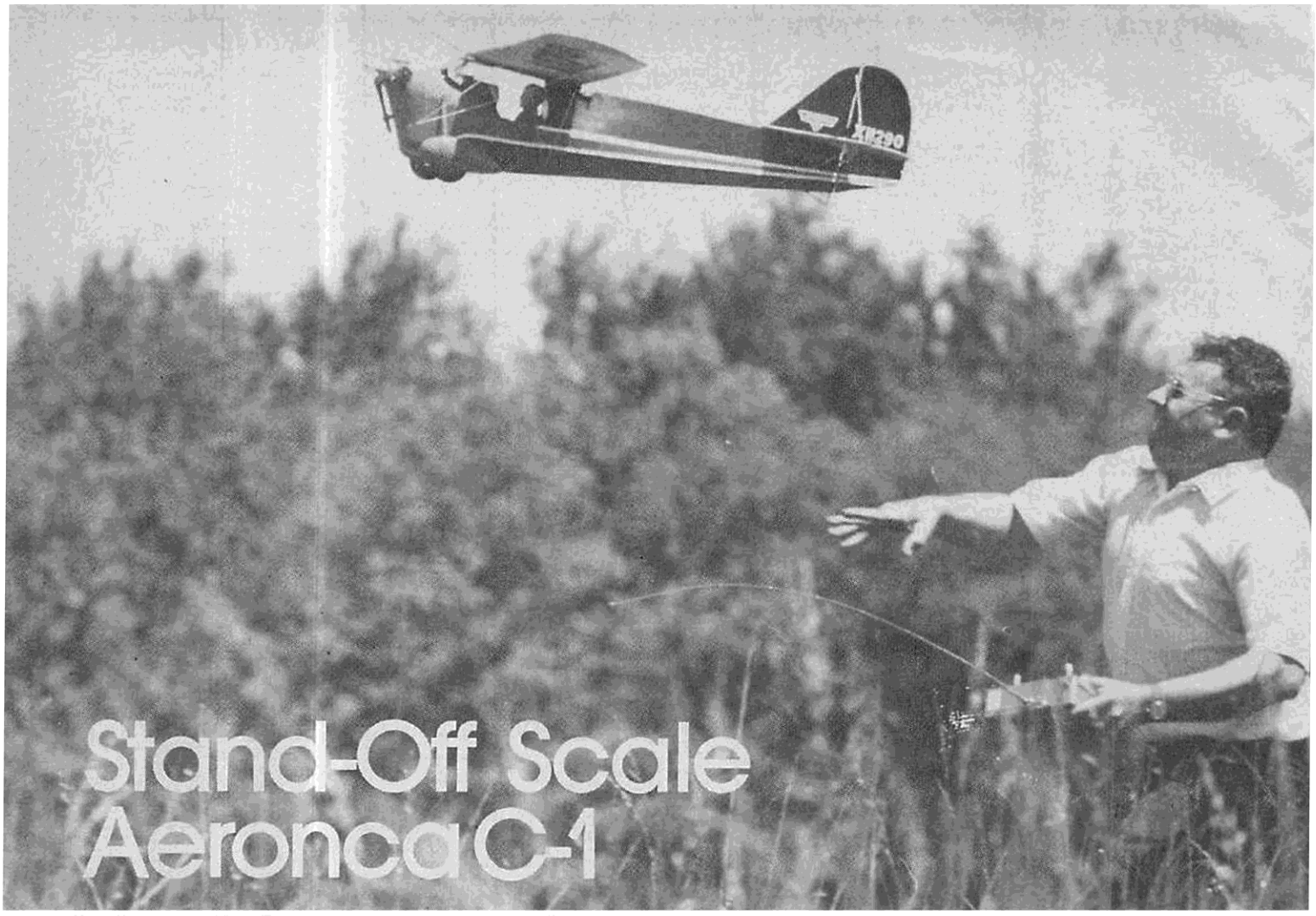


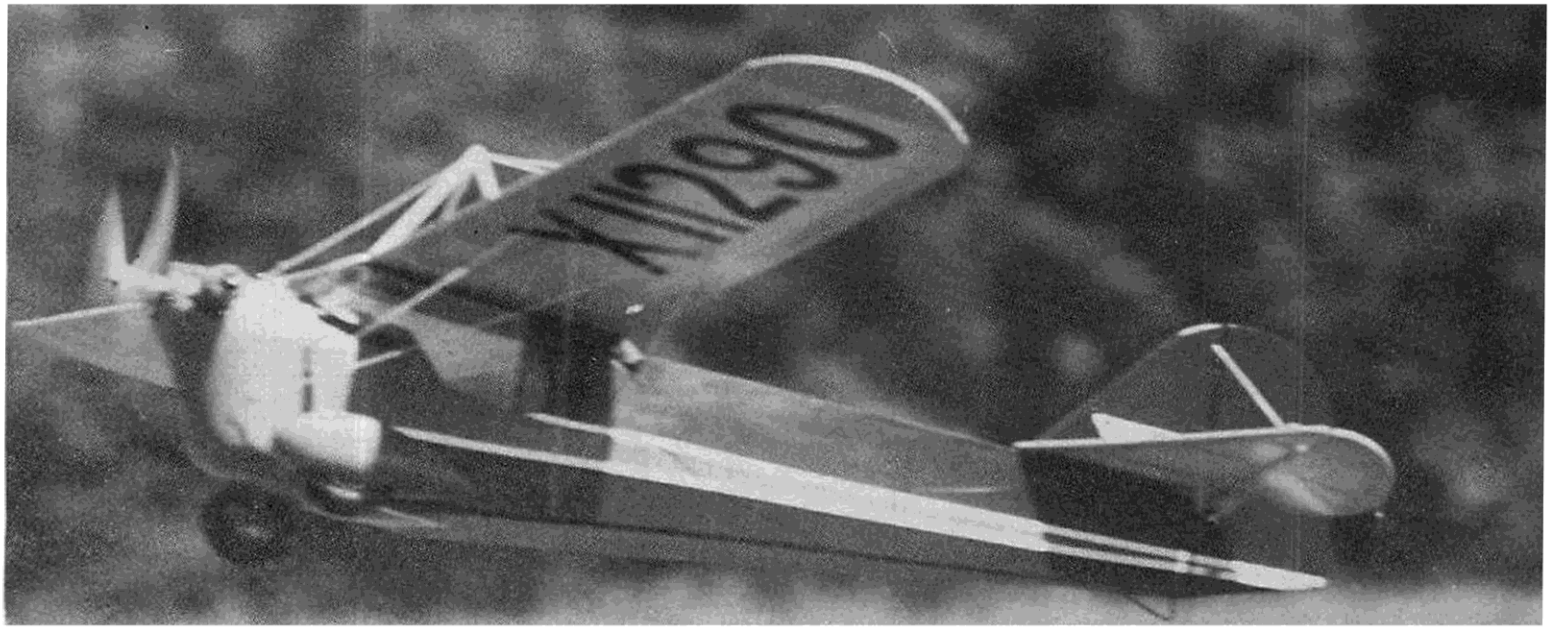
Stand-Off Scale Aeronca C-1

PHOTOGRAPHY: BOB HOECKELE

A Stand-Off R/C oldie that captures an age. An easy aircraft to build and mild mannered in flight with a .19 for power/**Al Wolsky**

The "Golden years of aviation" are usually referred to as the decade of the '30's. During that period aircraft were designed in which the designers had high hopes, but when placed on the market they did not sell well. Many such companies and their designs dropped from the scene leaving only an example or two around. Dope and fabric with wooden spars was the thing. Usually the planes were slow and underpowered by today's standards. One such type of lightplane as presented here, of which one was built, was the Aeronca C-1 Scout.

