

Faucets 水龍頭

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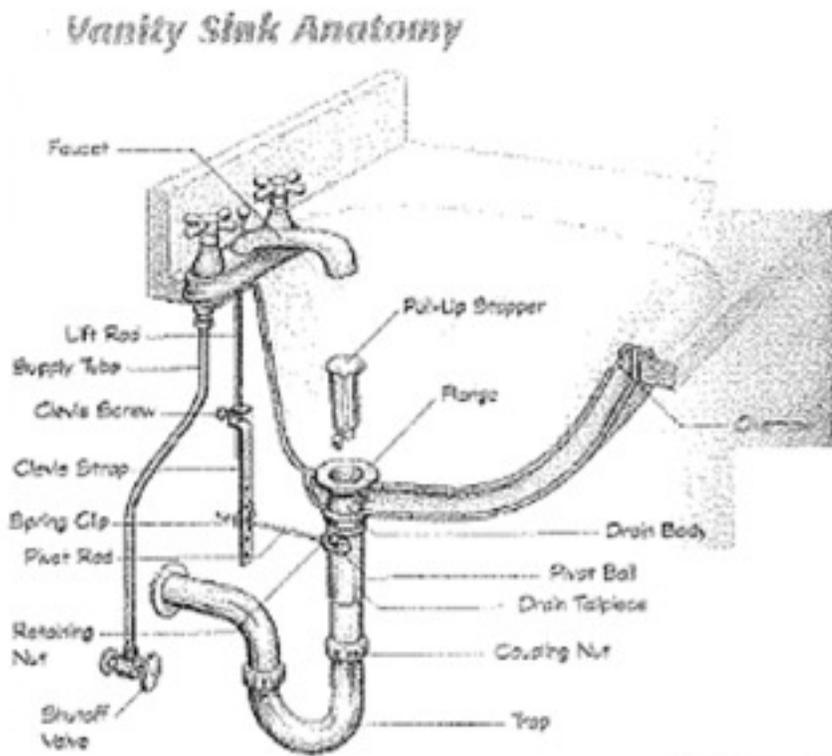
Repairing Cartridge Faucet 修理濾水龍頭

Repairing a Ceramic-Disk Faucets 修理陶瓷龍頭

Water and Water Connection Basics

Almost all kitchen and bathroom sink faucets are connected to water piping through flexible supply tubes. In just about every case, you make the riser-to-supply-tube conversion with a compression fitting. While some codes require shutoff valves only on the toilet supply, allowing simple compression adapters on other supply connections, the general trend is towards requiring shutoffs on all fixtures fed by supply tubes. Even when shutoffs are not required, they're a good idea. You'll thank yourself for installing them the first time a fixture or appliance needs servicing.

As for the supply tubes, you can choose soft-copper tubes, which are extremely inexpensive, or stainless-steel enmeshed polymer tubes, which cost substantially more but are prefitted and almost fool proof. Stainless-steel enmeshed tubes are perfect for the poorly equipped and the mechanically timid. At this writing, many codes do not allow plastic supply tubes.



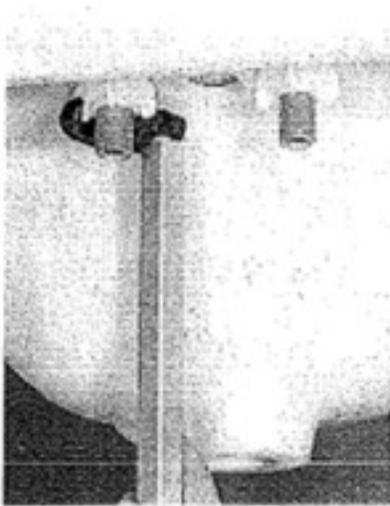
Sink Drains

When it comes to joining a kitchen sink to permanent drain piping, use 1.5 inch tubular waste kits and P-traps. Waste kits for double sinks are sold with or without waste-disposal-unit connections. One is called a sin-waste kit and the other, a

