miller music will drownout the engine noise and provide a free concert to the golfers who usually surround a flying field. I never did understand golf. I think golf should be Americanized: Hit the ball with a Dodger bat and bowl the ball into the hole (no apologies to Scotland are offered).

(7) Glue on the landing gear plate. Sheet metal screws hold the axle clamps in place. If you prefer a metal L.G. plate, be sure to use wood screws in the clamps. If you want to convert to a tricycle gear, mount the model on a little kid's tricycle and pedal it all over town. Enjoy flying without the fear of crashing. Watch out for curbs. If rotation on take-offs is a problem for you, try this tri-gear variation. Mount the 3" wheels directly below the firewall and install a 4" tail wheel

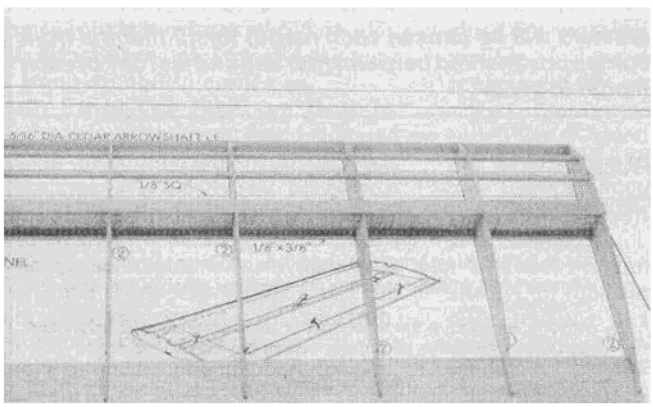
Wing Instructions (Real Thing)



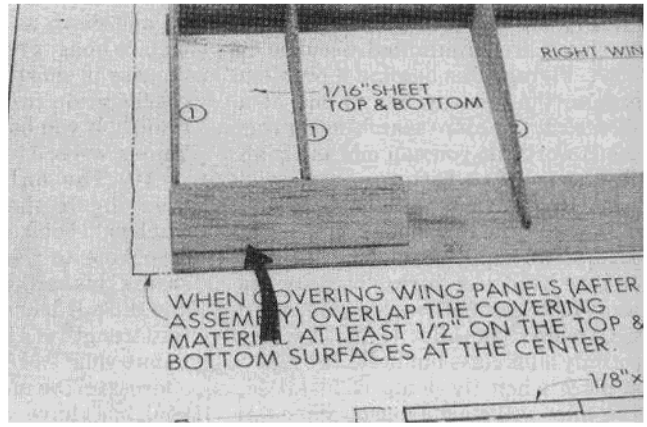
☐ 1. Cut (4) #1 and (14) #2 ribs from 1/16" balsa.
☐ 2. a. Cover plan with wax paper.
b. Place 1/8" x 3/8" spruce spar in place.
☐ 3. Use (3) #2 ribs as spacers and position bottom 1/16" x 1⅜" trailing edge in place.
☐ 4. Glue all #2 ribs in place using an Upright and Zap CA or CA+.



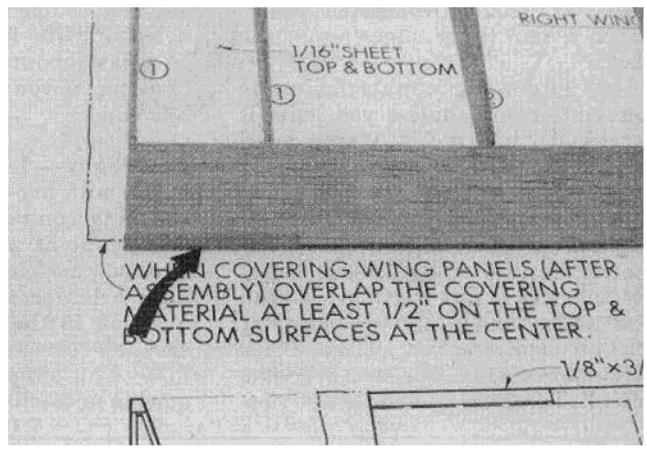
☐ 5. a. Cut (14) shear webs from 1/16" balsa with grain running vertical as shown on plan and glue in place between #2 ribs centered forward and aft on spar.
☐ 6. a. Cut dihedral angle shear web and glue in place.
b. Glue remaining #1 rib in place against angle guide. Note: This sets the dihedral.



