

MISSING IN ACTION

Print the complete address in plain block letters in the panel below, and your return address in the space provided. Use typewriter, dark ink, or pencil. Write plainly. Very small writing is not suitable.

No.

PASSED BY
U 23857 S
NAVY EXAMINER

ICEBROOK'S STAMP

Elizabeth Demarco
17 Cottage Drive
Route 1
Princeton, New Jersey

Hq. Michael Demarco
(Sender's name)
292 Main Way, A.P.O. 72
(Sender's address)
Pearl Harbor, HI
September 28, 1942
(Date)

Dear Mom

I hope this letter finds you and everyone well. We are getting ready to ship out and I may not be able to write to you again soon. I can't tell you where we are headed but it looks like it's going to be a big show that you'll no doubt read about in the papers soon.

Mom, please don't worry about me as the guys I'm flying with are the best in the world and everyone looks out for one another both on the ground and in the air. I've enclosed a picture of me in my new plane. She is a real 'wild cat' and I can't wait to taken her into action.

It looks like we'll be shoving off soon, so I'll have to cut this letter short. I promise my next letter will be longer. Please give my love to everyone and I'll be home soon.

Your Loving Son
Michael

V --- MAIL

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BY BOB LOMASSARO



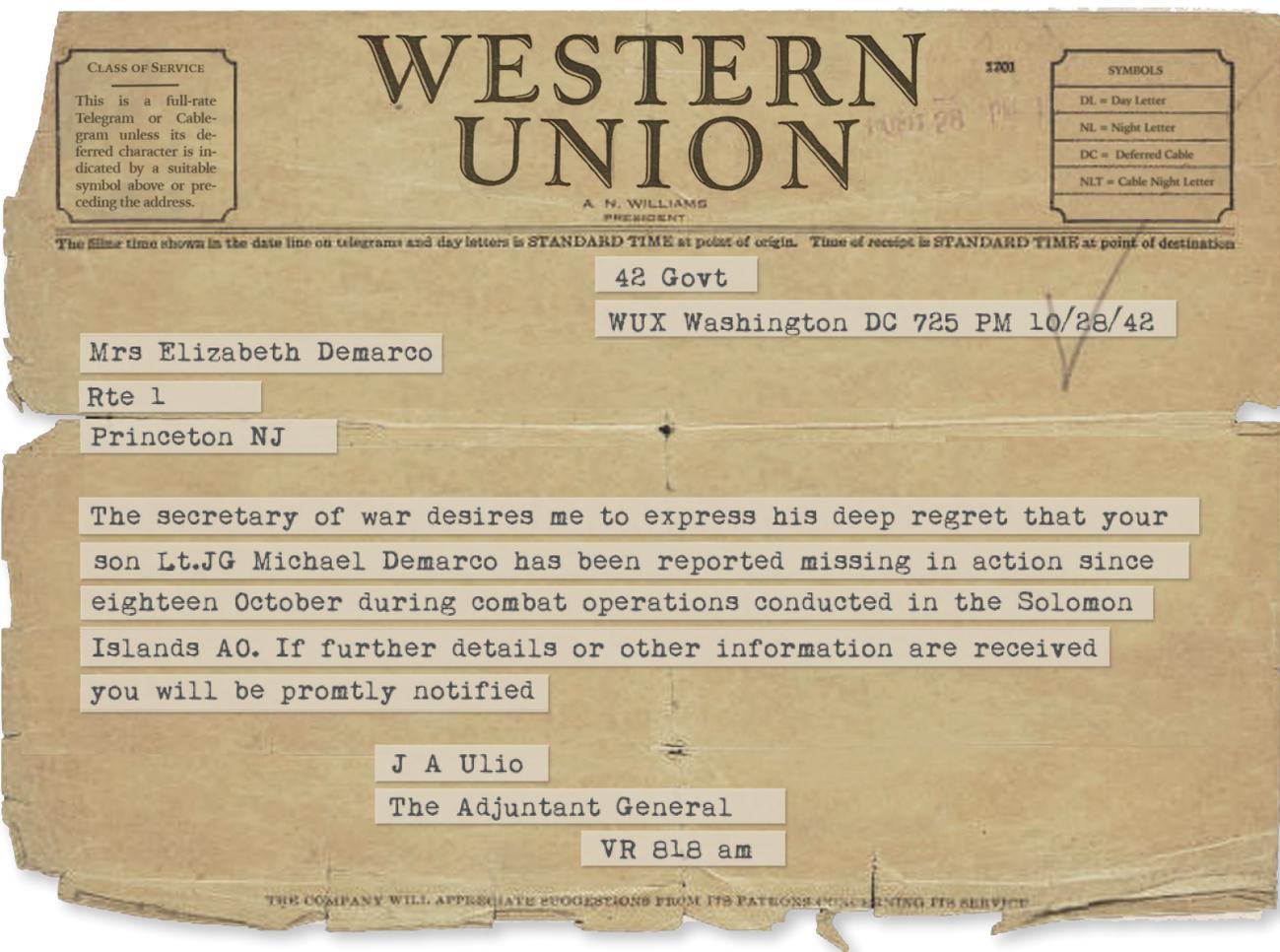


WAR MACHINES beaten and reduced to rusted hulks by mother nature's wrath have always fascinated me. Whether it be armored vehicles abandoned on beaches or in deep forests, or the once mighty aircraft discovered decades later in jungles and deserts. The story of 'Lady be Good' had a profound effect on me as a young boy, as did several made-for-tv movies from the 1960's that were based on the same story. Who hasn't seen the Twilight Zone episode of the downed B-25 in the desert with its ghosts still haunting the wreckage?

