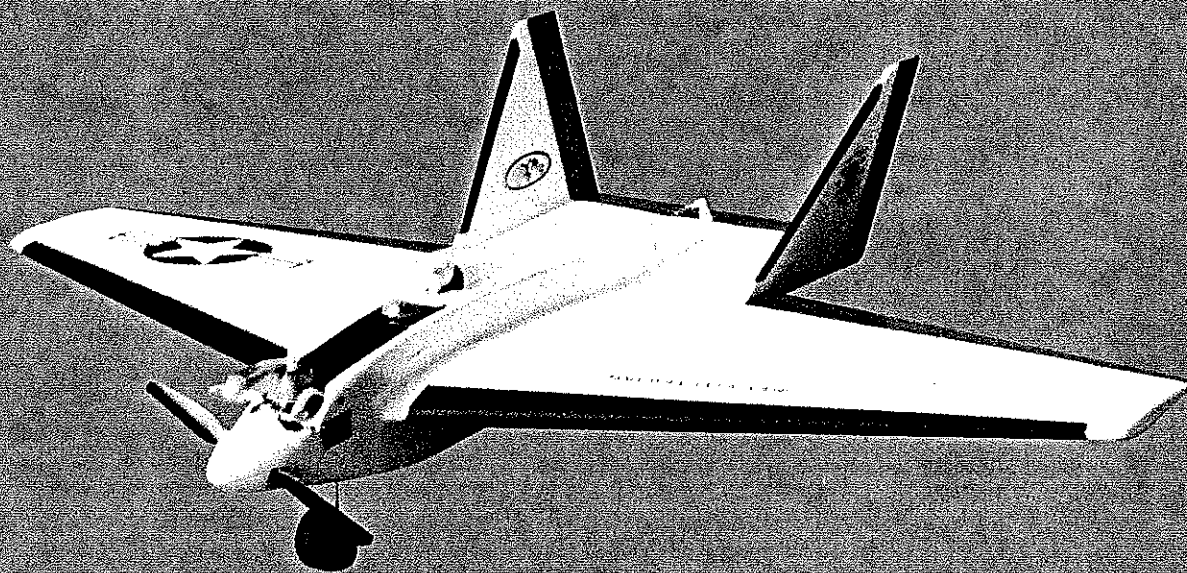


The Wet Electrician

The White Electrician *tries it wet*



■ Joe Beshar

The White Electrician was published in the August 1993 *Model Aviation*—an 05 Electric-powered delta wing, twin-tail, high-performance model. It was gratifying to receive many interesting letters from those who built the model, including a number who mentioned the possibility of incorporating a glow engine, larger engines, larger wingspans, etc.

Some modelers did change The White Electrician to glow power, and some of the

builders enlarged the published size to larger configurations with success.

I became interested as to the possibility of using a glow engine, and what follows is The Wet Electrician—glow powered with an O.S. Max 10.

I chose to maintain The White Electrician's size with some modifications, basically to the fuselage—rounding out the nose and tapering the tail section a bit more, as well as modifying the fuselage top to accept a pilot canopy.

The White Electrician was released without a landing wheel but with a bottom skid. The Wet Electrician has a single-wheel landing gear affixed to the firewall. The single forward wheel with skids on the two subruders provides a stable setting for the model.

The original White Electrician is plan number 741, available from *Model Aviation*.

The White Electrician weighed 34 ounces; the Wet Electrician weighs 28 ounces, and the reduced wing loading contributes dramatically to its performance.

CONSTRUCTION

Fuselage: The fuselage is basic box construction. Trace the side template



The author views the Wet Electrician after its successful first flight. The original version was published in the August 1993 *Model Aviation*.

and transfer to $\frac{1}{16}$ sheet balsa. Cut the side members to the template outline, which should include the opening for the main wing center section.

