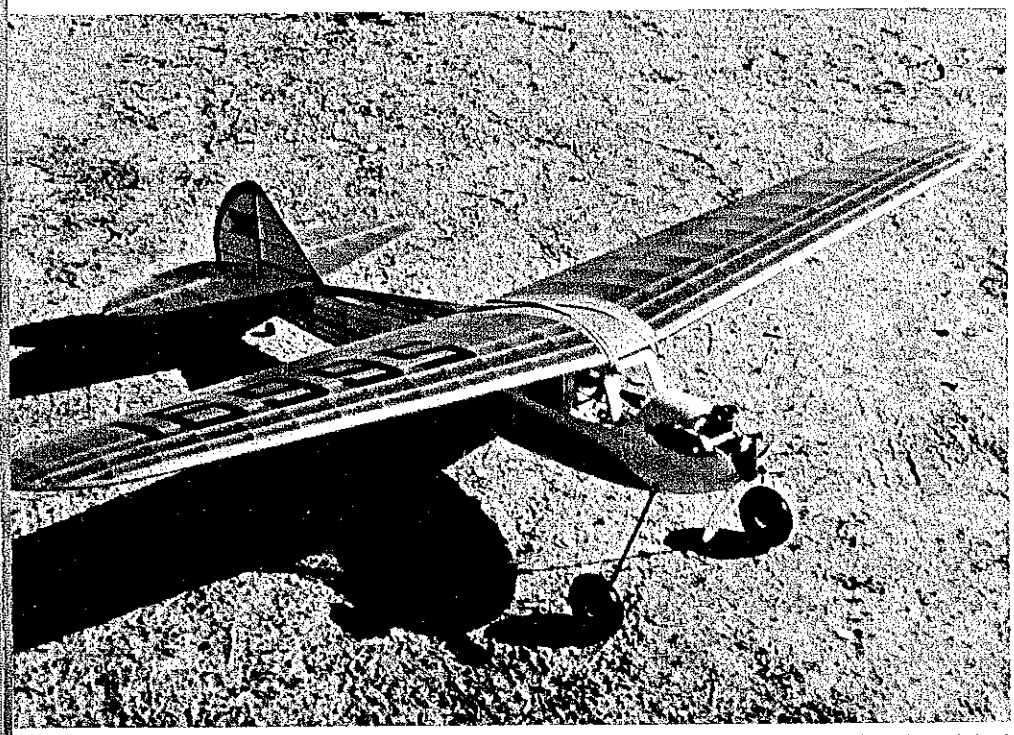
Commodore

Ben Shereshaw was a prolific designer of models in the Thirties, and to many, none of his models, or of any other designer of the period, had more eye appeal than the Commodore—presented here with redesigned structures for RC and a .29 engine. It's great for fun flying or Texaco competitions. ■ Bob Oslan

Covering the Commodore with silk, then doping, provides the ultimate in authentic old-timer looks—and the most strength to boot. But the ship is designed to sustain flight loads with lightweight tissue. And we've got to admit that some of the transparent types look good on old-timers.



The author's re-do of the Commodore has completely redesigned structures, but the original shapes are retained. The cabin (and wing center section) was widened slightly for radio access.

