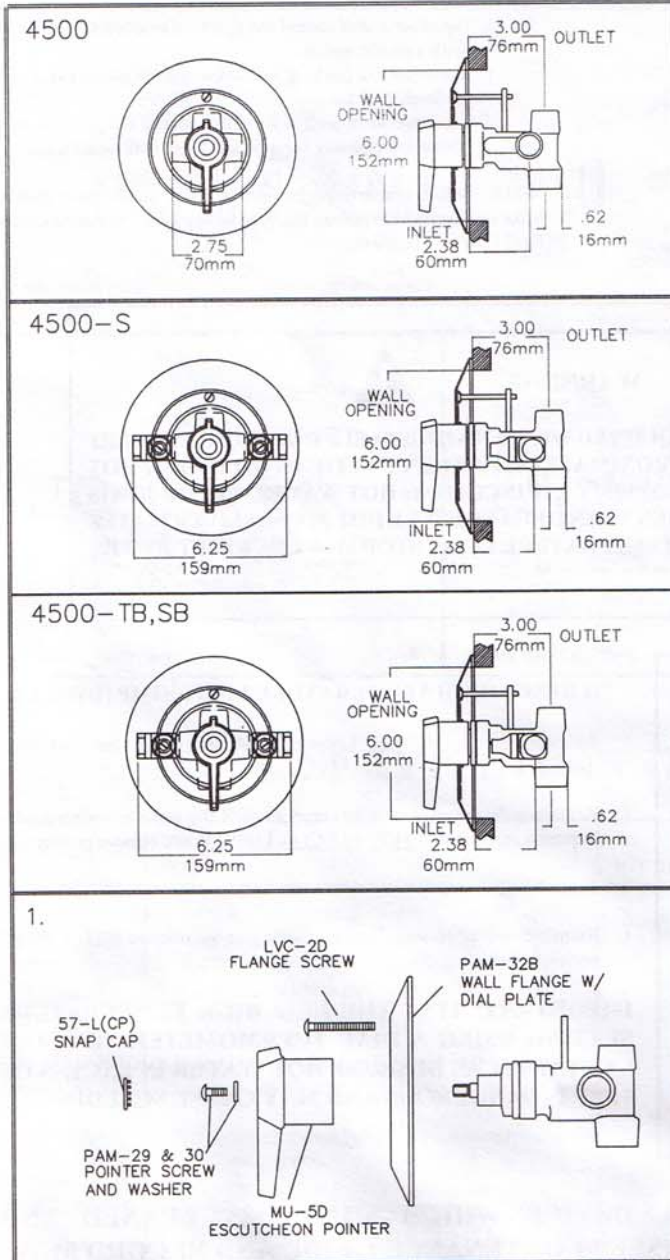


# AQUATROL®4500



## PRESSURE ACTUATED MIXING VALVES (1/2")

# INSTALLATION INSTRUCTIONS

Serial No. 4500 00001 and higher



1. Valve must **NOT** be sealed in wall with plaster or tile. Cover screws and inlet fittings **MUST** be accessible for servicing.
2. It is recommended that the valve is furnished with inlet stops or checkstops on each supply. Type F, and SB checkstops should be disassembled before soldering to prevent damage to packing.
3. Install hot to left inlet and cold to right inlet (see H and C marks on valve body).
4. Pipe cement, or solder flux must be used sparingly. After connections are made to the valve, flush pipes thoroughly (remove internal parts if necessary) to eliminate dirt and excess materials which might become lodged on the working parts of the valve.
5. Attach protective cover which serves as a guide for the finish wall line after piping connections are made.
6. **IMPORTANT!** The AQUATROL® valve is designed for top and bottom outlet. When used for showers, the top outlet only is used and the pipe plug is left in the bottom outlet. When used for shower AND tub, remove the pipe plug from the bottom outlet and pipe down to a diverter tub spout. No special elbow is required, (see installation drawings, page 4).
7. After the valve is installed as noted above, recheck and reset the adjustable high temperature limit stop (see instructions, page 3)


WARNING


WARNING! THIS MIXING VALVE IS EQUIPPED WITH AN ADJUSTABLE HIGH TEMPERATURE LIMIT STOP FACTORY SET AT APPROXIMATELY 110°F(43°C) WITH AN INCOMING HOT WATER SUPPLY TEMPERATURE OF 135°F(57°C) IF INCOMING HOT WATER ON THE JOB IS HIGHER THAN 135°F, THE VALVE WHEN TURNED TO FULL HOT MAY DELIVER WATER IN EXCESS OF 110°F, AND THE HIGH TEMPERATURE LIMIT STOP MUST BE RESET BY THE INSTALLER (SEE PAGE 2)

8. Mount the wall flange to the valve body, using the LVC-2D wall flange screw.
9. Attach the pointer to the valve stem (using the pointer screw and washer), and insert snap cap. The top (short) end of the pointer should point to "OFF" on the dial plate.

