

INSTALLING A

Wall-Hung Toilet

These fixtures save space and make your bathroom easier to clean, but installation demands a different workflow

BY ANDREW GRACE

A couple who are regular clients have a 10-year-old son with cerebral palsy, and he needs a wheelchair to get around. They recently bought a '60s-era ranch so all of their living space would be on one level. Among the projects on their remodeling wish list was a more spacious bathroom with enough room for their son to maneuver his wheelchair. So, in addition to a roll-in shower unit, we also installed a wall-hung toilet.

Instead of an exposed tank that sits behind the bowl, wall-hung toilets have a tank in the wall, saving about 2 sq. ft. of space. This might not sound like a lot, but it is when you have a small bathroom or when you're in a wheelchair. Another advantage of wall-hung toilets is that they're height-adjustable, allowing you to match the bowl height to the user's preference. This is especially valuable to folks with mobility issues; having the bowl the same height as a wheelchair makes it easier to transition from the chair to the toilet and back.

But you don't have to be in a wheelchair to see the perks of wall-hung toilets. They also look great and the uninterrupted floor below the bowl is easier to keep clean. Here I'm installing a Toto model (about \$1000), but similar models are available from Kohler (shown near right), Geberit, and others, and the installation process is virtually the same across brands. □

Andrew Grace is a remodeler in Ligonier, Pa. Photos by Patrick McCombe, except where noted.



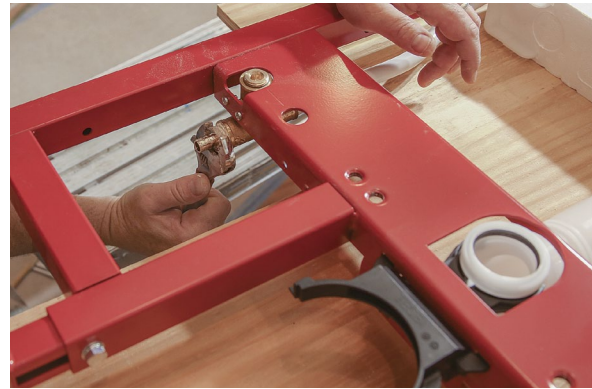
THREE-STEP PREP

The steel frame, called the *carrier*, is nearly ready for installation right out of the box, but first you have to frame the opening, adjust the height, and install the supply-line adapter.

Frame the opening. Because the tank and waste line of a wall-hung toilet are set into the wall, installation demands a 2x6 cavity with a roughly 2-ft.-wide by 4-ft.-tall opening.

Adjust the carrier height. One significant advantage of a wall-hung toilet is that you can adjust the bowl height from 15 in. to 19 in. About 15 in. above floor level is standard height for a toilet, but telescopic legs allow this height to be adjusted prior to installation. If they are not already installed, be sure to consider the thickness of the finished flooring and its underlayment when setting the height.

Install the supply-line adapter. Carriers are available for both copper and PEX rough-ins, and are easiest to prep prior to fastening in the wall. The connection for the supply line is on the left side of the tank like a conventional toilet. (The fitting also accommodates an optional bidet seat.)



ROUGHED IN AND READY

The carrier supports the bowl and houses the tank and flush mechanism. Once it's fastened to the framing, the supply and waste lines are brought in from below.



Fasten the carrier. The carrier, which is rated to support 880 lb., is secured to the framing with eight lag screws driven into predrilled holes. Six screws go through the sides of the frame and two fasten the legs to the bottom plate.

Prepare the waste line. The kit includes a 3-in. elbow that fits within a 2x6 wall. A flexible coupling attaches the elbow to the waste line running below the floor. The elbow is snapped into place and held in position on the carrier with a U-shaped plastic clip.

Connect the supply line. After fastening the carrier, connect the supply line. Because the connection will be hidden behind the drywall, the shutoff valve is remotely located behind the panel that houses the flush buttons.

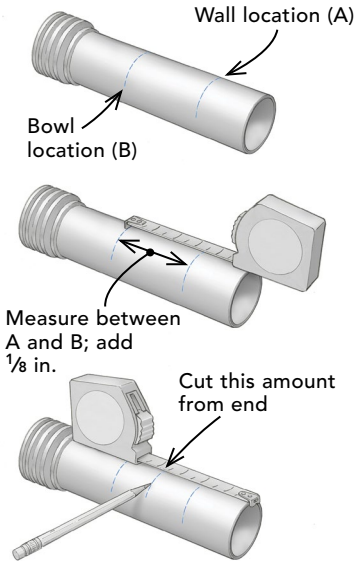
CAREFUL CONNECTIONS

After installing the drywall, you're ready to prep and set the bowl. Water from the tank enters the bowl through a 1½-in.-dia. inlet line and exits through a 3-in.-dia. outlet line below. Both

pipes fit with a gasketed connection, and must be precisely cut to length so they're fully seated. If the wall behind the toilet is to be tiled, the tile must be in place before this step.



Fit the inlet and outlet pipes. Both the inlet and outlet pipes are measured in the same way. First, lubricate the pipe with soapy water and fully insert it into the carrier. Mark the wall location onto the pipe using a sharp pencil and a straightedge. Remove the pipe from the carrier and fully insert it into the opening at the back of the bowl, then mark how far it enters the bowl. Measure between the marks and add 1/8 in. Cut this amount from the end.



Chamfer the ends. After cutting the parts to length, use a knife to remove any burrs and then chamfer the cut edges with a file. This important step prevents damage to the O-rings that seal the pipe connections as the parts come together.



Insert the inlet and outlet. Lubricate the inlet and outlet pipes again and then fully insert them into the connections on the carrier.

INSTALL THE BOWL AND FLUSH BUTTONS

With the inlet and outlet connections in place and their gasketed ends lubricated with soapy water, the bowl is ready to be attached to the carrier and it's time for the final touches. The last part of the installation is to fit and adjust the flush buttons.



Set the depth. Adjust the clear-plastic access panel behind the flush buttons so it's inset $\frac{1}{2}$ in. from the finished wall surface. Removing the clear panel provides access to the shutoff and all of the tank's internal parts so they can be serviced or replaced.

Adjust for wall thickness. The plastic housing that holds the flush buttons is screwed to the previously adjusted clear-plastic panel and then the plastic rods that actuate the flush valve are adjusted with a screwdriver to match the wall thickness.



Adjust the mounting studs. The threaded mounting studs can be adjusted with a screwdriver to accommodate different drywall and tile thicknesses. Set the studs so they protrude 2 in. from the finished wall surface.

Slide on the bowl. Install the sound-deadening gasket that goes between the bowl and the wall and slide the bowl over the threaded studs and into its final position. Do this carefully so you don't damage the gasketed ends of the inlet and outlet connections.