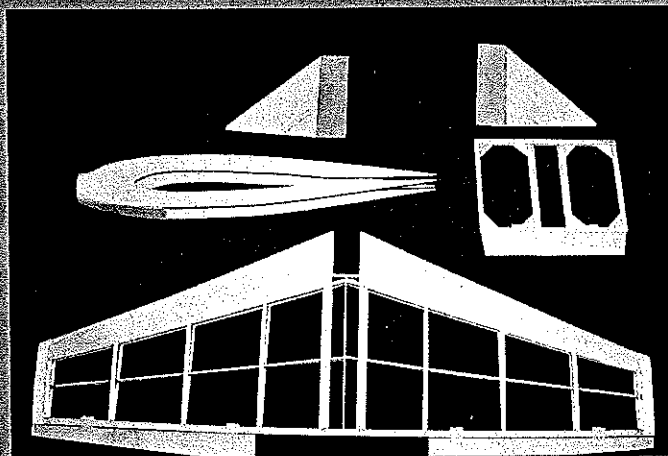
Cut F 2 & F 3 from $\frac{1}{16}$ balsa, and the firewall from $\frac{1}{8}$ plywood. Drill engine mount holes to accept the bolt hole pattern of a Dave Brown #1015 engine mount. Acknowledge the hole size for the blind nuts in the firewall and install the blind nuts with cyanoacrylate (CyA) glue. Check for fit to the engine mount for later installation.

Cover the plans with plastic wrap

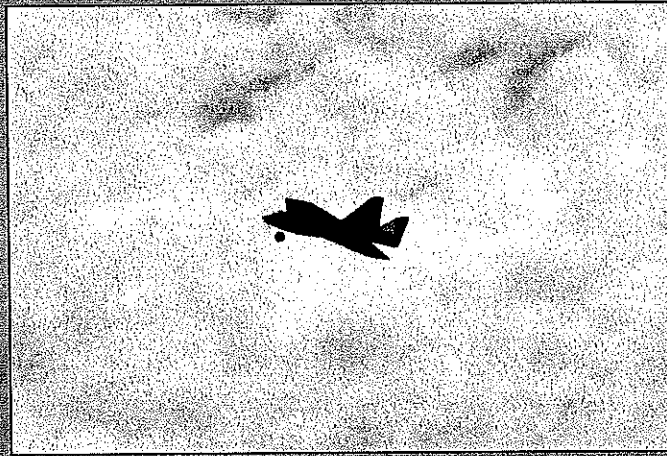
or waxed paper and position the $\frac{1}{16}$ sides on the top view at 90° to the tabletop. Assemble and glue the formers and firewall over the top view. Use epoxy for the firewall and white glue or CyA for the formers.

CyA the $\frac{1}{16}$ balsa block to the top & bottom front section and cross-sheet the top and bottom of the fuselage with $\frac{1}{32}$ balsa. Do not glue the area under the hatch to the sides—glue only for sheeting at the fuselage top.

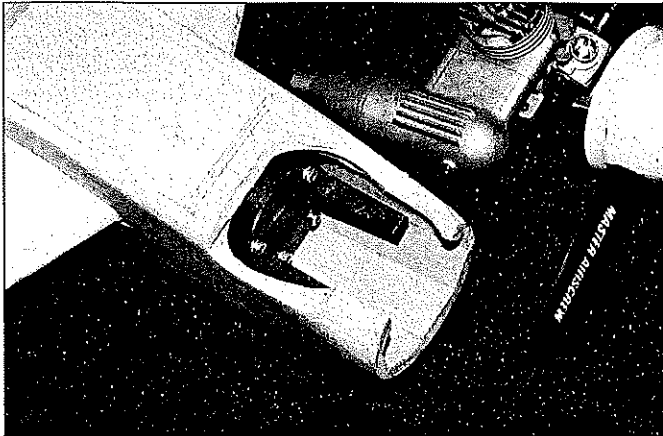
Trim the front area top, sides, and bottom with a block plane or razor knife. Sand with 60-grit paper to



