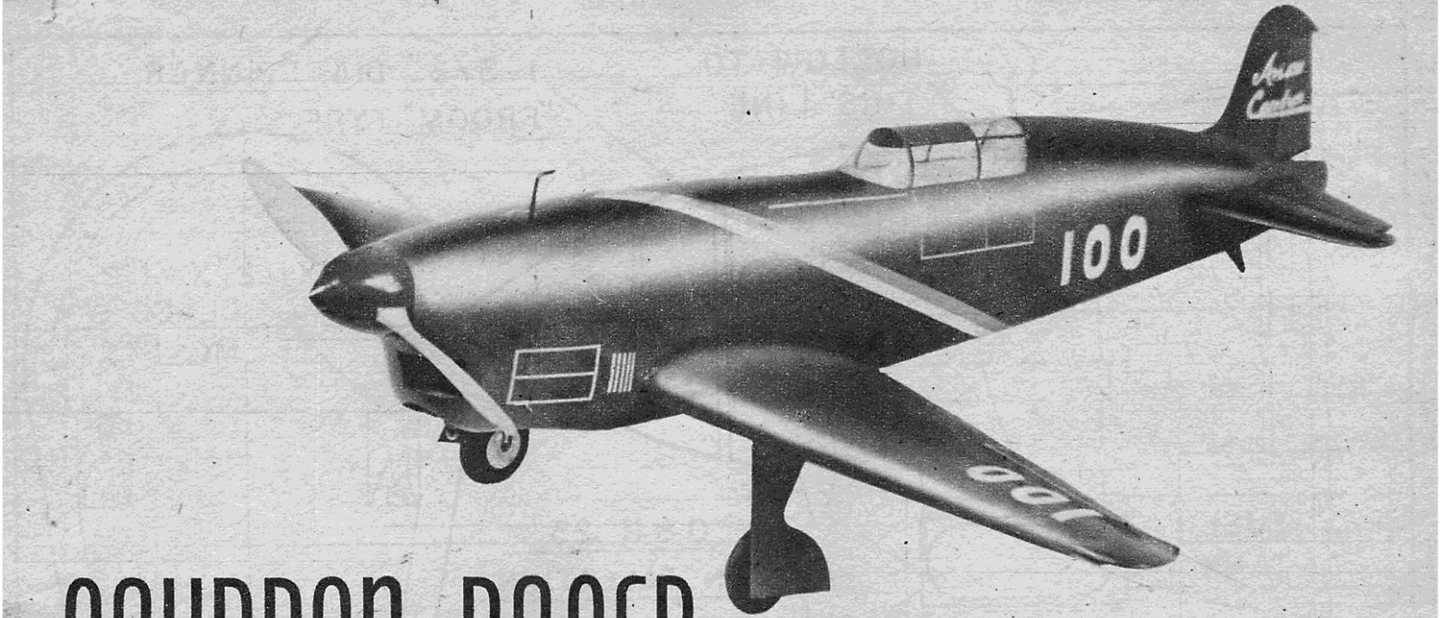


CAUDRON RACER

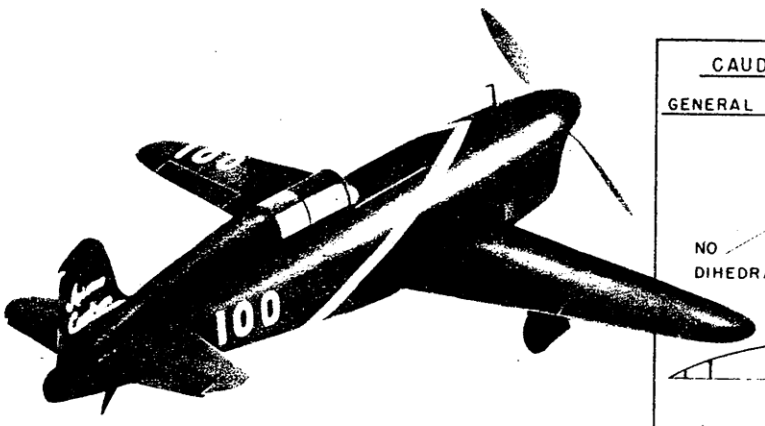
BY WALTER A. MUSCIANO

THIS GORGEOUS CONTROL-LINE SCALE SPEEDSTER TAKES A VARIETY OF ENGINES FROM O&R TO FOX

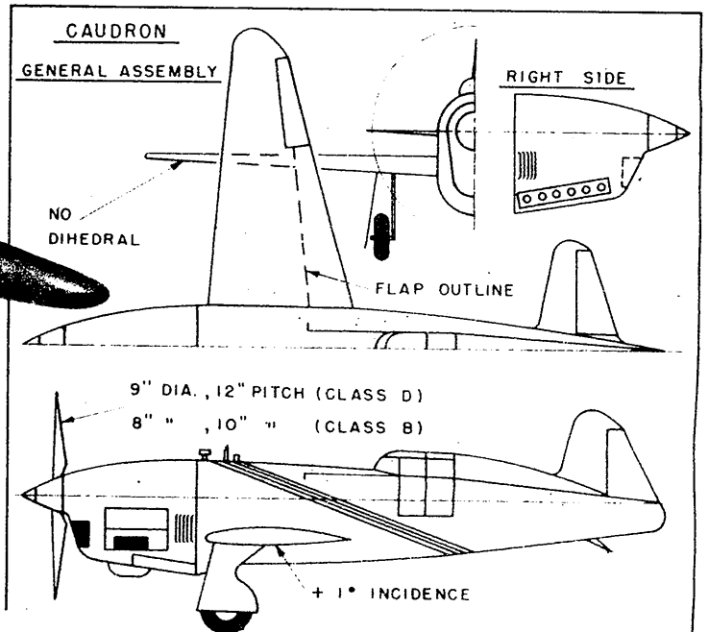
● Designer Musciano

THE current trend in control-line models appears to favor realistic appearance. Scale models are being restored to their former top position as they again enjoy popularity. However, this clamor for realism is not only to have a "good looker" but to have one that can hit high speeds or stunt as well. Careful selection of plane coupled with the proper engine plus good construction is required to win in coming contests. Study this French racing plane and you cannot help but visualize the craft as a super racing scale model. Using the new Fox 59 engine the craft has attained speeds of more than 115 mph! Higher speeds appear probable if close attention is given to propeller design and special fuel mixtures. The engine was glow-plug-equipped to save the weight of ignition units and produce higher speeds. The Fox engine fits into the slender nose nicely and the side-located plug decreases engine height. This factor combined with the exceptional power of this engine makes high speeds possible. If you desire to use this neat looking model for sport work, any engine from .19 cubic inch displacement up can be used. The plan includes a new Ohlsson and Rice 23 installation to illustrate this point.

A word about the full-size prototype. It was at the National Air Races in 1936 that this trim French Caudron left American competitors far behind in its propeller wash. Piloted by Michel Detroyate, the craft took the Thompson Trophy race with a speed of 264.26 mph, beating such famous designs as *(Turn to page 72)*



● One of the most remarkable entries in the National Air Races, this Caudron is a "natural" for speed-scale work.



CAUDRON RACER

(*Continued from page 57*)

Folkert's Special, Kieth-Rider and Crosby Special, all top-flight racers. The craft was powered with an in-line, inverted, air-cooled engine of 370 hp. The French government was so impressed with this tiny craft's performance that it had an interceptor version built and tested.

Construction is elementary. It should not take more than twenty hours to complete and fly the model. The builder should familiarize himself with the plans before actual construction is started. Every experienced modeler has his own construction procedure. However, it is suggested that novice and expert alike study the author's procedure as a matter of information.

