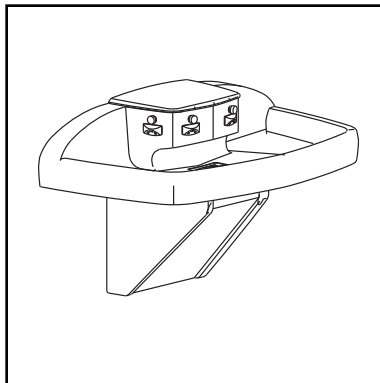
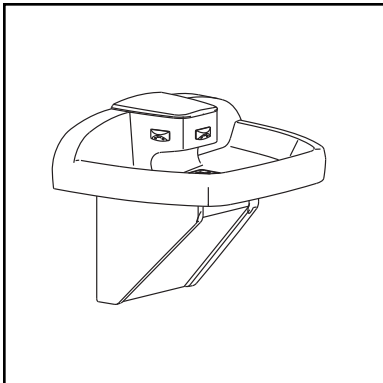


# Multi-Fount Washfountains Terreon® Models

## Parts & Service Guide





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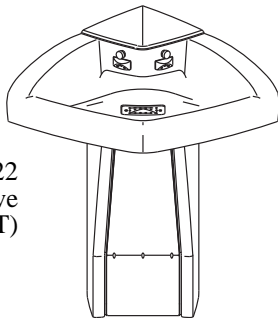
**Part numbers are subject to change without formal notice.**



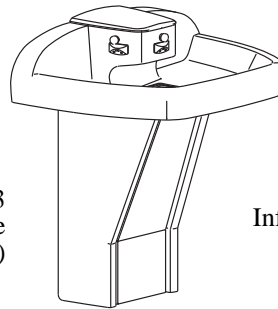
# Terreon® Multi-Fount Washfountains

- Unique, Repairable, Solid Surface Material
- Highly Vandal Resistant
- Saves Water, Energy, and Space
- Available with Air Metering, Infrared or Battery Operated Infrared and TouchTime® Control

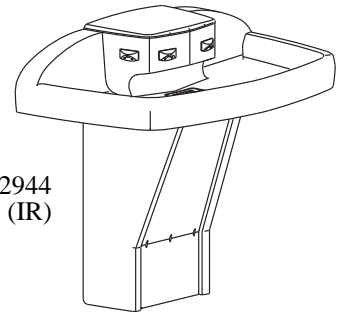
Models Available:	
MF2922	Terreon Corner-Fount
MF2933	Terreon Tri-Fount
MF2939	Terreon Tri-Fount Wall Hung
MF2944	Terreon Quadra-Fount
MF2949	Terreon Quadra-Fount Wall Hung



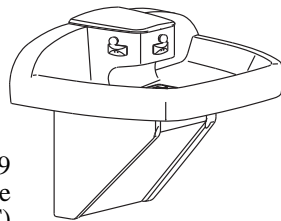
MF2922  
Air Valve  
Shown (AST)



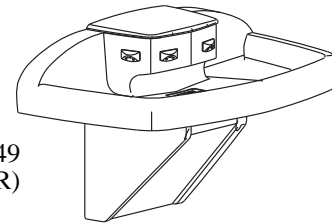
MF2933  
Air Valve  
Shown (AST)



MF2944  
Infrared Shown (IR)



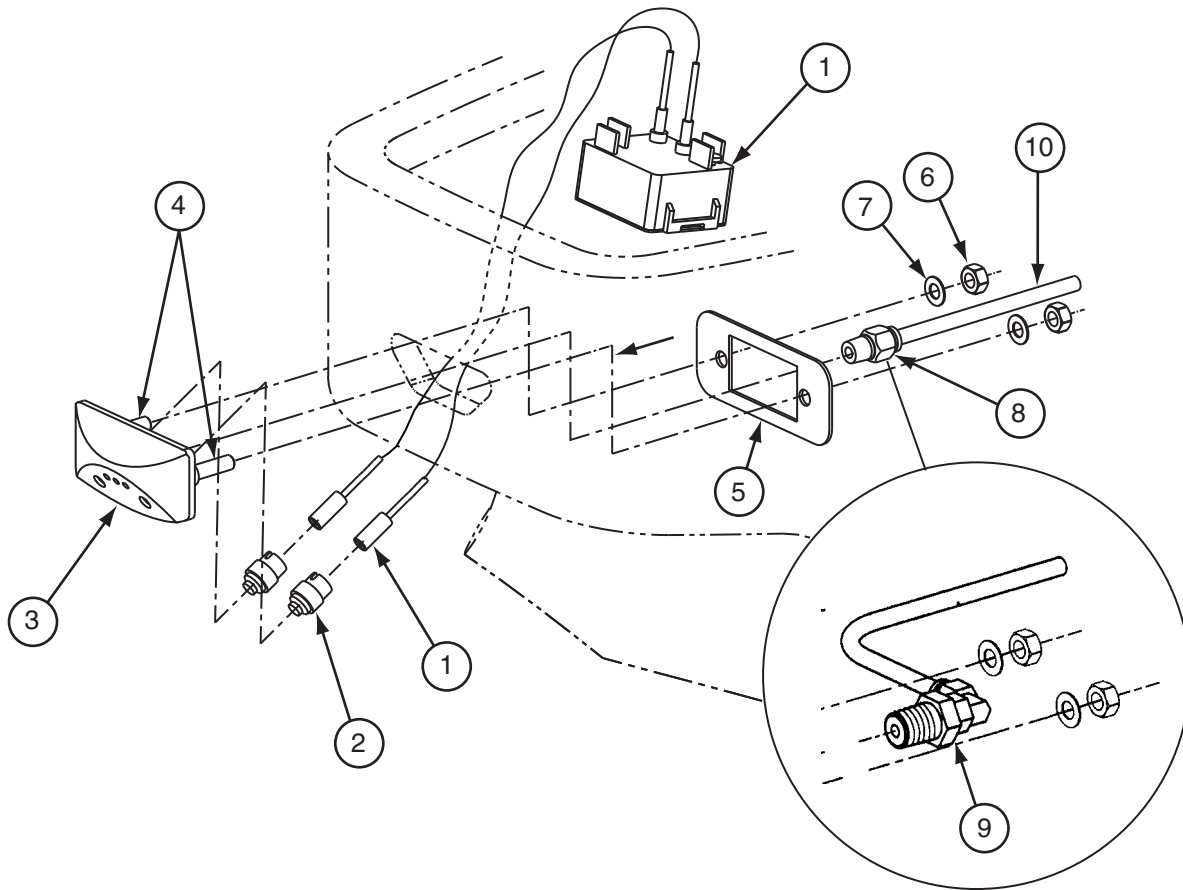
MF2939  
Air Valve  
Shown (AST)



MF2949  
Infrared Shown (IR)



### Infrared (IR) — Sprayhead (24V Plug-in Transformer)



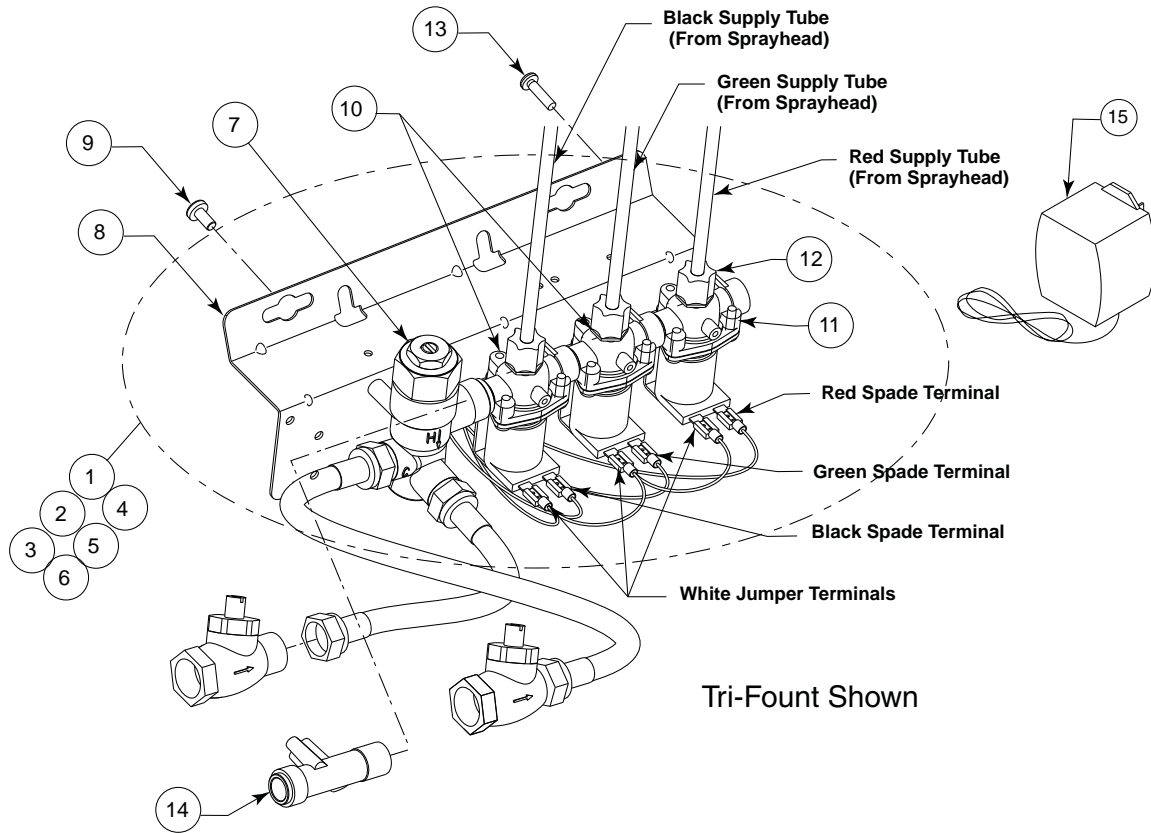
### Parts List — Infrared Sensor and Sprayhead Assembly

Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	269-1608	Sensor - Adaptive	2	3	4
*	P10-569	Hook and Loop Fastener Strip (sensor mounting)	2	3	4
2	269-1190	Window	4	6	8
3	115-131	Sprayhead	2	3	4
4	176-119	Threaded Rod	4	6	8
5	140-748	Backplate	2	3	4
6	161-026	Nut	4	6	8
7	142-002BS	Lockwasher	4	6	8
8	269-871	Fitting Straight (front sprayhead)	—	1	2
9	269-628	Fitting Swivel 90° (side sprayheads)	2	2	2
10	R68-600011-R	Tubing 1/4", Red (Specify Length in feet)	—	—	—
10	R68-600011-G	Tubing 1/4", Green (Specify Length in feet)	—	—	—
10	R68-600011-B	Tubing 1/4", Black (Specify Length in feet)	—	—	—
10	R68-600011-Y	Tubing 1/4", Yellow (Specify Length in feet)	—	—	—

\* Not Illustrated.



