



CURTISS P40B TOMAHAWK



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Designed By:
Gordon E. Whitehead

TYPE AIRCRAFT

Sport Scale

WINGSPAN

33½ Inches

WING CHORD

5¾" Avg.

TOTAL WING AREA

190 Sq. In.

WING LOCATION

Low Wing

AIRFOIL

Flat Bottom

WING PLANFORM

Tapered

DIHEDRAL EACH TIP

1.9 Inch

O.A. FUSELAGE LENGTH

29 Inches

RADIO COMPARTMENT SIZE

(L) 7" x (W) 2" x (H) 2"

STABILIZER SPAN

12½ Inches

STABILIZER CHORD (incl. elev.)

4" Avg.

STABILIZER AREA

48 Sq. In.

STAB. AIRFOIL SECTION

Flat

STABILIZER LOCATION

Top of Fuselage

VERTICAL FIN HEIGHT

4 Inches

VERTICAL FIN WIDTH (inc. rud.)

4" Avg.

REC. ENGINE SIZE

.10 Schnuerle or .15

FUEL TANK SIZE

2 Oz.

LANDING GEAR

None

REC. NO. OF CHANNELS

3-4

CONTROL FUNCTIONS

Rud., Elev., Ail. (Throt. opt.)

BASIC MATERIALS USED IN CONSTRUCTION

Fuselage Balsa and Ply

Wing Balsa

Empennage Balsa

Wt. Ready To Fly 29 Oz.

Wing Loading 220z./Sq. Ft.

By Gordon E. Whitehead

There's no doubt about it. The early versions of the Curtiss P40 fighters have really great potential for the fun scale modeler. The sleek shape, generous nose moment and tail area and, above all, the excuse to paint a set of shark's teeth on the radiator cowl are all features which cry out for us modelers to make replicas by the score.

So, here RCM now presents a mini P40 which you can afford to make by the score! This one is a real star. I must confess that in the past I have voiced (in print no less) that the .10 size engine wasn't much use for sport scale. Well, folks, I was wrong, at least

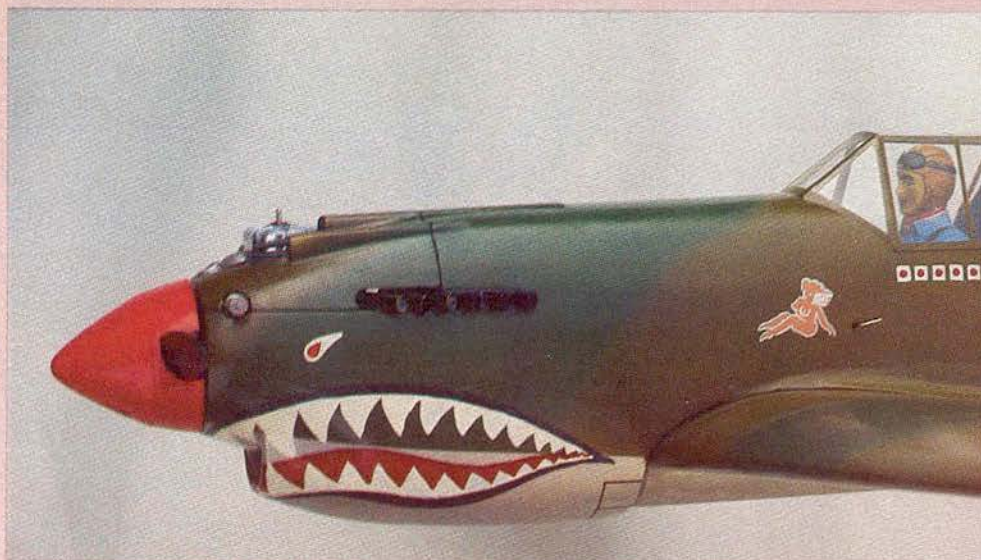


in the case of the O.S. .10 FSR. In this engine, which sports a compact and efficient muffler, we have a miniature powerhouse which we can employ in those half-pint sized WW II fighters we used to dream about owning when we were kids.

