SILICON VALLEY SCALE MODELERS

THE STYRENE SHEET

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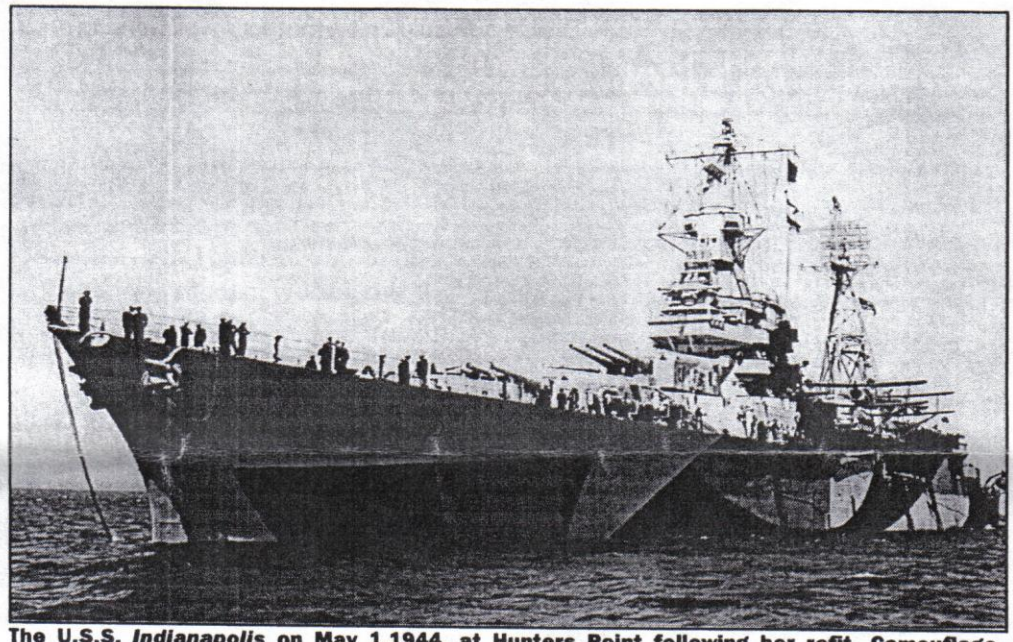
Shades of gray: painting WWII U.S. warships

Many modelers have told me they would be interested in building a World War II U.S. Navy warship but were stopped cold when they saw a photo of the ship in "dazzle" paint. Masking off a multiple-color pattern or interpreting the colors in a black and white photo may seem like daunting tasks, but arming yourself with a little information can take the mystery out of the project. I would like to outline the few steps I have used to research a project just to show you that it can be done without too much expense in time or money.



The U.S.S. *Indianapolis* on May 1,1944, at Hunters Point following her refit. Camouflage schemes like this can be intimidating, but the right techniques can allow them to be mastered.

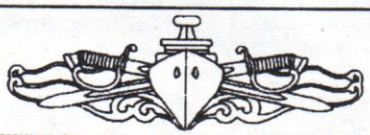
First, know which ship and time period your modeling, because ships in the USN changed frequently in WWII. For example, let's say you have a friend whose relative was on the cruiser *Indianapolis* in WWII. How tough would it be to model that ship? Relative to camouflage, it would be an easy project as of 1945 just before her sinking, or at the beginning of the war, but it would be a complex, three-color paint job for 1944. The 1941 paint was a one-color overall (Sea Blue/5-S) and in 1945 a simple two color, graded paint job (Navy Blue/5-N under Haze Gray /5-G), just as shown on the box art of the *Tamiya* kit.

What are these colors?

I'm sure by now you have your eyes glazed over and a strange expression on your face. How do you find those color paints (which are not in the Federal Standard paint listings, by the way), and what do those color designations mean anyway?

By early 1943, the Navy had specified the use of five colors in the blue/gray range for major combatants. The designations were descriptive and seemingly organized. For the vertical surface colors other than black, the darkest color was Navy Blue (designated 5-N). In descending order (darkest to lightest) the next shades were Ocean Gray, Haze Gray, Light Gray and Pale Gray, designated 5-O, 5-H, 5-L and 5-P respectively. All of these lighter colors were mixes of the same tinting material (5-TM) with different quantities of white (5-U), leaving all of them with a slight purple/blue tint related to the 5-N. I mention this because there are some paints available labeled as USN WWII that lose the blue tint to a yellowish tone in the two lightest colors.

All decks were to be painted Deck Blue (20-B), a darker shade than the 5-N. All these colors were officially in use after issuance of the Navy's March, 1943 directives, although the three darkest (5-N through 5-H) had already existed for two years.



THE HAZE GRAY ADMIRAL

Bert McDowell

I've worked out simple formulas for mixing the paint to show the difference between each color. The formulas are based on starting with a quantity of a pre-mixed 5-N/Navy Blue and adding portions of white to the 5-N. For instance: to make 5-O/Ocean Gray, add one part of white to one of 5-N. For 5-H/Haze Gray, add five parts white to one of 5-N. For 5-L/Light Gray, add 11 parts white to one 5-N and for 5-P/Pale Gray add 35 parts white to one 5-N.

Now, so that you don't end up with a half/gallon of Pale or Light Gray paint I've got some short cut formulas to make it

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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.

EDITOR'S BRIEF

If your Styrene Sheet arrives a little late this month, the editor apologizes. It's been a busy month since the last time we were together via these pages; we'll try to run down what all our club members have been up to in a few short paragraphs.

On July 26 and 27, SVSM members put on a demonstration of modeling at the D&J Hobbies sidewalk sale. Chris Bucholtz, Mike Burton, Greg Plummer, Jim Priete and Randy Ray took turns showing how models are built, painted and detailed. A few kits in glass cases caught some eyes, and then the always helpful SVSM'ers provided tips and encouragement. Especially eye-catching was Greg Plummer, who showed up and worked on a model car in a suit and tie (he was attending a wedding immediately afterwards!). We may have enticed a few new members to our meetings, and we certainly connected with several folks who had modeled in the past and were encouraged to pick it up in the future.

A week later came the IPMS/USA National Convention and Contest in Virginia Beach, Virginia. Roy Sutherland, Chris Bucholtz and Sami Arim represented SVSM, with Sami's model of the Japanese repair ship Arashi (featured in the June issue of the Styrene Sheet) wining a first in its category! Roy and Chris worked their vendor tables in addition to competing and judging.

On August 10, Mike Burton and Chris Bucholtz held a display at the Foothill Presbyterian Church's annual Children's Faire. The kids were interested in the models, and not a single on was broken, as has been the case in nearly all the years we've done this event. Hopefully, some kids and their parents were inspired enough to take kit and glue in hand and pursue the hobby.

The next day was Central Valley Scale Modelers' contest in Fresno. SVSM was well-represented, with Postoria Aguirre, Frank Babbitt, Frank Beltran, Randy Ray, Mike Burton, Chris Bucholtz, Pete Long, Brian Sakai and others in attendance. SVSM's members also took home a large percentage of the awards—congratulations to the winners!

The next big show in the region is in Reno on September 7. The High Rollers are hoping for a good turnout; hopefully, SVSM can make its usual contribution to the cause. One thing to consider when you're debating whether to go to a contest or not is the effect your presence has on the locals. If they see you at their contest, they're more likely to come to the Kickoff Classic (scheduled for Feb. 16, 2003) and support our event.

Speaking of our event, it's about time to start thinking of sponsoring an award. The sponsorships for last year's event were partly responsible for our ability to move to a bigger venue; your small contribution, teamed with your fellow members' donations, ends up amounting to a great deal. The Kickoff Classic is the biggest show of the year thanks to the efforts of members like you; we think 2003 will be our biggest and best year yet.

Another project that is going very well is our Veterans Administration Hospital drive. Once confined to the holidays, John Heck has expanded it to a year-round effort, and his requests for donations are being met. Especially gratifying have been several large donations that came in as a result of our web site's page on the drive. John sells some kits at the meeting, puts others up for auction on eBay, and sets basic kits aside. With the money these sales earn, we buy snap-together kits to help with rehabilitative programs at VA facilities across northern California. To learn more about this, visit the website at www.svsm.org. You'll see the model drive news, plus updates just added by webmaster Randy Ray. The website is a great way to show newcomers what we do and what our hobby is about; if you have a friend at work who's curious or skeptical, open up the site and let him get a look on the work our members do. It'll could turn him from a skeptic into a member!

Whew! What a month... Now, the editor is going to do something unusual for him: he's going to build a model!

—The Editor

CONTEST CALENDAR

September 7, 2002: The **IPMS/Reno High Rollers** present their **Third Annual Model Contest** at the Desert Heights Elementary School, 13948 Mt. Bismark in Reno, Nevada. The theme is "The Century Series." For more information, call Doug Summers at (775) 747-5931 or e-mail him at ghpltd@aol.com.

September 14, 2002: **The Captain Michael King Smith Evergreen Aviation Institute, IPMS/Portland and IPMS/Salem** present their **Fifth Annual Model Contest and IPMS Region 7 Convention** at the Evergreen Aviation Museum, McMinnville, Oregon. For more information, call Tony Roberts at (503) 282-2790 or e-mail him at roundelroberts@msn.com.

October 13, 2002: **IPMS/Orange County** hosts its annual **OrangeCon** in Buena Park, California. For information, call Nat Richards at (949) 631-7142 or e-mail him at richa5011@aol.com.

November 2, 2002: **The Antelope Valley Group** hosts **Desert Classic VI and the Region 8 Regional** at Antelope Valley College, 3041 W. Avenue K in Lancaster, California. The theme is "The Vietnam War, 1946-1975." For more information, call Bill Kelly at (661) 305-7902 or e-mail him at v1rotate@prodigy.net.

