



If the control lines didn't give it away, this picture would look as if John Nesmith of Houston, TX had just taxied in and parked his home-built.

A Scale model is the dream of almost every budding young modeler, but most are so complicated (and heavy) that tackling one as an early effort is courting disappointment and disaster. Here's one, for Control Line and a .21 engine, that is simplicity at its best—and it has made a mark for the fairer sex at the Nats. ■ Julie M. Abel

Nesmith Cougar ⁴⁴⁵

IN THE SPRING of 1980, I decided that, if I would be traveling to the Nats with the family, I would like to enter and fly, too. I asked my father to design a simple Scale model that I could build for the event. There wasn't

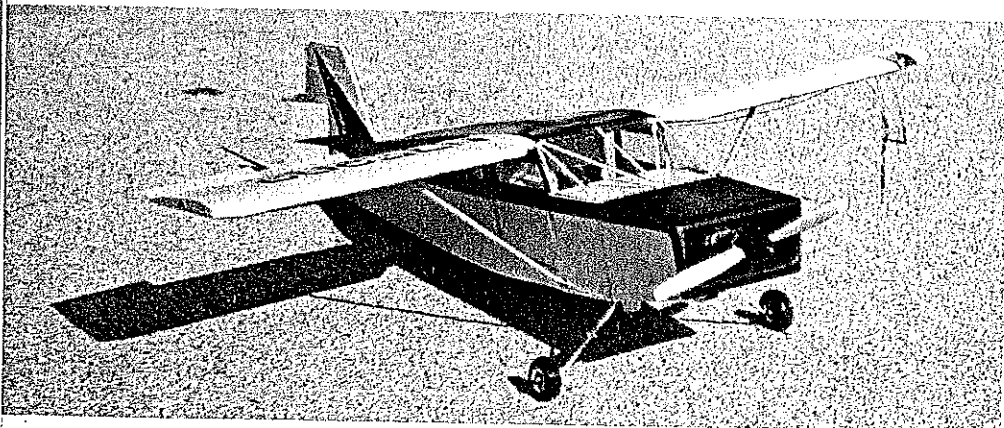
much time. It was only one week before we were to leave for Scale/Sail '80 in Ottawa, Canada for the 1980 FAI RC Scale World Championships. We would be on the trip two weeks, then there would be just two

more weeks at home in St. Louis before we would leave for the Nats; once at the Nats site, there were three more days before the model turn-in deadline. What a schedule!

A quick search led to the Nesmith Cougar. It has simple, straight lines. It is clean and neat, and it has a certain rake. An hour at the drawing board with a three-view drawing and a calculator produced sufficient drawings to start cutting wood. As my father designed, I built.

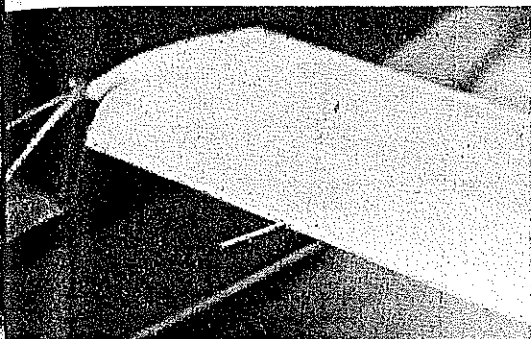
I had a plywood work surface and tools in the third seat of our Chevy Suburban. I sanded parts while we were on the road to Canada and built at the camp sites when we stopped. I spent the week at Scale/Sail '80 building at the campground (conveniently located at the flying site) while the world's representatives did battle in the skies a few hundred feet away. Three fast weeks later I was able to win the first-place Nats trophy in Junior CL Scale.

Two years later, after building two other



Simple, classic lines make this an excellent project for the Junior, Senior, or beginning Scale modeler. There's nothing complex about any of the parts, making it ideal for a starting model.

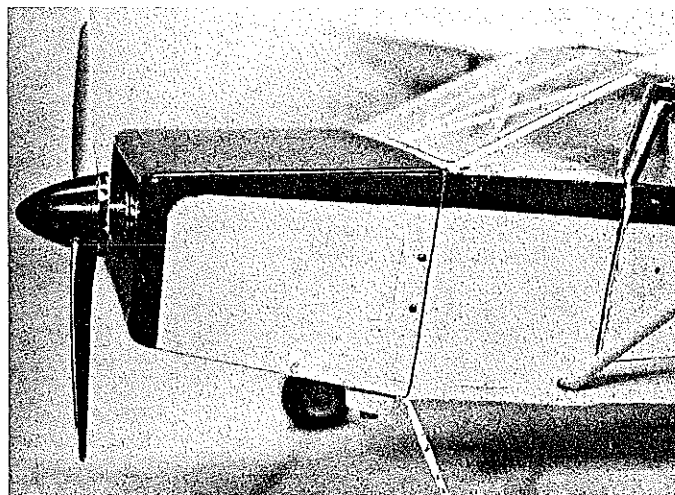
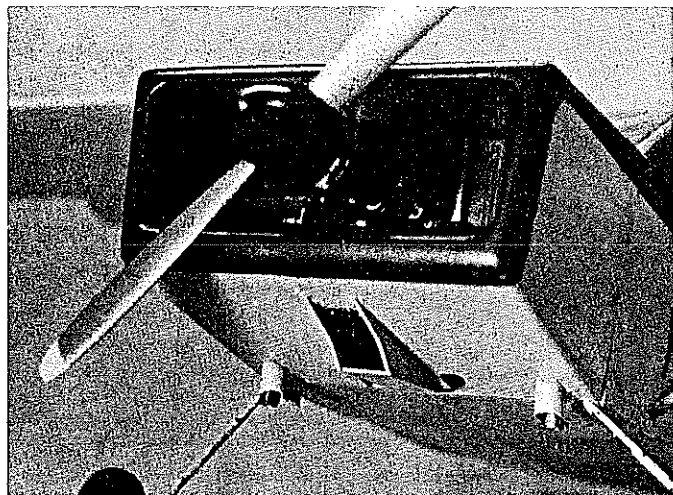
successful CL Scale models, I decided to build another Nesmith Cougar. This Cougar is a little larger and more detailed. The successful completion of this model, detailed on these pages, resulted in my eighth straight first-place Nats Championship in Junior CL Scale.



