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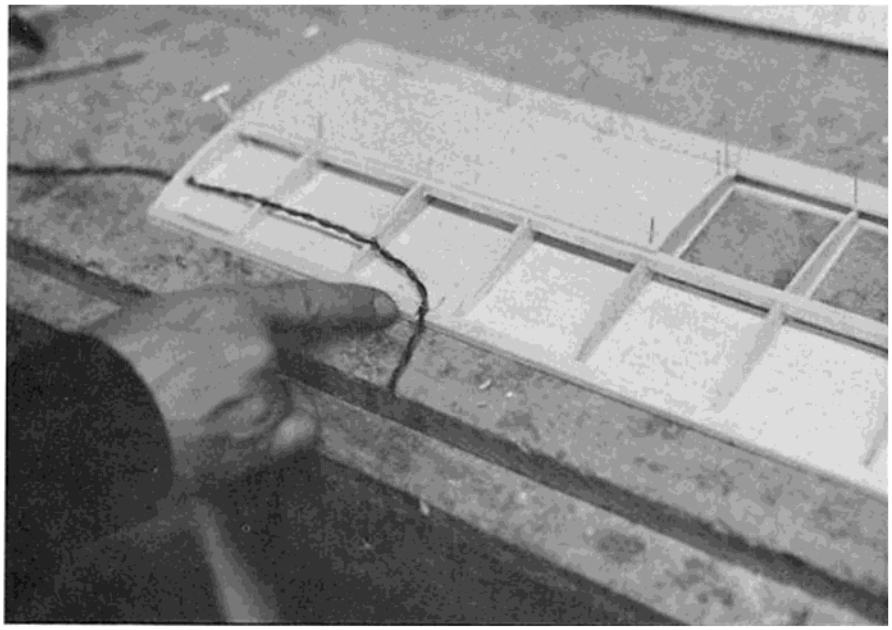
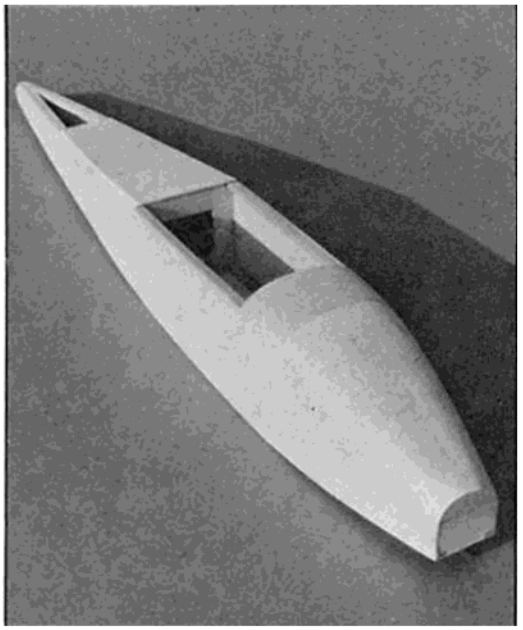
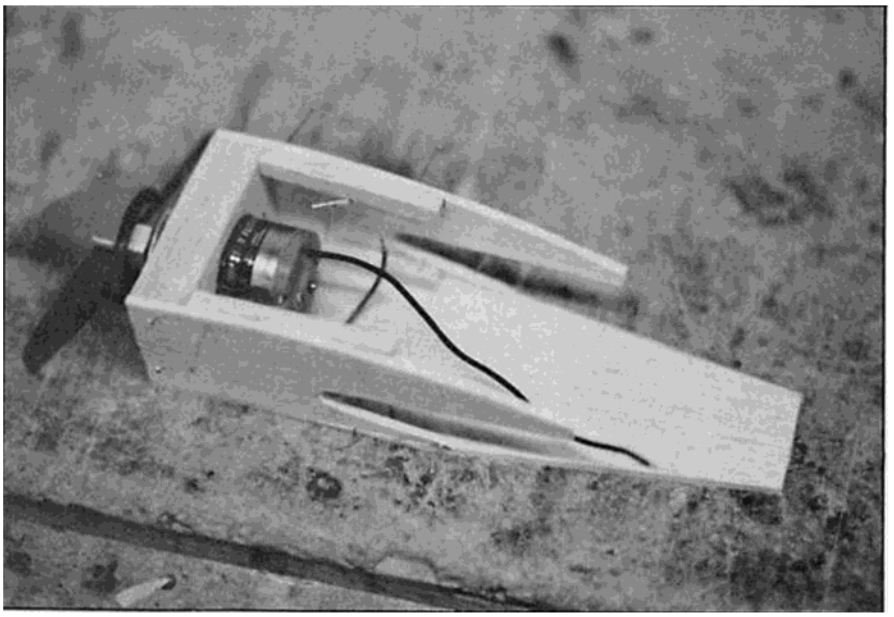


