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Kustov Collection: Tutorials

Wash those panel lines!

Add realism with this easy-to-learn technique

by ALEX KUSTOV

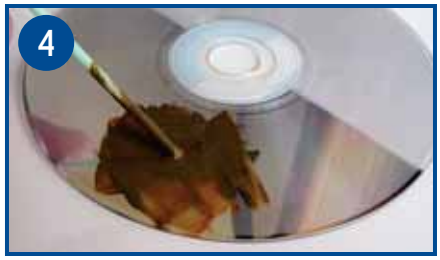
AIRCRAFT AND ARMOR modelers have darkened the panel lines on their models for years, but until recently the technique wasn't used much on car models. Many times the effect is done with black markers, and the result looks toylike – especially on light paints such as yellow or white. Here's how to darken the trunk lid of a yellow Ferrari 250 GTO so it looks realistic.

You'll need flat acrylic paint (I prefer Tamiya, but other brands will work too), acrylic thinner, cotton swabs, a fine brush, model wax such as Last Detail's "The Treatment" or Tamiya wax, and a cotton cloth.

Be sure the paint has cured, and if the body is polished and waxed, that's even better. Otherwise, the panel lines can clog with polish and wax, and the paint may come off when you remove the polish residue. Likewise, apply decals after the wash is complete.

Choosing the proper wash color is important for realistic-looking panel lines. Dark body colors such as gray, gunmetal, or brown should have a black wash; for red, use a dark maroon wash; for yellow, mix dark yellow and orange, or yellow and brown.

Darkening panel lines is a simple, effective way to make your models look more realistic, as Alex Kustov did on this Ferrari 250 GTO.



I mix paint on old CDs; it works great and there's no need to clean up! If you need to mix two or more colors, do so before adding thinner.

Thin the mixed paint until it's almost the consistency of the thinner itself – four or five parts thinner to one part paint. Now you're ready to apply the wash.

Dip the tip of fine brush into the wash, and touch it to the panel line. Capillary action will draw some paint into the line.

Continue in the same fashion until all panel lines are filled with wash. Don't worry if you get paint on the panels; you can remove it.

If the paint hasn't dried, dip a cotton swab into acrylic thinner and gently rub the excess paint from the panels. Don't press hard or you'll remove paint from the panel line too, and you'll have to start over.

If the paint is dry and you can't remove it with a cotton swab, put a small amount of wax onto a cotton cloth and gently rub the paint until it comes off. Repeat these steps for the other body panels.

When the excess paint is gone, give the body a light coat of wax to get rid of the fingerprints and bring back the shine.

Simple steps to making vented disc brakes

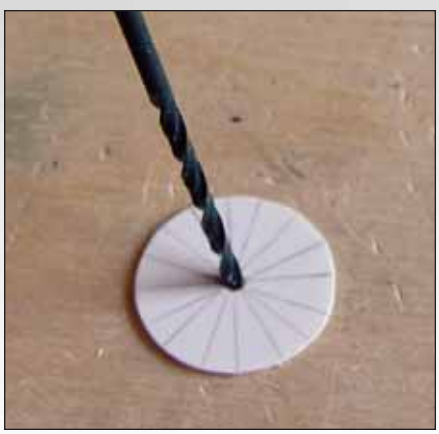
Realistic rotors

by ALEX KUSTOV

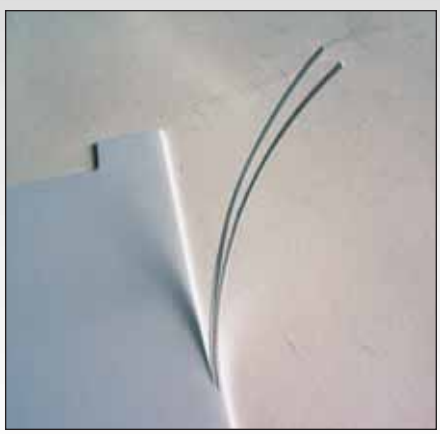
MOST MODERN CARS have vented brake rotors, but most model kits only include solid ones; vented rotors are more difficult and more expensive to mold. Scratchbuilding your own realistic-looking vented brake rotors is easy, and I'll show you how.