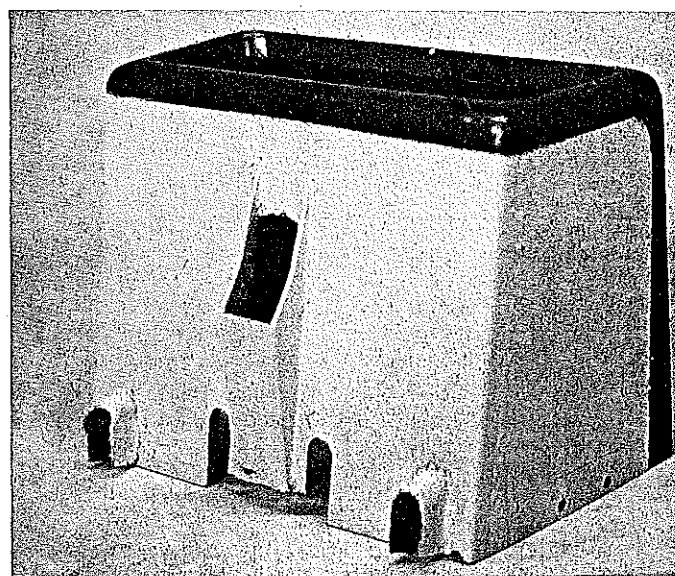
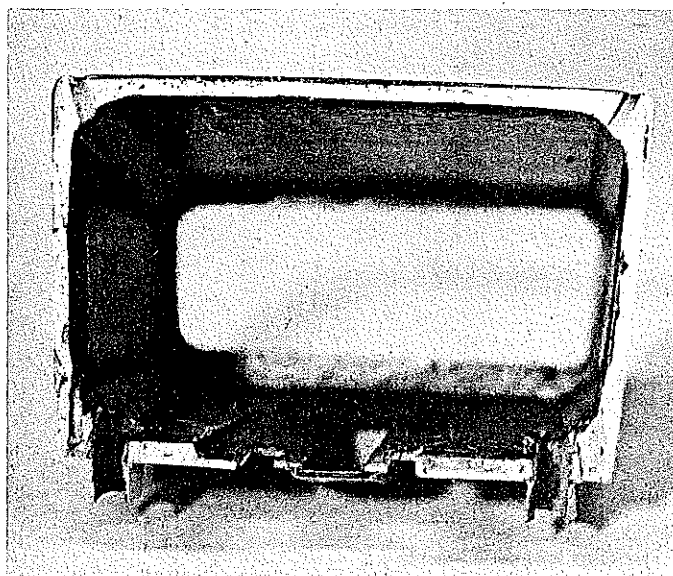
Though the prototype is basically simple, it still provides much opportunity for the skilled craftsman to add details. Examples: pitot tube, rib stitching, trim tabs, panel lines, rivets on the cowl, and doors that open.



There's pressure in competitions, but those who try almost always go back for more. Assisted by brother Dan and father David, Julie is at the controls ready for the Nats-winning flight.



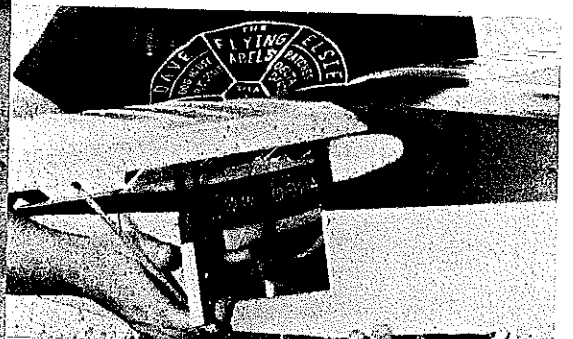
Left: This type of model wouldn't normally have a prop shaft extension, but it is used here to move the engine back from the cowl opening and align the glow plug with the carb air scoop. This provides easy access to the plug for maintenance and starting. Right: Massive sheet metal cowl of the full-size plane was the result of the designer's desire to make much use of available components. Prototype's cowl based on the Cessna 310's.



Simple cowl is made of sheet balsa with triangle-stock bracing in the corners. Interior is brushed with epoxy for fuel-proofing. Exterior has a layer of lightweight K&B fiberglass for strength. Inside bottom is shaved for engine clearance. The carb air scoop made of plywood is simple, lightweight, and rugged—and it provides head cooling for the engine and plug accessibility. Exhaust stack shrouds are formed from Sig Celastic.



Young Julie Abel is justly proud of her second model of the Nesmith Cougar. At the 1983 Nats, she was presented with her eighth first-place Nats trophy for Control Line Scale.



Opening the door reveals a nice instrument panel, seats, and other interior goodies. Team Abel T-shirt can be seen beyond.

The model is 1/8 scale—2 in. equals 1 ft.—which gives a wingspan of 41 in. and a wing area of 330 sq. in. The engine I used is an HB .21 PDP, which fits nicely inside the huge cowling.