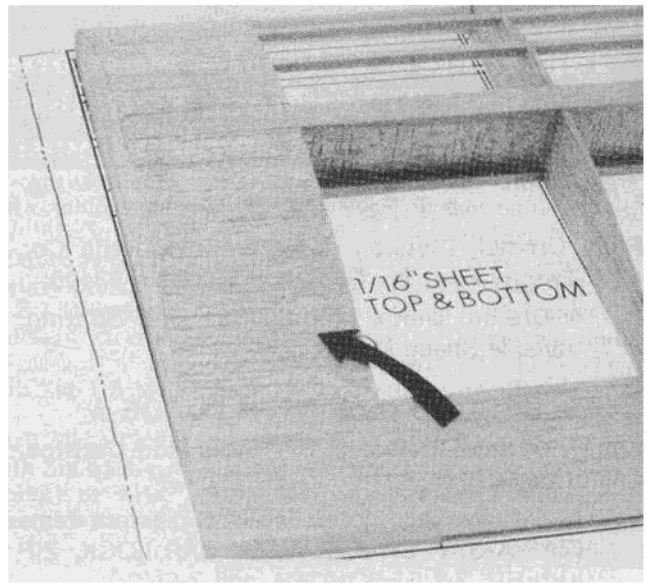
☐ 7. Glue top 1/8" x 3/8" spruce spar in place.
☐ 8. Glue 1/8" x 1/8" spruce turbulator spars in place.
☐ 9. Glue 5/16" dia. leading edge in place with CA then fillet each side with CA+ and Zip Kicker.



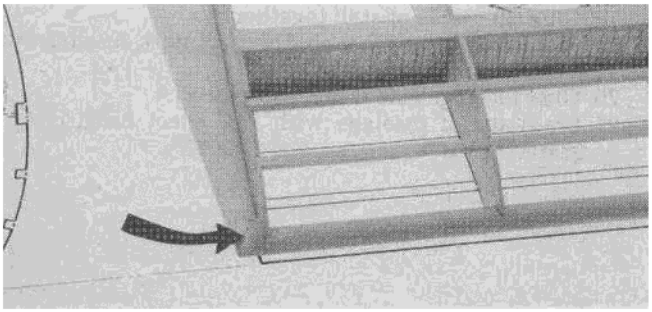
☐ 10. Glue 1" trailing edge stock in place against #1 ribs.



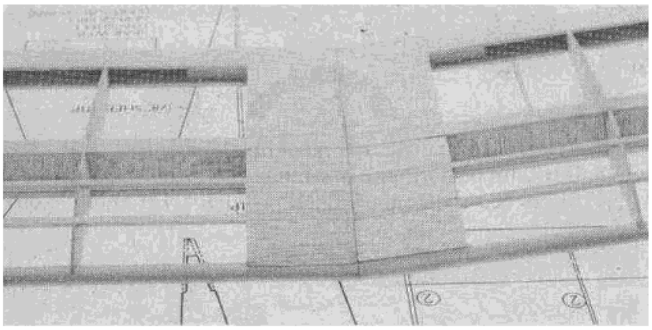
☐ 11. Glue top T.E. 1/16" x 1⅜" sheeting in place with CA+.
☐ 12. Cut 1/8" notch in T.E. and glue 1/8" x 1/8" spruce in place and sand to match taper.
☐ 13. Remove wing panel from plan.
☐ 14. Glue tops of shear webs to top spar with gap fill Zap CA+.



☐ 15. Sheet inboard end of wing with 1/16" sheet top and bottom.
☐ 16. a. Block sand all overhanging material on inboard end of wing.
b. Block sand overhanging material at tip rib.

