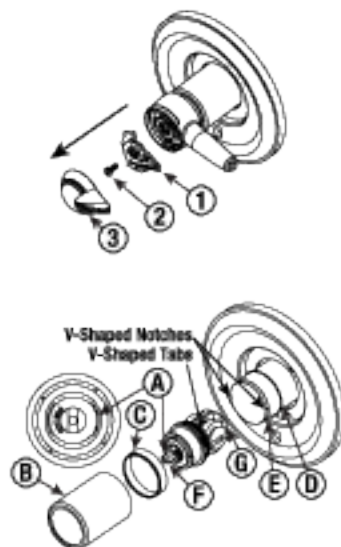




Instructions for Delta® 17 Series Cartridge for Tub/Shower Faucets

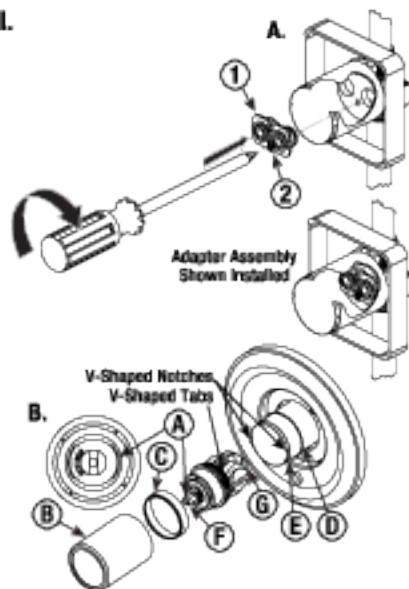
I.



I. Disassembly and Removal of Old Cartridge (See figures above)

1. Read all instructions completely and familiarize yourself with the illustrations before beginning.
WARNING! SHUT OFF WATER SUPPLIES BEFORE DISASSEMBLING ANYTHING.
2. Carefully pry off temperature control cover (3), remove handle screw (2), temperature control knob (1) and handle.
3. **CAUTION!** Note the position of the lettering labeled "HOT SIDE" (A). The cartridge must always be put back in the same position. The "HOT SIDE" lettering MUST be located on the hot water inlet side so the cold water will flow first. For normal installations, the hot side will be on the left.
4. Pull outside sleeve (B) off. Then slide or roll the sleeve O-ring (D) towards you until it slips at the raised brass section (E) on the tub/shower valve body. **DO NOT PULL THE SLEEVE O-RING OVER THE RAISED BRASS SECTION.** NOTE: When the sleeve is reinstalled, it will slide on this O-ring. **MAKE SURE WATER SUPPLIES ARE SHUT OFF!**
5. Unscrew brass bonnet nut (C).
6. **CAUTION!** Note the position of the hot side of the cartridge labeled "HOT SIDE". Gently grasp the valve stem (F) with pliers to remove.
7. **CAUTION!** Do not twist the Cap or Lower Housing of the New Cartridge to take it apart. If they are separated for any reason, be sure they are locked back together by twisting them until they snap back together.
WARNING! NEVER TAKE THE LOWER HOUSING APART OR REMOVE THE VOLUME PLATE (G).

II.



II. Installation of New Cartridge (See figures above)

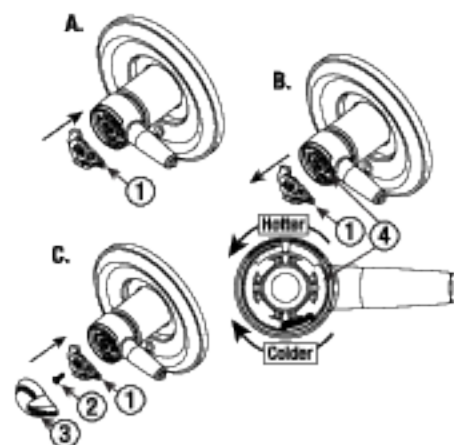
A. INSTALLATION OF ADAPTER ASSEMBLY (See figures above)

1. Insert Adapter Assembly (1) into valve body. Make sure the Adapter Assembly is correctly positioned and is pressed all the way down inside body.
2. Secure adapter with the screw (2) provided in the adapter assembly.

B. INSTALLATION OF CARTRIDGE (See figures above)

1. Rotate cartridge so the words "HOT SIDE" (A) appear on the left.
2. Insert cartridge assembly into valve body. Make sure the V-shaped tabs on the cartridge are fully engaged with the V-shaped notches in the brass body.
3. Slide bonnet nut (C) over the cartridge and thread onto the body clockwise. Hand tighten securely.
4. Reinstall outside sleeve (B) over the valve body and O-ring (D).
5. With the cartridge in the "off" position ("hot side" of black gear up (Illustration I, A)), install volume control handle.
6. See STEP IV INSTALLATION AND ADJUSTMENT OF ROTATIONAL LIMIT STOP INSTRUCTIONS.

III.



III. Installation and Adjustment of Rotational Limit Stop Instructions (See figures above)

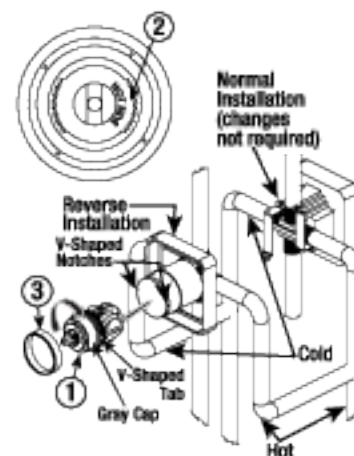
- A. Place the temperature control knob (1) on the volume handle and rotate to the mixed position (B) if required. **DO NOT SECURE SCREW.** Turn on water supplies; let water run until hot and cold water is as hot/cold as possible. Place thermometer in a plastic tumbler and hold the tumbler in the water stream. Record the temperature reading.

- B. If the water temperature is above 120° F, remove the temperature control knob (1) and rotate the limit stop (4) clockwise one tooth for every 4° F - 6° F (approximate) change in temperature. If water temperature is cooler than desired, rotate the limit stop counter-clockwise.

IMPORTANT! The first position of the Rotational Limit Stop (the limited) is that position that restricts the rotation of the stem the most and is at the maximum clockwise setting. According to industry standards, the maximum allowable temperature of the water exiting from the valve is 120° F. This temperature may vary in your local area. The Rotational Limit Stop may need to be readjusted if the inlet water temperature changes. For instance, during the winter, the cold water temperature is colder than it is during the summer which could result in varying outlet temperatures. Typical temperature for a comfortable bath or shower is between 90° F - 110° F.

- C. Secure temperature control knob (1) with screw (2) and snap control cover (3) onto knob. **NOTE:** Secure screw until handle wobble is reduced, **DO NOT FULLY TIGHTEN.** Overtightening will result in difficulty operating temperature control knob. Screw is self-locking.

IV.



IV. Back-to-Back Installation or Reverse Installations (Hot on Right and Cold on Left) (See figures above)

1. Rotate cartridge (1) so the words "HOT SIDE" (2) appear on the right.
2. Install the cartridge making sure that the V-shaped notches are fully engaged with the V-shaped slots in the brass body.
3. Slide bonnet nut (3) over the cartridge and thread onto the body clockwise. Hand tighten securely.
4. Reinstall outside sleeve (B) over the valve body and O-ring (D) from Section II, B.
5. With the cartridge in the "off" position ("hot side" of black gear up (Illustration I, A)), install volume control handle.
6. See STEP IV INSTALLATION AND ADJUSTMENT OF ROTATIONAL LIMIT STOP INSTRUCTIONS.