As a WW2 amateur historian, I was shocked to learn that 75,000 U.S. Servicemen from all branches were listed as 'missing in action' in WW2 alone. Obviously, a vast number of these were from battlefields, sunken ships or aircraft crashes where the remains could not be identified, but a good number of these MIA's were listed as never found and were later presumed dead. As a son of a WW2 combat veteran, I could not imagine the impact and horror this might have had on the families of these

lost MIA's. As such, I decided to make my diorama based on such a storyline. Fearing it would be disrespectful of an actual fallen hero I decided to create a fictional pilot and, in a way, honor all those heroes listed as 'Missing in Action'.

During my research I learned that there were naval aircraft and pilots that never returned from sorties in the south pacific during the frantic early days of WW2. I chose the F4F Wildcat for several reasons,



first being that it was present in the early naval campaigns in considerable numbers, and that it was rather compact in size, thus reducing the size of the diorama base. Not to mention that it is among my favorite WW2 aircraft.

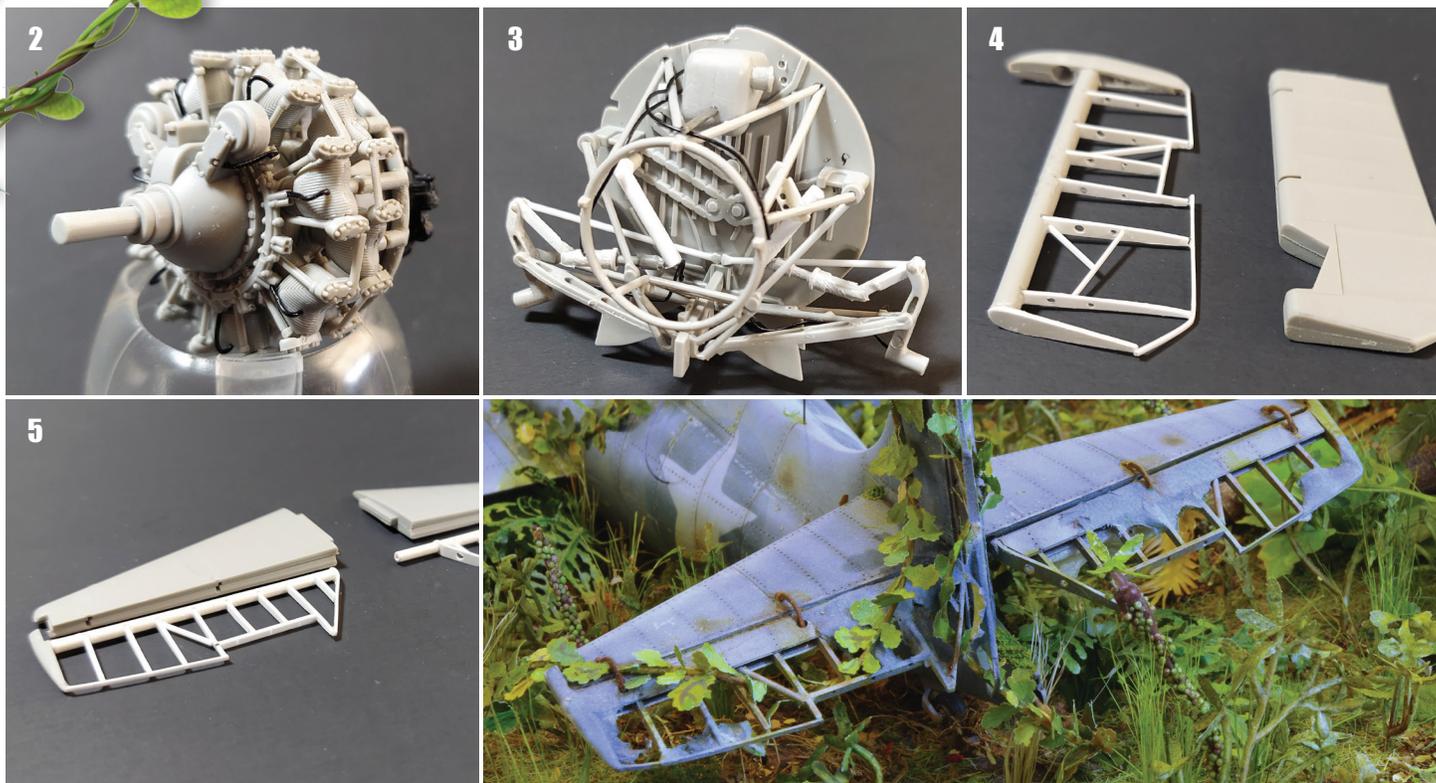
Story Unlike static models, dioramas are meant to show the models in their intended setting, time and location. In addition, a good diorama will contain a simple storyline that can be easily deduced by the viewer as well as stir an emotion such as shock, sadness or laughter to name a few.

