



Cream-and-red color scheme should be easy to duplicate. Real Porterfield has parallel wing struts.

# PORTERFLY

By HERB CLUKEY

RC our 'homebuilt' version of a popular 'oldie,' and you will turn those tranquilizers in for a refund. Half-A engines.

The Porterfield, one of the 1930's highly successful lightplanes, is presented here as a near-scale model, a pleasant departure from "ordinary" RC flying. Nothing can compare with a scale model in full flight that *you* control. Since you are the pilot, you can almost feel yourself sitting inside this trim little tandem job manipulating the controls. You will find this little gem as stable as the full-size prototype and I am sure, almost as much fun to fly! It isn't quite scale, but you'd never know the difference—and there is a reason.

Scale looks were in mind in designing, as well as flyability, so a few departures from absolute scale had to be made to achieve optimum results. Wing chord was widened by 1/2 in. thereby capturing extra wing area. Stabilizer area was increased approximately 20 percent and the fuselage, from the top view, has a standard taper back to the tail post to gain more room for equipment. The prototype had a straight line from nose to the leading edge of the stabilizer, where it cuts into the tail post; so in a model of this size, equipment would be very restricted.

Plans show the basic rudder-only pulse system, but the airplane is now being flown with the newer rudder-and-elevator Simpro system which makes flying a dream. Determine what particular installation you will use and install actuator or servos before covering top of aircraft. This facili-

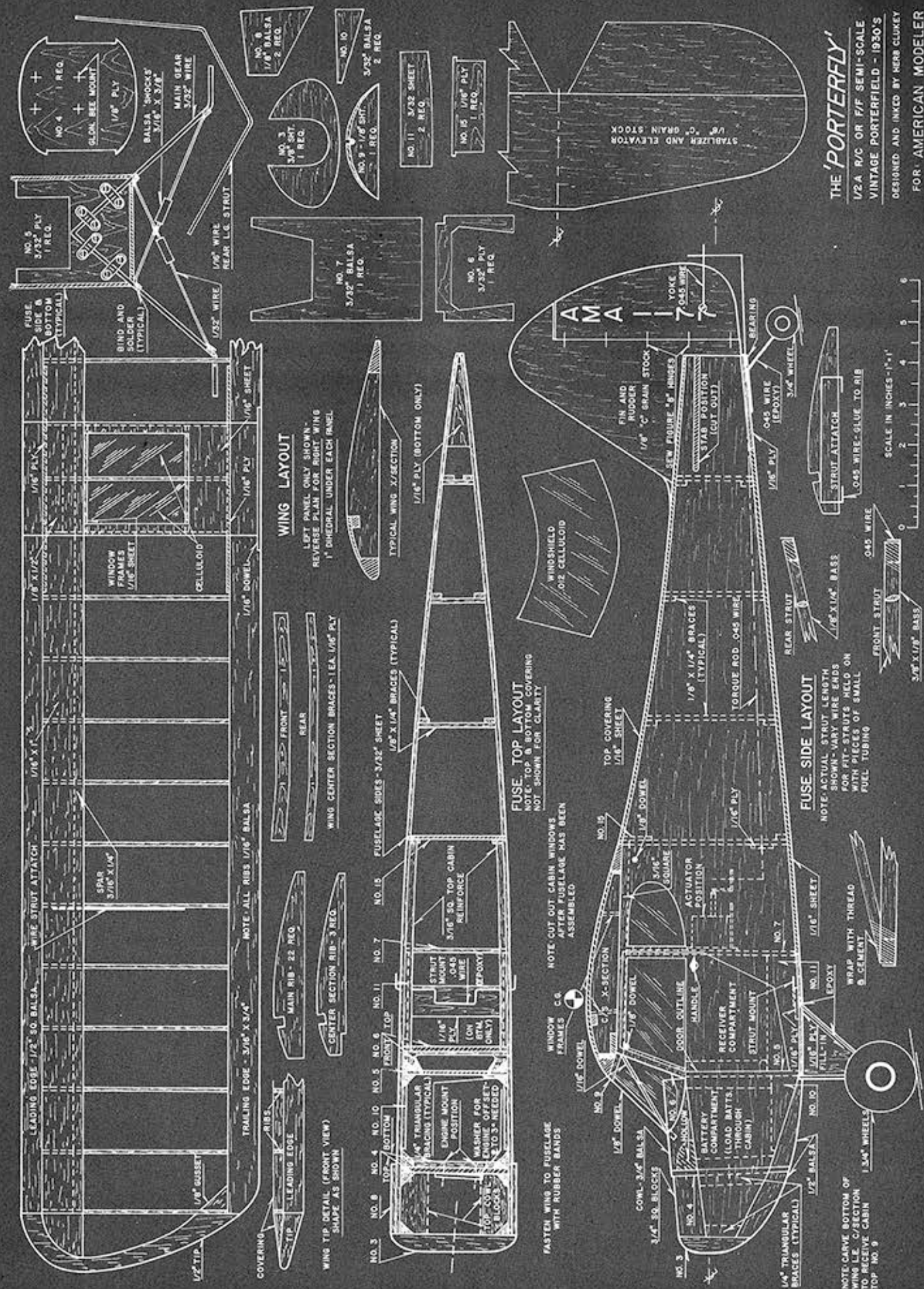
tates torque or pushrod installation.

