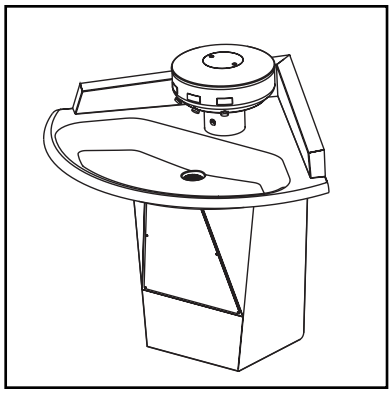
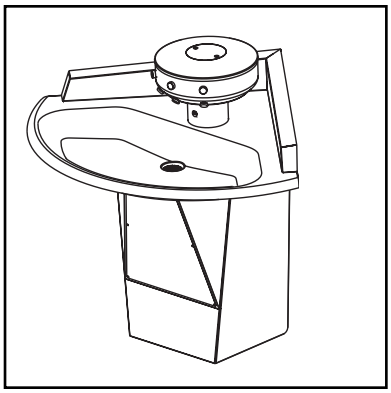
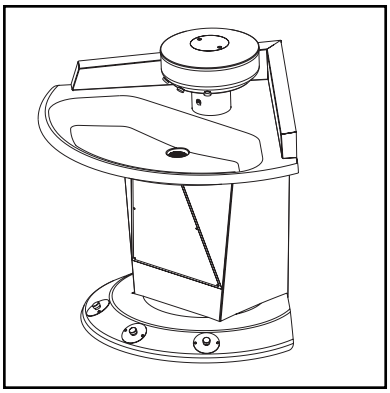
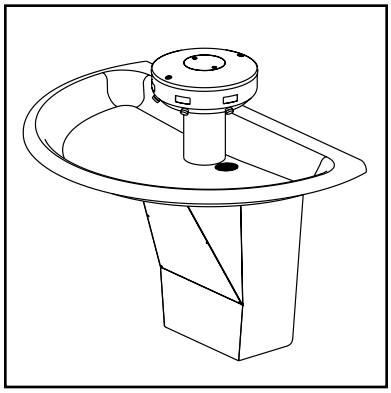
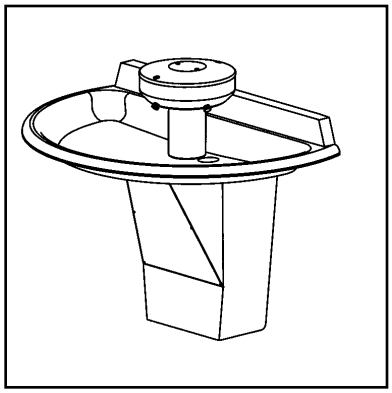
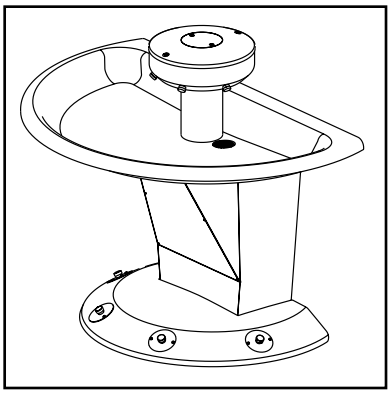
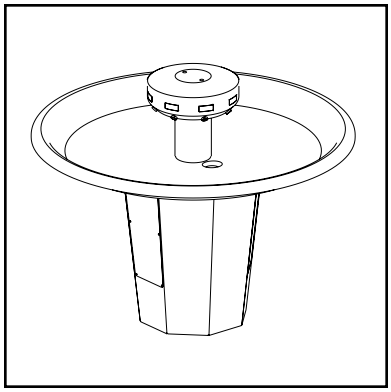
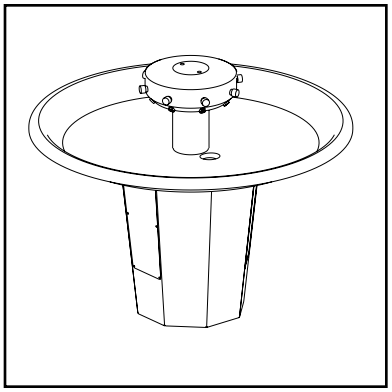
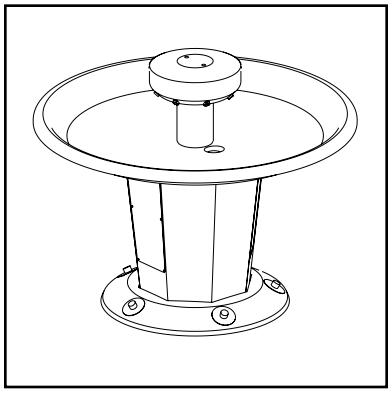




Sentry Washfountain

Parts & Service Guide

Current Models After May 2, 2005

215-1472 Rev. F; EN 06-915

P.O. Box 309, Menomonee Falls, WI 53052-0309
TEL. 1-800-Bradley FAX 262-251-5817
http://www.bradleycorp.com

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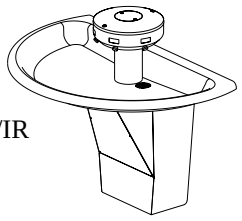
Sentry Washfountain Products

Stainless Steel
– Infrared, Hand or Foot Operated

- **Reliable Pushbutton Activated Air Metering or Infrared Control**
- **Available in a 54" or 36" Bowl Size**
- **Standard Height 54" Model with Hand or Infrared Control is ADA Compliant**
- **Factory Tested and Shipped Preassembled**
- **Vandal Resistant and Easy to Clean**

Models Available:	
SN2003	36" Semi-Circular – Floor-Mounted
SN2004	54" Semi-Circular – Floor-Mounted
SN2023	36" Semi-Circular – Wall-Mounted
SN2024	54" Semi-Circular – Wall-Mounted
SN2005	36" Circular – Floor-Mounted
SN2008	54" Circular – Floor-Mounted
SN2013	54" Corner – Floor-Mounted
SN2033	54" Corner – Wall-Mounted

SN2004/IR



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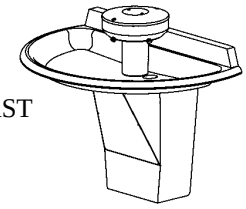

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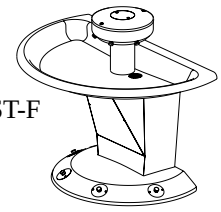

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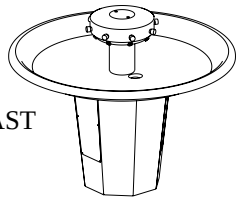

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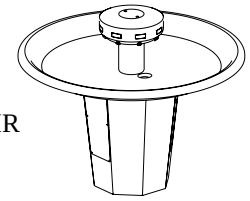

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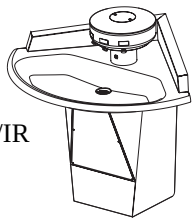

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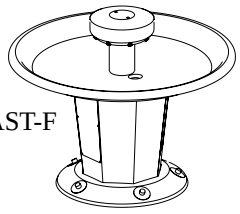

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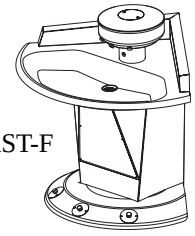

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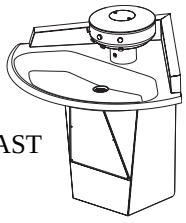

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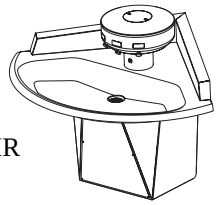
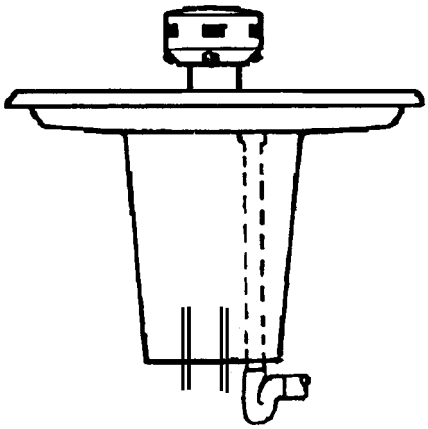
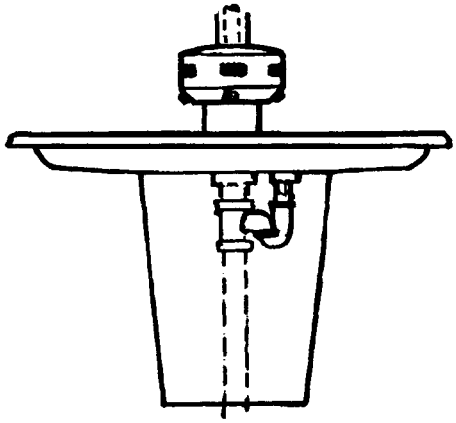


How to Determine Drain Type

(Parts may vary depending upon drain type. Identify your drain type before continuing.)



TYPE A:
SUPPLIES BELOW,
VENT OFF DRAIN.
P-TRAP FURNISHED BY OTHERS.



TYPE B:
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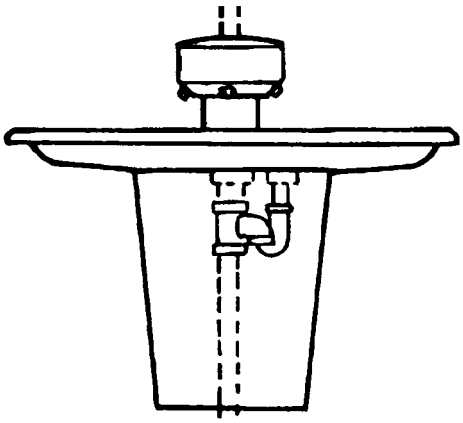
CENTRALLY-RISING VENT.
P-TRAP FURNISHED.



TYPE H:
SUPPLIES BELOW,
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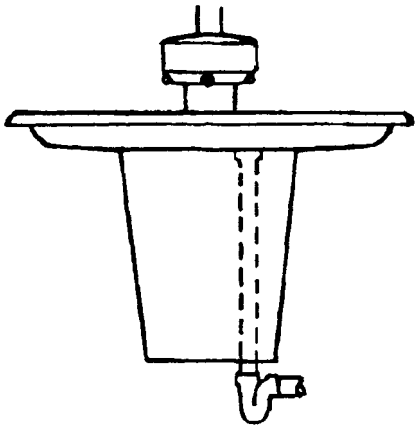
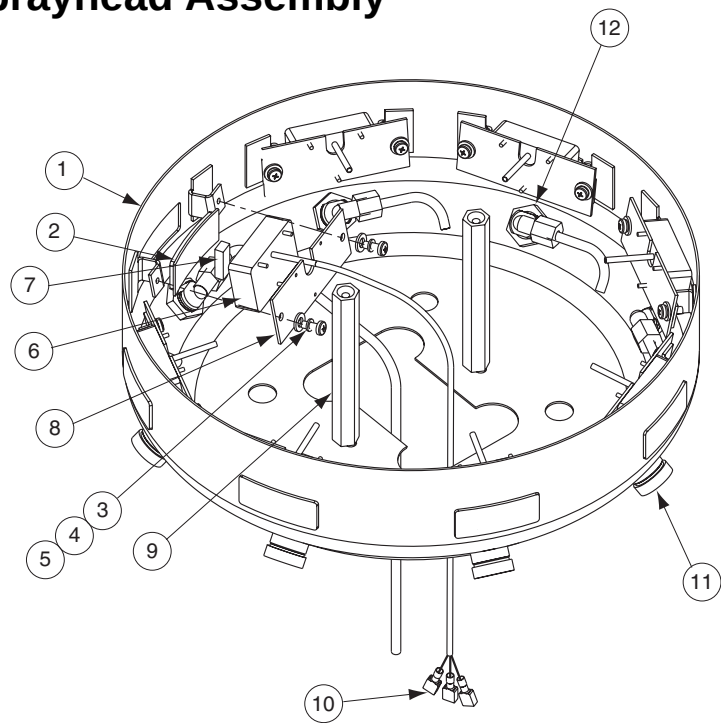
P-TRAP FURNISHED.



TYPE O:
SUPPLIES ABOVE,
VENT OFF DRAIN.
P-TRAP FURNISHED BY OTHERS.

Infrared (IR) — Sprayhead Assembly

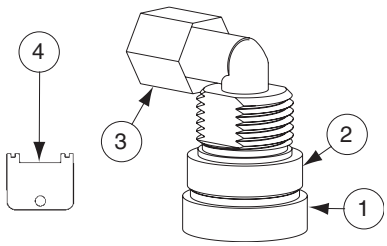


Parts List — Infrared Sensor and Module

Item	Part No.	Description	54" Corner Qty	36" Semi Qty	54" Semi Qty	36" Circle Qty	54" Circle Qty
1	—	Shell	1	1	1	1	1
2	269-982	Lens (window)	3	3	4	5	8
3	160-245	Screw 10-24 x 1/2"	6	6	8	10	16
4	142-002BT	Lock Washer	6	6	8	10	16
5	142-002AV	Flat washer	6	6	8	10	16
6	269-1184	Sensor	3	3	4	5	8
7	182-100	Lens Support (Rubber Block)	3	3	4	5	8
8	159-363	Sensor Mounting Bracket	3	3	4	5	8
9	161-082	Nut - Extension 1/4"-20 x 5-1/8"	2	2	2	2	2
10	269-621	Terminal - female disconnect	9	9	12	15	24
11	S05-157	Aerator Assembly (Std 0.5 GPM)	3	3	4	5	8
12	110-115	Nut - 1/2" - 14	3	3	4	5	8

