

WING
TIPS
ARE
CARVED
SOFT
BALSA
BLOCKS.

GUSSETS
AND
CENTER
CUTOUT
PIECE
ARE
3/32ND
THICK
SANDED
TO RIB
CONTOUR.

NOSE BLOCK, AND NOSE
TOP, SIDES, AND BOTTOM,
ARE CARVED BALSA BLOCK.
ALUMINUM TUBE EXHAUSTS.

PLASTIC
THRUST
BUTTON

BODY TOP DECKING
IS 1/32ND SHEET.

LEADING EDGE, TRAILING EDGE, AND MAIN SPAR IS 1/16 BY 1/8 BALSA. FRONT SPAR IS 1/16TH SQUARE

1/16TH DIAMETER ALUMINUM TUBE PEG

CARVED BALSA
LANDING GEAR
FAIRINGS

ALL VERTICAL TAIL PARTS
ARE 1/16TH THICK BALSA.

HARD BALSA CABANE
STRUTS

ALL WING RIBS ARE CUT FROM 1/16TH SHEET BALSA.

4 1/2" DIA.
PLASTIC
PROPELLER.

0.9" DIAMETER
WHEELS

FUSELAGE SIDE FRAMES HAVE 1/16TH SQUARE
LONGERONS AND 1/16TH SQUARE UPRIGHTS
EXCEPT AT THE NOSE WHERE THEY ARE 1/16
BY 1/8 AND AT THE REAR MOTOR PEG WHERE
THEY ARE 1/16 BY 3/16 BALSA.

BALSA BLOCK RADIATOR IS LOCATED
ON FUSELAGE BOTTOM BETWEEN WHEELS.

FUSELAGE FORMER

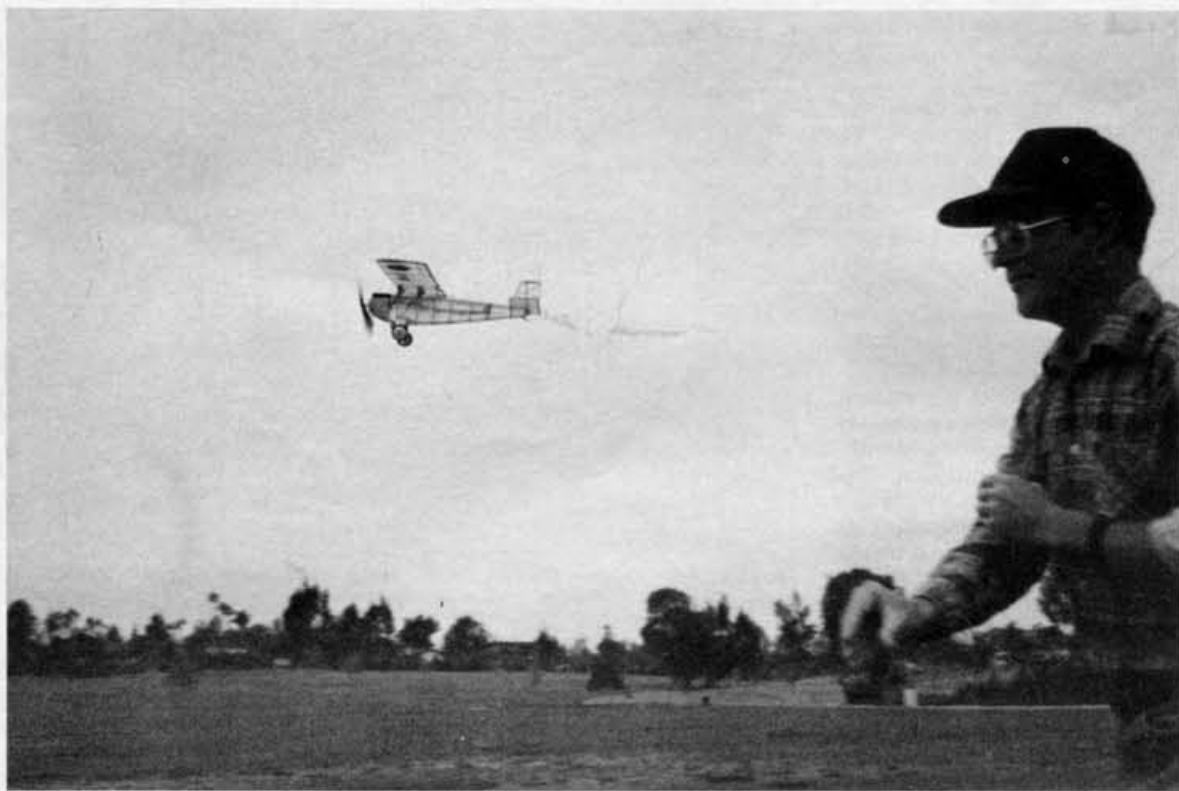
PATTERNS

ALL HORIZONTAL TAIL
PARTS ARE 1/16 TH
THICK BALSA.

