

Installation

MG-3/AST4

Express® Lavatory System - MG Series with Pushbutton Air Valve

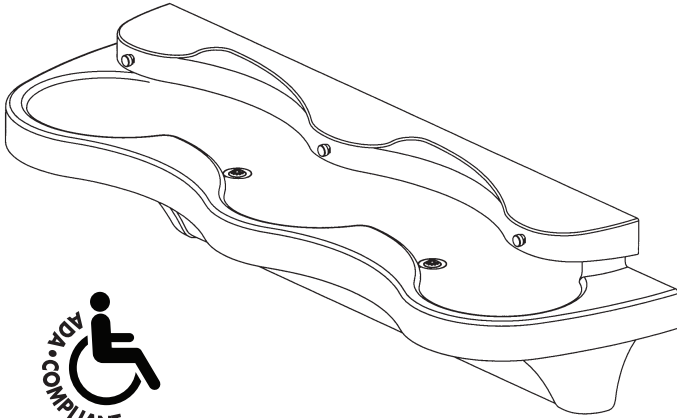


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WARNING

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.

Installer's hardware must be appropriate for wall construction. Wall anchors must have a minimum pull-out rating of 1,000 pounds.

NOTICE

Overtightening fasteners can damage the Terreon material. Use caution when tightening bowl and sprayhead fasteners.

IMPORTANT

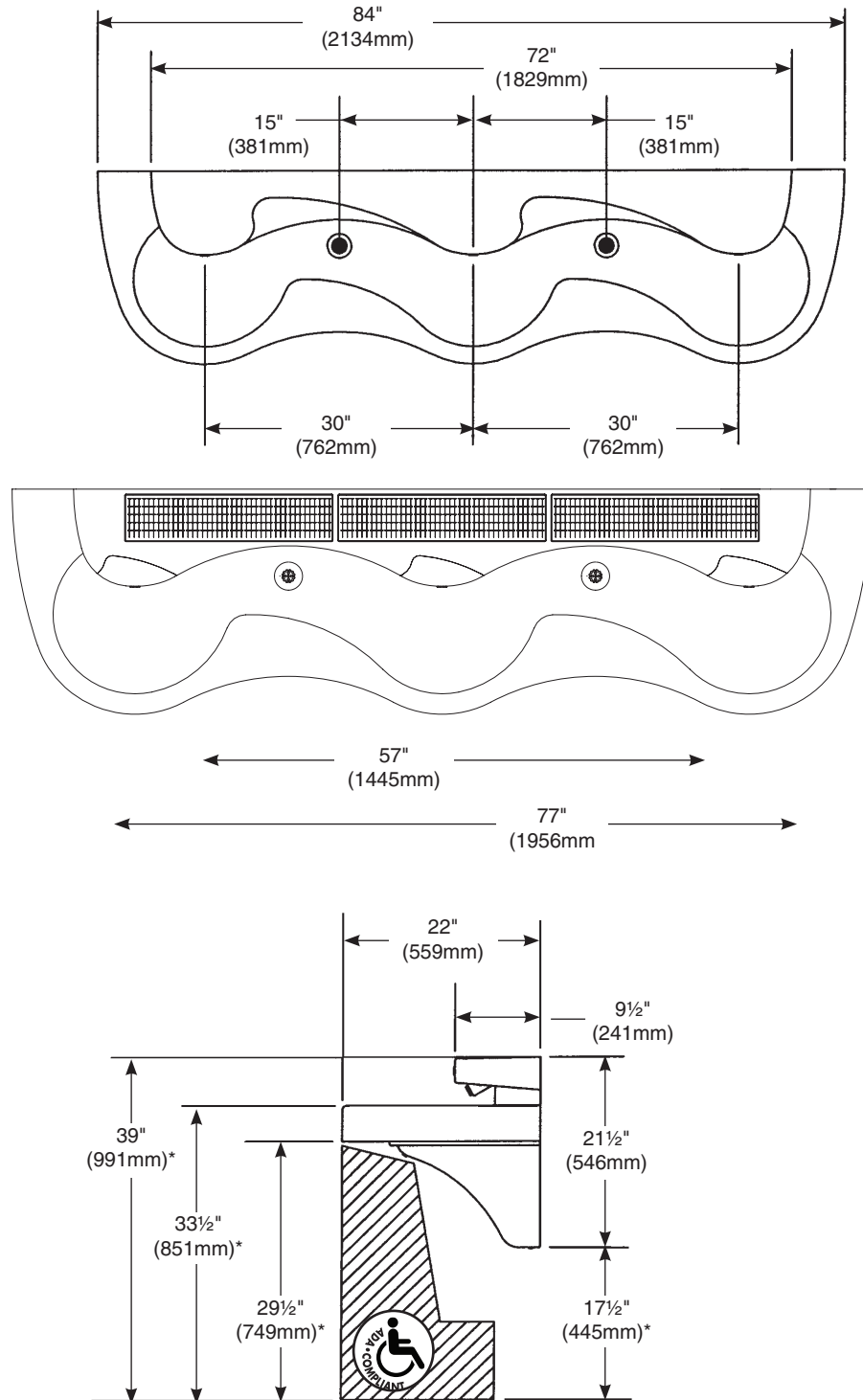
Read this entire installation manual to ensure proper installation. When finished with the installation, file this manual with the owner or maintenance department. Compliance and conformity to local codes and ordinances is the responsibility of the installer.

