

The Corsair

by E. R. ATKINS, JR.

Chance Vought's famed "bent-wing bird" here makes a tremendous flier, and yet has a resplendent paint job. A good .29 to .35 does trick.

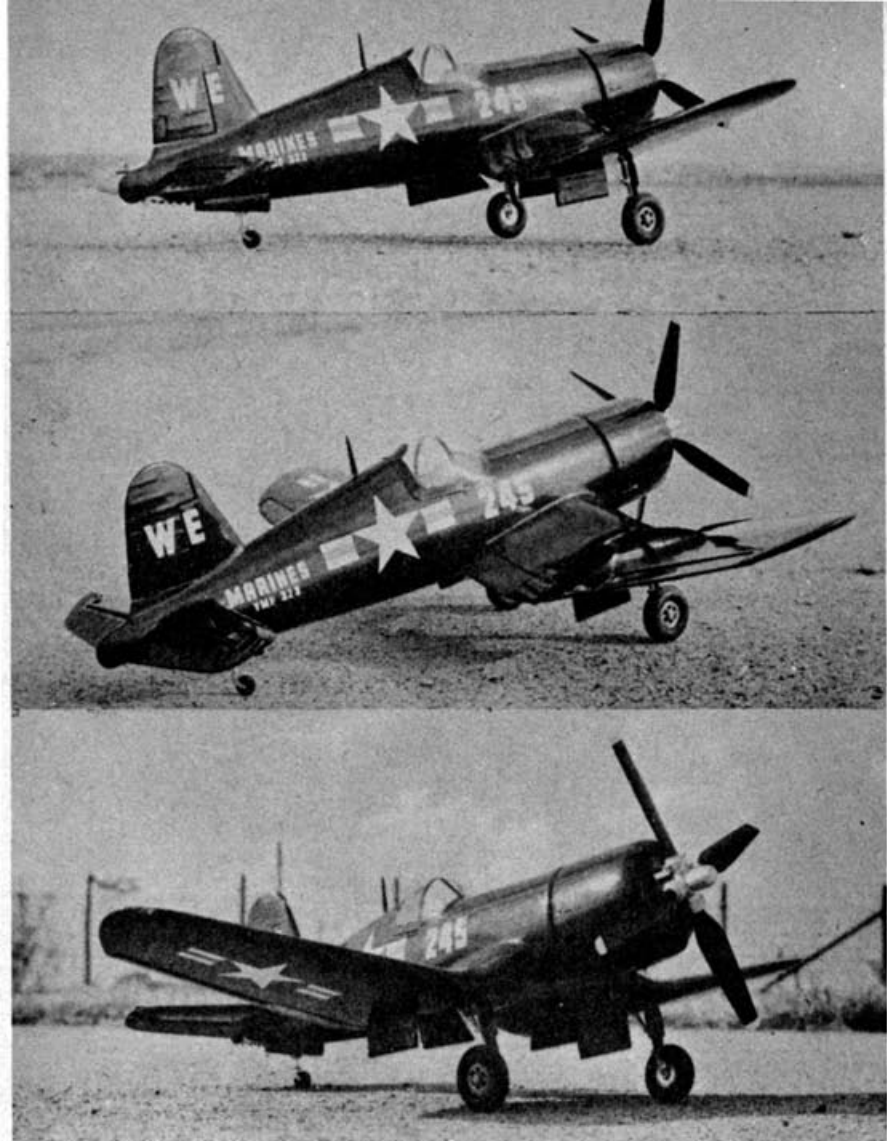
► Consider the amazing combat record compiled during World War II by the famous "bent wing bird," the Chance Vought F4U Corsair: 2140 enemy aircraft destroyed against a loss of 189! One of the most rugged fighters ever built, with speeds in excess of 400 knots, the Corsair was able to carry up to 4,000 lbs of bombs. From 1938 through 1950, 12,571 Corsairs were produced for the Navy. This is the longest period any combat airplane has ever been in continuous production. In addition, many were produced for the French Navy and are still in operation.

From its inception in 1938, the Corsair ranged through many models. The original F4U-1 was followed by the F4U-1C, F4U-1D, F4U-2, F4U-3, F4U-4, F4U-5, F4U-5N, F4U-5NL, with the F4U-7 and AU-1 completing the strain in 1950.

We have chosen for our model the F4U-4, which saw action in WW II and in Korea. The markings for our model are from Marine fighter squadron 323 which served aboard the Carrier Baedong Strait in Korea.

Construction of the fuselage is begun by cutting formers F-2, F-3, and S-1 spar from $\frac{1}{8}$ " plywood. F-4 through F-10 are $\frac{3}{32}$ " balsa except F-9 which is $\frac{3}{32}$ " plywood. Make the seat bulkhead facing from $\frac{1}{16}$ " plywood and cement to F-6. Be sure to mark the horizontal and vertical center lines on the parts before cutting them out as this will give an alinement reference when the fuselage is assembled.

