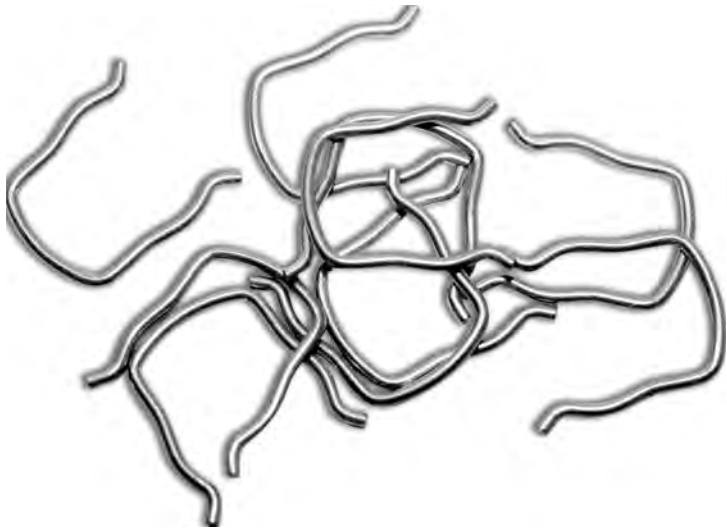




ACORN ENGINEERING COMPANY PARTS & TROUBLESHOOTING GUIDE



(Formerly Acorn Quick Review Guide)
Second Edition 2014



Est. 1954

ACORN ENGINEERING COMPANY
Manufacturer of Engineered Products

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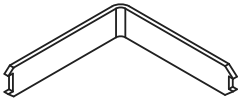
TABLE OF CONTENTS

Second Edition (2014)

DESCRIPTION	PAGE
Wrenches.	4
Drivers & Bits.	5
Replacement Screws.	6
Fasteners.	7
3382/3383 China & Aluminum Replacement Valve	8
3386/3387 Retro-Fit Valve Assembly.	9
R03/R04 Stainless Steel Replacement Valves	10
03/04 Acorn Air-Control Valve	11
Air-Control Valve Installation Instructions	12
Air-Control Metering Troubleshooting	13
Air-Control Non-Metering Troubleshooting	14
Metering Servomotor Assembly.	15
Non-Metering Servomotor Assembly	16
Single Temp Valve Body Assembly	17
Hot & Cold Valve Body Assembly	18
Plastic Checkstop Assembly	19
Single Temp Air-Control Fixture Trim	20
Hot & Cold Air-Control Fixture Trim	21
Suicide Resistant Fixture Trim	22
Valve Body Assembly Hot & Cold, Penal-Trol	23
Quick-Cloz Cartridge, Penal-Trol	24
Penal-Matic Cartridge, Penal-Trol	25
Penal Showerheads.	26
Standard Shower Head Models.	27
Shower Nozzle Assembly	28
Multi-Stream Shower Head	29
Suicide Resistant Conical Shower Head	30
Flex handheld Shower	31
Lavy Thru-Wall Waste Extensions	32
Toilet Waste Fittings.	33
In-Line Manual Reset Flood-Trol Installation	34
Auto Reset Flood-Trol Installation	35
Flood-Trol Troubleshooting.	36
Flood-Trol Valve Assembly	37
Toilet Flush Inlet & Blowout Jet Detail	38
9 Volt Sensor Operated Valve Troubleshooting	39
24 Volt Sensor Operated Valve Troubleshooting	40
Electronic Pushbutton/Sensor Installation	41
Electronic Pushbutton/Sensor Assembly	42
Sensor & Solenoid Valve Assembly.	43
REPLACE-WARE	
R1418 Replacement Comby	44-45
R2100 Replacement Toilet.	46
R2105 Replacement Toilet.	47
R2115 Replacement Toilet.	48
R2141-3 Replacement Toilet	49



