



## THE STYRENE SHEET

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### Detailing Mach II's Do 26 flying boat

By Mark Schynert

The Do 26 is perhaps the prettiest flying boat of World War II. Just six of these four-engined Diesel-powered flying boats were built in response to an order by Lufthansa. The Luftwaffe impressed them at the outset of WWII; two were later shot down by *Hurricanes* during the Norwegian campaign. Little is known about the fate of the other four, though it appears they served in second-line roles until they were retired.

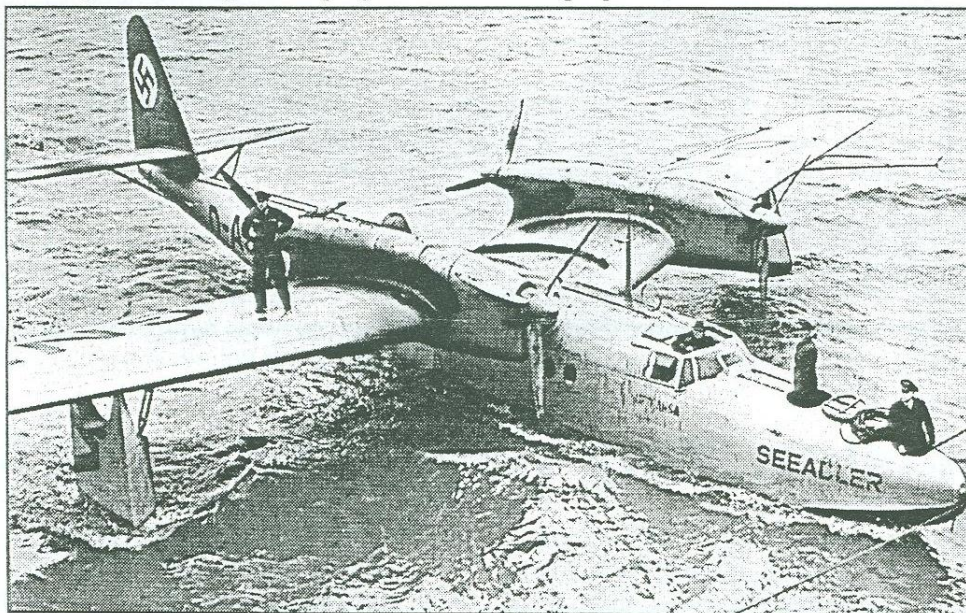
On February 19, I started work on the 1:72 Mach II kit of the Do 26 as my primary entry for the Nationals. This \$50 limited-run injection kit is apparently the only one of the Do 26 currently on the market. At one time *Airmodel* may have done a vacuum kit in the same scale, but if they did, it's not presently available.

I could find only 11 references for the Do 26, and most of these had little to offer; I relied primarily on William Green's *Warplanes of the Third Reich*, his *Warplanes of the Second World War Volume 5, Flying Boats* and an article by John Stroud in the June 1988 "Aeroplane Monthly." Fortunately, this last reference gave me a couple of great shots of the cockpit, which is the only part of the fuselage interior visible when the kit is finished. The kit instructions also have a substantial amount of advice regarding color schemes and other details—much of it probably wrong!

The kit allows the builder to pick either the civil or military version. Based on examination of the kit contents, I decided to do the civil version. I think it is the more natural pose for

the Do 26, which was an indifferent maritime reconnaissance ship but might have been an excellent commercial flying boat if the war had not intervened. Besides this, the marginal quality of the turrets and guns was daunting.

Looking at the components also told me I was faced with a lot of prep work. Like most such kits, the injection gates are



Do 26 'See Adler' prepares to tie up following a flight. This shot shows the plane's gull-wing layout to good effect.

heavy, but there are also numerous surface blemishes, both raised and recessed, a few of which land right on the engraved panel lines. Further, some of the raised detail (external reinforcements, hatch rails, etc.) is irregular. Oddest of all, much of the wing surfaces were covered with a sort of orange-peel effect—very odd for a stressed-skin aircraft!

The first thing I looked at were the cockpit "transparencies." The military and civil enclosures were slightly different. I separated the military one first, and was unpleasantly surprised to find out that the clear plastic was exceptionally brittle; even though I was carefully clipping the piece off with a sprue cutter, a piece of the leading edge coaming spalled. It did not reach the windscreen proper, but came within a half a millimeter. I polished the piece with a little toothpaste; this didn't do it any damage, but I can't say it improved it in comparison to the civil-version piece still on the sprue.

I did some other clean-up work on the military piece (sanding, filing) to get the hang of the properties of the brittle plastic,

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The *Styrene Sheet* is a monthly publication of the Silicon Valley Chapter of the International Plastic Model Society (IPMS). Articles and comments should be submitted to Chris Bucholtz, Editor, P.O. Box 361644, Milpitas, CA 95036, or by E-mail at bucholtzc@aol.com. Excerpts may be published only with the written permission of the editor.

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## EDITOR'S BRIEF

Welcome to our annual Nationals issue! This edition may seem like it has a lot of German subjects in it, but none are of the typical Messerschmitt/Focke Wulf variety! Thanks to Mark Schynert, Mark Hernandez, and Brad Chun, and to Barry Bauer, who squeezed several nations in (U.S., Soviet Union, France,) with his story on Toko's P-63.

Since the Indy 500, it seems like the days have been flying by. Between two contests in California, the Fremont mega-auction and the press to finish up things for the nationals, it seems like there's been little time for modeling!

The two contests your editor attended both provided a more than worthwhile way of spending an afternoon. Good people and good vendor turnouts were common features, and the Planes of Fame show had plenty of aviation history to look at.

It should be clear that a good time was had by all at these events, since the next topic always engenders a lot of negative feeling—judging. In both shows, the judging was somewhat less than consistent with IPMS criteria. Some clubs argue that they should be allowed to do things "their way," and the IPMS e-board often encourages experimentation at the local level. This, I feel, is a bad idea, especially when a modeler cleans up at his local contest only to get pounded at the nationals. That modeler will leave wondering why he lost, and his local chapter will have done him a disservice by emphasizing the wrong things.

The judging criteria the IPMS has used for more than 30 years makes sense—basics SHOULD count more than anything else. Some argue that accuracy should be given greater weight, but nothing defeats accuracy more than a seam down

the middle of a fuselage, tracks that don't link up correctly, or a scale four-foot fingerprint on a windshield.

When a contest gives awards to models that clearly aren't the best basic models, it sends a message to the modeler that other factors—fancy finish, added details or home-made modifications—are more important than the basics. This brings to mind an incident five years ago at the Region IX event in Redding, when Angelo Deogracias and your editor were asked to pick the best junior model. We found that first place in armor went to an open-topped self-propelled gun that had significant seam problems; the same modeler had entered a KV II tank that was less detailed but, as far as the basics were concerned, was nearly perfect. The two of us ambushed the head judge and convinced him to swap these model's places for the sole reason that to pick the self-propelled gun over the KV II would send this young modeler the wrong message—that added doodads were more important than a good basic build.

Before you start complaining about the negative waves, remember this: most modelers who attend contests know what "the basics" are, or should if their local clubs do a good job of sharing information. If your local event is using a home-grown approach, or making things up as it goes along, then winners and losers alike will have no understanding of why things worked out the way they did. If they know the criteria, they're more likely to go home happy—and that should be the goal of every organizing group.

I hope you go home happy from this year's nationals, win or lose! Thanks for volunteering, competing and attending!

—The Editor

## A vac-master: 'Why vacuforms work for me'

By Jim Lund

Vacuformed plastic has been around almost as long as plastic itself. However, it wasn't until the late 1960s that an entire kit was marketed. It happened in England, and Gordon Stevens was the man to do it with *Rareplanes*.

The *Frog* and *Airfix* companies in Great Britain were producing a line of 1:72 plastic kits, and created a large group of enthusiasts waiting for each new release. Gordon suspected that many of the old favorites would not be done because of the high cost of tooling an injection mold and the associated number of sales needed to make a profit. He had made some experiments with vacuforming and made the decision to market the kits. Since he was first a marketing professional and second a lifetime hobbyist of scale aircraft models, he had the credentials for success. His first kits were crude, for they were merely .030 plastic sheets draped over wood patterns. But Mr. Stevens is a keen learner, and somewhat of a perfectionist, so he developed the female mold technique and started adding surface details usually found only on the finest injection-molded kits. His success did not go unnoticed, and others started offering vacuformed kits as well. Though others never caught up to Gordon's quality, their offerings made available a variety of kits unheard of before.

Besides the benefit of low manufacturing cost, vacuforms also give the modeler a more in-scale thickness of parts. Many

modelers today prefer vacuformed clear parts for that reason. However, some parts just don't work in vacuform—propellers, landing gear, antennae and such. But now we have resin, white metal and photoetched brass for those things. For me, the ultimate kit is multimedia—vacuform fuselage, wings and tail with white metal props and landing gear legs, resin interior parts, photoetched brass instrument panel and antenna, and a Microscale-printed decal sheet.

Incidentally, for a really great aerobic workout, after anchoring your sanding board on the drainboard, take about ten kits and rub them down in a circular manner, going left to right for about 40 revolutions and, after checking your progress, do the remainder right to left. You must always maintain a light pressure at all times. This tones arm and hand muscles. The circular rubbing works the stomach muscles and helps in keeping that pot belly under control!

If you've done scratch building, after carving the thing out of wood or such, you must then prepare a mold and heat up the stinky old vacuform machine, and after long hours of hard labor you finally have a sheet of styrene with the image of your model on it. Look at all the trouble the vacuform kit has saved you!

Without the advent of the vacuformed kit, my collection of 1:72 models would not exceed 1000 as it does now, but would be down around the 400 mark. The way to go... vacuform!

# Bell's overlooked P-63 gets the Tokotreatment

By Barry Bauer

It was a dark and stormy night. Suddenly a shot rang out. So began World War II (approximately) and with it the era of Bell Aircraft Company's foray into the world of fighter design.

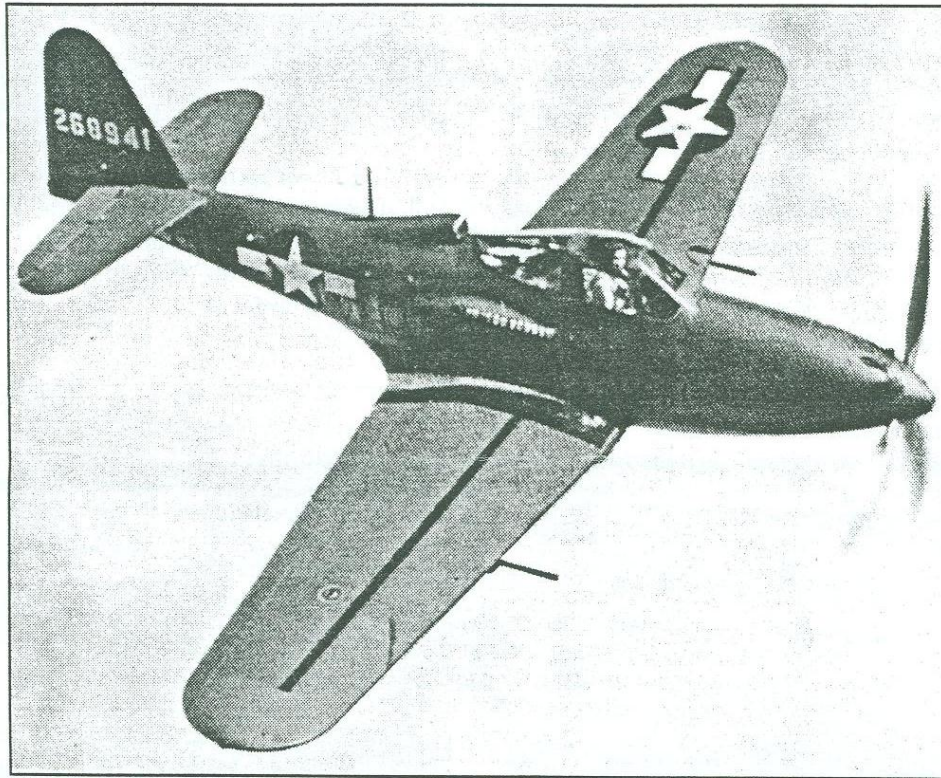
Most aviation historians and aircraft modellers are familiar with the Bell P-39/P-63 family of aircraft. However, despite being technologically advanced, available in large numbers during a critical period of the war and capable of performance comparable to many of its contemporaries, the *Airacobra* and *Kingcobra* did not receive the wartime public attention given other aircraft. They also did not see widespread service use by the U.S. Army Air Forces, unlike types such as the P-38, P-40, P-47 or P-51. Although it served in the air forces of the U.S., Great Britain, France and the Soviet Union during the Second World War, it never was the "glamorous" dog-fighter that normally captured the imagination of the propagandists. Nevertheless, these aircraft served with distinction wherever they met the enemy. In particular, their service in the Red Air Force was outstanding.

Early in the war, it was determined that the high-altitude performance of the P-39 was inadequate for the role of interceptor or bomber escort. Also, the inherent stability of a mid-engined design reduced its maneuverability in a dogfight. Those negative facts, coupled with its positive attributes of a heavy armament load (a 37mm cannon firing through the propeller hub and a variety of wing and fuselage machine guns) and the protected position of its liquid-cooled engine, made it an ideal choice for a ground attack platform. Soon, it was fitted with centerline and underwing hardpoints capable of carrying a useful load of bombs or drop-tanks. As the power of the Allison V-1710 engine was continually increased through wartime development, the armament and armor load was also increased.