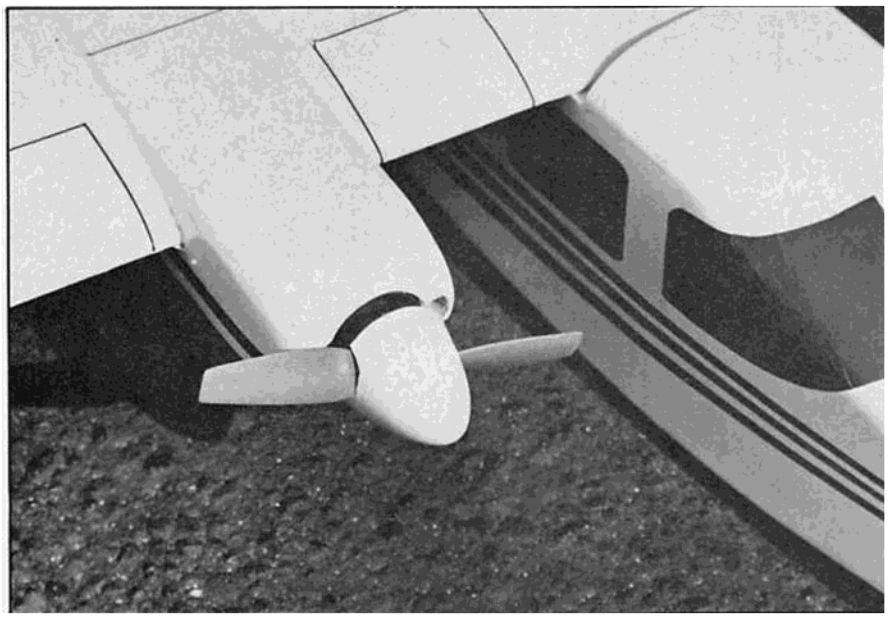


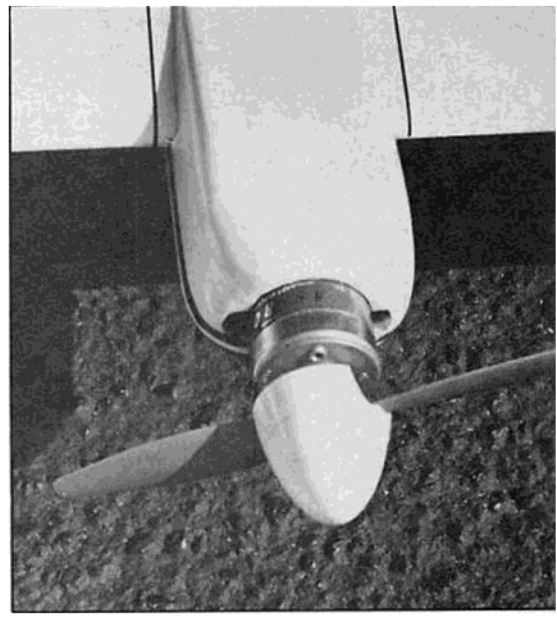
ABOVE: The motor wires are installed while building the Partenavia wing panels. ABOVE, RIGHT: The P-68 fuselage is a simple box with a rounded nose.