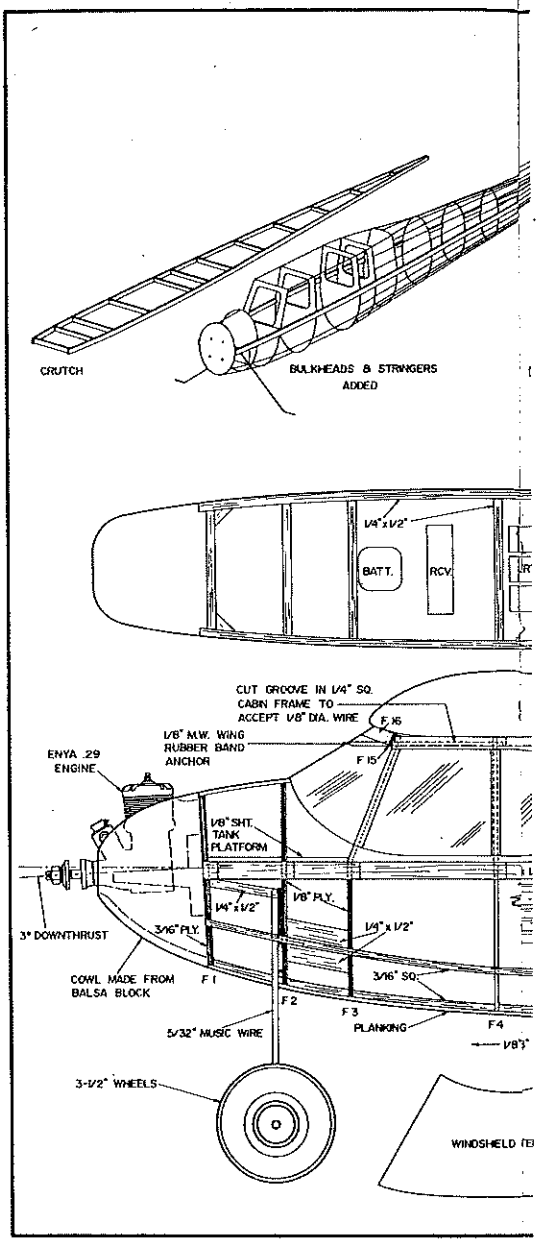
THE COMMODORE was introduced in 1938 by the Scientific Model Airplane Company. It was a Ben Shereshaw design. In the eyes of many, it was his very best. Shereshaw was a prolific designer and turned out a string of classics—the Cavalier, Nimbus, Mercury and Cloud Cruiser, to name only a few. None of these, however, capture the essence of the era with the elegance of the Commodore—the classic of the classics.

Originally, the kit was offered in two versions, standard and deluxe. The prices were $6.95 and $7.95, respectively, the difference being that the deluxe version contained a pair of 3½-in. pneumatic air wheels. Inside the box were two plan sheets and a lumberyard of strip wood, printed sheets, music wire, ignition wire, glue, dope, metal fittings, and miscellaneous other goodies. Some of its advertised features were as follows:

1. Mono-strut landing gear. Designed to ensure against nose-overs in the roughest of fields.
2. Stressed to withstand loads 12 times in excess of that occurring in the severest crackups.
3. Absence of spiral dive tendencies.
4. Flat glide and low sinking speed.
5. Trim tabs for fine adjustments.

The obvious conclusion from this is that, in the unlikely event of a crash, whatever was in the airplane's way would come out on the short end of the stick. Grandiose claims didn't begin with TV!

The Commodore's market life was relatively short; it was replaced by the Mercury. Speculation has it that its degree of construction difficulty was a sales damper—the Mercury was much simpler, having a box fuselage. If you should happen to run across a set of the original Scientific Commodore plans, or a reproduction of them, you'll quickly see that the fuselage structure was overly involved, and some of the esthetic touches were a bit impractical even for Free Flight in 1938.

