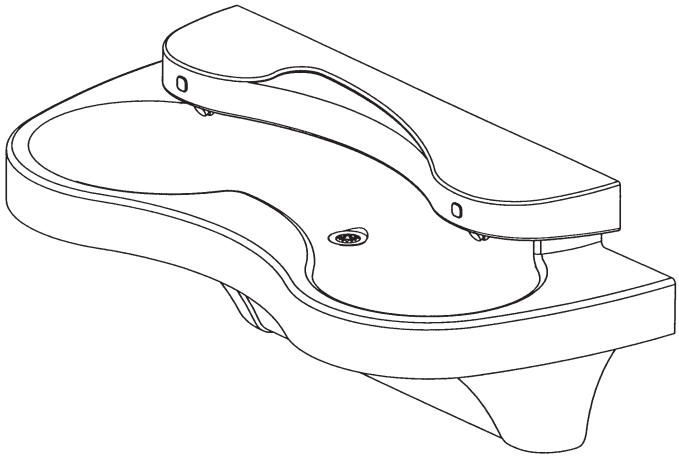
Installation



MG-2 Infrared

Express® Lavatory System - MG Series with Adaptive Infrared

ADA COMPLIANT

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215-1324 Rev. Z; ECO 19-08-003

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Bradley®

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.

Turn OFF electrical power to the electrical outlets, then unplug all electrical units prior to installation. Electrical power MUST remain off until installation is complete. After installation is complete, turn on the water supply first, then turn on the electrical power.

Hardware supplied by installer must be appropriate for wall construction. Wall anchors must have a minimum pull-out rating of 1,000 lbs. Follow appropriate dimensions for standard or juvenile height based on configuration and required rim height. Overtightening fasteners can damage the Terreon® material. Use caution when tightening bowl and sprayhead fasteners.

IMPORTANT

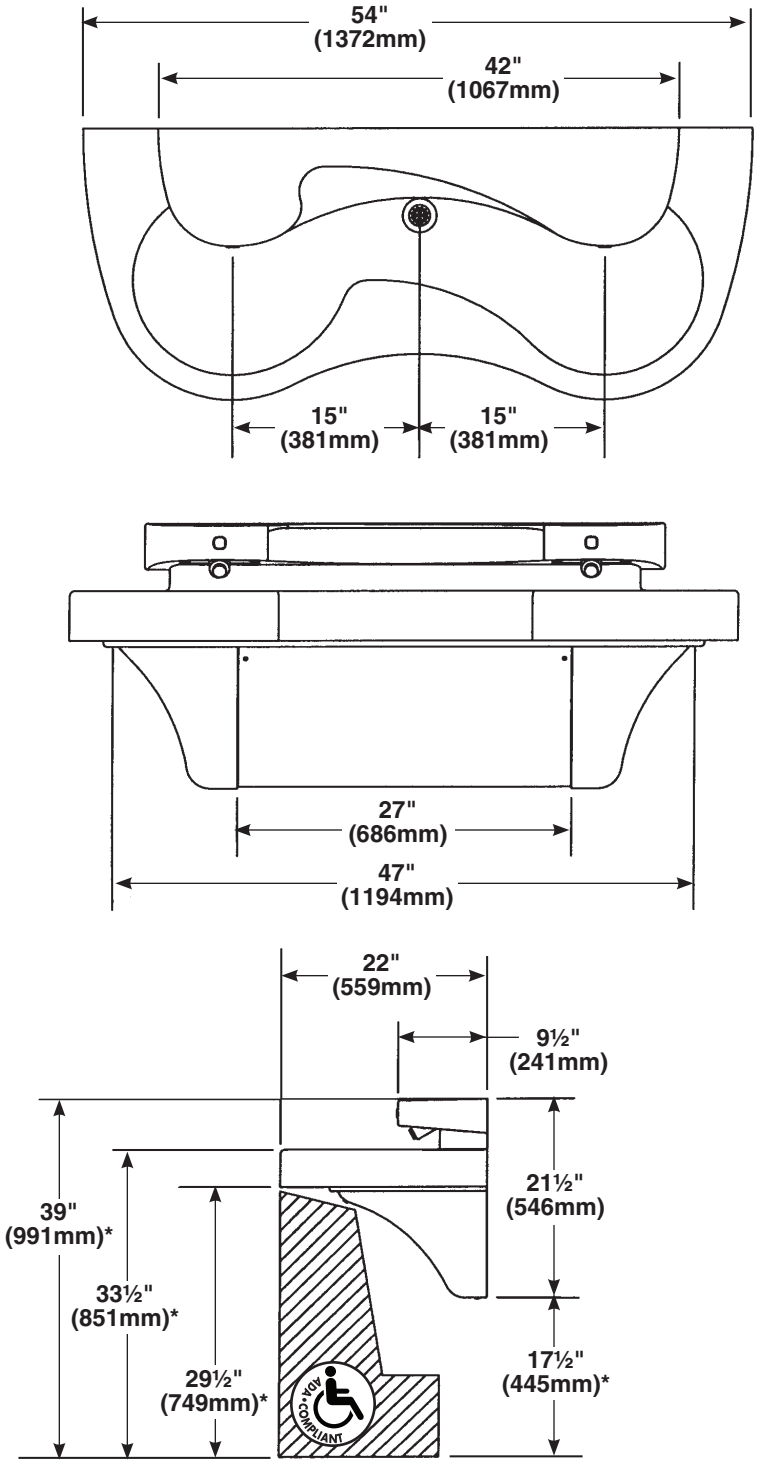
Read this entire installation manual to ensure proper installation. For optional soap dispenser, refer to installation instructions for Express Lavatory System MG-Series document 215-1585. When finished with the installation, file this manual with the owner or maintenance department. Compliance and conformity to local codes and ordinances is the responsibility of the installer. Product warranties may be found under "Products" on our Web site at www.bradleycorp.com.

Separate parts from packaging and make sure all parts are accounted for before discarding any packaging material. If any parts are missing, do not begin installation until you obtain the missing parts.

