

Making 1/24th and 1/25th scale utility bodies

by Brandon VanNess

So you picked up a truck and you want to make a customized rear body for that truck. I'm about to walk you through what I did to make two different bodies for the Monogram F-250 truck. The stuff you'll need to make a utility body is fairly simple:

0.040 sheet styrene	Combo Circle template
0.040 half round styrene rod	Sand paper
Bondo or some form of body filler	Slam locks (photoetched brass, plastic, resin, etc.)
Ruler, pencil, X-acto knife w/ blades	Scribe for panel lines

This is a fairly easy project in which you can start to master some of the skills you will need in order to make a custom fire apparatus cab, if you so desire. You need to find some plans that you can use as a basis for the utility body, or you can print the drawings at the end (1/24 and 1/25th scales). I have re-drawn many Pierce and EVI bodies to get exactly what I want, but you can also draw your own or copy stock files straight from vehicle drawings. Stahl and Reading have basic drawings in their literature that you can copy, paste, and scale in MS Word or a graphics rendering program.

Once you have your plans, decide how you are going to cut out the sheet plastic. I have decided to have most of the glue joints on the top and the front/back of the body when finally completed. So, I have cut four pieces of 0.040 sheet styrene, two identical 11.3 cm by 5.6 cm pieces for the sides, a 11.3 cm by 7.8 cm piece for the top, and a 5.5 cm by 7.8 cm piece for the front. The rear piece was two pieces of 0.020 sheet styrene with one cut to 5.5 cm by 7.8 cm and another cut to 3.5 cm by 7.8 cm, and a piece of diamond plate (0.020 thickness) at 2.0 cm by 7.8 cm.

Now, take the Circle Compass and find the most appropriate circle size for the wheel well openings. In this case, I decided to use the 1 3/8" circle and then I divided that diameter in half to get 11/16". Then, using the plans, I marked the center of the rear axle (5.9 cm) and placed marks at 11/16" from the axle centerline in all directions. Then, using the template as a guide, place a scrap piece of 0.040 styrene next to the piece you're cutting to keep the template level; use the scribe to mark the interior of the circle. After a few passes with the scribe, remove the template and use a new, sharp X-acto knife blade to cut out the semi circle. You should end up

with two side pieces with slightly staggered wheel well openings by remembering to switch the edge you marked the centerline with so that you can have a streetside and curbside piece.

After you sand down the wheel well opening, move onto the compartment doors. This is the point at which a major decision must be made, are you going to have open compartments or a curbside body? If you choose a curbside body, you still have two options: raised or flush compartment doors. Raised compartment doors are easily accomplished by cutting pieces out of 0.020 sheet styrene to the door size and placing it onto the sheet styrene. Flush compartment doors are easily accomplished by using your drawing to mark and scribe compartment doors just like you cut the wheel well openings. If you choose open compartments, you'll need to cut out all of the compartment doors after you scribe them.

When you scribe the compartment doors, remember to give yourself room for trim pieces if you wish to put any at the top or bottom of the doors. I suggest that you give yourself 2 mm at each edge if you plan to have open compartments. Always use a piece of similar thickness styrene to hold up the ruler when you are scribing your lines, and start away from yourself and pull towards you, into the ruler so that you don't end up with scratch marks all over the place. Remember, go slow, this is the time consuming part. And don't forget the gas tank access doors or cutting holes for recessed slam locks.

Alright, so I forgot the gas tank doors. I added them much later, and it was a pain once the body was glued together, so don't be like me. Some of you might want to make a recessed fuel cap, without a cover. If you do, cut your hole out as soon as you get your compartments marked so that you don't forget about it and try to cut the hole with the body glued together! For those that want to have a piece of styrene for the gas tank door, just remember to cut yourself an extra piece of 0.020 to those sizes.

Now, you've got the other side done and you're onto the top, front, and back. For me, I wanted a short bed for a generator, so I cut it out. Since I made an open bed, I have to cut three more pieces of 0.040 styrene, one 3.4 by 7.8 cm to go across the front, and two 3.4 by 7.7 cm to go along the sides. The bed will have a 7.8 cm by 3.6 cm opening, so I will be placing all of my seams on the inside of the bed in order to help reduce their unsightliness. The rear pieces are cut to reflect the edges of the bed, and the two plain pieces of 0.020 styrene are glued together (I'll add the diamond plate after it is foiled).

