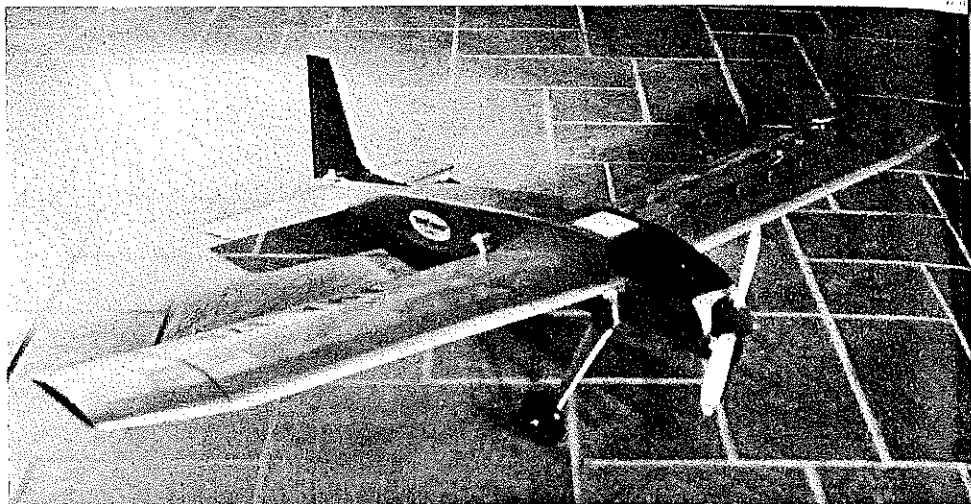


Glow engine fliers who have been thinking of giving Electrics a try may find this one to be just the model they are looking for. Its for Astro Cobalt 05 direct drive and three-channel controls. ■ Joe Beshar



Model has nice proportions which result in clean airflow and good performance. Though construction is basically square and easy to build, the completed appearance is rather appealing. *614*

# Electrocutor

MANY RC ENTHUSIASTS are expressing an interest in getting involved in the quiet revolution of controlled model aviation—the move to Electric flight. In part because of my work with the FAI and CIAM Subcommittees—I chaired the U.S.A. Team Selection Committee and was a Jury member at the U.S. Team Selection Finals for the first F3E World Championships—a number of modelers have approached me with the question of how to get started in Electrics.

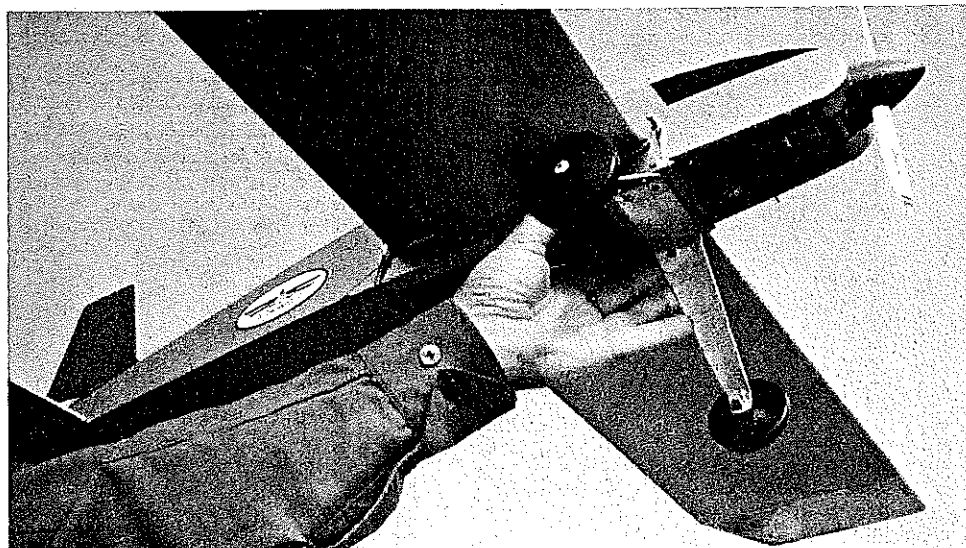
Often a newcomer who is looking for specific references and information receives only generalities rather than definitive answers. That's not difficult to understand. The profusion of hardware available for Electrics can be confusing in itself, while the increasing availability of improved products associated with Electric flight in the past few years has added to the bewilderment. The progress in motors and batteries has been nothing short of dramatic. Electric RC flight is meeting the challenge of noise abatement head-on, leaving the flier of glow plug engines still grappling with sound levels that often are unacceptably high.

