AWARD WINNING ZERO

Article and model by Harold Parenti
Color profiles by Richard Clark

What looks exactly like a famous WWII Japanese fighter and flies like a pattern ship? It's the A6M2 or "Zeke" that won the 1975 Nationals.

It all started about five or six years ago while attending one of the frequent weekend pattern contests. The introduction of another type of competition flying came along to shorten our pattern flying time. First formula I and now stand off scale. Naturally being the type of person that must get involved in anything new, I decided to find a good subject for my first attempt at this new event.

Every type of World War II airplane came to mind but I definitely knew before I made my final decision it had to be a low wing plane with retracting landing gear and very attractive, for eye appeal.

The Zero A6M2 was my choice primarily because if it would fly anything like its big brother, it had to be a winner.

Japan put the first Zero A6M2 Model 21 into action in November 1940, a year before the attack on Pearl Harbor, and by December 8, 1941 over 400 Model 21s were available. After the attack on Pearl Harbor, fear of the "Zero" raced through the Allied and American forces. Although a very worthy aircraft it was credited with performance and maneuverability beyond its ability. The Americans long contended the words "made in Japan" meant an inferior copy-cat product and the thought that a Japanese aircraft was superior to an American design was too much to comprehend. It was claimed that the Zero was originally an American design, rejected in the U.S., then purchased, copied and reproduced in Japan. This fiction was so widely circulated that it is still believed to be true. Other sources