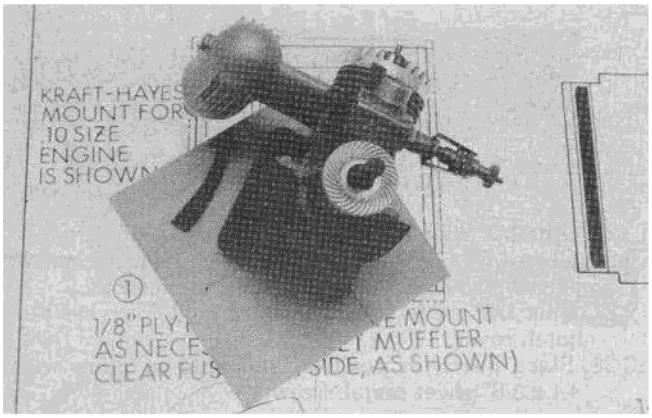


☐ 17. a. Glue lite ply wing tip in place with wing flat on table.
b. Glue scrap balsa at leading edge of tip.
1. Sand using plan as ref.

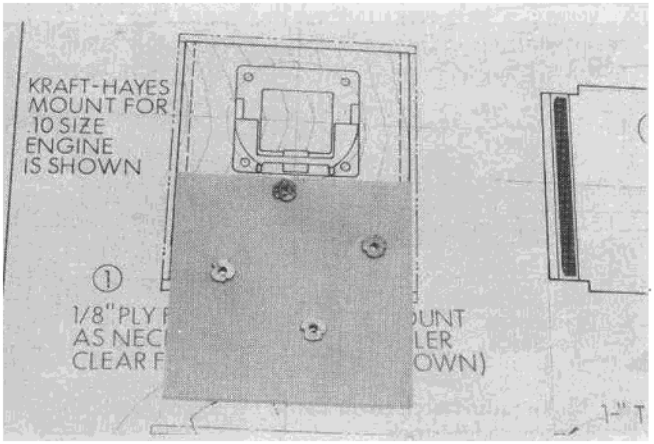


☐ 18. Build left wing panel.
☐ 19. Join panels together with CA+.
☐ 20. Finish sand wing and cover as desired.

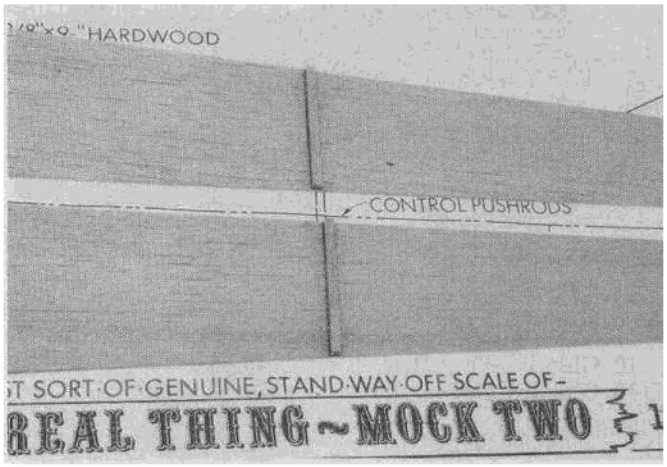
Fuselage Instructions (Real Thing)



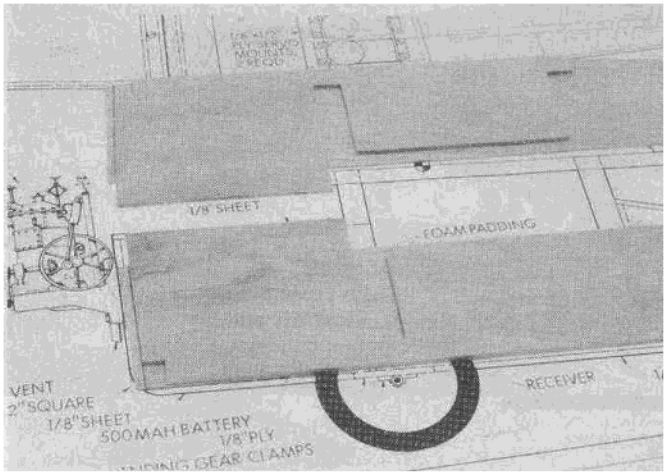
☐ 1. Place firewall on plan, mark and draw circle.
☐ 2. Mount engine on Hayes mount.
☐ 3. Place mount and engine on firewall. Rotate to clear muffler by 3/16".