WARNING! HOT WATER IN EXCESS OF 110°F IS DANGEROUS AND MAY CAUSE SCALDING!

## OPERATION

The AQUATROL®4500 is a pressure-actuated water mixing valve which will compensate for changes in the pressure of hot and cold supplies and maintain bathing temperatures. The easy to read dial with directional indicators helps to eliminate confusion as to where the handle should be located for a particular temperature. Turn the handle counter-clockwise from the "OFF" position through the BLUE (or COLD) area on the dial plate, the shower is on and temperature is cold. As the handle enters the lighter RED area, shower temperature becomes progressively WARMER until the high temperature limit is reached in the full RED (or HOT) position. To turn OFF move handle back in clockwise direction to the "OFF" position.



## SERVICING INSTRUCTIONS

1. Remove escutcheon pointer (MU-5D) and wall flange (PAM-32B)(See DWG 1).
2. Turn off hot and cold supplies.
3. Temporarily place escutcheon pointer on spline and turn LEFT to maximum "HOT" position. Unscrew cover and remove complete interior assembly (See DWG 4).
4. If valve will not shut off (ie. it drips), replace PV-8-1 upper packing, PV-2 lower packing, and inspect upper and lower valve seats in PV-3 sleeve (DWG 5).
5. If valve will not mix properly, piston in PV-CR-2 control rod group may be sticking due to some deposit of foreign matter (DWG 5). To free piston:
  - a. Tap either end of control rod against a wooden surface or hit with a plastic mallet.
  - b. Remove PV-2 packing and screw and tap piston loose with a small drift pin.
  - c. Submerge lower end of PV-CR-2 control rod group in non-corrosive cleaning solution and flush with clean water.

NOTE: Before reinserting assembly in valve (with cover gasket) make sure escutcheon pointer has been turned LEFT to the maximum RED ("HOT") position.

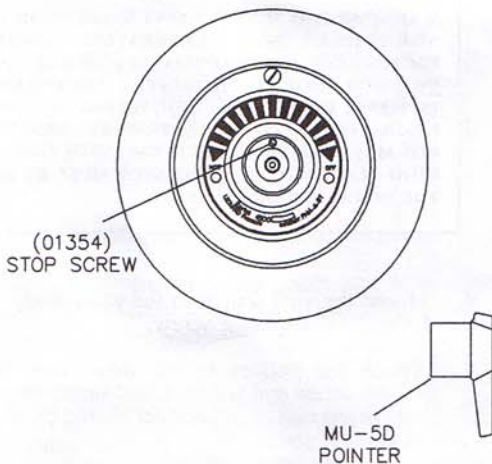


### WARNING



**WARNING! THIS MIXING VALVE IS EQUIPPED WITH AN ADJUSTABLE HIGH TEMPERATURE LIMIT STOP FACTORY SET AT APPROXIMATELY 110°F(43°C) WITH AN INCOMING HOT WATER SUPPLY TEMPERATURE OF 135°F(57°C). IF INCOMING HOT WATER ON THE JOB IS HIGHER THAN 135°F, THE VALVE WHEN TURNED TO THE FULL HOT MAY DELIVER WATER IN EXCESS OF 110°F, AND THE HIGH TEMPERATURE LIMIT STOP MUST BE RESET BY THE INSTALLER. (SEE BELOW)**

2.

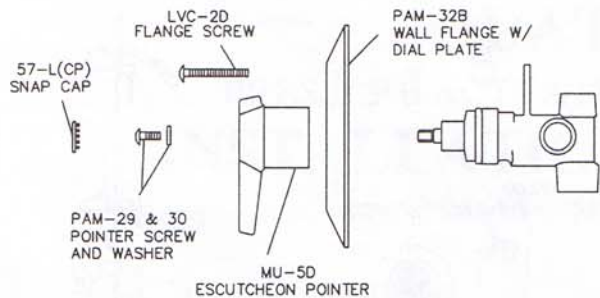


### TO RESET HIGH TEMPERATURE LIMIT STOP (DWG 2.):

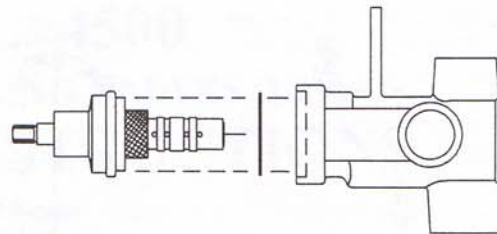
1. Remove pointer (MU-5D). Loosen 01354 stop screw but DO NOT REMOVE.
2. Replace pointer and turn to left or right until the valve is delivering the highest temperature of 110°F (43°C) or LOWER and remove pointer.
3. Tighten 01354 Stop Screw.
4. Reinstall pointer so small end is pointing to the extreme RED ("HOT") position, shut valve off.

