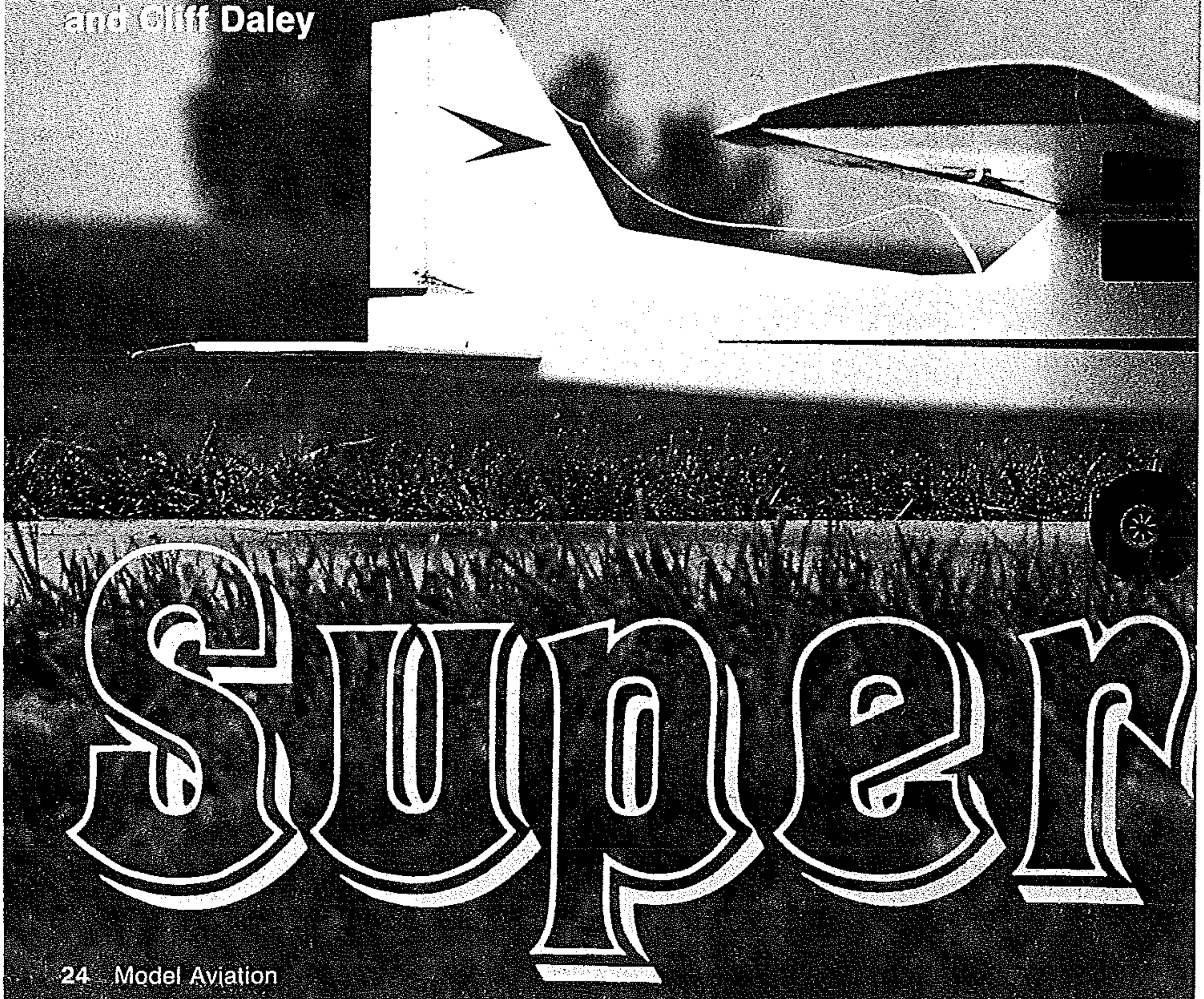
This updated version of the old 1950s-vintage Midwest Esquire kit is a quick-building, easy-flying 54-in.-span sport/trainer that takes .35 to .40 two-stroke or .40 to .50 four-stroke power. It's sure to conjure up fond memories for many over-55 youngsters at the flying field.

■ Larry Windingland and Cliff Daley

Larry Windingland displaying his Super Squire. He's logged over 100 flights on his prototype, says it's a tough, strong airplane that can take a real beating.

IT WAS IN THE FALL of 1958 that Cliff first became hooked on Radio Control flying. He remembers the day well. He'd taken a couple of CL planes to the flying site at Winton Woods on the outskirts of Cincinnati. When he saw a group of RC models cruising sedately overhead, their pilots busily working the controls, Cliff was immediately attracted to the bigger, slower models—and intrigued by their seemingly autonomous flight. RC had gained an instant convert.

Of course, in those days everyone was flying single channel (rudder only)—but that was enough to impress Cliff. Totally fascinated by the ability to control a model airplane without any direct contact, he knew he had to get into Radio Control. Cliff had a lot of questions, and the RCers at Winton Woods were very friendly and helpful about answering



Super

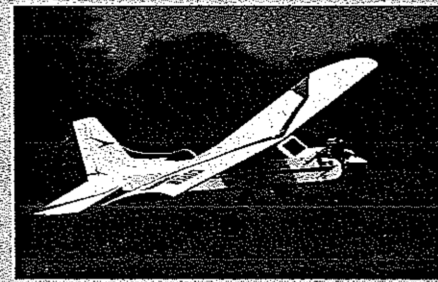
them, even to a control line flier (that's one thing that hasn't changed). Most clubs acquire favorite planes over the years, and the Queen City Radio Control Club recommended the Champ, Tixter Beam, and Midwest Esquire kits.

After looking these suggestions over, Cliff selected the Esquire. Maybe the model's appearance had something to do with it, or possibly the guys with the Esquires just seemed the most helpful. At any rate it was with the Esquire kit, a Cyro 22X receiver, the big, hairy Cyro transmitter, and an O.S. .15 engine that Cliff got started in RC.

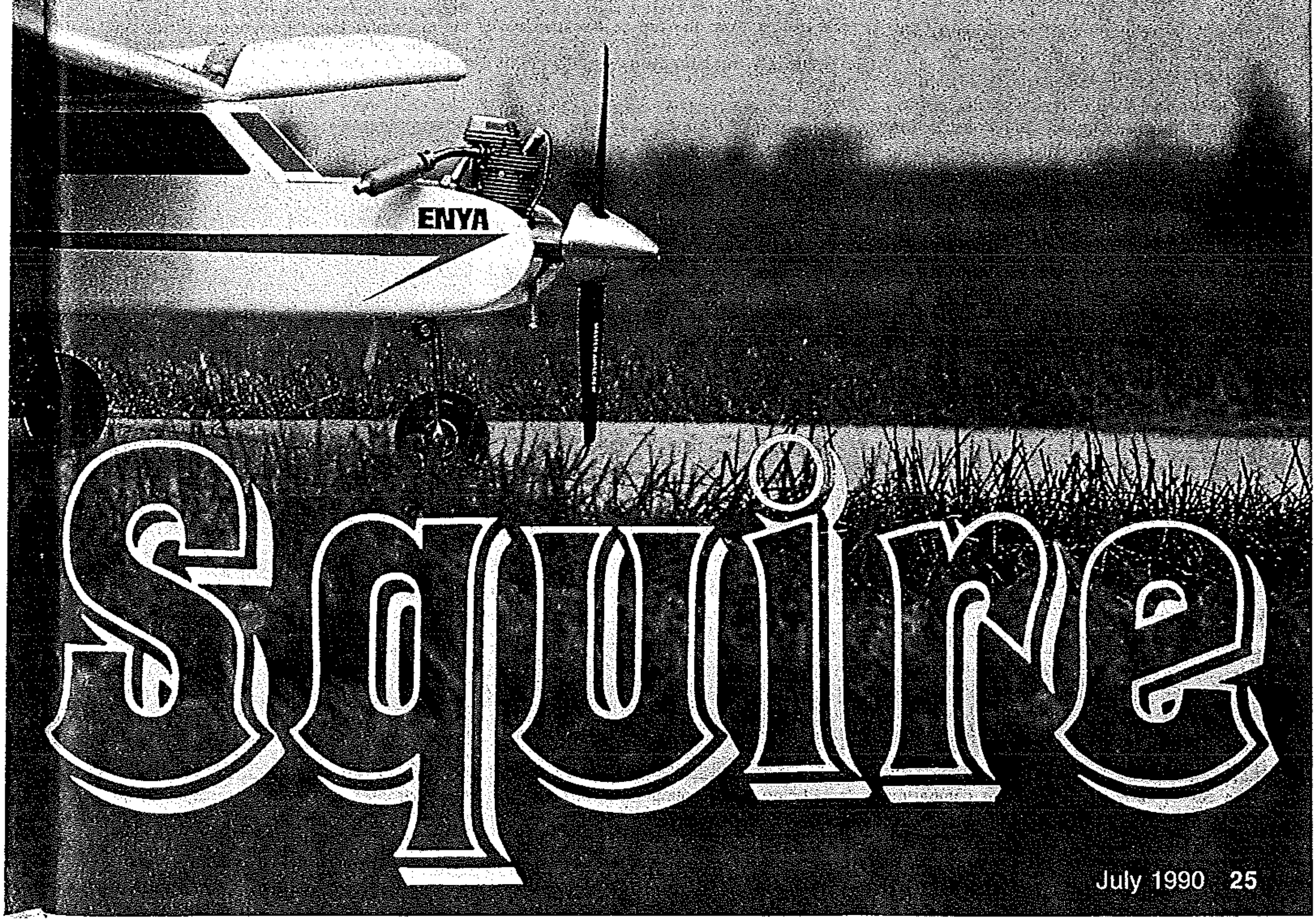
The Esquire flew well. Oh, it took its licks—and somewhere along the way it changed from red and white to red and yellow. Cliff also built a Lil' Esquire powered by an O.S. .10, and that too was an excellent single-channel performer.

Cliff abandoned Radio Control flying, forgoing it to try full-scale boating on the "beautiful" Ohio River, in the mid-Sixties. By the time he resumed RC activity in 1987, it was digital proportional, multichannel, full-house everything—a far cry from the Controlaire 10-channel reed outfits he had grown accustomed to in earlier years. But the Esquire that had survived Cliff's gestation period lingered in his memory. He had left it with a friend, Jim McConville, in Cincinnati about 25 years ago.