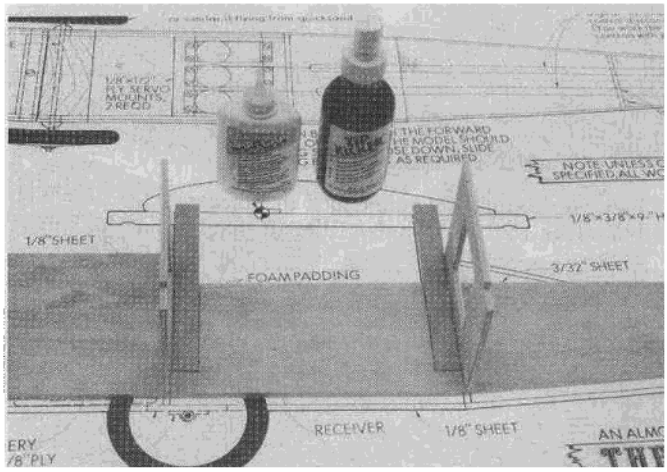
☐ 4. Mark mount hole locations. Drill with 5/32" drill and install 4-40 blind nuts on aft side of fuselage.



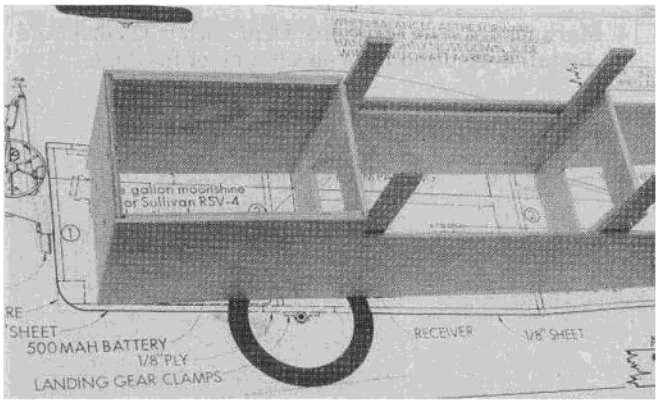
☐ 5. Mark 1/8" x 1/8" spruce fuselage supports on fuselage sides and glue in place.



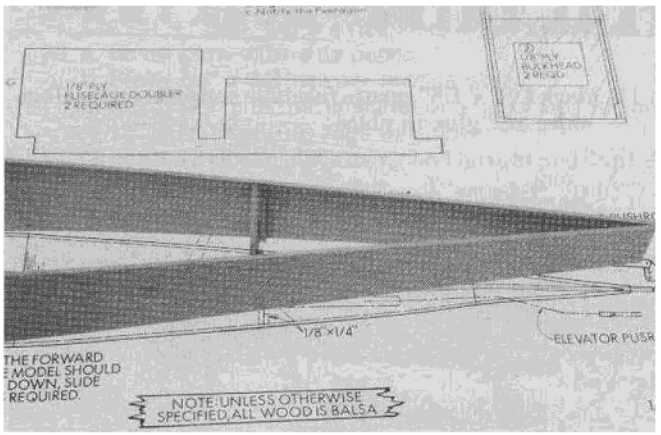
☐ 6. Mark forward end of fuselage 1/8" from end.
☐ 7. Glue lite ply doublers in place.
☐ 8. Glue fuselage top filler to doublers and sides.



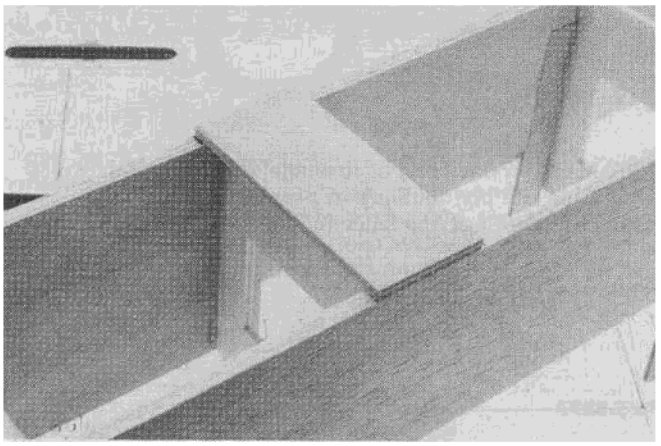
☐ 9. Glue 1/8" ply cabanes in place.
☐ 10. Glue bulkhead #2's in place.
NOTE: Fillet bulkheads fore and aft with Zap CA+ and Zip Kicker



