"P47-D for the fun of it"

By "Larry Shred"

Figure 1

Take a look at the pictures of this P47-D.

Figure 2

Figure 3

Figure 4

Figure 5

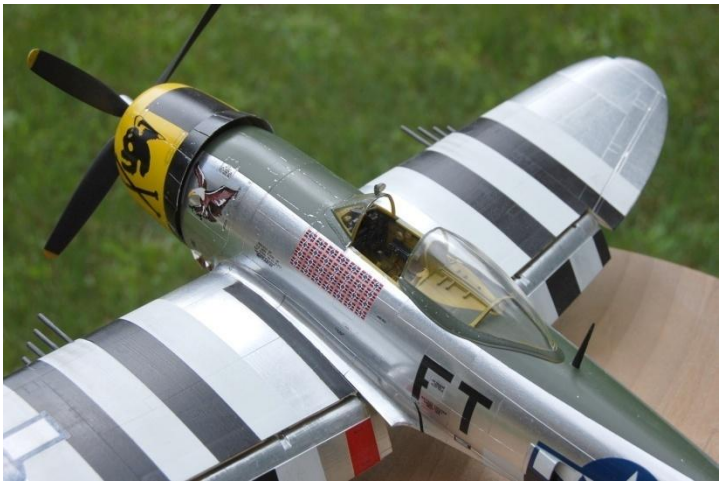


Figure 6

If you're saying something like "That's sweet" or "Man, I'd love to make one like that" or even "This guy is good"… then you are the person I have put this article together for. The intention is not to make myself look good, nor is it to showcase my "talent". It is quite the opposite.

The message I want to convey throughout this article is; I am ***not*** an exceptionally talented model builder. When I first came to ARC I glued models together with standard tube glue, glued everything together then brush painted the kits. They looked kind of crappy but I had fun building them. As I read through the ARC articles and watched the builds others had posted, I picked up methods that helped me a great deal… no, let me make that a stronger statement. I went from building really crummy models to building models people wanted to buy from me.

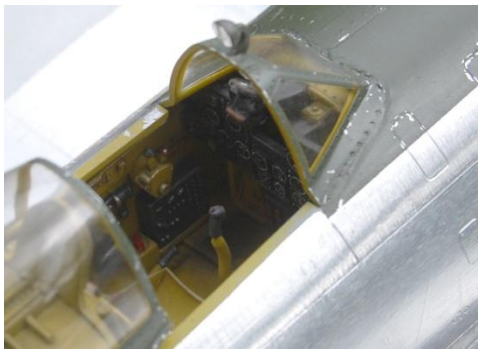


Figure 7

The first time I displayed a 1/48 scale BF109 at my friends hobby store, he called me up after a few days to ask me if he could sell it to a guy willing to pay $200 for it. Sell, sell, and sell! After thinking about it for awhile I realized I was making about $5.00 an hour. Not very profitable to say the least

I love this P47. I think it looks great. It has inaccuracies and mistakes as well as some just plain sloppy workmanship. Mostly because I didn't have the patients to "do it right", but that *is* my point… the only person that has to be happy with it is me.

I generally don't take criticism well (unless of course I've asked for a critique), getting someone's opinion can be important to me, but I hope they don't criticize just for the sake of it - and try to get a nice comment in there somewhere will 'ya? I think my attitude about this started when I use to have my car in custom autos shows and regardless of the amount of care, attention to detail, and hundreds of hours worth of work put into it; there is always the guy who walks up to it looks for 90 seconds and then says "there's a scratch at the bottom of the wheel well on the driver's side". Gee, thanks for noticing that and nothing else. But I do take "suggestions" very well, and that's how I've grown and made myself better at this hobby.

I hesitated to send this article to ARC. I wasn't certain my efforts would help anyone else at least from a "How to" perspective. All you really have to do is start following builds in the "In Progress" forum and then have the desire to build a better kit. Then I thought about the picture taking, editing and writing I've done. In fact, this has taken me more than a year to put together so you're going to read it, damn it. What I'm offing you really, are some suggestions and a glimpse of one man's process, regardless of how good or bad it may be.

Figure 8

For me, building models is a surprisingly fulfilling and relaxing pastime. Building has the remarkable ability to take my mind off troubles & aggravations that may be a part of my normal working day; this certainly wasn't the case when I started. It didn't take long to become discouraged when I saw the spectacular efforts posted on outstanding websites like this one. I was certain these people possessed a special talent and insight I could never hope to acquire… but it's ***not*** true. For the most part it is not a special talent; it's really just a

matter of someone showing us the tricks. That is what I will try to do so I hope you have the patience to read through this entire article and take it in the manner in which it is intended.

Why?

This question comes up often in model building, most predictably when my wife sees the bill from my last trip to the hobby store. In this case the “Why” was a result of my taking about 300 pictures of this build. I decided I would try to document as best I can one of my builds. When I stared this hobby I wished I could find an article detailing a straight forward build start to finish. As a rookie it’s difficult at first to fathom how people built such great models. Instead, I found articles written by a person that spent 6 months building an amazing plane that I wished I could duplicate. But it’s tough when I read an article and I get to the part where the guy says “I turned a new landing gear in 1/48th scale on my home lathe, using a copy of the original blueprints published by Boeing Aircraft”. Hmmm, that’s great, but it doesn’t help me that much considering the fact I’ve made a wheel out of clay, molding it with just my fingers, because I lost the original, not a good wheel either. That's not what I needed. I needed an out-of-the-box build using things I could relate to.

Figure 9

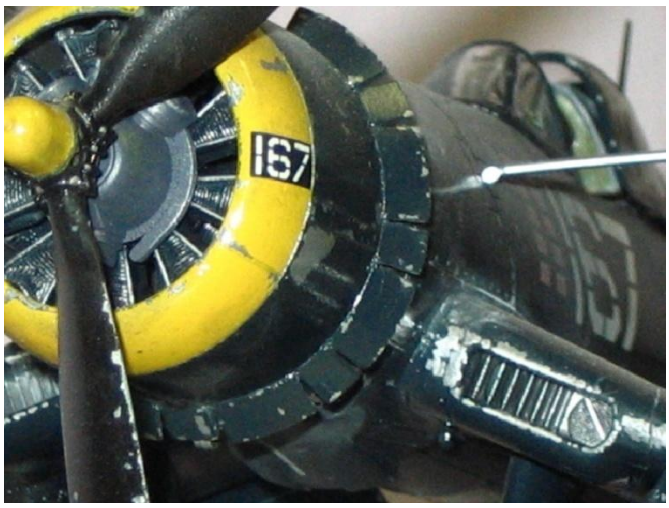


Figure 10

Declaration.

I also should point out this one fact; for me almost all the enjoyment of this hobby is in the building process. I build models because I love building models; that’s first everything else is second. I like them to look realistic but they do not have to *be* realistic. What does that mean? It means if it looks good to me then it's ok. I’ve have made or tried to make exact replicas, getting the detail as accurate as I can. Usually these are commission builds and I feel an obligation to make them “right”. These are never (no really, never) fun builds for me. They also tend to be the projects I work on for a week or so then put down for a month, then go back for a week or so, then put them down for a month… so on, and so on.

Can I be as good as this guy?

Alright, let’s quash that myth right off the bat. You do *not* need to possess the patience of a saint, artistic talent, steady hands or small fingers to build a great looking kit. What you need is some instruction. Granted, if you have patience, artistic talent, steady hands and small fingers, the learning curve is somewhat reduced, but you still need a voice of experience.

It’s not magic and it’s not something you have to be born with. You can learn the tricks & skills that make a good builder. The funny thing is most of what’s required is not really *talent* by my definition but *methods* or *processes* if you will, that produce very good results. ARC is an endless, selfless source of information and assistance regarding these… you should use it.

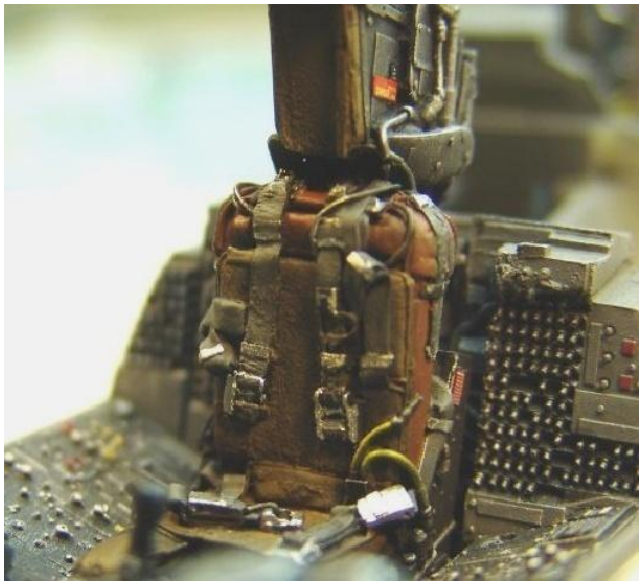


Figure 11

In this article I show how to do some things however, I restricted writing about *every* way to do something due to the fact - I don't know every way. Even when I start talking about cut things off the sprues, I provide you with one or two options on the common methods I use. I don't mention sawing them off, melting them off, and probably one or two others I've forgotten about. If you think of a good way, then use it. Some of things I do during this build are just wrong when it comes to the accuracy of the aircraft. I've done them mostly to make a point… and that point is… it still looks excellent. You looked over the pictures at the start of this article and thought "Hey, that looks pretty good" so it can't be that bad.

If you've seen a magician do an amazing trick and then at the end disclose the secret of it, then you've felt that "Oh, it's so easy when you know how" feeling. The part to focus on is how impressed you were with the trick initially, and then with the secret disclosed it's oh yea… *yawn* nice trick. A great looking model can be like that. You're impressed by the quality, detail and 'realism' of it yet once you learn how easy it really is you become as embittered and unimpressed by it as the rest of us (ok, that was a joke, no emails please).

When I started building I spent a lot of time trying to figure out how someone accomplished the finished product. Reading their description of the process didn't necessarily help me. I was mystified at how builders manage to paint and weather stuff already built. I also had no idea how they painted half the stuff. Their articles say "Then paint and weather the… ". Nice. But how the hell do you paint and weather it?! What do I use? Some things you're going to have to experiment with a couple of times, just to get a feel for it. But that's just part of the learning process so don't shy away from trying it.

I'm going to attempt to show you the build from beginning to end. I hope to take you through the process without skipping crucial elements but let's be reasonable about this; I can't possibly document every conceivable step but I will try to provide more than enough to give you the idea. If you still can't figure it out after reading this, well then… maybe you should consider gardening instead. It's a good hobby too (another joke, No emails please). I forgot to take a few photos during the build but nothing critical was missed, I apologize for that. Also quite frankly, by the time I was ¾ of the way through this I was already sick of documenting it! I don't know how some of you guys have the patience for the detailed documenting you provide during a build. In the end, I sort of gave up trying to keep everything in chronological order for this article so even though it may jump around a little bit I think you'll be able to follow what I've done fairly easily.

Figure 12

Just Beginning?

You have to like building these things and the easiest way to like building them, is to choose a subject you love. So my first piece of advice; don't build airplanes if they don't interest you. The great thing about this hobby is that you can build anything. Cars, planes, figures, boats, motorcycles rockets, monsters, buildings,

anything. Hopefully you'll acquire some of the tools and other things suggested in this article and then build, build, build. If you're just starting out I propose this; buy a model plane (hey, that's what I do… airplanes), any aircraft that interests you. Buy two of the same plane. Build one now the best you can then put it away. Then after you've gained some experience with the help of all the friendly people on the ARC website, go back after a year and build that same aircraft again. Compare it to the first one.

Who am I and why should you listen to me?

Some builders are "professional" model builders. Me, I'm just a regular model builder guy (whatever that is), a family man, sincere, simple, trustworthy. Not at all like those evil "professional" guys. They worry about a lot of things during a build. Don't confuse professional builders with the extremely talented regular guys. There are guys that can fabricate and build anything with incredible realism and detail, and they do it purely out of love for the subject and the hobby.

I love to build and the last thing I really want is to fret over every detail. Worrying about detail can consume you if you let it and for me, starts to take away from the enjoyment of the hobby. My secret is to build for those that can't or don't. I'm not competing with anyone and all I ever hear is praise; "You're amazing", "This is incredible", "How do you do it?", "I could never do this". You can say *"Thank you, thank you. Yes it's true; I am somewhat God-like".*

The secret is in knowing how easy it really is. In reality I don't think I could ever build a kit as well as some of the other regulars on ARC regardless of how hard I try. I don't think it's because I don't have the skill, but because I don't have the *desire* to regularly put myself through the painstaking task of perfection every single time I try to build a kit. Desire is an important part of inspiration and if you lose the desire you lose the inspiration, and ultimately for me - the enjoyment.

I'm not one of those who collect kits either. Of all the kits I've built I've never kept one, if I build one just for fun I give it to someone. There is not a single completed airplane model on display in my house. I have only one model on display. A 1/25th scale version of Tony Stewart's NASCAR built for my wife, so it belongs to her (along with everything else in the house). Like I said earlier, for me the majority of the satisfaction of this hobby is in the building process, and in the joy on the recipients face. I must confess that the praise I receive from the person does tend to boost the ego as well, but that's just me.

Figure 13

In essence there are really two sets of eyes looking at a finished kit. The eyes of another builder (those can be very tough), and the eyes of admirers. Since my focus is on the later, factual realism is not my primary concern. The model has to look good and most of the 'look good' part comes from three things;

(A) Neat assembly
(B) Paints
(C) Weathering.

You could argue that 'detail' should be one of those factors as well. My experience has been if the kit has the look of realism (mostly accomplished through weathering) then detail is really secondary. No one I know outside of the hobby would notice if I used the wrong shade of Interior Green or made up a completely fictitious gun sight for a Mustang, or installed the wrong seat belts. Mostly because they're too busy trying to figure out how I painted each of those little cockpit buttons and gauges different colours. What you learn are the techniques and those techniques can be used to build whatever you like. Some of the skills transfer nicely to other things; I learned how to airbrush so I could build models with the look I thought they should

have. Consequently, I painted flames on my lawn tractor, the wife's kitchen blender, and my kid's catcher's mask, all because I learnt how to airbrush. I figured out how to hide the seams on a model and used that skill to restore a traditional family Santa whose porcelain face got smashed.

So who is this for?

This article has been written with the beginner in mind. That could be the budding youth with no money as well as the mid-life crisis male with lots of it. (Just not a lot of female WW2 model builders. I know there are some, but few and far between). It's also for those who have never had instruction other than those included in the kit box. You'll see my standard methods used during this build but keep in mind there are a dozen ways to accomplish anything in this hobby. I've mostly stuck with the simply ones and although others may not be the most giving of people… I on the other hand, am very giving. Willingly sharing knowledge to enable you to become… well, better than you currently are.

Figure 14

What kind of model and what level of quality and detail?

There is a saying among modelers, "There are no bad kits, just bad builders" …yea, right. There are plenty of bad kits. My suggestion is to stay away from them initially. Look, your just starting out right? Well, let's not make it any more frustrating than it needs to be. I want you to save up your money and go buy a good kit. Trying to glue two poorly designed, poorly made pieces together can really take the joy out of building, particularly if you don't know how to fix the problem. If you don't know what a good kit is, just pose the question on ARC's forum.

Figure 15

Rivet counter! Rivet counter!

Rivet counter is a term applied to some builders in part due to their dedication to authenticity for every build. They can, and probably will be the first to point out what is wrong with any kit. If you let them, rivet counters could drive you insane. I'm somewhat surprised a modeler somewhere hasn't just lost it at a hobby show as some guy points out. …"I'm sorry to inform you that the ARCON 250b antenna wire wasn't installed until August of 1942. This is clearly a May '42 version of the aircraft. Therefore, the attachment point should be a ring hook rivet, not a ring hook screw."

I really have nothing but praise for their knowledge and dedication to and of the subject matter, but I just build them so they look good to me. I can only think of a few reasons to agonize over such details. Every modeller at some point would like to build an exact replica just to say he's done it or if you're building to compete with other modellers. Try to not let detail consume you unless you want it to, and try not to take the comments

RC's may give you, the wrong way. Rarely in this hobby is advice or comment given, meant to be critical or sarcastic.

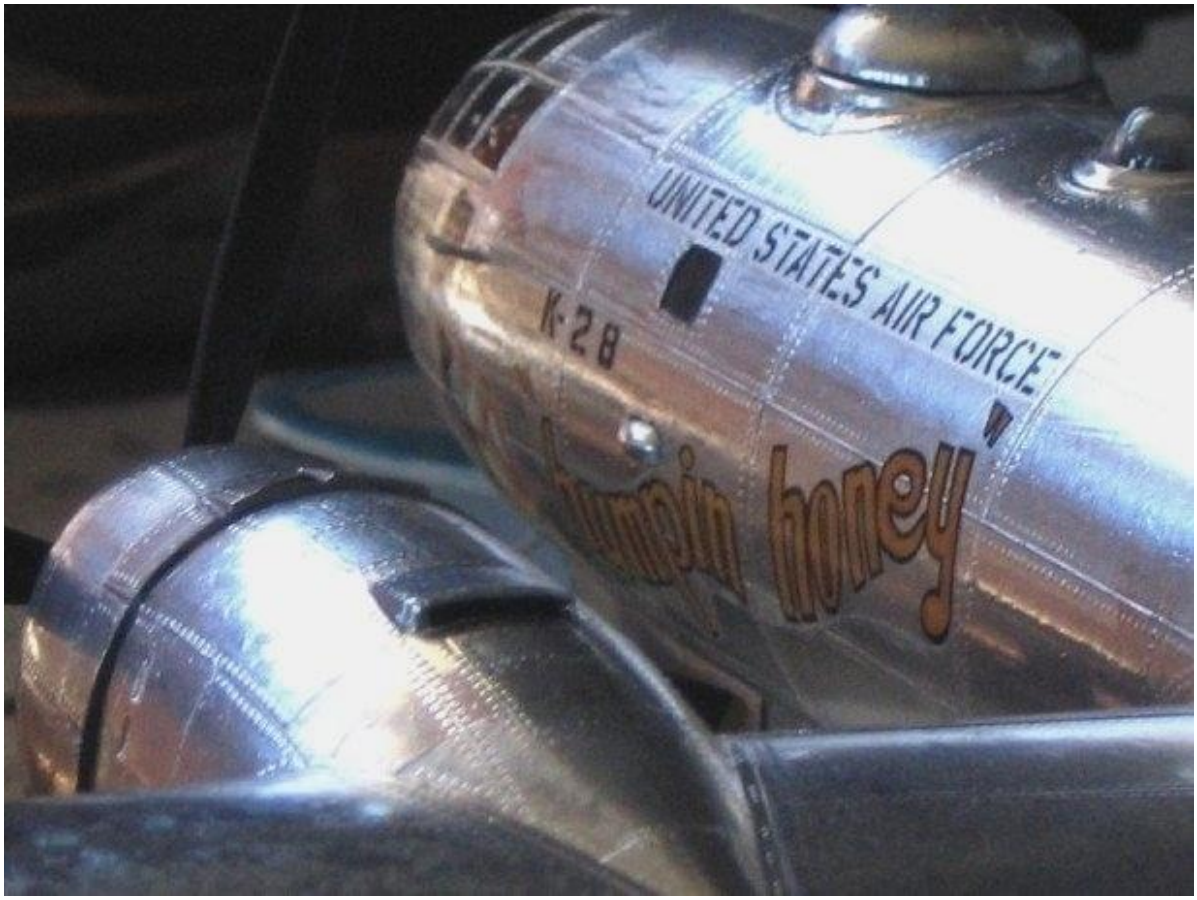


Figure 16

Figure 17

I built a Monogram 1/48 scale B29 and posted the article on ARC, It was my first "all foil" job. I built it for a friend of mine in Alberta, Wes. Wes loves WW2 aircraft and I have built several for him. This aircraft is huge in real life and in model form. I decided to throw a bunch of rivets on it with the help of a pounce wheel because no rivets were moulded into the kit. The rivets aren't in the right spots, not uniformly applied and the wrong distance apart. Some people may have a fit at how 'totally wrong' it is. I think it looks pretty good and that's the point I'm going to keep driving into you... this hobby is about *your* satisfaction.

Lingo, details, steps, and size does matter.

Scale: 1/72, 1/48, 1/32, 1/24, 1/16 and on, and on. Size does matter. The amount of time you spend on a kit can be directly proportional to the size of the kit. In regards to aircraft… 1/72 = small, less detail, less parts to worry about; 1/48 bigger and arguably the most popular size with a great level of detail possible. 1/32, be prepared for lots' a parts.

Many times but not always, the larger the scales the more parts and detail you have. The more parts and detail you have, the longer it's going to take to finish. If you get board easily give size some serious consideration. Another thing concerning size; most of the aftermarket products tend to be aimed at the 1/48 scale marketplace. If that's not true then let me say that at least in my experience, most model stores carry a majority of 1/48 stuff. That works for me because I plug away mostly with 1/48 scale. That size doesn't take

long to build and usually has enough detail to get fiddly about if you want to ("fiddly" is a technical modeling term).

Some of the words you'll hear … sprues, flash, vacuum form or vac-form, photo etch, decals. Scribe, OOB, scratch built, BMF, pin vice, template, punch. I'll try to remember to explain them as we go along. You'll see the order in which I built this model. This is not necessarily the order I always use, and doesn't have to be the order you use.

Tools and other things to hurt yourself with.

Figure 18

Figure 19

This has got to be the most subjective part. What do you need to build a model? Makes me laugh when I read the side of the kit box and it usually says something like "Tools required: Glue, art knife, paint" Right! You'll need some other things too. Figure 20 shows just the glue I use.

Figure 20

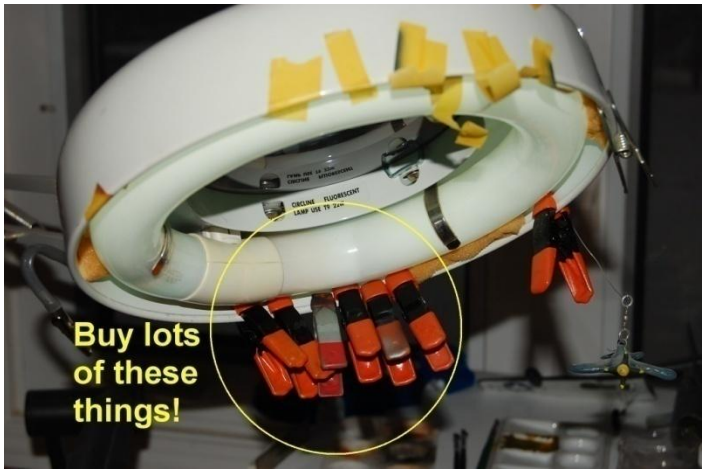
The facts are; everything is a tool. My wife considers a can of peas to be an excellent hammer. My daughter considers me to be quite the tool as well. When with a look of pride on my face I show her the model I just spent 4 pain staking hours (accurately) riveting by hand, she comments that I had to have a drink to get through a half hour of teaching her how to drive because when I talk to her in the car, it "makes her crash".