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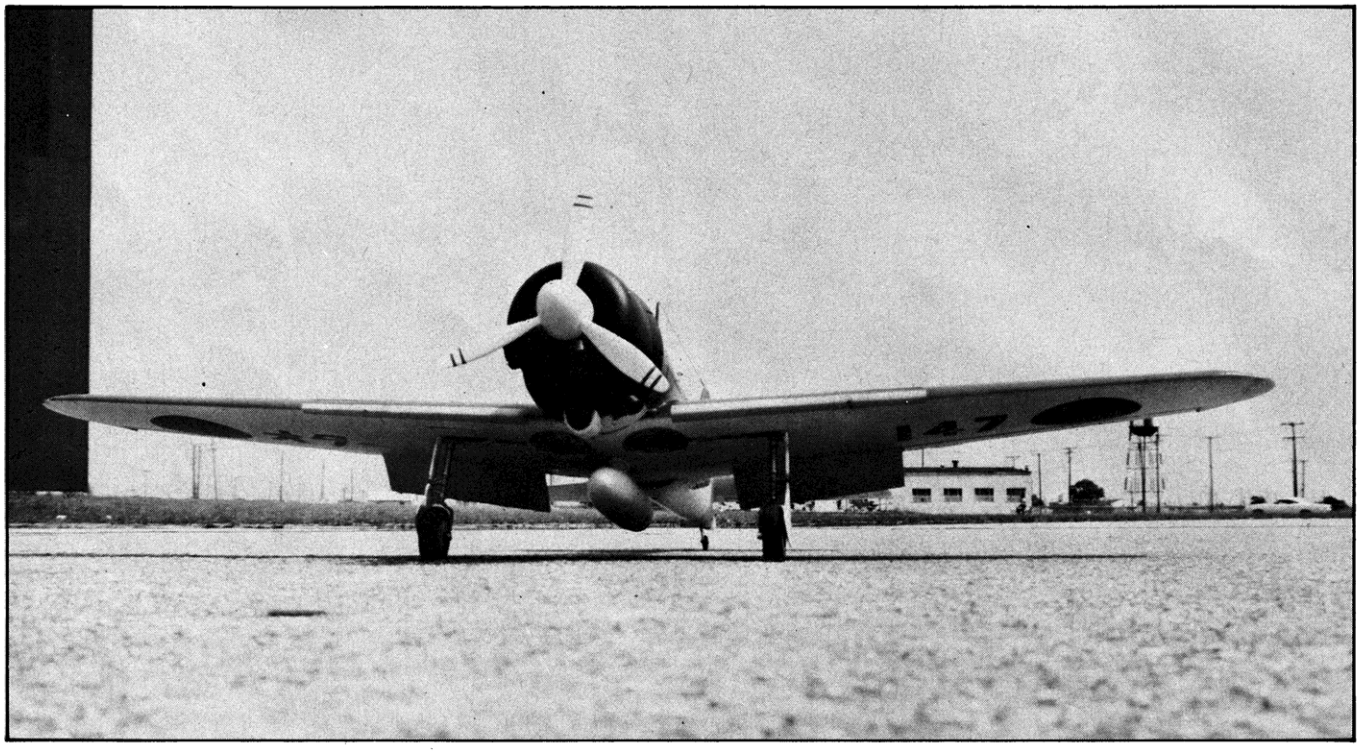
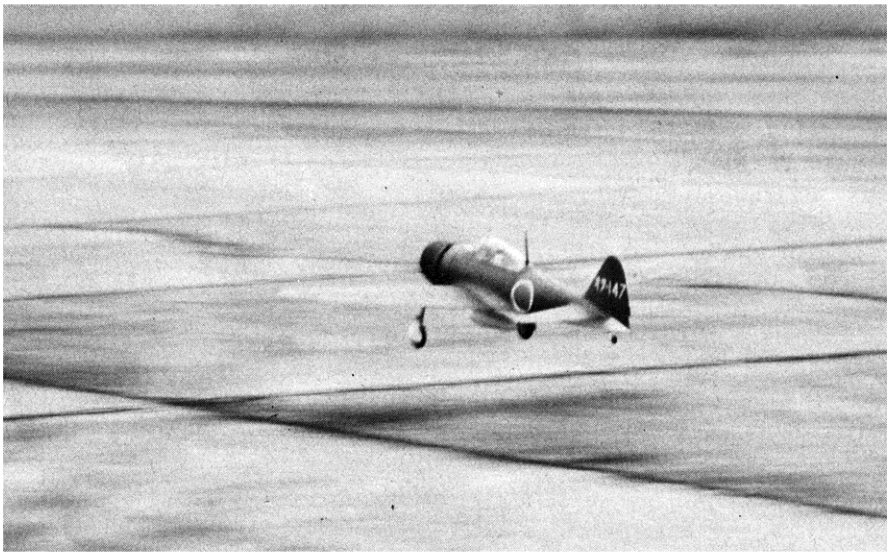
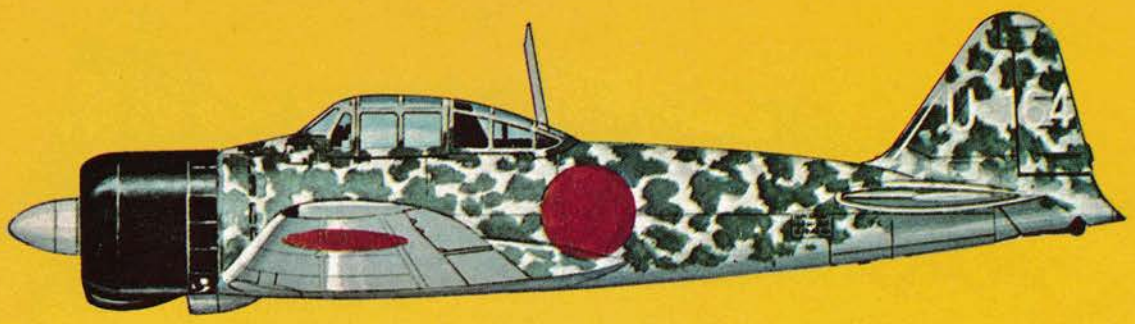
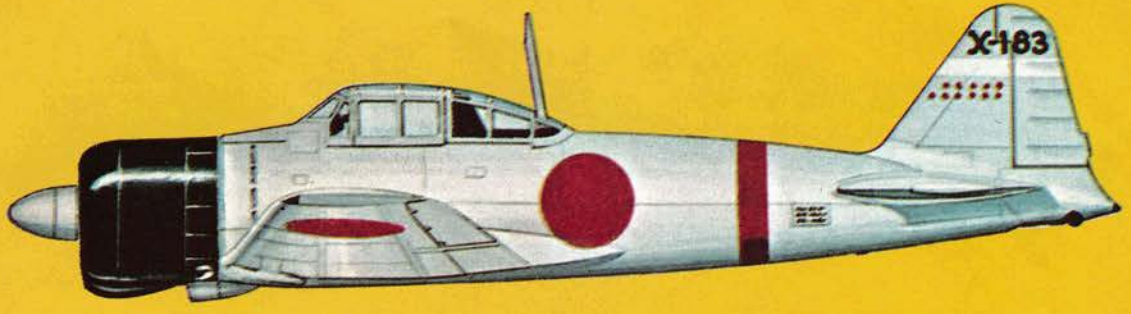


The Zero shoots down the runway and lifts off in a very realistic fashion.

