Modeling notes from Tamiya's 1/48 Republic P-47 Thunderbolt kits by Ed Mate. …or how I improve upon Tamiya's excellent P-47 kits. …or, after building 12 copies of these kits I've learned a few things.

Cockpit: I glue the seat to the mount before painting the interior Republic green – I use Model Master European Green (FS34092). If doing a very early model (P-47C and early D's) consider painting the interior zinc chromate yellow.

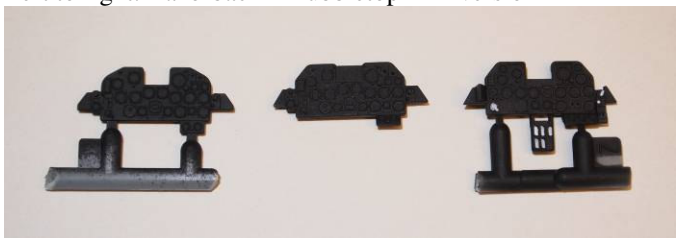
Photo of a P-47D-5-RE serial number 42-8554:

The cockpit detail is nice and a good paint job will yield very nice results. Tamiya provides three different types of sidewalls and instrument panels among their razorback, bubbletop, and M-version kits.

Left to right: Razorback – Bubbletop – M-version

For the D-model kits the left sidewall changed so the controls behind the throttle quadrant are recessed on the bubbletop compared to the earlier razorback. For the M-version kit the left sidewall changed again to include a new style radio. The M-version right sidewall is also changed – note different arrangement of equipment boxes and oxygen regulator.

Left to right: Razorback – Bubbletop – M-version



The razorback instrument panel is a little taller and rounded at the top, the bubbletop has the cut out in the middle filled, and the M-version kit returns the cut out, adds an angled panel on the left and a switch panel between the rudder pedals. I use an Eduard Zoom offering for the instrument panel and seatbelts.

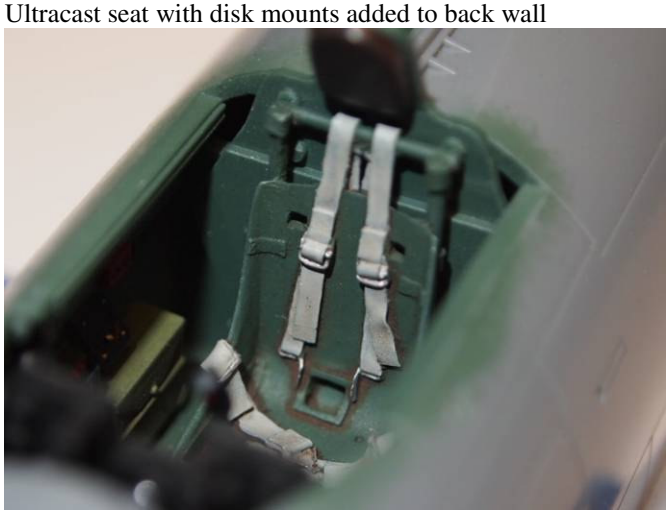
Eduard Zoom photo-etch and kit instrument panel with detail scraped off:

I use Future to glue the photo-etch parts together and super glue to attach them to the plastic.

Left – early pedals (razorback & bubbletop kits);
Right – late pedals (M-version kit)

On late models (like the P-47M) consider using the Ultracast square back seat. If you do this, the molded in cross bar on the bubbletop back wall must be removed because this is part of the Ultracast seat. I add two small disks of 0.010" thick plastic to the back wall where the Ultracast seat cross bar hits the back wall. The disks serve as seat mounts and hold the cross bar off the wall for the seat belts to wrap up and over the bar.

Ultracast seat with disk mounts added to back wall



For a D-28 model Thunderbolt I use the M-version kit to get a solid floor and M-cockpit sidewalls that have the later style radio and equipment locations. For a D-30 model I use the M-version kit to get a solid floor, cockpit sidewalls with later style radio & equipment, and instrument panel with switch panel. For the late D-model cockpit with solid floor, I modify the M-kit part to remove the extra selector post.

