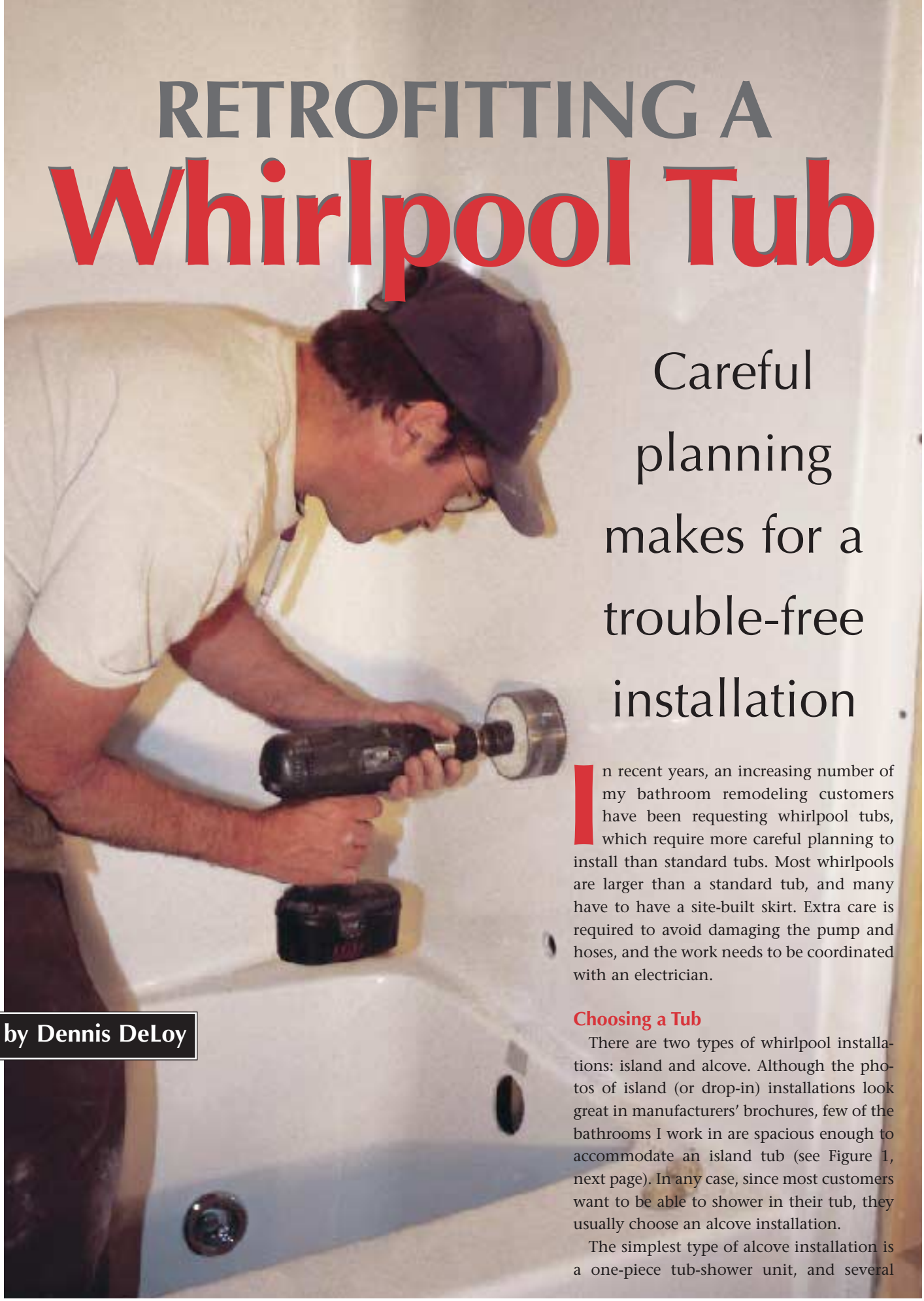
RETROFITTING A Whirlpool Tub



Careful planning makes for a trouble-free installation

by Dennis DeLoy

In recent years, an increasing number of my bathroom remodeling customers have been requesting whirlpool tubs, which require more careful planning to install than standard tubs. Most whirlpools are larger than a standard tub, and many have to have a site-built skirt. Extra care is required to avoid damaging the pump and hoses, and the work needs to be coordinated with an electrician.

Choosing a Tub

There are two types of whirlpool installations: island and alcove. Although the photos of island (or drop-in) installations look great in manufacturers' brochures, few of the bathrooms I work in are spacious enough to accommodate an island tub (see Figure 1, next page). In any case, since most customers want to be able to shower in their tub, they usually choose an alcove installation.

