

BY DAVE HOLBROOK



A Sine-Wave Pattern Rocks a Railing

Last fall, working for Clegg Sweeney Artisan Builders, I helped build a decorative railing for a veranda on a large, Craftsman-style custom home in South Orleans, Mass. The architect's plans called for a sine-wave pattern created by rectangular cutouts placed at staggered elevations in the vertical slats of each railing section. The railing's finish height was 18 inches above the veranda's decking, while the deck's surface itself was 2 feet above the planned final grade—close enough to grade that a guardrail wasn't required. Built in solid mahogany, this promised to be a one-of-a-kind undertaking.

Cutting the stock. Keith Jalbert began by installing 4x4 mahogany support posts between the deck's columns, breaking the nominal 14-foot column spacing into three equal sections (1). We secured the posts to the deck framing with solid blocking and TimberLok screws. The railing cap was cut from 8/4-by-8-inch mahogany and had an 8-degree dual pitch to shed water, and a 1/4-inch-deep groove underneath to accommodate a 2x6 subrail.

For the vertical slats, the perforated sine-wave pattern required five basic "forms," stepping down in sequence and, when flipped end-for-end, stepping up again. Finish carpenter Liam McCooe and I ripped 1x4 mahogany decking to a 2 1/2-inch width and then cut it into 15-inch lengths. Next, I roughed out the 1/2-by 2-inch perforations with a drill press, using a simple jig with movable end stops and a 7/16-inch spur bit to bore four adjacent holes, while Liam used another jig, clamped to a router table, to clean up the perforation profile with a 1/8-inch-radius solid carbide straight bit. We readjusted both jigs for each of the five groups.

Assembling the pattern. The painting crew dipped each slat in an exterior, oil-based stain bath—wiping them and stacking them on drying racks (2). When they dried, we used small blocks of 1/2-inch MDF as spacers between the slats, clamped the assembly together, and fastened the slats to a 5/4 mahogany cleat frame with stainless-steel brads (3). With the slats nailed to one frame, we laid the next frame on top and fastened it off. While McCooe focused on slat layout and assembly, I stayed a step ahead of him, cutting and joining the cleat frames, two per section. Each pair of frames was accurately cut to fit its specific location between columns. We worked from one end of the deck to the other in sequence, placing assembled sections in their allotted space. Finishing the installation, we screwed the railing sections through their cleats into the columns and the subrail, using stainless trim-head screws. All told, we made rectangular cutouts in 567 vertical slats for 34 individual railing sections (4).

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