In 1929 the Aeronca Aircraft Co. was formed and went into production with the C-2 which was designed by Jean Roche. It was an immediate success even though the country was in the midst of the depression. It's two cylinder engine burned two gallons



of gas per hour. Cost was $1495. 164 C-2's were built between 1929 and 1931. In early 1931 the company felt there was a market for a faster more highly maneuverable C-2 type plane for air racing and air show aerobatics. The C-2 airframe was changed by reducing the wingspan from the 36 foot C-2 wing to 29' 4". Fuselage was beefed up by using heavier steel tubing and a slightly larger engine was installed. Advertised as the C-1 Scout, the first plane serial number X-1129 was completed in March, 1931 and test flown. Performance was beyond expectations. The price was to be a low $1245. The company general manager would put the little ship through what seemed to be many reckless stunts during various airshow demonstrations. On September 12, 1931 during his usual antics he went into a rear vertical bank and the plane slipped and slammed into the ground. The pilot was killed and the aircraft destroyed. After this accident the company lost interest in the little plane and it was never put into production.

For a complete history of the Aeronca, #9856 Historical Aviation Album No. 10 by Paul Matt is an excellent book. This is available from Carstens Publications, P.O. Box 700, Newton, N.J. 07860. Price is $5.25.

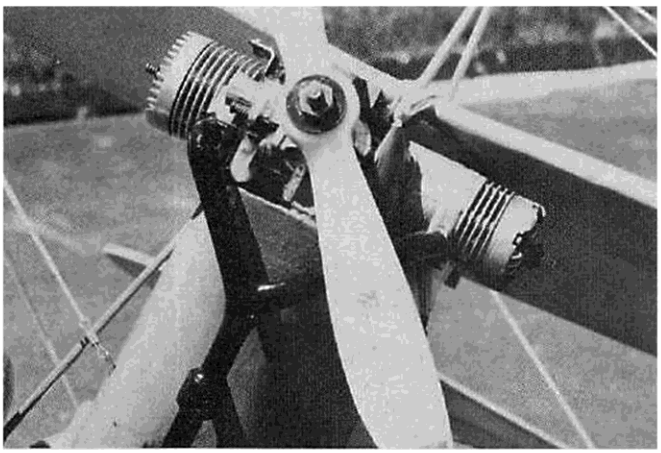
The model is scaled 2" to 1', a Stand-Off Scale design.

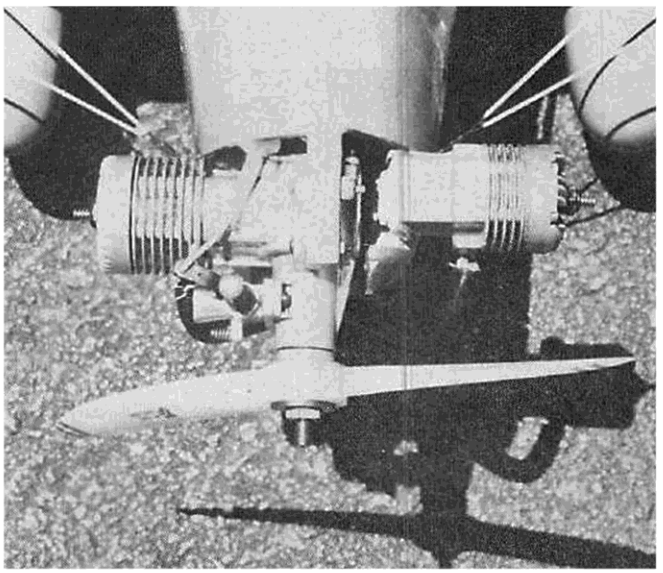
Fuselage Structure

The fuselage has a basic triangular shape from the cockpit back and can be built in your hand. No top view is needed since the length of bottom cross-pieces are given on the plan side view. Start with two 1/8" x 6" balsa sheets of equal strength and cut two sides from the side view. The sheet will be slightly short at the bottom so use the pieces cut from the rear to add on where necessary. Slightly shave the inside top of both sides back to the tail and glue these together. Cut the firewall, gear mount and other formers from materials as called for. Glue the 3/16" sq. stiffeners to the inner surfaces as shown. Next, with a razor slightly score both sides so they can be pulled in to the firewall and former F-2. Epoxy firewall and F-2 in place and glue in the cross-pieces.