Thus armed, the *Airacobra* became a deadly weapon in the hands of a determined pilot. American pilots in the southwest Pacific came to appreciate its steady handling during a strafing attack and its considerable speed at low altitude.

The 37mm cannon was particularly devastating against parked aircraft, soft-skinned vehicles, buildings and shipping. Even armored vehicles fell victims to attack from above. It usually only took one or two hits from its high-explosive shells to completely destroy a target. The additional punch from the machine guns (early models carried a mix of .30 and .50 cal weapons while the -Q variant had four .50s) made the Cobras equally effective against personnel.

Since the western allies already had very effective ground attack aircraft in service in the Mediterranean and European Theaters of Operation, the hundreds of Bell fighters coming off the production lines were offered to the Soviet Air Force starting in 1943. The Soviet technical evaluation team that



**The P-63 Kingcobra combined lessons learned from the P-39 with advanced aerodynamics and improved powerplants to produce a formidable fighter. The Soviet Union and the Free French used the P-63 in combat.**

visited the Bell facilities enthusiastically recommended the P-39 for service over the eastern front. Soon, the flow of *Airacobras* heading northwest over Canada and Alaska, onward across Siberia to a resurgent Red Air Force, was increased from a trickle to a flood. If the few, widely scattered inhabitants of the region turned their eyes skyward at the thunderous sound made by the massed Allison engines, they would have seen graceful formations made up

of dozens of *Airacobras*. Flown by female Ferry Service pilots, they would be in formation with a lone B-25 navigation ship guiding them high above the nearly featureless expanses of the Northwest and Yukon Territories' forest and tundra. In all kinds of weather conditions, thousands of P-39s and P-63s were thus turned over waiting Soviet ferry pilots in Alaska who then delivered the new aircraft to eagerly waiting Soviet combat units after another series of flights covering five thousand miles! After refueling and arming, most of these aircraft were rushed directly into front-line service within hours of their arrival at operational airbases. Soviet aviation historians have long recognized their contribution to the ultimate victorious outcome of the USSR in the "Great Patriotic War." Many pilots of P-39s even became aces while flying against the German, Romanian, Bulgarian and Italian forces.

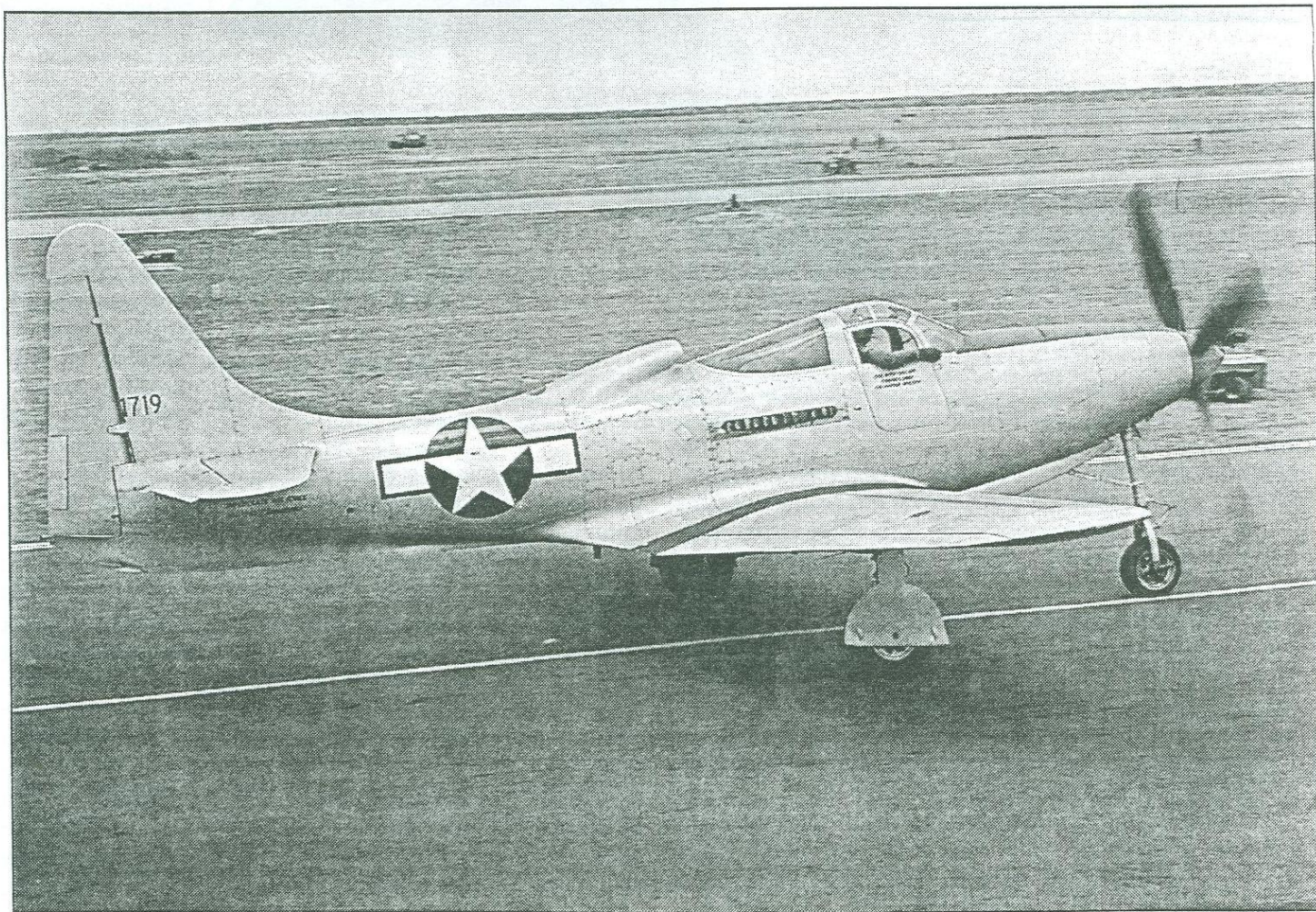
While the P-39 was establishing a distinguished combat

record over Russia, Bell engineers were hard at work developing the type in the hope of creating a fighter capable of competing on favorable terms against the best aircraft the Axis could produce. To that end the P-63 *Kingcobra* was developed. With new wings, a more powerful version of the Allison V-1710 engine having a two-stage turbo-supercharger and many other aerodynamic refinements, the P-63 showed great promise as an air-to-air weapon. Unfortunately for the Bell company, it was late 1943 and the North American-designed P-51 *Mustang* was emerging as an outstanding bomber escort and the Republic P-47 *Thunderbolt* was being increasingly used as a ground attack fighter-bomber. Therefore, even though the P-63 was now acknowledged as a first-rate airplane, it was not destined to see service as a dogfighter. It too, was offered to the Soviets who eagerly accepted its improved performance. Once again, the plane was pressed into the ground attack role where it served with the same distinction as its predecessor.

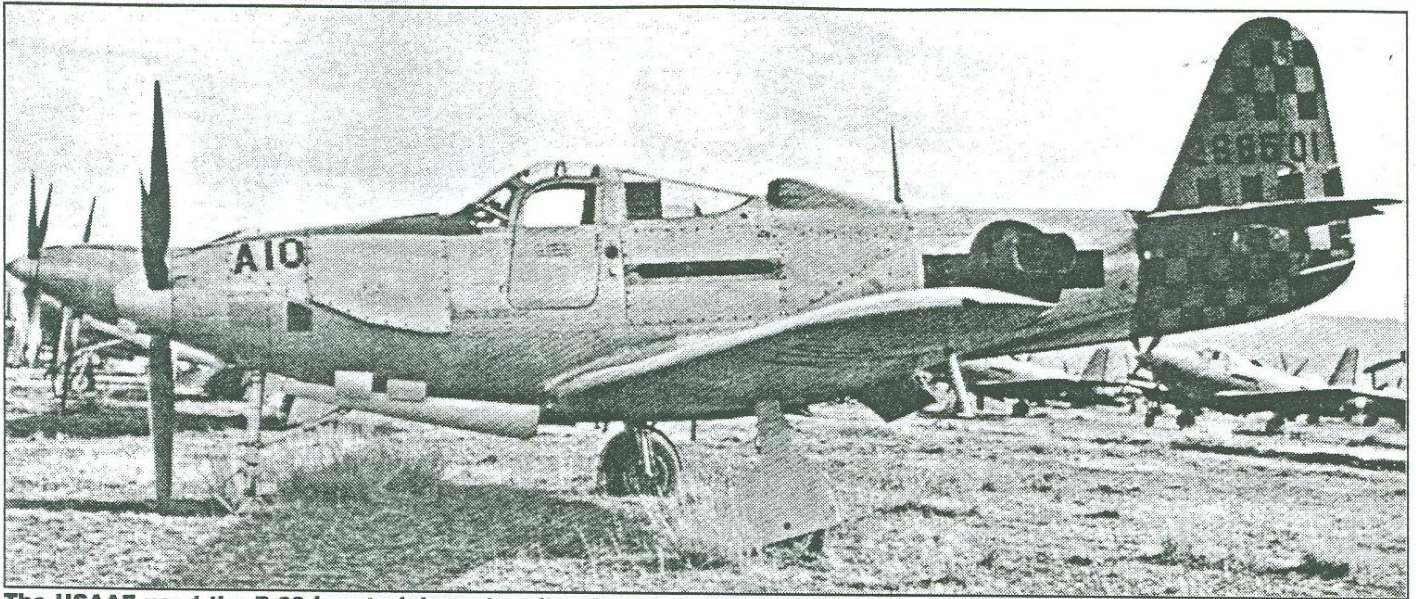
Another recipient of the P-63 was the Armee de l'Aire of France. During the war, the Free French Air Force flew the P-39 with great effectiveness in the Italian campaign. After the war they received the *Kingcobra* for use in their colonies scattered around the globe. The P-63C version of the *Kingcobra* served faithfully alongside Grumman F8F *Bearcats*, and Vought F4U/ AU *Corsairs* in Southeast Asia against the Viet Minh and in Algeria against the national independence movement, both until the late 1950s.

The P-63 also followed the P-39 into another specialized form of military service; the aerial gunnery target aircraft. Whereas the *Airacobra* was used to train bomber crews armed only with cameras in place of their normal .50 cal machine guns, the RP-63 was totally re-engineered to be attacked with frangible projectiles fired from actual operational weapons. All its external aluminum skinning was replaced with heavy-gauge, armored panels and the back half of the cockpit canopy was covered over with armor plate. Bright lights were positioned in the spinner and on either side of the rear fuselage that lit up when the aircraft was struck by one of the easily-shattered bullets. Painted in bright color schemes, these "Flying Pinball Machines," as they quickly became known to the crews, proved to be a highly effective means of training the pilots and defensive gunners on B-17s and B-24s. Even with all the added armor and frangible bullets, it must have taken a lot of courage for the pilots of the RP-63s to press home "attacks" in a completely unarmed plane against a combat box of 12 B-17s with at least 144 .50 cal machine guns blazing away at them—surely a hazardous way to earn ones pay away from the front lines. In any event I have not read of any fatalities incurred by RP-63 pilots as a direct result of this realistic training activity.

All this leads to a review of the newest kit of the P-63 *Kingcobra* to reach my workbench. Actually, there are three kits; the early P-63A, the late (French) P-63C and the RP-63C "Flying Pinball" aerial target aircraft. They are in 1:72 and are produced by a company that is new to me, *Toko* from the Ukraine. The



**The sole prototype of the P-63F featured a taller vertical tail for better control and an extended ventral fin.**



**The USAAF used the P-63 in a training role; after the war, most met the fate of the example above and fell victim to the scrapper's torch.**

three versions, all of which contain identical plastic parts, have decals specific to the individual version indicated by the box art. Lest you think that the decals are the only means by which *Toko* differentiates between the various versions, set your mind at ease. On the sprues common to all three kits are all the optional parts necessary to accurately portray any of the versions represented on the individual box covers. These include three different carburetor air scoop panels that go behind the canopy; an optional canopy rear decking for the RP version; two lower empenage types (with and without ventral fin); underwing .50 cal MG tubs; and wing pylons for the drop tanks. The large "pinball" light for the tip of the spinner of the RP is even included as a clear part. Wow!

Now before any of you even start to think "revised *Aoshima*?" put that sacrilege out of your minds. Fortunately, there isn't a single part that bears a remote resemblance to anything in that 1960s abomination in polystyrene. The *Toko* kit is as good as that kit was bad. The parts are all well molded in a soft, light gray plastic with no warping or flash. The surface detail consists of very subdued, engraved panel lines, panel fasteners and even rivets. Whoa! Rivets you say? Hold on a second. Don't bail on me at this point. I'm not talking 1960s *Revell* rivets. No *Airfix* acne here! These rivets are as close to scale as I have ever seen in 1:72, and they're engraved! Not only that, but according to photos in the P-39 book (which also includes the P-63) from the Squadron Signal "Aircraft In Action" series, the rivets are actually in the right places.