For optional soap dispenser, refer to Installation Instructions for Express® Lavatory System MG-Series document 215-1585.

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.

Product warranties may be found under "Products" on our website at www.bradleycorp.com.

Dimensions



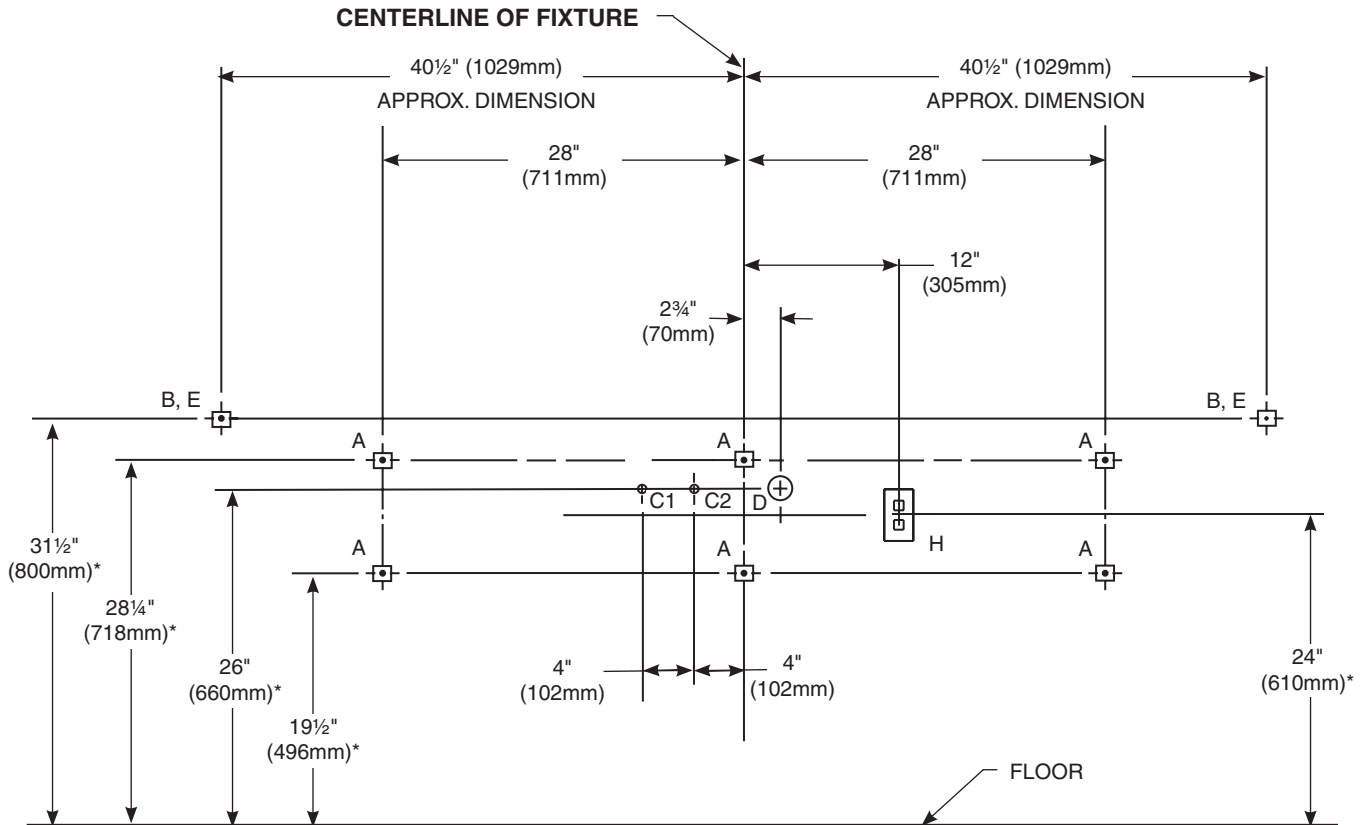
* Subtract 4" from all vertical dimensions for Juvenile Height Mounting.
 Subtract 3.5" from all vertical dimensions for TAS Juvenile Height Mounting (grades Pre-K through 5 or 6).
 Subtract 1.5" from all vertical dimensions for TAS Juvenile Height Mounting (grades 6 through 8 or 9).



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
- Optional: 240/208 volt or 277 volt electrical box for optional electrical tankless water heater

1 Rough-Ins



Code	Description	QTY.
A	3/8" Wall Anchors with a minimum pull-out force of 1,000 lbs. for Frame	6
B	3/8" Wall Anchors with a minimum pull-out force of 1,000 lbs. for Bowl	2
C1	1/2" Nominal Copper Tubing for Hot Supply, stub out 2" from wall	1
C2	1/2" Nominal Copper Tubing for Cold or Tempered Supply, stub out 2" from wall	1
D	1-1/2" NPT Drain, stub out 2" from wall	1
E	On the bowl back, measure the distance between the 3/4" 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, I.R. and touch time only	1
Rim Height	* Vertical Height Adjustments	Fixture Style
33-1/2"	None	Standard Height
29-1/2"	Subtract 4"	Juvenile Height
32"	Subtract 1-1/2"	TAS, Grades 6 through 8 or 9
30"	Subtract 3-1/2"	TAS, Pre-K through 5 or 6