The front piece is cut in order to place the body directly over the frame and to reflect how low you want the body to sit. I just wanted the body to sit level with the bottom of the cab, and I found out that I had my drawings just a little too tall. Anyway, the cut was to chassis width and 1 cm in height, roughly. Now that all my all of the body pieces are cut, I'm going to go onto the undercarriage.

Not many people want to spend time on the undercarriage of the models, since it won't be seen. I, on the other hand, use the undercarriage to hold up the body, so I don't have to worry about it not being level. This part is really complicated and dependent upon your chassis. Start by cutting a piece of 0.080 to the inner frame width (measure at the axle) and to the inside dimensions of the box (hint: if you are using 0.040 for the front and back, subtract 2 mm from the overall length if you are placing the end pieces internally). This is where the hand waving starts. You'll need to cut a piece of 0.040 or 0.080 to the width of the frame at the widest part, this piece will be used as the bottom of the bed. Then measure around the spring mounts to determine how much space you need to remove, and remove a half mm more. Adjust the height of the bed based on how low you want to body to sit. Once this is done, cut additional pieces of 0.080 to use as the bottom of the "tub" and pieces to connect the bottom of the tub to the frame mount. Fill in the holes around the springs with 0.020 sheet styrene. Make sure you leave enough space in the wheel wells for the tires to fit before you box the wheel well in. I know, this is hand waving and doesn't help you much, but making a tub is based on the requirements of the frame, and no two are alike.

Okay, onto assembly. Get yourself set up with plenty of tape and glue. I've used Testor's Non-Toxic Cement for Plastic Models with some good results, but I've had to support some sections with Duco Cement. Anyway, start with the pieces of the bed, that way you have something to help square up the sides with. It is also easier to put filler on the bed before you put the sides on, so just remember to plan ahead. Also, if you want open compartment doors, put the dividers in now since this task will be harder once the sides are up. Once the bed is finished, glue up the sides on at a time. In the end, you should have a sturdy box. You can re-enforce any corner with 0.080 square rod or larger if you wish. Don't forget to putty and sand the seams.

I like to build my vehicles as a combination of Pierce (3 inch trim along the bottom, best replicated with 3.2 mm Channel) and Sutphen (very thin trim molding around the wheel wells, made easily from 0.020 styrene). Because of this, I tend to cut half circles out of 0.020 or 0.040

sheet styrene to the width of the wheel well and the next size up. I'm still working on this because it just doesn't look right.

Drip rails can be manufactured from 3/32 or smaller L angle that can be tacked on before you prime and paint. There are three ways to do non-operational hinges, you can use 1/64th aluminum or brass, 0.040 half round mounted flat onto the scribed doors, or a piece of quarter round and a piece of larger half round since the companies won't make 3/4 round for raised doors. An example of the raised doors would be 0.040 quarter round, 0.020 by 0.040 strip spacer (if needed), and 0.080 half round placed such that the quarter round is on the edge of the door with the round into the body and the half round is on top, but smaller sizes may be needed if you can find them.

