

PHOTOGRAPHY: MIKE MIDKIFF

Nakajima C6N1 "Myrt"

By Mike Midkiff

Too late to make its presence felt in WW II this lean and extremely fast recon design was one of Japan's finest efforts. It has the ideal moments for freeflight scale.

Japanese combat experience gained in the vastness of the Pacific indicated the need for a fast, long range, carrier borne reconnaissance aircraft. The aerial scouting carried out by torpedo bombers had been somewhat less than satisfactory. Therefore the Japanese naval staff requested Nakajima to design and build a single purpose, high speed, long range recon aircraft. Thus emerged the C6N1 *Saiun* (*Painted Cloud*), Allied code name *Myrt*.

This sleek, rakish appearing aircraft was very clean with the exception of the external oil cooler mounted on the port side lower cowl. Laminar flow wings, which were equipped with Fowler and split flaps along with leading edge slots which effectively enhanced its overall performance envelope. It was equipped with only one rearward firing machine gun which indirectly emphasized the fact that *Myrt* could pull away from anything our Navy could throw up.

Myrt entered combat during the battle of the Marianas and, with the incredible range of 3000 miles, she continually shadowed the U.S. fleet up until the war's end. Further C6N development resulted in a proposed torpedo bomber with forward firing armament; however, the loss of practically all of Japan's aircraft carriers precluded any further development.

By then, near the close of the war, the home defense role became critical and *Myrt*, with her speed, range and ceiling, traded in one of her three crew members for a pair of oblique firing 20 mm cannons. Thus armed, she joined other piecemeal squadrons who slugged it out with the ominously increasing B-29 formations.

Myrt had the dubious distinction of being the last aircraft shot down in WW II.

In model form *Myrt* presents some delightful proportions for a rubber powered scale ship: slim, clean, front profile, and a long

nose moment with an equally well located and proportioned empennage. The typical long greenhouse canopy, so characteristic of Japanese aircraft of the war, is well represented in this model. Also the peculiar, raked forward rudder enhances the overall appearance of this sleek Japanese reconnaissance aircraft.

As is typical of all of my WW II models, the landing gear is constructed to plug into the wings which allows flight with or without the L.G.

The real *Myrt* used either a three or four bladed prop, so I chose a semi-scale three bladed prop built into the neat spinner. My semi-scale props seem to give as good performance as two bladed props and I think they contribute to the overall scale effect of the aircraft. Straight forward construction is typical except for the method used to construct the engine cowl, wing fillets and canopy. All balsa wood used throughout the construction should be of the lightest available except for the $\frac{3}{32}$ square main longerons and the wing spars; these should be from medium to medium-hard balsa. For added weight reduction, lightening holes are punched in the ribs and formers, being careful not to affect structural integrity. All of these measures should result in a total airframe weight, less motor, of 3 ounces or less. Rather than get into a detailed "glue A to B" type of construction guide, I'll highlight the unique or somewhat difficult aspects of the model's construction.

Construction notes

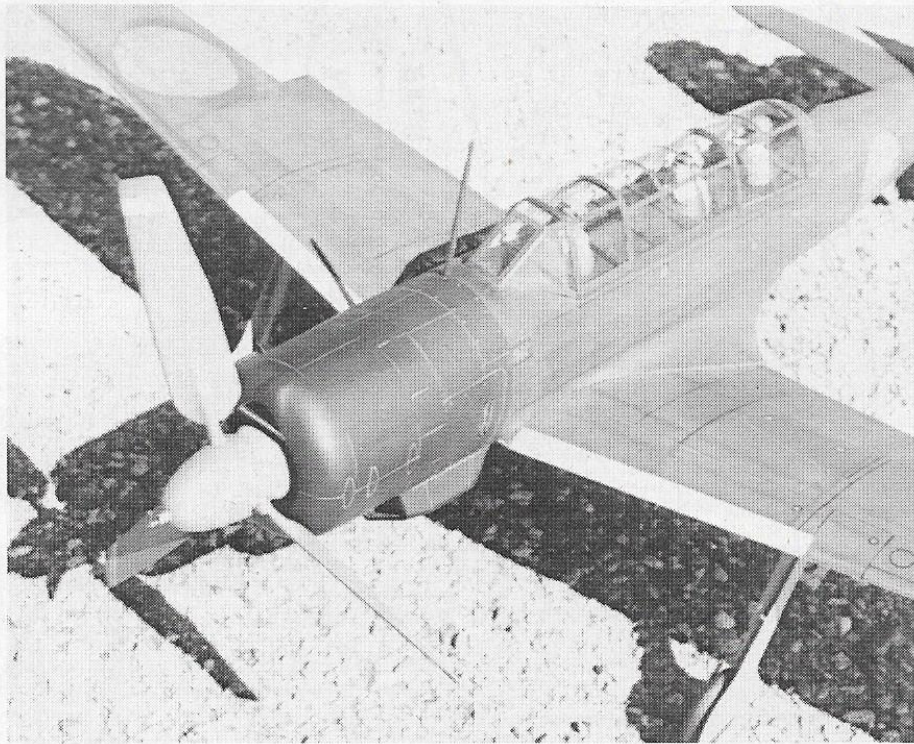
Engine cowl. This is built up separately from the rest of the fuselage. Construction is easier if the two main cowl rings, which are notched for the four stringers are left solid while they are aligned and sheeted to form the cowl cylinder. This will give much more

rigidity and less distortion when wrapping with the $\frac{1}{16}$ sheet. After sheeting, the centers can then be cut out. Next add the front cowl rings, after finishing the inside diameter and then gluing to the cowl cylinder. In this way the outside circumference and radii can be formed into this one solid assembly.