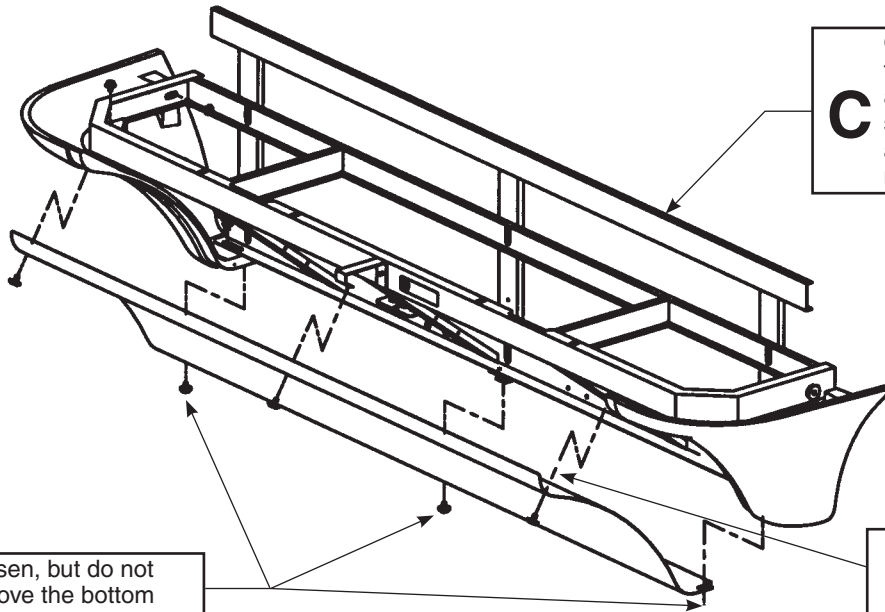


The Express® Lavatory System with Pushbutton Air Valve (model MG-3/AST4) must have a rim height no higher than 34" above finished floor to be compliant with Americans with Disabilities Act (ADA). When mounted at 33 1/2" rim height, the MG-3/AST4 Express® meets ADA, ANSI and UFAS requirements for barrier-free 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.



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

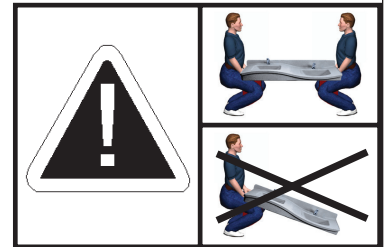
C Once you have positioned the frame such that it is level and flat against the wall or shimmed, use the 3/8" bolts and washers (6 places) to mount the frame to the wall.

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

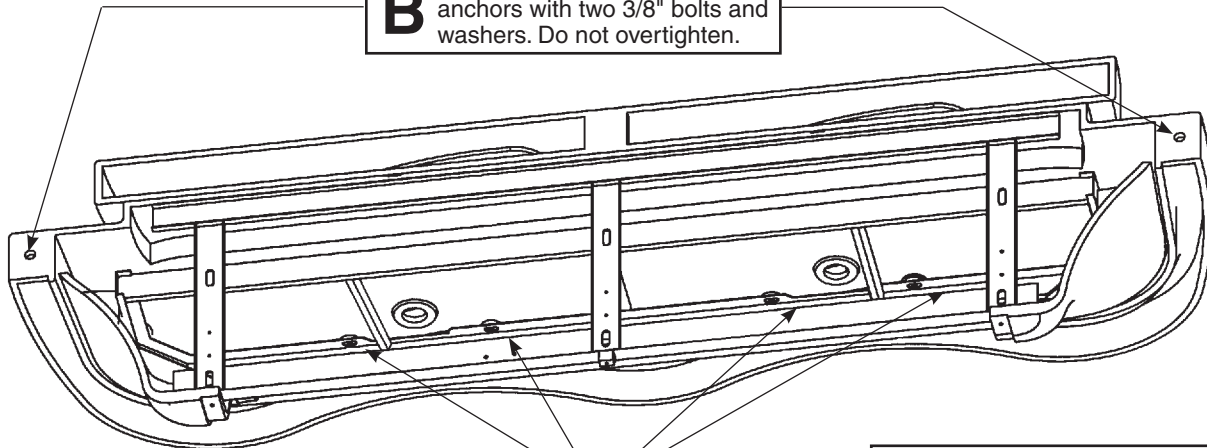
3 Install the Bowl



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.



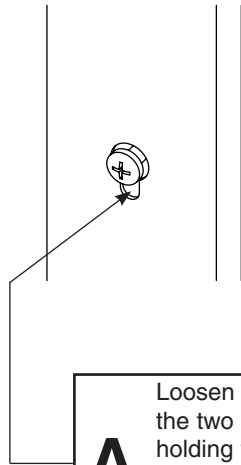
A Attach the bowl to the frame using the four 1/4-20 x 1/2" pan-head screws and washers. Do not tighten screws.

Tighten the pan-head screws. Do not overtighten.
C If necessary, adjust the sprayhead body to fit closely to the wall by adjusting the sprayhead mounting bolts. Refer to the components illustration for bolt locations.