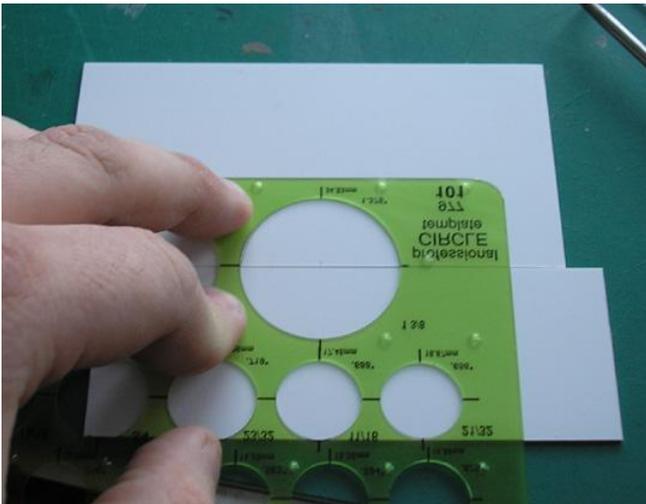
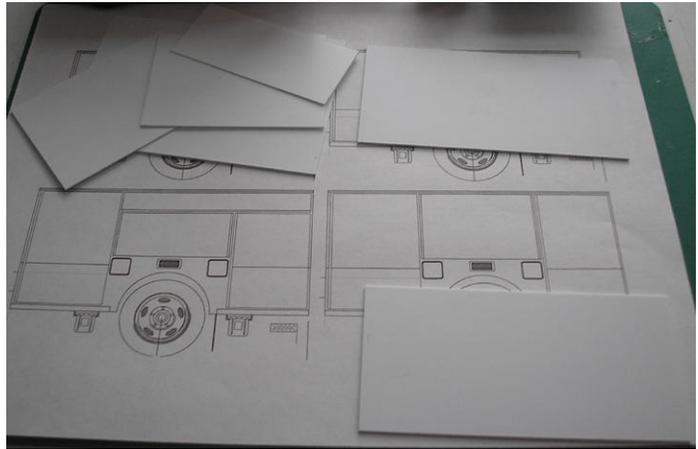
The bumper is a place where you can express yourself. You can make a standard bar bumper to the width of the body and 7 to 12 mm wide. I suggest you cut a piece of 0.080 to 1 mm less than the planned length and 0.5 mm less in width to fit the diamond plate to the exact dimensions, but only if you want diamond plate on all edges of the bumper. There are two options for complete diamond plate, you can either bend a large piece of diamond plate around all of the edges or cut individual pieces and use a 0.040 half round strip all around the top piece of diamond plate in order to simulate the welded, just wish 0.020 half round was available. If you do run half round around the diamond plate, you might want to trim the top piece a little in order to make the pieces look more flush. I suggest you mount the bumper to the tub, but you can mount the bumper to the body, just don't put a lot of tools on the bumper.

One final trick is with the taillights. If you want recessed taillights in your diamond plate, mark and drill holes to the diameter of the round jewels you purchase at Wal-mart, Hobby Lobby, or Michaels. Now, take an adjustable punch and make a few rings to go around the holes, and paint them flat black. When you get ready to add the taillights after you've painted the body, but before you foil the diamond plate, tape the jewels into their holes and put some glue on them and then use the diamond plate to position the lights. Now, paint or foil the diamond plate, attach, and then tack the black rings onto the diamond plate.

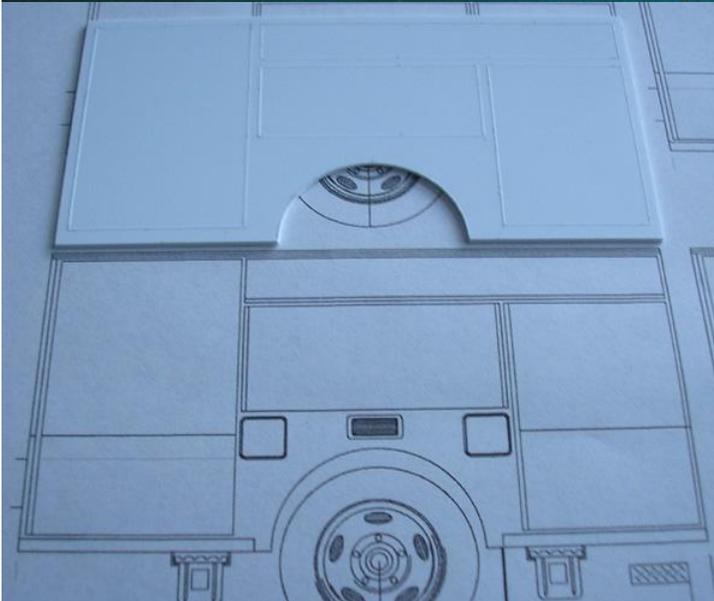
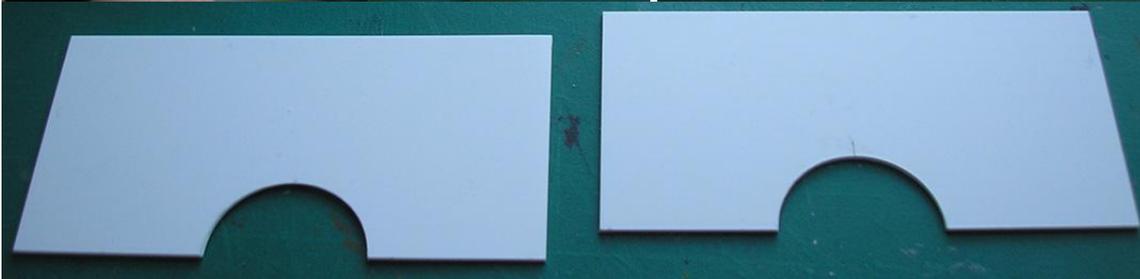
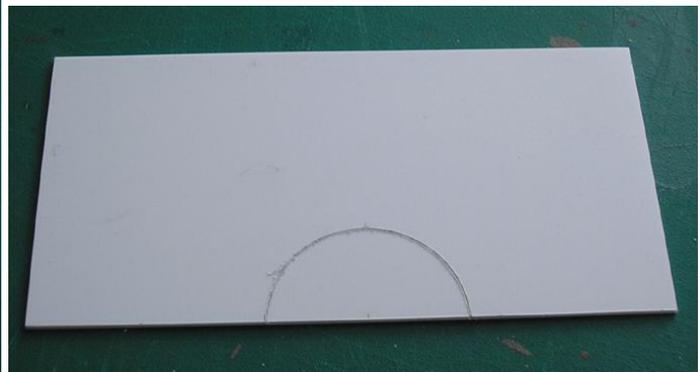
Well, that's about it. I hope this helps in your projects.

