Replace a Shower Mixing Valve

A new pressure-balanced valve provides safer, more convenient temperature control than you'll get from two handles

BY ED CUNHA

I do most of my plumbing work on Cape Cod, where there's no shortage of older homes, so it's pretty common for me to replace the old two-handle controls on a tub or shower (photo above) with a new mixing valve.

In addition to offering the convenience of a single-lever control, a modern mixing valve uses a pressure-balancing mechanism to protect bathers from sudden temperature changes. If someone turns on the dishwasher or flushes a toilet while you're in the shower, a pressure-balanced valve instantly detects the change in water pressure and maintains the hot-to-cold mix you selected.

Here are two ways to complete the job. The first technique is to open the wall behind the plumbing and switch out the valves. The second method is to remove the tile, replace the valves, and retile. Obviously, I'd rather go with the former instead of the latter.

Ed Cunha is a plumber who lives and works on Cape Cod, Mass. Photos by Tom Meehan, except where noted.

Single-lever mixing valve

The Symmons S962 valve that I used on this job is compact and a good all-around valve for retrofit applications. Moen (www.moen.com), Symmons (www.symmons.com), Delta (www.delta.com), and other manufacturers offer good-quality mixing valves for $125 to $130.

Top photo: Charles Bickford

IT'S EASIER TO WORK FROM THE BACK

1 ***The chrome has to come off.*** *Pry off the cover plates that hide each handle's installation screws, then remove the screws, handles, and backing plates. In case the spout will be reused, I protect its finish with a rag as I unscrew it with channel-lock pliers.*

2 ***Cut an access panel.*** *If there's not an access panel behind the tub's plumbing wall, you'll have to cut through the wallboard. I transfer measurements from the tiled side of the wall to the back and cut out a rectangular panel. A panel that extends from stud to stud (as shown here) is easier to patch.*

3

A tiny cutter for tight spaces. *A standard tubing cutter is too large to use in the wall space, so I use a mini-cutter (about $20 in most home centers) to cut the hot and cold lines that feed the old valve. I make these cuts at the same level so that I'll have an easier time fitting the new valve.*

4 ***Lift out the old valves ...*** *After cutting the riser line that feeds the showerhead, I can pull the old valve free. I'm careful not to damage drywall edges.*

5 ***... And make room for the new.*** *I'll reuse the central hole for the tub spout, but I need to enlarge the hole so that it will accept the body of the new valve. I use a pair of tile nippers to clip away the tile and backerboard. The unused hot and cold holes will be covered by the goof plate.*

ASSEMBLE AND SOLDER IN BACK, THEN FINISH IN FRONT

6

Dry-fit and measure. *The valve's showerhead and tub-spout pipes are in place; now I can measure for the new tubing to connect the hot and cold supply lines. I prep all mating joints with 120-grit emery cloth and a cleaning brush (below).*

7

Flux, assemble, and solder. *Make sure the elbows, couplings, and short tubing sections join the new valve securely to the old lines. Clean and flux the joints, then solder with the entire assembly in place. To protect the valve's washers, I open the valve before soldering.*

8

Finishing up. *To install the finish trim, I first slip the dome cover over the valve. To cover the holes on each side of the valve, I use what's known as a goof plate. After inserting the diverter control, I screw the goof plate onto the valve and attach the selector handle.*

9

Not all goof plates are created equal. *The large faceplates used to conceal holes in the shower wall are made to fit around specific valves. To avoid multiple trips to the plumbing supplier, check the fit of the valve cover plate and goof plate. While it's obvious that a Moen goof plate (bottom example) won't fit a Symmons cover, an aftermarket-brand goof plate (top example) meant for the same valve isn't a good fit, either.*

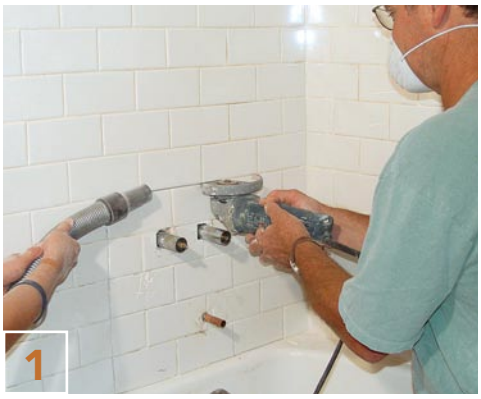
10 ***Prepare for the spout.*** *After measuring the interior length of the tub spout and factoring in the dimension of the male adapter, I mark the proper tubing length.*

11 ***Don't forget the tape.*** *I cut, clean, flux, and solder the male adapter onto the tubing. When it has cooled down, I wrap the threads with Teflon tape.*

12 ***A good fit is snug against the wall.*** *If I've measured correctly, the spout will thread onto the adapter and fit tightly against the tile.*

Top photos, facing page: Lane Meehan

Valve replacement from the front: How to make the best of a tricky tile job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If I don't have access behind the shower and have to go through the tiled side of the wall, I call my favorite tile man, Tom Meehan. He has to remove and reinstall a small section of tile around the old valves so that I can install the new valve. (1) Tom uses an angle grinder fitted with a diamond blade to cut a rectangle into the wall around the valves. A helper with a vacuum catches the dust. (2) He pulls out the section, removes a few more tiles, and (3) screws in a wood cleat at the top to catch the backerboard later. (4) Now I can remove the old plumbing and install the new valve. When space is too cramped to use a heat shield, I spray combustible surfaces with a thermal shield gel. Sold under different brand names (Cold Shield and Hot Stop), a 32-oz. bottle costs about $15.