I keep passing the transmitter to fellow club members to get their conservative opinions on how the model performs. After a minute or so, they all exclaim with the same puzzled disbelief: "This is flippin' fantastic!"

And here's why: 4-point rolls at zilch

Here's the most attractive rendition of the fabulous "Flying Tiger." A rugged near-scale model designed especially for the schoolyard scale fan.



altitude; reverse Cuban 8 with 4-points in the upward rolls; beautifully lazy half reverse Cubans; slow rolls lasting up to 10 secs; surprisingly large loops — even loops with a complete roll in the top half; and, last but not least, attention getting high speed fly-bys with the sun glinting evilly on those cruel teeth as she sweeps by.

Despite her miniscule size, this ship will undoubtedly attract attention. She is so stable and precise that it is no wonder that folk disbelieve what their eyes and thumbs are showing them. I don't have throttle control fitted (a pity) so have to fly her until the engine stops. Then I discover that she loves aether so much that she wants to stay up there. I'll swear that her big nose is a thermal sniffer, for on several occasions she's been up there for four to five minutes after engine cut.

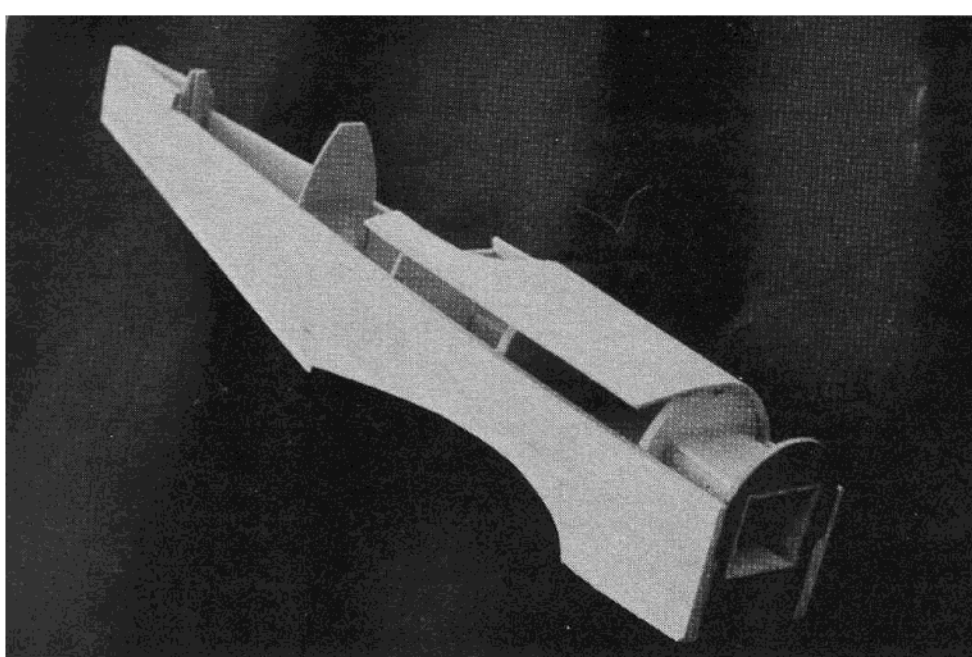
She is not particularly fast and,

certainly, the climb is not in the pylon racer class by a long shot. Nevertheless, if you fly her roller coaster fashion and employ the exit momentum from one maneuver to help you into the next you can revel in her agility and smoothness. Talking about a tiddler like this in such glowing terms is a bit embarrassing. But what the heck, it's all true! In fact, it's so true that I've made another .10 powered WW II fighter, only this time with two engines, and this one is really something else. Just wait for it to be published in RCM. (*Editor's Note: Coming up very soon.*)

As for the construction side, there isn't much to be said. You build it, and you throw it. Just like that . . . Okay, here are a few hints.