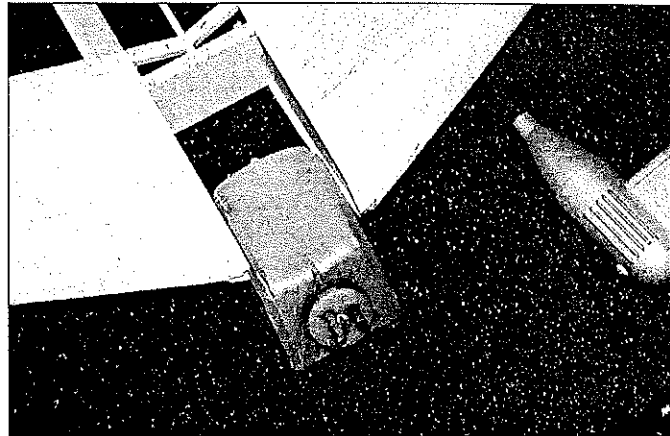
Balsa components of the Wet Electrician: Wing LE sheeting is $\frac{1}{16}$ balsa top and bottom. Fins are solid $\frac{1}{8}$ sheet balsa.



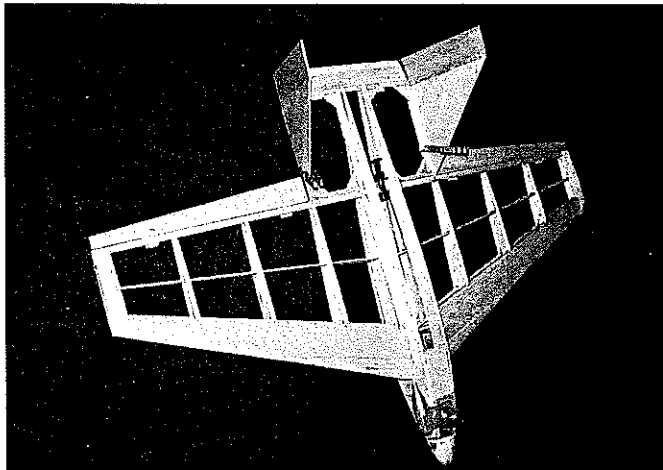
At 28 ounces and with 329 square inches of wing area, flying the Wet Electrician presents "an interesting challenge."



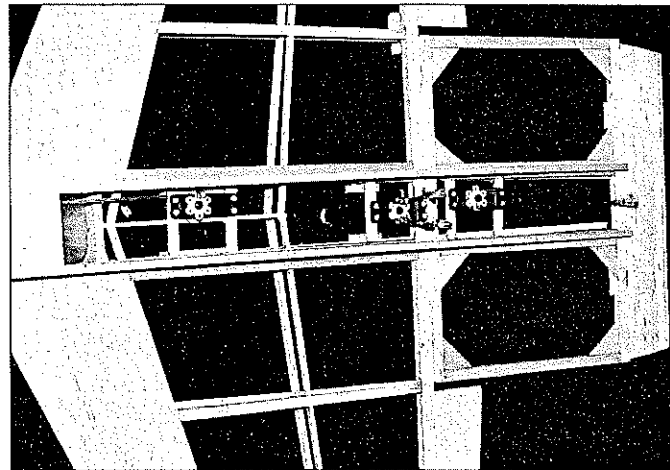
Engine compartment trimmed for entry. Dave Brown Products #1015 engine mount was used for O.S. Max .10 power plant.



Some wing cavity relief (removal of bottom sheeting) is required for installation of two-ounce Sullivan flex tank.



Assembled skeleton prior to covering with 21st Century fabric. Landing gear is single main wheel with rudder skids.



Mounts for throttle, aileron, and elevator servos are simple and clean. Original model used Airtronics radio.

contour and soft-sand the entire fuselage to its basic shape.

Cut the hatch sheeting with a razor blade or sharp knife. Cut and install two $\frac{1}{8}$ sheet balsa side rails to the hatch for inside slip-fit and install hatch retainers at the front of the side rails. This allows the hatch to slide in and out of the fuselage easily for access to contents.