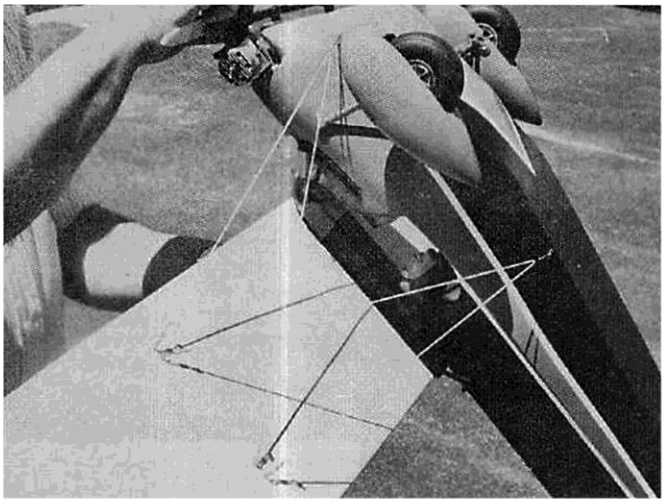
Bend the gear from 5/32" dia. wire and bind to the floor with heavy cord. Place the fuselage in location and coat with epoxy. Glue 3/32" sheet doublers on the inside of the nose back to F-4 to strengthen this area. Also triangular pieces at the firewall. Cut the two 1/8" ply wing and stab mounts and install. Drill out the holes in the wing mount to locate two 1/4" dia. dowels which in turn are cemented into F-4 to support the wing mount. Bind the forward hook in place, then cut and fit the tank floor. A 4 oz. tank will fit this area. Soak a piece of 1/16" sheet and bend this into a half circle shape and position between the two F-4's and over the tank. This gives the appearance of the real tank which was located in this area.

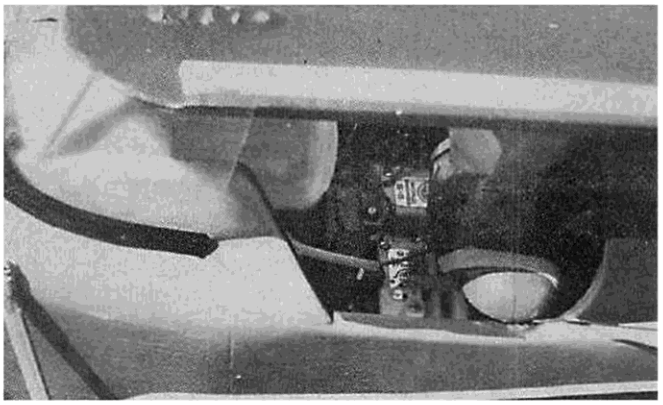
Cut out the motor mount and brace with 3/8" hardwood and epoxy to firewall, then glue a soft nose block in position, butted up against the mount. Small blocks are cemented on either side. When the glue sets shape the nose, refering to the pictures for curvature. The lower block could be re-





Three views of this Golden Era airplane opposite page and top. All the shots were taken at the FLYING MODELS field at our office. Two views of the nose (above and right) show the engine and dummy cylinder head.





The wire bracing (**left**) is strictly for show and does not structurally support the wing. The shot **above** shows the radio installed in the cockpit. How would you like to be a pilot with a World Engines rig in your chest?

moved and hollowed out to lighten if desired.

At this point it might be wise to install servo mounts. Temporarily install the servos along with the two Nyrods (which I recommend) as it will be less trouble than after the bottom is sheeted. Once installed leave the length extra long at the back for connection later. Sheet the bottom with ⅛" stock, grain crosswise. Glue the two F-5 fairings onto each side.

I would like to mention now about covering the fuselage. Whatever material you use is only cemented to the very top and bottom of each side. If this is done carefully the finished result will appear as though the fuselage is a built up framework since the covering will not be touching the sheet construction underneath.

The Tail Surfaces

All the tail surfaces are built up of ¼" sq. balsa and sheet material and should present no problem during their construction.

Wing Construction

Cut all the ribs as noted, tips and trailing edges. The two ¼" x ⅜" hardwood spars are cut at their center so with one half on the bench the other half is angled up 4" (total dihedral) at a point 28⅞" out from the center joint. Cut the ¼" ply dihedral brace and epoxy this in place at the center. This should be done with accuracy on your building board. When the epoxy sets measure from the center 27¾" and trim excess off. These ends represent the location of the W-4 ribs. Now pin the 1/16" x 1" lower trailing edge to the plan and glue all ribs in place. Follow with the balsa top spar, leading edge and top trailing edge, then add the tips and sheet the top front, center and bottom of the wing.