The secret of the ship's success is that highly unscientific flat bottomed airfoil section. The essence of this section is that you can accurately jig in





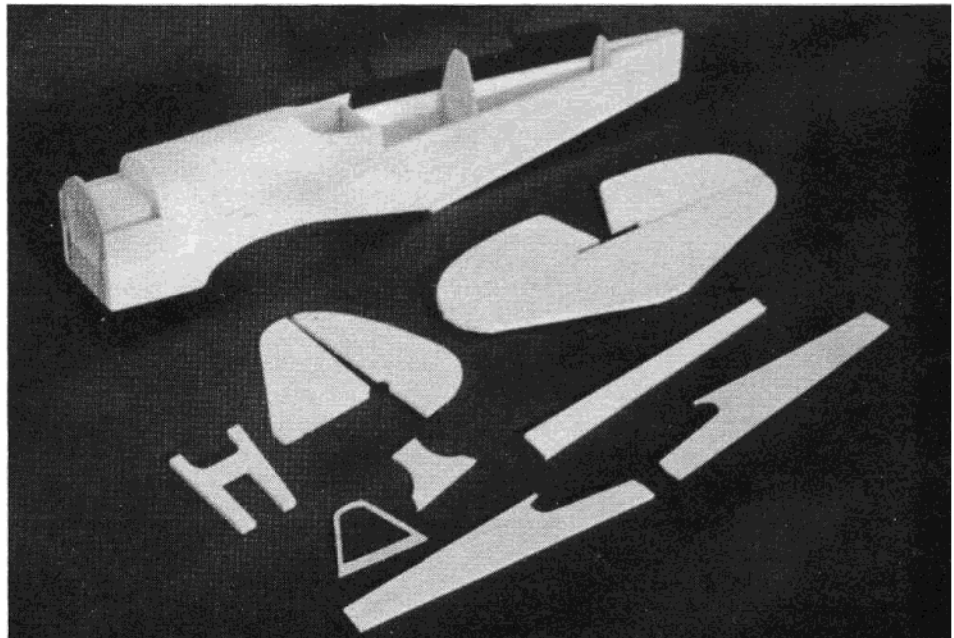
Basic fuselage assembly with top sheeting partially glued in place.

operation for the second panel. Reinforce the dihedral joint with a 3/4" wide strip of gauze and CA or epoxy. Separate and hinge the ailerons, and assemble the underfairing.

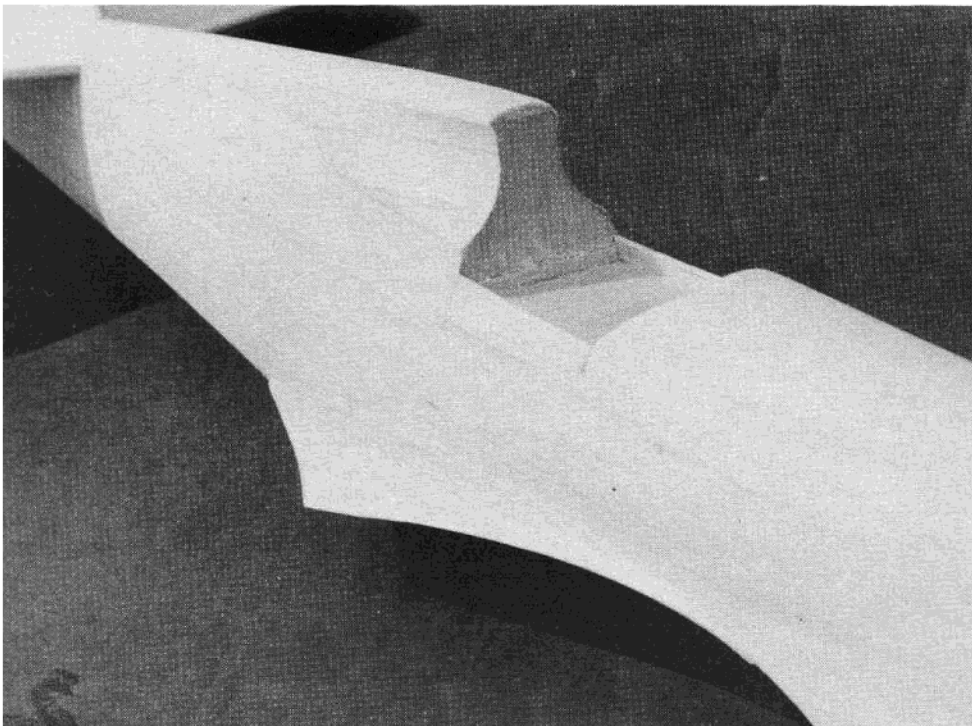
The fuselage is rather more complex than your average Real Thing, and you should cut out some cardboard templates to guide your carving progress, especially at the nose section. I stuck the fuselage together almost entirely with CA glue. After