D-model solid floor cockpit modification:

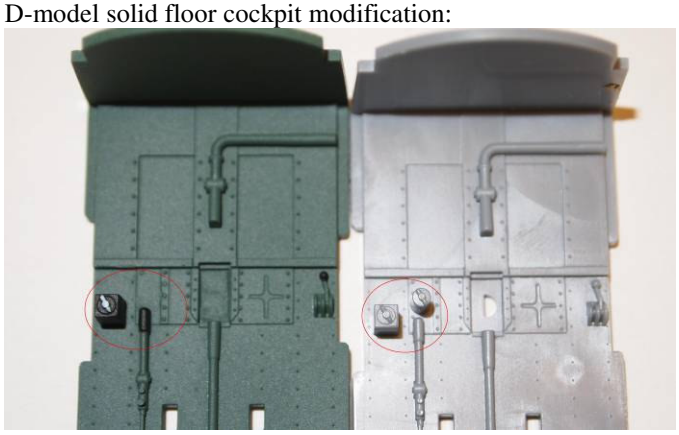


Photo of P-47D-28 Dottie Mae recovered from a lake – note solid type floor and Republic green interior color:

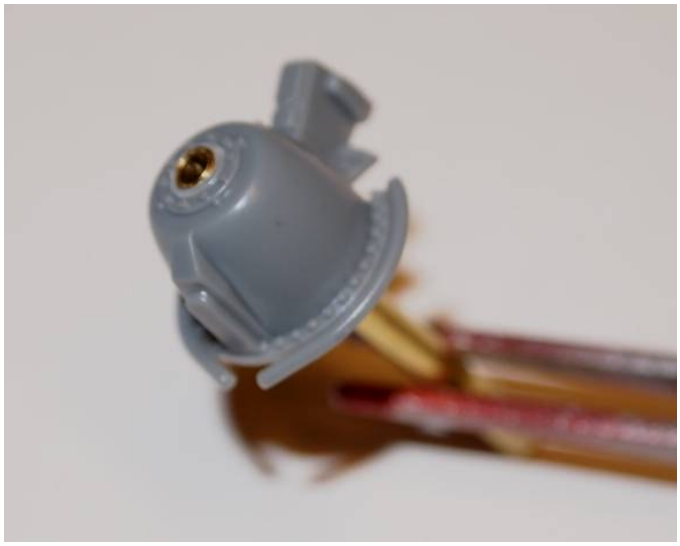
The Detail & Scale book (Kinzey) on the P-47 has nice photos of a D-30 cockpit. There are several types of gun sights supplied so consult your references. I've sanded and polished out the seam on the front of the gun sight but cleaning the seam on the backside of the glass is impossible; lately I've been cutting the glass off, painting the entire sight black and installing new glass from thin clear plastic stock. The Eduard Zoom offering includes a fine ring sight if you need one for your subject.

Cowls: There are two sink marks that I treat with Mr. Surfacer and sand smooth. These are on the sides of the cowls opposite the ribs inside for mounting the cowl to the engine mount. I'm as careful as I can be removing the cowl from the sprue but I almost always have some small marks to fill with Mr. Surfacer. There's a mold line on the cowl lip so don't overlook sanding this smooth. I often finish paint the cowl before I get to painting the model. What I have learned is to be very careful to figure out where the colored cowl fronts end – they are not all the same and adjustments may need to be made to accommodate the decals you've selected. I almost always use the blown cowl flaps. There's also an early model constant width flap set available from Quickboost.

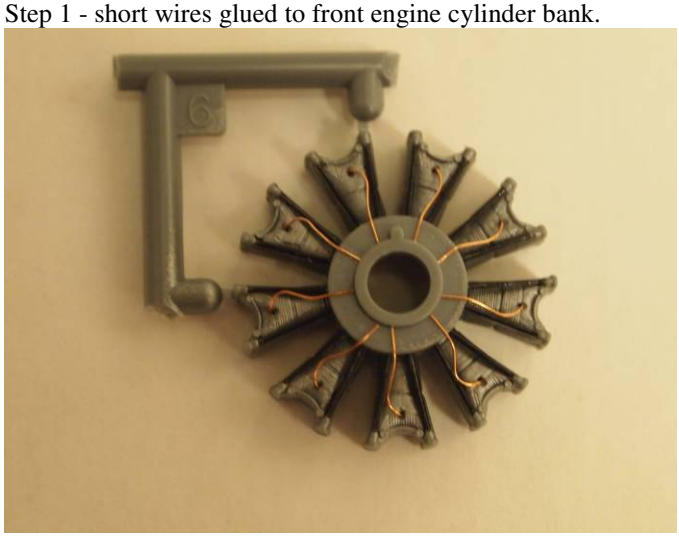
Picture of cowl sink mark repair.

