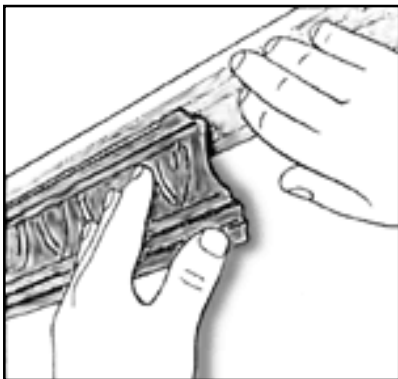


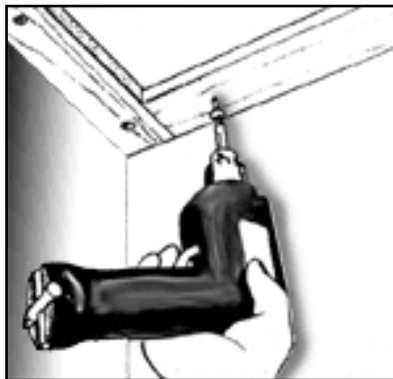
The first step is to fasten 1 x 3 furring strips around the perimeter of the room. Be sure to check that the furring is wide enough to provide nailing support for the cornice (fig.1). If the furring is too narrow, simply bring it away from the wall, as needed, and fasten it in place. We attached the furring with 2-in. drywall screws driven with a cordless drill/driver (fig 2). However, you could nail up the furring, as well.

Next, lay out the positions of the rest of the furring strips by starting in the center of the ceiling and working out, every 12in. on

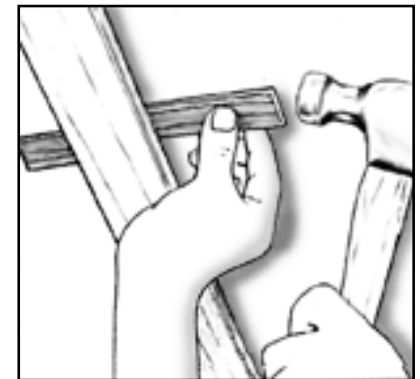
center, toward either side wall. Be sure to orient the furring strips so they run perpendicular to the ceiling joists. If the ceiling is uneven, shim the furring with cedar shingles (fig3). You can use a long straightedge or stretch a dry line over the strips to check that the furring is straight. The strips do not have to be perfectly aligned because the metal panels will cover up minor alignment problems. As long as each strip is no more than 1/8 in. higher or lower than the others, you should be all right.



**Figure 1**

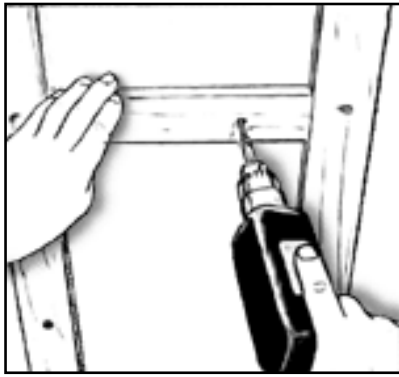


**Figure 2**



**Figure 3**

Also, install cross furring every 4 ft. on center to provide nailing support at the ends of the 4ft. long metal panels (fig 4). Be sure to lay out the cross furring starting at the ceiling's center and working out to the walls.



**Figure 4**

The steel ceiling panels come unfinished and must be treated with either oil based paint or polyurethane. To maintain the look of the "raw" metal, Shanker Industries recommends using rust-o-leum brand aluminum colored paint.

When working with 2 x 4 ft. or 2 x 6 ft. panels, it's advisable to have someone help you hold the panels in place for nailing, (nails ordered separately). Use these decorative nails in the center of the panels, on overlapping edges and wherever else they will be exposed.

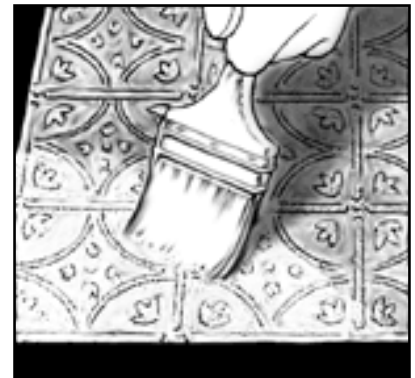
Secure the panel edges that will be covered by overlapping panels or by the cornice molding with standard 1/2 in wire nails. Note that the panels have small raised bumps, or buttons, in the pattern.