To complete this project, you'll need a pack of .020" and .040" sheet styrene, plastic cement, scissors, a small drafting compass, tweezers, a sanding stick (or sandpaper wrapped around a block), a hobby knife, a pin vise, a ruler, a pencil, and a small round file.

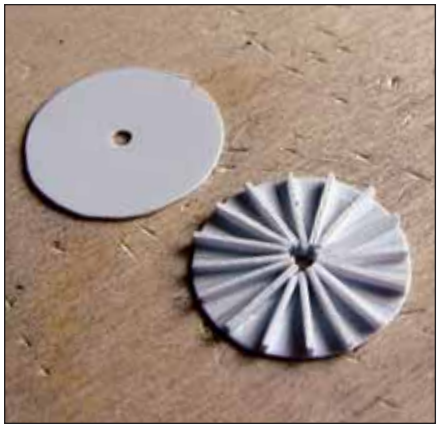
1 Using the compass, draw two identical circles on the .040" sheet styrene in the size you want your rotor. Divide one circle into equal sections. Make lines for the number of ribs you want. Most rotors have 15-25 ribs. Cut out the circles.



2 Drill holes in the middle of both circles using a small drill bit in a pin vise.



3 Cut several .8mm (or bigger, if you want thicker rotors) strips of .020" styrene. You can also use square styrene rod; it's a bit more expensive, but will save time.

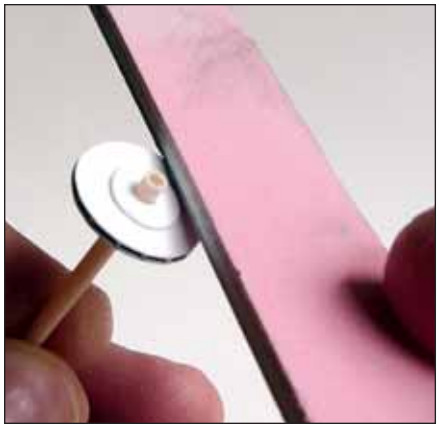


4 Cut styrene strips into pieces the length of the rotor. Glue each strip with plastic cement. Make sure the gaps between the strips are identical. After the glue dries, sand the ribs to make the surface is flat.

5 Finish the inside of the rotor with metallic paint; I used Testor's Steel Metalizer (no. 1420). Before you glue the halves together, sand off the paint to enhance adhesion.

6 When you glue the parts together, use a drill bit, a toothpick, or a suitable diameter wire to align the pieces. After the glue is dry, sand the rotor's edge to ensure that the rotor stays round.

7 Before painting the rotor, cut a smaller-diameter circle from .020" styrene and drill a hole in the center the same size as the rotor's hole. Glue the circle to the middle of the rotor. When the glue dries, use a small round file to enlarge the holes so they fit the model's axle.



8 To add realism, scratch the rotor's surface with a sanding stick to imitate brake pad marks. Mount the rotor on a piece of sprue and rotate it while you press against the sanding stick.

9 Here's a completed rotor. I didn't smooth the surfaces and edges of this rotor enough. If you take your time, work carefully, and remove sanding marks, your rotors will look terrific.

1 To apply adhesive foil, you'll need a flexible ruler, two hobby knives (one with a fresh blade to trim the foil, and one to cut the foil while it's on the paper); chisel-shaped and pointed toothpicks; cotton swabs; two paper "handles" (I use the foil's backing); and the foil itself. I prefer to use Bare-Metal foil, but other brands will work.

2 After painting and waxing your model, wipe the wax residue from the window trim to ensure proper foil adhesion. Measure the area of trim you'll need to cover with foil.

Fearless FOILING

How to use foil to enhance window trim

by ALEX KUSTOV

MODELERS HAVE SEVERAL options for replicating chrome parts on scale cars, including painting, sending parts out to plating services, or applying adhesive foil.