## Infrared (IR) — Valves (24V Plug-in Transformer)

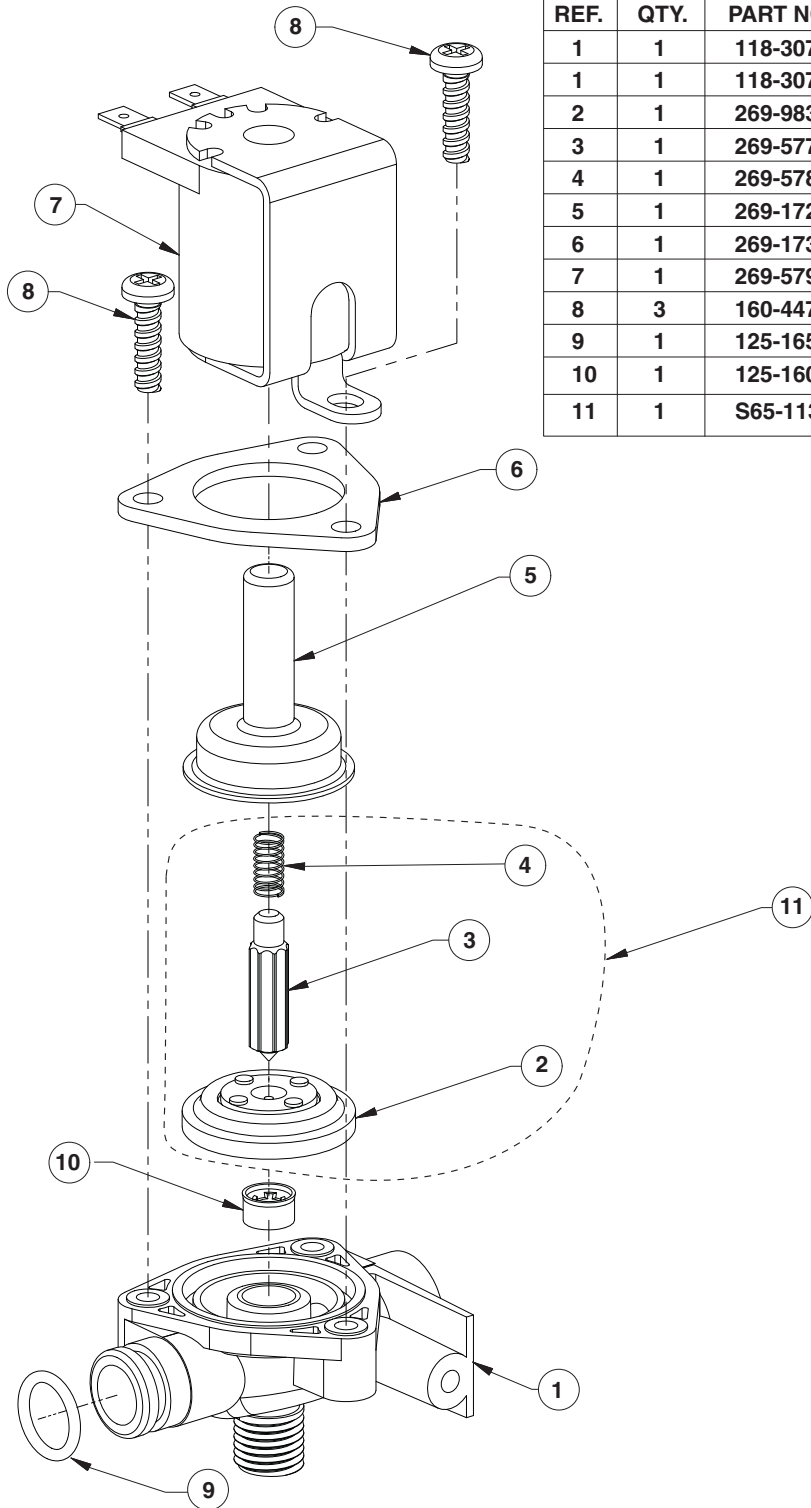


### Parts List — Solenoid Assembly and Valve Parts

Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	S45-2084	IR TMA Dual Valve Assembly (includes 7-13)	1	—	—
2	S45-2085	IR TL Dual Valve Assembly (includes 8-14)	1	—	—
3	S45-2090	IR TMA Tri Valve Assembly (includes 7-13)	—	1	—
4	S45-2091	IR TL Tri Valve Assembly (includes 8-14)	—	1	—
5	S45-2162	IR TMA Quad Valve Assembly (includes 7-13)	—	—	1
6	S45-2163	IR TL Quad Valve Assembly (includes 8-14)	—	—	1
7	S01-520	Vernatherm Valve, 4 GP	1	1	1
8	140-928	Bracket, Ganged Valve	1	1	1
9	P18-054	Screw 10-24 x 3/8 PN	2	2	2
10	S07-068A	Solenoid Valve, 24 VAC, through	1	2	3
11	S07-068	Solenoid Valve, 24 VAC, closed	1	1	1
12	110-231	Compression Nut, 1/4"	2	3	4
13	160-447	Screw 8-16 x 5/8 PN	2	3	4
14	S39-685	Adapter, Valve Inlet	1	1	1
15	S83-152	Transformer	1	1	1



### Infrared Valve (IR) — Assembly — Solenoid Valve S07-068 (closed body) and S07-068A (thru body)



REF.	QTY.	PART NO.	DESCRIPTION
1	1	118-307	VALVE BODY, 1/4" CLOSED
1	1	118-307A	VALVE BODY, 1/4" THRU
2	1	269-983	DIAPHRAGM
3	1	269-577	ARMATURE
4	1	269-578	SPRING
5	1	269-1729	ARMATURE HOUSING
6	1	269-1730	CLAMP, ARMATURE HOUSING
7	1	269-579	COIL, SOLENOID VALVE
8	3	160-447	SCREW, #8 X 5/8
9	1	125-165	O-RING, #2-013
10	1	125-160	FLOW RESTRICTOR, .5 GPM
11	1	S65-113	REPAIR KIT



## Infrared (IR) — Solenoid Valve Troubleshooting

**⚠ CAUTION:** Turn off water supplies to unit before troubleshooting.

**Problem:** An individual operating station fails to shut off and drips.  
**Cause:** There is debris trapped between the diaphragm and the valve seat.  
**Solution:** Remove debris between diaphragm and the valve seat.

1. Remove the three #8 Phillips-head screws that hold the solenoid valve assembly together. Be careful not to lose the armature or spring (see previous page).
2. Remove the diaphragm. Remove any particles that have been trapped between the diaphragm and the valve seat. Rinse off the diaphragm and inspect for damage. Make sure the center orifice and both small side orifices are open.
3. Reassemble in reverse order, being careful not to overtighten the Phillips-head screws or you may crack the plastic valve body. Tighten until the armature plate makes contact with the plastic body.
4. Reconnect the wiring per diagram.

**Problem:** An individual operating station fails to turn on.  
**Cause:** A failed coil for the valve or loose electrical connection to the terminal.  
**Solution:** Test the station to determine cause.

1. Disconnect the wires from the coil 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. Place hands in front of sensor for the problem station; the adjacent station should turn on.

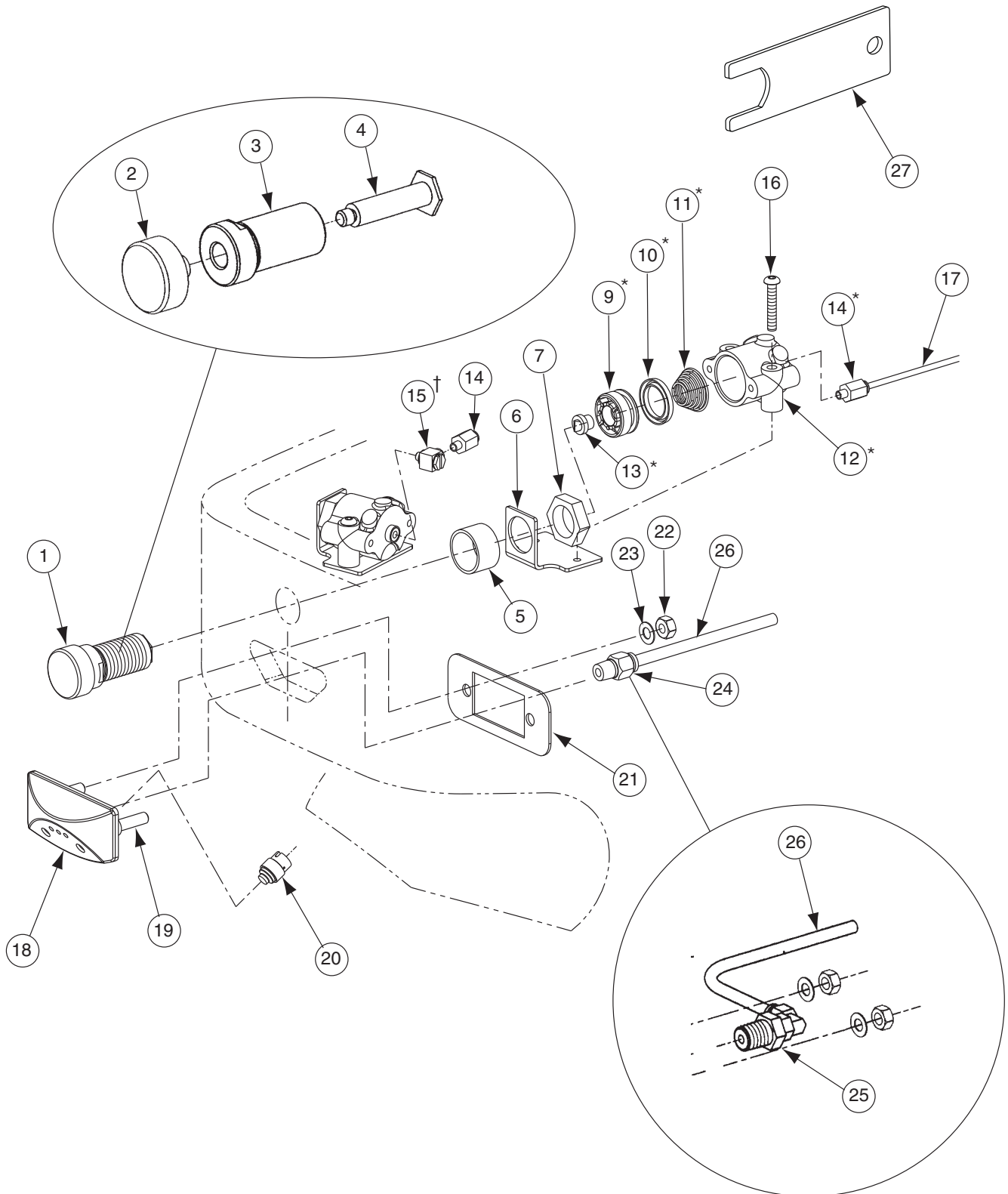
If the adjacent station turns on and cycles normally, replace the coil on the problem valve.

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;
- place hands in front of sensor. If the station still fails to turn on, replace the sensor.



### Air Metering Valve (AST4) — Pushbutton and Sprayhead







## Parts List

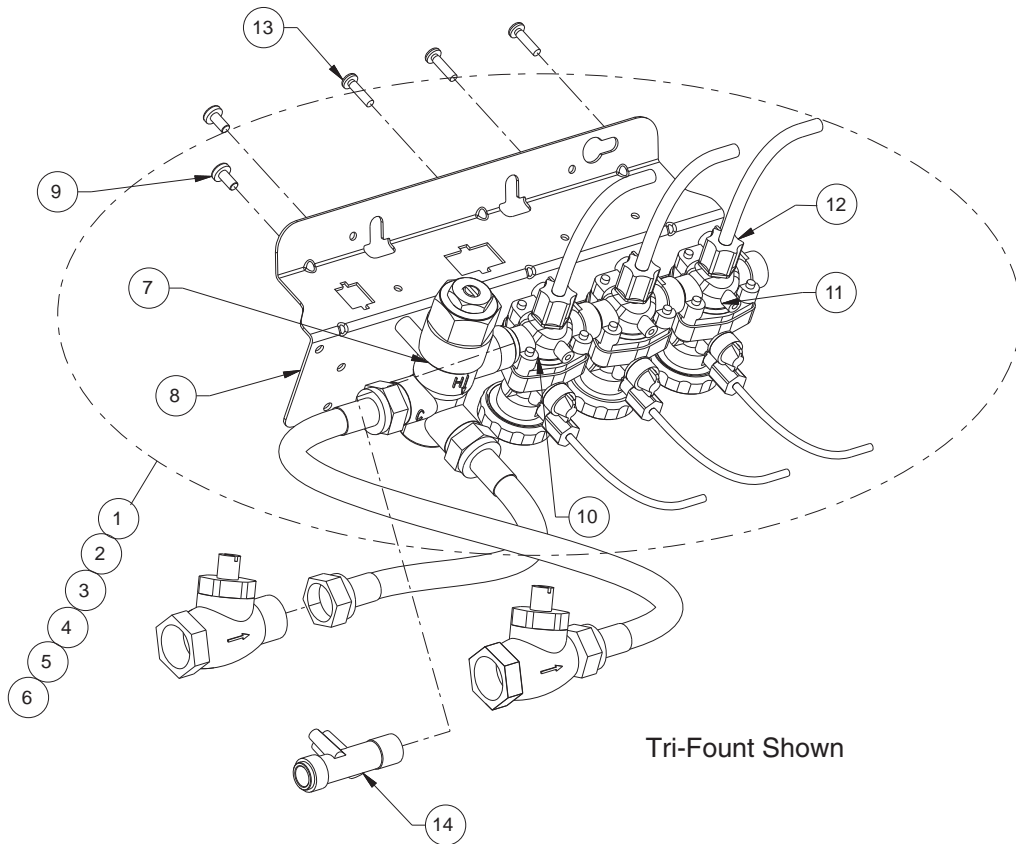
Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	S08-340	Pushbutton Assy. (Includes Items 2 thru 4)	2	3	4
2	128-090	Pushbutton only	2	3	4
3	179-104	Guide for pushbutton	2	3	4
4	147-034	Shoulder Screw for pushbutton	2	3	4
5	182-110	Spacer	2	3	4
6	140-743	Bracket	2	3	4
7	110-115	Nut	2	3	4
-	S65-168	Actuator Assy. (Includes items 9 thru 14)	2	1	2
-	S65-168A	Actuator Assy. (Includes itmes 9 thru 15)	—	2	2
9*	119-227A	Piston	2	3	4
10*	125-099	U-Cup	2	3	4
11*	135-065	Spring	2	3	4
12*	118-279	Actuator Body	2	3	4
13*	198-010	Duckbill Check	2	3	4
14	169-890	Tube Connector 1/8" straight	2	3	4
15†	269-1186	Fitting Adj J	—	2	2
16	160-165	Screw	4	6	8
17	R68-600008-R	Tubing 1/8" OD, Red (specify length in feet)	—	—	—
17	R68-600008-G	Tubing 1/8" OD, Green (specify length in feet)	—	—	—
17	R68-600008-B	Tubing 1/8" OD, Black (specify length in feet)	—	—	—
17	R68-600008-Y	Tubing 1/8" OD, Yellow (specify length in feet)	—	—	—
18	115-131	Sprayhead	2	3	4
19	176-119	Threaded Rod	4	6	8
20	269-1190	Window Hole Plug	4	6	8
21	140-748	Backplate	2	3	4
22	161-026	Nut	4	6	8
23	142-002BS	Lockwasher	4	6	8
24	269-871	Fitting Straight (front sprayhead)	—	1	2
25	269-628	Fitting Swivel 90° (side sprayheads)	2	2	2
26	R68-600011-R	Tubing 1/4" ID, Red (specify Length in feet)	—	—	—
26	R68-600011-G	Tubing 1/4" ID, Green (specify Length in feet)	—	—	—
26	R68-600011-B	Tubing 1/4" ID, Black (specify Length in feet)	—	—	—
26	R68-600011-Y	Tubing 1/4" ID, Yellow (specify Length in feet)	—	—	—
27	130-023	Spanner Wrench	1	1	1