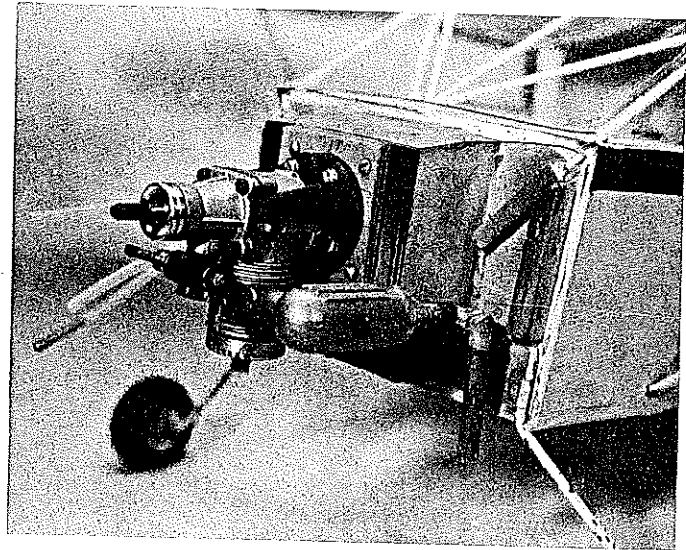
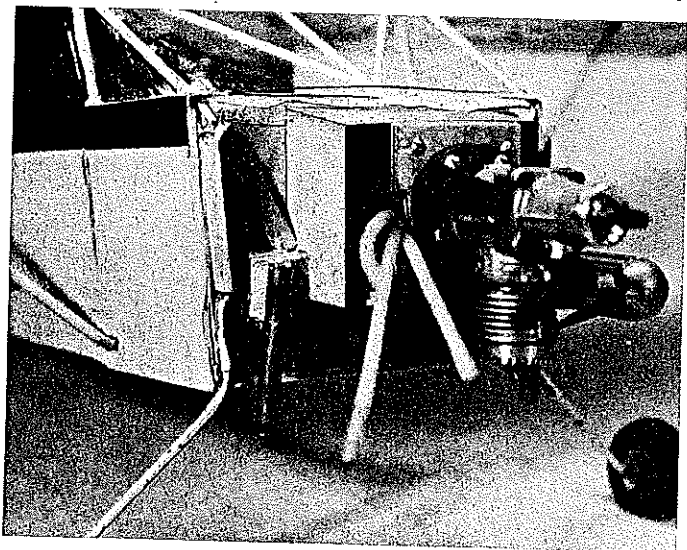
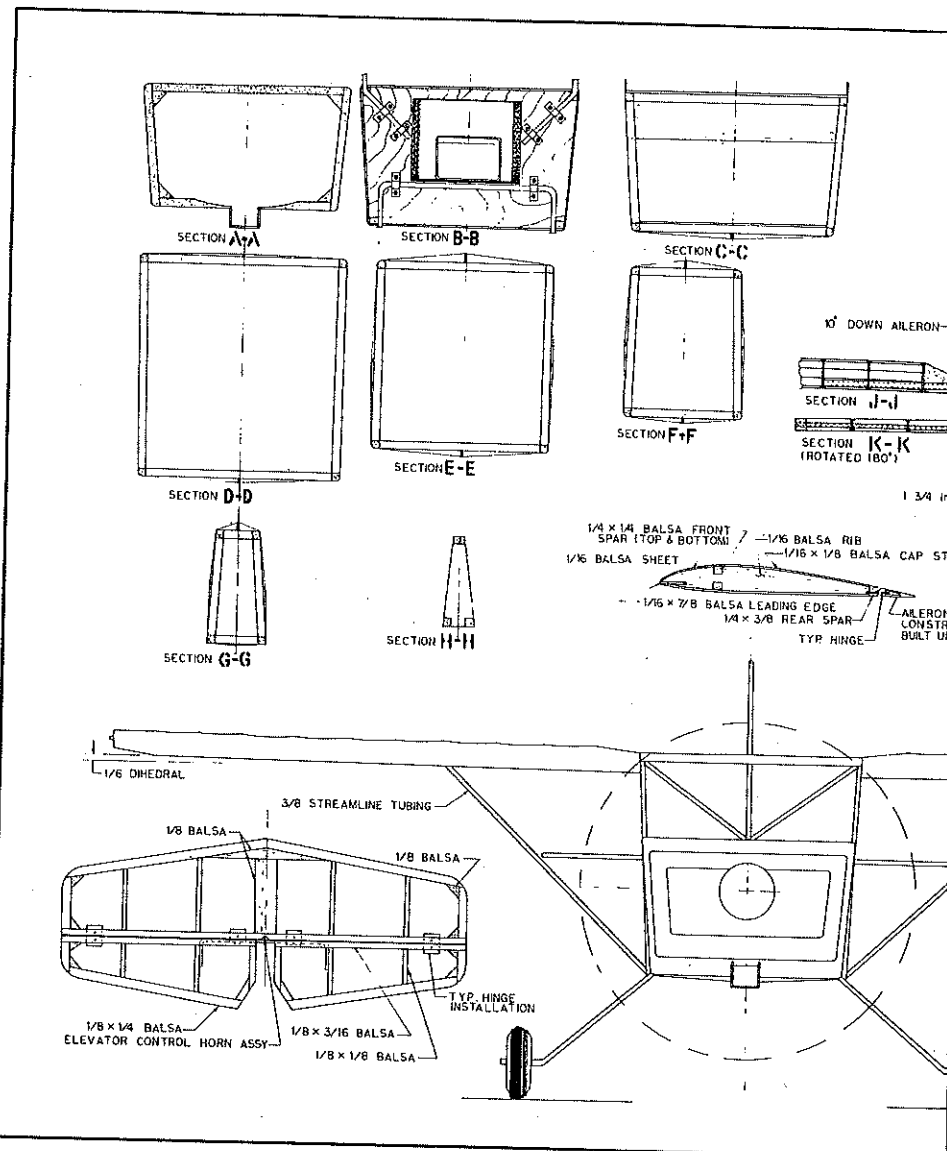
Fuselage construction. Before starting, it is very helpful to review the drawings closely. The structure is straightforward. It is both strong and lightweight. Notice from the fuse-

lage cross sections that the fuselage taper reverses from front to rear. It is wider at the top in the front and wider at the bottom in the rear. The basic fuselage structure is 1/4 sq. balsa.