Engines: I modify the assembly for telescoping tubing rather than use a poly-cap to hold the propeller in place. I use 3/32" OD brass tube and a 1/16" brass rod for the propeller shaft. The engine crank case opening must be enlarged to put the 3/32" tube through. I add wires for the engine cylinders. To prepare the cylinders, I remove the molded on nubs and drill 0.013" holes in their place. I use 0.007" copper wire and paint each one a dark brass/copper color. There are two wires per cylinder. Tamiya supplies two different distributors in the razorback kit, adds a third type in the bubbletop kit, and supplies two more variations in the M-version kit. The M-version kit also supplies a late style crank case. Check your references for which model R2800 engine is used for your model.

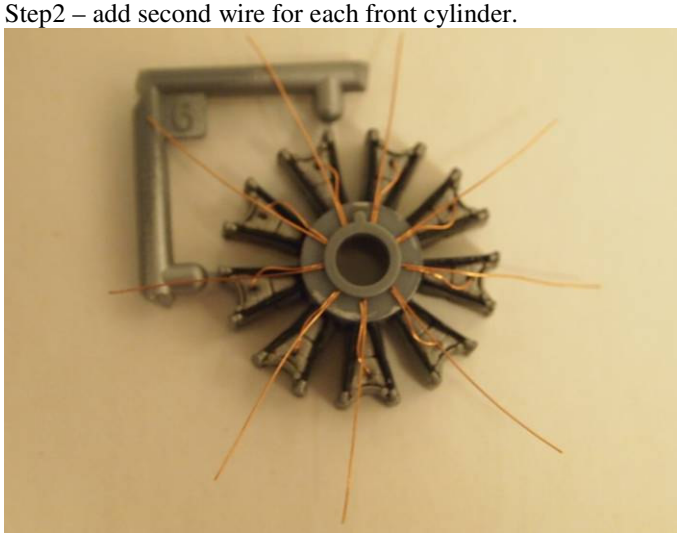
Brass tube in crankcase.



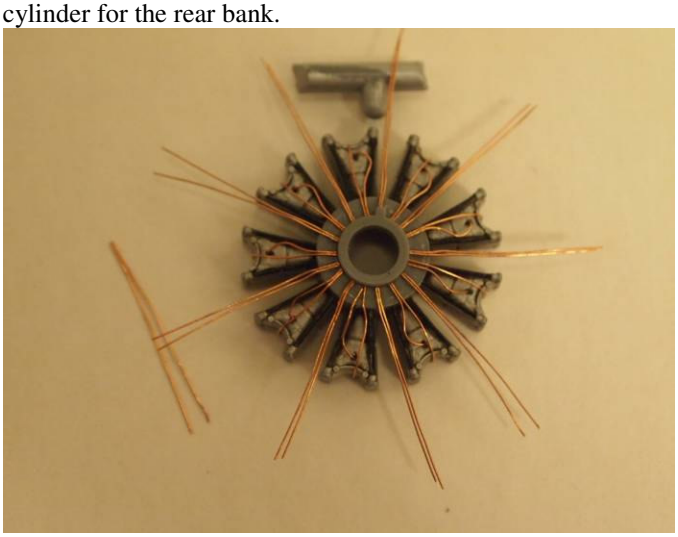
Step 1 - short wires glued to front engine cylinder bank.



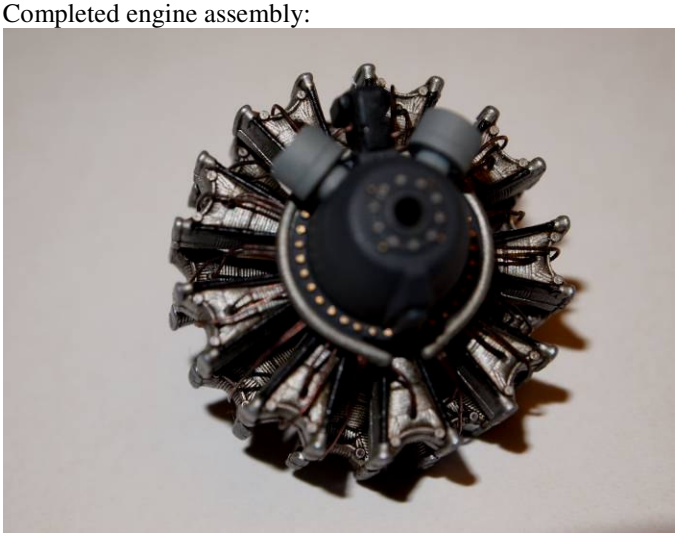
Step2 – add second wire for each front cylinder.



Step 3- fold longer wire in half and glue one set between each cylinder for the rear bank.