Because it's a proven entity, the Electrocutor is a reliable choice for entering the world of Electrics. It's an RC model for all you glow plug drivers who are eager to give the quieter airplanes a try, an Electric that combines great character with (if you'll pardon the expression) sound performance.

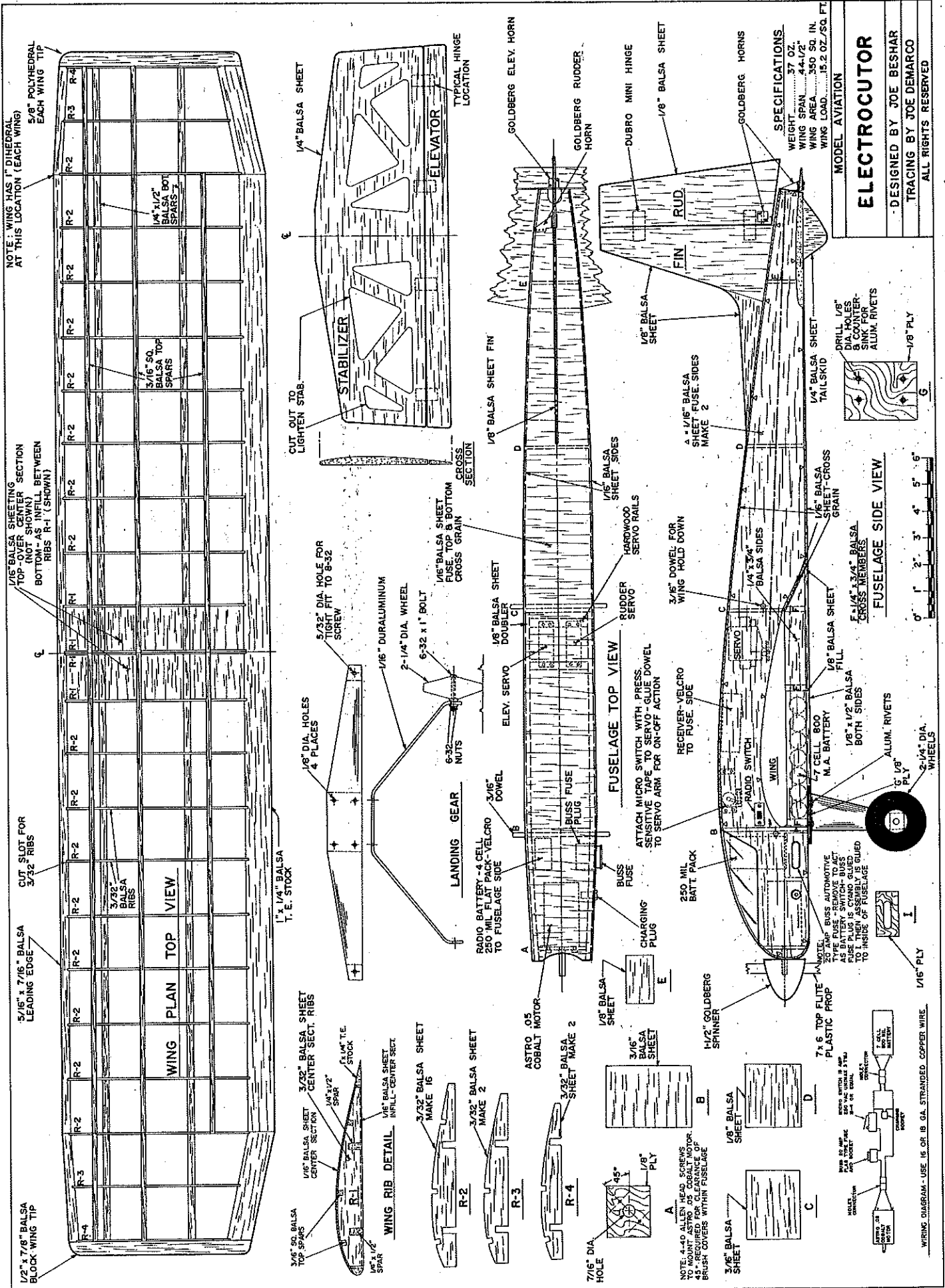
The Electrocutor is powered by the Astro Flight .05 cobalt direct-drive motor, turns a 7 x 6 Top Flite plastic prop, and uses a 7-cell 800-mil battery. For safety, a pullout 20-amp flag-type car fuse is used in the motor circuit in lieu of a conventional on/off switch. The fuse plugs into the outside of the airplane so that the modeler can easily observe whether the motor circuit is completed and the model ready to fly. It's a dual-purpose fuse; when removed, it serves as



Author/designer Joe Beshar holds the Electrocutor ready for a flight. A bit of fuselage and the landing gear beneath the wing provide for ease of hand launching the almost-low-wing model.