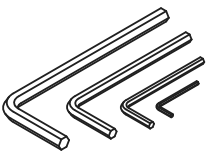
WRENCHES



0295-045-199
"L" WRENCH FOR SPANNER SLOT SCREWS

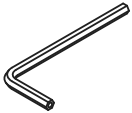


0296-004-000
SOCKET DRIVER FOR TRI-SLOT SCREWS



HEX WRENCH

0298-001-000 for 1/16"
0298-003-000 for 3/32"
0298-004-000 for 1/8" #10-32
0298-005-000 for 1/4"-20



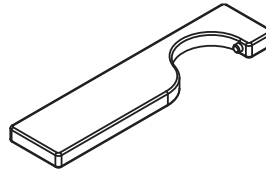
0296-020-000
5/32" HEX WRENCH ALLEN FOR CENTER REJECT



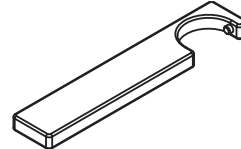
0296-025-199
5/32" KEY w/ CENTER REJECT DRIVER BIT



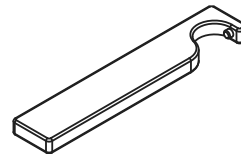
2998-055-199
SPANNER KEY FOR CORTERRA/ MERIDIAN



0354-000-001
SECURITY/ SHOWERWARE
PENAL NOZZLE



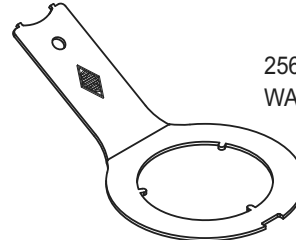
0356-000-001
ASSEMBLY- PENAL NOZZLE



0356-005-001
ASSEMBLY- PRESSURE
SOAP DISPENSER



0355-000-001
PENALWARE SHOWER CABINET



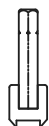
2566-101-199
WASHFONTIAN MULTI-PURPOSE



0355-010-001
1/2" CAP NUT SOCKET
DRIVER ASSEMBLY



DRIVERS & BITS



0295-004-001 FOR #10 SPANNER SLOT



0296-004-000 FOR #10 TRI-SLOT SCREW
0296-005-000 FOR #1/4 TRI-SLOT SCREW



0299-002-000 FOR SNAKE EYES SCREW
#1/4-20 SNAKE EYES



0296-026-000
1/4" SHANK FOR 5/32" w/CENTER REJECT



0296-030-000
1/4" SHANK FOR #10 TORX w/CENTER REJECT



REPLACEMENT SCREWS

CURRENT

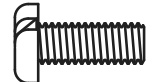


CURRENT

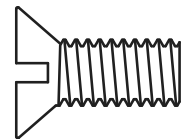
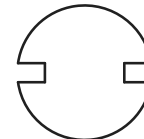
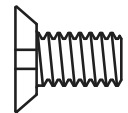
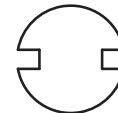
0112-001-000	#10-32 x 3/8" UNF	
0112-002-000	#10-32 x 1/2" UNF	0111-002-000
0112-003-000	1/4"-20 x 1" UNC	0111-003-000
0112-004-000	1/4"-20 x 2" UNC	0111-004-000
0112-007-000	1/4"-20 x 1/2" UNC	0111-007-000
0112-008-000	#10-32 x 1" UNF	
0112-010-000	1/4" -20 x 5/4" UNC	
0112-056-000	#10-32 x 5/16" UNF	0111-056-000

OBSOLETE

OBSOLETE

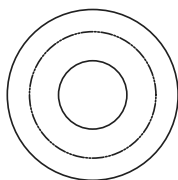


0152-002-000	#10-32 UNF x 1/2" HEX	0156-008-199
0152-003-000	#10-32 UNF x 1-1/2" HEX	
0152-004-000	#8-32 UNC x 3/8" HEX	
0152-005-000	1/4"-20 UNC x 1/2" HEX	0156-011-199
0152-006-000	#10-32 UNF x 3/4" HEX	
0152-007-000	#10-32 UNF x 2" HEX	0156-009-199
0152-008-000	#10-32 UNF x 1-3/4" HEX	
0152-009-000	#8-32 UNC x 1/2" HEX	
0152-010-000	#10-32 UNF x 1" HEX	
0152-020-000	1/4"-20 UNC x 7/16" HEX	0156-013-199
0152-022-000	1/4"-20 UNC x 1-1/2" HEX	0156-014-199
0152-024-000	1/4"-20 UNC x 2-1/4" HEX	0156-003-299
0152-502-000	1/4"-20 UNC x 1" HEX	0156-001-199
0152-504-000	1/4"-20 UNC x 2" HEX	0156-002-199



