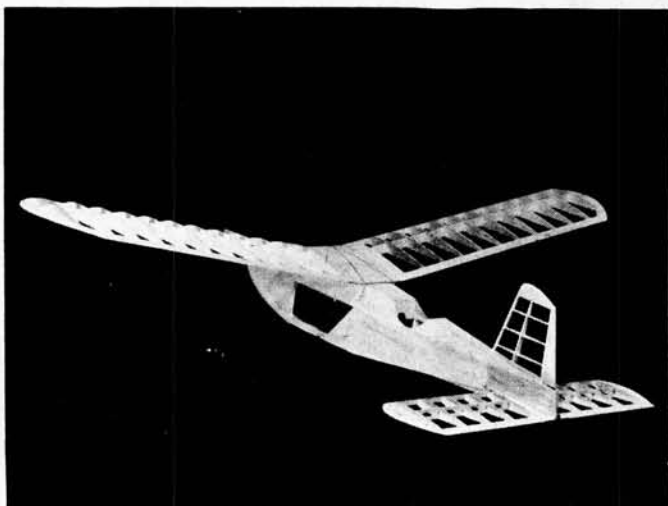


A good shot showing "Little Arcy's" clean lines. Note the engine cowling. There is a trap door on each side of the fuselage affording easy access for field adjustments to the radio equipment.



The simple, built-up, balsa sheet fuselage is practically self-aligning. This is an excellent ship for the model builder who desires an uncomplicated job for his first try at radio-control.

LITTLE ARCY

by Bob Miller

**The perfect job for the new RC
Citizen Band. "Little Arcy" has
no mean streaks to rattle you**

● Little Arcy is a smooth flying job with no mean streaks to confuse the tyro R/C modeler at a time when he can ill afford to be rattled. Powered with an Arden .099 on glow plug, plus a Tornado Plasticote 9" diameter/4" pitch prop, this ship has a smart climb with snappy turns. And, after about one minute of engine run, it will have enough altitude to practice three or four 360° turns on the way down.

The construction is conventional, so rather than a stick by stick account of it all, we will offer a few important pointers which are the essence of a good R/C model. Select your wood carefully, bearing in mind the job it has to do. Pre-cement all joints and let them dry. Reapply cement and join the pieces and you will have a break-proof joint. Silk, paper or nylon covering is left to the choice of the builder, but our last couple of ships were covered with SGM Silkspan and they still take a beating. One of these jobs hit a train head-on and the covering didn't pop in one single place.

A warp-free airplane is one of your greatest assets. To get straight flight from an out-of-rig or warped plane is quite a task. Build carefully and if any warps do occur, remove them immediately.

Since the wing and tail are of conventional construction, they can be built first to get warmed up. Do not

neglect the piece of music wire on the wing and elevator trailing edge as it prevents the rubber from cutting into the wood.

The fuselage side is carefully drawn on a $\frac{3}{32}$ " x 3" x 36" hard balsa sheet. Pin this sheet to another like it and cut the two sides simultaneously. Add the $\frac{3}{32}$ " x $\frac{1}{4}$ " stiffeners as indicated. The stiffeners outline the access door in the side, so they are easily cut out by running a very sharp pointed knife along the proper members. Save the cutouts as they are fitted with hinges and form the finished doors.

The fuselage sides form straight lines from the nose to the tail. Assemble the sides and F-1 upside down, with F-1 overhanging the end of the workbench. With F-1 in place and the tail end cemented together, the unit can be removed from the bench to be finished. Next, add F-2 and F-4, then the wing saddle. Add the rest of the bulkheads and finish the balance of the sheeting. The sheet fill-in around the wing saddle is accomplished with one piece between F-3 and F-4 while scrap balsa can be used between F-2 and F-3.

Finish the entire model and cover it with your choice of material. Wood areas of the fuselage are also covered as this adds strength and eliminates filler.