Install the engine mount with four 4-40 x $\frac{1}{2}$ Allen-head screws. Put the O.S. Max .10 in place, mark locations of the mounting holes, and drill the mount to accept the four self-tapping screws supplied.

Bend the U-shaped landing gear from $\frac{3}{32}$ piano wire and rout the rear face of the engine mount so the mount can be installed flush with the firewall. Cut the axle from $\frac{3}{32}$ wire $1\frac{3}{16}$ long, install a Dave Brown $1\frac{3}{4}$ diameter foam wheel, and lock in place with collar set screws. Install the assembly in the fuselage by trimming the nose as required for clearance with the wheel removed.

Trim the Sig CS 007 canopy as shown. Trace outline and cover it with dull black pressure-sensitive covering. A pilot head can be installed with any other cockpit details as desired. The canopy is glued in place with RC-56 glue.

Drill & fit a $\frac{1}{16}$ dowel through the fuselage sides for a rear hatch rubberband hold-down.

Wing: Position the $\frac{1}{4}$ x $\frac{3}{8}$ leading edge as shown. Add the $\frac{3}{8}$ square trailing edge. Cut all the ribs from $\frac{3}{32}$ balsa. The spar slots ($\frac{3}{16}$ square front, $\frac{1}{8}$ x $\frac{1}{4}$ rear) are cut in the C and two #5 ribs as shown. Glue all the ribs in locations shown for basic wing assembly.

Lay the spars across the ribs; mark the slot locations on ribs 1-4 and cut the slots. The two $\frac{3}{16}$ and two $\frac{1}{8}$ x $\frac{1}{4}$ spars are now glued in place.

The leading edge is sheeted with $\frac{1}{16}$ balsa to the center of the $\frac{3}{16}$ spar at top and bottom. Ribs 2-5 are capstripped with $\frac{1}{16}$ x $\frac{1}{4}$ balsa, providing a wide platform for