There are so many things you can use in the model building process it would be impossible to list them all. The reality is; all you really need to build a model is an art knife, paint, glue, brush, and a place to build it. It's probably going to look like crap, but it will be built. So maybe the question should be "To build a model really well, what do I need?" This is difficult to answer in less than 100 pages. I decided the easiest way to cover these items was to take photos of my workbench and explain some of the things seen in the photos. I'll try to

Figure 21

give you an expanded explanation about some of the tools so you have clearer ideas on its use, of course as you get more and more involved (dragged into the Dark Side may be another way of describing it), you will never go to the hardware, electrical, art, or tool stores again without saying “Hey, I think I can use that...”

There are no limits to the amount of tools you can utilize. You will collect things by the dozen. Some you’ll use, some you think you’ll use. I’m going to limit it to what I believe are really the essential things, and since you’re still reading this, I assume you are serious about building



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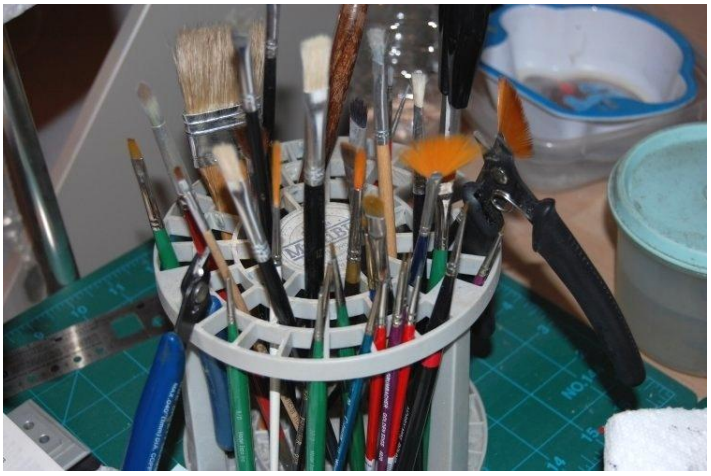


Figure 23

a better kit and you intend to build many of them, therefore, get the tools that make the job easier.

Figure 24

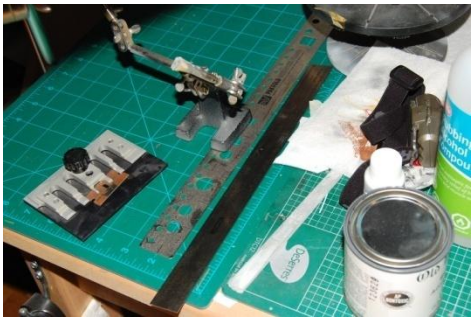


Figure 25

Figure 26

Just to give you a little taste, here is a paragraph I borrowed from something else I wrote awhile back. I thought I’d include it here so you know at what point you can call yourself “committed”. Keep in mind that this just scratches the surface. After dozens maybe hundreds of models and hundreds if not thousands of dollars later, here is *some* of the stuff on my bench:

60 bottles of paint, 4 kinds of thinners, 7 different types of glue, 3 lamps (one with the magnifier built in), 6 or 7 kinds of tape, 6 art knives with 3 different kinds of blades. 2 airbrushes, 1 compressor, 4 types of finishes - flat, semi-gloss, gloss and metalizer, 8 grades of sandpaper, several version of nail files and buffers, clamps, vices, pencils, markers, enough small metal tools for do-it-yourself Dentistry. Enough pastel chalk to sketch a wall size mural, 2 mixing trays (one for paint, one for chalk), about 15 distinctly different paint brushes, small rubber hoses, wire, 3 different shades of thread, two kinds of toothpicks - the flat ones and the round ones, pipe cleaners, jars, two contraptions to hold pieces of models. 3 kinds of putty, Blue Tac, plastercine, cutting board, scissors, lazy Susan (invaluable for painting by the way), 5 - ¼ ounce paint cups, a dozen books ranging from "How to Airbrush" to "Rare Squadron Markings of the Luftwaffe"

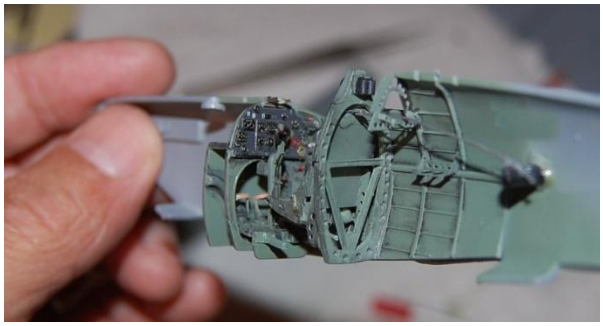


Figure 27

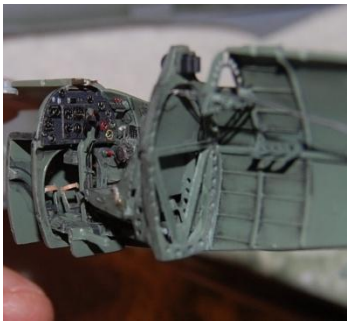


Figure 28

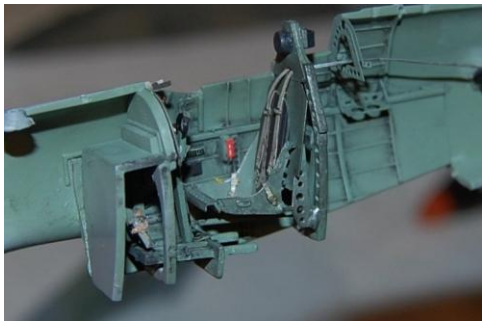


Figure 29

Let's start with a controversial item; the airbrush.

You do not need an airbrush to paint a model. You just need an airbrush to make it look the best it can. You can if you like, hand paint it and get a pretty good looking kit. It will *never* look as good as an airbrushed one does (more angry emails coming my way now), but I understand your apprehension. Maybe it will help if I point out a few things.

(a) You do not need to be an artist or possess artist talent to use an airbrush successfully.
(b) They are not really that expensive
(c) It is easy to learn and use
(d) I'll bet you'll be happy with the results
(e) They are not messy
(f) They clean fairly easy

The most important thing to come to grips with is; *you do not need to be an artist or possess artist talent to use an airbrush successfully*. It is just another tool in your toolbox, sitting there with your hammer and screwdriver or in this case your art knife and glue. I am not an artist but this doesn't hinder my ability to airbrush a model.

Figure 30

Figure 31

If you have made the commitment to build then make the commitment to buy an airbrush. I recommend gravity fed dual action. There are going to be a lot of different opinions on this and you can make your own choice. Mine is dual action, gravity fed and I say that's what you should get because I know more than you do. You can get a decent one for $100 or less, of course now you need to buy a compressor. This is another story, cheap noisy ones that will make people yell "can you turn that thing off" - $50 to $100. Good one, around $250-$300. Save, save, save. They are worth it in the long run. If you plan on buying canned propellant to power your airbrush for the first few uses - well that I can understand. After that, if you are not saving for a compressor then you are a foolish person. Canned propellant is outrageously expensive, provides no control, and will run out at exactly the worst possible time. Compressor… FREE AIR, on-going, unrestricted, adjustable FREE air. FREE air means cleaning your airbrush in 2 minutes.

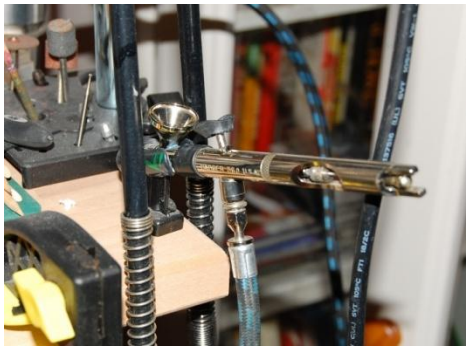


Figure 32

Figure 33

Figure 34

If you're a kid and $100 may as well be a million, tell your parents that by purchasing an airbrush for you they are encouraging the growth of your artistic abilities and giving a forum to express your innermost feelings baby-boomer parents love that stuff), and you will spend more time in your room quietly working away on your kits, all the time building dexterity, the ability to read and follow instructions, learning about history and developing skills that will in the future, help you fabricate things that may save them money. Not only that... you can spray real cool looking abs on Dad before he heads out to beach, or a tan on mom or better yet... remind Dad how much she spends having her nails airbrushed.

Since we're talking about it, I may as well show you my airbrush cleaning process. This is fast and works well. I still give it a more thorough clean every month or so but this is a good daily process. Please don't give me grief about this. Someone is going to say "the fumes...", "the danger of spraying it the garbage" etc. etc. You can do it anyway you want, this is just how I tend to do it. If it's going to be a quick clean, I don't even put on my mask. First thing is the Q-Tip. My suggestion is stick with this brand (Figure 33). The cheap ones are going to cause you grief in the end.

Figure 35

Figure 36

Figure 37

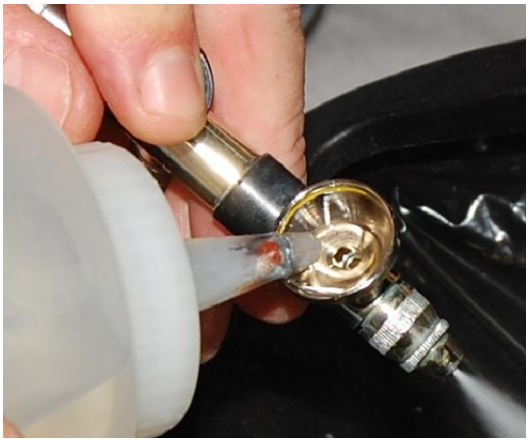


Figure 38

Figure 39

Figure 40

I fill the cup of the airbrush with thinner while spraying into my garbage can. Use a Q-Tip soaked in thinner to wipe in and around the bowl. Use your thinner and spray it through again. Take another and wipe around the bowl again. Spray thinner through again. Pull the needle wipe with Q-Tip, wipe the end of the airbrush… done. Put the airbrush back together and run some nail polish remover through. Cleans it out and leaves a very nice scent! I don't think this process takes me more than 120 seconds.

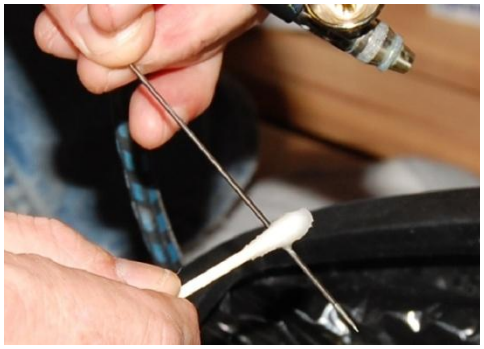


Figure 41

Figure 42

Figure 43

Figure 44

Paint

I use three types, enamels, acrylics and water colours. My problem with acrylics is they tend to be much more difficult to use, no wait… they ARE much more difficult to use (more email for Larry). They start drying on the end of your airbrush while spraying, creating a wonderful yogurt concoction. Also once dry they can be very hard to remove. That's ok on a model but not so good for the inside of an airbrush. Folks will write in to say "just add a few drops of alcohol, distilled water, thinner, stabilizer, enhancer, cleaner, etc. etc." and "you'll have no problems". I've been on the ARC website for a long time and I can tell you with confidence that if you search for all the articles about "How do I solve my acrylics and airbrushing problem" you'd be reading for a week straight, and still not really know the answer. What I do like about acrylics is the fact they tend to cover much better especially if you are using a brush to paint by hand, much more opaque. I find the prep work has to be much better as well with acrylics or the possibility of the paint coming off with your masking, is pretty real.

With enamels the cleanup is easy and they dry quickly on the model even though I can sit with a cup of paint in my airbrush, re-mask an area for 5 minutes then pick up the airbrush and continue, very difficult to do with most acrylics. Sure, enamels smell a bit

Figure 45

Figure 46

but the fumes aren't that bad as far as I'm concerned. I've been breathing them in for years and *its no had effect it no mind me*. You will lessen your grief factor substantially if you just start out with enamels. I haven't given up on acrylics though and I do use them during this build (later you'll see a picture where my masking pulls off the paint, that is the acrylic) I just have to figure them out a little more, when I have time.

One more thing, I don't like to mix paint. There are 10 shades of any colour you want. If the kit calls for a green you have to mix, I guarantee M&M has a green so close I defy anyone to tell the difference. I never mix paint, period. There is no practical reason to do that other than to mix a color you don't have. If you have black paint and white paint, but you need some grey, or blue and yellow paint but you need green… well then mix away, outside of that just buy the colour. I do mix a few drops of white into a standard colour to spray the middle of panels, but that doesn't count as mixing in my world.

Water colours come in very handy for dirty-ing up and weathering, also very forgiving if you make a mistake.

Workbench:

Figure 47

Figure 48

Figure 49

Clearly, a pristine work environment is a sign of mental illness.

Some of the fun of making models is saying “Where the hell did I put the …” then rummaging through piles of stuff scattered about the workspace and room all the while muttering “I just saw it the other day” or the famous “I just had it in my hand!”...ok I’m kidding, but just a little.

I want my work area somewhat clean and organized but I still want it to look like stuff gets accomplished there. Also, it’s very annoying to have to worry about every mark or spill that takes place. It’s a WORK area where glue, putty, cleaners, paints, sanding, and many other messy things are used and accomplished. You can fight the mess or… you can embrace it! Don’t get me wrong organized is good, clean is good. Just don’t drive yourself crazy over it. If you don’t want to work on a model because you don’t feel like having to clean it all up when you’re done” then this takes away from the joy of the hobby.

Don’t skimp on the lighting:

Basically, unless you’re experiencing retina damage or parts are melting from the heat, the more light the better. If you don’t already think I’m crazy you will after this… here is a list of my light sources:

1) Window right in front of me
2) Overhead room light
3) 2 spot lights, each with two levels of lighting
4) 1 desk lamp

Figure 50

5) Lighted magnifier lens
6) An LED headset with 3 LED lights in it
7) A handheld flexible pen light

Let there be light! Trust me on this one.

Figure 51

So, on we go…

I picked up this Hasagawa P-47D 1/32 scale kit a few months ago (almost two years ago now), and I decided to start building it because I had nothing to do at the time. I intended to build this P47 out of the box (OOB) no changes and no additions, just follow the instructions and get the job done. Then I thought, "Hey, let's document as much as I can". Nevertheless, I threw in a few things just for heck of it. One of which was to do it in kitchen foil but don't let this discourage you. I truly believe that in many ways it is easier to foil a kit than to paint it. I'm not going to cover "how to" foil but there is still a lot of painting required, so never fear.

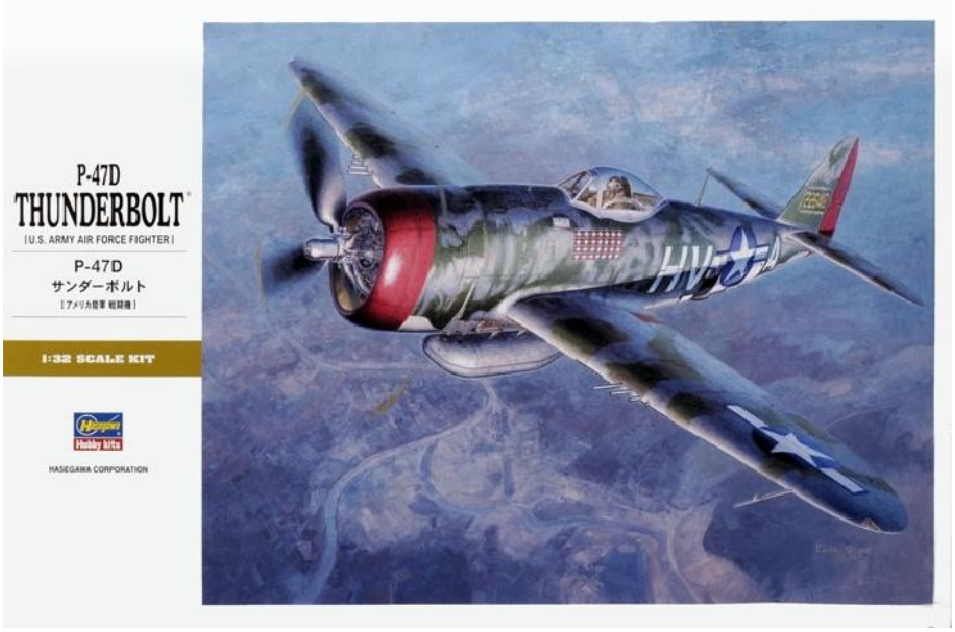


Figure 52

The Rivet Counters are going to burst a vein when they see what I do to this P47 kit. However, please, keep in mind this built is pure fun for me, nothing else.

The first thing you have to do to build the kit is cut the parts off the sprues. There are several good ways to do this and several bad ways. Don't twist, pull, snap or punch out the part. I generally use wire cutters (available at Home Depot for 1/3 the cost of the hobby store's pair) and always leave a significant nub attached to the part after cutting. Then with an art knife

Figure 53

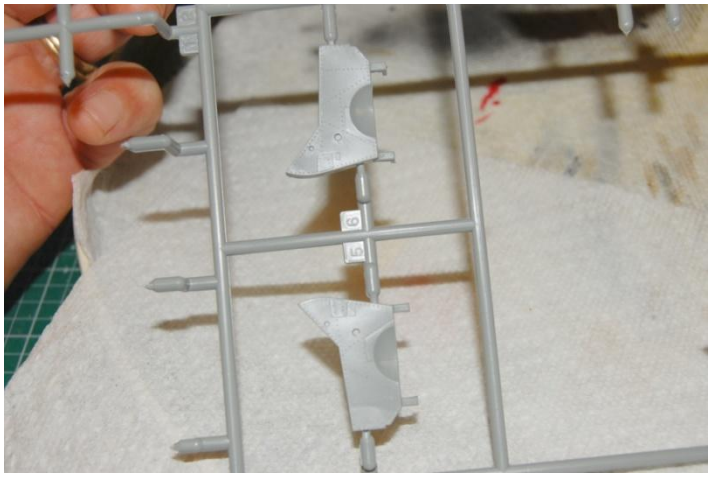


Figure 54

Figure 55

I cut the rest of the nub. If you're not sure you can "art knife" it off without damaging the part or yourself then sand it off. You should give this process a little thought, if you just hack the part off you're probably going to create a compression wound on it. This is going to require you to use some filler to hide. Unless of course you just don't care about the mark and if that's the case, I envy you. You also risk breaking the part. Sometimes (usually on the "glass" pieces), the clear material is much more brittle than the regular plastic and the piece you want to cut off is so close to the sprue, you can't get the cutters in there. You can use the art knife but be careful like I said, it's brittle. I have a soldering iron I often use to melt the piece off in this instance. Of course the melted part is now tempered and even more brittle so you still have to be a little careful, but at least with the part off you have room to work on it.

Figure 56

Now that you can get the part off with minimum fuss, let's start on the kit.

The instructions say start with the cockpit. I started with the engine. Why? It took me a long time to figure out how to start building a kit and this is where experience comes into play. I often change the order of building simply because I see an advantage when it comes to fitting and/or painting. You on the other hand, should follow the order given in the instructions

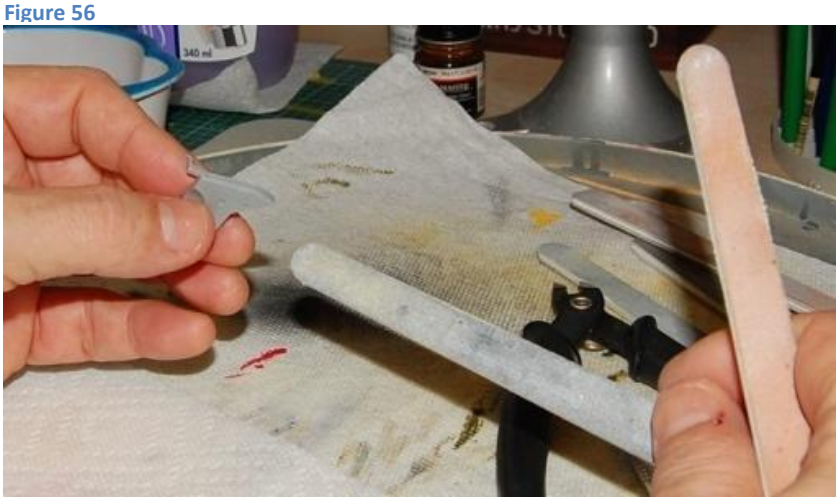


Figure 57

Figure 58

until you've acquired enough experience to not do that. I read the instructions front to back before I start building a kit and I highly recommend you do the same.

Out of the box means generally, a build which has no aftermarket product or scratch built items added to the kit. I am going to do some minor, minor customizing by detailing the engine just a little bit. All I'm going to do is add some ignition wires because they look cool when you see them through the cowl. If you want you can do the same or skip this part of the engine build.

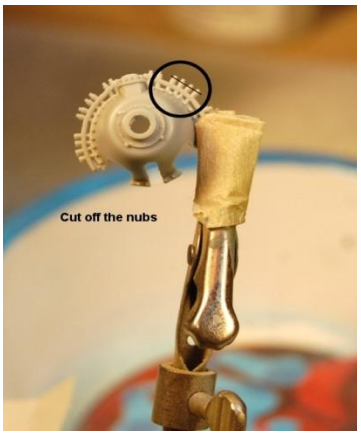


Figure 59

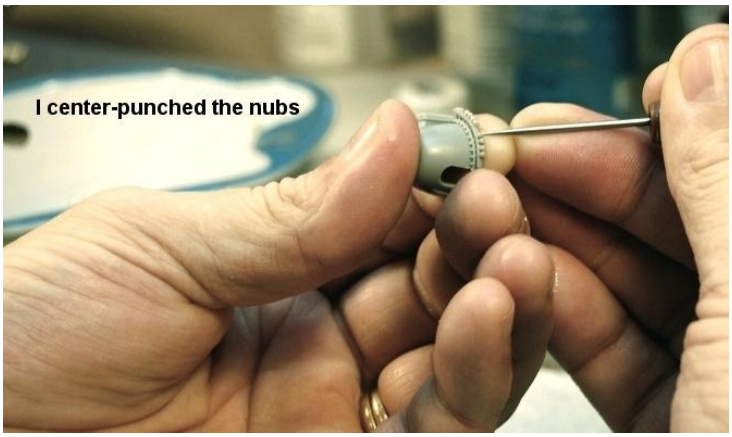


Figure 60

Figure 59 shows where I cut off the nubs so I can drill some holes and stick in some wires. Using my art knife to remove them, I then poke a little hole in the center where the nubs once were. I do this by eye and just get as close to center as I can and make a light mark. If you're off centre, buff out the light mark and try again. If it's good then push it in deeper. The purpose of the small hole is to give me a starting place to drill, nothing else. Now I take my Pin Vice (just a nice way of saying "hand drill"), push against the center punched hole and twist! This isn't really a difficult to do so don't be hesitant to try it.