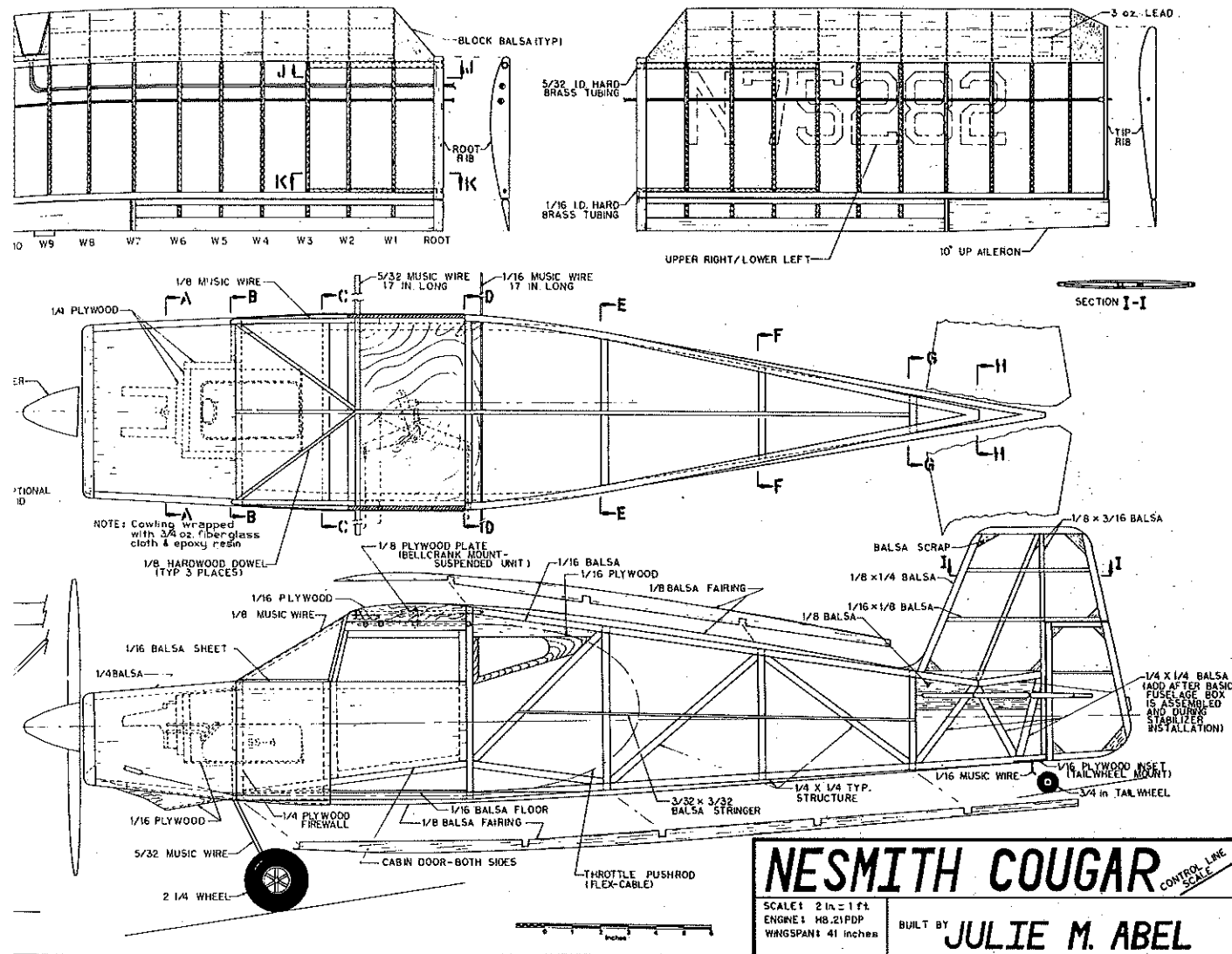
Start by building the basic sides over the

plan, one on top of the other to keep them matched. Separate the two sides, and taper the inside surface at the rear as seen in the top view of the drawing. Cut the firewall out of 1/4 plywood.

Starting at the firewall, connect the two

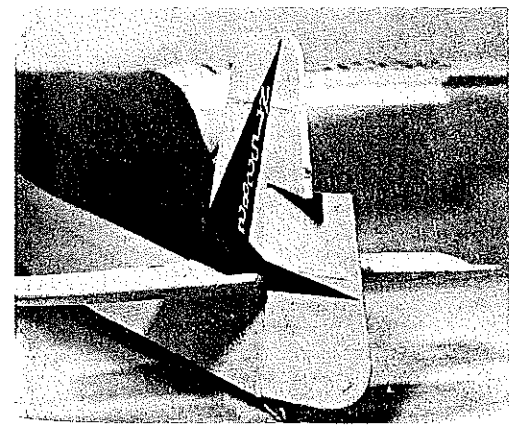


The HB .21 PDP engine seems small for the big cowl. Plywood fuel tank compartment, extending through the firewall, provides the proper mount extension. A little brass tubing and silver solder takes the muffled exhaust out through a scale exhaust pipe (the other exhaust stack is non-functional). Windshield corner braces made of 1/8-in. music wire extend from the firewall into the wing to create a very strong cabin area.

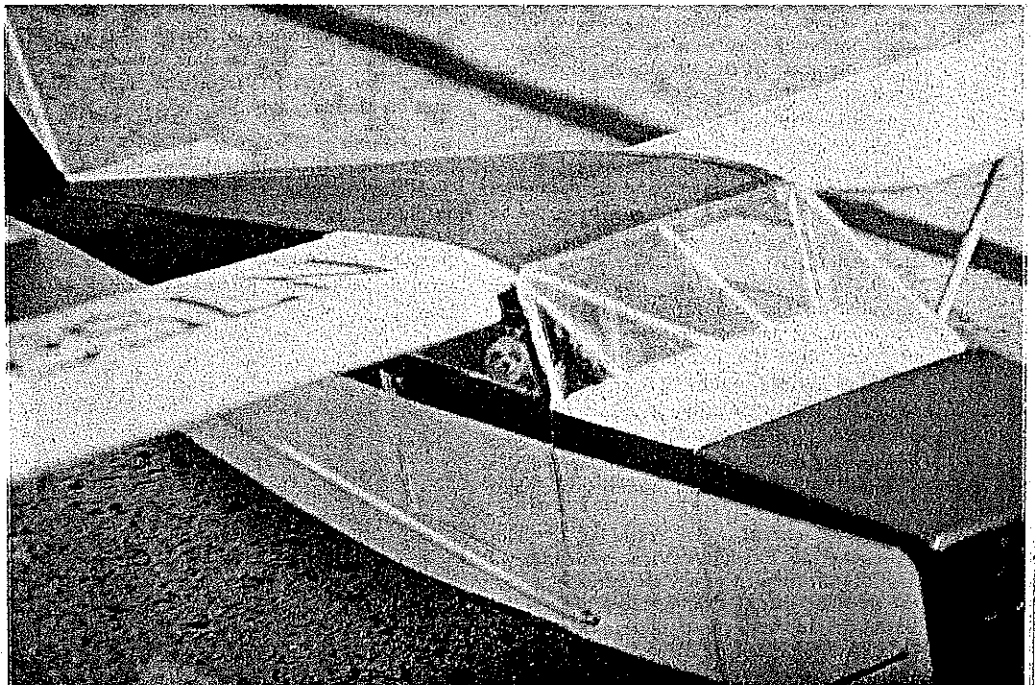


side frames with 1/4 balsa cross members; refer to the fuselage cross sections to get the correct length. Care should be taken to assure that the fuselage sides stand at the proper angle (refer to the fuselage cross sections) and the fuselage remains straight and true.

