LOCKHEED "U-2"

MULTI R/C SCALE HIGH-FLYING SPY IN THE SKY

For .15 to .19 Engines

SINGLE TO MULTI R/C

by Robert Trishin

Looking around for something a little different, for an out of the rut fun type R/C model, I thought a model based on the U-2, would look good. When seen, everyone knows it's a "U-2" in spite of the fact that many changes were made from the scale drawings, to make a simple easily built model.

The plug-in wings look complicated, but are easier to build and provide more room in the fuselage than using a tongue. The tubing in fact becomes root spars, adding to the strength of the wings. Also it's great not to have to worry abou where to put a six foot wing, when traveling.

Without an engine, fuel tank, wheels, engine servo and the battery moved into a filled in nose, you have the makings of a good slope soarer, for those who like floating on a breeze.

Wing Construction: Cut out all ribs, being especially careful drilling the holes in the plywood ribs for the tubing. Use a 9/32" dia. drill for this. Cut the leading and trailing edges from medium stock and the full depth spars from hard balsa. A piece of hack-saw blade makes a perfect notching tool and a razor plane makes life easier, tapering the trailing edge and rounding off the leading edge.

White glue was used throughout to put together the model. I find it is far stronger than model cement and also allows some adjustment before it sets.

1/32" plywood is cemented to both sides of the root end of the spar as shown. Bend a hook from a .040 dia. wire with the other end bent into an L shape. Drill 1/32" dia. holes through the ply plates and spar, then lace the hook into place with copper wire and epoxy in place.

Pin down the spar and using rib 1-W and the tip rib as guides, shim the leading edge and the trailing edge to the proper height and pin in place. At this point, the trailing edge at the tip can be raised 1/4" for washout, although I prefer to steam in wash-out before the lower wing sheeting is cemented in place.

Cement and fit the ribs into their slots, sliding the 1/4" I.D. brass tubing through the ribs 1-W through 4-W, with a 1/8" extension at each end. Epoxy the tubing to the ribs. Take a 3/4" length of 1/4" dia. tubing and squeeze it for a snug fit, for the 1/16" dia. wire outrigger wheels. Cement it to rib 10-W then fit and cement a balsa block around it.

Cement down the top sheeting and capstrips. Make certain the wing is

Not her cup of tea. "Kindly focus that dohicky quick, so I can drop this load on the cement."

dry before removing it from the building board. Add the bottom sheeting and capstrips. Cement the root rib to wing and trim tubing flush with the rib. Sand, pre-dope and cover wing, then add the ply tip plate.

Stabilizer Construction: The stabilizer is basically a rigid warp free flat frame. Pin down the ¼" x ½" leading edge, tips, front and rear braces. and also the trailing edge. Use ¼" square hard balsa. Add the 1/16" x ¼" diagonal truss and then cement the 1/16" soft sheet to the top. Let it dry, remove from the board, turn it over and cement the bottom sheeting in place. Trim and sand the leading edge to an airfoil shape as shown on the side view and round off the tips. Drill a hole near the trailing edge as shown on the drawing, for the rudder horn.

A touch of soarer in this semi-scale jet. Designed to operate high above the earth, the U-2 has featured in the headlines many times.