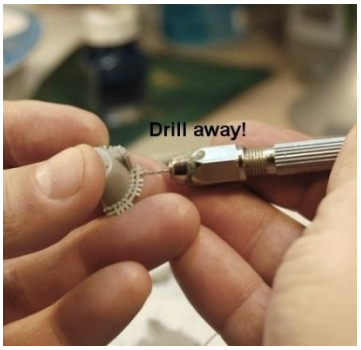


Figure 61

Figure 62

I cut wire into little pieces and CA glued them in place (Crazy Glue or Super Glue). I didn't do the neatest job on this but when on the completed aircraft you really can't get that good a look at where they connect. Next, I drilled out the place where I'm going to stick the wires on to the cylinder heads and glue them in.

Figure 63

Figure 64

Now a little painting; I know people (and I used to be one of them), who get to a point where you have to paint something, let's say silver. Then would cut off and collect every part in the kit that had to be painted silver so they could paint them all at once, thus only having to clean the airbrush once. I have since come to the realization this is a bad idea. The parts sit around and you spill stuff on them, lose them, sneeze and many of them hit the floor. If that happens you can count on a few things; as soon as you move your foot you will step on one of the pieces or, you will spend the next 4 hours on your hands and knees trying to find it. When you can't, you'll give up looking. Then you'll call in the kids in the room and offer them $5 bucks each if they can find it, when they give up you'll up it to $20 for the one that finds it. Then you'll either spend 4 hours fabricating a new one, begging someone on the ARC forum to send you their "extra one", sending away to the manufacturer for a replacement or even buying the whole kit again. Once you solve the problem by making or getting a new piece, you'll stand back and look at it with the satisfaction of a conquering general. While you're admiring your work, out of the corner of your eye you'll see something sitting in the middle of the floor. It'll be the piece you lost a month ago. Don't fight it, just accept it.

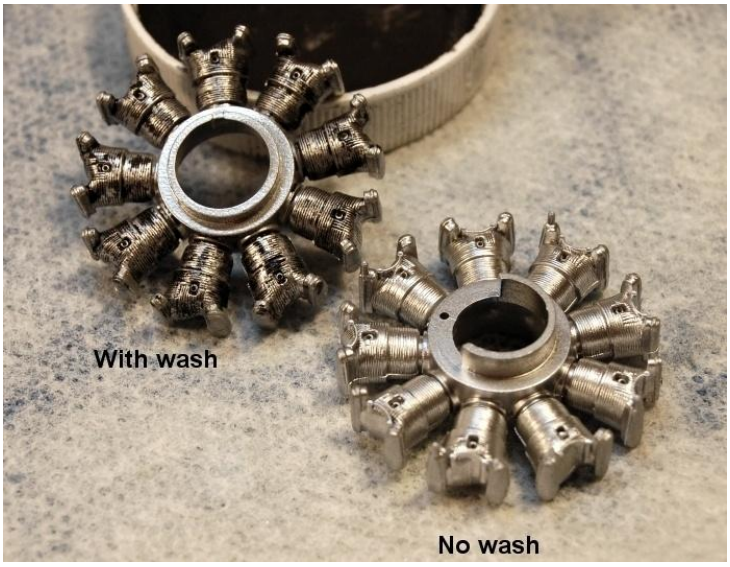


Figure 65

Now I limited how many pieces I cut off the sprues in order to avoid losing or damaging pieces unnecessarily. Some people like to paint the parts right on the sprue then cut them off and touch them

up. I don't use this method. If there is a small part I have to paint before assembling, I remove it from the sprue and if I can't hold it in my fingers or with tweezers then I'll stick it on the end of a pin or in some Blu-Tac and paint it.

Unless you're going to use parts in the next few hours, then I leave them on the sprue. You may be putting the same colour back into your airbrush an extra 10 times but cleaning the airbrush is not difficult, so don't be lazy, just cut off and paint what you need for the short term.

I painted the cylinders in silver enamel because I ran out of my usual colour, and added a wash (more on washes later). I should explain that in Figure 65 where it says "With wash", that I have not removed the excess wash yet.

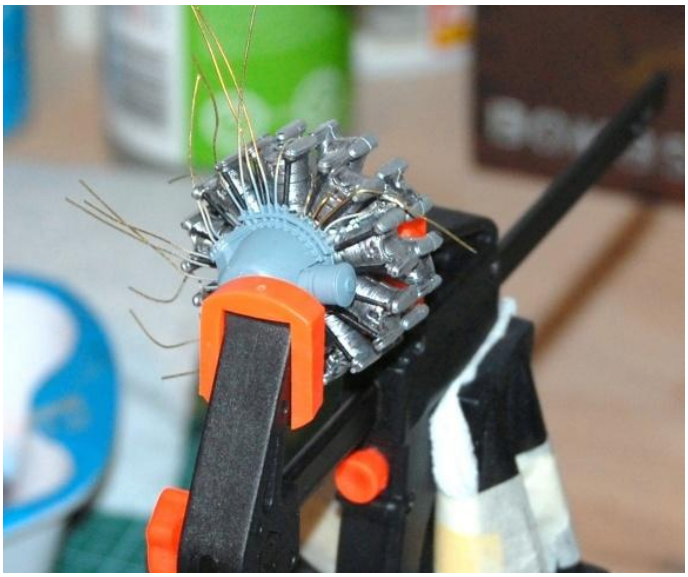


Figure 65a

After painting the engine parts I glue it all together using Tamiya Extra Thin, stuck the works in a clamp and left it until the next day - and that brings me to another point; I've learnt that the ability to put something down for a day is one of the key requirements for success in this hobby. You should resist the temptation to keep building something especially when it's going well. Letting a piece cure overnight will sometimes save you a lot of grief in the end. Just walk away from it. I often walk into the hobby room spend 2 minutes gluing one item on and then leave the whole kit till the next day.

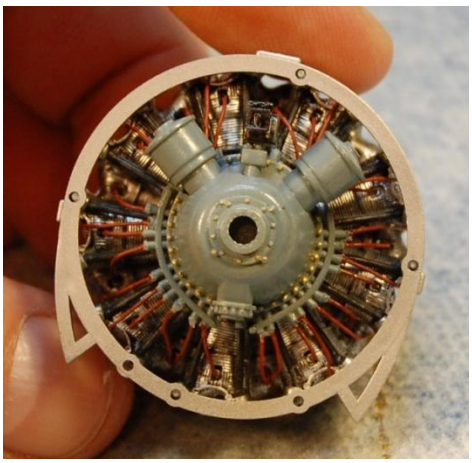


Figure 66

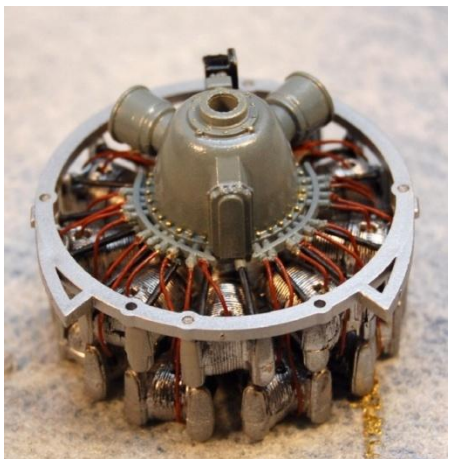


Figure 67

Figure 68

I clipped the wires to size, inserted them into the holes in the cylinder heads and painted them (with a brush). Later I added the ring-thingy (another modeling term, I suggest you use it sparingly), and painted the bolts brass (because I like the way it looks, not because it's right), then brushed on a coat of Future (it's a clear acrylic coat). I can tell you the wires are not factually correct in their placement or colour but once again, I like the look.

Added the little manufacturer logo and then applied a wash to the engine. Remember to add decals before you add a wash. I used a wash made from scraping dark grey pastel chalk with my art knife, into a small container then adding a drop of dish detergent (the green stuff) and water. Mix it up and brush it on. After it has dried, I take a Q-Tip and start removing the excess. I find with this type of wash that just breathing on the Q-Tip is enough moisture to remove the excess.

Now the engine cowl.

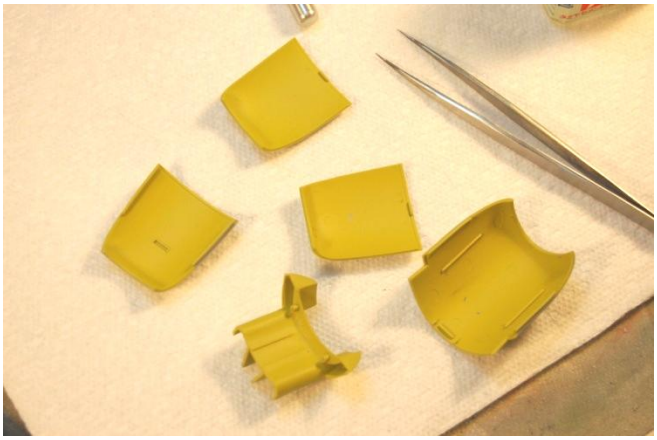


Figure 69

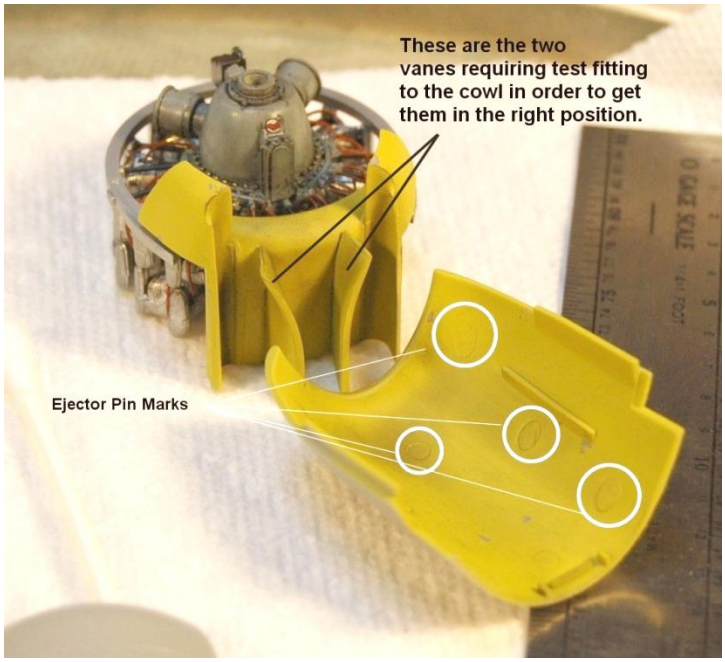


Figure 70

I separated the pieces and cleaned them up a little then applied Chromate yellow with the airbrush.

After painting, I used ground-up black pastel chalk to dirty-up the intake area. This is brushed on dry. You can see the ejector pin marks on some of the parts. Some builders would fill these before they paint however, these will never be seen so… why bother?

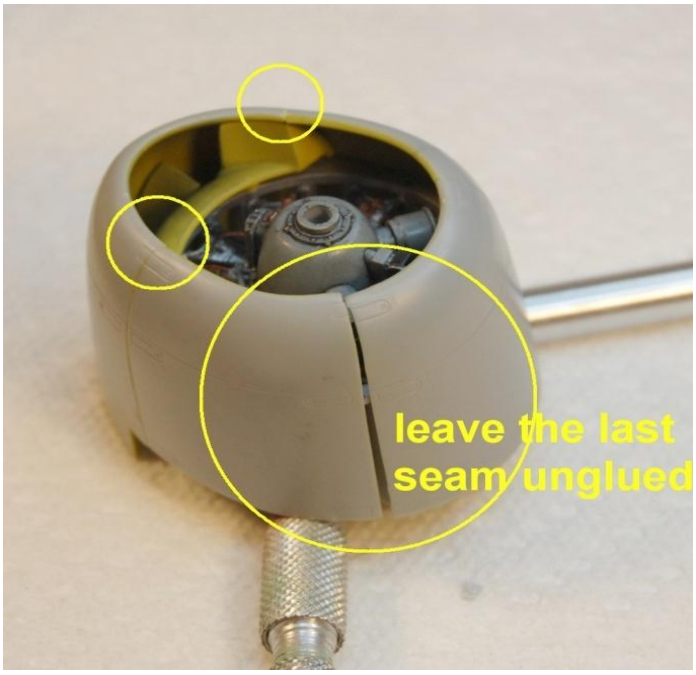


Figure 71

Figure 72

Test fit everything. You can never test fit enough; it will save you time and cut down on the amount of 4-letter words you use during the build process. The two vanes in the intake area are examples of how test fitting will save you some grief. The instructions tell you to glue them together in place. The problem is you really don't know what position these parts end up in until you put the cowl on. You need to glue them with Tamiya Thin (because it doesn't set up right away), and then assembly the bottom part of the cowl to it. This way the vanes are pushed into the right place. This saves you the grief of adjusting everything because the vanes dried in the wrong position.

Next, I put the cowl together. This is where we get back to the "having patience" thing. First, I assembled and glued three pieces of the cowl, this let me line up all the seams quite neatly and easily. Then added the last part of the cowl but only glued ONE side of it to the previously glued parts, then left it overnight to dry.

The advantage of this is that I now have three perfectly lined up seems requiring little if no corrective work. After the part has dried overnight I can work it, bend it and force it as much as I want to make the last seam fit properly, without affecting the other seams alignment. In the end the only seam requiring clean up was the last one, and that was minimal. This is a method I commonly use to fit canopy glass to the fuselage. Often the glass does not fit properly on both sides of the fuselage. To combat this I fit one side of the glass using Tamiya Super Thin to both glue and slightly melt the plastic. This way I can fit one side perfectly. Then leave it overnight. The next day I can stretch or squeeze together the canopy to fit the other side perfectly.

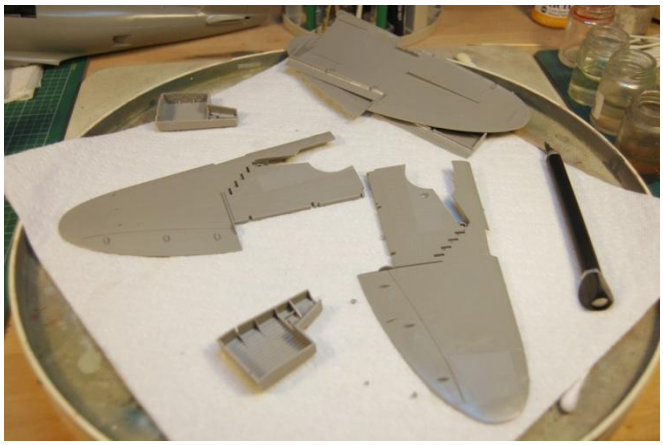


Figure 73

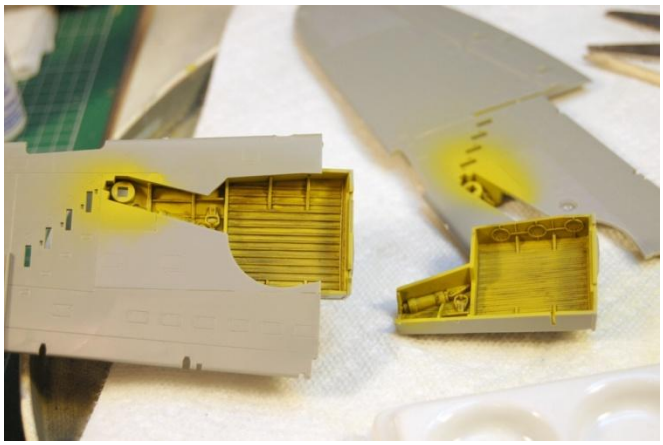


Figure 74

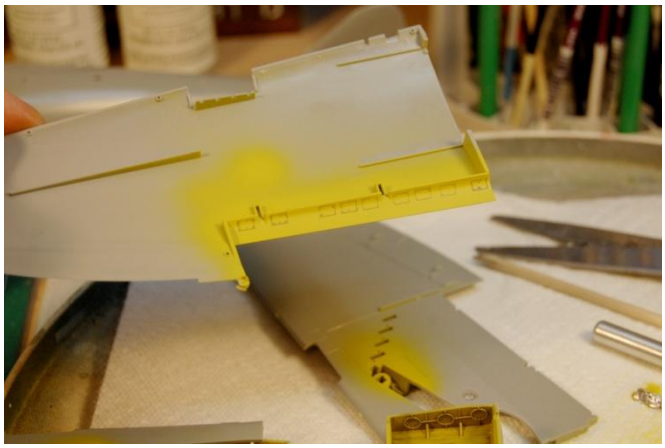


Figure 75

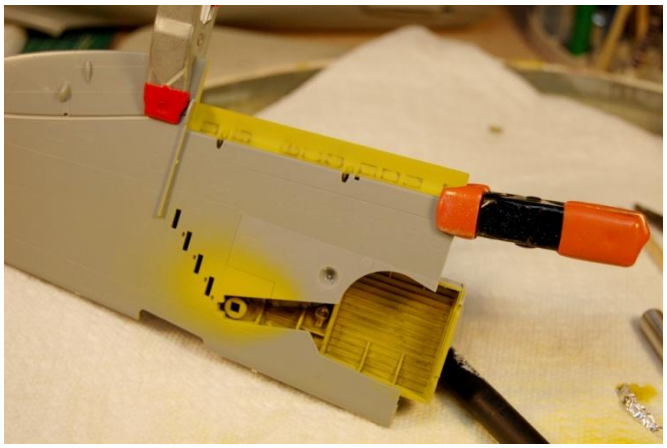


Figure 76

For the wings I separated the pieces; test fit everything, sprayed yellow and added a little dirt wash. In pictures 77 & 78 is something you'll come across once in a while, stuff on or in the kit, not in the instructions. I couldn't find this tab in any of the reference pictures I had on hand so I cut it off.

Figure 77

Additionally, there are sometimes steps I don't understand at all. I didn't include in this build… sure hope I don't need it in the end.

Figure 78

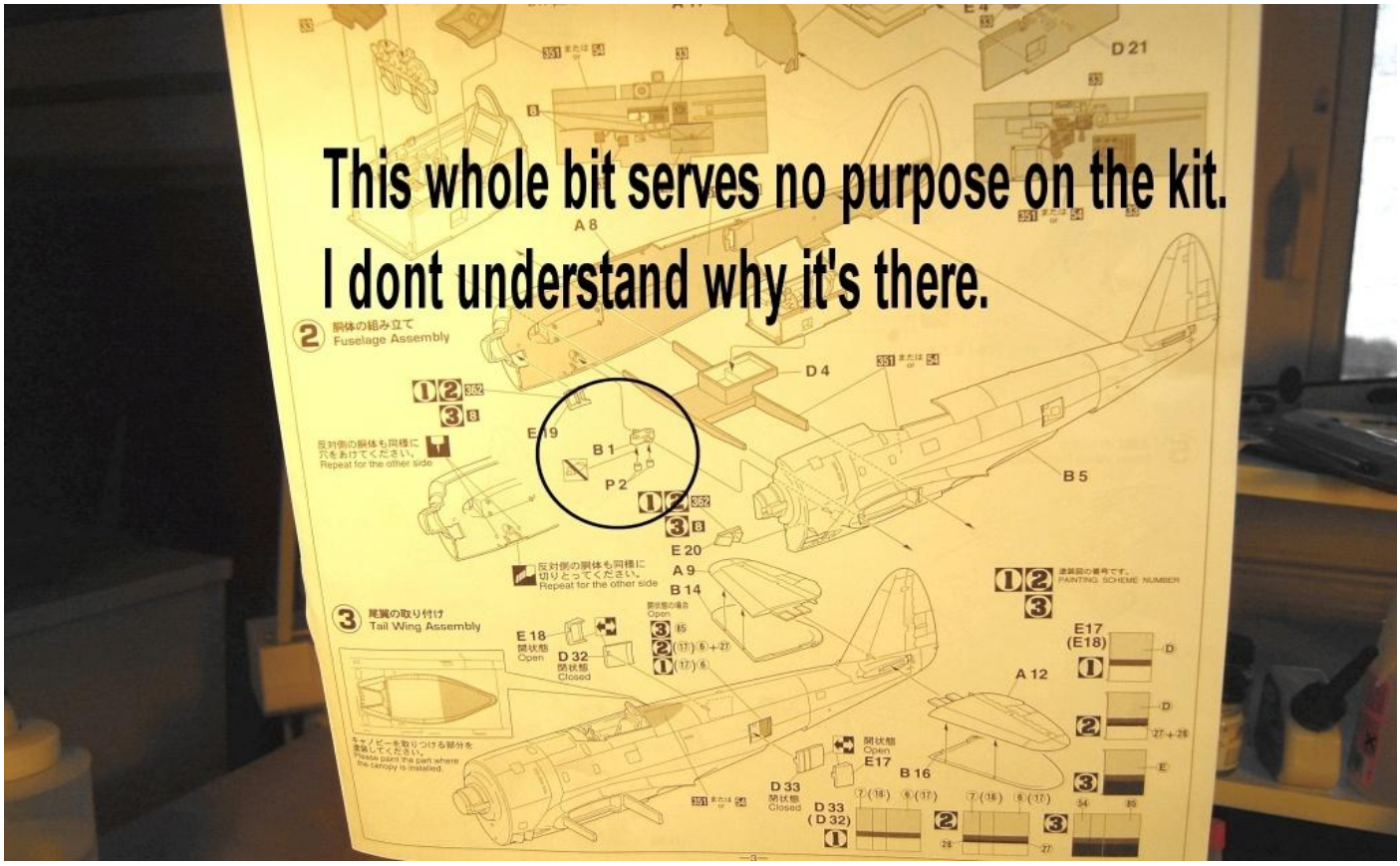


Figure 79

I use Tamiya Extra Thin for gluing the wings; the wicking action tracks the glue down the edge of them. Use some clamps to hold the edges together. You don't want clamps that are too tight here, just enough pressure to hold the edges together. Make sure you get the whole wing glued. It's easy to miss areas along the edge. After letting that dry overnight I pulled out the sanding sticks and cleaned up the edges of the wings moving from course to very fine, then finally just a buffing stick. Sorry, forgot to take pictures of that process but it is just standard sanding. The purpose is to clean the trailing edges and hide the leading edge seam. After that, I started adding the foil to the wing and cleaned up some of the overspray that got on the foil when I was touching up the Chromate Yellow.

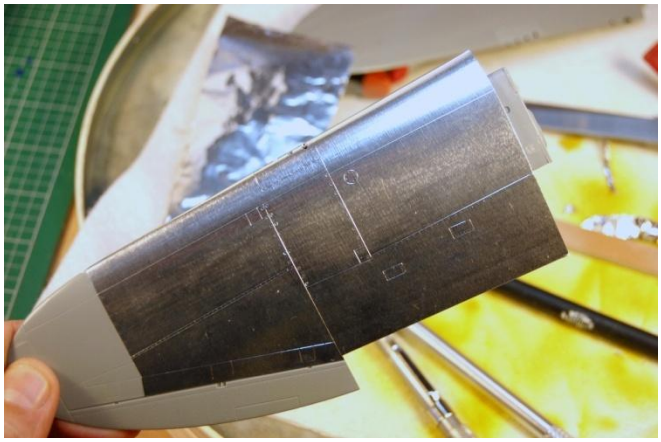


Figure 80

Figure 81

I decided to replace the outer marker lights on the wings. The kit provided two ways to complete these. Our first option is to paint where the lenses are using some clear red on the left, clear green or blue on the right. Secondly, you can cut out the piece as I've shown in the picture here, and replace with the glass lens provided in the kit.

