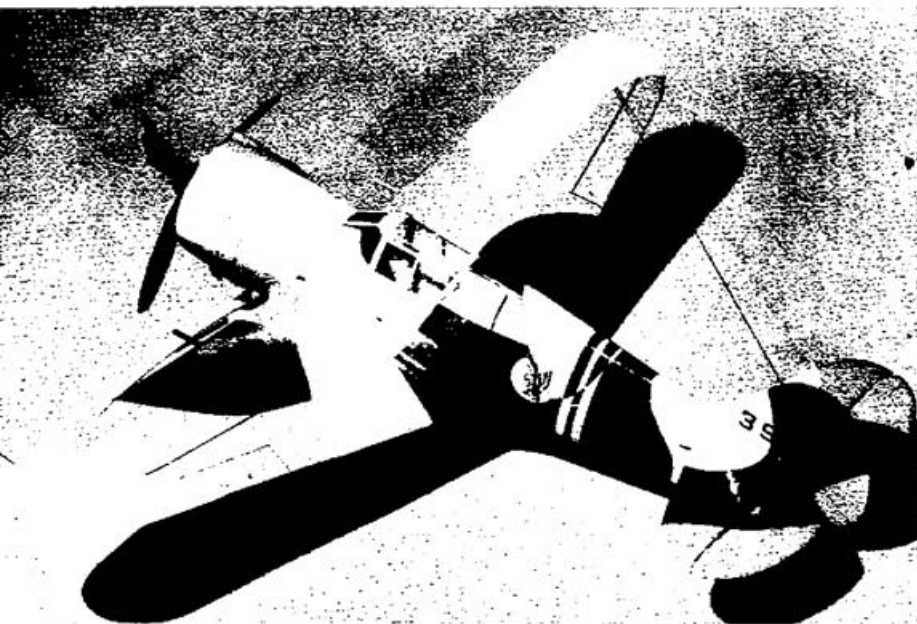


Authentic green, orange and white camouflage of the 27th Pursuit Squadron was used on the original model of the P-36-A or Mohawk.

Last of the Fabulous Hawks

By WALTER MUSCIANO

Curtiss airplanes are no more, but from these gorgeous plans you can build a Mohawk, "75," P-40, P-37, or P-42, all members of the Hawk fighter family. For .14's to .29's—you can't go wrong.