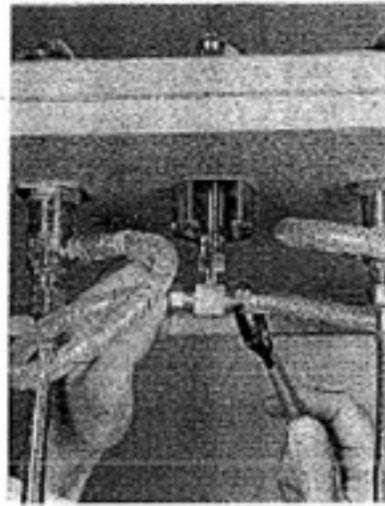
disposal-waste kit. These kits usually include all the pieces needed to drain both compartments of a sink into a single P-trap. Traps are usually sold separately. Use a 1.5 inch flanged tailpiece and P-trap to drain a single-compartment sink.

Bathroom sink drains are always 1 ¼ inches in diameter, but you can fit them with either a 1 ¼ or 1 ½ inch trap. You'll find a special reducing washer packaged with each trap to make the conversion. All waste kits and traps are available in PVC plastic or chrome-plated brass. Plastic is much easier to cut and assemble. It's less expensive, and unlike brass, it doesn't corrode. This is one case where plastic beats metal, hands down. Use chrome traps only when the trap will be visible, as under a wall-hung bathroom sink. You can cut both materials with a hacksaw or wheel cutter.

Removing Faucets



To remove a top-mounted faucet, use a basin wrench to unscrew the jamb nuts from the faucet shanks.



To remove a bottom-mounted faucet, undo the connecting tubing and remove the jamb nuts.

Dishwashers

When hooking up a dishwasher, use ½ inch soft copper water piping and compression fittings. Run this from the hot-water shutoff (or dual stop) under the sink through the side of the sink cabinet, near the side to the inlet on the dishwasher's solenoid valve.

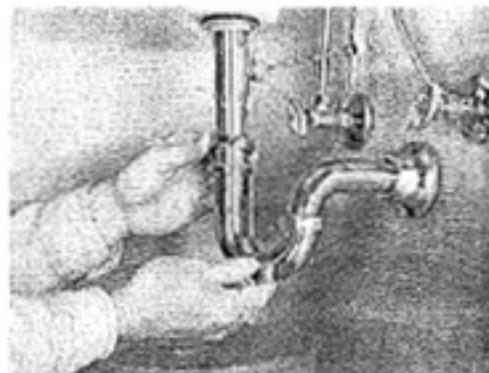
Dishwashers usually come with more than one discharged hose attached. The hose will be made of ribbed plastic or heat-resistant rubber. If you want to extend a rubber discharge line, automotive heater hose is a good choice. You can make all the connections using conventional hose clamps. If the sink has no waste disposal unit attached, connect the free end of the hose to disposal unit T-fitting under the sink, just above the trap. If the sink is equipped with a waste-disposal unit, connect the hose to the discharge nipple on the metal body of the unit.