My story focuses on a young American pilot who after writing home to his mom, goes off on a mission in 1942, is wounded in combat, crash lands somewhere in the dense jungle of the Solomon Islands and is never heard from again. The diorama depicts how the aircraft and pilot may look after being found sometime in 1949. To help explain the story, I recreated a historically accurate V-Mail (*title page*) where our pilot tells his mom about the impend-

ing mission and asks her not to worry. He tells of his pride in his aircraft, his unit and the confidence in his fellow flyers. Next, I created a photograph of our pilot by taking a photograph of a real pilot sitting in his Wildcat and then Photoshopping a new face over the original (*title page*). Lastly, I created a historically correct Western Union Telegram from the War Department (**1**) describing to his mom that her son is currently listed as 'missing in action'.

Planning The basic idea for this project came from a 1/48 scale diorama I saw many years ago of a downed and forgotten F6F Hellcat built by my friend and master modeler Bob Bracci.

I originally planned on using the vintage Revell F4F Wildcat, that was until I got a good look at Trumpeter's F4F-4 for sale at an IPMS model show. Although the Trumpeter kit was not perfect, it contained a beautifully detailed Wasp radial engine, detailed cockpit, highly detailed landing gear, workable control surfaces, and recessed panel



lines. The only thing that Trumpeter got wrong was the recessed rivets on the fuselage, as the real Wildcats had pop rivets.

Designing the base for the diorama started with taping together the Revell Wildcat and positioning it on carboard of various shapes and sizes to determine which would work best. I decided on a round base so that I could show the model from all angles but knowing that it was going to take a lot of foliage I was determined to keep it as small as possible. As it was, I spent four weeks cutting and painting paper plants!

Speaking of jungle! I had two options, one that I could either build a realistic dense jungle that would hide most of the aircraft or go with the 'impression' of a dense jungle where the Wildcat can still be seen. I opted for the latter as the Wildcat and pilot was the focus of the diorama and not my skills as a landscaper.

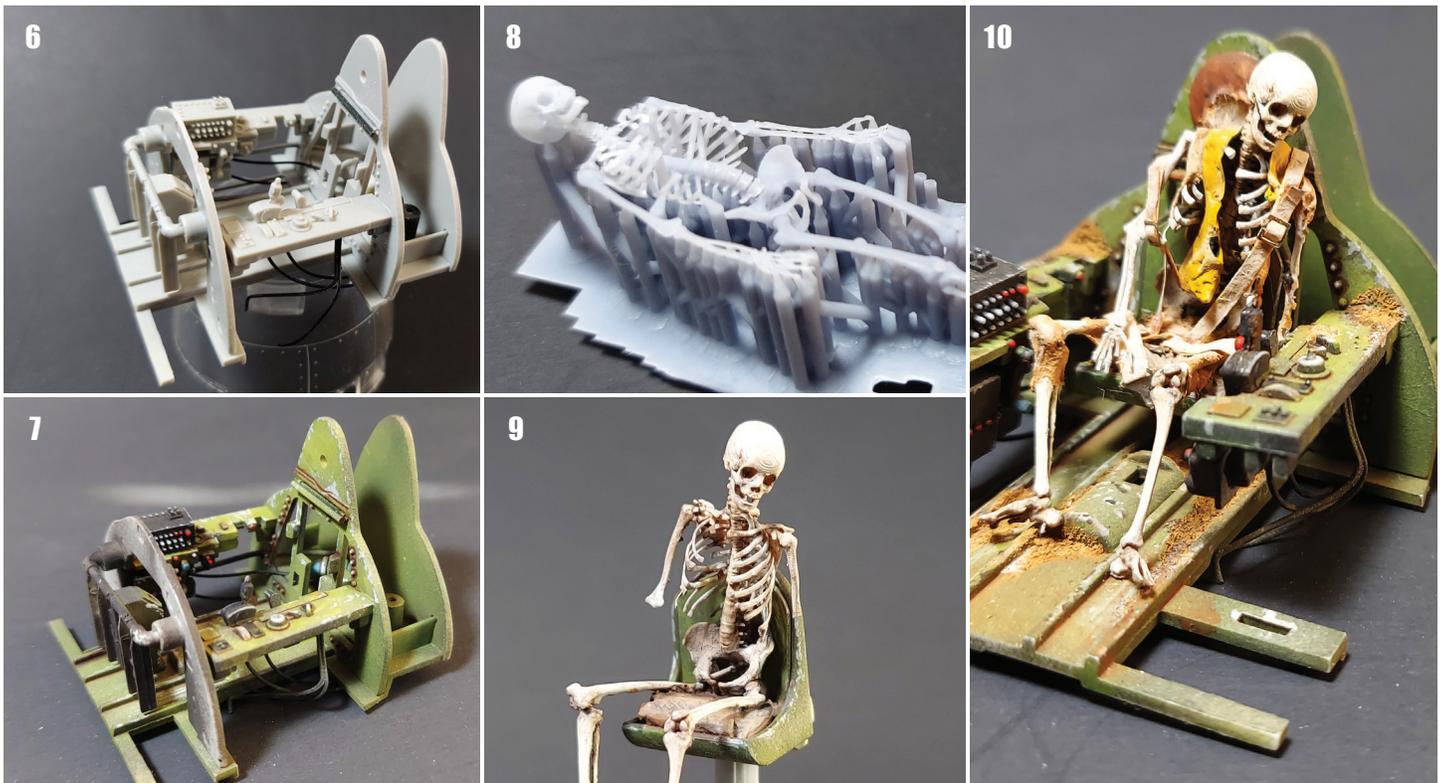
The Build The radial engine in the Trumpeter is exquisitely detailed and comes with a clear cowling to allow the engine to be fully seen without cutting