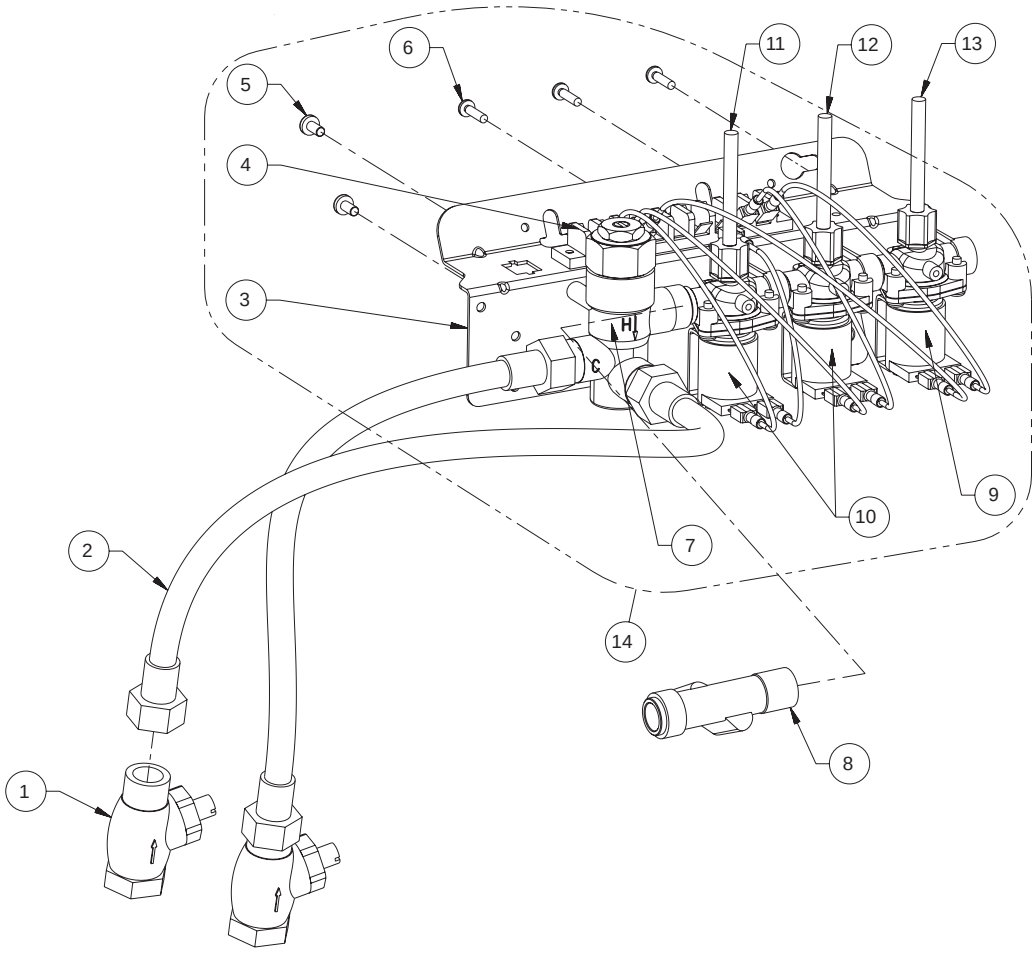
Parts List — Aerator Assembly

Item	Part No.	Description	S05-157 Qty
1	S05-142A	Std. Aerator, 0.5 GPM	1
2	153-402A	Adapter	1
3	145-090	90° Connector 1/4" tube x 1/8" NPT	1
* 4	130-141	Spanner Wrench for Aerator	—



* Spanner wrench not included in Assemblies

Infrared (IR) Part 1 — Solenoid Valve Assembly (24V Transformer)

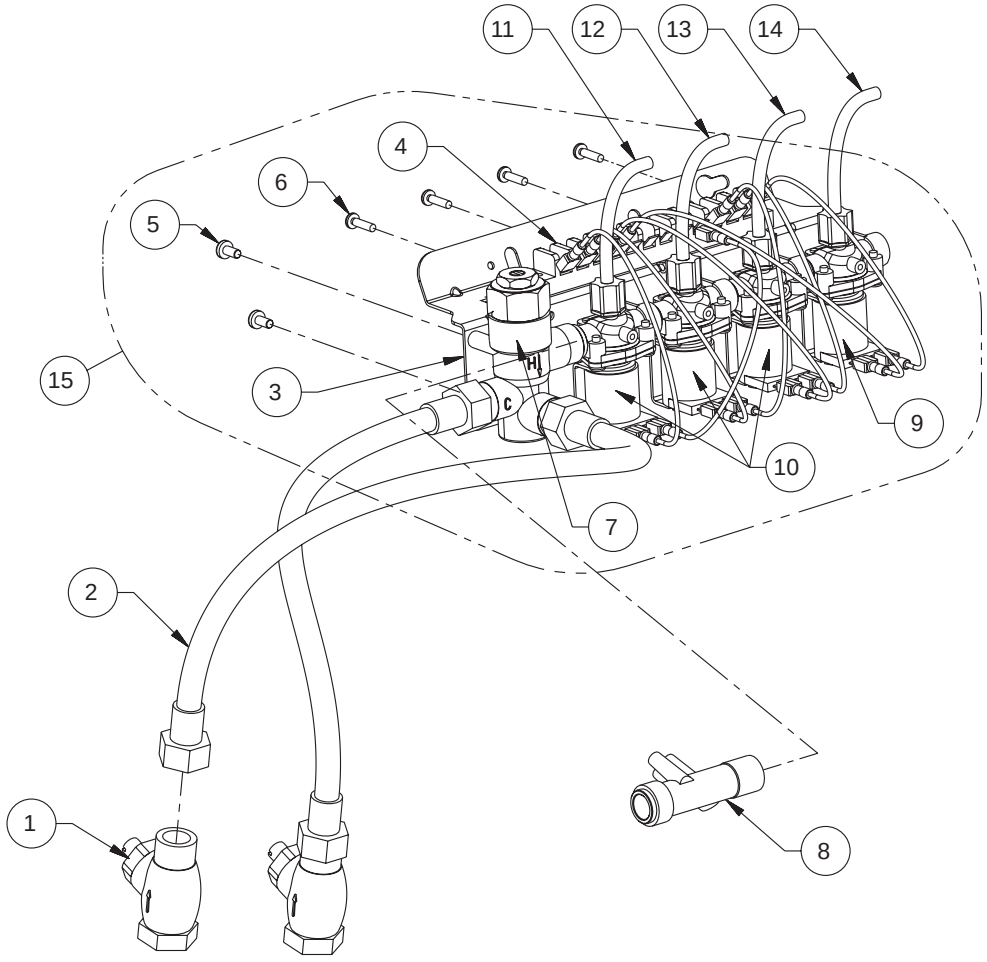


Parts List — Solenoid Valve Assembly

Item	Part No.	Description	54" Corner Qty	36" Semi Qty
1	S27-102	STOP/CHECK VALVE	2	2
2	269-1735	FLEX HOSE	2	2
3	140-928	BRACKET	1	1
4	269-625	TERMINAL BLOCK	1	1
5	P18-054	SCREW #10-24 X 3/8	2	2
6	160-447	SCREW #8-16 X 5/8	3	3
7	S01-524	THERMOSTATIC MIXING VALVE	1	1
8	S39-685	ADAPTER (OPTIONAL SINGLE TEMPERED LINE)	1	1
9	S07-067	SOLENOID VALVE - CLOSED BODY (BLACK)	1	1
10	S07-067A	SOLENOID VALVE -THRU BODY (GRAY)	2	2
11	R68-600011-B	TUBING 1/4 OD BLACK	*	*
12	R68-600011-G	TUBING 1/4 OD GREEN	*	*
13	R68-600011-R	TUBING 1/4 OD RED	*	*
14	S45-2146	VALVE ASSY TMA 36S & 54K	1	1

* Specify length in feet.

Infrared (IR) Part 1 — Solenoid Valve Assembly (24V Transformer)

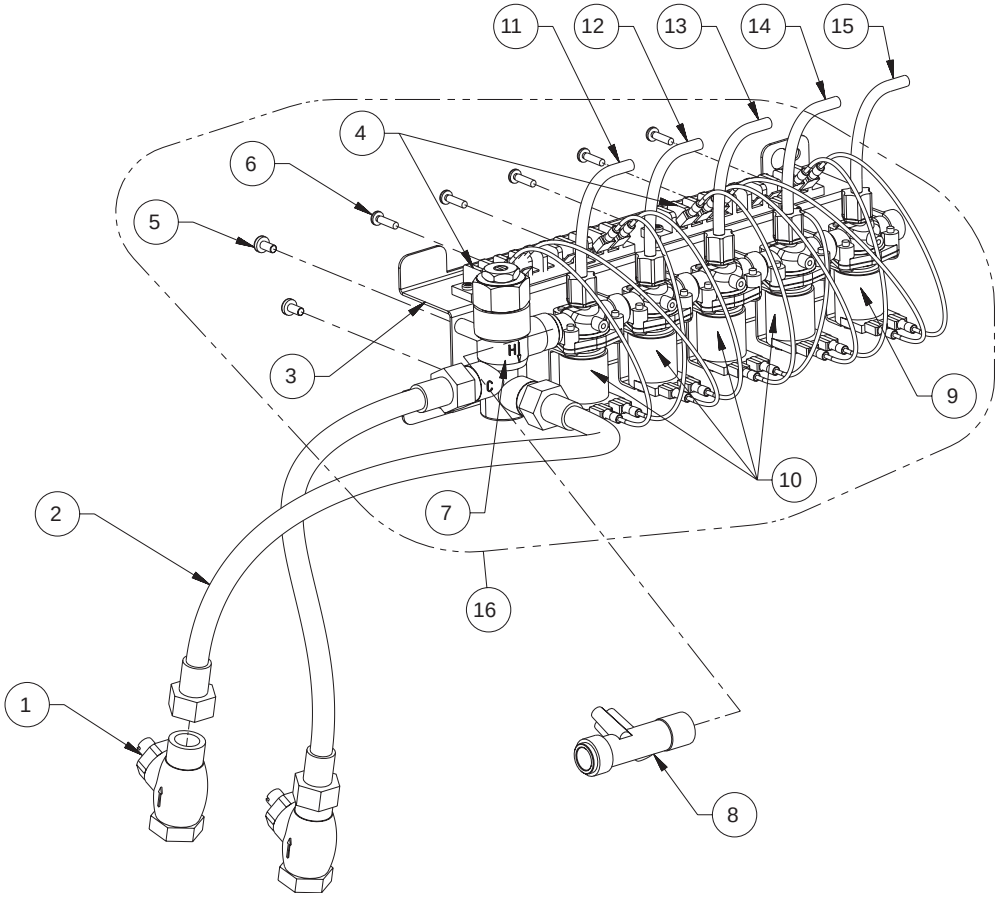


Parts List — Solenoid Valve Assembly — 54" Semi

Item	Part No.	Description	Qty
1	S27-102	STOP/CHECK VALVE	2
2	269-1735	FLEX HOSE	2
3	140-928	BRACKET	1
4	269-647	TERMINAL BLOCK	1
5	P18-054	SCREW #10-24 X 3/8	2
6	160-447	SCREW #8-16 X 5/8	4
7	S01-524	THERMOSTATIC MIXING VALVE	1
8	S39-685	ADAPTER (OPTIONAL SINGLE TEMPERED LINE)	1
9	S07-067	SOLENOID VALVE - CLOSED BODY (BLACK)	1
10	S07-067A	SOLENOID VALVE-THRU BODY (GRAY)	3
11	R68-600011-Y	TUBING 1/4 OD YELLOW	*
12	R68-600011-B	TUBING 1/4 OD BLACK	*
13	R68-600011-G	TUBING 1/4 OD GREEN	*
14	R68-600011-R	TUBING 1/4 OD RED	*
15	S45-2148	VALVE ASSY TMA 54S	1

* Specify length in feet.

Infrared (IR) Part 1 — Solenoid Valve Assembly (24V Transformer)

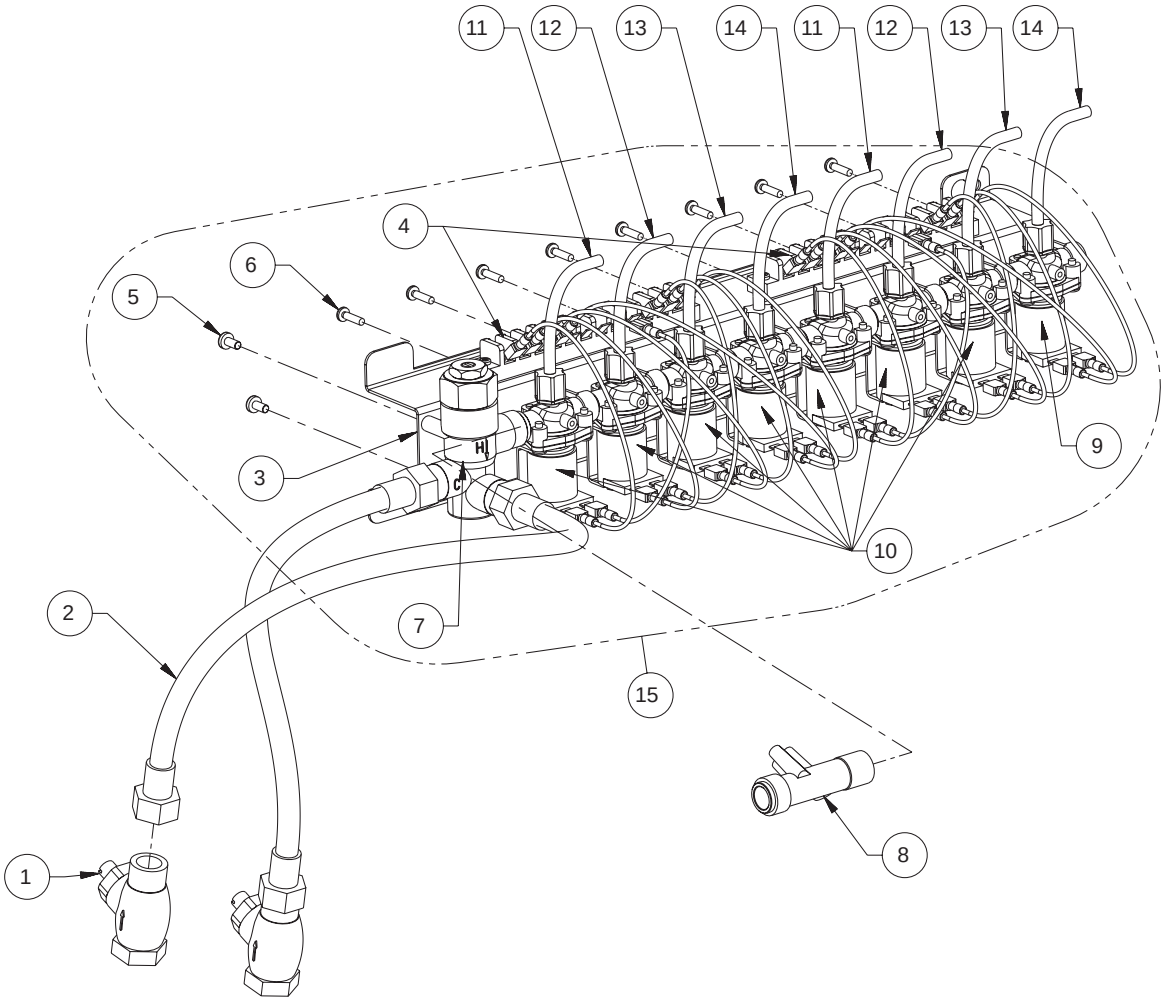


Parts List — Solenoid Valve Assembly — 36" Circle

Item	Part No.	Description	Qty
1	S27-102	STOP/CHECK VALVE	2
2	269-1735	FLEX HOSE	2
3	140-940	BRACKET	1
4	269-625	TERMINAL BLOCK	2
5	P18-054	SCREW #10-24 X 3/8	2
6	160-447	SCREW #8-16 X 5/8	5
7	S01-524	THERMOSTATIC MIXING VALVE	1
8	S39-685	ADAPTER (OPTIONAL SINGLE TEMPERED LINE)	1
9	S07-067	SOLENOID VALVE - CLOSED BODY (BLACK)	1
10	S07-067A	SOLENOID VALVE - THRU BODY (GRAY)	4
11	R68-600011-Y	TUBING 1/4 OD YELLOW	*
12	R68-600011-B	TUBING 1/4 OD BLACK	*
13	R68-600011-G	TUBING 1/4 OD GREEN	*
14	R68-600011-R	TUBING 1/4 OD RED	*
15	R68-600011	TUBING 1/4 OD CLEAR	*
16	S45-2150	VALVE ASSY TMA/IR 36C	1

* Specify length in feet.