Removing the Drain

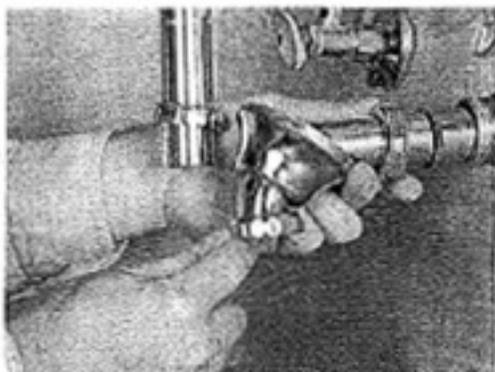
Tools and Materials

Groove joint pliers Time: 40 mins
 Bucket
 Putty knife

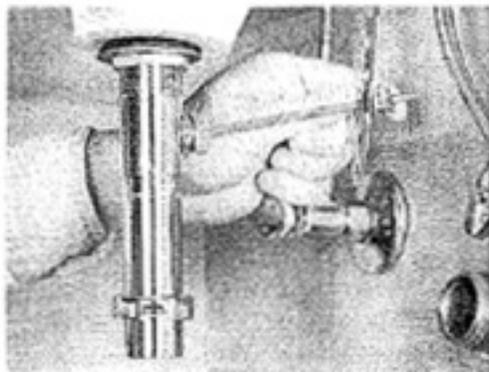
PLUMBING TIP: The flat washer used with chrome traps need to be lubricated. If you don't have pipe joint compound, liquid dish detergent is an acceptable substitute.



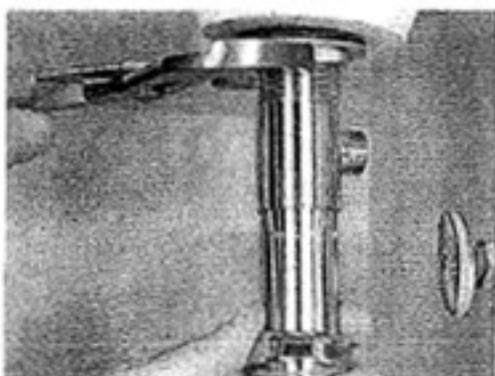
1 To remove a sink basin drain, loosen the two P-trap nuts and remove the trap. Keep a bucket under the trap to catch waste water.



2 To remove the P-trap arm, disconnect the friction nut at the wall and pull the arm straight out from the drainpipe.



3 To disconnect the sink drain's pop-up linkage, squeeze the tension clip and slide the device from the lever.



4 Use groove-joint pliers to loosen the nut that holds the sink drain in place. Backhold the drain with a second pair of pliers if it spins.



5 Unscrew the basin flange from the sink drain, (working from above) and pull the drain out of the basin from below.

How to Replace a Bathroom Faucet & Drain

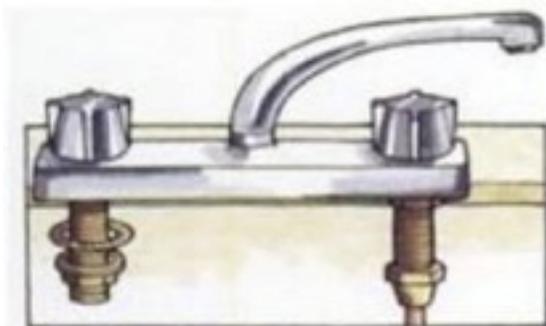
Bathroom faucets are sold with and without drain assemblies. Because the lift rod that operates the drain's pop-up plug is installed through the faucet-body cover, it's good idea to replace both when changing out an old faucet. The procedure described here assumes that

your sink is installed in a vanity cabinet.

First, remove the old faucet and drain assembly. Shut off the water, and drain the faucet lines. If you have to shut off the main valve to the house and you have plumbing fixtures on the upper floor above this bath, open those fixtures a well. Otherwise, the water from upstairs will drain onto you as you lie beneath your work.

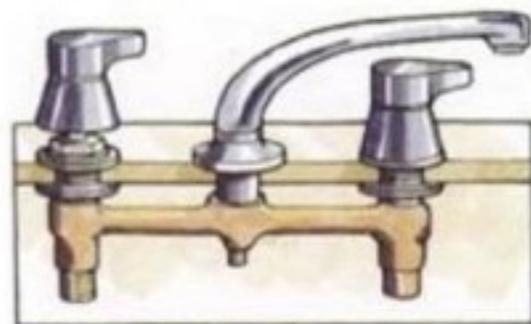
Removing Old Bathroom Faucets

How you remove the old faucet depends on whether it's a top-mounted or bottom-mounted faucet. Top-mounted faucets are the most common.