away panels. I added fuel, hydraulic and electrical lines to make it complete **(2)**.

I planned on having several panels open to show all the interior detail, the idea being that these might have been blown off on landing or shot away in combat. Wildcats featured an 'A-frame' landing gear arrangement that folded the gear in on itself.

Assuming this would have eventually drooped from loss of hydraulic fluid over the years, I used a YouTube video on radio-controlled flying model with a fully functional landing gear to aid me in scratch building new partially deployed gear **(3)**.

The next major build was the fabric covered control surfaces, which over time would have degraded and fallen apart in the hot and wet jungle environment. Using the kit provided control surfaces as a guide, I scratch built each frame using plastic Evergreen strips starting with the elevators **(4)**. Once one side was built and test fitted against the fuselage, I then used it as the model for the other side. Next came the ailerons which I built the same way, followed by the rudder **(5)**. Although time consuming, it turned out to be easy.



The kit provided cockpit is nicely detailed and goes together well (6). Unfortunately, the side panels looked nothing like the side panels in an actual Wildcat requiring some scratch building using what reference photos I was able to find online. The cockpit was then painted, detailed and weathered and set aside (7).

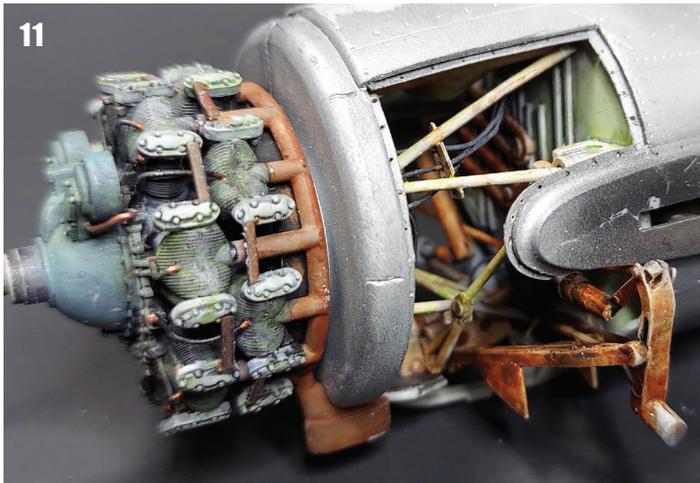
Skeleton The idea was to show our pilot still strapped into his Wildcat after succumbing to his wounds. My research determined that a human being in a jungle environment would decompose to a full skeleton in 5 to 7 years. This time would also dictate what condition the aircraft would be in after that time, which would be mostly intact and not corroded down to a bare frame.

I found an anatomically correct skeleton on a 3-D Print Program site, albeit in a larger scale, but my son being a 3-D print marvel, was able to scale it down to 1/32 scale with no problem. But to do so required building a lot of support pins to hold the skeleton together during printing (8). Although this did not look like a big problem at first, it resulted in the most tedious part of the build. Although the

detail found in 3-D printing is amazing, the resin used is extremely brittle. Every bone and rib of the skeleton was produced in incredible detail, even finely detailed fingers and toes. Unfortunately, each time I tried to cut a segment away from their support pins, the parts would shatter like porcelain. In the end it took seven 3-D printed skeletons hobbled together to make one figure. These parts were built right into the seat as the figure was too fragile to be built separately and installed later (9).