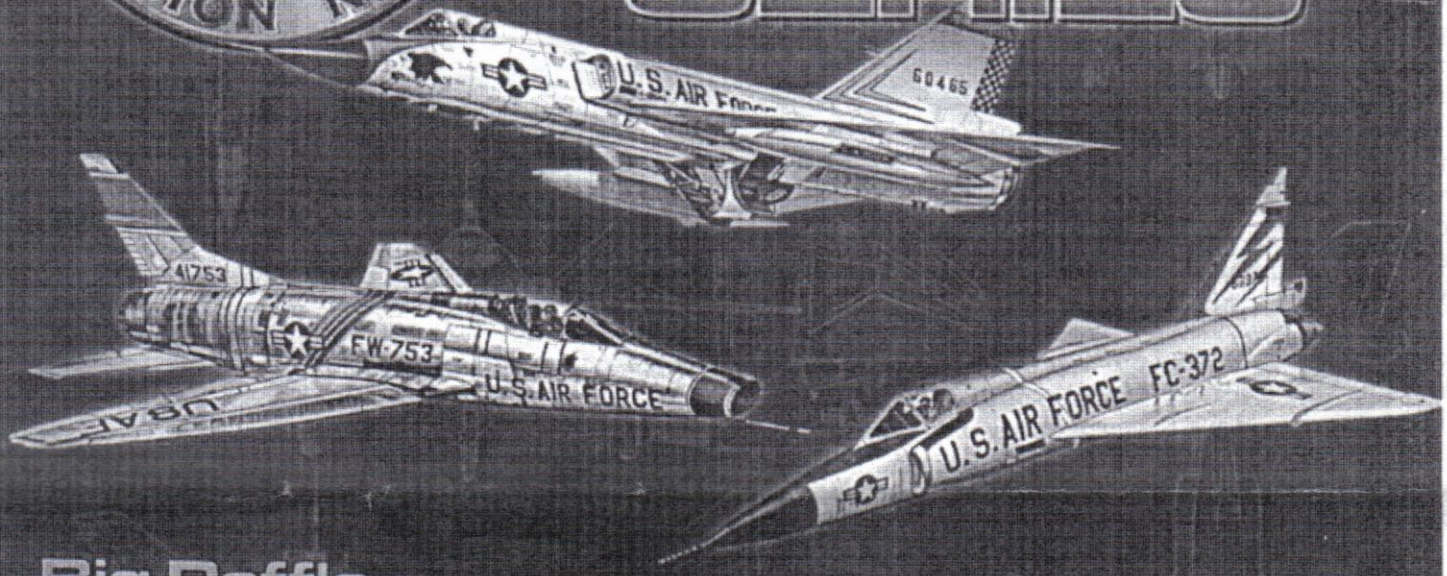
February 16, 2003: **Silicon Valley Scale Modelers** presents its **Tenth Annual Kickoff Classic Model Contest** at Napredak Hall, 770 Montague Expressway, Milpitas, California. This year's theme is "That '70s Contest." For more information, call Chris Bucholtz at (408) 723-3995.

3RD ANNUAL MODEL CONTEST

THEME:

CENTURY SERIES

I.P.M.S. USA RENO High Rollers REGION NINE



Big Raffle

Local Events

Vendor Tables

SPONSORED BY: IPMS HIGH ROLLERS

DATE: SATURDAY - SEPTEMBER 7TH, 2002

LOCATION: DESERT HEIGHTS ELEMENTARY SCHOOL
13948 MT. BISMARK • RENO, NEVADA
9:00AM - 4:00PM+

ENTRY FEE: FREE TO ALL NON-ENTRANTS
$5.00 FOR FIRST MODEL
$1.00 FOR EACH ADDITIONAL MODEL

VENDOR TABLES: $20.00 (REGISTER EARLY)
MAKE CHECKS OUT TO: IPMS RENO
MAIL TO: TOM AINSWORTH
1158 INDIAN COVE WAY
RENO, NEVADA 89523

DUST OFF THOSE PAST WINNERS AND COMPETE AGAIN!

PEOPLE TO CONTACT:

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Spinning a Cierva C.30 Autogiro from the *Azur* kit

By Greg Plummer

Autogyros are such strange things. Instead of having fixed wings, they use a non-powered rotor (rotating wings) to provide lift. A conventional propeller provides the thrust for the needed forward movement—autogyros cannot hover—while tail surfaces add stability and help control flight direction. When the aircraft's velocity is high enough, the rotor turns automatically via air pressure, hence the term "autogyro" (self spinning). The rotor blades can be manipulated somewhat like a helicopter's to provide lift and directional control. No tail rotor is needed as there is only a very slight torque from the main rotor in flight.

A Cierva C.30P in flight in 1934. The C.30 was the most successful of Juan de la Cierva's many designs.

The subject of this article, the Cierva C.30 Autogiro, was unique in that it was the first of its kind to have a driven main rotor. For takeoff, a clutch was engaged and the main rotor would start spinning to provide instant lift. Once the craft left the ground, however, the rotor could not be powered as this would start the fuselage spinning violently—no tail rotor, remember?

All of this silliness was made obsolete by true powered rotor craft (i.e. helicopters), but for a time in the 1930s, autogyros (along with zeppelins) could be seen flying about. There were a few advantages in flying autogyros, but only a few. One is that there were no fixed wings to get in the way of the view. Thus, they made neat observation platforms in an era where many aircraft were still biplanes (It should be noted, though, that many autogyros had small fixed wings to aid lift, although the C.30 did not). They also had STOL capabilities in the right hands and could climb and dive fairly well, but their overall handling and speed was well below the standards of their fixed wing counterparts. Add to this the fact that autogyros cannot hover or move vertically like helicopters can, and it's not hard to see why they were considered obsolete by the '40s.

The C.30 family was still flying in many nations during World War II, but they were kept well away from the front lines and any serious action.

Azur receintly released a 1:72 kit of the Cierva C.30. Cierva was the Spanish engineer who perfected the autogyro in the early 1920s. He insisted his invention be called an Autogiro (capital A), but autogyro is correct Latin. Or is it Greek? Anyway, Cierva founded a company in England and the C.30 was one of his most successful designs. The first example was built by Avro under license and first flew in 1934—this craft was called the Avro *Rota* Mk1. Obviously, Cierva named his design and Avro named thier product. Soon the aircraft was license-built in many countries, including Germany and Japan (*Fine Molds* made a kit of the Japanese version, and *Williams Bros.* makes a 1:48 kit of the Pitcairn Autogyro, another Cierva design). In France, an improved version of the C.30 with folding rotors and a more powerful engine was made as the LeO C-301.

There we have the French connection: *Azur* is a French company with a focus on obscure native aircraft as subjects, but they use the Czech Republic modeling mafia for their production (*MPM*, *Special Hobby*, *Octopus*, *Pauvla*, etc. You suspect all of them are the same guy in a basement in Prague) This is a good thing, as Czech kits are generally a bit crude but have good detail and are buildable. Just thank the hobby gods that *Azur* didn't go to *Mach 2* for their kits - they'd be twice the price and half the quality...

Anyway, the kit consists of a single sprue of short-run quality injected polystyrene. The main parts have nice inscribed lines but a few of the thinner detail parts are poorly molded and will have to be replaced with scratchbuilt items. Also included are a cast resin engine, exhaust ring, rotor hub, a vacuform clear sheet for the windscreens, and a decal sheet printed by *Cartograf*. No photoetched pieces are included, which is a shame since any model can benefit from photoetch, epecially a short run kit. The Czech model companies used to always include photoetched pieces; it's unfortunate that they seem to be leaving these parts out lately.

As is typical with *Azur* and most Czech kits, there are several markings included on the decal sheet. In this case, there is a (surprise) Czech version, in an overall olive green with white stripes, an RAF version in dark earth and dark green, a French Navy version in overall grey-blue (as shown on the box top), and a Spanish version in silver. I selected the Spanish version; I liked the pre-civil war national markings of red, yellow, and purple. As mentioned before, this autogyro is a Spanish invention, so it seems all the more proper to do this strange bird in Spanish colors. In fact, Spain's two craft were used operationally to quell the Asturias uprising of 1934. Being unarmed, I don't know how they were used. Maybe just seeing an autogyro flying was enough to freek out the rebels.

Out of the box, this model builds as an Avro *Rota* Mk 1 (Cierva C.30), correct for the RAF, Czech, and Spanish versions. The French built Ciervas (LeO 301) used a different engine (exhaust collector in the front), a wood propeller instead of metal, and a unique cockpit door design. Some-

A view of Greg's model. The horizontal stabilizers are airfoil-shaped in opposite directions to offset torque.

what ironic for a French company to make an incorrect French version, no? Or maybe not... Also, the French markings on the decal sheet use a pale sky blue - they should be a bit deeper in color to my eye. The British markings also have a strange shade of brown where the red bits should be, but these can be more easily substituted than the French markings should you want to do the RAF version.

Construction starts with the cockpit (although you could build the main rotor first if you really wanted to). The kit has some raised stringer detal in each side of the fuselage for the cockpit area; to this I added some wiring and cable detail. I just made it up, based on educated guesses. Do you know what an Avro *Rota* looks like on the inside? I sure wish I did.

The kit provides two half-moon shaped upper bulkheads. These must be trimmed down slightly and glued into place just behind each cockpit opening in the fuselage half. I chose to mount everything in the right side half first, being right handed. The seats were cleaned up and thier sides were thinned down; after that they were glued to the bulkheads. The seats hang—they are not mounted to the floor. Obviously, care must be taken to ensure everything is lined up during these steps.

The cockpit floor had scratchbuilt rudder cables and pedals attached to it, and then it was glued into place in the fuselage half after its sides were shaved down a bit. The instructions call for a light blue gray for the interior color, but this is also the exterior color for the French version. Since the Spanish version is silver, I painted the interior in Metalizer aluminum. That makes sense now, doesn't it? The instrument panels weren't the best—this is an area where PE parts could definately be used—but I used them anyway, detailing them with paint and Micro Krystal Klear drops for dials. A front cockpit bulkhead was scratchbuilt to prevent the dreaded black hole effect in the forward foot well.