The simplest type of alcove installation is a one-piece tub-shower unit, and several

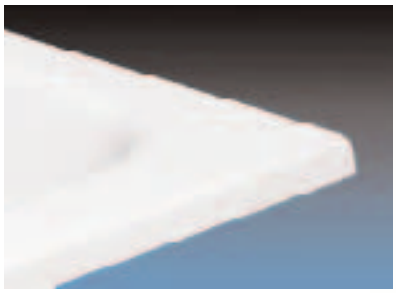


Figure 1. Tubs designed for island installation are self-rimming, which means they lack a tiling flange. Self-rimming tubs, like this model from Aker Plastics, require a site-built skirt.

manufacturers offer tub-shower whirlpools (Figure 2). My customers usually request a tiled surround, so I typically install a fiberglass tub unit with a tiling flange on three sides (Figure 3). Acrylic tubs are often very attractive, but they cost considerably more than fiberglass tubs. Although cast-iron whirlpool tubs are available, they are expensive, awkward to install, and available in a limited number of colors.

Careful Inspection Pays Off

It isn't unusual for a fiberglass tub to be damaged during shipping. I can't afford to schedule a remodeling job that falls through at the last minute because of a damaged tub, so I always make a point to inspect my whirlpool tubs at the supplier's warehouse a few days before the work is scheduled. I can't perform a water test there, but I give the tub a visual inspection for interior finish problems or damage to the pump, hoses, and jets. If any problems turn up, I have enough time to reschedule the job.

Once the tub is delivered to the job site, I test the tub outdoors, so that any problems can be identified before it's roughed in. I block the drain hole with a flat rubber sink stopper, fill the tub with a hose, and run the pump for 15 minutes. Any leakage problems should show up in that time. If there is any chance of freezing weather, I make sure that we can move the tub to a warm environment immediately after the test, since some residual water will stay in the plumbing.

I'm careful to carry the tub by its shell and base to avoid any strain on the pump and hoses, and I apply duct tape to the edges of the rim to protect the gel coat from scratches. Once the tub is inside, I put a mover's blanket inside it for further protection. If we have to work over the tub, I apply several layers of duct tape to the top of the rim and then place a piece of plywood on top.

Plumb and Level

If the wall studs of the tub alcove aren't straight and plumb, I correct them with shims. I also check the floor for level. A fiberglass tub, unlike a cast-iron tub, can't be leveled with a ledger board under the back rim. The tub's weight will be carried by the base, which should be uniformly supported. Otherwise, the tub can be stressed and might crack.

If the subfloor isn't level, there are three options: 1) shim the base of the tub carefully, following the manufacturer's instructions; 2) install a new, level subfloor; 3) install the tub on a mortar base. I don't recommend using aerosol foam to help support a tub, since it's extremely difficult to judge how much the foam will expand. Too little foam gives inadequate support, and too much can actually move a tub.

I often install Aker tubs, which come with a fiberglass base that requires uniform support and cannot be easily shimmed. In a remodeling situation, where the existing floor is typically not level, I usually find it easier to remove the floor under the tub area down to the joists. This allows me to shim the joists level and then install a new plywood subfloor under the tub. Once the tub is installed, I screw through the flange on the base into the subfloor. (To avoid cracking the flange, I predrill before screwing.)

Some manufacturers, including Aquatic, recommend that their whirlpool tubs be installed in a mortar base. A mortar base holds a tub securely and reduces vibration, giving it a solid feel. For mortar, I use a standard bagged mortar mix like Quikrete or Sakrete. I'm careful not to use too much — the tub shouldn't be

Figure 2. Several manufacturers offer tub-shower units with whirlpool features. This Ensemble model from Sterling Plumbing has modular surround components, making it easier to install where access is tight.

floating on the mortar. Under the tub base, I drop dollops of mortar, like putting cookies on a sheet, so there's room for the mortar to squish together as the tub settles in. There should be no activity in the tub for 24 hours after installing a mortar base.

Once the tub is secured, I insulate it with fiberglass batts to reduce noise and vibration when the tub is running.

Providing Power

A whirlpool pump comes with a cord and plug and requires a GFCI-protected duplex receptacle. The electrician should wait until after the tub is in, to be sure the receptacle isn't installed in an awkward location that blocks access to important components. Since a GFCI receptacle can't be used in an inaccessible location, the whirlpool receptacle

Figure 3. Tubs designed for alcove installation have a tiling flange. This Aker model includes a factory skirt with a built-in step.

