Scribing panel lines
Transform that average kit into a modeling wonder

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Whether you build “almost out of the box,” work on vacuum-formed models, modify kits, or scratch build, scribing your own panel lines can yield stunning results. Many kits come with raised panel lines. If you’re patient and, like many modelers, you prefer recessed panel lines, you’ll transform the average kit into a wonder.

You probably have the tools for scribing lines. To lay down general outlines before the actual scribing, use a pencil, a straightedge, dividers, and calipers; for scribing, use a modeling blade, an awl, a scriber, a slotted file, straightedges, and drafting templates, Fig. 1. Other supplies you’ll need are sandpaper, masking tape, plastic tape, scrap plastic sheet, and a sharpening stone, Fig. 2.

Planning and preparation. Plan before beginning your project. Is your goal to rescribe the entire model, or just part of the model? If you are rescribing only portions of the model, determine those areas so you can protect adjacent detail.

A normal joint can often serve as the boundary between your scribing and the kit-supplied detail. For instance, you might want to rescribe an aircraft’s fuselage but not its wings. The joint between the fuselage and the wing is a natural line of demarcation.

Scribe subassemblies rather than the assembled model. On aircraft, I individually assemble and scribe the fuselage, wings, and horizontal stabilizers. I assemble the model first if a model contains hard kit contours or fit, or a unique configuration. This way I can correct the fit and alignment problems while developing the correct fillets between wings and nacelles.

Check the overall model contours and make the necessary corrections before scribing. Position and blend transparent parts such as canopies, wind screens, and landing lights. Fill seams and joints with super glue or styrene. Don’t use normal modeling putties or fillers: Many crack and chip when scribed.

Next lay out your panel lines. Take time to position your new lines properly. In an injection-molded kit with some correct but raised panel lines you

Use masking tape to protect the detail in the wing root area.

Steady your model with a combination of a miter box and pieces of foam. You’ll have a firm platform for your scribing.
can use them to position your new ones.

I usually remove raised panel lines before rescribing since they invariably interfere with my scribing tools. Even flush-sanded lines will still be visible for use as guides.

Engraving a line in styrene is a two-step process: You first establish the line, then remove the excess material. The first step, creating the initial line, can be simple, or it can require some real ingenuity, depending on the shape or contours of the piece being engraved.

Use a scriber and a blade to make the initial line. My scriber is merely a sharp straight pin held in a pin vise. Use the blade in two ways. To work against a straightedge, use the back side of the blade; to make a freehand line, use the sharp edge.

To scribe a line, hold a straightedge in place and run the scriber or blade along the edge. Fig. 3. Do this on flat surfaces such as wings or on many longitudinal fuselage lines. A variation is to steady the straightedge with tape.

A flexible straightedge is best for most engraving. Bend soft materials such as thin copper sheet (available in craft stores) around any curve or contour. A wide piece will maintain its straight edge when bent, Fig. 4.

Making templates. Templates, either manufactured or custom-made, are essential for scribing lines. But large templates fit poorly in tight spaces. Use custom-made templates for special shapes like hatches or access panels, Fig. 5. Cut the shape you need from the copper, or use clear acetate if you need to see through the template for positioning.

A hint for making templates: Before cutting the hole or edge, establish reference lines to position the template on the model for scribing. First score the template material with a line parallel to an edge, then score another line perpendicular to the first. These lines can
serve as center lines for a curved pattern or as borders for a square pattern. After cutting, align this pattern on your model with the parallel side—either against an existing panel line or over a center line you’ve drawn, Fig. 6.

A pair of dividers makes accurate circles along one axis; fill and sand the dimple left in the center. Brass tubing with the end sharpened makes small circles, but it’s difficult to position accurately. Make the lines by rocking the tubing in a circle. When the impression is deep enough to steady the tubing, rotate it until you have the desired depth.

You’ll find that 3M Fine Line Tape (found in auto-body supply stores and used for masking) makes an excellent guide for scribing lines around irregular shapes or curves, Fig. 7.

Use tape to check exact placement. I always pick up the model and examine it from all angles. Scribe against the tape carefully, applying equal pressure to the material and to the tape. Make several light passes rather than the few heavy ones you would against a metal edge, Fig. 8.

Freehand scribing. Scribe freehand after you gain confidence. With the sharp end of a curved blade, position the blade to contact the surface just behind the tip. Sight directly down the blade as you push toward the tip; press hard enough to finish in one pass. A slotting file, available from jewelers’ suppliers, will also make straight lines without “wander.”

Refining scribed lines. When you made your initial line, you also produced a raised lip of material on either side of it. To remove this material, first sand the engraving. This flattens the surface but also partly fills in the line you made. Next place a blade tip in the groove and draw the back side of the blade toward you. The blade will clean out the line and remove some material from either side of the groove. (Frequently dress such square edges with a stone to keep the blade sharp.) Repeat these steps until you’re satisfied with the line’s depth, width, and quality.

Those are the basics of scribing. Practice is the key to improvement. A last warning: Scribing can get away from you—before you know it, you’ll have scribed the whole model!