Wing fillets. These can be a real headache if not done systematically. Finish up the fuselage and wing structures completely, including the joining of the wing panels at the appropriate dihedral to the wing center section. Carefully align the wing assembly in the fuselage wing saddle and tack glue in place. Now using the trailing edge as a guide, glue the two F-1 pieces to the lower fuselage against the stringers. Next glue in place the two F-3 fillet formers at Sec G. After all of this is dry, remove the wing. Cut out two $\frac{1}{32}$ sheet F-2 pieces. Dampen with Windex (the ammonia content in this helps make the wood very pliant) and carefully glue to F-11 along the fuselage side, F-3 fillet former, and the back edge of F-1. Carefully fill in any gaps that may exist with scrap balsa or balsa filler and blend into the fuselage structure with careful sanding.

Covering and assembly. Since my model was painted with an air brush, I covered it completely with white Jap tissue. Any preferred method of yours will work on this model since, although the structure is light, it can still withstand water shrinkage and light clear doping. Tissue cover and paint the airframe prior to building up the canopy. If you choose to cover it in colored tissue use the darkest green available to simulate Japanese Navy Green which is dark. Use either light grey or white for the undersides of the flying surfaces and fuselage.

Assembly of the model starts with the line up and gluing of the engine cowl in place to the front of the fuselage. Next trim out the wing saddle fit in the fuselage so the fillets fit

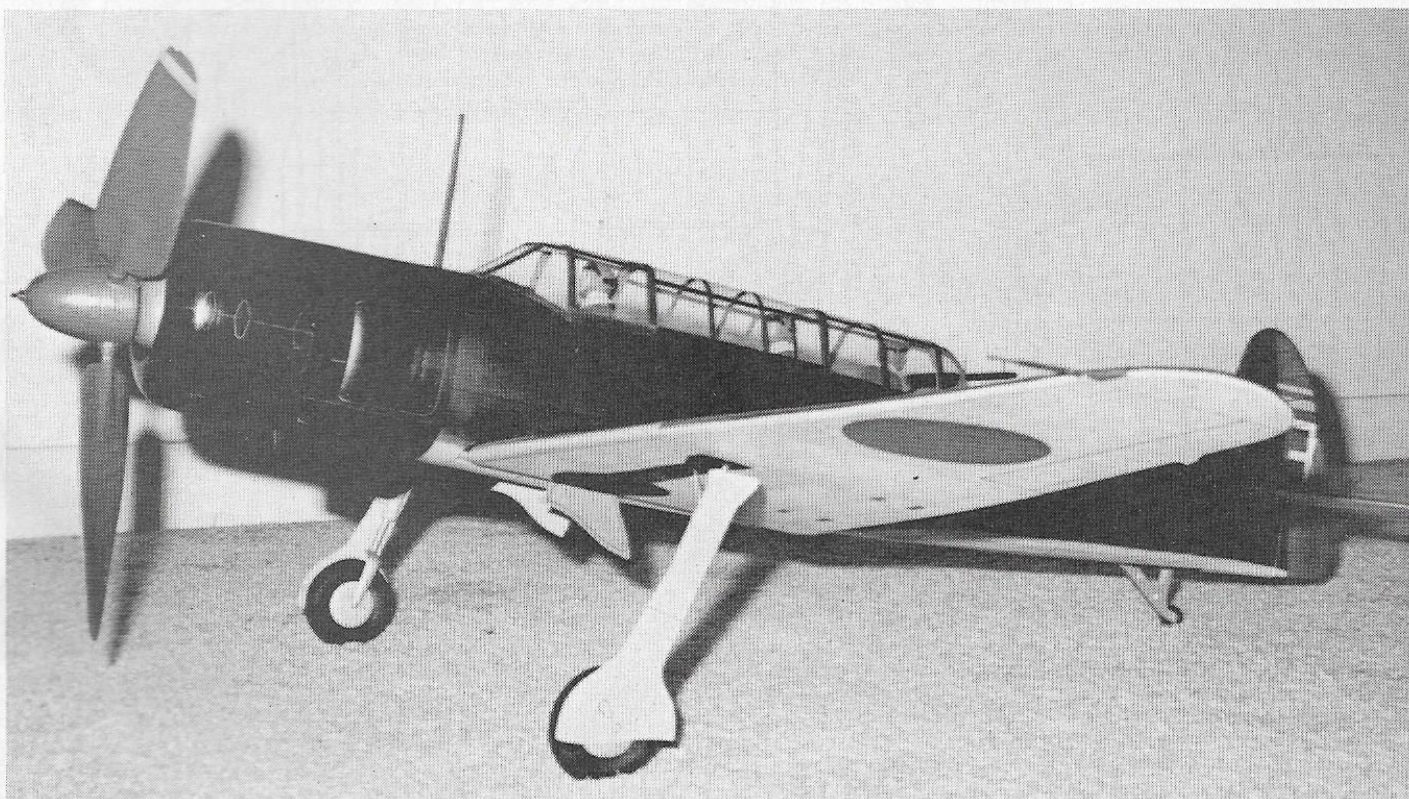


Most of the *Myrt's* construction is pretty conventional. The engine cowl, however, is built separately from the fuselage. The two main rings are aligned and the cowl sheeted before the centers of the rings are cut out