Finish Details

Sand all the wood smooth, rounding off edges, removing dried glue. When finished, cover the model with your favorite material. I used Silron. All frameworks were clear doped before covering and the raised grain was sanded down. Covering was applied wet, then given four coats of clear dope, sanding lightly between each. Color is up to you. I chose a dark green fuselage, fin and rudder, with license numbers on the wing. Stabilizer, wing and elevator are Cub yellow. The nose, fuselage strips and wheelpants are a light green. Wheelpants are held in place by a metal plate soldered to the gear wire. Two holes in this plate accept small wood screws which in turn screw into a ⅛" ply insert in the back of each pant. Windshield is held on with a super glue. The scale exhaust dresses up the model and is for display only. An old Fox .19 cylinder was used to give the appearance of a two cylinder scale engine.

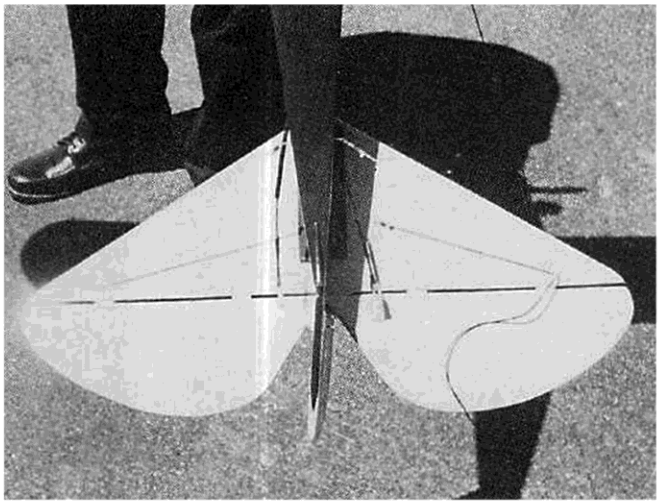
The streamline wires are simulated by using elastic cord that can be purchased at a yarn store. Use straight pins bent into an eye hook shape. They are pushed into locations shown and held with a drop of super glue into the hole. Small controline clips are used at the cord ends. The two gear struts are for show and made removable.

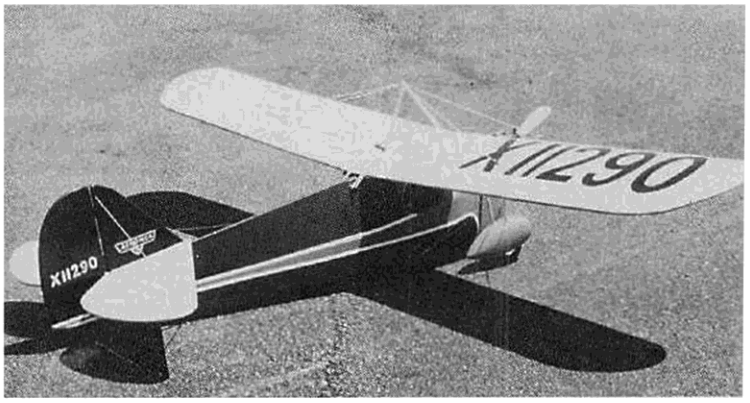
Epoxy the stabilizer in position after removing covering material in the area it will make contact with the stabilizer mount. At this time install your servos and finish your Nyrod installation and motor control.

Flying Notes

I suggest an engine in the .19 to .29 power range. Make certain the completed model balances at the point shown on the plan. Notice if the wing has taken on a warp. If so steam it out twisting the warp in the opposite way over a steam source.

My C-1 Scout has been flown actively with a Fox .19 and I have had no problems with this design. Here's wishing you many hours of carefree relaxed flying. It's a little known Aeronca prototype from out of the past. Fly it safely. ⋐





The tail feathers (**left**) are simple and straightforward like the rest of this airplane, again the rigging is strictly for show. Interesting lines on this rear view could help make it a winner in Stand-Off Scale for you.