

Installation

Thermostatic Mixing Valve for Sinks/Faucets

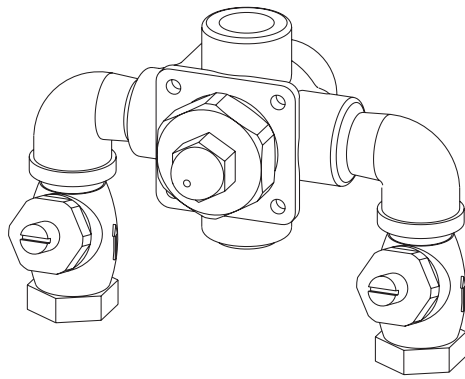
Model S59-2007 (Valve Only)

Model S59-2007RE (Valve with Recess-Mounted Enamel Cabinet)

Model S59-2007SE (Valve with Surface-Mounted Enamel Cabinet)

Model S59-2007RS (Valve with Recess-Mounted Enamel Cabinet)

Model S59-2007SS (Valve with Surface-Mounted Enamel Cabinet)



(Valve Only)

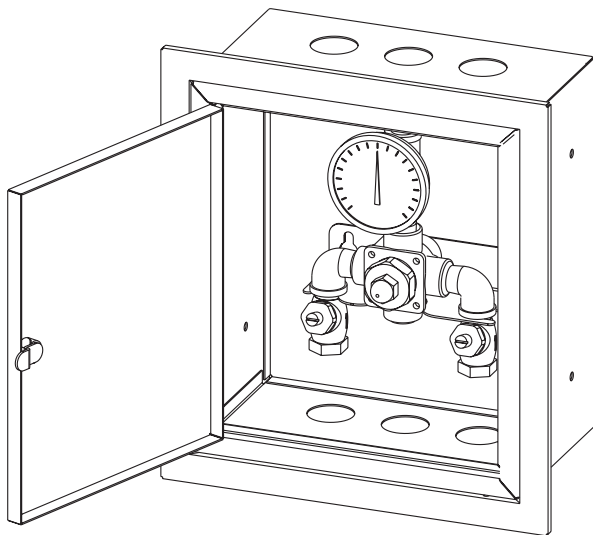


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Inlet Connections: 1/2" NPT

Outlet Connections: 1/2" NPT

Temperature Range: 95–115°F

Maximum Pressure: 125 PSIG

Inlet Temperature, Hot: 120°–180°F

Inlet Temperature, Cold: 33°–80°F

Minimum Temperature Differential
(between hot supply & valve set point): 20°F

⚠ WARNING Installation and final temperature adjustment are the responsibility of the installer.



Read the instructions in this manual before beginning installation. Save these instructions and refer to them for inspection, maintenance and troubleshooting information.

For questions regarding the operation, installation or maintenance of this product, visit bradleycorp.com or call 800.BRADLEY (800.272.3539).

Product warranties and parts information may also be found under "Resources" on our website at bradleycorp.com.

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Safety Information

To ensure proper operation:

Installation

Failure to comply with proper installation and maintenance instructions could contribute to a valve failure resulting in severe bodily injury including scalding, chilling and/or death depending upon system water pressure changes and/or supply water temperature changes.

Use this thermostatic mixing valve in accordance with ASSE standard 1017 or ASSE standard 1070.

When installed in accordance with ASSE standard 1017, the valve is designed to be installed at or near the boiler or water heater. When installed as an ASSE 1017 valve, the valve does not function as an ASSE 1016, ASSE 1069 or ASSE 1070 valve.

When installed in accordance with ASSE standard 1070, the valve is designed to be installed at fixtures such as sinks, bidets, lavatories and bathtubs. When installed as an ASSE 1070 valve, the valve does not function as an ASSE 1016, ASSE 1017 or ASSE 1069 valve.

This valve should not be used where ASSE standard 1016 and ASSE standard 1069 devices are required.

This valve does not provide protection from pipe freezing.

Installation of this system must be completed by a qualified plumber in compliance with all national and local codes. Compliance and conformity to local codes and ordinances is the responsibility of the installer. Should these codes differ from the information in the manual, follow the local codes. Inquire with governing authorities for additional local requirements.

Inspection

Regular checking and cleaning of the valve's internal components and check stops is necessary for maximum life and proper product function. Periodic inspection and yearly maintenance by a licensed contractor is required. Corrosive water conditions and/or unauthorized adjustments or repairs could render the valve ineffective for its intended service. Frequency of cleaning and inspection depends upon local water conditions.

