



Weathered Warrior



Modifying, Detailing and Building the Trumpeter Ford GT40 • by Charlie Amodeo

The Ford GT40 family of sports prototypes has long been a favorite of mine, especially the MK IIA version of 1966, which finished first, second and third that year at the 24 Hours of LeMans. When Trumpeter announced the arrival of this model in 1/12 scale, I knew I had to have one.

If you're particular about the accuracy of your finished project, good references are a must. There are several excellent books on the development and history of the GT40 and a diligent search of the web can yield some invaluable photos. The cars all differ slightly from team to team, and even race to race. Choose your particular car to detail carefully or just have fun building the out-of-box kit.

I chose not to build an exact replica of GT40 MKIIA chassis #1046, the black number 2 car which won LeMans in '66—the

car Trumpeter used for reference and kit engineering. Instead I wanted my GT to capture the character of all of them, using virtually all the original car's bits, look and design. Mine is a sort of test mule of the day, with no race numbers, no roll bar (that came after '66) and no fire system—just built for lots of hard test miles. My goal was to create the business-like look of a serious race car.

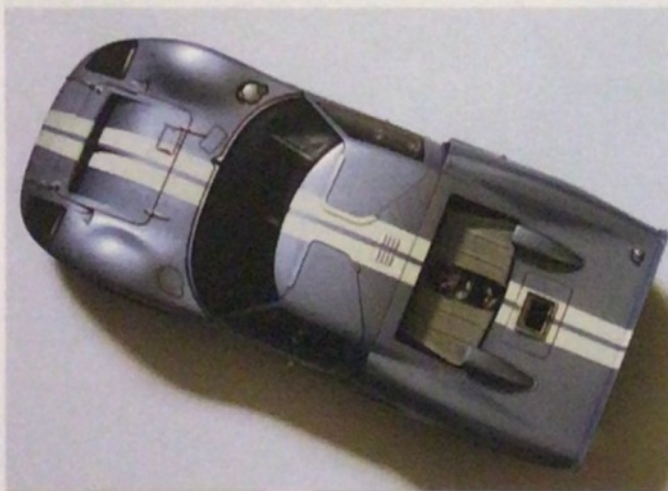
Rather than a step-by-step build, I will show some pitfalls I was tested with and some modifications I made. It's a challenging kit, but even average skills like mine can yield an eye-catching model. I used no aftermarket parts, and decided to detail only the areas visible after assembly. Since Trumpeter did not make the front clip a tilt-open clamshell like the rear, some parts would be largely hidden anyway. Tighten your racing harness and let's go!



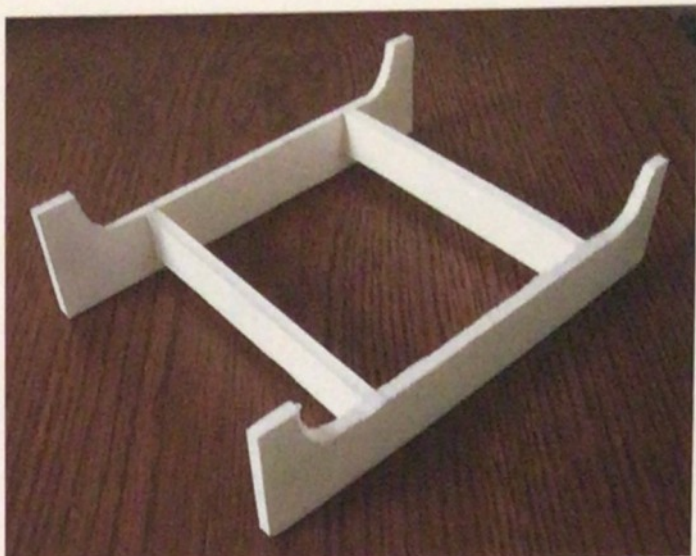
Here is the general look of the car. The rear clip, as well as most of the nose and lower surfaces, will be weathered with exhaust, road and rubber dust and some rain streaking, but it's all new and shiny now as it comes together.



