Craftsmen in the service turn their civilian hobbies into important help for air fighters in the Pacific.

**NAVY MODELLMAKERS BUILD**

When the need for models of enemy planes was first felt by the Navy, its Bureau of Aeronautics Special Devices Division turned to men who had made a profession or a hobby of modelmaking in civilian life. The result was that the Navy was soon turning out model after model of enemy planes that reached perfection in every detail—planes that could be photographed against projected cloud backgrounds, thus allowing our pilots in the Pacific to identify immediately Jap planes that they had never seen before. And this was done often with such sketchy information as a blurred photo of a wrecked enemy plane.

The Navy's shop in Washington, where most of the models are built and photographed, is a dream come true for craftsmen. In it are such tools as jeweler's lathes and gravers, electrical dental drills, burrs, and scrapers, aircraft welding torches, electrical instruments, shapers, and artist's airbrushes. Along with them are the old standbys of the home modelmaker—razor blades and sandpaper.

At the head of this shop, Capt. Luis de...
Photos, on the other model of the Jap Mavis looks like the enemy long-range patrol bomber in actual flight.

**ENEMY PLANES**

Florez, director of the Special Devices Division, placed Jim Barry, international expert on plane models who was then employed by the U.S. Treasury and is now a lieutenant in the Naval Reserve. Lieutenant Barry had had models exhibited at the Cleveland Exposition and the New York World's Fair, and many of them are now being shown at the National Museum in Washington.

Others in the Navy’s model-plane shop include Petty Officer Paul Robertson, who in civilian life built small boats and homes as an occupation and model planes as a hobby. He has models on exhibit at the Smithsonian Institution at Washington.

Bob Geoghegan, another in the shop, is now an expert on ship as well as plane models. While an employee of the U.S. Trust Company in New York, he developed in his spare time an ingenious method of making sailing and exhibit ship models from paper.

Here is how a model is photographed in the Navy’s Photographic Science Laboratory to give pilots and gunners a view they will have in the air. The plane is mounted on a sheet of clear plastic, and the cloud background is projected on ground glass behind it. Below, the photographer’s assistant blows on the miniature propellers to make them whirl—the Navy finds this bit of realism much more effective than plastic disks or retouching.
In charge of the Navy's modelmaking is Lt. Jim Barry, international expert on model planes, shown with some of his projects. The shop was set up by the Bureau of Aeronautics Special Devices Division.

Back in 1939 a cardboard model locomotive of his won an honorable mention in Popular Science Monthly for his U. S. Trust Company homeworkshop club, and later that same year Popular Science published a picture of an automobile engine he built.

Tom Haynes, before entering the Navy, had a construction firm specializing in wood and ornamental iron work, and his hobby was making miniature tools that would actually operate. One of his pieces is a tiny carpenter's jack plane less than 2" long and complete even to screw adjustments of the blade.

Model planes that these men turn out are accurate in every detail, often despite lack of firsthand information. Scale is frequently determined by the size of a pilot's head showing in the cockpit of a photographed enemy plane or of the figure of a man standing beside a wrecked craft. Hand-carved pilots and gunners are in place. Machine-gun blasts, oil, dirt, and exhaust marks are indicated with dull black lacquer. Battle scars and wear are shown by peeling paint treated with a special technique.

The photography is just as exacting. Models are mounted in the Navy's Photographie Science Laboratory on a fine spindle attached to the center of a sheet of transparent plastic. A second plastic sheet, or one of ground glass, is set up 12" behind the first, and on it are projected the background clouds. The model itself hides the spindle from the camera.

Circular plastic propellers and whirling lines touched in by an artist were discarded long ago. They weren't real enough. Actual miniature propellers are mounted on the models. When they are photographed, a man in front blows to make them spin.

This is the way a fallen Jap Helen looks to our flyer as they speed by in the air. How would you like to try to build a model from this photograph?

It can be done. The finished photo at the left is of a model made from the picture above. All details are accurate to the nth degree, figured out carefully by the Navy's own expert craftsmen.