\* Repair Kit S65-168 (incl. parts 9, 10, 11, 12, 13)

\*, † Repair Kit S65-168A (incl. parts 9, 10, 11, 12, 13, 15)



### Air Metering Valve (AST4) — Assembly

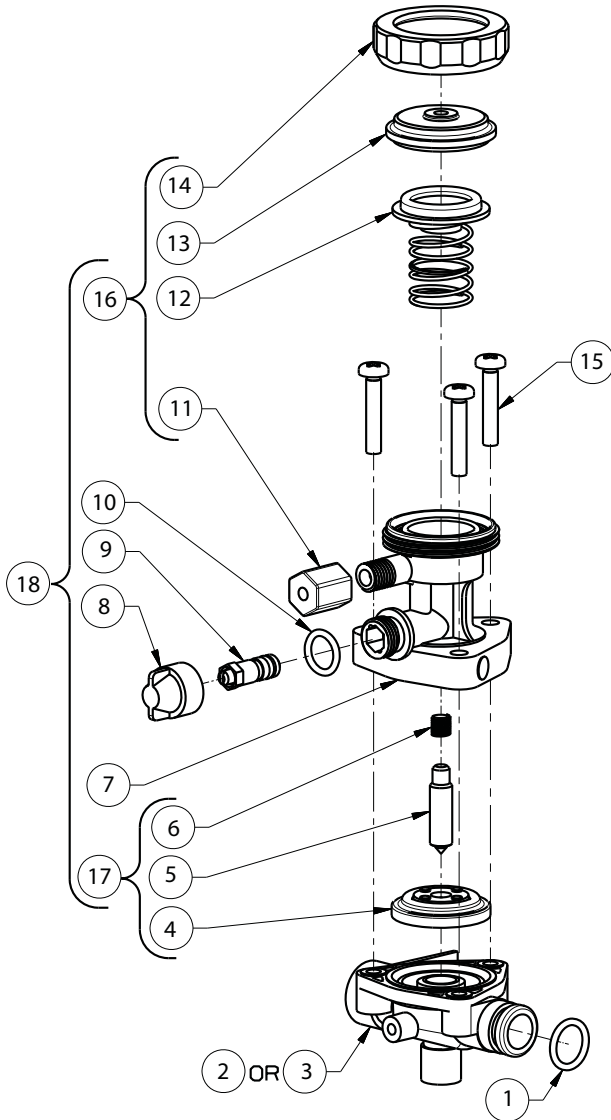


### Parts List — Air Metering Valve Assembly

Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	S08-452TMA	TMA Dual Valve Assembly (includes 7-13 )	1	—	—
2	S08-452TL	TL Dual Valve Assembly (includes 8-14 )	1	—	—
3	S08-453TMA	TMA Tri Valve Assembly (includes 7-13 )	—	1	—
4	S08-453TL	TL Tri Valve Assembly (includes 8-14 )	—	1	—
5	S08-454TMA	TMA Quad Valve Assmbly (includes 7-13 )	—	—	1
6	S08-454TL	TL Quad Valve Assmbly (includes 8-14 )	—	—	1
7	S01-520	Vernatherm Valve, 4 GP	1	1	1
8	140-928	Bracket, Ganged Valve	1	1	1
9	P18-054	Screw 10-24 x 3/8 PN	2	2	2
10	S07-078A	AST4 Valve, through	1	2	3
11	S07-078	AST4 Valve, closed	1	1	1
12	110-231	Compression Nut, 1/4"	2	3	4
13	160-447	Screw 8-16 x 5/8 PN	2	3	4
14	S39-685	Adapter, Valve Inlet	1	1	1



# AST4 Valve Repair Kits



ITEM	PART NO.	DESCRIPTION
1	125-165	O-Ring
2	118-307A	Valve Body-Manifolded
3	118-307	Valve Body-Closed
4	269-983	Diaphragm
5	269-577	Armature, Valve
6	269-578	Spring, Valve
7	118-309	Cover, AST4 Valve
8	107-538	Cover, AST4 Valve Timer
9	S27-305	Timer, ASM, AST4 Valve
10	125-001BY	O-Ring
11	110-234	Compression Nut, 1/8"
12	S39-591	Magnet/Diaphragm Assy
13	107-535	Cover, AST4 Valve
14	110-233	Clamp Nut, AST4 Valve
15	160-449	Screw 8-16 x 7/8"
16	S65-261	Repair Kit-AST4Valve
17	S65-262	Repair Kit-AST4 Valve-Upper
18	S65-260	Repair Kit-AST4 Valve-Complete



## Metering Air Valve Maintenance

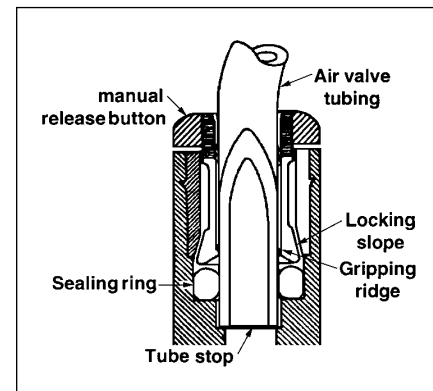
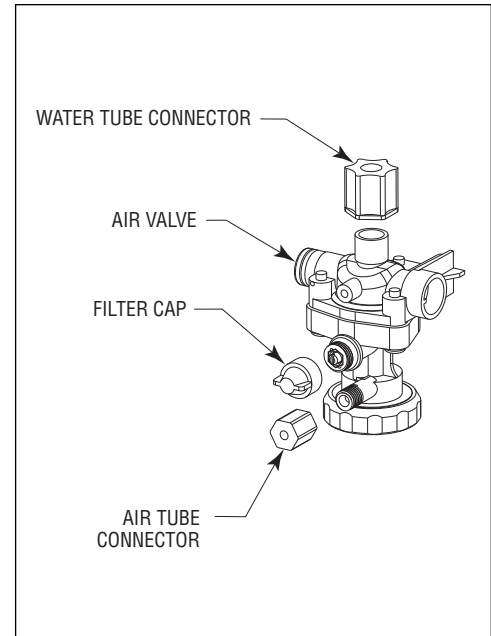
### Adjust Air Valve Meter Time

*NOTE: 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 adjusting 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 orange 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.





## Metering Air Valve Troubleshooting

### **Problem: Valve will not shut off.**

*Cause: Timing mechanism is clogged.*

Solution: 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.

### **Problem: Valve will not turn on.**

*Cause: Water is not being supplied to unit.*

Solution: Open all stops on mixing valve.

*Cause: Water pressure is over 80 PSI.*

Solution: Install a pressure reducing valve.

*Cause: Failed diaphragm/magnet assembly.*

Solution: Unscrew the valve clamp nut on valve. Remove valve cover. Gently press the the diaphragm. The valve should activate. If not, replace the diaphragm/magnet assembly.

### **Problem: Timing can not be adjusted for more than 5 seconds.**

*Cause: There is an air leak*

Solution: Check the valve assembly:

1. Check all tubing and fittings for proper assembly.
2. Tighten cap and nut on 1/8" tubing.

### **Problem: Pushbutton does not work properly.**

*Cause: Air volume may not be sufficient to operate valve.*

Solution: 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 8).

### **Problem: Water is dripping from the streamformers.**

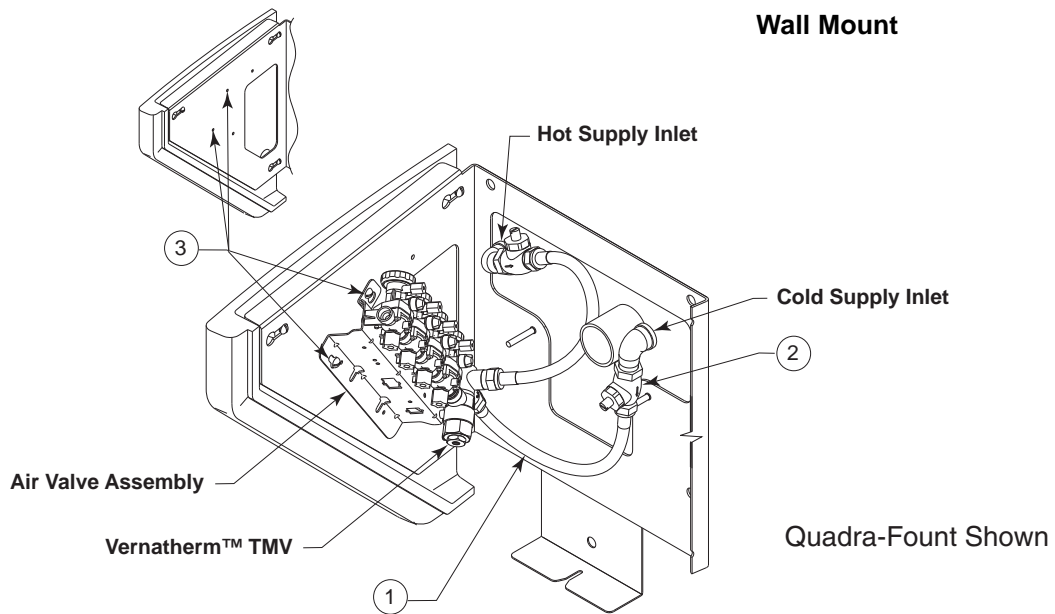
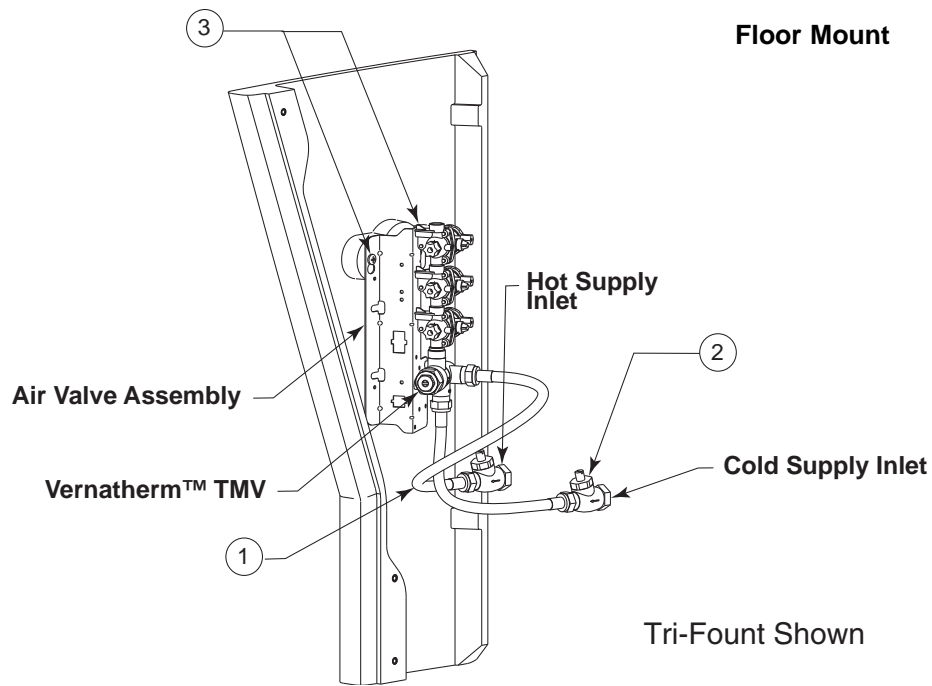
*Cause: Debris has accumulated on valve seat or orifices.*

Solution: 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.