Supplies Required

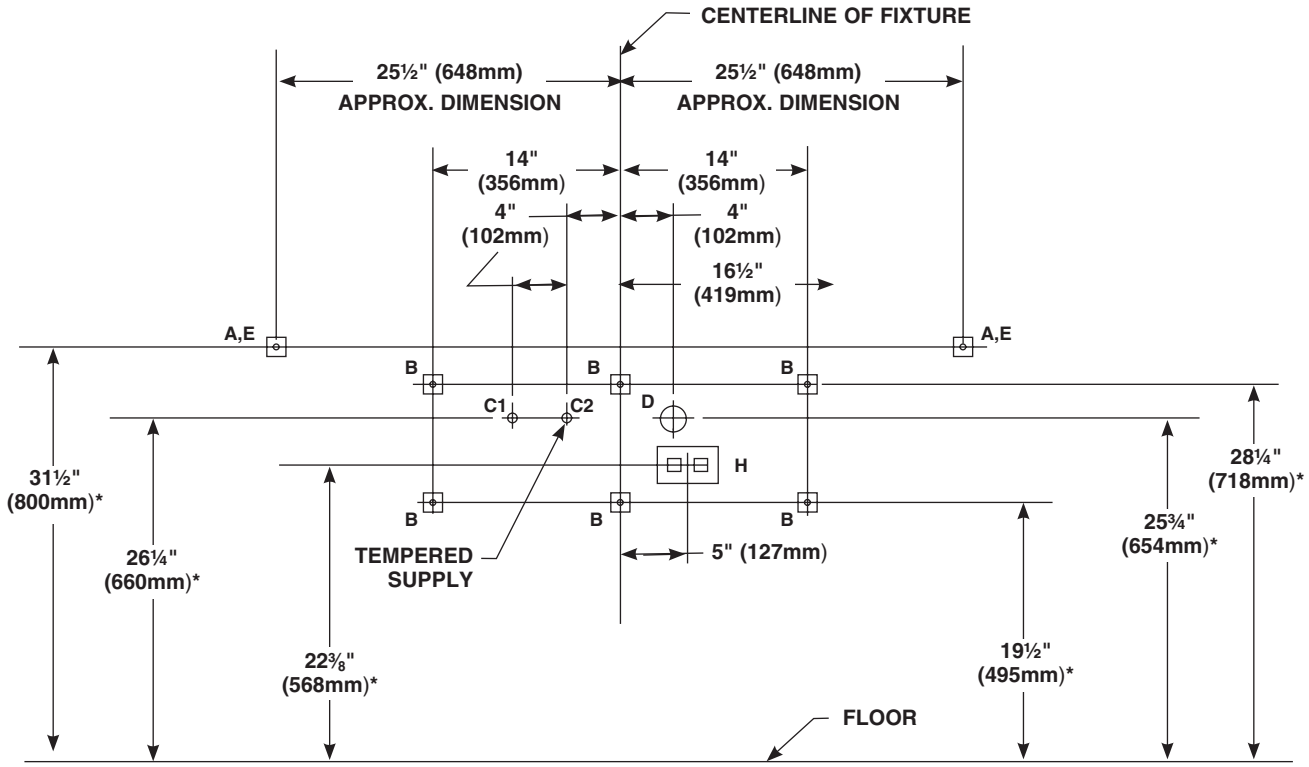
- (8) 3/8" wall anchors, bolts and 1" min. O.D. washers to mount main frame and bowl to wall (minimum pull-out rating of 1,000 lbs.)
- 1/2" nominal copper tubing for hot and cold supplies and 1-1/2" NPT drain piping
- 120V/220V 50/60 Hz power source using Bradley supplied 120VAC/12V DC plug-in adapter

Dimensions



* Subtract 4" from all vertical dimensions for Juvenile Height Mounting.
Subtract 3½" from all vertical dimensions for TAS Juvenile Height Mounting (grades Pre-K through 5 or 6).
Subtract 1½" from all vertical dimensions for TAS Juvenile Height Mounting (grades 6 through 8 or 9).

1 Rough-Ins



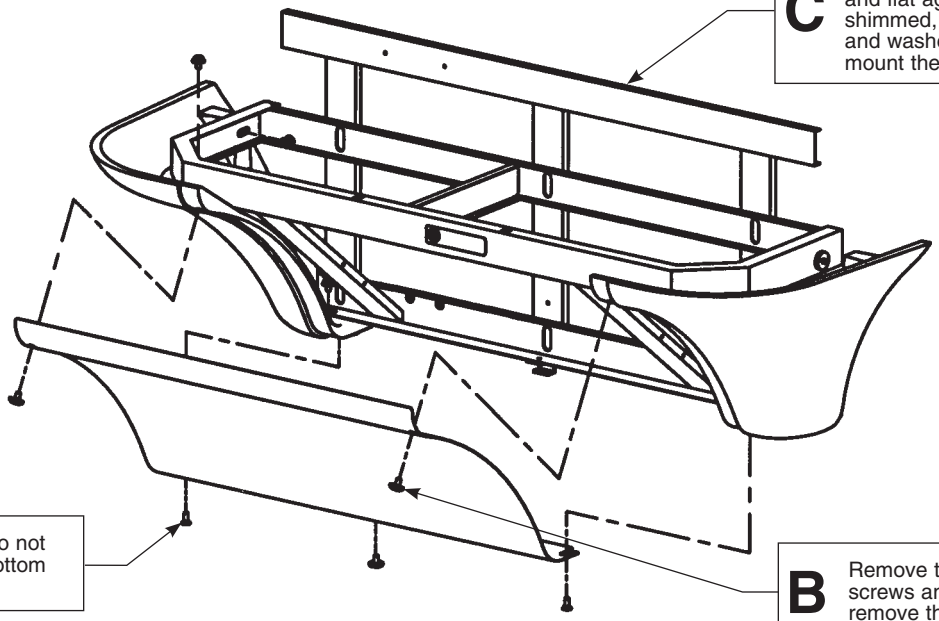
CODE	DESCRIPTION	QTY.
A	3/8" Wall Anchors with a minimum pull-out force of 1,000 lbs. for Bowl	2
B	3/8" Wall Anchors with a minimum pull-out force of 1,000 lbs. for Main Frame	6
C1	½" Nominal Copper Tubing Hot Supply, stub out 2" from wall	1
C2	½" Nominal Copper Tubing Cold or Tempered Supply, stub out 2" from wall	1
D	1-1/2" NPT Drain, stub out 2" from wall	2
E	On the bowl back, measure the distance between the ¾" bowl mounting holes. Divide this measurement in half. Measure and mark this dimension on the wall to the left and the right of the centerline. Install two 3/8" wall anchors with a minimum pull-out rating of 1,000 lbs. (supplied by installer) at locations marked.	2
H	110V GFCI Protected Electrical Outlet	1

Rim Height	* Vertical Height Adjustments	Fixture Style
33½"	None	Standard Height
32"	Subtract 1½"	TAS, Grades 6 through 8 or 9
29½"	Subtract 4"	Juvenile Height
30"	Subtract 3½"	TAS, Pre-K through 5 or 6

The Express® Lavatory System with Adaptive Infrared (model MG-2 Infrared) must have a rim height no higher than 34" above finished floor to be compliant with Americans with Disabilities Act (ADA). When mounted at 33½" rim height, the MG-2 Infrared Express® meets ADA, ANSI and UFAS requirements for barrier-free clearances, reaches and controls. Always check local codes and ordinances for compliance.