Giving his old friend a call, Cliff learned that he was still involved in RC, had a son named Mike who was a "pretty fair" RC pilot—*and still had the Esquire!* It was decided in subsequent phone calls that Jim would dig out the old model, put it in flying shape, and have it ready for a big four-stroke fun fly planned for 1988 in Hamilton, Ohio. When Jim had a closer look at the Esquire, though, he realized that the ravages of time hadn't left

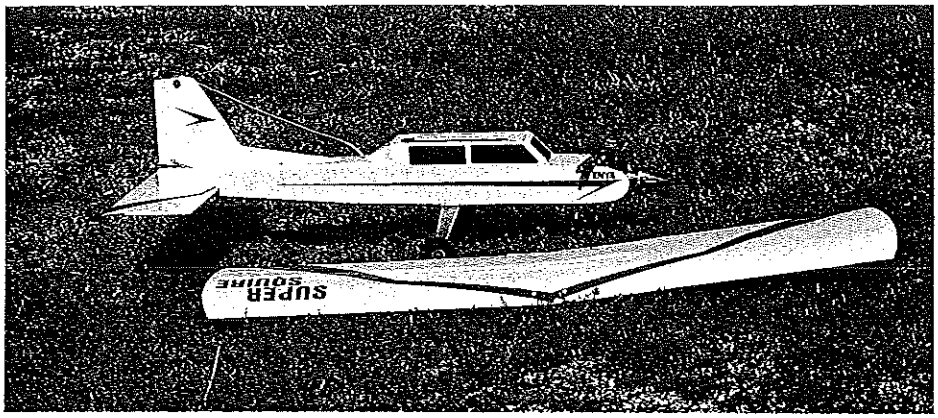


The Super Squire in flight. Depending on throw adjustment and engine power, it's either a docile, gentle trainer or a sprightly sport plane capable of novice aerobatics—and even inverted flight.

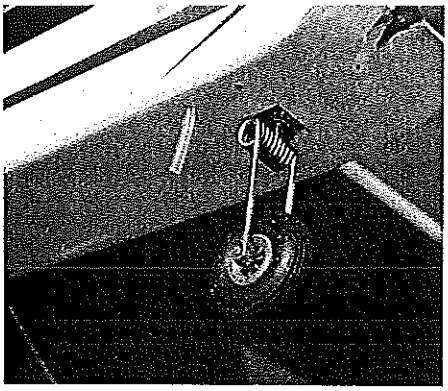


Super Squire on the tarmac, ready to fly. It's a modern-appearing airplane, yet traces its lineage back to the 1950s.

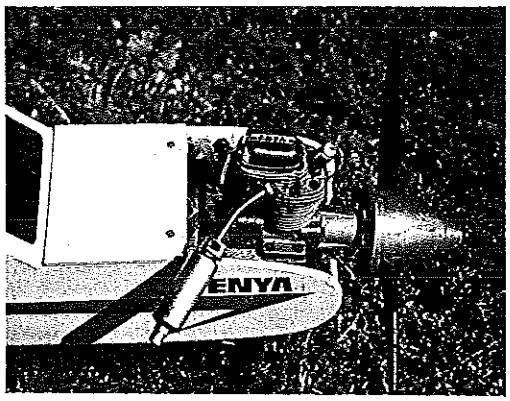
Squire



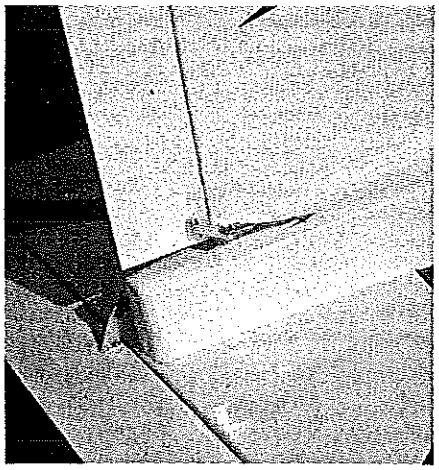
Squire is shown here field-disassembled after having completed 70 flights. A proper job of sealing the skin and frame against fuel intrusion will make the model last for many years.



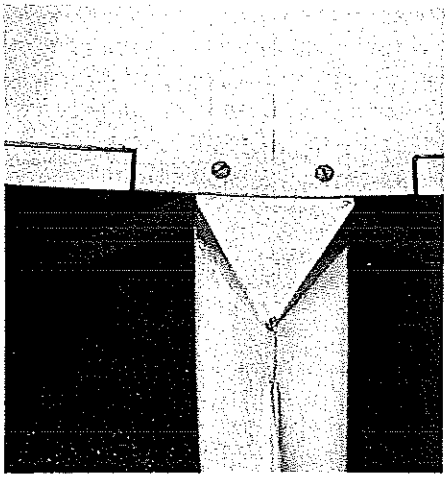
This Fults dual-strut nose gear is well worth the extra investment and slight extra weight. It's tough and strong. If you can't get it from your hobby shop, order direct from Fults Tooling, P.O. Box 95, Champaign, IL 61824.



The Enya .53 four-cycle engine and 2¼-in. Tru-Turn spinner combine for a sleek appearance, durability, and great performance. The engine provides 0.82 hp and weighs 14.6 oz.



Close-up of both the rudder and elevator horns. A very simple system with both pushrods exiting from the top of the fuselage.

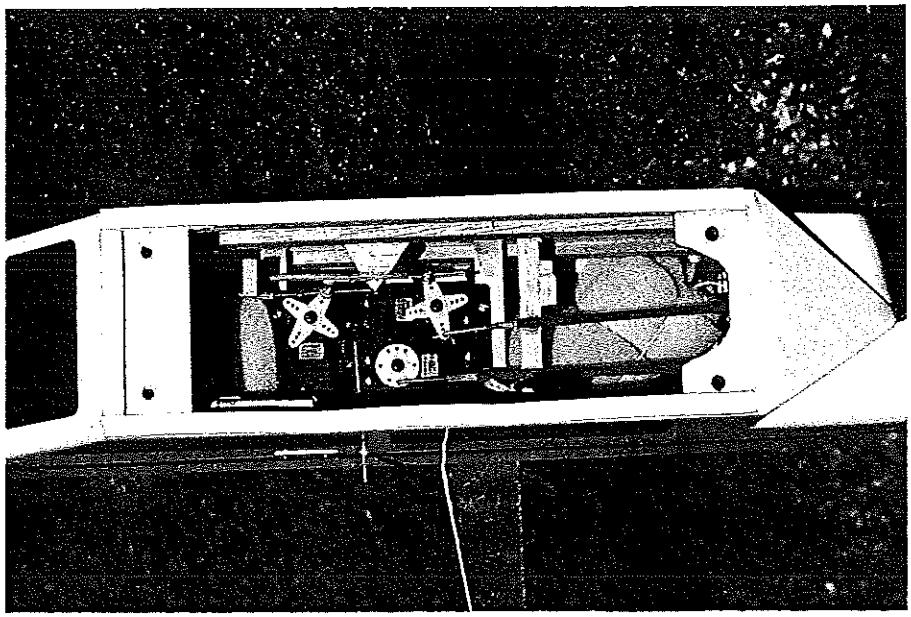


Details of the rear wing hold-down bolts and the distinctive Esquire triangular block that fairs the trailing edge of the wing to the fuselage. For the novice flier, ¼-in. dowels may be incorporated to rubberband the wing.

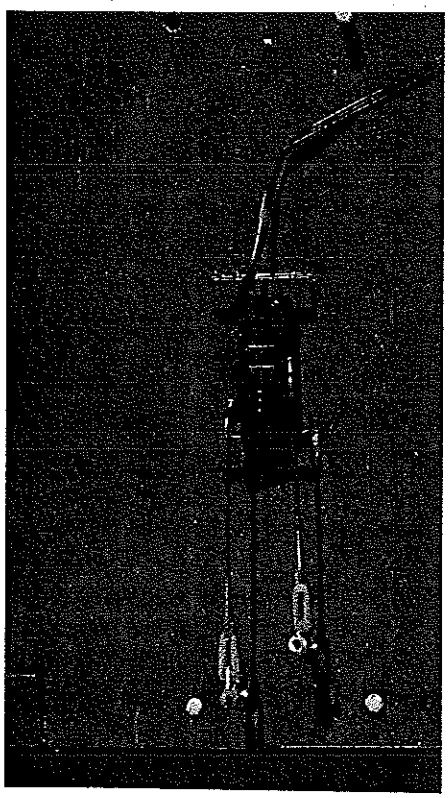
enough to rebuild. Cliff was momentarily saddened, but hardly surprised.

That's when the idea struck! What if an Esquire were built today, with modern radio equipment, engine, and construction techniques? What would it look like? How would it fly? Cliff hit the drafting table and quickly came up with the Super Squire. He made up his mind to have the revamped model built and flying for the four-stroke rally/fun fly in Hamilton, as originally planned.

Well, it happened! We went to Hamilton and flew both Cliff's Super Squire and his Protobype (featured in the February 1989 *Model Aviation*). It was wonderful to meet old friends again after 25 years or so, and there was lots of handshaking, backslapping, and more than a little bear-hugging.