Output temperature of the valve must be checked and adjusted at initial installation and on a quarterly basis.

Water Temperature

Final temperature adjustment is the responsibility of the installer.

Supplies recommended for installation

- lockable shut-off on the outlet if tempered water is supplied to a remote location
- lockable shut-off on the inlets/supplies
- unions on all connections to facilitate removal of valve
- (6) 3/8" wall anchors and fasteners for surface-mounted cabinet
- (4) 1/4" fasteners (and wall anchors, if necessary) for recess-mounted cabinet

Tools required for temperature adjustment

- 5/32" Allen wrench

Tools required for maintenance/troubleshooting

- 3/4" wrench (for acorn nut removal)
- 15/16" socket wrench and needle-nose pliers (for piston liner removal)
- 1/2" deep well socket wrench (for piston assembly's upper seat removal)

1 Install Optional Cabinet (If not installing cabinet, skip to Step 2)

⚠ WARNING Make sure that all water supply lines have been flushed and then completely turned off before beginning installation. Debris in supply lines can cause valves to malfunction.

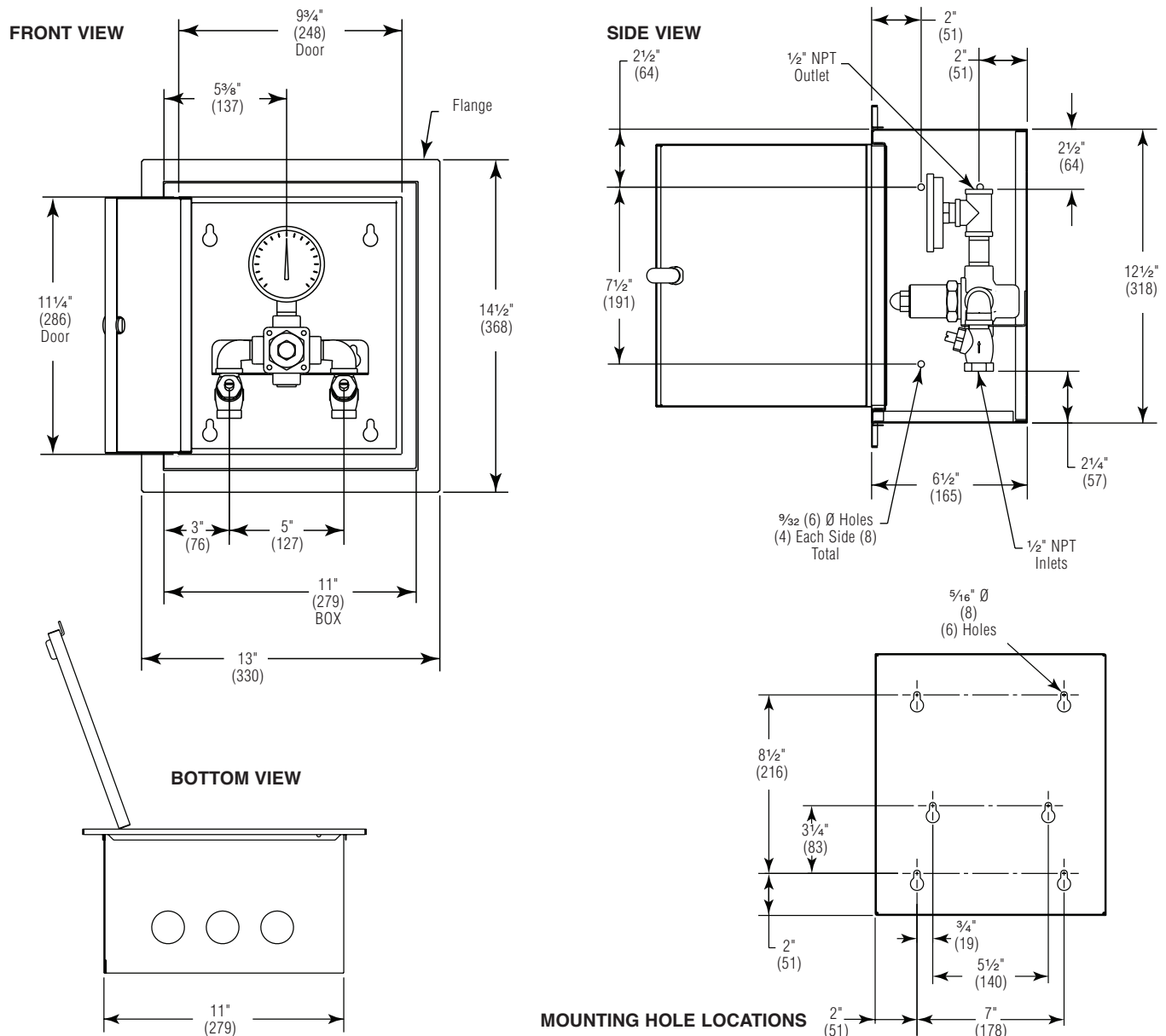
Recessed Cabinet:

1. Rough-in wall opening 11-1/2" W x 13" H.
2. Measure and mark the cabinet mounting hole locations at the dimensions shown. Install four 1/4" wall anchors, if required (supplied by installer).
3. Insert the cabinet into the wall opening and secure into place with four 1/4" wall fasteners (supplied by installer).
4. Insert valve into the bracket in the cabinet (right side of the valve goes in first). Install the valve, elbows and stops onto the inlet and outlet piping.
5. Continue with the valve installation procedure.

Surface-Mounted Cabinet:

1. Measure and mark the cabinet mounting hole locations at the dimensions shown. Install six 1/4" wall anchors (supplied by installer).
2. Position the cabinet onto the wall and secure into place with six 1/4" wall fasteners (supplied by installer).
3. Insert the valve into the bracket in the cabinet (right side of the valve goes in first). Install the valve, elbows and stops onto the inlet and outlet piping.
4. Continue with the valve installation procedure.

Optional Recessed / Surface Mounted Cabinet Dimensions (mm)



2 Connect Supply Lines and Install Thermometer

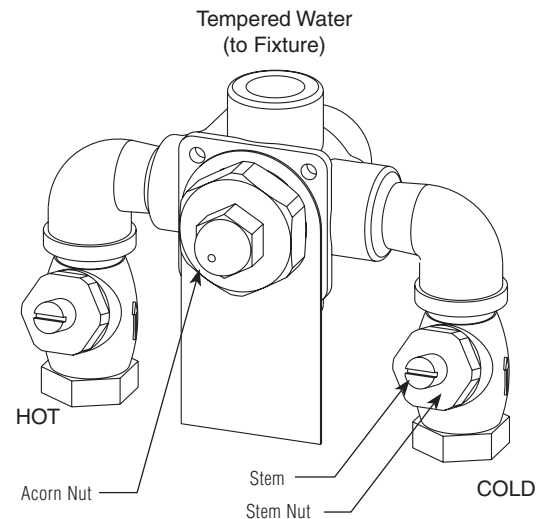


When the stop/check valves are in the closed position, the stem for the stop/check will be 1/4" above the stem nut. When the stop/check valves are in the open position, the stem will extend out approximately 1/2" (13mm) from the stem nut.

1. Flush the supply lines and then completely turn them off before beginning installation.

⚠ WARNING If supply lines are not flushed before beginning installation, debris in supply lines can cause valves to malfunction.

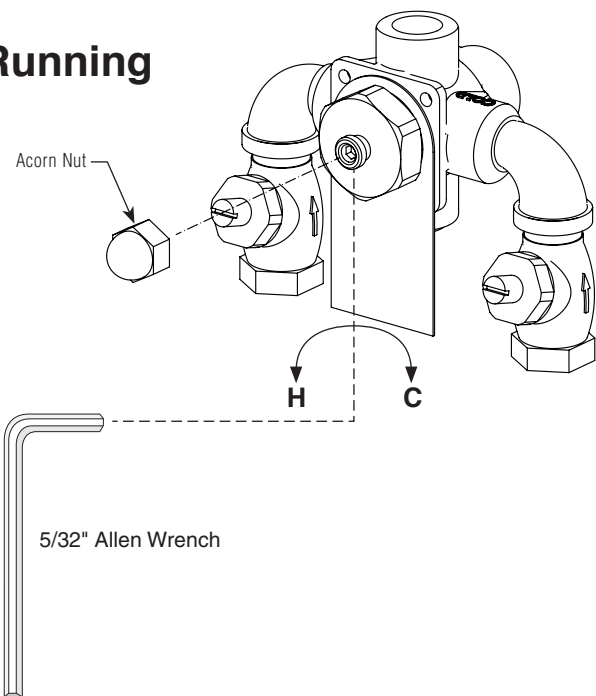
2. Connect the supply lines to hot and cold inlets.
3. Install optional thermometer using pipe sealant or teflon tape.
4. Check for leaks by pressurizing the unit SLOWLY.