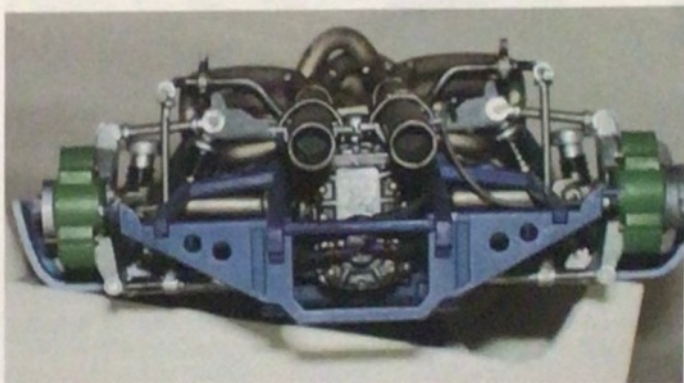
There are very fine casting lines to remove but clean-up goes quickly. Sink marks are not a huge problem—the worst are under the doors/roof area and inside the rear clip. Many are not visible when assembled. I filled the depression in the top of the driver's door with Bondo two-part glazing putty before final sanding. For the finished skin, I wet sanded with #600 and #1000 Wet-or-Dry, then primed with DupliColor light gray primer and wet sanded again. Tamiya TS-58 Pearl Light Blue and TS-7 Racing White (which is not a bright, modern white) stripes give the vintage look I was after. The chassis is painted Tamiya acrylic X4 Blue, very similar to the originals, which were either blue or black.



All paints were decanted and airbrushed, and stripes sanded flat with 12,000 grit from a sanding cloth kit. No decals, numbers or clear coat will be used because I love the overall form of the car without clutter. The stripes give the look of speed while standing still. I masked the stripes with 3M Fine Line 1/16" tape and Tamiya tape. The 3M adheres very well with no bleed-under. Gradually tapering the stripes at each end, 1mm inward starting from about two inches from the nose and rear spoiler gives them a more natural look—it just looks right.

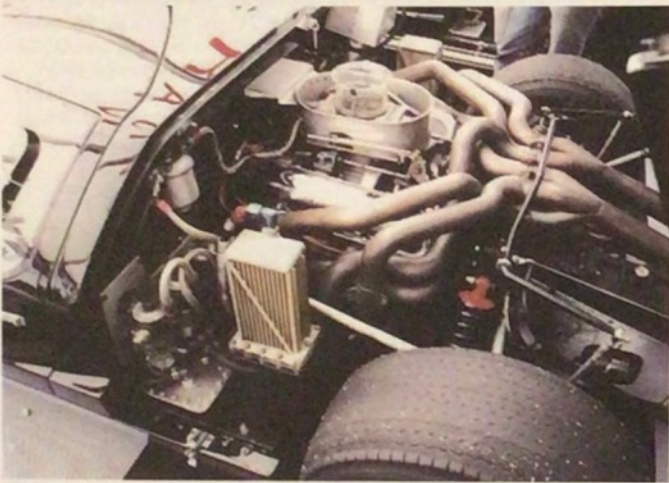


HANDY TIP: Visible in many photos is this simple cradle/work stand I made from 3/16" foam core board. The model is fourteen inches long and can be ungainly to hold as it gains assembly weight. This cradle prevents small part damage, frees your second hand and gives a stable base to work on without finger marks all over the model. Wearing nitrile surgical gloves is also beneficial as long as you're not handling tiny parts or tapes.



Test-fitting assemblies on this kit is vital because it's complex. Here's a problem I got myself into and out of: the oval hole in the rear deck is just supposed to fit around the clear carburetor air intake. When I fitted the rear clip onto the engine/chassis assembly, a certain header pipe (shown above) stood too tall and prevented the deck from closing flat. I decided to elongate the hole in the deck to clear it (below) because the pipes were already firmly glued in place when the motor went into the chassis. The pipes fit together perfectly just this way; it wasn't a matter of careless assembly. I guess I should have been looking much further ahead in the assembly sequence. So the warning is clear: test fit the pipes to the engine, the engine to the chassis, **then** fit the rear deck over all to check clearance.





The fuel system also required some patience to get right. Shown above are the 1:1 fuel pumps mounted in a Cobra, and the 1:1 mounting on a restored GT 1046.