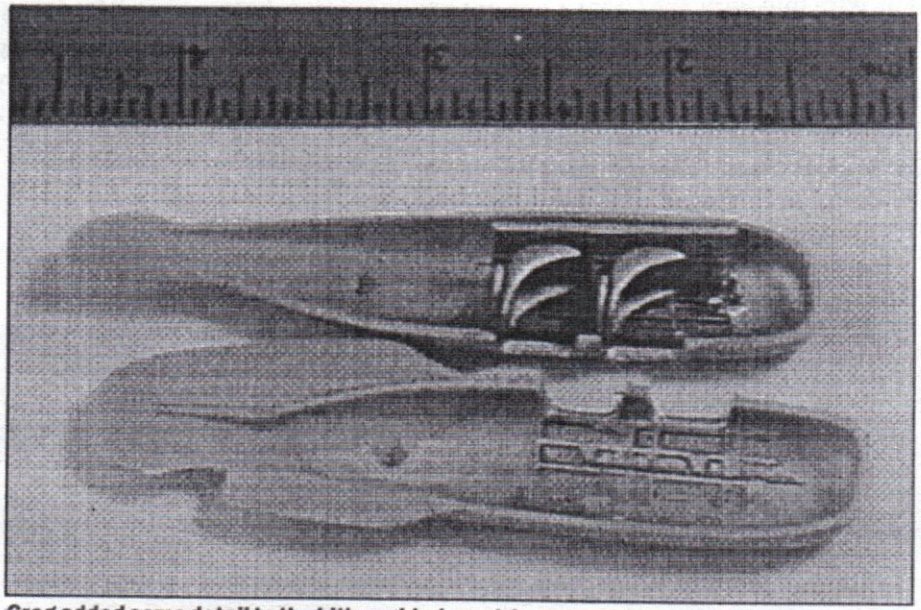
The fuselage halves were glued together with liquid cement, taking care to match things up as *Azur* kits do have alignment pins. While the engraved panel lines are very well done on the fuselage, the rudder joint line was curiously absent (the rudder and vertical stabilizers were molded with one half of the fuselage) I scribed the line on both sides. There are also blank areas where the horizontal stabilizers butt join onto the fuselage; they did not line up in plan view. I took a guess at which one was correct but they seemed to have ended up a bit too far back anyways.

One may notice that one horizontal stabilizer has a normal airfoil section like an airplane wing, while the other is inverted. This is correct as these "wings" counteracted engine torque. I added the thin stabilizer supports at this time also; these were made from stretched sprue to substitute for the crude kit pieces. Now that the fins were all in place, they could act as alignment guides for the very tricky main gear and rotor support struts.

The main gear struts provided in the kit are a bit thick, but they do clean up well with a little file work. The alternative would be to scratchbuild very thin airfoil section rods to replace the kit parts, but this model is already a headache without going through that. I glued on the horizontal struts and let them dry, making sure they were alighned. I then glued on their support struts and let them dry, making sure they were aligned. Then I glued on the main vertical struts and let them dry, making sure... well, you get the picture. These parts were all thin, tiny, usually too long, and there are five per side. Yikes!

The rotor head also has struts, two per side. I glued them onto the vague slots in the fuselage and let them dry thoroughly. The rotor head cover had a control stick and a drive shaft glued onto it. I filed the tops of the struts and glued on the rotor head cover. The cover should have had a noticeable tilt forward, but mine came out pretty much hortizontal. Oh well, at least it was on. By the way, the real cover was made in two halves just like the kit's cover is—don't fill in that seam!

Tired of struts, I cut the engine free from its resin base at this



Greg added some detail to the kit's molded-on stringers and formers. Note how the seats are simply suspended in mid-air and not attached to the cockpit floor!

The RAF used its C.30 for radar calibration tests in the 1930s. It's preserved in a British museum, shown here wearing the same codes it wore during WWII.

point. I added push rod tubes made from wire to each cylinder—they seemed to be like tiny struts. I also cut the resin exhaust ring from its mould base and superglued it onto the engine. The ring was a slightly larger diameter than the engine, meaning I had to glue one cylinder pipe on at a time and then bend the ring—very scary, but it did go on without cracking in half. The end result looks quite pleasing after being airbrushed in an overall gun metal with a rust colored exhaust. Do not paint the rocker covers silver as the directions say; all the pics of *Rotas* I've seen show black or dark colored covers.

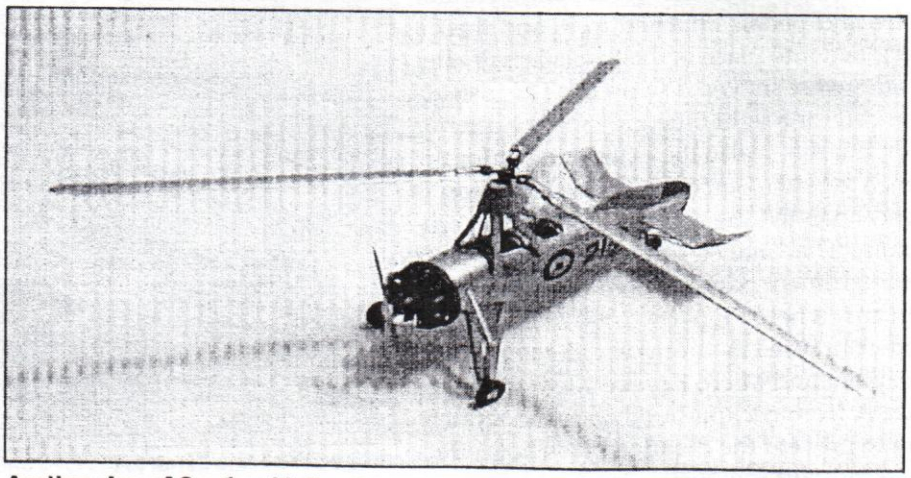
With the engine ready, the other "add on" assembly was started: the main rotor. *Azur* provides the rotor head as a thin resin part, while the blades are injection molded. This makes the unit fragile to the point of absurdity, but it does go together well with a little superglue. The rotor head has a smaller hub unit for each blade. Control straps come out of these hubs and attatch to the rotor blade. I replicated these straps with thin wire; the Crazy Glue got a little crazy doing this and made joints a bit blobby, but at least it added strength to the rotors.

At this point the model was ready for painting. The Spainish C.30 has a red, yellow, and purple horizontally striped rudder. This marking is given as a decal, but predicting that it would be difficult to get the decal settled down right, I painted the rudder yellow. Later I would use the red and purple portions of the decal to complete the rudder marking. The yellow was masked off and the body was painted in Metalizer non-buffing aluminum. The rotor head and main wheels were also sprayed aluminum. Since the C.30 was mainly fabric covered, I assumed the entire craft was silver painted, so the metal areas of the fuselage would not have to be polished to make for a natural metal finnish.

After a coat of Metalizer sealer, the decals were applied. Being from *Cartograf*, they looked good and went on well for the most part. As I predicted, the rudder color bands did not like the sharp edges there; after these decals were dry they were trimed and touched up with paint. The engine and main wheels were installed with superglue. The engine, like nearly everything on this kit, simply butt joins to the fuselage, and the limited instructions don't give a hint on it's alignment. Put it where it looks right, I guess. The kit propeller had to be cleaned up and its blades twisted before it really looked like a propeller. It was sprayed aluminum and glued to the engine shaft.

After a bath in Dullcote, the model was nearly complete. All that was left was the windscreens and main rotor attatchment. The windscreens were amazingly tiny. I've seen landing light covers bigger than these things. To make it worse, they were vacuformed on a small sheet of clear plastic were nearly imposible to cut out. I scratchbuilt new ones from clear sheet plastic using the originals as patterns. You'll need about a 1/4" square of plastic to make both windscreens. Well, actually, a lot more. There's a lot of trial and error here. The main rotor was glued on. Needless to say, this model has to be handled carefully...

There, a completed Cierva C.30. Its not the best model I've ever made, and it won't win a contest unless there's a "Spainish Autogiro" category. Some of that is my fault, some the kit's fault. On the other hand, the model is unique and was ultimately fun to build. Making a model from a limited run Czech kit is sort of like this scenario: Instead of going to Tamigawa's restaurant and having perfectly made sushi, you decide to try something different and go to a Eastern European place. The menu is hard to read and the table cloth is dirty. Your meal is braised pig hearts and yogurt soup, accompanied by a rot-gut plum liquer that could strip the chrome off a '58 Buick. You finish (or maybe not) and think "Hmm, not quite up to Tamigawa's standards, but it sure wasn't the same old sushi!" The best part is the next day when you can tell your pals you ate pig hearts. So if you're willing to try something different in model building that's not as easy as the main line kits, give some of these a try. And it's not enough to buy one—you have to build it to get the full experience!



Another view of Greg's odd, Spanish rotorcraft in its silver scheme.

1:48 *Spitfire* Mk. 18 made easier by *Aeroclub*

By Robin Powell

It seems to be a common thread in the long and convoluted history of *Spitfire* development that the most-produced variants were all introduced initially as interim types while the definitive version of each major group ended up serving in smaller numbers some time later. This was true of the Mark Vb, which was a stop-gap built while waiting for the Mark III and then the Vc, also of the Mark IX which was introduced almost in panic mode while waiting for the Mark VIII.

The Mark XIV was initially described by the MAP (Ministry of Aircraft Production) as "A useful interim type." Despite being basically a Mark VIII with a two-stage Griffon bolted on the front, it served nonetheless as the major production type in the last year of the war with great success. The variant it was built to fill the gap for was the Mark 18. This was the first *Spitfire* built from the ground up as a Griffon *Spitfire* and was originally known as the "Super *Spitfire*." Many of the improvements were internal with considerable airframe strengthening incorporated. They were all built with the cut-down rear decking and bubble canopy and featured a considerably enlarged rudder.

The Mark 18 entered service too late to see action in the war for which it was built but they flew with Nos.11, 28 and 60 Squadrons in the Far East and Nos. 32 and 208 in the Middle East. The type did see active service in the Malayan conflict, proving very adept at ground attack armed with 60lb rockets and bombs. FR.18s of No. 60 Squadron flew the last operational *Spitfire* sortie against terrorists in Johore on January 1, 1951.

For the modeller, getting a good Mark 18 or the externally similar FR.14e has been awkward. Due to the tragic and virtually un-correctable errors in the *Academy* Mark 14s, the obvious donor kits, the only routes open were grafting a new tail group to an *Airfix* Mark 24 fuselage and mating it with an e-type wing or complex vacform/injection/resin hybrids. *Falcon* did produce a complete vacform kit of the FR.18, but (unusually for *Falcon*) this kit also suffers from shape and size errors, with the engine cowling being too long and set at the wrong angle.