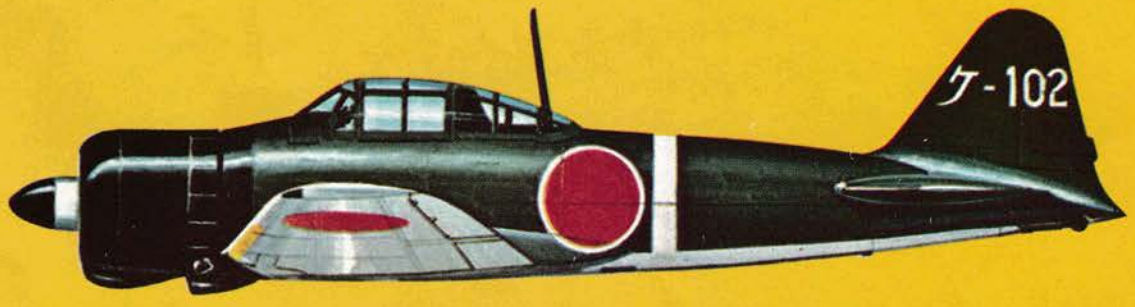




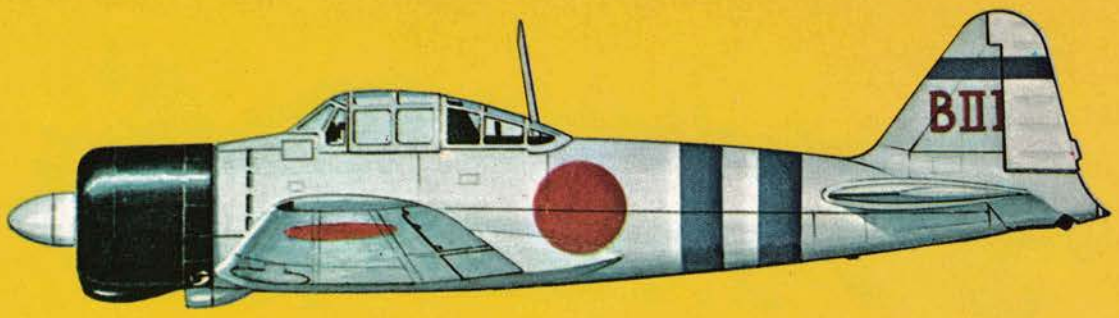
Mitsubishi A6M2 Type O Carrier Fighter, Model 21 serving with the 6th Air Corps on the island of New Guinea throughout mid 1942.



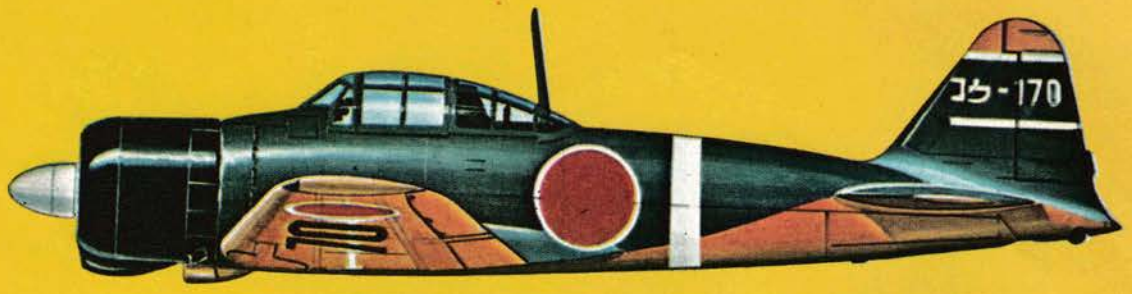
Sporting eleven victory chrysanthemum blossoms on the vertical stabilizer, this A6M2 Type O Carrier Fighter, Model 21 is shown as seen while serving with the 3rd Air Corps, Kendari in the Celebes during March of 1942.