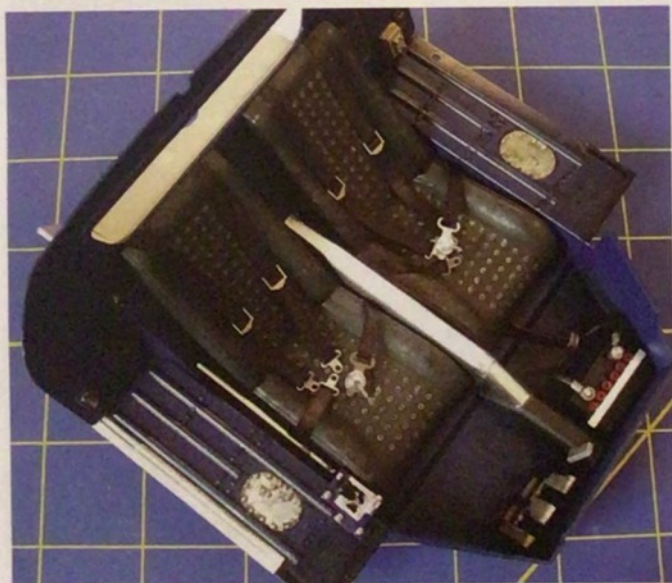
Trumpeter would have you mount six of the Stewart Warner 240A pumps—three per side. MK IIA GTs only ran three on the passenger side. A greater complication is that they are mounted at an angle, on the cockpit bulkhead next to the rear glass, not on the engine-side of the firewall. They are actually between the bulkhead and the firewall. This means you have nearly no space to glue the AN fittings and hoses to the pumps. Reference showed me that some GTs had an aluminum plate bolted to the firewall and the pumps easily mounted there. Using .005" aluminum, (baking pan from the supermarket, which cuts easily with a cuticle scissors or #11 blade) I made a typical plate and mounted the pumps to it and it to the firewall. The retainers on the bottom of the pumps are made from .025" pins.

Well, here's another reason for test-fitting: The rear deck hit the outside pump and would not close flush. The inner structure of the deck is not scale thickness. So I took the plate off—thank you white glue! **HANDY TIP: You can join parts temporarily for test fitting with a 50/50 mix of white glue and water and then easily disassemble them again. Residue is removed with a toothpick.** Then I angled the bottom edge and reattached it to the bulkhead, under the firewall. That made the pumps vertical, not angled, and allowed easier hose and fitting attachment.

The interior is a good place for some extra details because both doors open and at least you can see some of your hard work. The 1:1 cockpit was a pair of nylon-covered seats surrounded by the steel chassis on all sides. The fuel tanks sat on either side of the seats. The teams ran a maze of exposed hoses, wires, hard lines and cables from front to back. Drivers had to stand on the tank sills or seats to get in or out and mechanics had to crawl and lay where ever they could—makes for a scruffy cockpit and even brand-new cars quickly became aged. The photo of the 1:1 cockpit below shows the look I was after.



Below: I used sewing pins for the dash toggles and added wires to the fuse panel.



I scratchbuilt an old style battery and hold down, not using the modern battery Trumpeter supplies. Wound guitar string simulates cables. I filled the holes for the roll bar and slots in the sill tops with Bondo two-part glazing putty, and used dots of white glue to simulate the tack welds on the sills. The floor is scuffed from the driver's feet with #2 pencil and dry-brush. The central aluminum tunnel is covered with Bare Metal Foil, and scuffed a bit with a gray scuff pad.