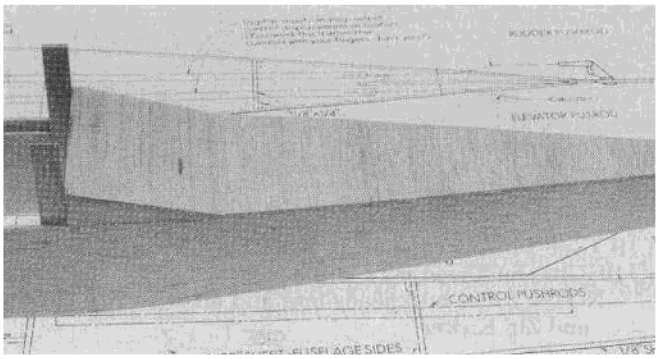
☐ 11. Glue cabanes in place on other side.
☐ 12. Glue sides together.
☐ 13. Glue firewall in place.



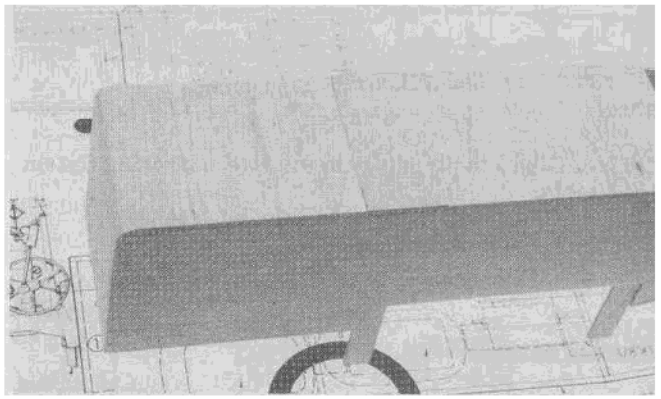
☐ 14. Glue 1/8" x 3/8" spruce cross pieces in place.
☐ 15. Glue fuselage together at aft end.



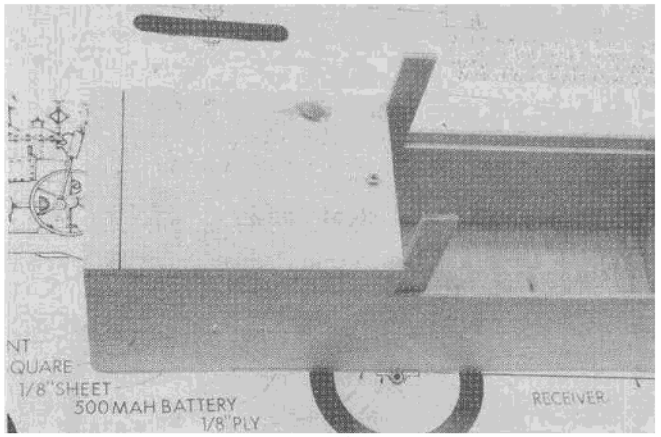
☐ 16. Mark and glue gear block in place.
☐ 17. Glue 1/2" x 1/2" balsa filler in place below firewall.



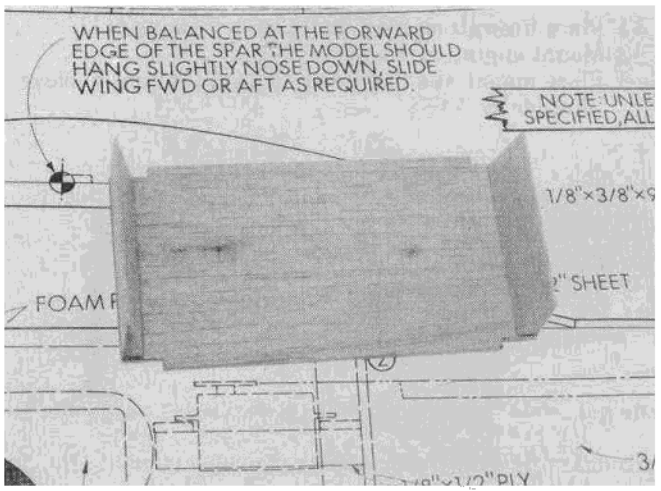
☐ 18. Glue (2) pieces of stab together.
☐ 19. Place stab in position on fuse and mark fuse top at forward end of stab.
☐ 20. Glue fuselage side wedges in place.
☐ 21. Sheet top of fuselage with 1/8" sheet balsa cross grain.