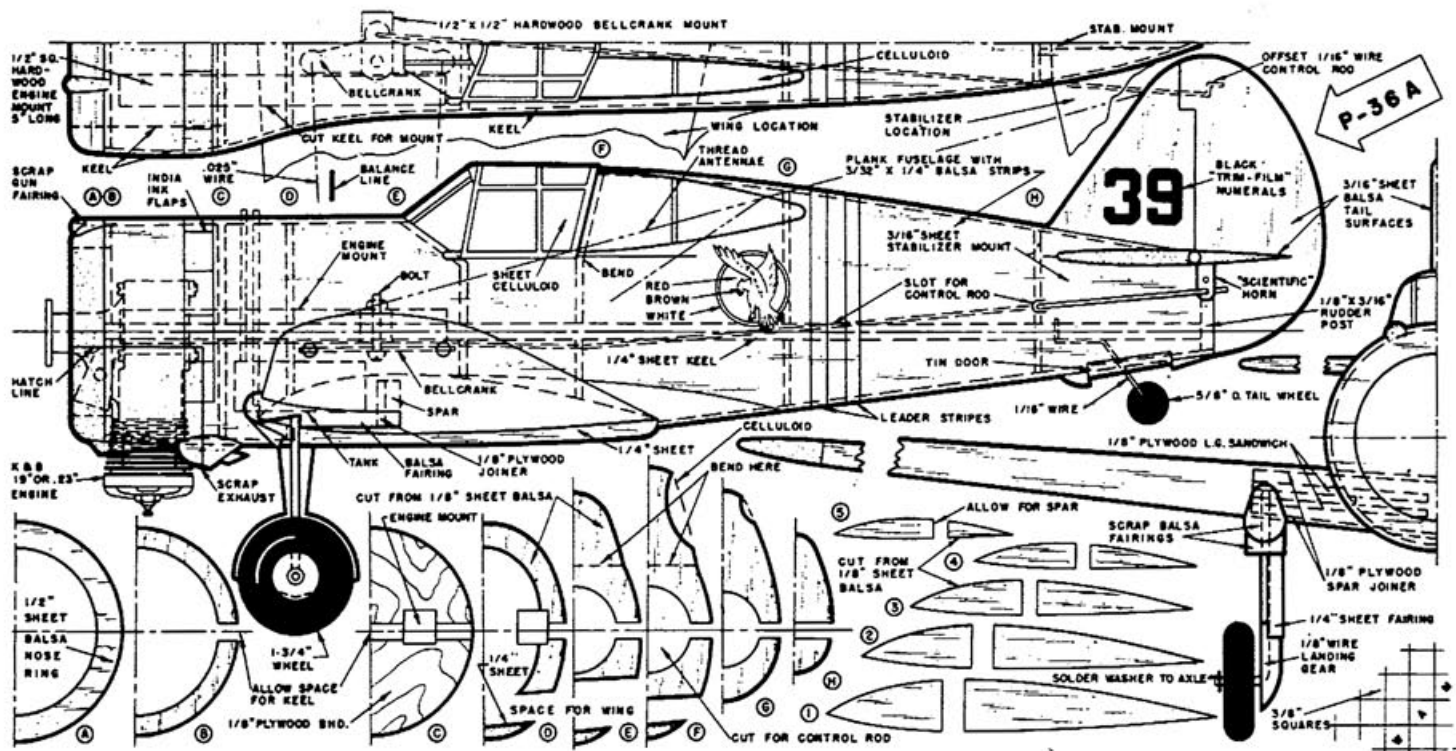


Fuselage consists of bullheads or formers placed between keels, finished by planking with balsa strips as described. Best, most durable method for ships of this type; is 3/4 inch to the foot.

▶ When the Curtiss Airplane Division of the Curtiss-Wright Corp. announced its discontinuance, aviation enthusiasts were amazed. From the earliest days of aviation in the U.S., Curtiss airplanes have held their place among the leading aircraft of all time. The many varied designs produced by this pioneering organization were responsible, to a great extent, for American leadership in the field of aviation. Some of these famous high performance pace setters were the Falcon and Hawk series of combat craft and the Condor and Commando transports as well as the Robin, Osprey, Fledging, Shrike and many others too numerous to mention.

One of the last series of designs of famous Curtiss airplanes was started in 1936 with a neat looking all-metal monoplane identified as the Hawk 75. Many of these non-retractable landing gear fighters were exported to foreign countries, including France and China.

The following year, this design was



improved upon and a retractable landing gear was fitted. Labeled the Hawk 75-A for export and P-36 by the U.S. Army Air Corps, this 294 mph fighter was again improved to attain a speed of 300 mph. This was redesignated P-36-A Mohawk and 210 planes were ordered by the Air Corps in 1938. Weight was 6,010 lb. with a 1,050 hp P & W air-cooled engine. Not contented with this, one P-36-A was reworked to attain 313 mph, having been fitted with a supercharger. This was the P-36-B.

In 1939, the last 31 Mohawks were revised with the addition of two .30 cal. machine guns in the wings to supplement the two original .50 cal. guns of the P-36-A. Weight jumped to 6,128 and speed was 311 mph. Power was the P & W 1,200 hp engine for these P-36-C Mohawks.

Other P-36-A planes were tested with four wing guns, eight wing guns and two wing cannon. These were the P-36-D, E and F, respectively. An additional 30 P-36-G craft was procured in 1942. These were 323 mph Hawk 75-A planes originally ordered by Norway and seized by our Government.

Further experiments were conducted in the attempt to explore fully the possibilities of this design. The XP-37 was an in-line engine version of the Mohawk. Its Allison V liquid cooled 1,150 hp engine drove it to 340 mph in 1937. Not satisfied with the poor pilot location of the XP-37, the tenth P-36-A was fitted with the Allison engine in 1938 and became the famous P-40. Its 1,040 hp engine pulled this 7,215 lb. craft along at 342 mph and 200 were ordered by the U.S. Subsequent modifications contributed to speeds of over 360 mph and a total of over 11,000 P-40 types were built.