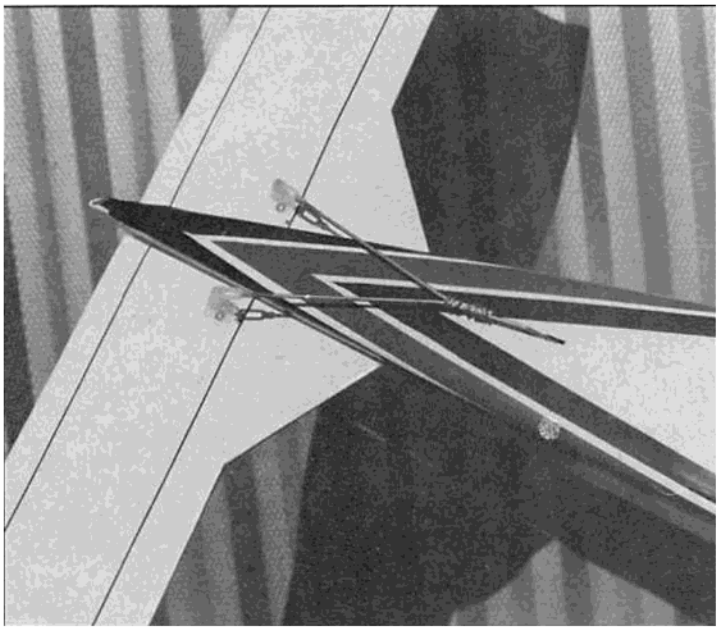


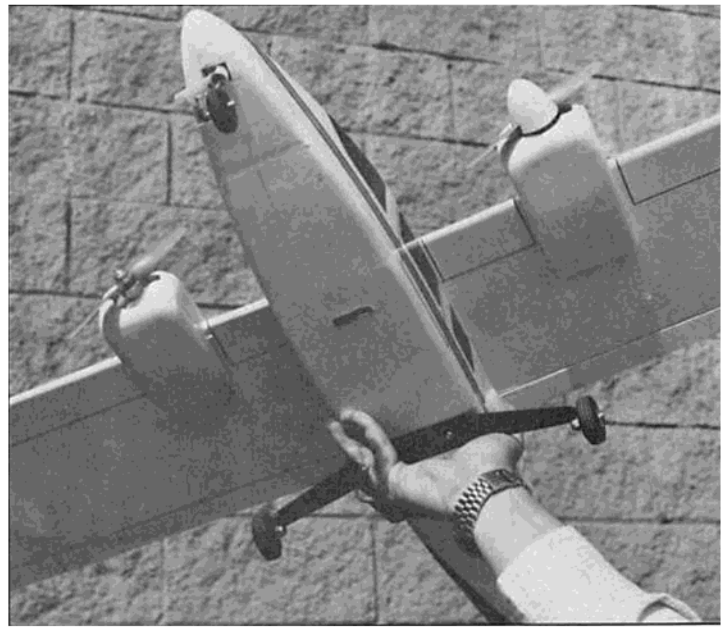
RIGHT: A view of one of the nacelles during construction. Again, a simple box form that is sanded to final contour after assembly. Astro 05 electric motor is used for trial fit during assembly.

Plenty of room inside the Partenavia cabin. Note three-position speed control on left side of cabin and air exit slots at top of forward cabin block. Three S & O servos mounted at rear of cabin, aileron servo in wing.