# AST4 & IR Supply and Mixing Valve — Floor and Wall Mounted



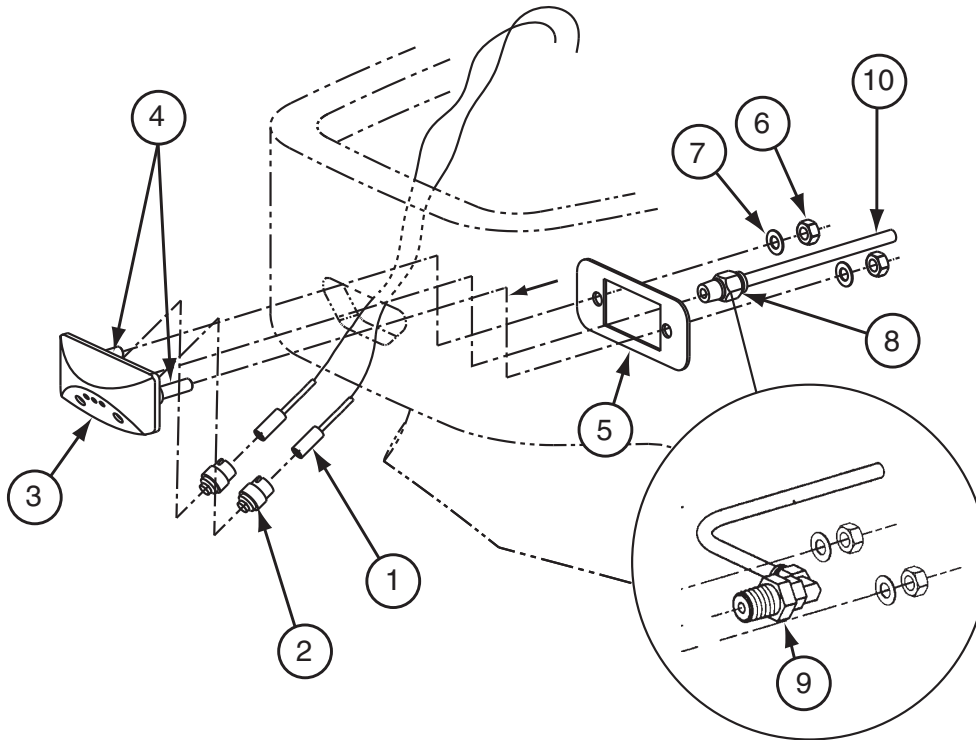
## Parts List — Supply

Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
*1	269-1735	Flex Hose ½" NPT x 24" (Supply to TMV)	2	2	2
*2	S27-102	Check Stop	2	2	2
3	160-169	Screw	2	2	2

\* Use Qty 1 for TL option, all models.



## Battery Infrared (BIR3) — Sprayhead

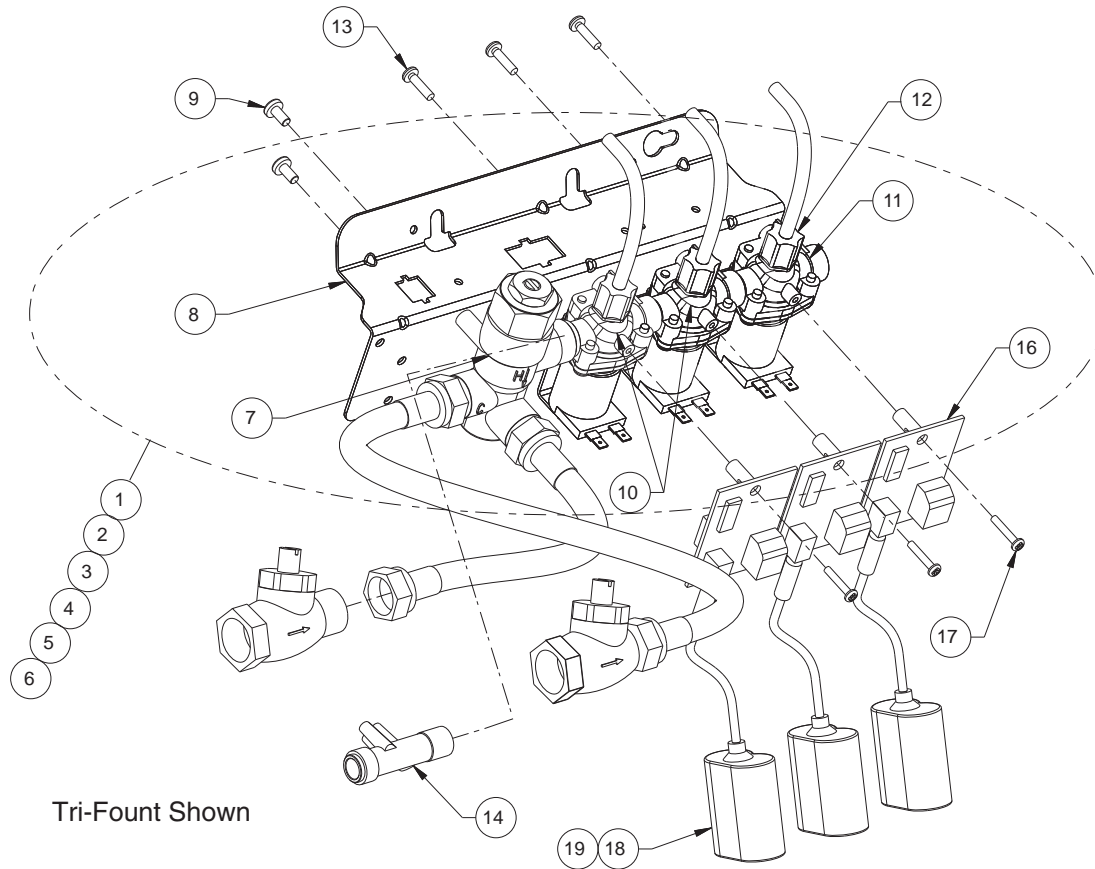


## Parts List — Battery Infrared Sensor and Sprayhead

Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	251-019A	Sensor Eye Leads	2	3	4
2	269-1190	Window	4	6	8
3	115-131	Sprayhead	2	3	4
4	176-119	Threaded Rod	4	6	8
5	140-748	Backplate	2	3	4
6	161-026	Nut	4	6	8
7	142-002BS	Lockwasher	4	6	8
8	269-871	Fitting Straight (front sprayhead)	—	1	2
9	269-628	Fitting Swivel 90° (side sprayheads)	2	2	2
10	R68-60001-R	Tubing 1/4", Red (Specify Length in feet)	—	—	—
10	R68-60001-G	Tubing 1/4", Green (Specify Length in feet)	—	—	—
10	R68-60001-B	Tubing 1/4", Black (Specify Length in feet)	—	—	—
10	R68-60001-Y	Tubing 1/4", Yellow (Specify Length in feet)	—	—	—



## Battery Infrared Valve (BIR3) — Assembly



Tri-Fount Shown

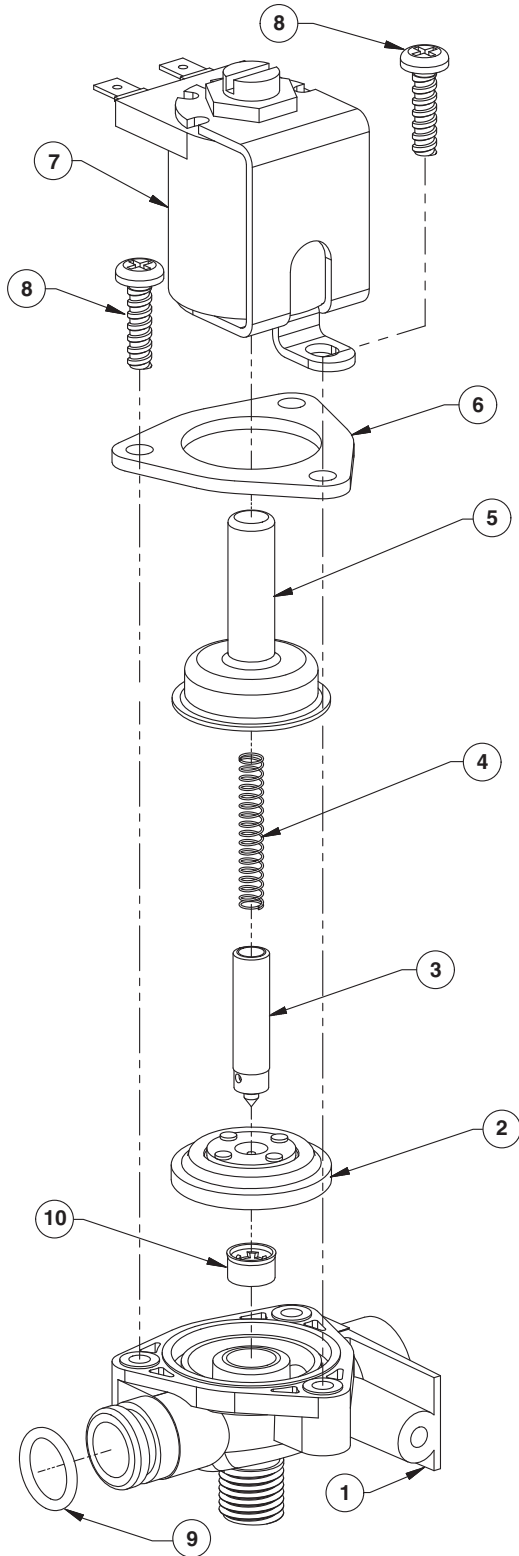
## Parts List — Air Metering Valve Assembly

Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	S08-432TMA	TMA Dual Valve Assembly (includes 7-13 )	1	—	—
2	S08-432TL	TL Dual Valve Assembly (includes 8-14 )	1	—	—
3	S08-433TMA	TMA Tri Valve Assembly (includes 7-13 )	—	1	—
4	S08-433TL	TL Tri Valve Assembly (includes 8-14 )	—	1	—
5	S08-434TMA	TMA Quad Valve Assembly (includes 7-13 )	—	—	1
6	S08-434TL	TL Quad Valve Assembly (includes 8-14 )	—	—	1
7	S01-520	Vernatherm Valve, 4 GP	1	1	1
8	140-928	Bracket, Ganged Valve	1	1	1
9	P18-054	Screw 10-24 x 3/8 PN	2	2	2
10	S07-083	BIR3 Valve, through (includes 15-17)	1	2	3
11	S07-083A	BIR3 Valve, closed (includes 15-17)	1	1	1
12	110-231	Compression Nut, 1/4"	2	3	4
13	160-447	Screw 8-16 x 5/8 PN	2	3	4
14	S39-685	Adapter, Valve Inlet	1	1	1
16	S83-178	Circuit Board	2	3	4
17	160-451	Screw #6-19 x 3/4	2	3	4
18	S83-177	Battery Holder	2	3	4
19	261-010	Lithium Battery, Type DL223A or Equivalent	2	3	4
20	S45-2083	Battery Prepack (includes 18,19)	2	3	4



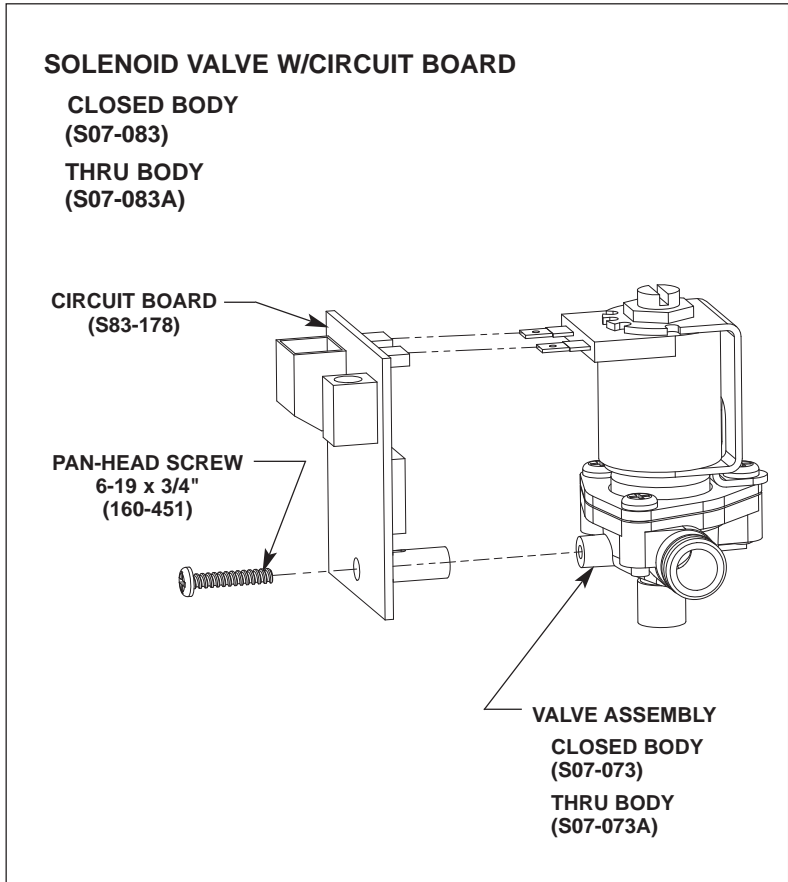


# Battery Infrared Valve (BIR3) — Assembly — Solenoid Valve S07-073 (closed body) and S07-073A (thru body)



REF.	QTY.	PART NO.	DESCRIPTION
1	1	118-307	VALVE BODY, 1/4" CLOSED
1	1	118-307A	VALVE BODY, 1/4" THRU
2	1	269-983	DIAPHRAGM
3	1	192-017	ARMATURE
4	1	135-093	SPRING
5	1	269-1729	ARMATURE HOUSING
6	1	269-1730	CLAMP, ARMATURE HOUSING
7	1	269-1731	COIL, SOLENOID VALVE
8	3	160-447	SCREW, #8 X 5/8
9	1	125-165	O-RING, #2-013
10	1	125-160	FLOW RESTRICTOR, .5 GPM

Parts not sold separately. Hand Tuned.





