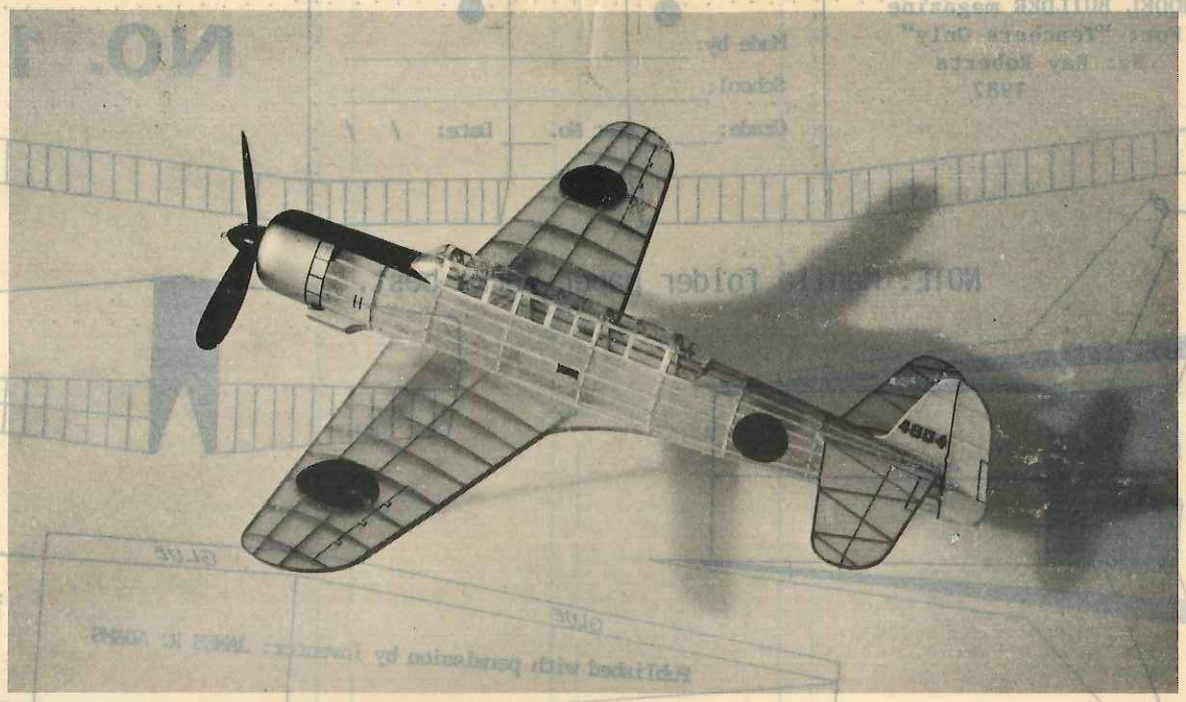


Nakajima 50

By TED SCHREYER. . .Here's a WWII veteran aircraft, code named MYRT, a flying recon ship for the Japanese Navy. As a rubber-powered model, the long nose and equally long landing gear make it a natural.

• High above the blue Pacific Ocean flew a sleek, silver, low-winged monoplane out on its daily look-around. Below, only the ship's radar operator noted its passage overhead. No interceptors could catch it, so it came and went without incident.

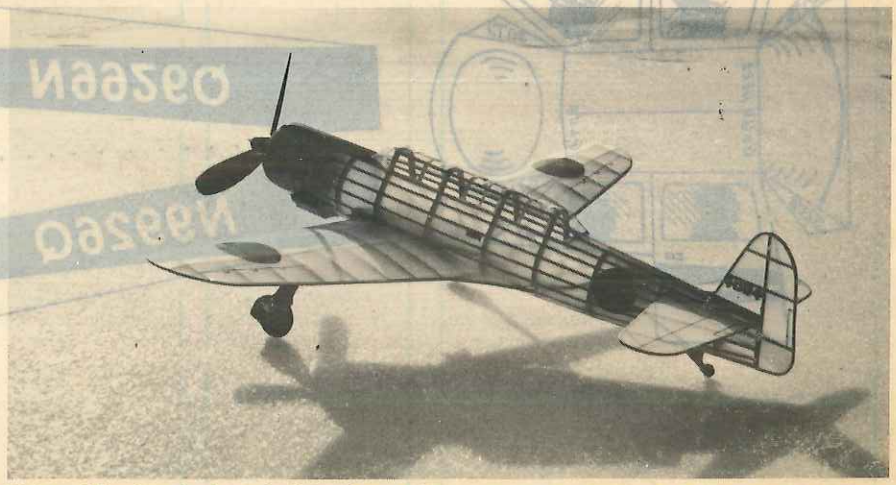
The plane was a Nakajima 50, code name MYRT, flying recon for the Imperial Japanese Navy encamped for the time being on Truk Island. Ask someone who knows a lot about World War II aircraft what a Nakajima 50 was, and probably all they can come up with is a puzzled look.