Still another P-36-A underwent experimental tests with a radical radial engine in 1938. The crankshaft was lengthened on this engine in order to rival the streamlining of in-line engines. This 6,260 lb. XP-42 sped along at 315 mph with this unusual P & W 1,050 hp powerplant. It is experiments and exhaustive tests such as these that helped create the super fighters of today and tomorrow.

We built the P-36-A Mohawk not only because of the very interesting color scheme available but because it is representative of U.S. pre-war aircraft that evolved into one of the aerial defenders of freedom. Our 3/4 in.-to-the-foot

scale replica can be fitted with most engines from .14 to .29 cu. in. displacement.

Construction is started by shaping the wing spar and following up with the plywood joiner. Cut the sheet balsa wing covering to outline shape and butt join to the correct chord width. Cement the spar to the lower covering. Cut the ribs to shape and cement these to the spar and lower covering. Hold in place with pins until dry.

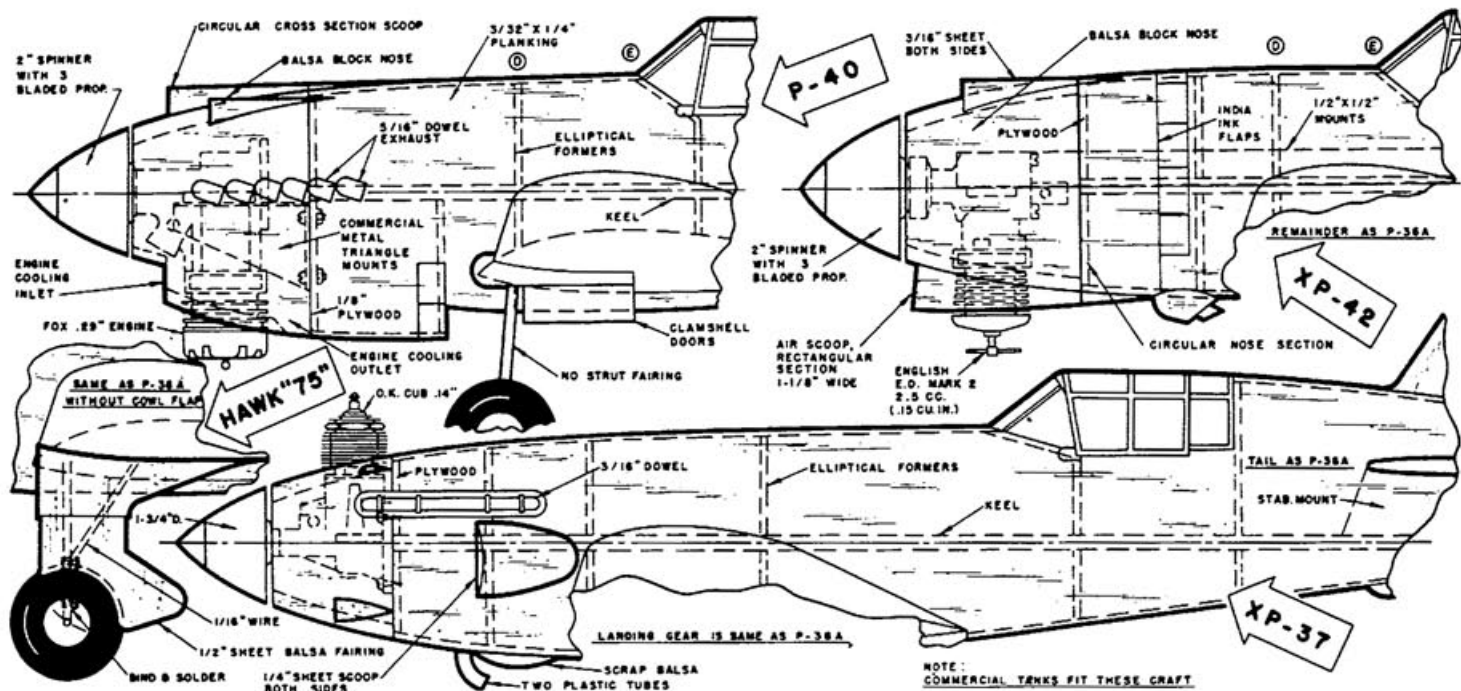
The landing gear is very important and should be very firmly installed. Bend the wire struts to shape, one left and one right side. Sandwich the struts between two pieces of plywood using plenty of cement. When dry, the plywood is cemented into the wing and additional cement is poured around this joint. This method of installation has been used successfully for many years and withstands the most punishing abuse.