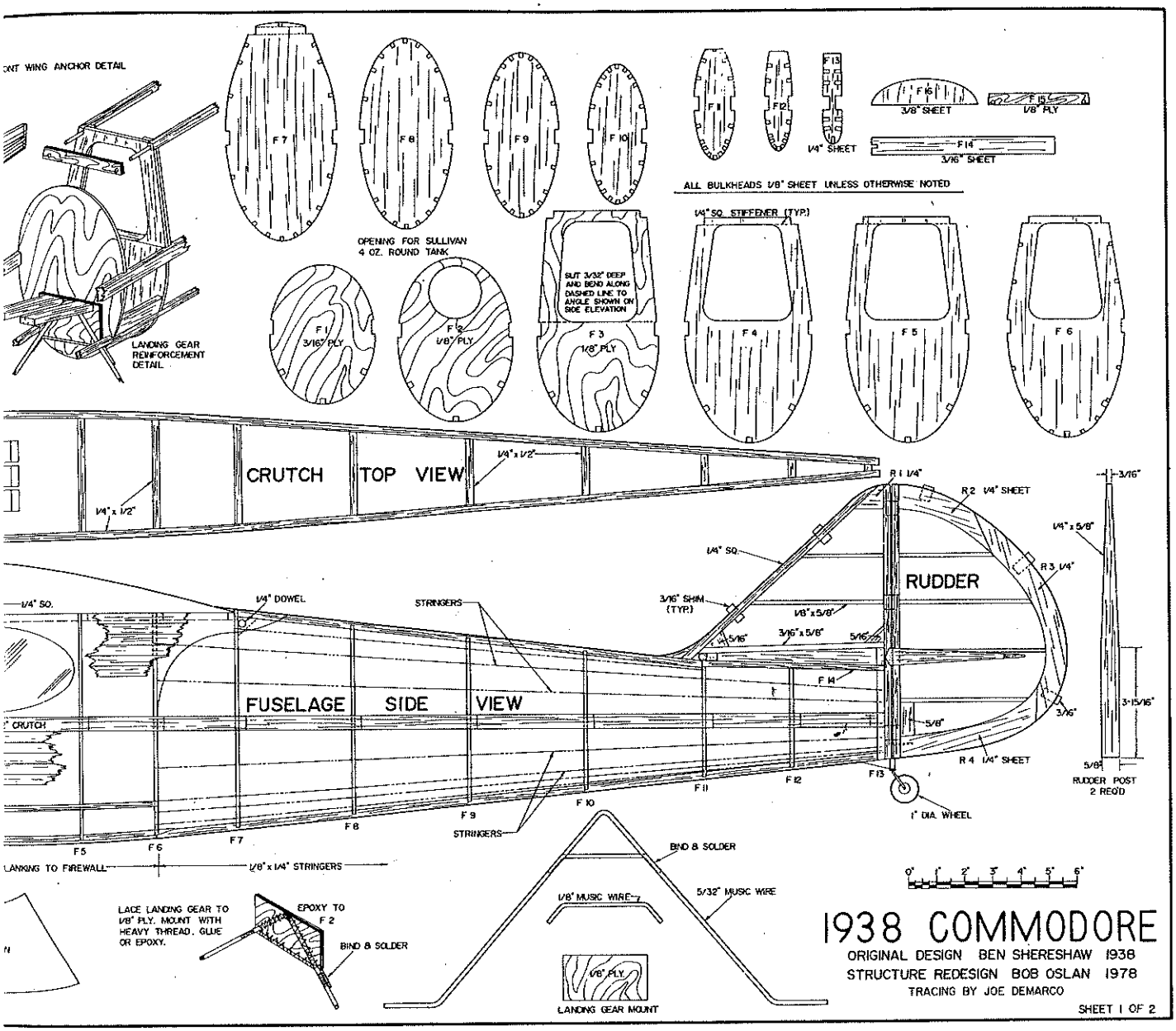


Fuselage is built by the crutch method, whereby the crutch is built atop the plan. Then the formers, stringers, planking, etc., are added "in the air." A lot of guys like building this way.

The airplane as presented here is completely redesigned structurally, but retains the shape of the original. For those purists who delight in picking fly specks out of pepper, and wouldn't change a single stick from the original "sacred" design, be advised that the top of the cabin has been widened slightly to accommodate radio installation and servicing. The wing center section has been widened a corresponding amount to fit, and dihedral has been reduced slightly. Interestingly enough, the specifications on the original plan call for a 72-in. wingspan, but the actual layout measures only 71 in. As modified for RC, it's still under-"spec," which lends to its "authenticity."

Our model with an Enya .29 weighs 4¼ lbs., which seems to be a good combination for Texaco competition. The power/economy combination is more than ample to get well up into thermal territory, and the Commodore's glide is excellent—it milks lift with the best. If sport flying is your thing, the ship is strong enough for aerobatics, and it performs them well. Yet, hands-off stability is all one could ask for. The Commodore has great looks and performance to match.

Construction. Although greatly simplified, this



is not a beginner's model. A moderately experienced builder, however, will have no difficulty in putting it together, and will find it to be a really enjoyable construction project. The beauty of the finished airplane is more than ample reward for the time invested.

Fuselage. Begin by building the crutch. The bulkheads are glued to the crutch, and you can quickly see the fuselage begin to take shape. Be sure to install blind nuts in the firewall to suit your engine mount *before* gluing the firewall onto the crutch. Note that the firewall is mounted so as to provide 3° downthrust—be sure to install it that way. All the other bulkheads are mounted at right angles to the crutch; this can easily be checked using a small drafting triangle or homemade template. With the bulkheads all properly in place, glue on the stabilizer platform (F14). Next, glue the top stringer in place. Splice the bottom stringer together, noting that it is made from 3/16 sq. for the forward portion, and ¼ x ⅛ for the rear portion. Consult the fuselage side view for the proper splice configuration. When dry, glue the bottom stringer in place.

