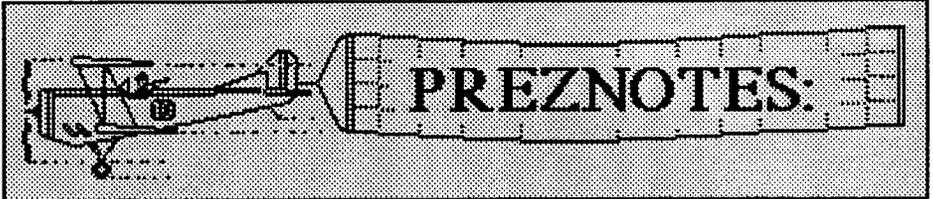


# Seattle Chapter News



Seattle Chapter  
IPMS-USA  
March, 1998



I ran into a modeling acquaintance recently at the local hobby emporium. We were standing around as usual chatting about the latest kits on the market, how high priced some of them are, and what we were currently working on. He told me of a number of his recently completed models and I told him what I had been working on. We exchanged a few ideas for problems we were both having and I told him that I hope to see some of his latest models at the next model show. His reply was "Nah, I don't take my models to contests any more. IPMS members don't like what I build." I tried to convince him otherwise but he said that he had been burned at too many contests and so he was not even going to show up any more. I am still trying to convince him that he should bring his models even for display only, if nothing else, to show off his beautiful work and to let all of the "hardware" builders see another area of modeling that not too many of us are familiar with. That area is large scale figures. It is an area of modeling that has grown a great deal in the last few years yet few IPMS'ers are aware of it. It started basically as a "garage kit" hobby - a few people making resin cast copies of figure subjects and offering them to friends and modeling colleagues to becoming a major segment of the hobby with former garage kit manufacturers now mainstream modeling companies. Even some major model companies are jumping onto the bandwagon. Subject matter is as diverse as imaginable including movie characters, sci-fi and comic book heroes, Japanese Anime characters, monsters, fantasy subjects, sci-fi hardware and many others. Scales are also varied but tending towards the large such as 1/6th, 1/16th, & 1/12th scale and smaller. Many of the models are resin cast and there are also a growing number of models that are molded in vinyl. There are a few injection molded models as well, but they are the exception. One company, Polar Lights, is taking some of the old Aurora (Polar Lights - Aurora, get it?) kits and generating new tool releases based on some of the old Aurora monster kits for which the molds are long since gone. They are making a new tool off an existing molded plastic kit, reprinting the instructions and using the old aurora box art. There are at least 4 glossy publications including Amazing Figure Modeler, Modelers Resource and KitBuilders, that deal exclusively with the hobby. There are numerous contests and shows devoted only to these

types of models, usually tie ins with science fiction or comic book conventions and also drawing from the movie industry (some special effects artists in Hollywood have released models of some of their handwork that has appeared on the big screen). A number of figure sculptors have made quite a name for themselves in the industry - Mike Cusanelli, John Wright, Joe Laudati among many others have achieved a large measure of fame for their works. There are hobby shops in California and the east coast that specialize in nothing but figures as well as a number of large mail order houses. Building one of these models can be a challenge if all you have ever had to worry about is making sure the decals are on straight. Whole new techniques are required to assemble and paint resin or vinyl models. Try hefting a few pounds of resin around your work bench trying to paint details that don't even exist on smaller subjects. Vinyl models are another entirely new ball game. Solvent based paints don't dry on vinyl models so you have to use water based. If your model shelves are vertically challenged, you may have problems as most figures are standing very tall, sometimes well over 12". But, if you have ever wanted to model the Robot from "Lost in Space" (Danger Will Robinson!), Boris Karloff as Frankenstein, The Joker from "Batman" or even Raquel Welch from "1 Million Years B.C.", then you might want to try modeling in a different medium. It will certainly tax your abilities as a hardware modeler and give you something challenging to work on. As with injection molded models, some resin and vinyl kits are VERY expensive and are not for the weak of pocket book. There are also some very reasonably priced models as well. I definitely would not dismiss this area of modeling. It is growing very fast and looks like it is going to be with us for a long time.

See you at the meeting

Terry

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### Seattle Chapter Contacts

President:	Vice President:	Treasurer:	Editor:
Terry D. Moore 3612 201st Pl. S.W. Lynnwood, WA 98036 Ph: 425-774-6343	Keith Laird 528 South 2nd Ave Kent, WA 98032 Ph: 854-9148	Norm Filer 16510 N.E. 99th Redmond, WA 98052 Ph: 425-885-7213 Net: nfiler@wport.com	Bob LaBouy 2777 70th Place S.E. Mercer Island, WA 98040 Ph: 206-232-7784 Net: ok3wirebob@aol.com

**Boiler Plate:** This is the "official" publication of the Seattle Chapter, IPMS-USA. As such, it serves as the voice of our Chapter and depends largely upon the generous contributions of our members for articles, comments, club news, activities, any rumors or facts involving plastic scale modeling and other contributions. Our meetings are normally held each month (see the calendar below for actual dates) at the Washington Army National Guard Armory, off 15th Ave. N.W., just to the west side of Queen Anne Hill in Seattle. Our meetings begin at 10:00am and usually last for 2-3 hours. Our meetings are usually very informal and are open to any interested plastic modeler, regardless of your interests. Subscriptions come with payment of your Chapter dues of \$12.00 (to Norm Filer, our Treasurer). We also highly recommend our members join and support IPMS-USA, our national organization (dues: adult - \$19. and junior - \$9.) Any of the folks listed above will gladly assist you with further information about any aspect of our Chapter or Society.

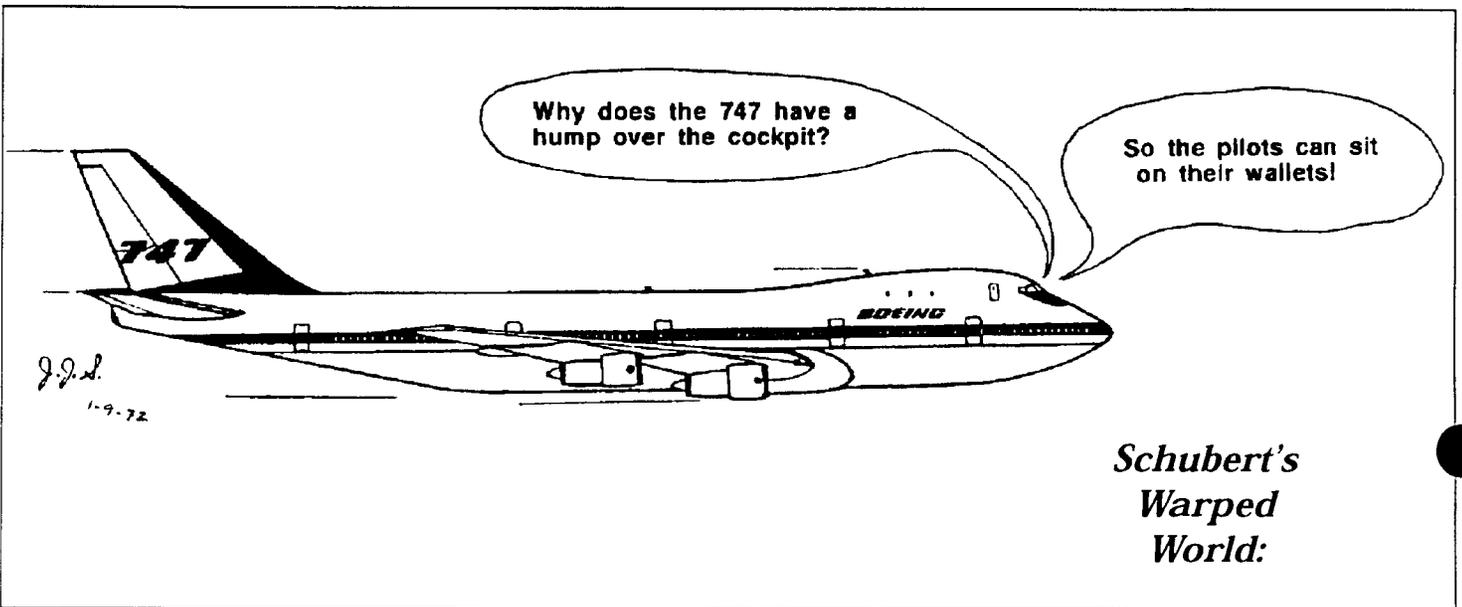
The views and opinions expressed in this newsletter are just that, and do not constitute the official position of our Chapter or IPMS-USA. You are encouraged (no, begged) to support and submit material to the Editor for this newsletter. He will gladly work with you to see that your material is put into print and included in the newsletter, no matter what your level of computer or writing experience. Please call Bob at 232-7784; we need your input.

If you use or reprint from the materials contained in this Newsletter, we would appreciate attribution to both the author and source document. We do not copyright our Newsletter. It is prepared with but one concept in mind: this is information for our members and fellow modelers and is prepared and printed in the Newsletter in order to expand the skills of our fellow modelers.

### Meeting Dates: 1998

The IPMS/Seattle 1998 meeting schedule is as follows. To avoid conflicts with already scheduled IPMS events and National Guard activities at the armory please note that some of our meeting days fall on the third Saturday of the month. Because some of us never seem to know when we will meet, we *strongly recommend* that you cut this page out of your newsletter and paste it up next to the recycle, Mariners, Cheers reruns, Husky home game, lemming return or any other schedules you post in your house. All meetings begin at 10:00am on meeting Saturdays.

1998	
MARCH 14,1998 (2nd Saturday- <b>SPRING MEET</b> )	JUNE 13,1998 (2nd Saturday)
APRIL 11,1998 (2nd Saturday)	JULY 18,1998 (3rd Saturday)
MAY 16,1998 (3rd Saturday)	AUGUST 15,1998 (3rd Saturday)
	SEPTEMBER 19,1998 (3rd Saturday)



## Newsletter News:

## WRITING NEWSLETTER ARTICLES (Dispelling the Myths)

by Walt Fink

You, too, can become a published author! It ain't rocket science. Heard that before? Let's talk just a bit about what it takes to get your name in print in this (or other) newsletters.

**Myth #1:** I have to be a "writer."

Nope—all you have to do is put your thoughts down on paper. Write 'em out longhand on a piece of notebook paper, type 'em, put 'em on a computer disk, it doesn't matter. The editor can re-type, condense, expand, spell-check, whatever. But he can't originate your ideas.

**Myth #2:** Nothing I might have to say would be all that good that I'd get into print. You'd be surprised at the vast majority of people who feel this way. In truth, the average person's feelings on kits, books, philosophies, etc., are precisely what people want to read about. Frankly, most modelers don't want to read that a kit's dimensions are off a millimeter here or there or that the thing's too narrow, etc., when the review's being written by some "master modeler". They'd rather read that an average joe thinks it goes together pretty nicely or what problems he had with it. They KNOW that a "master modeler" is going to find certain things he or she doesn't like.

**Myth #3:** I'd have to be able to draw pictures and diagrams to make a good article. Naww. Hey—why re-invent the wheel? If there's a good line drawing somewhere of the subject you're interested in, copy it and modify it for your use. If you think there might be a copyright problem there, give credit in the article for whoever's artwork you pilfered and that'll usually satisfy that artist in the very unlikely event there were ever a question. (Hey, face it—we're a local newsletter with a total circulation of about 60 members. We're not all that big-time). In the case of a kit review where you've deviated from the sequence of the instructions or put together your own way of handling the assembly, make a copy of the directions, use "white-out" or even good old-fashioned white paint to obliterate unwanted parts, arrows, etc., and draw in your own additions. Just be sure to use black ink (India ink preferred) so it'll reproduce OK when printed.

**Myth #4:** It has to be a modeling subject. Wrong again. The history of our models is just as important as the little plastic thingies themselves—if you loved driving your '57 Fury or whatever, chances are the rest of us would enjoy hearing about it, too. And the

chances are just as great that you've built (or at least bought) a model of the thing. Or you wish they'd come out with a model of it. Tell us that, too, if the shoe fits.

**Myth #5:** If the Editor really wanted my kind of stuff in the newsletter, he'd have published it long ago. Ah, the biggest myth of them all. The Editor can't put into print what he doesn't have on hand, which also leads to the counter-myth that "I'd be more interested in the newsletter if they'd publish something I'm interested in." In the vast majority of cases the Editor's response to that is "If you want to see something on your favorite subject, send it to me. I can't print what I don't have."

**Myth #6:** I can't put all these words and pictures together. OK, I'll spot you that one. Maybe you can't—but the great news is: you don't have to! That's why there's an Editor. He or she can massage text and artwork around to fit the current newsletter leaving you only to originate the article in the first place.

**Myth #7:** I've just got a tiny bit of stuff. Not nearly an article. Send it in! It might be just the thing the Editor needs to fill up a bit of empty page space—or it might be that someone else has sent in a tiny bit on the same subject and the Editor can combine and run them.

Now. You got the skinny and there's no reason you can't contribute. Make the Editor happy and his job easier.

[ruthlessly stolen from the IPMS/Lakes Region Scale Modelers Newsletter]

## Kyushu J7W1 Shinden 1/48

This is not strickily a review but a conversion project.

By a strange coincidence, all the major combatants in world War II began development of canard, or tail-first, fighters during the early 'forties. However, only the American Curtiss XP-55 Ascender and the Japanese Kyushu J7W1 were actually flown.

The J7W1 was designed as a short-range bomber interceptor. The canard concept was extensively tested, using three tail-first gliders, and in July, 1945, the first of two J7W1 Shindens (Magnificent Lightning) was readied for flight. Unfortunately, during the take-off run, the Shinden was over-rotated and the pusher propeller dug into the ground, causing minor damage to the plane. On August 3, the first flight was successfully concluded. The radical plane showed a performance potential with considerable promise, so a production schedule was set up which was intended to produce over 1,000 Shindens per year. This plan was never fulfilled, though, due to extensive bombing raids by American B-29's, the Shinden's intended opponent. Ultimately, only the prototype was flown, and this for only

## Meeting Notes:

## Guest Speaker at April Meeting

At our April 14th meeting, we are pleased to have Loren Perry, as our special guest.

ATTENTION!!!

Tweeeeeeeeeeeeeeeeeeet\_\_\_\_\_

All hands, now hear this, sweepers man your brooms!

Nowooooo\_\_\_\_\_lay to and give your attention, all you IPMS ship builders and wannabe ship builders. The great poobahs of Seattle IPMS upon the conclusion of secret negotiations, have in their infinite wisdom made arrangements with fellow shipmodeler and IPMSer, Mr. Loren Perry of our own Lopez Island (that's in the San Juans, for all you late comers to the Evergreen State) to make an appearance at our April 11th meeting. It is hoped that Mr. Perry, perhaps better known to some as Mr. Gold Medal Models, will bring a few of his excellent ship models for our edification and enlightenment, perhaps an assortment of his etched brass products and hopefully share some of his techniques and skills that will aid us in our unending pursuit of "the ultimate model."

So, without further ado, bring your boats, bring your ships, bring your problems, and questions and bring your 1st mates. Seasick pills are optional.

Please join us in welcoming Loren Perry to the Seattle Chapter.

a total of 45 minutes acquired in three hops. A second airframe was constructed, but the War ended before testing could begin.

The original Shinden was shipped to the United States after the War, and eventually found its way into the great Smithsonian collection, where it is destined to become a part of the National Air & Space Museum.

This kit is produced by Minicraft/Hasegawa and is available again. My kit is numbered 1189 and was purchased several years ago. You'll find a crisply molded kit with little flash and great fit. The canopy is crystal clear and is only one piece. The decals laid down with the use of SolvoSet.

The conversion is a prepossed version by the manufacture mounting the same jet engine in the ME 262. The conversion is simple and would be good for a first try.

First remove the auxiliary air intakes from the sides of the fuselage, fill with sheet styrene, putty and sand. Now assemble the kit per the kit instruction but leave the wings off.

(Cont'd on page 8)

# Getting Paint on the Model - Why and How

## Painting & Finishing Models- Part V

by

Ted Holowchuk

**A** HMMM BAACK! The mystery continues.

What I am trying to accomplish.

We are back to that philosophical question, "why?" Perhaps you are asking, "What the heck is he doing" and "why"? Finishing models goes beyond just painting them. Because of my previous life as a Bohemian painter, complete with beret and mustache, I approach a model as if it were a piece of art. Yeah, it is an art form of sorts. I try to look at the subject with an eye or feel for having "been there". I attempt to recreate, if possible, a slice of life. I proceed as if my Sherman tank is not a model, but a real tank, sitting on a piece of Korea, a smaller version of the real thing. I want this model to look as if it's "been there and done that". How should it look after days, weeks, or months of service or neglect? What kind of environment is it in? What color is the dirt it is sitting in? Not on, but in! What is it doing there? Is it believable? Ask yourself these questions.

Now try to replicate it in miniature. How do you solve the problems? Think about it. While on my soapbox I will address a few things that have been kicked around in the model press, by some of the guys, and in other areas of communication. I love these topics, because sometimes you can really stir up a hornets' nest of emotion and attitude. Remember - we are having fun! Some will listen and think about it, some are dogmatic in their beliefs. Where are you?

### Scale effect:

The effect of scale on both paint color and sheen is a topic can raise a few hackles. I believe in scale effect. Just go out and look at the world around you. Get up 30 - 40 stories in a high-rise building and look out and down. Take a good look at the mountains, the city, buildings, vehicles and people. The farther away a subject is, the lower the sheen and the more muted or pastel the colors become. The

bright red car seen up close is sharp and glossy. (Unless its mine, then it is a nice, weathered dull red - a point made?) From a distance however, the sheen is reduced and the color is muted. The only shine is the reflection off a mirror, glass or other shiny object and then only when you are at the proper angle to the sun's rays. So, when finishing a model, lower that shine and mute those colors. The models will look better, especially military models. The real masters in the use of scale effect are the model railroad builders. If you get a chance to see a well done model railroad take a good look at the way the builder handles color, sheen, texture and presentation, i.e. you will very seldom see a black steam locomotive. I know we use the Federal (and other) standards (FS) to find the correct color, but for us, those standards should be used as a guide, to get us into the "color ballpark". These colors are just a guide for other reasons as well. In the real world, paint manufacturers can miss on a formula, primary product can be substituted, the amount of reducer and number of coats can vary, effecting the color we see. You can read or hear about all these "excuses" in any number of articles, books and lectures. Someone said "if it looks right, it is right!" I think we can

"Remember, we are having fun"

follow this advice, within reason, and get good results. For almost all colors on my models, I add 10-15% white to the base Federal Standard (FS) color. It is as simple as that. There are more complicated formulas, but this works (KISS principle).

The color (or lack of color) black is too black, too dark. Using straight black hides detail and form, leaving a dark void and details get lost. I use straight black only when necessary, such as when matching those fancy decals on demonstration/commemorative aircraft such as Canada's Hawk one-CF101/Mt. Olympus, Greek F 104. I can safely say that at all other times I use a whitened black or dark gray. Black is usually reduced with 15-25%

white. Tires are not black. Normally Floquil grimy black or a mixed color made up of black, white, touch of red, or brown - whatever will give that grimy look of tires.

The sheen on my models is usually dull/flat/matte or semi-gloss. I consider high gloss finishes toy-like and unrealistic. Depending on the effect you are after, flat or semi-gloss finishes will look better. Even shiny demonstration and commemorative aircraft such as the Blue Angels or Snowbirds, will look better in model form if finished in semi-gloss, rather than gloss. There is an exception of sorts. Model auto builders do use a gloss finish, because mostly they build finished, new, fresh-type subjects. However even there, a straight spray on gloss does not look as good or as rich as a rubbed out finish. This is a topic for another article.