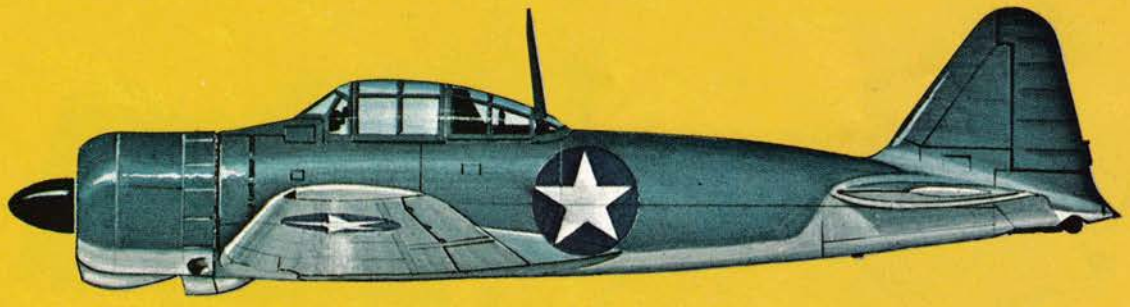
This Model 21 served with the Genzan Air Corps during late 1944 in the area of what is now Wonsan, North Korea. Note the typical yellow leading edge.



This A6M2 Type O Carrier Fighter was one of those aircraft dispatched from the IJN HIRYU on the morning of December 7, 1941. The aircraft participated successfully in the raid on Pearl Harbor.



With its undersurfaces painted in a high visibility orange, this Model 21 was one of the machines on hand for the Gunnery Training School at the Konoike Air Base during early 1944.



An American patrol plane operating in the Aleutians during June 1942 spotted an intact Zero that had bellied in on soft ground and flipped the aircraft over killing the pilot. The aircraft, only four months off the production line, was hauled out, shipped to San Diego, repaired and repainted in USN colors to become the famous U.S. "Zero" flying testbed that taught Americans how to fly against the mysterious Japanese fighter. So painted, this A6M2 saw many hours at the hands of many U.S. test and service pilots.

COLOR PHOTOGRAPHY BY GEORGE JENKINS

AWARD WINNING ZERO

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claimed that the Zero was copied from the Vultee Vanguard, the Chance-Vought V-143, the Northrop FT-1 and the Gloster F-5/34 experimental fighter. Because of its maneuverability and performance the Zero was the most sought after mechanical prize of the early months of the Pacific war.

So much for the background of the aircraft. Now you can build one of your own to compete in the next Sport Scale contest. The Zero is a high performance aircraft and not intended for the beginner, so I will direct construction with the assumption that the basics will not have to be explained. The final version of the Zero as entered in the 1975 Nationals at Lake Charles, Louisiana was equipped with a Supertigre ABC60, 11-7 Top Flite prop, World Engines Expert seven-channel transmitter and receiver, modified Pro-line retractable main gear, my own design retractable tail wheel and a reworked Goldberg retract servo modified to operate the gear at realistic speed. The wing and stab are foam with balsa covering and the fuselage is all balsa construction. Covering is the old silk and dope method.

CONSTRUCTION

Wing:

Prepare four wing skins by butting sheets together or obtaining four large sheets from your hobby dealer. Before covering the foam core, a few cut outs will have to be made. Cut two retract mounting boards from ⅛" plywood per the drawing or make one to suit your particular servo. Be sure to add an additional ⅛" plywood reinforcement strip under the servo mounting holes. This will give you a ¼" mounting surface for the sheet metal screws. Now place them in the proper position on the wing, mark and undercut so they are flush with the foam surface. Epoxy the units in place. Next, locate the aileron torque tube slot. Make the groove by running a soldering iron along a straight edge with ¼" diameter round tip with a stop to prevent penetrating the wing more than a quarter inch. Practice this procedure on a piece of scrap foam a few times before actually working the wing.

Now that the aileron grooves are cut and the landing gear mounts are in place, you can cover the wing in your favorite manner, that is, if you are not planning to install flaps. Should you decide to go with the flaps, use the same procedure as the ailerons except that the slot is cut from the underside of the wing. Remember the Zero has split flaps so they should be cut out after the wing is sheeted. Assembly of the tips and wing halves can now be performed.