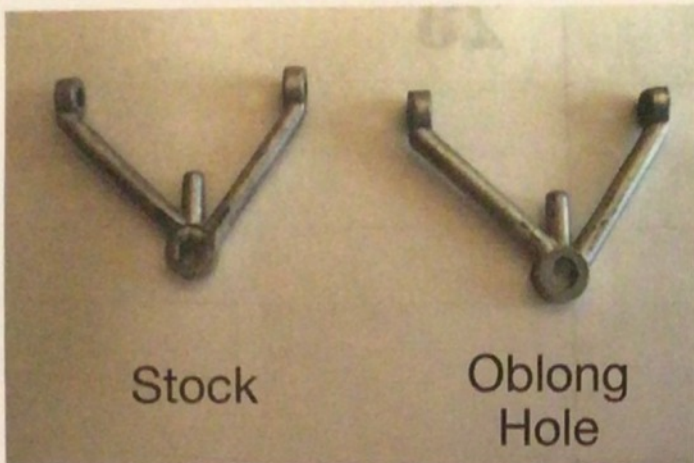
Above: The seats are Nato Black with German Gray dry-brushed wrinkles, and the seat vent rivets are touched with thinned acrylic silver. I shortened the metal steering shaft by .250" or the wheel would be in the drivers chest. Some cars used a speedometer to the left of the dash, and others put the battery master switch there—your choice.



Test-fitting revealed that as built out of the box, the front suspension ride height is all wrong for a race car that ran 210 MPH—way too high. Not wanting a toy-like appearance for the model, I lowered it by nearly 3mm. To accomplish that, I first needed to shorten the assembled height of the springs. Ignoring the kit springs, I made my own from thin solder and compressed them tightly. I then shortened the inner shock rods by 2mm. Instead of being 8mm long, I made them 6mm. Then I joined the upper and lower shock halves with spring, being careful to orient the attachments for the control arms correctly—the upper faces inboard and the lower faces out.



It was now necessary to raise the axle/upright assembly relative to the lower control arm. I found that a #6 washer placed on the lower control arm made a perfect seat for the axle unit and would raise it 1mm.



Stock

Oblong Hole

The final step was to slot the upper control arm hole slightly to allow the upright to lean inboard at the top, so the wheels have a bit of negative camber, which all race cars have.



The before and after photos show the finished effect, and the tires do not rub the fenders. The shame is that even if you're a machinist and can scratchbuild control arms, pin drive hubs, uprights, brakes, coilovers and heim joints, you still have to find an accurate way to allow the nose to tilt open to display it all.

CONSTRUCTION TIP: If you decide you don't want workable steering, the steering rack is much easier to thread through the suspension if you grind or file the teeth off the rack. You won't see that part once the model is assembled. I did not want my car to have working or poseable steering—you should decide beforehand.

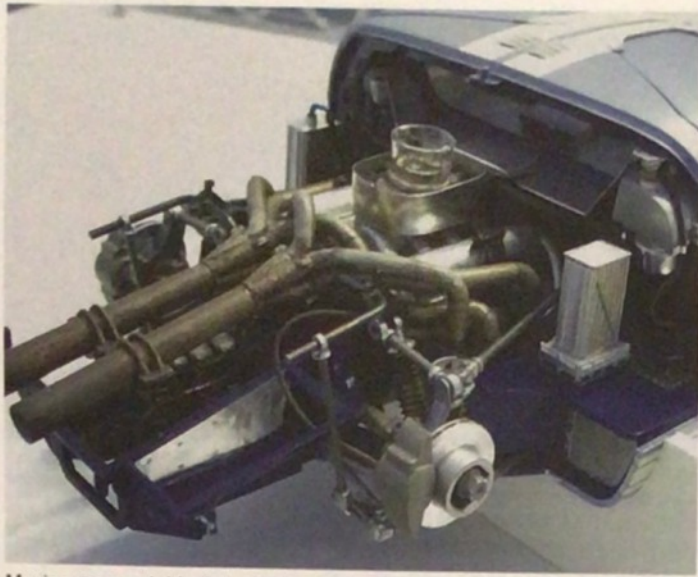
The wheels as the kit provides are all wobbly on the brake/axle unit and don't give that even, planted stance the car should have—even though they're attached by screws. Our friend the #6 washer to the rescue again. Trim about 1mm from the diameter, gently crimp it round and flat again and insert it in the outboard hole of the wheel—fully seated. Then attach the wheel to the brake/axle unit and fasten the screw just enough to allow the wheel to rotate.