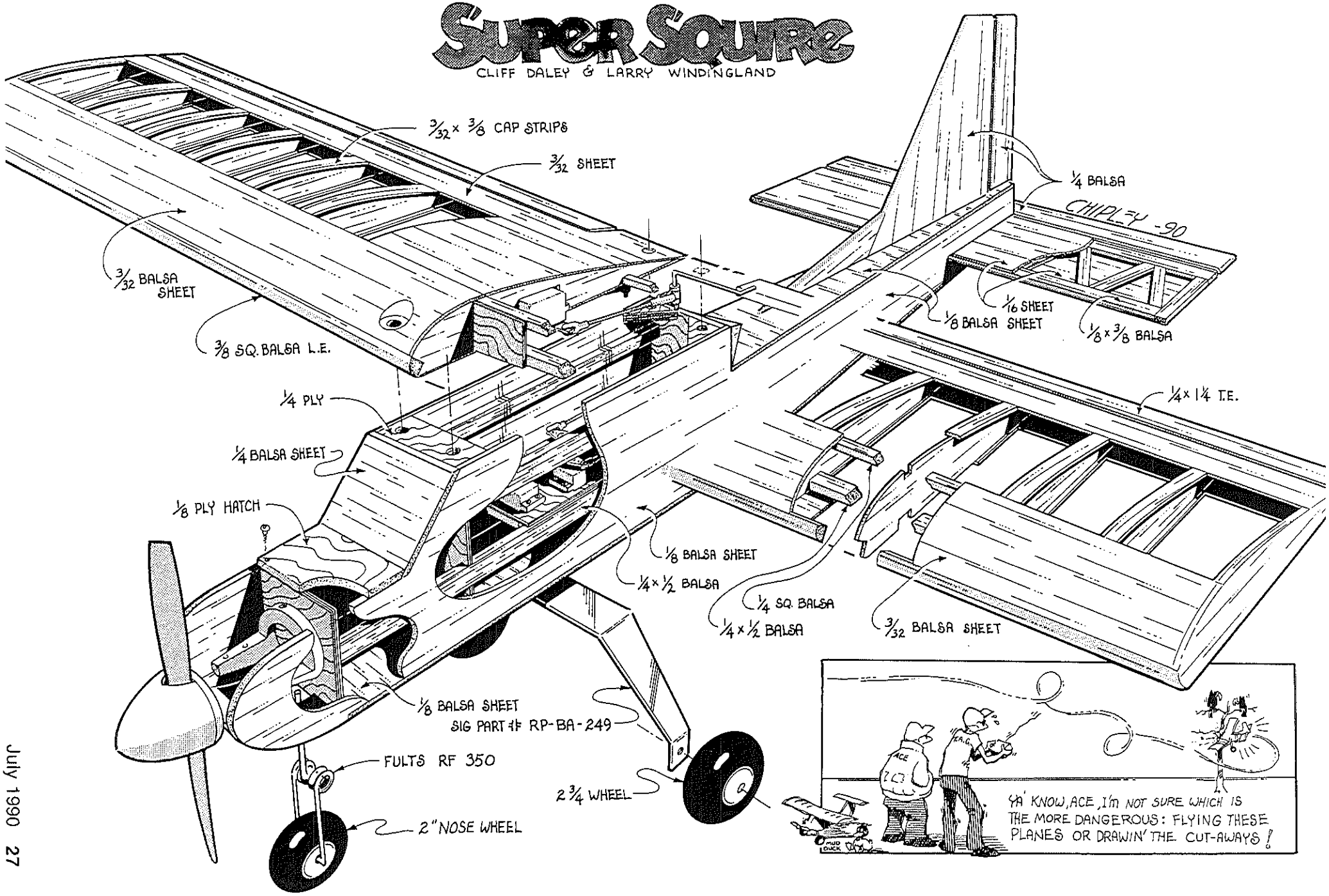
The servo, battery, and receiver compartment. Installation is very simple and straightforward. The forward servo (the nose faces left) controls the throttle, the middle one controls the elevator, and the rear servo controls the rudder/nose wheel. The foam-wrapped battery and receiver positions can be altered slightly to help achieve the correct balance point.

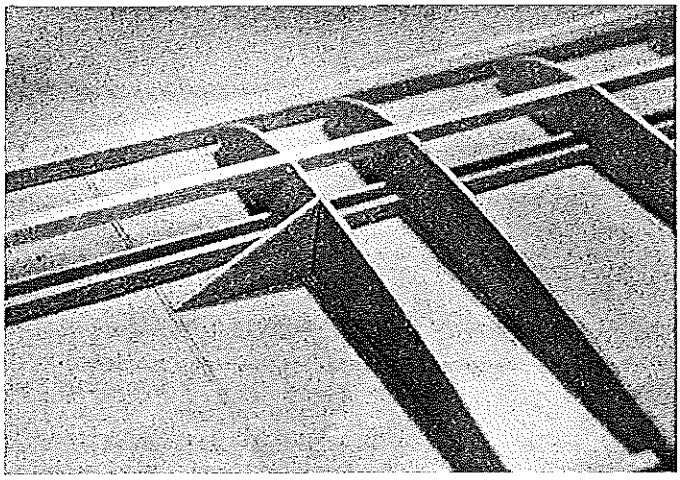


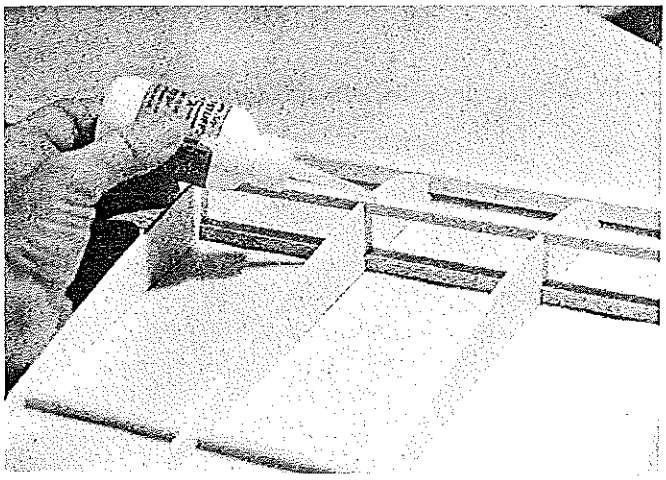
The Airtronics aileron servo installed in the bottom of the wing and connected to the aileron torque rods. The Du-Bro strip aileron assembly #104 works well for this size plane.

SUPER SQUIRE

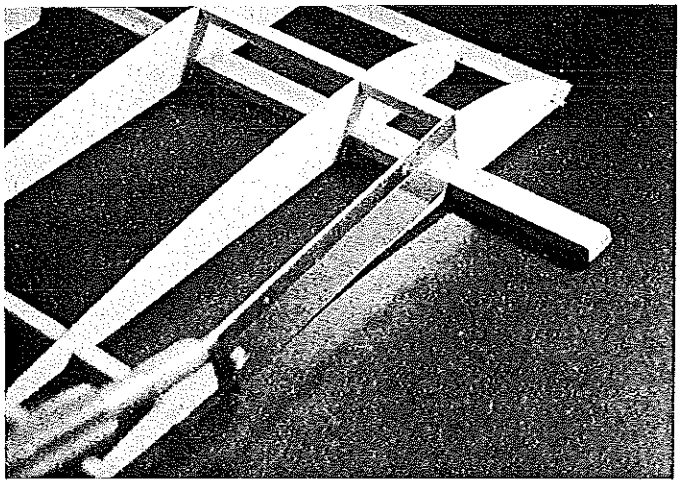
CLIFF DALEY & LARRY WINDINGLAND

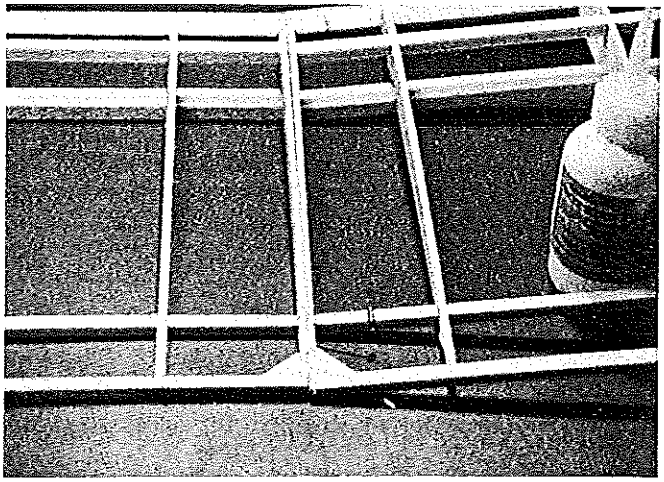




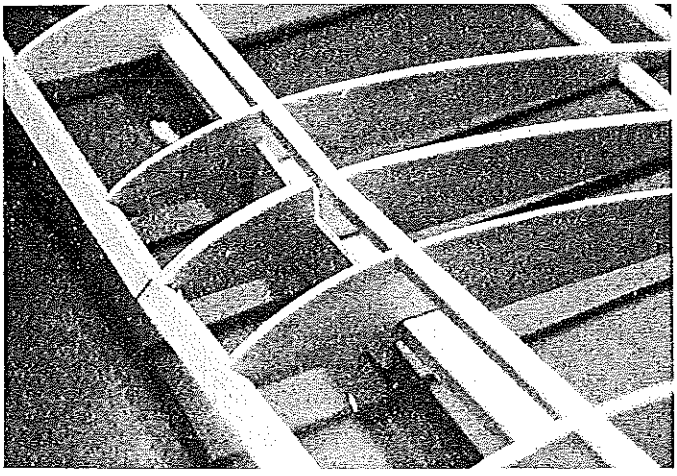


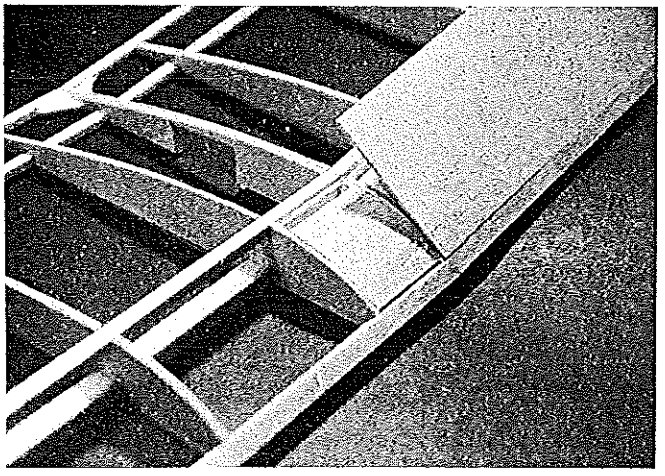
Left: Wing construction gets under way. Using 3M 77 for temporarily tacking waxed paper to the wing plan and wing components to the waxed paper for positioning works great. In this photo the ribs, spars, and leading edge are being positioned. The triangle ensures precise vertical positioning. Right: The ribs are in place and the upper and lower spars and leading edge are being secured with Hot Stuff (cyanoacrylate).





Left: Excess material is being trimmed from the wing center dihedral break with an X-Acto saw. Right: The wings being joined at the dihedral break. Use the dihedral guide on the plan to obtain the proper center rib angle. With one wing pinned flat, prop up the other 4 in. at the tip.





