

Crown molding around a cathedral ceiling

For years, whenever people asked me to install crown on a cathedral ceiling, I'd just shake my head and say, "No, that always looks dumb," and hope they'd forget about it. The problem is that when crown goes from the horizontal run to the run up the rake of a vaulted ceiling, the intersecting faces don't match perfectly at the corner (drawing right).

A couple of years back, I ran into Joe Fusco, a veteran finish carpenter and cabinetmaker, at a trade show. Joe showed me a solution using two different-size moldings. A larger version on the horizontal run lets you maintain the same spring line up the rake. But the same crown profile isn't always available in different sizes; and besides, the smaller crown on the rake looks a little funny to me.

So I was intrigued earlier this year when another colleague of mine, Mike Sloggatt, told me about cutting a transition piece that lets him make the turn at a vaulted corner using the same-size molding. Despite this column's title, I may not be a "master" carpenter, but I am a dogged one. So on my next job with a vaulted ceiling, I stayed in one corner until I figured it out.

Horizontal runs must be ripped

Crown molding is designed to work with a flat ceiling. So with a vaulted ceiling, horizontal runs of crown molding must be modified to fit against the slope of the ceiling.

For this modification I rip a little from the back side of the crown. To determine the rip, I place a piece of crown against the ceiling and scribe the angle (photo bottom left). Then I build a simple fixture that clamps to my tablesaw fence and lets me rip the crown molding quickly and safely ("Trick of the Trade," p. 142). The transition piece I



The problem and the solution. When crown molding runs up a vaulted ceiling, the profiles won't match at the corner (drawing left). So instead of using different-size moldings, a transition piece turns the corner using the same profile (photo above).



Scribe ceiling angle on crown.



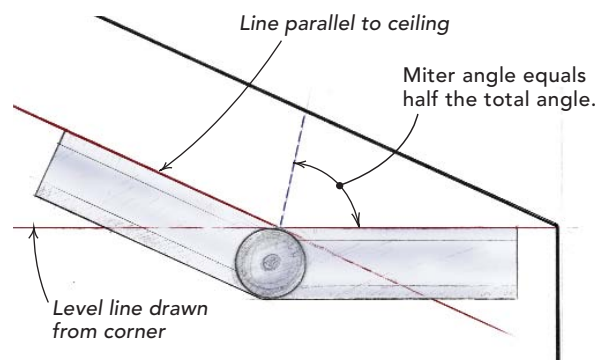
Draw a level line from the corner.



Divide this angle in half.

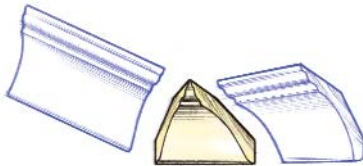
Find the ceiling angle

The easiest way to find the miter angle is to start with a **line parallel to the ceiling**. Then draw a **level line** from the corner. Divide the resulting angle in half for the **miter angle**.





Right side up or upside down? To cut the edge of the transition piece that meets the horizontal run, place the crown upside down against the miter-saw fence (photo above). For the edge where the transition piece meets the run up the ceiling, flip the piece and cut the miter angle right side up (photo right).



mentioned also is made from this modified molding, so be sure to rip a little extra.

A transition piece turns the corner

The key to this approach lies in visualizing the transition piece as a short continuation of the horizontal run. The transition piece turns the corner with a 45° miter just like a normal piece of crown. But then another

miter cut makes the transition to the angle of the ceiling or the rake.

To get the miter angle for that transition, you just read the ceiling angle, subtract 90° for the other side of the transition, then subtract the result from 180° and divide the remainder in half. Huh? Well, math isn't my best friend either, so I rely on a simpler method (bottom drawing, p. 140).

First, I place a 1x6 board with its narrow edge against the ceiling and trace a line on the other side of the board. Then I draw an intersecting level line from the inside corner. A protractor on the intersection of these lines gives me the exact angle of the outside corner. I halve that angle for the miter angle.

The cuts: some upside down, some right side up

A basic carpentry rule is to cut crown molding upside down on a miter saw. But this rule applies only to horizontal runs of crown. Crown molding running up the vaulted part of the ceiling should be cut right side up.

Because the transition piece goes from the horizontal run to the vaulted run, it has to be flipped for the two different cuts (top photos). First I cut the 45° angle for the 90° inside corner from a piece of modified crown upside down in the saw. The next cut is for an outside corner, albeit a shallow one. So I flip the crown right side up, set the angle, and make the miter cut. I cut the transition piece slightly short so that the profiles of the horizontal run and the vaulted run meet at the top in the corner. The rest of the pieces for the vaulted run are cut right side up.

Gary M. Katz is a contributing editor to Fine Homebuilding. Photos by Roe A. Osborn.

TRICK OF THE TRADE

BACK-CUTTING CROWN MOLDING

The quickest and safest way to rip the back-cut on crown molding is with a shop-built fixture that clamps to a table-saw fence. The fixture consists of a vertical accessory fence with an angled table attached to it.



CROWN-MOLDING RIPPING FIXTURE

For the table I rip a 45° bevel on both edges of a piece of 1x and rip a short vertical shoulder on the lower edge. A stop, which is interrupted for the blade, attaches to this shoulder to keep the crown from sliding off. To rip this crown, I had to crank my blade only to about 20°, but the blade had to be raised quite high. So please be careful, and always use a push stick to complete the cut.