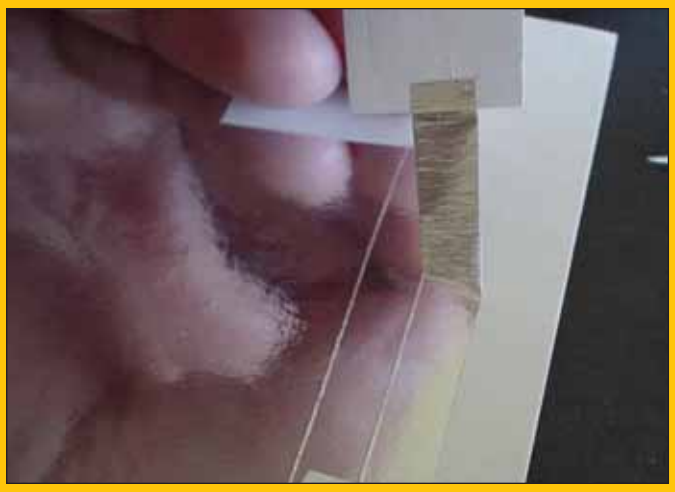
Applying metal foil is often the quickest and easiest route, because no painting is necessary and there's no waiting for parts to arrive.

Molded-in items such as door handles and trim pieces are perfect candidates for foil, because they often can't be detached and sent away for plating, and painting them requires an extremely steady hand and plenty of drying time.

Some people consider foiling a tedious and difficult process, but it doesn't have to be that way. In this article, I'll demonstrate how to apply self-adhesive chrome foil, and hopefully take away some of the fear that often seems to be associated with its use. You'll be on your way to first-rate foiling before you know it!

3 Measure the foil, and using a ruler as a guide, cut a wider-than-needed strip of foil with your knife (but don't cut through the backing paper). Don't use your new blade for this process – foil quickly dulls blades, and you'll need a sharp one to trim the foil later.

4 Lift one end of the foil about 5mm off its backing with a knife blade or toothpick, then slide a paper "handle" underneath the foil.



5 Press the foil down firmly, making sure it sticks to the handle. Use the handle to pull the foil off of the backing paper. Repeat the procedure from the other end.

6 Holding the strip by the handles, transfer it to the model and position the strip. Starting from the center edge, use a cotton swab to lightly rub down the foil on the edge only.

9 Gently fold the foil inside the body. Firmly press the edges to ensure that the foil doesn't wrinkle.

10 This is how the trim should look. The rest of the foil isn't burnished to the body, making it easier to remove the excess foil after trimming.

13 Use your new blade to trim the foil. Don't press the blade too hard against the paint (this is why you need a new blade) or it may chip. If the blade is sharp, it'll cut the foil easily. Be patient, and work slowly.

14 After all trimming is done, use a chisel-shaped toothpick to lift the foil at the edge. If the foil isn't burnished well, all of the foil will come off. Gently pull the excess foil off with your fingers or a handle.

7 When the foil has adhered to the model, gently pull the handles down to remove them. Continue pressing the foil with the swab – again, only at the edge.

8 Use your new blade to make several cuts from inside. This will prevent the foil from wrinkling when you wrap it around the window.

11 Burnish the foil from the inside, again using the cotton swab.

12 Now burnish the foil from the outside with a round toothpick. Don't press hard, or the foil might tear.

15 Again, burnish the foil with the pointed toothpick, being careful not to tear the foil.

16 Rub the foil down with a cotton swab to remove the adhesive residue and to polish the trim. Repeat the steps for the rest of the window. Now you have realistic-looking chrome window trim, without messy painting.

Buckle up!

Building realistic-looking seatbelts for your models

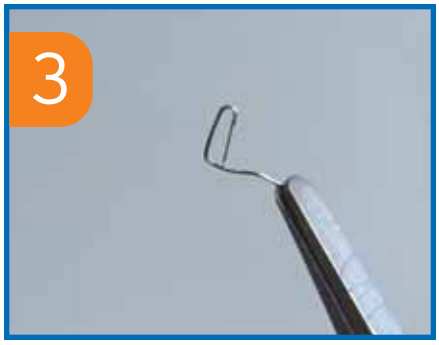
by ALEX KUSTOV

ADDING SEATBELTS is one of the best ways to increase the realism of a model car's interior. However, the problem with adding front seatbelts is that in most modern cars, the belts are mounted on the B-pillar between the front and rear doors, and most kits don't have interior panels on which to attach seatbelt brackets.