3 Adjust Temperature with Water Running

⚠ CAUTION This device must be checked for final temperature and adjusted as necessary. The standard preset factory temperature setting is 105°F (40.5°C). [the range of the valve is 90°F – 120°F (32°C – 49°C)]. Consult proper medical and/or safety authorities for the optimum temperature recommended for your particular application.

1. Check the water temperature when approximately 2-1/4 to 4 GPM water flow is reached (equivalent to one shower).
2. Adjust water temperature accordingly.



4 Test Unit

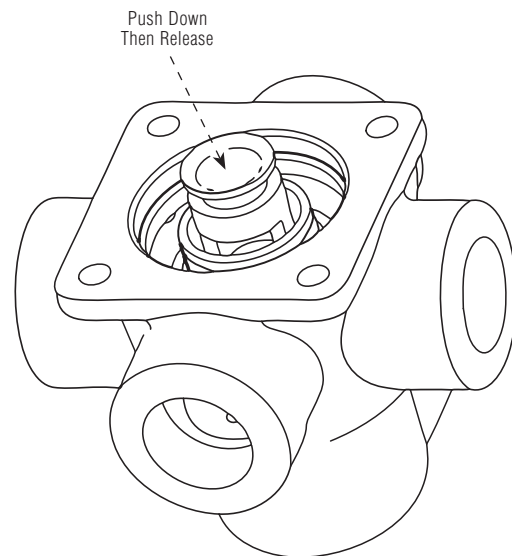
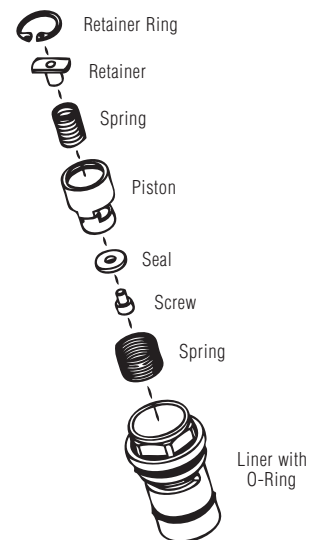
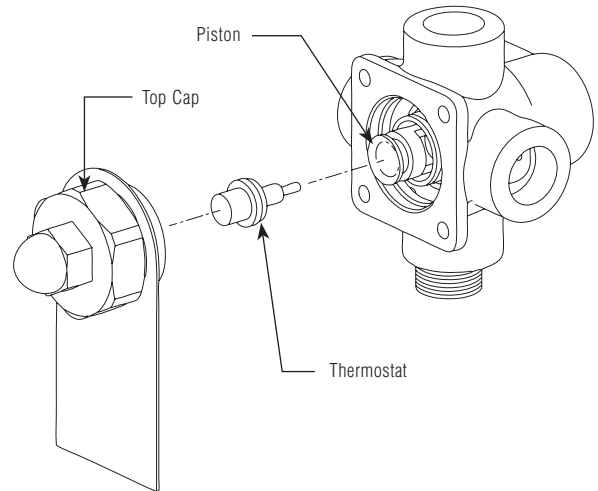


DO NOT SKIP THIS STEP!!!

1. Shut the hot water supply off by closing the hot water inlet valve or supply check valve.
2. While the hot water supply is turned off, check to make sure the cold water is reduced to .5 GPM or less.
3. If the cold water is reduced properly, reopen the hot water supply.
4. Shut the cold water supply off by closing the cold water inlet valve or supply check valve.
5. While the cold water supply is off, check to make sure that the hot water flow has shut down.
6. If hot water is shut down, reopen cold water supply.

Troubleshooting: Piston Disassembly and Cleaning

1. Remove the valve's top cap and thermostat. Push down on the piston with your finger (the piston should move freely). If the movement is not as it should be, the piston and liner assembly needs to be cleaned.
2. Using a 15/16" socket wrench, loosen the piston/liner assembly from the valve body and lift the assembly out with a needle-nose pliers.
3. Disassemble the piston/liner assembly components as shown (use a 1/2" deep well socket to remove the upper seat). Clean with any cleaner suitable for brass and stainless steel.
4. If cleaning with suitable cleaner is not sufficient to remove debris, a 400-grit sand paper may be used to polish and hone the piston and liner.
5. If, after a thorough cleaning, the piston does not move freely, the piston/liner assembly must be replaced. Contact your Bradley representative and ask for Piston/ Liner Kit (part number S65-205).