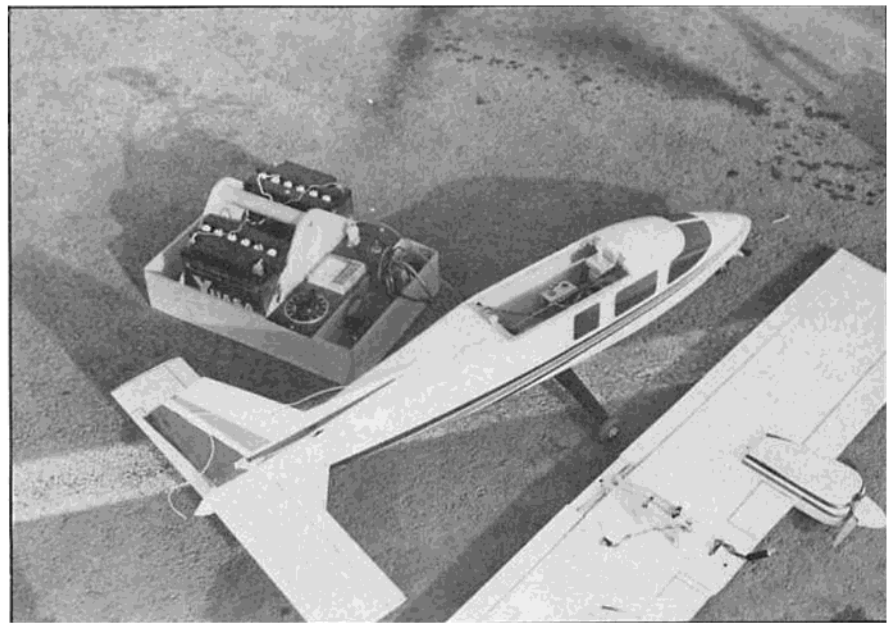


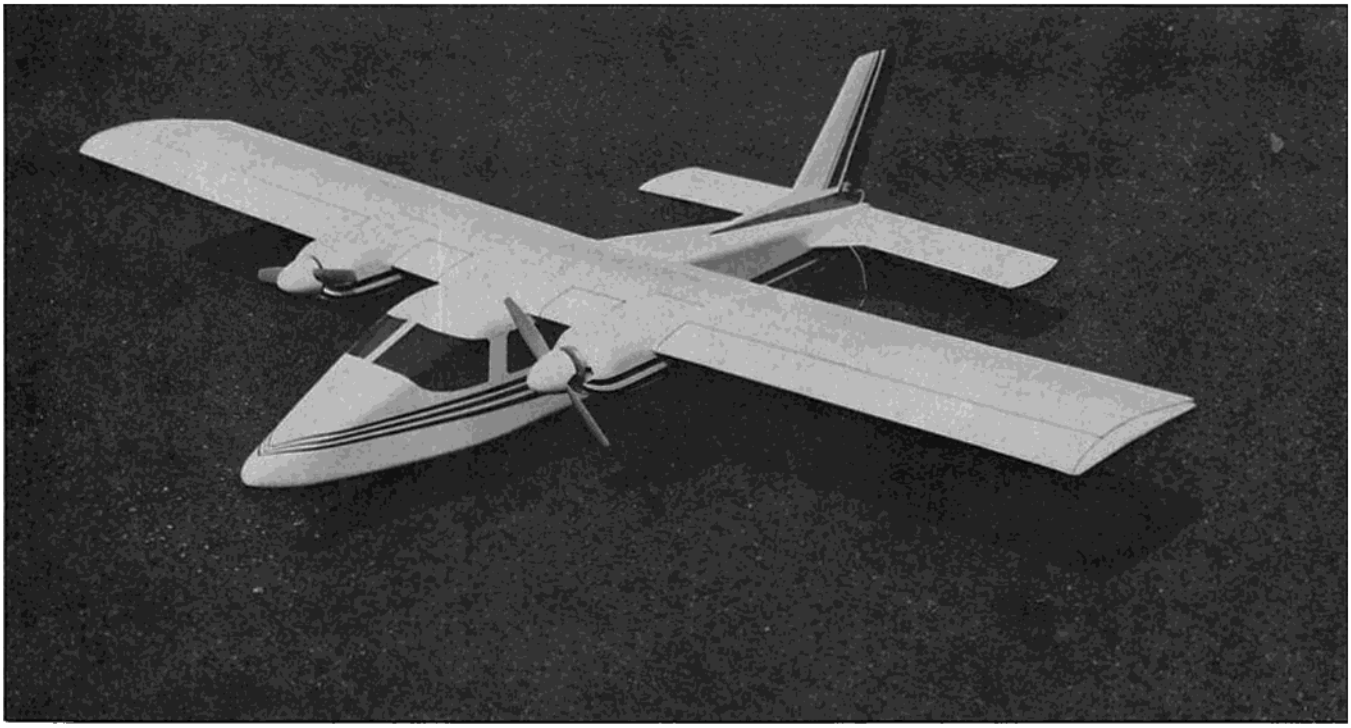






TOP ROW, LEFT: Close-up view of one of the nacelles. Photo at top right shows Astro 05 electric motor pulled part way out of nacelle, revealing air scoops. The latter are filed in after construction and before finishing. ABOVE, LEFT: View of forked pushrod for all-flying stabilizer. ABOVE, RIGHT: View of underside of completed Partenavia P-68 showing nosewheel, battery air inlet, and main dural landing gear. Picture at right shows the Partenavia ready to fly. Astro Flight Quick Charge Field Box enables electric aircraft to be fully recharged in fifteen minutes, utilizing accurate timer and meter.





