

PHOTOGRAPHY: BOB HUNT

an R/C Sport Scale
American Eagle
“Eaglet”

By Al Wolsky

An obscure aircraft from the days of the depression provides
the basis for a nifty three channel fun scaler for .35's.

Records show that 215 aircraft companies were in business in 1930. With the great “American Depression” in progress at the time, the number fell to a low of 110 by the end of 1931. It was during this 2 year period that a record number of new designs appeared on the market. All the companies had one thought in mind and that was try to survive. To do so, small light sport type airplanes seemed the answer. Most were two place designs powered by air cooled engines with 2,3,4, and 5 cylinders, of 25 to 45 H.P. One such sport light plane that came on the scene in November of 1930 was the American Eagle “Eaglet”, manufactured by the American Eagle Aircraft Company, located at Fairfax Airport in Kansas City, Missouri. The first “Eaglet” was powered by a Cleone two cylinder opposed engine of 25 hp. This model was limited to a pilot only, but on occasion carried a passenger. High hopes on this version, with

its low cost of \$995.00, soon proved that it had limitations due to the engine size. The company next installed the three cylinder Szekeley engine of 45 hp which proved to be what the “Eaglet” needed. It was with the Szekeley that some 80 or more “Eaglets” were manufactured before the company ceased production. Specifications and performance were: wing span, 34' 4"; length 21' 6"; top speed 80; cruising speed 70. Price at the factory was \$1575 in 1931.

The model faithfully follows the outlines of the real plane, although, if one studies photos of the various models, changes can be seen in nose shapes and also fin and rudder shapes. The model is scaled to 2" equals 1 foot, which results in a large sized model, needing an engine no larger than a .35 for power. The model is not too difficult to build, although care must be taken in bending and mounting the wing cabane struts. The fuselage shape is another area that is a little unusual. It is rec-

tangular in shape to a point just behind the cockpit area, at this point it takes on a sort of diamond in shape. Cross section views at F-4 and F-5 will assist you in construction.

Fuselage

In building the fuselage you will need three 1/4" sq. hardwood pieces. Either spruce or pine will do. Make two sides using the hardwood for the top longerons, which extend to the tail post. The bottom longeron is of 1/4" sq. balsa and terminates at the rear of the cockpit. Fill in from the firewall back with 1/4" sheet balsa. Later 1/16" ply can be contact cemented to what will be the insides to add strength to this area. To join the sides together place them upside down over the plan.

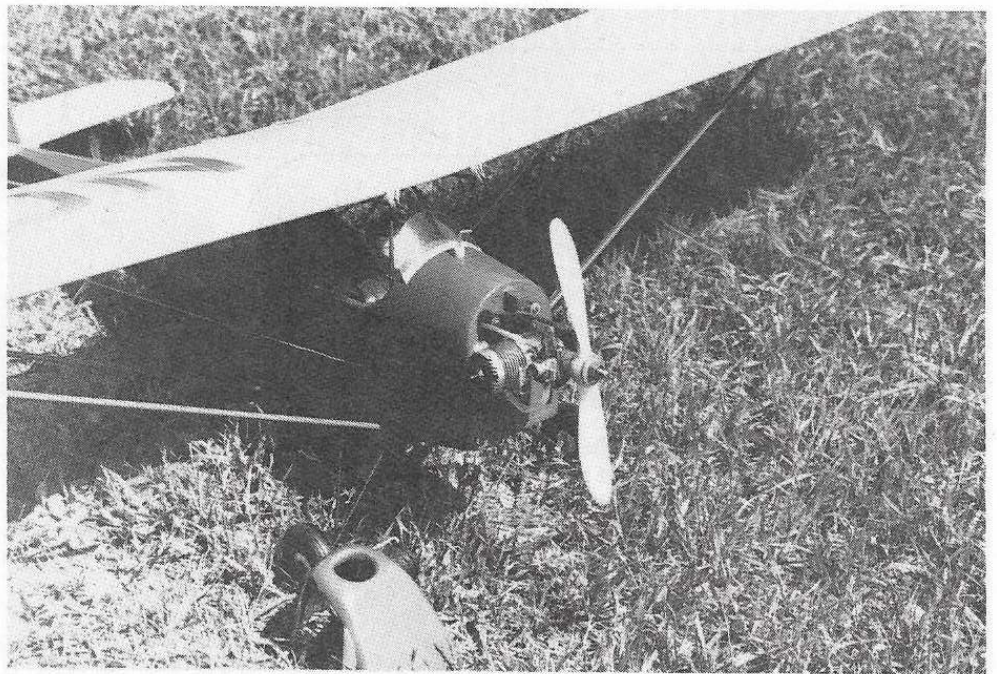
Glue the cross pieces, gear ply mounts, etc. in place. Cut a hardwood upright from the side view, at the rudder post location. Glue this in place. At the exact center of the bottom cross piece, at section F-3, glue in place a