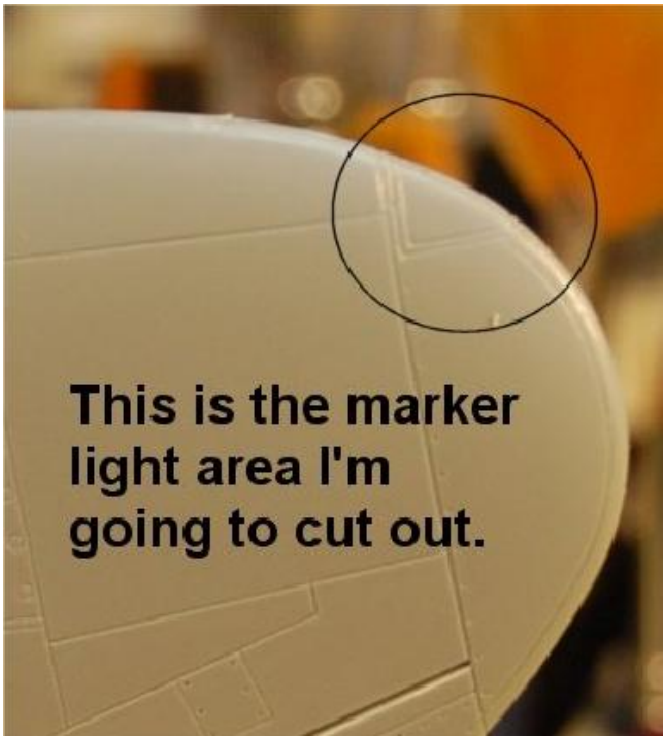


Figure 82

Figure 83

Figure 84

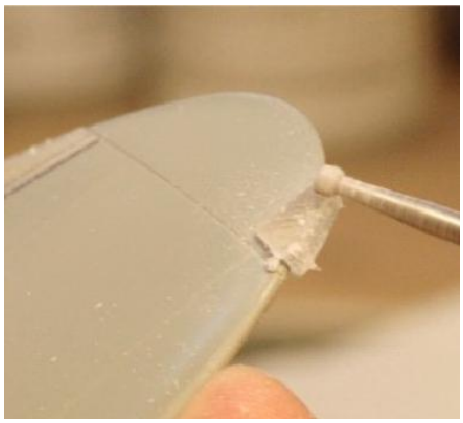


Figure 85

Figure 86

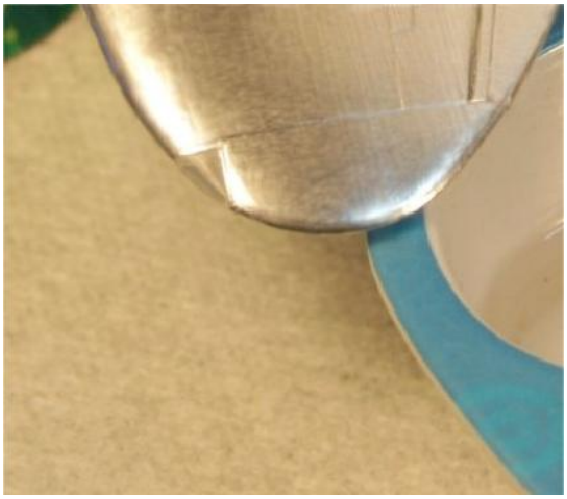


Figure 87

For this kit and just to show you something different, I've decide to use a half inch piece of clear acrylic rod. The rod is cylindrical so I filed one side to give it a flat edge. The piece is then CA glued into place.

Using my Dremel, I grind down the excess material until the rod is about a sixteenth of an inch larger than the space it's filling. Then using the sanding sticks work the rod down to its finished size, finishing off with a buffing stick. We'll paint the lens later with some clear green or red. This sanding and buffing method is the same process you can use to clean up or fix canopy glass. When I started out building, if I spilled glue on or scratched the canopy… then it was toast, nothing I could do about it; I once bough a kit twice just to get new glass. After reading an article in Tool & Tips, I realized you could fix any damage (other than breakage), with sanding sticks and Future and it's really easy to do.

Let's move over to the cockpit, starting with the flight panel. You can do up the gauges and panel several ways including using the decals that come with the kit. For the purpose of this article I'm going to pick the one I think will give you more satisfaction than the decal sheet, yet is still easy to do. The process I'm using is generally the easy way to get a somewhat detailed look, quickly. The first thing is a coat of white acrylic paint. I can paint over top of acrylic with enamel and it will not stick to the acrylic very well. This comes in handy, as you will see!

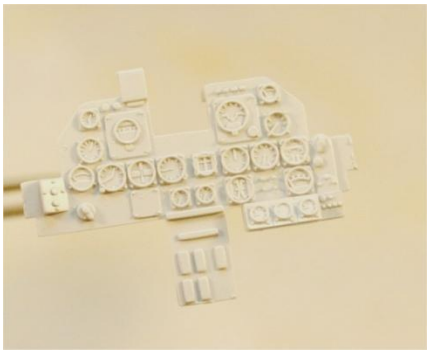


Figure 88

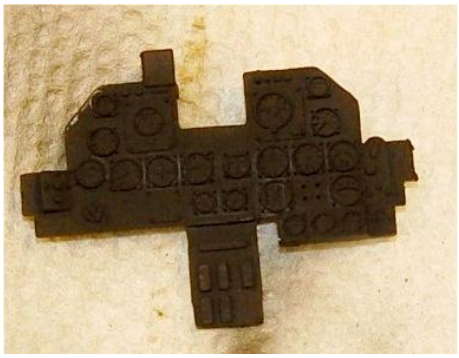


Figure 89

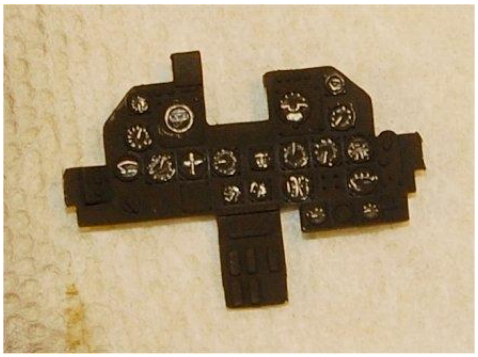


Figure 90

Using a toothpick, I lightly rub the face of the knobs and gauges until the black paint comes off. This happens quite easily. I dry brushed the panel with some dark grey and silver paint then paint some of the knobs red and yellow. I'll go over my dry brushing technique a little later on. There are colours that should go on some of the gauges but I have elected to not do this here.

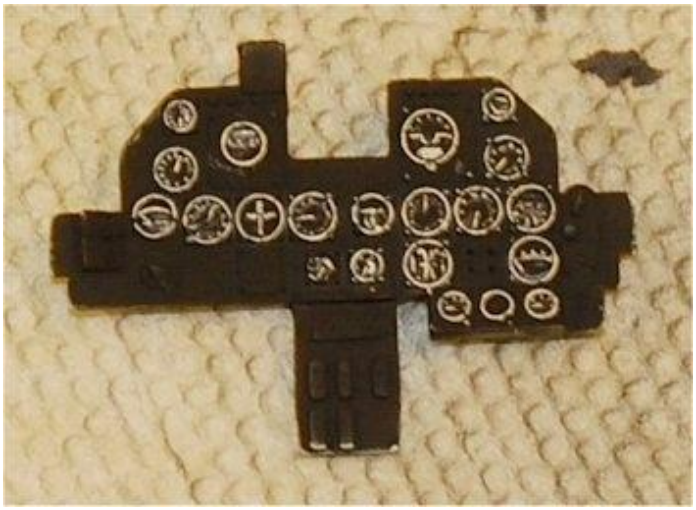


Figure 91

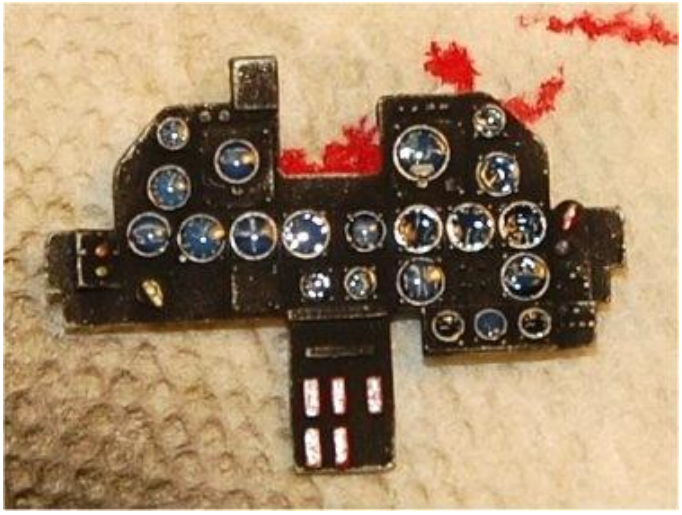


Figure 92

Figure 93

The final step and what you see in Figure 92, is the application of Future on the dial faces to give the appearance of glass covering them. I used a round toothpick dipped in Future to fill the space. Where you see the cloudy look is where the Future hasn't dried yet. Now for the rest of the cockpit, in the first picture you're seeing the interior parts cut from the sprues. There is still about a half hours work to do cleaning up the pieces before you start gluing them, this means just removing any flash around the part, any nubs left from cutting the part off, any seams or filling injector marks if you like as well as test fitting.

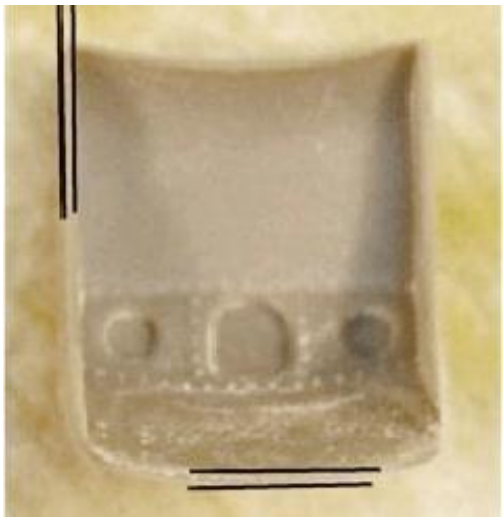


Figure 94

Figure 95

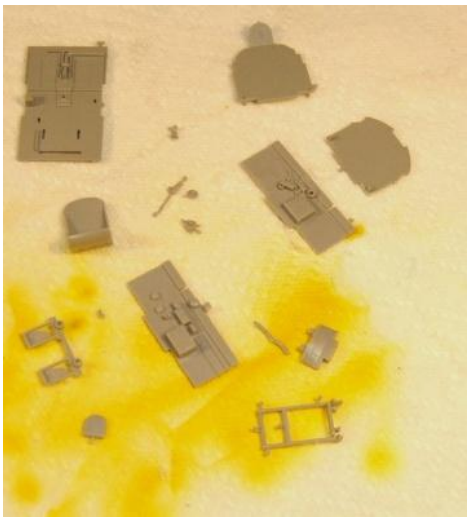


Figure 96

One of the things you can fix easily on most kits - the thickness of the seat. I used sanding sticks to thin out the sides, back, and front of the seat. It is a minor thing but it makes a big visual difference in my opinion. You can and probably should thin air duct walls, wing, rudder, vent walls, engine panel covers. When you're comfortable sanding the "Glass" from a kit, you'll also want to thin the gun sight reflectors down to at least half their thickness (later, you'll start using things like a piece of discarded packaging plastic or glue, yes glue to make the gun sight glass). I only thinned out the seat on this build.

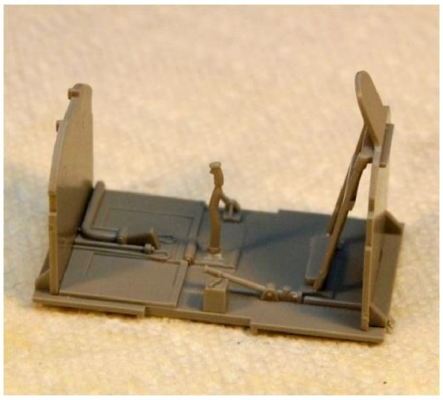


Figure 97

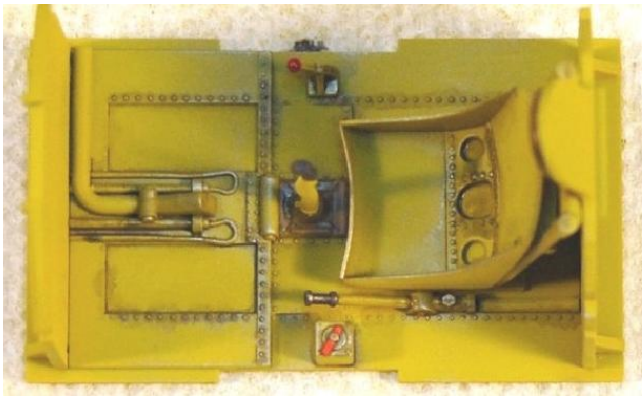


Figure 98

Figure 99

Ok, ok… I skipped a few steps here. I think I somehow deleted the photos for this part by mistake or just can't find them on my PC. Really though it's just gluing little pieces together, spraying Chromate Yellow and

Figure 100

Figure 101

(yea, yea… P47's didn't use Chromate yellow – I beg to differ on that), add some red and black here and there, dry brushed some silver and added a wash you can buy right off the shelf. This wash is great for one

Figure 102

reason in particular; it wipes off with no after affect. You can thin it with water and just dab it on and it come in several colours! There's no rhyme or reason to the colours applied to the cockpit dials and knobs. As I said, this is a no pressure build done for fun, just did what looked good to me. Also to back track a little on the silver dry brushing, normally this isn't what I would do in this cockpit. As a rule, I would dry brush this with a primer colour to indicate wear, and a lighter version of the Chromate for highlighting, and a darker version for dirtying up the interior. Silver is a quick "highlighter and wear" indicator, just not necessarily correct.

Figure 104

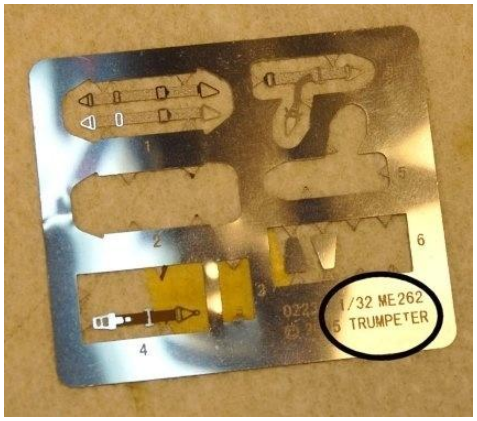


Figure 103

I used photo etch seatbelts. Look pretty nice right? (Figure 104) Come on say they look pretty good before you read the next sentence. They're ME262 belts (German aircraft for those of you that may not know that). Now I know there are a few of you reeling and squirming in your chairs right now. Come on… looks good and used up some parts I had lying around. Who will really notice among all the non-

Figure 105

Figure 106

Figure 107

pro's? No one that's who.

Now place the cockpit into the fuselage to check out the fit. Don't forget to spray inside the fuselage with the Chromate yellow. The test fit will tell you what things need to be trimmed or filled in order for the cockpit to fit snugly in position before gluing the half's together.

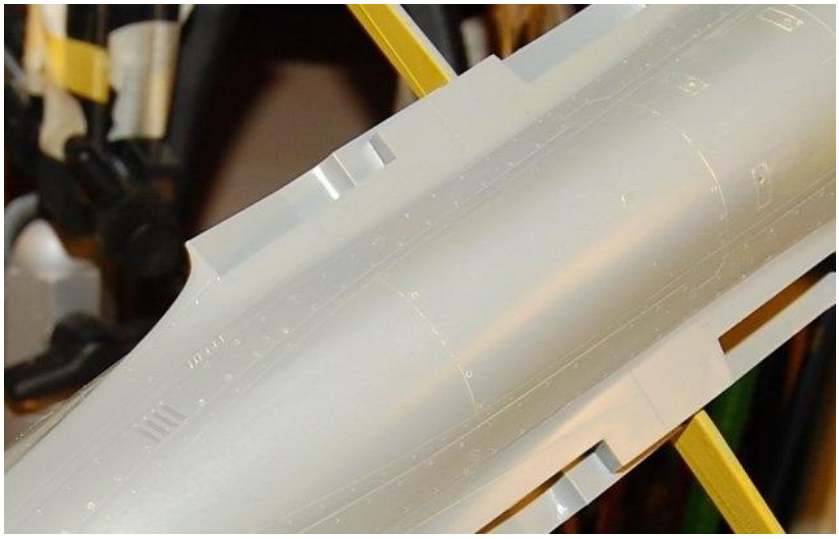


Figure 108

Using my "Touch & Flow" applicator (get one, it holds glue), I run around the seams with Tenex using mostly masking tape to hold the half's together. This is one of those times you want to put the piece down and let it dry over night. If you use Tenex, be careful with it. It is very active and melts the plastic without mercy if you use too much. You also want to keep your fingers far away from it and Tamiya Thin. If your finger is anywhere near where the glue is wicking its way to, then it will wick right around your fingerprints and leave a perfect copy on the model. Although it makes it easy to identify as one of your builds, generally your fingering looks kind of crappy on there and this will require you to sand them off the kit. Just another step and frustration you don't need.

When dry, clean up the seams with a series of sanding sticks ending with a buffing stick. The picture shows just how invisible seams become with this method. The process is remarkably quick. It really only took me a half hour to 45 minutes to get most of it finished. I didn't use quite enough pressure when squeezing the

Figure 109

Figure 110

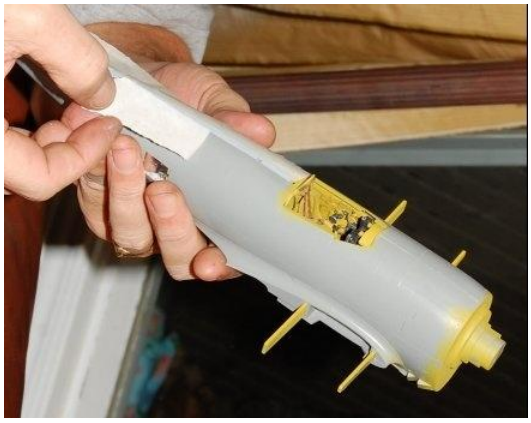


Figure 111

pieces together and the seams require a little filler. No problem, just mask off the area with some tape first (this minimizes the amount of clean up needed). Using a flat toothpick spread filler over the

area. I pull the tape off as soon as I've finished applying the filler. If you wait until it's dry to pull off the tape you'll pull some of the filler out. After sanding the filler, I re-scribed the lines using a sharp pointy object because dull blunt objects don't scribe nice lines. There's no secret to scribing really just make several light passes in order to get the result you desire. I sometimes brush Tamiya Extra Thin along the line I just scribed. This can smooth out and clean up the line. Experiment with that before you try it on a kit though. What you have to remember is this, if you don't get a seam right it will show no matter how minor the flaw. So if you don't want it to show…fill, sand, buff… makes it invisible. It's easier to do it all now than it is after you've painted the damn thing.

Figure 112

Figure 113

Figure 114

Since I'm using kitchen foil on this kit, there is a requirement for special glue. I'm not a fan of Microscale's product for this application. There is better glue at 1/10th the price. You're going to notice some lines in the foil after I place it on the kit. I'm using this build as an opportunity to experiment with the glue on the back of the foil, to get a sort of texture to the metal. It's a long story so just ignore any weird lines or textures you might notice in the photos of the panels. (By the way, the experiment was a failure).

After foiling the fuselage and wings, I test fit them along with the cowl.

Figure 115

Figure 116

Figure 117

Moving on to the flaps… there's not much excitement in gluing flaps together so I'm going to use this time to show what I look

for when gluing stuff together. Figure 118 shows the two things you should look for;

(a) Shows what not enough glue looks like, whereas
(b) Shows the fine beading of melted plastic that brings me the warm fuzzy glow I seek.

