15 Cut a test piece from a 6x6 scrap and use it to check the deck notching and as a guide for laying notches on the 6x6 pergola posts. Mark the waste with a scribbled line to avoid confusion. Use a circular saw to cut the notches and finish them with a handsaw.

16 Cut the lower rail caps to fit (see “Marking and Cutting the Lower Rail Cap,” below). Butt a 3-3/4 in. block against the copper tube and clamp it in place. Predrill holes. Then drive 2-in. deck screws to support the 1x6 caps. Cut, fit and nail the 2x6 top rail into place.

will also work, but they’re likely to crack. Double-check measurements before cutting. You don’t want to goof up on these expensive posts.

Notch the decking for the posts (Photo 12). Then drive 3/8-in. x 4-in. lag screws through predrilled 3/8-in. clearance holes to secure the posts. Use a tubing cutter to cut the copper tubing and install it along with the posts. Don’t forget to cut, drill and center the two short pieces of 2x4 cedar that support the top railing and copper tubes on each cantilevered section (opening photo).

Figure D
Pergola Post

Marking and cutting the lower rail cap

1 Cut the 1x6 lower rail caps, allowing extra length. Mark the post locations. Then use a Speed square to mark the 3-1/2 in. deep notches at these locations. Saw out the notches for the posts.

2 Mark the intersection of the two tails. Make another mark on each cap where they intersect at the post. Connect the marks and cut the angle with a power miter saw or circular saw.

3 Lap the cut piece overtop and mark the angle on the lower piece. Cut this angle and check the fit.