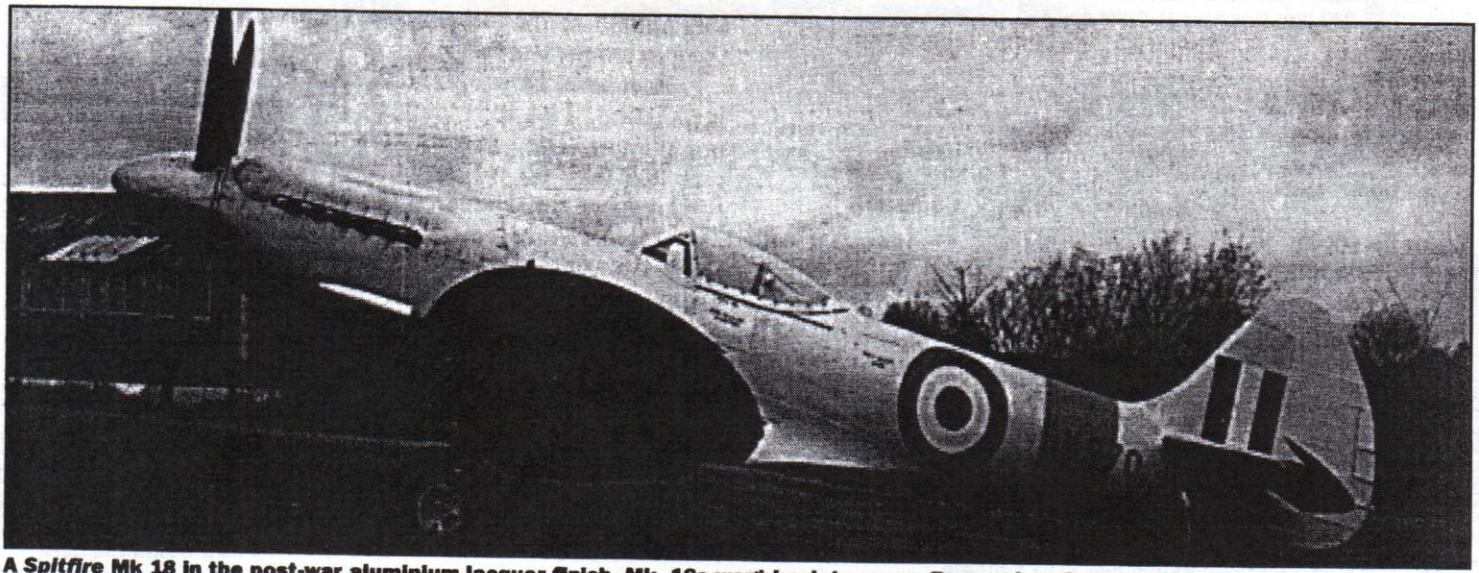
Thankfully *Aeroclub*, in their role as the accuracy police, have now released a set of parts to make building a low-back Griffon *Spitfire* pretty straightforward. Included in the box is an injection-moulded fuselage of superb outline and two more plastic sprues with spinner, propeller, radiators two sizes of wheels, tailplanes and both Mark 14 and 18 rudders. To my knowledge this is the first accurate rendition of the Mark 18 rudder, as most toolmakers seem to miss the fact that the Mark 18 fin was actually shorter than the 14 too make room for the bigger rudder horn balance. Also included is a bag of white metal parts which include various cockpit detail parts, radiator cores, carburettor air intake, exhaust stacks, tail-wheel and tail-wheel bay doors, gear legs with separate scissors torque links, two styles of wheel hubs, cockpit door and the correct shape of clipped wing tips for an FR 14e. Also included is one very clear vacform canopy.

Aeroclub suggest the use of an *Academy* wing, which can be fixed by thinning the leading edge and fattening at the 3/4 root chord point, or a *Hasegawa* Mark IX. Whatever you use, some filling is going to be needed, as no two *Spitfire* kits are quite the same at the wing root. I might end up using the vacform wing from my *Falcon* 18.

Bad points? The surface detail is a little weak and will benefit from some enhancement and the cowling bulges are moulded onto the fuselage halves and so cannot quite capture the involuted shape.

To build a really crisp FR.14e or FR.18, those of us with easy access to those sometimes hard-to-get *Cooper Details* sets can use the separate cowling bulges, the essential cockpit set (use the Mark 24 one), the three spoke wheels and the cannon barrels. Other than this, many of the after market *Spitfire* sets such as the *Eduard* etched flap set could be used.

Aeromaster included a colourful FR.18 from 60 Squadron on one of their Griffon *Spitfire* sheets and several FR.14e schemes on their "Last of the Legend" sheet. The FR.14e, with its clipped wings and low back plus the camera ports, is about the most brutal looking of the *Spitfire* variants and the FR.18 represents the end of the development of the original *Spitfire* planform. Both need modelling. It just got a lot easier.



A *Spitfire* Mk 18 in the post-war aluminium lacquer finish. Mk. 18s went back to camouflage colors for the Malaysian campaign.

Pavla's new *Whirlwind* almost nails Westland's twin

By Mark Schynert

In the context of World War II, a fighter whose total production run came to 112 airframes would be expected to have next to no historical impact. Such obscure types as the EFW C-36, Swedish ASJA J22, Blackburn *Roc*, Blackburn *Firebrand*, P-43, P-66 and N1K1 "Rex" come to mind. And then there's the *Whirlwind*.

There's a magic about the type, at least for me. Done in by an orphan engine (no other production type used the Peregrine), some official shortsightedness, relatively slow production, an undeserved reputation for skittishness on landing and a lack of airframe stretch, the *Whirlwind* nevertheless was in service from July of 1940 through to December, 1943. Used primarily as a fighter-bomber, or "Whirlibomber," it remained an effective weapon on an active front for more than three years despite next to no modifications, and without the benefit of any increase in power or range. This can be attributed to very high speed right on the deck, and concentrated firepower in a very small, sturdy and agile airframe. It was the first operational type to mount four 20mm cannon in the nose, at a time when the *Spitfire* and *Hurricane* had only wing-mounted .303 machine guns, and it was faster than the Spitfire below 2000 feet.

A *Whirlwind* shows off the white/night identification markings used early in the war.

Most remarkably, 98 of the production aircraft were lost either as a consequence of operations, or due to non-operational mishaps; this amounts to a loss rate of less than three aircraft per month over the 42-month service lifespan. In the context of WWII, this is a phenomenally low loss rate for a ground attack type.

Others have seen the magic. *Airfix* has offered two different 1:72 *Whirlwind* kits. The earlier of the two, a bagged Series 1 kit, wasn't good, with the propellers being particularly horrible. The later Series 2 offering is a pretty decent kit for the vintage, though the nacelle tops aft are much too small, and the cockpit is bereft of detail. At least it looked like a *Whirlwind*.

Roy Sutherland put out a vacuformed *Whirlwind* in 1:48 under the *Cooper Details* logo; it's a nice kit, but hard to find. Also in 1:48, the *Classic Airframes* injection kit is perhaps easier to build than a vacuform, but it ain't easy. Still, it too looks like a *Whirlwind*.

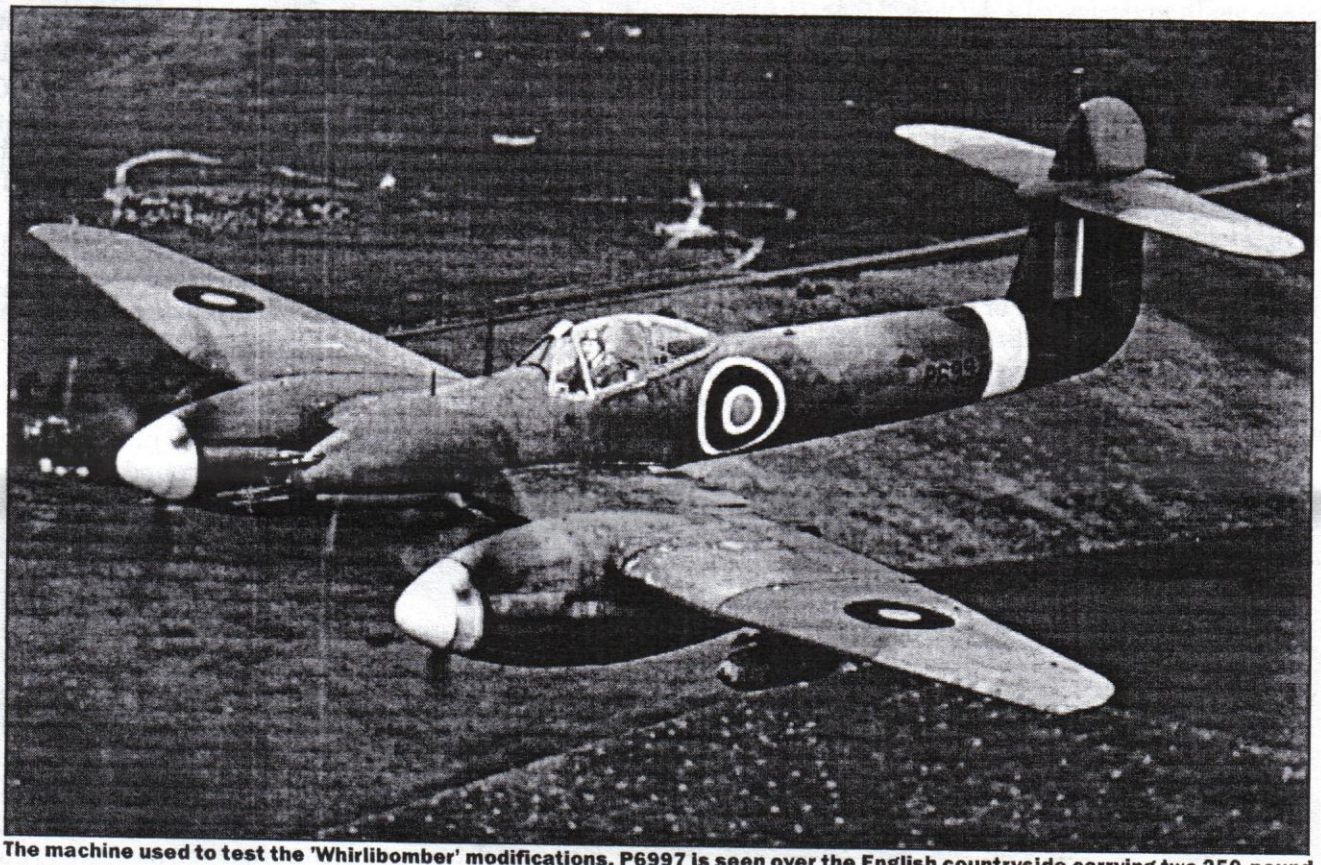
And so enters *Pavla* on the scene. They have just released a 1:72 kit of the *Whirlwind*. Provided are 52 injection-molded

A presentation machine, 'Bellows' is manned by Canadian pilot F/O J. P. Coyne. Photographed in late 1942, the machine now wears the dark green and mixed grey-over-medium sea grey scheme.

parts with some flash, but not a lot; 2 vacuformed canopies; 29 resin pieces (although I got an extra bomb); a decal sheet that provides schemes for five different aircraft (more on this later); and an instruction booklet which only demands the scratch-building of two parts, the airscrew mounting shafts.