My first example is currently nearing completion of its basic assembly. I am building it as either an early -A in U.S.A.A.F. markings or as a Soviet bird. The only differences will be the dorsal antenna/direction finder loop and the decals. The fit has been good throughout with the exception at a few minor points. The first problem occurs as a result of the fit between the wheel well sides and the inner surface of the upper wing halves. Apparently the tooling designer didn't take into account the thickness of the plastic in the upper wing halves. This results in about a 1/32" when the parts are brought together. It also means you have to thin

down the wing trailing edges quite a bit. The nicely executed detail for the gear bays is molded into the upper wing halves, so don't sand them down to achieve a better fit. Solve this problem by carefully trimming down the top of the wheel well walls until the wings go together. Take your time to prevent removing too much material at this point as that could result in a gap inside the wells. While in this area, preferably before cementing the wing halves together, carefully cut out the shape of the wheel well exterior skin to follow the shape of the box walls inside. I did one before and one after and I guarantee that after is better. That will give you the correct look for the gear bay openings on the P-63. The landing gear doors come in sections for each wheel that must be cut apart before mounting.

The next fit problem occurs around the leading edge wing root air intakes. *Toko* provides a separate piece for this to accurately represent the four separate openings located there. That's a good plan, considering how bad the *Aoshima* one looked molded into the lower wing half. The fit is OK but required a little bit of filler to smooth it in to the fuselage contour. Also the boxed-in section behind the scoops didn't align correctly. After assembling them and letting it dry overnight, I simply trimmed away any bits that showed from the front. The nose wheel bay and cockpit interior contain arts that must be assembled before the fuselage halves can be joined. These fit right in, although they were a little undersize on my example. I trimmed away some of the sides of the armor plate behind the pilot's headrest so there would be some vision through the rear canopy. The forward bulkhead of the cockpit includes an adequate representation of the rudder pedals. Above that, the instrument panel should be fitted after painting. It's molded in clear plastic with nicely detailed instrument faces, but no decal is provided to back it up. After these parts are assembled on one of the fuselage halves, it's time to put the halves together. (Don't worry about installing the seat or stick at this time; with its car-type doors, the *Kingcobra's* cockpit is among the easiest to access of all single-seat planes.) Also, remember to add the appropriate amount of weight inside the nose to enable the model to sit correctly on its tricycle landing

gear.

The fuselage assembled easily with no filler need at this point. The rear lower fuselage fairing also fit very well. The parts representing the engine decking and carburetor intake went on with very little filler needed. The panel under the back half of the canopy did need a bit of trimming before it went in. One area requiring some attention is around the nose MG blast-tubes and/or flash-hiders. This seems to be the only place the pattern makers at *Toko* slipped up. The represent this section with a single raised block when it should have two, distinct troughs and barrel extensions. I sanded off the offending shape and drilled out the troughs and added the extensions from stainless steel tubing.

As I brought the wings up to the fuselage I noticed the next problem. The wing root on the fuselage was about 1/16" wider than the opening in the top of the wing assembly. After determining that there was no way to simply stretch the opening and wedge the fuselage in, I decided to carefully trim the edges

of the upper wing halves where they meet with the wing root. Using a new X-acto blade and judicious use of a flat file, I was able to widen the space without ruining the fit of the mating curves on each side. After that, the wing fit right in and all that was left was assuring proper alignment and dihedral. Then I fixed the parts together with *Tenax* liquid cement. When it was dry I sanded the joint smooth and saw that there was a minor gap around the leading edge/wing root joint. I filled this with some gel-type cyanoacrylate glue. Before I used any accelerator on the model, I tested it on a piece of scrap plastic. The kit's plastic seemed to be extra sensitive to accelerator, so be careful if you must use it. With that done, I proceeded to the tail section where I attached the tailplanes with *Tenax*. I chose to simply butt them up against the fuselage in the proper positions as indicated by flattened areas on each side of the vertical tail. So far I haven't broken them off, but in retrospect, it might be a good idea to reinforce the attachment points with plastic rods inserted through the tail.

With the major assembly of the model complete I took a break to measure its dimensions and compare them to my references. I tacked the spinner (with the cannon barrel installed) onto the nose to take my measurements. According to all the books I checked on the P-63, The *Toko* kits measured dead on! I don't know if I've ever had that experience with a 1:72 kit before.

At this point, I've cleaned up all the detail parts in preparation for painting. The landing gear is well done, including nice tread pattern on the main wheels. I'll have to add small details

like gear door linkages and brake lines before I'm done, but the basic kit parts are a good starting point for an accurate model. The underwing stores are of the right size and shape. I've replaced all the gun barrels with stainless steel tubing of the right size. If one builds a Soviet aircraft, bombs and rockets could be added. In gluing the drop tank halves together, the rim that runs horizontally around them will have to be sanded off to get a clean fit. They are easily replaced later with styrene strip. The propeller assembly looks right and mea-



One of the 13 P-63Es, in flight over Southern California in 1945.

sures out correctly as well. I've added a spinner back plate to mine with small blocks to enclose the propeller blade roots.

The clear parts are absolutely gorgeous. They are thin, clean-edged and look as if they have already been dipped in Future floor wax. They fit onto the model with very little trimming involved. Included among the clear parts are the two car-type doors. They have interior details such as latch and window handles, (yes, the windows could be "rolled

down") as well as a very prominent map case. Once again, it is obvious that *Toko* has really put some thought and effort into engineering this kit. The only problem with the clear parts is that the lines for the "Pinball" version's armored glass panels are molded into the windscreen. They'll have to be sanded off and re-polished for the other versions to look right. The decals look proper in terms of color, subject and register, but I haven't tried them in water yet, so I don't know how they'll actually perform in action. If they don't work, there are plenty of options available on generic U.S. and Soviet sheets from after-market decal producers. At the rate this one has gone together, maybe I'll have it done for the Nationals. (Yeah, right!)

That's where I am as of now. It's ready to paint and finish. I can hardly wait to see the surface finish when it has a coat of paint on it. I think the rivets will almost disappear, giving the model a highly realistic final effect.

This kit is a little gem. It has a few spots that need attention, but overall I would strongly recommend it to anybody who has waited patiently for a decent model of a P-63. Currently, they may be hard to find locally; I had to search all the shops in the area to find my (three) examples. The better mail-order sources should be able to get you one or two. It is definitely worth the effort if the P-63 is of interest to you. Then maybe we could all get together some evening to burn our *Aoshima*, *MPM* and other inaccurate *Kingcobra* models. Let's support a company like *Toko* that produces this kind of model. Who knows what they might choose as their next subject?

# One-way trip: the A4b and A9 piloted missiles

While the V2 was an effective weapon, Hitler wanted to extend the reach of these weapons to strike America. One set of concepts for missiles to accomplish this involved putting a pilot in the V2. The pilot would steer the missile toward its objective and, at the last moment, bail out of the weapon. Clearly, this was the product of desperation and all but a suicide weapon; the speed at which the V2 descended would have killed anyone trying to bail out.

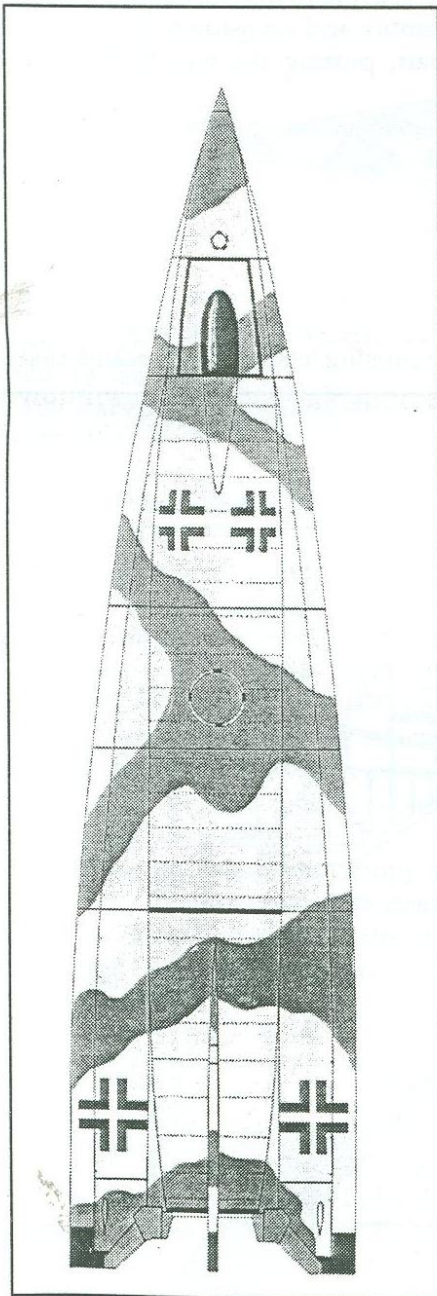
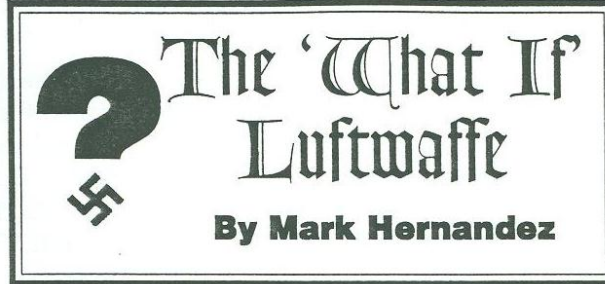
Two kits of these concept weapons are available in 1:72 from *Special Hobby*. Both are injection molded with vacuform

*Details* set. I wanted to install the seat after the body halves were together and sanded, so I had to keep testing to make sure the seat would fit into the small cockpit opening, and it barely does. I also raised the seat slightly off the cockpit floor so that the headrest would be near the very top of the canopy. Since there are no locating tabs for the cockpit, make sure everything lines up.

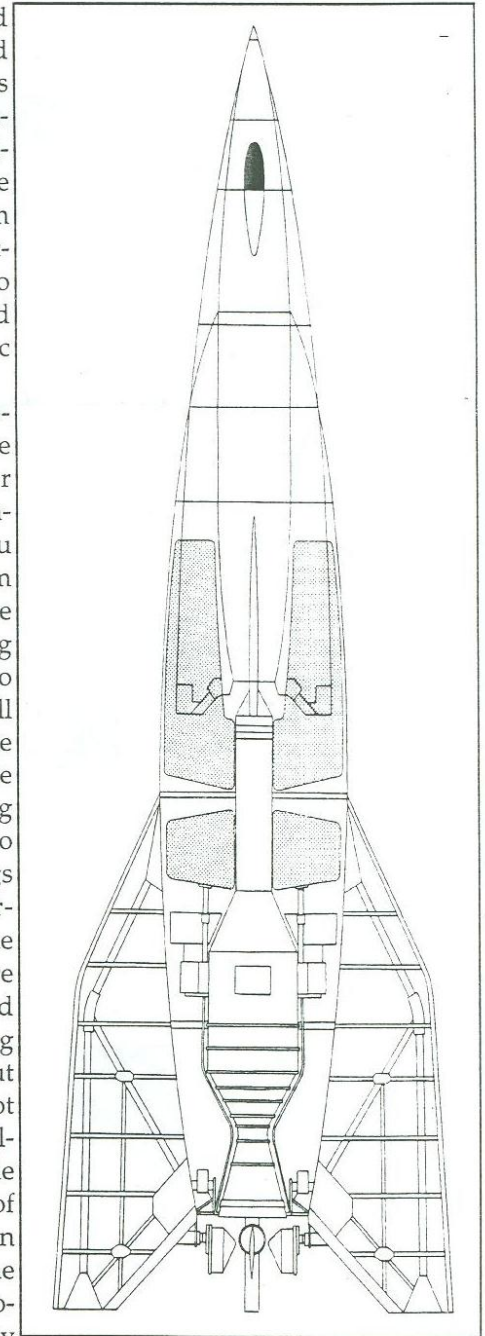
The body halves have overflow ports molded at the bottom of the

body. These are represented by solid triangular-shaped mounds, which are not symmetrical. I did some carving and sanding to correct this then drilled the openings for them. According to pictures of the real thing in a museum one of the openings actually has a v-shape to it so I cut this open and added some plastic backing.

The A4b has trapezoidal wings. There are no locator pins for the wings, but the instructions do give you a measurement from the nose back to the leading edge wing root in millimeters to show where to install them. I first drew a line from the tip of the nose back to the leading edge of the tail fins to make sure the wings would line up correctly. I followed the instructions on where to mark the wings and marked the leading edge spot. I then put the wing up to the spot and marked the trailing edge spot. I made a mark in the center of the two spots and on the same place on the wing. I drilled the locator hole in the body and corresponding



The A9 missile, depicted in conjectural camouflage markings.



The combined A9 and A10 missiles.

canopies and are molded in gray plastic with a rough surface texture that will need to be sanded down. They have the same main tree, and the second tree has the cockpit and wings or chines/strakes, depending on which kit you get. There are 52-56 parts in the kit (A9-A4b) and 35 of them are for the launch platform alone! The decals are nice and thin.

I decided to build both at the same time and it seemed that it should be a pretty straightforward build, but with *Special Hobby* kits you never know.

The cockpit is very basic: floor, front/rear bulkheads, seat and stick. You probably won't see much once the small canopy is installed, but I decided to add a few things. I put in some side consoles and an instrument panel with just a few instruments on it. I used a control stick from a *Cooper Details Me 262*. The seat is very thick so I sanded the sides to thin it down and I added seat belts and harness from a *Cooper*

hole in the wing to attach brass wire to the wing. The same procedure was used for the other side. I also drilled locating holes and pins for the two tail fins that need to be attached.