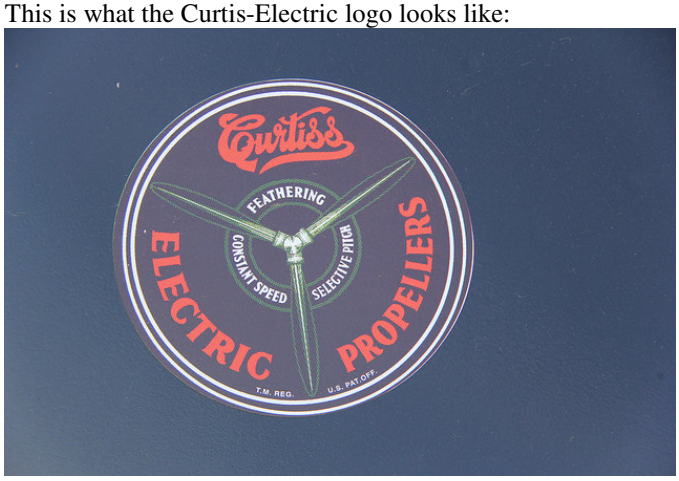
Completed engine assembly:



Propellers: The kit offers two different types of Curtiss propeller blades (original “needle” blade & the symmetrical paddleblade) and a Hamilton Standard propeller. When you purchase either bubbletop kit, a Curtiss asymmetrical paddle blade prop is provided. Photo’s of the original are the only sure way to know what type of blade to use. I finish multiple props at once for efficiency in painting. I remove the molded on paint demarcation line near the tips and drill 1/16” holes through the center for the brass prop shaft to prepare them for painting. I usually paint the propellers during other painting sessions using white, yellow, black and silver paint in that order. I even complete gloss coat, decals, and final flat coat occasionally when I’m working on the decals for another model. The yellow prop tips are a scale 4 inches wide – this looks too small for the paddle blade props, but it’s correct – consult pictures to convince yourself. Curtiss Electric had alternate manufacturers during the war so these props likely have an added yellow pinstripe or two near the tip. The alternate manufacturers did not apply company logos (I once put Curtiss logos on and had to paint over them). I did some research on the Curtiss Electric logo and found the yellow and blue logo on the white disk supplied for many years in Aeromaster decal sheets are fictional. I’ve never found a color

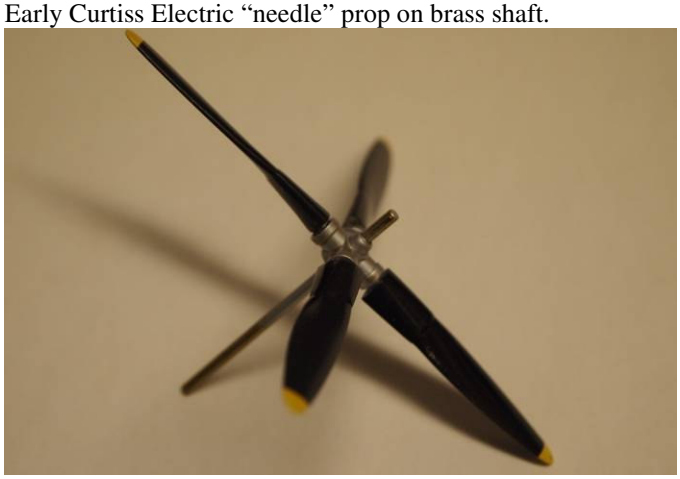
photo to support these colors. The white and red decals supplied in Thundercal decal sheets or the more recent Superscale sheets looks much better.

This is what the Curtis-Electric logo looks like:



The logos are not always needed because in the photos I've looked at they are not always there. The Curtiss spinner needs a little cleaning up at the sprue attachments. If the spinner is not a color then I like to paint them in Alclad Duraluminum.

Early Curtiss Electric "needle" prop on brass shaft.



Wings: Assembly of the wings is more complicated than other kits. They are modular with panels on the bottom of the wings used for moving the light for early and later variants, adding the "dive" flaps, optional position flaps, and separate gun panels. There are stops molded inside the wing for each gun barrel so the gun stagger comes out correct when they are installed. I now take extra care when sanding the wing leading edges before installation of the gun panels so I don't round in the leading edge at the opening. I got carried away one time and had to put some putty in to restore it to normal.