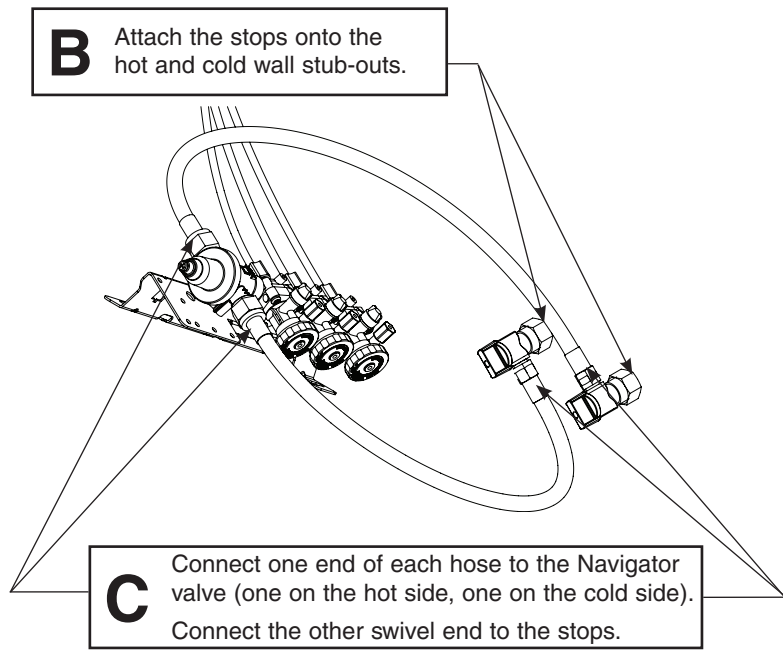
4a Connect the Supply - Hot and Cold Supply



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



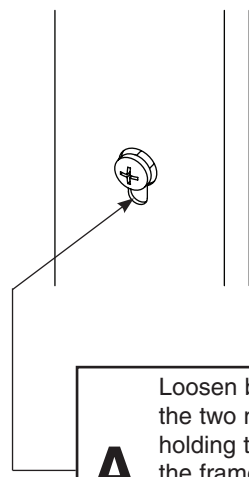
A Loosen but do not remove the two mounting screws holding the valve bracket to the frame. Slide the valve bracket up and lift it from the frame.



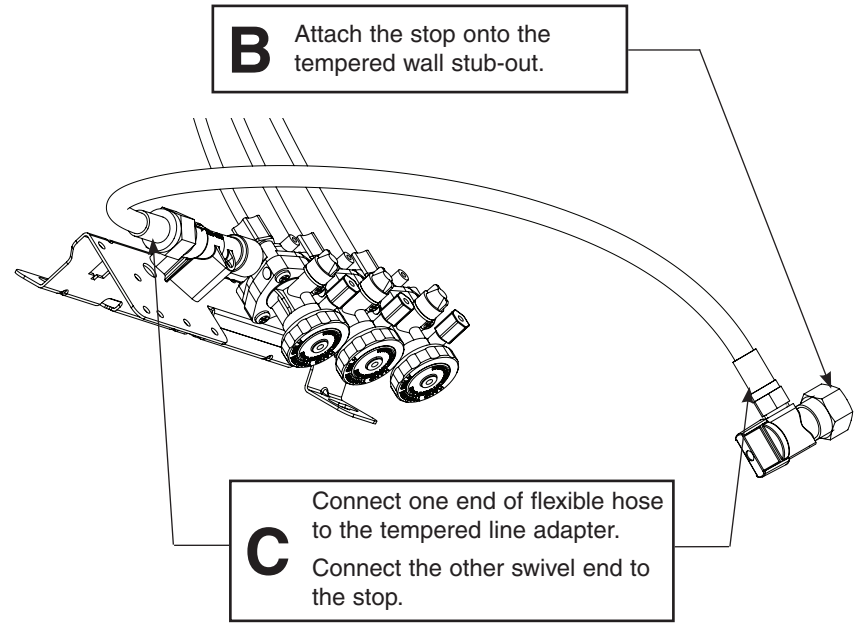
B Attach the stops onto the hot and cold wall stub-outs.

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



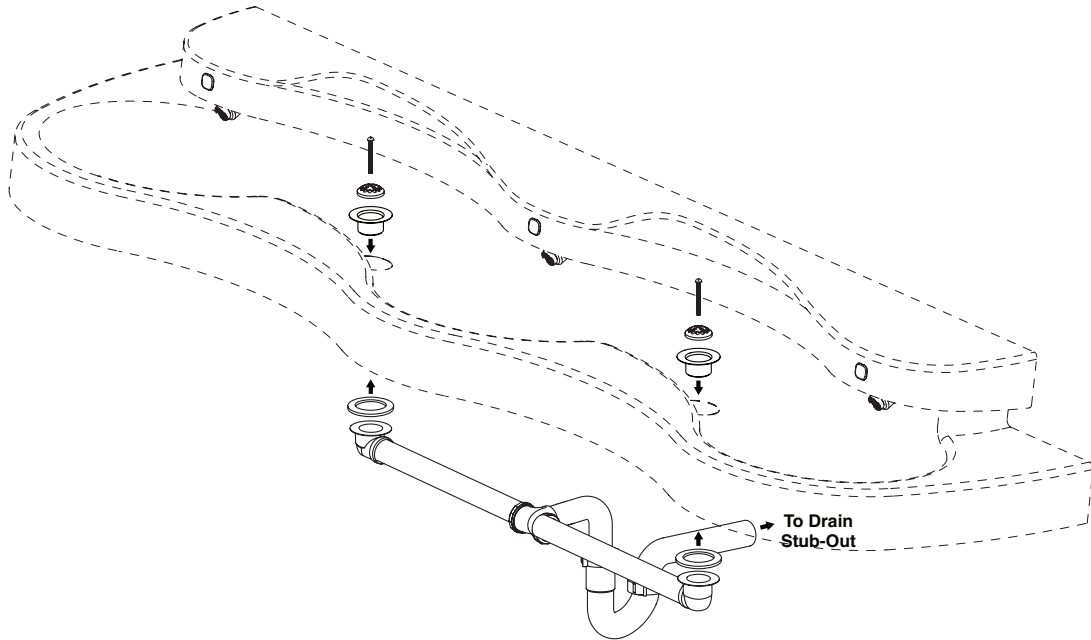
A Loosen but do not remove the two mounting screws holding the valve bracket to the frame. Slide the valve bracket up and lift it from the frame.