The Wet Electrician

Type: RC Sport

Wingspan: 35 $\frac{1}{2}$ inches

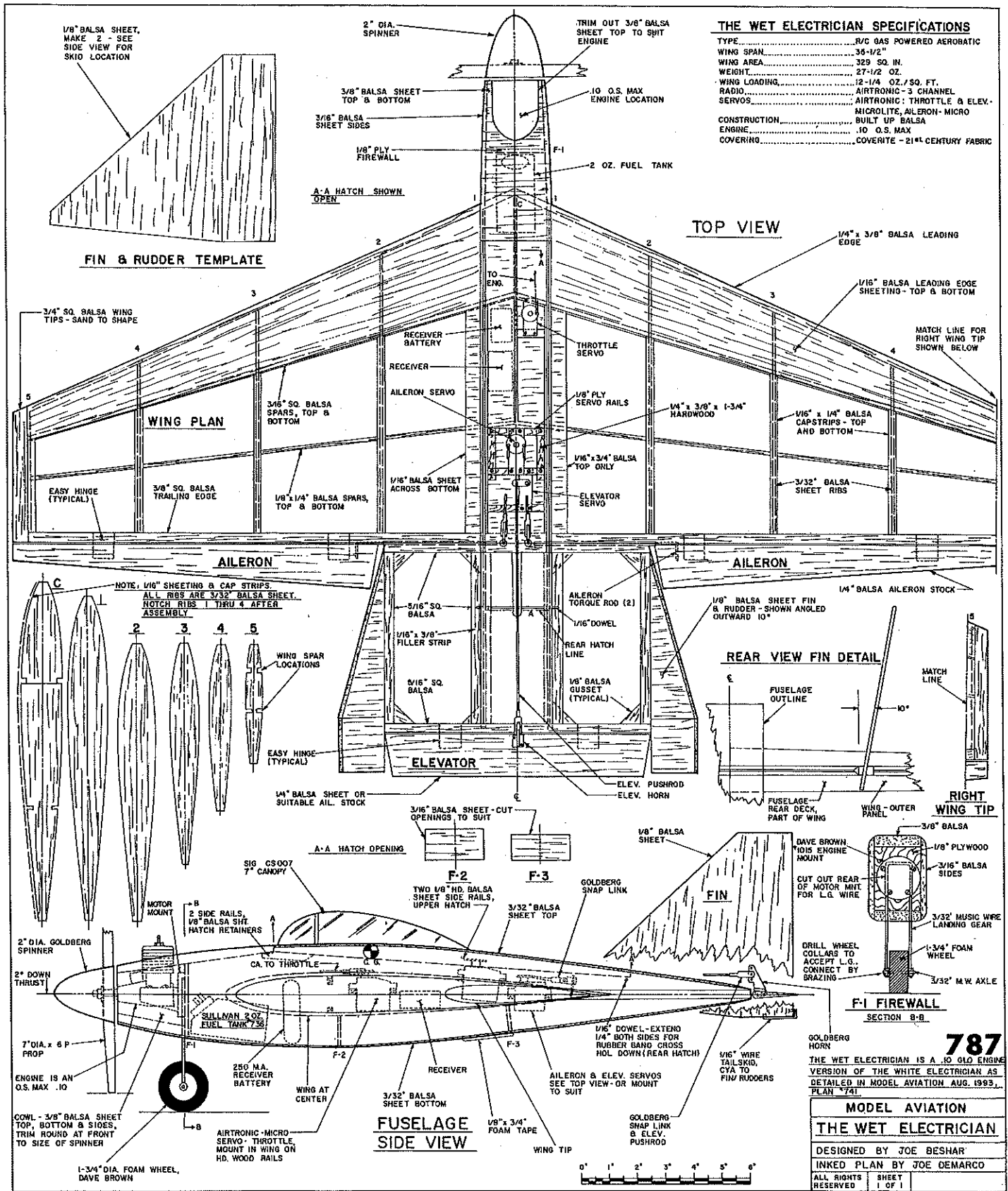
Engine: O.S. Max .10

Functions: throttle, elevator, ailerons

Flying weight: 28 ounces

Construction: Built-up

Covering: 21st Century film



THE WET ELECTRICIAN SPECIFICATIONS

TYPE.....	R/C GAS POWERED AEROBATIC
WING SPAN.....	36-1/2"
WING AREA.....	329 SQ. IN.
WEIGHT.....	27-1/2 OZ.
WING LOADING.....	12-1/4 OZ./SQ. FT.
RADIO.....	AIRTRONIC-3 CHANNEL
SERVOS.....	AIRTRONIC: THROTTLE & ELEV. MICROALITE, AILERON-MICRO
CONSTRUCTION.....	BUILT UP Balsa
ENGINE.....	.10 O.S. MAX
COVERING.....	COVERITE - 21 ST CENTURY FABRIC

787

THE WET ELECTRICIAN IS A .10 O.S. ENGINE VERSION OF THE WHITE ELECTRICIAN AS DETAILED IN MODEL AVIATION AUG. 1993, PLAN #741.