Both kits come with jet stream vanes, which are small rudders that are attached at the bottom portion of the rocket so that they protrude into the jet stream exhaust. I didn't like the kit parts because they look like a lump of plastic, so I scratch built my own. Before assembling the body halves I drilled small locating holes to attach these. These would be installed at the very end of the assembly process. Also, most V2s had dipoles attached to the base of the tail fins. The beginning portions are molded on the kit fins and the instructions say to add 0.5-5mm wires to the ends of these. Again, I drilled small holes in the ends and will add the wires at the end of the assembly process.

The A9 has the chines/strakes from the nose all the way down to the tail, incorporating the tail fins. I followed the same process as I did on the A4b, but I also drilled an additional set of locating holes in the tail section to give another point of attachment and for strength. Since the A9 was to be the second stage to the A10, I opted to remove the molded on dipoles and also opted not to install the jet stream vanes. (I could always try to add them on later if I want to).

Before putting the two body halves together, you have to do a little surgery on the A4b and A9. On the A4b you need to remove the rudders on the tail fins. The A4b had enlarged rudders that are provided in the kit. This is a fairly simple process to remove just by cutting along the lines already provided from the kit, remove the old ones and then glue on

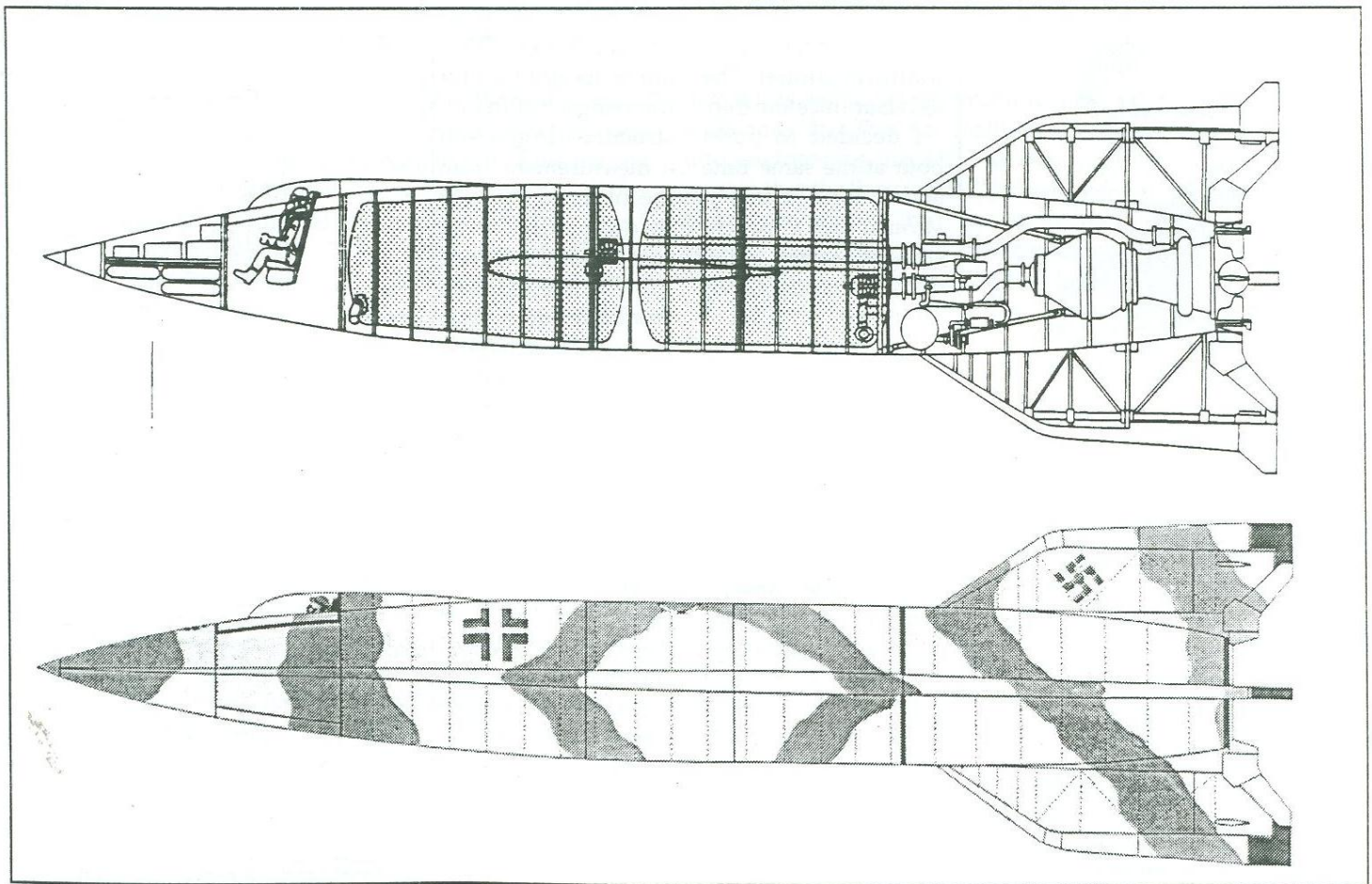
the new ones.

On the A9 you don't have to cut them off, but you do need to fill in some existing lines and scribe some new ones. The A9 has larger backward "L"-shaped rudders. The tail fins on the strakes already have them. I scribed the two new lines on each side of the fins on the body halves and then filled in the old lines with super glue, hit it with accelerator and sanded it smooth.

For the main body, the instructions don't say what to install first, so I started with the jet exhaust cone. This part is not shown in the instructions for the A4b but it's there on the instructions for the A9. This part also doesn't fit very well and it's hard to tell just exactly how to fit it. Since there are no locators and you just stick it in the bottom, it seems to stick out too far from the bottom. I ended up trimming it and thinning the inside portion of the body. That seems to look better. While the body halves were taped together I plopped it in and glued it to one side and set it aside to dry. Once that was dry I glued in the cockpit assembly and set aside to dry.

Now comes the fun part, putting the two body halves together.

In the assembly of the rocket halves I had the most trouble. In recent reviews in "Scale Aviation Modeler International" (EMW A9, SAMI Dec '97, EMW A4b, SAMI, Jan '98) the reviewer said the assembly was "swift and trouble free." Well, either I got two bad kits or the reviewer is being biased, but the rocket halves in my kits didn't match very well. The cross sectional thicknesses where they are joined are of varying widths. This ended up causing low and high points along



**Above, a cutaway of the A4b; below, a side view of the A9. In both missiles, provisions were made for pilot egress.**



the seam that will require filling and sanding. On a round structure this ends up causing flat spots along the seam unless you sand all the way around the model to try and maintain the roundness. There are no locator pins on *Special Hobby* kits so I ended up putting my own on.

A note on the body halves: one side comes with opposing fins fully molded on both side so that the other body half would just have a seam along the bottom portion of the fins.

If I matched up the seams on the top portion of the body, the bottom seam was sticking way out. It got better as it got closer to the fins. I ending up compromising and had a little sticking out on both sides. The worst part was just in the middle of the body. Then I sanded and I filled and sanded some more until

I got what looked like a reasonably good surface. There is an indentation about a millimeter wide that runs around the body just in front of the tail fins. With all the sanding it started to disappear so I had to do a little carving with the X-acto to bring the depth back out again.

Next, I installed the tail fins on the A4b. The thicknesses of the fins and their mating surfaces didn't match so I did a lot more filling and sanding. Next came the wings for the A4b. They went on great with not much of a seam. I did a lot of pre-fitting and sanded down high spots so that I'd get a good mating surface. Just a little bit of filling and sanding was needed. Next, I did the wings of the A9. Same here as the A4b as far as fit. The only slight trouble was the tail fin area with matching thickness.

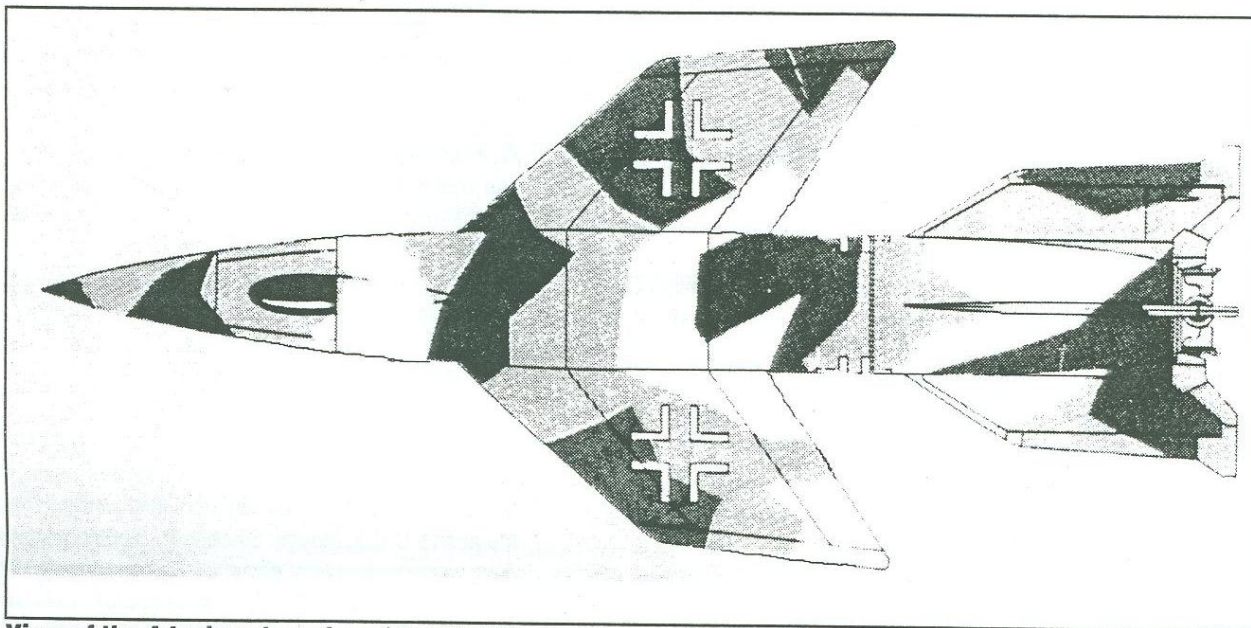
I decided to install the canopy prior to painting. *Special Hobby* vac canopies are not the clearest. Before cutting it out, I did a little polishing and coated it with Future floor polish. That improved it tremendously. After cutting it out I noticed the front of the canopy was more tapered then the rounded opening of the cockpit. I ended up building up the exposed portions of the cockpit with super glue and accelerator. I then attached the canopy and masked it off. Now I was ready to start painting.

The A4b calls out for a splinter pattern of RLM 76 light blue, RLM 81 brown-violet and RLM 83 light green. I followed this pattern, except I substituted RLM 84 (sky-blue/green) for RLM 76 and used RLM 81A instead of RLM 81. I used *Aeromaster* enamels and I painted overall RLM 84 first and let this dry for a few days. I then spent about four hours taping off the sections of RLM 84. I then painted RLM 83. After that

had dried for a few days, I spent another four hours doing the last taping and painted RLM 81A. As soon as I was done with this last color I removed all the tape slowly. I then did whatever touchups were necessary.

For the A9 the colors are RLM 76 with a wavy pattern of RLM 75. The rudders are RLM 23 red. I followed the pattern per the instructions. I used *Testors* Modelmaster 2 enamels. I painted it overall RLM 76 and then applied the RLM 75 freehand with my airbrush. After the paint had dried for a few days, I taped off the areas for the rudders and painted them red.

I gave both kits a couple gloss coats of Future. I let this dry for a few days before I started with the decals.



**View of the A4 winged version of the V2. This weapon was test fired and used operationally at least once.**

The decal sheet provides two red lines that are to be used on the model. One is to go around the body by the tail fins. I couldn't tell if it was suppose to go into the indentation I spoke of earlier or behind it. The other red line is used around the cockpit. It outlines the panel that would be jettisoned when the pilot ejects. I just wound up painting all of these areas instead of using the decals. I decided I would paint the indentation.

The decals for the kit went on with hardly a problem. They were thin and the gloss under coat helped. After they dried a few days I went over them with another coat of Future to seal them. Final paint was an over spray of *Testors* Dullcoat.

Remove the tape from the canopy from both kits, put on the jet vanes and dipoles for the A4b and I'm done.

I won't go into the construction of the launch pad for the A4b but suffice it to say I'm not sure how the A4b is going to stay on, since there's nothing to anchor it to and I don't want to glue it on. The A9 would not have a launch stand since it was the second stage to the Amerika rocket.

I used a lot of references from Miranda's *Secret Wonder Weapons of the Third Reich*, Monogram's *V Missiles* book, photos provided by Richard Pedro of Silicon Valley Scale Modelers and Gary Webster's German "VTO Projects of WW II" web site (<http://home.earthlink.net/~gawebster/home1.html>).



# 1998 IPMS/USA National Convention and Contest

July 1—4, 1998  
Santa Clara, California

**This year, the biggest show in modeling is also a great family vacation!**

Come join us for fireworks in Santa Clara, in the heart of the San Francisco Bay Area, at a national event that every member of your family can enjoy!