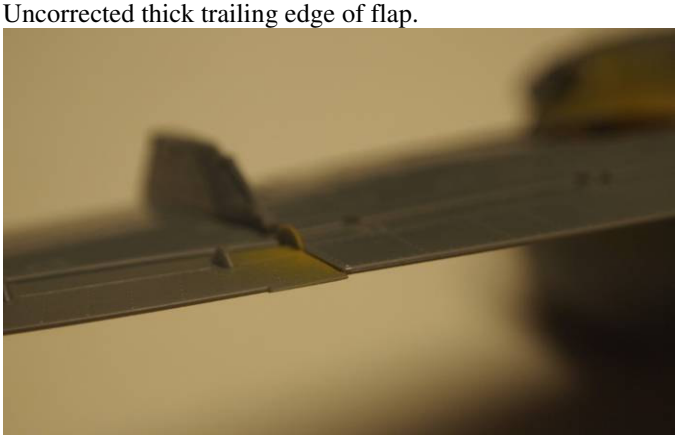
I built seven camouflaged P-47s before I noticed really nasty sink marks on the upper wings. (OK, if you can't see them on camouflaged models then they can't be too nasty, right?) When I painted my first silver wing, a sink mark right above the flap well showed up like a sore thumb. So, for any all silver subject, fill the top wing parts with Mr. Surfacer and sand flat.

Photo of upper wing sink mark repaired:

Look for sink marks at the back of the wheel well right where the wing meets the fuselage; when there, I fill them with Mr. Surfacer. The kit allows for flaps up or down. The flaps up configuration fits pretty well but the trailing edges of the flaps are thicker than the trailing edges of the wings. I correct this by scraping the insides of the trailing edges to thin them. The actuator and guide parts are sturdy and provide for a positive alignment. If the flaps are down, the step on the top of the flap for the part that fits under the fuselage shouldn't really be there. Additionally, there is a seam line across this surface. Replacement resin flaps are available (Brengun #48025) but I've been filling the seam with a piece of stretched sprue and covering over the surface with 0.005" thick plastic to get a smooth surface.

Photo of scraping flaps to thin trailing edges.

Uncorrected thick trailing edge of flap.



The wing tip lights were clear with colored bulbs – Tamiya molded small teardrop shaped holes in the kit clear parts so all that was needed was to paint colors in the cavities to simulate this (dark red on the left; dark blue-green on the right). The position lights under the wing are not separate parts so the moldings must be painted. I paint them silver then add clear color (dark red, dark blue, amber – front to back). Note that the center light falls within the underside national insignia. I'm thinking about drilling them out and replacing them with toothbrush bits on a future project – we'll see how that works out. Another suggestion is replace mold detail with some colored railroad lights (MV lenses). Anyway, I always have trouble with decals snuggling down and painting the center (blue) light on top of the decal is difficult – really hard to get it to look like the others if the inside rim is not sharp due to a sagging decal. I've come up with a better method…

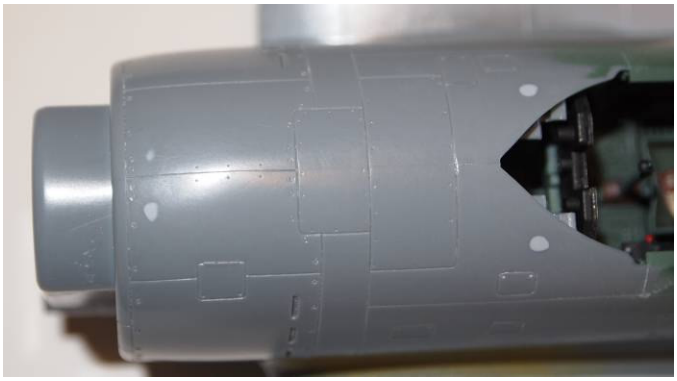
Punch a carefully placed 0.081" diameter hole (Waldron punch & die set) in the decal:

Paint the light using the same method as the others and apply decal on wing:

When attaching the wings to the fuselage the spars provided by Tamiya greatly assist getting the dihedral correct and even on both sides. Seat the rear spar against the bottom of the slot in each fuselage half. I've noticed that the right wing doesn't fit as well as the left – there's always a gap between the wing and fuselage just ahead of the flap. I address this gap with a piece of stretched sprue installed from underneath. Sometimes there's a gap at the leading edge as well; this can be addressed with some stretched sprue or putty. I've also noticed that the leading edge fits better if you make sure the bottom wing is glued to the front wheel well wall. I found a gap will be present in this area when I just taped the leading edge joint closed. A clothes pin and glue remedies the issue.