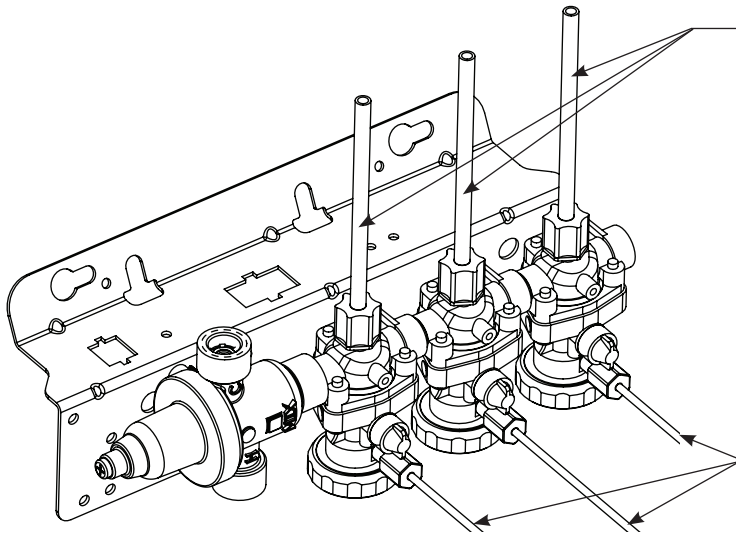
B Attach the stop onto the tempered wall stub-out.

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 Supply Tubing



A Loosen the compression nuts.
 Push the sprayhead supply tubes firmly into the tube connectors until they are fully seated.
 Tighten the compression nuts by hand.

B Loosen the compression nuts.
 Push the matching color 1/8" tubes firmly into the tube connectors until they are fully seated.
 Tighten the compression nuts by hand.

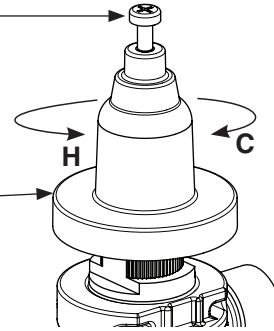
7 Adjust Temperature with Water Running



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.