Cement S-1 to F-3 with Weldwood glue taking particular care to align them properly. This is important so that the wing may be properly positioned. Drill



From any point of view, our Corsair amazingly lifelike. Model copied from Marine squadron—323—aboard carrier Baedong Strait, in Korea. Sleek finish almost good enough to be a mirror.

Empty-ump coats of colored dope didn't weigh down Atkins' Corsair—he says careful building and material selection will hold weight to a mere two pounds. And that's why it flies well!





Only the cylinder head of a .35, sticking out of the far side, gives away the model. A cute

trick was used of thread, under Silkspan, giving the effect of ribs on rudder and the flippers.

the 1/16" hole for landing gear attachment.

Cut the F-11 keel from 1/4" balsa and cement all formers in place. Then cement one strip of 3/32" x 1/4" balsa to the formers along the horizontal center line. This establishes a longitudinal reference line. Next add the 3/16" x 1/8" longerons to the top slot of the formers, add the tail mount from 1/16" balsa and the cockpit floor from 1/16" plywood. The tail gear is made from 1/16" music wire and sewn to former F-9 with thread or soft wire.

Cut the 3/8" x 1/2" motor mounts to length and drill the lower mount to receive the bellcrank. Slide the mounts

into position and cement thoroughly with Weldwood. Mount the bellcrank in position with leadout cables already installed. Use a 2" Veco bellcrank turned up at the ends as shown. Next add ribs W-1, W-2, W-3, leading edge and S-2 spar. Make the landing gear mount from 1/8" plywood and cement, adding 1/8" square balsa gussets for extra strength.

The landing gear is formed from 1/8" music wire and sewn in place with thread or soft wire. After mounting gear add ribs B-1, B-2, and B-3 and plank wing center section with 1/16" x 1/4" balsa. Next add trailing edge from 1/2" sheet and groove to accommodate leading edge radius of flaps. The lower

White letter and numbering also can be done from standard decal sheets. When completed, a

waxing and rubbing is given the entire surface. Scale four-bladed "fan" shown for the display.



half of the fuselage may now be planked.

The elevator and stab are carved from 1/2" sheet and hinged with Sullivan nylon hinges, or hinges as shown. Elevator ribs are simulated by laying strips of thread on the balsa and covering with Silkspan. Use a large Veco control horn for the elevator control. The rudder and fin are carved from 1/2" sheet with ribs simulated as on the elevator. Attach the rudder with soft brass hinges. Make the control push rod from 1/16" music wire and attach to bellcrank and control horn. Cement the horizontal tail and fin in place.

In order to allow the cavities to be cut for the mounting of the exhaust stacks, balsa blocks are cemented in position inside the planking. The cavities are best cut with a round file. The fuel tank may now be installed. The tank should be of at least a two-ounce capacity and several makes of tanks will fit snugly between the motor mounts. Several coats of fuel proofer should be applied inside the fuselage in the vicinity of the tank. After installation of the tank the upper half of the fuselage may be planked. Then add F-1 and the tail cone block.

Cut out the tail gear cavity carefully, saving the removed material for the tail-gear doors. The inside of the cavity is painted zinc chromate green. This cavity and the cockpit interior should be sanded smooth and coated with a mixture of talc and dope, then sanded smooth. A mixture of olive drab and yellow dope applied to this surface will simulate a zinc chromate finish which is flat rather than glossy.

After rough sanding the fuselage, add the 1 1/4" x 2" x 2" block to the wing center section and cut out for the oil-cooler ducts. Next add the wing-fuselage fairing blocks from soft balsa to fair in the step in the fuselage contour at F-4. If the full scale treatment is to be given, form the main gear cavity by building up with 1/16" sheet.

Construction of the wing outer panel is begun by pinning spars S-3 and S-4 over the plans and cementing ribs W-4 through W-7 in position. Next add the leading edge from 1/2" sheet and cover with 1/16" sheet. Then cut trailing edge from 1/2" sheet and groove to accept leading edge radius of aileron and flap. Sand smooth and cut wing light to shape from plexiglass. Cement the light in position and shape to proper contour to match wing. After shaping sand with 240A then 360A wet or dry. The final finish to the plexiglass is accomplished by sanding with 500A wet or dry and buffing with rotary buffer treated with plexiglass polishing compound. This compound is available from any firm which handles plexiglass. The outer wing panels may now be attached and sanded to match the center section.

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cowling from a 3/8" x 3/8" x 4" block to the shape and thickness shown and add the 1/16" plate at the attachment points. Cement the hardwood mounting blocks to the motor mounts, then slip on the cowling. Be sure the cowling is a snug fit, then drill a 3/32" hole through the cowling and mounting blocks top and bottom. Use this hole as a guide to locate the 3/16" tubes in the cowling and the #8-32 nut in the mounting blocks. The cowl is attached with two #8-32 screws with heads removed and slots added. The cowl filler block is attached to the fuselage with 3/8" dowels and cemented. Be sure to carve it with the cowling in place so that the contours will match.