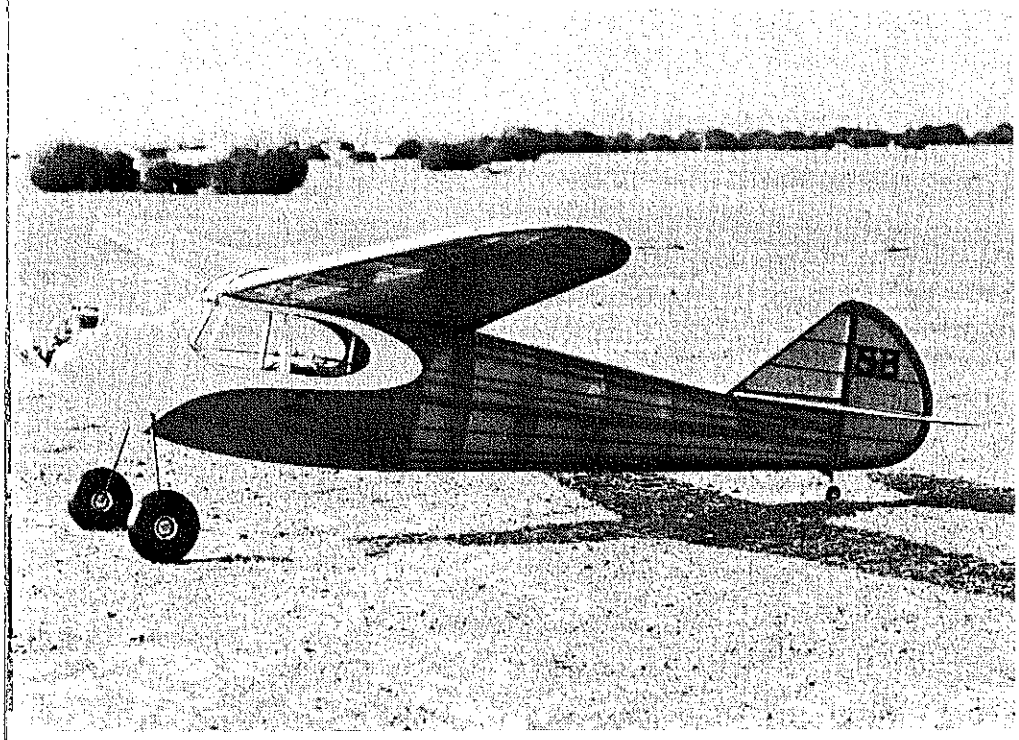
The ¼ sq. pieces that form the top of the cabin go on next. Glue them into their proper notches in bulkheads 3, 4, and 5. When the glue is completely dry, apply glue to the notches in bulkheads 6 and 7, and bend both sticks simultaneously, seating them in place. Secure the sticks in place with pins or rubberbands until the glue sets. Add the remaining stringers.

Bob Oslan hoists the Commodore for a good look at the top side. He didn't say whether this and other views were shot at Taft. Wherever, it looks like a super place for FF flying.

You'll note that the 3/16 sq. stringers fit flush with the bulkheads, while the ¼ x ⅛ stringers are about 3/32-in. above the bulkheads. This is done so that the planking on the forward section of the fuselage will glue directly on top of the 3/16 sq. stringers for added stiffness, while the raised rear stringers will keep the covering from contacting the bulkheads.

When all stringers are in place, install the landing gear assembly. Use epoxy here—refer to the plans for details. Install the ⅛ sheet fuel tank platform, and provide all required accommodations for the tank you intend to use, prior to planking. Glue F15 and F16 in place, and install the ⅛-in. music wire wing dowels—using epoxy. Note that these dowels extend ⅛" past F4. Plank the fuselage. Install the rear wing dowel after the planking is finished and ready for covering.

The engine cowl is made by tack-gluing the cowl block to the firewall, after which it is shaped to flow smoothly with the fuselage. Remove the shaped block, and hollow it to about ¼-in. thickness. An electric Moto Tool is indispensible in doing this. Next, bolt the engine mount onto the firewall, and glue the hollowed-out cowl



Author's Commodore with Enya .29 came out at 4½ lbs. to make a good combination for Texaco competitions. Its glide is excellent, and will milk lift with the best. Great for fun flying.

securely in place. Cut away that part of the cowl necessary to provide easy access to the engine and engine mount.