## Troubleshooting BIR3 Components



**CAUTION:** Turn off water supplies to unit before troubleshooting.

**Problem:** An individual operating station drips and fails to shut off.

**Cause:** There is debris trapped between the diaphragm and the valve seat.

**Solution:** Remove debris between diaphragm and the valve seat.

Disconnect the plug from the battery to the circuit board of the problem valve. Remove the three #8 Phillips-head screws that hold the solenoid valve assembly together. Be careful not to lose the armature or spring (see previous page). Remove the diaphragm. Remove any particles that are trapped between the diaphragm and the valve seat. Rinse off the diaphragm and inspect for damage. Make sure the center orifice and both small side orifices are open. Reassemble in reverse order, being careful not to overtighten the Phillips-head screws or you may crack the plastic valve body. Tighten until the armature plate makes contact with the plastic body. Reconnect the battery plug per diagram. Turn on water supplies to the unit.

**Problem:** An individual operating station fails to turn on or off.

**Cause:** Excessive line pressure.

**Solution:** Install Pressure Reducing Valve.

Check the static line pressure. If the pressure exceeds 80 psi, install a pressure reducer valve at the street main. Excessive line pressure (over 60 psi) will shorten the life of any valve.

**Problem:** An individual operating station fails to turn on or off.

**Cause:** A dead or faulty battery.

**Solution:** Test the station to determine cause and replace battery if required.

Disconnect the plug from the battery to the circuit board of the problem valve. Disconnect the plug from the battery to the circuit board of an adjacent valve. Connect the battery plug from the adjacent working valve to the problem valve. Wait for ten seconds. Activate the problem station's sensor ten times. The station should turn on. If the station turns on, and cycles normally, replace the battery.

**Cause:** Faulty sensor eyes.

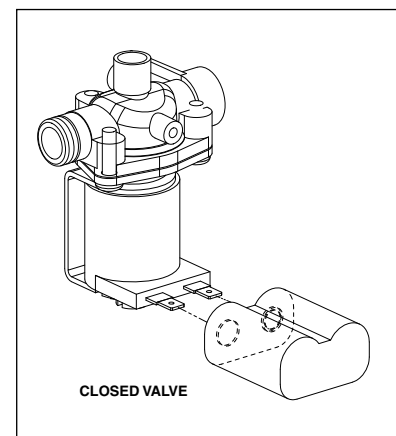
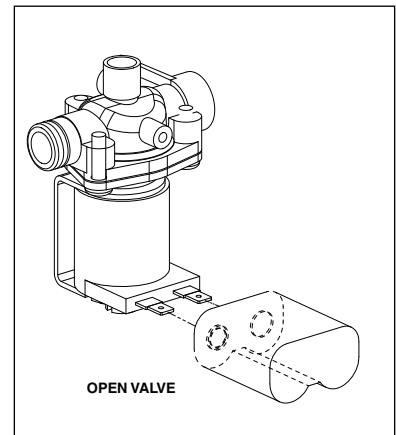
**Solution:** Test station to determine cause; replace sensor eyes if required.

Disconnect the sensor cable from the circuit board of the problem valve. Disconnect the sensor cable from the circuit board of an adjacent working valve. Connect the sensor cable from the adjacent working valve to the problem valve. Activate the problem station's sensor. The station should turn on. If the station turns on and cycles normally, replace the sensor eyes.

**Cause:** Faulty solenoid valve.

**Solution:** Test station to determine cause; replace solenoid valve if required.

Remove the screw, circuit board and standoff from the problem valve. Remove the battery holder. With a good working battery, briefly contact the solenoid valve directly with the battery as shown in the Open Valve figure. The contact should cause the valve to open. With the battery holder removed, briefly contact the solenoid valve with the battery in the position shown in the Closed Valve Figure. This should cause the valve to close. If the valve does not operate when directly contacted with a good battery, and the solenoid valve has already been cleaned as outlined at the beginning of this troubleshooting section, replace the solenoid valve.

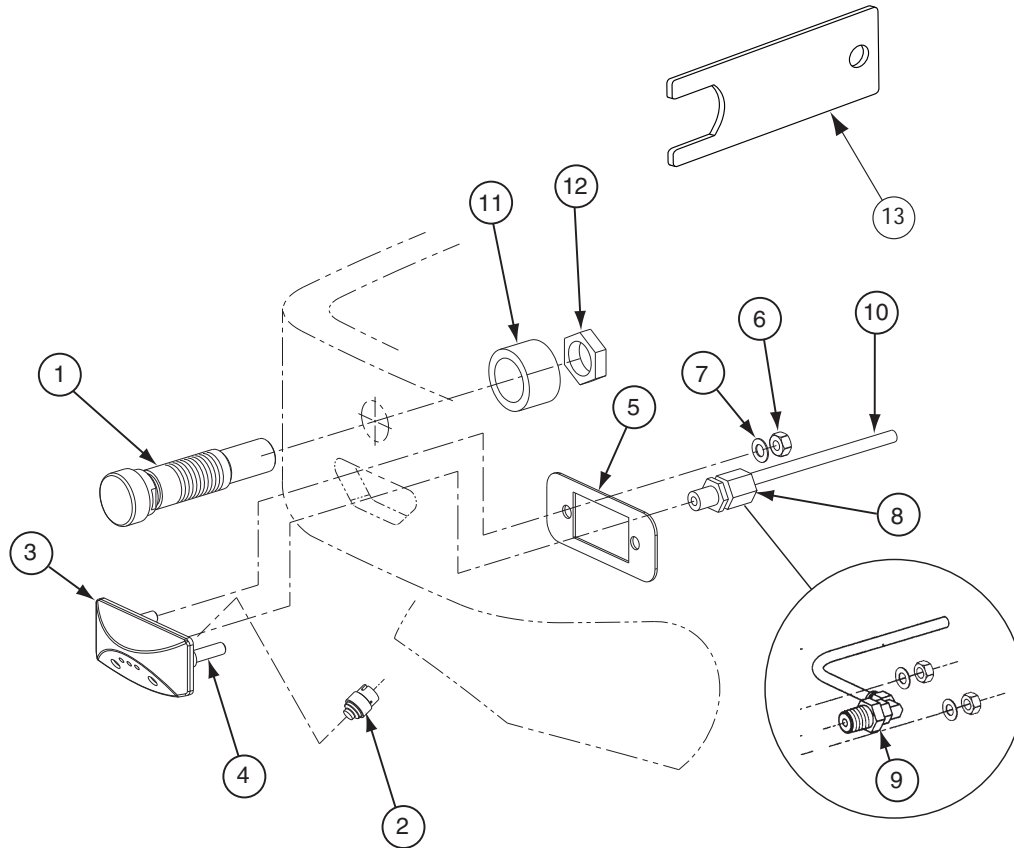


### If problems persist:

Pass your hand in front of the problem station, while at the same time looking to see if the indicator light on the circuit board flashes (the indicator light is located near the hole in the circuit board where the standoff is mounted). If it does not flash, and the battery and sensor eyes have already been tested as outlined above, the problem may be with the circuit board. Make a note of the numbers printed on the circuit board, then contact your Bradley representative for assistance.



## TouchTime® (TT) — Sprayhead (24V Plug-in Transformer)

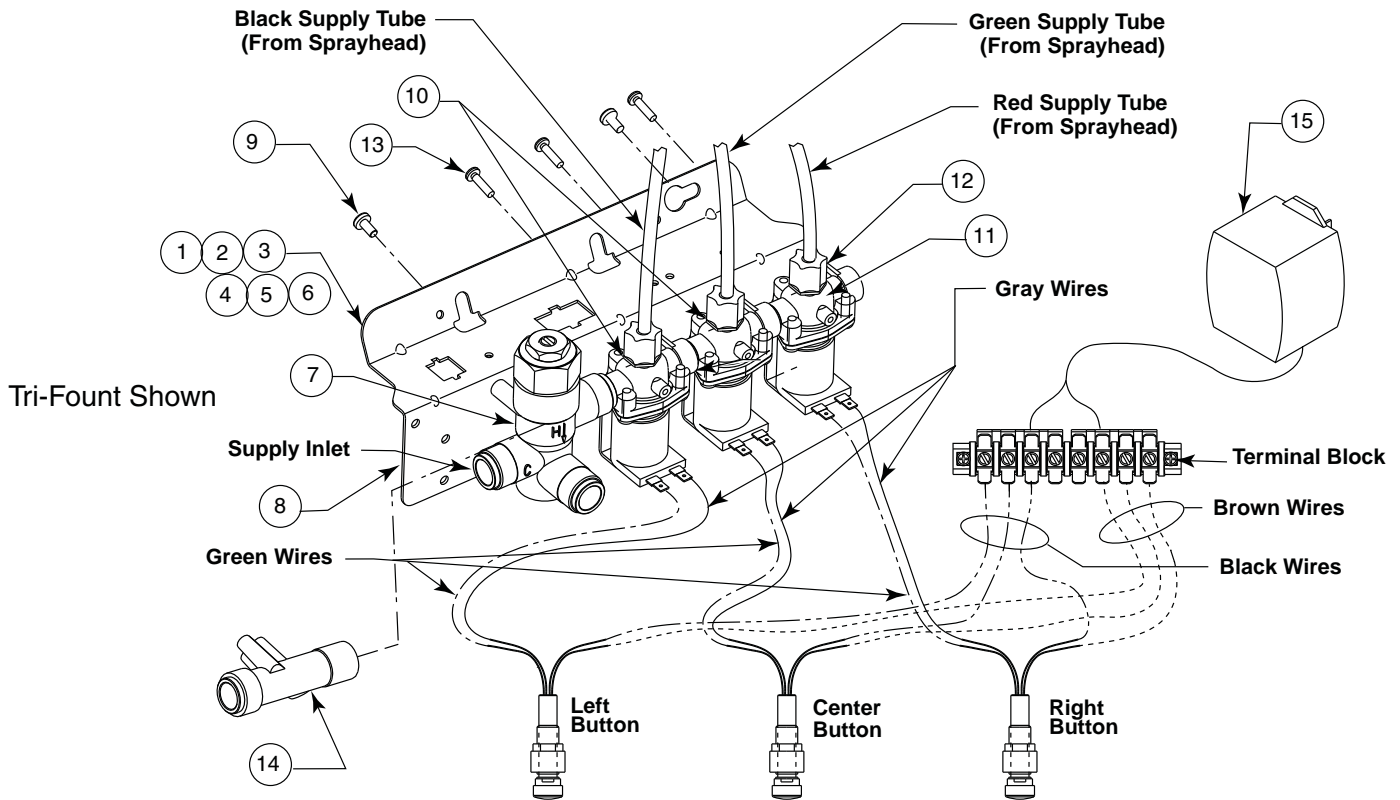


### Parts List — TouchTime (Switch and Sprayhead)

Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	S83-139B	Switch Touchtime	2	3	4
2	269-1190	Window	4	6	8
3	115-131	Sprayhead	2	3	4
4	176-119	Threaded Rod	4	6	8
5	140-748	Backplate	2	3	4
6	161-026	Nut	4	6	8
7	142-002BS	Lockwasher	4	6	8
8	269-871	Fitting Straight (front sprayhead)	—	1	2
9	269-628	Fitting Swivel 90° (side sprayheads)	2	2	2
10	R68-600011-R	Tubing 1/4", Red (Specify Length in feet)	—	—	—
10	R68-600011-G	Tubing 1/4", Green (Specify Length in feet)	—	—	—
10	R68-600011-B	Tubing 1/4", Black (Specify Length in feet)	—	—	—
10	R68-600011-Y	Tubing 1/4", Yellow (Specify Length in feet)	—	—	—
11	182-115	Spacer	2	3	4
12	110-115	Nut, 1/2-14	2	3	4
13	130-023	Spanner Wrench	1	1	1