### A Spectacular Venue

This year's contest will be held in the Santa Clara Convention Center, a thoroughly modern facility that routinely caters to the needs of Silicon Valley. The event will be held inside a single 50,000 square foot room, which will be partitioned Friday night to allow for closed judging. Upstairs, seminars will be conducted by some of the modeling world's best—

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- San Francisco Shopping Tour (offered both Thursday and Friday)
- Napa Wine Country Tour and Tasting (offered both Thursday and Friday)
- S.S. Jeremiah O'Brien and U.S.S. Pampanito (Thursday)  
The Liberty Ship *Jeremiah O'Brien*, is the last unmodified example of nearly 2700 built. The U.S.S. *Pampanito*, a preserved Gato-class submarine, allows visitors to experience the sensation of sailing in one of the cramped vessels that helped the allies triumph in the Pacific.
- Travis Air Force Base and the Travis Air Force Base Museum (Thursday)  
On this day-trip, see the Air Force's active-duty heavy lifters up close, and see how cargo is prepared for transport. Then, stroll around the base museum, home to more than 30 preserved aircraft, including a C-124, two A-26s, a B-52 and a line-up of Century-Series fighters. (Tours of active facilities are available as military conditions permit.)
- Castle Air Museum (Friday)  
This day trip takes you to the home to more than 50 aircraft, including a B-18 and a B-24M, and other modelers' favorites, including an Avro Vulcan, a B-29 and B-50, a walk-through KC-135, '50s fighters and one of the last RB-36 Peacemakers. Expect open cockpits and great photo opportunities!

and for the long-suffering "modeling widows and orphans," workshops on other arts and crafts will be held. It's the biggest site in the history of the Nationals!

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### •Moffett Field and NASA-Ames Research (Thursday)

Moffett Field's 211-foot tall, 800-foot long Hangar One was built to house the airship U.S.S. Macon. Since then, Moffett has been an Army training field, a school for blimp pilots, a base for Navy fighter and bomber units and home to a host of P-3 Orion squadrons. NASA-Ames features 14 wind tunnels, including one that was the largest of its kind when built. NASA also operates a variety of research aircraft at Moffett, including the ER-2.

### •Behring Auto Museum (Friday)

The Behring Auto Museum displays a rotating selection of 120 cars dating from 1890 to the 1970s. This world-class collection includes a 1908 Mercer, a 1910 Rolls Royce Silver Ghost, a 1936 Dusenber Convertible, a 1931 Chrysler 8-cylinder roadster, a 1948 Tucker 4-door sedan and a 1964 Chevrolet Corvette modified during production with a 375-hp V8, fuel injection and enlarged grill openings. For car modelers, it's a can't-miss tour.

### •Western Aerospace Museum (Thursday)

This ever-changing museum is home to an extensive collection of airline memorabilia and features tributes to Gen. Jimmy Doolittle and the Tuskegee Airmen. The collection of aircraft includes naval stalwarts like the KA-3B, KA-6D, A-7E, TBM-3E

and A-4M. You've probably seen the museum's star attraction, the Short Solent flying boat—it's the plane that "carried" Indiana Jones across the Pacific in "Raiders of the Lost Ark," and the museum encourages visitors to walk through this historic plane.

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**World War II Fighter Pilots Symposium**  
With Dan Cunningham (7 kills), Horst Petschler (30+ kills), Gerhard Krol (1 kill) and American Spitfire ace Jerry Collingswood (tentatively scheduled)  
Hear these pilots describe air combat in their own words! Tickets are limited!  
**Friday, July 3 at 7:30 p.m.**

# 1998 IPMS/USA National Convention and Contest

## Santa Clara, California • July 1—4, 1998

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# Wrestling the Mach II Do 26 into submission

Continued from page 1

and nothing else went wrong. Then I separated the civil unit from the sprue. Much worse! It didn't spall; instead I got a centimeter-long crack from the starboard coaming almost to the back edge. The crack went only through territory that was to be painted over (framing and solid roof areas). Again, I polished with toothpaste, washed it off, shaved and buffed some flash, then I immersed both pieces in Future. I wanted to see if that would have any effect on the crack, and it would also give me a good idea if the pieces needed any further work. As it later turned out, the civil canopy did not fit well, so I ended up using the military canopy after all, resulting in a bit of a hybrid.

Setting the glass aside, I went to the fuselage halves. For the civil version, each requires that a small window be drilled out (the military version has blisters reminiscent of the *Catalina* instead of the small windows). I did this while the pieces were still on the sprue by hand-twirling a Dremel 1/16" engraving cutter between my fingers until I went through the center of the thin spot. I then expanded the hole with a larger high-speed cutter, using the same technique, and got a very neat 3/16" hole on the surface on each side. This is a bit smaller than the kit pieces that are meant to go there, but I intended to use Kristal Klear there anyway. Then I separated the fuselage halves from the sprue. I found the plastic to be very soft, which is a blessing, given all the clean-up work needed. Initial alignment of the halves showed no obvious warpage, and there did not appear to be any mismatches. I was especially concerned about the latter, because the fuselage is just over 13 inches long. I then spent about half an hour disposing of sprue nubs and minor flash.

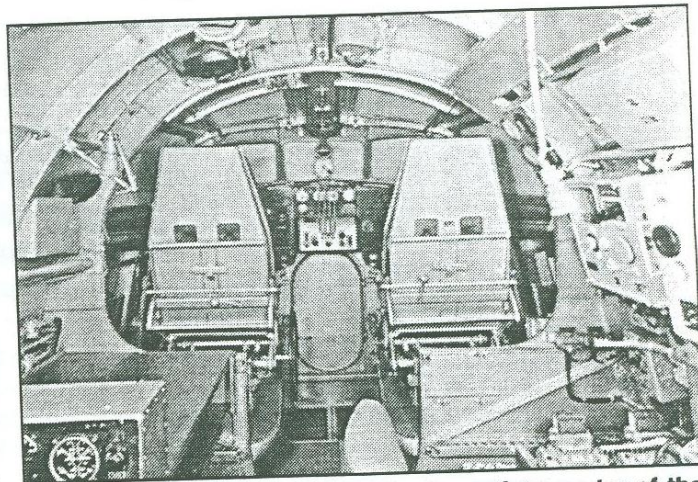
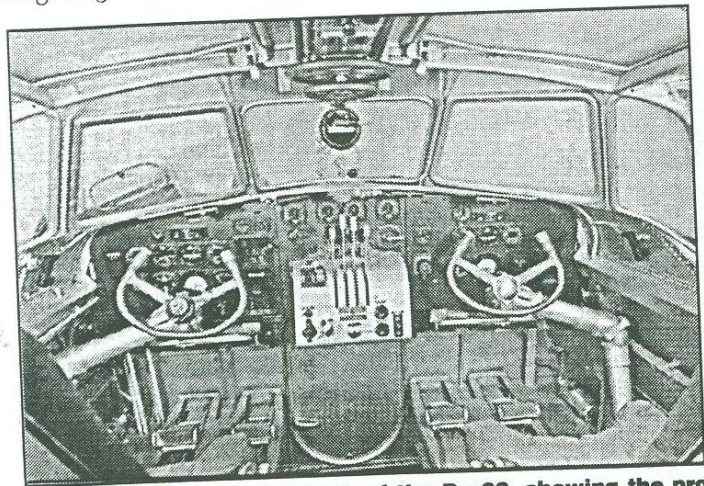
Next, I spent over an hour sanding and filing the inserts that are provided to fair over the waist gun positions. Going slowly and making repeated test-fittings, I got a good fit on both sides, glued them in, and set this aside.

I moved to the port wing. The first step was to clean up more mold marks and sprue nubs. I fitted the housing for the wing float bay onto the lower wing. Because of the confined location, I felt more comfortable working with *Dr. Microtools* putty than with super glue, because the putty is a lot more forgiving and has a longer working time. I eventually got

pretty good resolution of the gaps. Next, the instructions tell you to open a small circular window in the top of each wing near the root; I did this now, only to realize later these were not really windows, but fuel ports! I found the upper wing didn't fit very well to the lower wing, mainly because the float housing I had just attached was too thick for the depth of the wing, leaving a 1/8" seam on either the leading or trailing edge. After a lot of sanding of the housing, the gap was largely closed, but I found that aligning the housing with the exposed rib detail on the inside of the upper wing threw the wing halves slightly out of alignment at the trailing edge tip. I aligned the float bay detail, glued the wing halves together with progressive use of a tiny C-clamp, then re-faired the trailing edges (1/16" or so out of true) with putty, sanding until it blended well. This was followed by a subtle re-engraving a few lines that I had lost. I repeated the procedure with the lower starboard wing and the float housing box.

For the civil version, the waist compartment, would be practically invisible because of the tiny windows. So, after assembling the bulkheads and floor and test-fitting the assembly to the port fuselage, which has the guides, I primed the assembly and gave it a couple of coats of RLM 02; the color is all that is visible through the small windows and Kristal Klear. I saved my detail efforts for the flight deck, a nineteen-piece affair. Even there, I wondered if the cockpit detailing was an exercise in futility because of the dubious quality of the transparency. But what the heck, I had all these pieces, and I'd never tried a really detailed interior (my previous most complex interior was a 1:72 Bf 108!), so I went for it.

I've never seen so many instrument panels in one airplane; there are about a dozen of varying sizes, spread all over the flight deck. After trying several approaches, I finally hit upon starting with a coat of RLM 02 for the entire inside surface of the flight deck, using a white wash to bring out the recessed instrument faces, then going over each instrument panel with a Berol Prismacolor black pencil. This worked very well, though I did have some touch-up to do where the pencil slipped. Two of the pieces (The navigator's table, I think) I did not mount on the flight deck, but instead on the inside of the starboard fuselage, to make sure they were on the guides. It's



Two views of the flight deck of the Do 26, showing the prominent roof-mounted compass at the immediate center of the arrangement. Mark used a 1:24 car's oil gauge as a substitute!

a good thing, too—this kit's pieces are pretty good as individuals, but complex joins of three or more pieces are off-kilter more frequently than not.

Now I dry-fitted the two interior segments. The waist compartment was right on the first try, but the flight deck... Well, would you believe it was about an 1/8" too wide to fit inside the fuselage? I ran through almost an entire charge on my Dremel Mini-Mite before I got the gap down to 1/32"; that was at least two dozen dry-fits later. Out of a need to avoid frustration, I finished up the starboard wing, which was similar to the port, and then turned to the engine nacelles.

The Do 26 is unusual in having two pusher and two tractor propellers in overwing nacelles. The only other monoplane flying boats I'm aware of with this configuration were the French Latecoeur 302 and Sud-Est LeO H-470, the latter looking like a close cousin of the Do 26, but being much less refined. (I wonder if *Mach II*, a French company, will do this one?) The Do 26 was further distinguished by having aft engines that could be elevated through an arc of up to 10 degrees to move the propellers out of sea spray. The kit allows for this, but I had no good photos of what would be exposed with the back nacelles raised, so I decided to pass.

Caution is needed with the nacelles, as they are handed, but fortunately the insides are clearly marked "A" or "B." The halves of all four nacelles matched reasonably well, but the seams were very obvious, really being shallow "V"-shaped trenches. More putty! The join between the fore and aft nacelles was very bad, and there was no way to true it up without throwing the rest of the nacelle alignment out of whack. Super glue! Putty! @#%\$&\*@!?! Are we having fun yet?

I finally got it to look passable, but the rear faces of the nacelles had a cant of about two degrees past vertical, so the aft props would look to be pointing a little down. This required some fairly coarse work with a flat file on the nacelle hub plate. The nacelle-wing joins also ate up their share of filler materials, though this part was pretty straightforward. At this stage I mounted the four underwing radiators, painted them with *Polly Scale* stainless steel (unless otherwise noted, all the paints I used were *Polly Scale*), then trimmed the radiator covers into submission and mounted them over the radiators. At this point, I drilled out an intake port and three exhaust gates on each wing/nacelle assembly; these are apart from the exhaust stubs of each engine. Then I spent a long time polishing away the orange-peel stuff on the wing surfaces.

Apart from the three windows aft that I had planned to Kristal-Klear, the flight deck has four circular and one rectangular window aft of the windscreen, represented by five

pieces of indifferently-cast clear stuff. Each window took about forty minutes to fit after careful beveling of the orifices and sanding of the clear parts. The most difficult were the two windows that were circular on the prototype, but are provided in the kit as tombstone-shaped bits with the circle as raised relief. The reason for this is that *Mach II* believes that the military version had full-profile tombstone-shaped windows with machine guns mounted in them on the flight deck, so these orifices are built for the military window, and the raised-relief civil pieces thus fill the same space. This is a huge hassle for seam reduction, and no joy for painting either. Incidentally, I have found no evidence that the machine guns or the windows ever existed in the military version as displayed in this kit. I have had to repolish these various windows repeatedly, as they have gotten scuffed a fair amount by subsequent assembly, but they had to go in at this stage.