2 Mount the Frame

Anchoring the frame to a wall that is not flat may cause the frame to bend, making it difficult to reinstall the access panels. If necessary, use shims to compensate for wall distortion.

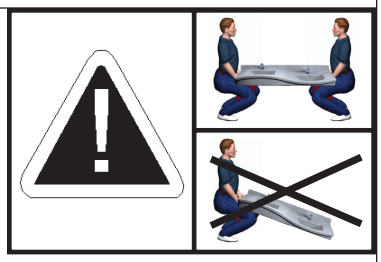


C Once you have positioned the frame such that it is level and flat against the wall or shimmed, use the 3/8" bolts and washers (6 places) to mount the frame to the wall.

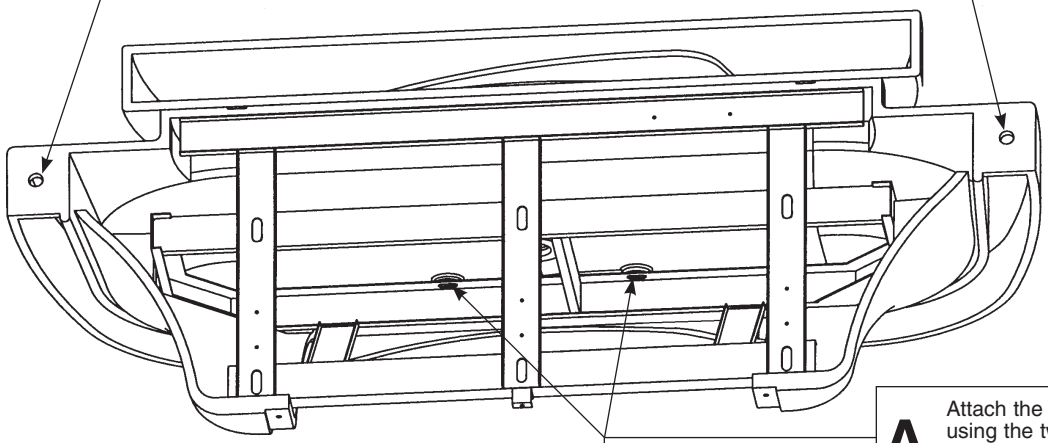
A Loosen, but do not remove the bottom panel screws.

B Remove the top access panel screws and washers and remove the access panel.

3 Install the Bowl



If the fixture has a soap option, refer to the soap system installation manual (215-1585) before installing the bowl assembly.



B Secure the bowl to the wall anchors with two 3/8" bolts and washers. Do not overtighten bolts.

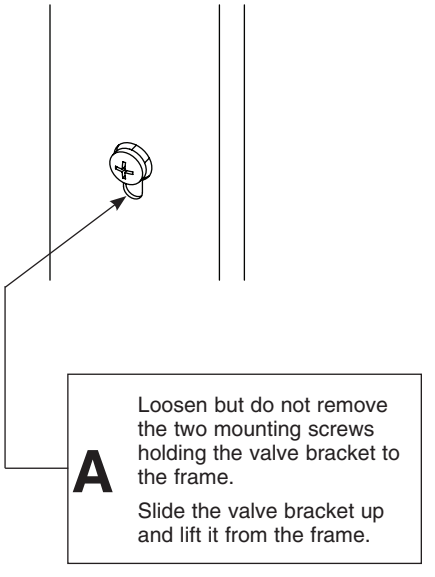
A Attach the front of the bowl to the frame using the two ¼-20 x ½" pan-head screws and washers provided. Do not tighten screws at this time.

C Tighten the screws to secure the bowl assembly to the frame. Do not overtighten.

If necessary, adjust sprayhead body to fit closely to the wall by adjusting the sprayhead mounting bolts. Refer to the components illustration for bolt locations.

4a Connect the Supply - Hot and Cold Supply

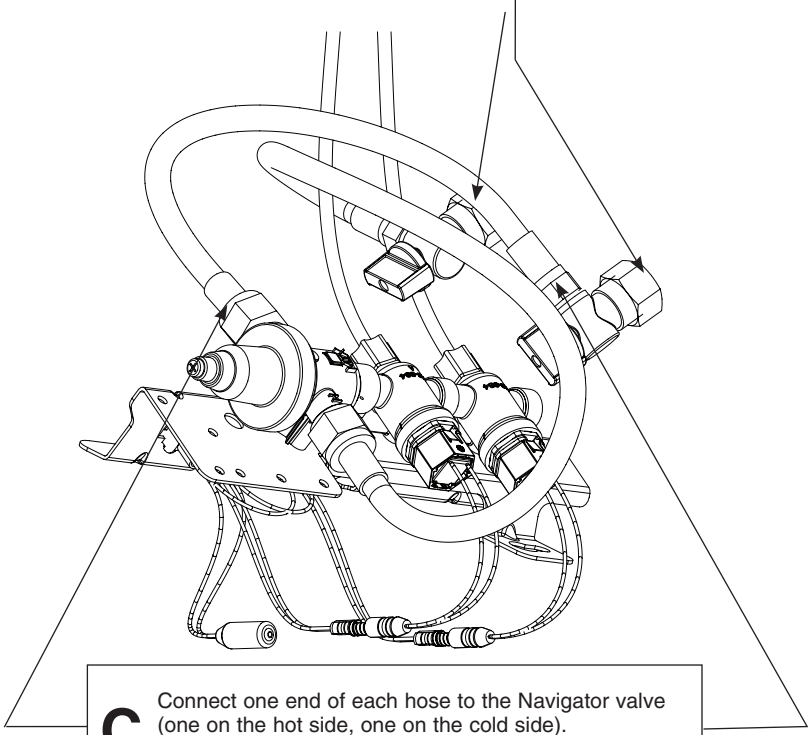
The letter "H" on the Navigator Mixing Valve indicates hot water supply inlet.