Do not begin the model without knowing what size engine you intend to use. If a large engine is to be used, select hard balsa for the fuselage. Use medium soft for the smaller engines. Because of the fact that the plane has flat sides, the fuselage was constructed from ¼" sheet balsa sides and shallow blocks for the top and bottom. A soft balsa block is used for the nose.

The two ¼" sheet balsa fuselage sides are cut first and the hardwood engine mounts cemented to them. The location of the mounts depends on the engine to be used. Drill the mounts and install the engine. Be sure to plug any openings in the engine like intake or exhaust with a soft cloth to prevent wood shavings from entering. Install the ⅛" balsa bulkhead and join the two sides at the tail. This unit should be set aside to dry.

Wing construction is light yet quite rigid. In view of the fact that the top is straight and the bottom tapers up to it, it is advisable to start building the wing on the work bench upside down. Pin the top spar on the bench and to it cement the ribs, inverted. Add the bottom spar and the landing gear support. Use plenty of cement. The addition of the leading and trailing edge completes the basic structure.

While the wing is drying, cut the empennage from 3/16" balsa and sand to a streamline shape. Hinge the elevator and install the brass control horn as shown.

The controls are added to the wing at this time. Drill a ⅛" hole through both spars for the retaining bolt which serves as a pivot for the bellcrank. Attach the .028" dia. lead-out wires and pass through the holes in the ribs and leading edge. Form the landing gear from ⅛" wire and secure with strong thread to the bottom spar and plywood landing gear support. This installation should be coated liberally with cement. The wing can now be covered with 1/16" sheet balsa. Use a relatively slow drying cement for this operation and plenty of it. Add the solid balsa tips and when dry sand the wing smooth and attach to the fuselage by inserting the spars in the grooves. This joint should be cemented from both inside and outside of the fuselage. Install the 1/16" dia. wire control rod and cement the elevator in place after the control rod has been attached to the horn.

The fuel tank can be purchased from a hobby shop or fabricated from shim brass by the builder. The tank size will vary in proportion to the size of the engine. The engine mounts act as fuel tank mounts, too. The fuel tank should be installed at this point.

Install the nose block and hollow to fit the engine used. The fuselage top and bottom are attached and the entire fuselage carved to the proper cross sections when dry. Add the rudder and fin. It is suggested that with engine in place a Froom spinner be added before the fuselage is carved to shape in order that the lines of the fuselage can be faired to meet the lines of the spinner perfectly, thereby improving both appearance and speed.