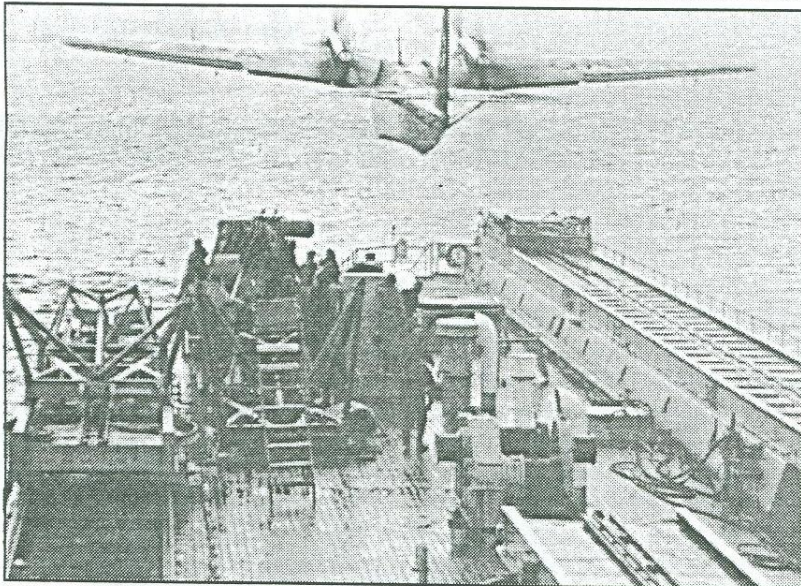
Next I painted the main instrument panel, using the same procedure as noted above for other instruments, except that the centrally-mounted throttle box was done in aluminum. This was now mounted on the front lip of the starboard fuselage half's flight deck enclosure, centered so that half would slide over and onto the port half when the fuselage was joined. At this stage, two other pieces were fitted to the starboard fuselage. The military version has a bow turret with a 20mm cannon between the mooring compartment in

the extreme nose, and the forward mail bay just forward of the windscreen. A beveled circular piece is provided to fill this gap for the civil version. It took a lot of fitting, a lot of super glue and a fair amount of *Dr. Microtools* to make this puppy blend in. Even tougher was the ventral tunnel gun position, the shape of which I won't even attempt to describe.

A number of dry-fits later, I concluded the fuselage was never going to fit any better than it already did, so I mounted the flight deck and waist

interior assemblies and glued them into place. I glued the fuselage halves together, working slowly from the tail forward to the nose, using the C-clamp and gluing a little more together every ten minutes. After about an hour and a half, I had it together, with the only out-of-true spot being the aforementioned topside 1/32" gap from the waist to within an inch of the cockpit edge, and a slight misalignment of the forward mail compartment hatch panel lines. I filled the topside gap, as well as any number of other dorsal defects, with super glue and sanded it flat. This was facilitated by the fact that the spine of the Do 26 is flat and squared off, resembling a catwalk without railings.

I now had three big assemblies: a 13-inch fuselage and two



**Do 26 immediately after being catapulted from the German ship *Friesenland*.**

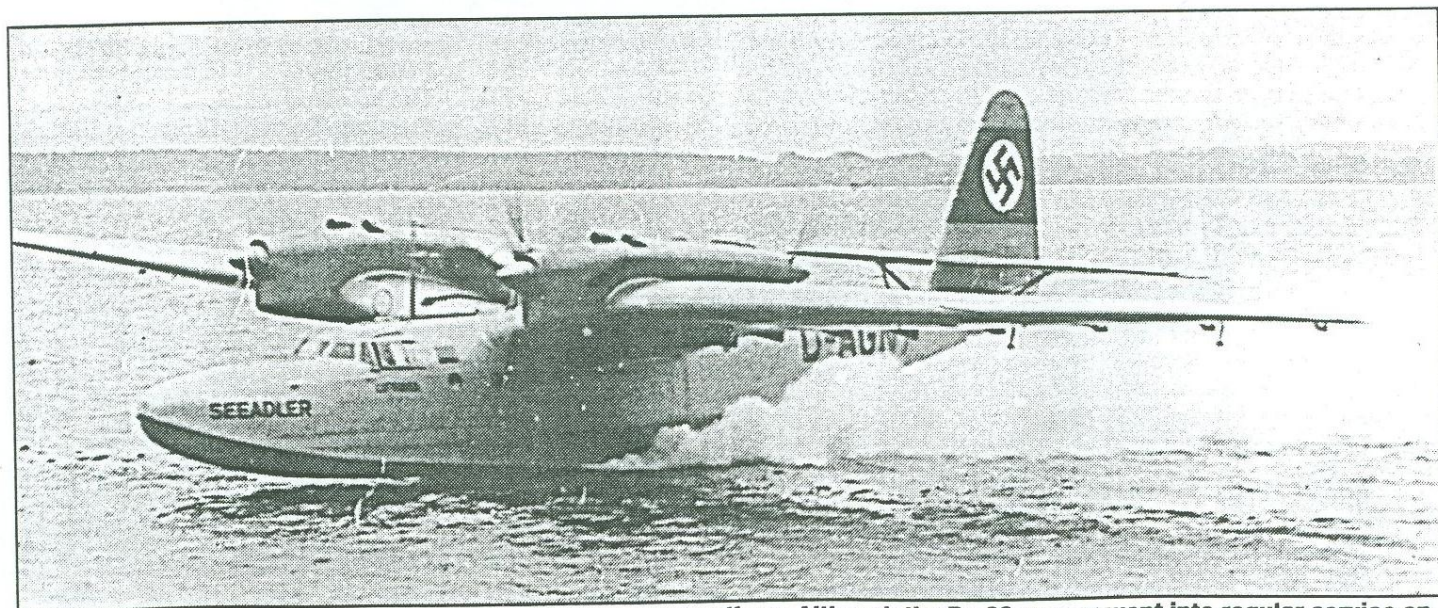
8-inch wings. This is the part where I get excited—the project starts to look like an airplane. Unfortunately, I discovered that the angle of attack of the starboard wing upon dry-fit was at least three degrees greater than the port wing, that the starboard wing leading edge was coming up about 2mm closer to the front than the port, and that the starboard wing root fillet was significantly bigger than the port one, stretching further aft and giving the starboard wing slightly greater chord. Closer examination showed that the starboard wing was pitched too high and the port wing too low! So I had to attack the receiving slots for the wings on both sides of the fuselage with a sharp X-Acto, working on the top of the port slot and the bottom of the starboard slot. I also carved 2mm off the back of the starboard wing-mounting tab so the whole wing could slide back farther in the slot. Finally, I attacked the wing root section with a big file, then the Dremel, until I had whittled off rather a lot of stuff. After all this, I got a dry fit that (with me holding the wings at the maximum deflection allowed by the modified slots) was acceptable.

Before attaching the wings, I decided to assemble and mount the stabilizers. The same story as the wings applies here too, except that the roots were symmetric and only the alignment of the starboard stabilizer was off. This made it a lot easier to correct, as I just attached the port side first, then worked to match the starboard to it. The tailplanes also gave me another alignment guide for the wings, which I did next. Although I usually use *Plastruct* for plastic-to-plastic connections, here I used super glue, because I wanted a very strong bond and a fairly quick one, as I was going to have to hold the wings in positions in which they didn't want to stay. This worked well, leaving me with these colossal wing-root joints that needed only slightly less filler than the Marianas Trench. Super glue! Putty! After about a week of this, I concluded that it was as good as it was going to get. I also did rather a lot of carving on the trailing edge root fillets, which were still wrong on both sides. I now primed the whole airframe with Floquil Gray (spray can), and found a bunch of mold defects and seams that I hadn't seen before. Clean-

ing that up was another week's work. At this point, I also put a little black paint inside the intakes and exhausts that I had drilled out earlier.

Each wing has five flap hinges, four elevator hinges and two elevator mass balances, all to be mounted on the underside. Every one of these pieces was encrusted with molding defects of one sort or another. I cleaned up as much as I could while the pieces were still on the sprue, and then primed them too before cutting them away. After clean-up, the hinges were fine, but the mass balances were just horrible. I finally gave up on them and went to the spares box, where I found mass balances for a Fieseler Fi 156. The shape wasn't quite right, but they didn't look bad, whereas the ones in the kit were hopelessly clunky. If you're a stickler for accuracy, the mass balances from the Italeri Do 24 would work nicely, but I intend to build that kit too, so scavenging there was not an option. The tailplanes are supported by inverted V-struts attached to the underside. These cleaned up well and mounted without difficulty. By now, I had discovered that the erstwhile wingroot topside windows were in the same place as the fueling points shown in a photo of a Lufthansa guy refueling the first prototype. I had these 3mm diameter holes, and I needed to do something, so I found some header pipes from an unknown 1/24 auto kit and stuffed them in the holes. A perfect fit! Or almost so, after a little glue and sanding. The interior holes of the header pipes were about 1mm in diameter. From there, turning them into fuel tank caps was no big deal, just involving a drop of white glue in each, and eventually the appropriate decals.

The propellers are adventures all by themselves! Each of the four props is a five-piece affair: base plate, spinner and three blades. All the spinners were asymmetrical, which is especially obvious because the small hole at the tip of each is molded off-center. My procedure for each prop was to glue the base plate to the spinner, then fill the tip hole and the seams between base plate and spinner. I rounded out the spinner with careful use of the Dremel. I then drilled out the blade holes in the spinner assembly which were far too small, and I carved a lot off of each blade hub, as they were far too big. It



**Floats retracted, Do 26 'Seeadler' nears lift-off during a takeoff run. Although the Do 26s never went into regular service on the north Atlantic route, they did make 18 mail crossings of the south Atlantic before war intervened.**

took some fiddling with the blades to get them all in the same plane and with the same pitch. I also had to bend a few of the blades straight, as they were warped. I tried re-drilling the prop boss holes on center, but it just didn't look good, so I refilled the holes. Frankly, if there had been any aftermarket available, I would never have bothered with the kit props.

The Do 26's retractable wing floats were quite a contrast—the two-part floats went together cleanly, leaving no seam at all. I wondered for a moment if they had been included by accident. These cannot be mounted in the extended position until after painting and decals, because part of the underwing registration runs across the outside of the floats.

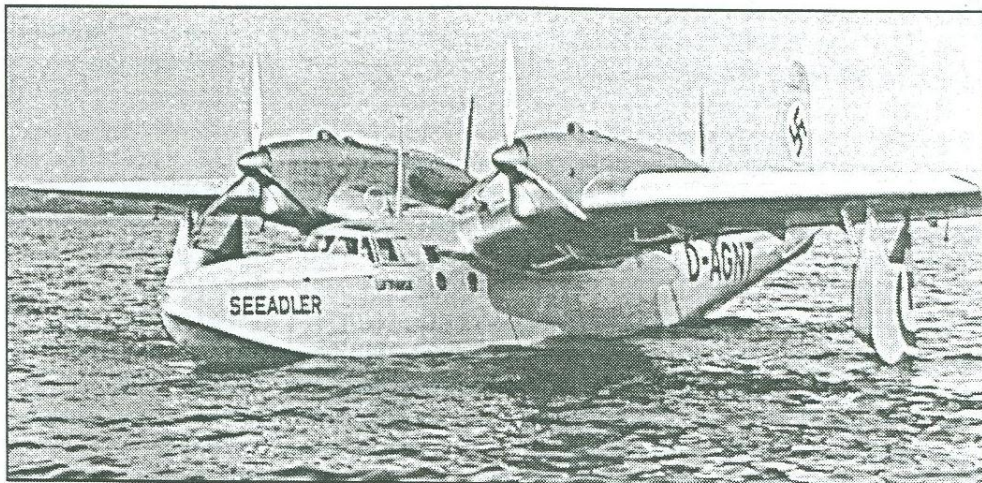
The dorsal spine of the fuselage has two insulators molded on it for radio connections. The forward one, just aft of the cockpit, was slightly off-center; correcting this looked like a hassle I didn't want to deal with, but then I was surprised to discover that the forward insulator was supposed to be off-center to starboard about a scale 4 inches (barely over 1mm in scale)! This is the mounting point for the radio direction-finding (RDF) loop, so I drilled out a hole to receive the tab of the loop. Just aft of this, I drilled a hole to receive the base of the antenna mast. I also mounted the four nacelle-top handrails provided with the kit. These needed a lot of work, and were over-thick and stood too high as well, so wire might have been a better choice, but I decided to make do in the name of simplicity.

Instead of the military 70/71/65 scheme, the civil version was gray. What gray, you ask? Good question. Now, given the size of the airframe, I really couldn't fuss around with a custom mix, and all the color information was equivocal anyway. Based on the two color drawings I've seen, RLM 63 is too blue, and RLM 76 too light. Getting away from German colors, I considered light gull gray, but this seemed a bit light too. I finally concluded that dark gull gray was about right. However, before that, I had to contend again with *Mach II*'s instructions, which specify that the hull, wing roots, tail and underside are all light gray, but that the engine nacelles are dark gray, and the outer upper wings yellow! Nowhere else have I seen a reference for yellow, and most of the photos that show the area in question show no difference in tone from root to tip. One photo does show what appear to be nacelles with a darker gray color, but several show nothing of the sort. I concluded that the *Mach II* scheme may have existed at some point, but that an overall gray was also accurate at some point, and it would look a lot better.

I had already painted the wing float wells RLM 02, so I cut templates from index card to protect the wells during the application of the dark gull gray, shoved them to the bottom of the recess, and masked the sides of the bays with rice paper tape.

I next went back to the military cockpit cover. I did this because, even after grinding down the pilot and copilot seats, which were mounted too far from the center line and inter-

fered with the canopy, the civil canopy would simply not mount correctly; it was somehow out of true, perhaps having too much of an arch. The military piece fit well. As noted before, the coaming had spalled. I repaired it after a fashion with Kristal Klear, though I revisited the repair several times later. Then I liquid-masked and hand-painted the framing



**A Do 26 at rest, immaculate following delivery from the Dornier factory.**

and roof of the cockpit dark gull gray. Before attaching the cockpit roof, I fashioned the roof-mounted compass from a 1/24 car kit's oil gauge, painted it black and attached it with white glue. It is barely visible through either the windscreen or the glass roof hatches. I then attached the cockpit roof, and applied putty to fill the seam between the roof and the top fuselage. No sooner had I done this than I realized that the whole cockpit cover was out of true; the aftmost vertical window frame on the starboard side was 1mm thicker than the port. It may not sound like much, but the roof hatch railings were obviously skewed from the centerline as a result. So off came the cockpit cover; I sanded it down and remounted it. This meant redoing the roof seam as well.