A Loosen but do not remove the two mounting screws holding the valve bracket to the frame.

Slide the valve bracket up and lift it from the frame.

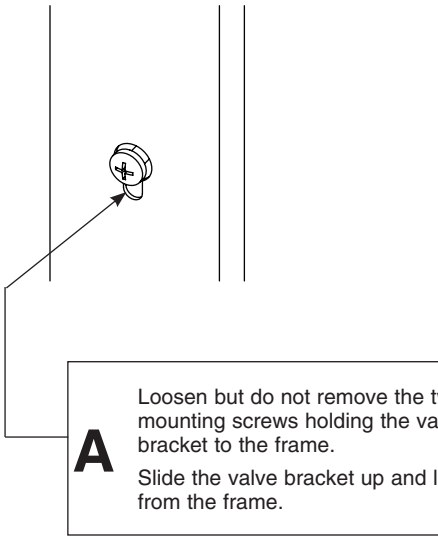
B Attach the stops onto the hot and cold wall stub-outs.



C Connect one end of each hose to the Navigator valve (one on the hot side, one on the cold side).

Connect the other swivel end to the stops.

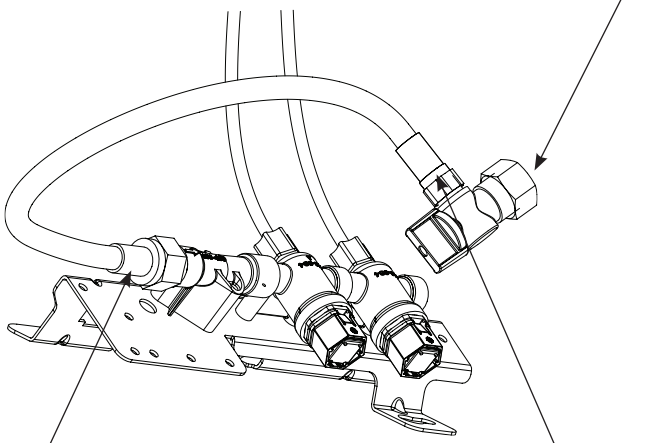
4b Connect the Supply - Single Tempered Supply



A Loosen but do not remove the two mounting screws holding the valve bracket to the frame.

Slide the valve bracket up and lift it from the frame.

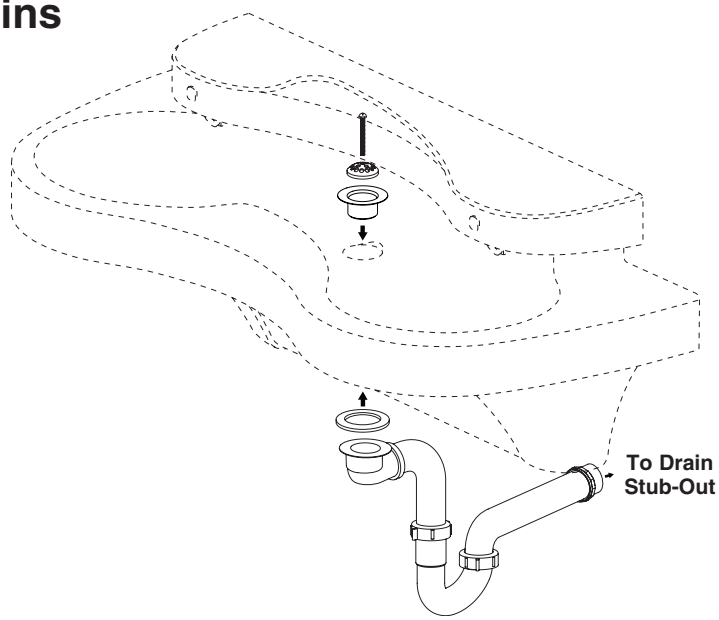
B Attach the stops onto the wall stub-out.



C Connect one end of flexible hose to the tempered line adapter.

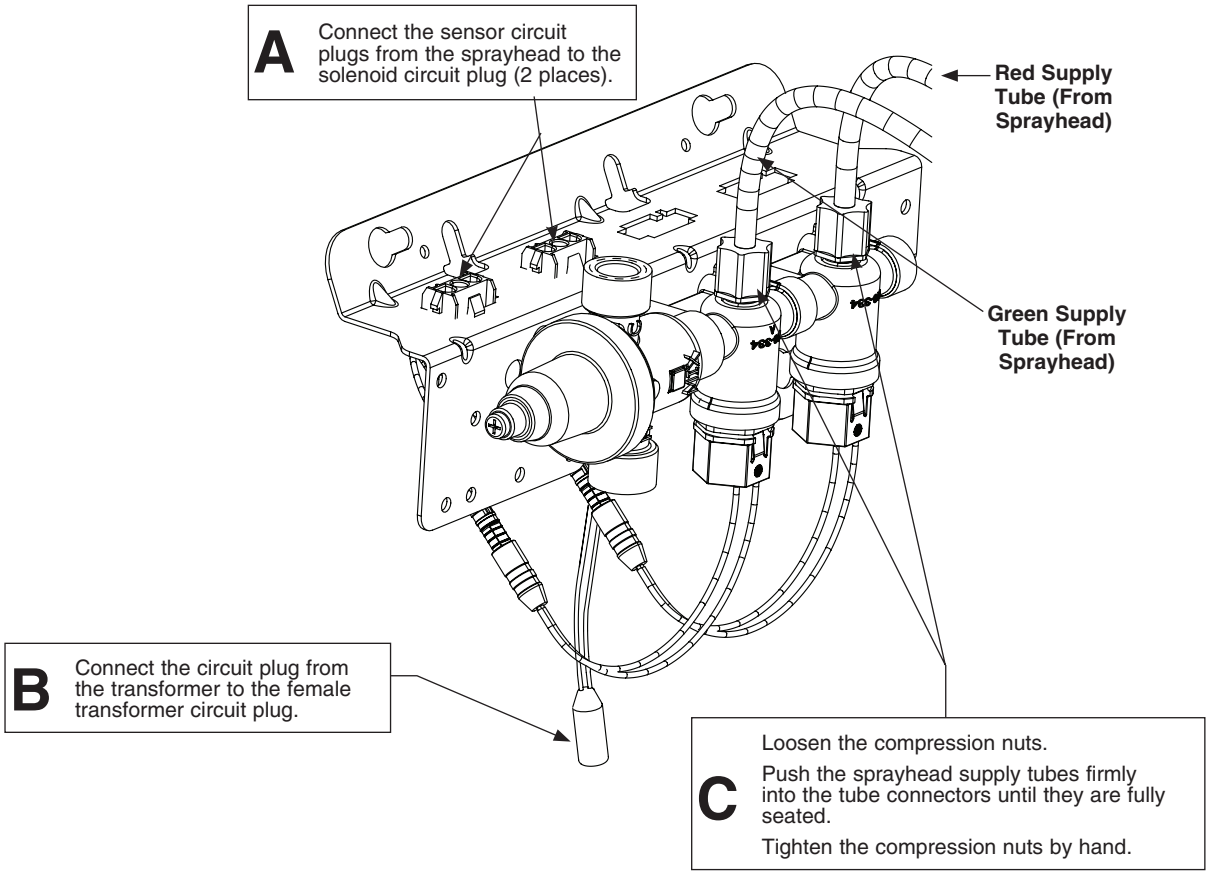
Connect the other swivel end to the stop.