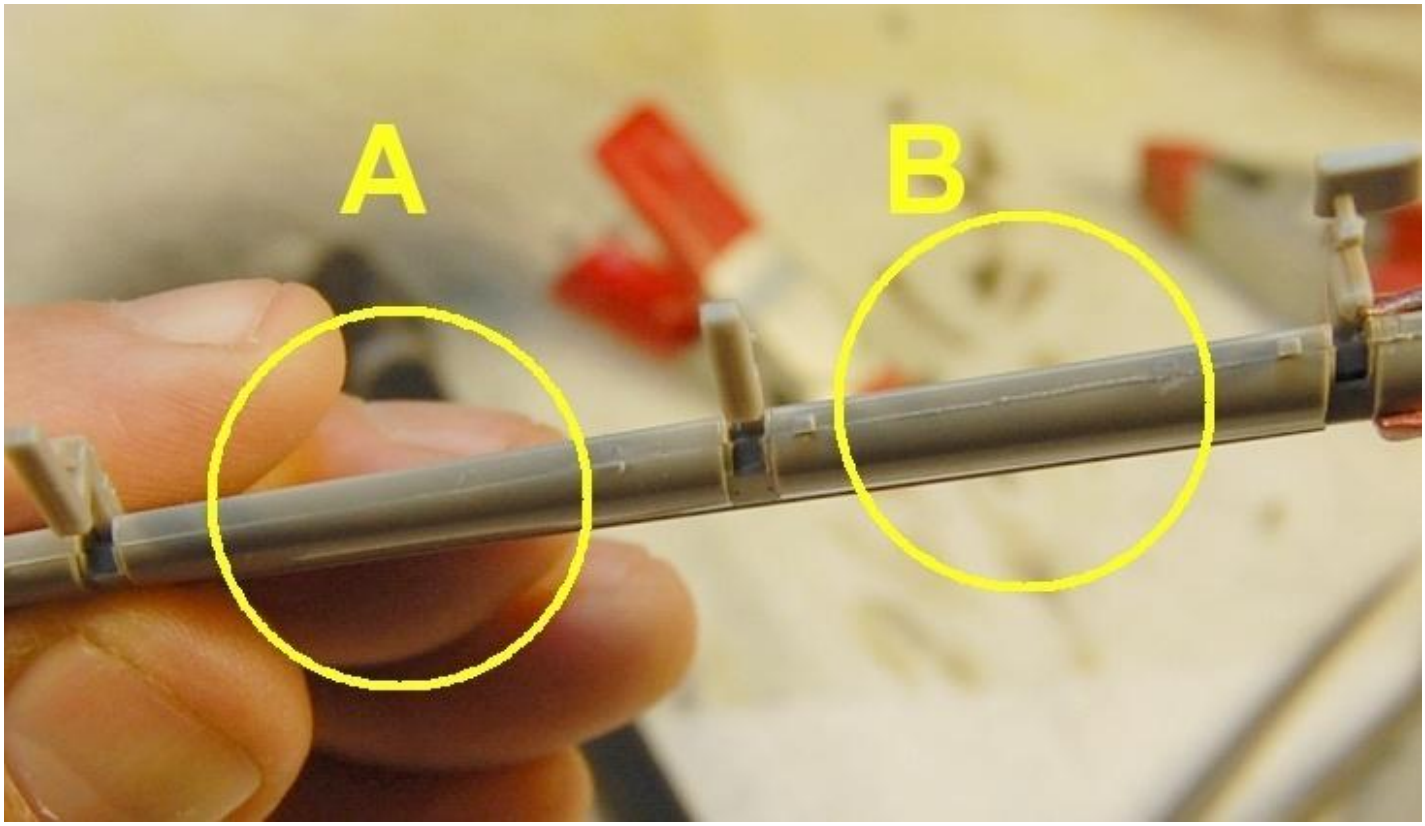


Figure 118

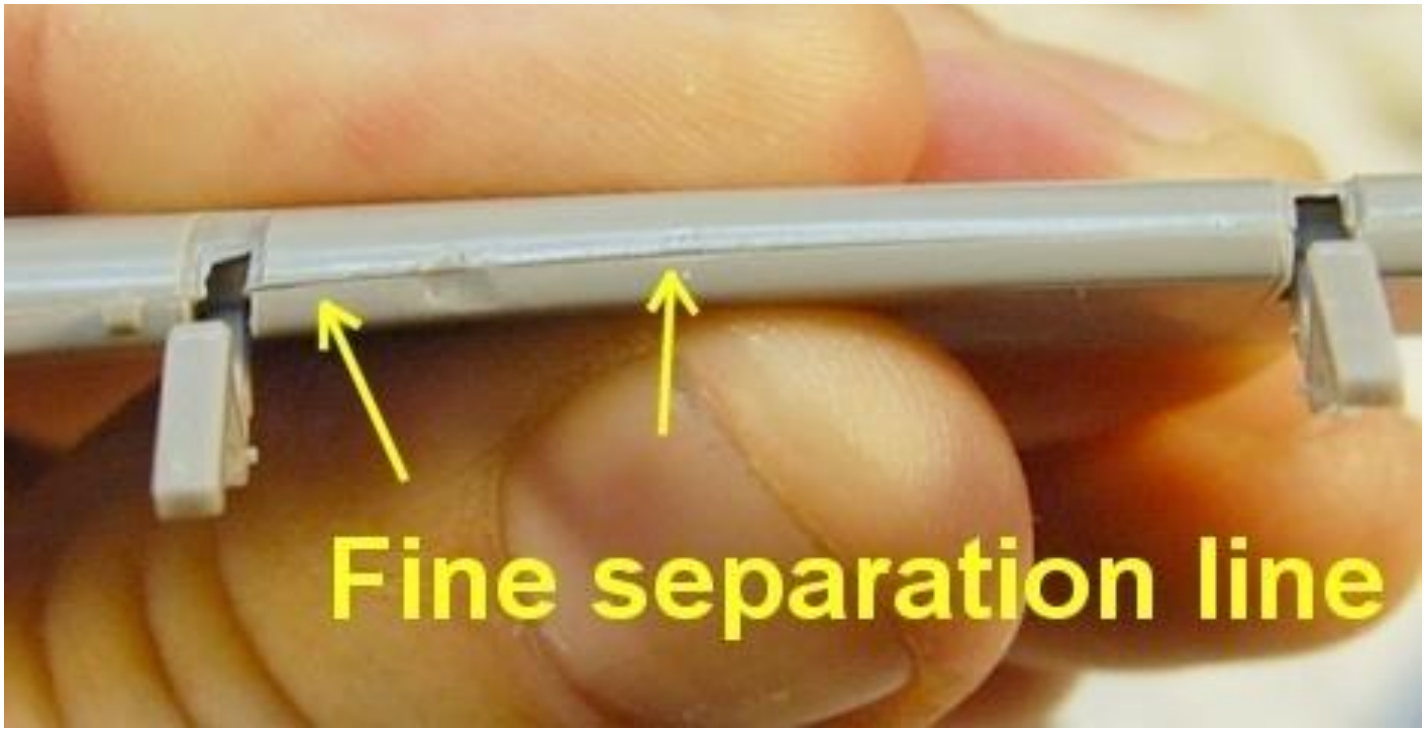


Figure 119

When you have something that looks like (a) then there's a good chance that when you try to clean up the piece, you end up with a ridge-line where the two pieces connect. You have to re-glue or fill the piece to correct the problem. (b) Shows a great and complete seal. This will clean up very easily and leave you with a nice finish not requiring any filler. Figure 119 shows what happens when you squeeze (a) together, the piece separates. Correct this before you move on.

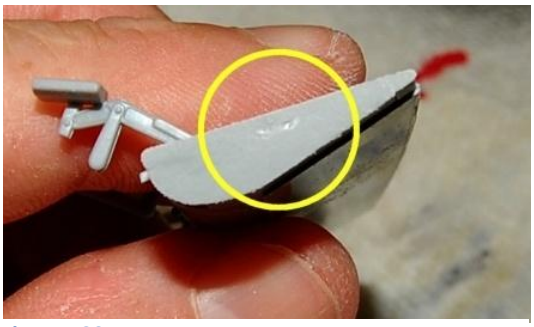


Figure 120

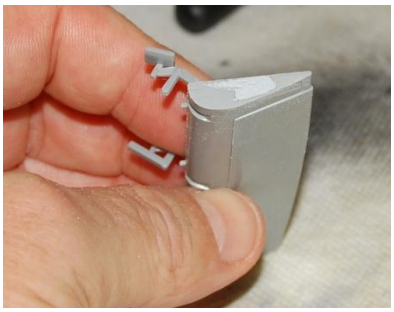


Figure 121


Figure 122


Figure 123

The mark at the end of flap in Figure 120 is a compression wound, showing the result of sloppy removal of a piece from its sprue. This needs to be fixed too. This requires a little filler and an applicator. Really anything is an applicator but I use either a flat toothpick (not the round ones), or a spatula. This is a fast fix so don't fret it. Apply, dry, sand, buff, done. Check out how they look in position because test fitting will tell you if everything is within the tolerances acceptable to you.

Since enamels are my first choice for painting, this limits the methods I can use for washes.

I have a porcelain mixing tray which I like much better than the plastic ones. First it stays in place while you're mixing due to its weight and second, it doesn't stain and otherwise cleans up a lot easier when you leave paint in it for a couple of days. Now I know you're going to say "but I'll never leave any paint in it, I'll always clean it out when I'm done". Ok, you stick with that and call me in a year or so. I use several methods for washes so here are 3 of them; (1) The Detailer stuff you saw earlier in this article. The great thing about


Figure 124


Figure 125

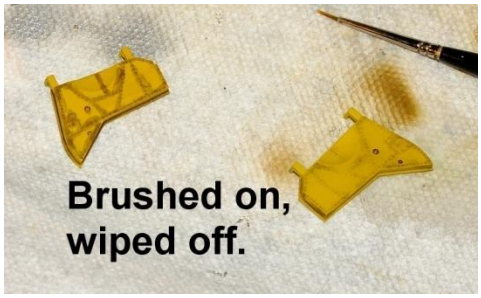


Figure 126

this is that it cleans right off with a little water without leaving any trace. If you don't want to clear coat or put on several Future coats before you start to weather then this is the stuff to use. It comes in several colours so you can mix it up for different applications. Maybe you want to dab some on for fuel staining (red-ish), oil leaks (yellow-ish brown-ish) etc, etc.

(2) Scraping pastel chalk (in Figure 128 the “bars” are pastel chalk), dust into a small jar adding some water and a drop of dish washing liquid. I like this method because it is easy to clean off when you screw up and allows for endless colour combinations. If you use this to weather on flat paint without a clear coat, it can stain it but it’s usually still workable. See ARC Tool & Tips.

Figure 127

Figure 128

(3) What you see in the Figure 125 is oil based paint, thinned.

If you’re just starting out and you’re painting with enamels, then I would suggest you not use the thinned oil based method. It can frustrate you due to fact you’re wiping off the excess with the same thinner that will remove your enamel paint job. It may result in repair work you’re not prepared to handle. There are other ways and means to accomplish your goal (even straight powder like the MIG powder or water colours), you can look up some of the weathering and wash articles in the Tools & Tips section on ARC and they are simple to use and shouldn’t cause you any grief.


Figure 129


Figure 130

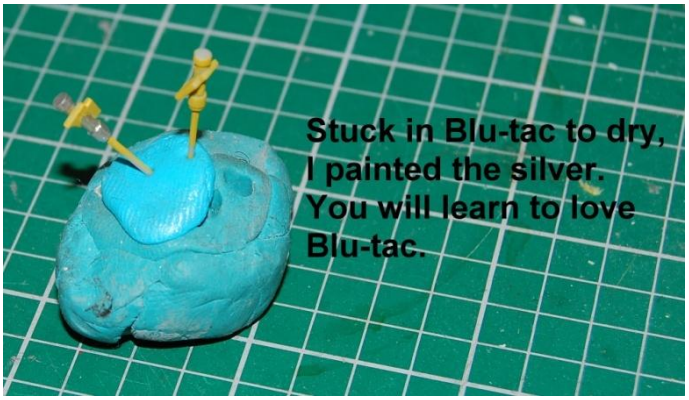


Figure 131


Figure 132

Here are the wings, flaps, cowl, inner and tail wheel doors, attached to Jug. When you set the inner doors in place, now is the time to fit the hydraulic rams (Figure 130), in place while you can still move the doors around a little.

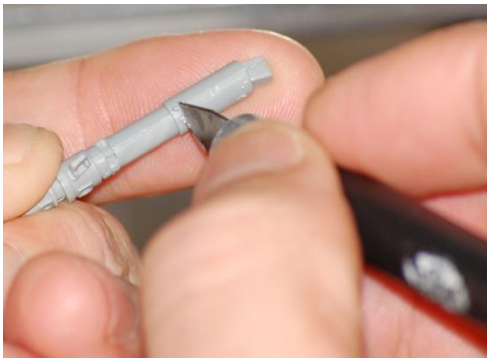


Figure 133

Landing gears always have that seam running down them. I use the knife in the picture to scrap it off, then the buffing stick. I need to back up a bit on assembly because I forgot to mention something… when assembling the stabilizer and elevators make sure they are square, at right angles to each other and run on a perceived level plane with the wings. Since I've been jumping around on this build and worrying about taking photos, I forgot to check this during the assembly. It's actually out on this build but I have to leave it at this stage. It's a rookie mistake and something that, if you put your build in a contest will cost you big time. Don't you forget to do this; it is one of the more noticeable things about a build when it's wrong. Even if you just build for fun, pay some attention to this detail.

Figure 134

Figure 135

Figure 137

Figure 136

The wheels were glued together, clamped, and left overnight. Starting with the tail wheel, I sand off the seam and then flat spotted the wheel for that "It's got weight on it look" even though the back wheel in this case doesn't really need it. Before sanding the flat spot on the main wheels, I like to put a lot of wear on them. This is accomplished with the trusty old Dremel. Hold the wheel in your fingers lightly and let it spin on the sanding wheel. Careful, two common things can happen here. 1) You hold it too tight and burn your fingers 2) You lose your grip on it and it flings across the room. I also added a little wash to gear while I was at it.

Figure 138

Figure 139

Figure 140

Figure 141

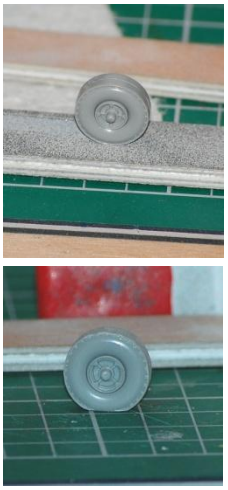


Figure 142 & 143

To get the weighted look you can also heat the wheels up and press them against the table to create the “weighted” look. This is a little tricky and can get away from you pretty quick, so I’d leave trying that method for another time or just buy the aftermarket wheels. When you paint your wheels don’t use black. Use dark grey at best, it looks better.

Continuing with the landing gear, I brushed on some black pastel dust I scraped off a pastel stick and keep in the plastic tray photographed here.

Figure 144

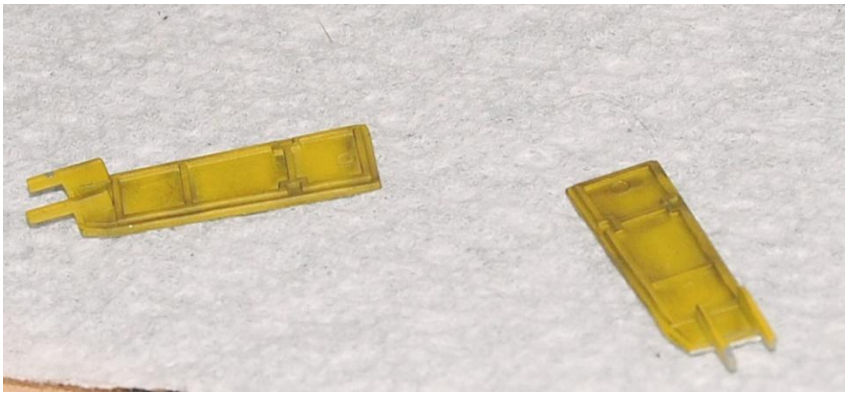


Figure 145

Non-slip Wing!

I know this is a little out of order but keeping track of my photo's and the timeline has been a nightmare, so I'm placing this little section in here so I don't have to re-arrange everything else I've done! I'm not certain this feature even belongs on this aircraft but that's the beauty of this hobby isn't it? Instead of using the decal provided in most kits for the anti-slip coating on the wing, I paint the feature on with a bit of a twist. I start by masking off the area with some tape then spray on glue!

Figure 146

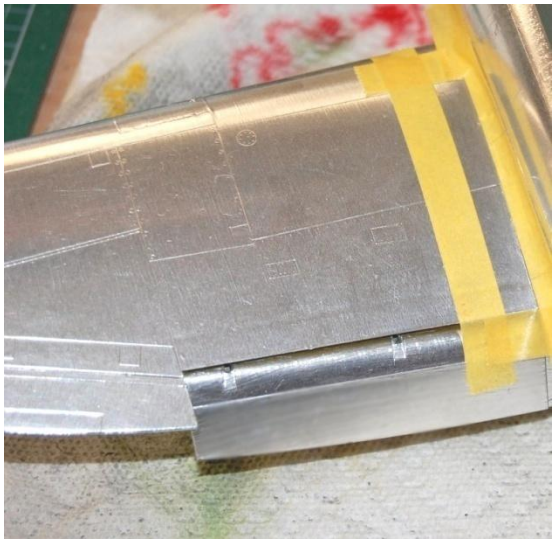


Figure 147

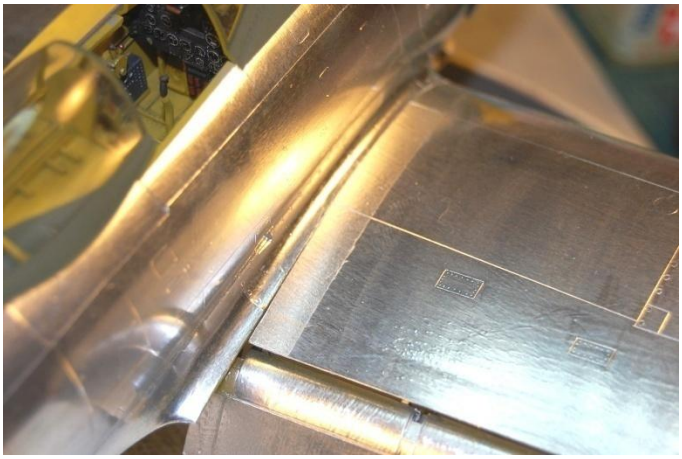


Figure 148

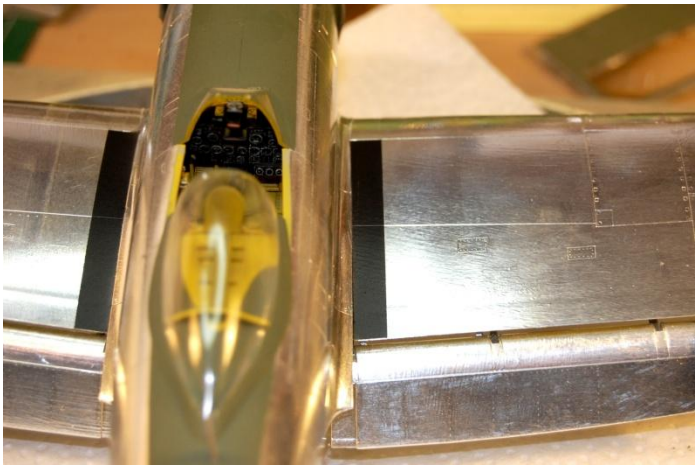


Figure 149

146 is the glue used for the non-slip wing walk. There are several ways to get the texture look and feel but I like this process. With the area masked off, spray the glue with one smooth, quick motion. The spray glue gives a very cool texture you can't get with the decal or paint alone. Leave the masking in place (I removed it in Figure 148 to show the glue). Let the glue dry for a couple of days though before you spray black or more preferably, dark grey over top of the glue or you might see some cracking through the paint. I've also used emery cloth glued on a wing for this effect, it wasn't bad.

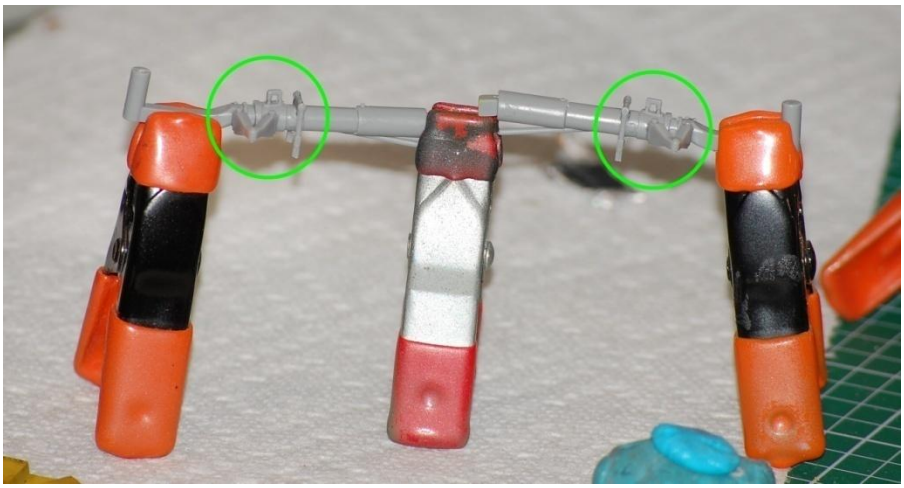


Figure 150

Figure 151

Ok… back to the landing gear.

I glued on the pieces required to complete the landing gear (Figure 150). Here you want to test fit the gear against the doors before you leave it to dry. I drop a little Tamiya Thin on the parts then position them on the doors. When I'm satisfied they're fairly close to the correct position, I let them dry overnight.

Paint them; add the doors and you're pretty much done. Run a sanding stick on the sides of the nubs just enough to clean them up a little. This cuts down on the amount of forcing you sometimes have to do to insert the landing gear, but also gives you a little wiggle room so they are positioned straight and even.