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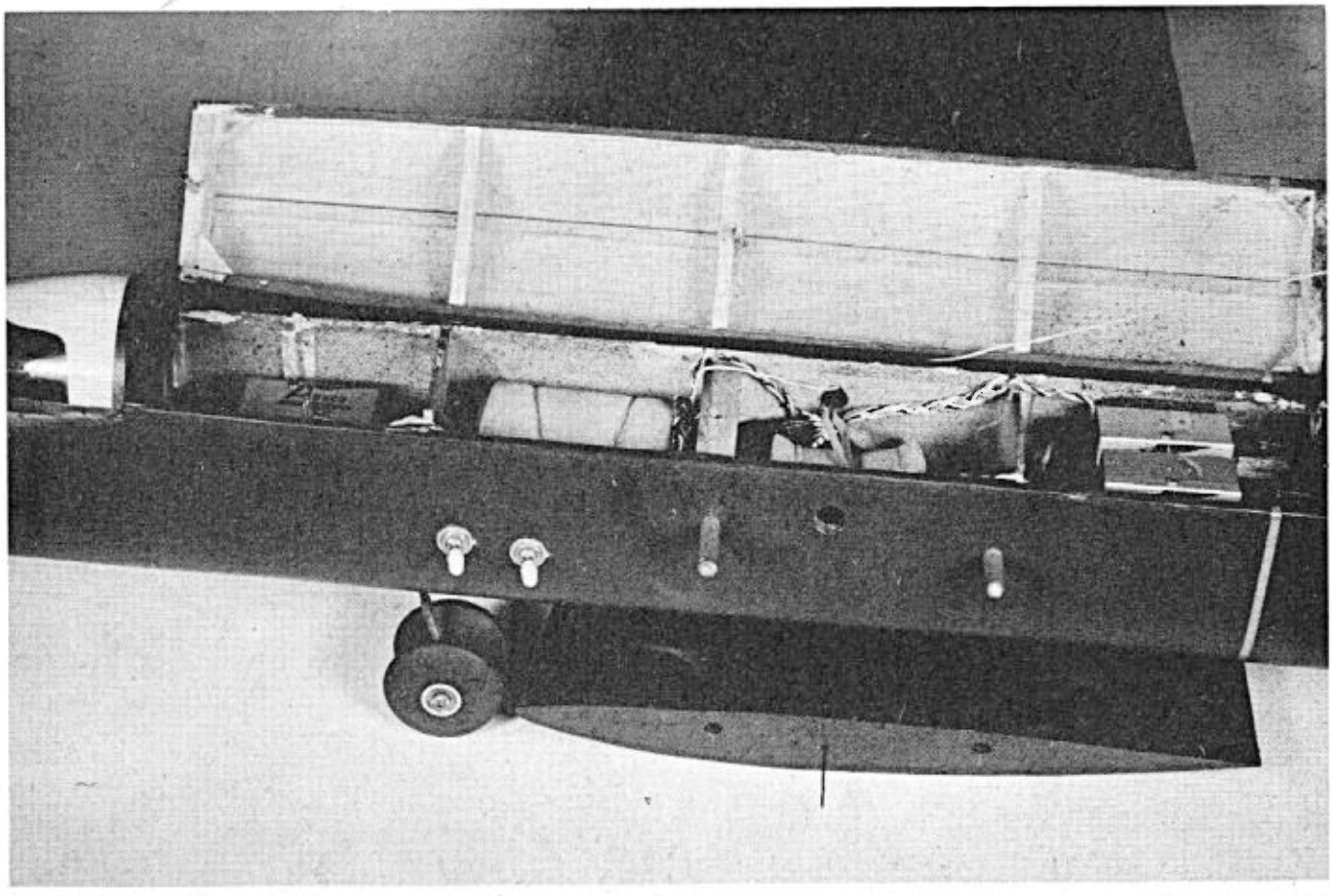