This is how you hold the model for hand launching. Ventilated motor battery box and landing gear module (the heavy part) is held on with rubberbands for isolation and shock absorption.



**ELECTROCUTOR**  
 DESIGNED BY JOE BESHAR  
 TRACING BY JOE DEWARCO  
 ALL RIGHTS RESERVED

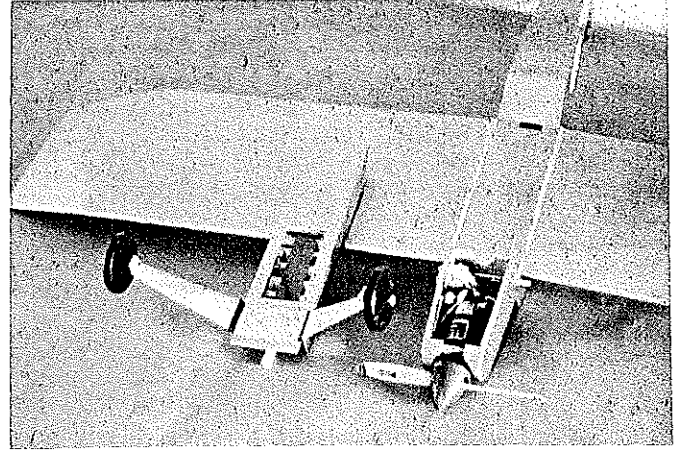
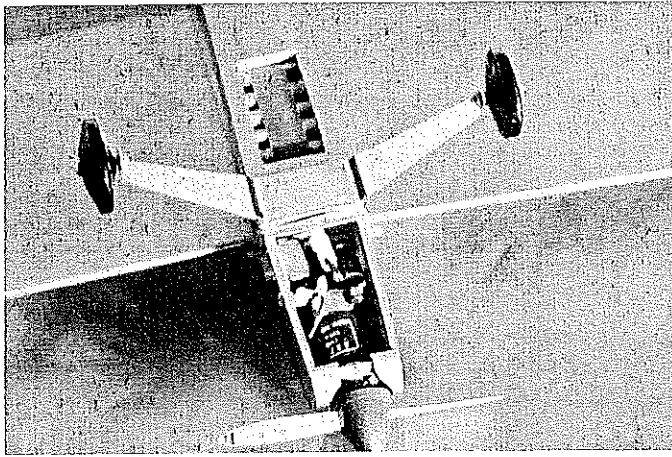
**SPECIFICATIONS**  
 WEIGHT ..... 37 OZ.  
 WING SPAN ..... 44-1/2"  
 WING AREA ..... 350 SQ. IN.  
 WING LOAD ..... 15.2 OZ./SQ. FT.