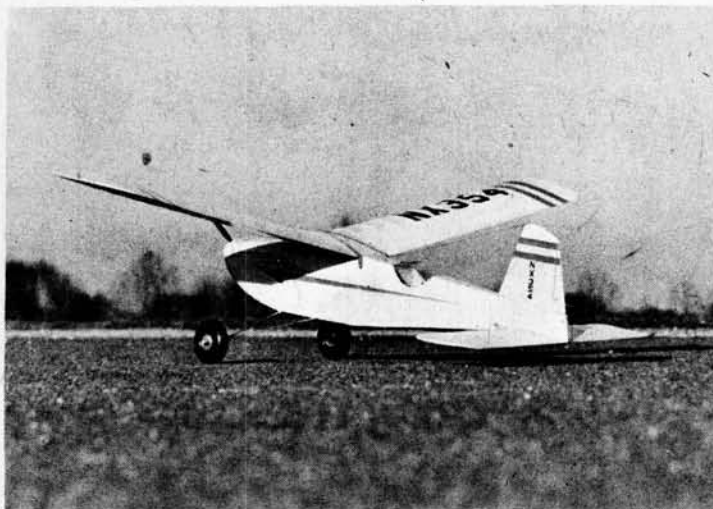
The finished model weighs 26

ounces and, with its 14 ounces of R/C gear, the total weight is 2½ pounds, giving it a 13-ounce-per-square-foot loading. The model responds beautifully and a higher wing loading seems possible. Hence, almost any available commercial R/C equipment can be used as few exceed the above-mentioned 14 ounces. You have the opportunity of using equipment for the 27.255 mc. or 465 m.c. bands, neither of which require operator licenses.

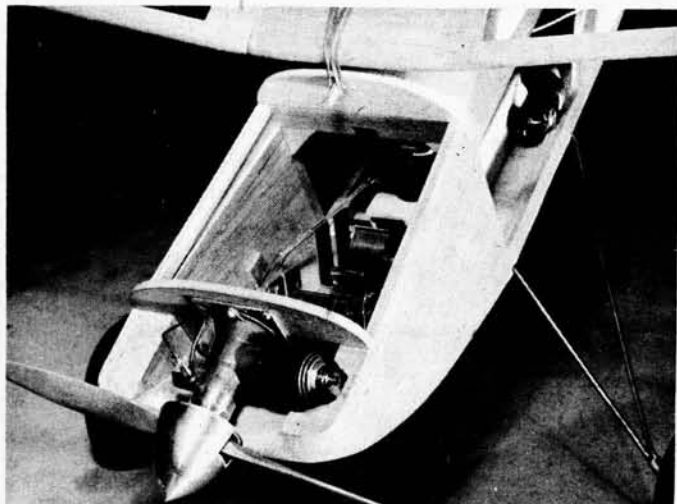
The escapement and "A" batteries are carried in metal pen cell boxes on each side of the fuselage. The two Ever-Ready 412E "B" batteries will fit in a standard 4 pen cell, metal Austin-Craft box. Try one, they are really neat. All batteries are mounted in the nose section and are accessible through the top hatch. The receiver is rubber-band slung from the hooks in the fuselage. A pad of airfoam rubber should be placed under and slightly ahead of the receiver to take up any severe shock.

Mount the "Pot." and D.P.S.T. slide switch in the floor on the left side of the receiver. The meter plug or jack is mounted on the left side just behind the door. The four or five pin socket is mounted on the floor on the right side of the receiver. Wire up all the components according to the type of receiver used. The antenna is taken through a fiber grommet in the fuse-

FLYING MODELS



The open cockpit, tail wheel and "NX" numbers give the model a realistic appearance. Although the original had wood areas covered with Silkspan to eliminate filler, final finish is optional.



Note the neat, easily accessible engine installation. The power plant is mounted sideways to utilize the simple fuselage construction, while integrating the graceful cowling-in effect.

lage top midway between the cockpit and the wing trailing edge.