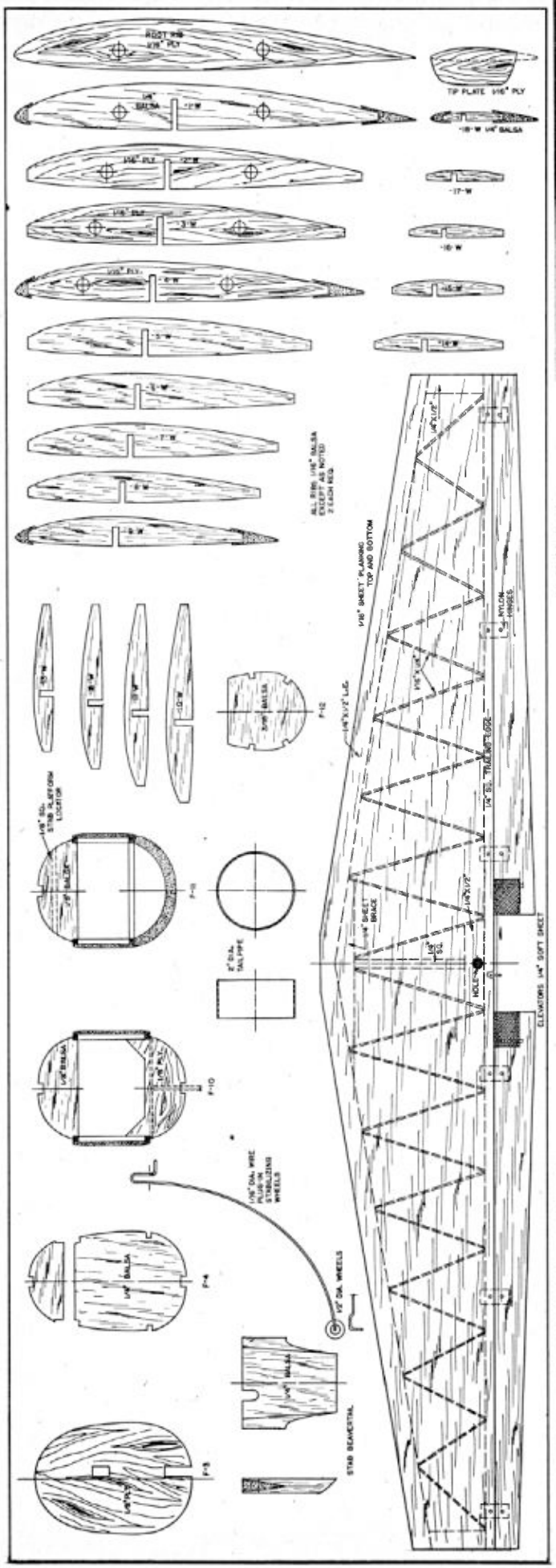
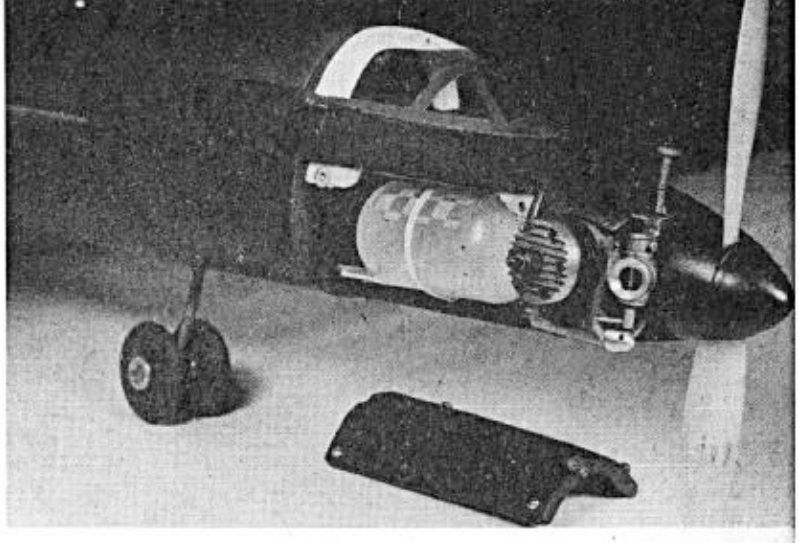
MULTI R/C