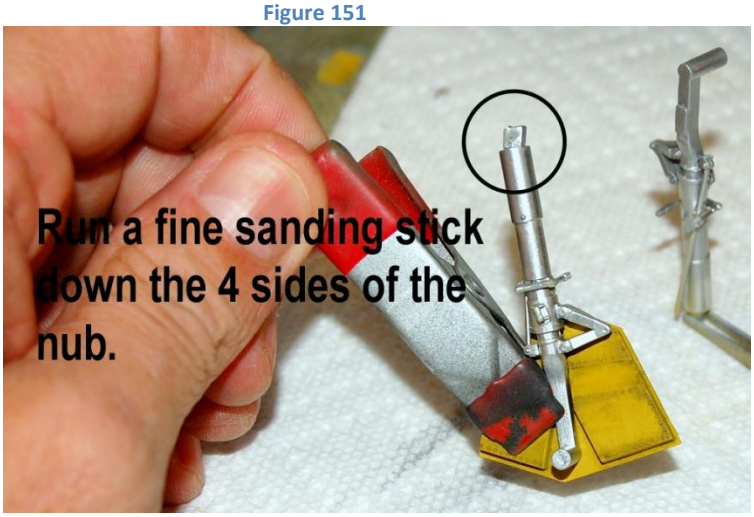


Figure 152

Figure 153

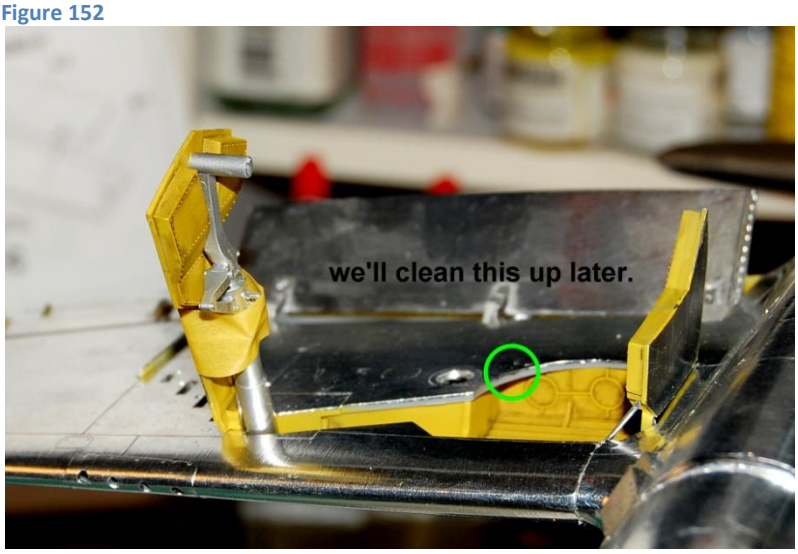


Figure 154

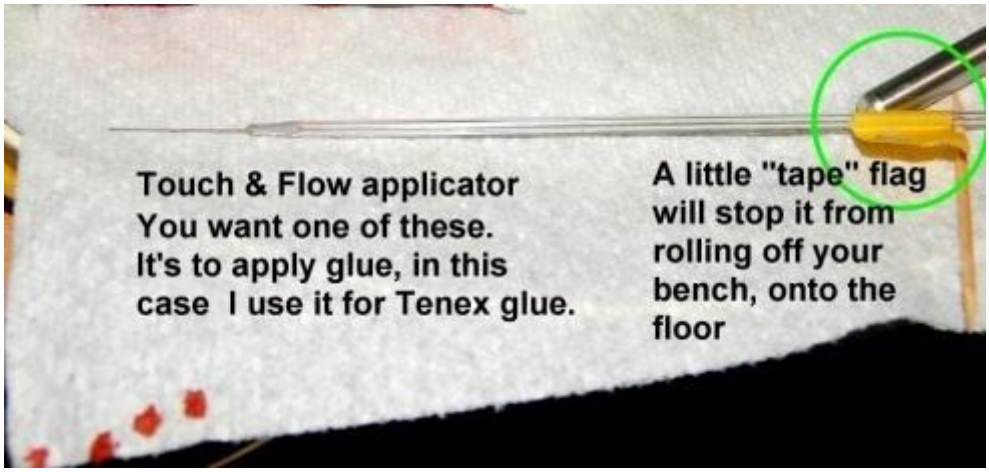
Figure 155

Figure 156

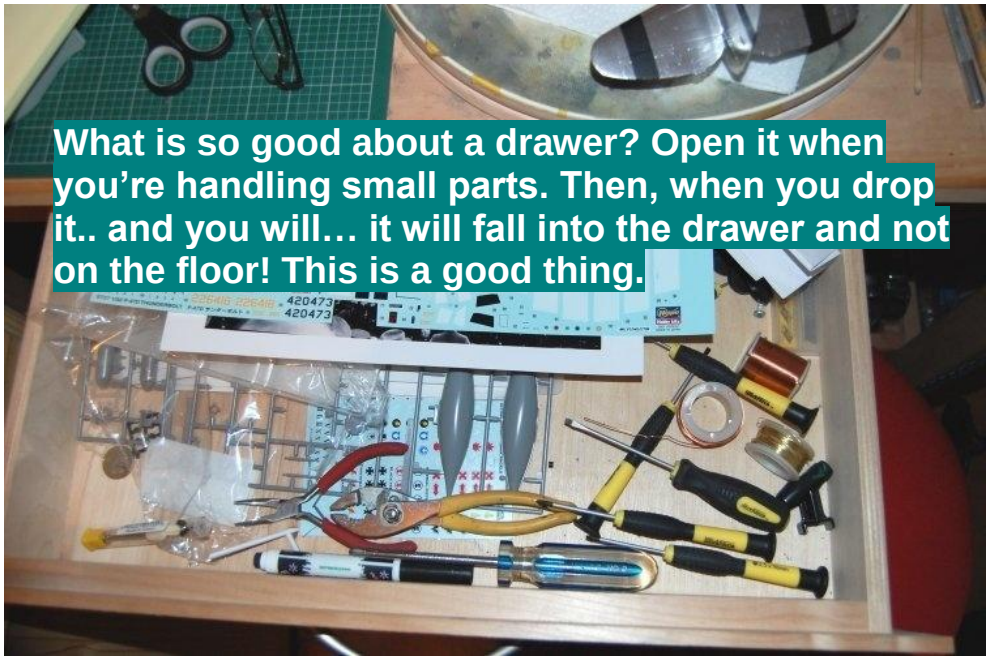
Figure 158

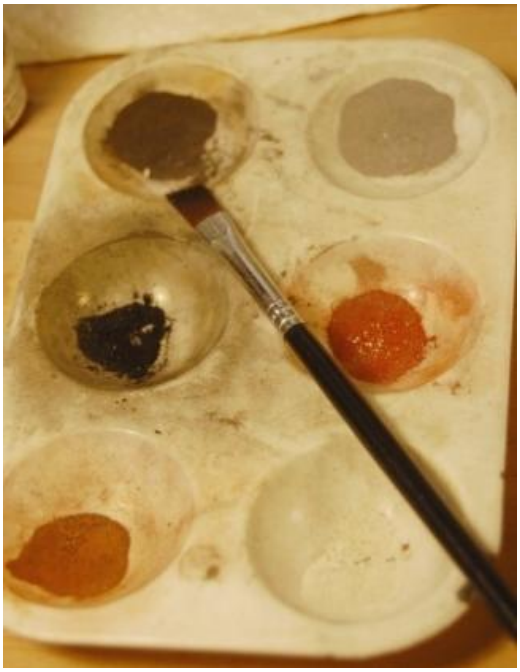
Figure 159

Ok, because I need a break, I'm going to take some time to highlight some of the crap on my bench used during builds. I really don't know where to start with this 'cause man… there is a lot of stuff. I think I will refrain from commenting on anything in any detail. However, if you have any questions regarding some of it send me a PM and I'll try to get back to you with an explanation. Let's look at some of the stuff on the bench…


Touch & Flow applicator
You want one of these.
It's to apply glue, in this
case I use it for Tenex glue.
A little "tape" flag
will stop it from
rolling off your
bench, onto the
floor


Reams.
Perfect tool
for us.


What is so good about a drawer? Open it when you're handling small parts. Then, when you drop it.. and you will… it will fall into the drawer and not on the floor! This is a good thing.



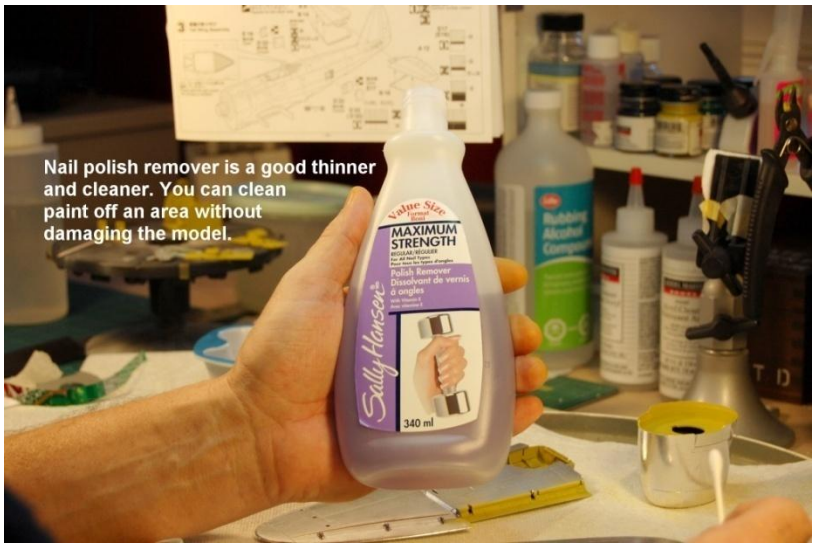

Mask is a good
idea for the big
paint job.

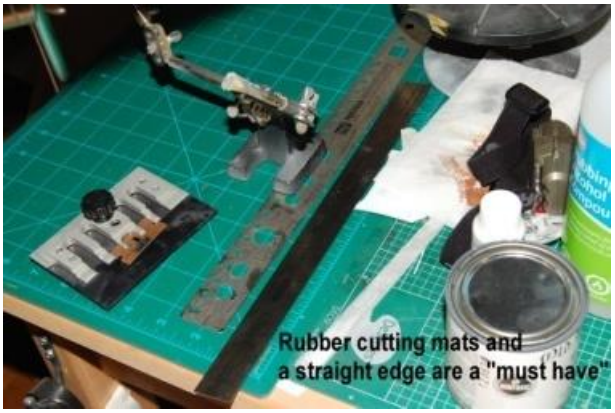

Dremel 1
Dremel 2

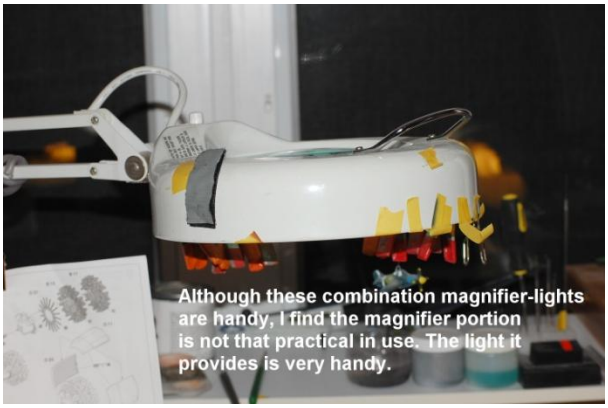

I have two "lazy Susan's"
This one holds the near finished model
when I'm touching up.
The other one (not pictured here) is used while building
and painting. It has a lip on it that helps me not lose parts
during the build. It's made of white plastic.


Yes, they will laugh
at you...
But this head-light i
very handy.


Water colours are your friend.


Nail polish remover is a good thinner
and cleaner. You can clean
paint off an area without
damaging the model.
Sally Hansen
MAXIMUM STRENGTH
Polish Remover
Dissolvant de vernis à ongles
340 ml


Rubber cutting mats and
a straight edge are a "must have"

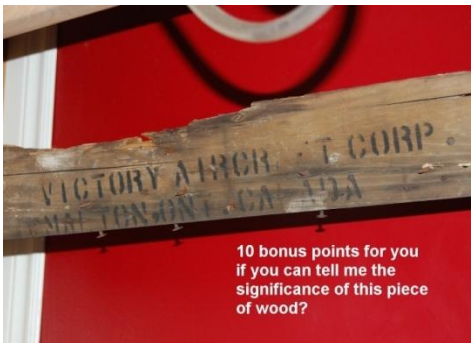

Although these combination magnifier-lights
are handy, I find the magnifier portion
is not that practical in use. The light it
provides is very handy.


Even if your eyesight
is perfect,
get it.


Airbrush #1


Hobbico
MasterMask
Liquid Masking Film
This is the best I've ever found.
I love it.


Gloves. Saves your hands
Get some. They keep
finger prints off things
as well.


10 bonus points for you
if you can tell me the
significance of this piece
of wood?


These are H.O. scale, model RR lights.
Other than actual lights... you can't do better than these.


Universal/Univ
Acrylic Thin
Diluant Acrylic
AMIYA COLOR
ACRYLIC PAINT
X-1
If you're going to brush paint black, then acrylic is the way to go.


PLATO


Airbrush #2

Alright, let's paint a little…

Pull out the Tamiya tape (just use Tamiya don't fight it), we're going to mask off the top of the fuselage to receive the paint that cut's the glare of the metal for the pilot. I have applied the tape by eye, yes eye, getting as even side-to-side as I can. (See Figure 190 & 191).

Figure 189

Figure 190

Figure 191

Then with the help of Blu-tac, I start covering up the cockpit area so it doesn't get any overspray in it. Add some tape to cover up the rest and that step is done. As you may have noticed, I tend to re-use tape I've saved from other masking needs during the build. This is due to the fact Tamiya tape is just darn expensive but there just isn't a substitute for it.

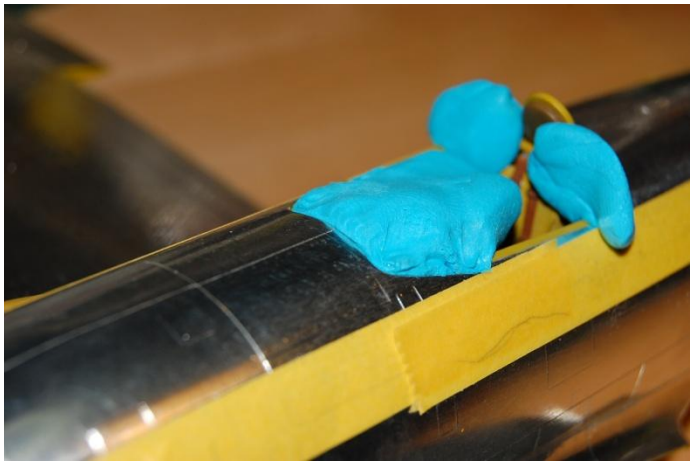


Figure 192

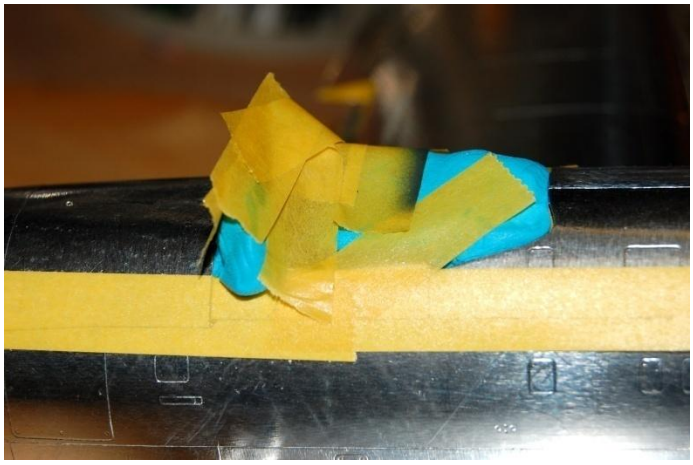


Figure 193

Now use paper towel (buy the paper towel that comes in half sheets), and tape it along the first Tamiya tape line to cover the rest of the kit for overspray protection. If you want to prevent bleed through (meaning sometimes when you paint along a taped edge, the paint will seep underneath it so when you remove it, there won't be the nice straight line you were going for), then take some flat clear coat and brush it down the edge of the tape. This will prevent the paint from seeping under it. Then get out that trusty airbrush and spray away. I remove masking as soon as possible, the faster the better. This means less chance of lifting the off the paint at the edge of the tape, particularly on foil.

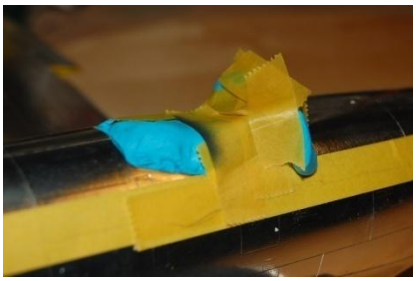


Figure 193

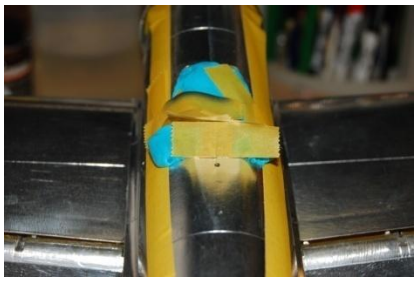


Figure 194

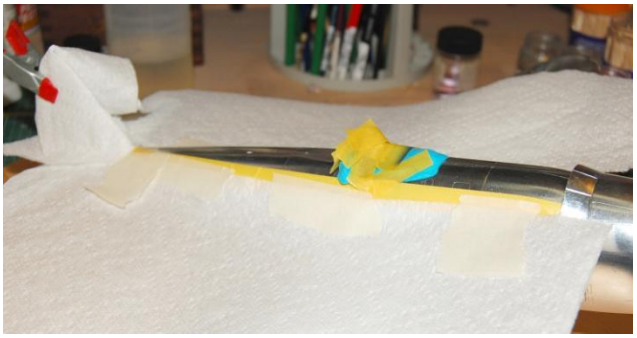


Figure 195

Figure 196

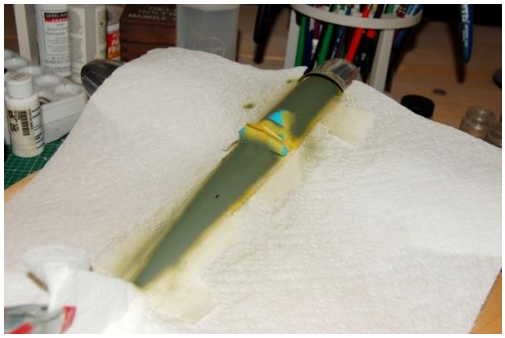


Figure 197

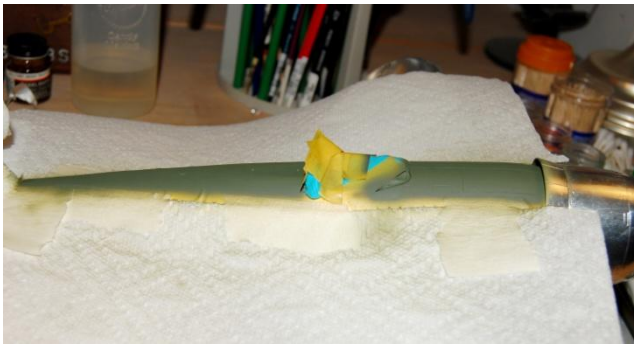


Figure 198

Figure 199

Figure 200

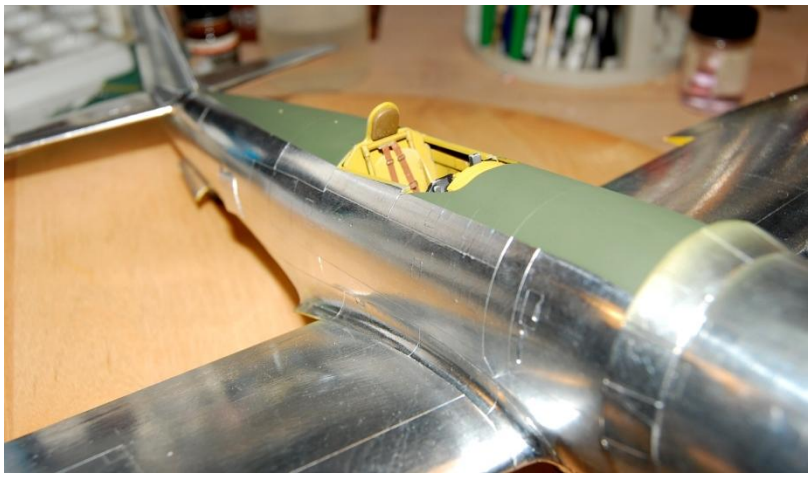


Figure 201

Figure 202

Figure 203

Figure 204

Next the cowl, it's painted yellow and black so I start by blocking up the front of the engine with paper towel.Then back and underneath.

Figure 205

Figure 206

I applied the yellow and removed the masking a few minutes after spraying, then left the kit overnight. Next day I masked off the area of the cowl requiring the black (I only have one masking picture -209- because I forgot to take more), and sprayed the black. I did this in two parts.

Figure 207

Figure 208

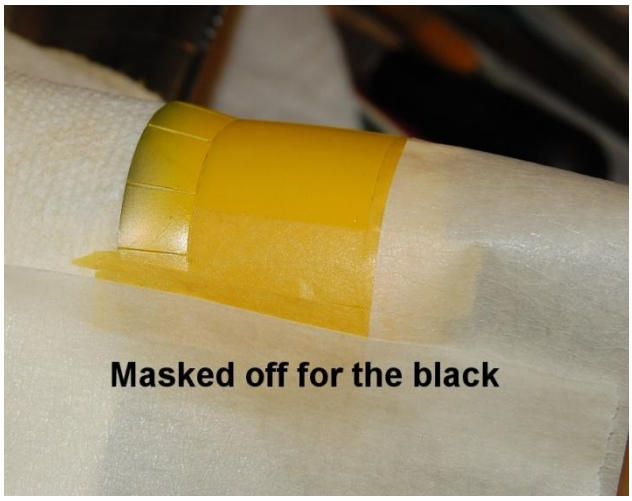


Figure 209

Figure 210

The second part was masked off so I could paint the cowl flaps black all the way around. I just found it easier to do it that way than it was to do all the masking at once. Just as an aside, the nice thing about foil underneath paint is that you can take your art knife and make some nice chipped paint effects.

Figure 211

Figure 212

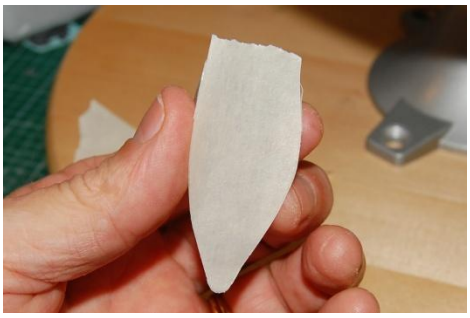


Figure 213

The next step is to get some interior colour on top of the fuselage where the cockpit canopy will sit. I really didn't know which method to show here. The one I choose may look a little confusing however it does not require precision to do and is pretty easy. I start by placing the canopy over some masking tape (sticky side up), then cutting out the shape.

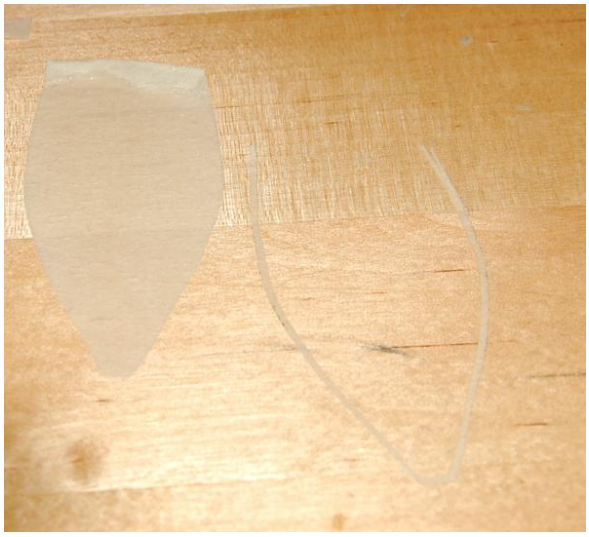


Figure 214

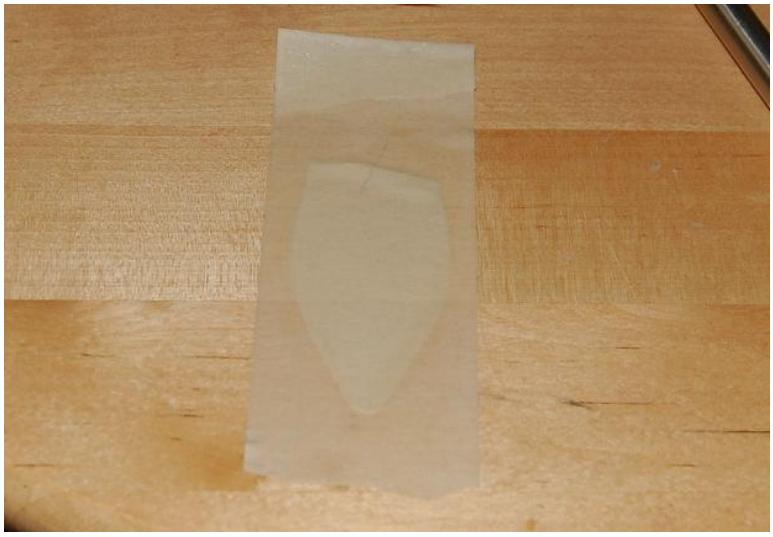


Figure 215

Figure 216

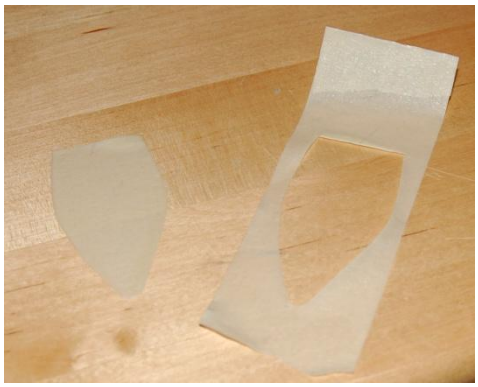


Figure 217

I stick the tape on the table and cut off a very thing strip all around it. I just need the tape to be slightly smaller than the outline of the cockpit canopy. Now place that on top of another piece of tape and cut out the shape again. I want to mention here that when I'm using regular masking tape on a kit I always place the tape on my jeans 2 maybe 3 times, to cut down on the amount of stickiness the tape has. Now you might say use the less

Figure 218

sticky stuff right off the bat (like green painter's tape), I don't because I can't make the green tape sticker if I need it, but I can lessen the stickiness of the regular stuff, get it?

Place the cut out piece of tape over the cockpit and eye it into position using the canopy. After you've covered up the part you don't want to paint, spray away, remove the mask and you're almost finished. I added a little wash then brushed on some black powder to get it a bit of the used look.

