

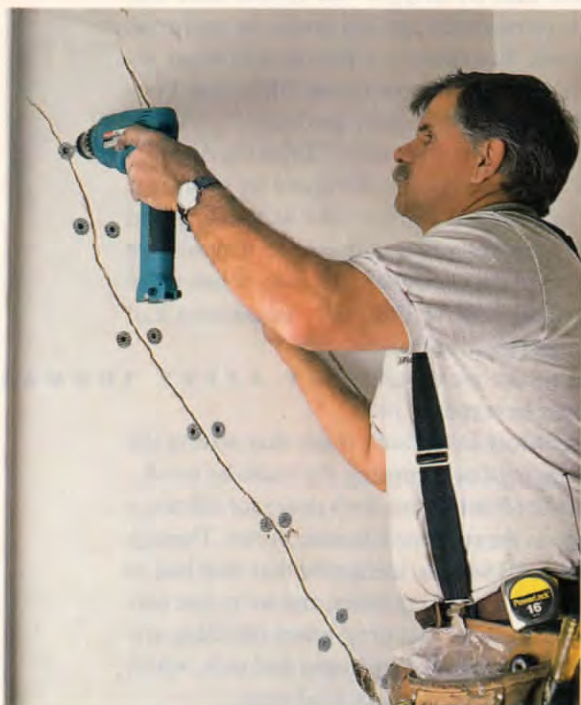


FALL TV PROJECT/CHARLESTOWN

# FIRST-CLASS UPGRADES

Getting back to the basics of old-house renovation at the *T.O.H.* show project

BY JEFFERSON KOLLE




ABOVE: After scratching out the center of a couple of rather bad cracks, Tom Silva uses special screws and washers to secure plaster that has loosened from the lath. He then camouflages the repair (OPPOSITE) with fiberglass mesh and drywall mud. After three coats of mud, with a day's drying time and a little sanding in between each, the finish surface is ready for paint.

From the beginning, it was clear that *This Old House's* fall project—Dan and Heather Beliveau's Charlestown, Massachusetts, row house—was different from some of the renovations the crew had tackled in past seasons. For one thing, the Beliveaus' house was structurally sound when they bought it. For another, most of the heavy work would be confined to a handful of areas. "We had a very workable house," says Tom Silva, *T.O.H.* general contractor. "Lots of great details. Good floor plan. Quite a few rooms only need a little spiffing up."

That said, the cracked old plaster looked its age, the windows were rattling in their frames, and the upstairs kitchen was cramped by an intruding stairway and bathroom. These are just the sorts of projects—from cursory repairs to total gut jobs—that at some point confront almost every owner of an old house. Given the amount of effort and money that will go into converting this building into two apartments, it made sense to Dan and Tom to fix what they can—particularly the plaster—and replace the items, such as the windows, that were so drafty they were hemorrhaging money. They made their choices on the basis of what is easiest and most cost-efficient in the long run, yet also most respectful of this 19th-century beauty.

Check out  
[www.thisoldhouse.org](http://www.thisoldhouse.org)  
for more on plaster repairs and window  
replacement at the Charlestown project.  
And coming soon: a 360-degree virtual  
tour of the finished project.



**In the second-floor living room** of the Charlestown project, Tom Silva is getting ready to make a long, diagonal plaster crack disappear. He presses the wall surface around the crack with his fingers, making it move slightly. "The plaster has come away from the lath," he says. "Time for a little mesh and mud."

Before the days of drywall and joint compound, thin strips of wood lath held up the multiple coats of the wet lime-and-sand mix that plasterers spread over walls and ceilings. If a water leak, a settling foundation, or excess vibration breaks the bond between wood and plaster, it can sag, crack, or fall off in big chunks. The dirtiest, most expensive and time-consuming way to remedy the problem involves ripping off the old, crumbling surface and starting over with new plasterboard and labor-intensive coats of joint compound or fresh plaster. But if the old plaster is still firm and not too crumbly, Tom rejoins it to the lath.