$\frac{1}{4}$ " sq. hardwood piece that will extend back and glue to the upright at the rudder post. Next, fit and glue in place two $\frac{1}{4}$ " sq. balsa side pieces, note that these two pieces go back to section F-5. Cut and fit all pieces as noted (best done with a cut and fit method). When all are in place and dry remove from the building board and add the firewall and other formers, including the turtle back section. The cabane struts are bent from $\frac{1}{8}$ " dia. welding rod. The struts are either sewn with heavy cord or use "J" bolts fitted to two ply mounts that are cut to fit the fuselage. These are, in turn, epoxied in proper location paying attention to squareness when viewing from sides, front and top. A measurement taken from the side view (checking this to your's) will also help. The assembly of the cabane struts and wing rests are wired together with thin copper wire and soldered together. Refer to the fuselage top view which shows this.

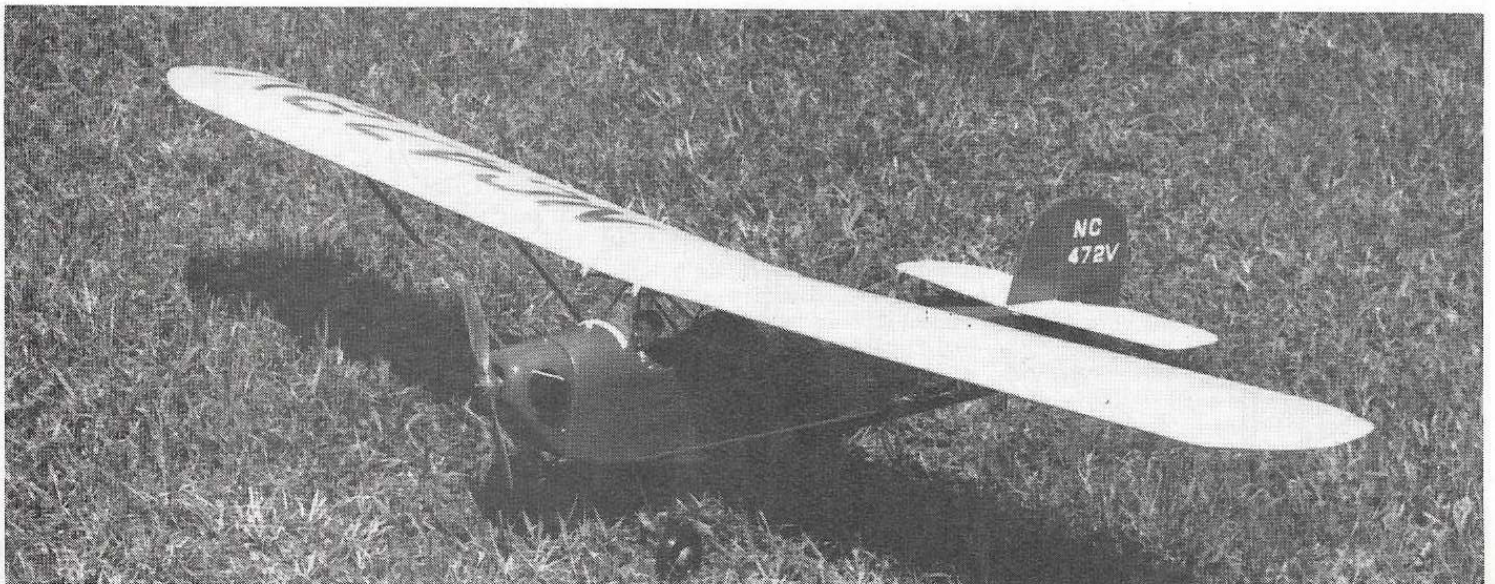
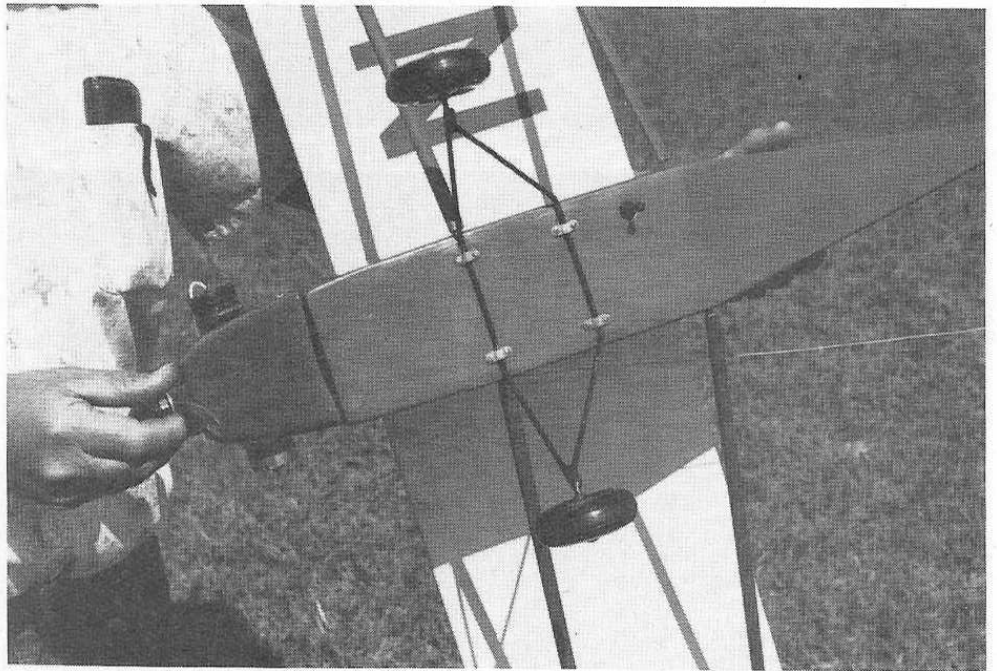
The cowl can be made of a hollowed balsa block, fiberglass, or four pieces of balsa can be glued together and shaped. The landing gear is made of $\frac{1}{8}$ " dia. steel wire. It is held in place with nylon gear clips screwed in place.