# TouchTime® Metering Valve (TT) — Assembly

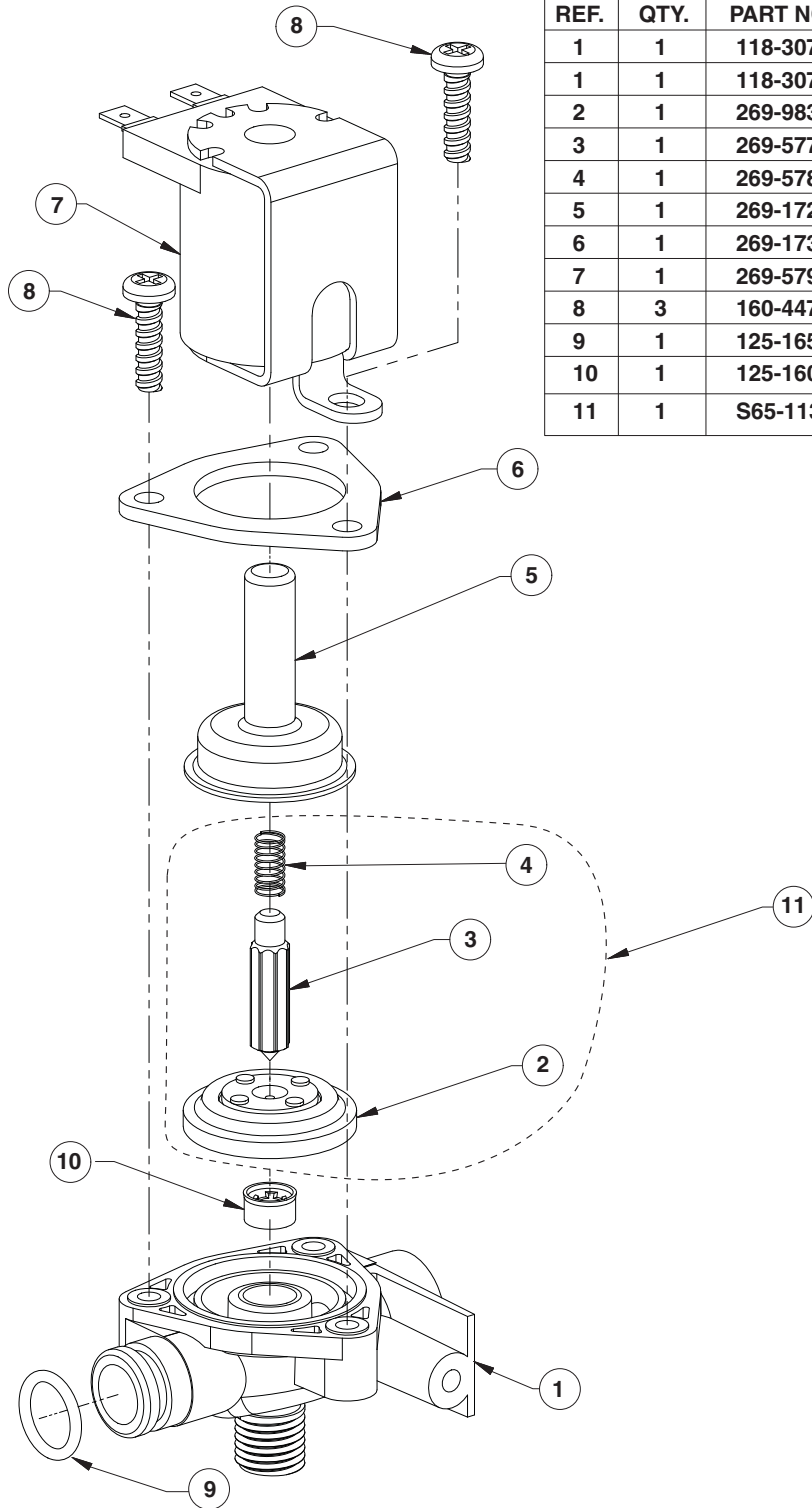


## Parts List — TouchTime Metering Valve Assembly

Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	S45-2088	TT TMA Dual Valve Assembly (Transformer not included)	1	—	—
2	S45-2089	TT TL Dual Valve Assembly (Transformer not included)	1	—	—
3	S45-2094	TT TMA Tri Valve Assembly (Transformer not included)	—	1	—
4	S45-2095	TT TL Tri Valve Assembly (Transformer not included)	—	1	—
5	S45-2164	TT TMA Quad Valve Assembly (Transformer not included)	—	—	1
6	S45-2165	TT TL Quad Valve Assembly (Transformer not included)	—	—	1
7	S01-520	Vernatherm Valve, 4 GP	1	1	1
8	140-928	Bracket, Ganged Valve	1	1	1
9	P18-054	Screw 10-24 x 3/8 PN	2	2	2
10	S07-068A	Solenoid Valve, 24 VAC, through	1	2	3
11	S07-068	Solenoid Valve, 24 VAC, closed	1	1	1
12	110-231	Compression Nut, 1/4"	2	3	4
13	160-447	Screw 8-16 x 5/8 PN	2	3	4
14	S39-685	Adapter, Valve Inlet	1	1	1
15	S83-134	Transformer	1	1	1



# TouchTime Valve (TT) — Assembly — Solenoid Valve S07-068 (closed body) and S07-068A (thru body)



REF.	QTY.	PART NO.	DESCRIPTION
1	1	118-307	VALVE BODY, 1/4" CLOSED
1	1	118-307A	VALVE BODY, 1/4" THRU
2	1	269-983	DIAPHRAGM
3	1	269-577	ARMATURE
4	1	269-578	SPRING
5	1	269-1729	ARMATURE HOUSING
6	1	269-1730	CLAMP, ARMATURE HOUSING
7	1	269-579	COIL, SOLENOID VALVE
8	3	160-447	SCREW, #8 X 5/8
9	1	125-165	O-RING, #2-013
10	1	125-160	FLOW RESTRICTOR, .5 GPM
11	1	S65-113	REPAIR KIT



## TouchTime (TT) Solenoid Valve Troubleshooting



**CAUTION:** Turn off water supplies to unit before troubleshooting.

**Problem:** An individual operating station fails to shut off and drips.

**Cause:** There is debris trapped between the diaphragm and the valve seat.

**Solution:** Remove debris between diaphragm and the valve seat.

1. Remove the three #8 Phillips-head screws that hold the solenoid valve assembly together. Be careful not to lose the armature or spring (see previous page).
2. Remove the diaphragm. Remove any particles that have been trapped between the diaphragm and the valve seat. Rinse off the diaphragm and inspect for damage. Make sure the center orifice and both small side orifices are open.
3. Reassemble in reverse order, being careful not to overtighten the Phillips-head screws or you may crack the plastic valve body. Tighten until the armature plate makes contact with the plastic body.
4. Reconnect the wiring per diagram.

**Problem:** An individual operating station fails to turn on.

**Cause:** A failed coil for the valve or loose electrical connection to the terminal.

**Solution:** Test the station to determine cause.

1. Disconnect the wires from the coil 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. Depress the Touch Time pushbutton of the problem station, the adjacent station should turn on.

If the adjacent station turns on and cycles normally, replace the coil 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;
- depress the Touch Time pushbutton. If the station still fails to turn on, replace the sensor.



## Thermostatic Mixing Valve Troubleshooting

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

- *If stop/check 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/check valves.*
- *Check the hot water heater output to make sure that it is at least 20° 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: Limited water flow**

*Cause: Dirt and debris have built up in the valve or strainer.*

1. Remove and clean strainer (see Figures on next page). If strainer needs to be replaced, order Bradley part no. 173-028.
2. Check the piston for smooth movement.

To check the valve's piston for free and smooth movement, follow the procedures outlined below:

1. Remove the valve's cap and thermostat (see next Page).
2. Push down on the piston with your finger (the piston should move freely). If the movement is not as it should be, the piston needs to be cleaned. Follow the method outlined below for cleaning the piston and valve body:
  - Remove the thermostat.
  - Lift the piston out with a needle-nose pliers and remove the spring.
  - Any cleaner suitable for brass and stainless steel may be used (if cleaning with suitable cleaner is not sufficient to remove debris, a 400-grit sandpaper may be used to polish and hone the piston and valve body).
  - Snap spring into piston (will detent) and reassemble into the valve body. Retest the piston.
3. If, after a thorough cleaning, the piston does not move freely, the piston must be replaced. Contact your Bradley representative and ask for Repair Kit (part number S65-259).

### **Problem: External leaks in the system**

*Cause: O-rings have been damaged.*

*Solution: Replace O-rings where necessary. For replacement of the O-rings, contact your Bradley representative and ask for Repair Kit (part number S65-259).*

### **Problem: Improper water temperature or temperature fluctuation**

*Cause: Thermostat is slowly failing or not working at all.*

*Solution: Check the thermostat for proper operation.*

1. At room temperature (80° F or less) remove cap and thermostat.
2. Place thermostat into container with 115° F water. The pushrod should pop out of the thermostat approximately 1/10".
3. If thermostat pushrod does not pop out, the thermostat must be replaced. Contact your Bradley representative and ask for Repair Kit (part number S65-259).

*Cause: Valve temperature is not properly set.*

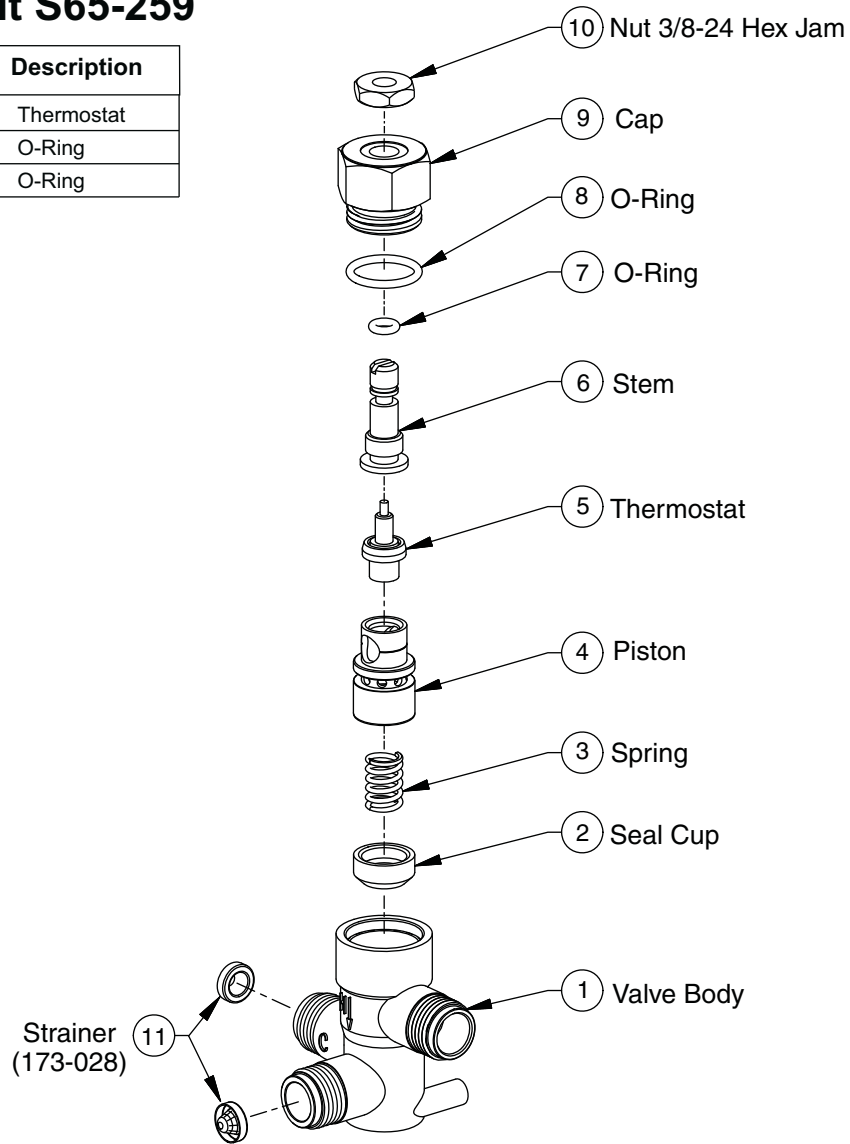
*Solution: Adjust the temperature. Using a blade screwdriver, turn the adjustment stem **counterclockwise** to **increase** the temperature or **clockwise** to **decrease** the temperature.*



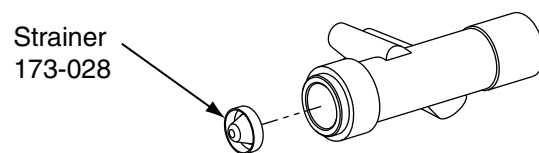
### Vernatherm™ Thermostatic Mixing Valve (S01-524)

#### Repair Kit S65-259

Item	Qty	Description
5	1	Thermostat
7	1	O-Ring
8	1	O-Ring



### Tempered Line Adapter Assembly (S39-685) Option



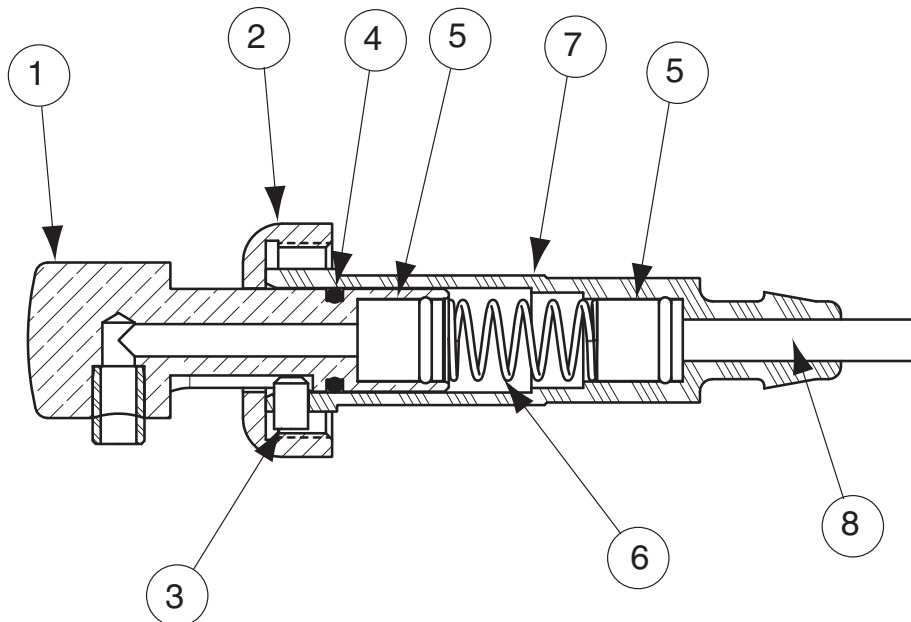
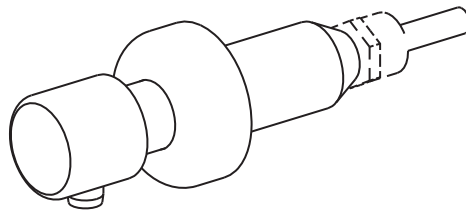