Bevel the lower covering trailing edge and add the upper covering at this time. The solid balsa wing tips are now cemented in place. When thoroughly dry, the entire wing should be well sanded with 1/0 and 3/0 sandpaper.

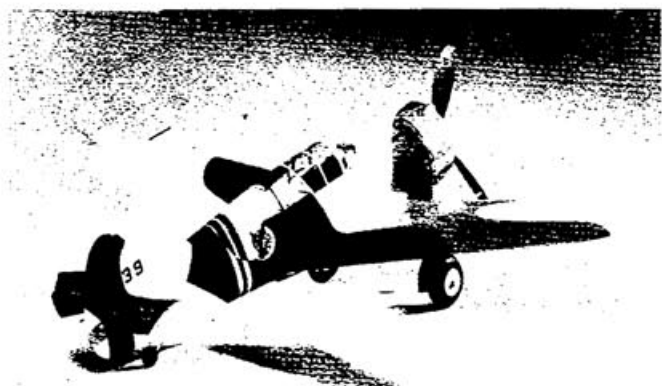
Cut the fuselage keel and formers to shape and cement the engine mounts (if required) and formers to the keel. The engine can be mounted upright or inverted and installed on either wooden beam mounts as we did, radially on the plywood bulkhead, or on commercial metal triangle mounts which are bolted to the plywood bulkhead. The selection is up to you and is, in some instances, governed by the engine you intend to use. We find that the K & B type of metal mounts permits the simplest methods of engine installation. Cement this fuselage framework onto the wing, being certain that the incidence angle is zero.

The entire empennage should now be cut to shape and sanded to a streamlined cross section. Join the elevator halves by means of the dowel spar and add the control horn. Hinge this assembly, with cloth strips, to the stabilizer. Add the sheet balsa stabilizer mount onto the keel and cement the stabilizer atop this. Add the tail wheel strut firmly to the keel.

Attach the wire lead-out lines to the commercial bellcrank by twisting the ends and soldering. Bolt the bellcrank to the hardwood mount and cement the mount to the fuselage structure. Bend the wire control rod and attach to the horn



FULL SIZE PLANS AVAILABLE. SEE PAGE 52.



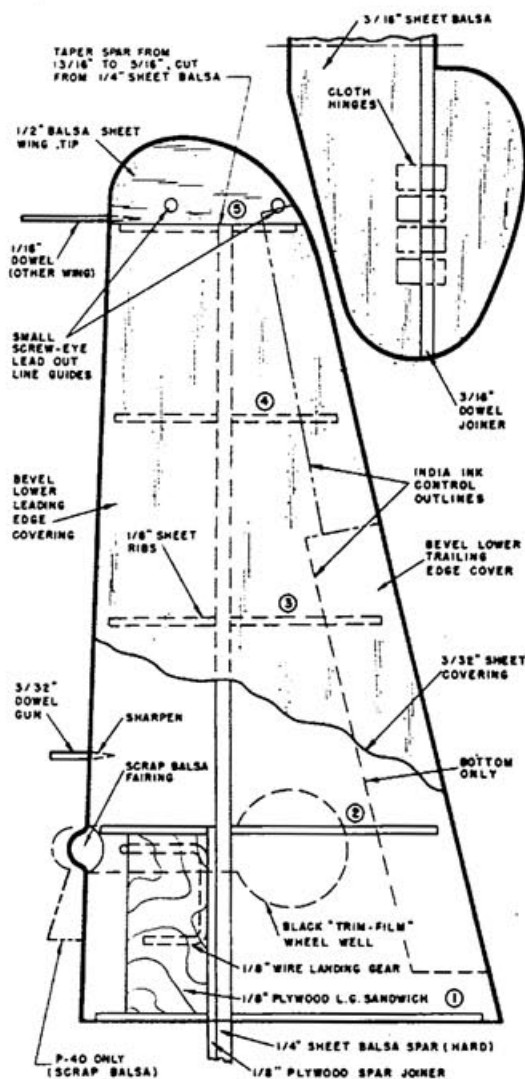
Put a dummy pilot in this one and you'll have a lifelike scale job. Fly on 25-40 foot lines for small engines; 36-60 foot for big mills.

and bellcrank. Offset the end as shown or solder a washer to the control rod ends to prevent it from slipping off the horn or bellcrank.