5 Install the Drains



6 Connect the Electrical and Tubing

⚠WARNING The Express activation must be connected with the 120VAC/12V DC plug-in adapter provided. Not using the provided adapter can cause personal injury and will result in damage to the electronics.

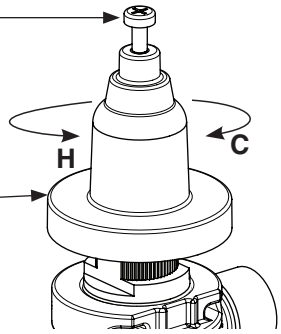


7 Adjust the Temperature

This valve is NOT factory preset. Upon installation, the temperature of this valve must be checked and adjusted to ensure delivery of a safe water temperature. Water in excess of 110°F (43°C) may cause scalding.

A Loosen Cap Screw about ¼" (4-6 turns) and lift up cover (do not remove).

B Using cover, turn cartridge gently until desired water temperature is reached. Do not turn past stops as this may damage unit. Push cover down and tighten screw.



C

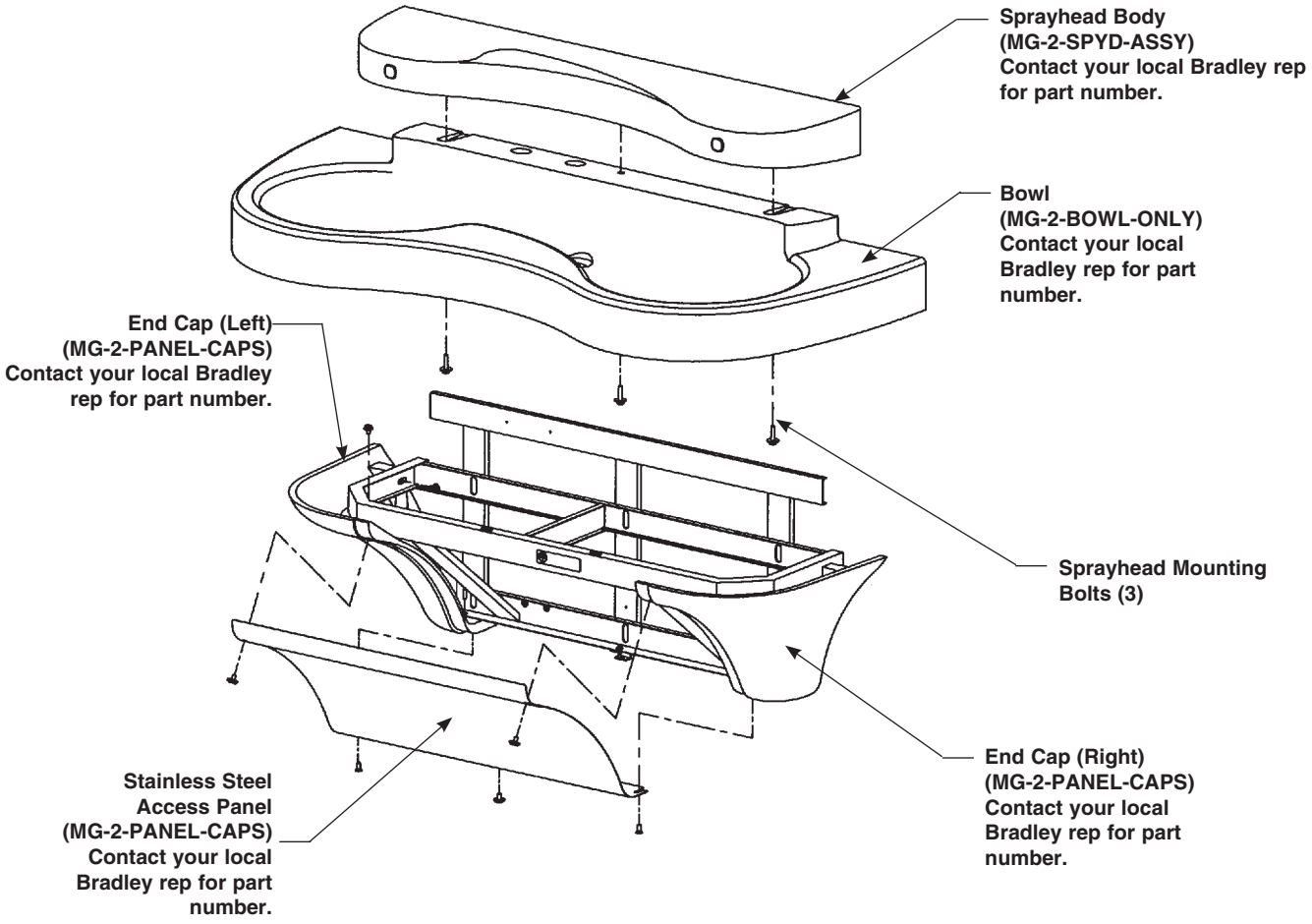
Align the valve bracket mounting screws with slots on the frame. Let the valve bracket slide down to lock into place.