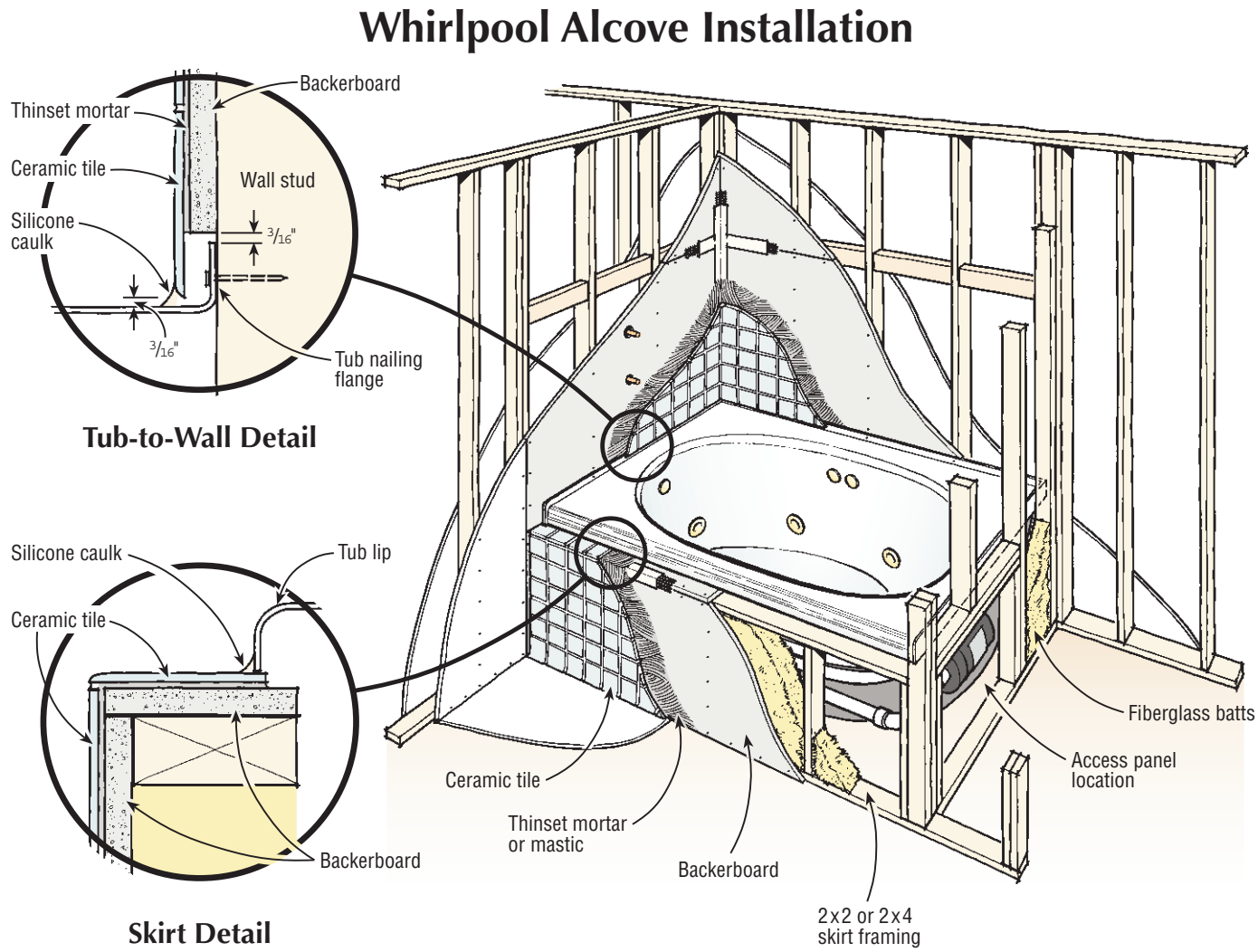


Figure 4. A site-built skirt can include a tiled shelf just below the tub lip.


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Figure 5. Self-rimming tubs can be installed in either an island or an alcove but are not intended to be combined with a shower.

should be either on a circuit with a GFCI breaker or downstream from an accessible GFCI receptacle.

Once the power and plumbing have been hooked up, I once again test the tub for function and leaks to ensure that nothing was damaged during installation.

Backerboard and Tile

For a tile base, I use Hardibacker (James Hardie Building Products, 888/542-7343; www.hardibacker.com), which I prefer to other cementitious backerboards. I set the bottom of the backerboard approximately 3/16 inch above the top of the tiling flange, so it won't interfere with tub movement. If the backerboard overlaps the flange, the backerboard and tile will flare out at the bottom. This flaring can be especially noticeable at the inside corners. I use temporary shims to maintain the gap between the flange and the backerboard while the backerboard is being fastened.

Figure 6. The pump is located at the foot of most whirlpool tubs. As long as the location is not blocked by a chimney or other obstruction, it's the best place for the access panel.

When it comes time to install the finished wall surface, I extend the tile or tub surround material beyond the bottom of the backerboard, overlapping the tub flange but stopping about 3/16 inch short of the tub edge.