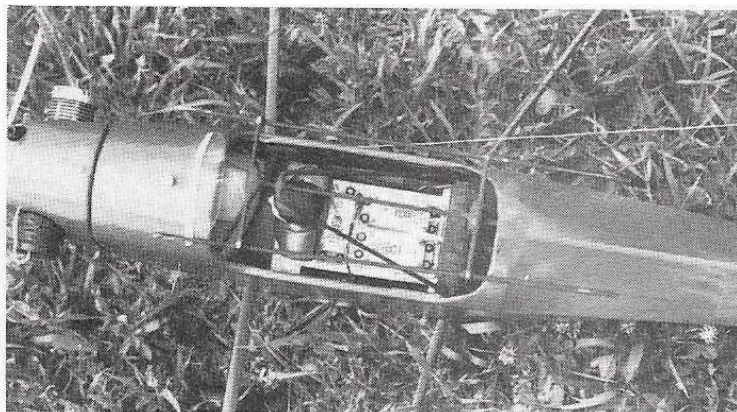
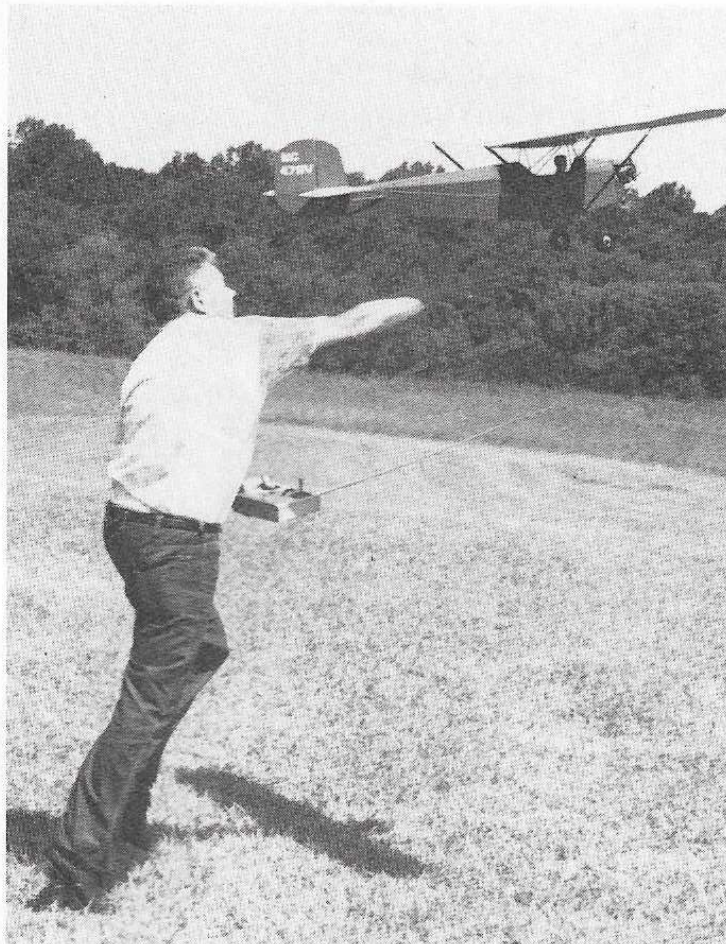
Wing & tail assembly