**MODEL AVIATION**

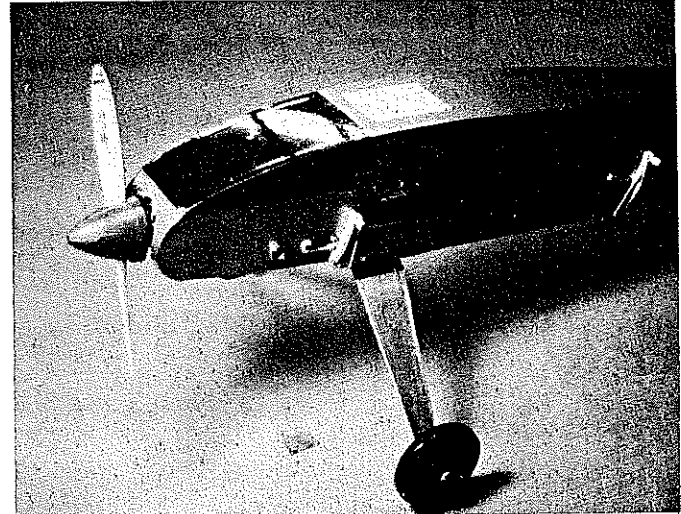
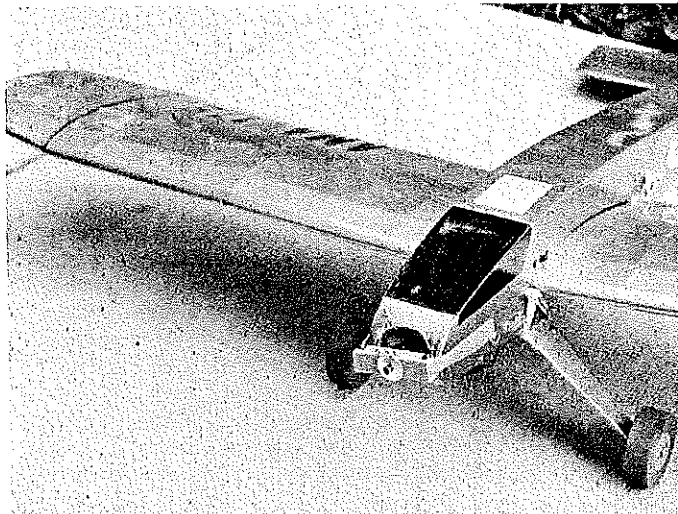
**FUSELAGE SIDE VIEW**

**WINGING DIAGRAM** - USE 16 OR 18 GA. STRANDED COPPER WIRE

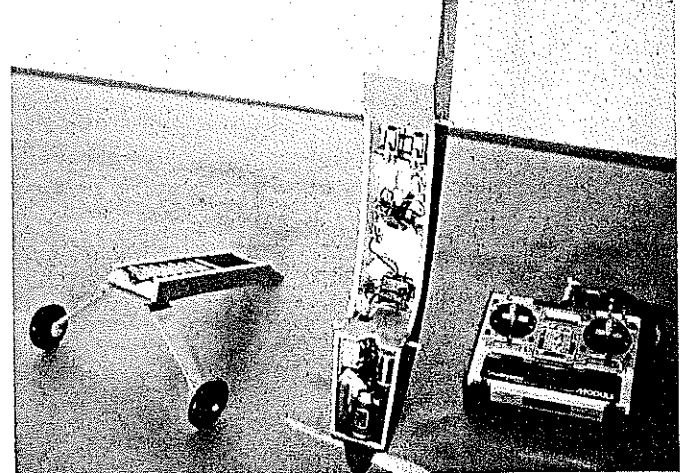
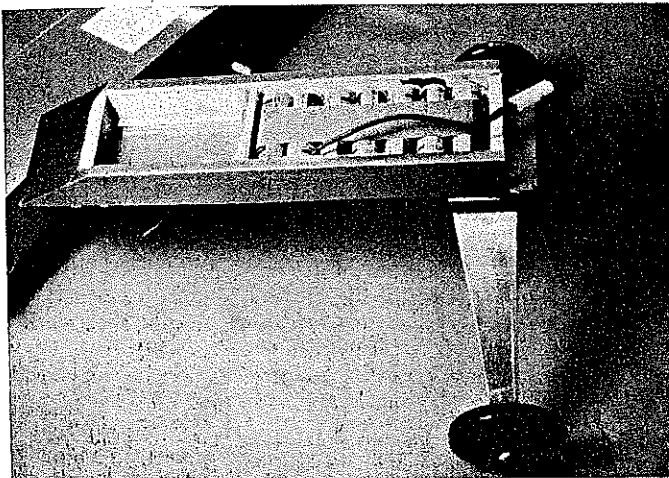
**NOTE:** 4-40 ALLEN HEAD SCREWS CONTACT MOTOR 45° REQUIRED FOR CLEARANCE OF BRUSH COVERS WITHIN FUSELAGE



Views of the underside with the module both assembled and removed. Landing gear is bent from dural; it is drilled and riveted to the module's front plywood plate. Rear angle of the module and mating fuselage cutout, together with rubberband mounting, allow sliding in a hard landing.



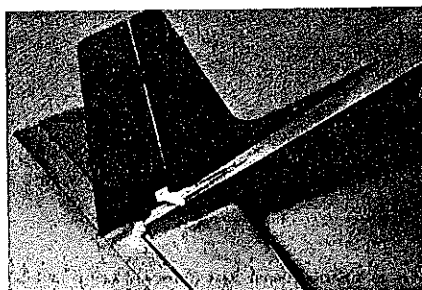
Left: The Electrocuter fitted with a Sonic-Tronics 7 $\frac{3}{8}$  x 4 $\frac{1}{2}$  folding prop. Beshar says it improves performance compared to a 7 x 6 plastic prop he was using, and it runs more quietly. Right: In this view you can see how the module mounting works without the wing being in the way. Note the flag-type fuse mount (fuse removed) just ahead of the front rubberband. Fuse also serves as a handy on-off power safety switch.