The skeleton and seat were then painted, detailed and weathered and installed into the cockpit with-

“A larger scale skeleton from a 3-D print program site was scaled down to 1/32 but it was so detailed and fragile it took seven 3-D printed skeletons cobbled together to make one figure.”



out the control panel installed. I then used tissue paper to simulate the bits of decayed uniform and 2-part epoxy putty for the Mae West Vest. Next came the seat belt and harness which was constructed from paper along with photoetched buckles and clasps. Once these were painted and weathered, I finished construction of the skeleton by installing the lower part of each arm and hand (10). The entire assembly was set aside while I completed the fuselage.

Fuselage Reveal There were not any opened panels on the fuselage, which surprised me considering the detail which Trumpeter had included in the wheel well. These included not only the superbly detailed (and accurate) landing gear assembly, but an oil tank and engine support frame. All that was necessary to scratch build were electrical and hydraulic lines, and a basic air filter and breather assembly at the rear of the engine. Knowing that the model would be predominantly viewed from the left side, I carefully opened a large panel section using a Tamiya scribe. This opening, combined with the wheel opening allowed a clear view of the landing gear area and all its fine detail. I also opened a slightly smaller panel on the opposite side to allow extra light in. I glued Evergreen strips on the inside of each opening and allowed them to extend 1/8 of an inch into the opening (11). Using the removed cut-away panels from the kit as a guide, I drilled holes along the inside to show where the attachment screws were once located.

Not wanting to overexpose the left side if the aircraft, I cut away a panel opening on the right side of the cowling to expose the detailed radial engine. As mentioned above, the cowling was made of clear styrene, which is more brittle than regular styrene, making scribing more difficult.

Dry fitting the fuselage halves together produced a tight fit that would not require any putty or filler along the seam. With the engine, landing gear, and cockpit/pilot assemblies complete, I carefully installed each into one half of the fuselage. After a few fit adjustments I glued the two halves together. The fit was almost perfect, requiring only a few drops of CA filler in a few spots.

The Wings The wings came in four main parts, two lowers and two uppers along with a choice of flaps, one raised and another lowered, of which I chose the latter. There were also two aileron flaps of which I had already replaced with bare frames. Dry fitting these together also revealed a tight fit with little to no seams along the edge. My compliments to Trumpeter on a job well done.

The upper section of each wing came complete with a rudimentary machine gun bay and a panel opening where the ammunition was loaded. I opted to just show the machine gun bay open on the left side. Two machine guns were included in the kit. All that this area required was a little scratch building of the gun bay and the ammunition feed assembly (12). Two belts of ammunition were added from my

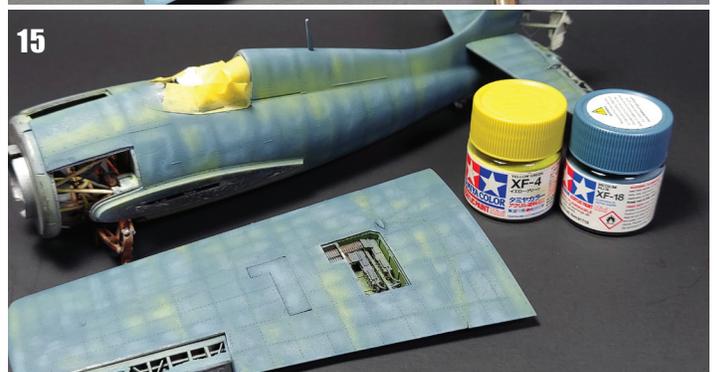
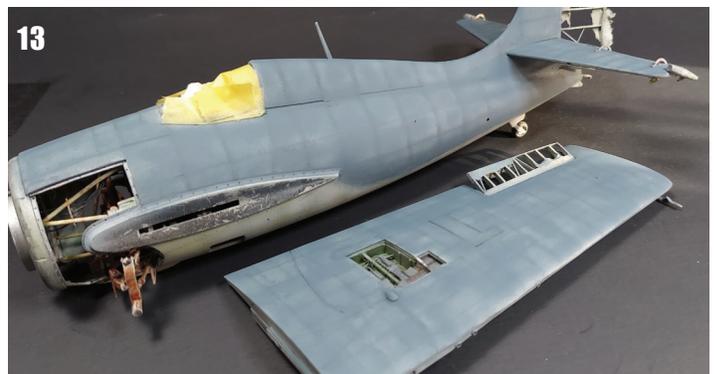
scrap box along with some electrical lines to complete this section. Lastly, the framed control surfaces were installed and using white glue and bits of tissue paper, I created sections of fabric that remained on the frame.