### Weathering:

Do you use any weathering techniques? How much is enough? Too much? Not enough? To me, not enough is better than too much, but as they say, "beauty is in the eye of the beholder". Go out into the real world and

look around you. My minivan isn't the only vehicle with a coat of mud, dust or grime on it. I have been told it is unrealistically overweathered! Most vehicles, structures, natural objects, and our

fellow modelers are "weathered" to some degree. The only exception would be a car, truck, or plane right off the assembly line or just washed and polished. Even this showpiece won't take long to "grunge it up". Shouldn't we incorporate this look into our model building?

### Presentation:

This is the art of showing your model its best. Any simple base (tarmac, dirt, grass) is better than plopping that model down on a bare table or tablecloth. The base gives the model its own piece of real estate. It tells the observer it belongs somewhere. Do you notice

that your eye will usually go first to the model sitting on a base? I know, I know, in contests the base doesn't count except in dioramas or vignettes. But, the model on a base will usually attract you first, and getting looked at is important in a contest. (Presentation/show-manship)

#### Character:

A model with character sits on its presentation base and with some dirt and dust, a few paint chips and scuff marks. It might have a rolled tarp tied on this back deck, a couple of ammo and gas cans in their welded-on holders. There may be a few rust streaks from the new welds and fuel stains. Because it has these features it will say to the observer, "I just got here" or "I'm ready to move out." Whatever story you want to present, build it in. Have I gone over the edge? I think not. Building models with character is also part of this great hobby and the fun that results. We do exhaustive searches for information and "truth" in our models. We spend inordinate amounts of time building these things just right. We exhaust ourselves looking for the right paint scheme. Shouldn't we also use our artistic side to tell the story when "finishing" our models? You can expand your abilities in many directions and have fun doing it. Isn't that what it is all about?

#### Caricature or Cartooning:

I am actually struggling for the right word to describe this quality. There is probably a more accurate descriptive word I have yet to come up with. This involves exaggerating certain aspects or details of the model in order to see them, and to add some character (that word again). The best examples I've seen of this use of "artistic license" (I did say art form) is achieved by figure builders/painters. Next time you see a well done figure, look at it carefully and see how the modeler used exaggerated light and darks to "pop out" the finish allowing you to really "see the figure". This exaggeration adds shape, form, dimension, interest and realism to that blob of plastic or metal. Without this "caricature" technique most detail would become flat or disappear. In the real world this exaggeration would look clownish or foolish (ever see some of those grunge rock groups?) In our miniatures, this exaggeration, done with restraint and good taste, is a definite plus to seeing our models. Other examples of "caricature" include panel lines with washes to accentuate them, dry

brushing wheels, rivets, edges, cockpits and on and on. Ouch! I just fell off my soap box.

#### Terminology

Before I get to the procedure for finishing, I would like to clarify some of the terminology I will use. I will list them in order of use.

#### Oil color wash or simply wash:

Washes are highly thinned-out colors that will flow by capillary action along a scribed line or into a corner or a recessed area. I apply washes over gloss lacquer finishes that have dried completely. A darker color in those areas will add dimension and depth to a model or parts of a model. This technique works very well on aircraft, auto and tank interiors, any and all exteriors, obviously panel lines, landing gear, wheels & wheel wells, figures, etc.

"Any simple base (tarmac, dirt, grass) is better than plopping that model down on a bare table or tablecloth."

The wash I use is made up of artist oil colors and mineral spirits/odorless paint thinner. I mix a little paint on a piece of glass with lots of thinner. Experiment and practice are key here. The colors of choice are usually black, raw umber, and white. I occasionally use cadmium orange for rust stains. Squeeze 1/4 inch of each color onto a piece of glass, get your odorless paint thinner and a small #1 sable brush. Dip the brush into the thinner, touch the oil paint and mix up on the other end of the glass. Add thinner and color as needed. I rarely use straight black unless washing a black (really a dark gray) object such as an a/c instrument panel. The black here helps add depth to the panel. The wash color is usually a dirty gray/black mixture of all three colors. The color is varied to go with the finish. A lighter grayish color on light paint schemes and a darker gray black on darker paint schemes. Sometimes on a finish like a dark blue U.S. Navy W.W.II subject a light color wash can be effective. Try it out.

The wash mixture is applied with the loaded brush by touching the tip of the brush to the panel line or the corner of the subject. Do not use this mixture on an enamel finish, because the enamel uses a mineral spirit solvent and our oil wash will attach an enamel finish and can ruin the paint job. The wash will travel along the line. Touch again where

needed and continue to completion. Let dry for an hour or so and wipe off excess and "slop-over" with a dry cloth or your thumb. The excess will wipe off the gloss surface with ease, leaving a clean, dark line. Use caution when applying washes in corners and tight spots. You want to leave just the right amount of color in those areas so that you will not have excess to be wiped off. Practice! Practice! Practice! Allow at least 12 hours to let things dry well and avoid Murphy. The model can then be sprayed with gloss or flat finish as needed to protect and seal the wash.

I have used water based paint washes and they do work. A water-based wash will work with an enamel finish. For a water wash use the same color selection of water base paint (Polly-S, etc.) and thin it out with water that has a few drops of detergent or photo flo solution added. This breaks the surface tension and helps the water flow better. When dry, clean off excess, allow to dry and apply the clear coat. Treat just like an oil wash. I prefer the oil wash, because it "runs" by capillary action much better than a water wash.

#### Dry Brushing:

This is a technique to highlight and accentuate raised details such as edges, knobs, dials, rivets, etc. Dry brushing is done over a flat finish. A short, stiff-bristled filbert style brush is best for this technique. Micro Mark sells a decent quality set of dry brushes for about \$20.00. Better quality (and higher priced) brushes can be bought at any artist supply store. Almost any paint can be used for dry brushing, but a slower drying paint such as Humbrol or Model Master is usually best. I use those paints as well as Dolly-S, and artist oils. Artist oils dry very slowly but work very well. Unlike washes, dry brushing needs a heavy, unthinned form of paint. Get some paint on a brush then brush it back and forth on a paper towel, or a 3" x 5" white card, (my favorite) until there seems to be little or no paint left on the brush. Now it is ready to use. Lightly float or whisk the brush over the raised details hitting the high spots and leaving a small amount of paint. Go over again as needed to achieve the "look". Practice and experiment in the use of this dry brush, highlighting technique. Allow the paint to dry for an hour or so, longer when using artist oils. Then clear coat with flat. Follow drybrushing with pastel chalks.

#### Pastel chalks:

These are small, square sticks of colored

chalk that are sold in art supply stores. There are over 90 colors available for 90 cents each. I use this material to help replicate the dirt, dust, gun blast stain, exhaust stain and general grime and grunge on any subject. Pastel chalks work best on a dry flat finish. The usual colors are black,

raw umber,  
burnt  
umber,  
cadmium  
orange  
(rust) and a

tan color. Experiment with other colors. To use, scrape or sand a small pile of color from the stick onto a card. Use an old, stiff brush, Q-tip or an artist's stump. A stump is a small pencil-like rolled up paper stick with a pointed end - available at any art supply store. Dip the brush or stump into the color powder, tap off the excess, then brush, rub and scrub the color into the area to be weathered. Go slowly and carefully. The chalk leaves a pleasing look. Remove any excess with an office eraser.

Les Knerr taught me a technique he uses to color panel lines. Les rubs colored chalks into the panel line area. Then he uses an eraser to remove the excess chalk leaving a darkened panel line. With a bit of artistic flair and control, Les erases the pastel chalk away from the panel lines, with an eye to the air flow over the surface of the aircraft. This allows him to leave a pleasing, dirty area on the "downwind" side of the line. Be creative (more artist talk).

After you have "dirtied" up behind the exhaust (look at photos) and gun blast area, a light (not wet) coat of Dullcoat can be sprayed over the model. This clear coat will reduce the intensity of the color. Repeat the chalk and Dullcoat routine 2 to 3 times until you have the desired results. For a finale, after the project is complete, you can just use the powder color on some areas such as gun blast and exhaust, then leave alone, without a clear coat. This leaves a dry, dusty looking area. Try not to handle these chalked areas. Handling could leave finger prints.

As an alternative to the pastel chalks, I use a dry powder color instead. It is used in the same way and produces the same results. A source for a dry powder set of 12 colors is Micro Mark, priced at about \$20.00. Also dry powder colors are available at art supply stores but somewhat expensive and in fairly large quantities for our use.

#### The Procedure:

Getting a model ready to apply the finish requires preparation, which usually takes much more time than actually applying the paint. For

most models, I begin by building up the interiors and preparing all the small parts such as props, wheels (including landing gear), guns, running gear, seats, etc. I treat each of these subassemblies as a completed model to be incorporated later when the model is in final

"Ouch! I just fell off my soap box"

assembly stage. My goal is to have all those "fiddly bits" completed and ready to install, instead of leaving them to be done as last minute efforts. In addition, I often delay attaching whole components. For example, I have often left wings and running gear until very late in the construction. I almost always leave aircraft tail surfaces unattached until final assembly.

Each part is scraped, sanded, fitted and painted the appropriate base color. I brush paint all details such as knobs, boxes and lines. Here is an exception. I do not normally prime these parts unless I have used a filler. I will prime parts, especially those to be painted silver, after using a filler because the paint does not cover filler as smoothly as I like. After painting, these parts are sprayed with a couple of light coats of gloss Duracryl. When dry, these paints are treated with an oil wash and allowed to dry, then a coat of Dullcoat is applied. The parts are now dry brushed and

"I treat each of these subassemblies as a completed model."

given another coat of Dullcoat. Touch up any details that need it and put the finished parts aside ready to install.

Next I install these interior parts, fit and assemble major parts, mask off where needed, fill and sand as needed. I then spray all those major assemblies with 1 - 2 light coats of primer. The primer coat lets you see any additional filling and sanding areas that need attention. The "tooth" of the primer makes rescribing easier because it helps prevent the scribing tools from sliding all over the model. Continue priming, filling, scribing and sanding until you have this neat, smooth, slick surface, free of defects and ready to paint. Throughout

this whole process I am constantly "chasing panel lines". That means during the sanding, priming, printing and even clear coating, I am rescribing panel lines to ensure they will still be there when the project is done.

The assemblies are now ready for paint. Select your first color. I usually start with the lightest color and progress to the darkest color last. It is easy to cover up a light color, but more difficult to cover a dark color with a light color. Spray on 1 - 2 coats of your first color. Allow the paint to dry. Mask if needed, spray second color, then 3rd, 4th - whatever your scheme requires. When the color coat is dry, spray 2 - 3 coats of clear gloss and let sit over night. Look at the finish - is it smooth and shiny? If not, lightly sand (with 400) and or Scotch Brite the surface, spray another 2 - 3 coats of gloss and let dry.

Once the finish is satisfactory the project is ready for decals. Apply decals, using your favorite system, and again let dry. There sure is a lot of drying time! I let decals set up over night to be sure everything is dry. Check panel lines that have decals over them. If the decal has not settled into the line, cut the decal with a blade, reapply the setting solvent and let dry. When all looks good, lightly wash the excess decal glue/stuff from around the decals. A water-detergent solution works well. Dry the model and spray 1 - 2 coats of clear gloss. Let this dry and get out your palette of wash colors. Mix up the color and wash the whole model. Now it sits over night (yeah, dry time again!)

Check for wash "slop over", clean it up and spray another 1 - 2 coats of gloss.

We are now at a crossroads. At this point you can lightly sand or Scotch Brite the model and spray on your Dullcoat, or you can continue to follow me. Because I like to "bury" or imbed my decals in the finish, I usually don't Dullcoat the model at this stage. Instead I apply another 2 - 3 coats of gloss. I do this to build up the finish and eliminate any edges. This gives the decal a painted-on look. After - 7 coats of gloss over the decal area I let the whole thing dry again. I sand the decal area with 400 paper being careful not to go through the clear coat and damage the decal itself.

Thicker decals may require more clear gloss and more sanding. If you do sand through into the decal, touch up and spray more clear gloss (How do I know about that?). Once the decal edges are smooth, you can put on your Dullcoat.

I have to digress for a moment. Some of you are saying "Spray how many coats?" I know it sounds like a lot but it isn't really. The clear gloss, when thinned properly and sprayed lightly, will not build too fast. Also, this information is still just a guide. You are the builder. You have to decide how much is enough. I do have a rule I call the minimum rule: "Minimum material, minimum effort, minimum time, for maximum results." You have to do enough to get the job done, just don't overdo it. This rule holds from start to finish.

Now we can rejoin the crowd who did not "bury" the decals in clear coats.

After I spray a coat of Dullcoat on the model I check it over, if it needs another coat of Dullcoat, I do it, if not, get out your dry brush and pastel powders.

Now comes the fun. This process can be done fairly quickly you do not have to wait overnight to let things dry. First, get out some silver paint. I prefer Polly-S. With a small brush, pick out paint chipped areas (cockpit entry, wing walkway, panels etc.) Do not overdo this. Understated is better than too much. Also look at photos and other models. What looks right? Go ahead and give it a try. Now dry brush any areas you think might need it. Hit highlight areas. Take your stump and apply pastels or dry color to those areas needing it (exhaust, gun blast, corners on tanks). Follow this with a light coat of Dullcoat over all. Go back to the dry colors and do it again. Dry brush if needed. See where the ART comes in. Look the subject over, visualize the use, dirt and wear. Now do it.

I use Rub N Buff to give a scuffed, worn look to areas such as the leading edges of wings and flying surfaces, spinner and walkways. I use it anyplace the paint on the real thing might have been worn away. I apply Rub N Buff with my finger or a Q-tip. Be careful though. This stuff goes a long way, and once on it does not come off. So put it only where you want it. Another coat of dull coat and you should be finished.

#### Semi-gloss finishes:

For a model subject that is to have a semi-gloss finish as a final coat we need to back up to where we have the decals on and

"buried" or imbedded in clear gloss. Our sample project is an A-4 Skyhawk in Blue Angel markings. The real plane is a demonstration aircraft with a clean, polished high gloss finish. As I said way back when, if we apply high-gloss to our model, it will appear toy-like. I much prefer a couple of coats of semi-gloss lacquer. The model has a much richer, more realistic look. I can hear you say, "OK, so now he brings up semi-gloss lacquer". "Another \$20 purchase?" Well you can buy semi-gloss lacquer if you want to, but you can also make your own. Just combine 15-20% Dullcoat into 80-85% Duracryl gloss, add sufficient thinner and mix well. This should give you a very nice sheen on your A-4. If the result is not to your liking, adjust the sheen up or down by mixing the Dullcoat and Duracryl in different ratios.

An additional tip: When your model is complete and just needs that last coat of semi-gloss. You will get a smoother, slicker finish if you spray that last coat of clear mixed to the ratio of 80% thinner to 20% semi-gloss. Because this is a "clean" aircraft, we will not use any dry brush, pastel or Rub N Buff techniques.

Now we add all those pre-finished parts, remove the masking, touchup and clean up as needed, and set it on your base. You did build one, didn't you? That about covers it I think. My hand is cramped. My mind is fuzzier than usual and I need a drink (coffee)!. This isn't quite all of it but enough for you to mull over for a while.

One last episode will bring you a building review of the new accurate miniature IL2 Stormovik. It will be finished in a heavily weathered winter scheme from 1943. The review will have a blow by blow diatribe on how I achieved that finish and got the look I wanted.

Till next time.

#### Supplies Sources

Micro Mark - Catalog	1-800-225-1066	
Dry Brush Set #81082		\$20.00
Dry Powder Color -		
Doc O'Brien's Weathering Powder		
#81632		\$20.00
Daniel Smith Art Supplies		
4150 First Ave S	206-223-9599	
Brushes for Dry-brushing		
Grumbacher 626F	#2	\$ 5.00
	#4	\$ 7.50
	#6	\$ 9.00
Pastel Chalks - Nu Pastel		\$ .90 @
Stumps		\$1.25-1.75 @

Art Supply - Craft Store - Hobby Shop  
Rub N Buff Silver Leaf @ \$4.00

Editor's note: Once again, we, all of us in the Seattle Chapter, owe a big "THANKS" to Ted for his continued efforts to share his modeling skills with the rest of us. This is his fifth article in this series. There are thoughts, suggestions and techniques in this (and the prior notes as well) which some of us have struggled with for many years. Ted's "sharing" is worth more than you would acquire on your own throughout many years of modeling--at least in this editor's opinion. I hope everyone is reading and picking up as much as I am? (I know some of you wags are saying... 'he really needs it too!')

This month's article has been typed and edited to its final form by Brian Cahill.

Thanks to both of you guys!

### Kit Reviews:

## Aries F7F Tigercat Detail Set By Chris Bucholtz

While the F7F Tigercat arrived just too late to see action in World War II, it did provide the Marine Corps with a versatile and powerful fighter for the post-war. Packing an impressive weapons load, including four 20mm cannon and four .50-caliber machine guns, and incorporating two Pratt & Whitney R-2800-52s in a lean, light airframe, the Tigercat provided the Marines with a fast, agile and hard-hitting machine to support its ground troops.

As the dawn of the jet age began to lessen the effectiveness of propeller-driven aircraft, the Tigercat moved away from its initial role as a long-range fighter into new roles. A second cockpit was added when needed; in the F7F-3N, a new nose section housing a radar unit replaced the .50-caliber guns to create a potent nightfighter and night intruder aircraft, which would go on to achieve success in Korea. Tigercats also were used as drone controllers, and later became valued on the civilian market as firebombers.

One role that is largely overlooked regardless of the type involved is photo reconnaissance. The F7F was especially suited to this task, and some Tigercats were modified for this purpose from the outset (a few early versions were on Okinawa when WWII ended). The plane was tough, agile and could carry a large load of cameras, making it an ideal candidate for tactical reconnaissance-not the "unarmed and unafraid" approach of the high,

(Cont'd on page 19)

(Shinden Review - Cont'd from page 6)

Remember to weight the nose or it will not sit on it's nose. The jet exhaust will replace the the prop so consign it to the parts box. The exhaust can be grafted on the from the rear of the Monogram Me 262 kit or built up from tubing and putty. The kit I built had the tail pipe built around a piece of brass tubing of the correct diameter with epoxy putty around the out side. I turn this part in a lath, sanding it to the correct profile. I also cut a lip to fit into the the kit part # B10. Now you can assemble the wings to the fuselage and the assemble is complete.

Paint the aircraft in the kit recommended colors and markings or chose your own.

This is an easy conversion and makes an interesting subject. Have fun.

## A 'TAIL' OF TWO TOJOS

by John Greer

Recently, I was looking for something new to start. Not that I had finished everything on the work bench — but it was getting close. As I scanned the shelves in the garage, my eyes were drawn to the Arii (ex-Otaki) Ki. 44 "Shoki" (Dragon), known to the Allies in the Pacific as "Tojo." As I had just purchased the AeroMaster Kamikaze decal special, this kit caught my interest. Then, just a shelf or two away, I spotted Hasegawa's Ki. 44. Aha!! The light dawned! Let's do a matched pair and compare them.

### FIRST IMPRESSIONS

Both kits seem well molded. Interior detail is molded onto the inside fuselage walls. Perhaps a super-detailer would like more, but the opening into the cockpit is so small that little is visible. Panel lines are recessed on both kits, although I'm a bit confused by the recessed rivets on the Arii kit, which also has some small sink holes on the upper forward fuselage. Both kits seem a bit over-engineered — that is, excess parts where they aren't really needed. Examples -separate cooling gills on the Arii kit, which makes it considerably more difficult to fit the cowling properly; and part D-1 on the Hasegawa kit, which fits on the upper forward fuselage, and I can find no reason why it wasn't simply molded with the fuselage. Next, the ribs on the fabric covered control surfaces on the Hasegawa kit seem a tad over-done. However, that is perhaps better than the Arii kit which shows no ribs at all. Finally, detail-wise: Hasegawa has a landing light (port wing), separate exhaust stacks, a detailed roll over-pylon. Arii has no landing light, molded-in exhausts, and a much simpler roll-over pylon. Overall (and please pardon the old teacher in me), Hasegawa gets an A-; Arii a C+.