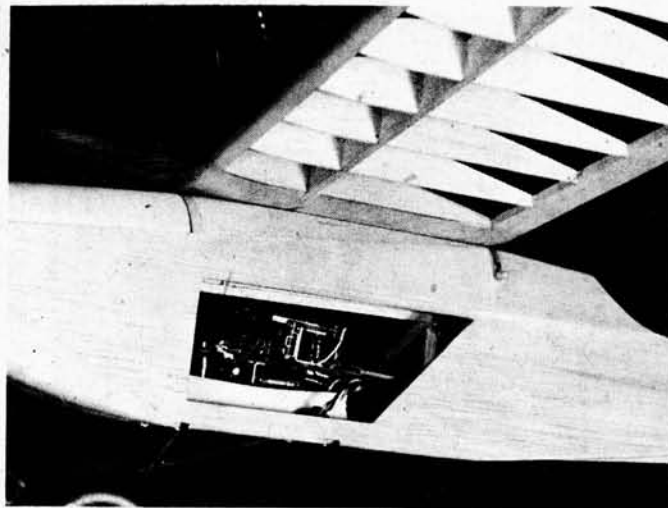
Any escapement-rudder linkage system may be used. The one featured is borrowed from our British friends and has great merit. The rudder crank pin actually amounts to a continuation of the escapement shaft. However, a coupler of some sort must connect the two. To vary the amount of rudder movement, increase or decrease the crank throw. Whichever system is used, the rudder movement should be $\frac{1}{4}$ " each side of center and nothing should bind. The escapement rubber extends to the firewall and is wound by cranking the rudder crank after each flight.

Check the radio installation for operation at this time and correct anything not in order. One of the first lessons to learn is: A rig not functioning perfectly on the ground will fare no better in the air.

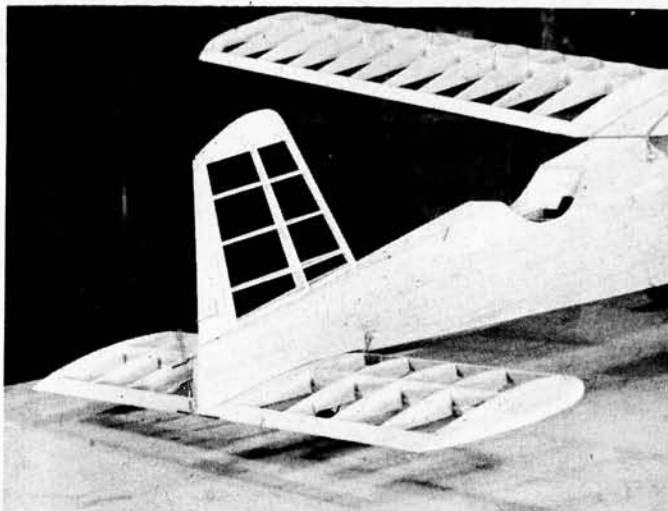
The model should have no warps of any kind, otherwise trimming will be difficult. It should balance level when held along the wing spar. Try gliding the model from about four or five feet. It should be fairly fast and smooth with no mush or float. If it tends to dive too much, add a bit more negative to the elevator. If it wants to stall, take out a little negative.

We practiced 90° turns with Little
(Please turn to Page 32)

