

Pretty, young girl-type launches the DA-2A for a good flight; author didn't give her name but we are sure that it is one of the younger Hunts.

Peanut Davis DA-2A

BY LLOYD V. HUNT . . . all metal home-built by Leon Davis is an excellent project for Peanut Scale: stable, good wing area, simple and square construction, ideal!

• The Rockford Illinois Fly-in showed a variety of aircraft to induce interest and excite the scale model builder. First of all, there were experimentals, each different from one another, and each built by a single individual. Their creations were the boldest expression of their ability as a designer, builder and

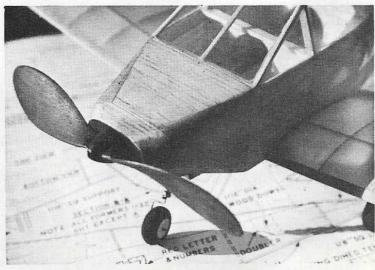
pilot. There were airplanes like the "Teal," designed by Ed Lesher with an extension shafted pusher prop, three rudders, all-metal construction; and there was the immaculate metal-winged "Cougar" by Mr. A. Prentiss.

We felt that the Davis DA-2A by Leon Davis, with its simplified all-metal construction, basically flat bent 2024 sheet aluminum with no compound curves, would be the best one to model for our growing interest in Peanut scale. Study the drawings before construction, along with the pictures. For help in the assembly, note the closeup (Continued on page 82)

PLANS FOR THIS MODEL - NEXT TWO PAGES



At rest on tarmac. Question: is that a spring on nose gear, or weight?

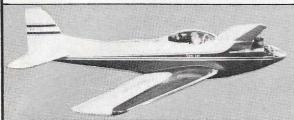


Close-up of nose section and cowling; refer to this during assembly.

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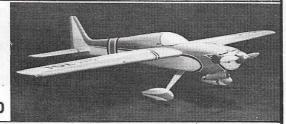
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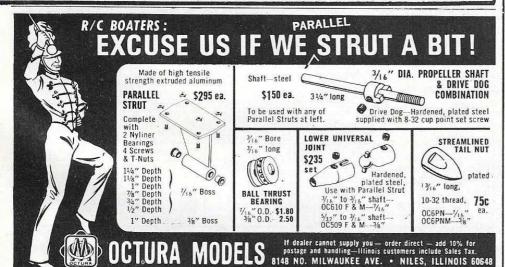
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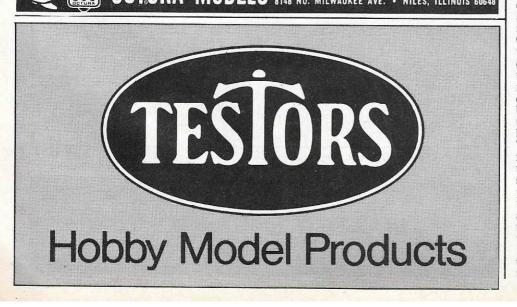
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Peanut Davis DA-2A

(Continued from page 17)

shot of the cowl assembly. Lastly, we suggest that the fuselage construction along with the "V" tail assembly be built from 1/16" square balsa and 1/32" balsa top formers

CONSTRUCTION

Fuselage: Construction is straightforward in the tradition of most Peanut scale models. Let's start with the fuselage. Be sure to select light but strong balsa. Cut out or trace the fuselage and cut to oversize, in length only, two pieces from the 1/32" sheet balsa for the sides. Rubber cement the two pieces of sheet balsa, one over the other. Locate the fuselage side pattern onto the top sheet. Cement this also in place with rubber cement. Cut to outline the sides; mark off all former locations or use a stick pin and punch through both sides of each station to aid in drawing in the former location. At this time locate also the motor peg. Remove the fuselage side pattern from the top sheet and rub off with your fingers the excess cement. Use a little thinner to remove the last of the cement. Part the two sides and clean up the same way as stated be-fore. Mark all former stations (on the inside of each) with a straight edge as a guide, cutting half way through on the outside only station "B" "D" & "G." Bend the sides to the approximate angles as shown on the top view. Build former "A" from 1/16" x 1/8" balsa and cut out the rest of the formers from 1/32" sheet. The holes through the formers shown for the rubber motor may be larger if you wish, which would cut some of the weight. Also cut from 1/32" sheet the motor peg sheet the motor peg doubler; cement in place on both sides (inside of each side). Cement in place formers "B" "C" & "D," then bend in the angle to match with former "G." Cement this in place next. Check formers "E" & "F" for fit and complete by cementing them in place. Pull in the tail and cement together.

Now back up front. Add former "A." You will note that it should have a bevel to fit the angle of the sides. Now let's check the assembly to see if all angles and formers are true. Run a bead of cement into all cracks at each angle joint. Cut two pieces of 1/16" sheet balsa for the top and bottom of the cowl. Sand into each end the first angle to match at sta-tion "B." Locate and draw the angle to match the sides. Cut these oversize and cement in place. Let the complete assembly dry before moving back to the top of the fuselage. Lay a piece of 1/32" sheet balsa on the top starting at former "D." Trim to length and sand the angle to fit flush at the other end to match the top of the fuselage sides. Mark off the points at station "D" and "G." Draw a line to each point and cut to outline; cement this part to complete the top covering. Let this dry and move back up to the cowl sides. Cut the cowl sides from 3/8" sheet and draw their outline. Cut this to size. Sand the 1/16" top and bottom sheets flush with the fuselage sides, and cement in place the two 3/8" thick pieces as shown on the



drawing. On a piece of paper, trace the outline of the balsa nose pattern and cut to shape. Sand the front end of the fuselage and rubber cement the pattern in place.