The hardwood spar is made first as a complete unit. The bottom is tapered to $\frac{1}{4}$ " starting from a point 4" in from what will be the tip end. This is done to match the tip pieces which are made of $\frac{1}{4}$ " sheet. Also notice that at the center bottom of the spar there is a 3" length that is cut away to match the dihedral braces. Cut out the two dihedral braces of $\frac{3}{32}$ " plywood. Glue the two braces to the spar and clamp together. With the center flat on your bench, adjust for one and one half inches dihedral at each bottom end of spar. When dry locate one half of spar on plan, glue in place all ribs, tip pieces, these will have to be blocked up to meet spar. The trailing edge should be cut from $\frac{1}{4}$ " sheet, notched and glued in place to ribs. Add leading edge and top $\frac{3}{16}$ " spar, $\frac{1}{16}$ " sheeting can be glued in place next (soak in water if necessary to allow for bending). When this half has dried, oil the plan with furniture oil and build the right wing panel. The center section can be covered top and bottom with $\frac{1}{16}$ " sheet. This will require shaving the center three ribs down $\frac{1}{16}$ ". Add the ply strut bracket mounts at locations and the four aluminum brackets.

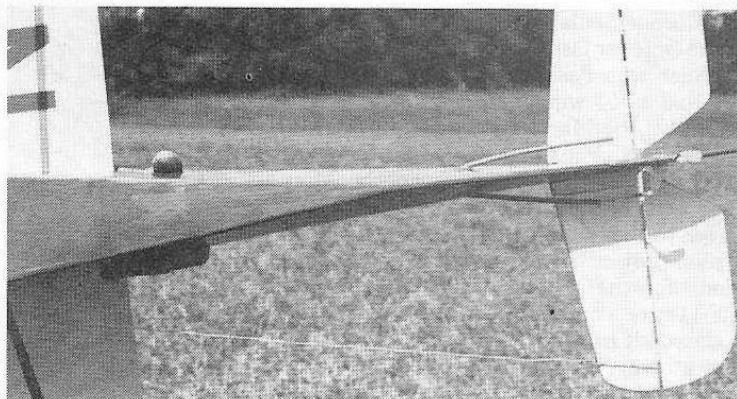


Eaglet with cowling removed (above). Side mounted engine allows a dummy cylinder to be included on opposite side of cowl to give impression of two cylinder scale engine. Simple wire landing gear attaches to bottom of fuse with nylon straps (below). This parasol plane is representative of 1930's light craft (bottom).





Author hand launches his Eaglet (left). Tail dragger gear may be a little tricky on rough fields. Radio equipment fits neatly in fuse at the cockpit area (above). Pushrod exit detail (below). AI and plane (bottom).



This completes the wing.

The tail assemblies are made of $\frac{1}{4}$ " sq. and $\frac{1}{4}$ " sheet balsa. There is nothing unusual in the construction of these parts.

The wing struts are made from $\frac{1}{4}$ " \times $\frac{3}{8}$ " pine, they are shaped to an air foil section. The lower end has a short piece of bicycle spoke which epoxied in a drilled hole in the strut end. The other end or top end has a metal clevis and threaded end. The bicycle spoke end is screwed in the nipple epoxied in the fuselage. Each strut is custom fit for its location, making adjustments at the clevis end.

Finishing

At this point the control push rods or FLYING MODELS

whatever you decide to use should be installed. Mount the engine and locate the servos, batteries, etc. to balance the model at the C.G. point. Naturally, this is done with wing and tail in place. When satisfied, locate the servo mounts permanently.

Before covering the model sand all frames smooth. In the case of the wing trailing edge, sand this to a tapered edge. Use your favorite covering material. My model is covered with Sig Cover-All which I have found to be excellent in ease of application and appearance. Using Elmers glue, which has been thinned out with water, brush on a coat of glue on the part to be covered. Lay a piece of Cover-All in place on the wet frame and smooth out the wrinkles as much as possible. Allow this to

dry before using your iron. When dry, slowly pass your iron over the covering. You'll be pleased with the results. Three coats of clear dope followed by three coats of color should be sufficient. My model was finished with a red fuselage, fin and rudder. Cream was used on the wing and tail.

Flying

No problems have been experienced in the flying qualities of the "Eaglet". It is not tricky to fly and its glide is much like a glider. I have climbed to 400' or 500' altitude shut the engine off and its glide is unbelievable, right to touch down. It sure lives up to its namesake, the Eagle. I am sure you will be pleased with your "Eaglet". Best of luck. ☺