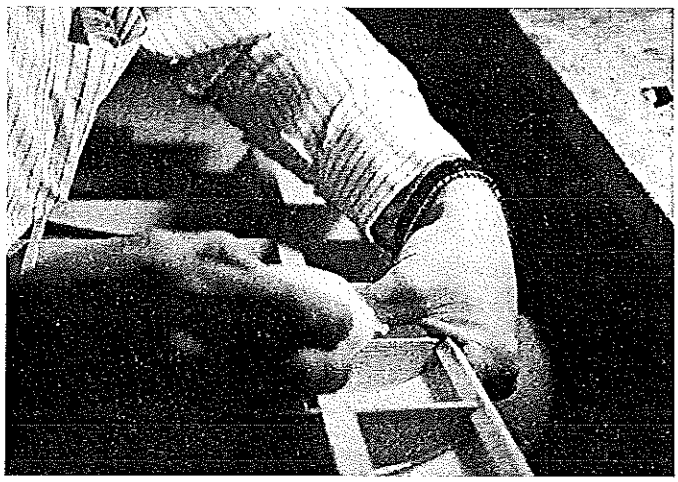
Left: The ⅛-in. ply dihedral brace being positioned in the center dihedral break. A ⅛-in. section must be cut from the center ribs to accept the brace. Secure it with CyA. Right: The center balsa block fillers are in place and the leading edge sheeting is being positioned for installation. Note that the center ribs have been cut for the aileron servo well and gussets have been installed to strengthen the center rib trailing edge joint.

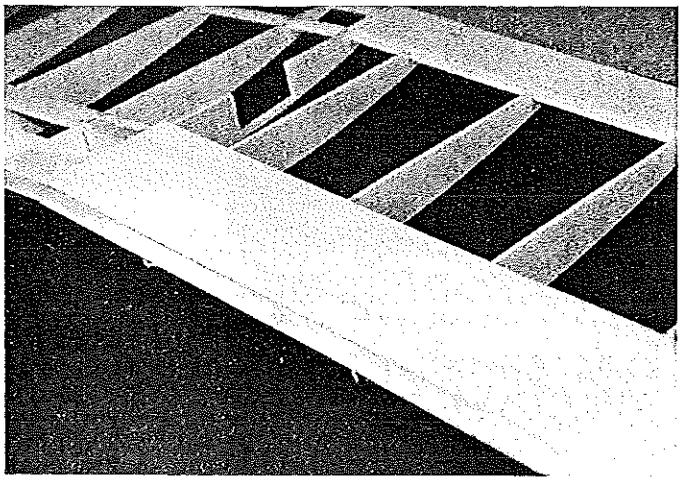
Many of these old friends recognized the Super Squire as a plane from the past. Probably a fair number of you readers will, too.

For all you graybeards who have fond memories of your first . . . uh, RC airplane, here's your chance to update your life. But youngsters (under 55) who have never heard of the original Midwest Esquire might consider building the Super Squire for its own sake. In this new rendition it's a good-flying .40 sport/trainer. Also, it might be fun having the old-timers come up to you at the field, remarking excitedly, "That plane looks a lot like the . . . uh, the . . . uh, I'll think of it in a minute. The . . . uh . . .."!

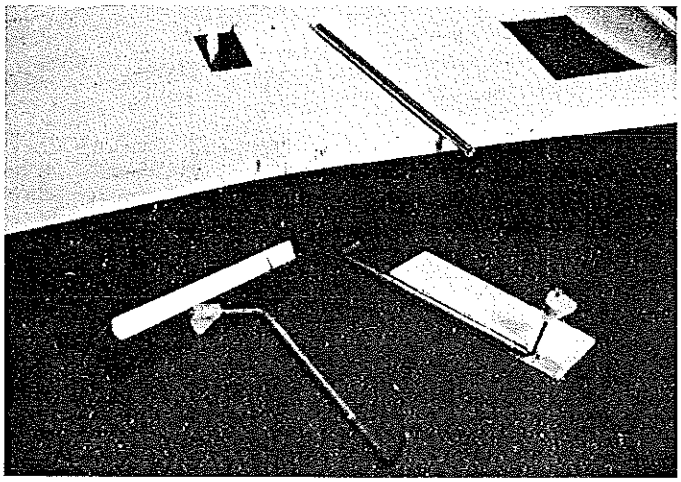
Modern in appearance, the Super Squire is adequately powered by a .35-.40 two-cycle engine or a .40-.50 four-cycle. It is ideal for the hobbyist who's looking for a simple plane to build from scratch.

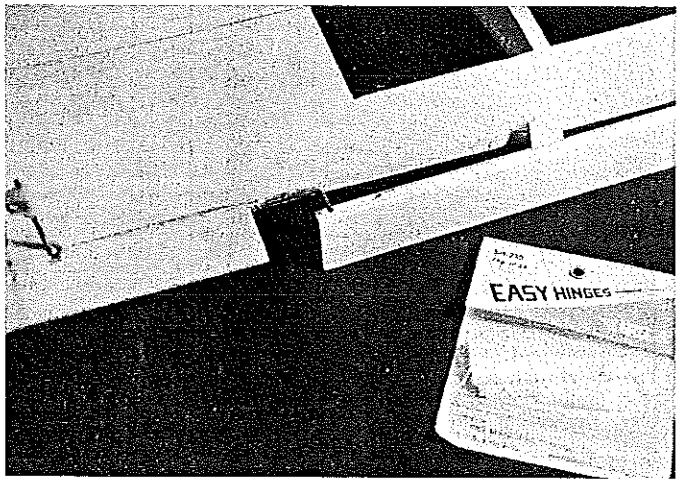
The first drawings were completed in June 1988, and we test flew Cliff's first prototype in late July. The model is very easy to build and great fun to fly. It'll perform all the basic aerobatics maneuvers. It takes off smoothly, lands gently, and has outstanding





Left: The leading edge sheeting is being CyA'd in place with the left hand holding the wing upside down and clamping the sheeting to the ribs while the right hand applies glue. Wet the outside surface with a weak solution of ammonia and water to help bend the sheeting over the ribs. Right: The bottom leading and trailing edge sheeting being installed. Be sure the sheeting is aligned before applying that fast-setting CyA.





Left: Aileron torque rod wedges are prepared by recessing their front edges with a sharpened brass tube. The wing trailing edges have also been recessed and notched. When gluing the torque rods to the wing, be very careful to avoid getting any glue inside the bearing tube. Lubricate the ends with a bit of wax just in case. Also note that the center sheeting has been installed in this photo, and the opening for the aileron servo has been cut out. This opening is located by marking the sheeting as it's being installed. Right: The ailerons being installed. Sig Easy Hinges make installation a snap. The slots for these hinges, however, must be cut very carefully so that they're right on the centerline.

stall characteristics.

Wing. The wing has a flat-bottomed airfoil, and all 18 ribs are identical. Using the rib section shown on the plans as a template, cut the ribs out of 3/32 balsa. The large opening in the two center ribs for the servo will be cut later. Stack the ribs, and final sand them to uniform shape. Cut the notches for the spars and leading edge with a fine-toothed razor saw.

Following the procedure outlined below, you can make the wing panels without the need for either a jig or pins. Remember to make both a right and a left panel.

Secure the plan to a flat surface with a light coat of 3M 77. Lightly spray the top of the plan, and cover it with waxed paper. Give the waxed paper a light coating of the 3M 77.

Place the ¼ x ½-in. balsa bottom spar on the plan, and then the ¼-in.-sq. bottom spar. Position the ribs on the spars, aligning each so that it's perpendicular to the plan. Be sure to use the dihedral gauge for the center rib to ensure the correct dihedral angle when the right and left panels are joined.

Place the ¼-in.-sq. top spar in the rib slots, then glue the spars to the ribs on both the top and bottom of the wing using thin Hot Stuff. Hold the ⅜-in.-sq. leading edge in place, and glue it to each rib individually. Make certain that the ribs remain aligned with the plans and that the leading edge is straight. Glue on the ¼-in.-sq. trailing edge the same way. Carefully remove the panel from the waxed paper, and set it aside.

Build the other panel using the same method. Don't forget the small triangular braces in the corner of each panel. They're a boon in keeping the structures rigid during the following steps.

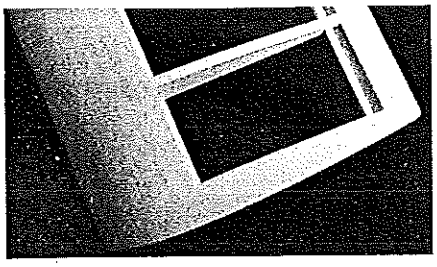
Align the right and left panels over the plan. Cut a slot in the center ribs at the front edge of the spars for the center dihedral brace, then trial fit the brace. To set the dihedral, position one panel flat on the building board, with the bottom of the outboard rib on the other panel elevated four inches above the board. When the panels have been brought into proper alignment, glue in the dihedral brace and glue the two center ribs together. I suggest using Hot Stuff's Special T for this step because it allows some additional positioning time.

Since the aileron servo will be located in the bottom of the wing, centered over the center ribs, you'll want to cut out these two ribs for the servo at this point. Plan to situate the servo as deep in the wing as possible.

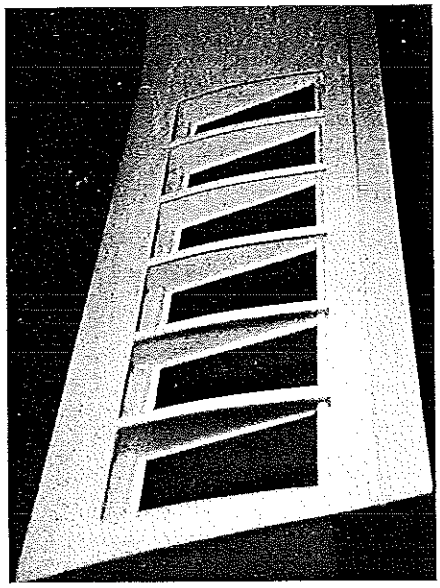
Cut, fit, and shape the leading edge filler for the wing hold-down bolts. This will prevent the hold-down bolts from crushing the leading edge sheeting.

Cut and glue the 3/32 x 3-in. balsa leading edge sheeting on the wing top and bottom. Wetting the outside surface of the balsa with an ammonia-water mixture will allow it to bend easily over the ribs. Using Hot Stuff's Super T on the leading edge and ribs speeds up and simplifies this task. Butt join and glue the balsa at the center. In like manner, cut and glue the 3/32 x 1½-in. top and bottom balsa trailing edge sheeting.