Turn on the water supply and check for leaks. Turn on the electrical power to the electrical outlet and pass your hand in front of each station's sensor until all the air is purged from the lines and water is flowing smoothly. Reinstall the access panel.

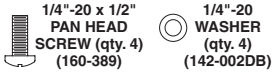
Check the temperature when approximately 1.0 GPM water flow is reached and adjust if necessary (the range of the valve is 95°F–125°F (35°C–52°C).

Wait two full minutes after making the power connection before using the lav. The sensors will take up to eight full minutes (while not in use) to adapt to the bowl if another object is detected during the two-minute start-up period.

Components

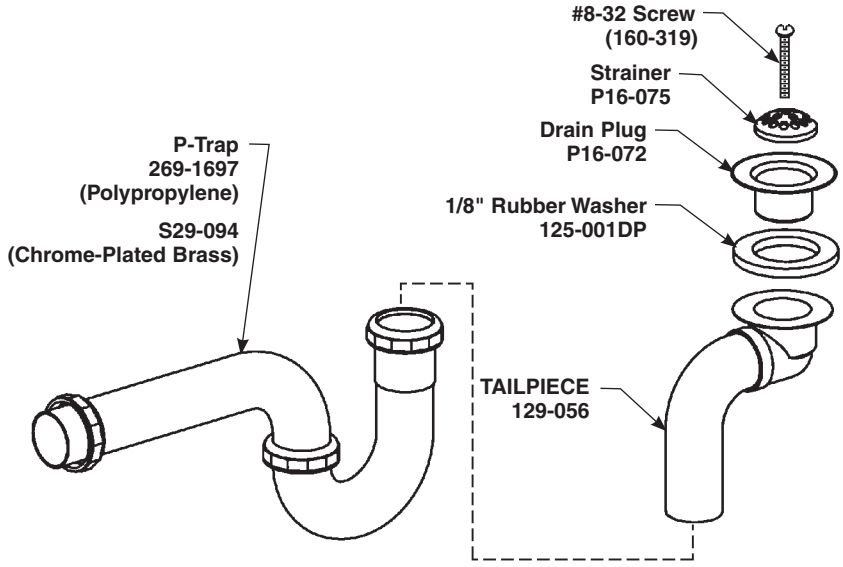


BOWL MOUNTING HARDWARE



Power Adapter (261-147A)

DRAIN ASSEMBLY



Sensor Assembly and Valve Access

Do not apply power unless all connections are made.

To access valve:

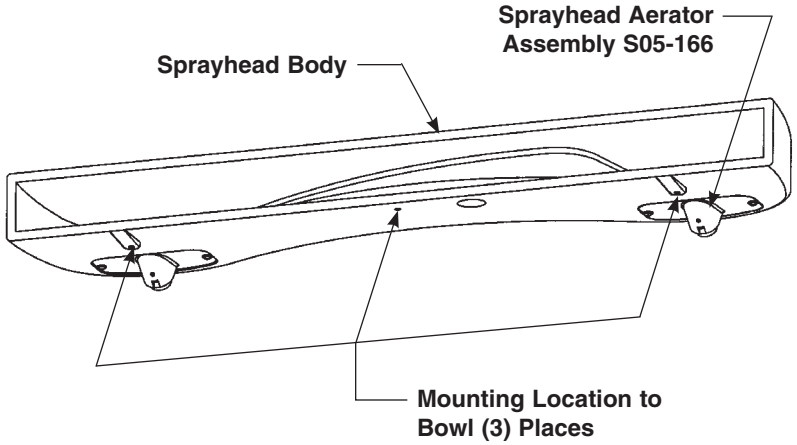
1. Using a 5/32" Allen socket wrench, loosen, but do not remove the bottom access panel screws.
2. Remove the top three access panel screws and washers securing the panel to the frame.
3. Remove the access panel. Valve is located on left side of frame.

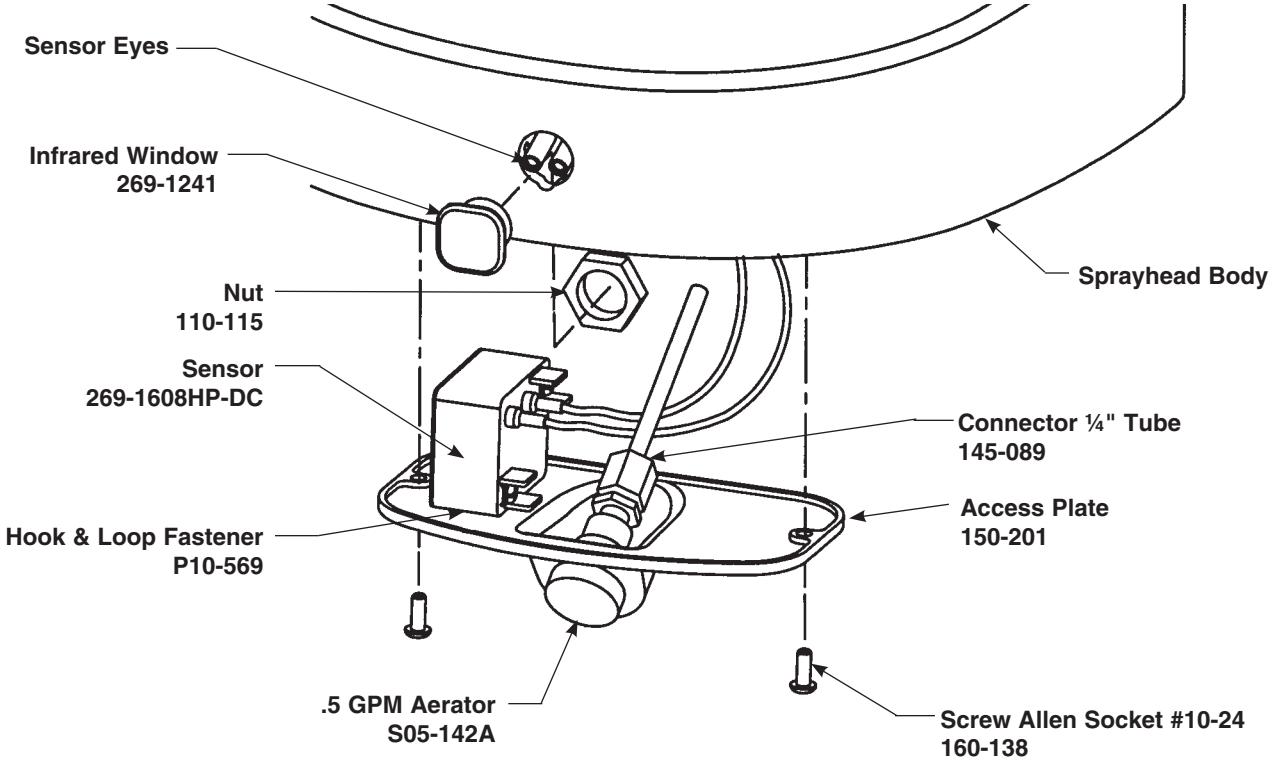
To remove sprayhead:

1. Remove (3) bolts located underside of bowl neck.
2. Carefully remove sprayhead from bowl.

To access sprayhead/aerators/lens and sensor assembly:

1. Remove (2) screws and washers from the access plate assembly using a 1/8" Allen socket wrench. The access plate assembly is located underneath the sprayhead at two places. The assembly will drop down to access the lens, sensor and sensor eyes, aerator and tube connector.





Cleaning and Maintenance for Terreon®

Material Description: Terreon is a densified solid surface material composed of bio based resin and is resistant to chemicals, stains, burns and impact. Surface can be easily repaired with everyday cleansers or fine grit abrasives. Because Terreon is a unique cast material, its aggregate flow and distribution, and shades of color can vary from product to product creating natural characteristics.

Routine Cleaning: For regular cleaning, use mild neutral base cleaners.

Stubborn Stains: Remove tough stains with Soft-Scrub® and a green Scotch-Brite® pad or lightly sand in a circular motion with 240 grit wet/dry sandpaper. The finish can then be renewed with a maroon Scotch-Brite pad.

Scratches: Remove scratches with a green Scotch-Brite pad. The finish can then be renewed with a maroon Scotch-Brite pad.

Hard Water Deposits: Remove hard water deposits with a mild solution of vinegar and water. Always rinse the unit thoroughly after cleaning.

Restoring the surface: Use Hope's® Perfect Countertop to refresh and protect the Terreon Solid Surface material. Dark Terreon colors may require additional care and maintenance. For complete instructions on this additional maintenance, visit bradleycorp.com.

Repair Kits: Terreon repair kits are available. Contact your Bradley representative or distributor for part numbers and pricing. Repair kits are made to order and have a shelf life of 30 days.

NOTICE! Do not use strong acid or alkaline chemicals and cleaners to clean Terreon. If these chemicals come in contact with the surface, wipe them off immediately and rinse with soapy water. Avoid contact with harsh chemicals such as paint remover, bleach, acetone, etc. Avoid contact with hot pans and objects.

Cleaning and Maintenance for Stainless Steel

Material Description: Stainless steel is extremely durable, and maintenance is simple and inexpensive. Proper care, particularly under corrosive conditions, is essential. Always start with the simplest solution and work your way toward the more complicated.

Routine cleaning: Daily or as often as needed use a solution of warm water and soap, detergent, or ammonia. Apply the cleaning solution per the manufacturer's instructions and always use a soft cloth or sponge to avoid damaging the finish.

Stubborn Stains: To remove stains from stainless steel use a stainless steel cleaner and polish such as Ball® stainless steel cleaner or a soft abrasive. Always follow the manufacturer's instructions and apply in the same direction as the polish lines.

NOTICE! Never use ordinary steel wool or steel brushes on stainless steel. Always use stainless steel wool or stainless steel brushes.

Fingerprints and Smears: To remove fingerprints or smears use a high quality stainless steel cleaner and polish in accordance with the manufacturer's instructions. Many of these products leave a protective coating that helps prevent future smears and fingerprints.

Grease and Oil: To remove grease and oil use a quality commercial detergent or caustic cleaner. Apply in accordance to the manufacturer's instructions and in the direction of the polish lines.

Precautions: Avoid prolonged contact with chlorides (bleaches, salts), bromides (sanitizing agents), thiocyanates (pesticides, photography chemicals, and some foods), and iodides on stainless steel equipment, especially if acid conditions exist.

NOTICE! Do not permit salty solutions to evaporate and dry on stainless steel.

The appearance of rust streaks on stainless steel leads to the belief that the stainless steel is rusting. Look for the actual source of the rust in some iron or steel particles which may be touching, but not actually a part of the stainless steel structure.

NOTICE! Strongly acidic or caustic cleaners may attack the steel causing a reddish film to appear. The use of these cleaners should be avoided.

Brand Names

Use of brand names is intended only to indicate a type of cleaner. This does not constitute an endorsement, nor does the omission of any brand name cleaner imply inadequacy. Many products named are regional in distribution, and can be found in local supermarkets, department and hardware stores, or through your cleaning service. It is emphasized that all products should be used in strict accordance with package instructions.

Troubleshooting – Adaptive Infrared Sensor

There is an LED diagnostic light built into the small black box housing the circuitry for the sensor. Below is a list of what the signals from the LED mean. Use this list to troubleshoot the sensor.

Problem	Cause	Solution
LED not illuminated	No power to the sensor.	Check for power at the 110 VAC wall outlet and from 12V DC transformer wires. If there is 110 VAC power at the wall outlet but no power from the transformer, touching the leads from the transformer while plugged in or a power surge may have burned out the transformer. Add surge protection at the outlet if a power surge is suspected and replace the transformer. If 12V DC power is being supplied from the transformer, check for loose wiring and also check connections against the wiring diagram.
Fast blink-water on	Sensor is detecting something in its view (power is being sent to the solenoid).	Remove the object, if it is still in the bowl. Reset the sensor as described below. If the condition persists, make sure the LEDs at the ends of the sensor cables are pushed all the way in to the backs of the lenses.
Fast blink-water off	Possible failure of the solenoid.	Refer to the solenoid troubleshooting guide. After correcting the problem, reset the sensor as described below.
Slow blink-water off	Sensor is detecting something in its view (power is not being sent to the solenoid).	Remove the object, if it is still in the bowl. Reset the sensor as described below.
Blinking SOS (3 short, 3 long, 3 short)	Sensor has detected an overload condition (usually a result of improper wiring to the solenoid valve)	Check connections against the wiring diagram. After correcting the problem, reset the sensor as described below.