Picture of right wing gap

Fuselage: Not much for the fuselage. The oil cooler shutters fit well installed from the inside. Detailers can create some blanking plates behind the opening (or try Quickboost 48-291), but with the firewall just ahead of them it's really dark in there so I don't bother. There is an extended ejector pin mark at the end of the back shutter ramp that I cut off with an Exacto knife. On the bubbletop kits I've had difficulty getting the deck behind the cockpit to fit really well. When I follow the kit instructions and glue the parts together before attaching to the fuselage I end up filing just in front of the stabilizers to narrow the width and get a smooth blend into the lower fuselage. I've tried gluing the parts to each fuselage half to remove the blend problem but I found the fuselage parts contact before the deck seam is closed and I *added* material to bridge the gap. I haven't been able to figure this fit issue out yet. There are some panel lines that run along the joint in front of the cockpit that should be restored. There are some sink marks on the top of the fuselage caused by the canopy mounts and an alignment pin – I fill these with Mr. Surfacer like the other sink marks.



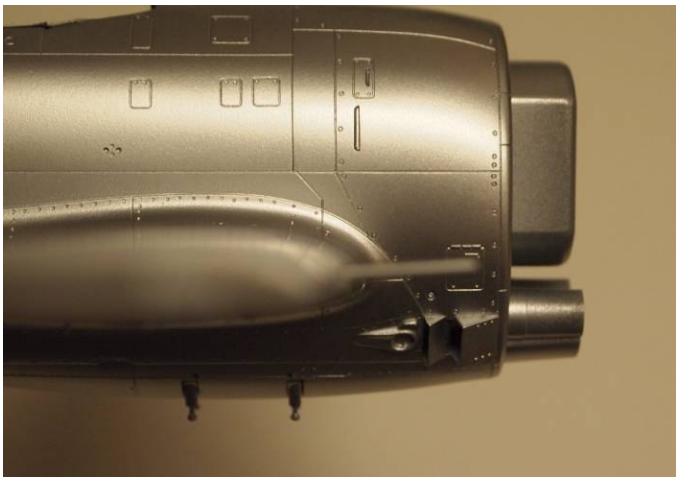
There are parts for the air duct doors fully open or fully closed; if you're looking for something between then trimming the closed doors will be needed. The Detail & Scale book (Kinzey) on the P-47 has nice coverage on how the doors operate for reference to a partially open look. Note that the national insignia was painted in this area on England based airplanes so those extra decal bits are needed for both the doors and the ducts. The ducts open into the fuselage without any blanking parts. I remember seeing a resin set to extend the ducts (now there's Quickboost 48-299), but what I find more important is cleaning up some mold flash where the duct

ends inside the fuselage. On Pacific and Mediterranean airplanes the national insignia was more commonly placed behind the doors. Tamiya took an interesting approach in choosing to have the windscreen install into the fuselage instead of on top of it, but I found the fit very good on bubbletops and razorbacks. Originally I thought to glue the bubbletop canopy guide to the canopy part (which is difficult) but later I discovered it works well to install the brace at the end of the track (for open canopy) and attach the open canopy to the fuselage; the brace will look fine without physically being attached to the canopy.

Painting: Floquil reefer gray is the color I like to use to represent US underside gray; I'll have to find a substitute when my supply runs out. Upper OD green has been a mix of paints to get new or worn looks. I use Alclad for natural metal finishes. I find painting the red "no step" area on the flaps easier than decals, but check photos of your subject because they were not always present (painted out during repainting?) An often asked question is, "what color was the area behind the cockpit under the canopy?" On razorbacks the area was painted the same as the exterior color or left natural metal when camouflage paint was discontinued at the factory. …but I'm sure exceptions can be found! On bubbletops it was painted with the anti-glare panel (OD green). Repainting could change it but most 56th FG camouflaged bubbletops show natural metal at the cockpit opening when the canopy is pushed back so it seems like the camouflage painting was done with the canopy in place and closed – thus the area inside likely remained OD green. Also take note that unless you're modeling a P-47G, the traditional interior green color does not show up at all on a Thunderbolt (although there may have been a transition on some D-model razorbacks as the cockpit color transitioned from zinc chromate yellow to Republic green). Wheel well interiors are zinc chromate yellow. I like to represent ZCY by mixing a little mustard color with yellow to muddy it a bit. The interior of the cowl is light grey or aluminum. The engine firewall was unpainted metal – this shows up under the cut back cowl flaps on some camouflaged airplanes.

Weapons: I use the kit guns. The Tamiya fit is excellent and the guns seemingly align themselves. However, I have far too many Thunderbolts where the right wing guns point more skyward than the left wing guns. After a number of times seeing the same thing, I convinced myself that it isn't some assembly problem I have and I decided to start addressing the problem. My photography isn't the greatest, but you can see the out of focus barrel in each photo that can be compared with the in-focus horizontal panel line on the fuselage.