Pictures:

The starting kit and pieces for the box.



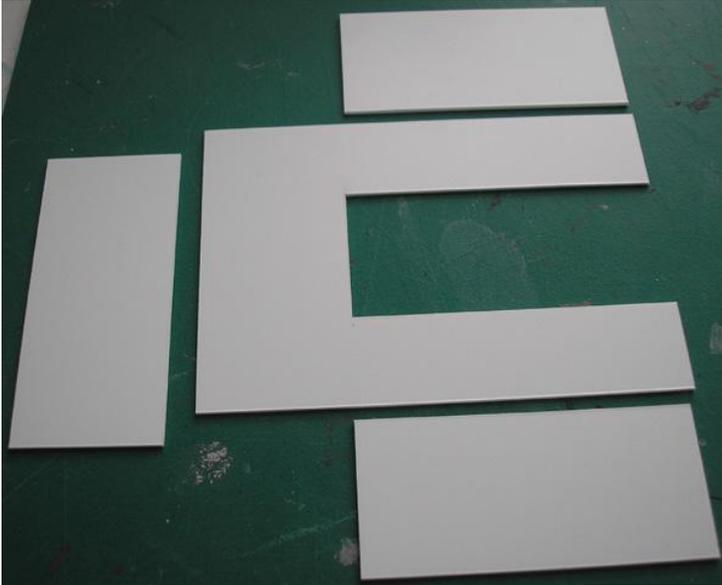
The wheels wells...



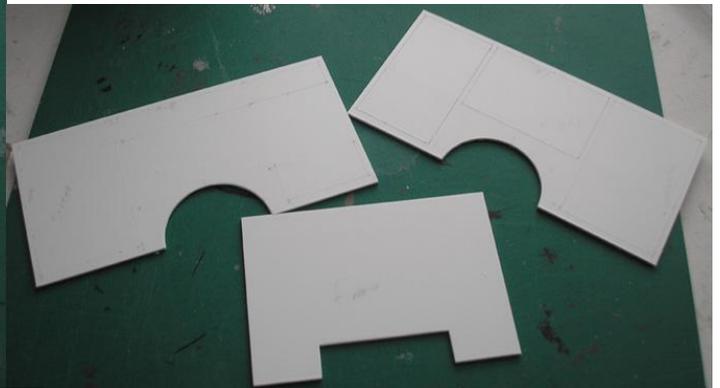
The scribed lines...