MODEL AVIATION

THE WET ELECTRICIAN

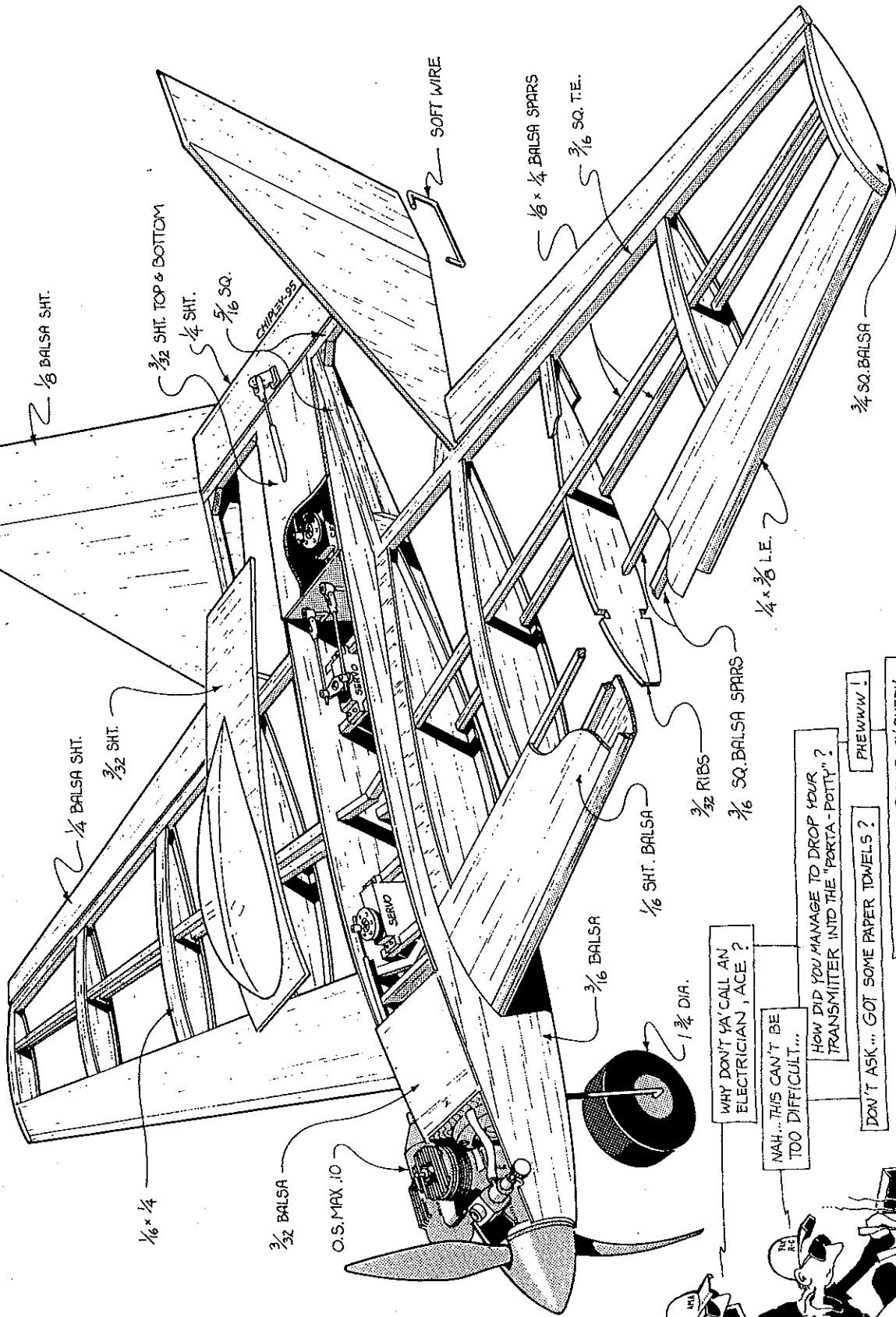
DESIGNED BY JOE BESHAR

INKED PLAN BY JOE DEMARCO

ALL RIGHTS RESERVED SHEET 1 OF 1

WHEEL ELECTRICIAN

JOE BESHAR



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PREHEHEHE!

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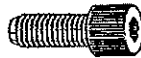
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attaching wing covering.

Sheet the bottom of the wing across #1 ribs, protruding 3/4 inch beyond the ribs on each side. This provides an inside platform for the receiver and battery compartment.

The ailerons are cut and shaped from 1/4 sheet balsa, trimmed and slotted for Sig Easy Hinges. The aileron control rods are fitted and sized as shown on the top view. Standard pushrod assemblies serve the purpose, but must be reworked to fit the layout.

Extended Tail Section: The leading portion is prepared to accept the aileron control rods in the same manner as the main wing section. The elevator is cut and trimmed from 1/4 sheet balsa. Sig Easy Hinges are used. The side members are chamfered to a 10° angle for the rudder assembly.