The Partenavia P-68 Victor – a sweet looking twin - - - ready to fly.

sheeting in place. Put plenty of pins on the leading edge and bend the sheet over the ribs and hold in place against the center spar with common clothespins between each rib.

When the glue is dry, the remaining sheeting and cap strips can be installed. Allow to dry overnight, then remove from the board and sand the leading edge to the approximate shape shown on the plan. Next, attach the wing tips and sand to shape. When this is complete, sand the wing with progressively finer paper until it is very smooth. The wing panels are now ready for joining. Sand both center ribs at a slight angle so they mate when one tip is raised one inch above the board, then epoxy together. Reinforce the dihedral joint with 1 inch glass tape and epoxy both the top and the bottom. The wing structure is now ready for ailerons and nacelles.

NACELLES

The nacelles are simple boxes with 3/32" sheet surfaces and a 3/4" nose block. Drill a 1-3/8" diameter hole in the nose block with a hole saw before gluing in place. The air scoops are made with a file later on. Don't forget the 1/4" square corner blocks so you can round the corners of the nacelle after assembly. Sand to shape with rough sandpaper then finish with fine paper and cover with MonoKote or Solarfilm before installing on wing.

FINISHING THE WING

Bend the aileron torque tubes from 3/32" steel wire. Be sure to place the brass bearing tube on the wire before making the final bend. Then glue the bearings and a short piece of trailing edge stock to the wing center section with epoxy. Slot the ailerons and the wing T.E. for the hinges. Install the ailerons and check for smoothness. They should flop down of their own weight — if not, fix them now. You are now ready to cover the wing and ailerons. After covering, install the ailerons permanently by gluing the hinges in place. Next install the servo blocks on the wing underside. Cut away the covering material to expose the bare wood and epoxy in place. A slight bend will be required in the Kwik Links to clear the servo.

TAIL SURFACES

The tail surfaces are of simple all-sheet balsa design and need only be sanded to approximate shape. Slit each flying stab for the brass tube bearing. Pin both the left and the right stab to the board, slip the brass tubes over the 3/32" wire and epoxy the brass tubes in place. This insures that both stabs will be aligned and true. Then, when dry fill in the joint with micro-balloons. The rudder is conventional in design, and the fin and rudder should be slit for the hinges at this time. These surfaces are then sanded smooth and covered with your favorite plastic covering material.

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The author and the Partenavia at a recent contest. This twin electric is not a novelty, but a practical machine with excellent flight characteristics.

PARTENAVIA P-68

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FUSELAGE

The fuselage is a simple sheet balsa box with a rounded nose top block. After cutting the fuselage sides, glue the 1/4" square longerons in place along the top and bottom edges. Make sure to make one right and one left side. When dry remove from the board and glue and clamp the fuselage sides to formers a, b, c, the hardwood tail bearing block, and clamp the tail together. Use a clamping jig, or pin the assembly over the plan view to make sure the fuselage is straight. If you use a jig then you can safely use 5 minute epoxy for this job, otherwise I would recommend a slower drying glue to give you time to get it straight. When dry, glue the plywood bottom section in place then complete both top and bottom cross grained balsa sheeting. Then glue the cross grain 3/4" thick cabin roof in place. When this is dry install the 1/4" nose top sheeting and nose bearing block. Tack glue the nose block in place (it will have to come off later when the nose wheel assembly is installed). Now, using rough sandpaper, a razor plane and a rasp, rough shape the entire assembly to the cross sections shown on the plan. Finish shaping with 120 grit paper and then finish with fine paper. Next install the servo rails, wing hold-down blocks, landing gear, and drill the tail for the flying stab bearing shaft. This last job requires four hands and, besides, you need someone to blame if it's not perfectly straight! If it doesn't come out straight drill again above or below the original hole.

Cut the air scoops in the top block and bottom of the fuselage at the battery compartment. Don't omit this important step as it is absolutely mandatory that proper cooling be provided to the battery.

COVERING THE MODEL

Finish covering the model at this time. MonoKote and Solarfilm covering are ideal but other finishes can be used. But watch the weight! Install the dorsal fin and vertical stabilizer with 5 minute epoxy and trim with trim MonoKote or your favorite trim.