Left: Motor battery module is constructed to hold seven 800 mAh Ni-Cds. Right: Radio gear is mounted in the upper part of the fuselage. Rudder and elevator servos are mounted on cross beams. Motor control servo with microswitch and the receiver battery are mounted with Velcro.

the *off* position. Its ease of replacement is another advantage.

Due to their weight and resultant high wing loadings, Electric models are prone to hard landings. Although simple in construction, the Electrocuter is designed to cope with that drawback. Its modular design makes it particularly resistive to the shock



of hard landings as well as to the abuse of normal operation. The considerable mass of the landing gear and battery pack are housed in a compartment which is held fast by rubberbands.

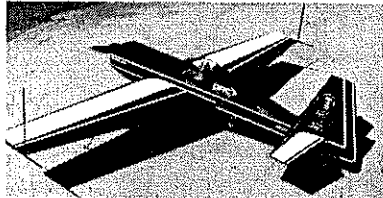
*Continued on page 184*

Elevator horn is located on the top surface. Pushrod comes out through the fuselage rear.

Newest Airplane in the Full Size Aerobatic World... Now Available in Three Size Model Kits...

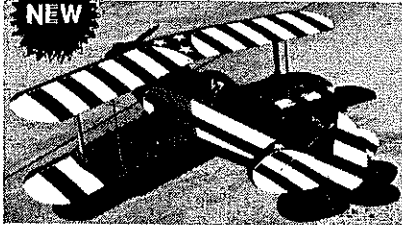
## EXTRA "230" Stand-off Scale

\*33% - 96" Span Wing Area 1300 sq. in. \$219.95 Plus \$15 shipping  
 \*30% - 87" Span Wing Area 1170 sq. in. \$209.95 Plus \$15 shipping  
 \*25% - 75 1/2" Span Wing Area 858 sq. in. Wheelpanis 25% kits only \$169.95 Plus \$10 shipping



KITS Contain: Plans (rolled), Cow, Canopy, Landing gear, Foam wing cores-cut for spars, Foam fuselage parts, Balsa sheeting for wings/fuselage, Plywood spars, doublers, formers/sides, Wood for tail assembly and other parts.

Miles Reed Designed  
**"Weeks Special"**  
 Fully Aerobatic Biplane



1/3 Scale, 72" Span - Wing Area 1650 sq. in., 64" Length, Weight 15 lbs., Engines - ST3000, Q35 - Q40 - G38 etc. Kit \$279.95 Plus \$15 shipping

\*All balsa and plywood construction, Hand cut parts, includes epoxy glass cow and wheelbars, T-6 Aluminum gear, 4 sheets of plans (rolled)

Now! Complete Sets - **Clint McHenry** Scale Decals **Free \$19.95**

Introducing Jim Hiller's **Clipped-wing TAYLORCRAFT** 1/4 Scale at Toledo, Ohio VISIT OUR BOOTH during 35th R/C EXPO in early April '89

**JIM and RUTH VAN LOO**  
**R/C EXTRA'S**  
 R.R. 1 - Box 20-B Sargeant Bluff, Iowa 51054  
 Phone 1-712-943-4102

Cash - Money Order - Certified Check, VISA or MasterCard accepted No C.O.D. Orders  
 \*Personal Checks two weeks

down session. This should be self-explanatory. The remainder of the U.S. team had Newton and Nightingale using engines fabricated from Moki S12 engine crankcases with all other parts machined by Jim Nightingale.

The Chinese were using their copies of the Rossi MK 3 engine in all of their Speed models. The highest speed attained by this team was 281.25km/hr. by Ding Yibo.

The interest shown for FAI Speed in the U.S. is terrible. There are only five or six competitive FAI Speed fliers in the entire country. Why do we bother to compete in this event when the interest is not there? The question asked by many modelers concerning our continued participation in FAI CL Speed World Championship competition is, "Why waste AMA's dollars to sponsor a team when this money could be used toward reducing our AMA dues?"

What do YOU think?