Stab:

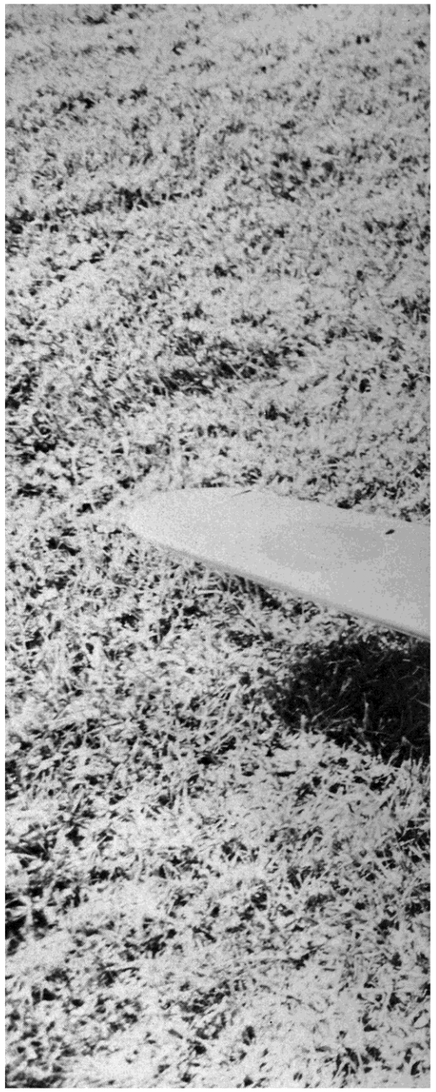
The stab is made of foam and covered in the usual manner. Follow the drawing to make the elevators and the rudder.

Fuselage:

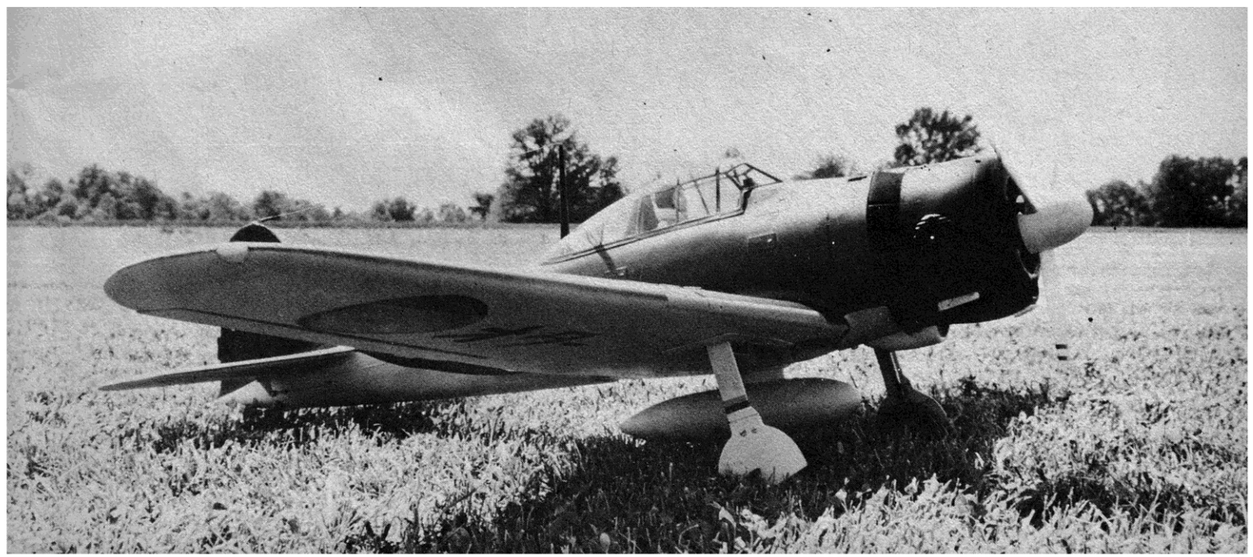
Construction of the fuselage is a little different than the usual. Start by placing the bottom sections of the bulkheads over the top view of the plan. Care should be taken to insure that they are placed ninety degrees to the work table, and directly on the center line. Start planking, alternating sides, until all areas are covered. I prefer epoxy for this area as it seems to work best. When dry, remove the assembly from your work bench and cement the other half of bulkheads in place. Notice that the fuselage will not twist at this point. Plank the remaining portion as shown on the drawing. Bulkhead #1 can be installed forming a 7/32" motor mount. Wing and stab cut-outs can be made next. Before assembling vertical and horizontal stabs, cut a section of 1/32" plywood and epoxy in place between bulkheads 1 & 2, 2 & 3, 3 & 4. This will provide a servo rail mounting surface and strengthen the fuselage. Be sure to reinforce the tail section by adding doublers before installing the stab. Fillets are made from soft balsa blocks.