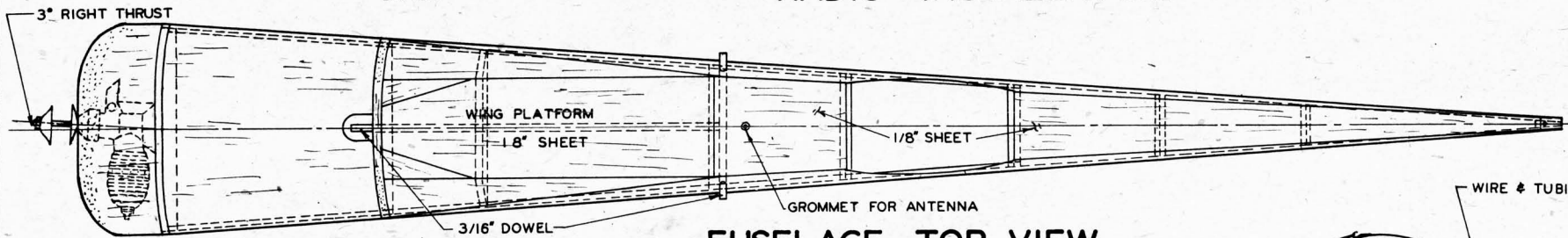
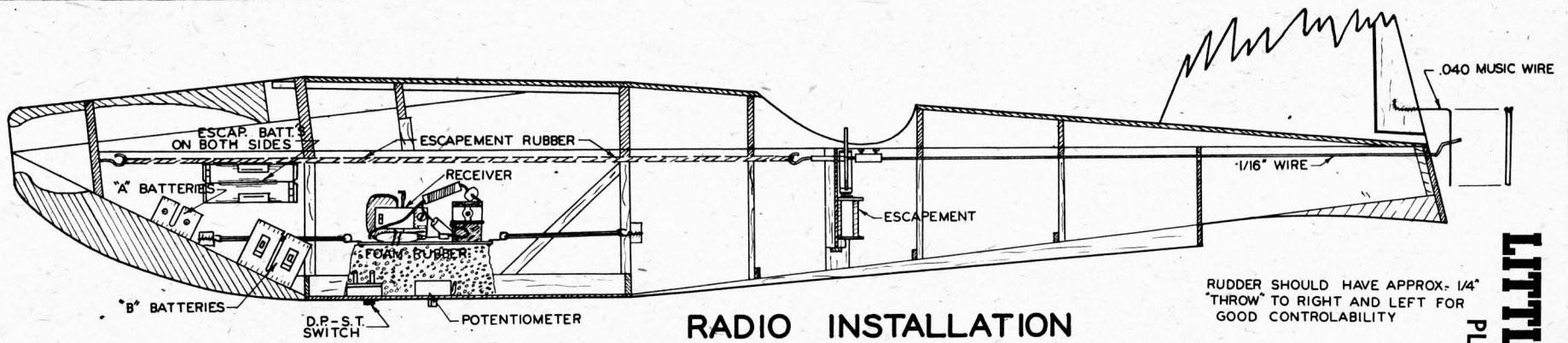
FLYING MODELS



Here is a close-up of the RC unit showing how the two trap doors make it easy to get at. The wing has notched trailing edges for the ribs, adding to its strength, durability and warp-proofing.