The Porterfly, although being very stable, will perform various maneuvers, such as loops, wing-overs and other simple maneuvers which make for more "real" flying. Not a high-performance contest aircraft, it was designed for the Sunday afternoon flyer who wants an airplane that looks like an airplane. It does have good

penetrating qualities and moves out in good fashion, so don't be afraid of a little wind. Rudder and elevator are responsive, giving the airplane an "edge" on other ships of this type. So fasten your seat belt and let's start building!

Wood selection is of great importance in the construction of any model, so choose it wisely. Medium (Continued on page 52)

Without the cylinder sitting up front and the rudder torque rod, it would look like the real thing. It's a small version of plane on June cover.



THE 'PORTERFLY'  
1/2A R/C OR F/F SEMI-SCALE  
VINTAGE PORTERFIELD - 1930'S  
DESIGNED AND INKED BY HERB CLUKEY  
FOR 'AMERICAN MODELER'

## Porterfly

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balsa is used throughout unless otherwise specified, such as tail surfaces, plywood parts, etc. Use straight grain 3/22" balsa for fuselage sides. Cut two, then pin together and sand the edges with small sanding block until they are congruent. However, do not change the decalage of the cabin top. Recheck the plan before starting assembly. Draw the lines on the inside of each side to accommodate bulkheads, etc.

Cut out #5 and bend front landing gear and fasten with nylon 3/32" landing gear clips available at your hobby shop in position shown. Follow with #'s 6 and 7 and glue in their respective places with the fuselage sides upside down, resting on the cabin top on a true surface. Let dry thoroughly and check for alignment during the drying process. Next add #'s 4 and 3. Let dry then pull fuselage sides together at tail post and glue. Add the 1/4" x 1/4" cross braces, #15 and also #'s 10 and 11 which glue on the inside of the fuselage. Add 1/4" triangular braces and also top and bottom covering plus top and bottom cowl blocks. Add #9 and dowel bracing for windshield and let dry. Add strut mount as shown.

Bend rear landing gear, wrap and solder to front gear and epoxy glue to fuselage. Shape cowl blocks to conform to #'s 3 and 4. Sand entire structure with fine garnet paper until very smooth. Use 8/0 grit. Cut out tail surfaces from "C" grain stock, rounding all edges and sand with 8/0 paper before gluing. C-grain balsa is identified by its flaky appearance and is very warp resistant. Glue to fuselage making sure of true alignment. Do not attach rudder at this time but wait until airplane is finished, then sew onto fin.

The wing does not present a problem due to its simplicity. Build on a true surface and allow ample drying time before removing. Carve tips as shown and sand entire structure with 8/0 grit. Now place wing in its proper position on cabin and draw around #9 with pencil on wing. Carve this portion out so that entire wing will sit flush on cabin top. Care should be taken, for this is not only a must, but greatly enhances the appearance of the airplane.

Balsa wood grain cannot be covered by dope alone so a good finish can be accomplished in the following manner with a minimum of effort. Assuming that the frame has been sanded with 8/0 garnet paper, give entire aircraft two coats of clear dope. Let dry then sand with 8/0 paper again. Next, cover entire airplane with silk, white preferably, since color

dope will be used. Follow up with three coats of clear dope over entire structure, allowing generous time to dry. Using a piece of used 8/0 paper, lightly sand silk to eliminate fuzz bumps which form. Repeat with two more coats of clear dope and let dry at least overnight. I used Aero Gloss dope throughout, and did not thin.

Your Porterfly is now ready for colored dope—which really makes the airplane. The original is painted cream and bright red with black letters and trim. Paint all cream areas first. Three coats of cream brushed on makes a nice full color. Let dry, preferably overnight, then mask off areas and paint in the red. Three coats will suffice. Let dry at least two hours before removing tape. Add door outlines, window trim, aileron outline. Black pressure-sensitive tape does a good job. Now obtain a pint can of Aero Gloss Spray clear dope and spray entire aircraft. This will add a sheen to the finish and will also eliminate the masking tape ridges. Now add decals and fuel proof them.

Flying the Porterfly is sheer delight, but good insurance for this is first to make sure the craft balances properly at the point shown on the plans as C.G. (Center of Gravity). Pick up airplane at this point under each wing tip and check. The fuselage should be level or have just a little nose down tendency. Make sure all radio equipment and batteries are installed at this point. If fuselage is not level and the tail is a little down, add weight to nose until rectified as stated above.

We found in the original that at least two more degrees of downthrust were required, although the craft has built-in downthrust. As no two airplanes fly exactly alike, start with short power flights to determine this. Do not be afraid of test flying as you have a very strong airplane. Ours has come in straight down from 150 ft. with no damage.