The tires, stencils and wheels are not accurate as provided in the kit. To replicate the magnesium finish of the wheels, I used Alclad II Pale Gold with a mist coat of Tamiya Titan Gold acrylic. Later, I weathered with a mist of German Gray and powered graphite. The Blue Streak tires provided have the wrong shoulder profile, so I aggressively sanded them on a small belt sander to round the shoulder and show them as race-worn, thin rubber. The dry transfer letters are tricky to apply and are not correct because the letters in '66 were smaller than the modern Eagle logos. The letters themselves should not be bright white. The originals were brownish-tan, even brand new. I hand-painted over them with Testors Light Tan to get the effect. The blue streak was slowly applied with X-4 blue on a toothpick, and finally the tires were finished with Dullcote. Drill out the center of the knock-off in the rear, but not the front, for greater accuracy.



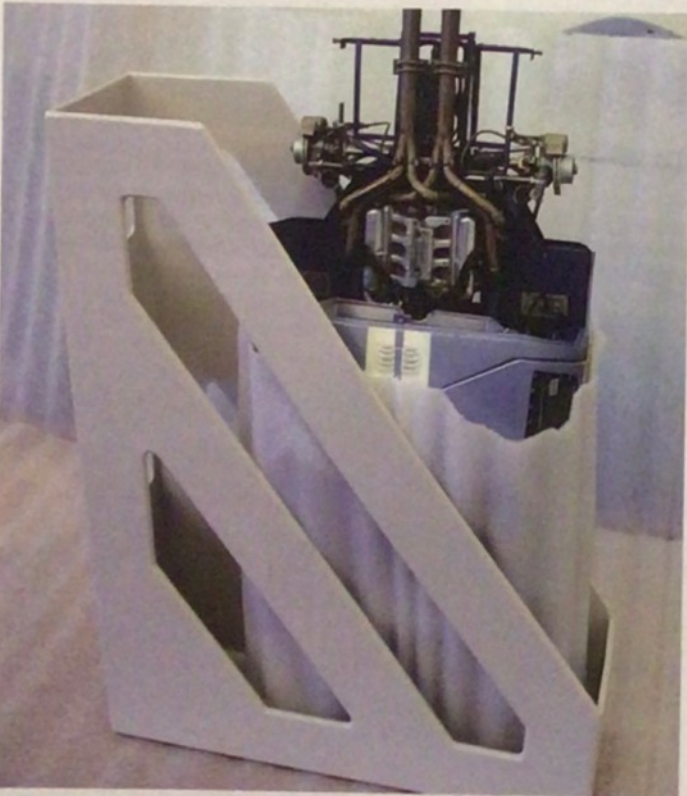
The letters O, D, A and R have stencil lines through them, as seen on this 1:1 photo. That's easy to do with a toothpick tip of flat black.



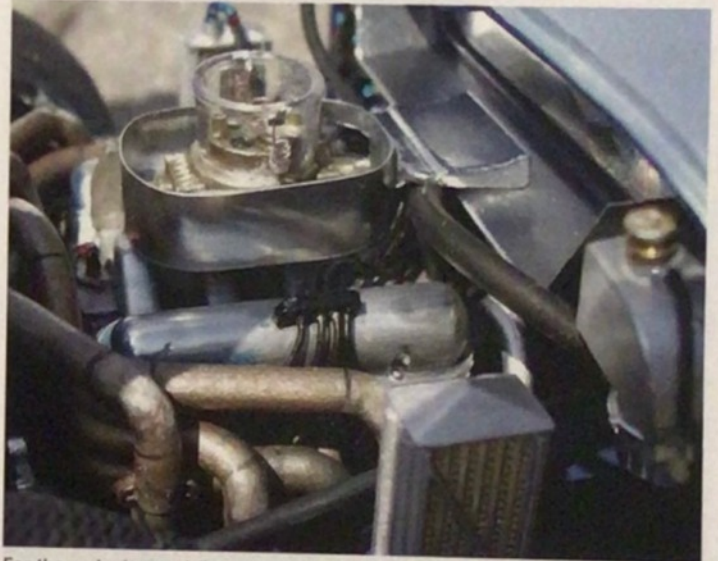
Moving rearward, I had decided I wanted to display the engine and drive train and those beautiful headers because the rear deck would flip up. That meant the toy-like rear suspension arms needed new parts. Using .075" and .090" coat hanger wire, and cutting and bending to the kit indicated lengths, gave me sturdy trailing arms, anti-roll bar and end links of the proper diameter. I bent the anti-roll bar to go under the header collectors but many GTs had them above too. The rods turned black from annealing and I left them that way. I made the end joints from styrene tube slices drilled slightly to fit over the rods. It's not threaded hex fittings, but when painted it suggests the 1:1 nicely. I did not change the rear ride height.



