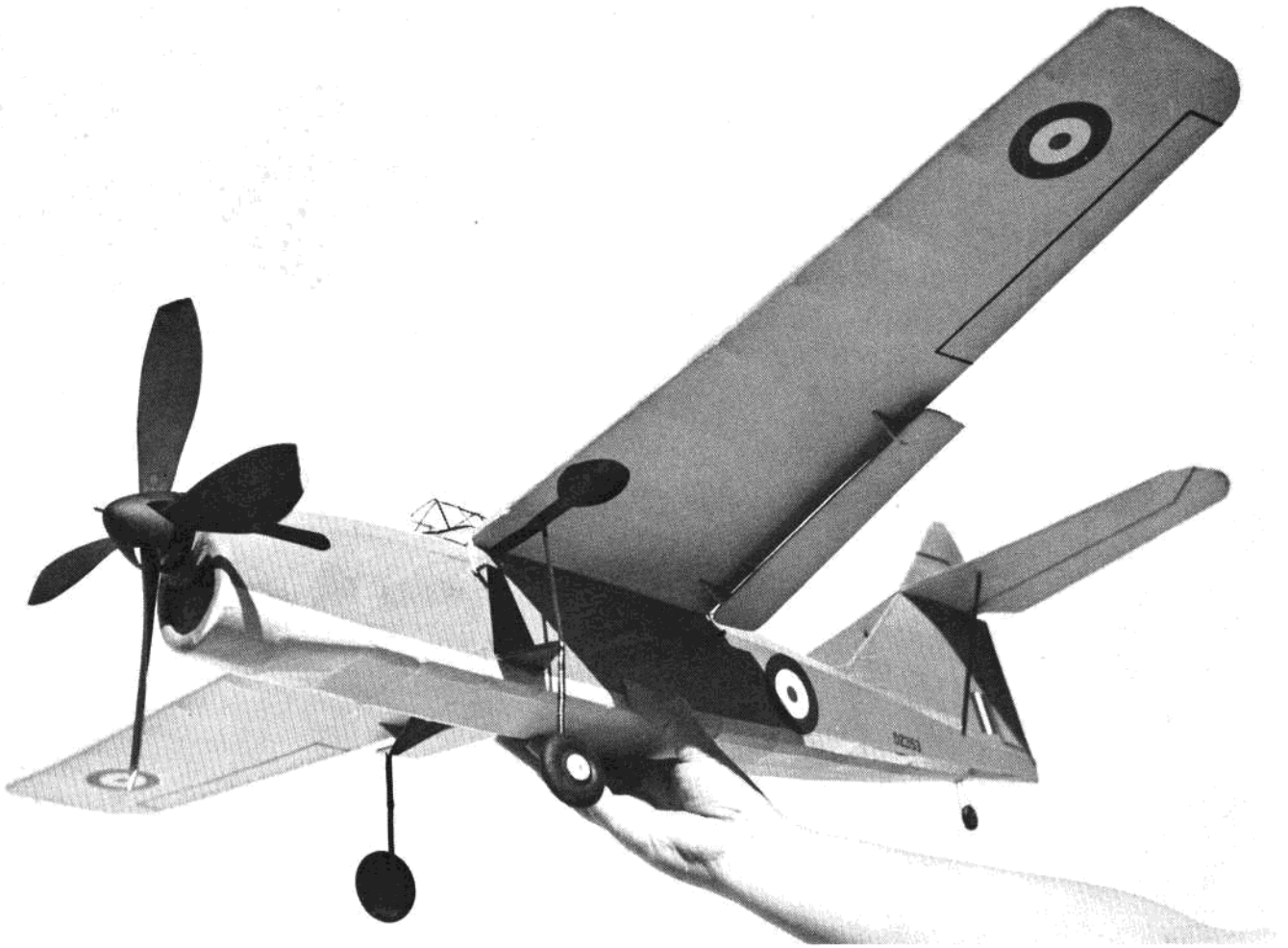


FAIREY BARRACUDA



AN ALMOST TO SCALE RUBBER-POWERED MODEL.

by J. W. Headley

The Fairey Barracuda was designed originally to replace the Albacore and Swordfish biplanes. Strangely enough, it was the first monoplane torpedo bomber to be used by the Royal Navy. The Swordfish and Albacore didn't seem to want to be replaced, however, so the Barracuda actually saw little wartime service as a torpedo bomber. Modified gradually during the war, the final version was the T.R. MKV, produced in 1945, which is the subject of our model. This version had the distinctive square wing tips and large dorsal fin.

Our rubber-powered version of this aircraft deviates from true scale in tailplane size (we added a little more area), dihedral and propellor. Although an ungainly looking aircraft on the ground, especially with its wings folded, in the air it looks quite good. We had originally planned a retracting undercarriage for the model, but it became a little too complex, and a little too gimmicky, so the idea was dropped. If you want more of a duration type model, just leave off the U/C altogether.