## Soap System

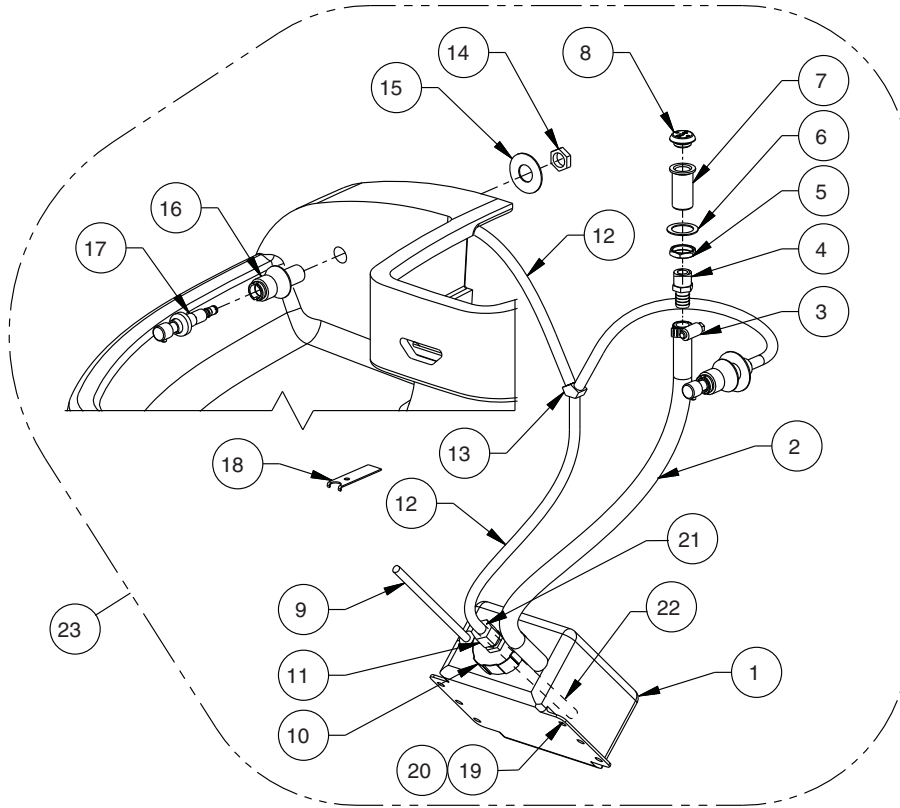
### Parts List — Soap Valve S09-083

Item	Part No.	Qty	Description
	S09-083	1	Soap Valve Complete
1	S64-096	1	Plunger Assy.
2	110-227A	1	Collar
3	160-239	1	Set Screw
4	125-168	1	O-Ring
5	198-013	2	Seat Assy.
6	135-097	1	Spring
7	144-068M	1	Cylinder
8	R68-800002	1	Tube 3/8" ID (Specify length in feet)





### Soap System ....Continued



### Parts List — Soap System

ITEM	PART NO	DESCRIPTION	QTY
1	240-001	SOAP TANK	1
2	169-989	HOSE 5/8 ID	*
3	146-040	HOSE CLAMP	1
4	169-916	MALE FITTING	1
5	110-093	NUT	1
6	142-002CJ	WASHER	1
7	153-174	FILLER	1
8	136-011	SOAP FILLER CAP	1
9	R68-600021	TUBE VENT 3/16	*
10	136-049	SOAP TANK CAP	1
11	269-1832	BULKHEAD FITTING	1
12	R68-800002	TUBE SUPPLY 1/2	*
13	269-1833	TEE	1
14	110-115	NUT	2
15	142-002CB	WASHER	2
16	S52-109	SOAP VALVE BODY ASSY	2
17	S09-083	SOAP VALVE	2
18	130-142	SOAP FILLER CAP WRENCH	1
19	161-026	NUT	2
20	142-002AV	WASHER	2
21	269-1834	FERRULE	1
22	R68-600012	TUBE	*
23	S50-409	COMPLETE SOAP SYSTEM (incl. items 1-22)	1

\* SPECIFY LENGTH IN FEET



## Soap System ....Continued

### **SOAP RECOMMENDATIONS**

Quality soap dispensers require good quality soap and periodic maintenance to properly operate. Bradley soap dispensers will provide dependable, consistent operation over the long term when soap with reasonable viscosity and pH levels are used and when a minimal amount of periodic maintenance is performed on the valves.

Soap thickness is determined by a measurement called viscosity. Soap viscosity should be between 100 cps (centerpoise) and 2500 cps for all Bradley soap dispensers. Thinner soaps are perceived by the users as being "watered down" so users tend to take more than they need, resulting in waste. Thick soaps flow slower and inhibit the "flushing" action of the valves, which allows the soap to congeal in the valve and cause clogs.

The pH (acid) level of the soap should be in the range of 6.5 to 8.5. More acidic soaps (pH levels lower than 6.5) will corrode metal parts (even stainless steel!!) and degrade rubber and plastic components. They will also cause skin irritation. Most inexpensive soaps (typically the pink lotion type) fall into this acidic category and will eventually cause valve failure and metal corrosion. Base soaps (pH levels higher than 8.5) will cause swelling or degradation of rubber and plastic parts and skin irritation.

Generally, any quality soap meeting the viscosity and pH guidelines above will work well with Bradley soap dispensers. PCMX or Isopropanol based antibacterial soaps (within viscosity and pH limits) will also work with Bradley dispensers. Soaps satisfying these basic guidelines will provide consistent flow and reduce clogs.

Most soap dispenser problems are caused by soap that is too thick or corrosive, or by a lack of maintenance. Many soaps come in concentrate form which must be diluted with water. Often, the soap is improperly diluted or used straight out of the bottle, which causes clogging and valve failure. If proper soap is being used, valves that have never been cleaned are usually the source of dispensing problems. Bradley has entered into an agreement with Champion Brand Products to provide additional customer service for purchasers of our dispensers regarding soap issues. They are very helpful and can get to the bottom of almost any soap dispenser related problem. They also sell an excellent "Bradley approved" soap. Please see **Soap Instruction Sheet 215-1286** for details about soap valve cleaning or how to contact Champion. With proper maintenance and soap, Bradley dispensers will provide long term, trouble free operation.

### **SOAP DISPENSER MAINTENANCE INSTRUCTIONS**

#### **Multi-Fount Washfountains**

Bradley soap dispensers will provide dependable, consistent operation over the long term when the proper soap is used and when a minimal amount of periodic maintenance is performed on the valves. Valves must be maintained (cleaned) to function properly.

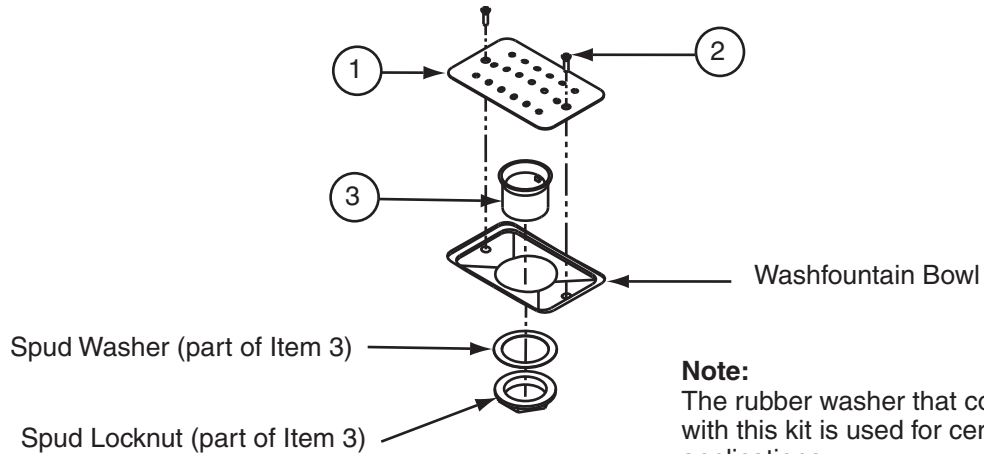
To ensure proper operation of your soap dispenser, follow these instructions:

- Once per month, remove the cap from the soap tank and insert the draw tube (below the cap) into hot water and soak it for 30 minutes.
- Push valve at least 20 times while it is soaking.
- Flush soap reservoir with hot water while valve is soaking.

In cases of extreme clogging, the valve should be disassembled and the parts should be soaked in hot water or cleaning solution to restore proper functioning. Soap dispensers that will not be used for extended periods of time (schools during summer break, etc.) should be drained, cleaned and left empty until put back into service. Soap left on the outside of dispensers can cause discoloration and corrosion of the reservoir (even on stainless steel units). All soap should be wiped or scrubbed off daily, then the outside of the dispenser should be rinsed with clear water and dried with a soft cloth.



### Drain Spud and Strainer



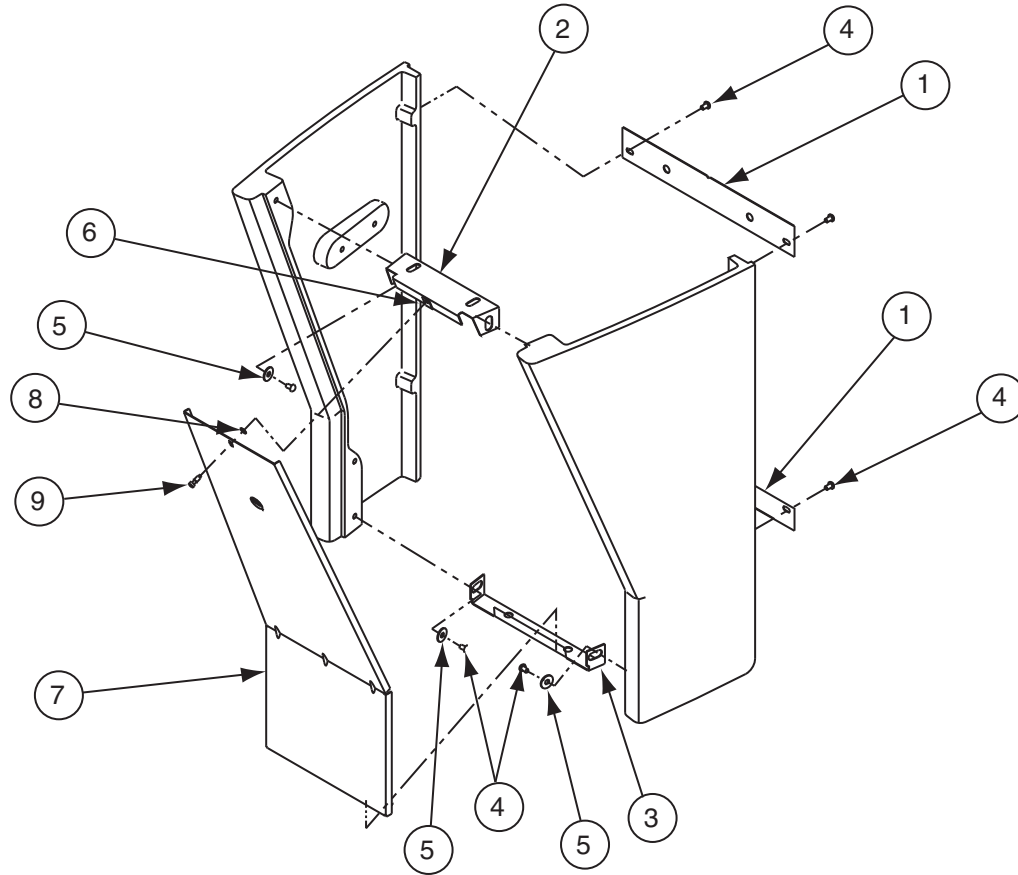
**Note:**  
 The rubber washer that comes with this kit is used for certain applications. Discard this washer for this application as it is not used on Washfountains.