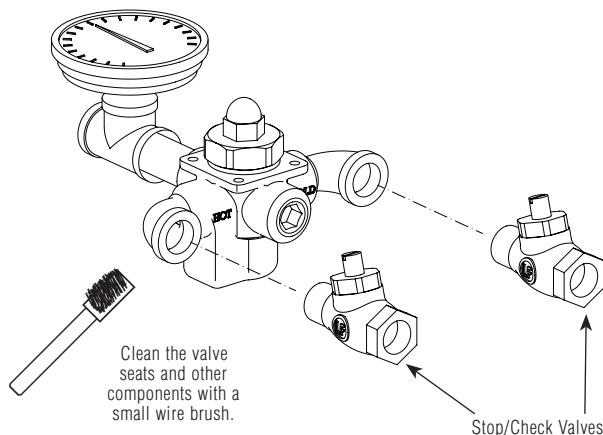


Troubleshooting Thermostatic Mixing Valve

Before attempting to troubleshoot the valve or disassemble the components, check for the following:

- Stop/check valves are fully open (the slotted stem must be flush with the stop/check cap) and that all inlet and outlet shut-off valves are open
- Hot and cold inlet pipes are connected properly, and that there are no cross-connections or leaking stop/check valves
- Water heater output is at least 15° F above the set temperature.

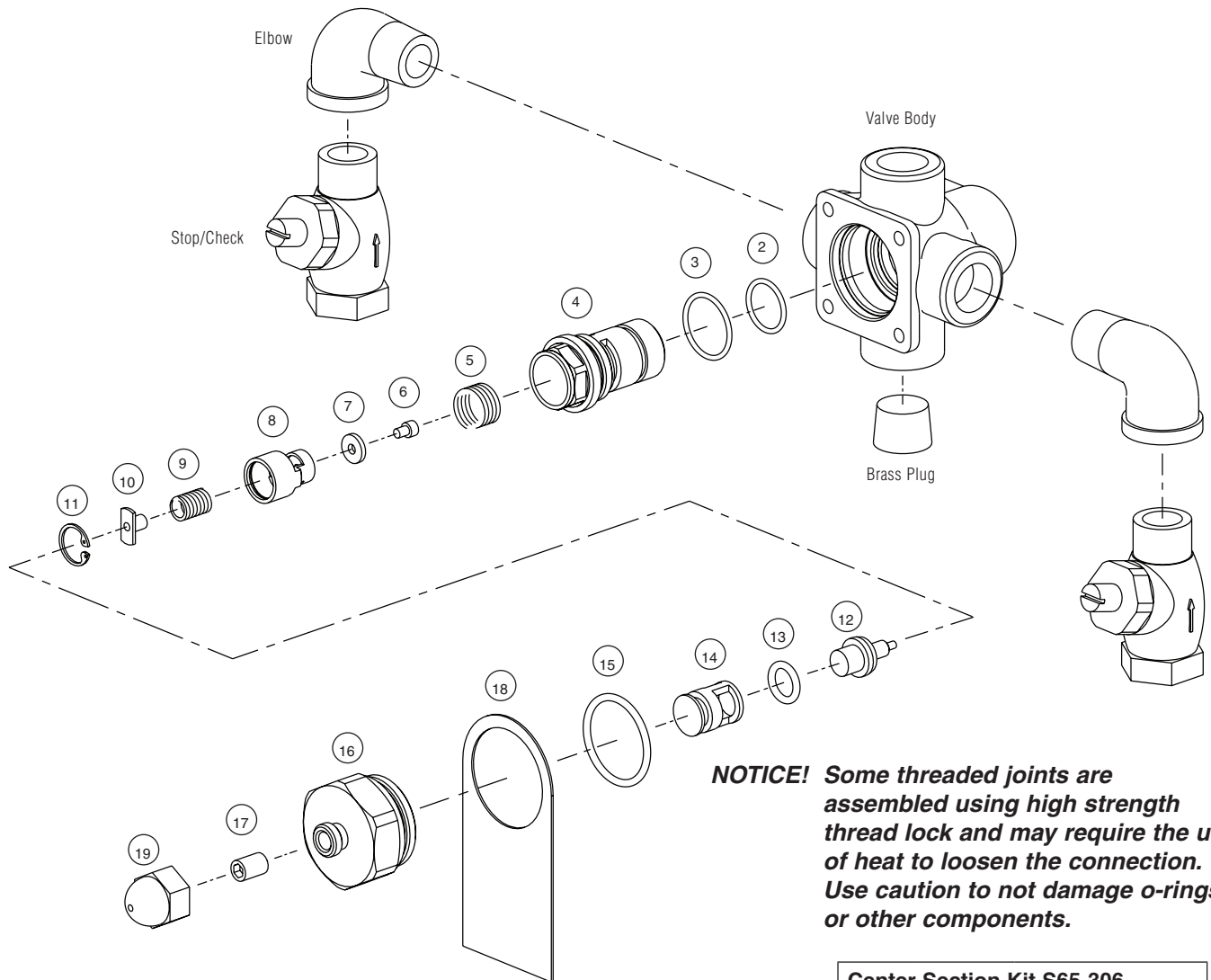
Be sure to close the appropriate shut-off valves prior to disassembly of the valve and reopen the valves after inspection and repair is complete.