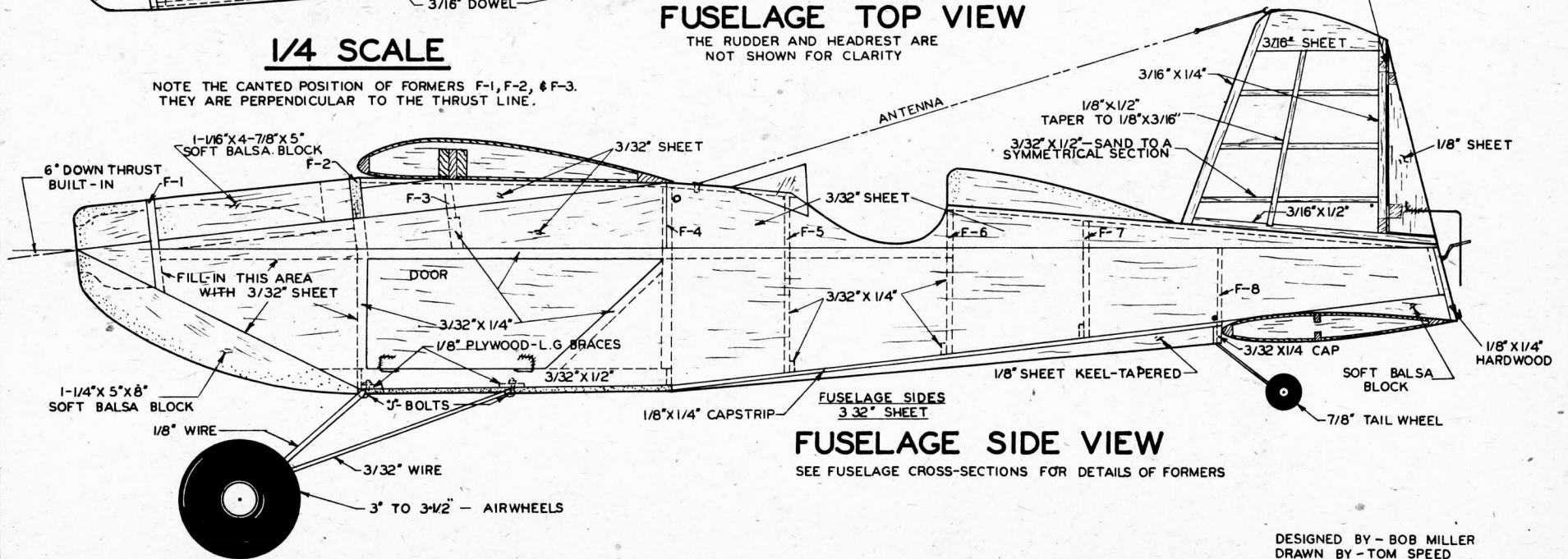


A close-up of the escapement-rudder linkage. The rudder crank pin is actually a continuation of the escapement shaft. However, a coupler connects the two. Both rudder and stab are built up.