LANDING GEAR
WIRE PATTERN

WRIGHT WP-1

Walt Mobney 11-24-86



Wright WP-1

By WALT MOONEY. . . Here we go with a dandy little Peanut subject, a one-of-a-kind purchased from the Wright company by the Army Air Corps. It is a good, stable flyer, easy to build from the plans that follow.

- The WP-1 was brought over to the USA by the Wright Aircraft Company for an Army Fighter competition. It was actually a Dornier H, an all-metal Parasol cantilever-wing monoplane with somewhat angular lines. Some years ago the Flight Master's newsletter contained a three-view which sat relatively dormant in my "future hopes" file. It was brought to light (and to life) by the fact that I was getting well in a hospital and needed something to fill the time outside of visiting hours. So let's draw up a Peanut!

The WP-1 is an aerodynamically clean airplane with adequate wing area for a Peanut. The one in the photo, weighing 10 grams complete, did 39 seconds during some early test flights and is fairly simple to build.

The real airplane had no dihedral in the wing, and since this is a definitive characteristic of early Dornier designs, the model was built without dihedral. It flies very well outdoors in calm conditions (the only kind we have in California), but it was found to be reluctant to fly in circles tight enough to clear the walls of an indoor basketball

court. It spiralled in to either the left or the right. Outdoors, in circles about twice as large as the indoor site available, it flies very nicely.

If you only fly indoors, adding about half an inch of dihedral under each wing tip will undoubtedly make the airplane easier to turn safely.

The model structure is very conventional. The fuselage is a simple balsa stick box with top formers, nose cowl sheeting, single stringer along each side which is added after the fuselage structure is covered and



Curtiss Ryan Mooney with his dad's WP-1.

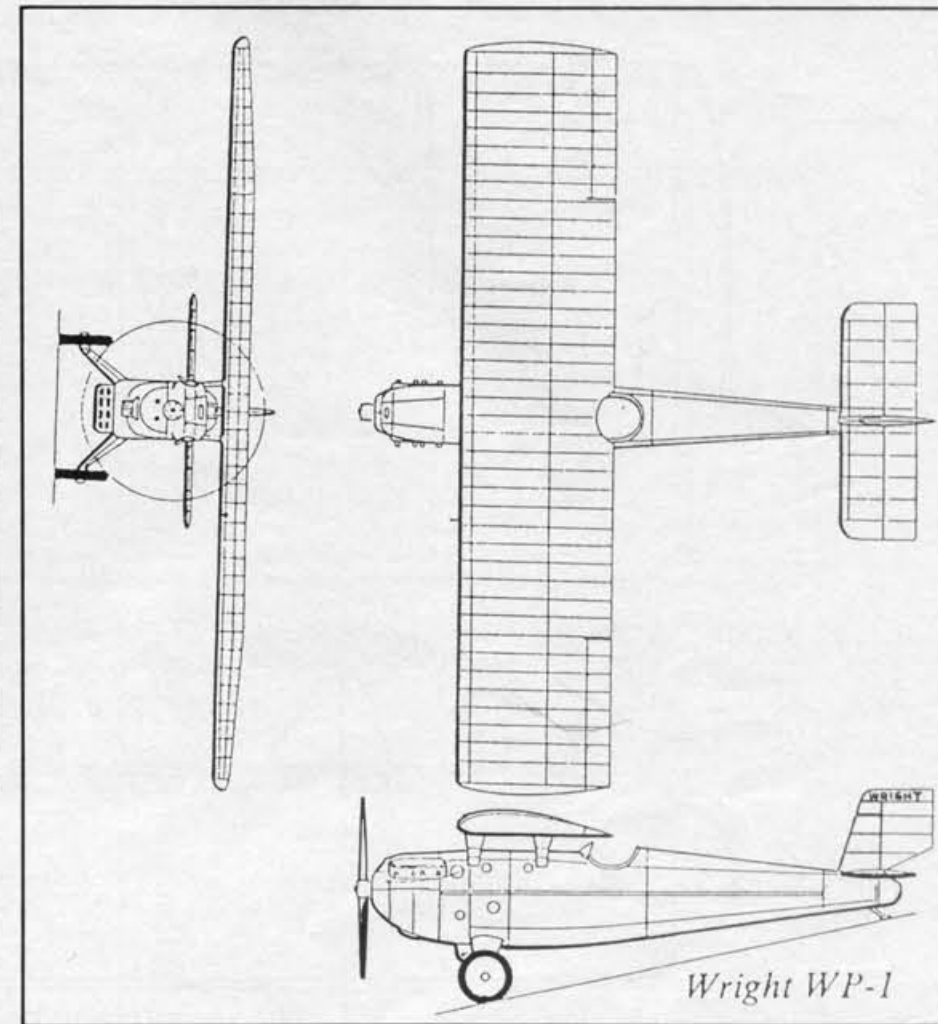
doped. It was an outside stringer on the real airplane (probably an afterthought), because those flat metal sides must have oil-canned horribly taxiing over sod fields with a tail skid. It probably sounded like a thunderstorm every time it took off.