I have a way to solve this problem; follow along as I explain how to add good-looking seatbelts for the front seats of your model car. ■

You'll need strong, thin sheet styrene, scissors, wire cutters, needle-nosed pliers, tweezers, thin wire, belt ribbon (or other belt material), photoetched buckles, super glue, the paint you used for the interior, and a couple of fine brushes.

I used thin wire from Radio Shack to make the belt's bracket. Cut about ½" of wire and strip the insulation. With your pliers, squeeze 1/16" of the wire to a flat end. When you're done, the bracket should look like this.



Wrap the wire around some flat tweezers, making sure the flat end is on the inside. When you remove the wire, you should have something similar to this shape; this is the belt bracket.

Use scissors to cut a thin strip of sheet styrene, slightly thinner than the model's B-pillar, and trim the top at an angle. Attach the flat part of the bracket to the outside of the styrene strip with super glue. Once dry, apply more glue to the joint with a toothpick.

Trim the wire with wire cutters and file the cut with a needle file or a sanding stick. Be careful not to break the joint.

Thread some seatbelt material (I used 1/16" craft-store ribbon) into a photoetched buckle. Leave some of the ribbon from both ends – you'll see why later.

Thread the upper portion of the ribbon into the bracket, making sure that the ribbon moves freely.

Use a fine brush to paint the visible portion of the belt panel with the same paint you used for the interior door panels. Make sure you paint both sides, but leave the bottom area paint-free – you'll use it to glue the bracket to the door panel.

Hold the assembly with the flat-end tweezers and check the ribbon's length; it should reach the end of the door panel. Trim the ribbon and remove it from the bracket.

Thread the ribbon back into the bracket. Before gluing it, check the angle of the B-pillar on the body to make sure the bracket and the "belt pillar" are aligned. Glue the bracket and the ribbon to the styrene strip. If the fit between the new belt panel and the body is tight you may have to cut a groove in the back of the door panel. Glue the rest of the ribbon to the panel and trim the ribbon.

Here's the completed assembly. When you insert the interior tub into the body, you might want to glue the bracket to the B-pillar for greater realism. Now you have great-looking front seatbelts!

Shock value

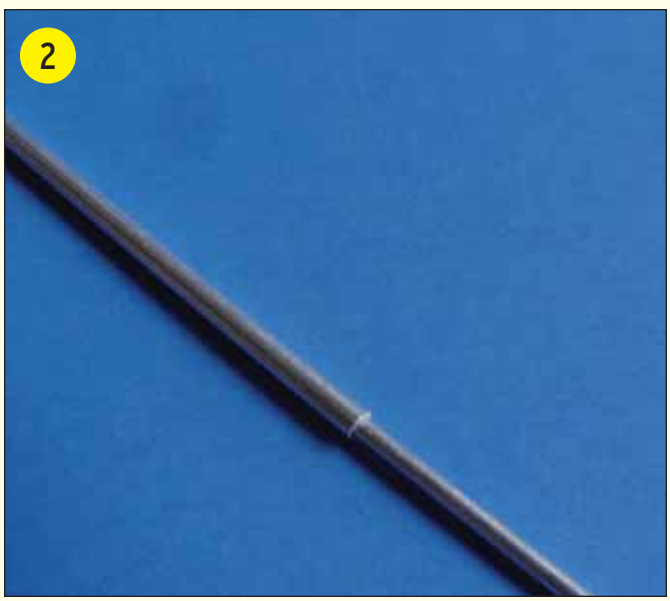
Simple steps to scratchbuilding realistic shock absorbers

by ALEX KUSTOV

MORE OFTEN THAN NOT, it's the little items that can make the difference between a detailed model and a superdetailed show-stopper. Enhancing things such as shock absorbers can give your model that extra bit of dazzle.