Designed in 1942 as a carrier-based recon aircraft, MYRT had 1990 horses to pull it along at a 385 mph top speed, carrying a crew of three, with a range of over 5000 kilometers. Designated C6N1, it was also called SAIUN, meaning "beautiful morning cloud." The reason it was chosen as a rubber-powered scale model is evident from the photos—a long nose to balance a long rubber motor, long landing gear to protect a large-diameter prop, and a streamlined, well-proportioned planform for stable flights. As the model proved, it was capable of putting in those long flights that make scale modeling such an enjoyment.

CONSTRUCTION

Because of the oval fuselage, the keel- and bulkhead-type of construction was utilized. This also kept the weight down which was of primary concern. The fuselage is built directly on the plan (always use a sheet of wax paper over the plan to protect against gluing the balsa to the plan) by first laying down the keel pieces (pinned in place), then adding the leftside bulkheads. Then the three long side stringers plus the top canopy stringer can be added (better to steam and pre-shape the stringers to the curved outline before putting in the fuselage structure).

After this half-shell has dried completely, remove it from the plan, add the rightside bulkheads and these stringers. Make sure the fuselage retains its longitudinal straightness. Bulkhead #5 can be held in place by gluing pieces of wood between #5 and #6 on the sides. After the 1/16 sheet has been glued to the cowl, these pieces can be removed. Steam and wrap the cowl pieces around a small jar to dry in a curved shape so they will fit in place easily. Fill in around the wing attachment area with soft 1/16 sheet, and trim to fit wing. Make a notch so the stabilizer can fit in after the rest of the stringers have been added, and, when the fuselage is complete, lightly sandpaper the structure, and cover with tissue doped in



With oval fuselage, keel-and bulkhead-type of construction was utilized. This technique kept the weight down, always of primary concern when building a rubber-powered flying model.

On the wing over a Vermont forest, the Nakajima will perform well outdoors, but only if perfectly still air is present. It's primarily designed for indoor flying.

place.

A word about choosing balsa might be appropriate. For example, a bin of 1/32 sheet may have some very heavy, thick sheets and some thinner, softer sheets. Same with the sticks. Try to choose the strength and weight of the balsa to go with the use it will be put to. Strong, neatly cut sticks are essential for stress areas; such as, fuselage stringers or wing spars or tail construction. Try to get strength with lightness, as balsa doesn't have to be heavy to give needed strength. For the cowl and spinner, very soft lightweight balsa is easier to work. The structure can be assembled using slightly watered-down white (Elmer's) glue, although acetate glue (Ambroid) is better for cowl as it sandpapers better. Cyanoacrylate glue is better for construction where speed of drying makes assembly easier.

WINGS

The wing is built directly on the plan. The bottom of the airfoil is flat (a break with exact scale) so that it will build easily. First, lay down the 1/16 sq. bottom spars, put in the wing ribs, add the leading and trailing edges, the laminated tips, and the top spars. Leave wing rib #1 until the structure is completely dry, then block up each wingtip 1-1/2 inches, cut the top spars to fit, then glue in rib #1. When the wing assembly is fully dry, sandpaper edges and outer framework smooth, then glue in the landing gear wires. Then cover wing. Poke a little hole in tissue, and slide tissue down over gear wire. On the original, two coats of thin dope were put on the places where the tissue was to be attached, then a cut-to-size piece of tissue was laid over the area and a small brush with thinner was run along the doped structure to allow the thinner to soften the pre-applied dope, which then would dry and make a neat attachment of the tissue. When the tissue adhesive has dried completely, lightly water spray the covering and let dry without resorting to blow dryers or sunlight. The tissue will shrink and make a beautiful tight covering. The original was given two coats of very thin clear dope to protect the surface.