72" Wingspan

An aeronautical hero sandwich. Open hatch for an appetizer. Annco engine servo, receiver in foam, battery and wing hooks, rudder and elevator servos. Removable wing dowels. Flavored with fuel drippings, a bit tough on the teeth.







Fuel tank access hatch on the right side. The motor side mounts on the 1/16" micarta plate.

Cut elevators from 1/4" soft sheet and trim, then sand to an airfoil shape. Use a commercial horn or make your own from 3/32" dia. wire and brass, silver-soldered. Silk and dope stabilizer before adding the elevators.

Rudder Construction: The fin and rudder are cut from 3/16" soft balsa sheet. Silk and dope each, but do not assemble. Make the horn as shown on the drawing. Cement the fin to the stabilizer, adding a triangular fillet of balsa to each side of the joint if you wish. Slip the L portion of the rudder horn up through the hole in the bottom of the stabilizer. Plug it into the rudder and silk or gauze it in place, then add your favorite hinges. The long lower portion of the horn or rod is set into the lower fuselage block.

Fuselage Construction: Start fuselage by carefully tracing formers F-6 and F-7 onto 1/8" plywood. making certain that the lines representing the tubing are accurately drawn. The tubes. when in place, determine dihedral and angle of incidence, so make sure they are right. Cut the lower support blocks from 3/8" sheet or trailing edge stock and carefully white glue in

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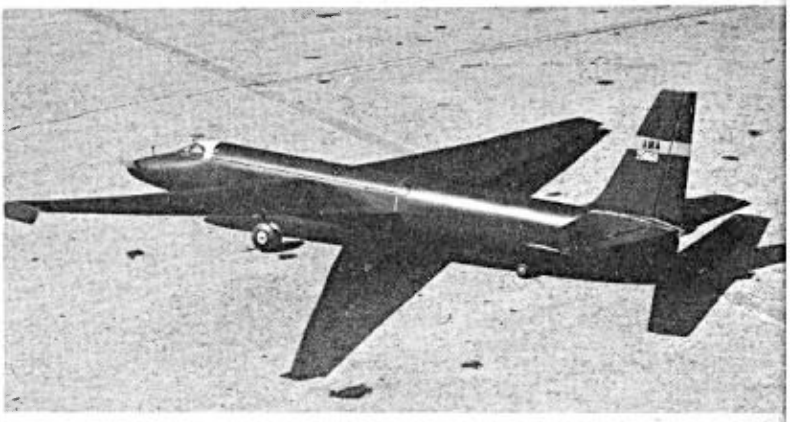

The air is thin at 100,000 feet. Glider-like wing gave the U-2 an envious ceiling, far above pursuing aircraft. The model shows soaring tendencies. Prop in motion retains the appearance of jet.

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place along the lower tubing line. Let it set, then using two pieces of ¼" I.D. tubing as a spacer, adhere in the upper support blocks. Let the formers and blocks dry thoroughly. Cut two pieces of ¼" I.D. brass tubing to a 1⅝" length, and trim the inside ends to the proper angle for a butt joint. Don't worry about the tubing overhinging the formers. That will be trimmed flush with the fuselage sides after assembly.

Place a bead of epoxy into the tubing slot on the former, then lay in the two pieces of ¼" I.D. tubing and cover them with epoxy. When every thing is dry, trim the support blocks flush with the top of the tubing and cement on a cover plate of 1/16" ply.

The fuselage doublers are cut from 1/16" ply and once again trace the position of formers and the hole centers accurately. Drill the holes. 9/32" dia. and check them against the wing root holes for alignment. Cut fuselage sides from 3/32" medium sheet, mark off the rear former positions and contact cement the ply doublers in place. Drill the holes through the fuselage sides and cement into place the ⅛" square spruce longerons and uprights.

Slide fuselage sides on to the excess tubing of formers, F-6 and F-7 and cement in place. J-bolt landing gear to F-5 and F-10 and cement in position. Add the other formers and check that the fuselage is square. At formers F-4 and F-12 you may have to steam the fuselage sides to fit the curves, I didn't have to. Cement F-3 to the front of F-4 and then attach the ¼" ply engine mount front fuselage. Make the tailpipe out of anything handy. Thin-wall aluminum tubing is ideal, but I made mine from epoxied note paper wrapped around a greased form of the right diameter. Cement the stab mount in position and adhere tailpipe in place.