Follow along as I show how to add some "shock value" to your model. ■

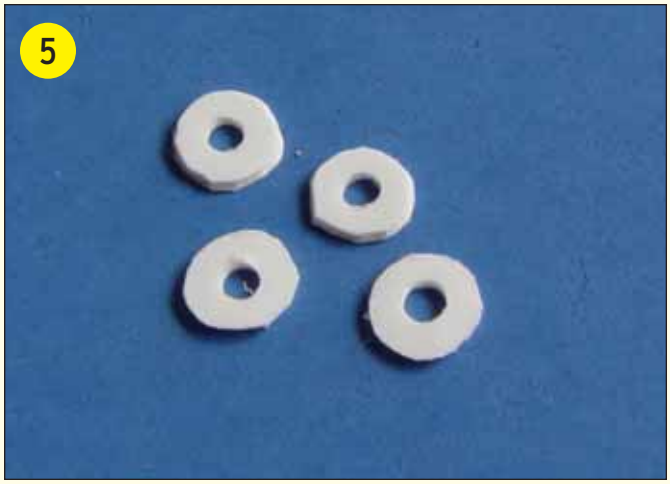
You'll need sheet styrene, a round file or a suitable-diameter rod (like a brush handle), model knife, pin vise, tweezers, cutters, super glue, aluminum tubing (two pieces that almost fit flush into each other), and thin steel wire of appropriate color (or you can paint the wire).



Glue the smaller-diameter aluminum tubing into the bigger tube. This will be the body of the new shock absorber.

Cut the tubes so they are the same length as the plastic kit part. Depending on the shock absorber, see which section of the plastic part you need to keep; in this case, all I needed was the tiny piece pictured at the bottom.

Wind some thin wire onto a round file or other suitable-diameter rod (I used a paintbrush handle). Try to maintain even spacing between the coils.



Cut four small sheet styrene circles of slightly larger diameter than the brush handle you used to make the spring. Drill a hole in the middle of each circle. Two circles must fit the lower part of the shock, and two must fit the upper part, so the diameter of the holes will be different.

Glue one of the circles to the lower part of the shock, put the spring on top of it, and place the second plastic circle on top of the spring. Secure the second circle with super glue, and smooth the edges with a sanding stick. Attach the small part from the plastic shock, and you are done. Paint according to the kit instructions. Repeat for the other shocks.

It's even easier to perform this operation with newer-style shocks, since they already have the small circles molded in. Just cut the plastic spring, substitute the shock with aluminum tubes and the plastic spring with wire, and assemble.

When properly painted, this shock absorber looks far superior to the kit part and dramatically enhances your model. Give it a try!

Fantastic floor mats

Add realism to your model's interior with this simple technique

by ALEX KUSTOV

HAVE YOU EVER LOOKED at a great model interior and thought, "something is missing"? Maybe it's the floor mats! Floor mats are a great way to add more realism to your model's interior.

To make realistic floor mats, you'll need sheet styrene (the thinnest you can find; I used .010"), thin coated wire, flocking, super glue, paint, a hobby knife, tweezers, a sanding stick, and pliers with jagged jaws.

In just a few minutes, you can add a classy feature that's rarely seen on our models. Let's get started!

Cut the shape of your floor mats from sheet styrene. Test-fit them on your model and bend the plastic to shape. When the shapes are correct, round the corners with a sanding stick.

Using super glue applied with a toothpick, glue the coated wire around the mat's edge; this will be the trim.

Don't worry if you get some glue on the mats or if the trim isn't perfectly aligned; simply make sure the trim is glued securely to the plastic. When the glue is dry, sand the imperfections.

When finished, test-fit both mats in the foot wells, checking for proper alignment and curvature.

Paint the mats using the appropriate color. Flocking will cover small paint imperfections, so the mats can be brush-painted.

Using a fine brush, cover both mats with water-diluted white glue. Be careful not to get glue on the trim, though.

Sift some flocking over the floor mat and let it dry for 30 minutes. After the glue is visibly dry, lightly press the flocking down with your finger.

Almost done! Shake the flocking off the floor mats, and let them dry overnight. Now they look realistic! You may leave your mats as-is and they'll greatly enhance the interior, or ...

... you can make them even more realistic! Cut a small rectangular piece from the same sheet styrene (or thin leather), and round the corners.

For the next step you'll need a pair of pliers that look similar to these; the jagged jaws are the key.

Hold the plastic plate between the plier jaws and squeeze gently to emboss the plastic. My pliers weren't wide enough to cover entire plastic plate, so I had to squeeze it three times, which resulted in some problems with groove alignment.