Construction of the model follows the usual rubber model lines, and should

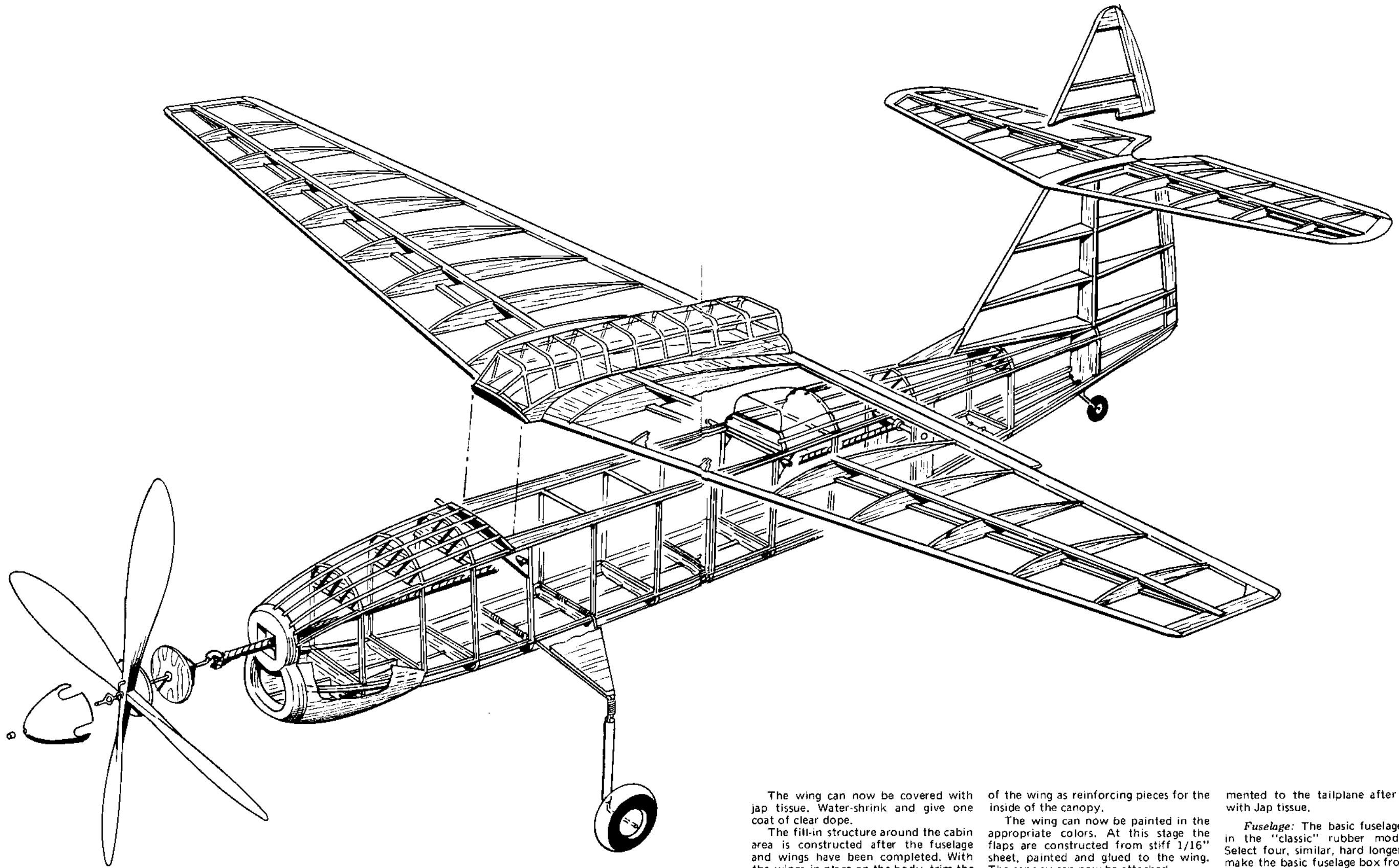
present no problems for the experienced builder.

Construction

Wings and Tail: Being by making templates for the root and tip ribs and sufficient blanks for the intermediate ribs. Clamp these together and sand the blank ribs to the correct profiles. While still in the block, cut out the slots for the spars and the leading edge.

This operation is done twice, once for each set of ribs. The second block should be the opposite shape so that the bevels on the ribs are correctly aligned. After breaking open the blocks, lightly sand each rib individually to remove any sharp edges.

The wing spars can now be laid down together with the trailing edge. The complete wing is initially made in one piece, the spars are then cut at the centerline to give the correct dihedral. For this reason the center rib is not glued in place until after the dihedral braces have been added. So after all the ribs have been cemented down add the upper spar and leading edge, cut and add the dihedral braces, add the center ribs and the center section sheeting.



The wing can now be covered with jap tissue. Water-shrink and give one coat of clear dope.

The fill-in structure around the cabin area is constructed after the fuselage and wings have been completed. With the wings in place on the body, trim the slant frame and the upper frame to the correct height, and attach. Fit and cement in place the 1/16" sheet pieces that support the canopy. Two pieces of 1/16" square are now cemented on top

of the wing as reinforcing pieces for the inside of the canopy.