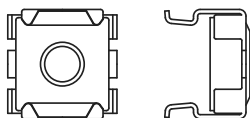


FASTENERS



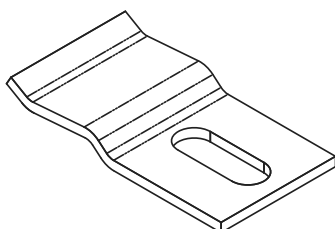
COUNTERSINK WASHER

0336-004-000 #10-32 SIZE
0336-005-000 1/4" SIZE



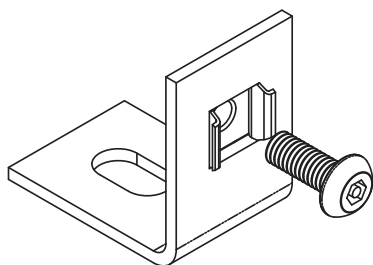
STAINLESS STEEL TINNEMAN NUT

0316-018-000 #10-32 SIZE
0316-008-000 1/4-20 SIZE



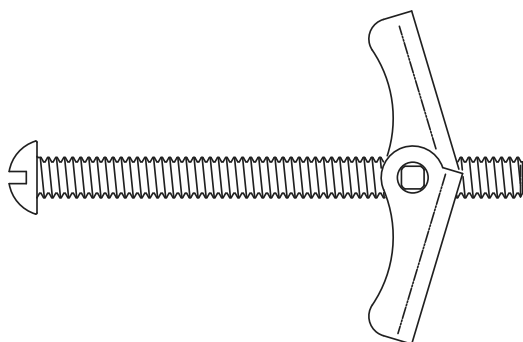
S-CLIP MOUNTING BRACKET

3060-000-199



MOUNTING CLIP ASSEMBLY

3066-000-003 ENTIRE ASSEMBLY
3066-000-199 L-CLIP MOUNTING BRACKET
0336-004-000 #10-32 COUNTERSUNK WASHER
0112-002-000 #10-32 x 1/2" HEX BUTTON HD SCREW



TOGGLE ANCHOR

0377-005-000 1/4" x 3" SIZE



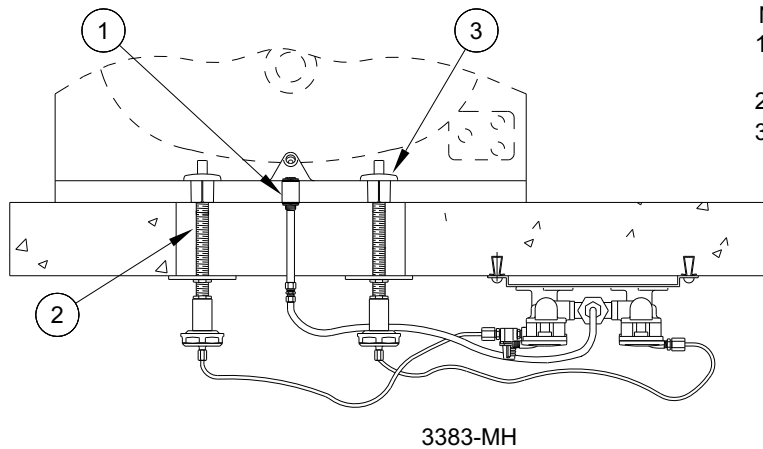
Replace-Ware: 3382

Air-Control Replacement Valve Assembly - China/Aluminum Fixtures

The **Air-Control Valve Assembly** is designed to replace existing valves on china and aluminum fixtures with an integral bubbler. The Air-Control valve assembly allows locating the valve up to 10 feet away from the activating pushbuttons. The pushbutton assembly is arranged to be mounted to the backsplash and support the fixture. Pushbuttons require minimum 1-5/16" diameter round or 1-1/8" square backsplash openings. When single temperature is required, a blank escutcheon is provided to maintain this feature. The integral spout expanded rubber connection will fit 15/16" through 1-1/8" diameter openings. Valve inlets are 1/2" NPT.