Figure 219

Figure 220

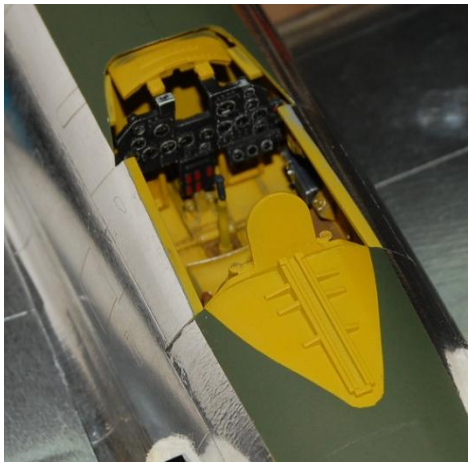


Figure 221

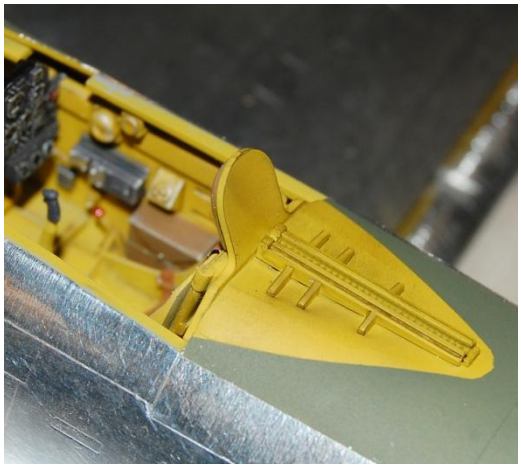


Figure 222

Figure 223

Figure 224

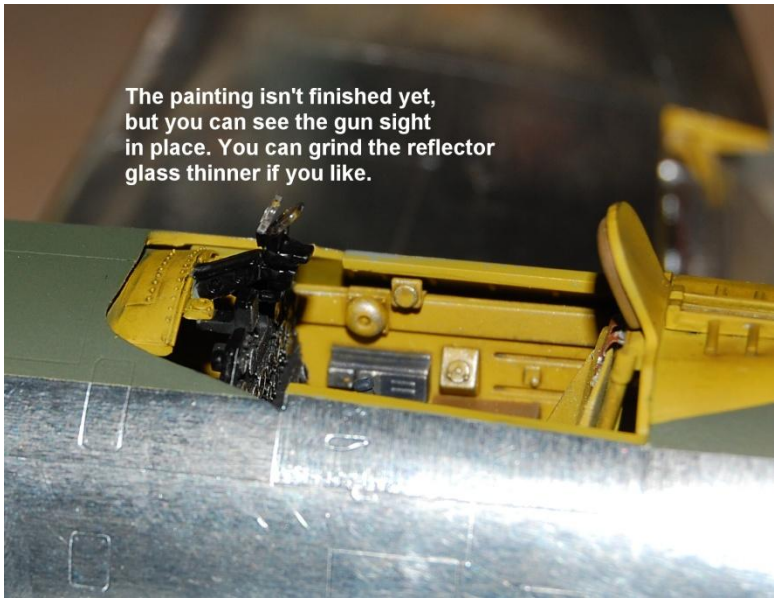


Figure 225

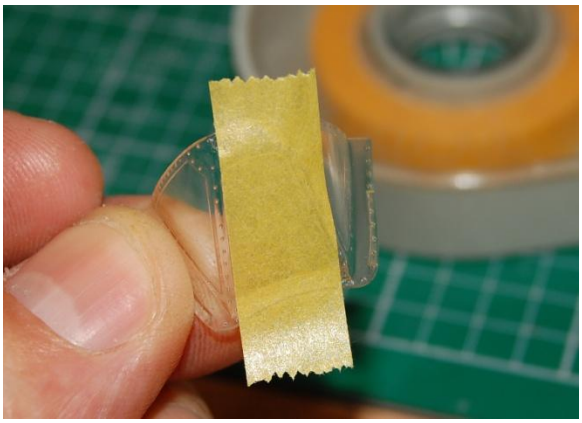


Figure 226

With that done, let's move on to one of the bigger mistakes I made while building this kit, the cockpit glass. I should have prepared and installed the front screen before I did the foiling and painting. Now it's going to be a little extra work but hey, that's the way it goes.

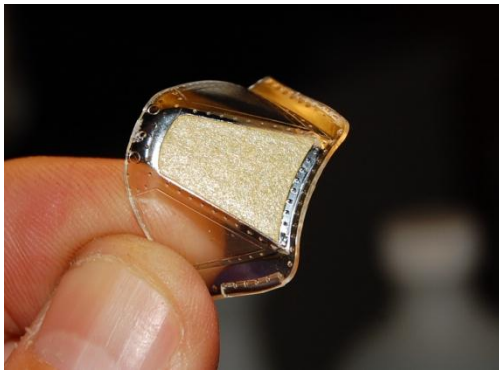


Figure 227

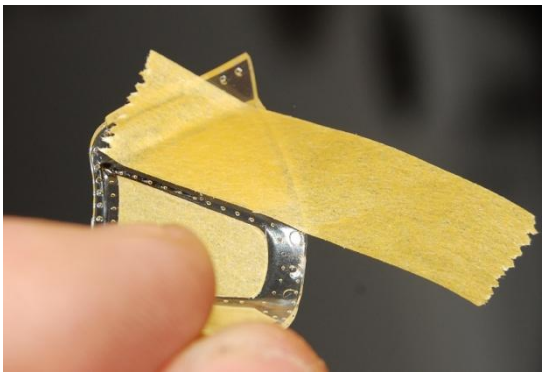


Figure 228

There are many ways to mask canopies too; Liquid mask, canopy masks from Edwards and the like, masking, Tamiya and Scotch tape, etc. etc. I'm going to use Tamiya tape for this demo. Now the thing is, you have to mask both inside and outside of the canopy. Ok, you don't have to… but I'm going to. If you want to avoid masking the inside of the canopy, then spray the interior colour on the outside of the masked glass before spraying the exterior colour. This way from the inside you will see the interior colour.

Figure 229

Figure 230

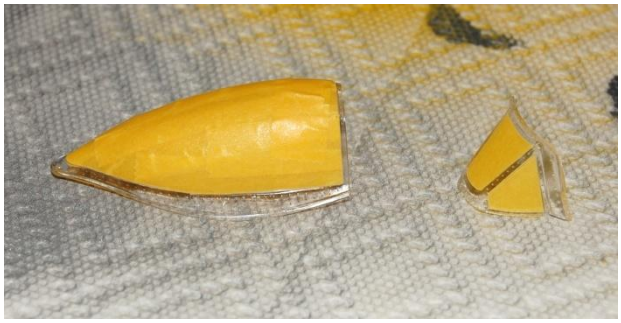


Figure 231

Just place the tape on the glass, I use a wood stick to press it down and into the grooves (a cuticle stick I believe), with a sharp knife trim the excess away. This is not as hard as you may think. If you can, hold the glass against a light source and just cut away don't press to hard, just try to cut the tape but don't worry too much about cutting into the glass.

Figure 232

Spray on the colours and remove the masking as soon as you can, preferably after about 15 minutes. Though I don't have pictures of it the canopy didn't exactly fit side-to-side, this is a pretty common problem that freaks some beginners out. The fix is another one of those "have patience" times. Using Tamiya Thin, I glue just one side of the glass in place and left it overnight. The next day, since one side is in place and dry, I can spread the glass out so it fits the other side of the cockpit and hold it in place with a little pressure from a plastic clamp. I applied Tamiya Thin and let it dry overnight again. A bit of light sanding and touch up painting

Figure 233

Figure 234

Figure 235

Figure 236

and that part is done!

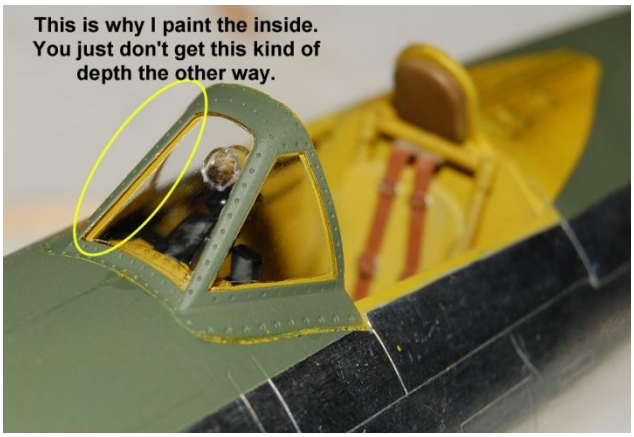


Figure 237

Figure 238

Next, there is a black & white stripe on the tail. The kit provides a decal for this however; I always like to paint instead, if I can. Using calipers to measure the size of the decal, I transfer that measurement to the tail. Using 'Post It' notes and tape I masked off the area. I didn't fret that much about the position of the strip. Don't get me wrong, it's not that I don't want it to be correct but you can pretty much eye it into the position it needs to go.

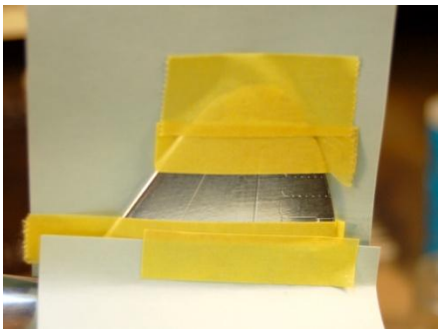


Figure 239

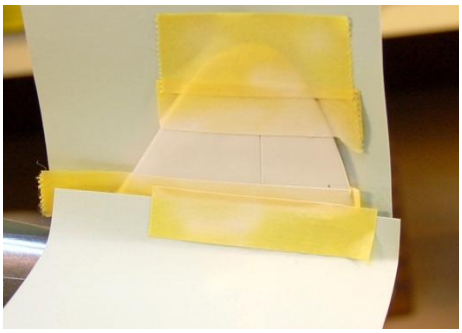


Figure 240

Figure 241

After that has dried for an hour, I masked off the black portion for painting. Spray, remove mask, done. This is one of those times you want to use some flat clear brushed on along the edge of the tape to prevent the black from bleeding through to the white. I should mention that I also masked off the stripes on the stabilizer at the same time so I could paint them. They are just black without white trim.

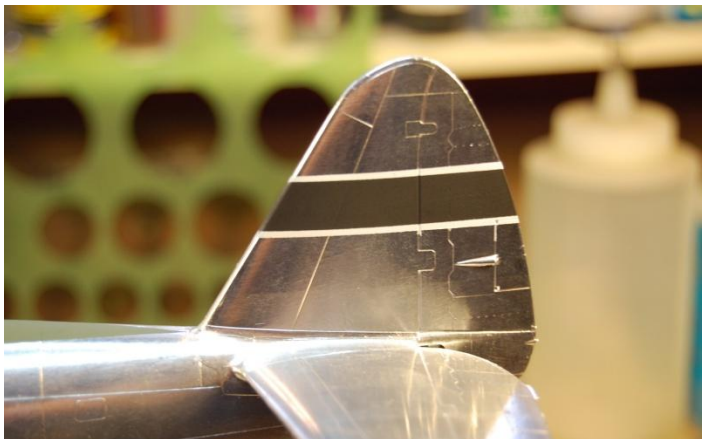


Figure 242

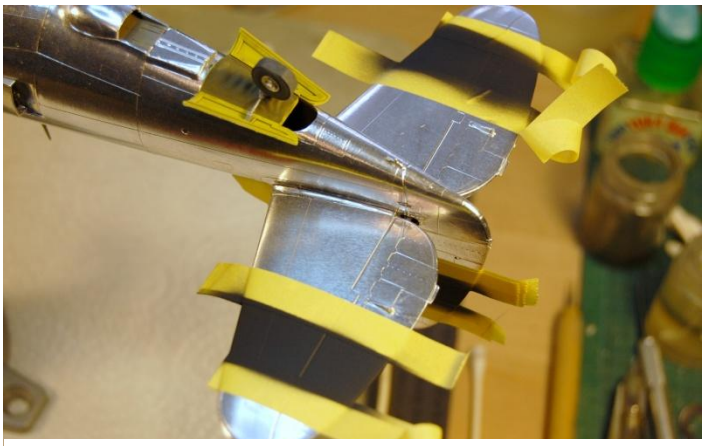


Figure 243

D-Day

This part use to throw me off, D-Day invasion stripes. Now the kit comes with decals for this and I decided to paint the wing stripes and use the decals for the belly of the plane. In hindsight, I probably should have painted all of them simply because the belly strips are a little trickier to do and you probably would have liked to see that. Sorry.

I'm not fanatical about crisp, clean strips, perfectly straight and symmetrical wing-to-wing. I have access to plenty of photos showing D-Day stripes being slopped on to planes with rollers and paint brushes. They were rarely (in my opinion and the opinion of many of the war vets I've spoken with), applied with exacting precision. I have purposely painted the stripes by hand, no masking, with a brush, in order to accurately duplicate what I've seen in a picture some veteran gave me but I know most of you want that clean look so I'll do what I can to accommodate.

Figure 244

Figure 245

I have measured the stripe width (off the decals), and trimmed some tape to that size. I roughly measured out from the fuselage where the 1st stripe goes then place one long piece of tape across the wing, making it look as parallel to the aircraft as I can by eye. As you see in the picture, I've placed the 5 bits of tape across the wing to give the end point and stripe size. Place another length of tape across the wing marking the end

Figure 246

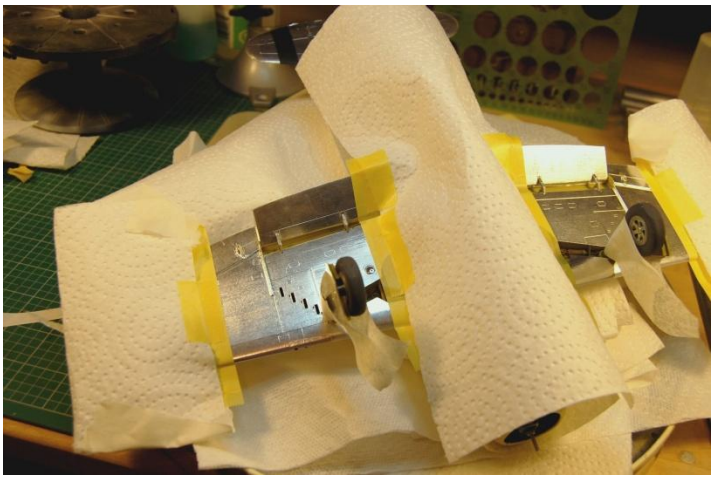


Figure 247

point. I will normally use a pair of calipers to measure from the first stripe edge to the last stripe edge, just to make sure it's kind of parallel with the other side.

After taping off the boundaries of the stripes, I made a pillow of paper towel, flip the plane over and rested it on top of the pillow. Because I left some overhang tape, it's easy to line up the bottom side stripe boundaries. Just place more tape on the back by lining up to the front tape. I added some paper towel to prevent overspray, and then flip the kit back on its feet. Mask off the top side including a piece of tape along the exposed flap innards (technical term). Spray the white! I mix a few drops of blue in my white since I find it

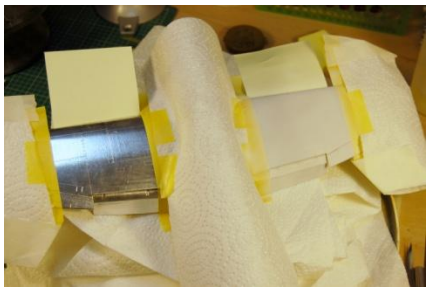


Figure 248

Figure 249

Figure 250

covers a little better and make the white a little more believable in my opinion. Then once again, I remove the masking almost as soon as I've finished painting.

Figure 251

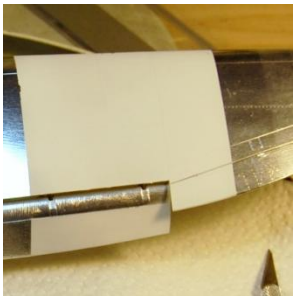


Figure 252

Figure 253

Now that we have the white, we need the black. I know the picture of this looks confusing but really it's not. Using the tape, cover up the width of the first white strip. Using pieces of tape cut to stripe width, just place side-by-side right across until you get to the last stripe where you want to cover the whole thing. Replace the centre piece of tape with a whole piece. To make a long story short, you end up with what you see in picture 'B'. Spray the black remove the masking and there you have it, D-Day stripes. Since that takes care of most of painting, I'm moving on to applying a coat of Future.

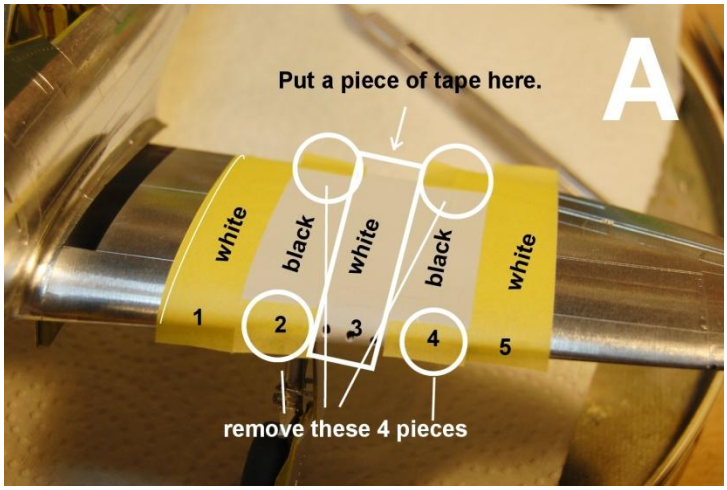


Figure 254

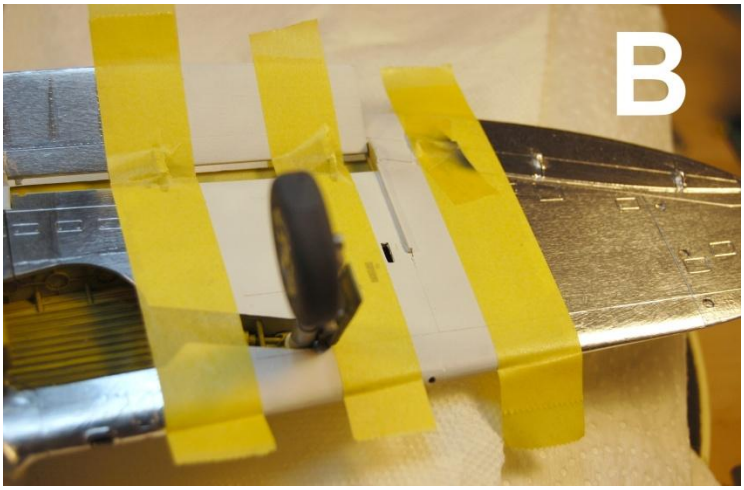


Figure 255

Future Coat

Future floor polish is a modeler's friend. There is information here at ARC that will fill you in on all the uses and benefits so I will just tell you how I'm using it here. First off, I never airbrush Future although many do. Invest in a really good brush, maybe ½" to 1" wide. If you don't buy a good one you'll be picking hairs off your kit all day. Future self-levels and rarely ever leaves a brush mark. You can't fool around while applying it or it starts to dry on you and you will get some brush marks. A second coat will take care of them though. I like two full coats on a kit before I start to decal and usually apply the second coat an hour to an hour and a half after the first coat. This provides a great base to work on and allows you a cushion for removing screw-ups when weathering, touch-up painting or adding chip marks.

If I feel like it I leave the Future coat to dry overnight and then start adding the decals. I often start applying decals and hour or so after the Future coat - What?! No, no, no Future must dry at least 24 hours before applying decals! To be honest, it's never been a problem for me. I've never really had any serious issues doing this, other than some fogging of the decals which goes away when totally dry. If not, then a quick touch up with Future takes care of it. I also dip the painted canopies in Future then leave them on some paper towel to wick away the excess. This gives you a scratch free crystal look to the glass.

Figure 256

Figure 257

Figure 258

Figure 259

Decaling

Figure 260

Figure 261

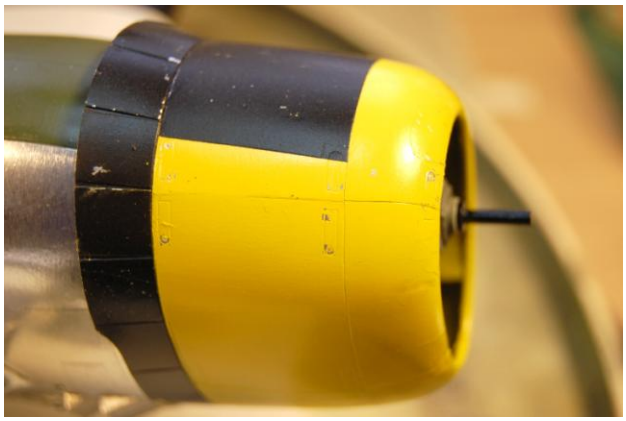


Figure 262

Get a bowl of really warm water (almost hot), this activates the glue and softens the decal. Cold water is a no-no. If you buy one of those coffee cup warmers you won't have to keep changing the water. Cut out the decal you need and place it in the bowl. Within about 3 seconds it will easily slide off the backing paper. I use a soft brush to wet the area where I intend to place it. I should add that there are many ways to apply decals. Some people will put a setting solution under the decal; some will use Future, some… something else, some nothing. Because you rarely get a second shot at putting on a decal I don't like to use anything that will increase the risk of wrecking it while putting it on, this is why I use warm water, brushed on where I intend the decal to go.

Figure 263

Figure 264

I keep the wet brush handy while sliding the decal in place. If it stops easily sliding around before I have it where I want it, then pushing the wet brush up underneath the decal puts a fresh layer of water under it allowing it to once again be easily moved around. You can keep a decal "alive" indefinitely with this method. Once you have it in position, tear off a piece of paper towel and using the torn fiber part (like in the picture), just touch it to the bottom of the decal and it will wick out all the water. I give the decal at least 4-5 minutes before I use the decal setting solution. You need decal setting solution to

Figure 265

Figure 266

make the decal conform to the finer shapes on the kit.

Figure 267

Figure 268

Figure 269

Apply liberally without putting pressure on the decal or you risk moving it. Once you hit it with the solution you don't want to be having to move the decal back into position. The solution very quickly "melts" the decal making movement without damage almost impossible.

Let's say you get up to stretch a little now, because this is nerve wracking stuff! You get yourself a drink and come back to the kit say after 15-20 minutes. Don't have a mouthful of drink when you sit down to check on the decal because you'll most likely spit it out the first time you experience the "wrinkling". Relax… it goes away, just like in the series of photos you see here. In the end its smooth, tight and well formed to the cracks, crevices, rivets or whatever else there may be.

Once all the decals are on, let them dry over night. Next day if any bubbles have formed you can just poke them with a pin and re-apply decal setting solution. When the solution been on for a few seconds use a soft brush to dab the bubble for just a second or two. Let it dry for a couple hours, repeat if needed.