the top surface of the covered wing. Align the wing carefully and glue it securely in place. Don't forget the small fuselage piece glued to the underside of the wing.

Tack glue the stab into its slot so that 1° to 2° of decalage exist between the stab and wing. The surest method I've found to accomplish this is by setting the wing bottoms on parallels; e.g., two pieces of $\frac{1}{4} \times 3 \times 24$

balsa sheet which work fine. Set all of this up on a large flat table and now measure up from the table to the stab leading edge and compare this figure to the measurement at the stab trailing edge. The trailing edge must be $\frac{1}{16}$ to $\frac{3}{32}$ higher than the stab leading edge. This is the single most important line up measurement for proper flight trimming. Align and glue the rudder in place to the



White or grey tissue is the covering choice for the *Myrt*. The Japanese Navy Green top coat for the upper surfaces was airbrushed on.

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fuselage above the stab and the fuselage tailpost.

Canopy. Built-up canopies are really not that difficult, just different and maybe a little more time consuming. Although, for my money, a large canopy like this one is less overall hassle if it is built up rather than enduring the aggravation of carving molds and attempting to heat form celluloid in sections.

The complete canopy framework is formed from four main canopy "sub-frames" and a thin ply front and rear windshield frames. Make the four canopy sub-frames from two laminations each of $\frac{1}{32} \times \frac{3}{32}$ basswood strips shaped over a form. Glue these four frames at the appropriate locations on the upper longeron pair. Now using $\frac{1}{16}$ sheet, cut out and glue in place the various canopy base pieces between each set of upright frames. Cut out the front and rear windshield frames F-4 and F-5 and glue in place. Center these on the fuselage and set at the appropriate angle. Join these two frames to the adjoining canopy frames with four pieces of $\frac{1}{16}$ square basswood. This completes all of the necessary canopy framing. Paint the framing the appropriate interior color and install a false floor and airmen if so desired at this stage. Now get a piece of white typing paper, lay the paper directly against the various frame openings and trace them. You should have four outlines for the front windshield, four outlines for the rear gunner's windshield and three patterns for the canopy wraps. Set the tracings on a flat cutting area and lay over a sheet of .005 celluloid. Cut out each individual window to the shape of each pattern you have traced. Now glue each of these windows in place with Hot Stuf. Do the small pieces at each end of the canopy first and finish up with the canopy wraps. That completes the "greenhouse".

Hopefully you can lay your hands on some matt finish Chart-Pak tape. (Sold in stationary or art supply stores.) This is the best to use for all of the canopy framing simulation.



That greenhouse canopy is more time consuming than difficult. Four sub-frames are aligned and glued onto the fuselage. When all the framework is in place paper templates are made for clear plastic frames.

Get either black or green and paint the non-sticky outside with the appropriate Japanese Navy Green. Cut out the individual lengths and just stick in place. I usually do all the horizontal frames first and then wrap around the vertical framing. There you have it, a neat, crisp looking greenhouse that would make Saburo Sakai proud.

Flight trimming

Eyeball all of the flying surfaces and steam out any large unwanted warps. Each wing panel should be flat with maybe a hint of washout, i.e., wing tip trailing edge up. Make up a motor from two loops of $\frac{1}{4}$ inch rubber, approximately 28 inches long. Braid up the excess slack and install it in the model. Add clay to the inside of the cowl to locate the C.G. at approximately 30% back from the wing L.E. Hand glide the model and observe for any unwanted tendencies, correcting them before proceeding. Start with approximately 3° of right thrust and 3° of down thrust, $\frac{3}{32}$ to $\frac{1}{8}$ shim behind the nose block.

Wind up the motor 200 turns and launch the model straight out. Observe for any tendency to stall or roll. If either occur, adjust thrust offset to alter and add 50 more turns and check again. I like to trim my models to climb in wide circles either right or left. The wing which has the least washout is the direction of turn. Gradually add more and more winds to the motor and correct any minute stalling or tight turning with thrust line adjustments only. *Myrt* seems to fly best in a shallow climb which opens up into a wide circling glide either right or left. Remember, control all power on flight trim with thrust line off setting and glide trim with the rudder tab.

A rubber motor 28-32 inches in length should allow 1100-1200 total winds resulting in a 45 second prop run. *Myrt* should be quite competitive with flight potential well over a minute. Be careful though- her grown up sister had tremendous range and this little Japanese gem may have more endurance than you do!