Complete the finish sanding of the complete model with fine sand paper. fill any pits or holes with plastic balsa or talc and dope, then cover the complete model with Silkspan. Several coats of clear dope are then applied over the Silkspan to close all pores. The entire model is then sprayed with gray automobile lacquer primer, about three to five coats and thoroughly sanded with 360A wet. Then add the canopy,

formed from 1/16" plexiglass, and fill any seams. If any cockpit details are to be added, they should be installed just prior to this. After fitting the canopy, mask it off and continue the spraying of primer and sanding until all pits have been removed and a perfectly smooth surface is accomplished. Then apply the final coat of glossy sea blue finish. If enamel is to be the finish, spray one coat, allow to dry for at least four days then sand with 500A dry and rub with Dupont enamel rubbing compound. I would recommend Dupont Dulax for an enamel finish. If lacquer or Aerogloss is used for the final finish, the process is the same without the four-day wait.

They can be rubbed after setting up for six to eight hours. If Aerogloss is used, then Aerogloss primer must be used as the surfacer. The sanding of the final coat is important as it removes all rough spots and dust spec with the rubbing compound bringing out the beautiful glossy finish. Regular Dupont 7 compound is used with heavy wax for flying, but I would not recommend this unless yours is strictly a contest ship to be flown but once or twice a year.

All of the control surfaces are finished separately in the same manner and affixed to the model. The flaps, ailerons and rudder may be cemented in place or put on with soft brass hinges so that they will be movable.

The antenna masts should be finished separately and cemented in holes previously made for them with Borden's liquid cement, which dries without bulk and does not show; this may also be used for the control surfaces.

The lettering and numbers are cut from decal sheet or painted on as desired. All numbers and letters are white. If decal insignia is used, cut away the blue portion as it will rarely match the color of the model. Give the entire model a good coat of Aerogloss wax, especially the decals, and polish out with a flannel cloth. A good finish is a lot of work but it makes all the difference in the world and is worth every ounce of effort. If this is to be your contest model, then a good finish is a must. Take your time and don't compromise a single pit or blemish.

The excellent flight characteristics of this model are due to the light weight, coupled with adequate wing area and plenty of power. The original weighs in at two pounds ready to fly and that includes a built up brass landing gear and

many coats of primer and finish coat. A choice of good light balsa is important. More than enough strength has been designed into the components which take the most loads. My Corsair was powered with a Fox .35 but most any good .29 to .35 will do.

I have found it a wise policy, if I am constructing a contest model, to complete the major part of the model, throw on a little fuel proofer and test it before all of the finish and detail have been added. This gives you experience flying the model and will point up any weaknesses that may require correcting.

You will find the flight characteristics of this model to be somewhat like a combat ship. Fast and easy on the controls. Only about seven degrees up and four degrees down travel are required on the elevators. A small control handle is recommended as she is sensitive to the touch. With a 9-8 Tornado prop on a Fox .35 this little blue beauty will hit 80 or better.

(If you are a real gone scale addict you can obtain complete cockpit details, landing gear, etc., from Superscale, Box 201, Arlington Texas, on drawings selling for \$3.00 per set.—Editor)

Bill of Materials: 2 sheets, 1/2 x 3 x 36 balsa; 1 sheet, 1/4 x 2 x 36 balsa; 4 sheets, 3/32 x 3 x 36 balsa; 1 sheet, 1/8 x 3 x 36 balsa; 2 sheets, 1/16 x 3 x 36 balsa; 30 pieces, 3/32 x 1/4 x 36 balsa; 1 piece, 1/8 x 3/16 x 36 balsa; 2 pieces, 1/8 x 1/2 x 36 balsa; 2 sheets, 1/8 x 6 x 12 plywood; 1 sheet, 3/32 x 3 x 4 plywood; 1 sheet, 1/16 x 4 x 6 plywood; 1 piece, 1/8 x 1/2 x 12 motor mount stock; 1 block, 3/8 x 3/8 x 4 balsa; 2 blocks, 1 1/4 x 2 x 2 balsa; 1 block, 1 x 1 1/2 x 2 1/2 balsa; 1 piece, 1/8 x 36 music wire; 1 piece, 1/16 x 36 music wire; 1 piece, 1/8 x 6 brass tubing; 1 piece, 3/16 x 2 brass tubing; 1 piece, 1/16 hardwood dowel; 1 piece, 1/8 x 2 hardwood dowel; 1 ea., 2" Veco bellcrank; 1 pair, 2" Veco spoked wheels; 1 ea., large Veco control horn; 1 piece, fine screen wire; 1 piece, 1/16 x 6 x 6 plexiglass.