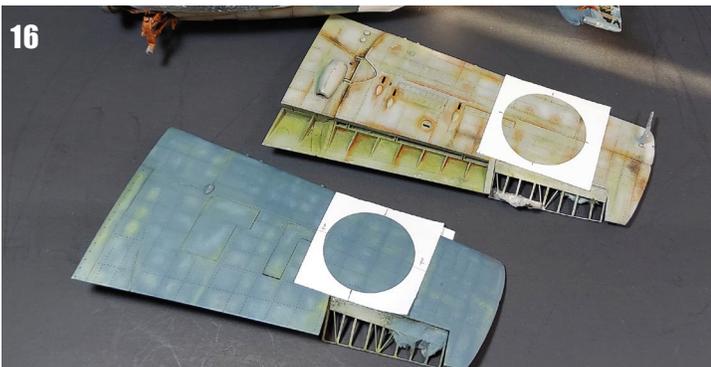
Dry fitting the wings to the fuselage produced yet another very tight fit, requiring no putty or filler. This opened a fantastic opportunity for me. Because of this amazing fit I was able to delay the final assembly and move on to painting and weathering each section while apart. This would make the entire painting process simpler by not having to mask-off sections as well as running the risk of damaging my pilot which precariously hung out one side of the cockpit.

Prior to final assembling of the wings and fuselage I airbrushed each section a primer coat of Tamiya flat black, followed by a coat of Tamiya XF18 Flat Aluminum. I wanted the aluminum to show through the final coat at various locations. My research revealed that over a period of 5 or 6 years the sun and harsh environment of the jungle the paint would slowly fade but not all the way to its aluminum skin. To accomplish this, I used 3-parts Tamiya Medium Blue XF18 mixed with 1-part Tamiya XF2 Flat White to produce a faded base coat (13). I should note that I love Tamiya paint and use it exclusively in my airbrushing for it dries to a dead-flat finish, even after years of sitting on the shelf and that it always cures very quickly. As someone who suffers from a severe lack of patience, this enables me to continue to the next step in painting without having to wait hours or days to be able to handle the model again.

I airbrushed the 3 to 1 Medium Blue base coat in very light 'splotchy' patterns allowing the aluminum color to show through in some sections. I adopted this method of repeated light coats many years ago, when I realized how senseless it was to apply a heavy perfect base coat, only to go back and add highlights and shadows. This process not only looks better, but it saves me a lot of wasted paint. Next, I took the 3-parts XF-18 Medium Blue to 1-part Flat Black thinned to a 40/60 ratio (40 paint, 60 thinner) and airbrushed in all the panel lines and

shadows using my Badger SOTAR airbrush which can produce pencil-thin lines (14). The next paint step is fading. Here I took 2-parts Medium Blue to 2-parts Flat white which was also thinned to 40/60. I then airbrushed the center sections of each panel in splotchy patterns, with top sections receiving heavier coats than the bottom sections of the plane, thinking that the top of the aircraft would receive greater exposure to the sun than the bottom sections. The next paint step was the application of Tamiya Yellow Green XF4 to create the impression of corrosion and vegetation stains along the seams (15). As we know, aluminum does not rust, but it does corrode starting with chalky white, then on to brown, black and eventually crumbling away to nothing.





Next, I airbrushed Tamiya Flat Brown XF10 thinned to 40/60 and touched up a few panels to show the next step in corrosion, careful not to overdo it. Lastly, I mixed 2-parts of Flat White with 1-part of Tamiya Sea Grey XF83 and lightly painted the very top of the aircraft along the frame and cowling to simulate the total fading of the medium blue.

Fearing that I would not be able to weather and fade the national insignia decals enough to make them look convincing, I opted to airbrush them instead. Using the kit provided decals, I scanned them into my PC, then used Photoshop to create two 'masks', one being the round circle with the star removed, and the other being the star with the circle removed. I then printed these on self-adhesive vinyl paper to create the stencils. Starting with the circles

(16), I applied the stencils to the wings and fuselage according to the kit's instructions using the recessed panel lines as a guide. I then airbrushed 3-parts Tamiya Field Blue XF50 with 1-part Flat White and lightly filled the circle in a splotchy pattern, allowing some the medium blue to filter through. Next, I cut each of the star stencils into 5 parts and marked each section accordingly. This enabled easier and more precise line-up within the circle, again using the recessed panel lines a guide to keep them straight and even (17). Once applied I used liquid masking to seal the stencil seams. I then airbrushed the stars with the same mixture described above, 2-parts of Flat White with 1-part of Sea Grey. The result is a convincingly faded national insignia that matches the sun-bleached paint of the aircraft.