Valve is an Air-Control pneumatically operated, pushbutton valve using atmospheric air. Pushbutton is vandal-resistant and requires less than 5 pounds to activate valve. Valve is direct acting, non-metering type and is optionally available as metering with non-hold open feature. Metering valve timing is adjustable from 5 to 60 seconds. Valve includes a 0.5 GPM flow control and can be remotely located up to 10 feet from the operating pushbutton. Valve conforms with lead free requirements for NSF61, Section 9, 1997 and CHSC 116875.

Regularly furnished items include a valve w/ 0.5 GPM flow control, hot and cold indexed pushbuttons, pushrods, tubing and bubbler connection.



NOTES:

1. Expanded Rubber Gasket Connection for Integral Spout
2. Pushbutton and Anchoring Assembly
3. Escutcheon - 1-15/16" Diameter

WALL THICKNESS AND TYPE (Must Specify)

Thickness: _____ Type: ☐ Concrete ☐ Block ☐ Steel

MODEL NUMBER AND OPTIONS SELECTION

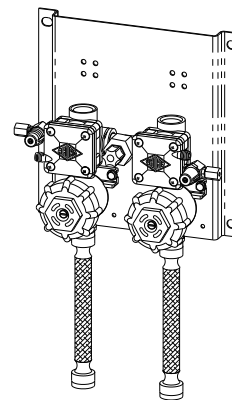
BASE MODEL NUMBER

- ☐ 3382 Air-Control Valve Assembly -Replacement, Single Temp
- ☐ 3383 Air-Control Valve Assembly -Replacement, H & C

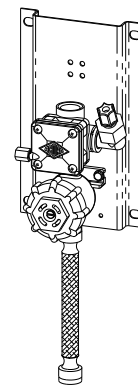
PRODUCT OPTIONS (Must Specify)

(See **Penal-Ware® Model Numbers & Options Section**)

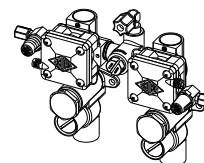
- ☐ -BRS Brass Body Valve(s)
- ☐ -M Metering
- ☐ -MA Manifolded Valve ☐ 2 ☐ 3 ☐ 4
- ☐ -MH Metering Hot Side Only