Panel-line restoration had been an ongoing process; I gave the whole airframe another look, and found a few that needed fixing. I also taped over the front and back of each radiator housing. Finally, I applied liquid mask to the much-abused side windows just aft of the flight deck. The dark gull gray spray should have been easy, but the natural light was funky (early May storms) and the contrast in the light I had was poor enough that I missed a few spots with the first coat, leaving gray primer showing through. The second coat took care of that. I also airbrushed the detached float assemblies on both sides at the same time.

I went back to the propellers between the two dark gull gray coats. I had already primed them; I painted them by hand with stainless steel, which gave a smoother surface than the primer and is a good back coat for *Rub'n'Buff*, which I applied next. One note on propeller painting: *Mach II* gives a yellow-blue-red blade tip scheme which would be very attractive (though a lot of work), but doesn't say whether it is military or civil. None of my photos of civil Do 26s show this tip detail, so I left it off.

Once the dark gull gray had been applied, the next step was to mask the fin/rudder for the broad red stripe on which the civil swastika lies. This was straightforward, using *Polly Scale* RLM 23, although four coats were necessary to get good

coverage. Next, I airbrushed a coat of Future acrylic floor finish to provide a foundation for the decals and as preparation for a panel-line wash. Roy Sutherland suggested that the airplane was a good candidate for panel-line work because it was essentially one color overall. To create the wash, I started with equal parts dark gull gray, RLM 74 and RLM 66, diluted about 3:1 in water. After some trial and error, I found that a fine liner-type brush worked well to flow the wash into the panel lines, and that a quick wipe with a finger against the grain of the panel line would deal with any excess. Not elegant, but it worked. The Do 26 has a lot of panels, and I found I could not do this kind of work well for more than fifteen minutes at a time, so it took several days to complete the whole airframe. Once I finally finished, it was time to apply the decals.

The kit comes with one civil option, the second prototype, as well as military markings. Unfortunately, I had no photos of the second prototype in civil markings, but the kit instructions were consistent with photos of markings placement on the first prototype. As I had heard bad things about the decals in the *Mach II* RB-57F kit, I decided to see what I was getting into. I prepped a wing of my paint hulk (yes, that's what you can use a *Matchbox* P-51D for) with Future, then applied a Balkankreuz to it. The decal was thick, and seemed almost impervious to *MicroSol*, but it did settle well. It neither silvered nor bubbled, and when I cut into it along the aileron line and applied a generous dose of *MicroSol*, both sides settled into the notch. However, given the nature of the decal, *Solvaset* might be a better choice for a decal solvent. The propellers of the civil version have a red triangle on each blade. Since the propeller top coat was *Rub'n'Buff*, I didn't apply Future before adding these markings. The twelve triangles went on with a minimum of trouble, and were easy to push into place using an expired airbrush needle.

I found the solution to the fuel cap problem on a fragment of an old 1:48 or 1:32 *Monogram* P-51D decal sheet—some 2mm diameter black dots. I applied these over the erstwhile windows that were really filler points in the upper wing roots. Most of the rest of the decal application was unremarkable. Silvering was confined to the clear decal spaces on the large "A" and "W" registration letters; I used a tiny X-acto swivel blade to cut these away after the decals were in place. I used the same blade to cut through decals over major panel or control-surface lines. This, in concert with the *MicroSol*, gave me a good result. One caution: both the wing and fuselage registration letters are done separately from each other, so don't expect to apply any of them as a strip. The smaller "S" decals for the fuselage are fragile because they have no clear film; one of mine broke in three, though I had little trouble jigsawing it back together.

There were two problem areas. First, the underwing civil registration letters overlap the retractable floats on both sides. If the floats are mounted in the extended position, two of the letters in the registration must be cut apart before being applied. For this reason, I had not attached the floats up to this point. I decided the best approach to take was to first apply the letters that were not to be cut apart. This made it easier to line up the letters to be cut. I placed the floats in their wells for the sake of lining things up. I then cut away the excess decal paper around the "A" and "W," the letters that fell on the floats. I put

a tiny dab of white glue on the back of the paper and positioned these decals on the floats. Once I was satisfied with the dummy positioning, I let the white glue dry, then flipped the floats over and drew pencil lines on the back of the decal paper where the decals overlapped the floats. I thus had accurate cut lines. I peeled the decal paper off the floats, used a little water to get rid of the white glue residue, then cut the decals apart, based on the pencil lines, though I biased them a little to take the thickness of the pencil lead into account. The "A" stayed mostly intact, losing only about a 2mm stub off each leg to go on the starboard wing underside, but the "W" got cut into five pieces. I mounted the main part of the "A" and lined up the stubs after again resting the float in the well. The "W" was a bit more complex, but I followed the same approach.

The second problem had to do with the civil swastikas on the tail. The black swastika is printed on a circular white surround, but on both decals the swastikas were off-center. After mulling several complex solutions to this problem, I decided to just apply them and see how bad it was. In fact, it wasn't all that awful, so I decided to leave well enough alone.

Now that the decals were on, I was truly in the home stretch. I mounted the floats in the extended position, followed by their retraction struts after painting the struts stainless steel. Alignment was a headache; on the first try, I had them toed out instead of parallel to the hull. So I took them off and tired again, getting a much better result. Once these were suitably aligned, I added the antenna mast and RDF loop. The paint needed some touch-up here and there from the scuffs it received along the way. Another coat of Future was followed by one of *Floquil* railroad flat thinned with a little Diosol. Once this dried, I stripped off the liquid mask from the glazing, polished it out and dabbed on a little Future. I used *Kristal Klear* to form the three aft windows. Then I added the last feature, the antenna wire. This runs from the antenna mast to a point on the vertical fin just ahead of the topmost part of the rudder. For this I used .010 rod, painted black. I put a dab of super glue at the rudder end and anchored one end of the overlong rod there, pointing in the general direction of the antenna mast. When the super glue was set, I put another little dab on the antenna mast top and stretched the rod to rest tautly on the top of the mast. After it all dried, I cut away the excess. I fashioned the antenna lead of the same material, leading from the antenna to the aft insulator on top of the fuselage. I stuck on the propellers, which I always leave unglued for transportation ease, and I was finally done, on May 24.

So, was it worth it? While the Do 26 kit was expensive, that's to be expected for a limited-run injection kit of a four-engined flying boat, and it certainly generated a lot of hobby hours (over 150), not all of which were spent pissing and moaning. The final result is unlikely to win any contests, because (despite my machinations with the wings) one wing is still out of true at the tip, even though it is right at the root. I don't know if this is a mold defect, or if I torqued the wing slightly while gluing it. The clear parts are also pretty doggy. Nevertheless, I'm glad I built it, and I'm happy with the result, especially considering my relatively limited experience. The final result is a pretty nice and fairly accurate model of a beautiful airplane, and I'll settle for that.



# MPM takes its shot at the Fw 189 'Uhu'

By Bradley D. Chun

Once again Murphy's Law has struck. No sooner had I finished the review of the *Karo-As* Fw 189 for the April issue of the *Styrene Sheet* did I learn that MPM would soon be releasing an injection-molded Fw 189 kit in 1:48 scale. MPM has been known for releasing obscure subjects in both limited-run injection and vacuform kits. I had purchased a few 1:48 scale vacuform Avia kits, and had often admired the multi-media Do 217 kits. If the Fw 189 was going to be as good as their Bf109T-1/T-2, then I had to have this kit also.

The kit comes packaged in a less-than-sturdy, one-piece cardboard box that opens at either end, reminiscent of the *Testors* model kit boxes of the late '70s/early '80s. Inside, there's an instruction booklet, one bag containing five sprues of injection molded parts, and a second bag containing the decals, photoetch fret, photo-negative instrument clusters, resin detail parts and the injection-molded canopy parts.

The instruction booklet is 12 pages long and contains a brief history of the Fw 189 in addition to the standard parts breakdown and layout, painting guide and assembly instructions. The parts breakdown is depicted by each tree, with each part numbered. This is because the kit's parts are not numbered on the part itself or on the part trees. Assembly follows the usual sequence. The camouflage and marking section gives the modeler a choice of three different schemes.

The majority of the kit parts are comprised of injection-molded plastic. As with most limited-run injection molded kits, there are some parts that are very clean and there are some parts that require a lot of clean-up prior to paint or assembly. The outer wing panels and booms will need polishing, because the surfaces are not as smooth as one would find on a *Tamiya*, *Hasegawa*, or *Accurate Miniatures* kit. Panel lines are engraved and finely recessed. Some of the panel lines vary in depth, but is acceptable; this can be easily repaired. The detail on most of the parts is sharp and well defined, and should pose no problem during the clean-up stage. A good

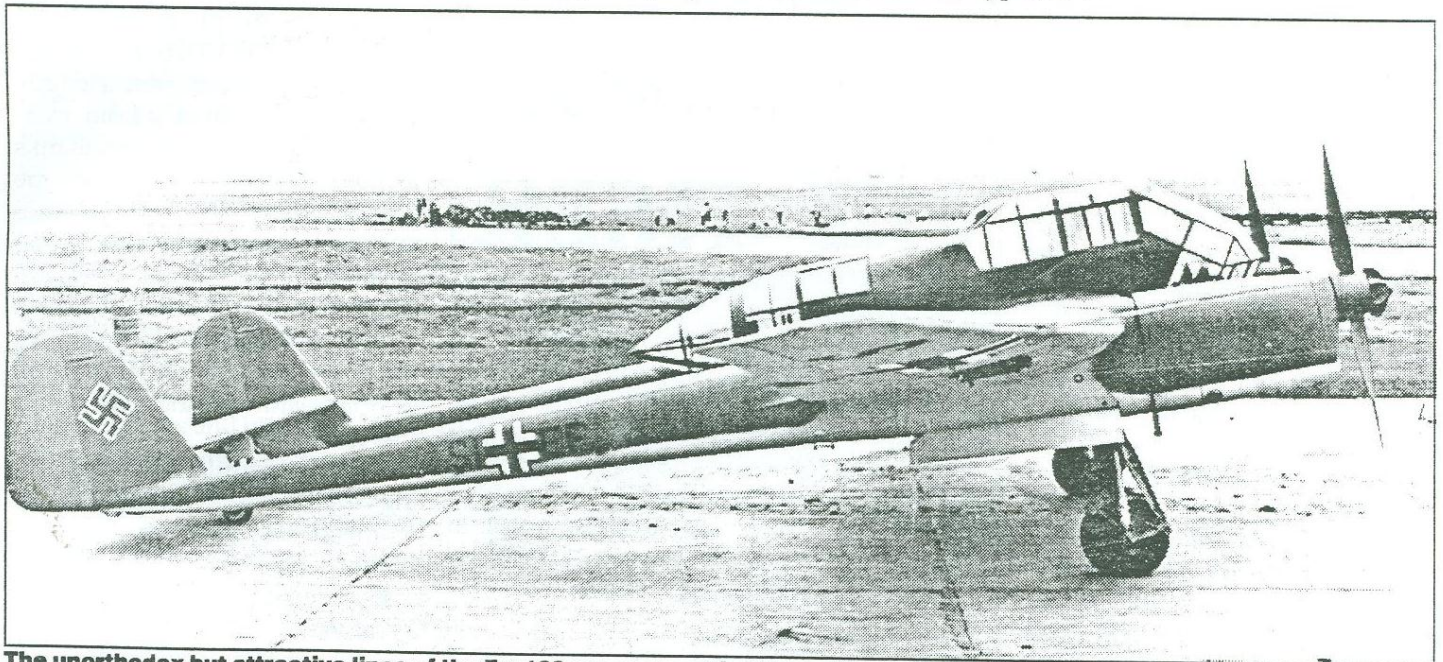
wash and dry-brush will bring the dark and light gray parts to life.

MPM has included injection molded canopies in this kit. Unlike the colored injection molded parts, there was no flash on any of the parts. The injection gates are smaller in size than those found on the gray sprues. The clear parts are very comparable to those found in higher-end kits produced in the U.S. or Japan. Just a little bit of polishing, or a dip in Future, will make these crystal clear. The frames are very crisp and will aid greatly when it comes time to mask and paint them.

The resin parts include the control column and machine guns. Although not as clean or as detailed as something found in a *Cooper Details* set, they do have an exceptional amount of detail for a limited-run kit. The photo-etch parts include the instrument panel and other assorted small detail parts. The photo-negative instrument panel and photo-etch detail parts are an added bonus, as most modelers add this type of detail to most aircraft kits built today.

There are three Fw 189s the modeler has a choice to build: a winter-camouflaged white-washed Fw 189 A1, W.Nr.2100, Luftwaffe, belonging to 1.(H)32, based at Pontsalenjoki Base, Finland, May 4, 1943; a RLM 70/71/65 Fw 189 A, of the 3/I Hungarian Reconnaissance Squadron attached to German Luftlotte 4, Ukraine, 1943; and a Fw 189 A, 1st Reconnaissance Flight, Slovakian Air Arms, Zilina, 1943.

I was pleasantly surprised to find out this kit was being produced by MPM. Even with a retail price of \$34.98, it will surely sell; its vacuform counterpart can be found at the same price. This kit will finally get the Fw 189 into the collections of 1:48 Luftwaffe modelers who have "vac-phobia." Now that there are injection-molded kits of the He 219, Me 410, Ar 196, and Fw 189, one can certainly only hope that a manufacturer will release an injection-molded, Ta 154 Moskito or Bv 141, in 1:48 scale, in the near future. Hmm, maybe if I cut out my vacuformed Bv 141 or Hs 126 kits, we could see injection-molded kits of these types, too!