## Electrocutor/Beshar

Continued from page 82

berbands and thus completely isolated from the fuselage and primary structure. The elasticity of the rubberbands also helps the landing gear-battery pack module to absorb the impact of a hard landing.

The Electrocutor's midwing configuration is fairly unique, most Electrics being of high-wing configuration. The polyhedral wing provides exceptional stability that will be readily recognized when you fly the model. The aircraft is very responsive to the controls, giving it outstanding flight characteristics and making it an ideal first-time Electric RC model.

As with any Electric model, it's vital that the motor battery be charged properly to full capacity. For general, everyday flying, I find an automatic reversing charger the best way to go. With the Electrocutor, this type of charger yields more than adequate power for flight maneuverability as well as for takeoff. Three servos are employed for the controls: motor on/off, rudder, and elevator. A 250-mil radio receiver power supply battery is used.

Much has been done to reduce the flight weight of Electric models, but further reductions are necessary. With the aggressive technology being pursued by industry, I am confident that this will be achieved before very long. I think we're on the doorstep of a future in which the full excitement of Electric flight can be realized.

**Fuselage.** The primary construction material for the fuselage is 1/16 sheet balsa. On the plan, triangular symbols are used to indicate the side templates. Cut formers B, C, D, and E from 3/16 and 1/8-in. balsa as shown. Former A is cut and drilled for mounting the Astro Flight 05 motor. Position the side templates and formers over the top view of the plan, and glue the formers with cyanoacrylate (CyA) or epoxy, as desired.

Sheet the top of the model with 1/16 balsa cross grained as shown. The bottom is left unsheeted for now, so that control pushrods

TWO

## NEW FLIGHT BOXES

Completely assembled and finished

Made in U.S.A.

Both are top quality wood construction  
 Two large drawers Unique drawer locks

Small box - \$85.00 plus shipping

Large box - \$125.00 plus shipping  
 Includes fuel compartment, battery/power panel compartment, adjustable fuselage cradles

Money back guarantee

Send \$1 for specs

or call (415) 363-7732 leave message

Flights of Fancy  
 Aeromodelling

PO Box 1 La Honda Ca. 94020



## Collectors Notice

Just released by the AMA Museum: **BACK ISSUES** of *Model Aviation* magazines—NEW, in original cartons. For sale in **YEAR SETS ONLY!**

Check your selections below and send with a **SEPARATE \$22.00 CHECK** for each individual set.

Orders will be filled on a first-come basis. If a set you request is sold out, your check will be returned without being cashed.

## Limited Quantities All Sets Are Complete

- 1975 (July is first issue)
- 1976
- 1977
- 1978
- 1979
- 1980
- 1981
- 1982
- ~~1983~~
- ~~1984~~
- 1985
- 1986

Sold Out!!

Enclose a separate \$22.00 check for each set ordered.  
**NO CASH NO CHARGES**

Print carefully. This is your shipping label.

Name \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

Make checks payable to AMA

Send orders to:

Academy of Model Aeronautics

1810 Samuel Morse Dr.

Reston, VA 22090

The U.S. team had Carl Dodge using his home-made .15. This was the only rear-rotor engine at the world champs and was machined from bar stock. Beautiful workmanship! Carl is a very meticulous individual, and his work exhibits this. His engine uses a unique sleeve-within-a-sleeve cylinder concept. This makes it easier to machine the bypass passages for the engine.

In another photo you should check all the numbers written on the scratchpad that Carl wrote down for Pitskalev when they had an engine tear-

## Peck Silver-Streak



### 035 ELECTRIC MOTOR SUPER LIGHT WEIGHT

ONLY 2.6 OZ., USES LESS CURRENT  
 TURNS 6-3 PROP 12000 RPM, 6.5 AMPS  
 IDEAL FOR SMALL R/C & FREE FLIGHT  
 MOTOR ONLY \$19.95

CATALOG #30 - \$2.00

PHONE (619) 448-1818



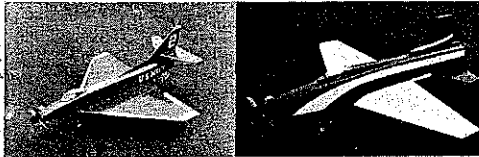
**Peck-Polymers**

BOX 2498 MA LA MESA, CA 92044

## MINI-JET SERIES

### Want to go vertical?

The Mini-Jet Series, A-4 Skyhawk and F-20 Tiger shark will allow you jet-like performance without the hassle of the ducted fan or the expense. Both kits are balsa construction with spruce spar wings. They can accommodate standard or mini servo & channel radio systems. They will accept .20 to .28 size engines. For exceptional performance use the .21 or .25 rear exhaust engines. The A-4 is somewhat more docile on the lower speeds. These kits are for the intermediate flyer. We offer plans and canopies for those who wish to scratch build. (\$15.00 Plans & Canopy) (\$10.00 Plans only).  
Other products available: Fuel Injection! Kress Fans; Haca Wizard Pipes, Innovative Model Products WWII Kits & Plans.