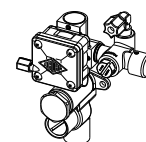
3383-M



3382



3383-BRS-M



3382-BRS

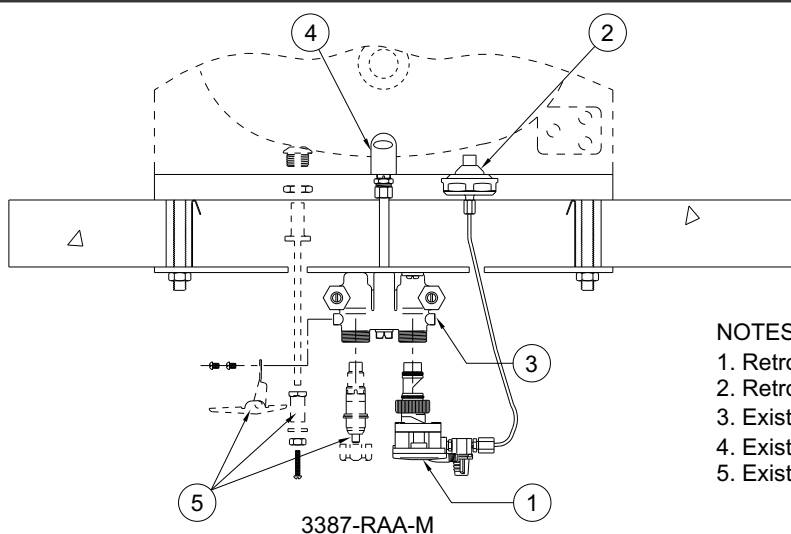


Replace-Ware: 3386

Retro-Air Valve Assembly

Retro-Air Valve Assembly is designed to replace existing metering or non-metering cartridges within existing Acorn Penal-Trol (manufactured since 1978), Metcraft Tempus II and Willoughby Temp 1/Temp 2 valves to pneumatic operation. The Retro-Air Valve Assembly package consists of the Retro-Air servomotor cartridge, a push button assembly (or adapter) and polyethylene 1/8" tubing to connect the push button to the Retro-Air servomotor cartridge, which replaces existing push buttons and push rod hardware. Available for both single temperature and hot and cold installations, the metering Retro-Air will solve the maintenance associated with traditional mechanical style metering cartridges.

Regularly furnished items include hot and cold or single temperature indexed pushbutton assemblies with escutcheons, Retro-Air replacement cartridge assembly with integral Air-Control servomotor and 5 feet of 1/8" polyethylene tubing. Metcraft and Willoughby valve replacement assembly adapts to existing pushbutton assemblies.



NOTES:

1. Retro-Air Cartridge Assembly
2. Retro-Air Pushbutton
3. Existing Valve Assembly
4. Existing Bubbler
5. Existing Components For Removal

WALL THICKNESS AND TYPE (Must Specify)

Thickness: _____ Type: ☐ Concrete ☐ Block ☐ Steel

MODEL NUMBER AND OPTIONS SELECTION:

BASE MODEL NUMBER

- ☐ -3386 Retro-Air Valve Assembly - Single Temp
☐ -3387 Retro-Air Valve Assembly - Hot & Cold

REPLACEMENT VALVE DESCRIPTION (Must Specify)

Manufacturer Valve Assembly

- ☐ -RAA Acorn Penal-Trol
 (1978 to Present - 1-1/8" diameter escutcheon)
☐ -RAA1 Acorn Penal-Trol
 (Prior to 1978 - Oval escutcheon)
☐ -RAM Metcraft Tempus II*
☐ -RAW Willoughby Temp 1/Temp 2*

* These names are trade names used by Metcraft and/or Willoughby.

PRODUCT OPTIONS (Must Specify)

(See Penal-Ware® Model Numbers & Options Section)

- ☐ -M Metering
☐ -MH Metering Hot Side Only



3386-RAA



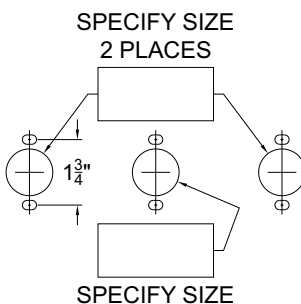
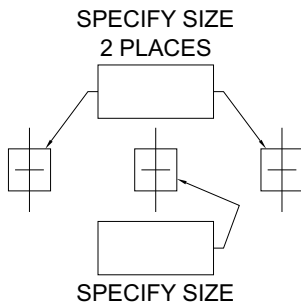
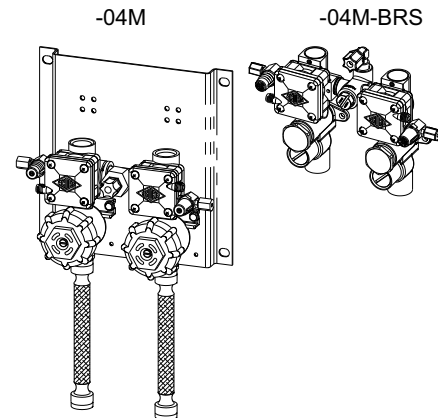
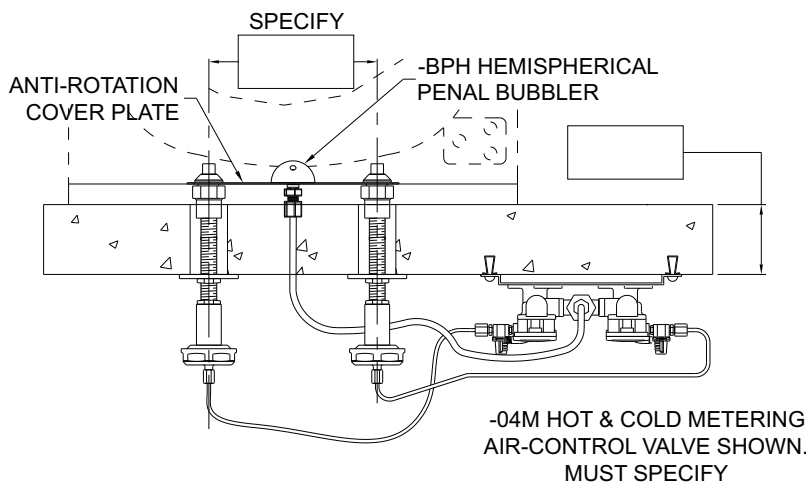
Valves: R03-R04