### CONSTRUCTION

Both interiors go together easily and look good. Again, Hasegawa seems over-engineered. Fuselage halves also fit well - just a bit of filler needed on the Arii kit — those pesky sink holes. Both engines are fairly well detailed - not that it matters much, because the dose-fitting cowling and rather large spinner hide most of it. Now to the wings — this is where the fun begins. Wing halves on both kits mate well and trailing edges are appropriately thin. However, on both kits the trailing edge flaps extend beyond the trailing edge of the upper wing. If this had been true on just one of them, I probably would have listed it as a flaw in the kit -but on both? Off to the references — and there it was — photographic evidence that both kits are correct. The flaps really do extend beyond the upper wing trailing edge. Also, wing chord and tip shape differ on the two kits, but (see el Presidente's Rants and Raves in the December Newsletter) who cares.

The wing — fuselage joint on both kits leaves much to be desired. Considerable filler, and a bit of 10 thou plastic in the gaps solved the problem. Also, the joint between the lower wing and the rear fuselage requires some work, and considerable care is needed to maintain the detail around the flaps. It's a shame that neither manufacturer chose to use the flap line for the joint. Tail surfaces on both kits fit very well after some minor trimming of the locating tabs.

The undercarriage is a definite plus for the Arii kit. Better detail on the u/c legs, and separate inner and outer wheel hubs make for a much more realistic appearance. Neither kit has detail on the inner side of the gear doors or wheel doors. Hasegawa's tailwheel and

tailwheel recess are far superior to Arii's very simple treatment. Arii has a one piece propeller, while Hasegawa has molded separate blades (over-engineering again, or just my preference for simplicity?) Detail parts - why, oh why, oh why did Hasegawa use seven (that's right seven) separate parts for each drop tank? There is a simple solution — leave them off Overall grade - Hasegawa = B; Arii = C+ - — There are good and bad points on both sides.

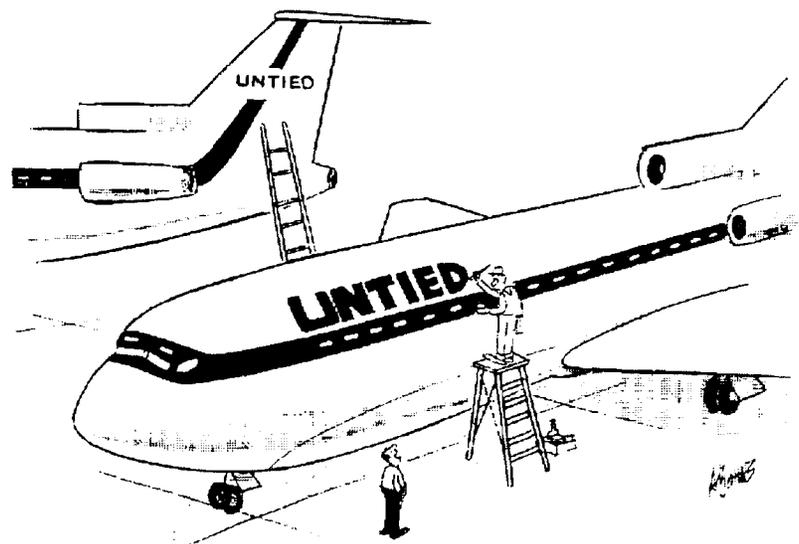
### FINISHING

No problems with paint. I use Floquil and AeroMaster and they adhered well as always. Decals are another story. First, forget the Arii decals. They give a good selection of subject matter, but the colors are a disaster - both reds and yellows are much too light and bright. Hasegawa's colors are better (except for the yellow, which is much too light), but the selection is limited. Also, Hasegawa gives you decals for everything from anti-glare panels to wing leading edge stripes. However, the aren't really opaque, and they tend to crinkle badly with the use of setting solution. Basically, the best bet is paint, mask, paint, mask, etc. The use after market decals, which set better, have better colors, and generally are more accurate. Grade — Hasegawa =C -, Arii = D+

### WRAP

Both kits end up looking good — and looking like the airplane the portray. If you get your nose right down to the model, Hasegawa is a definite step ahead. However, if you are on a budget, the Arii kit makes up quite acceptably -especially when you consider its age. Really, what it's going to come down to is your skills as a modeller, and your expectations of the model.

— from the "That's Why They Make Decals" dept: —



**"Promise not to scream if I tell you something....?"**

(cartoon courtesy of Airline Pilot Magazine)

**Kit Reviews:****Hasegawa A-3B  
Skywarrior**

by Norm Filer

If someone had told me several years ago that we would have a kit of the Douglas B-66 long before the A-3, I would have told them they were nuts. The Destroyer was used in very small numbers, while the A-3 "Whale" was still in the Navy's inventory well into the 1990s, and a few still fly as test ships..

Never the less, that is what happened. But that oversight has finally been corrected with the recent release of the 1/72 Hasagawa kit.

I have no idea why certain airplanes appeal to different individuals, but the Whale has been on my "must have" list since about the time I started modeling. That urge was somewhat satisfied when Revell issued one in "box scale" in the late fifties. Now doesn't that date me a bit? By the time Gordon Stevens of Rareplanes finally finished his effort I was ready to build several. The one he sent me for helping develop the kit is still sitting, half built somewhere in the piles around here. Vac's are just too much effort any more!!

So, how did Hasegawa do on the Skywarrior?? In a few words, this is a really great kit! As with about everything in life and polystyrene, it does have some problems, some stuff you wish they had done different, but all in all a really great effort. Before getting into the parts and glue, let me say that everything that follows is just minor stuff.

This thing comes in a really big box. But it is not "a small kit in a big box" at all. It is indeed a big kit. It is broken down in the usual left/right body halves, one piece top wing with two bottom parts. No separate nose or tail parts to indicate an early pointy nose/tail turret bird is also in the works.

Interior is just about what we have come to expect from Hasegawa, decals on flat panels and boxes for major stuff, no raised/recessed details at all. All of the major stuff you would expect is there, including the control wheel, right hand seat radar console, third crewman equipment and all three sit in reasonable replicas of the rather unique A-3 seats. Again, as is normal with Hasegawa, no attempts at delicacy or small details at all. No seat belts/shoulder harness, no raised detail on bulkheads. None of the structure that supports the 3<sup>rd</sup> guy's radios. But when your done, most of it does not really show anyway.

The first real tangible clues that this will not be their only Whale kit is when you start putting the body together. You need to open

some holes and ignore others that are skinned over. You also need to cut off the "wart" on the top of the vertical tail. From what I can tell, the holes are in the right places for the ECM fairings on the sides of the fuselage front and back as fitted to the EKA-3. Since the refueling boom is not included in this kit, those holes are also ignored. The final clue or two is that the bomb bay area and the spoiler in front of it, as well as the area between the main wheels is also separate parts. The spoiler is not fitted to the EKA versions and the area between the wheels is needed for the refueling drogue housing. The separate bomb bay doors will allow a replacement door with the ECM canoe. All this makes the prediction of at least an EKA-3D pretty simple. Anything else just does not seem to be a good bet.

Everything fits together quite well. The body halves are somewhat complicated to assemble because of all the cut outs for cockpit, nose wheel well, wings, bomb bay area and a couple more things on the lower rear tail. By the time it is all together and drying, alignment slips a bit here and there. Nothing major, just aggravating little jogs between left and right sides that will require a spot of filling or sanding later. I noticed a couple of interesting omissions/errors as I was building. First, the tail bumper wheel and its related strut is completely missing. The pointy aft end of the bumper appears to have the mating parts but no wheel. The triangular shaped bumper itself drops into a hole with tabs to keep it from going too far. The tabs are too deep and the part drops too far into the body. Another spot of putty!!

The wings literally fall together and fit on the body very well. Only drawback is that part of the port rear has a curious excess of plastic that should not be there. It becomes apparent on dry fit of the parts (we all do that don't we?), and a couple of swipes of the file remove the excess.

Engines are simple right/left halves including the mounting strut, with trapped turbine blades and center bullet. In retrospect, I would clean up the strut/wing joint and leave the engines off until after painting and detailing. They just get in your way and are really hard to paint when mounted. The joint is nearly flawless anyway.

Landing gear is pretty much of a slam dunk. They fit into holes and are braced enough to be rather sturdy. Another minor comment is the wheel/tire is molded as a part of the nose gear. Perhaps to have done them as separate parts would have caused the nose gear to be too flimsy, but to be nit picky, one needs to carve out the area between the tire and the nose gear fork.

Painting is generally pretty straight forward, gray and white. But a couple of really difficult areas pop up. How to do the rain

erosion boot on the front of the radome and how to get the red intake warning on the inside of intake lips? I solved the first by building a jig to hold the model in a diving position at the proper angle (110%) then used a soft pencil on a block to draw a line all the way around the nose. The rest of that is a simple mask and paint chore.

The intake lips is another story. I had hoped the decal warning stripes would wrap around the lip and into the intake. No such luck!! Only choice was to either ignore it or hand paint. I chose the later and it went decently. This is a major part of why I will do the next one with delayed engine attachment. The other reason is the silver/natural metal aft engine nacelles.

One flat out error on the instructions. If you choose the checkerboard bird from Heavy 11 (VAH-11), the paint callout for the vertical tail leading edge is wrong. It is NOT red. The correct color is dark gray.

When your done and the finished bird is sitting on your shelf, one thing is very noticeable, this thing is BIG!! It makes the Phantom, F-14, S-3 and even the Viggie all look dinky by comparison. It is not hard to see why the Air Boss and those responsible for organization of the flight deck hated them. They take up a lot of very precious deck space.

In summary, this is a really nice effort or a subject we who build Navy stuff from the colorful 50's and 60's have waited for a loooooong time. The problems are very minor and easy to overcome with a bit of planning. At 3300 yen, which will work out to around the mid \$30.00 range after Marco Polo gets their cut here in the US of A, it is not a cheap kit, but put me down for a couple more.

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**Kit Review (of sorts)—  
or, in Jim Stockdale's  
immortal words,  
"Who Am I  
and What Am I Doing  
Building THIS?"  
by Walt Fink, IPMS #2447**

When the Lakes Region club featured our "Build Something Out Of Your Realm" theme night, I decided to attempt an automobile model; being an airplane nut to begin with, I was in for some real unseen surprises and here's some of my musings in a kit review of my model, Monogram's 1/25 scale 1955 Chevy Bel Air convertible. (Kit No. 2462)

When I talked about the model and

(Cont'd on next page)

some of the problems I had during our LRSM show-and-tell session, I noticed the heads of all the car builders in the club nodding in agreement, so I guess my troubles weren't all that unique. Since I haven't built a car model in, oh, forty years or so, I really had no benchmark to judge this one by.

First thing I noted was that—like the photo on the boxtop, the body of the car is molded in a coral color; the two-tone coral-and-dark grey scheme looked OK but I wanted to do mine in blue; the painting instructions noted that the '55 Bel Air came in Sky Blue/Glacier Blue and that sounded fine. I began assembly per the kit instructions with the engine, drive train, and chassis. The 265 CID V-8 builds up into a nice little model all in itself and features separate distributor, coil, generator, water and fuel pumps, carburetor, heads and valve covers. The method of construction was quite different from the aircraft models I've been used to; whereas on an aircraft you've got pins and mounting holes and positive locator aids, the Chevy basically had parts which just butt-glued to flat spots. I was to discover that this held true for the entire automobile as I built it. Hell, I had to actually READ the instructions to determine what part was what and went where. Though the instruction sheet was extremely helpful in naming the parts, it lacked detail in many instances showing how parts were to be positioned.

The black parts (chassis, drive train, etc.) weren't really black, but a rather soft metallic-black plastic. I painted these Gunze's H77 (Tire Black) and when dry, dry-brushed Testor's silver to highlight the chassis parts. I'd intended to do just a basic out-of-the-box job on this thing, but about that time I visited a hobby shop in Sacramento and WHOA—discovered a set of photo-etched parts for the kit from Model Car Garage. It featured all the little chrome scripts, emblems, etc., plus the horn ring, license plate frames, grille, gas and brake pedals, etc., and two tiny photo negatives for the speedometer and clock. Well! I couldn't pass up THAT opportunity, so bought the photo-etched set.

Then I went to the paint aisle to buy a bottle of Glacier Blue and one of Sky Blue. Guess what, military modelers—we are an extremely lucky group 'cause we can get ready-mixed paints matched to FS colors. The car guys end up sucking wind here. Oh, sure, you can buy five or so colors for engine blocks, but the rest of the real car colors are basically customizing things. I didn't feel like painting my Chevy Grape Mist Metallic or one of the Boyd's Chezoom shades. I asked the hobby shop owner what to do and he replied that I should go three miles up the street to the NAPA dealer and buy a quart each of Ditzler Glacier Blue and Sky Blue auto lacquer. No way, sez I,

I only use acrylics—the lacquers really do me in. So what do the car modelers do? "Well", the fella says, "they go three miles up the road to the NAPA dealer. . .". No, no, wait, sez I, I'm going to use acrylics and I'll just mix my own to the right shade. But, ah, where do I find a color chart or some color chips? "Well", Mr. Hobby Shop says again, "The NAPA dealer three miles up the road has Ditzler lacquer color charts..."

AGHHH! I ended up, by the way, mixing Gunze H45 Light Blue and White for the Sky Blue, using straight H328 for the Glacier Blue, and it's as close as I remember the real thing's being. By the way, H328 is Blue Angel Blue. Gotta keep my hand into airplane modeling somehow.

I sanded the logos, etc., off the body, cleaned up the mold lines, and primed it with Gunze White acrylic to give a good base for the light blue, then turned my attention to the interior. I used some filler for the seams between the fronts and backs of the front seat, and painted the interior the same light-and-dark blue as the body was to be done in. I utilized foil for the window cranks, door handles, ash trays, etc., and assembled the dashboard using the MCG negative instrument faces. DynaMITE! When I assembled the dash, I discovered that the chrome insert for the panel had lots of flash around the edges which had to be trimmed in order for it to fit. I was later to discover all the chrome parts had flash. Lots.

I gave the interior a coat of flat to reduce the glossy shine to something approaching vinyl and then used Detail Master's flocking sifted through a small strainer for the carpeting; DM recommends diluted white glue to hold the flocking in place, but remembering the good luck I'd had with railroad scenery, I used diluted artist's matte medium instead. It came out really great—but a word to the folks attempting this: the flocking gets absolutely everywhere. Wear a dust mask as recommended by DM and if you've got a spray booth with a blower, use that as well. I was cleaning blue fuzz out of every nook and cranny of my workbench for a week.

I found that the exhausts and engine headers don't match up very well when I started putting all the components together; my recommendation here would be to install the engine to the chassis, then attach the exhaust pipes to the headers at that point. When dry, I'd then flex the exhaust pipes as needed and secure them to the frame, and then install the chassis X-brace.

Next came some attention to sprucing up under the hood. Not having one iota of an inkling of what wires went where, I went to my garage and raised the hood of my old Mercury. Forget THAT nonsense. I couldn't have dropped a dime in there edgewise, but I later found a pretty good under-

hood picture of the '55 Chevy in a Motorbook entitled "American Cars of the Fifties" and with the aid of wire and fine solder did a fair job of simulating what I saw in the photo. I used some Detail Master black wire for the coil, distributor and plug wires, and some fine solder to represent other cables and wires under the hood. Thicker solder served for battery cables and—painted black—as heater hoses.

When I performed the major final assembly of chassis, interior, and body shell, I found everything to be so snug a fit that the chassis actually protruded below the door sills a sixteenth of an inch or so; in my opinion this makes the car sit higher than it should by just a hair—the fender skirts snapped in place and were held in place by contact with the rear wheels, no glue needed. The hood hinges caused me a bit of trouble and I'd recommend the modeler attach these to the hood and dry-fit everything to the body before painting; in my case I was reluctant to handle the finished and painted parts too much for fear of leaving fingerprints.

I sanded the back of the grille down so that the grille itself was opened up for a more scale appearance; some judicious use of paint under the hood, painting the radiator cap, power steering pump filler, battery terminal & caps, etc., enhanced the looks there, too. I scratchbuilt a hood latch striker plate and installed that behind the grille.

The chrome parts and details came next. The rear chrome trim is a separate part and is added at the end of the assembly process, but the forward chrome trim strip will have to be foiled. To attach all the chrome parts, I used Sobo white glue; even in the case of the bumpers, there are no locating pins, so a copious amount of glue behind the bumpers was required to attach them. As aforementioned, lots of flash was present on the chrome parts, and removing them from the sprue means lots of little spots which must either be touched up with silver paint or bits of foil.

Monogram has released another version of this kit (the Chevy pace Car) without the Continental kit, but there's no option on kit #2462—it's continental or no bumper at all.

The little Model Car Garage photo-etched logos look great; I attached them with small drops of Sobo, and when dry, brushed over them with Future floor wax to protect them and seal them to the body. I didn't use all the photo-etched parts on the fret, but among those I did use, the tiny set of keys (and key chain) in the ignition seemed to be a big hit with the guys who looked inside. They were a real dog's mother to put in, but those modelers with better eyesight than mine should be able to do that OK.

Clear parts were OK but were a bit scarred from being in the box, so I used Bare-Metal polish to buff them out to a real glassy

sheen. The instructions don't exactly specify it, but if the model's displayed with the top down, the tonneau cover should be painted to match the trunk color.

I used stainless steel hypo tubing to replace the turn signal stick and gearshift lever, and also for the radio antenna; this gave a more delicate and closer-to-scale appearance to the overall project.

Summary? Well—I found lots of seam marks I could've done without, all the way down both sides of the drive shaft, radiator hoses, exhausts, etc., and lots of butt joints where I was unsure as to where to attach parts. The chrome had copious amounts of flash. However, the overall appearance sure looks like what I was shooting for and I highly recommend the kit—if an old, blind, airplane builder can do this project, the "real" car builders out there will have a ball. I also ran out of time in building mine since the meeting was only a month away from when I started the kit, but given the opportunity again with no meeting deadline, would try rubbing out the finish with an LMG kit or similar. The Gunze acrylics gave me a glossy finish, but with a dog, four cats, and a four-year old grandson running about the house, some bits of fur, fuzz, and flotsam invariably found its way into my paint while drying and I would've liked to have polished that out.

[from "The Wingman", IPMS/Richard Bong's chapter newsletter]

## Soviet Aces of World War 2 by Terry Clements

Morgan, Hugh, *Soviet Aces of World War 2*, Osprey Aircraft of the Aces 15, Reed International Books, London, 1997. Color card covers, 96 pages, 78 b&w photos, 40 color aircraft profile paintings, 6 color uniform paintings, line drawings of key fighter types, appendices, including ace lists.

Imagine being assigned the job of writing a booklet of less than 100 small pages, including photos and artwork, that was supposed to cover "American Aces of World War 2" for an audience assumed to know virtually nothing of these pilots, their military units, their tactics, their equipment, or the campaigns in which they served and you have some idea of the challenge that confronted Hugh Morgan when writing the latest addition to the popular Osprey Aircraft of the Aces series, *Soviet Aces of World War 2*. And of course also keep in mind the problems in obtaining reliable source material on these subjects after 45 years of Cold War secrecy and misinformation. It's an impossible task for

sure, but surprisingly the book meets the challenge better than one would expect.

If you have any of the other books in this series you already know the format: 96 pages, 78 well-reproduced b&w photos, 40 color aircraft profile paintings (by John Weal), 6 color uniform paintings (by Mike Chappell), line drawings of a few key fighter types (by Mark Styling), and various appendices, including ace lists, all nicely printed in a medium size format on good paper with a nice color painting by Iain Wyllie on the card cover. You also know that the editing and fact-checking can be a bit shaky in spots (Osprey continues a time-honored Western tradition of miscaptioning photos of various Soviet fighter types - see page 16). And the lovely color artwork can be, well, frustrating, if you are looking for reliable guidance when finishing a model. But if you have any interest in the subject, this is a book you will simply have to have despite these problems.