Fuselage with tail assembly and required pieces to complete fuselage.

the necessary washout with the assembly pinned to the board. So, first make and cut out the upper and lower wing skins and sand the outer surfaces. Then CA all wing internal structure in place on the lower panels, not forgetting the aileron torque rods, and mark the aileron gaps with pin-holes through the sheet. Join these panels at the correct dihedral. Then pin one lower panel to the building board with the shims as shown on the plan, and glue the appropriate top skin in place. Allow this assembly to dry, and repeat the



gluing doublers and the triangular corner strips in place, join the sides at the tail and add formers 5, 6 and 7. Next pull in the front fuselage with elastic bands and add the remaining formers, and the tank compartment, followed by all upper and lower sheeting. The ply engine mount is added next, noting that side thrust is built in and that 2° wedges provide downthrust. The cowl sides, top and bottom, are next added and carved to shape, and hollowed as necessary. The top of the cowl separates conveniently

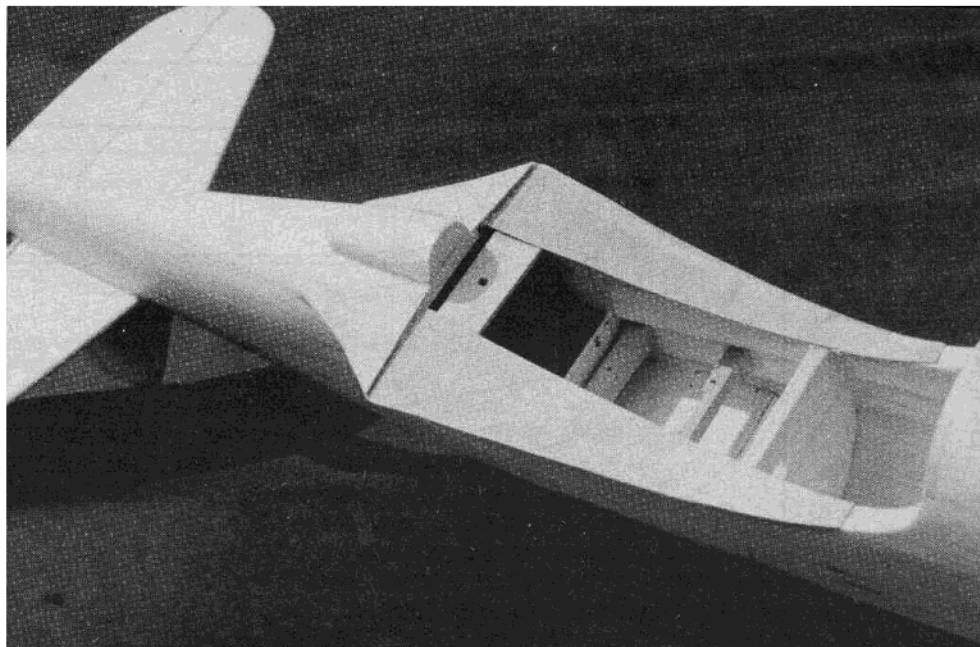


Close up of cockpit assembly.

Bottom side with view of wing fillet.

along a lamination line just below the engine exhaust stack. Use small dress-snap fasteners to secure the cowl front, with a 1/8" dowel peg at the rear. The balsa root fillet skin is soaked in water to make it pliable before it is glued in place.

It's worth taking a bit of care over the finish, as this ship is a real jewel when bedecked in "Flying Tigers" insignia. The color scheme for my example is as per the one in the 1/48th scale Monogram Plastic Kit.



Completed fuselage — nose has been fitted for O.S. .10 FSR.