Plank fuselage with ⅛" x ¼" soft strip, or use ⅛" soft sheet, wet on the outside to make it curl and then wrapped and cemented around the formers. Tack-cement soft balsa blocks into the nose and tail, and carve to shape. Remove and hollow the tail block to a 3/16" wall, but try to keep the nose blocks as thick as possible for strength, just enough to take a fuel tank and clearance for the engine. A hatch can be fitted on the right side if you want to get at the fuel tank.

The fuselage hatch can be made by wrapping the frame with ⅛" soft sheet, or carving and hollowing a soft balsa block. The 4-40 bolt makes a very effective hatch hold-down.

Sand, pre-dope and silk the fuselage, then cement in the servo mounts. The tops of the formers can be notched so that the wiring can run from one compartment to another. Trim and cut away former F-12 to the inside diameter of the tail-pipe, to provide clearance for the elevator horn and access

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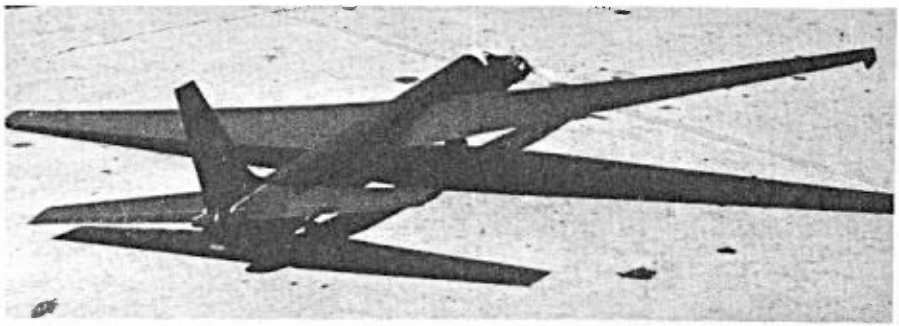
What finer trainer could you want? Slow, stable flier, long tail moment, high aspect ratio, low power in the nose. It flies nicely.



Somber look to this aircraft. Public knew little of it before Francis Gary Powers fell prey to a Russian missile. Others over China and Cuba.

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for attaching pushrods to rudder and elevator horns.

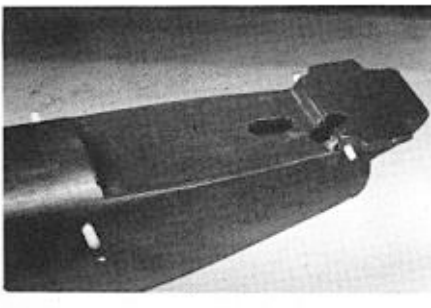
Plug in the wings, using ¼" dia. by 2⅝" long hardwood dowels, with rubber bands stretched from hook to hook to keep the wings in place. Juggle the rudder horn through the stab mount hole and check the alignment of wing and stab. If OK, I recommend cementing it in place.

Finish: The original model is finished in a mat grayish-black color, made by mixing one part Aerogloss white to four parts Aerogloss black and then adding enough talc to make a thick mix. With thinner added 10 to 12 coats were sprayed on, sanding after every two coats, with the final coat left unsanded. This gave a mat finish and also quickly filled in the pores of the silk and balsa grain with a colored filler. The tail stripe is fluorescent orange, with black AMA letters and white numbers underneath. More colorful variations can be found by checking a plastic kit of Hawks plated "U-2."

The canopy is cut from the rearward section of a 10" or 12" bubble, trimmed to fit. The inside area as shown is painted white to represent the fiberglass anti-glare sun shield.

Flying: The model does not have any bad flying characteristics and is quite docile. A steerable tailwheel for ground handling would be a help. Another horn soldered to the rudder rod and connected to a steerable tailwheel can be easily added.

Although the original model was flown on six channels, there is no reason why single channel with Royal or OS servos cannot be used, only the elevators would have to be made immovable. Fly it high and enjoy it. ●



Openings required for the rudder and elevator horns on the stab mount. Optional stab mounting dowels visible. Better to cement stab in place.