Refer to the drawing for the 1/16 plywood
Continued on page 177



The rather small rudder, combined with a large fuselage cross section, requires a big amount of right-rudder deflection to maintain adequate tension on the lines during flight.



Windshield raking deep into the wing leading edge and the forward-mounted raked tube landing gear are features borrowed from the Wittman Tailwind. Can you see the Panda Pilot (known to Julie as P2) peeking out? P2 is a small panda bear handmade by Dolly Wischer. Dolly has provided Julie with much encouragement in modeling activities. P2 was copilot at the 1983 Nats.

ATTENTION
O.P.S. Engines & Parts
 Available For
Racing and Marine Use!

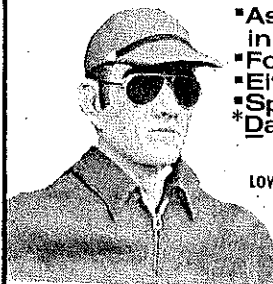
The O.P.S. .15 for 1/4 Quarter Midget and the O.P.S. .45 for Marine.

PLUS
 Custom T.D. .049/.051 engine parts. Complete inventory of stock and custom parts for COX T.D. .049/.051 engines.

For complete information send \$1 to:

P & G Metal Products
 301 North Yale Drive
 Garland, TX 75042
 Gene Hempel—(214) 272-5210 (after 6:00 P.M.)

DGA* DESIGNS SCALE MODEL PILOT KIT

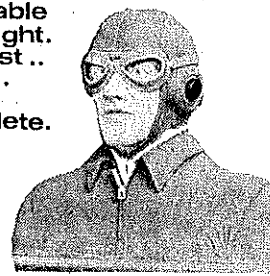


Used by IMAA Internat. Flying Sqdn

- *Astounding realism not attainable in plastics... Very light weight.
- *For the discriminating hobbyist..
- *Either Pilot version from kit....
- *Sportsman or Barnstormer....
- *Darn Good Airmen.... complete.

NEW LOW PRICES

- 1/6 Scale \$5.95
- 1/4 Scale \$7.95
- 1/3 Scale \$14.95



NYS Residents add 7% Sales tax

See Your Dealer or add One - Dollar for direct order handling.

DEALERS
 Inquiries
 Invited.

DGA* DESIGNS
 135 East Main St., Phelps, NY 14532
 Phone 1-315-548-3779

Send Check or M.O., Allow 3 weeks for check to clear...
 Sorry - No C.O.D.'s

place with the dowel in the hole. Reinforce the dowel-wing joint with a scrap of fiberglass cloth and epoxy.

With the wing held in position, carefully mark, then drill, the mounting screw holes through the wing and mounting blocks with an 8-32 tap drill. Remove the wing, and tap the blocks. A few drops of cyanoacrylate (CyA) glue will harden the threads in the block. Be sure to follow this step with the tap again to remove the raised (and hardened) fuzz. Enlarge the holes in the wing to accept a piece of outer Goldenrod (or other tubing) that will fit closely around the 8-32 nylon screws. Epoxy a piece into each hole to keep the wing from being crushed when the screws are tightened.

Determine how you are going to operate the elevons. I used a sliding servo tray. Mechanical mixers will work just as well. Make the appropriate cutout in the foam wing, and use epoxy to attach the servo-mounting pieces to the wing.

Lay out the aileron stock *upside down*. Remember, the neutral position is when the elevons follow the curve of the *bottom* of the airfoil. There will be no aileron stock between the fuselage sides. The stock between the fuselage and the tapered panel seam is fixed and is used as the aileron linkage bearing support. From the seam to the wing tip is the elevon.

Bend and install the strip aileron control rods as you would for any strip aileron installation. Position the horns to obtain the

straightest pushrods. To keep the wire from breaking out of the small aileron stock, I add a small piece of 1/32 ply, top and bottom, on each elevon where the hole is drilled. Use your favorite hinging technique.

Cover the wing with a low-temperature covering film directly over the foam. Cover the rudders, and attach them.

Final assembly and checkout. Go back to the fuselage, and glue F3 as far to the rear as is practical. This former's sole purpose is to keep the receiver and associated cables from fouling the servos.

Mount the servos and hook up the radio. Adjust the elevator throw for $\pm 1/4$ in. and

the ailerons $\pm 1/16$ in. Check to see that all combinations of elevator and aileron control are free of binding. Screw on the engine. Put the receiver and battery into the fuselage with as much lightweight foam as necessary to keep them in place.

Mount the wing, and check to see that the aileron horns do not touch the rear of the fuselage with full-up elevator and full aileron deflection. Check the center of gravity (CG), and move the radio as necessary to get the balance point in the correct place. Do not use ballast unless absolutely necessary, since only 1 oz. of additional weight is an increase of more than 5% in the total model weight.

**Flying Near Airports?
 Be Careful!**

Free Flight or Radio Control flying near airports, or in any situation which might involve the possibility of models being in the vicinity of full-scale aircraft operations, must be avoided—or conducted so as to eliminate any dangerous situations. Models should not be flown in the proximity of full-scale aircraft operations unless the flyer has someone else with him for the sole purpose of watching for full-scale aircraft and supervising the flying so as to prevent accident possibilities.

PROTECT YOUR RIGHT TO FLY!

The flight characteristics are similar to a normally-configured model. The one thing that is definitely not normal is Willit's appearance in the air. Be prepared for an audience—and for praise for your piloting skill from those who think that flying wings are touchy.

Cougar/Abel

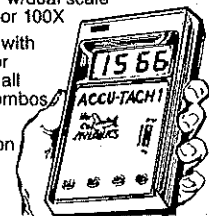
Continued from page 97

wing root attachment structure and the 1/8-in. music wire windshield side formers/wing supports. The music wire is attached to the firewall using landing gear straps and wood screws and attached to the 1/16 plywood wing root structure by tacking in place with a cyanoacrylate (CyA) adhesive such as Jet, Hot Stuff, Zap, etc.