After scratching the crack clean of loose fragments, Tom fastens screws, fitted with one-inch plaster washers, along each side of the fissure. "Make sure they bite into the lath," he says. "Screws that aren't secured well can telegraph through the repair later on." Once the plaster is secure, Tom trowels on a thin coat of joint compound, then presses an 18-inch-

wide strip of fiberglass insect screening into it. (He would use mesh joint tape for a smaller area.) “The mesh creates a bridge over the crack, to bond to the stable plaster around it and hold the mud that repairs it,” says Tom. More compound goes over the screening until the gray mesh disappears completely. After it dries, three more coats of compound follow, each one wider than the last, dried completely, and sanded before the next coat goes on. “Spread it out and keep it thin,” he cautions. “You want to avoid building it up too much as you add the layers.” For particularly bad cracks, Tom uses two layers of screening, sandwiched between coats of compound, feathering out the mud to a width of



two to three feet. After the last coat of compound is dry, he gives it a light sanding to blend the repair seamlessly with the existing wall.

Meanwhile, historic-plaster consultant Rory Brennan stands on staging, eyeing the sagging ceiling above the wall Tom has just repaired. Running down the center of the sag is a horrible, jagged crack, a wound of time and gravity’s relentless pull. Like Tom, Brennan’s goal is to save the old plaster. Unlike Tom, Brennan actually restores walls

by using glue to reunite the plaster with its lath. His approach, developed 20 years ago by conservators at The Society for the Preservation of New England Antiquities (SPNEA), is one that he’s used successfully on dozens of projects, including the Adams House Museum in Deadwood, South Dakota. “Why rip out a perfectly good ceiling just because it’s sagging a little bit?” he says. “Once you’ve removed part of the building’s original fabric, it’s gone forever.”

Brennan starts by drilling dozens of 3/16-inch holes 8 to 10 inches apart into the sagging portion of the ceiling. “Just through the plaster,” he says. “Not through the lath.” Using a bulk-load caulking gun, he squirts a thin wetting agent—which primes the lath for the adhesive in the next step—through the holes. Then he fills another caulking gun with acrylic adhesive—slightly thicker than melted ice cream and smelling like latex paint. “This stuff is very sticky and elastic; it moves when the house moves,” he says. He injects the adhesive through the perforations. The excess oozes out, leaving white dots across the ceiling.

Grabbing his cordless drill, Brennan next drives dry-wall screws, fitted with 2-inch plastic washers, through the plaster and into the lath. As the drill tightens the screw, the plaster slowly returns to its original position, closing up the bloated crack. In the morning, when the adhesive has set, he’ll remove the screws and washers and use a putty knife to dig loose plaster out of the crack and scrape away excess dried adhesive. Then he’ll stir up a mixture of lime putty and rapid-setting plaster of Paris, fill the screw holes and the crack, and feather the new finish with his trowel until the transition from old to new is seamless.

Both Tom’s and Brennan’s methods yield the same result: baby-smooth walls and ceilings. Brennan’s takes less time, needs no sanding, and with no washers or screening to hide, actually requires less troweling skill. “Rory does beautiful restorative work,” Tom admits. “But I think my method might be easier for the average homeowner. All you need are plaster washers, a piece of screen, and a bucket of mud.”

*Rory Brennan demonstrates a different plaster repair method from Tom’s, one that reunites the sagging and cracked 135-year-old plaster with its lath-strip supports. By affixing this loose ceiling with an acrylic adhesive that he injects through 3/16-inch holes throughout the damaged area (ABOVE), Brennan can make repairs without adding permanent hardware to the plaster surface. He draws the plaster back to the lath using screws fitted with protective plastic washers. The adhesive is visible in the holes between the screws (RIGHT). FAR RIGHT: Once the plaster glue has set, he removes the screws and washers, and fills all the holes with a rapid-setting plaster mixture, smoothing away the blemishes caused by his work.*