The chapters include "The Making of a Fighter Ace," "Evolution of VVS Fighter Aviation, 1941-45," "Fighter Aircraft and Their Aces," and "The Leading Aces." Each of course is only the briefest of overviews of its subject. But while much of the broader operational narrative will be familiar to anyone with an interest in this subject, Morgan's organization and presentation of the material is good and he has unearthed some valuable new biographical material from the U.K.-based Russian Aviation Research Trust. Many of the photos are new too, all of them are well reproduced, and some of them are quite good.

But as a source of information for model-builders, *Soviet Aces*, like virtually all the Osprey books, has many problems. The photo mix doesn't really add much to our understanding of Soviet aircraft finishes and markings, and of course there is no text on this subject either. Just a few paragraphs and a few good photos and captions could have advanced our understanding of this difficult subject immensely. And what of those color profile paintings? A very mixed bag, I'm afraid. As usual with the Osprey series, the artistic technique is of a high standard, the basic line drawings appear to be acceptably accurate, and the work is extremely well printed. But like so many works on this subject, the basic research is often problematic: not only are there "factual errors," the paintings, even when otherwise accurate, more often than not fail to accurately "model" the subjective overall appearance of the subject. And there are no plan or starboard views, which limits their utility for modelers who have no other reference material.

Look at profile number 8, Vasiliev's 1-16 "white 28." Compare it to the photo of the same machine on page 67 and you'll see this problem in a nutshell: the "real thing" had a

sprayed-on two-color pattern paint job applied over a light base color. (Probably olive green and black-green on top of a likely factory-applied overall light gray winter finish.) The appearance of the plane has a totally different subjective "feel" from that of the profile painting; in fact, you'd hardly know they're supposed to be the same subject. Many of the other paintings have similar problems. Painting number 13, LaGG-3 "white 76," actually depicts a common green/black camouflage job, not a "non-standard two-tone khaki brown" finish as indicated in the caption. LaGG-3 "yellow 6" should be in olive green and black (or olive green and black-green, check your photos and take your pick). LaGG-3 "White 43" should be in the late war two-tone gray splinter pattern, not green and brown. The La-5s/7s also have problems. Aside from quibbles about the colors of various markings, the camouflage finishes should have a very sprayed-on look, with soft edges, not the masked edges represented in these paintings. The Yaks (profiles 26-37) are a big disappointment too. Again, markings details can be quibbled with on some of them, but more significantly, the overall "feel" of the paint jobs is off. The olive green color used for the early camouflage is generally too dark, and two of the Yaks-1s (profiles 26 and 28) probably had black-green as the darker color, not black. Camouflage patterns are not consistent with photos, and again have a "brushed on" look rather than the sprayed-on look of the real thing. Interestingly, these flaws are sometimes identical to those of artwork in older publications. Among other problems, Luganski's Yak-1b "White 58" (profile 29) should be in the two-tone gray splinter pattern, not overall gray. The gray splinter patterns in profiles 34-36 are not very well conveyed - again, these patterns were typically sprayed on "freehand," not masked, which is the impression given here. Yak-3 "white 5" (profile 37) should be in the gray splinter scheme, not green/brown.

The bottom line? This is much better than nothing, and as a narrative introduction to this topic it fills the bill nicely. But modelers without other resources may be led astray when it comes to finishing models of these subjects.

You may be wondering, then, where you can turn for good information on Soviet World War Two aircraft. While the ground is not exactly thick with material on this subject, some good publications have appeared in the last few years. Unfortunately, not many of the best ones are in English! For my money, the best color profiles of Soviet subjects - in the sense that they accurately convey the overall appearance of the airplanes as indicated in photos - are those by Arkadiusz Wrobel in the Polish language AJ Press books. Although he makes a few research errors (Luganski's Yak-1

b "white 58" is one - his mistake seems to have been copied by Weal), and a few of his color interpretations for markings can be quibbled with, in my opinion he is one of the finest aircraft profile illustrators working today. His work in Mihulec's *Stalinowskie Sokoly*, a book quite comparable to the Osprey title in subject and scope, makes it arguably the single best book on this subject for modelers. It includes superb profiles of I-16s, MiG-3s, and Lavochkins and Yaks of all types, in addition to lend-lease aircraft. There are a number of good photos to supplement the profiles, and a wide enough variety of profile subjects - with some plan views - to be really helpful as an overview of Soviet camouflage and markings practices. If AJ Press would only add English translations of photo and painting captions and a few key sidebars, they could double our knowledge of this subject overnight. The AJ Press book on Soviet Naval Aviation, Bock's *Sowieckie Lotnictwo Morskie 1941-45*, also with profiles by Wrobel, has similar strengths.

The best operational history of the air war in the east is Von Hardesty's *Red Phoenix*. Other than the English translation of the almost comically doctrinaire Soviet official history, this is the only comprehensive English language narrative study of the aerial aspects of the Great Patriotic War. It's well-written, well-documented, nicely illustrated, and as authoritative as the state of the art allowed in the early eighties when it was written. After reading this you'll appreciate how much our view of this epic conflict has been limited by Cold War reliance on German sources.

If you're looking for good photos of Soviet planes, the best place to start is with Geust, Keskinen and Stenman's *Red Stars*. It has a photo of just about every type of plane used by the Soviets, including some really odd ones, although some of the photos are now pretty familiar. It also has English captions and appendices of useful data, and a few color profile paintings, most of which are pretty good (I think three of the Soviet fighters have incorrect basic finishes). As usual for this Finnish production team, the basic research and fact-checking is pretty solid.

What modelers really need, of course, is good technical data and drawings of specific subjects, and, happily, this situation is also improving. AJ Press has published an excellent book on the IL-2/10 series which, while in Polish, has such excellent line drawings, color paintings, and photos that the text is almost unnecessary. The Yak-1, one of the most important aircraft of the Second World War, is also finally receiving the attention it deserves. The Russian Polygon firm has recently published a superb monograph on this plane which includes extraordinary line drawings and paintings - second only to Wrobel's work - and scores of terrific photos, all well-produced in a

large format. Even though it's in Russian, this is simply one of the best references ever published on a Soviet, or any other, World War II aviation subject. Now if only someone would translate it. Another recent work on the Yak-1 (and Yak-7) is Harold Stockton's two volume work, *Red Beauty*. While the writing, editing, and production quality leaves much to be desired - are there no real editors left? - volume 1 does include some line drawings, and volume 2 contains a large number of wonderful, previously unseen photos. A quick scan of the much more comprehensive Polygon book on the Yak-1, even without benefit of a translator, reveals that Stockton's description and drawings of the Yak-1 series are incomplete and/or inaccurate (but then, everything else in English is wrong too). The color artwork in volume 2 is also very poorly executed. But volume 2 is worth the price of admission for the wonderful photos alone.

I don't have a copy, but my guess is that all those Yak-1 b/M mysteries, and more, have been sorted out in the recent Putnam title, *Yakovlev Aircraft Since 1924*, by Gunston and Gordon. If you have a copy, I'll be glad to write a review of it for you! Just lend me the book for a few weeks....

Lynnwood's own Michael E. Alanshin has written two fine monographs, *Fighting Lavochkin*, and *Fighting Polikarpov*. The Lavochkin book outlines the development history of the entire LaGG-3/La-5/La-7 series, with a number of nice outline and color drawings. While most of the lengthy preface dealing with the West's Germanophile perspective of the Great Patriotic War probably belongs in a different book, and I have my doubts about some of the camouflage and markings information (particularly the implication of alternate winter/gray and summer/green camouflage), this is an essential reference for anyone interested in these planes. You may have noticed that much of the markings data in this book was used by Aeromaster in its Lavochkin decal sheets. Alanshin's second title covers a wide range of Polikarpov types, from the R-1, R-5, 1-5 and Po-2 to the I-15, I-152, I-153 and I-16, among others. But I found the sections on the I-17, I-180/185 and ITP M-1/2 the real highlights of this volume since there is so little in English on these planes. The production quality of this second book is even better than the first, with nice color artwork of the more well-known of these planes, in addition to many line and detail drawings for virtually all the types covered. This is essential for anyone contemplating building a model of the I-16, and provides much more construction and interior detail than the In Action titles on Polikarpov planes.

So how about those In Action titles on Soviet subjects? All were written by Hans-Heiri Stapfer, and as far as I can tell they're

generally pretty good as developmental histories. The oldest is the booklet on the Yak series, and as one would expect of something written in the mid-eighties that purports to cover a series that included more than eight major types, it is the most superficial and least accurate of all of them. (Those "nonretractable tail wheel doors" always crack me up. I can just imagine Aleksandr Yakovlev telling Stalin about those in one of Uncle Joe's little micro-management terror sessions: "And, comrade Stalin, we have added a feature that uses strategic materials, adds weight, increases drag, and has no utility whatsoever! Shall I just report to the firing range now?") The line drawings and color profiles are mostly unreliable, and the section on the Yak-1 is as usual full of errors and omissions, but the book does include a number of nice photos. In the last few years two In Action titles have been published on Polikarpov aircraft (through the I-16), and one each on the LaGG-3 and the I-12/10 series. In each the text is pretty good (if also suffering from absence of editing), the photos well chosen and captioned, and the drawings and paintings of widely variable accuracy.

If you have read the Osprey book you may now be among the many people amazed to discover that the Soviets employed women combat pilots (and air and ground crews) during the war. If you would like to know more about them, look for *A Dance With Death: Soviet Airwomen in World War II*, by Noggle, or *Night Witches*, by Myles. Each is well written and contains some nice photos, although of course the focus is not on hardware. Maybe the Pentagon brass ought to read them.... So far there are few, if any, other book-length studies (in English at least) of other wartime Soviet aviation personnel.

#### Books referred to:

R. Michulec, *Stalinowskie Sokoly*, Kampanie Lotnicze No. 7, AJ Press, Gdynia, Poland, 1995. Color card covers, 52 pages, 85 b&w photos, 43 color aircraft profile paintings (some with plan views), tabular listing of aces. In Polish.

Bock, Robert, *Sowieckie Lotnictwo Morskie. 1941-45*, Kampanie Lotnicze 9, AJ Press, Gdynia, Poland, 1996. Color card covers, 44 pages, 70 b&w photos, 23 color aircraft profile paintings (some with scrap or plan views). In Polish.

Von Hardesty, *Red Phoenix: The Rise of Soviet Air Power. 1941-1945*, Smithsonian Institution Press, Washington, D.C., 1982, 1991. Card covers, 288 pages, 137 b&w photos, maps, appendices, notes, bibliography, index.

Carl-Fredrik Geust, Kalevi Keskinen, and Kari Stenman, *Red Stars: Soviet Air Force in World War Two*, Ar-Kustannus Oy:

Kustantaja, Finland, 1993. Hard bound color covers, 160 pages, 289 b&w photos, 37 color aircraft profile paintings, decorations in color, appendices, including ace list. In Finnish and English.

R. Michulec, 11-2.11-10, Monografie Lotnicze No. 22, AJ Press, Gdynia, Poland, 1995. Color card covers, 72 pages, 104 b&w photos, 25 color aircraft profile paintings (some with starboard, plan and/or scrap views), 1 color interior painting, 15 pages of line drawings. In Polish.

Ky3He40b, C., LlepBbiN Yak [sort of!], Polygon, Moscow, 1995. Color card covers, 136 pages, 175 b&w photos, 13 color aircraft profile paintings (one with plan and starboard views too), 12 pages of line drawings. In Russian.

Harold E. Stockton, Jr., Red Beauty, Great Patriotic War Series, No. 1, Snow Leopard Productions, Round Rock, Texas, 1996. Color card covers, 120 pages, 21 pages of general arrangement and detail line drawings, appendices, bibliography, note

\_\_\_\_\_, Red Beauty. 2, Snow Leopard Productions, Round Rock, Texas, 1997. Color card covers, 132 pages, 86 b&w photos, 18 color aircraft profile paintings, notes, bibliography, appendices.

Alanshin, Michael E., Fighting Lavochkin, Eagles of the East No. 1, Aviation International, Lynnwood, WA, 1992(?). Card covers, 68 pages, 28 pages of line and detail drawings, 11 pages of camouflage and markings drawings, many in color or partial color.

Alanshin, Michael E., Fighting Polikarpov, Eagles of the East No. 2, Aviation International, Lynnwood, WA, 1994. Card covers, 64 pages, 36 pages of line and detail drawings, 9 pages of camouflage and markings drawings in color.

Hans-Heiri Stapfer, Yak Fighters In Action, Aircraft No. 78, Squadron/Signal Publications, Inc., 1986. Color card covers, 58 pages, 115 b&w photos, 10 color aircraft profile paintings, 4 full page general arrangement line drawings, many scrap and detail drawings.

Hans-Heiri Stapfer, Polikarpov Fighters In Action. Vol. 1, Aircraft No.157, Squadron/Signal Publications, 1995.

Hans-Heiri Stapfer, Polikarpov Fighters In Action. Vol. 2, Aircraft No. 162, Squadron/Signal Publications, 1996.

Hans-Heiri Stapfer, LaGG Fighters In Action, Aircraft No. 163, Squadron/Signal Publications, Inc., 1996.

Hans-Heiri Stapfer, II Stormovik In Action, Aircraft No. 155, Squadron/Signal Publications, 1995.

## Book Reviews:

### USAAF Aircraft Markings and Camouflage 1941-1947 Robert D. & Victor G. Archer Schiffer Military History Book \$79.95 by Norm Filer



It has been more years than I care to remember since I last wrote a book review, and this one is like reviewing War and Peace, so settle in; this may take awhile.

If size and weight were the sole determination of book price, this would indeed be an \$80.00 book!! This hummer is big! No ten photos to a page stuff here. Each photo is generally at least half page in size and often even full page. Art work is also large format for clarity. The quality of paper and printing are what one would expect in what has to be called an expensive book. Color drawings and photos are scattered throughout the book, not just in color insert sections.

Now down to meat and potatoes.

I have considered myself a serious student of U.S. Military painting and markings for a long time. I have a decent library on the subject and felt I understood at least the basics of what and why we painted airplanes the way we did. After spending a few evenings with this book I have come to the conclusion I am probably still in about the 3rd or 4th grade on the subject.

The book approaches the subject in chronological order, starting in 1941. The editors keep the editorial comments brief and generally are explanatory or introductory in nature. Then it is into the specifications, orders, studies, tech. orders and other quoted standards for the relevant discussion subject or time period. Anyone associated with a large corporation or any government agency will understand how much paperwork can be generated on any given subject. This book has 'em all! If you are looking for a definitive reference on the subject, this is it. The King County Library should put this one in the reserved/reference section. This is a SERIOUS book. I think people who want to go beyond the "paint it O.D. on top and Neutral Gray on the undersides" need to consider adding this book to their collection. If your really not into the whys and wherefors, probably you should pass.

There are hundreds of great color and black and white photos throughout the book that illustrate applications of the specs. Some we have seen before, but not many. All are large format and beautifully printed. There is not a lot of coverage of the none-standard stuff. An example is not much coverage of things like the hurried application of camouflage to the early B-17s in the Philippines right after Pearl Harbor. This is understandable as this is an awesome collection of Mil. Standards relating to the subject. If it deviated from the standard, it usually was not included. Plenty of photos of planes in operational markings-just not much non standard. As I said before, this is a quality effort that is worthy of the \$80.00 price tag.

I am not sure my self proclaimed primary grade level permits me to be critical, but I have found errors on some of the captions. An example is a photo of the nose of a 5th Air Force B-25H. The picture is interesting because it has a Tiger covering most of the nose area. The caption says it is showing off its four fifties and 75MM cannon. There is no cannon, and where it normally would be mounted two more fifties stick out the nose. An interesting modification in itself.

One of the things that has become real important to us modelers is correct colors. This striving for accuracy is good. But the modeling world has made FS 595 the standard for everything. Now we have to have a FS 595 number for Japanese/ Russian/German and everyone else. I guess this is good as long as one remembers a few ground rules and facts. FS 595 didn't even exist until March, 1956. Noticeably post war. It did not specify colors for anything other than items (not just airplanes) painted to military spec. Thus if we use it to "eyeball match" paints because it is readily available to everyone, then it is good. But if we expect to find the "official answer" to what color they painted airplanes in the Second Great Military Debate, then FS 595 is not the place to look. This book makes that clear, and if you are willing to spend the time, and bucks, it will make you a real authority on the subject.

All of the paint specs. are here; the Army Air Force Bulletin colors, ANA colors, everything. But, and this is a big but, THEY ARE NOT REAL PAINT CHIPS!! They are printed. Look just like the old Harlyford book paint chips. They look real good, but somehow I come away feeling that for \$80.00 I should expect real paint chips. Everything about this book screams of primary research and effort. It is and will become the authority on the subject. Why not drive the final nail and say "and this is the color" with more authority than "as close as we could get with printing limitations"?

I would give it a 10 for effort, another 10 for coverage of subject, and about an 8 for

(Cont'd on page 14!)

**Reviews** (Cont'd from page 13)

value for money. Two points off for a cheap editor who probably wouldn't spring for the bucks needed to do real paint chips. If you want to have a college level education on the subject, then this is the text book.

**Book Reviews:**

## Boeing KC-135 Stratotanker

**Robert S. Hopkins III**  
by Bob LaBouy 

At last summer's Columbus Convention, friend Tom Copeland advised of the forthcoming Aerofax book on the KC-135 would be out soon. The prepublication advertisement Tom was circulating claimed (in part) this book is authored by a former USAF pilot who "commanded an RC-135 in operations "Desert Storm", and "Desert Shield", "Every variant, sub variant is charted, the histories are discovered....". After spending only about 4 hours reading, reviewing and pouring over my copy, I can give this book an unqualified "BUY" recommendation.

One reason I am interested in the '135 is the little known family of reconnaissance and special purpose aircraft. Mr. Hopkins' book certainly covers this aspect of the Stratotanker. I had no idea there were at least 25 different such versions of the aircraft nor was I aware of the numerous special programs tasked to this airplane in its numerous versions. There are notes, photos and details provided for over 22 such operational programs, with almost every such airframe identified and covered in this text. With the recent issuance of the AMT/ERTL '135 kits and some very interesting after-market decals, there are now a wide variety of such aircraft to model. This is not a book, like some we find today, which had large type either. It is small, with many of the details and footnotes in typeface far smaller than we use in this newsletter. The amount of detail and information contained in this single volume is absolutely unbelievable. Combined with the fact that most of this information has been closely held by the Air Force for many years indicates the value to any researcher of the Stratotanker family of aircraft.

While I don't feel this book will provide all the many small details and close-up photographs desired by many modelers (nor any interior details), there are an enormous number of full and partial aircraft photographs.

In many instances a modeler will be able to learn sufficient detail to build models of those aircraft and certainly the essential overall finish, numbers, etc. are available. In the case of the many reconnaissance aircraft I am interested in, this is the first reference I have which actually gives me the full assignment of aircraft and their respective numbers and unit assignments.

A study of the KC-135 family is no simple undertaking, along with the fact that there were at least 820 built, there are (or have been) at least 84 different configuration of this basic aircraft. There is even a summary of all the reported crashes reported for the '135 family.

I feel this book is a most if you ever think you'll be interested in this aircraft. Written by an experienced pilot, who clearly indicates through this work, that this was a work of love and not just a "quick print" to make a few bucks. I hope you'll enjoy it as much as I do.

Aerofax, now published by the Midland Publishing Ltd. company in Leicester, England. paperback issue, 224 pages, lots of photos, many of them in color. List price is £24.95 or \$39.95; my copy from a local discount dealer was \$34.00.