The unorthodox but attractive lines of the Fw 189 are captured in this profile. Most examples of the Uhu were built in Prague.

# SVSM BOOKSHELF

## Focke-Wulf Fw 189

by Pavel Kucera, Dénes Bernád and Stefan Androvic  
Published by MBI, Prague, Czech Republic  
Copyright 1996

Ever since the old *Airfix* Fw 189 first saw the light of day, modelers have bemoaned the absence of material on what was inside the Fw 189 "Uhu." After all, the plane was designed with the emphasis on visibility, and for modelers, that visibility works both ways—into the plane as well as out of the plane. The immense expanse of glass that makes up the Fw 189's fuselage means that modelers have a lot to detail, and the recently-issued kits from *MPM* and *Karo-AS* mean that 1:48 modelers now get a crack at this challenging interior as well.

Ah, but back to that problem, the lack of references. On very few occasions does one find a publication that by itself answers all the questions one might have about a subject, especially one as obscure as the Fw 189. This is just such a book. In 60 pages, the authors cram more than 40 photos and more than 50 drawings, giving modelers a start-to-finish reference. The drawings are especially helpful; the layout of the Fw 189's interior made taking detail photos difficult, but the artists' depictions make things that are hard to spot in photos very clear. To support these drawings, there are a few useful interior photos, taken during World War II and, more recently, of a recovered Fw 189 wreck prior to restoration.

The text is in Czech and English, and covers a lot of ground quickly. Use by Hungarian and Slovakian units is covered in sections at the end of the book, and a central color section profiles 15 aircraft as used by Germany, Romania, Slovakia, Bulgaria and Hungary. Lesser-known variants, like the attractive Fw 189B trainer and the abortive Fw 189C ground-attack aircraft, are also given considerable attention.

But, as good as these elements are, the big draw is still the drawings! Want to know how ammunition drums for the MG15 tail gun were stored? Check page 19. How about

the layout of the pilot's side consoles? Page 11. What did the seats look like? See page 53. This book is going to make some detail fanatics lose their minds completely.

—Chris Bucholtz

## Grumman F11F Tiger

By Corwin "Corky" Meyer and Steve Ginter  
Published by Steve Ginter, copyright 1997

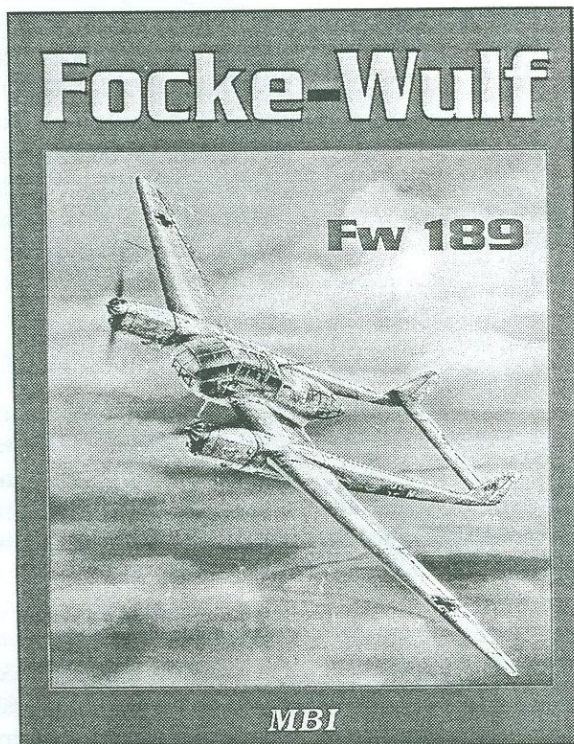
One of the earliest books in Steve Ginter's "Naval Fighters" series was a slim volume on the F11F *Tiger*, the Navy's first supersonic fighter. The 40th book in the series revisits the *Tiger* in much greater depth, examining the type's development, details and deployments.

The *Tiger's* merits—ease of maintenance, acceleration, agility and safety—are discussed at length, along with some great sea stories, like Tom Attridge's kill of his own airplane during testing of the plane's cannon. Long and short-nosed *Tiger* cockpits are shown in photos and drawings, as are the two types of ejection seats used by the aircraft over the course of its career. Wingfolds, landing gear, tailhook and tail bumper, speed brakes—all are illustrated in photos and drawings, ensuring no ambiguity for detailers who want to depict an F11F letting it all hang out.

The squadron experiences of all the F11F's operators—VX-3, VA-156, VF-111, VF-21, VF-33, VF-51, VF-121, VF-191, VF-211, ATU-222, VT-23, ATU-203, VT-26 and the Blue Angels—are documented at length, and a modeler can pick from a virtual catalog of paint schemes thanks to the many photos, including some day-glo and white trainer schemes that are not often seen. The customary modeler's section includes brief takes on rarities like the *Monogram* 1:100 Blue Angels kit, atrocities like the *Lindberg* and *Revell Tigers*, and the *Hasegawa* 1:72 and *Collect-Aire* 1:48 gems.

Meyer's insightful and crisp writing would be reason enough to recommend this edition, but the volume of detail information and modeler-oriented presentation make it a real value.

—Chris Bucholtz



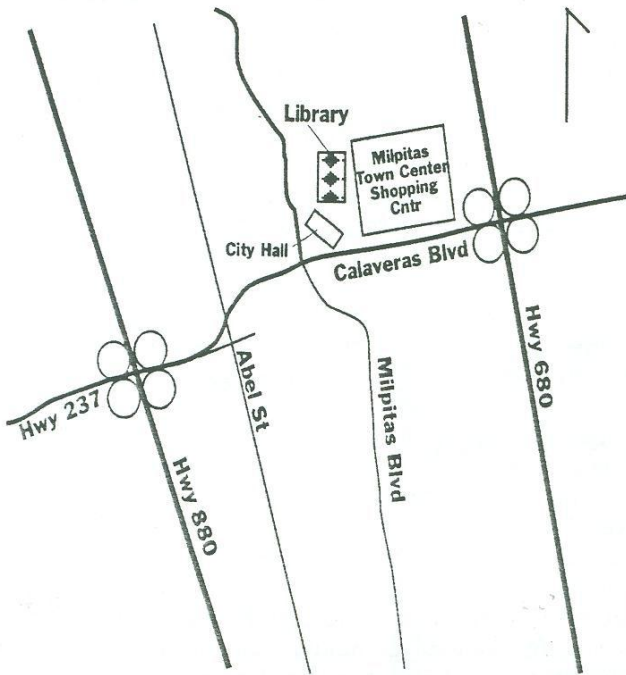
# MAY MINUTES

At the May meeting, we had no business to discuss. Zero. Zip. Nada. Don't even think about it, Tim.

In model talk... Peter Wong demonstrated that there are no such things as bad models in the hands of a skilled modeler by decking out the *Lindberg* schooner from the old *Pyro* molds, building it complete with carpet thread rigging. Kelly Avery took *Tamiya's* P-51B *Mustang* for a trip east, finishing it in the markings of a China-Burma-India Theatre aircraft. Barry Bauer says the *Toko* P-63 *Kingcobra* is very accurate, with an interior that's great right out of the box. Barry stripped his primer coat because the panel detail is so fine he feared it would be lost in the final painting! Paul Cabana added springs to the suspension, detail to the engine and even a real leather interior to his 1932 Ford from *Revell*. Paul also used *Fred Cady* decals and parts from *Caprice* and *Taurus* kits to finish his Tahoe as a CHP vehicle. Brad Chun is feeling racy, if his *Revell-Monogram* NASCAR racing truck is any indication. Also along those lines, Brad's done some work on a Mercedes CLK and a Nissan R390 endurance racer, all built during his "active" duty time! Brad's also built a *Firebee* drone that will soon be added to an A-26 drone controller aircraft. Cliff Kranz picked up a partially built *Bandai* 1:24 M60A1 at the NNL in January and tore it apart; the model has been reborn as a big and beautiful piece of armor. Jim Lewis displayed his family of gun trucks, and provided a preview of his next armed delivery vehicle—a 5-ton truck he's building by heavily modifying *AFV Club's* 2 1/2-ton truck. The final product will be "The Big Kahuna," a 5-ton truck with an M113 body bolted to the bed that was used for extra suppressive firepower against ambushes. Speaking of firepower, Jim's working on a smaller vehicle that packs a much greater punch: an M151A1-C equipped with the Davy Crockett 155mm atomic bazooka. Jim plans on building both the one and two kiloton versions of this small but deadly vehicle. Roy Sorensen took the all-purple Prowler and gave it a gloss black paint job; he also added shine to the motor and suspension by having them professionally chromed, removed the door handles and replace the headlights. Jim Priete used the *Italeri* Mk I Crusader tank kit to depict a British "ship of the sands," complete with the early sand-and-blue camouflage scheme the tank wore into battle. Jim's also progressing quickly with his F2G *Corsair* conversion; once the cockpit tub is assembled and detailed, the rest of his modified kit parts are ready for assembly. Mark Schynert whipped the recalcitrant *Mach II* Dornier Do 26 kit into shape using much patience and much body filler. Brooks Moses shortened his 1958 Chevy Impala by a scale foot and added a '57 Ford's roof to make the *Revell* kit look a bit more sporty. Kent McClure decided that camouflage on other planets would employ any colors he wanted, so he used blacks and blues to finish his two-man science fiction armor piece. Kent also painted a few figures from the game "Star Guard." Back on earth, Kent's got a lineup of 1:43 racers in the works, including a E26 IMSA racer that will wear Red Lobster colors, a heavily modified Porsche 935, a Lola and a Renault 42 with a Ford engine. Laramie Wright has given *Italeri's* 1:72 F4U-5N a nose job, adding 18 scale inches to the undersized hose-nose kit. He's also making progress on an *Italeri* UH-34D, which he's building for a friend who served as

a door gunner on a Marine *Choctaw*, and he's having a good time with *Italeri's* OH-13S *Sioux*, which has received a new tail rotor propshaft. Laramie said he'll paint the aircraft before installing the engine. Speaking of *Italeri* helicopters, Chris Bucholtz has replaced the entire interior of the OH-6A he's been working on; he's building the model from the inside out, adding detail to the already assembled fuselage. Richard Draga scratchbuilt a replica of the Blastech 223 weapon from the 1970s cheeseball sci-fi film *Laserblaster*. Chris Hughes built *DML's* Panzer III G out of the box, but he gave the full treatment to his Panther artillery observation vehicle; Chris finished the model in spurious markings, depicting a vehicle of the Grossdeutschland Division as it might have appeared in fighting in August of 1945. Joe Fleming has added the *Heber* photoetch detail set to his Tiger tanks, which may be ready for the nationals. Ron Wergin leapt back into the hobby with a lovely *Johan* P-47 and a *Hasegawa* 1:72 Panther tank, both hand painted! Lou Orselli cut open the windows on his *MPM* *Dragonfly* and added Kristal Kleer replacements; he needs only decals to finish his helicopter. He's also beefing up his *Revell* drag bike with aluminum tubing forks and exhausts, new seats and a detailed shovelhead engine, and even saddlebags made from the leather of an old wallet! Jim Lund's collection of unusual aircraft made his *Rareplanes* A-18 *Shrike* seem almost run of the mill—he scratch built the Cappelis Safety Aircraft, a one-off made by an El Cerrito man that lost out to the Boeing 247, and the X-19 tiltwing research aircraft, again made entirely from scratch! Ben Pada had his usual allotment of lovely 1:48 fighters present—this time, the Ho 229, Bf 109 and D. 520 made an appearance. Frank Babbitt had the most painful experience of the night—he tripped while carrying in his F4U-1D *Corsair* in New Zealand markings and broke his finger! Worst off, in Frank's estimation, was that he broke the *Corsair's* wing off in the process! Ouch! Frank was able to get treatment and return to the meeting—what a modeler! And the model of the month goes to... Chris Hughes' P-40 *Tigershark*, finished in a shocking metallic teal paint scheme and wearing the colors of the San Jose Sharks! The plane had a sharkmouth already, so why not? S.J. Sharkey, look out—this mascot's much better!

Our special feature this month was a Nationals sneak peek—entries that will be at the Nationals now in progress. Mark Hernandez applied plenty of sandpaper and patience to *Special Hobby's* A4b and A9 manned V2 missiles—the pilots of these weapons would have bailed out of them, but Mark refused to and has some nice models as a result! Dave Balderama is doing some work to improve the exhausts of *DML's* F-117. Ken Fadrigon hopes to have his 1:32 *Tornado* finished for the contest; it was almost ready for paint at the meeting. Mark Schynert's entries will include his 1:72 XC-44, which started life as a *Heller* Bf 108. The real plane was used by the Navy's Berlin Naval Attache before the U.S. entered World War II. And Randy Rothhaar displayed a real show-stopper—a 1:48 MC-130 Combat Talon ship from the Gulf War. Randy used two *Hercules* kits to build the model, and detailed the interior right down to the toilet and the daisy cutter bomb in the cargo bed. Here's to a winning effort for all our hometown boys!



Next meeting:  
**7:30 p.m.,**  
**Friday,**  
**June 19**  
at the Milpitas  
Public Library  
**40 N. Milpitas Blvd.**  
For more information, call the  
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