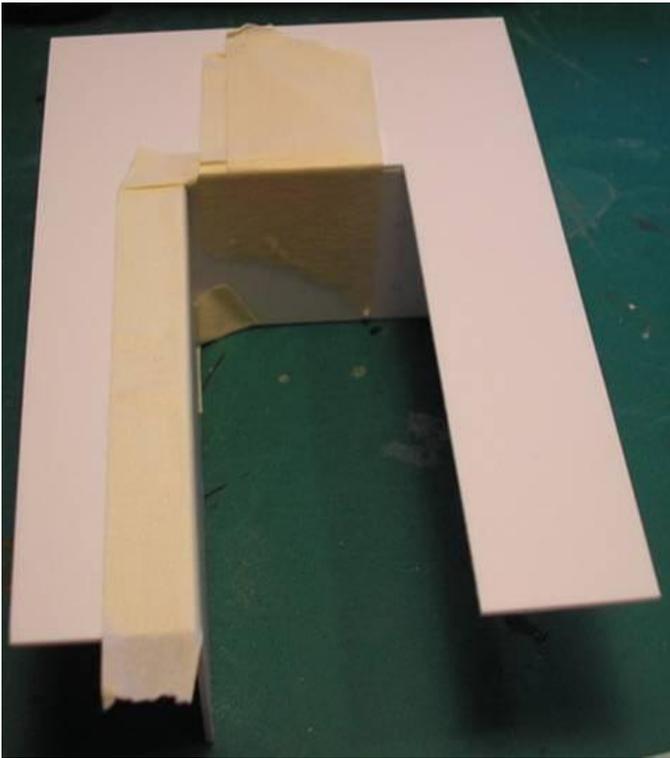
The open box...



The open bed pieces and the notch for the chassis.

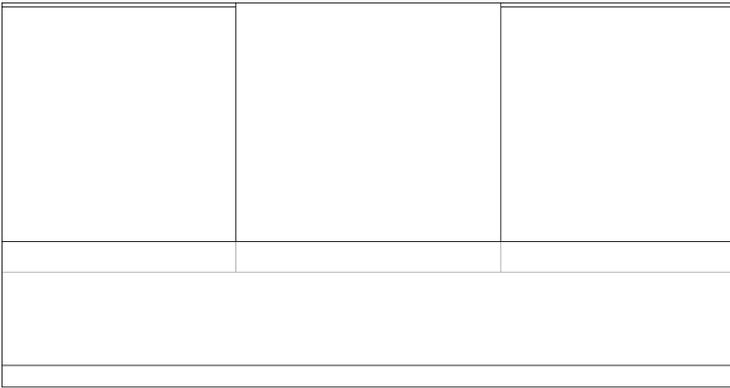


The tub...

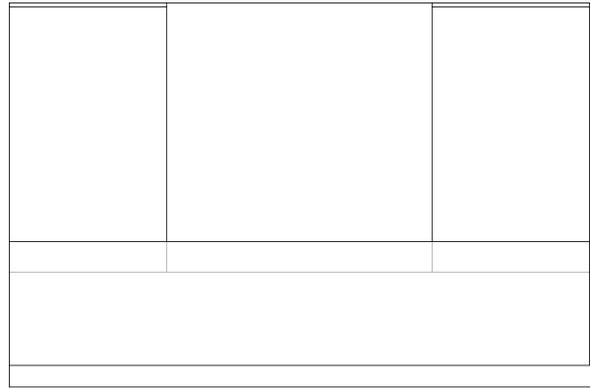


The body assembly.