Air-Control Replacement Valve Assembly - All Lavy And Comby Fixtures

The Air-Control Valve Assembly is designed to replace existing valve and bubbler on stainless steel lavy and comby fixtures. The pushbutton assembly is intended to be mounted to the backsplash and support the fixture. Pushbuttons require minimum 1-5/16" diameter round or 1-1/8" square backsplash openings. When single temperature is required, a blank escutcheon is provided to maintain this feature. Valve inlets are 1/2" NPS flexible hoses or 1/2" NPTI with optional -BRS Brass Valve Body models.

Valve is an Air-Control pneumatically operated, pushbutton valve using atmospheric air. Pushbutton is vandal-resistant and requires less than 5 pounds to activate valve. Valve is direct acting, non-metering type and is optionally available as metering with non-hold open feature. Metering valve timing is adjustable from 5 to 60 seconds. Valve includes a 0.5 GPM flow control and can be remotely located up to 10 feet from the operating pushbutton. Valve and bubbler conform with lead free requirements for NSF61, Section 9, 1997 and CHSC 116875.

Regularly furnished items include a valve w/ 0.5 GPM flow control, single temperature or hot and cold indexed pushbuttons, pushrods, tubing, Stainless Steel -BPH Hemispherical Penal Bubbler and an anti-rotation plate when applicable.



WALL THICKNESS AND TYPE (Must Specify)

Thickness: _____ Type: ___ Concrete: ___
Block: ___ Steel: ___

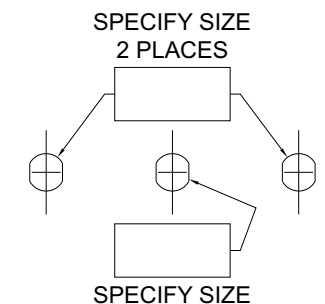
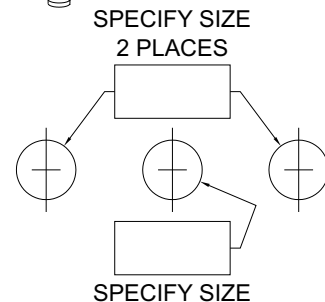
MODEL NUMBER AND OPTIONS SELECTION BASE MODEL NUMBER

- ☐ -R03 Air-Control Valve Assy, Non-Metering, Single Temp.
- ☐ -R04 Air-Control Valve Assy, Non-Metering, Hot & Cold

Product Options

(See Penal-Ware® Model Numbers & Options Section)

- ☐ -BP Bubbler, Penal
- ☐ -BRS Brass Body Valve
- ☐ -LF Lavy Filler
- ☐ -LBPH Less Hemispherical Penal Bubbler
- ☐ -LPBP Less Pushrod Actuator (Eliminates Fixture Support)
- ☐ -M Metering
- ☐ -MA Manifolded Valve: ___ 2 ___ 3 ___ 4
- ☐ -MH Metering Hot Side Only
- ☐ -PBH Hemispherical Pushbutton