Another area to improve which is highly visible when finished is the carburetor air pan and the heat shield under the rear cockpit glass. Both are too thick for scale and the shield interferes with the fuel filter hose fitting. After my first test fitting I was unhappy with the result, so out came the .005" aluminum again. Using the measurements from the styrene shield, I transferred them to the aluminum. The thickness scales to approximately a 1/16" sheet, which is fine for the 1:1 part. To add strength to the shield, I cut a "floor" for its length from .020" styrene sheet and then rolled the visible edge of aluminum around the styrene. I carefully bent the side sections upward, forming the "vee" on each side of the cockpit glass. I made sure to clear the fuel filter.



HANDY TIP: When working in tight areas on the model it is often difficult to get both you and it in the best position to fit or glue parts. Sometimes you need gravity to get glue where you can't quite reach. I found that a cheap plastic magazine holder made a great work stand. The model could be stood nose-down in it or could lie flat, in perfect stability. With a thin wrap of soft foam around the car it fit comfortably in the stand with no damage. This was most helpful when doing the fuel pumps and lines, carb linkage and the rear suspension. It would probably work fine with other rear engine 1/12 sports car models (Porsche, Lambo, Lola) but not open wheel cars.



For the carb air pan, I first cut a styrene floor from .020" sheet to match the base of the kit pan. Then I cut a strip of the aluminum, as wide as the kit pan height, curved it around the styrene base and joined with CA at the front edge. I made the cutouts for the linkage and fuel hose, then joined with CA to the perimeter of the styrene base. A little aluminum paint on the base, then I test fit the carb for clearance. The last step is to carefully remove the distributor shield from the kit air pan and CA it to the new aluminum pan.

HANDY TIP: The aluminum parts can be polished, scuffed or left natural and look great because they are real aluminum and reflect the engine parts all around them. If you get any flash from CA glue and accelerator on the aluminum, it removes easily by rubbing with a Q-tip soaked in WD-40. If you use Bare Metal Foil for anything, it too can be polished with your favorite metal polish or scuffed with pads. When all finished, automotive spray detailer applied with a Q-tip and removed with microfiber cloth gives your paint that clean, beautiful look and removes all finger marks. Just like 1:1 cars.



Weathering the model was fun, scary and a major decision at the start of the build. Scary because if you overdo it, you'll ruin your hard work. If you decide to weather your model, study lots of different race cars (especially endurance cars) for guidance. The keys are to go heaviest on the nose and tail and fade back and up gradually. Think like the air stream. As far as wear, think how the drivers use them and mechanics work on them. Before spraying, I washed the tail area with Testors Jet Exhaust to simulate exhaust and grime on the photoetched grille and lights. For masking I used stick-on address labels, three inches long with the edges curled up for a soft edge. I overlapped them and then used a combination of Frisket paper and blue tape where I wanted no overspray. Soft dry-cleaner plastic bags can fill the wheel wells and cockpit (the windshield was out at the time) for easy masking. I first misted Dullcote on the unmasked areas, which looks like dust all by itself. I set the airbrush to 5 to 8 psi and a wide fan and misted acrylic light gray primer and spits of German Gray, heaviest on the nose and tail and lightly on the sides. This tones down the other washes of exhaust. I sprayed from 12 to 14 inches away, keeping the edges soft. Don't over-do this step, it can build up fast.



I worked on the windshield separately. Using the wiper as a guide, I made a swept area on Frisket paper, then adhered it to the window using the wiper pivot as the center. Then I applied a fine mist of gray and primer. Random tiny specks of red and yellow applied by the tip of a toothpick simulate unfortunate bugs meeting a car going 200mph.