Right wing:

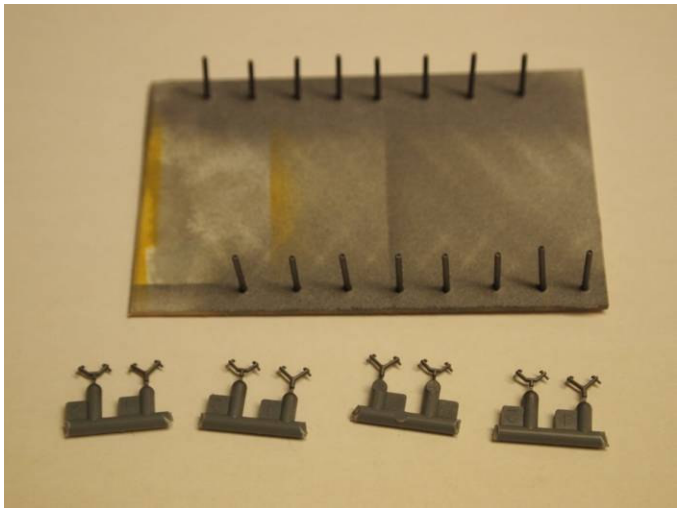


Left wing:

The correction is really not hard at all – drill slightly in each right wing gun hole with a 0.047" dia. drill bit:

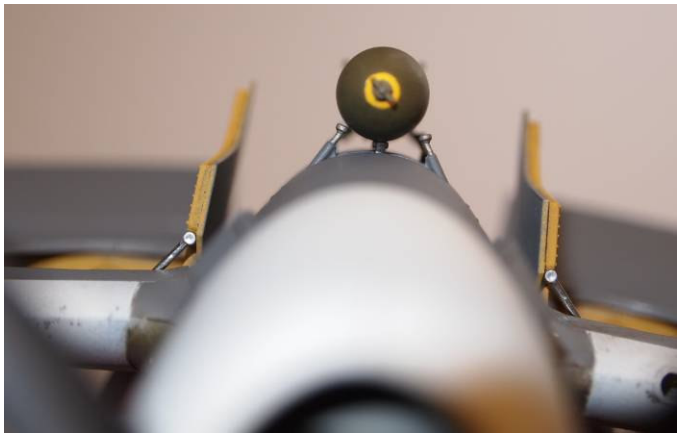
I attach the guns using Elmer's glue so I have some working time to get them aligned with each other. Tamiya's molding method provides drilled out gun tube ends, but they are not really deep enough. I've also found the mold seam near the tip needs to be cleaned up. Careful sanding and drilling out the ends will yield very useable gun tubes. If you choose not to do the work, the barrels from Master Models (#48002) are

very nice, too. Note that in most photos the gun tubes appear fairly bright like the aluminum wing skin so save the gunmetal paint for other projects. I made a fixture to hold them during painting by drilling holes in a piece of cardboard.



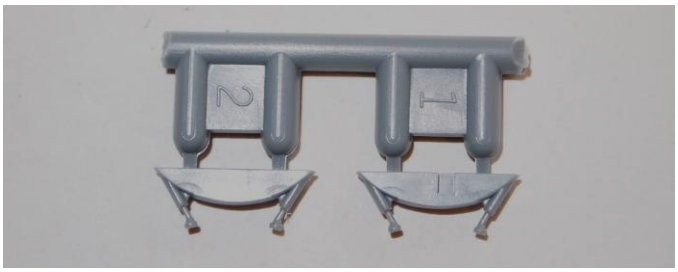
Also seen in the photo is my technique for painting the wing pylon sway braces. I carefully remove the parts from the sprue with the main sprue attachment intact. The mold seams are cleaned with an Exacto knife and the parts are easily held for painting by handling the attached sprue. Note that some groups later in the war painted the braces red.

The kits provide a flat 150 gal. centerline tank and sway braces. There are also two paper tanks that can be placed on the wing pylons or center station, but no early 75 gal. teardrop shaped tanks. If your subject needs a 75 gal. tank then robbing from a P-40, P-51, or Academy Thunderbolt is in order. The bubbletop kits supply the P-38 style tanks which are most often seen on Pacific and Med. razorbacks. Note that the centerline braces are molded to fit a drop tank. I found that gaps will result from installing a center line 500 lb. bomb without brace modifications.



So I came up with the following method to modify the angle of the braces so a 500 lb. bomb could be mounted on the centerline and look more appropriate:

Original kit parts.