Infrared (IR) Part 1 — Solenoid Valve Assembly (24V Transformer)

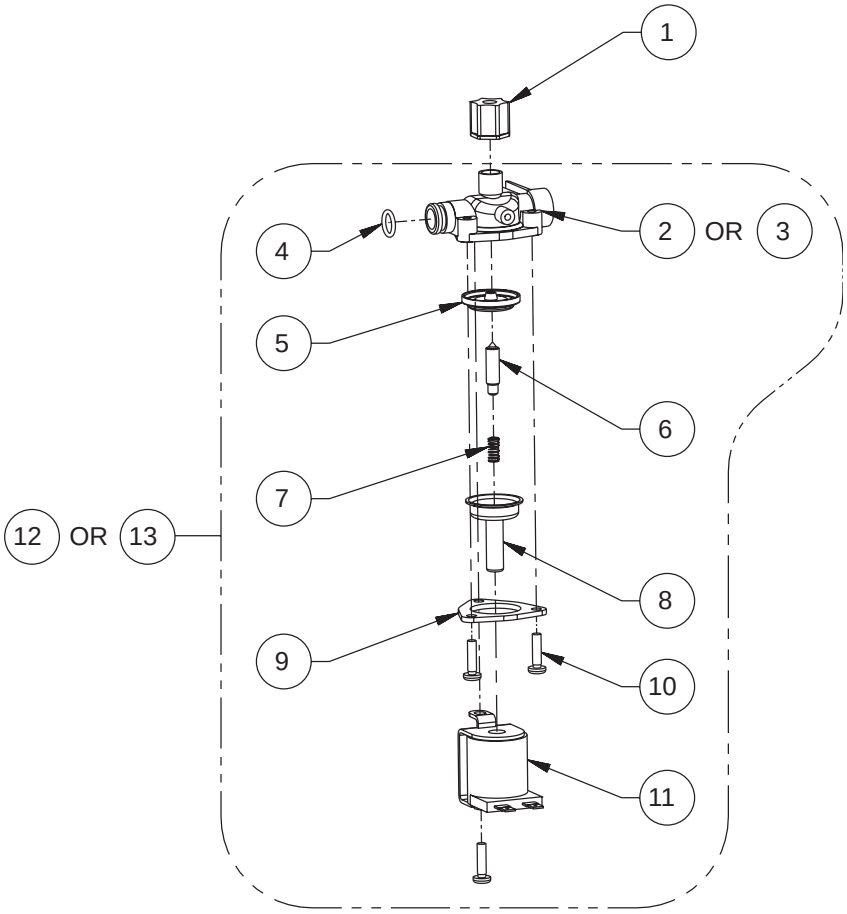


Parts List — Solenoid Valve Assembly — 54" Circle

Item	Part No.	Description	Qty
1	S27-102	STOP/CHECK VALVE	2
2	269-1735	FLEX HOSE	2
3	140-941	BRACKET	1
4	269-647	TERMINAL BLOCK	2
5	P18-054	SCREW #10-24 X 3/8	2
6	160-447	SCREW #8-16 X 5/8	8
7	S01-524	THERMOSTATIC MIXING VALVE	1
8	S39-685	ADAPTER (OPTIONAL SINGLE TEMPERED LINE)	1
9	S07-067	SOLENOID VALVE - CLOSED BODY (BLACK)	1
10	S07-067A	SOLENOID VALVE -THRU BODY (GRAY)	7
11	R68-600011-Y	TUBING 1/4 OD YELLOW	*
12	R68-600011-B	TUBING 1/4 OD BLACK	*
13	R68-600011-G	TUBING 1/4 OD GREEN	*
14	R68-600011-R	TUBING 1/4 OD RED	*
15	S45-2152	VALVE ASSY TMA/IR 54C	1

* Specify length in feet.

Infrared (IR) Part 2 — Solenoid Valve Assembly (24V Transformer)



Parts List — Solenoid Valve Assembly

Item	Part No.	Description	Qty
1	110-231	NUT 1/4 TUBE	1
2	118-307	VALVE BODY 1/4" CLOSED	1
3	118-307A	VALVE BODY 1/4" THRU	1
4	125-165	O-RING	1
5	269-983	DIAPHRAGM	1
6	269-577	ARMATURE	1
7	269-578	SPRING	1
8	269-1729	ARMATURE HOUSING	1
9	269-1730	CLAMP	1
10	160-447	SCREW #8-16 X 5/8	3
11	269-579	COIL, SOLENOID VALVE	1
12	S07-067	SOLENOID VALVE CLOSED BODY	1
13	S07-067A	SOLENOID VALVE THRU BODY	1

Infrared (IR) — Sensor and Solenoid Valve Troubleshooting

If a station is not functioning properly it is most likely either the solenoid valve or the sensor.

Troubleshooting multi station units is fairly easy, as you can swap parts (actually just by changing the wires) and use the process of elimination to figure out which of the 2 parts is causing the problem.

How the system operates:

1. The transformer sends 24 volts to the sensor.
2. The sensor acts only as a switch.
3. When hands go into the active field of the sensor, the sensor activates and sends a power signal on to the solenoid valve.
4. The power signal activates and opens the solenoid valve which allows the water to flow to the sprayhead. The solenoid valve stays open allowing water to flow as long as it is receiving a signal form the sensor (hands remain in the active field).
5. When hands are removed from the active field, the sensor turns off (note some models have a slight delay feature built-in.) and shuts off the power signal to the solenoid valve.

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.
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 the appropriate diagram on next 4 pages.

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.**

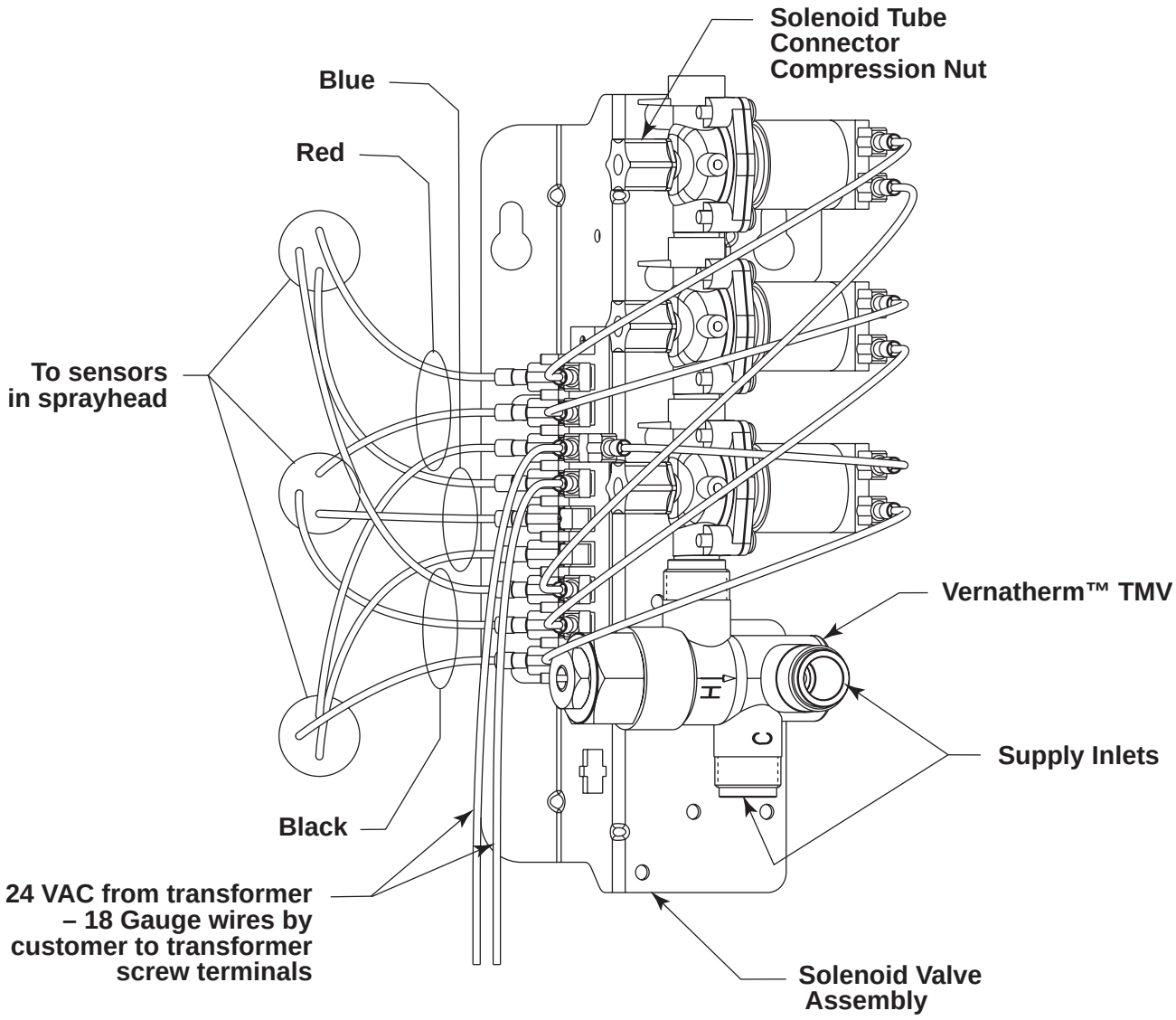
1. Disconnect the wires from the coil of an adjacent valve. Disconnect the wires from the problem valve and reconnect to the adjacent valve.
2. Turn on electrical and water supplies to the unit. Pass your hand in front of the sensor of the problem station, and the adjacent station should turn on.

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

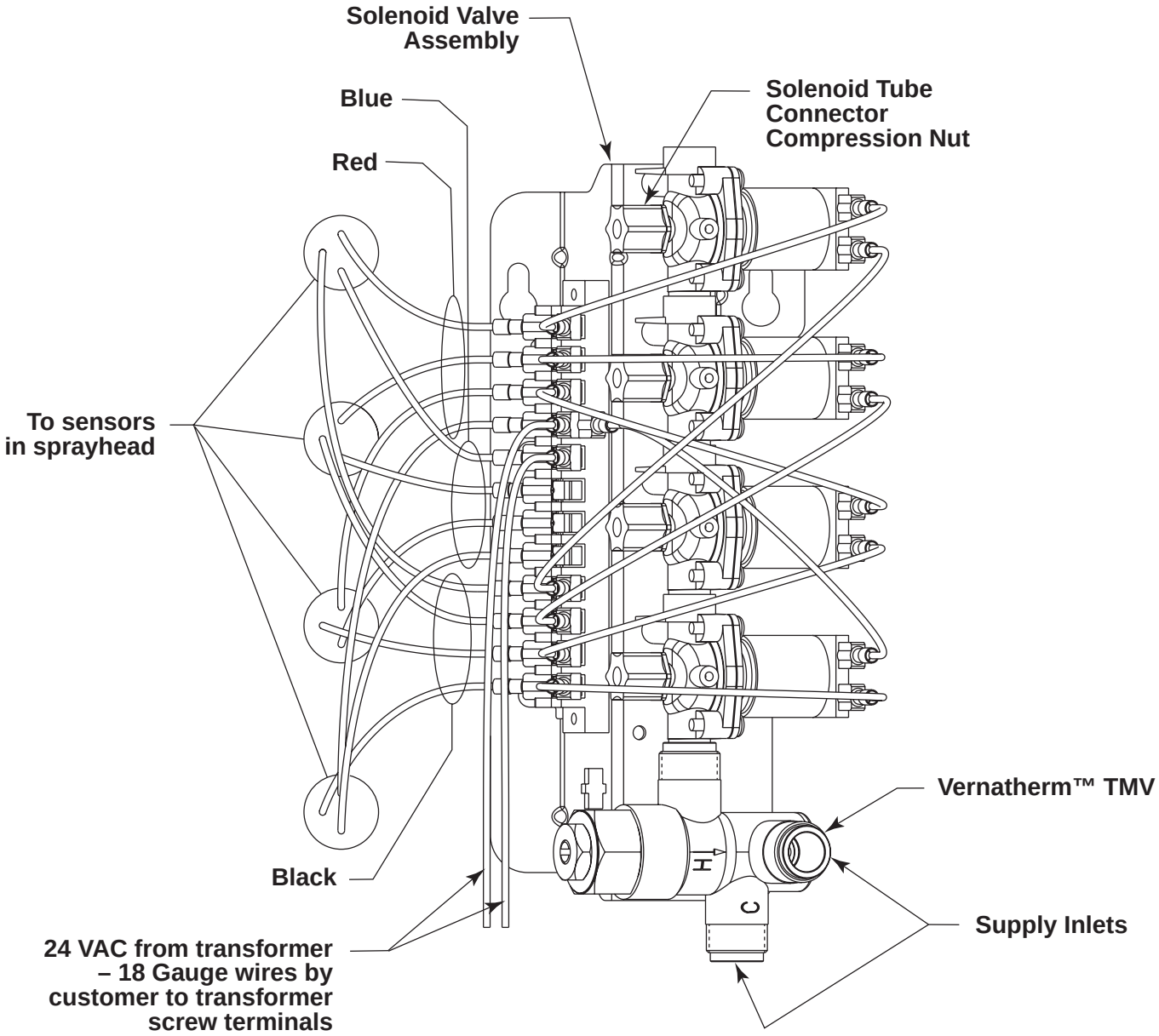
   If the adjacent valve fails to turn on, inspect the wires from the sensor cable and do the following:

   - 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;
   - pass your hand in front of the sensor. If the station still fails to turn on, replace the sensor.