Top-mount faucet

This is installed from above and is held in place with a locknut and washer from below.



Bottom-mount faucet

This is installed from below and is held in place with a locknut and washer from above.

Top-Mounted Faucets

A top-mounted faucet is held in place from below by threaded shanks or fastening bolts, which fit through the basin's deck holes. If the faucet is a two-handle model, expect to find jamb nuts tightened onto the shanks from below. In this case, you'll connect the supply tubes to the ends of the shanks. If your faucet has copper tubes instead of brass shanks - usually the case with single-control faucets - the faucet will be held in place by threaded bolts. One look under the sink, and you'll know the type you have.

When working within the cramped spaces behind a sink, you'll find loosening and tightening nuts a lot easier with a basin wrench. A basin wrench is really just a horizontal wrench on a vertical handle. Lay its spring-loaded jaws to one side, and the wrench loosens, lay it to the other, and it tightens. The extended handle allows you to work high up under a basin or sink deck without having to reach.

Loosen the two coupling nuts that secure the supply tubes to the faucet. Then, using a standard adjustable wrench, disconnect the lower ends of the tubes from their

compression fittings. Set the supply tubes aside, and use the basin wrench to remove the fastening nuts from the faucet shanks or fastening bolts. Finally, lift the old faucet from its deck holes.

Bottom-Mounted Faucets

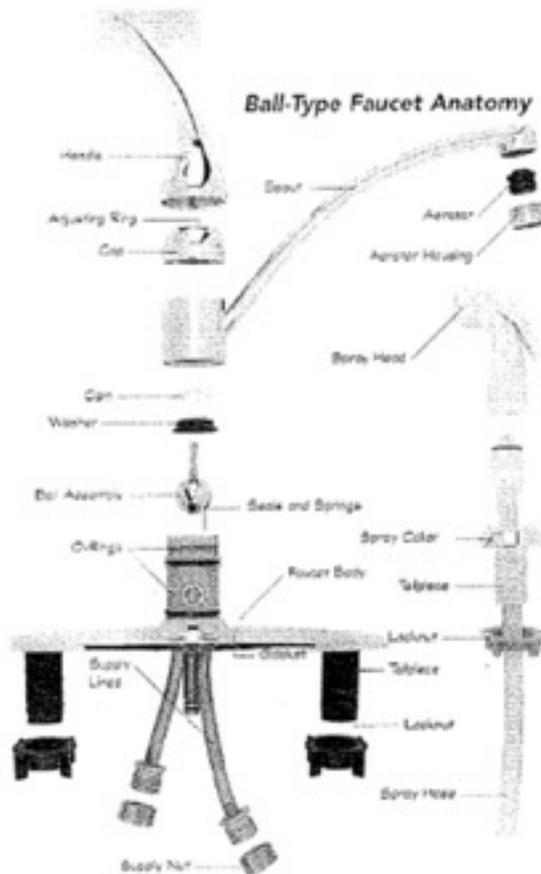
If the old faucet is a bottom-mounted model, with the body of the faucet installed below the sink deck, the initial approach is from above. Leave the supply tubes in place until after you've completed your work on top. Start by prying the index caps from the faucet handles.

Remove the handle screws, and lift the handles from their stems. This will give you access to the flanges (or escutcheons). Threaded onto the stem columns. Thread these flanges off; disconnect the supply tubes; and drop the faucet from its deck. Some bottom-mounted faucets consist of three isolated components, including two stems and a spout. These components are joined with tubing and are easy to disassemble from below.

Fixing Ball-Type Faucets

Delta Faucet Company is one of the pioneers in the alternative faucet design, with its proprietary ball-and-cam mechanism, and actually offers two name brands. The Delta trademark is sold through professional plumbers, while the Peerless line is sold at the retail level. You'll notice slight cosmetic differences between the two lines, but both use the original ball-and-cam mechanism.