Numerous commercial metal fuel tanks can be used in this plane. If necessary, a portion of the leading surface of the wing covering can be cut away to accommodate the tank. Do not cut any portion of the spar. The tank must be rigidly mounted and plastic tubing filling, feed and vent lines added.

The entire fuselage is now planked with medium sheet balsa strips. These should be cemented to each other as well as to the formers. As planking progresses, it will be found necessary to taper and bevel each strip in order to insure a minimum of cracks and open spaces. When planking is complete, all these cracks should be filled with Aero Gloss Plastic Balsa or Testors Fyll. This should be forced into all crevices with the fingers. When thoroughly dry, the entire fuselage should be sanded until absolutely smooth. Mold the fillet with either of the above mentioned compounds. The fillet should be made in several layers to build up to the desired shape and size. Do not hesitate to make the fillet oversize because it can very easily be sanded to shape.

Install the landing gear fairings now. These can be carved from scrap balsa. The strut fairing should not touch the wing in order to allow the landing gear to flex. Add the fin and rudder and be certain to offset the rudder $\frac{3}{8}$ in. to force the model away from the center (Continued on page 40)



Last of the Fabulous Hawks

(Continued from page 13)

of the flight circle. Other miscellaneous items, such as gun ports, should be added now.

Before you apply the paint, the entire model should receive at least four coats of Sanding Sealer. More can be brushed on if desired. Sand well after each coat is dry, using fine sandpaper.

Before the cockpit canopy is installed, those portions of the fuselage that will be covered by the celluloid, including the rear view recesses, should be painted silver because these portions were left natural aluminum on the full scale P-36. Use fairly thick celluloid sheet for the canopy, about .008, in order to have it maintain its shape despite constant handling. Cement the celluloid in place, holding with pins until dry.

The prototype model was colored to agree with the camouflage used by the famous 27th Pursuit Squadron (Diving Hawk). During the years immediately preceding World War II, many countries were experimenting with several forms of deceptive or "dazzle" camouflage. Britain used diagonal yellow and blue stripes while Germany tried red, yellow and blue zig-zag patches. The U.S. covered the

entire plane with white, green and orange patches on both upper and lower surfaces, as the photographs illustrate. It is suggested that the entire plane be first colored white. Four coats should suffice. Using fresh masking tape, mask off the white areas and apply the orange dope. Care need not be taken to keep the orange from overlapping the future green areas. When this is dry, mask off the orange areas and apply dark green dope onto the remaining unpainted portions. Leader's stripes are optional. These reverse color when they pass from one color patch onto another. For example: the stripe is orange on a green patch but changes to green when it crosses onto an orange patch. This is painted on after the area is well masked. A careful application of rubbing compound will enhance the finish.

It is interesting to note that no national insignia was used. Only squadron insignia and element number were used as a means of identification. These can be cut from "Trim-Film" decals.

Add the wheels, antennae, wing guns and pitot tube at this time. Carefully cut the engine hatch and fuelproof the entire cowl interior with several coats of clear fuelproof. Install the engine and replace the hatch, using a few droplets of fuelproof cement to hold the hatch in place. The entire plane should now receive two coats of clear fuelproof.

Your handiwork must balance as shown before any flying is attempted. Flight lines of from 25 to 40 ft. long can be used for .14 in. engine installations while 50 to 60 ft. lines can be fitted to the models with heavier engines. Use steel .008 in. flight lines for the smaller engines and at least .010 to .012 in. for those of larger displacement. Always fly from smoothly paved surfaces such as school yards (on week-ends), parking lots, etc., for the model's safety and added realism.

END