Weathering Although there are countless weathering materials and products on the market today, I prefer simple artists oils and dry pastels. These allow me wide variations in color and shade tones, plus they're simple to use and inexpensive. A 1.25 oz tube of artists oils costs about \$8 and will last about 10 years. All you need is Burnt Umber, Burnt Sienna, Black and a bottle of White Odorless Mineral Spirits and your weathering kit is complete. Using a discarded sour cream top as my pallet, I squeeze out a little of each color as well as a few drops of mineral spirits. If you tilt the cover a little, the mineral spirits will create a little pool at the bottom. Using a 'zero' brush, I mix a little black and burnt umber on the pallet, thin it slightly, then paint-in the recessed panel lines and rivets. Not too much caution is required here as the real trick comes next. After applying oil paint to a 3-inch square area, I go back with a clean #3 brush, dipped in mineral spirits, dabbed on a paper towel to remove the excess, and then I go back over the previously applied oil paint and slowly remove it until I achieve the desired effect I'm looking for. This allows precise control over what is left behind, which in this case was enough paint to fill-in the rivets and panel lines as well as creating light shadows.

What makes this method fool-proof is that the mineral spirits will not react to the acrylic paint, so if you take too much oil paint away, or you leave too much behind, just clean the area with a Q-tip dipped in mineral spirits and do it again.

The final step in weathering is chipping. There are several chipping techniques out there, such as the sponge method and chipping fluid, but I find the best results are achieved with acrylic paint and a good quality 3-Zero brush. Long ago I discarded all my acrylic paints other than Tamiya and now exclusively use only Jo Sanja Artists Acrylics. These amazing paints come in 2.5oz tubes and are thinned with water to create glazes or used straight from the tube. What's more, they dry to a dead-flat finish every time. I buy them directly from the manufacturer in California and a \$5.00 tube will last for years.



Using a wet pallet, I mix a little Bright White with Silver and carefully paint-in my chips along the hard edge of the panel lines, careful not to over-do it.

Final Construction With the painting, weathering and chipping now complete, it's time for the final assembly. I started by inserting each wing section into the open slots in the fuselage. They fit perfectly with no visible seam or space. Next came the two elevators which also fit perfectly, followed by the framed control surfaces. Ironically, the last two components that gave me the most trouble were the two extended flaps which had no pins or supports to fix them to the wing. After having them fall off five or six times, I finally made my own supports using a discarded brass photoetch frame and CA glue. Next, I installed the engine, cowling, tires and propeller after carefully bending each paddle over a candle. The canopy and windscreen received a light airbrushing of clear flat before installation on the model. **(18)**

Groundwork and Base I used pink foam insulation board as the foundation base, which was purchased at my local Home Depot for \$7.00 each. These come in 30-inch square sections and are 1-inch thick. Using my hot wire cutter, I cut out two 16-inch circles and glued one on top of the other

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to create a 2-inch-deep base. Be careful not to use any contact cement or other epoxy-based adhesive to this material as it just dissolves the foam. For the decorative edge, I used a 3-inch wood veneer strip used for counter tops, that has a self-adhesive backing that is activated with a hot clothes iron.

Using insulation board scraps, I created a second elevation along one edge where my palm trees would go. After positioning the Wildcat on the base, I traced out where the plane would rest as well as a small stream and other areas of interest. Then using a hot knife, I cut those areas out as well as contoured the high ground so that it gently sloped down to meet the flat jungle floor. **(19)**

Now that I had my basic groundwork laid out, I went back and sculpted other points of interest such as overhangs along the stream and large boulders using DAS self-drying clay. The final covering would be sculpted using Cell-U-Clay paper mâché.

Foliage and Vegetation

Without a doubt, the most time-consuming aspect of this project was the jungle foliage. Approximately 6-weeks were spent either researching jungle vegetation or cutting them out of paper and painting them.

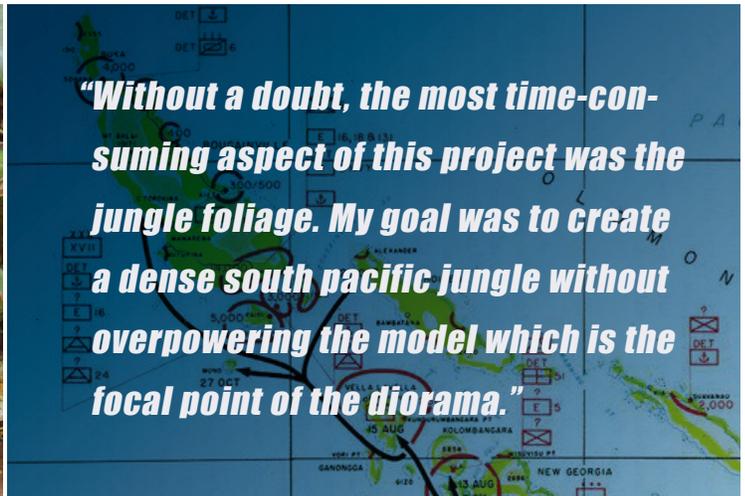
My goal was to create the impression of a dense south pacific jungle without overpowering or covering the model which is the focal point of the diorama. I decided to partially surround the Wildcat on one side with vegetation while creating a partial clearing where the aircraft would rest. Although this may not be realistic and effective in hiding the aircraft from the air, it does create a visual scene albeit with the use of some poetic license.