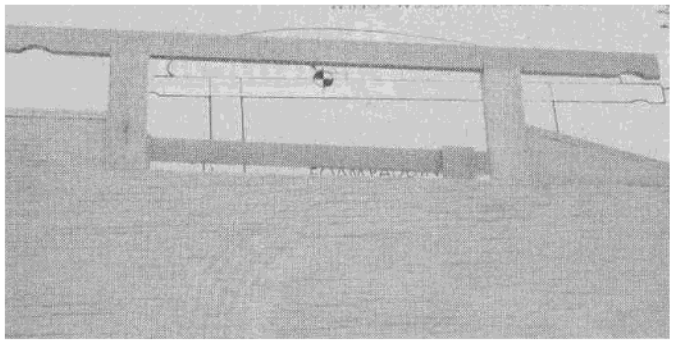
☐ 22. Sheet bottom forward end of fuselage with 1/8" sheet.
☐ 23. Contour bottom per plan.
☐ 24. Sheet rear bottom of fuselage with 1/16" sheet cross grain.



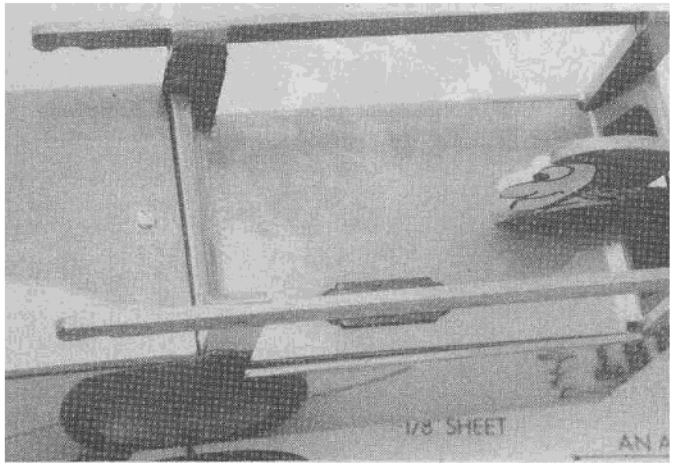
☐ 25. Glue 1/2" wide lite ply strip to fuselage and firewall.
☐ 26. Glue 1/8" x 3/8" spruce hatch hold-down cleat in place between side and against bulkhead #2.
☐ 27. Glue 1/8" x 3/8" spruce forward hold-down cleat on hatch cover.
☐ 28. Place hatch in position and hold in place with #4 x 3/8" sheet metal screw.



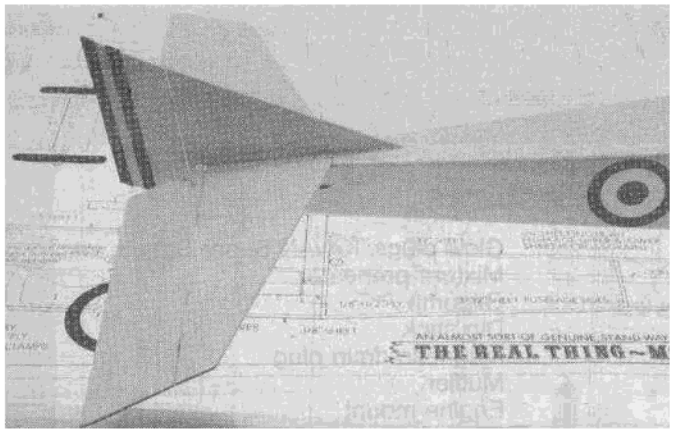
☐ 29. Make radio hatch cover using 1/8" balsa sheet and 1" trailing edge stock.