The wings are very conventional, with ribs, leading edge, trailing edge, and two top spars. You'll note that one of the spars is 1/16 by 1/8 installed on edge. The added stiffness, as compared to 1/16 square, will nearly eliminate the chance of wing spar failure under a compression load, which is hard to fix quickly. Make the wing tips out of very light balsa blocks.

The tail surfaces are built flat directly over the plans, nothing special here.

The nose of the airplane has a characteristic shape which is created by covering the sides, top, and bottom with block balsa and by carving and sanding to the outside contours. Two flats are carved into the top piece to accept the cylinder head covers (also block balsa) of the V-8 engine. 1/16 diameter aluminum tubing was used to simulate the short "stub" exhaust stacks. The radiator is a small, carved, balsa block located on the bottom of the fuselage between the landing gear legs. A Peck-Polymers' plastic thrust bearing and plastic propeller is used. If you build very lightly you'll undoubtedly want to make a lighter propeller. My philosophy is to keep wood sizes large enough so that beginners have a chance of finishing a model. A plastic propeller is better for a beginner in modeling, and balances out structure as shown on these WP-1 plans.

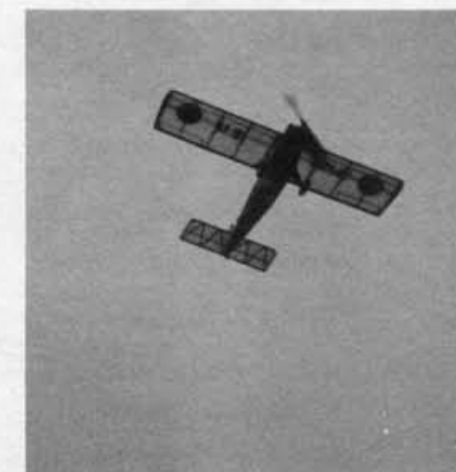
The only photos I've seen of the WP-1 show what looks like bare metal and are at such an angle that insignia (if any) can not be seen. It definitely has the WRIGHT lettering on the tail. So the model in the photos was covered with white tissue and



given a "U.S. ARMY" sign on the wing lower surface and the standard Army stars top and bottom near the wing tips.

The landing gear fairings are carved from block balsa and are added after the fuselage is covered and doped. Cement them only to the wire legs, not to the fuselage, so the landing gear can flex on an impact without hurting the fuselage structure. The side stringers should be added at this time using a 1/32-square stick for each side.

After assembly, check to see that all flying surfaces are properly aligned. About an eighth of an inch of washout at each wing tip is a good adjustment. The tail surfaces should be warp-free. The horizontal tail should be cemented to the fuselage longe-



Continued on page 68 The Wright WP-1 on the wing and climbing.



The WP-1 at rest. A single loop of 3/32 rubber about 18 inches long was just right for Walt's model. His model needed 1/32-inch up elevator, and a little washout at each wingtip.

rons only at the leading edge for initial test flights, to allow easy tail adjustment.

A single loop of 3/32 rubber about 18 inches long has flown the WP-1 Peanut. Lube it, and stretch wind it for best results.

The model in the photo required about 1/32-inch of up elevator. It had wing "wash out" at each tip. No thrust line adjustments were required.

Have fun with your WP-1 even if the Army Air Corps didn't. There was evidently only one purchased.



The WP-1 decorated and also seen in skeleton form. An aerodynamically "clean" airplane, it has adequate wing area for a Peanut. Walt's weighed in at 10 grams, and managed 39 seconds in test flights.