Assembly:

Now that we have all the parts assembled, it is time to choose a power plant. The aircraft will weigh about eight pounds with retracts so a good 60 will do the job nicely.



Overhead view of the third generation model that flies like a pattern ship and looks like it belongs in a museum.

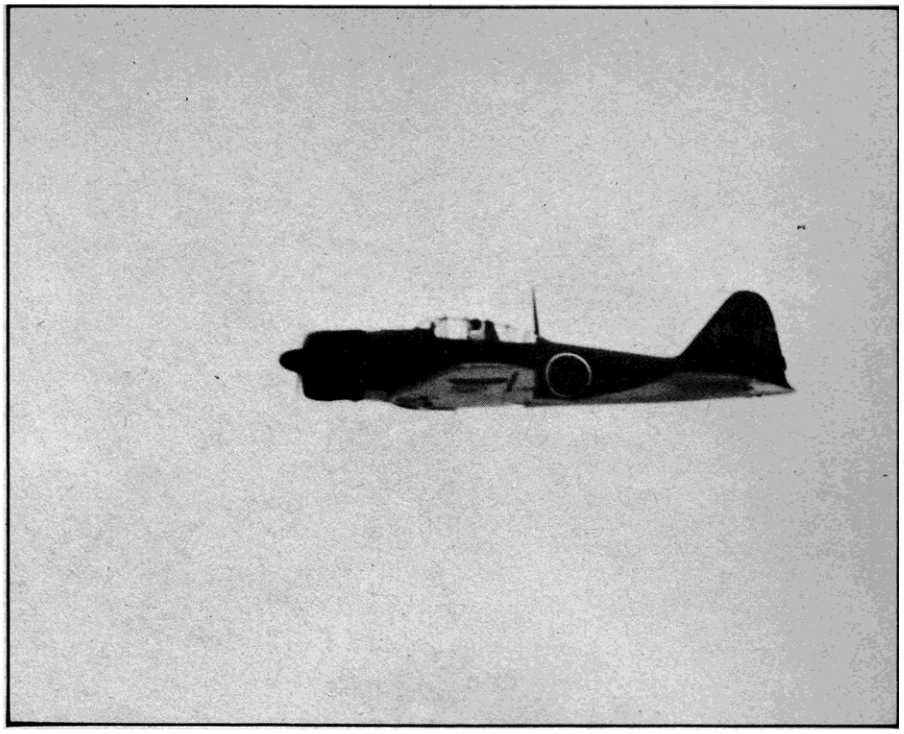


Harold Parenti's super Zero sits in the grass near Harold's Westchester, Illinois home. ▶

Side mounted or inverted give a good profile. Seven-channel equipment was used on my ship: elevator, rudder, aileron, engine, retracts, drop tank and flaps. Less than seven-channel equipment can be used. Since the performance of the aircraft is greatly reduced with gear extended, we do not recommend that this operation be eliminated. Flaps are not necessary for a smooth landing due to the washout built into the wings. While on the subject of washout, if you intend to cut the wing cores yourself, be certain you wash out the tips. Available cores will have the feature included. Now that you have your plane assembled and all the equipment in its approximate location, it is time for the finish.