What traditional ball-type faucets have going for them is affordable repair parts. You don't usually discard the entire mechanism. Instead, you can replace only those parts that are worn, which in many cases, are the springs and rubber seals. Several repair kits are available. Some include only the inlet springs and seals; some include seals, springs, and cam cover; and some include all mechanical components, including a stainless-steel or elastic control ball and a special wrench needed to remove the old ball.



How to Repair a Leaky Ball Faucet

To gain access to a ball-type sink faucet, turn off the water at the shutoff valves and turn up the handle. Loosen the Allen screw on the lower-front section of the handle, and take off the handle.

Where the handle had been, you'll find a large chrome cap with either wrenching surfaces or a knurled rim. If the nut base has wrenching surfaces, loosen the nut with smooth-jaw pliers or an adjustable wrench. If the cap has a knurled rim, use either the Delta wrench that come with each repair kit or large adjustable pliers padded with cloth or duct tape to avoid scratch the metal surface.

With the cap removed, lift the nylon and neoprene ring that covers the top of the ball.

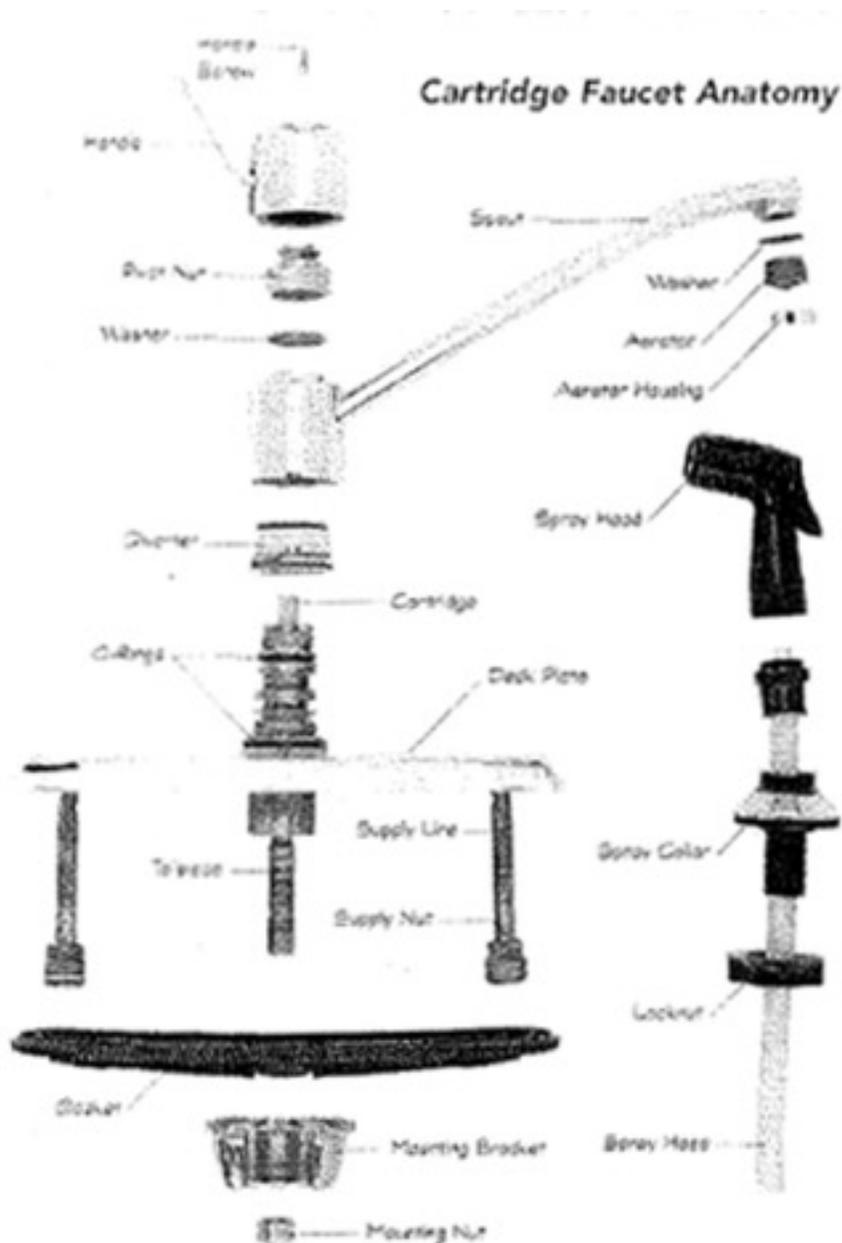
Then remove the ball. Set both aside. Reach into the faucet body, and using the Allen wrench or a small screw driver, lift the cold-water rubber seal and its spring from the inlet port. Then lift the hot-water seal and spring. There's little noticeable