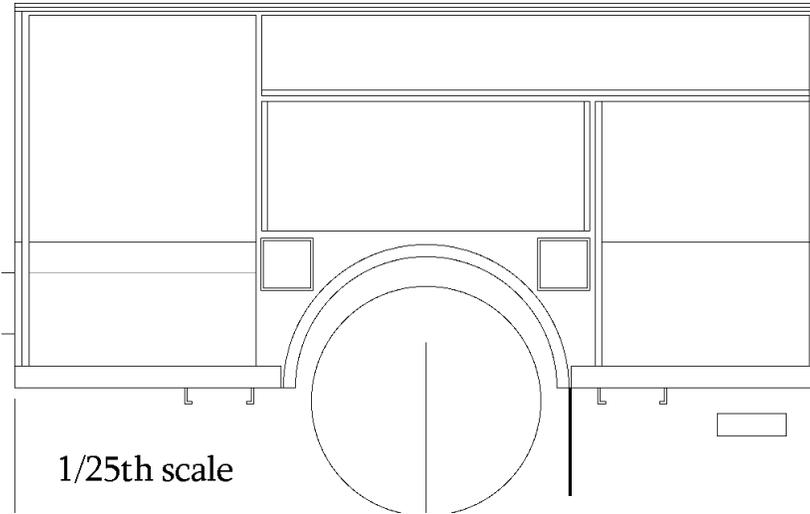




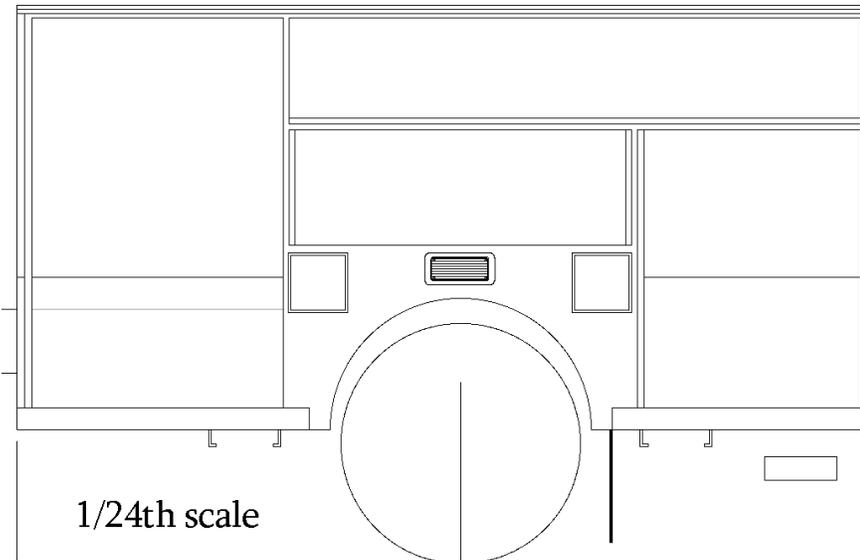
1/25th scale Dual Rear Wheel



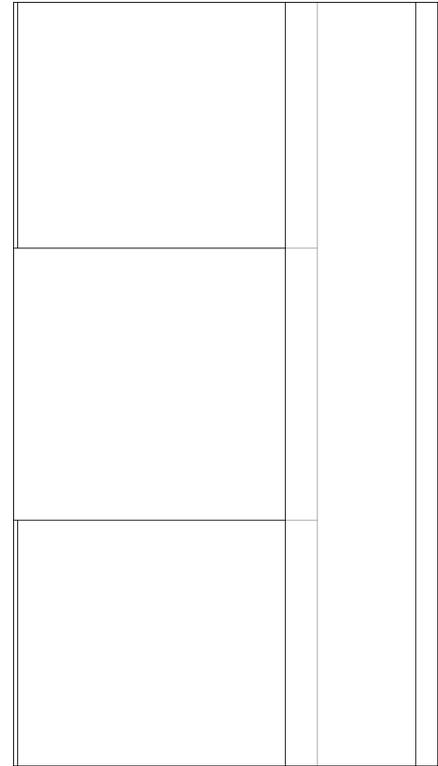
1/25th scale Single Rear Wheel



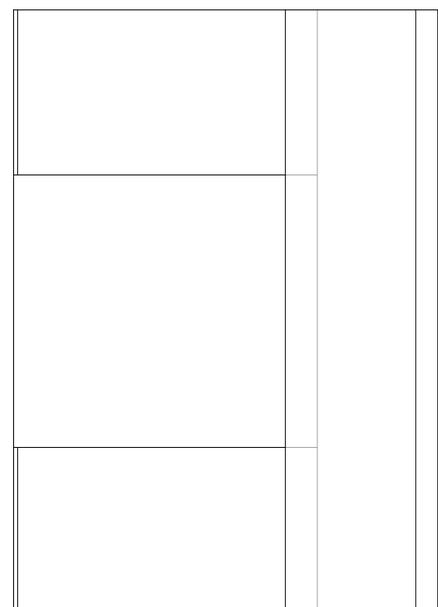
1/25th scale



1/24th scale



1/24th scale Dual Rear Axle



1/24th scale Single Rear Axle