So, how does it measure up? I take this question literally for the *Whirlwind*. Inasmuch as I have a detailed 1:72 drawing for the Whirlwind by Alfred Granger (*Planes* Magazine, October 1984 issue), I checked as many parts as I could against the drawing. I am assuming I have an accurate drawing, the following observations are founded on that assumption.

The fuselage, tailplanes, prop bosses, prop blades, and drooping nacelle aft sections all look to be right on. The canopies lack the small oval punch-out feature, but they are included as a decal, and there's a resin bit for the rearview mirror. They are otherwise accurate. The wings are too narrow in chord to the tune of about a millimeter. This is neither easy to fix nor of much concern, but it does explain the biggest defect: the nacelles are too short.



The machine used to test the 'Whirlibomber' modifications, P6997 is seen over the English countryside carrying two 250-pound bombs.

The shortness is all at the back end, to the tune of a little less than two millimeters. It doesn't sound like much, and in fact, the problem might not be noticeable once the model is built. I certainly hope not. But there is good news about the nacelles: the problem *Airfix* had with the aft top area is done more nearly right by *Pavla*. I think it's still a little small, but it's definitely closer to correct.

The resin is for the most part very nice. The four-spoke wheels with tires could be crisper, but they are the right shape. The cannon look good, as do the bombs.

The interior pieces look good, except for a couple of levers on either side of the seat that are molded integrally with the floor. In my kit, these are bent, and will be hard to straighten. One note about the cockpit: it appears to be the late standard, but one of the aircraft, P6974, had the early standard cockpit. The differences are small, especially in this scale, but consider yourself warned.

The surface detail of the model is nicely engraved The most problematic piece in the entire kit is the four-inch-long droppable flap, also of resin. Mine is slightly warped. As thin as the piece is, it will probably fit snugly in the raised position, but I have my doubts about its appearance if it is dropped.

There are a couple of other minor defects. The insert to depict the radiator detail is lame and I suspect I will sand it flat and build the detail myself. The rudder surfaces bellow the tailplane are not hollow-ground (concave) as they should be. This would be easy to add, as the only detail needing rescribing would be the trim tab.

The decals are printed by *MPD*. As mentioned, serials are provided for five aircraft: four from 263 Squadron, the premiere *Whirlwind* unit, and one for a 137 Squadron machine. These two were the only ones to use *Whirlwinds* on operations, but the first unit to fly *Whirlwinds* was 25 Squadron. There are letters on the sheet to describe the unit code for 25 Squadron (TZ), even though the letters are included as individual letters to go with the 263 Squadron code (HE). One can form a sixth serial (P6967) from the others on the sheet to mar a 25 Squadron machine, although the correct individual aircraft numbers are unknown. Likewise, other combinations are probably possible to generate markings for other 137 or 263 Squadron aircraft. All in al, it may be possible to come up with ten or more sets of markings from this sheet, given the compact serial run and the limited number of squadrons. One can also fabricate the serials for P6994, evaluated by the U.S. navy at Anacostia, perhaps for comparative trials with the XF5F *Skyrocket*.. A *Whirlwind* in blue? That would be different.

I hope this one builds as nice as it looks in the box. If it does, I might buy a squadron's worth.

Techniques for painting WWII U.S. Navy ships

Continued from page 1

easier. You can make the lighter colors by adding white to a darker color other than 5-N. For instance, you can mix 5-L/Light Gray by adding five parts white to one part 5-O/Ocean Gray. Likewise, you can make 5-P/Pale Gray by adding five parts of white to one part of 5-H/Haze Gray. The breakdown for the lighter colors works the same for both enamels and acrylics.

One last thing on getting an accurate look: follow the formulas when making the various lighter grays, but lighten the 5-N/Navy first for the scale effect. I generally use (for 1:700) one part white to four parts of each beginning batch of 5-N/Navy blue, then add the corresponding white for the grays.

Color	Amount of white needed to make color
5-0 Ocean Gray	1 part white + 1 part 5-N Navy Blue
5-H Haze Gray	5 parts white + 1 part 5-N Navy Blue OR 2 parts white + 1 part 5-0 Ocean Gray
5-L Light Gray	11 parts white + 1 part 5-N Navy Blue OR 5 parts white + 1 part 5-0 Ocean Gray OR 1 part white + 1 part 5-H Haze Gray
5-P Pale Gray	35 parts white + 1 part 5-N Navy Blue OR 17 parts white + 1 part 5-0 Ocean Gray OR 5 parts white + 1 part 5-H Haze Gray OR 2 parts white + 1 part 5-L Light Gray

The secret, then, is getting the correct 5-N chroma (shade of blue) and reflectance (light or dark). If you can use acrylics, *Polly Scale* has most of the paints, including a fairly accurate 5-N, down to the 5-H, and the Deck Blue 20-B. I do not use their 5-L or 5-P because of the previously mentioned yellow tint. The 5-L and 5-P can be duplicated by mixing any of their darker colors (5-N to 5-H) with the *Polly Scale* RLM white (check the above formulas).

If you like enamels, you have one and a half choices. *Snyder & Short Enterprises* sells the small tins of *White Ensign's Colorcoat* paints to match their WWII paint chip charts. The paints are in tins similar to the *Humbrol* packaging. *S & S* is doing fine work in color research covering all the navies of WWII and you will find their products to be accurate. Their address is:

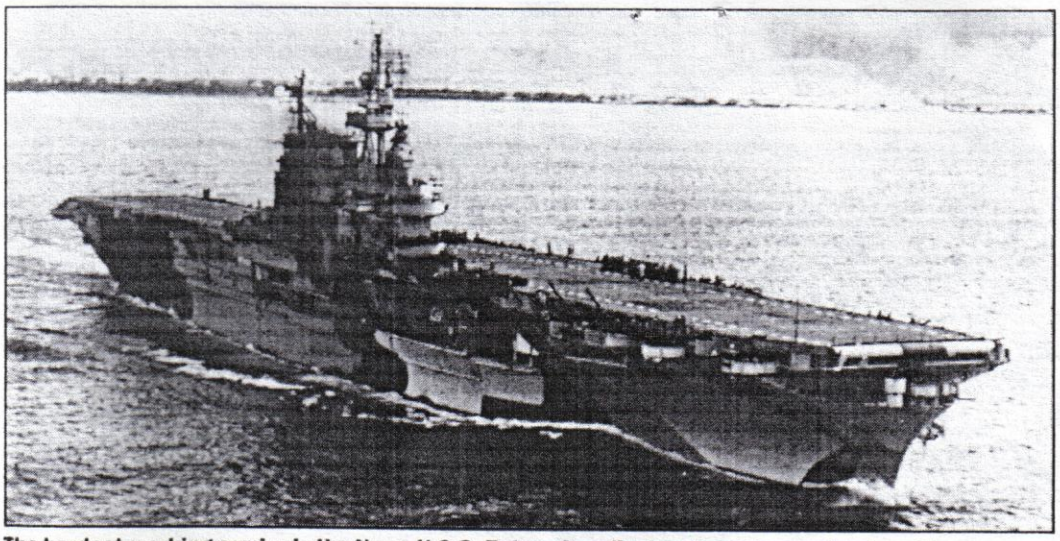
S & S Enterprises
PMB 224
9175 Kiefer Blvd.
Sacramento CA 95826
www. shipcamouflage.com

At present, my personal paint source is an old collection of *Humbrol* paints also packaged in tins. Unfortunately, the colors I use are no longer in the *Humbrol* catalog, so you'll have to dig up replacements for the 5-N formula (thus the one half choice). When my old *Humbrol* dries up, I'll have to continue with *S & S* or *Polly Scale* paints. I use one can each of *Humbrol's* old HU-3/Neutral Gray (a USN aircraft color) and MC-8/French Blue to make 5-N/Navy Blue, then mix down with quantities of white for the lighter grays. Yes, I know: the dreaded mixing thing. Well, with any of the aforementioned paints, mixing is a way of life because of the scale effect problem. You see, all these paints (enamels and acrylics) match (1 to 1) the official USN paint chips and as previously noted must be lightened for smaller ship models anyway. Remember: mixing is not a four-letter word! I got used to it and now have my own set of mixing spoons and bottles, rubber gloves, spill pan, paper towels, drop cloth and bib. If this klutz can do it, so can you.

Why all this fuss about the right shades of blues and grays? Thanks to the release of many WWII photos with good color survivability, I've seen these colors and they are tons better than the just gray you see in black and white photos. Would you paint a model of a Sherman tank or a Thunderbird jet different shades of gray? Like any other modeling, you want to shoot for some degree of accuracy. Besides, some IPMS judges are beginning to learn about the true WWII camouflage colors, and it could help you in a contest someday.