A-4 Skyhawk

34" wing span  
400 sq. in. area  
38" length  
\$45.00 + \$3.00 S/H

F-20 Tigerhawk

36" wing span  
330 sq. in. area  
38" length  
\$48.00 + \$3.00 S/H

Send check, Money Order — C.O.D. add \$3 — FL Res. add 6% sales tax (305) 581-4477

PARRISH AIRCRAFT & Scale Models 1125 SW 49th Ter., Plantation, FL 33317

## PLAIN CRADLE-2

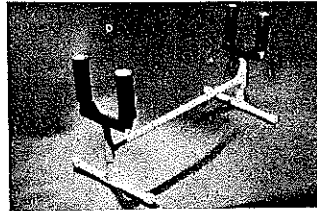
Purchase at your local hobby shop or order direct.

- Completely Fuelproof
- 3" - 6" Wide Fuselage
- Unbreakable • Stores Flat
- Perfect for Field or Shop
- Same Day Shipping

If not satisfied, return unused for full refund.

Marty Berr  
84 Stonefield Trail, South Windsor, CT 06074

Also — see our ad for full satisfaction or full refund on .58 oz. glass cloth... at only \$3.95 per yard.



Send \$17.95 plus \$2.00 shipping and handling  
1/4 and 1/3 Scale Sizes — \$22.95 plus \$2.00 S & H

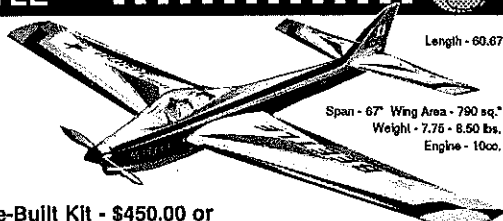
Winter Special  
on 1/4 and 1/3  
Scale Sizes  
\$19.95  
reg. \$22.95

## Introducing the "BEETLE"

\*Latest Japanese Pattern Design  
\*Designed & Flown by TOP Japanese Pilot  
\*Suitable for FAI or AMA Classes

### FEATURES:

1. Carbon Fiber Reinforced Epoxy Glass Fuselage
2. Factory Sheeted, Carbon Fiber Reinforced, Ultra Light "Honeycomb" Plug in Wing
3. Factory Sheeted adjustable & removable stab
4. TH or conventional landing retract
5. Pre-cut Fins



Length - 60.67"

Span - 67" Wing Area - 790 sq."  
Weight - 7.75 - 8.50 lbs.  
Engine - 10cc.

Now Offered in Super Deluxe Pre-Built Kit - \$450.00 or  
Completely Finished Model (Call for info & pricing)

Please add \$15.00 for Shipping & Handling  
California residents please add 8.5% sales tax (Santa Clara & Alameda County 7%)

VISA & MASTERCARD WELCOME

Phone:(408)298-0311 FAX#:(408)298-6538

PATTERN TEK 340-E Turtle Creek Court, San Jose CA 95125 USA

can be easily installed later. Install the  $\frac{1}{16}$ -in. dowels for the rubberbands that will attach the wing and module.

## "CA" MASK

CA glue works wonders when building models, right? Unfortunately, it gives off enough fumes to knock a vulture off a carcass. Many modelers have suffered medical problems after inhaling CA fumes. Why take chances? Our special vapor respirator filters CA fumes! The soft face mask with adjustable straps comfortably fits all face sizes. The easy breathing valve allows prolonged use while providing dependable filtering of concentrations up to 1000 PPM! Even though this is a rugged industrial mask, it is light weight to eliminate fatigue. Don't get gassed by CA. Get protected. Order your CA Mask today. Just \$12.47 + \$3.50 shipping (cheaper than a hospital visit). Money order, Master Charge, Visa (include expiration date) or check (allow 20 days to clear). Sorry, no COD's.