When hammering the cone-head nails, drive them directly through the center of the buttons (fig 6). When nailing the panel edges, drive 1/2 in wire nails off to one side of the buttons (fig 7). Use this technique so the wire nails don't interfere with the overlapping panels and cone-head nails that secure them.



**Figure 6**

Starting in the center of the ceiling, install full-size panels the length and then the width of the room. When it comes time to cut a panel, simply flip it over, mark the cutline, with tin snips (fig 8). Keep in mind that this job will proceed so much better if you are using a decent pair of snips that are properly sharpened. If your snips are old and dull, either have them sharpened or buy a new pair. As you progress, there will be seams where the corners of four panels will overlap (fig 9). To make it easier to drive a cone-head nail through all four sheets of metal, first drill a 1/8 in dia pilot hole.



**Figure 5**

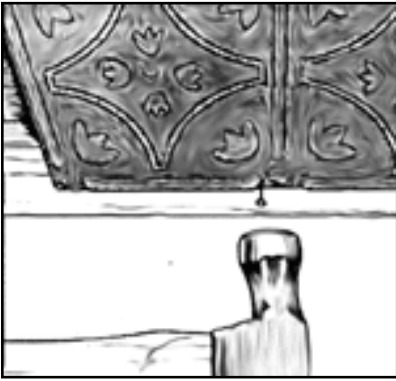


Figure 7

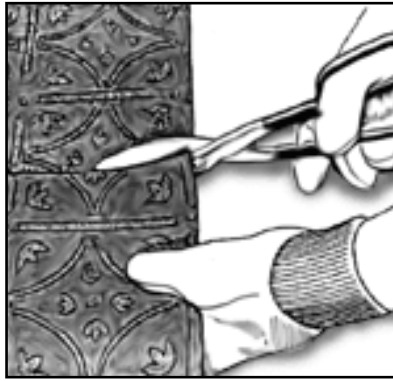


Figure 8

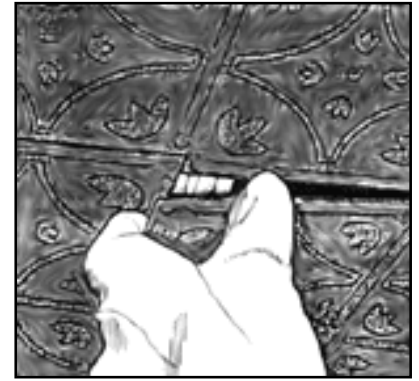


Figure 9

### Cornice Molding- The Crowning Touch

Cornice molding is installed where the cornice depends on the size of the room and height of the ceiling. Typically, a high ceiling in a large room will accommodate wider moldings. Since this installation was in a small room with standard 8ft. high ceilings, we decided on a cornice that projects from the wall only 2 1/2 in. Cornices with projections up to 9 1/2 in. are commonly available. A quick look at Figure 10 shows the relationship of the cornice to the metal ceiling panels and furring strips.

Like the ceiling panels, the 4ft. long cornice moldings are fastened with cone-head nails. However, since the nails driven up into the furring strips are at a slight angle and must pass through a metal ceiling panel, too, it's best to first drill pilot holes through the panels, but not through furring strip (fig 11).