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## CURTISS HAWK 75

by Earl Otto 

For all you troops out there who flunked kindergarten French or could not dig up the francs for the DOCAVIA issue published in France c.1985, this is the one and only reference you will need for the new Craftworks 1/32 scale kit. I will admit it is a little pricey, but if you shop around you may find it at an outlet with a smaller cover price. Or maybe some will want to chip in and buy it as a small group effort and share it.

This English edition is printed in soft cover with the contents printed on heavy slick paper. It is only 3/4 of an inch thick but it weighs a ton! There are photos galore of all kinds of details, i.e. cockpit, guns, engines, landing gear, etc. Countries that used the Hawk are represented by beaucoup photos. There are also charts listing serial numbers used by countries. U.S. units by Groups and Squadrons, combat reports, three pages on modeling the Hawk series, even photos of other Curtiss pursuits including the crashed XP-37. There are several line drawings of different versions and construction details. Included are some black and white drawings of U.S., British, Finnish and French schemes. The pièce de résistance are the pages of color views right out of the DOCAVIA publication, a couple of them duplicated for unexplained

reasons. A bonus are the color views of the XP-37, YP-37, prototype P-40, P-42, prototype H75, prototype XP-31 and H79 Hawk IV biplane.

If AEROMASTER obtains a copy of this book we may have a lot more Hawk 75/P-36 decals. Highly recommended.

Gerry Beauchamp and Jean Cuny; 344 pages, including index with 12 chapters and 11 appendices. VIP Publishers, Inc. Colorado Springs CO \$49.95 from Zenith Books

**Modeler's References:**

## 428TH TACTICAL FIGHTER SQUADRON (F-111As)

by D. M; Remington, Tidewater IPMS Chapter and J. R. Beaman Jr., Maj. George E. Preddy, IPMS Chapter

This article was to be presented when I observed some F-111As from the 428th TFS, Nellis AFB, Nevada at Langley AFB, VA in July 1969; but about the time I was preparing this article a very interest article from the "M" George E. Preddy's" IPMS Chapter was received with an article on the F-111As in Thailand also of the 428th TFS

Therefore, with permission from Mr. Beaman, we have reproduced his article with my follow-up article.

The F-111As are pictured as they flew from Takli, Thailand with the 428th TFS The squadron was based there from approximately March 1968 to December 1968. It is our understanding that the unit is back at Nellis AFB. Although the F-111A may be delivered with white undersides the photos clearly show those with the 428th to be the Dark Green #34079. This includes the fuselage, pylons and some racks. Other racks were white or black especially those fitted to the lower fuselage of some aircraft. The bomb load varied according to the number of racks fitted from 16 to 24 750 lb. bombs. Bombs are O.D. with the first 6" of the nose a bright yellow. Aircraft #60020 is apparently an off-beat type. The ECM areas of the nose of the ship were white, the main canopy frame and part of the belly fin were natural metal and there were slight deviations in the normal camouflage pattern. The emblem is for the 428th who call themselves the "Combat Lancers." The blue is a dead match for Pactra Insignia Blue and the yellow is a match for Japanese A/N 20 Deep Yellow. The ECM areas on the F-111A are unique. They are actually about the size of the fingernail on your smallest finger. At 1/72 scale, however,

these would not show up but the color is match for RAF dark earth except for the nose areas of the odd ball #60020. For standard camouflage patterns, correct sweep angle with racks and complete stenciling, look in the May 1969 issue of "Flying Review." The 428th aircraft have two further differences than the one in "Flying Review." First, 428th planes for some reason have removed the small cones or actually cut them off at the trailing edge of the elevators and the resulting hole is plugged and painted white. Second, the leading edge of the movable wing section is left natural metal. Why? I don't know. When one thinks about it you realize that because of the racks the wings must stay at a constant angle during a mission (unless they can jettison the racks). Since the wings are at about 1/2 sweep, this would preclude any supersonic dash capability as was originally intended. But, apparently, their low altitude approach and terrain-following radar keeps them out of trouble. Our profound thanks go to Maj. Vic Anthony of Durham for providing most of the info on these planes and the 428th TFS. We have built the Revell kit and it appears to be the best, but the removable capsule is rather "Mickey Mouse" and it appears to cause a good deal of work to get it fitted properly. I suppose Revell's feel they must make something for the kiddies to help sell their kits. This strikes me as rather curious since Monogram's kits are always straightforward and they seem to sell all right. Perhaps there's a moral here somewhere. Once you get past the 23 piece landing gear the kit is very simple to assemble. A 1 oz. weight is required for the nose. There's quite a bit of body work in various places and an ample supply of flash and seams to trim off. For best results, I suggest that you glue the retractable gear and movable elevators in place.

I also suggest you add a baffle inside the fuselage to block up the crack. Apparently there is a similar mechanism on the real aircraft and it is white. This mechanism follows the wing out as it moves to the forward position.

Now the aircraft at Langley AFB that I observed were serial numbers AF 67068, 070, 069, 073, 076, 078, 079 and 085. They were for the flyover in Washington D.C. honoring the retirement of Air Force Chief of Staff Gen. John P. McConnell, July, 1969.

You will notice first of all the stenciled "NA" 24" white. For one day, one Crew Chief told me, they were slanted like the Navy's letters; but had to be painted out and repainted in the upright position. So, if you slant the "NA" you are technically correct. This was done sometime in the last week of July 69 as the Crew Chief said they just got the letters, tail markings, etc. painted prior to leaving Nellis AFB for the flyover.

As you can tell there are many differences between Thailand and Nellis AFB paint

schemes. The drawing indicates most paint changes, but to clarify some points, first: the exposed horizontal stabilizers edges and edges on fuselage portion of horizontal stabilizers are red, except for a one inch edge overlapping onto the edges showing the camouflage scheme. There is a "V" 2" stripe from wing to wing across the hump of the fuselage, with blade antenna on forward portion of aircraft as the meeting point for the "V." To be used for the formation flyover. Not known if to be kept after the flyover, but presumed they will be until aircraft repainted again. The forward main undercarriage door also utilized as the speed brake is red interior, but rear half of main undercarriage door, struts, etc. are white. The Honeycombed ECM areas are a faded olive drab, and undersides a flat black.

The aircraft indicated in Mr. Beaman report show serial numbers different than the ones at Langley; yet, the Crew Chief indicated to me that they were the same aircraft that were in Thailand. They could be different aircraft, or even possible changed serial numbers (which Tech Orders say can be done, but sure involves a pile of work). I submit however, that someone did not read the original serial numbers right. I have indicated one of the aircraft here was AF 67079, small print could make it hard to read and therefore was read as AF 60020. AF 67075 was not at Langley AFB, but 073 and 076 were. I doubt if serial numbers were changed, and I know of no aircraft F-111As in production in 1960, but do know of some F-111As in 1967 — hence AF 67.....

[Editor's note: About two months later, again in mid 1970, the Tidewater Chapter ran the following note, submitted to them by then senior Air Force Sergeant Tom Brewer in which he update the information and data contained in the original article]

**Some More Information On The F-111:** The following information was supplied to (D. M. Remington) by Tom H. Brewer, IPMS #869, Eglin AFB, FL after he read the article in Vol 2, No 2 of "Model Topics." [see above] We appreciate the information and clarification it brings concerning the F-111.

First off, in Mr. Beaman's portion of the article, he makes mention of the aircraft being delivered with white undersurfaces. This would only apply to the un-camouflaged aircraft with the gray #36440 uppersurfaces, all camouflaged aircraft being delivered in gray #36622, this is spelled out in TO [tech order] 1-1-4 and TO 1f-111A-2-1, or the black #37038 or green #34079 as called out in above mentioned TOs.

On the "Lancer" drawings accompanying Mr. Beaman's article the area between the two upper blade antennas marked "RED LINES" are guide lines for the "Boom Operator" on a tanker aircraft when in-flight

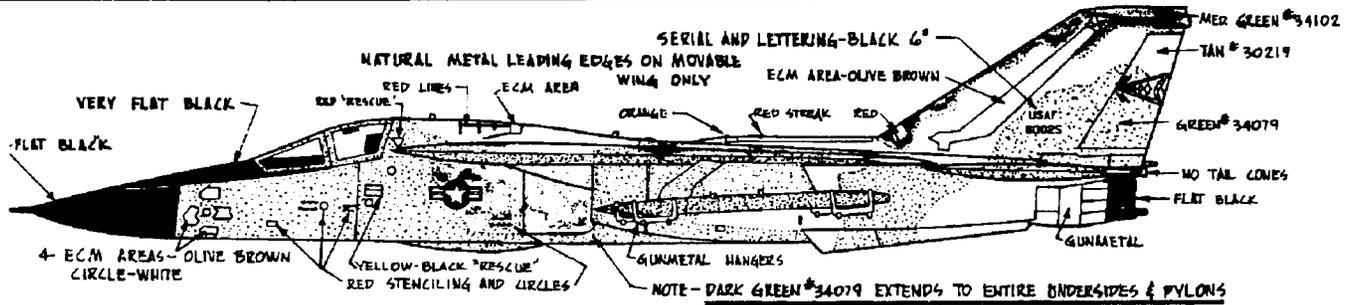
refueling and the ECM area directly aft of the lines is in reality the cover over the IFR receptacle.

The main question posed by the article seems to deal with serial numbers of various aircraft. I contend that both are correct. I refer you to TO 1-1-4, para 3-33, RADIO CALL NUMBERS, as that is what the tail number is, not the serial number as such. It is made up from the true aircraft serial, but the serial number as such appears only on the left side of the forward fuselage directly below the canopy. TO 1-1-4 states that the Radio Call Number (tail no.) shall consist of five numerals and be derived from the aircraft serial number. It further states that the first number of the contract year and the hyphen when is art of the serial number shall not be used in radio call numbers, and that they will consist of the last five number in the serial number, then the second number of the contract year shall be used. (EXAMPLE: serial number is 63-9780 for F-111A #15, 63 being the contract year, then the radio call number or tail number is 39780.) The TO goes on to say that zeros shall be used to fill in and follow the second number of the contract year when five numbers are available. (EXAMPLE: serial number is 66-020 for #38 F-111A, 66 being the contract year, then the tail number would appear as 60020. So that makes Mr. Beaman's 60020 and 60025 1966 models.

Now, as specific as Air Force TOs are written, it is impossible to think of them being misinterpreted, however this does happen....and that is exactly what did happen on the birds you saw at Langley. 67070 is F-111A #115 and this bird should have a tail number of 70070 as per the TO, but in reality it and the others you saw carry the complete serial number on the tail, 67 being the contract year. This happens quite frequently. We have a whole Wing of F-4s here, and they exception is more common than the rule. I have seen many that drop a number out of the middle (EXAMPLE: F-100F-1NA 56-3733 from the 27th TFW, Cannon AFB and aircraft of COL. Robert Scott has the tail number 56733). You would assume this to be a 55 model when in reality it is a 56 model. Anyway, all I'm trying to say is many variations occur, and if you are a serial buff, it does get confusing.

Incidentally, one more thing, I think your Crew Chief was mistaken that the aircraft you saw at Langley were the same that went to Thailand. The Combat Lancer birds were 66-016 thru 66-024 originally and replacements probably included 66-025.

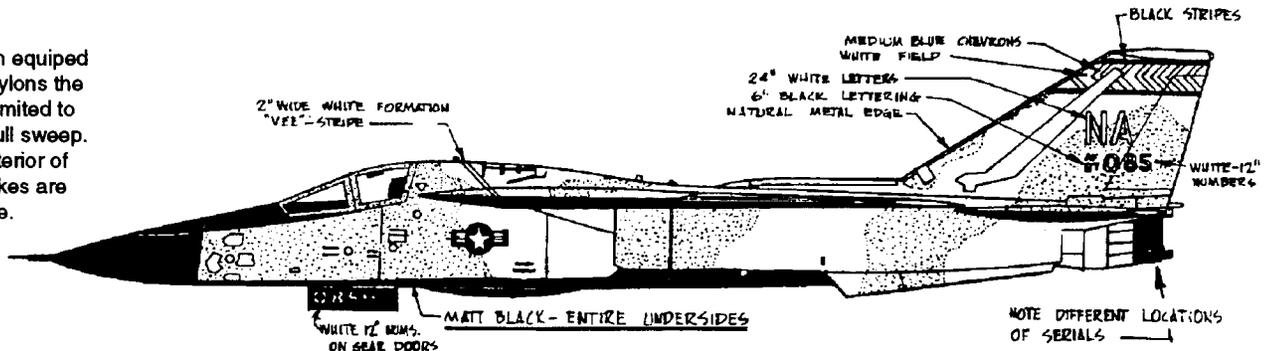
TOs spec drawings indicate on the F-111A and E the callout for the undersides— with all Es being black and three different shades for the As. The uppers on both are the same colors with slight variations in the patten.



**THAILAND, 1968 -**

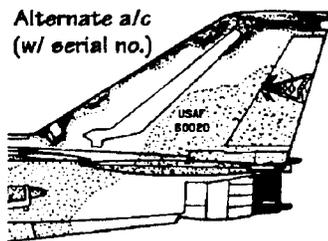
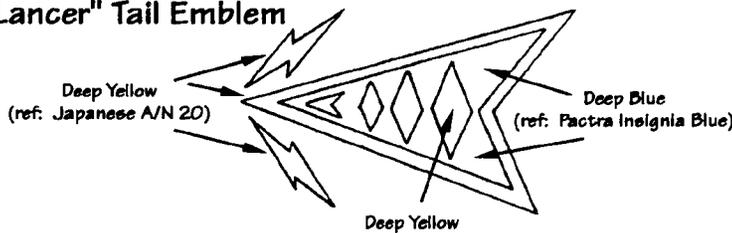
INFORMATION PROVIDED BY MAJOR TIC ANTHONY, IPMS

Note: when equipped with wing pylons the wings are limited to about 1/2 full sweep. Lips and interior of engine intakes are glossy white.



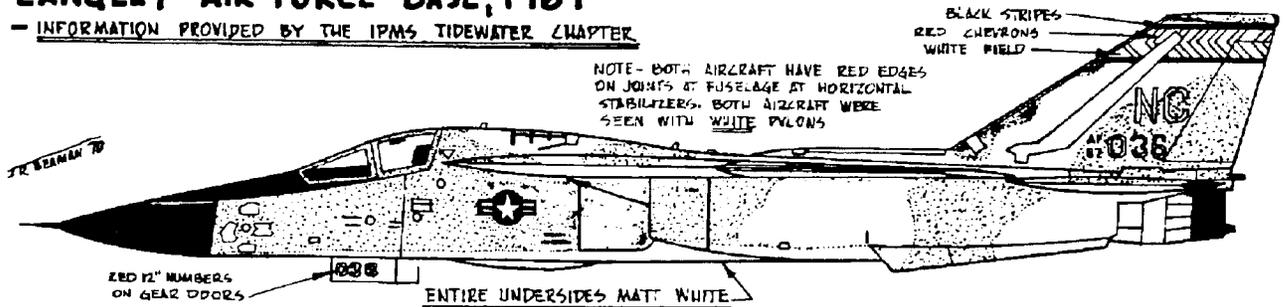
NOTE - BOTH AIRCRAFT HAVE NATURAL METAL LEADING EDGES ON MOVABLE WING, FIN & ELEVATORS

**"Combat Lancer" Tail Emblem**



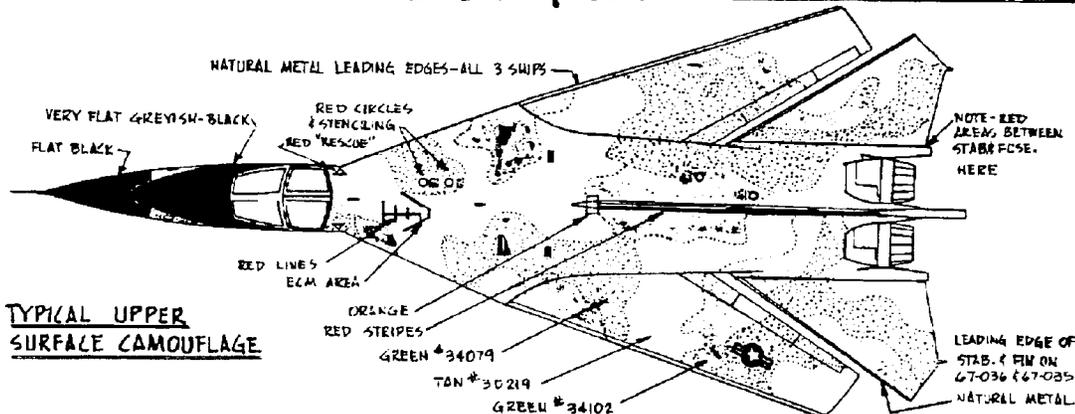
**LANGLEY AIR FORCE BASE, 1969**

INFORMATION PROVIDED BY THE IPMS TIDEWATER CHAPTER



**POPE AIR FORCE BASE, 1969 -**

INFORMATION PROVIDED BY S/SGT. DAVID W. DAVENPORT



Editor's Note: The first 2 air craft were of the 428th Tactical Fighter Squadron. The third may also be, but the appearance of similar yet different coding and tail colors may indicate that the F-111A is now serving with more than one squadron. "NA" - 67085 was at Langley AFB as part of a flyover honoring retiring Gen. John P. McConnell. "NC" - 67036 was at Pope AFB on display during the annual STRICOM Exercises in Oct., 1969. The notes on the red edges to the exposed areas when the horizontal stabilizer is up or down.

**TYPICAL UPPER SURFACE CAMOUFLAGE**

(Cont'd from page 15)

The uppers on the FB-111 differ from both the others in both pattern and color. Green #34102 and Tan #30219 has been replaced with #34159 and #34201 respectively. A good comparison of these colors may be found in FED STD 595. I've seen the FBs at Fort Worth, and they are noticeably different, the colors being lighter and leaning toward a blue shade. Also the pre-production/test birds were in gray and white finish. The FB-111A does callout white undersides #17875 as per TO, but this is only for the FB and not the A models.

[Seattle Ed's notes: This article and it's accompanying artwork were reprinted from 1969 and 1970 issues of Model Topics, which was the IPMS Tidewater Chapter publication at that time. One of our late Seattle Chapter members, Doug Remington, who was stationed at Langley AFB before his transfer to McChord AFB was the Associate Editor at that time. Doug, who was one of the real charaters in IPMS lore, passed away several years ago. But through his research, photographs, newsletter articles, his fine models and many great stories, remains a true legend in the Seattle Chapter.

Tom Brewer, who retired from the AF as an armament specialist has employed at the AF Museum in Fairborn, OH. Several of the "old timers" met with him during the IPMS-USA Convention last year during our visits to the USAF Museum. John Beaman, at about this same time became the Editor of the IPMS-USA Quarterly and continued in the post for approximately two years.]

Reprinted from the *Model Topics*, newsletter of the Tidewater IPMS Chapter.

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## "The Twilight Zone" by Bill Osborn

Is your work area a region in the twilight zone? Do things (parts, tools and decals) seem to vanish with some regularity? Have you ever picked up that ity bity part with a pair of tweezers or, if you are Jim Schubert, a fully operational periscope for a 1/700th Japanese sub, and have it go twang and into oblivion?

Sure, we all have. Any of you who have had the misfortune to come into my work room know that I could loose a Hummer in there and spend weeks looking for it. It's not that my shop is that large, it is just that I'm organizationally challenged. Also, I have a shag rug on the floor (bad move).

I've spent ten to twenty minutes looking for small parts that have gone *zing* good knows where! How can a small irregular shaped hunk of plastic land at your feet and disappear? Even a flashlight shinned along the floor

doesn't show up the missing item. You check your pants cuffs, around the topes of your shoes, sometimes even your fly. No part. Where in the h\_\_\_ could it have landed?