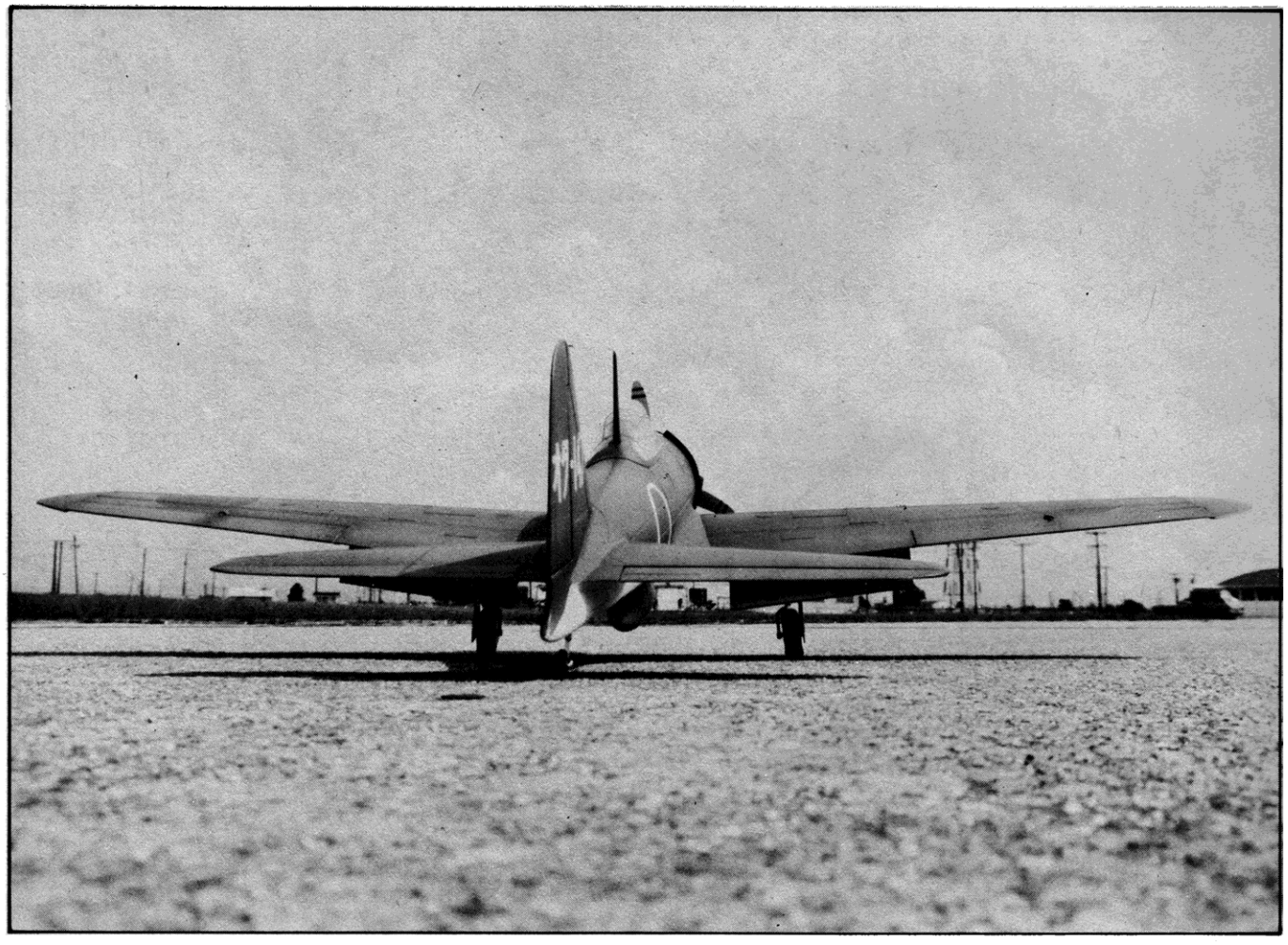
Finish:

There are a number of finishes you can choose from: epoxies, lacquers, nitrates and butyrates. I used the perfect camouflage paint by R & S Hobby products. It is available in 12 oz. spray cans for those who do not have spray equipment. I chose to use the standard method with my own equipment and it worked great. All will certainly do a good job. If you intend to use the Zero in competition you may consider cockpit detail. A few Tatone instruments can be glued on a black



With its gear up, the Zero makes a high speed strafing run.

Unless you KNEW it was a model . . . there are few who wouldn't believe this to be the real thing thanks to a little imaginary photography by George Jenkins.



painted former, plus a pilot and head rest. Prior to applying the final coat you may consider putting on some rivets. This can easily be done by carefully applying droplets of white glue. Seam lines can be simulated by the use of sewing thread and those all important hatches can be made of cardboard or thin plastic glued to the fuselage or wing surfaces. Use your imagination plus hints from others and your Zero will be a winner.

Flying:

Before any attempt is made to fly the Zero, double check the following. Number one and most important, be positive you have the C.G. location as indicated on the plans—slightly forward of this point will not get you into too much trouble but anything to the rear will be disastrous. Number two, do not over control. Keep moveable surfaces to a minimum. Ailerons 1/4″ to 5/16″ up and down. Elevator 3/8″ to 7/16″ up and down. The rudder is not critical. Number three, a good reliable engine with power to spare is very important. Now that your plane is ready to fly, the only advice I can give is taxi around until you get familiar with the characteristics of a tail dragger, take to the air and it will handle like a pattern ship! □