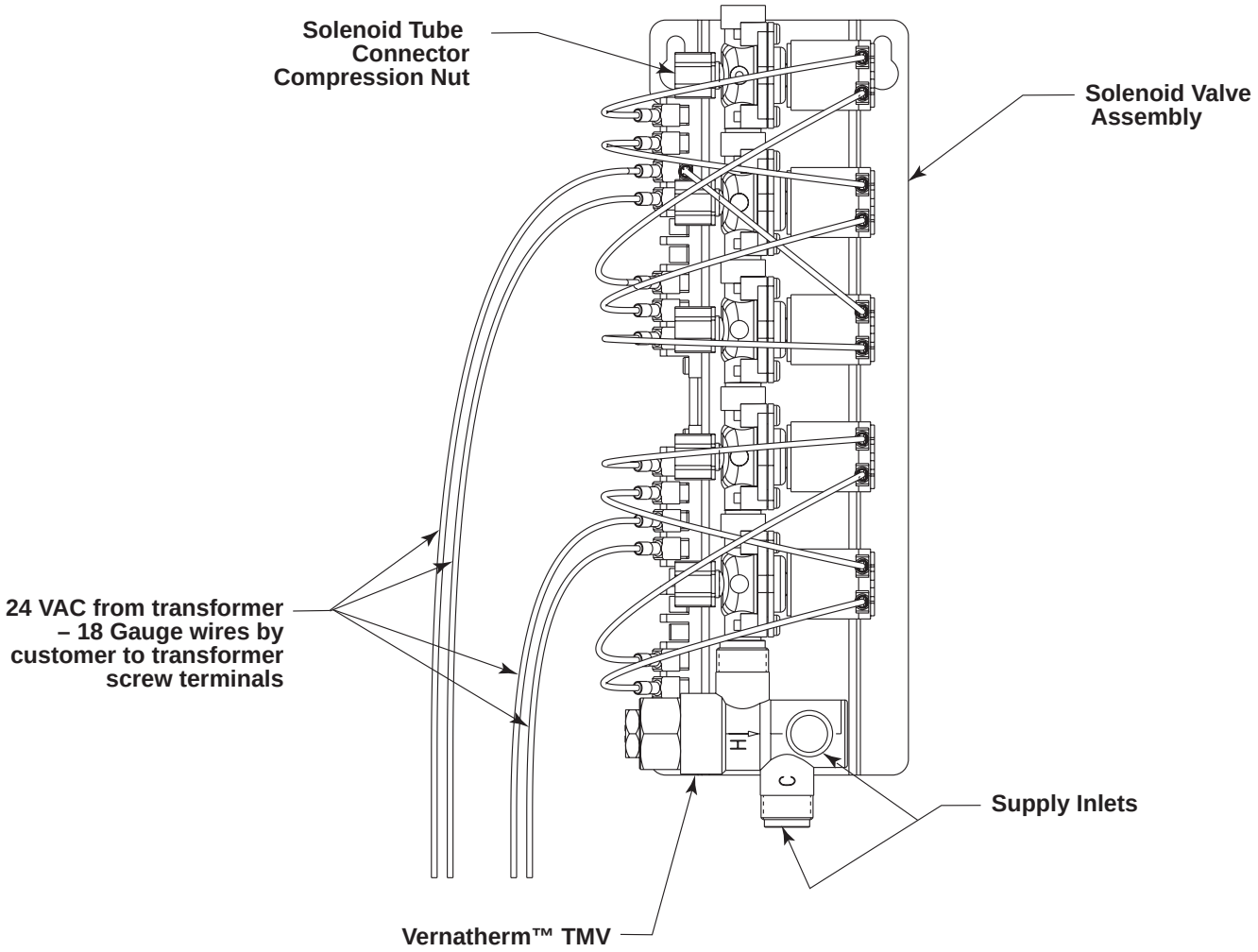
Infrared (IR) SN2003, SN2023, SN2013, SN2033 Wiring Diagram



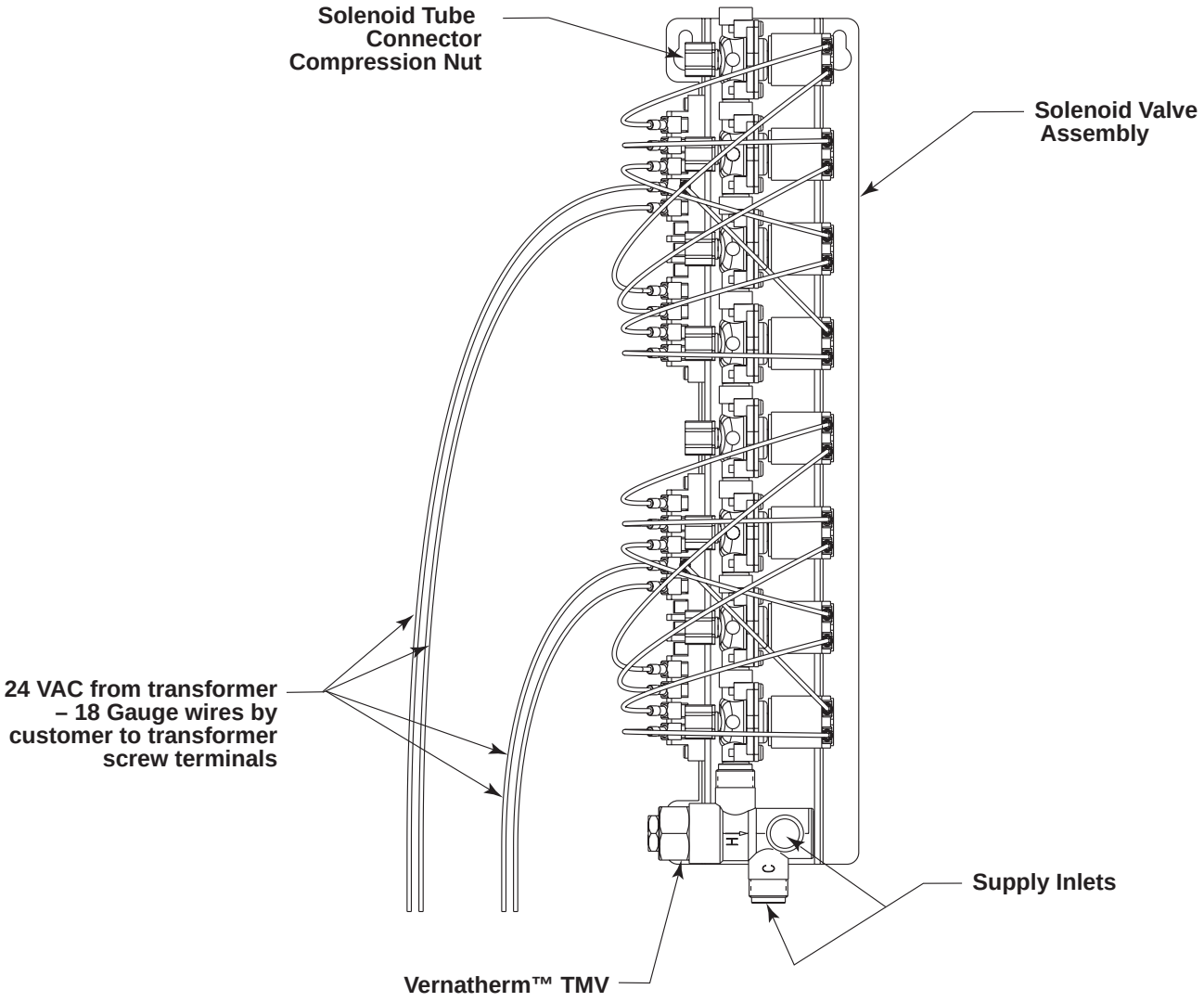
Infrared (IR) SN2004, SN2024 Wiring Diagram



Infrared (IR) SN2005 Wiring Diagram



Infrared (IR) SN2008 Wiring Diagram

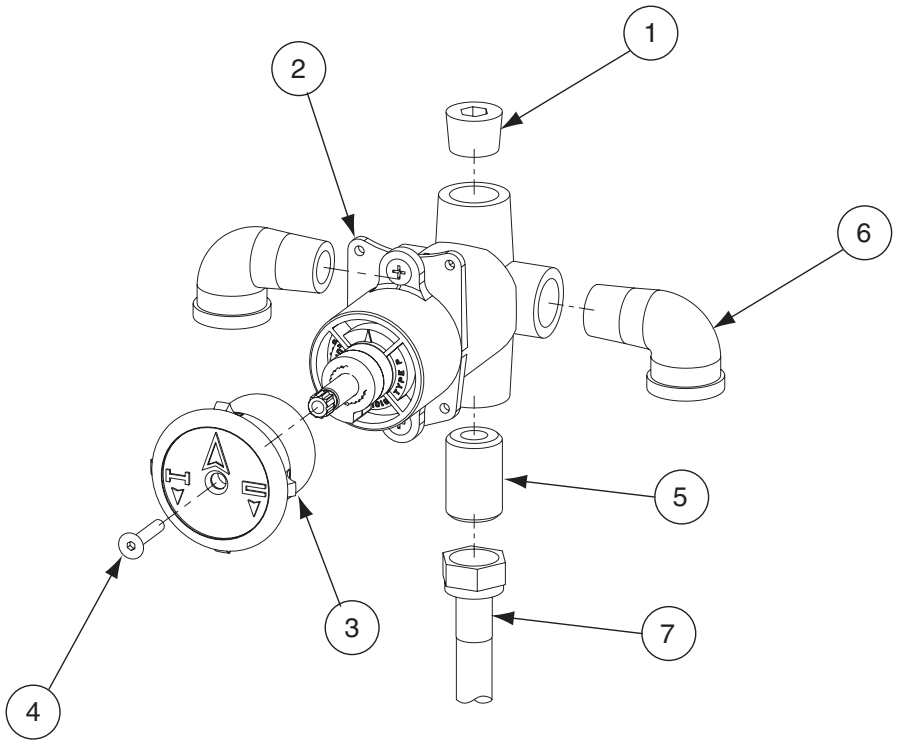


Sentry Transformers

Model	Description	Current Part Number		Prior to May 2003	
			Qty		Qty
SN2003	36" Semi-Circular – Floor Mounted	S45-2045	1	269-645	1
SN2004	54" Semi-Circular – Floor Mounted	S45-2045	1	269-645	1
SN2023	36" Semi-Circular – Wall Mounted	S45-2045	1	269-645	1
SN2024	54" Semi-Circular – Wall Mounted	S45-2045	1	269-645	1
SN2005	36" Circular – Floor Mounted	S45-2045	2	* 269-703	1
SN2008	54" Circular – Floor Mounted	S45-2045	2	* 269-703	1
SN2013	54" Corner – Floor Mounted	S45-2045	1	269-645	1
SN2033	54" Corner – Wall Mounted	S45-2045	1	269-645	1

* Available for service.

Supply Valves — Pressure Balancing Complete Assembly

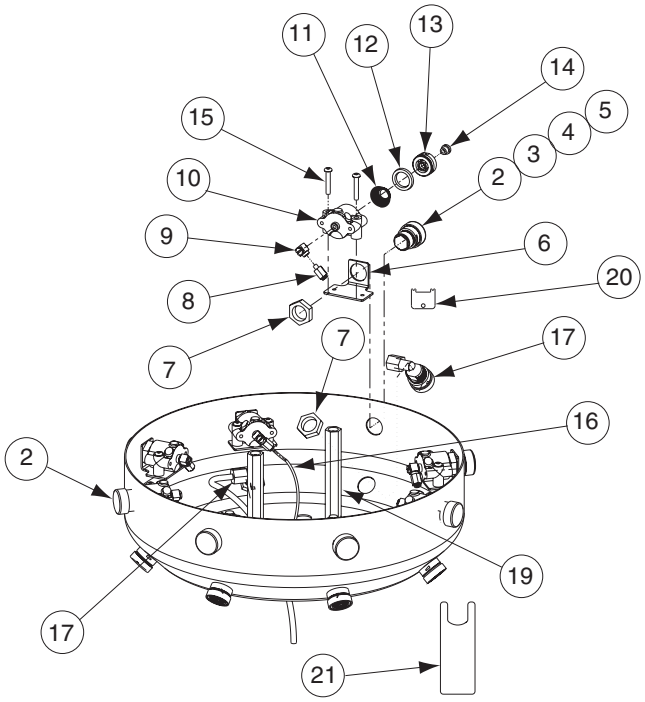


PBV —
Pressure Balancing
Complete Assy. as Shown - S67-516

Parts List — Supply Valve S67-516

Item	Part No.	Description	Qty
1	169-168	PIPE PLUG	1
2	S67-594	PBV VALVE	1
3	128-032	HANDLE FOR VALVE	1
4	160-214	SCREW FOR HANDLE	1
5	113-339	NIPPLE – 1/2"	1
6	169-639	ELBOW	2
7	269-1735	STAINLESS STEEL FLEX HOSE	1

Air Metering Valve (AST4) — Hand Pushbutton and Sprayhead



Pushbutton Replacement

IMPORTANT: Turn off water supplies before replacing the pushbutton.

1. Remove the sprayhead cover by removing the two screws holding the cover to the sprayhead module.
2. Inside sprayhead, unscrew the two screws that hold the actuator body to the bracket being careful of the spring that will release.
3. Unscrew and remove the coupling if necessary.
4. Unscrew and remove the brass nut if necessary. This will allow the pushbutton assembly to be removed.
5. Carefully take apart the assembly and replace the parts as needed.
6. After replacement is complete, reassemble the pushbutton and sprayhead as shown.