Your down on your hands and knees looking under the work bench around chair legs, kits, books and the cat trying to locate that damn part. It's not there, nowhere, gone, it can't be found. Well o.k, maybe you can make a new one or raid another kit. Perhaps there is one in the "spares" box.

Great, you've spent two days and much effort to cobble up the new gizmo. Its painted and ready to install. But wait, what's this right in the middle of the work area in plain sight? It's the first part. How can this be?

Welcome to the twilight zone!

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## The Three R's (Research, Reference & Reproduction) by John Amendola

ACCURATE SCALE models, display or flying, have always been exciting to see and I think this magic is in most cases equal to viewing the real subject in full scale. Aircraft that did not appeal to me in full-scale held me in awe in model form. Why'? Perhaps the marvelous craftsmanship had something to do with it or, quite possibly, it was the fact that the whole subject could be encompassed within my cone of vision. I could savor the entire concept as its designer had conceived it. Unless we see a full-scale aircraft in flight we are limited by its size to view it in its entirety on the ground.

In any case, I'm in awe of master modelers and feel cheated when an otherwise extraordinary model has an obvious flaw or discrepancy in detail or configuration—especially configuration. I know no one has ever built a perfect model or produced a perfect painting and I am not suggesting every tiny speck and nut and bolt be recreated. But I am suggesting proper research for those who treat this phase lightly.

I know many expert scale modelers and I number Gene Thomas among them. I have always been impressed with his craftsmanship and attention to detail. When Gene asked me to do a guest column for M.A.N. my first reaction was to decline since I only build a model or two per year and am far from, an expert at it. If an article cannot be informative, why write it'? As I thought about it' though, the similarities of the initial stages of constructing an accurate scale model and producing an aviation painting became apparent. Both mediums are fraught with similar problems that

are generally approached in the same manner.

Since there are at least 300 different aircraft I find appealing, deciding on one as a subject for a painting is always a time-consuming process. Accurate plans and photographs must be gathered and studied. Although a model or illustration can be produced from plans only, I don't recommend relying solely on another artist's drawing unless that is all that's available. Photos are always prime sources or those tiny details that give that particular aircraft the characteristics that make t what it is. Again, this is not to say that every significant detail should be reproduced. Use common sense. It is easier to apply a myriad of details on an illustration than on a scale model, but there are detail limits for different reasons in producing a painting.

If you are modeling an aircraft subject from an era gone by' obtaining photos could be a problem. There are sources, however, such as the National Air and Space Museum photo archives, USAF, Army, Navy and Marine photo archives and commercial photo services that have substantial files and can supply the "right stuff,- for a nominal fee, to give your model authority.

If your subject aircraft still exists and is accessible to you, shoot a roll or two of film on it. I recommend shooting the entire aircraft from at least a dozen different angles. Also shoot details: windshields, canopies, cowlings, exhaust stacks, landing gear, etc. You can never have too much reference but you must also be discriminating in it use. Be aware of the resulting distortion in the use of wide angle and telephoto lenses.

In dealing with vintage or antique aircraft, the mechanical reference may be far easier to obtain than the cosmetic details. Many of the photographers prior to World War 11 did not keep color records and there was very little still photography shot in color in those days. But most of your color answers are in someone's file -or memory if that is your only alternative.

And speaking of files, if you don't have them, you should. Securing the proper information to produce aviation art and scale models is important: "Thou shalt collect and saveth all manner of reference thereof.

You can categorize your file in many ways—fighters, bombers, racers, transports, WW 1, WW 11, Army, Navy -or simply by manufacturer with an individual aircraft breakdown within that section. Create and use whatever system works best for you. Legal size is preferable for folders and save everything from clippings and plans to photos.

Researching material to construct a model or to produce a painting is a time-consuming task at best and it is always a joy to find all you need in one file. Of course it is not

(Cont'd on page 19)

## DETAILS, DAMNED DETAILS....

by Jim Schubert

MPM 1/72nd Scale Seversky P-35. Kit No. 72070: Finally! A decent 72nd P-35 has hit the market. This issue from MPM has a first for them, as far as I'm aware, of a very thin, very clear, optically undistorted injection molded canopy. Very nice. A bit of flash here and there on the opaque parts, some uncertain mold-filling near trailing edges and a peculiar lump on the belly of the right fuselage half are the only really poor features of this kit, but on balance I believe it the best yet from MPM. It is very buildable.

Weak points in the kit design/engineering include MPM's standard butt joints for all major parts. So, lots of small metal pins will be needed for strong wing, tail, undercarriage, etc. joints. The aft fairings for the retracted main wheels are very thin sectioned, well cast, resin parts. The usual small fret of MPM photo-etched parts is included as well as a sheet of Propagteam decals providing markings for two U.S. Army planes; one unpainted and one in O.D./Gray and one camouflaged Flygvapnet machine.

Detail wise my only concern is with the wheels. They're not quite round and the smooth outside "hubcaps", which should be flush with the side walls of the tires are in fact recessed. So, you'll either have to make new "hubcaps" of .010" sheet stock or raid your spares box.

If the new tool Hasegawa P-51D is ranked as a "5" and the old Revell P-51D of the early 1960's is ranked as a "0", then this issue from MPM is a "3". Pretty good for MPM.

As there are references aplenty, I'll specify none.

Collection: Wouldn't it be neat to do a collection of silver U.S. Army pursuit ships with the old red, white and blue star rounded and tail stripes? With injection molded kits on the market today you could do a P-35 (MPM), P-36 (Monogram), P-38 (Hasegawa), P-39 (Heller) and P-40 (Academy) without any conversions or scratch building.

Pavla 1/72nd Scale Arado Ar.231 V1, Kit No. 72014: This is that funny looking collapsible, lopsided, twin float scout intended for use from German submarines in WWII. References on this odd bird are hard to find. Green's 1962 Floatplanes, Volume 6, in his War Planes of the Second World War is the only one I've found. This same material was reprinted in his Warplanes of the Third Reich in 1970 with no additions - it is just printed larger.

My only quibble with Pavla's detailing is that there is no indication of the fabric covering of the rudder, ailerons, and flaps. This can be easily corrected by scribing rib tapes on these surfaces before assembly. See Below. The kit provides no indication of the Hirth air cooled six

cylinder in-line engine, so cut a length of 2-56 machine screw to position behind the intake along with a length of steel wire for the foremost pushrod tube.

The kit includes a small fret of photo-etched brass and two vac-formed windscreens, so that you can screw one up and still complete your model.

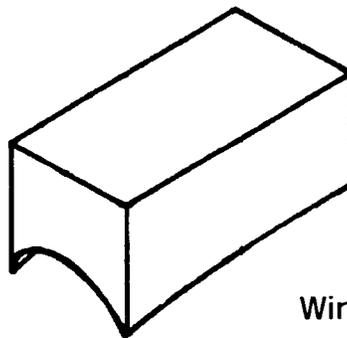
The real problem you'll have with this kit is dealing with the 20(!) struts that bind it all together. It's jig time. To mount the wing carve a small block of balsa wood to fit the top of the fuselage and then carve the top of it to fit the underside of the wing center section and glue it to the fuselage with white glue. Similarly white glue the wing to the top of this jig block. When dry, fit the multitude of wing struts with Super Glue. When dry, dissolve the white glue by running warm water over the model. Voila! Perfectly aligned wing and struts - painlessly.

Fitting the floats requires two jig pieces cut from 1/8th or 1/4th inch balsa wood sheet (see drawings below for basic forms and shapes for these jigs). White glue these to the floats fore and aft of where any struts will intrude. When dry, white glue the assembly of floats and jigs to the fuselage. When dry fit the myriad struts between fuselage and floats with Super Glue and you've done it again!

Pavla provide decals for only one airplane the first Verschuchs ("Test") article, or V1. Green says a small batch of the Ar.231 was built testing. I'd guess that was about six. So if V1 was coded KK + BP it is reasonable to assume that you could substitute Q, R, S, T and U for the final P in the codes if you want your Ar.231 to be different from your neighbor's. These test planes were painted overall RLM 02 pale gray-green.

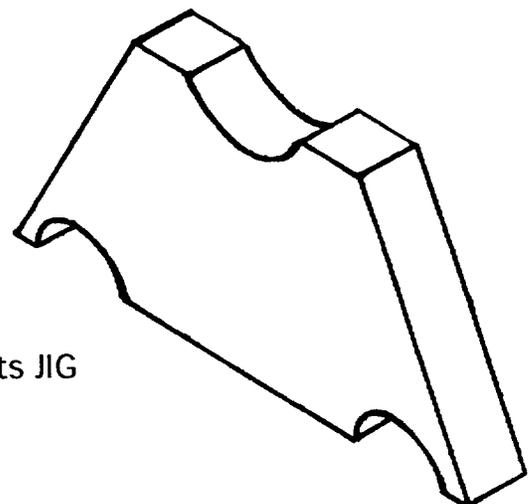
On the scale created above this is at best, and with a bit of a stretch, a "3 minus".

Scribing Rib Tapes: I thought I had a pretty good technique for doing this by Super Gluing two #11 blades together and putting them in one handle as a scribing tool. Wes Moore has a better idea: Find a sewing needle the inside or outside dimension of the eye of which is the dimension you need. Cut the eye in half laterally and grind either the insides or outsides to knife edges and mount in a pin vise. Some guys are just so damned clever.



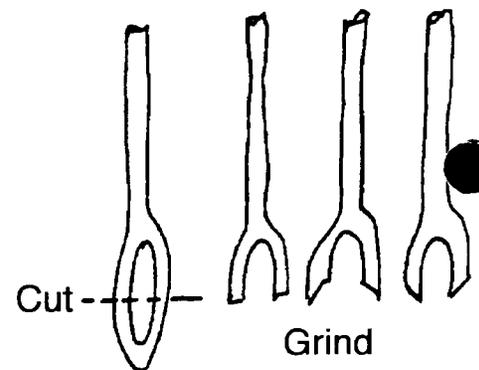
Wing-To-Fuselage JIG

NOT to scale



Wing-To-Floats JIG  
(make 2)

Scribing Rib Tool



(Cont'd from page 17)

always that easy. I put a layout for a painting aside for 14 years because I was in need of key color reference. The necessary information materialized one while I was researching another project, so I resurrected the layout and completed the painting. Since models are not finished in black and white, not having correct color reference can really be a hang up. A scale model or aviation painting is around for a long time and so are the errors you build into it. An hour or two of extra research is all it takes.

The state-of-the-art of modeling today is at a peak never imagined by modelers in my day. There are materials, tools, engines and accessories enjoyed by present day modelers that were not available to the craftsman in the past, but accurate, impeccable models have always been built by artists who knew how to build them. For those of you who remember the New York World's Fair of 1939, you will also remember the many models. The U.S. Aviation building, the buildings of General Motors, Chrysler, Germany, and Italy, to name a few, displayed models of aircraft, trains, boats, autos, and spacecraft. They were of all scales and really stand out in my memory.

Accurate scale models have always held a fascination to me and there is never any excuse for obvious errors in configuration or detail if you are calling it "scale." When in doubt, find out! There is more reference available today than ever in the history of modeling. Use it! Some craftsman have an accurate eye, others do not. But, if the proper reference is used, any discrepancy in one's obvious talents is compensated for.

I have never produced a perfect painting, but I keep trying and I hesitate to tell the reader how many hours I spend in research and drawing before I wet a brush. And still there is a margin for error. Hopefully, it will be minor but this does not diminish that "klutz" feeling.

Art and model supplies are very expensive these days and coupled with the element of time, there is a substantial investment in our product. We owe it to ourselves and our audience to give it our best shot.

I probably haven't stated anything that you didn't already know but it has been a pleasure addressing you. Be aware that we "non-builders" are grateful to all of you who put so much of your sweat and bankroll into your scale models. You have brought us all countless hours of sheer enjoyment with your performing sculpture. And sculpture is really what it is. I could never understand why we have had to endure ugly autos, aircraft, boats, appliances, etc. A poorly styled product does not cost a penny less to produce than one with beautiful styling and, fortunately, we have always had a choice. The worth of a product depends entirely on the talents and competence of its designer and builder and, in scale models,

that's you.

Reprinted from the "RESEARCH ROOM" column by GENE THOMAS, published in *Model Airplane News*, June, 1984 pp 40-42.

*Model Airplane News* Editor's comments:

It's not often one of your close friends becomes a "published author." We have at two notable local members, John Alcorn and John Amendola. As you can see from the following tribute paid to John Amendola, by his friend and modeling magazine columnist, Gene Thomas, there is a lot to John many of you may not be aware of. Aside from these brief notes, it is my opinion that John is not only one of the finest aviation artists (along with boats, cars and landscape artistry as well), he is one of the nicest people you will ever meet. Always willing to assist anyone, great conversationalist and just plain polite. A bit opinionated yes, but you can't ask for a more gracious friend. And if you think John is unusual or different, you should meet his wife Windy or any their sons. Now that I have John's ego about to bust through the top of his workshop, here's what Gene Thomas says about John Amendola:

"The nice thing about this column is that it is all encompassing, which gives me the opportunity to sometimes have guest columnists. You may get tired of me "beating" on scale subjects and I thought it might be fun and instructional if someone else wrote this column once in a while. You might find out I'm not the only crazy in this world.

Allow me to introduce Mr. John Amendola, aviation artist of note. While John doesn't build too many models, he goes through the same research process you and I do with our models so he can produce an accurate painting.

I have known John for almost 30 years. We met when we were both industrial designers/illustrators at AMF Engineering in Greenwich, Connecticut. He was an aviation nut as were several other guys in our department, which resulted in a "ghoulish" game. One of us would draw a very small part of a particular airplane, leaving the rest to identify the aircraft, model number, etc. (And you think you know about airplanes?) The loser bought lunch.

John and I learned to fly together, discovering that an airport in Spring Valley, New York, had the cheapest flying rates. John and another guy, Chuck Taffra, and I would drive from Greenwich to Spring Valley as often as we could afford to spend \$7.00 for an hour of flight instruction, cutting our teeth on Aeronca Champs.

All of us soloed in our time. The three of us, each flying solo, would meet over the then-famous landmark, Motel on the Mountain, on the west side of the Hudson River and fly in

formation down the river, circle the Statue of Liberty, and finally return to Spring Valley.

Many of you who have built any of Aurora's or Williams Brothers plastic models may have John's paintings stuck up on your wall. Most recently John has been involved in the Time/Life aviation series and, while his signature may not be found under many of his paintings, he has been a principal participant in that series.

In this article John will discuss the three R's: Research, reference and reproduction."

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(Tigercat Review - Cont'd from page 7)

fast flyers, but the down-in-the-weeds, shoot-your-way-to-your-target approach that the Air Force's F-6 Mustangs had pioneered in WWII. While the F-6D played a role in Korea (under the new moniker RF-51D), the Marine Corps needed its own intelligence assets in Korea, a country that was virtually unknown to most Americans when the war started. While most Tigercats in Korea served with VMF(N)-531, the task of operating most of these F7F-3P recon birds fell to the Marine Headquarters Squadron, or HEDRON, of the First Marine Air Wing, which operated an odd mixture of types over the course of the war

A typical mission for the Hedron recon pilots took them north to where the shooting was. Flying fast and low to avoid anti-aircraft fire, the planes would pop up over the terrain to photograph specific targets and then bolt for cover. The pilot, while jinking to dodge flak, aimed his cameras with the aid of a mirror between his feet that provided a periscopic view out of the bottom of the plane through a viewfinder located under the seat-not an ideal place to be looking at low altitude in unfriendly skies.

Tigercats took shrapnel and small arms hits with regularity, and one F7F-3P came home with evidence of a tangle with a tree wrapped around its nose and wing leading edges. One pilot, CAPT Kenneth Dykes, could testify that, in these circumstances, the rugged Tigercat was the right airplane for the job. On one mission north of Seoul, a 37mm anti-aircraft shell hit the plane in the right wing, outboard of the engine, blowing a hole the size of a basketball through the wing. The plane shuddered, but after the initial shock, Dykes realized the plane was still flying normally, and he successfully reached his base with his load of precious photos intact.

I've always like '50s aircraft, and the planes of the Korean War in particular. A few years ago, at the Chino contest at the Planes of Fame Museum, I got another boost of enthusiasm for the Tigercat. There, inside the fence of the museum, were no fewer than three F7Fs-one in parts, one complete in natural metal, and

one fully restored in its glossy sea blue active-duty scheme!

With that in the back of my mind, I planned to take on Monogram's old reliable F7F kit, adding scratch-built details to the spots where the kit falls down. Seeing as though this model is as old as I am—released in the summer of 1967, just like me!—it's held up well over the intervening 30 years. Like many of the Monogram kits of that era, the model captures the shape beautifully. Although the kit doesn't say it, the model has the tall tail of the -3 version, and includes a single cockpit position.

The model consists of a fairly conventional parts breakdown—fuselage halves, upper and lower halves for the wings, right and left halves for the nacelles and single-piece horizontal stabilizers. There are some old-timey features as well, however, like the cowlings with molded-in engine faces, and landing gear doors molded into the nacelle halves. Also, a belly drop tank and pylon are molded into the fuselage halves—an odd placement which makes sanding seams on both the tank and the fuselage difficult.

Most modelers would find the greatest fault in the absence of any cockpit detail or wheel well detail whatsoever. I was amassing research material to scratchbuild these components when Aries, a Czech modeling company, released in succession a cockpit set, a resin R-2800-52 and a deluxe set, containing two engines, the cockpit and parts for the wheel wells, as well as hardware for detailing the landing gear and mounting both engines completely exposed!

The set is pricey—I've seen it offered from \$34 to \$28 through mail order—and, for a kit that at its most expensive has sold for \$7, may seem like a little much to some. I purchased mine at the lower price through Pacific Front Hobbies in Seattle, and I was glad I did! The quality of the castings is great, and the photo-etched sheet is good as far as the cockpit components go. There's also the obligatory photo-negative instrument panel included, an almost mandatory part of all Czech detail sets.

Before I started work on any resin, I took some steps to tidy up the Monogram kit. First, I sanded the raised detail down and patiently re-scribed the model, which is a bit of a task considering the lattice-like approach Grumman took to the tail section. At this point, I also addressed some sink marks on the wing and fuselage and ejector pin marks on the horizontal tail, filling them with superglue and sanding them flush.

I used a Dremel tool to thin the inside of the upper wings underneath the oil cooler exhaust doors, which are molded in the open position, but which have blanked-off faces. With a sharp knife, I cut these faces away, leaving a rectangular hole to simulate the open

exhaust. Since there are intakes in the leading edge, light would be readily visible, so I cut strips from a black promotional postcard and glued them to the upper wing, blanking off the exhausts. Who says junk mail is useless?

Next, I added some detail to those intakes, in the form of fine brass screen. Small squares of this were cut out, folded where appropriate, and glued into the lower wing section.

As a final preparatory step, I used a heavy-duty grinding bit in the Dremel tool to bore out the engine faces in each cowling. From the amount of plastic that piled up on my workbench, I'd have to say that this is probably the thickest part of the kit! Boring through it took patience and muscle—so much so that I managed to lose the second cowling while working over the first!

Luckily, a request for help on the rec.models.scale Internet newsgroup had a new set of cowlings on their way from Frank Henriquez within hours! One was bored out, the other left behind to serve as a reminder of why I spent three hours drilling and sanding the cowlings out in the first place! With the cowlings done, the natural next step was Aries' R-2800-52s. These are miniature kits in themselves, comprising a crankcase, accessory section, magnetos, distributors and individual cylinders in resin and a wiring harness in photo-etched brass. The parts are magnificent, with every cooling fin visible in the cylinders and lots of detail throughout. I left off the accessory section and assembled the cylinder rows first; some of the holes for the cylinders have a bit of play, so take caution in aligning them. Also, on my first engine, I glued the magnetos and distributor in place before adding the wiring harness—a real boo-boo that required some major manipulation of the harness to get it in place!