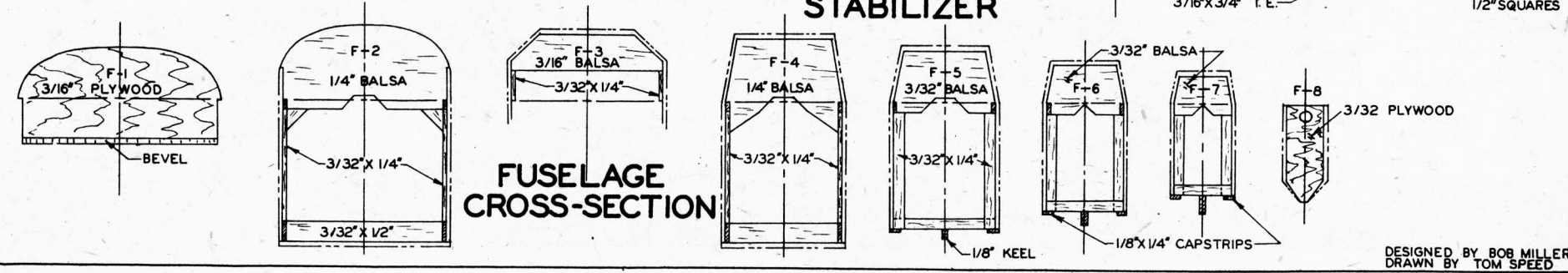
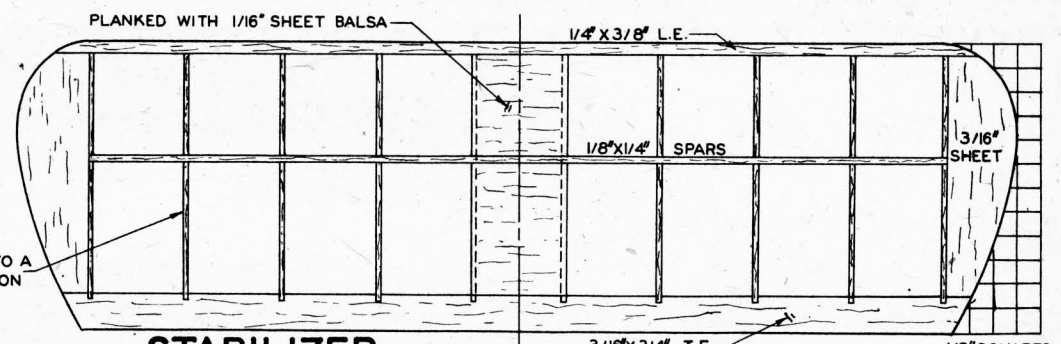
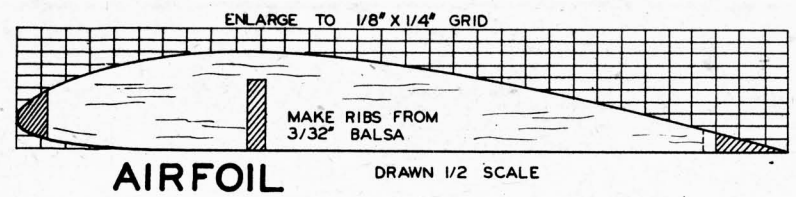
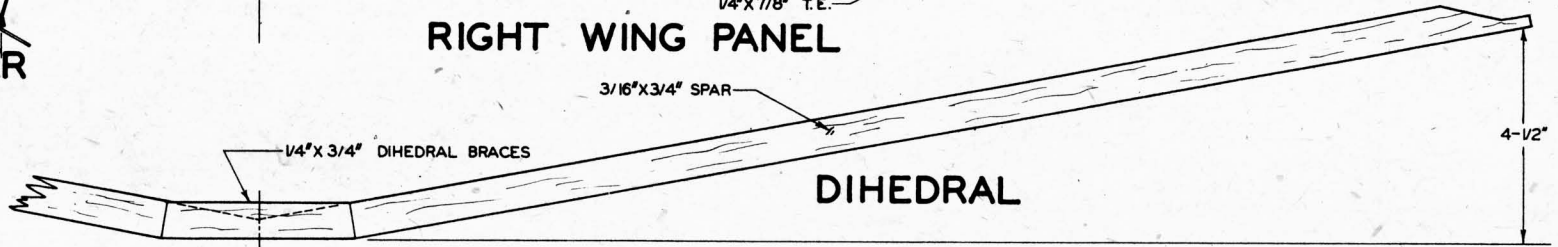
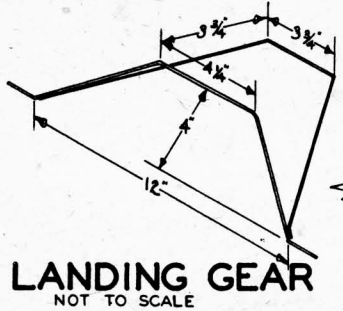
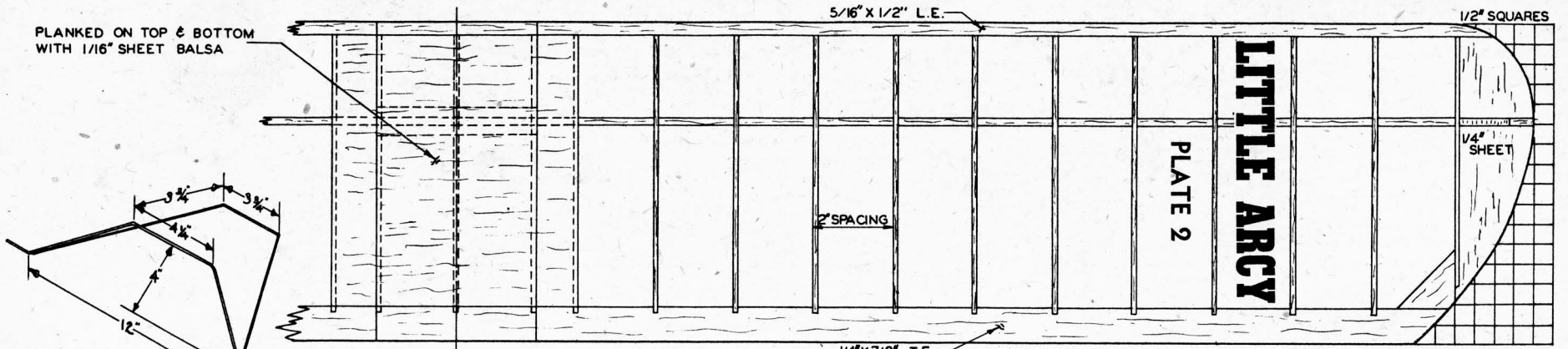