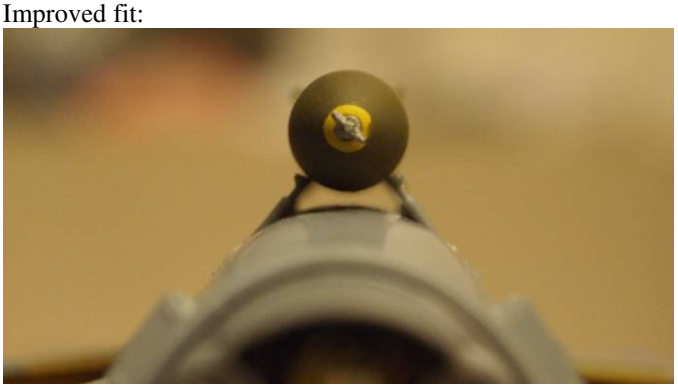


Cuts made nearly through the parts with a razor saw.

Braces rotated to close the gaps and glued. Extra blocks of plastic added to fill gaps on the bottom.

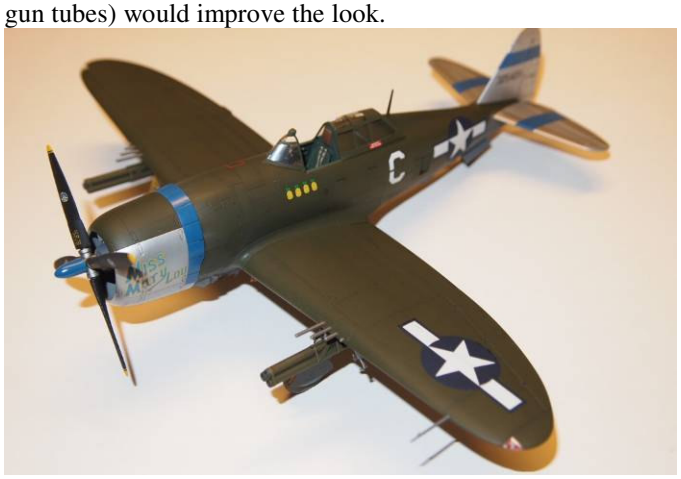
Trimming complete.

Improved fit:



I think the kit 500 lb. bombs are quite acceptable. I like them so much I've saved a bunch for a B-29 bomb load! I paint them white, then yellow, then mask the stripes, then paint OD. I also add an arming wire between the prop on the nose and the mount from fine (0.005" dia.) copper wire – the color should be copper.

I used the bazooka tubes straight from the kit on my model of McAfee's airplane (Miss Mary Lou) and they look pretty good. I think drilling out the front ends a bit deeper (like the gun tubes) would improve the look.



I wrote an article for an earlier newsletter about how I turned the kit 150 gal. flat pan tank into a 215 gal. tank. Whether choosing this option or a traditional paper tank, it is not difficult to add the plumbing between the tank and the pylon or fuselage. I add hoses made of 0.015" soft copper wire.

Note plumbing of tank to pylon and extended brace.

Landing gear: The tires in the kit are diamond pattern. The scribing is very light so I replace them with resin wheels from Obscureco. The Obscureco wheels allow you to use the kit wheel hubs so you don't have to worry about drilling out the right size hole to the correct depth. You also still get to choose covered or open spoke hubs. The hubs don't fit in the Obscureco parts so I chuck them in the lathe and cut off the taper from the mold draft, but this can be scraped with a blade as well. This cuts away just enough material for a tight fit into the resin parts. When I want another tread pattern, I use Ultracast wheels. I use the kit landing gear struts. After cleaning up the seam lines I mask the attachment stubs and paint the moving part of the cylinder Alclad gloss black primer. I paint the main gear door retraction cylinders at the same time. After the primer, I spray Alclad chrome – it's a magical paint that really dries shiny without any polishing. The best part of Alclad is it can be masked without fear of pulling it up when removing the mask. I mask he cylinder rods with masking tape, install the links, and paint the landing gear struts underside grey, OD, or silver – check photos and you'll find a variety of finishes. I like using the kit supplied plaquard decals for the struts. Detailers could add brake lines but I haven't really bothered with it. (I know, you're thinking "he plumbs the drop tanks but skips the brake lines?" I find the drop tank plumbing more visible.) One thing you may notice is that Tamiya changed the diameter of the wheel axle starting with the M-model kit (it's larger). I've noticed that recent razorback kits that are made in the Philippines now have the same fat axles.

Alclad chrome on struts and door actuators. Landing gear struts are finished with kit decals applied. Note fat axle.