RIGGING

Check that the flying stab fits properly on the fuselage — a little trim sanding may be required. Then mount the elevator horns, and fabricate the forked pushrod as shown on the plans. Cut a slot in fuselage bottom and check for free motion without any binding. There is no way to fly smooth round loops with a sticky elevator! Fabricate the rudder and nose wheel pushrods per the plans and install in similar fashion. Lastly, install the battery and throttle switch and power connectors. The prototype used a three position toggle switch and resistor to provide off taxi and full power options at the pilots command as shown in Figure 1. If an electronic speed control is used this is installed at this time. Most of them rob top end power, however. The model is now ready to be balanced. Mount the wing and determine balance point by suspending the plane by the wing tips. The proper balance is about 1/4" forward of the center spar. The receiver and battery can be moved around to achieve the proper balance.

Let's charge her up and go flying. The P-68 Victor is a very pretty bird and a real crowd pleaser as well as being a lot of fun to fly. Happy Landings! □

ON THE LINE

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size.

Let's say 10 oz./100 sq. in. is just what you like for a 1000 sq. in. model; that's 100 ounces or 8 pounds. Actually for 800 sq. in. you must drop to 71 ounces or 9 oz./100 sq. in. By the time you get to 300 sq. in. you can carry only 16.5 ounces, or a wing loading of 5.5 oz./100 sq. in.! Here is a handy table:

AREA (sq. in.)	WEIGHT (ounces)	LOADING (oz./100 sq. in.)
1000	100.0	10
800	71.0	9
600	46.5	7.7
400	25.3	6.3
200	9.0	4.5
100	3.2	3.2

If you don't believe this, try building a 10 square inch glider, ballast it up to one ounce and see what happens. Theory claims it should actually weigh in at only one/tenth of an ounce to perform properly.

Incidentally, you can take a ratio from your favorite glider's wing loading to the 10 ounce equivalent numbers given, and apply that to your new sizes allowable loading. For example:

8 oz./100 sq. in. at 1000 sq. in. becomes — 8/10 x 3.2 = 2.6 oz./100 sq. in. at 100 sq. in.

Oh yes — the 66 ounce Grand Esprit at 1100 in.^{2} is equivalent to a 21 ounce Super Questor with 520 in.^{2} of area, so I have a slightly heavier equivalent wing loading. That would perform like 5.7 oz./100 sq. in. on a 1000 sq. in model.

World Championships For R/C Sailplanes

The FAI has approved a World Championship for R/C sailplanes to be held in South Africa during 1977. Otto Heithecker has developed a team selection procedure for the United States, similar to that used to select the Free-Flight teams. This contest will be flown to FAI rules, which are quite different from most American contests. We will provide full details of the team selection program when it has been finalized.

LSF Tournament 1975

We will provide full coverage next month of this meet held at Mile Square Field in Los Angeles, California. Last report from CD, John Donelson, was that over 140 pre-registrations had been accepted.

Editorial:

THE EAGLE SCREAMS "Sport Or Hobby"

While R/C sailplanes have been flown for many years, this phase of modeling did not attract many fliers until the late 1960's. Interest began to build in the early 1970's and today R/C soaring is easily the largest "special interest" group within the modeling fraternity. Based on the results of RCM's Reader Survey, we believe that at least 25,000 modelers are actively building and flying R/C sailplanes.

We think that there are several reasons behind the tremendous interest in soaring. Most important is the majesty of silent flight — the models are aesthetically pleasing to the eye and the flight is graceful and exhilerating. In addition, the lack of noise and mess associated with powered models is appealing to many. The slow flying speeds provide the beginner an opportunity to train his reflexes and encourage the newcomer to try soaring. This also reduces total wipeouts from pilot error, without the dangers inherent in flying powered models without skilled assistance. Numerous flying sites are more easily obtained without noise to offend neighbors, and the slower flying speed does not create the fear of danger which powered aircraft seem to bring out among nearby residents and city officials. Of course, the continuing challenge of seeking invisible currents of rising air provides the most experienced flier with a test of skill everytime his aircraft becomes airborne.

Flying model sailplanes is relatively easy to learn, as witnessed by the many beginners who enjoy the sport. Any reasonably coordinated person can learn how to control the model and to get it up and down successfully. However, to become truly proficient in flying R/C sailplanes is a most difficult and challenging endeavor. Many power fliers look down on R/C sailplanes as "too

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