Valve appearance may differ slightly.

Problem	Cause	Solution
External leaks in the system	Either the NPT joints or the o-rings have been damaged.	Replace the NPT joints and/or o-rings where necessary. For replacement of o-rings, contact your Bradley representative and ask for O-Ring/Seal Kit (S65-204).
No hot water flow (cold water flow only)	The thermostat has failed and, subsequently, the safety shut-off has engaged (the shut-off valve has closed on either the inlets or outlet).	<p>Check the thermostat for proper operation:</p> <ol style="list-style-type: none"> 1. At room temperature (80° or less), remove the top cap and thermostat. 2. Place the thermostat into a small container filled with 115° water. The pushrod should pop out of the thermostat approximately 1/10". <p>If the thermostat pushrod does not pop out, the thermostat must be replaced (it cannot be repaired). Contact your Bradley representative and ask for Thermostat Kit (Part number S65-417).</p>
Limited water flow	The stop/check sections of the valve do not move freely.	<p>Clean Stop and Check Valves: Remove the stop and checks, clean the seat and reassemble the valve. The stop/checks may also be disassembled and cleaned. The components may be brushed with a small wire brush to remove debris. If the stop/check valves need to be replaced, contact your Bradley representative and ask for Stop/Check Valve (part number S27-102 - Rough Brass, S27-292A - Chrome).</p>
	Dirt and debris have collected on the check screen or seat, limiting the movement of the stop and checks.	
Temperature fluctuation or improper Temperature	Valve temperature is not properly set.	See "Adjusting the Temperature" section.
	Thermostat is slowly failing or not working at all.	Check Thermostat as described above, or replace.
	Inlet supply line to the mixing valve is being shared by other pieces of equipment that are used only periodically, such as laundry appliances or washdown stations. It may reduce the inlet pressure to the mixing valve to less than 3 PSI. The supply line size may not be large enough to supply both the valve and the other appliances.	Enlarge the supply line size, reconfigure the supply line or regulate the supply usage.

Parts Breakdown



Kit numbers for rough brass finish and standard range thermostat. Contact Bradley for other configurations.

Piston and Liner Kit S65-205

Item	Qty.	Description
2	1	O-Ring
3	1	O-Ring
4	1	Liner
5	1	Spring
6	1	Screw
7	1	Seal
8	1	Piston
9	1	Spring
10	1	Retainer
11	1	Retainer Ring

Thermostat Kit S65-417

Item	Qty.	Description
5	1	Spring
6	1	Screw
7	1	Seal
8	1	Piston
9	1	Spring
10	1	Retainer
11	1	Retainer Ring
12	1	Thermostat
13	1	O-Ring

O-Ring and Seal Kit S65-204

Item	Qty.	Description
2	1	O-Ring
3	1	O-Ring
7	1	Seal
13	1	O-Ring
15	1	O-Ring

Center Section Kit S65-306

Item	Qty.	Description
2	1	O-Ring
3	1	O-Ring
4	1	Liner
5	1	Spring
6	1	Screw
7	1	Seal
8	1	Piston
9	1	Spring
10	1	Retainer
11	1	Retainer Ring
12	1	Thermostat
13	1	O-Ring
14	1	Retainer
15	1	O-Ring
16	1	Cap
17	1	Screw
18	1	Tag
19	1	Acorn Nut