

## Install Shutoff Valves on Pipes

- ✧ Many older houses weren't built with shutoff valves connecting the plumbing to their toilets and faucets.
- ✧ Shutoff valves are extremely useful when making repairs or redecorating these fixtures because they allow you to shut off the water to a specific fixture instead of to your whole house.
- ✧ They're extremely easy to install, so it's an easy addition to the repairs you may already be making on the fixture.
- ✧ The follow instructions are for copper supply pipes that lead to your toilets and sinks.

### Checklist:

- Adjustable wrench
- Hacksaw
- Shutoff valve
- Flange (if updating toilet)
- Pipe joint compound
- Tubing bender (if not using a flexible supply tube)
- Supply tube
- Felt tip pen
- Tubing cutter
- Coupling nut (only if it doesn't come with the supply tube)

### One: Prepare your pipe for the valve.

- Turn off your water at the main shutoff valve, which should be located by the water meter.
- Open the faucet to release the pressure of the water that is still sitting in the pipes.
- Undo the coupling nut holding the pipe to the tailpiece of the fixture.
  - There may be another nut at the other end holding the copper supply pipe in place. If this is the case, remove it as well.
- The two pipes may be soldered together.
  - If so, use the hacksaw and cut just below the soldered area.
- Remove the old pipe.
- In some homes, the fixture has a stub-out.
  - This is basically a small piece of pipe sticking out of the wall.
- If your fixture has these, all you have to do is remove the cap.

### Two: Attach shut off valve.

- If you're working with a stub-out, place the flange onto the pipe.

- This will cover the hole in the floor or the wall, depending on where the pipe comes out.
- Put the compression nut onto the pipe so with the threads facing toward the end of the pipe.
- Place the compression ring onto the pipe.
- Put pipe joint compound on the compression ring.
- Position the shutoff valve into place, and shove onto the pipe.
- Slide the compression ring and nut down to the shutoff valve.
- Hand-tighten the nut.

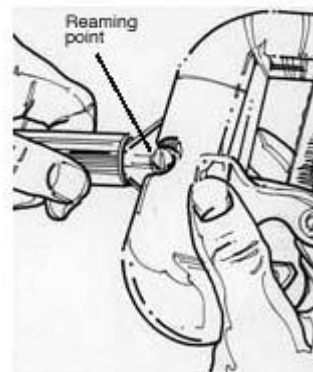
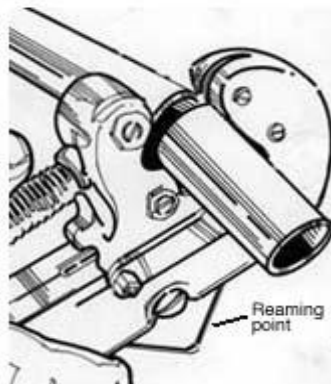
### Three: Measure supply tube.

- Using the tubing bender, bend the new supply tube so that it goes from the fixture to the shutoff valve.
  - The wider end of the tube is the end that gets secured to the fixture.
- Hold the tube to the fixture so that you can measure the length of the tube you need.
- Mark the tube with your felt tip pen.
- The mark should be at the bottom of the socket of the shutoff valve.



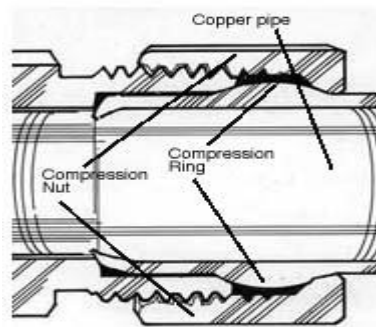
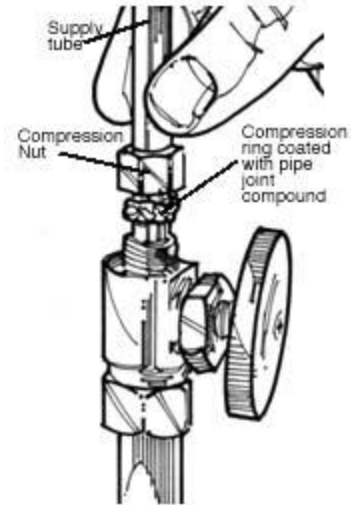
### Four: Cut supply tube.

- Using the tube cutter cut the tube.
- Position the tube so that the cutting wheel is on the line you marked.
- Tighten the handle until the tube is held securely and it rests on the two rollers.
- Turn the cutter once, all the way around, to score it.
- Turn the cutter in the opposite direction, tightening the handle after every two rotations, until the tube is cut.
- Use the reaming point on the cutter to smooth the inside of the pipe.



**Five: Attach supply tube.**

- Using the coupling nut, secure the tube.
- Put a compression nut, with the threads facing down toward the shutoff valve followed by a compression ring onto the other end of the tube.
- Use joint compound to coat the compression ring.
- Put the tube into the shutoff valve until it's at the bottom of the socket.
- Slide the nut and the ring down to the shutoff valve.
- Hand-tighten the nut.



**Six: Test the valve.**

- Use the adjustable wrench to tighten all the nuts.



**Don't tighten the nuts too much. Tighten them until they are just snug.**

**Seven: Turn water back on.**

- Turn the water back on.
- If there is any leaking, tighten the nuts slightly.