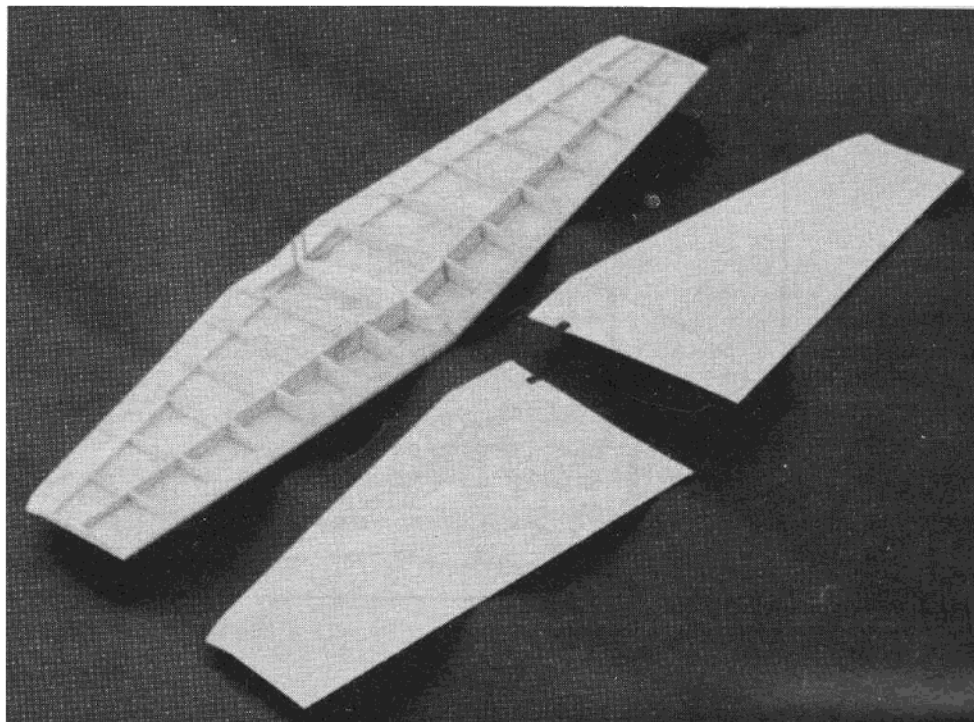
comprised a 7 channel JR RX, a 225 nicad under the RX, two JR micro servos in the fuselage operating rudder and elevator, and a standard JR servo on aileron (because I had no more micro servos). The switch is servo taped to the front of F4 and actuated by a push-pull wire. At 29 oz., the ship is pretty lively with the .10 and she should still retain her good manners with a .15 if you choose to fit one.

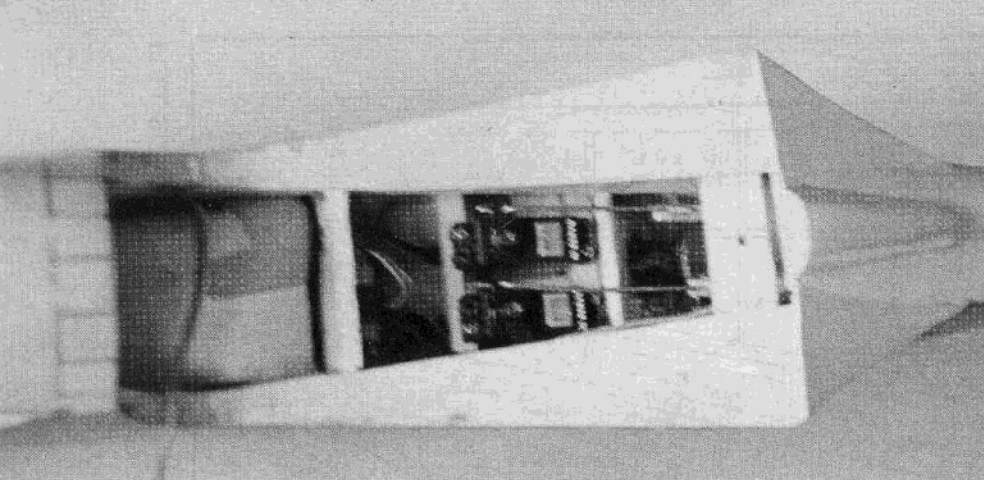
Select your prop to have a thin hub, so that both prop and spinner will fit on the rather short .10 FSR shaft. I

I covered the prototype with doped-on tissue, & then applied three coats of cellulose grain sealer, sanded well between coats. Camouflage was sprayed on thinly and thinned epoxy fuelproofer then sprayed on. Insignia were hand painted using mapping pen, compass and brush to apply enamel paint, which could be wiped off with white spirit without damaging the main finish if a mistake was made. The insignia were subsequently fuelproofed.