**3-FUNCTION
 ACCU-TACH 1™**

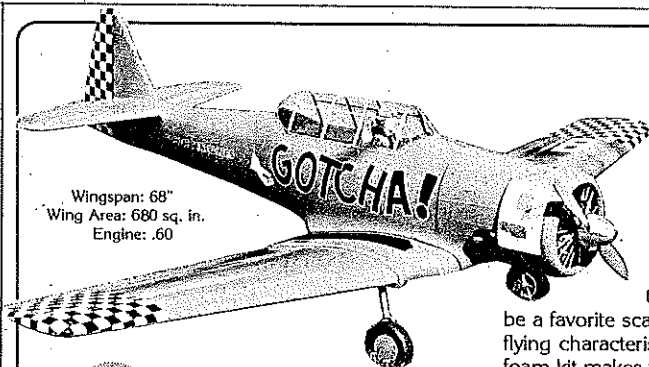
- 1 LCD Tachometer w/dual scale capability — 10X or 100X
- 2 Digital Voltmeter with or without load for checking/cycling all TX/RX battery combos
- 3 Monitor quick charging operation

79.95
 prepaid



Send check or money order. Calif. add 6% tax
 P.O. Box 70956
 Sunnyvale, CA 94086

Nor Cal AVIONICS INC.



Wingspan: 68"
 Wing Area: 680 sq. in.
 Engine: .60

**AT-6
 Texan**

Whether it's built as a military advanced trainer or Reno air racer, the AT-6 Texan will always be a favorite scale choice due to its easy flying characteristics. Our fiberglass and foam kit makes fast work of building this classic. A natural for flaps and retracts.

GREAT PLANES
 MODEL MANUFACTURING COMPANY

P.O. BOX 721 URBANA, ILLINOIS 61801 217/357-2089

Available at your local hobby shop.

1/4 SCALE CAP 21

THUNDERBIRDS T-38 TALON

1/4 SCALE MAXI-ACRO

1/4 SCALE CHIPMUNK

3/8 SCALE STARDUSTER

1/4 STEPHENS ACRO

Send \$1.00 for catalog
216-499-5323

KITS RC Kits Mfg.
706 Easton, N.E.
Canton, OH 44721

HIGH QUALITY FOAM WING CORES AND CUSTOM FOAM CUTTING

- We have a large selection of wing cores available and in stock.
- Custom foam cutting at reasonable prices.
- Foam blocks and nichrome wire for your special needs. (Wire: \$4.00—25 feet.)
- 20, 40, and 60 size floats for only \$12.95

SPECIAL of the MONTH: Pattern Ship Wing Cores—60 sz., \$14.50; 40 sz., \$9.00

For more Information and Prices Contact:

Ocean State Aeromodel Engineering
21 Jaces Drive
West Warwick, R.I. 02893
Or call (401) 828-8813



Please add \$3 ship. & Hand.

For Foam at it's Best, Deal with the Best!

Insert the 3/32-in. I.D. brass tubing that extends through the 1/16 plywood wing root attachment pieces and carries the 3/32-in. music wire wing rod. Also insert the 1/16-in. I.D. tubing for the rear 1/16-in. music wire wing rod. Add the 1/8 plywood bellcrank mount, laying it tightly on top of the music wire and fitted between the brass tubing carrying the wing rods. Epoxy in place. Reinforce with 2-oz. fiberglass cloth and resin at the junction of the 1/8-in. music wire windshield side former and 1/8 plywood bellcrank mount. This technique ties the wing, landing gear, bellcrank mount, and firewall into a strong, rigid structure.

Note: Complete the tail construction at this point, and then return to the fuselage construction.

With the installation of the tail assemblies, the upper and lower fuselage fair-

ings and side stringers can be added. The fuselage forward section, aft of the cowl, can now be sheeted with 1/16 balsa sheet. Add the remaining fuselage items—window fairing, instrument panel, and doors.

The engine mount and fuel tank tray consists of a box of 1/4, 1/16, and 1/64 plywood assembled and epoxied onto the firewall. A radial engine mount is bolted to the front of the box.

The cowling is a 1/4-in. balsa box (1/2-in. balsa front) with a 1/16 plywood carb scoop added to the bottom. Reinforce the corners inside with 1/2-in. triangle balsa stock, sanded to the proper angle. After sanding the cowl to shape, it is covered on the outside with one layer of 2-oz. fiberglass cloth and coated with epoxy resin inside and outside.

Tail assemblies. The vertical fin is as-

sembled over the plan. Remove from the plan, and add the 1/16 × 1/8 balsa rib strips (two required at each location—refer to drawing section I-1). The vertical fin can now be added to the aft fuselage using care to align it correctly.

After constructing the horizontal surface over the plan, it is removed and placed through the aft fuselage. The remaining four pieces of 1/4 sq. balsa are added to the fuselage through the tail assembly. The rudder and elevator are conventional flat structures.

The wing is built as separate right and left panels. It is then the builder's option to install the panels permanently or make them removable. If working flaps and a lighting system are installed, it may be to the builder's advantage to permanently attach the wing panels.



Left: The lighting system attracts considerable attention. Even in bright sunlight, the RAM navigation lights can be seen blinking away in flight. Landing light is throttle-actuated at 3/8ths position. A miniature switch on the instrument panel turns on/off the navigation lights. Right: Operational flaps on a lightweight CL model can present line tension problems at low speed, so the Cougar uses a large amount of aileron offset.

NI-STARTER

\$24.95 with charger

A revolutionary concept of power for 1.5V glow plugs on model engines used on boats, cars, and airplanes. The NI-STARTER(TM) uses the Headlock(TM) adapter which locks onto most glow plugs to start your engine. Fits in your pocket, comes with a C/10 charger that has a L.E.D. which lights up when charging. Rechargeable hundreds of times, and gives over 50 consecutive starts without recharging. Available with or without charger. Send this ad along with prepayment and receive free shipping and handling.

MFG OF NI-STARTER

NI-STARTER \$24.95 with charger (110V, 220V, or 12V fast charger)
NI-STARTER \$15.95 without charger
Chargers \$12.95 charger only (110V, 220V, or 12V fast charger)

PLEASE SPECIFY WHICH CHARGER WHEN ORDERING!

12721 HASKELL LANE, BOWIE, MARYLAND 20716 (301) 464-2260

Perma-Grit™

Lifetime* Carbide Sanding Tools

Tungsten Carbide grit—hardest material next to the diamond
Tungsten carbide grit brazed to steel, on each 9" long tool, for use on balsa, hardwoods, fiberglass, beaded foams, epoxy fillers and plexiglas.