Figure 11

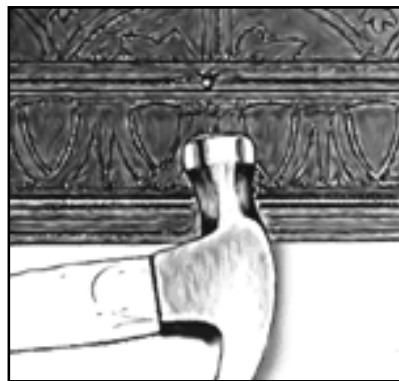


Figure 12

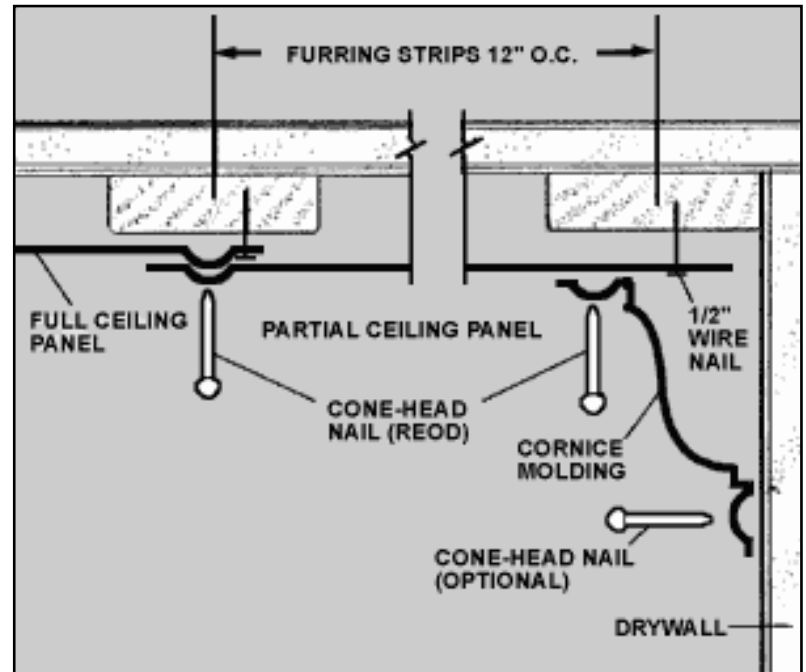
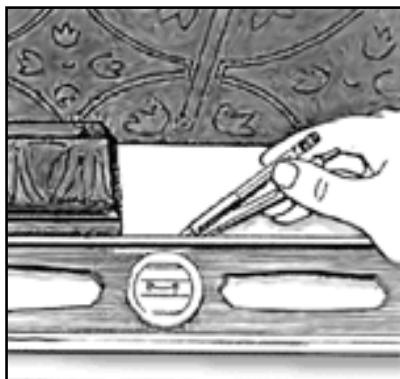


Figure 10

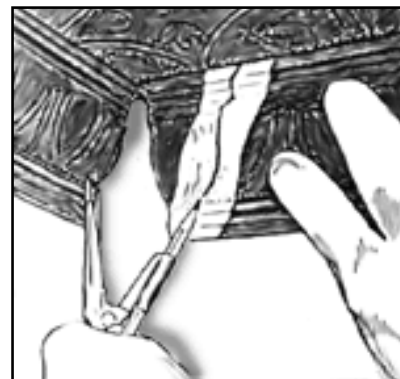
Be sure to leave enough solid wood so the nail will hold securely once driven. Drive the nails through the buttons in the cornice (fig 12). Note how our cornice buttons line up exactly with the ceiling-panel buttons. Try to do the same when you are laying out your cornice molding and keep this in mind as you nail up the cornice to ensure a professional- looking installation. Also, we found that it wasn't necessary to nail the cornice to the wall. The nails in the ceiling

provided sufficient pressure to hold the cornice flat to the wall. Continue to install the cornice around the room overlapping the ends by about 4in.



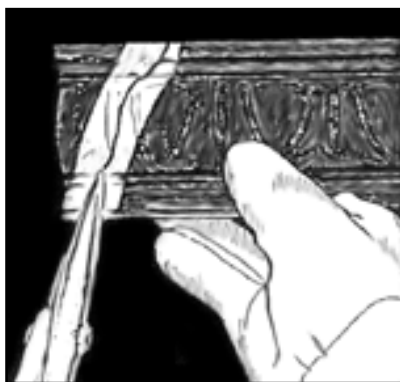
**Figure 13**

At an inside corner, run one cornice piece square into the corner. Then, using a coping cut technique, trim the second piece on the adjacent wall to fit. Here's an easy way to cope a perfect inside corner: First, place a strip of wide masking tape across the end of a piece of scrap molding. Hold the scrap molding in the corner and use a simple compass or scribing tool to transfer the profile of the nailed-in-place cornice to the scrap piece (fig 14).