**IMPORTANT! TEST THE NEW HIGH TEMPERATURE SETTING USING A DIAL THERMOMETER TO MAKE CERTAIN IT AS DESIRED. HOT WATER IN EXCESS OF 110°F IS DANGEROUS AND MAY CAUSE SCALDING!!**

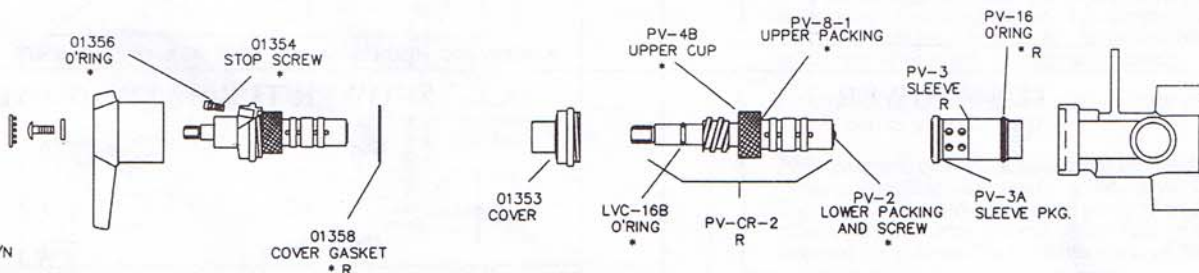
**REMEMBER!! THIS IS A CONTROL DEVICE WHICH MUST BE CLEANED AND MAINTAINED ON A REGULAR BASIS (SEE MAINTENANCE GUIDE AND RECORD MGR-1000).**



3.

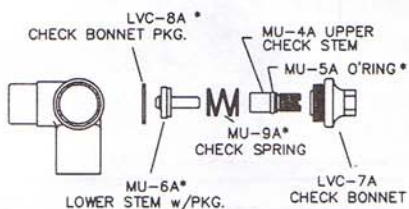


4.



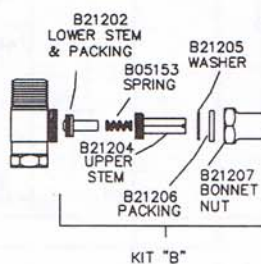
5.

\*= KIT 1/ST/N  
R= KIT R/67



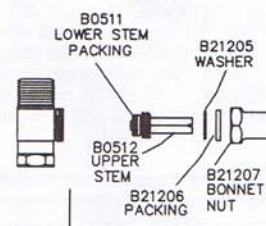
\*= KIT 4/LVC  
F CHECKSTOPS

6.



KIT "B"  
SB, TB CHECKSTOPS

7.



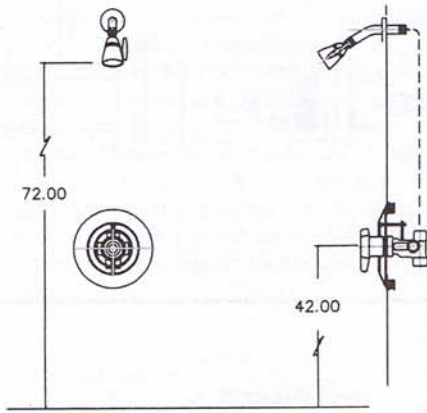
KIT "C"  
S STOPS

8.