Glue the finished wing to the fuselage being sure to align them properly—straight fore and aft, and not askew or with one tip higher than the other. Build the tail surfaces, cover them, and glue to the fuselage also making sure to have them straight and at 90 degrees with one another. The hinge lines on the flying surfaces can be felt-tipped in using a medium-size black pen. Other details were added using the felt-tip pen, although india ink or black dope had to be used on painted areas, such as, the cowl.

The fillets between wing and fuselage were cut from tissue, and, by carefully running a small amount of dope along the edges, the tissue fillet will make a neat, streamlined joint that will water-shrink to a tight, smooth shape. The landing gear wire was covered with typing paper rolled into a tube shape, or if you can find a straw that will glue, use it. The lower part has a paper cover as per the plan pattern. The covers are made from sheet balsa and should be sanded and painted silver before being attached by a drop of glue at the top and bottom of the landing gear wire. These covers should be lightly attached, and space left between the undersurface of the wing so the movement on landing won't tear the wing covering.

The long greenhouse over the cockpit and crew area can be made by covering with thin cellophane and then cutting strips of silver tissue and doping them on to the cellophane to represent the canopy framework. Or the plan canopy can be cut out and lightly sprayed with aluminum paint, then added to the cellophane. The original has some trouble with wrinkled cellophane which would not have happened if a slightly thicker cellophane was used.

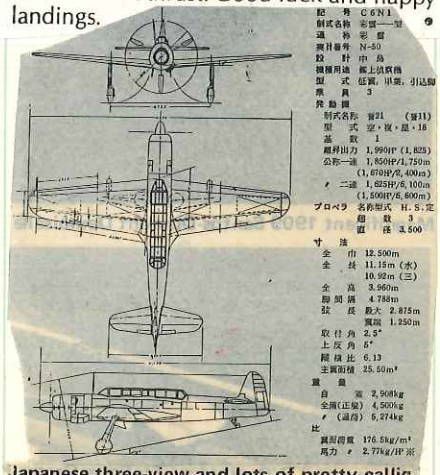
The Japanese "sun" insignia can be painted on with red dope, or a round piece of red tissue can be doped in place. The wheelwells were simulated by cutting black tissue to the shape and doping in place. Wheels were shaped from built-up balsa sheet. The rubber motor in the original was a 1/8 piece tied into a loop, then put over the removable dowel in the fuselage rear, and hooked over the prop wire with enough length to lie at ease in the fuselage. Prop and rubber motor combinations can be tried to achieve the kind of flight desired.

The three-bladed prop is made from medium-weight balsa. Cut the blades out, steam them until softened, then wrap on a bottle or cylinder with a 2-1/2-inch diameter to give a curved cross-section. After dry, carve to an airfoil shape, and, using the plan, pin the rear spinner piece and the blades in place (use three cardboard templates of 45 degrees angle for blade angle of attack), glue well and then fill in the rest of the spinner with sheet pieces.

The spinner needs metal washers glued front and back to take the stress of the prop wire. Washers can be made by drilling a 1/32 hole in thin aluminum or copper sheet and then using a paper punch to punch out the washers. Clean off the metal burrs by rubbing the washers over a fine-grain file. A freewheeling catch is useful when using a mechanical winder, otherwise, the model usually lands with a few winds still in the motor. Flying is adequate with the three-blade prop, but for better performance, a two-blade prop is suggested.

TRIMMING AND FLYING

The completed model with the rubber motor in place should balance at the center of gravity as shown on the plan. The original balanced properly without adding any nose or tail weight. Wing and tail surfaces should be free of any warps, with the exception of about 1/16-inch "washout" (tip with less incidence than root) in the right wingtip. This model is intended for indoor flying, preferably in a large gym with no obstructions, but it will fly very well outside as long as the air is absolutely calm. For preliminary testing, try putting in 50 to 75 turns and letting the model glide/fly into the proverbial long grass so as to cushion the landing. Once a stable gliding flight has been achieved (the adjustments include slightly warping the tail surfaces by breathing on them and holding in desired position until set, or adding slight weight to nose or tail), more turns can be put in the rubber motor and the thrust line altered if necessary by shimming the thrust button to achieve a smooth powered flight. The original flew best with 1/16 inch of left rudder and some left thrust. Good luck and happy landings.



Japanese three-view and lots of pretty calligraphy; what it means is another story!