The wing can now be painted in the appropriate colors. At this stage the flaps are constructed from stiff 1/16" sheet, painted and glued to the wing. The canopy can now be attached.

The tailplane construction is similar to the basic wing assembly except that the ribs can be cut out from the patterns shown on the plan. Next the upper fin structure is made and ce-

mented to the tailplane after covering with Jap tissue.

Fuselage: The basic fuselage is built in the "classic" rubber model style. Select four, similar, hard longerons and make the basic fuselage box from these. While this box is being built, cut out the various frames and prepare these for the stringers. When the fuselage box is satisfactory, bind and cement into place

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the U/C and the top set of frames, and add the stringers. Now cement all the lower frames into place and add the lower stringers. The various pieces of sheeting and the gussets can now be glued into place followed by the nose former and its associated sheeting.

As the lower fin and rudder are part of the fuselage they should now be made. Take care to align the top fin rib as this controls the tailplane incidence.

Sand all over very lightly and then cover with Jap tissue.

Undercarriage: Bend two pieces of wire as shown on the plans for the main U/C. Solder together as shown, then bind with cotton thread to the fuselage framework. The simulated legs are made from scraps of plastic tubing and painted black. After the fuselage is covered insert piece U, made from 1/8" sheet and glue into place. The main wheels are soldered into place after the model is finally painted.

The tail-wheel wire can now be made and installed. Don't forget to include the wheel before attaching the wire to frame. Use a small cloth patch soaked in glue to reinforce this joint.

Canopy: The cockpit cover is made in several pieces to simulate the various sliding panels. On our original the windshield and forward piece were made from a clear plastic toy bottle, which was exactly the right shape. The center pieces were made from strips of celluloid cemented together. The rear portion which is attached to the fuselage was made from an existing canopy. It is better to spray the wings in their final color before cementing down the canopy. The final color touches can then be made with a small brush. Canopy metal framing is made from 1/16" wide black chart tape.

Propellor: The propellor is a four bladed free-wheeling type made from commercially available blades. Buy two Imp Brand 10 in. dia. props from your local model shop and splice them together as shown on the plan. When this joint is dry (and leave it long enough to make sure it's really dry), trim the backs of the blades at the center slightly to allow the 1/16" ply prop disc to fit flush. This can now be glued into place. Again wait until this is quite dry before drilling the holes for the propellor wire assembly.

The free wheel system shown is one that has been used successfully in many models, but requires careful assembly. Make the front half of the propellor shaft, and the clutch wire. Insert them in the propellor and make sure they engage and disengage cleanly. Note that the propellor shaft is used to steady the spinner when it is installed.

When the free wheel system is satisfactory, thread the bearings and the nose block onto the prop shaft and finish off the shaft by bending the hook for the rubber. Cover this hook with a small piece of fuel tubing to help protect the rubber motor.

The spinner is now added. This can either be made by vacuforming or by using half a plastic Easter egg as I did. These are excellent for lightweight spinners and cheap (or should I say

"cheap"?). The spinner is secured by a very small piece of plastic tubing pushed onto the propellor shaft.

The assembly should now be balanced. Sand the heavy blades lightly until the propellor will stop in any position. Now spray the whole assembly black, and finish off the propellor tips in yellow.

If you don't want to go to the complications of the four-bladed propellor, a single 12 in. dia. Imp or similar propellor can be substituted. We found that 8 strands of 5/32" rubber were sufficient to give a realistic flight. To make up the motor obtain a 16 ft. length of 5/32" rubber, and make it into a pretensioned 8-strand motor. The pretensioning should be sufficient to hold the nose block in place, but permit the free wheeling propellor to work easily.

Color Schemes: The Barracuda saw service during and after WW II, so quite a few color schemes are suitable for our model. We chose a 1947 scheme, where the upper surfaces are extra dark sea gray, which also extends 3/4 of the way down the fuselage sides, and sky undersurfaces. (Sky is pale green.) Details such as U/C wells were simulated by pieces of black Scotchcal, aileron and tailplane outlines were chart tape.

Final Assembly and Flying

Although the tailplane is shown to be cemented to the top of the fin, this should only be done temporarily at this stage until the correct trim has been established. As small variations will occur in building the model from the plans the correct alignment of the tailplane can only be determined experimentally.

First assemble the model including the motor and balance at the location shown on the plan, but if necessary add a small amount of weight at the nose or tail. When the CG is in its correct location try a few hand glides. If you are lucky the glide might be OK. If not, realign the tailplane and try again until a satisfactory glide is obtained. Some nice long soft grass helps while you are doing this bit. When the glide seems suitable try a few winds on the motor. A climbing turn to the right is required, so put in a little sidethrust if necessary. Don't expect, or try for a contest type performance, remember that this is a scale model, and it should look like one in flight. Make the final trim changes by moving the CG around a small amount.