Parts List — Pushbutton

Item	Part No.	Description	54" Corner Qty	36" Semi Qty	54" Semi Qty	36" Circle Qty	54" Circle Qty
1	—	Shell	1	1	1	1	1
2	S08-324	Pushbutton Assy. (includes items 3 thru 5)	3	3	4	5	8
3	128-090	Pushbutton Only	3	3	4	5	8
4	179-102	Guide for pushbutton	3	3	4	5	8
5	147-033	Screw for pushbutton	3	3	4	5	8
6	140-743	Bracket - Actuator	3	3	4	5	8
7	110-115	Nut 1/2"-14	3	3	4	5	8
❶ 8	169-890	Connector 1/8" tube x 10-32 Thd.	3	3	4	5	8
❶ 9	269-1186	"L" Fitting Adjustable	3	3	4	5	8
❶ 10	118-279	Actuator Body	3	3	4	5	8
❶ 11	135-065	Spring	3	3	4	5	8
❶ 12	125-099	U-Cup for piston	3	3	4	5	8
❶ 13	119-227A	Piston	3	3	4	5	8
❶ 14	198-010	Duckbill	3	3	4	5	8
15	160-165	Screw - Body mounting	6	6	8	10	16
16	R68-600008	Tubing 1/8" OD (specify length in feet)	—	—	—	—	—
* 17	S05-157	Aerator Assembly (Std 0.5 GPM)	3	3	4	5	8
19	161-082	Nut - Extension 1/4"-20 x 5-1/8"	2	2	2	2	2
20	130-141	Spanner Wrench for Aerators	1	1	1	1	1
21	130-023	Spanner Wrench for Pushbuttons	1	1	1	1	1

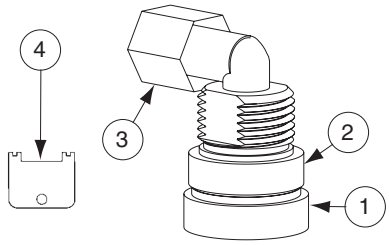
❶ Prepack S65-168A

* See following page for additional information.

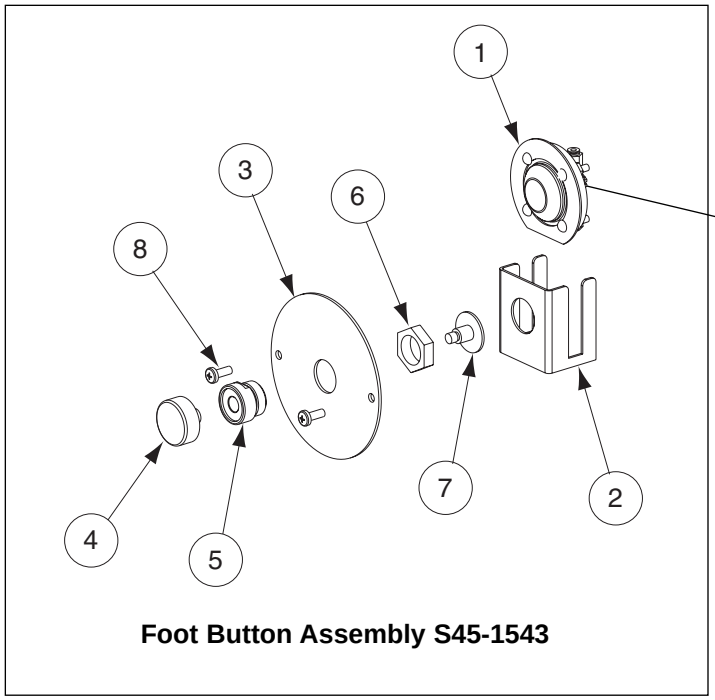
Air Metering Valve (AST4-F) — Foot Pushbutton and Actuator

Parts List — Aerator Assembly

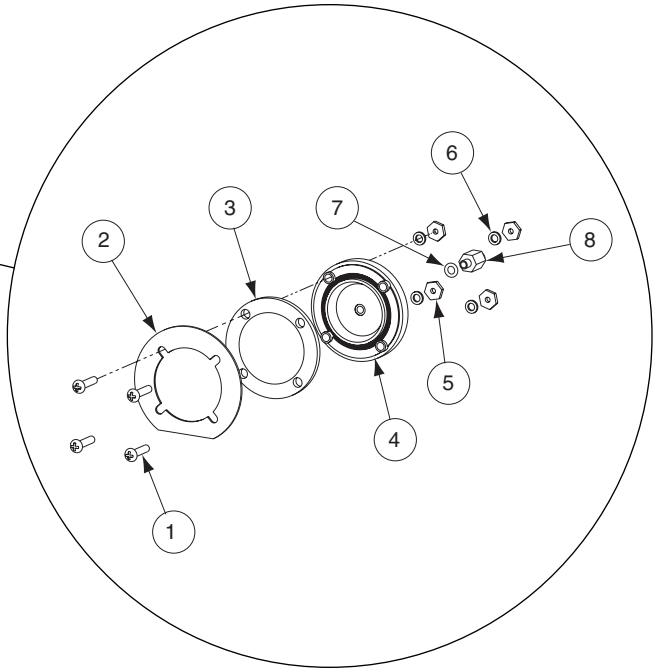
Item	Part No.	Description	S05-157 Qty
1	S05-142A	Std. Aerator, 0.5 GPM	1
2	153-402A	Adapter	1
3	145-090	90° Connector 1/4" tube x 1/8" NPT	1
* 4	130-141	Spanner Wrench for Aerator	—



* Spanner wrench not included in Assemblies



Foot Button Assembly S45-1543



Actuator Assembly S08-288

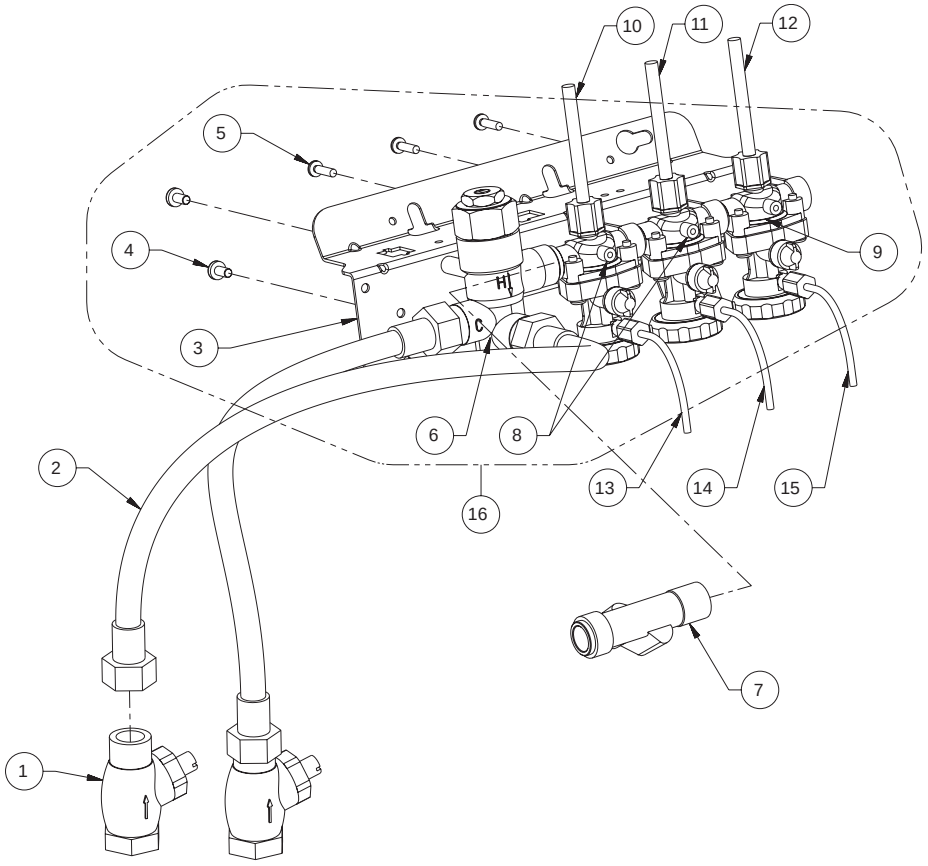
Parts List — Pushbutton & Actuator Assy.

Item	Part No.	Qty	Description
1	S08-288	1	Actuator Assy.
2	140-604	1	Bracket
3	150-198	1	Escutcheon
4	128-090	1	Pushbutton
5	179-071	1	Pushbutton Guide
6	110-115	1	Nut 1/2"-14
7	119-132	1	Plunger
8	160-245	2	Screw for escutcheon

Parts List — S08-288 Actuator Assy.

Item	Part No.	Qty	Description
1	160-276	4	Screw 8-32 x ¾"
2	140-493	1	Mounting Plate
3	269-612	1	Diaphragm
4	269-613	1	Back Plate
5	161-062	4	Nut 8-32
6	142-002CR	4	Washer #8 lock
7	125-001CZ	1	O-Ring
8	169-890	1	Fitting - tube connector 10-32 x 1/8"

Air Metering Valve (AST4) Part 1 — Assembly and Components

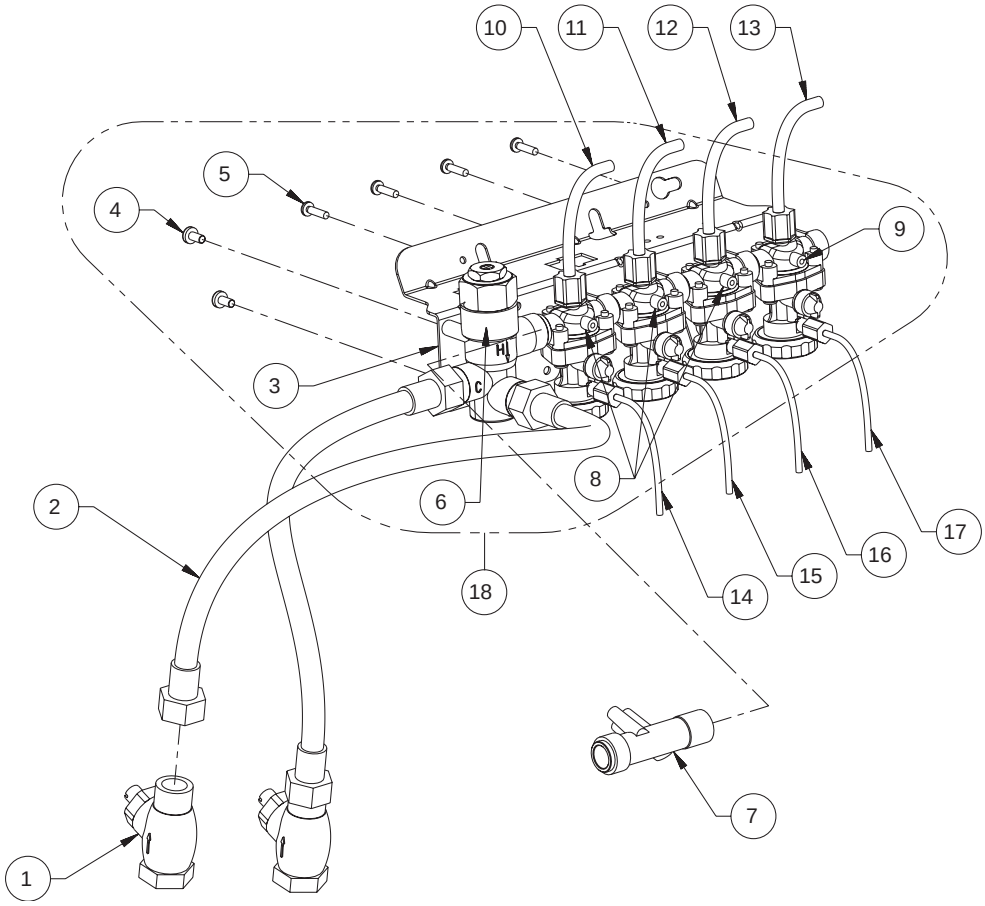


Parts List — Air Metering Valve Assembly

Item	Part No.	Description	54" Corner Qty	36" Semi Qty
1	S27-102	STOP/CHECK VALVE	2	2
2	269-1735	FLEX HOSE	2	2
3	140-928	BRACKET	1	1
4	P18-054	SCREW #10-24 X 3/8	2	2
5	160-447	SCREW #8-16 X 5/8	3	3
6	S01-524	THERMOSTATIC MIXING VALVE	1	1
7	S39-685	ADAPTER (OPTIONAL SINGLE TEMPERED LINE)	1	1
8	S07-077A	AST4 VALVE, THROUGH BODY (GRAY)	2	2
9	S07-077	AST4 VALVE, CLOSED BODY (BLACK)	1	1
10	R68-600011-B	TUBING 1/4 OD BLACK	*	*
11	R68-600011-G	TUBING 1/4 OD GREEN	*	*
12	R68-600011-R	TUBING 1/4 OD RED	*	*
13	R68-00008-B	TUBING 1/8 OD BLACK	*	*
14	R68-00008-G	TUBING 1/8 OD GREEN	*	*
15	R68-00008-R	TUBING 1/8 OD RED	*	*
16	S08-443TMA	VALVE ASSY AST	1	1

* Specify length in feet.

Air Metering Valve (AST4) Part 1 — Assembly and Components

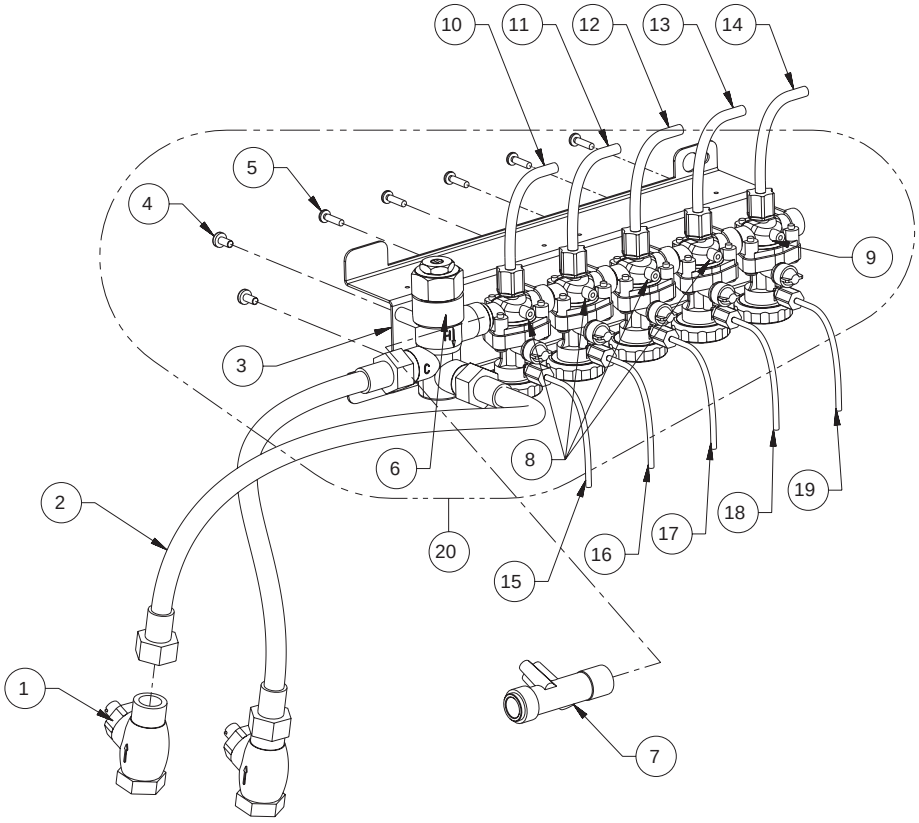


Parts List — Air Metering Valve Assembly — 54" Semi

Item	Part No.	Description	Qty
1	S27-102	STOP/CHECK VALVE	2
2	269-1735	FLEX HOSE	2
3	140-928	BRACKET	1
4	P18-054	SCREW #10-24 X 3/8	2
5	160-447	SCREW #8-16 X 5/8	4
6	S01-524	THERMOSTATIC MIXING VALVE	1
7	S39-685	ADAPTER (OPTIONAL SINGLE TEMPERED LINE)	1
8	S07-077A	AST4 VALVE, THROUGH BODY (GRAY)	3
9	S07-077	AST4 VALVE, CLOSED BODY (BLACK)	1
10	R68-600011-Y	TUBING 1/4 OD YELLOW	*
11	R68-600011-B	TUBING 1/4 OD BLACK	*
12	R68-600011-G	TUBING 1/4 OD GREEN	*
13	R68-600011-R	TUBING 1/4 OD RED	*
14	R68-600008-Y	TUBING 1/8 OD YELLOW	*
15	R68-00008-B	TUBING 1/8 OD BLACK	*
16	R68-00008-G	TUBING 1/8 OD GREEN	*
17	R68-00008-R	TUBING 1/8 OD RED	*
18	S08-444TMA	VALVE ASSY AST4	1

* Specify length in feet.