1/4 SCALE

NOTE THE CANTED POSITION OF FORMERS F-1, F-2, & F-3. THEY ARE PERPENDICULAR TO THE THRUST LINE.



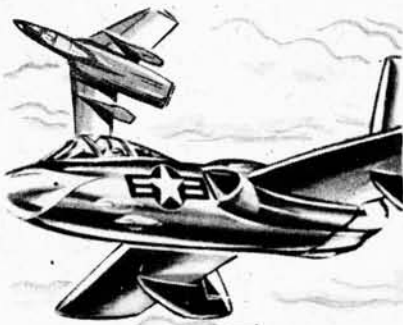
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LITTLE ARCY

(Continued from Page 11)

Arcy by gliding her from a high embankment into a ball diamond while keying the transmitter. This aided greatly in determining the amount of rudder movement necessary and at the same time warmed us up to the response of the ship.

Try your first power flight with the R/C rig in operation, as the model is not mean. The 3° right thrust with the 9" / 4" prop should produce straight flight. In a 180° turn, the nose will just start to drop; so you don't need to worry about spinning her in. However, it is advisable to limit yourself to 90° turns until you are familiar with the ship.

If the model glides well but has a tendency to stall slightly under power, especially after making a shallow turn, increase the downthrust. Any R/C model will tend to stall after recovery from a diving turn. To eliminate this, merely apply alternate right and left rudder as she comes out and the excess speed will be dissipated.

BILL OF MATERIALS

(Balsa unless otherwise indicated)

3-3/32" x 2" x 36" (hard)	Wing and elevator ribs
2-3/32" x 3" x 36" (hard)	Fuselage sides
1-1/8" x 3" x 36" (hard)	Fuselage top and miscellaneous
2-3/32" x 2" x 36" (med.)	Fuselage top, sides
4-3/32" x 1/4" x 36" (hard)	Stiffeners
1-3/16" x 1/2" x 36" (hard)	Stiffener
1-1/8" x 1/4" x 36" (hard)	Fuselage bottom cap strip
2-5/16" x 1/2" x 36" (hard)	Wing L. E.
2-1/4" x 7/8" x 36" (hard)	Wing T. E. (Tapered)
2-3/16" x 3/4" x 36" (hard)	Wing spars
1-1/4" x 3/8" x 36" (hard)	Elevator L. E.
1-3/16" x 3/4" x 36" (hard)	Elevator T. E. (Tapered)
2-1/8" x 1/4" x 36" (hard)	Elevator spars
1-3/16" x 2" x 36" (med.)	Tips, Bulkheads, etc.
1-1/4" x 2" x 36" (med.)	Tips, Bulkheads, etc.
1-4" x 8" x 1 1/4" (soft)	Nose block
1-2" x 2" x 4" (med.)	Cowling block
1-4" x 5" x 1 1/8" (soft)	Hatch block
1-1" x 1" x 6" (soft)	Head rest

1/4" x 18" birch dowel; 1/8" dia. x 36" steel rod; 3/32" dia. x 36" steel rod; 1/16" dia. x 36" steel wire; .040" dia. x 36" steel wire; 1/16" O.D. x 2" Aluminum tubing and length of music wire to fit; 3" or 3 1/2" dia. air wheels; 7/8" tail wheel; "J" Bolts; other hardware and covering material; dope; cement; prop; .09 Arden or similar glow-plug engine.