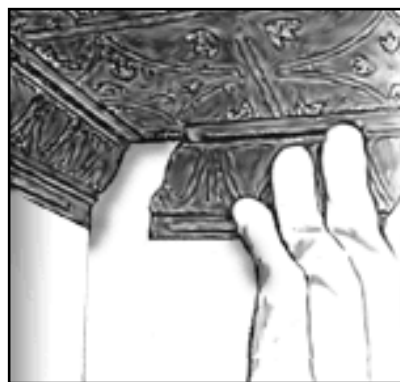


**Figure 14**

Next, cut along the pencil line and test fit the coped cut (figs 15 & 16). You may have to make a few minor trim cuts or do a small amount of filing to make the parts fit together. Once the coped cut fits perfectly, use this scrap piece as a template to mark a length of cornice for installation.



**Figure 15**



**Figure 16**

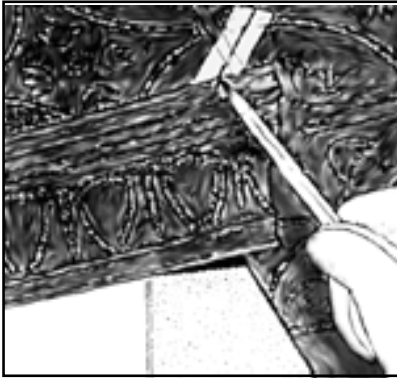
Fitting cornice molding to an outside corner is clearly the toughest part of a metal ceiling installation. But again, there's a procedure that, along with a little patience, will produce perfect joints. Since most corners outside and inside aren't precisely square (90 degrees), you must first determine the angle of the outside corner using a sliding bevel square. Place the square up to the corner, tighten the wingnut and then measure the angle of the square to this angle.

Now, place a strip of masking tape on the ceiling running out from the corner. Hold the bevel square against the wall with its blade aligned perfectly with the outside corner. Mark a pencil line along the blade and onto the tape (fig 17). This line represents the point where the two moldings will meet.



**Figure 17**

Hold a section of scrap molding against the wall in its proper position and so it extends past the line on the ceiling. Mark the molding's bottom edge where it touches the outside corner of the wall and its top edge where it intersects the line (fig 18). Now draw a line connecting the two marks across the face of the cornice and make this angled cut with tin snips. Repeat this procedure for the opposite mating length of molding using a piece of scrap.

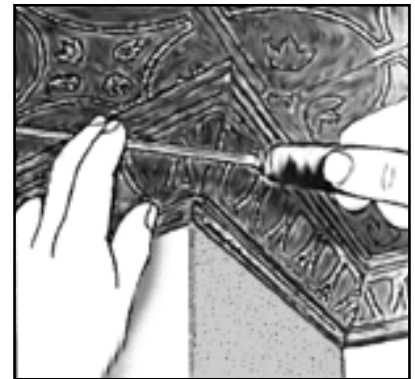


**Figure 18**

Next, hold the two pieces together at the corner to check the joint. At this point, the two won't fit together very well. It's difficult to get a perfect fit because the surface of the cornice is so uneven that cutting a straight line is difficult. However, it's simply a case of trimming and fitting until they do. It may take several attempts, but with a little patience and a keen eye you should be able to get the two parts to fit together tightly.

Once you're satisfied with the fit, transfer the end cuts to the cornice molding

pieces and make the cuts. Be sure to cut and install the cornice pieces so their buttons line up with the ceiling buttons once all the pieces are nailed in place. Nail up the two outside corner molding pieces and check the fit once again. If the molding are to be painted, fill the joint line with caulking. If the molding is to be left unpainted, file the joint for a perfect fit (fig 19).



**Figure 19**

### TIN CEILING TERMINOLOGY



**A** - The **Field Panel** is the design of the main panel in the room. This panel may cover the entire ceiling or be centered in the room, as shown in the sketch above.

**B** - A **Molding Strip** may be used to enhance the appearance of the ceiling. It is installed between the field panels and the filler panel.

**C** - The **Filler Panel** is a panel with a simple over-all design such as a "hammered" or "dimpled" finish. This panel is used to center the Field Panel in the room.

**D** - The **Cornice** is applied to the corner of the wall and ceiling. It can be one of our metal cornices or your own choice such as stained wood.