Resetting the Adaptive Infrared Sensor

1. Disconnect the power to the sensor for at least 30 seconds. This will allow the sensor to lose its memory and be reset.
2. Reconnect the power and wait 2 full minutes to allow the sensor to relearn the environment before attempting to activate. (The sensor may take up to 8 minutes to readjust if it is activated during those 2 minutes.)

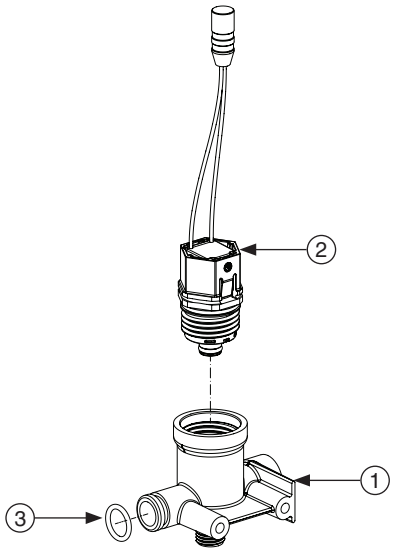
Troubleshooting – Stop Valve

Problem	Cause	Solution
Water just dribbles or does not flow from sprayhead	Water supply malfunctioning	1. Close the stops and check the valves that supply water to the lavatory system. 2. Inspect the stop valves for proper installation.
Water sprayhead delivers all hot or cold water	Water supply or mixing valve malfunctioning	1. Close the stops and check the valves that supply water to the lavatory system. 2. Inspect the stop valves for proper installation. 3. Inspect mixing valve for proper hot and cold installation. A red marking indicates the hot inlet.

Troubleshooting – Solenoid Valve: Part nos. S07-067-DC (closed body) & S07-067A-DC (thru body)

Turn off water supplies to the unit before troubleshooting.

Item	Qty.	Part No.	Description
1	1	118-334	Valve Body, ¼" Closed
1	1	118-334A	Valve Body, ¼" Thru
2	1	S27-352	12VDC Valve Cartridge
3	1	125-165	O-Ring, #2-013



Problem	Cause	Solution
An individual operating station fails to shut off and drips.	Internal cartridge failure.	Replace S27-352 cartridge.
An individual operating station fails to turn on.	A failed cartridge for the valve or loose electrical connection to the terminal.	Test the station to determine the cause. 1. Disconnect the wires from the cartridge of an adjacent valve. Disconnect the wires from the problem valve and reconnect to the adjacent valve. 2. Turn on electrical and water supplies to the unit. Pass your hand in front of the sensor of the problem station, and the adjacent station should turn on. If the adjacent station turns on and cycles normally, replace the cartridge on the problem valve. If the adjacent valve fails to turn on, inspect the wires from the sensor cable and do the following: • make sure there are no breaks and that the fully insulated disconnect terminals are firmly crimped in place; • turn off the electrical and water supplies; • reconnect to the adjacent valve and turn on the water supplies to the unit; • pass your hand in front of the sensor. If the station still fails to turn on, replace the sensor.

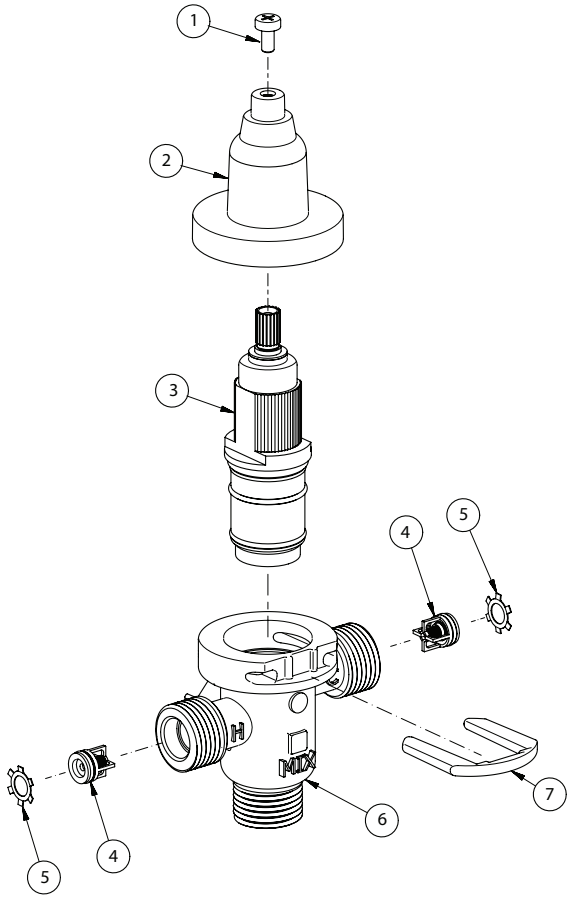
Thermostatic Mixing Valve Troubleshooting

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

- If stop valves are used, make sure that they are fully open.
- Make sure that the hot and cold inlet pipes are connected properly, and that there are no cross-connections or leaking stop valves.
- Check the hot water heater output to make sure that it is at least 10° 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.

Problem	Cause	Solution
External leaks.	Damaged cartridge or O-rings.	Replace cartridge with part number 269-1927
Improper water temperature or temperature fluctuation.	Hot water supply is not 10° above desired set point.	Increase hot water supply temperature
	Valve temperature is not properly set.	Adjust the temperature as shown on page 7, step 5.
Limited water flow.	Dirt and debris have built up in the valve or strainer.	1. Check to make sure both hot and cold supplies are connected to the Navigator mixing valve and that they have water flow. 2. Remove cover and U-clip. Remove the cartridge and clean the strainer. It is not required to grease cartridge, however if desired, use silicone grease only. Do not use grease on check valves.



Parts List

Item	Part No.	Description	Quantity
			S59-4000
1	160-463	Cap Screw	1
2	107-582	Cover	1
3	269-1927	Thermostatic Cartridge	1
4	198-014	Check Valve*	2
5	132-051	Retaining Ring*	2
6	118-319	Valve Body	1
7	146-079	U-Clip	1

* Included with Prepack S65-326

Tempered Line Adapter Option
Part no. S39-804

(replaces S59-4000 if tempered line is used)