Now that you have an idea of what colors to use, let's talk about how they were applied to ships. During the beginning of WWII, the most common dark blue was Sea Blue/5-S, a shade lighter than 5-N/Navy. By lighter, I mean it can be mixed with one part white to three parts 5-N. It was used for the overall blue paint job designated measure 11 but was also

The U.S.S. *San Francisco* at the anchorage at Ulithi Atoll on Oct. 13, 1944. The ship wears a Measure 33-13D camouflage scheme.



The hardest-working carrier in the Navy, U.S.S. *Enterprise*, displays her late-war dazzle pattern.

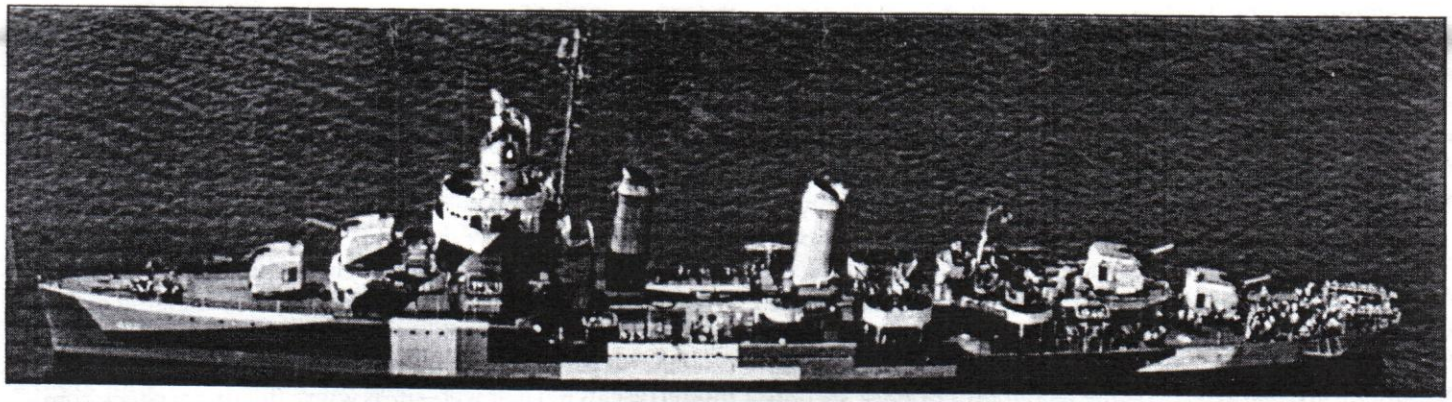
used in a graded painting called measure 12 which included 5-O and 5-H, with the darkest colors at the waterline working up to the lightest at the top. Since the directives also specified that irregular separations could be used at the commanding officer's discretion, the dividing lines soon turned into splotches, giving vent to all the creativity the master chief could muster.

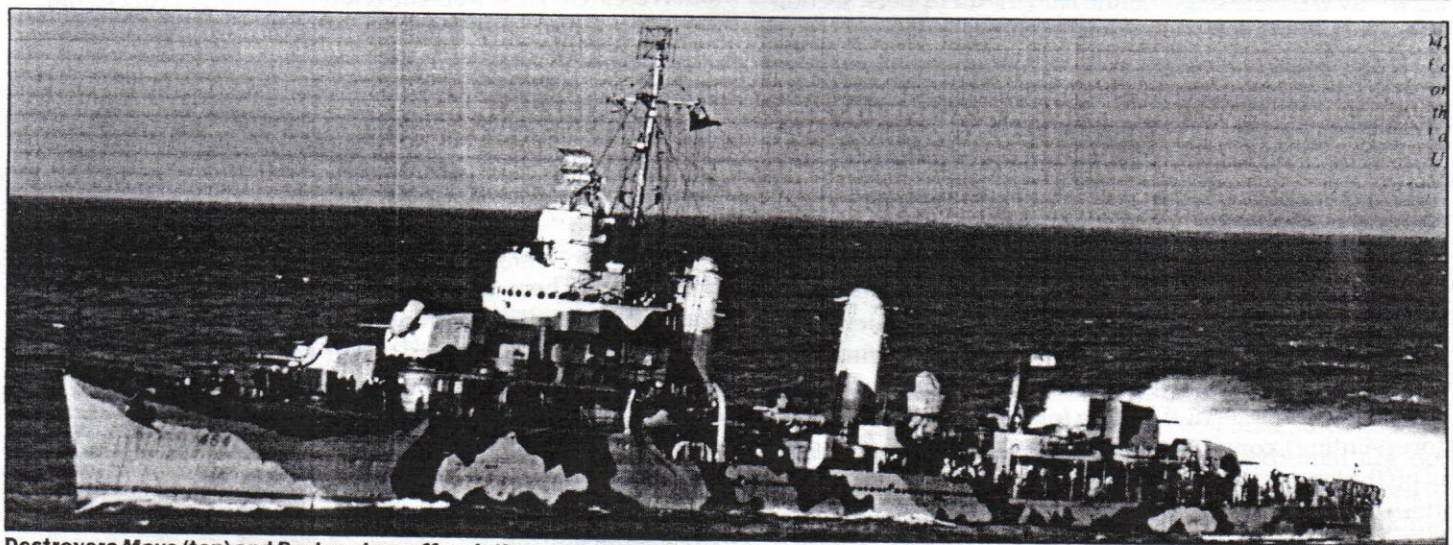
During the first year of the war, there was some format of application even though many examples seem to contradict this. Most ships in both theaters carried the measures 11/solid 5-S or measure 12/graded blue and grays with all decks painted deck blue. The only way you can be sure of how the measure 12 was applied to the ship you are modeling is to, of course, check the photos.

For example: the USN lost three heavy cruisers off Guadalcanal on the night of Aug. 9, 1942. You decide you want to model one or all of them. Get thee to the hobby shop to purchase the Warship Pictorial 7 by Classic Warship Publications entitled *New Orleans Class Cruisers*. In it you will find short profiles of *Astoria*, *Quincy* and *Vincennes*, the three ships lost. You'll find photos showing the last two in measure 12/dapple camouflage as well as other small details.

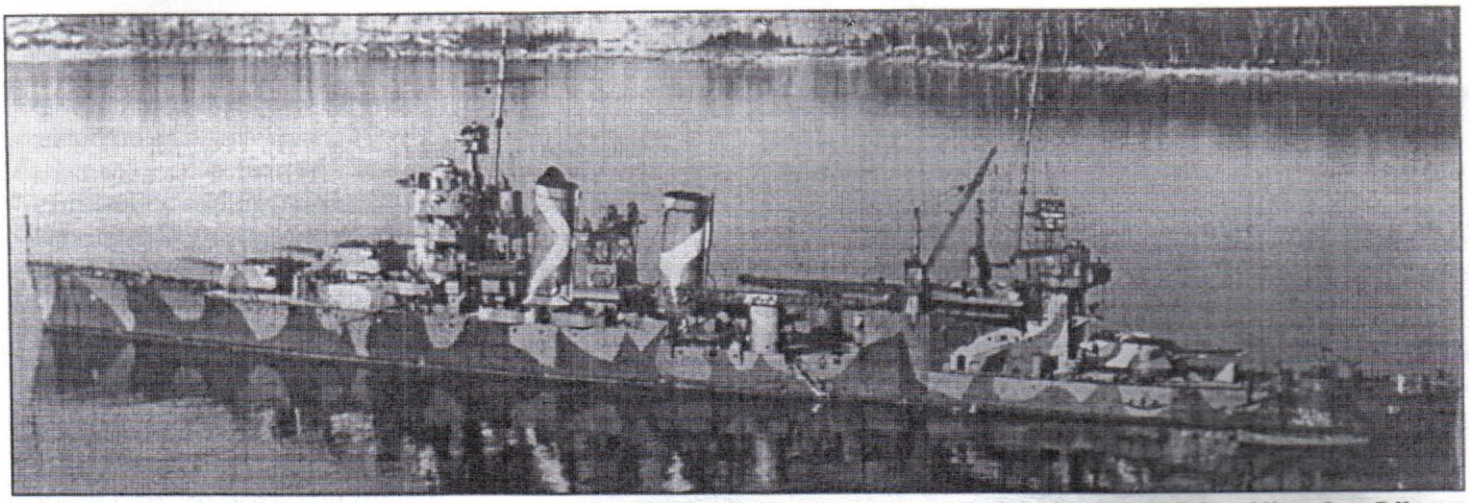
So, how do you apply that camouflage to the model? It depends on whether you use an airbrush (as I do) or a paintbrush (as I can't seem to do, at least very well). For the airbrush, the following will be helpful. Let's say that you're going to do the previously mentioned measure 12 of the *Quincy* and/or the *Vincennes*.

First, paint the hull sides dark blue (most likely 5-S) and, when dry, mask off the hull with those irregular lines already cut out of the tape. Next, paint the upper works with the Haze Gray (5-H) and then start cutting the small patches of tape to





Destroyers *Mayo* (top) and *Barton* show off variations on a theme. These photos show why having references to the specific ship you're building is so important.



U.S.S. *Tuscaloosa* at Scapa Flow in 1942. The colors are, from darkest to lightest, Navy Blue 5-N, Ocean Gray 5-O and Haze Gray 5-H.

cover that area. This will leave the middle area free to spray on the Ocean Gray (5-O). Remove the tape and you will have a three-color version of the measure 12 camouflage. This is how I did my U.S.S. *Hornet*/CV-8 in 1:700, which worked out reasonably well. I followed that with a model of the U.S.S. *Fletcher*/DD-445 also in measure 12 as of 1942, using the same method. True, the carrier was easier since it was larger, but both were fun to do.

For the brush, I still think you should use an airbrush to apply the 5-O/Ocean Gray over all of the model, then come back with the 5-S and 5-H using the hand brush.

Now, it's time to throw a monkey wrench into the works! About the decks: it is difficult to paint them with the model completely assembled. There may be overhanging bridge wings or some items in the way of brush or spray. You will have to pre-paint many of the parts or sections of the model's decks before assembly, so plan ahead. First, put together many of the sub-assemblies, keeping painting in mind and dry fitting as you proceed. Consider the complete painting of each sub-assembly (sides and deck) before final assembly.