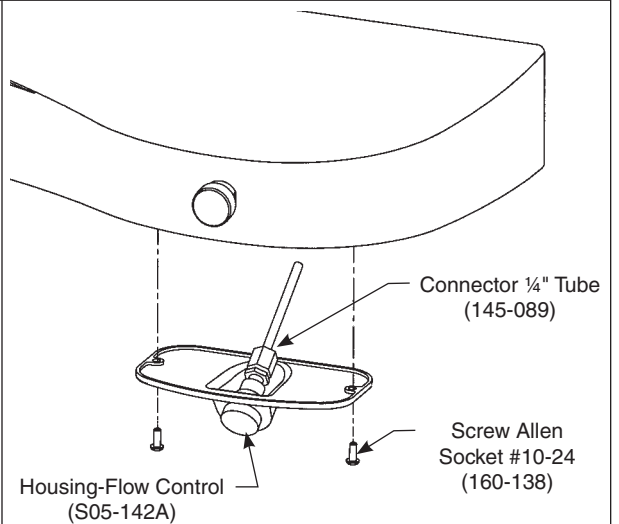
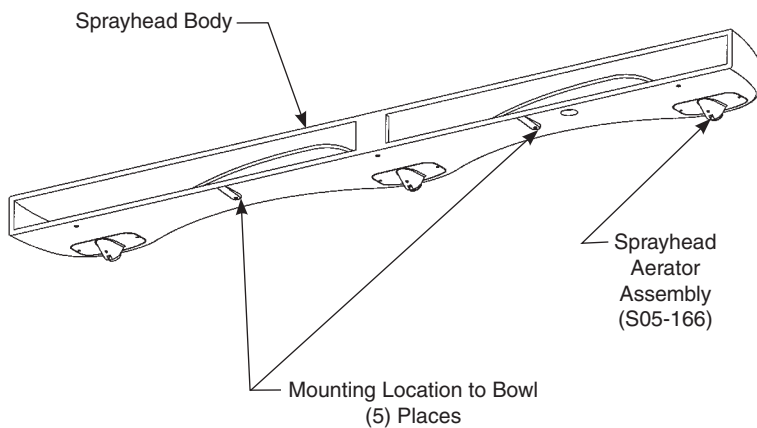
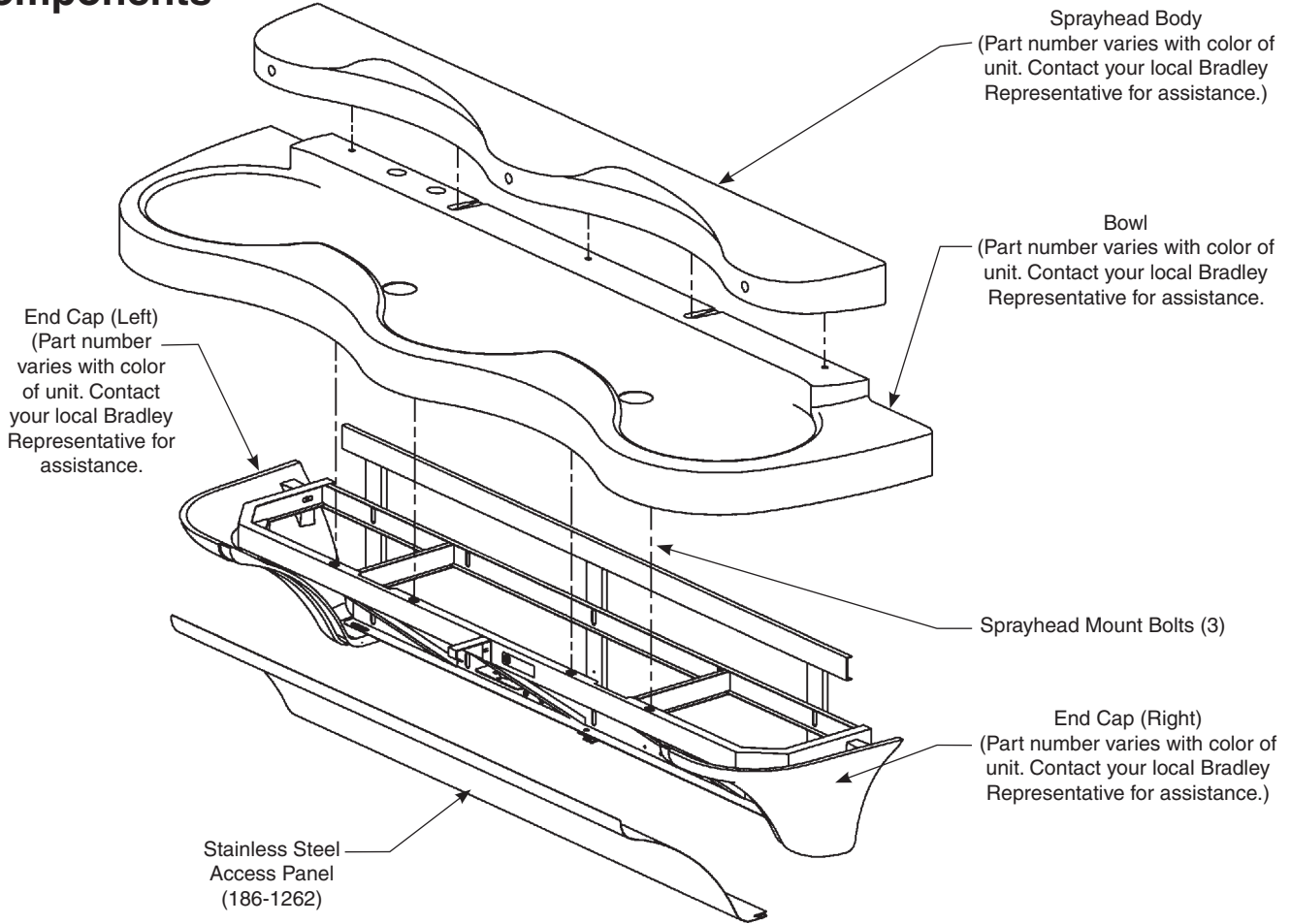
A Loosen Cap Screw about 1/4" (4-6 turns) and lift up cover (do not remove).

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 Reinstall the bracket. Turn on the water supply to the Express® and check for leaks. Push the operating buttons of each station until all the air is purged from the lines and water is flowing smoothly. Reinstall the access panel.

Components



Components Assembly

To access air valve:

Remove access panel by removing (5) screws and finishing washers using a 5/32" Allen socket wrench.

To remove sprayhead:

Remove (5) bolts located underside of bowl neck. Carefully remove sprayhead from bowl.

To access aerator and pushbutton assembly:

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 (2) places. The assembly will drop down to access the lens, housing flow control, tube connector and pushbutton assembly.

To remove/reassemble pushbutton assembly:

Remove one screw (P/N 160-165) from the pushbutton bracket. Hold the housing with the piston and spring together while removing the remaining screw (P/N 160-165).



When removing screws, the housing assembly will drop down. If the housing, piston and spring are not held together, the piston will pop out of the housing.