difference between old and new seals and springs so it's easy to get them mixed up. Throw out the old ones immediately. If you plan to replace the cam, discard it as well. If your faucet is more than 10 years old or has dripped for several months, replace the ball, too.

Reassembly

Assuming you'll be replacing everything except the ball, press each rubber seal onto its spring. Slide the seal and spring onto an Allen wrench or screwdriver, with the seal facing up. With an index finger holding the assembly in place, insert the spring and seal into the inlet. Install the remaining seal and spring in the same way.

With the new seals installed, press the ball into the body. The ball will have a peg like key on one side that matches a slot in the body, so there's no chance you'll get it wrong. Press the new cam cover over the ball, and align its key with the keyway on the faucet body. Push it down until the key engages, and then thread the cap over it. Tighten the cap until it feels snug, but don't overdo it. Replace the handle and test your work. If the faucet drips or water appears around the handle, remove the handle and tighten the cap a little more.



Repairing Cartridge Faucet

Repair of a cartridge-type faucet usually consist of merely replacing a long, self-contained cartridge.

Cartridge faucets offer an important benefit; if the water piping was installed backward, you can still have the hot water on the left side. All you do to reverse the hot and cold sides is rotate the stem 180 degrees. This is a handy feature in back to back bathrooms, where a shared set of risers leaves one bath with reversed piping. A reversible faucet saves pipe and aggravation. But you must also make sure replace

the cartridge in the same orientation.

Repairing a Single-Handle Kitchen faucet

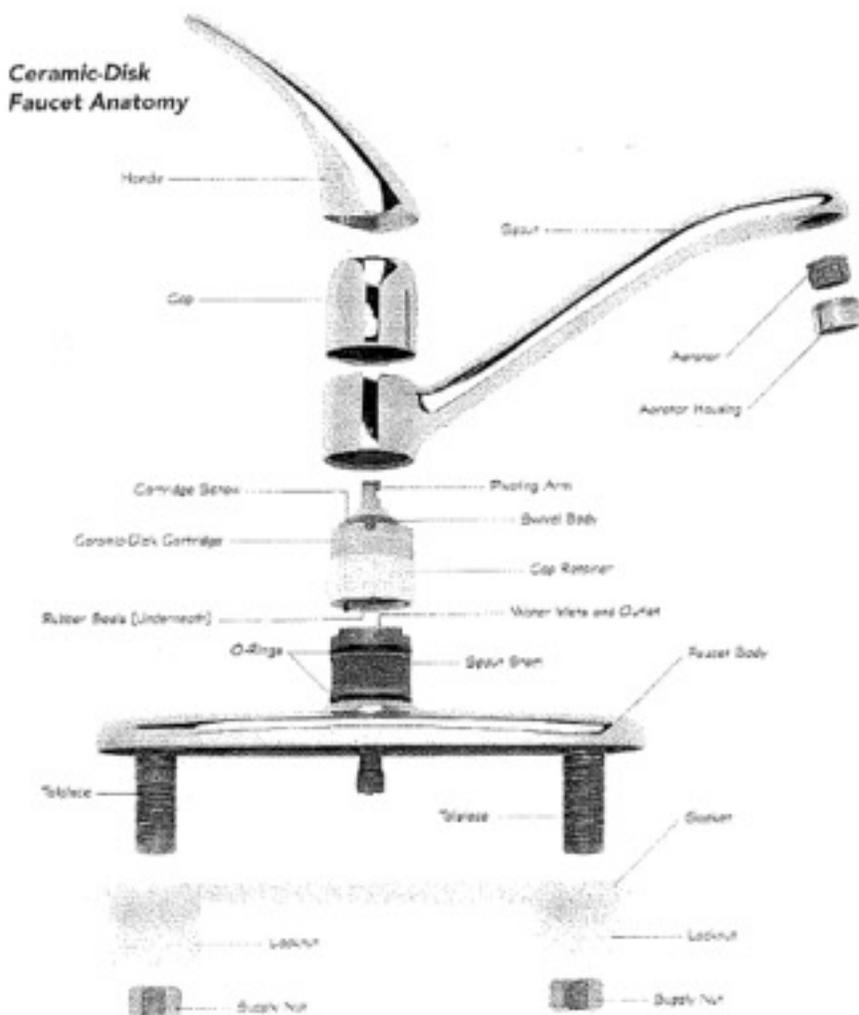
Begin by turning off the water at the shutoff valves. The faucet handle may or may not have a chrome or plastic index cap. If it does, pry under the cap with a utility knife to gain access to the handle screw. If it doesn't, like the one shown in the photo, just pull off the cover.