Paint the plastic flat or semigloss black and glue it to the driver's-side mat. Now it looks even *more* real!

If the driver's-side mat interferes with the pedal assembly, trim it to fit around the pedals. Test-fit the mat and use a pencil or marker to indicate the pedal locations.

Use a sharp hobby blade to carefully cut the holes for the pedals. You're almost done!

Glue the mat to the floor and then install the pedals. Now you have the ultimate floor mats!

VIP seats

Add style and realism to interiors with these easy enhancements

by ALEX KUSTOV

MANY BUILDERS PUT lots of effort into making a model's interior look great, but when it comes to detailing, the kit-supplied seats are often overlooked. With a little extra effort, the seats can become much more realistic. If you're building a convertible or open-top model, this added detail is even more noticeable.

To perform these enhancements, you'll need regular and chisel-tipped hobby knives, a pin vise and drill bits, tweezers, scissors, sandpaper (or sanding sticks), and cutters. You'll also need primer, paints, super glue, and .015" steel rod or wire.

"Take a seat" and let's get to work. ■

This Hasegawa Ferrari 328GTS seat is typical of many kit-supplied units. Although it looks good straight from the box, it'll look much more accurate when the enhancements are complete.

Remove the headrests by making several cuts with a sharp blade, then break the headrest loose from the back. Smooth the pieces with a sanding stick; make sure they are the same height and shape.

If the seats don't have backs, cut some .010" sheet styrene and glue it to the open areas. When the glue is dry, trim the excess plastic and sand the edges. If a gap is still noticeable, fill it with putty.

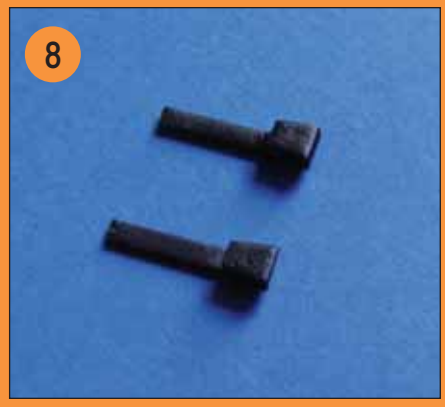
Spray a thin coat of gray primer to check for irregularities, fix them with fine sandpaper, and reprime. Repeat this process until the surface is blemish-free.

Drill two holes in the bottom of each headrest with a pin vise and an .016" drill bit. Make sure the holes are properly aligned.

Measure the distance between the headrest holes and drill corresponding holes in the seat backs. Make sure the left headrest goes with the left seat and vice-versa, then apply paint.

Cut two small pieces of metal rod to connect the headrest to the seat. The rod length will depend on how high you want the headrests. Hold the tiny metal pieces with tweezers while you attach them.

Glue the headrests to the seats. For additional realism, attach them at different angles and heights, because the driver's seat is usually adjusted differently than the passenger's seat.



Seatbelt latches aren't usually included in kits, but are important for a correct interior. Cut two strips from .010" styrene, and two squares from .040" styrene. Glue them together, sand them to the correct shape, and paint accordingly.

Glue the latches to the seats and apply red paint to simulate the release buttons. You can also make a cut on the top to create a slot for the buckle.

To fabricate seatbelts, refer to "Buckle Up!" in the August 2004 *Scale Auto*. The enhanced seats look much better than plain units, and make the interior more believable.

Lessons in leather

by ALEX KUSTOV

Upholster your model's interior using the real thing

When recreating a leather interior in scale, nothing looks more realistic than *bona fide* leather, and upholstering a model kit's interior isn't as difficult as you may think.

You don't need much leather for a typical 1/24 scale kit. Depending on the amount of upholstery, a 4 x 6 swatch should suffice. This will also give you enough material in case you make an mistake or two.

There are some things to take into consideration: Light-colored leathers tend to get darker during application, and softer material will be more difficult to "skive" (a process of cutting off thin layers of leather). However, virtually any leather can be used.

In this article I will demonstrate some basic leather-working methods and some ways to create realistic leather panels for scale interiors.

Thanks to Mike Walter for giving me a detailed explanation of the diamond-pattern technique.