*Average Modeler's Use

"These are excellent tools that every modeler can use."
—Don Dowe, Professional Engineer

- Outlasts sandpaper 100's of times
- Tools will not load up
- Grit can't tear loose
- Filing, Blending, Fairing a pleasure
- Fails LE & TE to foam w/o undercutting
- Rapid stock removal-better control
- Saves time, money, aggravation
- Replaces plane, rasp & sand blocks

Made in U.S.A.

F-100—Flat, Coarse/Fine	\$4.95
F-101—Flat, Fine	\$4.95
F-102—Flat, Coarse	\$4.95
R-200—1/2" Radius, Coarse/Fine	\$6.95
R-201—1/2" Radius, Coarse/Fine	\$6.95
R-202—1/2" Round, Coarse/Fine	\$6.25
R-203—1/2" Round, Coarse/Fine	\$4.95
R-204—1/2" Round, Coarse/Fine	\$4.95

Ohio residents add 6% tax

D.G. Products
209 Carlands Drive
Dayton, OH 45429
(513) 294-1192

FULL ☆ SIZE ☆ PLANS

No. 444	Firebolt	\$6.50
	RC Pusher canard has swept-forward wings. For 4-channels and .40 power.	
No. 445	Nesmith Cougar	\$9.25
	CL Scale model of popular homebuilt for .21 engine spans 41 in. Nats winner.	
No. 131	Gee Bee dodel Y: 40-powered RC stand-off scale of one of the great old-time racers	\$5.00
No. 193	Stilleto: CL Stunt model (McDonald) winner 1976, 1980, 1982 FAI World Champs	\$3.75
No. 225	Ole Reliabd: RC 70" version of '38 old-timer, REM controls, .19-.25	\$4.25
No. 239	Blue Birds: RC Ken Willard's formation plane, 4-ch., .10	\$3.75
No. 262	Crashmaster: CL Crash-proof trainer, 2 sizes—.15-.30 and .35-.40	\$1.25
No. 291	Cap 20: 40-powered scale RC of French aerobatic plane. Low wing tail-dragger, 2 sheets	\$7.50
No. 302	Mini F-16: RC Saipolus' .049 ducted fan sport flier for 2-ch. Balsa wings, tail, fuse structure	\$2.75
No. 310	1930 Fleet Biplane: RC Sport Scale for .35-.40 4-ch. Wingspan 56 in. 1/6 scale. Two sheets	\$6.25
No. 314	Drake II: RC Ken Willard's flying boat for 3-ch., 15-power. Fly from land with removable gear	\$3.75
No. 326	Taylor Cub: RC Don Sull's Schoologyard-Scale for .049s. 2-3 Ch. Spans 50 in.	\$3.60
No. 332	Zephyr: RC Small, 2-ch. glider for hand-launch or low, thermal or slope soaring	\$2.00
No. 343	Wasp Vt: FF Mike Sloy's Nats-winning Outdoor HLG	\$1.00
No. 348	Onestep: RC Trainer has very forgiving flying qualities 3-ch., .10-.25 power	\$4.25
No. 354	Meryl: RC Giant. 155-in. span Sallplane uses 3 RC channels	\$7.50
No. 358	Pieces: FF Indoor Easy B Hubba-power contest-winner by W. Van Gorder	\$1.00
No. 362	Supercat: RC Half-A Pylon Racer/sport flier. Aileron, elevator control. Foam wing	\$2.00
No. 365	Seamaster: RC Willard's .40-size flying boat for 4-ch. Strap-on gear for a landplane! 2 shs.	\$11.00
No. 383	Callisto '82: RC Fly this sleek, Nats-winning Sallplane in AMA Mod. Std. or Unlimited classes	\$7.50
No. 386	Laser 200: RC Sport Scale replica of championship Aerobatic flier. Uses .40 power, 4-5 ch. 2 shs.	\$10.75
No. 393	1/2A Kloud King: RC Reduced, modernized version of 1938 design for 1/2A Old-Timer; 2 or 3 ch.	\$4.50
No. 398	Gee Bee R-1: RC Huffke's latest 1/4-scale spans 75 in., weighs 15 lb., flies on .90 or larger. Four shs. (no. doc.)	\$22.25
No. 399	Zephyr 1100: RC AMA Class B Sallplane for 3-channel RC gear	\$6.75
No. 403	Cub Floatplane: RC Sport Scale for .049-.10-size engines, 4-ch. RC. The J-3 on floats is a classic	\$6.50
No. 405	Regent: Queen of the Skies: RC Fun-type biplane for .40-.60 power, 4-channels (2 sheets)	\$13.50
No. 408	Re-Volt-Er: RC electric-power sport flier for 2-channel, .05 motor	\$6.50
No. 410	Pober Pixie: RC Scale of famous EAA plane for .40-power and 4-ch. Build for sport or Precision. 2 sh. + doc.	\$13.00
No. 412	Mosquito: RC Sport Scale twin uses .10 engines, 4-ch. RC	\$8.25
No. 414	Electric Sparky: RC electric-powered fun flier for .05 motor, 3-ch. RC is scaled-up 1939 rubber power favorite	\$8.50
No. 415	Hawker Hurricane Mk I: RC Electric-power Sport Scale for 15 motor, 3-4 channels. Two sheets	\$11.75
No. 416	Stuntfire 60: CL Big, 62-in.-span Stunter for .60-power	\$7.00
No. 417	Sportwagon, JR.: RC Pulse-rudder sportster for .02-power	\$3.00
No. 418	Luton Minor: RC Sport Scale model of 1930s British lightplane for .19-power and 4-channel RC	\$7.25
No. 419	Dove 650: CL Competition Stunter for .40-.46 power has foam wing and slab	\$7.00
No. 420	Buck 600: FF Competition Class A or B for .19-.21 power. Has variable-incidence tail (VIT)	\$6.00
No. 421	Anne's Plane: CL 1/2A trainer/sportster is rugged, all balsa, and fast-building	\$3.25
No. 422	Scooter: RC Two-Meter Sallplane has won Nats event in 1982, 1983, plus many other contests	\$5.50
No. 423	Cloud Cruiser: RC Old-Timer takes .60-power, 3-ch. RC. Two-piece wing option for easy transport. Two sheets	\$12.75
No. 424	Good Tern: FF Embryo Endurance rubber-power floatplane has optional wheels. A slick-and-tissue delight	\$2.00
No. 425	Skyyrocket: CL Fun-Scale sport flier looks like Grumman's no-nose Navy twin of the Thirties. For twin 1/2As	\$3.25
No. 426	China Clipper: RC Fabulous, 74-in.-span Sport Scale flying boat for four .10-size engines and 4-ch. Three sheets (no doc.)	\$20.00
No. 427	Profiles: FF Travelair Mystery Ship and Miss Los Angeles profile, all-balsa rubber models for sport flying (17 in. span)	\$2.00
No. 428	Bearcat: CL Big, competition-caliber profile Stunter for .60 power	\$5.00
No. 429	Over E-2: CL Old-Timer Stunt biplane has profile fuselage, uses .25 engine	\$4.00
No. 430	Ironsides: RC Zippy little sportster for .10-.15 power and 3-channel RC	\$4.00
No. 431	Lockheed P-38 RC Fun-scale, twin-.15-engine flier for 4-channels. Two sheets	\$13.00
No. 432	Phoenix: CL Updated Thunderbird-style Stunter for .35-.40 engines	\$5.75
No. 431	Lockheed P-38 RC Fun-scale, twin-.15-engine flier for 4-channels. Two sheets	\$13.00
No. 432	Phoenix: CL Updated Thunderbird-style Stunter for .35-.40 engines	\$5.75
No. 433	Watts Up: RC Electric-powered glider for 2-3 channels, .035 motor spans 52 in.	\$4.50
No. 434	Sly Sir: CL 1/2A, foam-wing, Combat ship won at the '83 Nats. Use TD .049-.051 power	\$3.50
No. 435	This 'N That: RC Aerobatic biplane for .40 engines, 4-channels. Great for sport flying	\$6.50
No. 436	Ryan B-5 Brougham: RC Scale for 4-ch., .40-size 4-cycle engines spans 63 1/2 in. Two sheets	\$12.00
No. 437	Kingfisher: CL Profile Camier plane spans 40 1/2 in., uses .35 engine	\$6.00
No. 438	Cruiser: FF Embryo Endurance rubber-power fun ship has big-model characteristics	\$2.00
No. 439	Desperado: RC flying wing with unique negative dihedral files with 4-ch. and .19-.40 power. Foam wing	\$4.50
No. 440	Cavaller: RC Old-Timer-like new design has a huge wing for slow, easy lights. For .35 power, 3 channels. Two sheets	\$17.25
No. 441	Nit Wit: FF Hot, small, lightweight competition ship for .15 power by designer Harry Murphy	\$4.75
No. 442	Lazy Duck: RC Big canard sport flier for 1/2A-.09 power, 2 channels. Uses many foam board parts	\$6.50
No. 443	Turbo Porter: CL Scale for .25 power. Simple lines for easy building. Two sheets	\$5.75