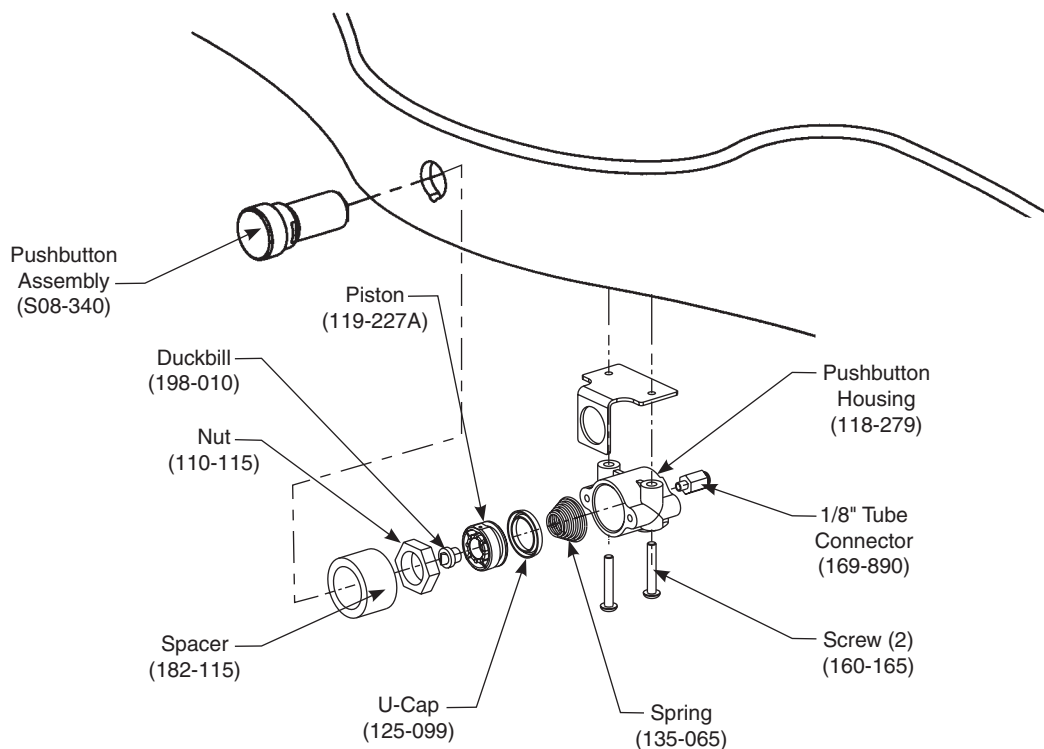
After the pushbutton housing is removed, remove the nut (P/N 110-115) and then the bracket (P/N 140-743) from the pushbutton assembly. Remove the spacer (P/N 182-115) and pushbutton assembly (P/N S08-340) from the sprayhead.

To reassemble the pushbutton assembly, first insert the pushbutton into the hole in the sprayhead housing as shown below. Slide the spacer onto the back of the pushbutton (inside the sprayhead housing) as shown. Attach the bracket (P/N 140-743) to the pushbutton and secure into place with the nut (P/N 110-115). Insert the spring and piston into the housing. While holding the assembly together, insert one screw (P/N 160-165) into the housing.



For ease of insertion, hold the pushbutton housing so the piston is facing the rear of the unit.

Insert the screw with housing into the bracket on the pushbutton assembly. After the first screw is inserted, rotate the housing so that the piston is facing the front of the unit. Insert the second screw (P/N 160-165) into the bracket and secure the housing in place.



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.

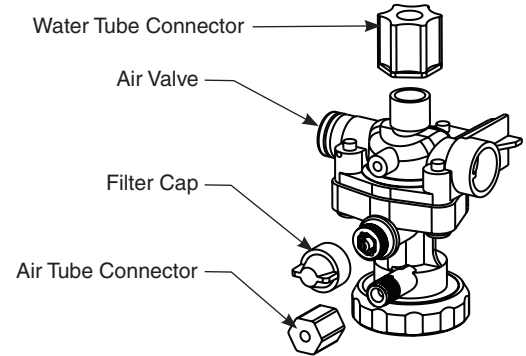
Metering Air Valve Maintenance

Adjust Air Valve Meter Time



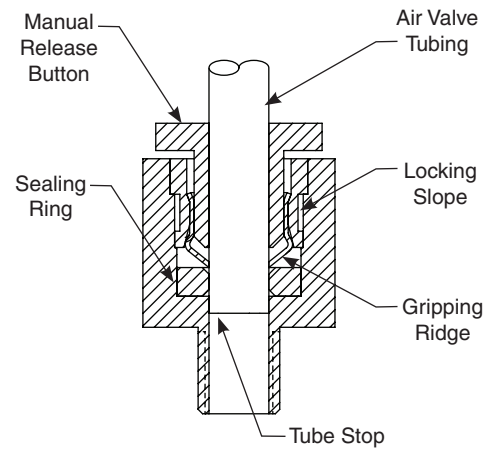
The air valve timer is located next to the tube connector on the air valve body. The timer is capped with a filter to prevent dirt build-up on the timer. The air valve timing can be adjusted from 5–60 seconds.

1. Remove filter cap and use a screwdriver to tighten or loosen the timer (see illustration at right). Turning the timer clockwise increases the time; turning the timer counterclockwise decreases the time.
2. Continue to adjust until the timer is set at desired length.
3. Replace filter cap over the timer.



Tube Connection Leaks

1. Push in the white manual release button while pulling the tube out (see illustration at right) to disconnect the tube at the connector. No tools are needed.
2. To correct a leak, press tubing firmly into the connector and make sure it is seated.
3. If leak persists, remove tubing from the fitting, and trim the tubing end square with a razor-sharp knife. If leak continues, replace the fitting or contact your Bradley representative for assistance.