BASIC TECHNIQUES

This leather is thick and would be nearly impossible to use in its current form. We need to make it really thin.

Using a fresh hobby blade, cut a piece of leather a bit larger than you'll need to cover the panel. Find a hard surface and start skiving thin layers. When the leather becomes thin, slow down and frequently check the thickness.

This is the leather before and after the skiving process – quite a difference. It's possible to make it even thinner, but this will do.

Before gluing, plan how you'll fold the leather. To attach it, I use Elmer's white glue. You can use thick super glue, but be very careful because it can soak through the leather.

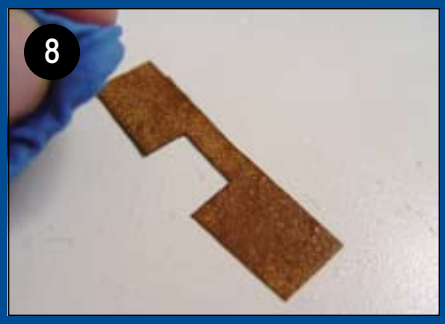
Apply glue into every crease, or the leather will bubble. Stretch the material as much as possible to make it uniform and to eliminate out-of-scale grain. When possible, cover the kit part with one big leather piece rather than with several small pieces.

It's easier to work with flat parts, such as door panels and seat backs. Seats can be upholstered in leather, but that can be a complicated affair if they have curvy surfaces. Although this door panel is simple, it'll look better than painted plastic. The upper black trim is also covered in leather.

PATTERNED LEATHER

Now that you know the basics, let's look at how to emboss leather to create patterns. With this technique, you will be able to effectively replicate diamond- or tuck-and-roll-patterned leather upholstery.

For this technique, you'll need a wet cloth, a small metal ruler, a cutting board, and a small hammer (I misplaced my hammer and used pliers instead).

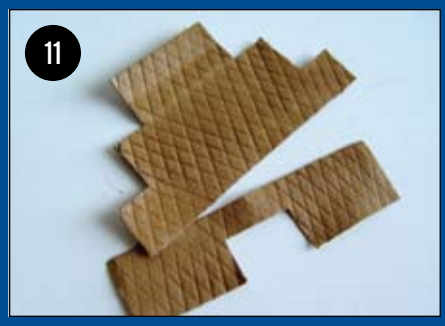


Let's make a diamond pattern on the upholstery. Cut the leather to the shape you need, and wet it with a damp cloth until the water has soaked almost all the way through.

Turn the leather over and lightly wet it from the other side. This won't help the embossing process, but will help the leather stay in place during embossing.

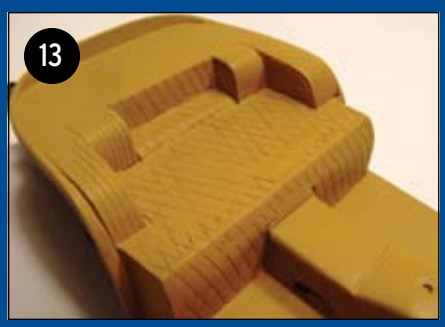
Left: Place the metal ruler edge-down on the leather. Tap it with the hammer two or three times; don't hit too hard or you can cut the hide. Make sure the lines are evenly spaced.

Right: When the embossing is finished, dry the leather – a hair dryer will speed up the process. It should return to its original color, but the embossed lines will be darker. Other tools can be used to emboss different patterns.



ASSEMBLY

Test-fit each panel several times before gluing it in place – gaps will mar the interior's appearance.



Find or mix a color that matches your model's leather and paint the entire interior with it. The hue pictured here is similar to the color of the leather I used.

Working from the bottom up helps conceal gaps. I covered the driveshaft tunnel first, then applied flocking, which covers the seams between the leather and the floor. The leather that will go on the rear seat will hide the tunnel's rear seam.

Left: After the panels are installed, burnish the seams with a fine burnishing tool or a smooth, round toothpick. If needed, make piping from thin wire and run it over the seams. The more leather detail you add, the better your model's interior will look.

Right: Using real leather in a model interior not only enhances the look of the completed kit, it also smells like a 1:1 leather interior!

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