If a customer wants to install an island tub (a tub without a tiling flange) in an alcove, I notch the studs at the level of the tub rim, so that the beveled part of the rim is recessed behind the backerboard. The backerboard and tile are then brought down to within 3/16 inch of the tub. Whether or not the tub has a tiling flange, I install silicone caulk, not grout, between the bottom edge of the tile and the tub, because caulk allows the tub to move independently of the tile.

Building the Skirt

There are two types of whirlpool skirts: factory skirts and site-built skirts. Some manufacturers offer tubs with a removable skirt that provides access to the plumbing and wiring while giving the exposed side of the tub a finished look. On many jobs, I make a site-built skirt out of 2x2 framing followed by fiberglass sound insulation batts, backerboard, and tile.

A site-built skirt is usually installed so that the finish surface is slightly recessed from the front rim of the tub. But in some cases, I will build a skirt that includes a horizontal shelf in front of the tub, designed to be finished with tile (Figure 4, previous page). As long as the shelf is located on the open side of the alcove and cementitious backerboard is used as a substrate, I install it without a waterproof membrane under the tile. I have had no water leakage problems with such shelves.

To avoid the sizable gap caused by butting square-edged tile against the beveled rim of the tub, I install the horizontal tile under the rim. I carefully check that the tub rim, even when flexed, puts little or no stress on the tile face. People are likely to sit on the rim of the tub when they get in and out, and it's critical not to stress the horizontal tile.

In an island installation, a whirlpool tub will usually have a skirt on all four sides, with a horizontal shelf all around, giving the tub a drop-in look. Such a skirt is built in exactly the same way as the site-built skirt in an alcove installation (Figure 5).

Providing access. With a bow to Murphy's law, every whirlpool tub requires an access panel to permit work on the pump, wiring, and hoses. Removing a pump is usually a simple matter. Most pumps are secured by just

Figure 7. Some whirlpool baths, like the Springbath Royale (above) and the Nostalgia (right) from Crane Plumbing, come with a removable skirt that provides access to the pump and hoses.

two plumbing unions and four bolts. In most whirlpool models, the pump is located at the foot of the tub, opposite the waste-and-overflow, so that's usually the best place for the access panel (Figure 6). If it can't be located there — because of back-to-back bathrooms or a chimney at the foot of the tub, for example — the next best place is in the front skirt.

If the tub comes with a removable skirt, access is no problem (Figure 7). If a site-built skirt requires an access panel, I include a square opening in the framing, cut a panel out of backerboard, and install it with screws for future easy removal. Since a visible panel in the skirt detracts from a bathroom's aesthetics, I usually tile right over the access panel and screws, using mastic instead of a thinset mortar mix.

I always make a sketch of the access panel location, including measurements, and give a copy to the customer and keep one for myself. If the access panel ever needs to be removed, some tiles will probably get broken, so I arrange with the customer to store some extra tiles, clearly marked, in a safe place. In any case, access panels are rarely used; I've only had to pull one pump in the last ten years.

Dennis DeLoy *is a Georgia, Vt., master plumber and contractor specializing in bathroom remodels.*

Whirlpool Tub Manufacturers

Aker Plastics
800/348-2211
www.akerplastics.com

American Standard
800/442-1902
www.americanstandard.com

American Whirlpool
800/327-1394
www.americanwhirlpool.com

Americh
800/453-1463
www.americh.com

Aquatic Industries, Inc.
800/555-5324
www.aquaticwhirlpools.com

Baja Products
800/845-2252
www.bajaspa.com

Bath-Tec
800/526-3301
www.bathtec.com

Best Bath Systems
800/727-9907
www.best-bath.com

Crane Plumbing U.S.
800/955-0316
www.craneplumbing.com

Jacuzzi Whirlpool Bath
800/984-9217
800/288-4002
www.jacuzzi.com

Jason International
800/255-5766
www.jasonint.com

Kohler
800/456-4537
www.kohlerco.com

LASCO Bathware
800/877-2005
www.lascobathware.com

Laurel Mountain Whirlpools
800/930-0050
www.commerce.com/laurel7

Mansfield Plumbing Products
877/850-3060
www.mansfieldplumbing.com

MTI Whirlpools
800/783-8827
www.mtiwhirlpools.com

National Bathing Products
815/886-5900
www.nationalbath.com

Oasis Industries, Inc.
800/323-2748
www.oasisbath.com

Pearl Baths
800/328-2531
www.pearlbaths.com

Sanijet
877/934-0477
www.sanijet.com

Watertech Whirlpool & Bath
800/289-8827
www.watertechtn.com

Watkins Manufacturing Corp.
800/999-4688
www.hotspring.com

Westendorf Plastics, Inc.
800/747-0500
www.whirlpooltubs.com