Another monkey wrench: when do you add the photo-etched railings? It is a matter of choice most of the time. If you're going to have some masking tape running above the deck level with railings, you could pull the railings loose when the tape is removed, so plan ahead (again). Sometimes the railings are painted the same as the hull or deck section below the rails but that's too minute a detail to sweat over, so what ever you see in the photos, do it. Also, if your super-glue will discolor or not adhere to the paint, then put the photo-etch on first.

During the 1943 to early 1945 period, the USN / Bureau of ships (BushipS) issued specific designs for camouflage of all ships to counter the threat of aircraft and submarine torpedo attacks. The designs were created mainly as a course deception device since concealment was considered impractical for large vessels. The tricky part of applying these patterns lies mostly with the complex curves of the hull (bow flare and stern).

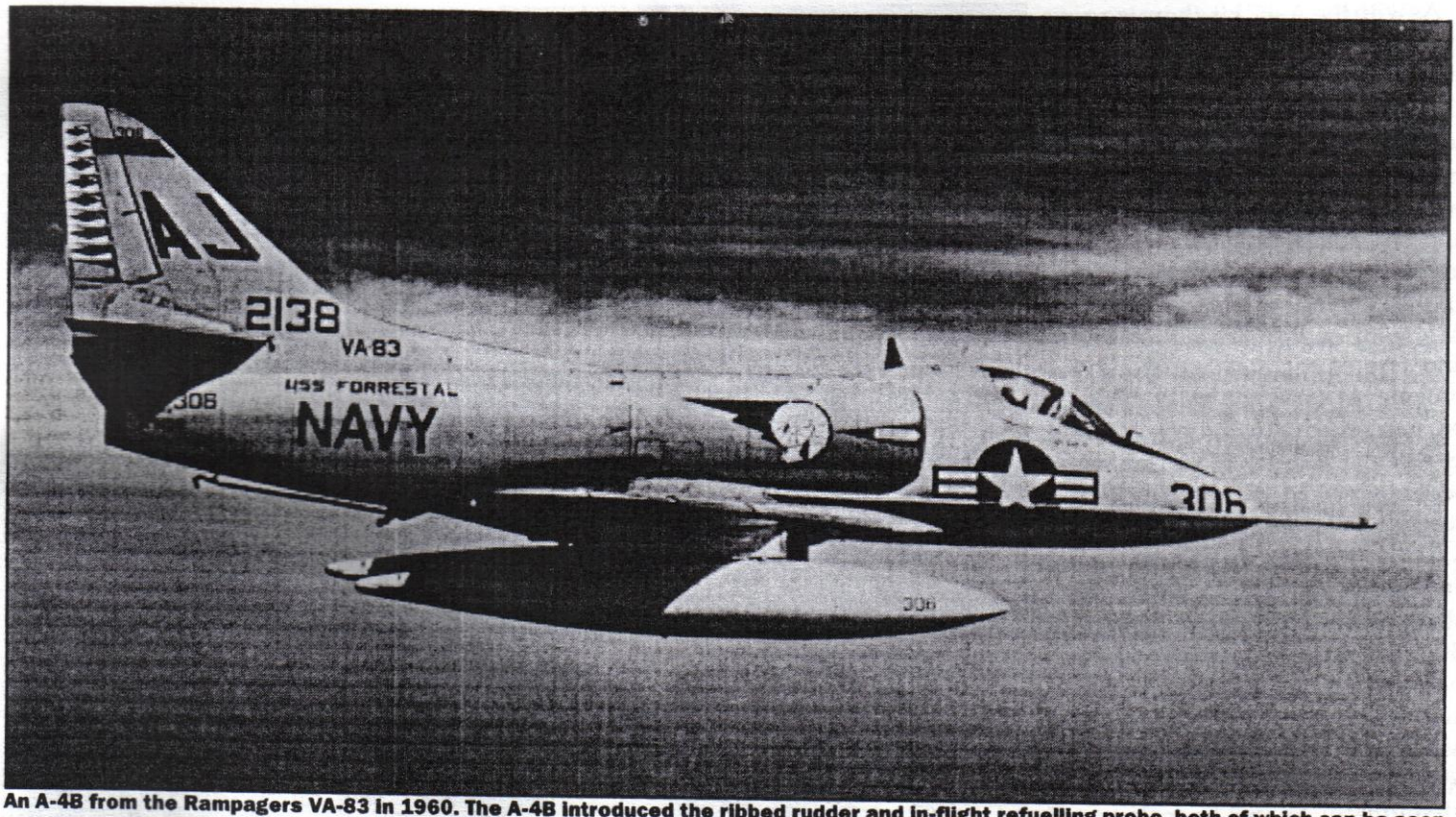
I add tape to another hull casting (or the one I'm working on before painting), completely covering the hull sides, and then I cut off the tape along the deck and waterline. Next, I draw the pattern from the photo or design sheet onto the tape while looking straight at the hull profile. I do one for each side since most patterns were not a match from port to starboard. I then transfer the tape from the hull to a flat metal or plastic surface and cut along the pattern lines with an X-acto blade. Notice the hull will show you a much different profile by curving downward at both ends; this will be most prevalent on aircraft carriers and any vessels with high freeboard.

I mark the various sections of the tape's pattern with the color that it will cover. Paint the first color of the pattern on the hull and cover it with that color's tape section, then repeat the process for the next color. The final color can then be applied to the rest of the hull (providing, of course, that it is only a three color pattern).

I also like to paint the more detailed part of the hull last since the tape may not lay flat enough to prevent seepage. By the way, there was a six-color pattern applied to two *Essex* class carriers during this period using all five blue-grays and black! Any takers?

Reproductions of all the known design sheets and a list of those USN ships using same are available from the Floating Drydock in Kresgeville, PA 18333., along with two fine booklets (*USN Camouflage of the WWII Era* and *USN Camouflage 2/ Fleet Carriers*). They also have a color chip card offering six samples of the 5-N through 5-P & 20B. Their material covers as many details on this subject as you could ever need as a ship modeler. It just depends on how far you want to go in your model research. Their web-site is www.floatingdrydock.com. They have a catalog listing, among other things, for a collection of 19 photo catalogs, each containing about 300 photos with 1" square proofs of each photo. If you're a research junkie, you'll find this to your liking. To get the price of their catalog, inquire at their E-mail address drydock@ptdprolog.net .

Earlier, I mentioned the Classic Warships Publishing series by Steve Wiper and you might look for these booklets at your hobby shop. There are now more than a dozen of these "Warship Pictorials" covering either a single ship or a whole class and fortunately, more are on the way. They are very useful for painting and detailing and some include plans as well as camouflage design drawings. Also, *FineScale Modeler* has done two books, *Basics of Ship Modeling* and *Building & Detailing Scale Model Ships*. They are not too strong on camouflage but if you're starting on your first ship model and want to do a good job, you'll find these publications quite helpful.



An A-4B from the Rampagers VA-83 in 1960. The A-4B introduced the ribbed rudder and in-flight refuelling probe, both of which can be seen clearly in this photo.

Hasegawa gets good grades for its B-model *Skyhawk*

By Bradley D. Chun

At the end of World War II, carrier-borne jet fighter development advanced at a brisk pace, but work on jet ground attack aircraft of similar capabilities did not. This essentially forced the U.S. Navy to rely heavily on the propeller driven AD *Skyraider* and F4U *Corsair* to carry out the ground support/strike missions throughout the Korean War.

While the Navy was fully aware of the necessity for a new aircraft capable of performing these crucial missions, the appearance of the MiG-15 in the Communist arsenal during the conflict required throwing virtually all military design efforts into coming up with a fighter capable of besting the Soviet-designed fighter, leaving very little left in the R&D account for ground attack aircraft.

However, once the urgency of the Korean Conflict diminished, the Navy was ready to move on with its developments in this area. In the early 1950s, this was tasked to the design team at Douglas Aircraft to come up with the next generation of carrier-borne ground attack aircraft.

Douglas, utilizing the latest and newest in light aircraft design technology, came up with a proposal for a small jet weighing in at a mere 6.8 tons, and with a wingspan of 27 feet 6 inches.

Douglas was awarded with the Navy contract, and what has become known as the A-4 *Skyhawk*, "Heinemann's Hot Rod," "Bantam Bomber," "Tinker Toy," or "Scooter" made its maiden flight on June 22, 1954.

Ed Heinemann's design team emphasized rigid control over equipment weight while using basic structural concepts to build a strong airframe. The result of this was that the A-4 came in at half the maximum weight set forth in the Navy specification.

The A4D-2, or A-4B, was an upgraded version of the earlier A4D-1 (A-4A) model. It featured a J65-W-16A powerplant, relocated targeting devices, a strengthened rear fuselage, an improved cockpit and a new hydraulically-powered rudder. The A-4B subsequently received an in-flight refueling probe, which gave it unlimited range. A total of 542 AD4-2s were manufactured before Douglas switched to the A-4C. A total of 2,960 *Skyhawks* were built over 26 years until the production line closed in February 1979.

With the previous *Hasegawa* release of its other 1:48 "Scooters," the A-4E/F and A-4C, it would only be a matter of time before *Hasegawa* released an A-4B. *Hasegawa* finally released the A-4B, but apparently in limited numbers, so if you want one, get it now.

So what comes in the kit? Well, for those who have the previous releases, it won't be a surprise to find nine light gray colored injection molded sprues, one clear sprue, a decal sheet, and instruction sheet.

As with the previous releases, *Hasegawa* has included much of the same basic or shared parts for this variant. As with the A-4E/F and A-4C kit, sprue A contains the fuselage and fuselage-specific parts, sprue B contains the upper wing and landing gear doors, sprue D contains the lower wing and slats, sprue E contains the cockpit tub and turbine face, sprue F, of which there are two, contains the tailplanes and underwing fuel tanks, sprue G contains the intake, and sprue K contains the nose ad instrument panel. Parts that are not specific to the A-4B variant are shaded and can be relegated to the every-growing spare parts box for future scratch-building and detailing use.

As with the A-4C kit, there is a new sprue for the intake, nose, and instrument panel. Sprue M contains the canopy and windscreen. The unused parts include the avionics hump, *Sidewinder* rails, outer underwing pylons, bent refueling probe, and other fiddly bits. The parts are molded without any flash, but because they are all packaged in one bag, some of the parts are scratched, and one of the slat actuators was broken. At least the clear sprue is bagged separately. I guess it would be asking too much to bag the sprue separately like some other manufacturers.