Air Metering Valve (AST4) Part 1 — Assembly and Components

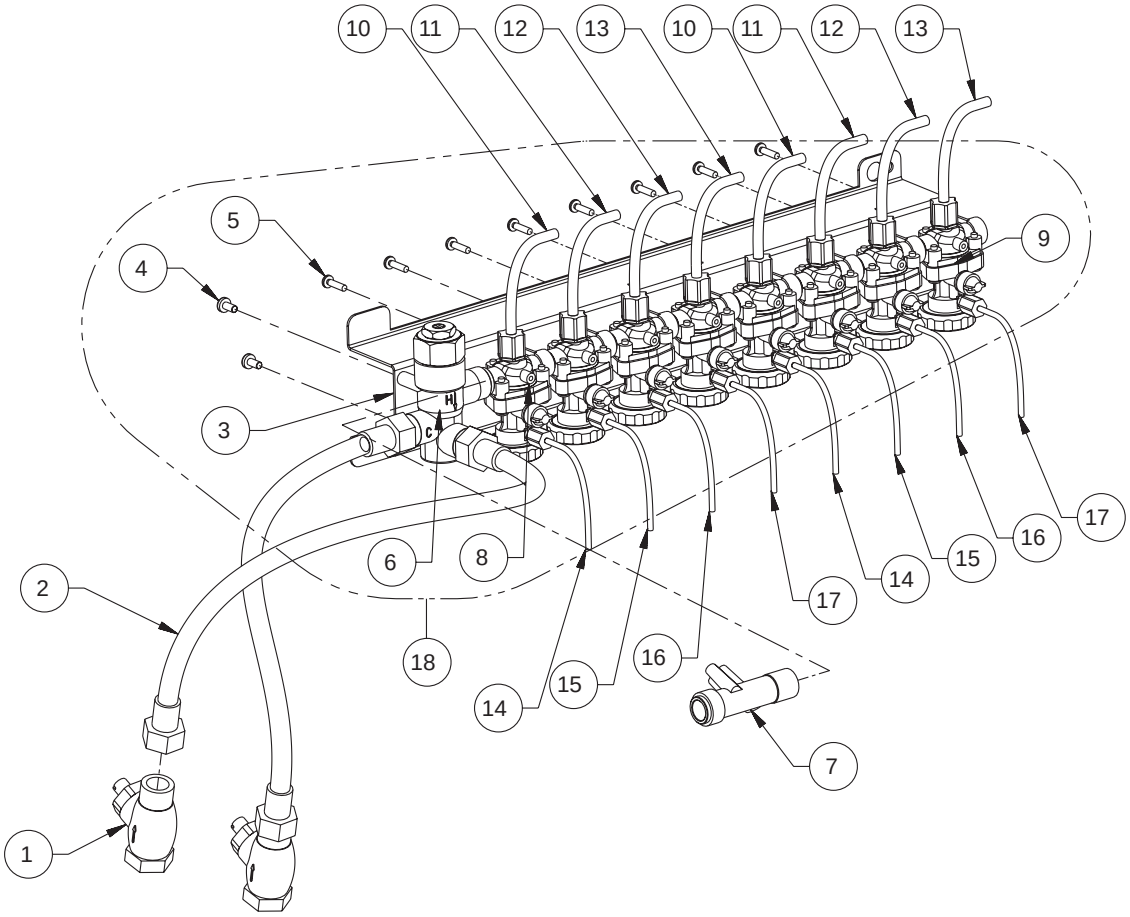


Parts List — Air Metering Valve Assembly — 36" Circle

Item	Part No.	Description	Qty
1	S27-102	STOP/CHECK VALVE	2
2	269-1735	FLEX HOSE	2
3	140-940	BRACKET	1
4	P18-054	SCREW #10-24 X 3/8	2
5	160-447	SCREW #8-16 X 5/8	5
6	S01-524	THERMOSTATIC MIXING VALVE	1
7	S39-685	ADAPTER (OPTIONAL SINGLE TEMPERED LINE)	1
8	S07-077A	AST4VALVE,THROUGH BODY (GRAY)	4
9	S07-077	AST4 VALVE, CLOSED BODY (BLACK)	1
10	R68-600011-Y	TUBING 1/4 OD YELLOW	*
11	R68-600011-B	TUBING 1/4 DD BLACK	*
12	R68-600011-G	TUBING 1/4 OD GREEN	*
13	R68-600011-R	TUBING 1/4 OD RED	*
14	R68-600011	TUBING 1/4 OD CLEAR	*
15	R68-00008-Y	TUBING 1/8 OD YELLOW	*
16	R68-00008-B	TUBING 1/8OD BLACK	*
17	R68-00008-G	TUBING 1/8 OD GREEN	*
18	R68-00008-R	TUBING 1/8 OD RED	*
19	R68-00008	TUBING 1/8 OD CLEAR	*
20	S08-445TMA	VALVE ASSY, AST	1

* Specify length in feet.

Air Metering Valve (AST4) Part 1 — Assembly and Components



Parts List — Air Metering Valve Assembly — 54" Circle

Item	Part No.	Description	Qty
1	S27-102	STOP/CHECK VALVE	2
2	269-1735	FLEX HOSE	2
3	140-941	BRACKET	1
4	P18-054	SCREW #10-24 X 3/8	2
5	160-447	SCREW #8-16 X 5/8	8
6	S01-524	THERMOSTATIC MIXING VALVE	1
7	S39-685	ADAPTER (OPTIONAL SINGLE TEMPERED LINE)	1
8	S07-077A	AST4 VALVE, THROUGH BODY (GRAY)	7
9	S07-077	AST4 VALVE, CLOSED BODY (BLACK)	1
10	R68-00011-Y	TUBING 1/4 OD YELLOW	*
11	R68-600011-B	TUBING 1/4 OD BLACK	*
12	R68-600011-G	TUBING 1/4 OD GREEN	*
13	R68-600011-R	TUBING 1/4 OD RED	*
14	R68-00008-Y	TUBING 1/8 OD YELLOW	*
15	R68-00008-B	TUBING 1/8 OD BLACK	*
16	R68-00008-G	TUBING 1/8 OD GREEN	*
17	R68-00008-R	TUBING 1/8 OD RED	*
18	S08-448TMA	VALVE ASSY, AST4	1

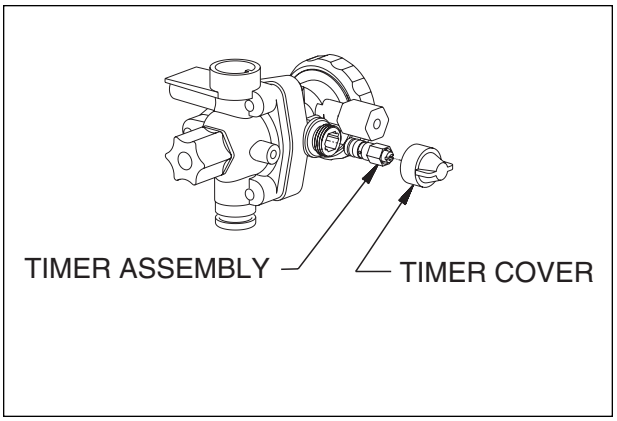
* Specify length in feet.

Air Metering Valve (AST4) Part 1 — Adjustment

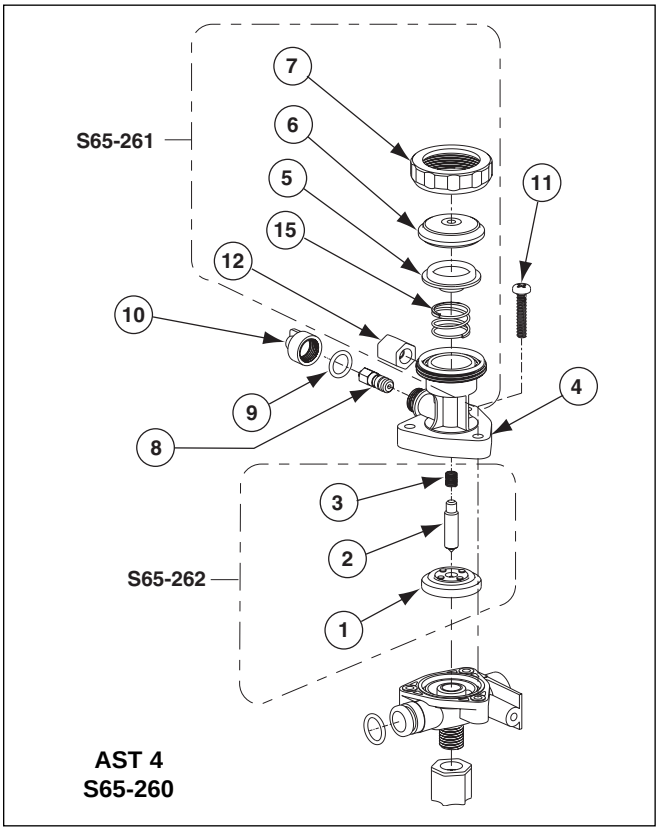
Adjusting Air Metering Valve (Hand-operated pushbutton only)

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 0–45 seconds.

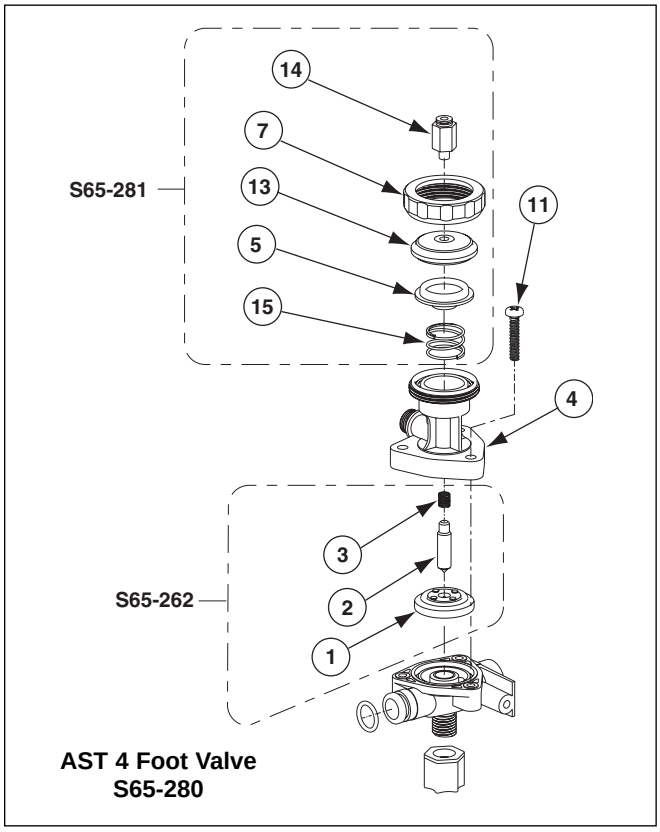
1. Adjust the metering timing, if necessary, as outlined below:
   - Unscrew the timer cover and use a screwdriver to tighten or loosen the timer. Turning the timer clockwise increases the time; turning the timer counterclockwise decreases the time. Be careful not to overtighten as the timer seat can be damaged.
   - Continue to adjust until the timer is set at desired length.
   - Replace the timer cover over the timer.



Air Metering Valve (AST4) Part 2 — Assembly and Components



AST 4
S65-260



AST 4 Foot Valve
S65-280

AST4 Valve Parts List

Item	Description	AST 4 Valve S65-260	Repair Kit (Upper) S65-261	Repair Kit (Lower) S65-262	AST 4 Foot Valve S65-280	Repair Kit Foot (Upper) S65-281
		Qty				
1	Diaphragm	1	—	1	1	—
2	Armature	1	—	1	1	—
3	Spring	1	—	1	1	—
4	AST 4 Valve Upper Body	1	—	—	1	—
5	Magnet / Diaghragm Assembly	1	1	—	1	1
6	AST 4 Valve Cover	1	1	—	—	—
7	AST 4 Valve Clamp Nut	1	1	—	1	1
8	AST 4 Valve Timer Assembly	1	—	—	—	—
9	O-Ring, (-012)	1	—	—	—	—
10	AST 4 Valve Timer Cover	1	—	—	—	—
11	Screw, #8 x 7/8"	3	—	—	3	—
12	Compression Nut, 1/8" Tube	1	1	—	—	—
13	AST 4 Valve Cover Foot	—	—	—	1	1
14	Tube Connector	—	—	—	1	1
15	Compression Spring, AST 4	1	1	—	1	1

Troubleshooting Air Valve Metering Hand Control (AST4)

CAUTION: Turn off water supplies to unit before troubleshooting.

Problem: One or more individual operating stations fail to turn on.
Cause: Incoming water pressure is over 80 PSIG.
Solution: Reduce water pressure to below 80 PSIG.

Install a pressure-reducing valve at the building main set to the manufacturer's recommendations. Lower line pressure will improve the performance and extend the life of all the plumbing in the building.

Problem: An individual operating station fails to turn on.
Cause: A failed diaphragm/magnet assembly.
Solution: Test the station to determine cause.