LUCKY 13

(Continued from Page 25)

ing, so that warpage may be prevented. Silkspan-covered portions receive two coats of clear dope and the balsa-covered center section receives three coats of colored dope. Again pin the wing to a flat surface during doping. Tail surfaces should receive three coats of colored-dope, sanded between coats.

The stabilizer is slipped into the slot in the fuselage and cemented securely. The rudder is cemented to the fuselage at this time, also.

Mix talcum powder with clear dope until a pasty consistency has been obtained; brush a coat on the engine cowling. Let this coat dry, then sand smooth and apply another coat. When the second coat has dried, sand the

entire cowling to a glasslike smoothness, using very fine sandpaper. Next, apply three coats of colored dope to the cowling. With the engine mounted securely in position, cement the lower cowling section to the firewall.

Add the celluloid windshield and canopy at this time. Trim around the windshield and canopy with black dope or Trim-Film.

All exterior surfaces are now given two coats of fuel proofer. The interior of the engine cowling also should receive two coats of hot-fuel proofer.

Mount the wing with rubber bands, passed over the wing mount dowels as noted on the plan.

ADJUSTING AND FLYING: The original model tipped the scales at 7 3/4 ounces with the engine installed and was in perfect flight trim right off the work bench.

Test-glide your ship from shoulder height over tall grass and make minor adjustments by warping the elevator or rudder, as may be required. Check for erratic flight on your first power flights and correct by adjusting as in the glide tests.

When you are satisfied, fill the tank and start chasin' brother!

BILL OF MATERIALS

(Balsa of medium grade unless otherwise noted)

4-1/16" x 3" x 36"	Fuselage sides, bottom and top. Formers, wing ribs, and wing center section covering
1-1/8" x 3" x 36"	Tail surfaces, landing gear fairings
1-1/8" x 3" x 6" (soft)	Wing tips
3-1/16" x 1/16" x 36"	Fuselage stringers
2-1/16" x 1/8" x 36"	Rear wing spar, former No. 2 stiffener
2-1/8" x 1/4" x 36"	Front wing spar
2-3/16" x 3/16" x 36"	Wing leading edge
2-3/16" x 1/2" x 36"	Wing trailing edge
2-1 1/2" x 2" x 2 1/2" (soft)	Engine cowling
1-1/8" x 2" x 2 1/2" (plywood)	Firewall

1-1/8" Diameter x 5" hardwood dowel for wing mount; 1/8" diameter steel wire for landing gear and tailskid; .040" diameter steel wire for windshield support; 2-13/16" diameter sponge rubber wheels; 1/8" diameter hardwood dowel for engine cowling mount; Rubber bands for mounting wing; Celluloid; Silkspan; clear dope; colored dope; cement; hot-fuel proofer; Trim-Film or masking tape; and .065 Royal Spitfire or similar engine.

THE .099 SPORTLINER

(Continued from Page 13)

to the leading edge of the elevator. Add the tips, and finish by sanding completely. Then, add the cloth hinges and elevator horn, which is located on the center of the spar. Attach the push-rod to the horn; then cement the stabilizer onto the fuselage. To complete, secure the other end of the push-rod to the bellcrank. Before covering the bottom, bend the tail skid and mount to a plywood wedge secured with crinoline.

Cut the rudder from 1/32" plywood, the dorsal fin from 1/32" sheet balsa. Sand to a streamlined shape.

FINISHING: Cover the bottom and fill in between formers B and C with a balsa block. In order to cover the remaining portions of the fuselage sides, the bottom of the sheet balsa should be beveled to facilitate cementing the tissue to the formers. Com-

(Please turn to Page 44)

FLYING MODELS