Circle number(s) of plan(s) you wish to order:

131	193	225	239	262	291	299	302	310	314
326	332	343	348	354	358	362	365	383	386
393	398	399	403	405	408	410	412	414	415
416	417	418	419	420	421	422	423	424	425
426	427	428	429	430	431	432	433	434	435
436	437	438	439	440	441	442	443	444	445

Price includes first-class postage within the U.S. For orders outside the U.S., please add \$2.50 for Air Mail or \$1.25 for surface mail. Make check or money order payable in U.S. funds to Model Aviation, c/o AMA, 1810 Samuel Morse Dr., Reston, VA 22090. Please allow 3 weeks for delivery.

Please print carefully: Enclosed \$ _____

NAME _____

STREET _____

CITY _____

STATE _____ ZIP _____

CyA glue to the ribs, upper spar, and top surface of the leading edge. Place the sheeting carefully against the leading edge, and roll it over the ribs, pressing down against the upper spar. Turn over the wing panel, and sheet the other side in the same manner. Add the root rib, tip rib, and balsa blocks. Glue on the 1/16 x 1/8 balsa cap strips to complete the wing panels.

Slip in the brass tubing, and assemble the wing panels onto the 3/32 and 1/16 music wires. Check for proper dihedral angle, referring to the plan, and epoxy the brass tubing in place. You must now decide whether to build up the flaps and ailerons or to sand them from sheet stock. The plan shows both techniques.

Covering/finishing. The model is very realistic, including details such as rib stitching and taping. To assure the proper scale location of these details, it would be a good idea to visit your local airport to see just where all the little pieces of tape are added for reinforcement. The basic covering used under all this detail is Super Coverite.

The rib stitching is simulated by gluing a series of strings arranged parallel on a sheet of paper. This is cut in strips and glued over the ribs. A 3/16-in. width of Coverite is put over the simulated stitches, and this adds further to the realism.

The model is sprayed with one coat of Hobbyox primer, most of which is sanded off. The remaining finish is automotive acrylic lacquer with flex-agent added to retard cracking.

Flying. My first test flight took place on a calm day at Buder Park in south St. Louis County. The paved flying circles at this facility are first class. The Cougar was carried out to the circle and rechecked several times to verify that the controls were not reversed and were free to operate. A quick recheck was made to see that engine, cowling, landing gear, and hinges were tight. The fuel tank was topped off, I walked to the center of the circle, picked up the flying handle, and slipped the safety thong around my wrist. I was ready.

The engine was started, and the needle valve was tweaked. I checked the throttle, flaps, and elevator for free action and response. The engine was at idle, everything was ready, and the time had come for the first takeoff.

I slowly advanced the throttle, and the Cougar accelerated around the circle. In approximately a half lap the tail was up. I nudged the elevator, and the Cougar lifted gracefully into a shallow climb. I leveled off at about 10 ft. and flew for several level laps, breathing easier and starting to relax. After several laps, I retarded the throttle, and the Cougar settled in for a nice wheeled landing. The next flight proved to me that the Cougar is a stable and responsive model. Although not being overpowered by any means, it is capable of attaining and holding 45° flight.

May you have many happy experiences with your Cougar.

Full-size Plan List Available. A complete listing of all plans previously published in this magazine, through No. 432, may be obtained free of charge by writing (enclose stamped, pre-addressed envelope) Model Aviation, 1810 Samuel Morse Dr., Reston, VA 22090.