1. Unscrew the valve clamp nut on the top of the valve (see Page 25).
2. Remove valve cover. If the diaphragm/magnet assembly comes out with the cover, gently peel the diaphragm away form the cover, taking care not to damage the diaphragm. Inspect the diaphragm for any holes of tears. A damaged diaphragm needs to be replaced.
3. Insert the diaphragm/magnet assembly back into the valve, but leave the cover off.
4. Gently press the diaphragm until it is fully depressed. The valve should activate. If not, the diaphragm/magnet assembly needs to be replaced.

Problem: One or more individual operating stations turn off too quickly or run too long.
Cause: Timing requires adjustment.
Solution: Readjust timing (see Page 24).

Problem: An individual operating station cannot be adjusted to run for more than five seconds.

Cause: Air tube connection leak.
Solution: Check 1/8" tubing connection.

1. Tighten compression nut at 1/8" tubing connection to air valve in pedestal.
2. If leak persists, remove the sprayhead cover and check the 1/8" elbow tube connection behind the pushbutton assembly. Make sure the screw holding the elbow is tight and the fitting in the elbow is firmly hand tightened. Make sure the tubing is pushed firmly into the fitting.
3. If leak persists, reseat the 1/8" tubing. Disconnect the tubing from the fitting by pressing down on the plastic ring at the top of the fitting while firmly pulling the tubing out of the fitting. Trim ½" off the end of the tubing squarely with a razor-sharp knife and push the tubing firmly back into the connector to make sure it is seated.
4. If the leak still persists, loosen the compression nut on the air valve inside the pedestal and pull the tubing out of the fitting. Trim ½" off the end of the tubing squarely, with a razor-sharp knife. Then slide the tubing through the nut until ½" of tubing is exposed. Insert tubing into the compression fitting on the valve body and hand tighten the compression nut.

Troubleshooting Air Valve Metering Hand Control (AST4) *....Continued*

Problem: An individual operating station won't turn off and drips.
Cause: There is debris trapped between the diaphragm and valve seat.
Solution: Remove debris between the diaphragm and valve seat.

1. Remove the three Phillips-head screws that hold the air valve together. Be careful not to lose the armature or spring (see Page 25).
2. Remove the diaphragm. Remove any debris trapped between the diaphragm and the valve seat.
3. Rinse off the diaphragm and inspect for damage. Make sure the center orifice and the two small side orifices are open.
4. Reassemble in reverse order, being careful not to over tightening the Phillips-head screws or you may crack the plastic valve body. Tighten until the armature plate makes contact with the plastic body.

Problem: An individual station will not shut off.
Cause: Timing mechanism is clogged.
Solution: Clear the timing mechanism.

1. If the timer cover has been sprayed with water, wait at least two minutes. It will shut off and return to normal operation once it dries off.
2. If it doesn't turn off remove the timer cover. If the valve shuts off the cover is clogged and needs to be replaced.
3. If the valve still doesn't turn off, turn the adjusting screw counter clockwise until it can be removed from the valve body.
4. Wipe adjusting screw thoroughly with a lint-free towel making sure that there is no water or debris on the adjusting screw.
5. Use a pipe stem cleaner to wipe the inside of the timer body if possible.
6. Replace timer-screw and adjust valve timing.
7. Replace timer cover.

Troubleshooting Air Valve Hold-Open Foot Control (AST4-F)

Problem: One or more individual operating stations fail to turn on.
Cause: Incoming water pressure is over 80 PSIG.
Solution: Reduce water pressure to below 80 PSIG.

Install a pressure-reducing valve at the building main set to the manufacturer's recommendations. Lower line pressure will improve the performance and extend the life of all the plumbing in the building.

Problem: An individual operating station turns off while the foot button is depressed.
Cause: Air tube connection leak.
Solution: Check 1/8" tubing connection.

1. Tighten compression nut at 1/8" tubing connection to air valve in pedestal.
2. If leak persists, remove the two screws securing the foot button escutcheon and check the 1/8" elbow tube connection behind the pushbutton assembly. Make sure the screw holding the elbow is tight and the fitting in the elbow is firmly hand tightened. Make sure the tubing is pushed firmly into the fitting.
3. If leak persists, reseat the 1/8" tubing. Disconnect the tubing from the fitting by pressing down on the plastic ring at the top of the fitting while firmly pulling the tubing out of the fitting. Trim ½" off the end of the tubing squarely with a razor-sharp knife and push the tubing firmly back into the connector to make it is seated.
4. If the leak still persists, loosen the compression nut on the air valve inside the pedestal and pull the tubing out of the fitting. Trim ½" off the end of the tubing squarely, with a razor-sharp knife. Then slide the tubing through the nut until ½" of tubing is exposed. Insert tubing into the compression fitting on the valve body and hand tighten the compression nut.

Problem: An individual operating station fails to turn on.
Cause: A failed diaphragm/magnet assembly.
Solution: Test the station to determine cause.

1. Unscrew the valve clamp nut on the top of the valve. (See Page 25).
2. Remove valve cover. If the diaphragm/magnet assembly comes out with the cover, gently peel the diaphragm away form the cover, taking care not to damage the diaphragm. Inspect the diaphragm for any holes of tears. A damaged diaphragm needs to be replaced.
3. Insert the diaphragm/magnet assembly back into the valve, but leave the cover off.
4. Gently press the diaphragm until it is fully depressed. The valve should activate. If not, the diaphragm/magnet assembly needs to be replaced.

Vernatherm™ 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.

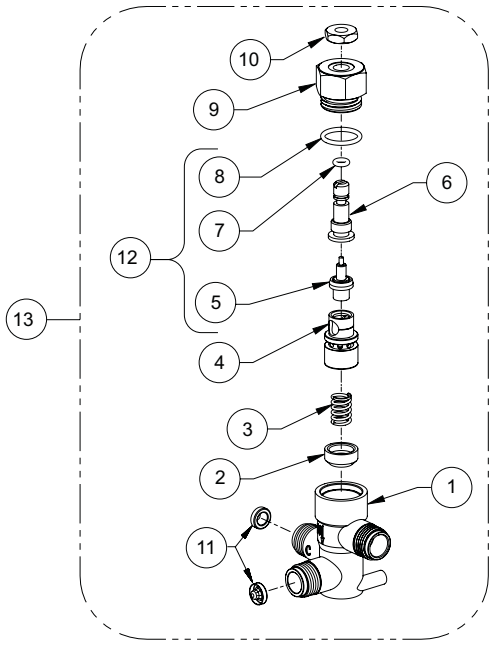
Solution: Check the thermostat for proper operation.

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.

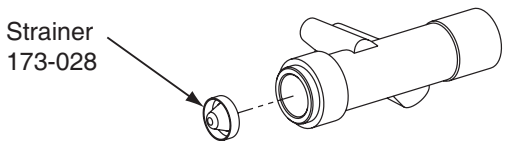
Vernatherm™ Mixing Valve



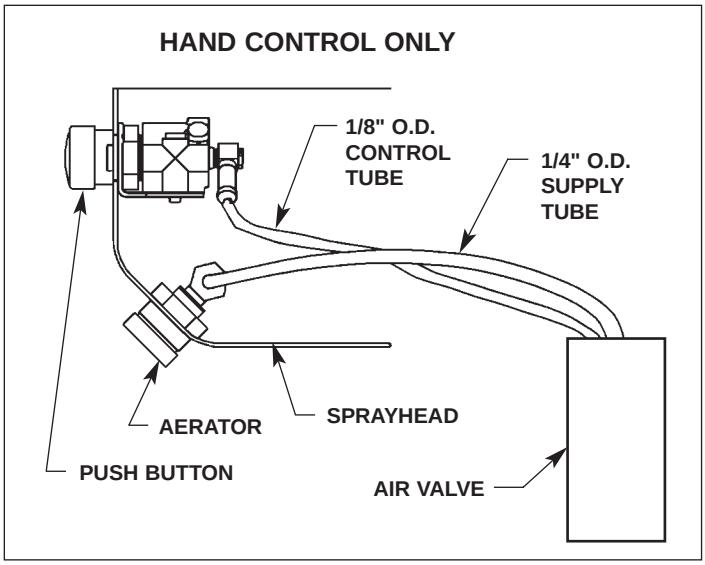
Parts List — TMA Valve Assembly

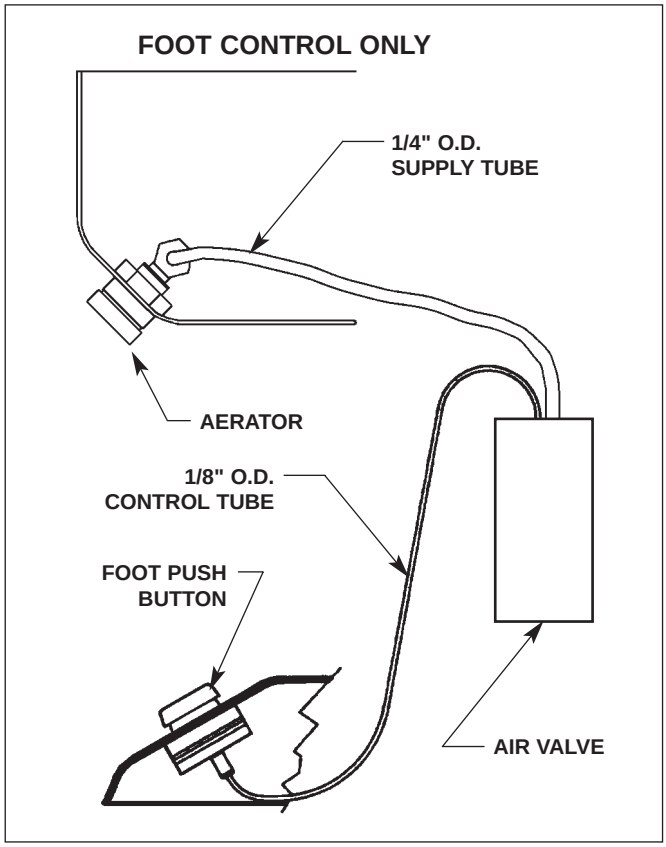
Item	Part No.	Description	Qty
1	118-315	VALVE BODY	1
2	119-250	SEAL CUP	1
3	135-091	SPRING	1
4	119-243	PISTON	1
5	S39-413	THERMOSTAT	1
6	120-153	STEM	1
7	125-001BX	O-RING	1
8	125-157	O-RING	1
9	107-522	COVER	1
10	161-157	NUT 3/8-24	1
11	173-028	STRAINER	2
12	S65-259	REPAIR KIT VERNATHERM	1
13	S01-524	THERMOSTATIC MIXING VALVE	1

Tempered Line Adapter Assembly (S39-685) Option



Control Valve Illustrations





Check Valve Troubleshooting Instructions

If water just dribbles or does not flow from sprayhead:

1. Close stop/check valves that supply water to the washfountain.
2 Inspect stop/check valves for proper installation.
3. Remove flexible hoses at stop/check valves and clean the strainers if necessary.

If water sprayhead delivers all hot or cold water:

1. Close stop/check valves that supply water to the washfountain.
2. Inspect stop/check valves for proper installation.
3. Remove flexible hoses at stop/check valves and clean the strainers if necessary.
4. Inspect mixing valve for proper installation.
   - Hot inlet is marked with an"H".

Care and Cleaning of Stainless Steel Sentry Washfountains

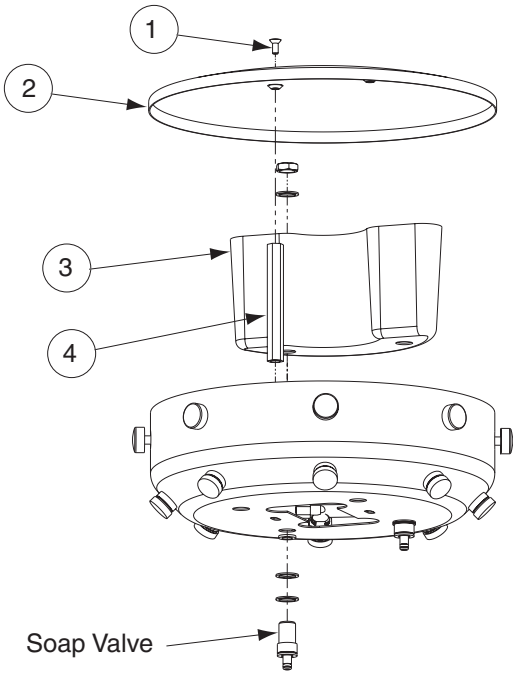
Stainless steel is extremely durable, and maintenance is simple and inexpensive. Proper care, particularly under corrosive conditions, is essential. Follow the cleaning instructions listed below:

- Ordinary deposits of dirt and grease are quickly removed with soap and water. Whenever possible, the metal should be thoroughly rinsed and dried after washing. To remove tightly adhering deposits, use stainless steel polishing powder. In all cases, rub in the direction of the stainless steel grain.

IMPORTANT: Never use ordinary steel wool or steel brushes on stainless steel. Always use stainless steel wool or stainless steel brushes.

- Avoid prolonged contact with chlorides, bromides, thiocyanates, and iodides on stainless steel equipment, especially if acid conditions exist.
- 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. *NOTE: Strongly acidic or caustic cleaners may attack the steel causing a reddish film to appear. The use of these cleaners should be avoided.*

Sprayhead Cover and Soap System

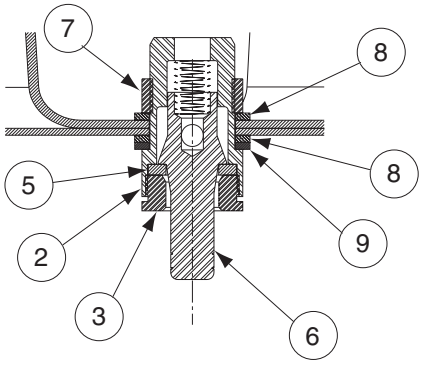


Item	Part No.	Qty	Description
1	160-154	2	Screw for cover
2	—	1	Cover - Call for part number
3	133-134	1 or 2	Tank (1 per semi, 2 per circle)
4	161-082	2	Nut - Extension 1/4"-20 x 5-1/8" for cover
*	153-330	2 or 4	Plug Button - to plug soap valve holes

* Not Illustrated.

Parts List — Soap Valve S09-007

Item	Part No.	Qty	Description
1	S09-007	1	Soap Valve - Valve only (Items 2-6)
1	S09-007S	1	Soap Valve - Valve w/ Attaching Hardware (Items 2-9)
2	118-025	1	Valve Body
3	110-007	1	Packing Nut
4	135-001L	1	Spring
5	125-001BU	1	Washer - Rubber
6	119-028	1	Plunger
7	161-014	1	Nut
8	124-001BV	2	Washer - Fiber
9	142-002AH	1	Washer - Stainless Steel



This soap valve delivers soap with each upward stroke. This soap valve is not suited for lotion soaps.