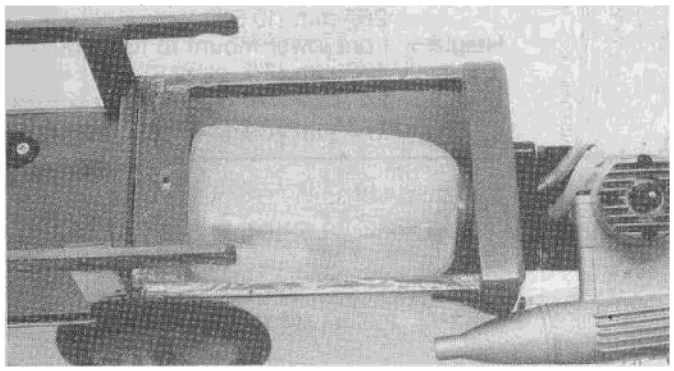
☐ 30. Mark and glue 1/8" x 3/8" spruce wing saddles in place.
☐ 31. Glue balsa fillers in place between sides and wing saddle.
☐ 32. Finish sand fuselage and cover as desired.



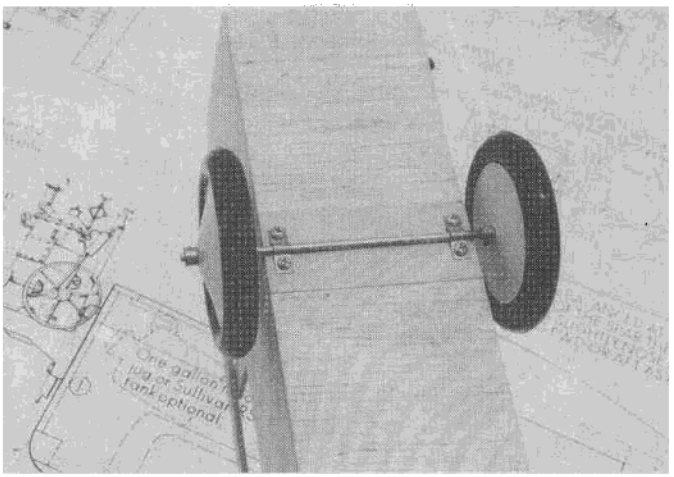
☐ 33. Mount switch in radio hatch cover.
☐ 34. Make up pilot from 1/8" sheet balsa with paper profile on each side. Paint as desired.

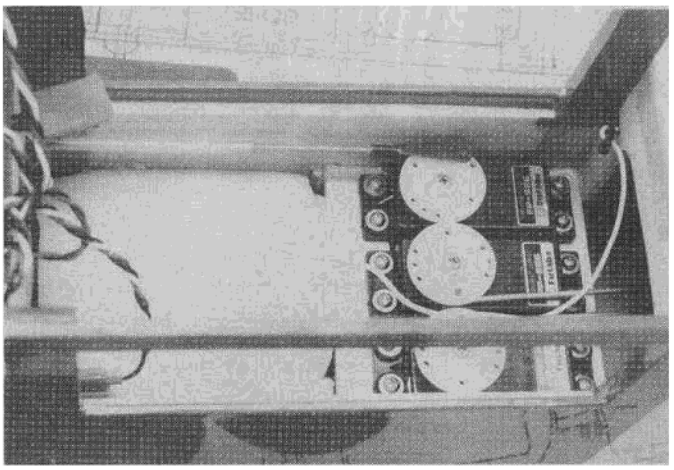


☐ 35. Cover and hinge tail feathers and glue in place. Note: Cut away covering material to obtain wood to wood glue joint. Fillet with CA + and Zip Kicker.