The instruction sheet is the typical *Hasegawa* multi-fold instruction sheet. It contains a brief history of the A-4B, 13-step assembly process, parts layout, paint guide/reference, and painting and markings section. Modelers will need to pay attention to assembly steps 4 and 5, as there are numerous panel lines that need filling and "erasing." Don't forget to add weight in the nose.

The decals are provided for two versions. The first version is an A-4B, BuNo. 144852, and was assigned to the "Blue Hawks" of VA-72 and the Commander of Carrier Air Wing 7, and the second version is an A-4B, BuNo. 144954, assigned to the "Gladiators" of VA-106 and the Commander of Carrier Air Wing 10 aboard the U.S.S. *Essex*. *Hasegawa* has now provided the red areas under the slats and inside of the flaps as decals. Separate number decals are provided for those who will be painting these areas red.

At top, a VA-164 A-4B loaded with bombs for a practice mission from NAS Kanehoe; bottom, the CAG bird for *Essex*'s air wing carrying a nuclear shape.

A couple of nice touches *Hasegawa* provided on the decal sheet are separate "Navy" markings for the air brakes. Now you won't have to worry about separating the decals and risking tearing them. There are also separate decals for the colored sections for the ribbed rudder for the CAG aircraft.

Now that *Hasegawa* has released the A-4B, A-4C, and A-4E/F, one can hope that they will release a late-F, -H, -M, -N, TA-4J, and maybe even the OA-4M. There is a mold part line inside of the fuselage at the rear fuselage section suggesting other future versions. (We could really use a 1:48 TA-4J!) Hopefully an aftermarket company will release a resin T-63 shape or buddy-refueling pod in the near future. I'm not holding my breath though as they are obscure specific items, and one may want to scratch-build these detail items. Maybe I can finally use those *Bullpup* missiles that are in the *Hasegawa* weapons kits.

A VA-163 A-4B over the Florida coast in 1960. Note the lightning bolt above the 'AH' modex..

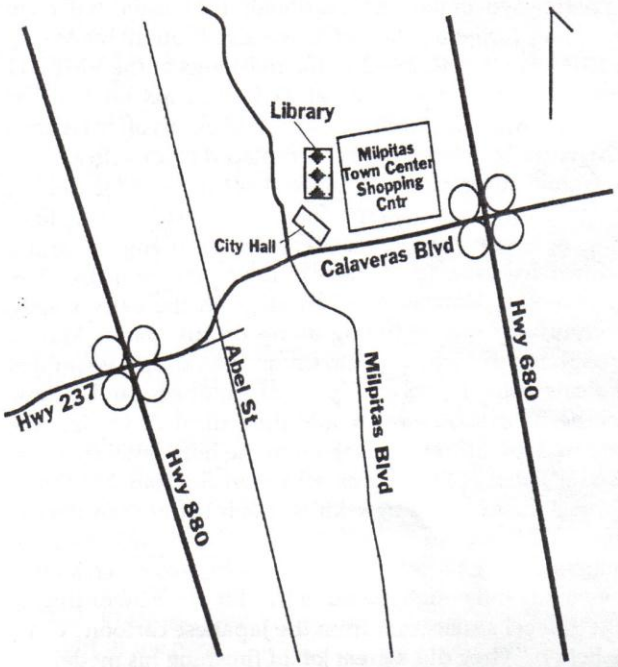
JULY MINUTES

At the June meeting, some members were getting ready for the IPMS Nationals, but others were simply busy building models. we had very little business to discuss, and instead we could dive right into model talk!

Gabriel Lee is building a big collection of Venezuelan Air Force subjects. His latest is an F-86F *Sabre*, which he built from the *Heller* kit. Gabriel says these planes were sold to Bolivia, who flies them to this day. Gabriel's also working on a big resin model of the SA-43 *Hammerhead* from the television show "Space: Above and Beyond," which has required plenty of detailing and the eradication of many pinholes. Peter Wong did a splendid job on his *Lindberg* "Blue Devil" *Fletcher*-class destroyer, which he built along with his son. The model was finished in an assortment of paints from Orchard Supply Hardware's in-house spray-paint selection! Bill Bauer has the parts of his resin Cadillac racer assembled with white glue; Bill will probably build the silver factory car, although he says you can also get the markings for a French car. Mark Schynert spent a whole year wrestling with his *Modelist* Polikarpov I-195, which he describes as the last of the I-153/I-16-influenced aircraft. Mark's also making progress with his Supermarine *Seagull*, which is going together well except for the horizontal tail, where faulty drawings led him astray and he'll have to correct the dihedral. Braulio Castillo finished three matching *Hasegawa* F9F-6 *Cougars* in the markings of the Moffett Field-based VF-191. Jim Lund used the *Broplan* kit and some modification to built the Henri Farman F.60 *Goliath* as the first major airliner. The model, like the real airplane, started out as a bomber. Greg Lamb built an Fw 190A and a Bf 109G-14 out of the box from *Hasegawa*'s 1:72 kits. He used *Model Master* paints to finish his German fighters. Roy Sutherland is making some improvements to the *Grand Phoenix* Fairey *Firefly*, namely the wheels, spinner and cannon barrels. These may someday become *Cooper Details* parts. Tom Orsua is trying out *SnJ* metallic paints on a 1:144 707. Eventually, the model will be finished in TWA colors. John Heck's *Collect Aire* YF-23 *Black Widow* comes from a good master, but John says the casting is a little rough. Vince Hutson's efforts to build a 1:32 *Seafire* Mk. III are coming along; Vince has added detail parts from *Airwaves* and *Eduard* to the *Hasegawa* kit. Randy Ray hopes that all models of real subjects are as detailed as *Fine Molds* "Star Wars" TIE fighter. Also waiting for attention from Randy is *Academy*'s new M141 MUTT in Israeli guise with a few new parts added to the original M141 kit. Lou Orselli is rehabilitating an original *Aurora* mummy, which suffers from a broken foot and a missing hand. Lou's used paints from *Humbrol*, *Testors* and the *Model Master* line to add life to the monster and the Egyptian ruins of the base. Lou's also sticking to his Italian subjects, although in a smaller scale; he says the *Sweet* kit of the Macchi C.200 is very nice, even though he had to scratchbuilt a cockpit, instrument panel and seat in 1:144. Ron Wergin added the *Eduard* set to the *Academy* 1:72 Fw 190D-9; he says it's a really cool set, but it's hard to see once the model is done. Also on the table from Ron were his two Zeros, one from *Tamiya* with *AeroMaster* markings and the other from *Fujimi*, with the kit markings, attended by the figure from the *Tamiya* kit. Ron's other passion is 1:700 warships; his *Tamiya* 1:700 IJN *Ibiki* was testimony to this. Chris Bucholtz is working hard on his CF-100 detail set to try to have it finished for the IPMS Nationals; the masters will form part of an *Obscureco* detail set. Chris also brought his *Matchbox* F9F-5 *Panther*, finished in the markings of the VMF-311 plane flown by baseball great Ted Williams on his first combat mission. Ken Miller took the bad decals off his Airbus A320 with a Scotchbrite pad and replaced them with a much better (and more correctly placed) set in time for the big national airliner show. Ken's also got his first Aloha Airlines 737 complete, a 737 QC that features resin engines and a modified fuselage. Ken's next airliner may be a BAe 146, which he has a vacuformed fuselage in the early stages. Laramie Wright is trundling along on his *Italeri* "Marine Corps Sherman," which is actually an M4A2. He's assembled the cleats, added a second layer of sandbags, and is now hypothesizing about how to add the nails used to dissuade Japanese sapper from leaping on to the horizontal surfaces. Laramie's also got his sights set on an *Academy* M3 Stuart "Honey;" he says this new kit is much better than the old Tamiya kit, has a reasonably good interior and well-detailed armament. Greg Plummer likes cartoons—so much so that he went out and bought *Bandai*'s 1:72 kit of the Swordfish II, Spike Spiegel's spaceship from the Japanese cartoon "Cowboy Bebop." Greg did a great job of finishing his model in a red paint job. Chip Harrison used nothing but what comes in the kit to build the *Hasegawa* Bf 109E-3, which he says is a great kit. Chip used *Polly Scale* paints to finish his fighter. Frank Babbitt started with a somewhat crude short-run kit from *Hi Tech* that he picked up last year at the U.K. Nationals and ended up with a spectacular Israeli *Mystere* IV. Frank added a metal spar to help the model behave; a book from the Israeli IPMS helped him to flesh out the details. Jim Lewis used everything short of explosives to put together the *Jaguar/Hobbyfan* M551 Sheridan. Jim says this resin kit was so warped he had to stand on it to join the upper and lower hulls! Other than the fit, Jim says, it's a very well detailed model. A bit easier was Jim's *AFV Club* M10, finished as "Babs." Jim added all the stowage, pioneer tools and other exterior details. Cliff Kranz is looking forward to building some 1:35 FAMO tractors with personalities all their own; toward that end, he's laid hands on a Czech-made resin crane that will adorn the rear deck of one of his models. Bob Miller saw a little kit of the PWB-5, a Polish lightplane of the 1930s, and took pity on its awful box art! Bob took the model home, did some work on it, and the result was a neat little model. The real plane crossed the South Atlantic in 1932! Mike Burton has been very busy; his models include a *Hawk* C-131 Samaritan that he first built when he was 14 and is now trying to repair and refinish it up to his current skill level. Mike's building two *Widgeons* side by side—the old *Airfx* and the new *Pavla*—for an upcoming article. He wrote last month's article on the P-63F about the *Toko* kit he had at the meeting, converted into a tall-tail version with the *Obscureco* parts Mike made the master for. He's also got double vision when it comes to *Hobbycraft*'s 1:144 B-47s; he had an RB-47H and a B-47B in almost completed condition at the meeting. A fun

(note: preceding minutes page is in fact, one page as recorded, cut off as you see. Real life history!)

Milpitas, until further notice!



Next meeting:

7:00 p.m., Friday, August 16

at the Milpitas Public Library

40 N. Milpitas Blvd.

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