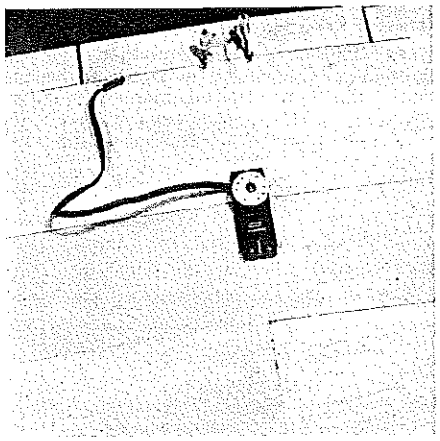
Sheet the center section top and bottom with 3/32 balsa out to the third rib. Mark the servo position for easy location later. Cut and glue the top and bottom cap strips. You can make quick work of applying cap strips by cutting them to length, lightly spraying the bottom with Hot Stuff's Hot Shot, applying Super T to the rib, then aligning the cap strips above the rib and pressing them in place. Cut, glue, and shape the wing tips.



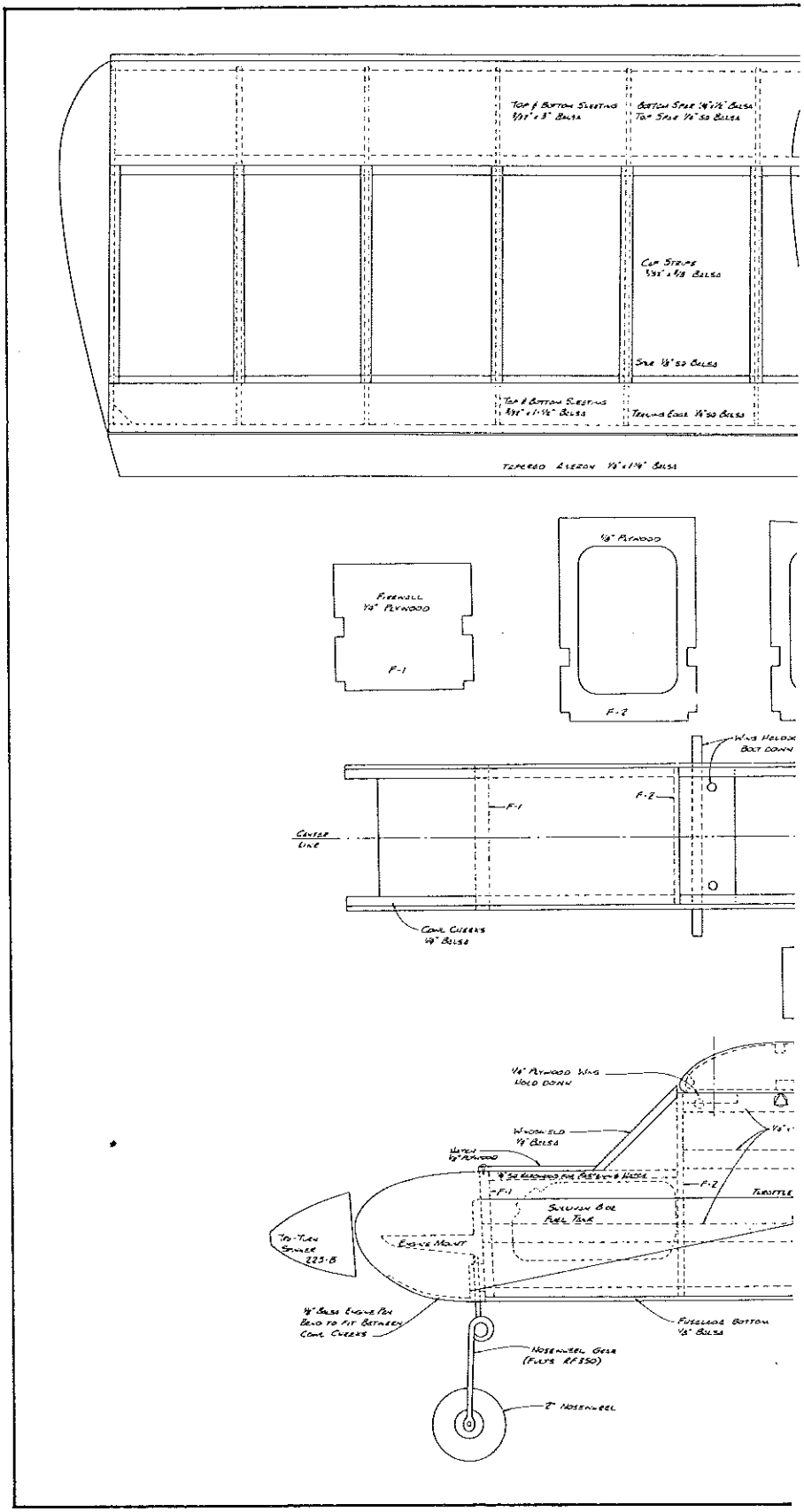
Close-up of the left wing tip. The tip block is glued to the outboard rib and sanded to the wing contour after installing the cap strips.



The structurally complete wing with the ailerons temporarily in place. Be sure to fiberglass the center joint before final sanding.



The finished wing center section with the flush-mounted aileron servo. The servo rails are attached to the underside of the sheeting, making installation and removal easy.

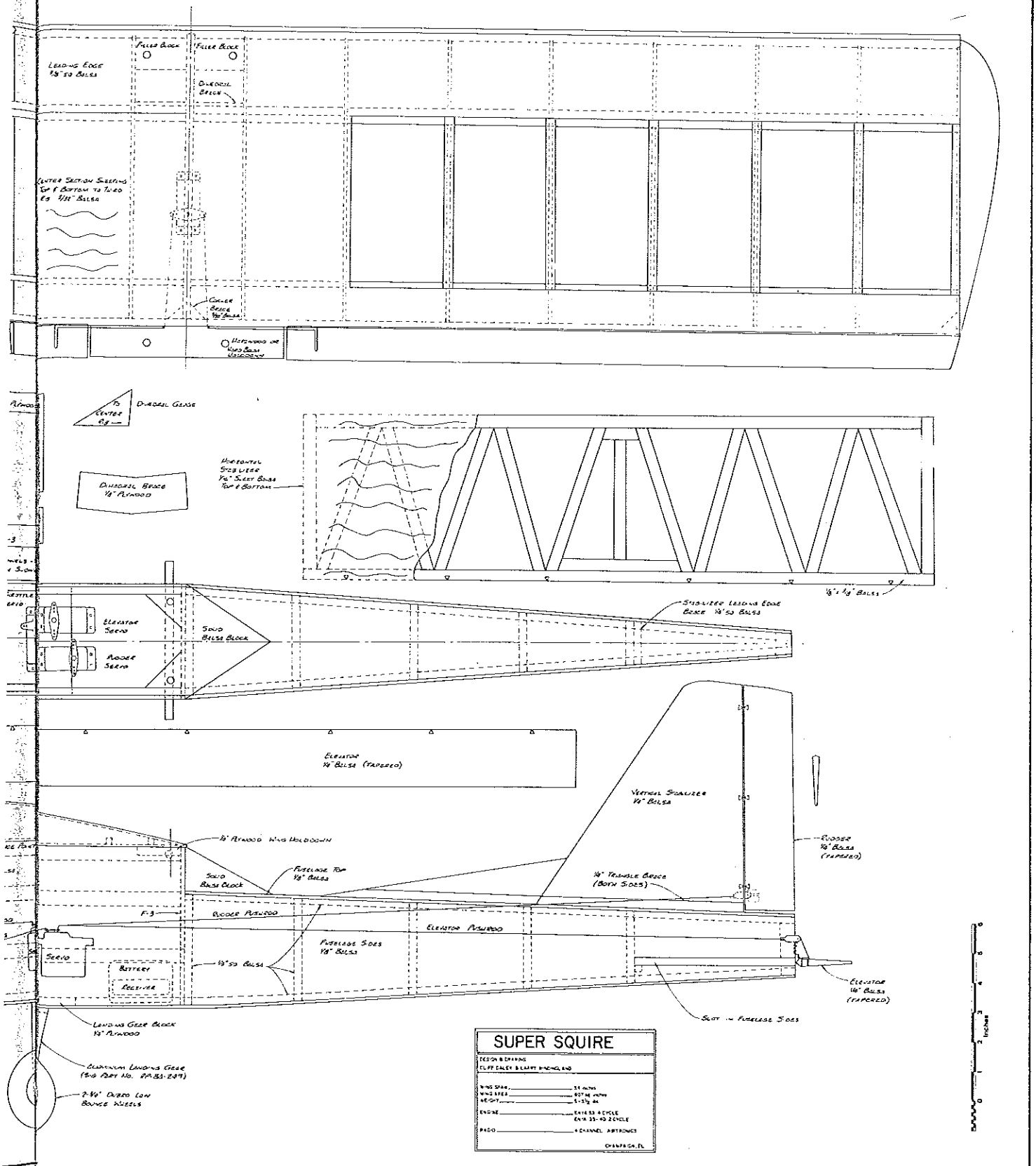


Cut out the hole in the bottom wing sheeting for the servo. Cut and taper the trailing edge aileron torque rod wedges. Since these do double duty as the rear wing hold-down, they must be made from hardwood or very hard balsa. Recess their front edges before installing the torque rods. Fit in the rods (Du-Bro's strip aileron assembly #104 works well), and carefully glue them in place.

Fiberglass the center of the wing to a width of at least four inches. I use a light coating of 3M 77 on the center of the wing where the fiberglass will be applied (masking off areas that are subject to overspray), lay on the fiberglass, and smooth it out. I then apply thin glue to the fiberglass cloth and allow it to cure. This produces a very strong center section which is also easy to sand smooth.

Cut the aileron stock to the length shown on the plans. Double taper the front edg where it will meet the wing, and drill a hol in the aileron for the torque rod. Insta hinges temporarily on the centerline, an trial fit them to the trailing edge. Sand an adjust for a minimum gap between the aile ron and wing.

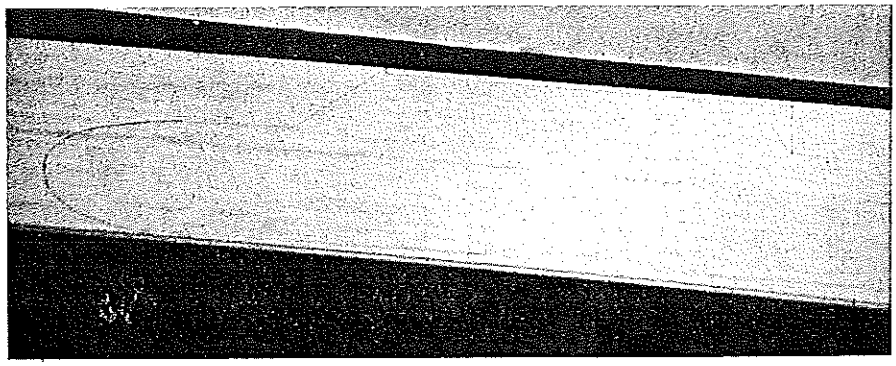
Trim the fiberglass cloth from the serv



hole, then trial fit the servo and aileron pushrod hardware to the wing. Glue small ¼-in. plywood rails to the underside of the bottom sheeting to accept the servo mounting screws. This will help recess the servo as deeply as possible in the wing. Sand the wing leading edges and wing tips to their final shape.