Assemble and glue 1/16 x 3/8 top and bottom filler strips, as shown on the side members which serve as a covering platform.

Internal Rigging: The tail section is clamped to the wing trailing edge to establish the pushrod assembly relationship. This enables the aileron control rods to be sized, fitted, and positioned with the wing loosely assembled to the fuselage.

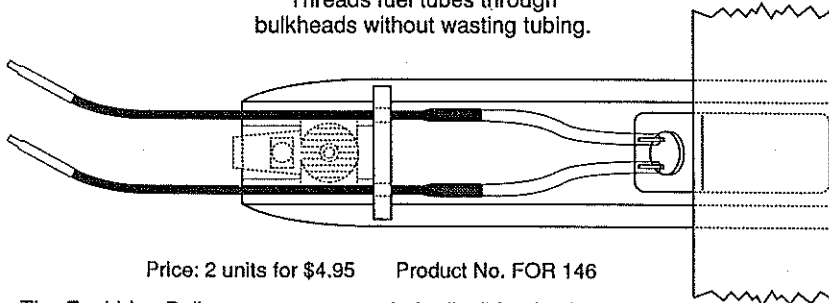
The servo mounting members are 1/8 plywood rails 1/4 wide; the 1/4 x 3/8 x 1 3/4 hardwood mounting blocks are sized and positioned as shown on plans. The elevator servo is an Airtronics MicroLite; the aileron and engine servos are Airtronics Micro. The servos are mounted and screwed into position after the blocks and rails are assembled.

At this point, the pushrods and clevises are fitted to the elevator and aileron. The section of rib C between the 1/8 x 1/4 wing spar and the trailing edge is removed as

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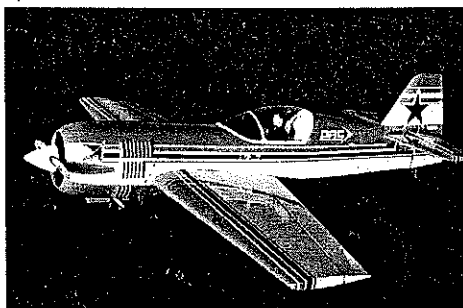
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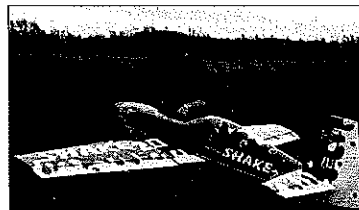


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necessary to provide compartment space and clearance for servo assemblies, receiver and 250 mAh receiver battery.

An on/off switch was not used. The battery plug is unplugged to break power to the receiver and connected to provide power.

The two-ounce Sullivan flex tank #736 is fitted in the position shown by cutting away the bottom wing planking. The fuselage is separated at this point so the fuselage can be covered disassembled.

Coverite's 21st Century fabric covering was used. This is an excellent material—it's light, strong, and heat-shrinkable.

After the fuselage is covered, the wing is permanently attached and the tail section is positioned (capturing the aileron control rods) and permanently glued in place.

The wings and extended tail are covered after assembly. The ailerons and elevator are covered disassembled, reassembled and positioned with hinges ready for CyA.

The rudders are cut from 1/8 sheet balsa. They are covered everywhere except the area where they are glued to the sides of extended tail section. Bend 1/32 soft wire for rudder bottom tips, which serve as tail skids.

Flying: Be sure that the model balances at the center of gravity (CG) shown on the plans. Charge the batteries and check the radio for proper operation. Run the engine and adjust for idle and full-throttle position.

Flying The Wet Electrician is an interesting challenge and is not meant for the beginner. For you RC modelers who have been flying conventional models, the Wet Electrician provides a very interesting supplement and challenge for your enjoyment—it is different!

I trust you will find it as interesting and fulfilling as I have. I hope you enjoy its high-performance characteristics. Good luck and good flying! →

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