Empennage. The vertical and horizontal stabilizers are pretty straightforward, and should need minimal explanation. The primary things to observe are accuracy in shaping the spars, and the proper use of shims while building these parts on the plan. In order to assure maximum accuracy of hinge alignment, it's a good idea to cut the hinge slots in the spars prior to construction.

Wing. The wing construction is simple, though a bit unique in the center section. It is designed to facilitate easy and accurate assembly of the three sections, and requires only that you read and follow instructions on the plan to assure a satisfactory job. It is important to use the rib-angle template when gluing R-1 in place. The angle of R-1 must be correct to fit the main center section spar properly. As with the empennage, proper shimming during construction is needed to assure accurate alignment. Refer to the plans for shimming information—dimensions and locations are all noted.

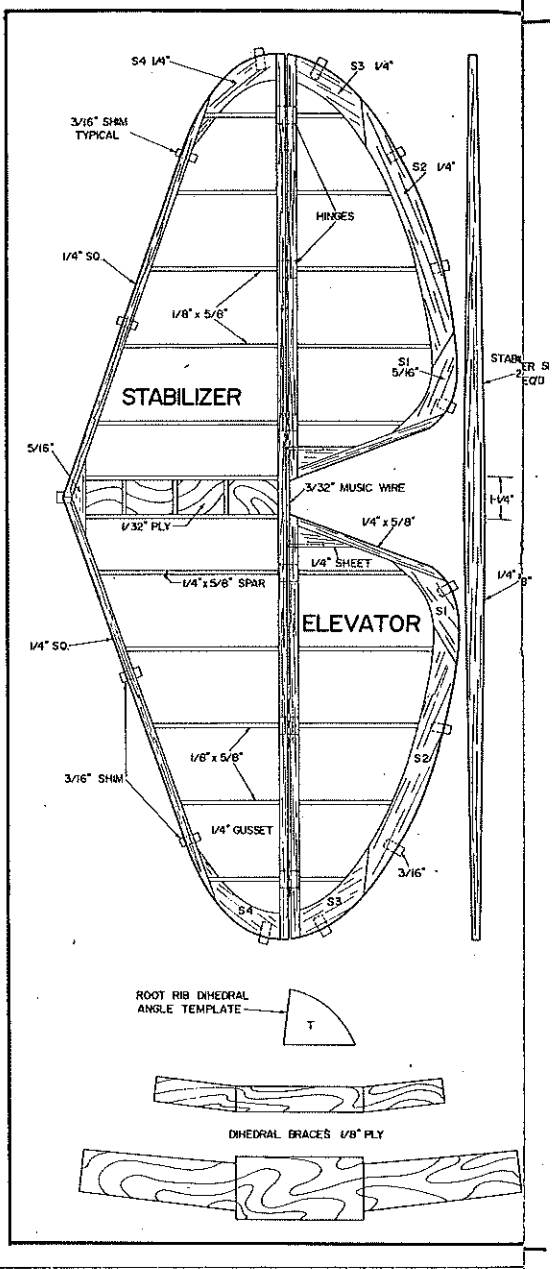
Be sure to add the shear webs to the main spar as shown on the plan. Omission of the shear webs will produce a weak wing, especially if it is covered with a plastic film.

Covering. Selection of covering material is left to the individual modeler; the structure is designed to sustain flight loads if covered with plastic film. For maximum strength, silk-and-dope is recommended. If you choose to use silk and dope, also use a plasticizer in the dope or, if available in your area, use non-taughtening dope. The latter should be available at airports where private planes are hangared.

Flying. The prototype took off on its maiden flight on about half-throttle, and maintained a steady climb at that setting. Rudder was a bit touchy, but that was easily corrected by moving the pushrod in on the servo arm. Elevator travel was also reduced. Final travel distances were [illegible] for both the rudder and elevator.

The Commodore's clean lines make stall recovery quite good, so if you flare out for a landing three feet too high, the bottom doesn't drop out—she just keeps right on flying. Of course, if you're really determined, you can smash up anything. But the Commodore will tolerate a whole bunch of mistakes before you get into too much trouble.

Don't be surprised if you find the Commodore being one of your favorite airplanes. You won't see a prettier sight in the sky.



Safe Flying Is No Accident!