Fuselage. Select four 3 x ⅛ x 42-in. balsa sheets for the sides. Glue two of these sheets together lengthwise, edge to edge, for each side. The glue joint becomes the midpoint (at former F-3) of the fuselage.

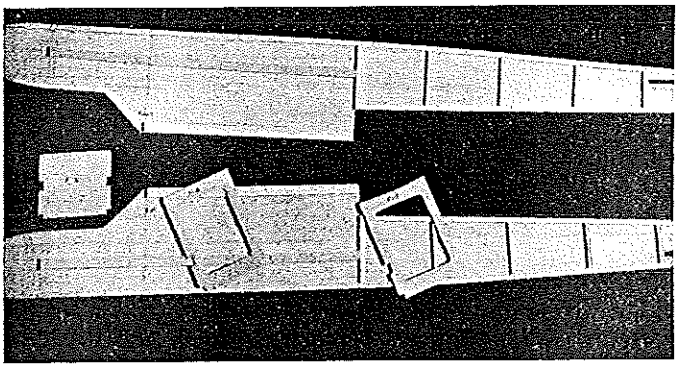
Cut out the fuselage from the plans, or trace the outline on the balsa fuselage sides. My preference is to cut the outline from the plans. I then use 3M 77 to tack glue the two uncut sides together, tack glue the fuselage plan to the uncut sides, and cut out both sides together. Sand the edges to their final shape, keeping both sides identical. Carefully separate them, and mark them for left and right. Cut and glue the horizontal stabilizer doublers at the rear of the fuselage.

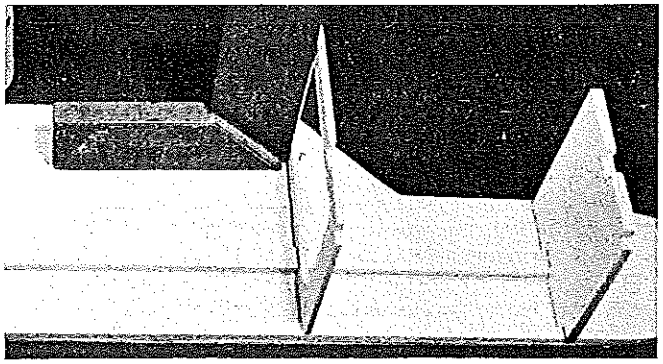


Fuselage construction gets under way by first transferring the outline to two (for right and left sides) 1/8-in. sheets of balsa. Cut out both sheets simultaneously to attain a perfect match.

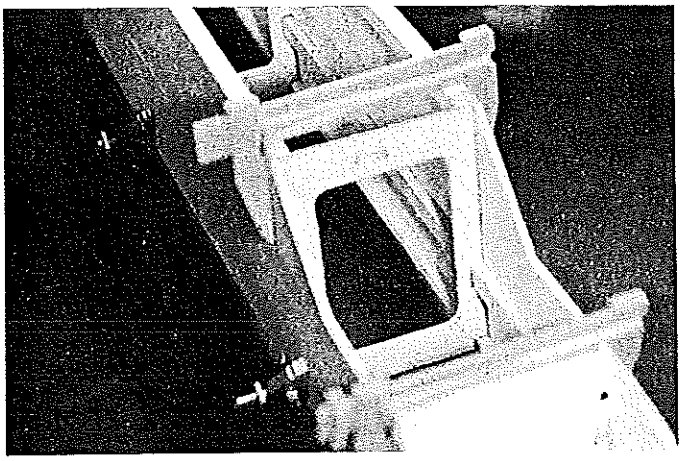
Cut the doublers from ½ x ¼-in. balsa, and glue them in place on the inside of the fuselage sides as shown on the plans. Cut ¼-in.-sq. balsa sticks, and glue them to the inside of the sides behind former F-3. Extend them to the rear of the the aircraft, fitting in the lengthwise pieces first and then filling in with the vertical sticks.

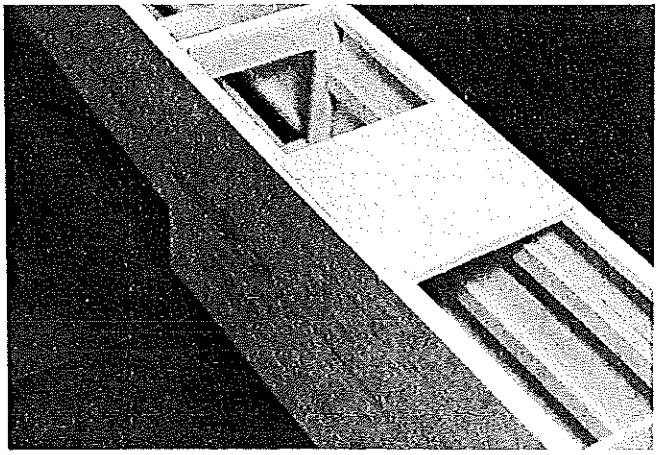
Cut out formers F-1, F-2, and F-3, then trial fit them to the fuselage. Align the sides carefully. The formers must be at 90° to the sides, and all parts at the front and rear must be straight. Glue the formers in place, using the plans as a guide. Use Super T Hot Stuff on the firewall.



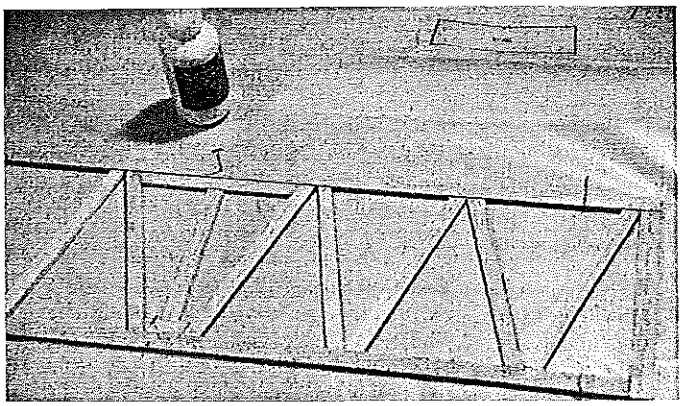


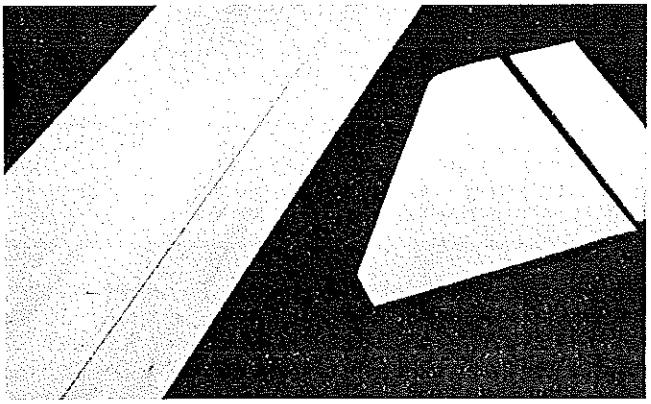
Left: The inside right and left sides being framed up. Be sure you don't end up making two right or two left sides. The fuselage doublers extend from the front firewall to the rear of former F-3. The longerons and vertical braces in the rear of the fuselage are ¼-in.-sq. balsa sticks. The wing saddle is ¼ x ½-in. balsa. Right: Formers F-1 and F-2 being installed using a triangle to ensure that they're absolutely vertical.



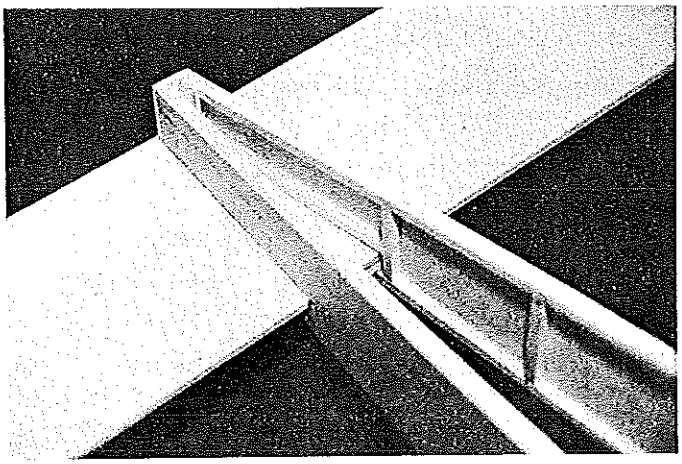


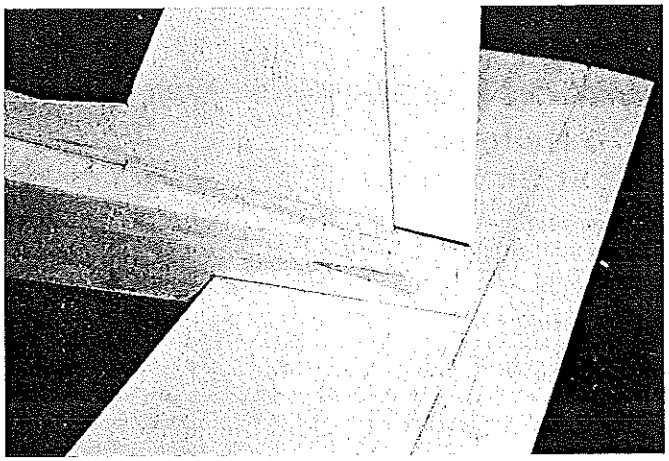
Left: Use of clamps like these from Hobby Lobby (5614 Franklin Pike Circle, Brentwood, TN 37027) simplify the final alignment prior to gluing. Once dry, position the rear spacer and pull the rear of the fuselage together, ensuring that both sides bend equally, before gluing it in place. Right: The ¼-in. ply landing gear plate is installed. Note that the ¼-in. bottom braces have been cut away to access the ply gear plate.