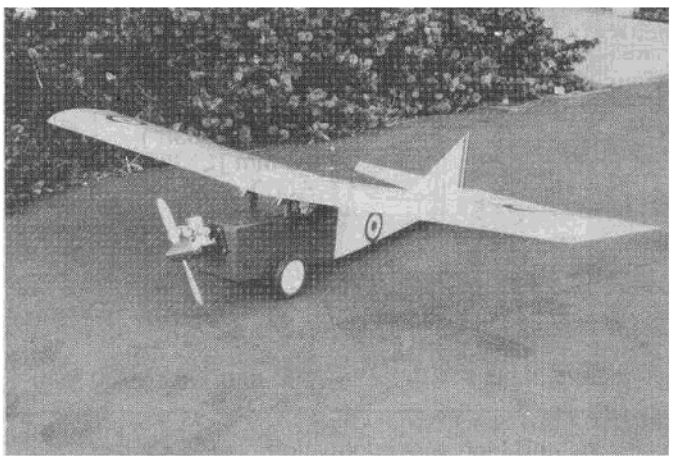


☐ 36. Install engine mount, engine, battery pack, and fuel tank.
☐ 37. Install landing gear and wheels.





☐ 38. Install servos and receiver.
☐ 39. Set linkage so that rudder throw is 3/8" left and right of neutral and elevator 1/4" up and down.
☐ 40. Connect throttle linkage.
☐ 41. Place wing on fuselage with #64 rubber bands and check C.G. location with no fuel in tank.



Real Thing Mock Two ready to go.

For Full Size Plans
See Page 65 and Page 66

(steerable of course). Rotation problems are eliminated because it won't. Flying sites become a problem because the runway has to end at a sheer cliff. The extra searching for this site is worth it; you can add the high dive to the AMA pattern.

(8) Glue on the tail feathers and cross-plank the fuselage. If you're not out of sorts, happy-plank the fuselage. Add the head rest fairing because the rear FI looks ridiculous sticking out in the breeze. The pilot (Philo Fecker) not only adds class but holds the hatch in place when the wing is installed. This pilot will start a new groupie fan club of "Philo Fecker's Flying Phenomena." For short, the group yells PFFP (sounds like a Bronx cheer) when a 'real thing' shows up at the field.

(9) The wing construction is straightforward (unless you build it crooked), but a few items need explanation. The leading edge is made from a cedar arrow shaft. This drives moths away from the model. Some modelers will use birch dowel. A fair substitute, if you can find one that doesn't have grain run-out in less than one rib bay and is slightly straighter than a small dog's hind leg. Shear webs are a must because everyone does it. The grain on a shear web runs up and down as opposed to a 'course web whose grain runs spanwise ('course is short for "of course you've got the grain running the wrong way, Philo"). If you have wood to waste use 'course webs.

(10) The only part that needs covering is the wing. The "Philo Fecker" technique is to attach Monokote to the extreme edges and shrink this bag down so it bridges gaps and dips. It looks neat and does have the strength of a bag of lettuce. Be sure to put your AMA number, name and address on the model. If trim film isn't your bag, have your local wall artist spray paint it on. For no extra charge he/she will decorate your house which will be a source of enjoyment to your neighbors. The fuselage and tail will only last about 8 hours without a covering, if you don't use over 40% nitro fuel.

Pre-Flight — Important:

Normal pre-flight consists of checking control response to stick movement at a reasonable range. Most new modelers go to their favorite hobby dealer and ask the oldest question in the world: "What's the cheapest I can get this thing in the air for?" The shop owner spotting a quickie sale, sells our Philo your basic 2 stick, 2 channel dry radio, knowing he can retire on the battery sale profits. The radio lash-up is accomplished by Philo who's quite content if something moves when a stick is shoved like a Pac Man control. Let's act professional. Take a marking pen and, whatever moves on a given stick, mark it on the transmitter. Up/down, left/right is customary but fly/crash, hook/slice is acceptable. Identification of controls is important if an instructor is going to help after you're airborne and you hand him the box when the model is in a terminal attitude. Control throws are a mystery on most models.

Actually the "Real Thing Mock Two" is very easy to fly if balanced and set-up (throws) according to the plan. Finish the model to suit your taste, which is dubious if you build this model.

The House of Balsa, under severe pressure from the PFFP groupies, has consented to produce a kit of "The Real Thing" which will be available for the Fall 1982 building season. Don Dombrowski indicated this kit will be up to their usual high standards, even though the thought of so many "Real Things" makes his hair hurt; I told him to tell someone who cares!

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