Cut and sand to contour the cowl sides, check the close-up picture to aid in this check the close-up picture to aid in this sequence. Build the cabin structure next from 1/16" x 1/8" balsa and bevel the top as shown. Cement in place and add the three 1/16" square balsa pieces to complete this detail. Lastly, add the 1/16" square cabin top support; next cut and bend to shape the cabin top (note grain direction). The curve shown on the drawdirection). The curve shown on the drawing will form as you sand the top flush with the cabin structure. Take your time with this operation as it will require a light touch.

Finish the basic fuselage by cutting to shape and contour the nose block; add the 1/16" sheet plate and adjust to fit former "A." Mark at the front and back of the nose block the aluminum tube location; drill through to allow a true hole; cut to length and insert the tube to complete. The main gear is now bent to shape. The pattern is shown in a flat projection. Bend back as shown in the side view of the drawing. The nose gear is next; bend as shown. Epoxy the main gear in front and at the bottom of former "C." Epoxy in place the nose gear. Detail "H" should be added next. Slot the center back end with a saw blade, etc. to allow for the fit around the gear. Also dig out any excess balsa to allow the detail to fit flush with the bottom of the cowl. Cement this in place and from scrap balsa cut the front cut to length and insert the tube to complace and from scrap balsa cut the front end and locate as shown. Make a hole in

from station "B" to "C," notch out for the landing gear, cement in place, finish by adding the aft bottom sheet. Cut a small hole through the bottom at the doubler location to allow access to the motor peg and rubber motor. Lightly sand

the complete fuselage to finish.

Stabilizer: The "V" stabilizer is also shown in 16th half way the house (bottom) soft balsa. Cut half way through (bottom side) and crack to the angle shown. Check the angle with the stabilizer template, lay one side flat on the building board, block up and cement at the angle joint. After the stabilizer has dried, cut through trim location and cement in place. Be sure the stabilizer is located as shown—if the trailing edge is located below the leading edge, it will affect the trim of the model.

Wing: The wings are next: cut out the required ribs, noting that the root and tip ribs are 1/16" sheet but that the rest are 1/32" sheet. Cut out of scrap the dihedral template for the root ribs. Assemble as shown, and add all gussets at their locations flush with the bottom of each panel. The left wing panel is shown; build the right opposite by adding the dihedral angle to the other end of the 1/16" sheet rib. Shape the leading and trailing edges, sand and clean up all structure to complete.

Mark the wing leading edge location on each side of the fuselage and locate the angle of incidence; cement the panels in place. Because of the cementing and adjustment of the panels, we covered the wing after assembly to the sides of the fuselage. When the wing panels have dried, dope the structure with two coats of thinned dope; lightly sand all over to finish. The wing panels are now covered with Jap tissue. We covered ours with white and mixed yellow dye from a felt marker pen into the dope for color to finish. Add the aileron outline with a thin piece of black MonoKote, etc. The "V" details are added next, and landing gear fairings and the 1/32" sheet tail skid. Shape a balsa dowel for the nose gear and cement in place. The wheels shown are made from 1/4" and 3/8" sheet with an aluminum tube for the bearings. Use black dope or India ink to color; the wheel disks are cut from white bond paper to complete. Assemble the wheels onto the gears and retain with a drop of epoxy.

The rest of the model should be doped with the colored mixture. Apply a mini-mum of two coats, lightly sanding be-tween each coat. Add the "V" stabilizer, trim tab outline the same way as the wing aileron outline to finish. Dope the front end of the nose block and add the acetate cabin windows. Start with the sides and finish by putting in the front window panel. The model is now ready for the numbers. You could use decals or cut them out from colored paper; locate to the sides as shown. Bend a prop shaft from music wire to fit the aluminum tube in the nose block as shown. Also add the washers or a small bead.

We are now ready to fly the Davis DA-2A. This will be the best part of the project. Balance at the CG shown with clay added to the nose, before the test glide. Trim for a flat glide by weight adjust-ment. Warping up the trailing edge of the "V" stabilizer side and down thrust adjustment behind the nose block will also aid in trim. Before powered flights, check the wing panels for any warp. A slight amount of wash-out at the tips will also aid in flight trim.

A single loop of 1/8" rubber is right for test flights; use rubber lube and a winder for best results. As you get to

the fuselage sides for the motor peg, and cut to length the 1/16" diameter wood

dowel for the rubber motor. The bottom of the fuselage is covered next. First cover



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know your little Davis you will find many hours of flying fun, both indoors and out.

As for our new projects along the Peanut trend, we are now toying with the design layout of a Peanut-plus-two scale, a model that would have a wing span of not over 26". We feel this size of model would allow for more detail, more flying time and would not require too much more construction effort.