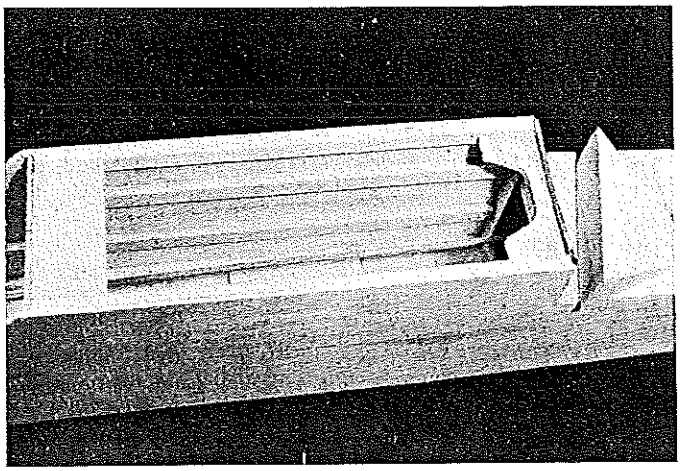


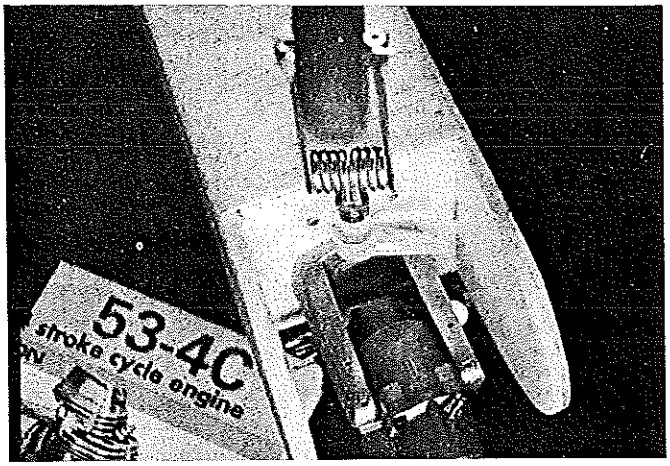
Left: The horizontal stabilizer is framed on the plans by using 3M 77 or pins to hold it in place while gluing. The framing is 1/8 x 3/8-in. balsa and it's sheeted with 1/16 sheet balsa. Right: The structurally complete horizontal stabilizer, elevator, fin, and rudder. The rudder/fin is made from ¼-in. balsa sheet. The rudder is tapered as per the plan. Sand the leading edges of the elevator and rudder to a V before hinging





Left: The stabilizer is being trial fitted in its slot in the fuselage to check side-to-side and perpendicular alignment before final contour sanding. Right: The fin and stabilizer being installed. Make certain that the fin is centered and vertical before gluing it in place. Note the ¼-in. triangular braces being installed along the base of the fin. The pushrod tube seen exiting the side was later modified to exit the rear as per the plan.





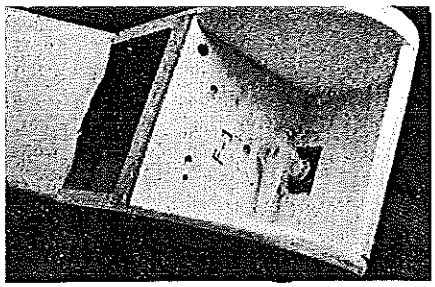
Left: The wing saddle showing the ¼-in. ply wing hold-down plates. The triangular "rear window" is ready to be installed. Right: The Fults dual-strut mount and steering arm attached to the firewall. The engine and mount are temporarily installed for throttle cable fit and alignment.

Bring the sides together at the rear, checking that they are straight and aligned with the fuselage centerline. Add a small filler block, and glue the sides together. Fill in the top and bottom of the rear section with ¼-in.-sq. balsa spacers (crosspieces) at the locations of the vertical sticks that you previously glued to the sides.

Cut and glue in the landing gear block, adding ¼-in. triangle stock to help secure it. Glue the triangle stock to the rear of the firewall as well. I suggest using it around the other formers, also, for added strength.

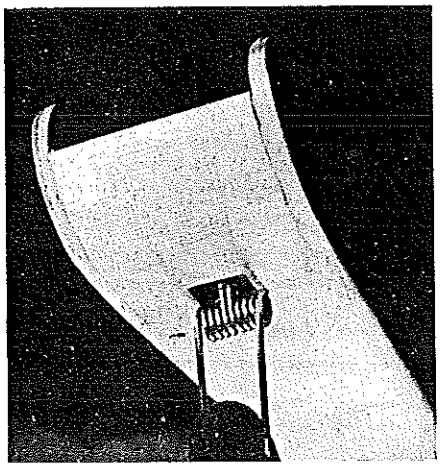
Build up the horizontal stabilizer using ⅛ x ⅜-in. balsa as shown on the plans. Follow a method similar to the way you built the wing panels, securing the waxed-paper-covered plans with 3M 77. As an alternative, you can simply use pins to keep the stabilizer aligned before applying glue. Sheet the top and bottom of the stabilizer with 1/16 balsa, then sand it smooth. Trial fit the stab in the slot at the rear of the fuselage, making sure it's centered, 90° to the fuselage sides, and that its tips are equidistant from the front of the fuselage. Glue the stabilizer in place with Super T.

Sheet the top of the fuselage with ⅛-in. balsa. Cut and trial fit the vertical stabilizer from ¼-in. balsa. Again, alignment is critical. Don't glue the vertical stab in place until you're sure it's 90° to the horizontal stab and perfectly congruent with the centerline of the fuselage.



The nearly complete nose section with the nose gear and steering arm in place. Note the installed blind nuts for the engine mount and the drilled hatch hold-down plate. The ¼-in. balsa under the engine compartment makes for a much cleaner final appearance.

Cut, trial fit, and glue the triangular fin in front of the vertical stabilizer. Add ¼-in. triangle balsa to each side. Make the elevator and rudder from ¼-in. balsa, and temporarily hinge them at the locations shown on the plans. Working from the bottom of the fuselage, determine the location of the pushrod exits and control horns for the rudder and elevator. Install the pushrod guides, and fasten the control horns. Glue the guides at several places along their length. Sheet the fuselage bottom with ⅛-in. balsa.



The finished underside of the nose section. The nose gear makes a clean exit through the fuselage. Note the small drain hole next to the landing gear for draining off any accidentally spilled or accumulated engine fuel.

The triangular piece that fits just behind the wing may either be cut from a solid balsa block or built up from ¼-in. balsa sheet. Trial fit this piece, and glue it in place as shown on the plans. Using ¼-in. balsa, cut and trial fit the windshield in the location shown on the plans. Cut, shape, and trial fit the hatch on the front of the fuselage. I recommend making this structure

removable. One such method is shown on the plans. This allows easy access to the fuel tank, batteries, and receiver. The hatch extends from F-1 to the front of the windshield.

Final assembly. Trial fit the engine to the engine mount. Hold the assembly up to the firewall to determine the desired position of the engine and ensure proper clearance of the muffler. The Enya .53 four-cycle fits in an upright mounting position. The model requires about 2° each of right thrust and downthrust.

Mark and drill holes in the firewall for the blind nuts, and install. Temporarily attach the engine mount and engine to the firewall, and work out a plan for the routing of the throttle and nose wheel steering pushrods.

Trial fit an 8-oz. fuel tank, and decide how you will route the fuel tubing. Drill holes for the pushrods and fuel tubing. If a remote glow plug device is to be used (highly recommended for the four-cycle Enya engine installation due to its glow plug location), now is a good time to consider its location. I also installed a remote push button switch and an AA Ni-Cd battery in a single-cell holder (available at Radio Shack) wired to the glow plug to eliminate the need for a glow starter at the field.

Install the ¼-in. plywood wing hold-down blocks as shown on the plans. (Note that the plans show an option for installing dowels through the fuselage for holding the wing down with rubberbands.)

Trial fit the wing to the fuselage, and check the incidence. The wing is at zero degrees incidence using the horizontal stabilizer as a reference. (If you don't have an incidence meter, measure and set the leading and trailing edges an equal distance from the fuselage centerline.) If you cut the fuselage according to the plans, the wing should sit on the cradle at 0° incidence. Sand the cradle only if necessary.

Check that the wing and fuselage are correctly aligned, with the wing centered right to left and the wing tips equidistant from the tips of the horizontal stabilizer. Pin the wing in place, and drill 3/16 pilot holes through the wing and its hold-down blocks in the location marked on the plans. Remove the wing, and redrill the holes for the ¼-20 nylon bolts. Drill the hold-down block to accept ¼-20 blind nuts. Instead of drilling, you may directly tap the holes for ¼-20 threads.

The main gear is made of aluminum; I used Sig part number RP-BA-249. It should be 3¾ to 4 in. wide at the fuselage and about 12 in. wide at the wheels. I used 2¾-in. Du-Bro wheels on the main gear and a 2-in. wheel for the nose gear. Attach the aluminum landing gear to the fuselage bottom, centered on the ¼-in. plywood as shown on the plan.

For steering I chose a Fults (part number

Continued on page 36

RF350) nose gear, which can really take the punishment. Trial fit the nose gear block under the engine, drill holes, and install the gear (you may have to trim the upper portion of the nose wheel strut for a proper fit). If you wish, the nose gear can be mounted behind the firewall, though installation and adjustment will be somewhat more difficult.

Cut and fit a piece of ¼-in. balsa just under the engine at the bottom of the cowl cheeks, extending it forward until it's flush with the front. Sand this to the shape of the cowl cheeks. If you mounted the nose gear on the inside of the firewall, leave a space at the bottom or drill a small hole in the sheeting to serve as a vent for fuel and oil spills. Add a 2¼-in. Tru-Turn spinner to the model for superb looks and a lifetime of durability.

Check the balance point, and determine the locations for the servos, receiver, battery, switch, and charging jack. The general location for these components shown on the plan may be adjusted to ensure that the model balances at the point indicated. When you're satisfied with the balance, install the servo rails, tray, and servos, making sure they will not interfere with the wing servo.

Remove the hardware and engine. Brush epoxy or fuelproof dope on the inside of the tank compartment and on the firewall. Sand the wing and fuselage to their final shape, then recheck the balance point.