Hey Man, Give Me My Props…

Figure 270

Figure 271

Figure 272

There's not much that is difficult about this process, but there are a couple things you might want to use. First gather up the pieces, clean them up, test fit and correct if need be, then glue together. Take the time to use some sanding sticks to thin out and clean up the seams on the prop.

Spray the prop your preferred shade of black. I hand paint the centre of the prop in steel or aluminum (whatever I have handy), but I like the chrome finish on the hub itself. I find hand painting this never gives the clean effect I'm looking for, so I normally punch a hole in a Post It note and place it over the hub after the part underneath has dried.

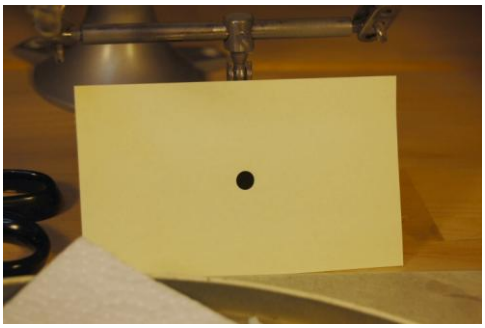


Figure 273

Figure 274

Using the airbrush I spray the hub and let it dry thoroughly before removing the Post It note. In this case I just used the aluminum paint but wanted to show you what I would have done if spraying the hub, chrome.

Tape the prop tips like you see in the pictures and then you're ready to take advantage of your gravity fed airbrush!

Figure 275

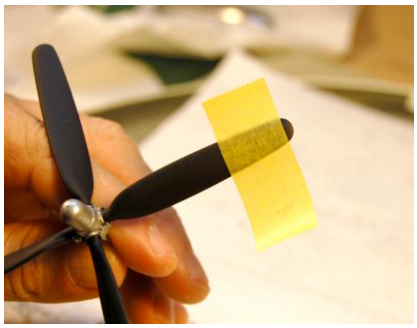


Figure 276

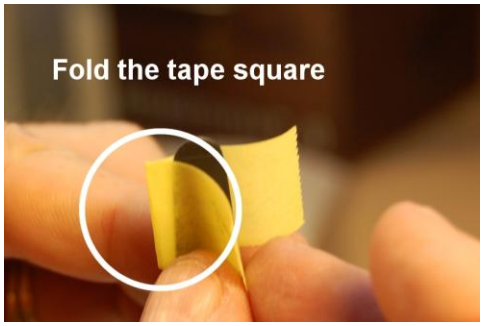


Figure 277

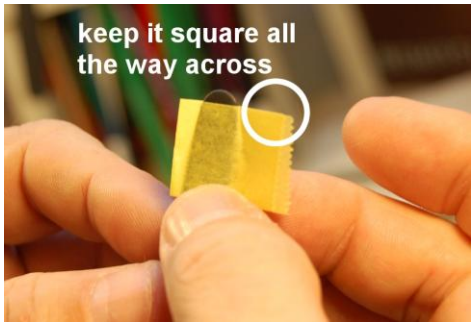


Figure 278

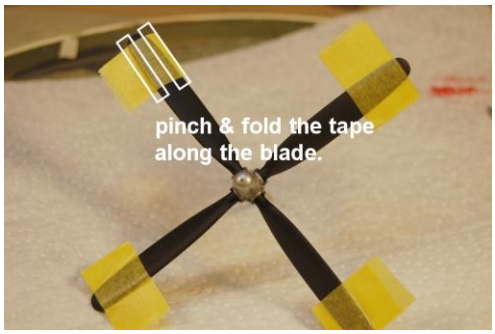


Figure 279

Figure 280

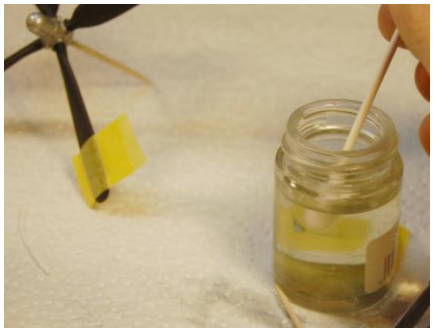


Figure 281

Stir up some yellow then take a Q-Tip and dunk it in thinner. Now place the Q-Tip into the yellow and then push it against the side of the airbrush bowl while turning it between your fingers. This puts just a very small amount of thinned paint in my cup to paint the tips. It's very fast and you've literally used a few drops of paint, no waste. That's hard to do with a suction fed airbrush. Spray the tips and remove the mask.

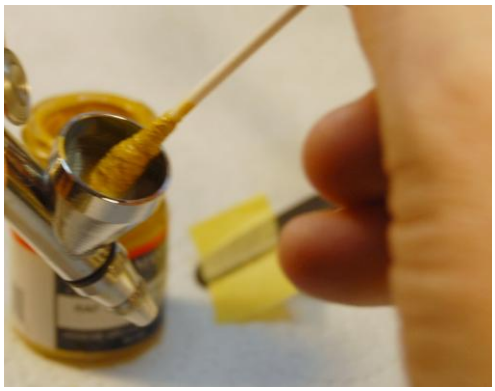


Figure 282

Figure 283

Guns, Guns, Guns

I have made guns by tightly rolling aluminum foil around a piece of wire, stretched sprue, plain old bits of brass tube, and other stuff. Mostly they didn't look that great. I do give in and buy the aftermarket guns for commission builds because it's the kind of detail that really makes a big difference on a finished kit. For this 'D' we're going to use what came in the box. Do you remember earlier on in the article when I was centre

punching the nubs for the ignition wires? We're going to do the same thing here. Take a pointing thing and make a light mark on the end of the barrel.

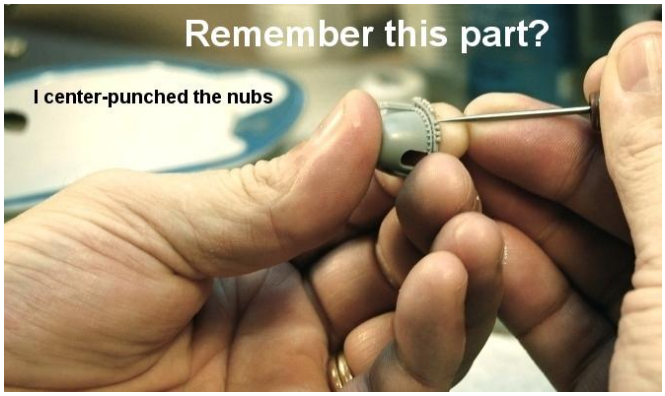


Figure 284

If you're way off centre, then just sand it off (because you just made a light mark), mark it again. If it looks centered then push the mark a little deeper. This will guide the drill and keep it in the middle.

Figure 285

Take your pin vice and drill into the end. Make one or two turns and just check that it looks to be in the right spot, then drill away. You don't have to go that deep to get the effect of a hollow gun barrel but I have drilled1/8th of an inch into them without wrecking the gun. If you've never done this you might think this is pretty hard to do by hand, but it isn't. You go for it!

Figure 286

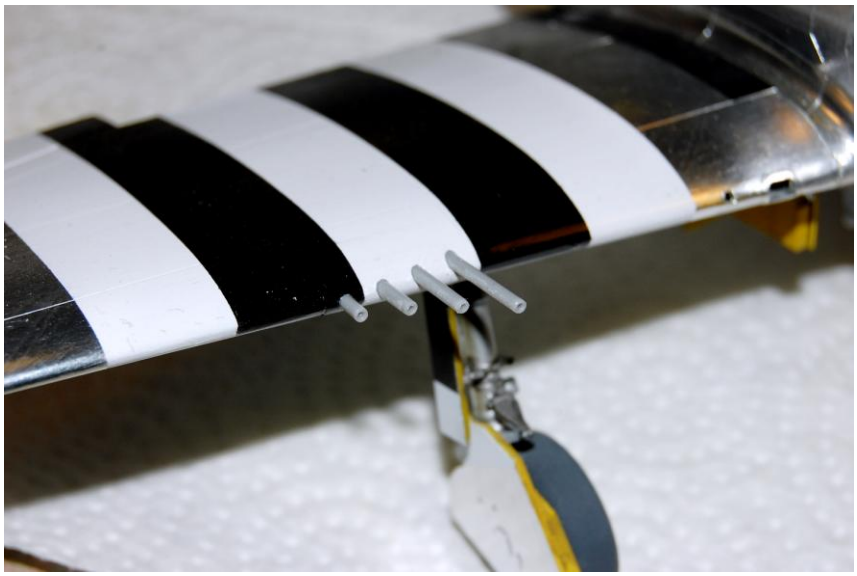


Figure 287

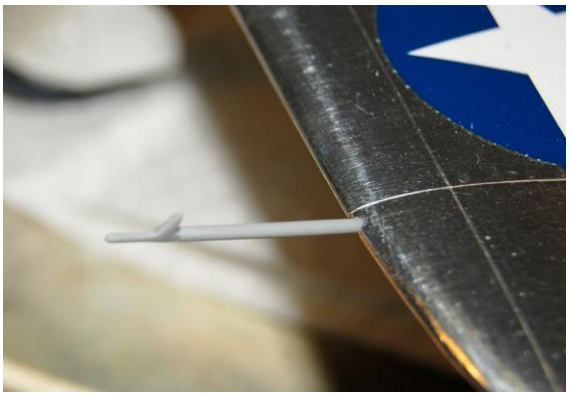
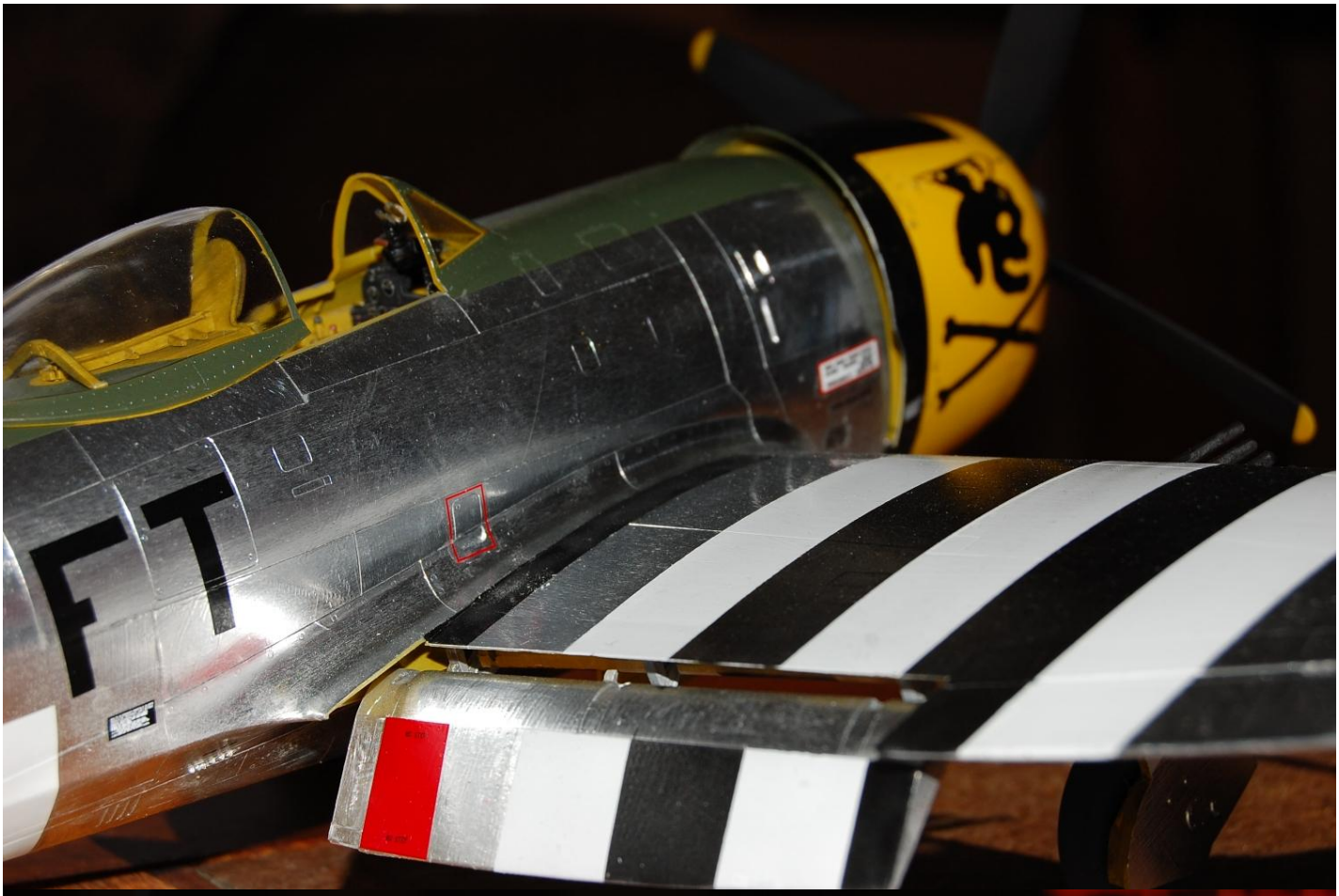


Figure 288

Pretty much the last colour I use for painting guns is Gun Metal; I prefer the paint type you have to buff to get the metal look you want. I use the MM metalizer either magnesium or titanium. Sometimes dark grey, then rub pencil led on them. While I'm attaching the guns, I clean up and glue the Pitot tube in as well. Let's look at where we are now.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What Have I Forgotten?

I know there are a few things about this build I haven't really covered; a bit of weathering and paint chips as an example. I've tried to show some of the subtle difference a wash makes. This is difficult to do on a foiled aircraft because the camera really doesn't pick up the change on the foil part all that well, but I think you get the idea. The result is much better on the painted surfaces of this P47 but still a bit of a challenge. The reason it is a little more difficult is; no matter how thin the aluminum foil, it's still thick enough to round out the small edges. This means when you start to remove the excess there is no sharp 'lip' in the crevasses to 'hold' the dirt wash in. We'll manage though.

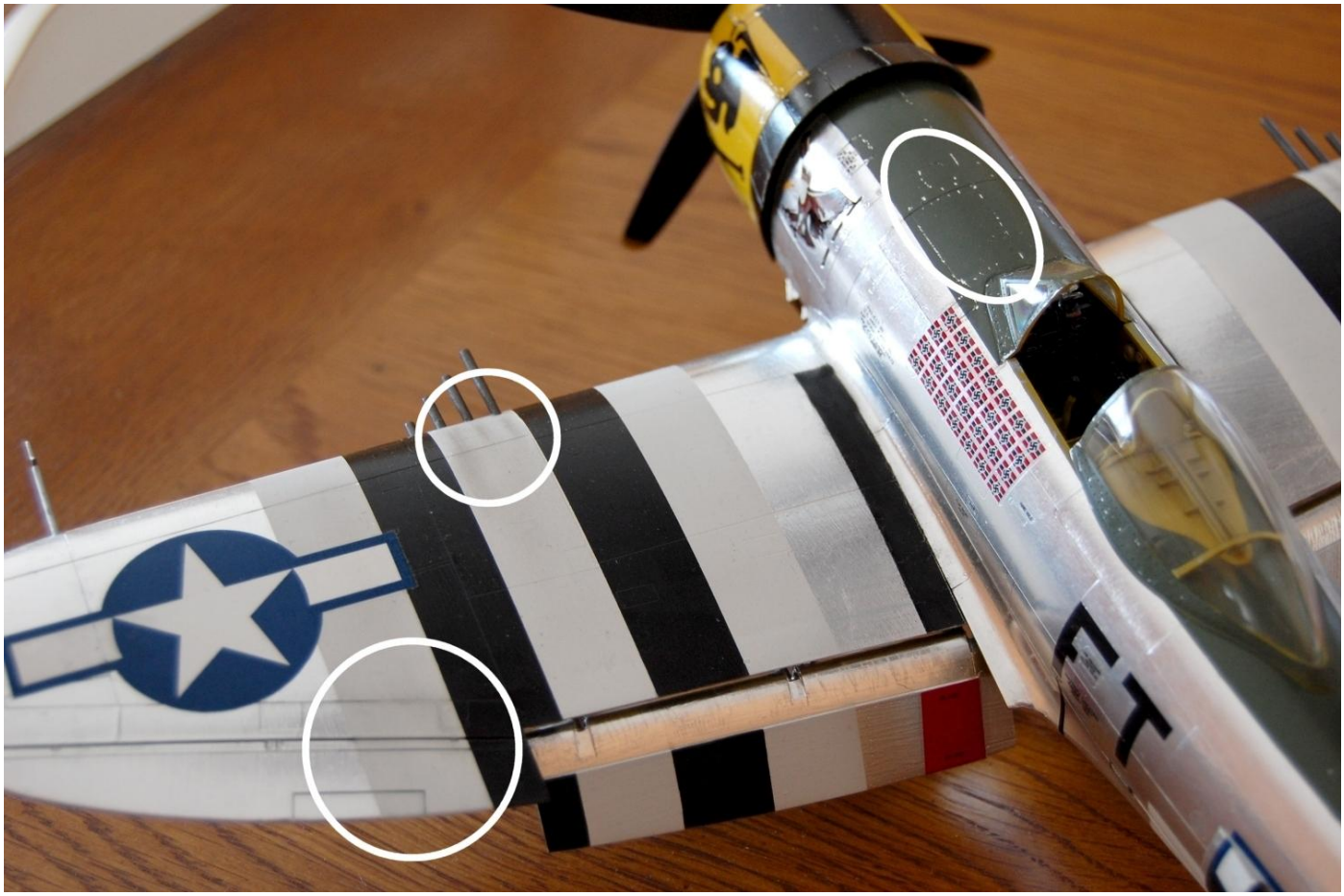

Figure 295

There are several other things – I forgot to show you what I do for formation lights (very cool), and how I use powders. I didn't show all the decaling tricks, forgot to mention that I applied another coat of Future of the whole kit after the decaling was finished, didn't add the prop decals, didn't really finish all the weathering either. We could have cut the ailerons and rudder out and put them at a nice angle. Usually I try to remember to turn the tail-wheel as well, this give a little more realistic look to it. Although I didn't do it on this build, I could show you how to color the bezels around gauges easily. So many things I've neglected!

Normally (if it wasn't foil), I would spray clear flat on the kit after all the decals and final Future coat has dried. The weathering really starts after that coat. There is so much more I could have done but I've just plain ("plain" get it?), had it. Like I said at the beginning, this project has taken a long time. This was the first plane I really didn't have to build for someone in quite awhile; I bet I started this thing a year and half ago. No, it didn't take that long to build it's just that there were several projects in-between and I had to keep going back to this when I had time.

Figure 296

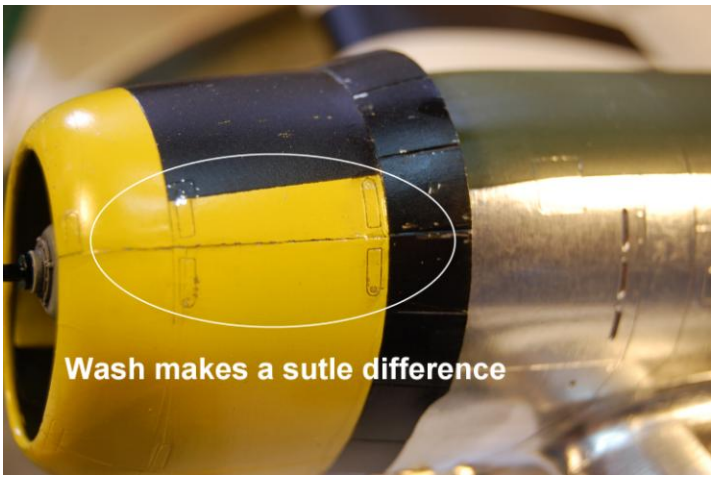

Figure 297

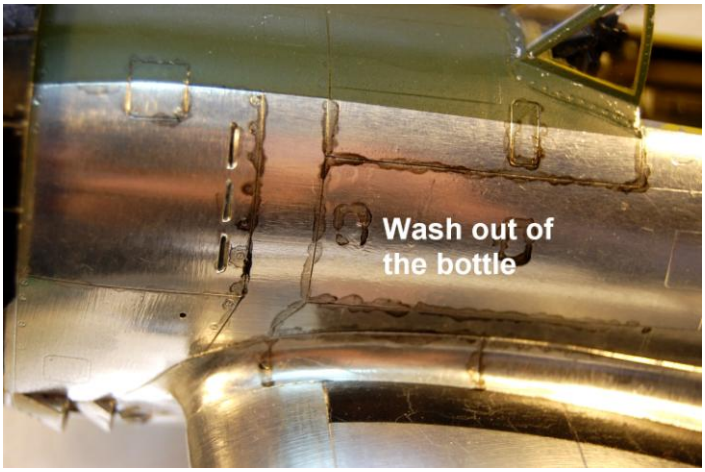

Figure 298

Figure 299

Figure 300

In an attempt to get you to understand this hobby, pay strict attention to what I'm about to tell you. It is one of the most important parts of this whole article.

Because this kit stayed on my bench for so long, I hated it. It got to the point where I groaned every time I thought about having to work on it. It hung over my head like the Sword of Damocles. At times I thought I'd just scrap it and forget about the article. Even now the planes not really finished, but I am… and that is important to digest. I just wanted this project to go away.

You'll see articles on ARC where someone will say something like… "I just can't get into it lately", "It's not fun anymore", "I just want to give up sometimes" etc. etc. When I see these I want to post a response that says something like "stop whining", "suck it up", "walk it off", "shut the hell up", (do I sound grouchy?), but I understand them completely. I feel that way often and not just about models. One of the things I like most about the hobby is the fact it's there, *whenever I want it.* If I don't want to finish a kit, *I don't have to.* Sometimes when I struggle to complete something I just go into the room, do one thing, then leave. That one thing may be sand something, glue something, just cutting a piece off a sprue. The thing I do may take 10 seconds or 1 minute. Funny thing is sometimes, before I release it, 3 hours has gone by. The hobby is there any time I want it, even if I never want it.

Figure 301

Here is another telling part of this tale. Although the finishing (kind of), and the documenting of this kits construction has removed an immense burden from my shoulders (frankly, if it wasn't for this article the kit my never have gotten built), I'm already thinking about doing a build to document just weathering and dry brushing! Frying pan… fire, go figure, but writing and documenting is a pain in the neck. As a matter of fact, it takes away some of the joy of the hobby for me. So don't look for that anytime soon.

Lastly, some people are going to strongly disagree with some of the things I've said in this article and probably send me a lot of "corrective" emails. That's ok, that's what it's all about... how *you* do something it's not about what's right or what's wrong. You will form your own opinions of good and bad. You may like everything I said here but in awhile you'll find your own ways, your own tricks. Someone will probably write me someday to say something like "Hey do this, this way… it's a lot easier than what you said in your article", and you know what? I probably will use your suggestion.

Oh, one more thing. There is a lot of concern regarding the decline in interest in this hobby. I'm not sure I'm saddened by it all that much. Let's face it… if we had the options our kids have today, how many of us do you think would be building these things? My kids have dozens of fascinating options when it comes to entertainment and playing. I had a stick to play with when I was a kid ;-) But I digress…

…if the lack of interest in this hobby does concern you, I give you this piece of advice; "Each one, teach one"