Before installing the trees and ground cover I painted sections of groundwork with thinned white glue and then sprinkled a homemade mixture of ground cover. This mixture consisted of dried tea leaves, dead leaves from my yard that was run through a food processor, cut sections of hemp rope and all the paper scraps left over from the paper plants. Static grass was used to fill in some bare spots.

Starting with the two palm trees that would partially cover the aircraft, I cut two branches from a bush in my garden. Then starting at the bottom, I applied the masking tape around the branch in irregular patterns. It helped that I have several palm trees in my yard to use as an example. When complete, I applied thinned white glue to hold it all together and later applied thinned Tamiya putty with a stiff brush to create texture. **(20)** For the palm leaves I found an example online and made repeated copies using Photoshop. I then printed out multiple pages using standard copy paper, and airbrushed each palm leaf with different shades of green and brown. Then using a #11 scalpel I went about cutting each one out, being careful to vary each one slightly in shape and size so they appeared random. Each leaf was then hand-painted to include veins and damaged edges, followed by a thin glaze of various shades of greens and yellow to tie them all in. In total, each tree consisted of about 20 palm leaves. **(21)**

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When complete I glued each leaf around the circumference of the trunk, starting with the brown dead leaves at the bottom, followed by the green leaves on top. Once the glue had dried, I bent one leaf over the other to form a canopy. At the very top of each tree, I brushed on some thinned white glue and sprinkled a mixture of cut hemp rope and scraps of shredded paper as a filler. **(22)**

After deciding on 10 different varieties of small trees and ground plants common in the south pacific, I duplicated each using the same copy and paint process described above. For the small banana leaf trees, I cut a section of branch about 4 inches long and glued about 8 or 10 banana leaves around its circumference. As with the palm trees, I formed a canopy and used the same filler material on the top. On some of the ground plants I attached a small wired to each of the leaves and then twisted them together to form a stalk. These were treated with thinned putty, painted and inserted right into the groundwork. By installing the plants closely together

er the wire stalks are hardly noticeable. Other plants consisted of small twigs with leaves punched with a RP Tools Leave Punch, as well as other assorted small paper plants to create a cluttered jungle floor.

For the jungle vine that would run through the control surfaces of the Wildcat, I used thin brown hemp rope and paper leaves glued along the rope that were previously painted in shades of green and brown. I then carefully inserted the vine through the frame and secured one end into the groundwork.

The Stream

I wanted to add a little life and movement to an otherwise static scene and decided that a water feature would be perfect. The stream bed was laid out and planned and would run through a gap in the high ground and then pool under the aircraft. Along the bank, I inserted various roots from the nearby trees that protruded into the stream. **(23)** These were created by pulling weeds out of an open field near my home, shaking off the dirt from the roots and then setting them off to dry.

Later I cut sections from the weed root and inserted them into the still wet Cell-U-Clay. Stones, pebbles and fallen tree limbs were also inserted in the stream bed. (24)

Next came the water. Using 2-inch Tamiya masking tape I closed off both ends of the stream, before pouring approximately 8oz of DPYRUI two-part clear epoxy resin (25) with a few drops of Tamiya Olive Drab XF62 to create a murky thin bottom layer of the stream. This product produced very few air bubbles that are usually found with this type of material, and the few bubbles that developed were burst with a toothpick. After letting the resin cure for 24 hours, I poured another 8oz's layer, this time with just a speck of Olive Drab, followed twenty-four

hours later with a final clear layer. Once totally dried and cured, the resin was perfectly flat and sparkling clear. To create movement, I brushed on Vallejo Diorama FX Clear Water in little eddy patterns to simulate moving water along the stream and in and around the protruding rocks and fallen trees. These were later highlighted with bright white paint.

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The Final Step After 3 months it was now time to insert the aircraft into the groundwork. Sometime earlier while the Cell-U-Clay was still wet, I temporarily inserted the aircraft into the clay to form a cradle, before removing it again to complete the foliage. Now it was time to install it again for good. After gluing the aircraft to the base, I used some spare clay and ground cover to fill in the edges along the fuselage. With vines and vegetation creeping up along its sides, the impression of a long lost and forgotten war machine was now complete. Looking at the finished diorama, I can almost imagine a group of explorers from National Geographic emerging from the dense jungle before finally coming upon this sad scene.

I take solace knowing that from that moment on, the brave pilot will no longer be listed as 'Missing in Action'. - BL

For a step-by-step account of the build, please visit my website by clicking on the QR Code.