The assembled engine was painted silver, followed by multiple washes of black until it looked sufficiently dirty. The front of the crankcase was finished in gull gray. The final step was the addition of 14 pushrods made of wire which were added to the front row of cylinders only. These were painted black before being added to the engine. In all, each engine had 27 separate pieces—they would have had 42 pieces, not counting the engine mounts, had I opened up the cowlings as the Aries kit allows you to do. As I said, these engines are complex but beautiful kits in their own rights. I have extras destined for a late-model Corsair and a Bearcat, and I will not hesitate to use them again.

Next came the wheel wells. The nose well was straightforward, a resin plug that slipped neatly into place. Some removal of the mounting points for the nose gear was required. The main gear wells were a bit more involved, with a large metal piece that folded up to form

the top of the compartment, a photo-etched rear bulkhead, a resin oil tank and several brass cross-members. These cross members were a big problem with the detail set. Quite simply, they're too big and don't fit inside the nacelles. I made replacements of styrene rod; ultimately, when the model is complete, the insides of the gear bays are impossible to see anyway. The nacelle halves and wing halves were assembled and attached once the gear bays were complete. Unlike most multi-engine kits, the nacelles here presented few gaps, because the entire nacelle is slung under the wing. At this point I started the resin cockpit. The detail set gives you a single piece floor, left console and rear bulkhead, right and left sidewalls, a seat and stick, and a throttle quadrant in resin and a photoetched instrument panel, seat belts and trim wheel, along with lots of small levers. All of these parts are immaculately detailed—maybe not as clearly as Cooper Details sets, but better than True Details early run of 1:72 parts.

To attach the floor/rear bulkhead, you must first cut away the molded-in bulkhead in the kit. When I did this, I found that the new parts didn't fit well into the upside-down "V" shaped area behind the pilot's head. I filed this problem away for future consideration.

The interior parts were primed in black, followed by a coat of interior green (sprayed from above on the sidewalls to impart a "shadow" effect). A source told me that some Tigercats had their rear bulkheads painted in yellow zinc chromate, so I masked the rest of the cockpit and sprayed the lighter shade on the rear bulkhead, which added much color to the entire cockpit. The consoles and radio boxes were painted in a variety of shades of tire black and grimy black, both from the Floquil line; don't use flat black, or else you'll lose your detail in the already-dark cockpit. Next, I ran a dark wash over all the cockpit parts, followed by a drybrushing of the raised detailing in a lightened shade of interior green, or a lighter gray for the dark parts.

At this point, just when I was ready to install the cockpit, I lost the sidewalls on my workbench! I spent another few hours painting a new set of sidewalls from a second cockpit set; when I was done, naturally, the first set magically reappeared. Oh well! Next time I do an F7F, I have one step out of the way!

Test fitting the cockpit parts showed that the sidewalls were too high in relation to the cockpit edge, so I trimmed them down from their lower edges until the floor/bulkhead and sidewalls all fit properly. The Photoetched control panel and its acetate instruments were painted and prepared, as was the seat, seat belt and control column, and these were installed into the left side of the cockpit. In the nose, I glued several ounces of fishing weights in place to serve as a balance for the heavy tail. When the fuselage halves were closed, there

was still a sizable gap left above the rear bulkhead. I filled this gap with bits of styrene and superglue and sanded it flat, taking the resin pilot's headrest with it! Fortunately, the shape was simple and I was able to make a new one from styrene scrap, with the added bonus that it could be painted without masking before it was added to the model.

The fuselage had few gaps-except for where the belly tank and pylon had been. I managed to rip one half of the tank off while test-fitting the cockpit parts, so a large gap had to be filled with styrene where the pylon had been. I sanded the seams, rescribed the panel lines, and moved on. One note here: Monogram includes the upper and lower fuselage strakes in the kit nicely, but these are so petite and so subtle that I've heard and read of people mistaking them for flash and removing them! They do belong there, so leave them in place!

At this point, I decided that the trailing edges of the wings and tail had to be sharpened. I was worried, though, because Monogram captured the shape and texture of the fabric-covered control surfaces very nicely, and I didn't want to ruin that. Fortunately, I discovered that sharpening the trailing edges with a flexifile only enhanced the appearance; the surface now looked like fabric drawn tightly over sharp-edged wooden rib instead of a thick, blunt one! I also turned my flexifile loose on the wingtip lights, removing a notch in the tips for future improvement.

The wings' fit to the fuselage left a bit to be desired, and required some serious shimming on one side to eliminate gaps. Superglue, sanding and patience helped out here. The horizontal stabilizers also required some clean up of their join lines to the fuselage, followed by some refreshment of the panel scribing.

Now that the entire airframe was assembled, I polished the model vigorously with Blue Magic. This gets the surface ready for paint and can also show up sanding flaws without requiring an extra layer of paint. I masked off all the openings and shot the model with-Testors buffing aluminum metallizer. Huh? Why did I do that? Well, first of all, it provides a good check of the seams, and second, it sets you up to do some realistic chipping of the paint. I also shot the cowlings and the Aries resin gear doors with aluminum.

Now the fun part-the markings. I really wanted to do a black F7F-it just looks so much more menacing that way!-but all my references showed were blue Tigercats. I first settled on "Photo Flash," one of the end-of-the-war Okinawa birds, but a second look at the photo showed that the plane had the early F7F-2-style short tail! Another option was the green-and-white striped Tigercat seen in the '50s at Livermore. but this scheme has been done to death, with both the AMT kit in 1:48 and the reissue of this kit by Revell of Germany

featuring it among the decal options.

Luckily, just before I was going to paint the model, Scale Aviation Modeler ran a three-page pictorial featuring profiles of F7Fs. One of them-to my surprise and delight-was Major Dkys' black, single seat F7F-3P! Wary of artists' interpretations, I looked for photographic confirmation, and quickly found it-the title page of Warren Thompson's "Air War: Korea Part 2" features two all-black HEDRON FMAW -3Ps flying past Mt. Fuji.

Up until this point I hadn't planned on doing any subject other than a straight -3; to do a -3P, I needed to make some changes. Luckily, this "conversion" hardly qualifies as such. I had to scribe five ports for cameras on the sides and belly of the airplane, which seemed like nothing after the rigamarole of scribing the entire model! Also, I had to add a few whip antennas to the spine; I did this after painting by drilling small holes with a #80 bit in a pin vise and adding lengths of fine, stiff wire. F7F-3Ps in the Korean Hedron were fitted with direction finding "footballs" on the spine. I scavenged one from an Airfix J2F Duck and made a mount from styrene strip, which I faired in with small amounts of thin superglue. I also cut the kit windscreens from the sliding canopy, dipped it in Future and cemented and faired it into place, then used Parafilm to mask it for painting. At this point, I had a silver Tigercat with a football on its back. Time to paint it black-or rather, a mixture of Floquil flat black and tire black to give a "scale effect." While the scale effect idea gets debated a lot in modeling circles, in 1:72 and with very dark colors, and especially black, it's almost mandatory. Flat black over a large 1:72 model does not look right-it's too toy-like. A lightened version of the color looks right-like you're viewing it from a distance.

After the "black" paint had been applied and had dried for a few hours, I began to take it off-on purpose! With the point of an X-Acto knife, I began chipping the paint at the leading edges and around panel lines. The faded, flat black paint didn't stand up well to the Korean elements, and I wanted to simulate that. I also chipped the now-painted engine cowlings, and, to simulate the wear in the Thompson book's photo, I used a sharp silver artist's pencil to indicate the rivets around the cowling, all of which had been stripped of paint during maintenance. At first, I thought my chipping was somewhat overdone-easy enough to do, because this sort of weathering is a lot of fun to do!

The next step took care of this problem. I sprayed the model with water-based gloss Varathane to prepare it for decals, and while it made the flat near-black paint glossy, it toned down the shiny chips! The Varathane is useful in two ways. It prepares the surface of the model for decals, of course, but it also dries

hard as a rock and protects the model from your mistakes. It gave me confidence to try to apply sooty gray exhaust streaks on the wings and nacelles with my airbrush-an experiment, really, that was possible only because the Varathane was there as my safety net. Since the cowling had yet to be added, there was nothing to mask off. I mixed up a batch of extra thin light gray paint, and very carefully sprayed a pattern of paint like a candle flame from the exhaust stacks back over the wing. When this was done, I still wasn't satisfied, so I went back and mixed black and brown paint to obtain a burnt metal color. Again, this was thinned, and this time I sprayed it only in a quarter-inch area behind the stacks. This looked too dark, too burned, and nowhere near subtle enough. So, I mixed up more of the original gray color and sprayed a bit of it at the center of the brown pattern, then let off the pressure and lightly dusted the entire brown area. The result was a nice, subdued effect that still looked like the plane had been flown with the throttles firewalled-which it had. Now I applied the decals-a simple set of white-and-red stars and bars in four places, stolen from a sheet for F4U-5N nightfighters, and the large "AZ" tailcodes, from a Superscale sheet for 1:48 RAF bombers. The number "3" on the nose was another Superscale decal, cribbed from a sheet meant for Avengers; I tried Aeromaster's white codes, but they were translucent and looked awful against the black paint. (Note to decal manufacturers: If you're going to do white code letter and number decals, you really ought to make sure you use enough ink to make them opaque. They're probably going to go on a dark surface anyway!)

The final touch on the decals was a small Marine Corps emblem, which came from Superscale's decals for pre-war U.S. Navy and Marine Corps units. This went below and ahead of the cockpit, and added a bit of color to the scheme. Once this was done, I finally added the engines and cowlings. I had drilled our the propeller hubs to accommodate the Aries engine prop shafts early on, so now I painted the propellers' tips yellow with flat black blades. I followed this with an application of Testors metallizer sealer, which gave the props a realistic sheen. I also added some chip marks to the blades' leading edges, and slipped them into place on the engines.

The next additions were the landing gear. The use of the Aries parts necessitated some modifications to mount the nose and main struts, and after the necessary portions were cut away I painted the struts glossy sea blue. I assembled the kit tires, painting the hubs blue and the tires Floquil tire black, and got the model up "on its feet," before adding the rest of the undercarriage parts-photo-etched

(Cont'd on page 26)

## U.S. Navy World War II Cockpit Colors by William Reece

[Ed. Note: As some of you will remember, from our November '97 issue on page 14, we brought you the 3rd installment on a very interesting 3 part series on interior colors. Well, that's the way things happen in the "editing world"—now you receive Part 1, dedicated to US Navy a/c and the 2nd part concerning British, French, German and Italian colors. Sorry for the confusion. I still think it is great information and falls into the "every modeler needs to know this stuff" category.]

[The following is taken from the RECON, the newsletter of IPMS John H. Glenn (Cleveland), courtesy of editor John Vitkus, who pulled it off the Internet, and William Reece. —Ed.]

The answers here are complex. Until recently everyone assumed that the interiors of all USN WWII aircraft were FS 34151 Interior Green. This is not always the case, as is obvious from the Accurate Miniatures Avenger instruction sheet. Mr. Larry Webster, an airplane restorer, volunteer with the New England Air Museum, and a friend of mine, has extensive knowledge in this area. Here is some help on this subject, with all credit to Larry Webster.

**TBF/TBF-1C:** Exactly like the AM instructions show. FS 34058 Bronze Green forward from the bulkhead with the window. FS 34151 Interior Green for the rear crew areas. Light Gray (Grumman Gray) inside the cowling (FS 36440 is close). Torpedo bay: FS 34151.

**TBM-1C/TBM-3:** FS 34151 Interior Green. Everything from the inside of the cowling back.

**F4F-3/F4F-4:** FS 34058 Bronze Green. Some may have been painted FS 34151. Bronze Green is the first choice. See the Squadron F4F Walk Around. The inside of the engine cowling and main gear bay were Light Gray, as was the interior of the fuselage. The only area that was Bronze Green/Interior Green was the cockpit above the 'floor.'

**FM-1/FM-2:** FS 34151 Interior Green. Similar to the TBM.

**F6F-3:** FS 34151 cockpit. Engine cowling and fuselage interior, including the area behind the cockpit where the small windows are located, were Light Gray FS 36440. Remember, on all of these aircraft the general rule is that the wheel bays, landing-gear struts, wheel centers, landing-flap bays, etc. are the undersurface color.

**F6F-5:** FS 34151 cockpit. Any F6F with the rear windows will have the rear fuselage in Light Gray (Grumman Gray). Those building

David McCampbell's Minsi III, take note: the inside of the engine cowling could be Light Gray, Interior Green, or Zinc Chromate Yellow (ZCY) FS 33481. Later F6F-5 and F4U-4 had Flat Black cowling interior. The inside of the fuselage on the F6F without the windows would normally be FS 33481 ZCY. All other areas of the airframe that were exposed to weather were painted Glossy Dark Sea Blue. Note that this is not FS 15042. FS 15042 is a Korean War color and is an FS 595a color that is close to but not the same as the ANA color used during WWII. [...I believe the same can be said of WWII Interior Green (ANA 611) and FS 34151.—Ed.]

**F4U-1:** Cockpit FS 34151 Interior Green. All other areas of the F4U-1 Birdcage Corsair would normally be Salmon. Salmon is a pale pinkish-brown primer. The best I can do is to suggest you add white to primer red until it becomes a dull pink color. This color was applied to the whole F4U before the final camo finish. The landing-gear bays were this color. The inside of the main gear doors was Light Gray. Sometimes this was the only overspray over the Salmon. Note: there were canvas covers on the inner and outer wheel bays that were either Olive Drab or Light Gray.

**F4U-1A:** Cockpit FS 34151 Interior Green. All other areas of the F4U-1A were ZCY FS 33481. Early F4U-1A's may have been Salmon. Landing Gear was Insignia White. Early a/c may have had Light Gray landing gear.

**F4U-4:** Cockpit FS 34151 Interior Green. Inside of the engine cowling was Zinc Chromate Yellow, Interior Green, or Flat Black. All other visible areas were Glossy Dark Sea Blue similar to the F6F-5.

I could go on but this answers most of the common questions. Remember that these a/c could and did undergo maintenance, combat, and severe weathering. Colors change and S@#t Happens. The term used then was SNAFU. Check photos of the aircraft you intend to model. [The USN used mostly color film in WWII!—JV.]

### References:

- Mr. Larry Webster, Grumman expert, aircraft restorer, and all-around great guy.
- John M. Elliott, The Official Monogram U.S. Navy and Marine Corps Color Guide, Vol. 2, 1940-1949.
- Doll, Jackson, and Riley, Navy Air Colors, Vol. 1, 1919-1945.

Any errors contained in the above are the sole responsibility of the author. Any additional comments or suggestions are welcome.

—William Reece  
Fly Navy!

[Mr. Reece tells me that Larry Webster

and noted WWII color authority Dana Bell are collaborating on an article on this subject to appear this fall in 'FineScale Modeler.' According to Mr. Reece, "This is an area that is currently under revision by aviation historians. The old paint-everything-interior-Green days will soon be gone." —Ed.]

## A Primer on Primers: Cockpit and Interior Colors of WWII Air- craft

by John Vitkus, IPMS John  
H. Glenn/Western Reserve

[The following is the second of three parts on the subject of WWII primers, the first being Wm. Reece's piece on U.S. Navy and Marine Corps aircraft --see article to left.]

A question that often comes up in modeling WWII aircraft is the color of cockpit interiors and other internal structures, such as wheel wells, split flaps, bomb bays, and so on. Finding out is not always easy, as this topic is neglected in most references. The following is a summary of what I have pieced together from a wide variety of sources, including fellow modelers, color photos, Internet postings, reference books, magazine articles, SIG newsletters, and kit reviews. To me, the best sources are color photos and surviving a/c, but no source is perfect. Lighting, film quality, printing dyes, etc. can distort color photos, and real a/c may not have been restored accurately. The best we can do is to make an educated guess as to what the interior color(s) of a particular subject might have been. My aim here is to provide some general guidelines for modelers to use as a starting point. I'll leave in-depth discussions to others. Since my suggestions relate only to WWII a/c, I'll leave it to others to provide information on a/c from other eras.

Several things should be kept in mind when deciding on an interior color. First, there was great variability in priming, so rarely is there any single 'correct' color. For one thing, official specifications for interior priming, when they existed, were rarely followed closely by manufacturers, resulting in marked variations in color, even among different examples of the same type. Variations in manufacturers' paint stocks, availability and shortages of primers, production demands, and field modifications could all produce individual variations. Furthermore, the service history of a particular a/c would affect the appearance of its primer. For instance, a/c assigned to desert operations could be expected to show more

fading and wear than similar a/c operating in temperate regions. Given all these variations, the modeler shouldn't be too concerned about getting that single 'correct' color.

Second, it is helpful to consider the purposes of interior priming. One is protection from corrosion. This was especially important for a/c that were to be exposed to salt air, such as carrier a/c and those likely to be assigned to coastal command duties, as well as airframes with fabric, wood, or wood-composite surfaces. However, in the late war years many manufacturers were compelled to minimize or abandon priming because of shortages in labor or paint stocks, the need for increased production, and the relatively short life expectancy of the typical airframe. The second purpose of priming was to reduce reflectance or glare in cockpits and crew stations. For this reason it was common practice to use a darker primer on crew compartments than on the rest of the airframe and to continue to prime cockpits after general airframe priming had been discontinued.

### INTERNAL EQUIPMENT

The vast majority of WWII a/c had instrument panels and cockpit coamings finished in matte or satin black. In some cases dark grey or dark green was used, and on occasion the interior color was continued onto the instrument panel, as was common with German cockpits finished in RLM 66. Most instrument gauges had black faces with white needles and readings, although some had black faces with yellow readings (e.g., F4U, B-17), and occasionally, white faces with black data.

Internal equipment items were usually black, dark grey, dark green, or unpainted steel or aluminum. Many critical items (throttle handles, gun triggers, mixture knobs, fuel-tank selectors, etc.) were picked out in red, yellow, blue, white, black, or other easily recognized colors. Items denoting warning or danger (fire extinguishers, canopy emergency release handles, and the like) were often red, and auxiliary fuel lines running through the cockpit in German and Italian a/c were yellow. Your best guide is a color photo of the cockpit. If none is available, a few dabs of these colors on vital equipment should suffice. Remember to tone down the colors. Bright colors are much too vivid for such a small space, and anyway real cockpits quickly became dirty, worn, and faded.

My knowledge of belts and harnesses is limited to British (and Commonwealth), German, and U.S. a/c, particularly the single-engine fighters. Many British single-engine types used a leather Sutton harness with brass fittings. German fighters employed off-white to tan belts with leather lap-chafing pads. Most U.S. shoulder harnesses were dirty white; lap

belts were olive. Otherwise, most belts and harnesses were some shade of khaki, ranging from a light tan to a dull light brown to an olive green.

Unlike most other combatants, there was little standardization among Japanese manufacturers and subcontractors; in fact, Japanese a/c showed a remarkable variety of colors for interior fittings, and it is difficult to make any accurate generalizations. The cockpit primer was often carried over onto the instrument panel. However, panels have also been observed in black, grey, tan, brown, red-brown, and a variety of greens. The instrument gauges were black with white data, with two exceptions: the pressure boost gauges were half black (left) and half red (right), and artificial horizons were light blue. Internal equipment could also be found in a variety of primers (or unprimed), even within an individual a/c. There was some effort to standardize the color coding of important controls, first with the Navy and then later with the Army: throttle knobs, gun triggers, gear levers were red; gun selectors and prop-pitch controls were yellow. Japanese belts were various shades of tan and green, ranging from a bleached tan to a light khaki-olive to an intense jungle green.