Remove the screw from the handle, and tip the handle up and back. The handle's cam slot fits into a deep groove in the pivot nut, so expect to have to wriggle and coax it a bit. When the lever clears the pivot nut, lift it and its plastic hood from the faucet column. Loosen and remove the treaded pivot nut to reveal the top of the cartridge. Looking closely, you'll see that the cartridge is locked in place by a small U-shaped clip, positioned horizontally across the top of the cartridge. Use needle-nose pliers or a screwdriver to remove this clip. Then grasp the cartridge stem, and pull it straight up. If it feels tuck, grip it with pliers and pull a little harder: it will break free and come out.

Replacing the Cartridge and Handle

To make the repair, insert a new cartridge into the port and press it down as far as it will go, aligning the flat notches in the stem with the brass body slots. Insert the retainer clip so it won't go in all the way; rotate the new cartridge locked in place, thread the pivot. Push the clip into its slot until it bottoms out. With the new cartridge locked in place, thread the pivot nut back onto the column and re-install the handle.

Re-installing the handle can also be tricky. The cam opening in the handle must engage the groove of the pivot nut. If it doesn't, the handle won't operate through its full range. You'll be able to turn the water on and off but just barely. To avoid that problem, tip up the handle as high as it will go within its plastic hood. Carefully engage the back of the lever in the pivot nut's groove. When you feel it engage, press the handle down, install the stem screw, and install the decorative cover. Turn the water back on, and test your work. If you find the hot water is now on the right side, remove the handle and rotate the stem 180 degrees.



Repairing a Ceramic-Disk Faucets

Ceramic-disk faucets are particularly vulnerable to sediment accumulations. For this reason, don't assume that a dripping faucet needs a complete overhaul. When a ceramic-disk faucet develops a steady drip, remove the aerator and move the handle through all positions several times. If sediment was the culprit, this should clear it. In general, a ceramic-disk faucet is not a good choice if you experience sediment problems with your water supply, especially if they are so severe that you require a filter.

Fixing a Leak in a Ceramic-Disk Faucet

If you have a newer-style ceramic-disk faucet and you can't seem to clear the sediment by rotating the handle, you'll need to check the cartridge. Shut off the water, tip back the handle, and loosen the setscrew. Remove the handle, and lift off

the decorative cartridge cap. Use a small flat-blade screw driver to remove the retaining screws. Then lift the cartridge from the