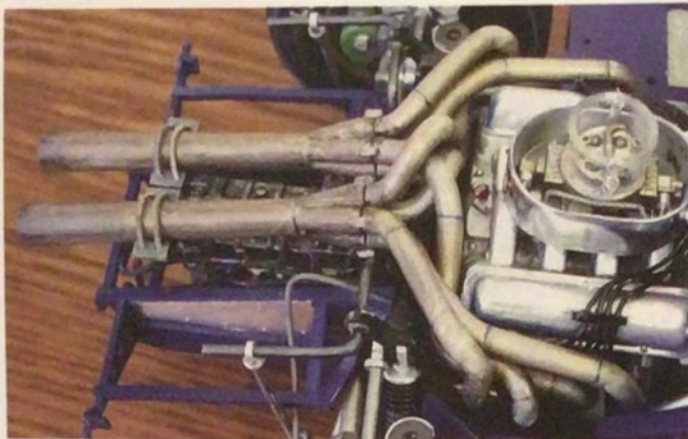
All the windows had their gaskets done in black marker with silver rivets, then were dipped in Future. Allow to dry 24+ hours before mounting and avoid touching. I brushed a mix of 1/3 equal parts of white glue, Future and 91% isopropyl alcohol on the body flanges and placed the glass. It holds very well with no visible glue marks or glass damage.



Brake dust on the wheels and tires was a similar combination of paints plus a dry brush of graphite powder. The tire treads were touched with toothpicks of white, tan and gray acrylic to render pit road stone pick-up on hot tires. The deck's inner structure was sprayed Nato Black, then washed with gray and brown in the wheel wells. I did not make a rear light harness so that the deck could easily open and close.



The insides of all the scoops were done with a Q-tip and highly thinned gray.



The valve covers were rubbed lightly with a scuff pad, washed in gray/brown sludge and had clear blue applied where they are nearest the headers. The headers are Alclad II Pale Gold, with washes of Testors Rubber, brown, dark and light tan, stainless steel and the weld seams were done with dark pencil.



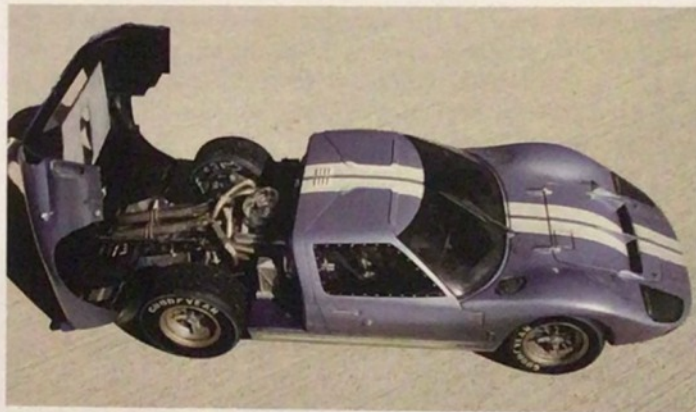
HANDY TIP: The front rubber brake ducts are difficult to bend to shape without kinking. Stuff them with cotton or insert thick solder, then bend the correct curve. When glued to the duct inlet first, they are difficult to hold out of the way when the chassis meets the upper structure. A very handy tool is waxed dental floss—wrap it around the duct's open end, (no knot needed, it adheres to itself) then tie it to the front jack hook. Also use it to prevent loss of tiny parts. Simply tie or loop about an 8" length to the part, and if the part should fly off your tweezer or off the model, you have a string to easily retrieve it. Snip to remove it after parts are glued in place.



Trumpeter chromed way too many parts, but you don't have to strip them all. Using a gray (soft) scuff pad, I dulled them down to simulate abused chrome or dull aluminum plate. They'll still have a sheen like metal if you go slowly.



Stick-on wheel weights can be made using 1/16" styrene rod. Crimp the rod using plier jaws about 1/16" between crimps. Do this for a length of an inch or two, bend the rod slightly to match the wheel's diameter, then cut different sized lengths. One-eighth inch of styrene equals 1.5" on the real car—very correct for weights. I painted them steel and dry-brushed them with aluminum paint.



Well, thanks for riding along. I hope you enjoy this challenging build as much as I did. It helped kick-up my skill level a notch.