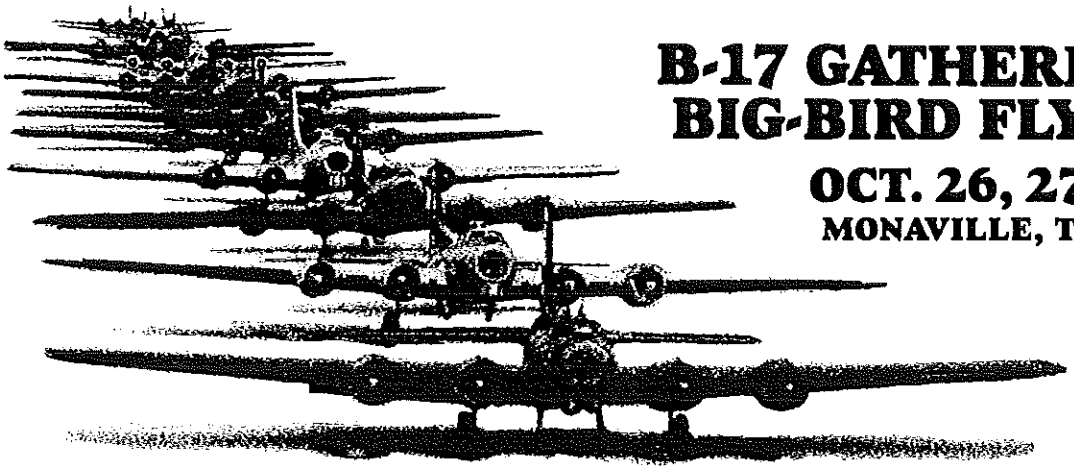
Covering. I covered the prototype with MonoKote, which worked great. Any other commercial heat-shrink covering may be substituted. Choose whatever trim scheme you like. However, I suggest duplicating the original Esquire trim on the fuselage to remind the over-fifty set at the field of the earlier-era model.

When the covering is completed, reinstall all hardware, radio gear, and the engine. Carefully wrap the battery and receiver in generous layers of foam, and cradle the fuel tank on foam. Route the antenna through a hole in the triangular block behind the wing, and secure the end to the vertical stabilizer. Glue in all hinges, install the wing seating tape, and set the elevator, rudder, and aileron throws. Aileron total throw should be ⅜ in., rudder throw should be 1½ in., and elevator throw should be set at ¾ in. Check the balance point again.

Radio. Super Squire uses the Airtronics Vanguard VG6DR FM radio. The many desirable features of this narrow-band radio include servo reversing on all channels and—wonderful for first-time fliers—dual rates on elevator and ailerons. Both the transmitter and receiver are 1991 rated and have performed flawlessly. It's a great radio at a very reasonable price, and I highly recommend it.

Engine. The Enya engine used in the Super

SECOND ANNUAL



B-17 GATHERING BIG-BIRD FLY-IN

OCT. 26, 27, 28
MONAVILLE, TEXAS

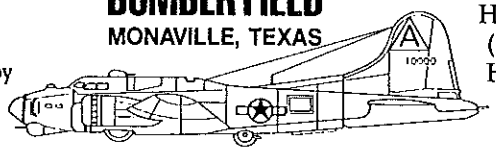
Bomber Field will conduct the Second Annual Gathering of B-17 Flying Fortresses in conjunction with it's annual Big-Bird Fly In, October 26, 27 and 28 at Bomber Field, Monaville, Texas. Our first gathering in 1989 produced 13, B-17's, 128 registered pilots with a total of 278 Big-Birds. This year we have doubled our aircraft/pilot protection areas and plan a cocktail party on Thursday night, October 25th, for B-17 pilots plus two crew members per B-17 to discuss and plan missions for the following three days. Contact B.B. Weber for a body count, so appropriate party reservations can be arranged.

This year Bomber Field will raffle off a brand new 10' B-17G built by Bomber Field B-17 pilot/builders, ready to fly, including a 9 channel PCM 1024 radio system donated by Futaba Corporation of America. B-17 kit donated by Westcraft. Electric retractable landing gears donated by Aeromarine Enterprises. Net raffle proceeds will be donated to the Monaville Volunteer Fire Department.

Raffle drawings will be at the conclusion of the C.A.F. B-17 and fighter escort exhibition approximately 12:30 P.M., Sunday, October 28th. Winner will not need to be present to win. Bomber Field members and family are ineligible.

For additional information contact:
B. B. Weber (713) 498-7935, P.O. Box 721950, Houston, Texas 77272 ■ Vance Wiman (713) 266-4552, 10706 Olympia, Houston, Texas 77042 ■ Bill Stevens (713) 497-6511, 1726 Ashford Hollow, Houston, Texas 77077

BOMBER FIELD
MONAVILLE, TEXAS



Squire is distributed in the United States by Altech Marketing, P.O. Box 286, Fords, NJ 08863 (telephone 1-201/572-5792). The Enya .53-size four-cycle engine was used in both Super Squires.

With 0.82 hp and weighing 14.6 oz., the Enya is ideally suited for this model. It provides more than adequate power for fast takeoffs, yet idles beautifully for very docile landings. The engine has performed extremely well in both Super Squires. Obtain one from your local hobby shop.

Flight performance. This sport/trainer airplane is versatile and tough. You can set the control surface throws for handling characteristics as gentle as you please—or coax the model through the whole gamut of novice aerobatics. The Super Squire takes well to inverted flight, and it will turn with aileron or rudder only.

The plane is very rugged and will take a beating. Cliff and I have over 100 flights each on our Super Squires. Barring pilot error, we expect hundreds more. Though our shops hold many other candidates, this is the one we tend to bring to the field. It's a great "throw it in the car and head for the field" RC airplane.

We're sure you'll agree. Hours of pleasure await you, both in the workshop and on the field.

Super Squire Specifications

Type of aircraft: Tricycle gear sport/trainer
Wingspan: 54 in.
Wing chord: 11.25 in.
Total wing area: 607 sq. in.
Location of wing: Top of fuselage
Airfoil: Flat-bottomed
Wing planform: Constant chord
Fuselage length: 42 in.
Stabilizer area: 170 sq. in.
Vertical fin height: 10 in. above fuselage centerline
Vertical fin width: 9 in. (includes rudder)
Engine size: .35 -.40 two-cycle or .46 -.53 four-cycle
Basic material: Balsa and plywood
Ready-to-fly weight: 5 to 5½ lb.
Wing Loading: 20.9 oz. per sq. ft.

Bill of Materials

Two ¼ x 4 x 36-in. balsa—rudder/stabilizer/elevator
Four ⅛ x ⅜ x 30-in. balsa—horizontal stabilizer frame
Two 1/16 x 3 x 36-in. balsa—horizontal stabilizer sheeting
Six ⅛ x 3 x 42-in. balsa—fuselage top/bottom/sides
Ten ¼ x ¼ x 36-in. balsa—spars and fuselage frame
Four ¼ x ½ x 30-in. balsa—spars and fuselage doublers
Six 3/32 x 3 x 30-in. balsa—ribs, wing sheeting
Two ⅜ x ⅜ x 30-in. balsa—leading edge
Two ¼ x 1¼ x 30-in. balsa—aileron (tapered)

Continued on page 84

ment that has two major benefits. First, the 22-in. separation of the cradle attachment points increases the torque. Second, the Glider wing incidence is parallel to the tug wing incidence, which assures that the Glider is flying its own weight and not creating a load.

The cradle platforms were built so that they can be adjusted for Gliders with wing chords of up to 14 in. As the two release points for the rubberbands that attach the Glider to the cradle are separated by 22 in., it was necessary to install the release servo in a central point inside the wing. But to prevent an uneven separation of the Glider from the cradle upon release, which could result in a fatal midair accident, synchronizing the servo linkage to the two release points was essential.

The finished SAC trainer weighs a little under 24 lb.—big even for Gliders in the four-meter (157-in. span) range.

The first test flight took place in April 1989 using a four-meter Alpina Glider as cargo. Since then, I've made many more flights carrying Gliders larger than 3.5 meters (138-in. span) without apparent problems.

A tug/Glider duo of this size works well because the combined center-of-gravity remains where it should be. Turns are no longer a problem, and all the flying to release altitude is done by the tug pilot. The big biplane-like combination is so stable and docile in flight that the pilot can even make low passes before flying to the Glider's release altitude.

It's important to keep in mind that since the takeoff weight of the tug-cum-Glider exceeds 30 lb., a long takeoff roll is necessary to gain lift-off speed.

This air carrier launching system does what I intended; it greatly extends my Glider flights. Spans of 20 minutes and longer are now quite normal. An additional reward is that since the system requires a minimum of two pilots, it encourages cooperation and teamwork. It's also a crowd pleaser when used for club demonstrations.

I hope that my findings will encourage others who live in areas with less than ideal conditions for launching big thermal Gliders to try this piggyback approach. I can assure you that a tug of this size rolling to lift-off with a four-meter Glider atop is an awesome sight indeed.

Super Squire/ Windingland-Daley

Continued from page 37

Six 1/16 x 3/8 x 36-in. balsa—cap strips
Two 1½ x 1½ x 12-in. balsa—wing tips
Two ¼ x 36-in. triangle balsa—bracing
One ¼ x 6 x 12-in. plywood—F-1, landing gear brace, wing hold-down
One ⅛ x 6 x 12-in. plywood—F-2, F-3, hatch, and dihedral brace

Safety/Preston

Continued from page 22

somewhere in the connector wiring of Sam's son's receiver battery pack. However, to me the big mystery is why it took five days for the smoke to develop. Anyway, my purpose in relating these two incidents is to remind you that a Ni-Cd battery pack is capable of generating enough heat to start a fire in the event it becomes shorted. It's not reasonable for me to suggest that you store your batteries away from combustibles. This would mean removing them from your models every time you return from a flying session. However, do be careful what you do with them when you think they are dead and want to discard them.

CyA glue accelerators: In the May '90 Safety column I mentioned a letter from Albert Perdon who drew attention to the fact that some CyA accelerators contain chlorofluorocarbons (CFCs), which are linked to the alleged depletion of the atmospheric ozone layer and to the so-called greenhouse effect. I also mentioned that a number of modelers have had respiratory problems resulting from the use of CyA accelerators, and I asked if anyone knew of a nonallergenic accelerator. I guess I should have asked if anyone knew of a *commercial* source for such a product, because four readers reminded me that baking soda can be used as an accelerator. Not only is this unlikely to cause any respiratory problems, but it's also very cheap.

Jim Wolff and Charlie (who is from Staunton, VA—I couldn't read his last name), both use a mixture of baking soda and water as an accelerator. However, neither Jim nor Charlie stated what proportion of baking soda to water they use.