### A WORD ABOUT FEDERAL STANDARD (FS) NUMBERS AND "CORRECT" COLORS

The following sections list colors of interior primers with their approximate FS 595b matches. Please DO NOT take these shades as gospel. Besides the variations discussed above, remember that the full-scale color on a paint chip would look much too dark in a small, semi-enclosed scale cockpit. While some "correct" FS 595b color chips closely approximate my idea of a certain primer, others look nothing like what I expected. If you use FS numbers, you may want to lighten the color some (or a lot, depending on scale and openness to light) and "grey out" the color a little.

### PRIMER COLORS

The following guidelines are arranged by nation of manufacture, not necessarily the nation that put the a/c into service. Foreign a/c obtained through Lend Lease or the purchase of completed airframes would be delivered in the interior colors of the manufacturer's nation. Those built under foreign contract would be painted to order, although during the desperate buildup of 1938-39, foreign customers were not too concerned about priming details. Also, it is possible that at some point the foreign a/c would be refurbished, at which time the primers of the adopted country would be applied. Since the vast majority of WWII a/c

were built in the British Commonwealth, France, Germany, Italy, Japan, Poland, the Soviet Union, and the United States, this article focuses on the primer colors of these eight nations.

### BRITISH COMMONWEALTH

(Australia, Canada, India, and United Kingdom)

Crew compartment: Interior gray-green, night (black)

Note: Internal framing on windscreens was night; other canopy framing was interior gray-green, ocean grey, or night.

Structural surfaces: Surrounding exterior color

Description: Interior gray-green is a medium-light, chalky gray-green with no yellow, brown, or olive tint; about FS 34226.

Application: Interior gray-green was used on cockpits and all internal airframe surfaces, including fabric and wood. All structural surfaces that could be exposed externally (wheel wells, gear-door inner surfaces, bomb bays, FAA wing folds, etc.) were painted the surrounding exterior color, which was almost always the undersurface color, including the early night/white scheme (but not counting tactical markings, e.g., D-Day invasion stripes).

Exception: Night cockpits were seen in the Typhoon/Tempest series and in some later night fighters and night bombers.

Exception: The inner surfaces of Mosquito gear doors were unpainted aluminum.

### FRANCE

Crew compartment: Protective green (vert protective), cockpit blue (bleu cockpit), buff green (vert clair)

Structural surfaces: Protective green, buff (chamois)

Descriptions:

Protective green is a translucent bright green which leaves a metallic finish when sprayed over metal, about FS 14108.

Cockpit blue is a very dark blue-gray, about FS 35042.

Buff green is a soft, medium-light gray-green with a soft, tan tinge, about FS 34223.

Buff, or interior cream, is a light, creamy-tan color, about FS 33711.

Application: References mention the primer colors for the MS.406 and D.520.

MS.406: cockpit was cockpit blue (MS manufacture) or buff

green (SNCAO manufacture); wheel wells and split flaps were buff.

D.520: protective green on all cockpit and structural surfaces.

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manufacture) or buff green (SNCAO manufacture); wheel wells and split flaps were buff.

D.520: protective green on all cockpit and structural surfaces.

MB.152: Refs don't mention specific colors; photos show dark cockpits, light flaps and wells; probably follows MS pattern.

GERMANY (Note: RLM stands for Reichsluftministerium: Imperial Air Ministry)  
Crew compartment: RLM 02 green-gray (grün-grau), RLM 66 black-gray (schwarz-grau), RLM 41 gray (grau)

Structural surfaces: RLM 02 green-gray

Descriptions:

RLM 02 is a medium grey with a definite greenish/olive tint, about FS 36165 (I think it's closer to 36369).

RLM 66 is a very dark charcoal grey with no color tint, about FS 36081.

RLM 41 is a light-medium pearl grey with no color tint, about FS 36440.

Application: Most interior surfaces were primed in RLM 02 until late 1940, when cockpits and crew compartments changed to RLM 66. A useful, though imprecise, split is between E and F models of both the Bf 109 and Bf 110. Structural surfaces remained in 02 throughout the war, although disruptions caused many late-war variations. References mention RLM 41 as a cockpit color, but I haven't come across any specific application.

Exception: Me 262 struts were RLM 70 black-green and geardoor inner surfaces were RLM 76 light blue-gray.

### ITALY

Crew compartment: Anti-corrosion green (verde anticorrosione), light grey (grigio chiaro), light gray-green, light-medium green, bright medium green, opaque grey (grigio opaco), dark grey (grigio scuro).

Structural surfaces: same as crew compartment

Descriptions:

Anti-corrosion green is a semi-gloss, light gray-turquoise, about FS 24491.

Light grey is a light pearl grey with no color tint, about FS 36373. This is the same color as RLM 63.

The following three are not mentioned in references (the names are mine), but they are shown in color photos:

Light gray-green is a semi-gloss light, milky green, lighter than British gray-green, about FS 24458.

Light-medium green is a semi-gloss, chalky gray-green, much greener than British gray-green, about FS 24272.

Bright medium green is a semi-gloss, vivid, bright-to-medium green with a slight yellowish tint, about FS 24230.

Two references list opaque grey and

dark grey, but neither provides descriptions or FS numbers.

Application: One way to think about these colors is that they are listed chronologically. Refs show S.79 and Z.1007 with anti-corrosion green; CR.42, G.50, C.200, C.202 with light grey; C.200, C.202 with light gray-green; Re.2001 with light-medium green; and C.205, G.55 with bright medium green. Refs also mention opaque grey for walls and dark grey for floors and doors, but I haven't seen this illustrated in a drawing or photo.

[...to be continued. The third and final installment, covering Japan, the Soviet Union, Poland, and the U.S., will appear next month (space permitting), along with a lengthy list of references. —Ed.]

## NOTES ON SCALE MEASUREMENTS:

by John West

From time to time, especially when the subject of modifications and detailing comes up, the process of scale measurements and their associated problems becomes a block to some modelers. It is for this reason that a short treatment of this subject will be given here.

The basic proportion of the scale is the most important item to understand to enable one to make easy and accurate measurements. They are as follows for the most common scales.

1/72: 1 inch in 1/72 scale equals 72 actual inches in full size. This gives a proportion of 72 to 1, or means that the actual aircraft is 72 times larger than the models. This scale can also be called 1/6 inch scale since 1/6 inch equals 1 foot in this scale.

1/48: 1 inch in 1/48 scale equals 48 inches in full size. This gives a proportion of 48 to 1. This scale is also known as 1/4 inch scale since in this scale 1/4 inch equals 1 actual foot.

1/32: 1 inch in 1/32 scale equals 32 inches in full size. This gives a proportion of 32 to 1. This scale is also known as 3/8 inch scale since in this scale 3/8 inch equals 1 foot.

Scale rulers are available for all of the above scales from suppliers who handle drafting materials and are invaluable for those serious modeler. They are graduated and marked to read scale measurements in actual dimensions. As an example, if a piece for a model in 1/48 scale were measured with a standard ruler it would measure say 3/16 inch. If the same part were "measured with a scale rule for 1/48 scale it would read 9 inches which would be the size of the part actually used on a full sized aircraft. It can be seen from this, that with a scale rule, measurements from the full

sized aircraft can be transferred to the model without calculation, thus speeding those process greatly.

For the purpose of modifying models it is often necessary to determine the relationship of the measurements from drawings or photos to those actual aircraft in order to be able to use measurements from the drawings or photos to the actual aircraft in order to be able to use measurements from the during in construction of a model. To determine this relationship, or ratio of size, first measure some part of the drawing for which the actual full size dimension is known, such as the wing span or fuselage length. Divide the dimension of the actual aircraft. Any measurement can now be taken from the drawing or photo and converted to full size dimensions by multiplying the measurement by those number showing the relationship. For example if you have a drawing depicting a version of an aircraft 70u are modeling and would like to know the height Or the rudder but do not know what scale the drawing is, use the above described procedure as follows. First find a measurement of the real aircraft such as the overall length in this case say 40 feet, then measure this same dimension on the drawing which is say 11 inches, i.e.,  $40 \text{ feet} = 40 \times 12 = 480 \text{ inches}$  divided by 11 inches = 43.636 rounded off to 43.64. This number indicate the ratio between the sizes of the two it., drawing and I real aircraft. Now to determine the unknown dimension of the rudder height', measure it on the drawing and multiply the measurement by the number arrived at above, consider that the rudder measure 1.5 inches on the drawing then  $1.5 \text{ inches} \times 43.64 = 65.46 \text{ inches}$  which would be those height of the rudder on the full sized aircraft. This dimension can be determined from the drawing in the same manner. A second method that is more directly applicable to modeling is to measure some part of the drawing that corresponds to a part of your kit such as the depth of those fuselage at a particular point, those chord of the wing at mid span, etc. Measure both those drawing and the kit part at those same point with the same ruler and then divide those measurement taken from those kit by those measurement taken from the drawing to obtain a number representing those relationship or ratio of those sizes of the drawing and kit. In those same manner as for the first method measurements may be taken from the drawing, multiplied by the ratio number and applied directly to those model.

One word of caution about photographs and measurements. The only areas that can be accurately measured from a photo are those a plane at right angles (90 degrees) to the line of sight of the photographer.

## GREEN CROSSES AT IE SHIMA

by Terry D. Moore

On August 19, 1945, two aging G4M1 "Betty" bombers, hurriedly painted white with green crosses in place of the Hinomarus, took off from an airfield in Japan bound for the tiny island of Ie Shima, near Okinawa. They were ferrying representatives of the Japanese government, led by Lt. General Torashiro Kawabe, to Ie Shima where they would transfer to an American C-54 and then be flown to Manila to discuss the peace treaty with General MacArthur. After the talks in Manila, the Japanese were returned to Ie Shima to fly back to Japan in their own aircraft. One Betty crashed at the end of the Ie Shima runway. The second aircraft with the remainder of the delegation then took off. Unfortunately, the aircraft developed a fuel leak and had to ditch just short of the coast of Japan. The surrender delegation survived and although the surrender

documents were soaked, the vital papers were returned to the Imperial Government. The end of the Second World War was at hand.

The G4M1 is represented in model form by 2 kits. The first is the Hasegawa 1/72nd scale kit, released some 20 or so years ago, and the new 1/48th scale Tamiya kit. The Hasegawa kit, although somewhat elderly is an excellent kit. With the release of later model G4M's by Hasegawa, a complete series of Betty bombers can be built. They may even possibly do a new tool on the early version (pure speculation on my part).

The new Tamiya offering follows the pattern of all newer Tamiya kits: terrific detail and excellent parts fit.

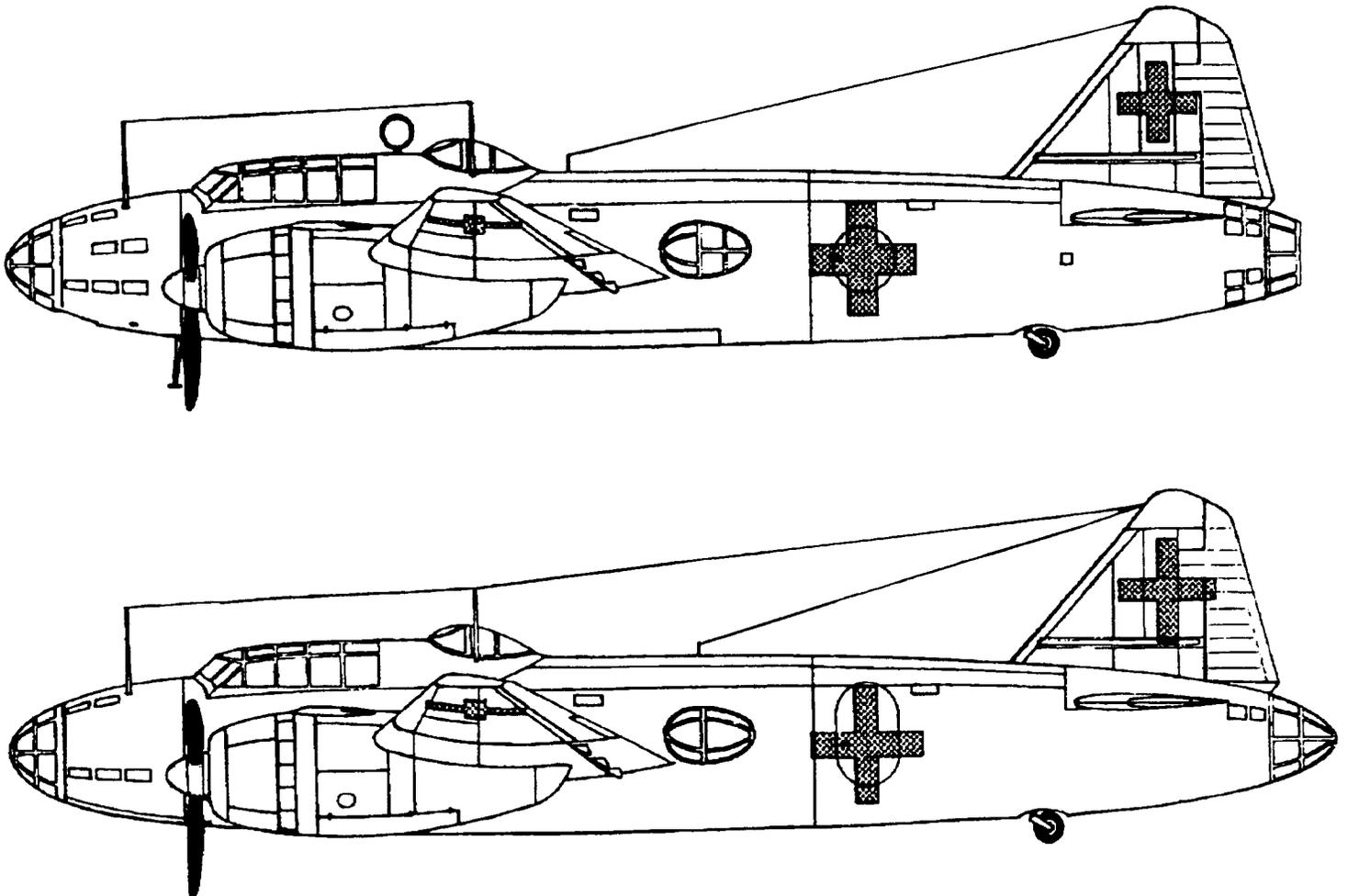
To build the first surrender Betty one need only to build it box stock. I chose to leave off the armament and the bomb sight. Also, the end of the tail turret was removed. The second Betty is the G4M1-L transport version with a different entry hatch, bomb sight panel filled in, some windows removed, a different radio mast array and no DF loop.

Both aircraft were painted white rather hurriedly, and the camouflage and Hinomarus show through the paint. The green crosses were different for each aircraft and were applied rather crudely on examination of photos. The propellers appear to have retained the original color as well as the landing gear.

I chose to paint my model in its original camouflage and I also painted on the Hinomarus and leading edge 'friend' stripes. To paint the white I thinned out my paint and sprayed a narrow pattern back and forth one panel at a time. It took quite a long time, over the course of several evenings, but the uneven finish was very effective and the camouflage and Hinomarus showed through as though the finish was hastily applied as on the real aircraft.

The top drawing is the bomber version. This is the aircraft that crashed at Ie Shima.

The bottom drawing is the transport version. Note detail differences. It ditched off the coast of Japan.



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MB.152: Refs don't mention specific colors; photos show dark cockpits, light flaps and wells; probably follows MS pattern.

GERMANY (Note: RLM stands for Reichsluftministerium: Imperial Air Ministry)

Crew compartment: RLM 02 green-gray (grün-grau), RLM 66 black-gray (schwarz-grau), RLM 41 gray (grau)

Structural surfaces: RLM 02 green-gray

Descriptions:

RLM 02 is a medium grey with a definite greenish/olive tint, about FS 36165 (I think it's closer to 36369).

RLM 66 is a very dark charcoal grey with no color tint, about FS 36081.

RLM 41 is a light-medium pearl grey with no color tint, about FS 36440.

Application: Most interior surfaces were primed in RLM 02 until late 1940, when cockpits and crew compartments changed to RLM 66. A useful, though imprecise, split is between E and F models of both the Bf 109 and Bf 110. Structural surfaces remained in 02 throughout the war, although disruptions caused many late-war variations. References mention RLM 41 as a cockpit color, but I haven't come across any specific application.

Exception: Me 262 struts were RLM 70 black-green and geardoor inner surfaces were RLM 76 light blue-gray.

### ITALY

Crew compartment: Anti-corrosion green (verde anticorrosione), light grey (grigio chiaro), light gray-green, light-medium green, bright medium green, opaque grey (grigio opaco), dark grey (grigio scuro).

Structural surfaces: same as crew compartment

Descriptions:

Anti-corrosion green is a semi-gloss, light gray-turquoise, about FS 24491.

Light grey is a light pearl grey with no color tint, about FS 36373. This is the same color as RLM 63.

The following three are not mentioned in references (the names are mine), but they are shown in color photos:

Light gray-green is a semi-gloss light, milky green, lighter than British gray-green, about FS 24458.

Light-medium green is a semi-gloss, chalky gray-green, much greener than British gray-green, about FS 24272.

Bright medium green is a semi-gloss, vivid, bright-to-medium green with a slight yellowish tint, about FS 24230.

Two references list opaque grey and dark grey, but neither provides descriptions or FS numbers.

Application: One way to think about these colors is that they are listed chronologically. Refs show S.79 and Z.1007 with anti-corrosion green; CR.42, G.50, C.200, C.202 with light grey; C.200, C.202 with light gray-green; Re.2001 with light-medium green; and C.205, G.55 with bright medium green. Refs also mention opaque grey for walls and dark grey for floors and doors, but I haven't seen this illustrated in a drawing or photo.

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retraction struts on the main gear, photo-etch anti-torque scissors on the nose gear, the kit nose wheel door and the resin Aries main gear doors.

Next came small details. I drilled out the underwing signal light and replaced it with an MV lens of the proper size. The wingtip lights, which had been filed away earlier, had small bits of painted wire-red in the left wingtip, green in the right-glued into pre-drilled holes to simulate colored bulbs, with five-minute epoxy applied over them. I held the model nose down until the epoxy set in a way that conformed to the wingtip shape to simulate clear fairings.

Metal tubing was inserted in the wing roots in the 20mm cannon positions, and a photoetched mast antenna went behind the sliding canopy, which came from the Squadron vacuformed replacement pack and was Future'd, masked and painted along with the windscreen. An Aries-provided gunsight went on top of the instrument shroud, along with a bit of clear acetate to serve as a reflector, and I carefully rigged the aerials using fibers from a pair of smoke-colored nylon panty hose.

There it is—a black cat, and one that's been around the block by the looks of it. My sources tell me that Pavla Models will soon be releasing an F7F-3N in 1:72, no doubt based on Monogram's solid old-timer. When it arrives, I may have to build a mate for my Tigercat using the lessons I've already learned.

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SEATTLE CHAPTER WEB SITE: [HTTP://WWW.BLARG.NET/WHITE/IPMS.HTML](http://www.blarg.net/white/ipms.html)

**Saturday, March 14, 1998**

**at 10:00am**

## Meeting Reminder:

National Guard Armory  
Room 114  
1601 West Armory Way  
Seattle

Directions: From North or Southbound 1-5, take the N.E. 45th St. exit. Drive West on 45th, crossing under Highway 99 (or Aurora Ave North) toward N.W. Market St. in the Ballard district. Continue West on Market St. toward 15th Ave. N.W. Turn left (south) onto 15th Ave. N.W. and drive across the Ballard Bridge until you reach Armory Way (just as you see the Animal Shelter). Watch for signs. You should park in the Metro Park & Ride Lot.

If coming from South Seattle, take Highway 99 onto the Alaska Way viaduct to Western Ave. Follow Western Ave. north to Elliott Ave. until it turns into 15th Ave N.W., then to the Armory Way turnoff.