The prototype's airborne pack

Wing ready for top sheeting — cut-outs for aileron torque rods.





O.S. .10 FSR mounted in nose. Ideal powerplant for small scale models.

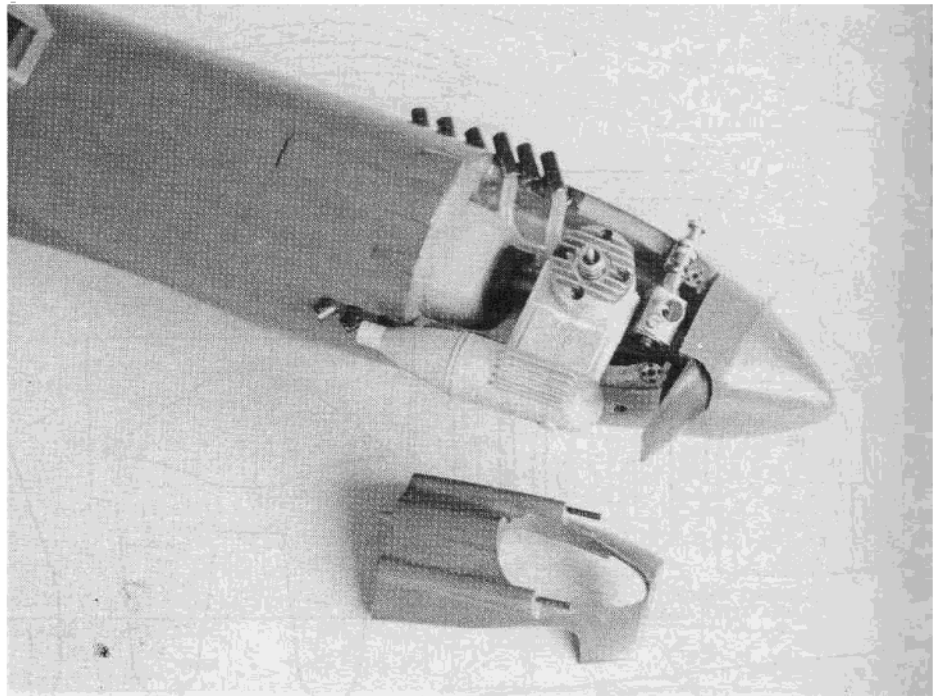
Servo installation is rudder and elevator. Author did not use throttle on prototype.

second or two to build up speed, then climb her out gently, before bringing her round for the first beat up in your roller coaster sequence.

For the first few flights try to have her high up when the engine cuts, so that you can sort out the glide. The prototype needs slight up trim for a swift flat glide. Start the landing run

employed a Tornado 7/6.

Low wingers like this P40 are not the easiest ships to hand launch, and you should practice the general technique with engine stopped and without releasing the model to get the idea. A right-hander should hold the model level and at shoulder height with most of his weight on his right foot. Then lunge forward onto the left foot and simultaneously push the model forwards in a level or slightly descending path. Just one step and a firm push are required, and with the engine singing she'll fly smoothly from your grasp. Keep her low for a



pretty early on, as she goes a long way. Near touch down, ease in some up elevator to slow her down in a level attitude and land her on the chin.

As regards to general flight behavior, if you waggle the wings from side to side with aileron, slight adverse aileron yaw is detectable, making the nose oscillate from side to side — all good fun. In windy weather she displays the Kwik-Fli twitch, in common with other WW II fighters I've modeled. The stall is very gentle, and there is no unwanted tip stall tendency with the prototype.

If you build one of these ships I'm sure you'll find like I did that "Small is Satisfying!" □

Gordon shows how to properly launch the P40B. Note the pained look on face.