NOTE: Lotion soap will clog liquid soap valves.

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 Isapropanol 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

Sentry Washfountains

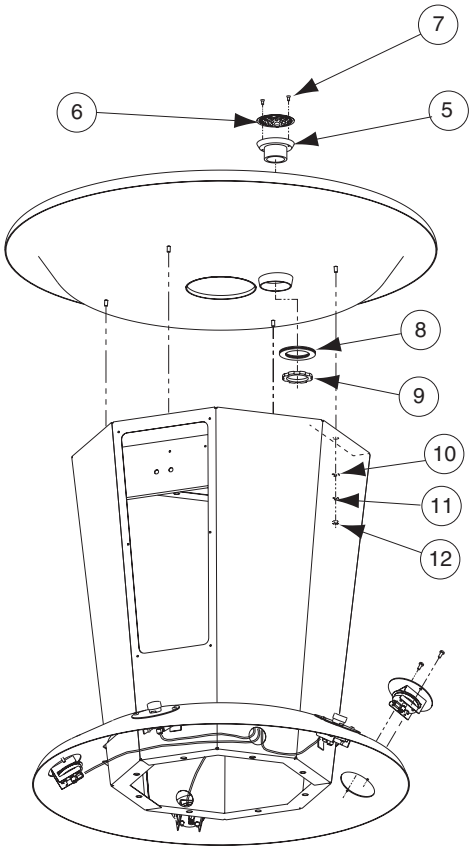
Bradley soap dispensers will provide dependable, consistent operation over the long term when the proper soap is used and when a minimal amount of periodic maintenance is performed on the valves. Valves must be maintained (cleaned) to function properly.

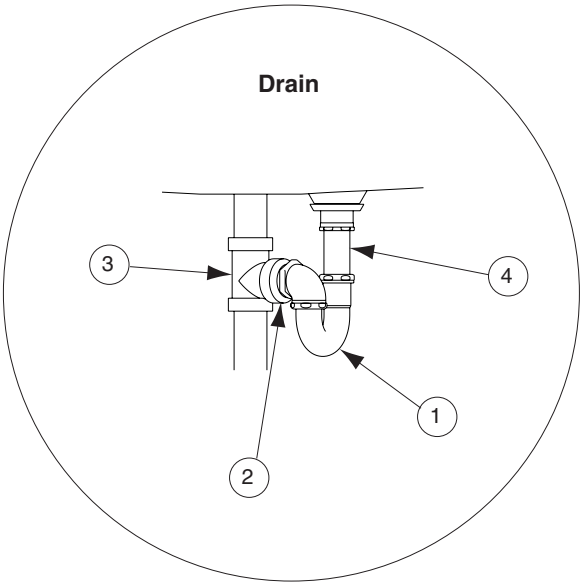
To ensure proper operation of your soap dispenser, follow these instructions:

- 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.

Pedestal Assembly — Access Panels, Bowl Hardware, Drain Parts





Parts List — Access Panel

Model No.	Part No.	Qty	Height
SN2003	186-1207	1	STD/JUV
SN2004	186-1207	1	STD/JUV
SN2005	186-1202	2	STD/JUV
SN2008	186-1202	2	STD/JUV
SN2013	186-1397	1	STD/JUV
SN2023	186-1207	1	WALL
SN2024	186-1207	1	WALL
SN2033	186-1397	1	WALL

Access Panel Screws, #10-24 x 1/2" long P/N 160-120

Parts List — Drain

Item	Part No.	Qty	Description
1	S29-021	1	P-Trap 1½"
2	113-731	1	Close Nipple 1½"
3	269-557	1	Tee-Y 1½"
4	S29-083	1	Tailpiece 1½"
5	112-028	1	Drain Spud
6	173-002	1	Strainer
7	160-042	2	Screw for strainer
8	142-063	1	Washer for spud
9	161-148	1	Nut for spud

Parts List — Bowl Hardware

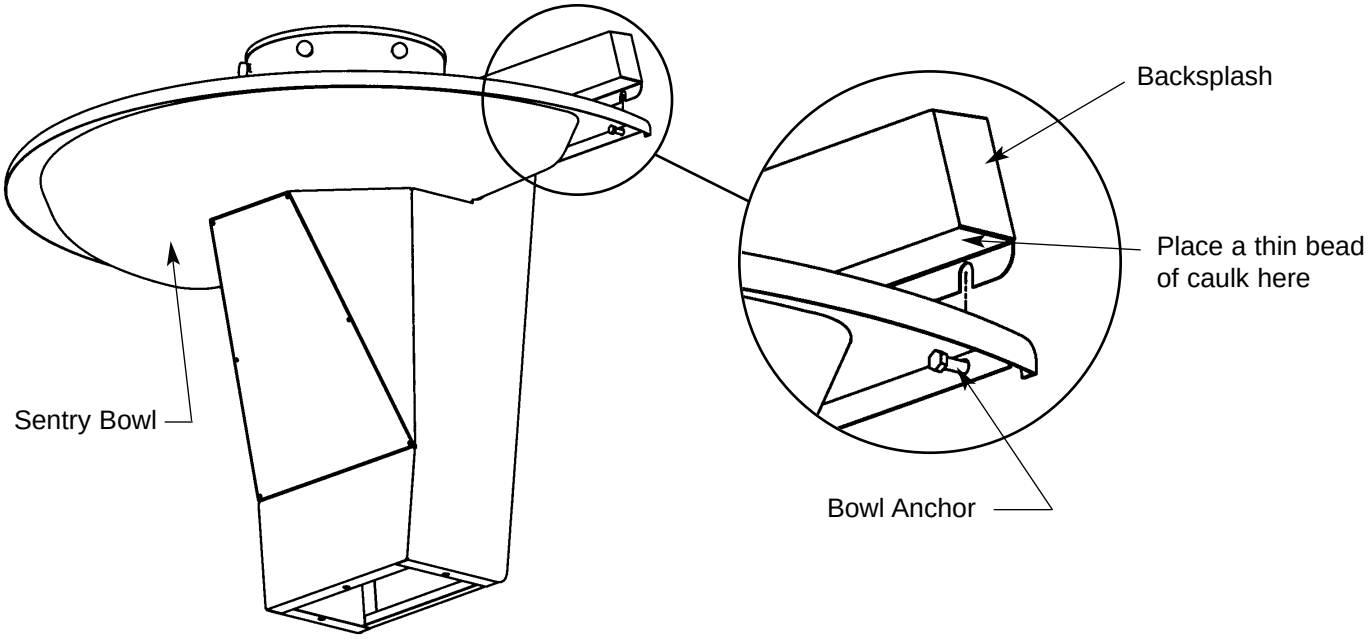
Item	Part No.	Qty	Description
10	142-002AT	3 or 4	Flat Washer ¼"
11	142-002BS	3 or 4	Lock Washer ¼"
12	161-026	3 or 4	Hex Nut ¼"-20

For attaching bowl to pedestal.

Backsplash Retrofit Kits — S65-237 for 36" Semi, S65-238 for 54" Semi

Installation

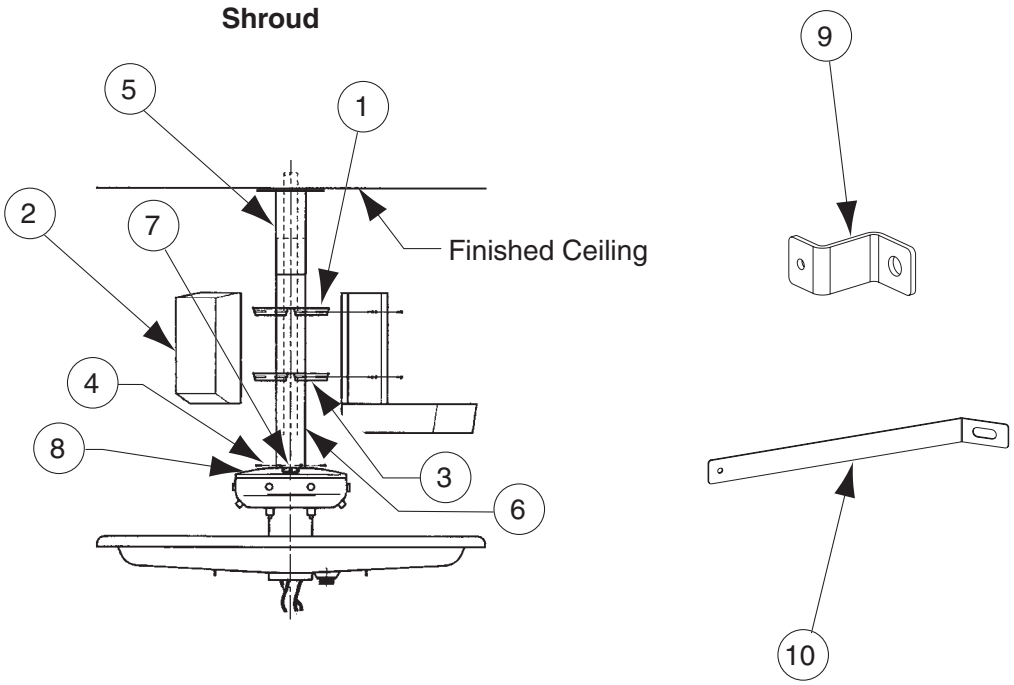
1. Loosen the bowl anchors.
2. Slide the backsplash between the wall and bowl making sure the slots on the backsplash are aligned with the bolts.
3. Caulk the lower edge of the backsplash where it meets the bowl.
4. Tighten the bowl anchors.



Parts List — Backsplash Retrofit Kit

Item	Part No.	Qty	Description
3	S65-237	1	36" Semi-Circle
3	S65-238	1	54" Semi-Circle

Shroud/Towel Dispenser — Installed on a Shroud

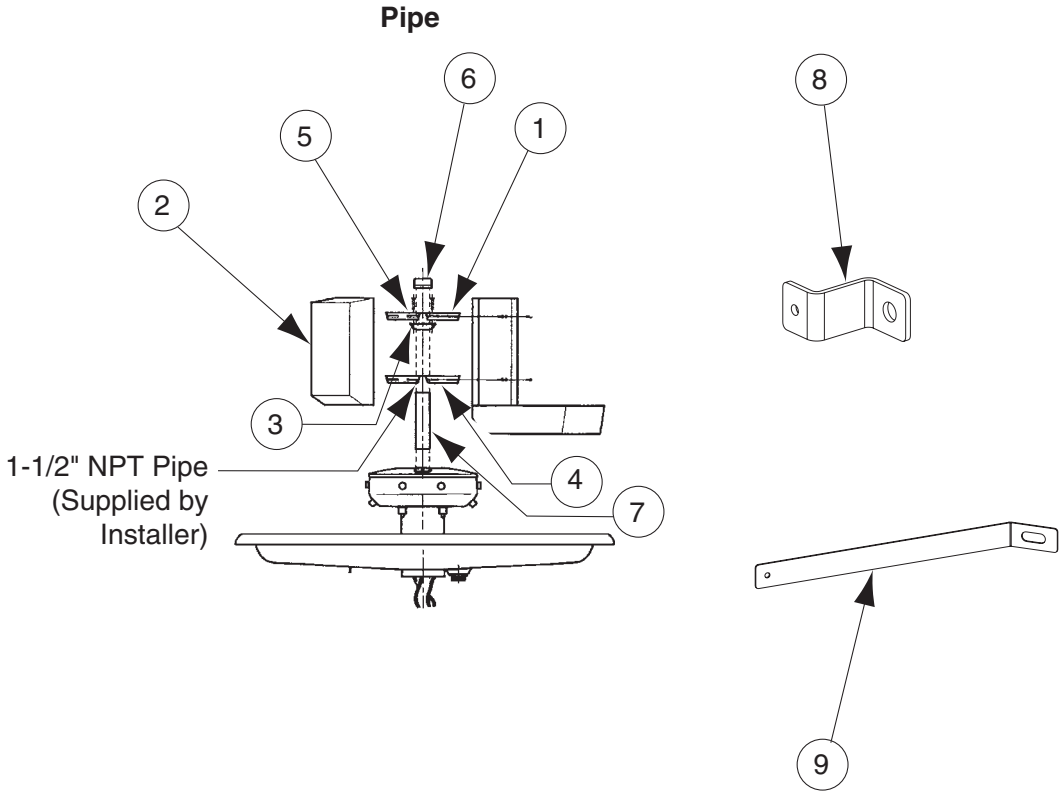


Parts List — Shroud Installations

Item	Part No.	Description	Corner & Semi Qty	Circle Qty
1	S70-095	Mounting Bracket - for shroud mtg.	2	2
2	S78-002	Towel Dispenser - Single fold	2	3
2	S78-001	Towel Dispenser - Multi fold	2	3
*	S45-183	Prepack - For shroud mounting	—	—
3	160-169	Screw - Bracket to shroud (included in S45-183)	6	6
4	160-138	Screw - Shroud to cover	3	3
5	S57-040	Slip Ring for shroud	1	1
6	—	Shroud - Call for part number	1	1
7	S10-009	Soap Filler Cap	2	2
8	107-445	Sprayhead Cover for Shroud	1	1
9	140-212E	Restraining Bracket for Towel Dispenser, 36"	2 Semi only	—
9	140-212F	Restraining Bracket for Towel Dispenser, 54"	2 Semi only	—
10	140-927	Restraining Bracket for Towel Dispenser	2 Corner only	—

* Not Illustrated.

Towel Dispenser — Installed on a Pipe



Parts List — Pipe Installations

Item	Part No.	Description	Corner & Semi Qty	Circle Qty
1	S70-123	Mounting Bracket - for 1½" pipe mtg.	2	2
2	S78-002	Towel Dispenser - Single fold	2	3
2	S78-001	Towel Dispenser - Multi fold	2	3
*	S45-205	Prepack - for 1½" pipe mtg.	—	—
3	159-020	Tie Bar-Tie Pipe (included in S45-205)	2	2
4	160-208	Screw - Tie bar to pipe (included in S45-205)	6	6
5	160-111	Screw - Bracket to tie bar (included in S45-205)	4	4
6	169-986A	Pipe Cap (included in S45-205)	1	1
7	113-170	Spacer Sleeve - for 1½" pipe mtg.	1	1
8	140-212E	Restraining Bracket for Towel Dispenser, 36"	2 Semi only	—
8	140-212F	Restraining Bracket for Towel Dispenser, 54"	2 Semi only	—
9	140-927	Restraining Bracket for Towel Dispenser	2 Corner only	—

* Not Illustrated.