Pelican Enterprises,

2540 RIDGE ROAD  
LANSING, ILLINOIS 60438

Phone: 312-895-8151

Cut the fuse socket mounting plate 'T' and the radio switch from  $\frac{1}{16}$  plywood, and install at the location shown. Cut two servo mounts from  $\frac{5}{16}$  x  $\frac{3}{16}$ -in. hardwood, and glue in place. Attach the microswitch to the side of the motor servo with pressure-sensitive tape. Glue the  $\frac{1}{8}$ -in.-dia. dowel extension via the microswitch, as shown. Mount the switch and servo assembly with pressure-sensitive tape.

The radio receiver and 250-mil radio battery pack are mounted in the fuselage with Velcro. Mount the rudder and elevator servos with wood screws appropriate to the type of servo being used.

Build the battery and landing gear module. The side and cross members are made of  $\frac{1}{4}$  x  $\frac{3}{4}$ -in. balsa. Plank the bottom of the module with  $\frac{1}{8}$ -in. balsa strips and balsa sheet, and use  $\frac{1}{8}$ -in. plywood for the landing gear base. Drill as shown for the landing gear rivets. The landing gear is constructed of  $\frac{1}{16}$  dural aluminum, bent and drilled as indicated. Assemble the landing gear to the bottom plate by peening  $\frac{1}{8}$ -in. rivets through the landing gear member and the  $\frac{1}{8}$ -in. plywood bottom.

Cut out the rudder and elevator from  $\frac{1}{8}$ -in. and  $\frac{1}{4}$ -in. balsa, respectively. Trim and sand the parts, and position the hinges

and horns at the locations shown. The hinges are glued with CyA after covering the model.

Cut a slot at the top of the fuselage, glue the rudder assembly in place, then glue the elevator to the bottom cutout of the original template. Align the elevator and rudder for Sullivan-type pushrods, punching  $\frac{1}{16}$ -in. holes through formers C, D, and E, as applicable, for attachment of the pushrods to the horns and servo arms. CyA, sprinkled with baking powder, is used to glue the pushrods (which have been roughened) to the formers. If desired, the  $2\frac{1}{4}$ -in. wheels may be turned from balsa, with drilled dowel bushings at the axle location. Otherwise, the wheels may be purchased.

Sheet the bottom of the fuselage with  $\frac{1}{16}$  balsa. Install the charging plug, and wire the electric motor circuit.

**Wing, rudder, and elevator.** The wing leading edges are made from  $\frac{5}{16}$  x  $\frac{1}{16}$ -in. balsa, the trailing edges from  $\frac{1}{4}$  x 1-in. balsa. Each is slotted for  $\frac{3}{32}$ -in. ribs as shown.

Cut the ribs from  $\frac{3}{32}$ -in. balsa (the center ribs 1, 1A, 2, 2A, the main ribs, and two each of tip ribs 11 and 12). Pin the slotted leading and trailing edges to the plan with  $2\frac{1}{4}$  x  $2\frac{1}{2}$ -in. spars. Assemble and glue all the ribs, with the exception of 1, 1A, and 10.

Taper and fit the leading edge, trailing edge, and spars at location 10, and develop the  $\frac{5}{8}$  in. of tip polyhedral. Position the No. 10 rib at both sides of the wing, and glue. Taper and fit the leading edge, trailing edge, and spars as necessary at the center section to accommodate 1 in. of dihedral. Glue ribs 1 and 1A in place.

Install the three  $\frac{1}{16}$ -in.-sq. top spars, fitting them as necessary. Use  $\frac{1}{16}$  balsa sheet for the center section of the wing between ribs 2 and 3A as shown on the plan. Glue the  $\frac{1}{2}$  x  $\frac{7}{8}$  x 7-in. balsa tip blocks in position. Plane, trim, and sand the trailing and leading edges, tip blocks, spars, and sheeting as necessary to create the airfoil illustration.

I covered the prototype with MonoKote, which has served very satisfactorily.

Once completed, your Electrocutor should provide a terrific excuse to join the quiet revolution of Electric flight. I trust you'll find the model as enjoyable as I have.

## Mile Square/Oldenkamp

Continued from page 100

blanch at this latter method, but it's arguably justified by the increasing difficulty of accumulating Scale judging points with today's escalating levels of craftsmanship and realism. On the other hand, plenty of traditional tissue and tissue-trimmed models were present, proving that while museum-style building is an admirable goal it's not necessarily the only way to have fun in Scale!

Almost all modern Flying Scale meets have at least one adjunct or sport-type event