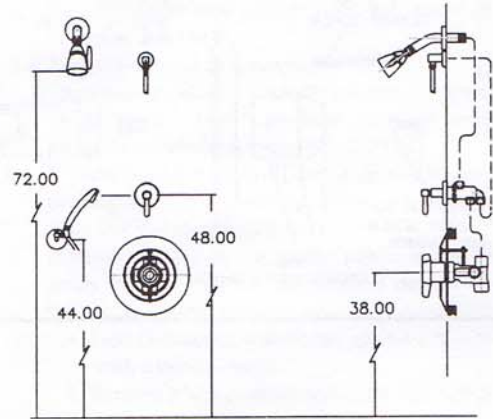
## SERVICING INSTRUCTIONS

	SYMPTOM:	KIT REQUIRED:	PARTS INCLUDED:
PACKINGS & O'RINGS	<ol style="list-style-type: none"> <li>1. Leak at handle.</li> <li>2. Valve will not shut off completely.</li> <li>3. Valve is difficult to pull apart.</li> <li>4. Leak at stop screw.</li> </ol>	Kit 1/ST/N	PV-2, PV-4B, PV-8-1, LVC-16B, 01358, 01356, PV-16
CONTROL ROD GROUP	<ol style="list-style-type: none"> <li>5. Valve delivers either all hot or all cold water, or will not mix consistently.</li> </ol>	Kit R/67	01358, PV-CR-2, PV-3, PV-16
INSERTED SEAT	<ol style="list-style-type: none"> <li>6. After replacing packings and O-rings, valve will not shut off completely.</li> </ol>		PV-3, PV-3A, PV-16
CHECKSTOPS, STOPS	<ol style="list-style-type: none"> <li>7. Supplies cannot be shut off completely.</li> <li>8. Leak at checkstop (or stop) bonnet or stem.</li> </ol>		SEE DWG #6,7, or 8 ABOVE FOR REPAIR KITS

### SHOWER

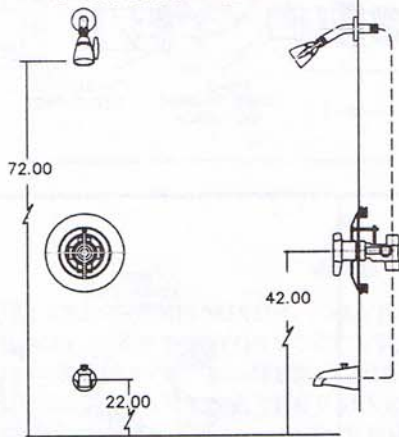


### SHOWER/HAND SHOWER \*

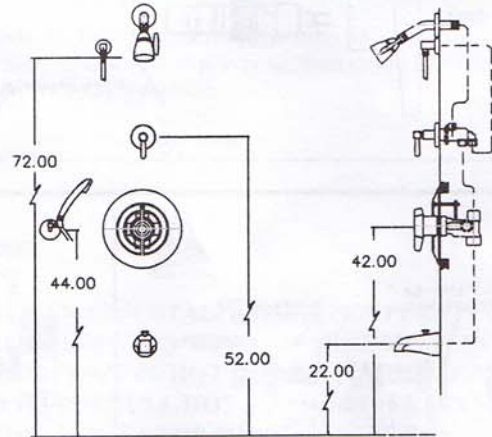


\* MOUNTING HEIGHTS SHOWN MEET ADA REQUIREMENTS

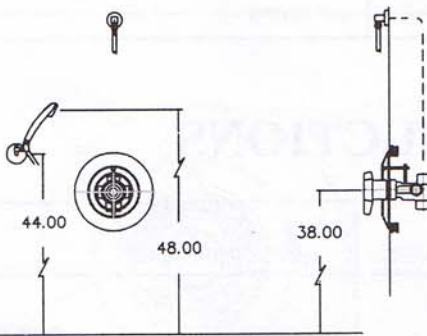
### TUB/SHOWER



### SHOWER/TUB/HAND SHOWER

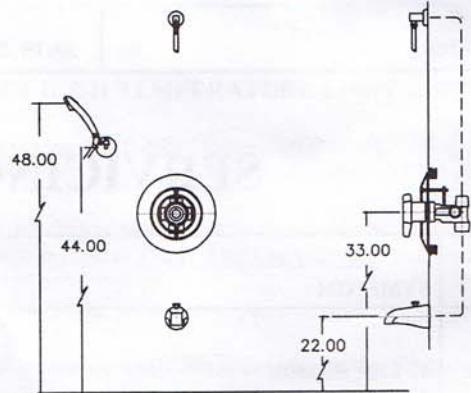


### HAND SHOWER \*



\* MOUNTING HEIGHTS SHOWN MEET ADA REQUIREMENTS

### TUB/HAND SHOWER



### LIMITED WARRANTY

Leonard Valve Company warrants the original purchaser that products manufactured by them (not by others) will be free from defects in materials and workmanship under normal conditions of use, when properly installed and maintained in accordance with Leonard Valve Company's instructions, for a period of one year from date of shipment. During this period the Leonard Valve Company will at its option repair or replace any product, or part thereof, which shall be returned, freight prepaid, to the Leonard factory and determined by Leonard to be defective in materials or workmanship. There are no warranties, express or implied, which extend beyond the description contained herein. There are no implied warranties of merchantability or of fitness for a particular purpose. In no event will Leonard be liable for labor or incidental or consequential damages. Any alteration or improper installation or use of the product will void this limited warranty.