### Parts List

Item	Part No.	Qty	Description
1	173-023	1	Dome Strainer
2	160-132	2	Screw 10-24 x 1/2" (for strainer)
3	112-029	1	Drain Spud (includes washer & nut)



## Floor Pedestal — Assembly



### Parts List — Floor Pedestal

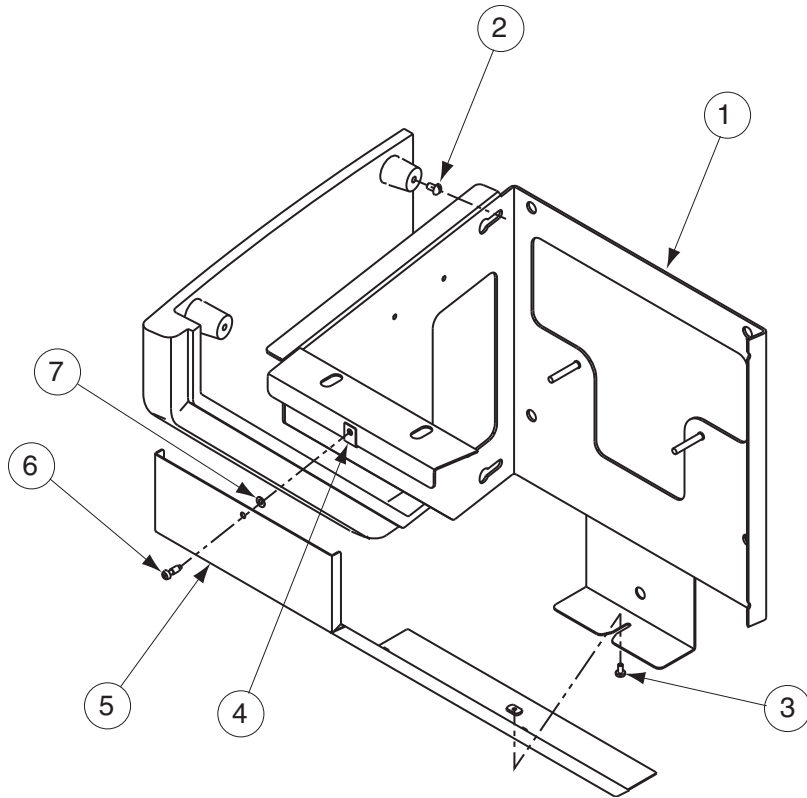
Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	186-1589	Mounting Panel	2	2	—
1	186-1590	Mounting Panel	—	—	2
** 2	S04-056	Upper Bracket Assembly	1	1	—
** 2	S04-057	Upper Bracket Assembly	—	—	1
3	140-1011	Lower Bracket	1	1	—
3	140-1012	Lower Bracket	—	—	1
4	160-389	Screw 1/4-20 x 1/2	8	8	8
5	142-002BJ	Washer	4	4	4
6	146-055	Clip	1	1	1
7	S04-100	Access Panel — Standard Height	1	1	—
7	S04-095	Access Panel — Juvenile Height	1	1	—
7	S04-101	Access Panel — Standard Height	—	—	1
7	S04-096	Access Panel — Juvenile Height	—	—	1
* 8	132-031	Washer	1	1	1
* 9	147-019	Screw	1	1	1

\* Access panel (Item 7) part numbers include the screw and washer.

\*\* Upper Bracket Assembly includes Item 6.



### Wall Mount Pedestal — Assembly



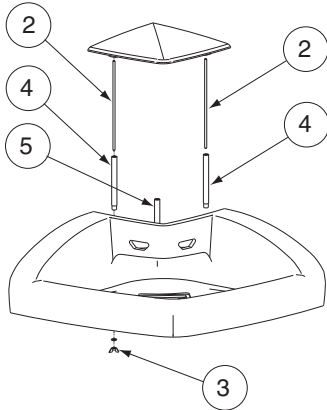
### Parts List — Wall Mount Pedestal

Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	S17-237	Pedestal Assy	—	1	—
1	S17-280	Pedestal Assy	—	—	1
*2	160-169	Screw ¼-20	—	6	6
*3	P10-311	Screw 10-32	—	1	1
*4	146-055	Clip	—	1	1
5	S04-102	Access Panel — Standard Height	—	1	—
5	S04-107	Access Panel — Standard Height	—	—	1
**6	147-019	Screw	—	1	1
**7	132-031	Washer	—	1	1

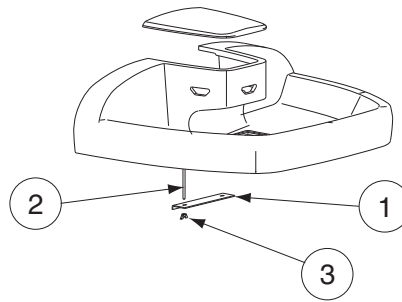
\* Pedestal Assy (Item 1) part numbers include the screws and clip  
 \*\* Access panel (Item 5) part numbers include the screw and washer



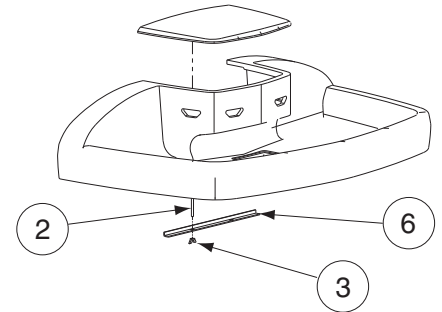
## Sprayhead Cover Attaching Hardware



Corner-Fount



Tri-Fount



Quadra-Fount

## Parts List — Sprayhead Cover Attaching Hardware

Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	159-367	Anchor Bar	—	1	—
2	330-144	Threaded Rod ¼-20 x 11"	2	2	2
3	161-076	Wing Nut ¼-20	2	2	2
4	113-907	Guide Tube	2	—	—
5	113-966	Support Tube	1	—	—
6	159-377	Anchor Bar	—	—	1

## Sprayhead Covers — Replacement Parts

### Part Numbers — MF2922 Corner-Fount

Color	Covers	Color	Cover
Arctic Chip	S04-106AD	Lannonstone	S04-106S
Bluesky	S04-106AL	London Gray	S04-106AP
Charcoal	S04-106K	Mountain Top	S04-106AN
Cobblestone	S04-106T	Mystic Moss	S04-106AG
Coffee Bean	S04-106AJ	Organic Taupe	S04-106AR
Cornfield	S04-106AK	Peppered White	S04-106E
Empire Gray	S04-106	Riverstone	S04-106AF
Graphite	S04-106P	Stardust	S04-106AH
Hillside	S04-106AM	Summer Sage	S04-106AE
Jade	S04-106N	White Sand	S04-106W

Contact Bradley for bowl part numbers.



## Sprayhead Cover — Replacement Parts ...Continued

### Part Numbers — MF2922, MF2939 Tri-Fount

Color	Covers	Color	Cover
Arctic Chip	S04-104AD	Lannonstone	S04-104S
Bluesky	S04-104AL	London Gray	S04-104AP
Charcoal	S04-104K	Mountain Top	S04-104AN
Cobblestone	S04-104T	Mystic Moss	S04-104AG
Coffee Bean	S04-104AJ	Organic Taupe	S04-104AR
Cornfield	S04-104AK	Peppered White	S04-104E
Empire Gray	S04-104	Riverstone	S04-104AF
Graphite	S04-104P	Stardust	S04-104AH
Hillside	S04-104AM	Summer Sage	S04-104AE
Jade	S04-104N	White Sand	S04-104W

### Part Numbers — MF2944, MF2949 Quadra-Fount

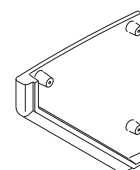
Color	Covers	Color	Cover
Arctic Chip	S04-105AD	Lannonstone	S04-105S
Bluesky	S04-105AL	London Gray	S04-105AP
Charcoal	S04-105K	Mountain Top	S04-105AN
Cobblestone	S04-105T	Mystic Moss	S04-105AG
Coffee Bean	S04-105AJ	Organic Taupe	S04-105AR
Cornfield	S04-105AK	Peppered White	S04-105E
Empire Gray	S04-105	Riverstone	S04-105AF
Graphite	S04-105P	Stardust	S04-105AH
Hillside	S04-105AM	Summer Sage	S04-105AE
Jade	S04-105N	White Sand	S04-105W

## Pedestal Panels

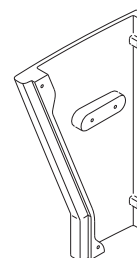
### Panel Part Numbers

Color	Wall Mounted Left Panel	Wall Mounted Right Panel	Juvenile Hight Left Panel	Juvenile Height Right Panel	Standard Height Left Panel	Standard Height Right Panel
Arctic Chip	S15-123AD	S15-124AD	S15-121AD	S15-122AD	S15-119AD	S15-120AD
Bluesky	S15-123AL	S15-124AL	S15-121AL	S15-122AL	S15-119AL	S15-120AL
Charcoal	S15-123K	S15-124K	S15-121K	S15-122K	S15-119K	S15-120K
Cobblestone	S15-123T	S15-124T	S15-121T	S15-122T	S15-119T	S15-120T
Coffee Bean	S15-123AJ	S15-124AJ	S15-121AJ	S15-122AJ	S15-119AJ	S15-120AJ
Cornfield	S15-123AK	S15-124AK	S15-121AK	S15-122AK	S15-119AJ	S15-120AK
Empire Gray	S15-123	S15-124	S15-121	S15-122	S15-119	S15-120
Graphite	S15-123P	S15-124P	S15-121P	S15-122P	S15-119P	S15-120P
Hillside	S15-123AM	S15-124AM	S15-121AM	S15-122AM	S15-119AM	S15-120AM
Jade	S15-123N	S15-124N	S15-121N	S15-122N	S15-119N	S15-120N
Lannonstone	S15-123S	S15-124S	S15-121S	S15-122S	S15-119S	S15-120S
London Gray	S15-123AP	S15-124AP	S15-121AP	S15-122AP	S15-119AP	S15-120AP
Mountaintop	S15-123AN	S15-124AN	S15-121AN	S15-122AN	S15-119AN	S15-120AN
Mystic Moss	S15-123AG	S15-124AG	S15-121AG	S15-122AG	S15-119AG	S15-120AG
Organic Taupe	S15-123AR	S15-124AR	S15-121AR	S15-122AR	S15-119AR	S15-120AR
Peppered White	S15-123E	S15-124E	S15-121E	S15-122E	S15-119E	S15-120E
Riverstone	S15-123AF	S15-124AF	S15-121AF	S15-122AF	S15-119AF	S15-120AF
Stardust	S15-123AH	S15-124AH	S15-121AH	S15-122AH	S15-119AH	S15-120AH
Summer Sage	S15-123AE	S15-124AE	S15-121AE	S15-122AE	S15-119AE	S15-120AE
White Sand	S15-123W	S15-124W	S15-121W	S15-122W	S15-119W	S15-120W

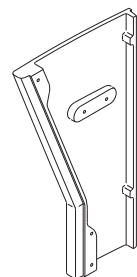
Left Panels Shown



S15-123



S15-121



S15-119





# Terreon® Care and Maintenance

## Material Description

Constructed of Terreon®, a NAHB Certified densified solid surface material composed of polyester resin. Terreon® is resistant to chemicals, stains, burns and impact. Surface damage can be easily repaired with everyday cleansers or fine grit abrasives.

## Routine Cleaning

Clean daily or as often as conditions require using a standard commercial or household cleaner such as Formula 409® or Windex®.

## Stubborn Stains

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

## Special Situations for Material

### 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® Solid Surface cleaner and polish to refresh and protect the Terreon Solid Surface material.

Bradley recommends additional care and maintenance for the darker colored Terreon, for complete instructions on this additional maintenance see Bradley document #1505.



**DO NOT USE STRONG ACID OR ALKALINE CHEMICALS AND CLEANSERS TO CLEAN TERREON. IF THESE CHEMICALS COME IN CONTACT WITH THE TERREON 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.**

## Tip

When cleaning units equipped with infrared (electronic eye) activation, it is helpful to turn off the power to the unit or cover the windows to prevent accidental activation. After the window is covered, the water will run for approximately 30 seconds and then shut off.

## Repair Kits

Terreon® repair kits are available, contact your Bradley representative or distributor for part numbers and pricing.

**NOTE: Repair kits are made to order and have a shelf life of 30 days.**

## Brand Names

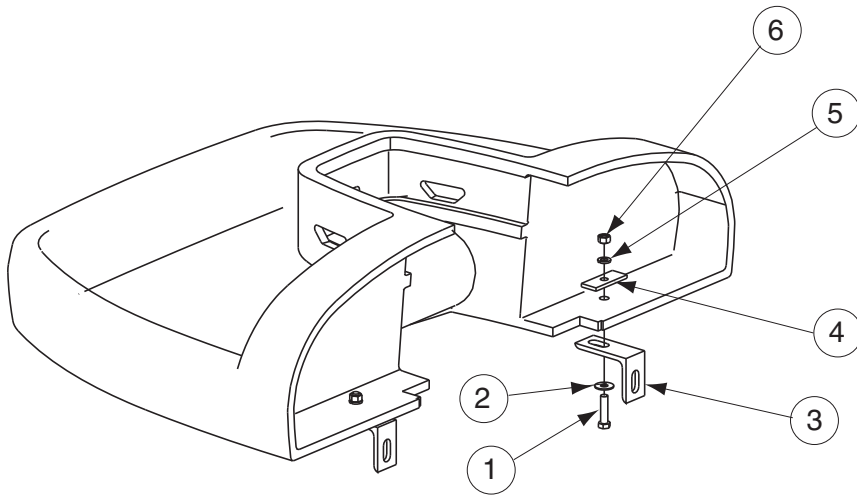
Use of brand names is intended only to indicate a type of cleaner. This does not constitute an endorsement, or does the omission of any brand name cleaner imply it's inadequacy. Many products named are regional in distribution, and can be found in local supermarkets, department and hardware stores, or through your cleaning service.



It is emphasized that all products should be used in strict accordance with package instructions.



### Bowl — Assembly



### Parts List — Bowl Assembly

Item	Part No.	Description	Corner	Tri	Quad
			Qty	Qty	Qty
1	160-301	Bolt	2	2	2
2	142-002CG	Washer	2	2	2
3	140-260	Bracket	2	2	2
4	200-015	Plate	2	2	2
5	142-002CH	Lockwasher	2	2	2
6	161-065	Nut	2	2	2