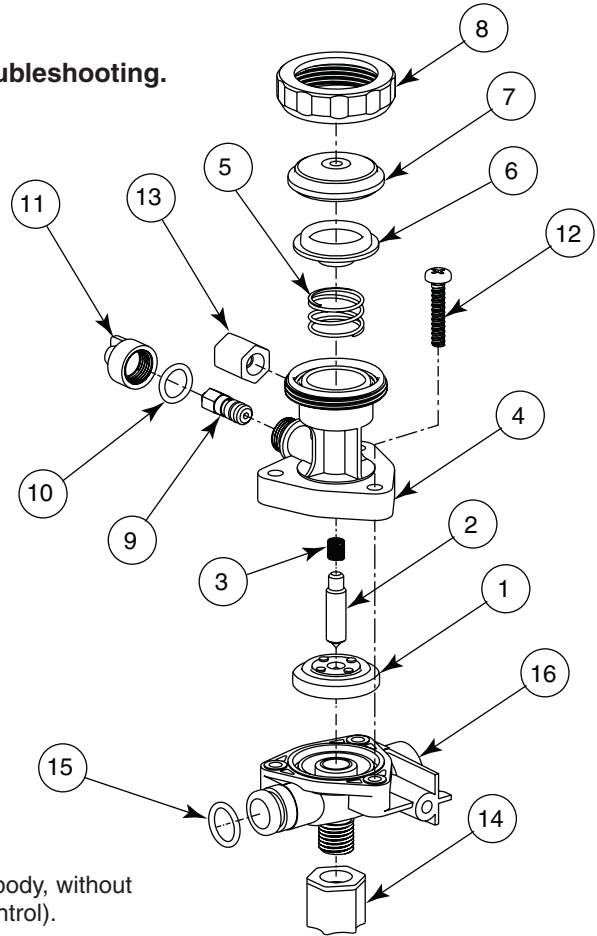
Troubleshooting – Stop Valve

Problem	Cause	Solution
Water just dribbles or does not flow from sprayhead	Water supply malfunctioning	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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 – Metering Air Valve

⚠ WARNING Turn off water supplies to the unit before troubleshooting.

Item	Qty.	Description
1	1	Diaphragm
2	1	Armature
3	1	Spring
4	1	AST 4 Valve Upper Body
5	1	Spring
6	1	Magnet/Diaphragm Assembly
7	1	AST 4 Valve Cover
8	1	AST 4 Valve Clamp Nut
9	1	AST 4 Valve Timer Assembly
10	1	O-Ring
11	1	AST 4 Valve Timer Cover
12	3	Screw, #8 x 7/8"
13	1	Compression Nut, 1/8" Tube
14	1	Compression Nut, 1/4" Tube
15	1	O-Ring
16	1	Valve Body



For complete valve, order service part S07-077S (AST4 valve, closed body, without flow control) or S07-077AS (AST4 valve, through body, without flow control).

Problem	Cause	Solution
Valve will not shut off.	Timing mechanism is clogged.	Clean and inspect timing mechanism: 1. If compressed air is available, blow water and debris from timer cover of timing mechanism. 2. Turn adjusting screw out all the way. Clean and inspect screw and valve body. 3. Turn adjusting screw in to desired cycle time.
Valve will not turn on.	Water is not being supplied to unit.	Open all stops on mixing valve.
	Water pressure is over 80 PSI.	Install a pressure reducing valve.
	Failed diaphragm/magnet assembly.	Unscrew the valve clamp nut on valve. Remove valve cover. Gently press the diaphragm. The valve should activate. If not, replace the diaphragm/magnet assembly.
Timing can not be adjusted for more than 5 seconds.	There is an air leak.	Check the valve assembly: 1. Check all tubing and fittings for proper assembly. 2. Tighten cap and nut on 1/8" tubing.
Pushbutton does not work properly.	Air volume may not be sufficient to operate valve.	Check for leaks and lubricate U-cup: 1. Check all fittings for air leaks. 2. Disassemble pushbutton and lubricate U-cup seal (see pushbutton assembly diagram on page 9).
Water is dripping from the streamformers.	Debris has accumulated on valve seat or orifices.	Clean and inspect valve seat: 1. Remove screws and disassemble metering valve. 2. Clean valve seat and inspect for deep gouges or scratches. Replace valve body if necessary. 3. Remove any debris clogging off-center hole in rubber diaphragm.

Thermostatic Mixing Valve Troubleshooting

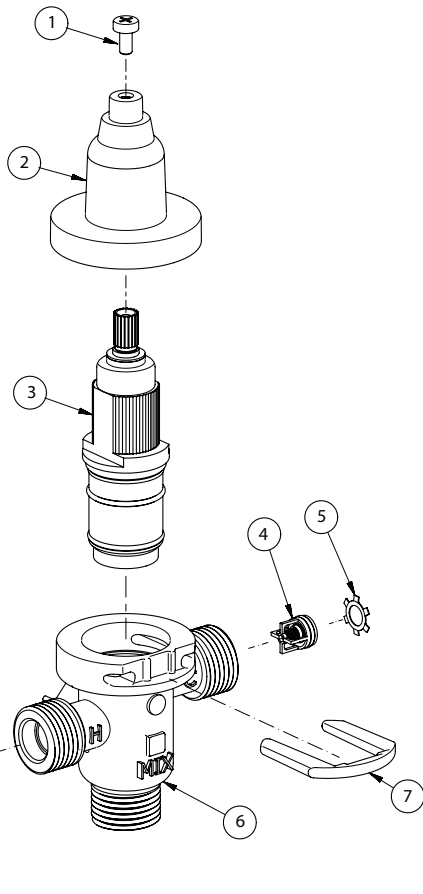
Before attempting to troubleshoot the valve or disassemble the components, check for the following conditions:

- 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 19, step 10.
Limited water flow.	Dirt and debris have built up in the valve or strainer.	<ol style="list-style-type: none"> 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)

Strainer (173-028)