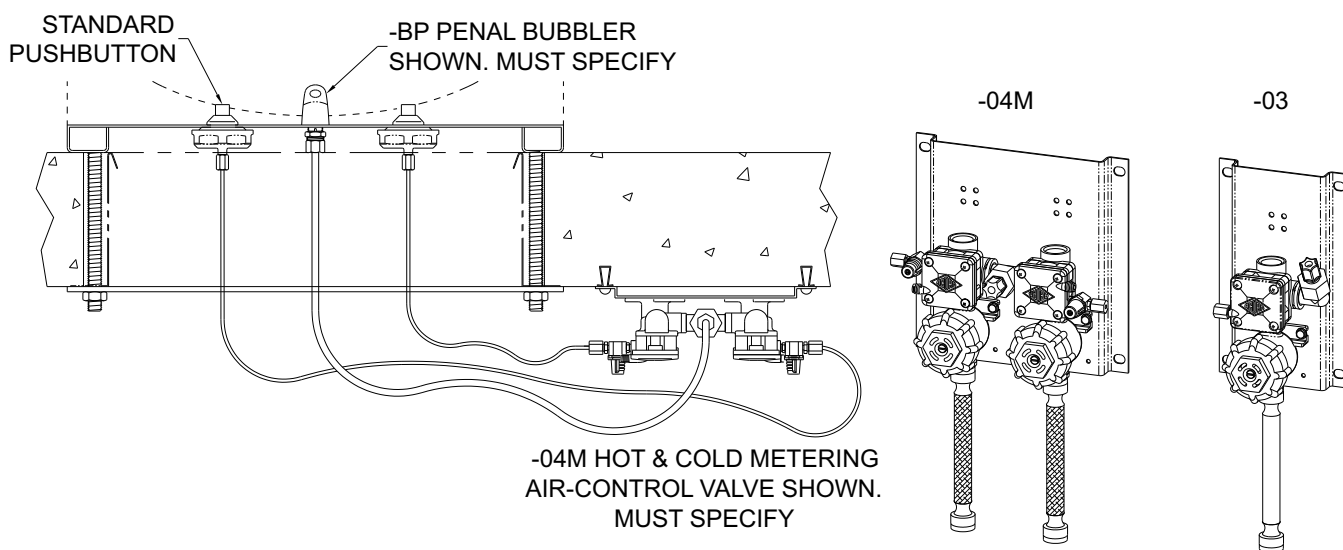
Valves: 03-04

Air-Control Valve Assembly - All Lavy And Comby Fixtures

The **Air-Control Valve Assembly** is designed to replace existing valve, pushbutton and bubbler on all Acorn stainless steel lavy and comby fixtures with "D" punch. When single temperature is required, a blank escutcheon is provided to maintain this feature. Valve inlets are 1/2" NPS flexible hoses or 1/2" NPTI on with optional -BRS Brass Valve Body models.

Valve is an Air-Control pneumatically operated, pushbutton valve using atmospheric air. Pushbutton is vandal-resistant and requires less than 5 pounds to activate valve. Valve is direct acting, non-metering type and is optionally available as metering with non-hold open feature. Metering valve timing is adjustable from 5 to 60 seconds. Valve includes a 0.5 GPM flow control and can be remotely located up to 10 feet from the operating pushbutton. Valve and bubbler conform with lead free requirements for NSF61, Section 9, 1997 and CHSC 116875.

Regularly furnished items include a valve w/ 0.5 GPM flow control, single temperature or hot and cold indexed pushbuttons and tubing.



WALL THICKNESS AND TYPE (Must Specify)

Thickness: _____ Type: ☐ Concrete: ☐ Block: ☐ Steel

MODEL NUMBER AND OPTIONS SELECTION

BASE MODEL NUMBER

- ☐ -03 Air-Control Valve Assembly, Single Temp. Non-Metering
- ☐ -04 Air-Control Valve Assembly, Hot & Cold Non-Metering

Product Options

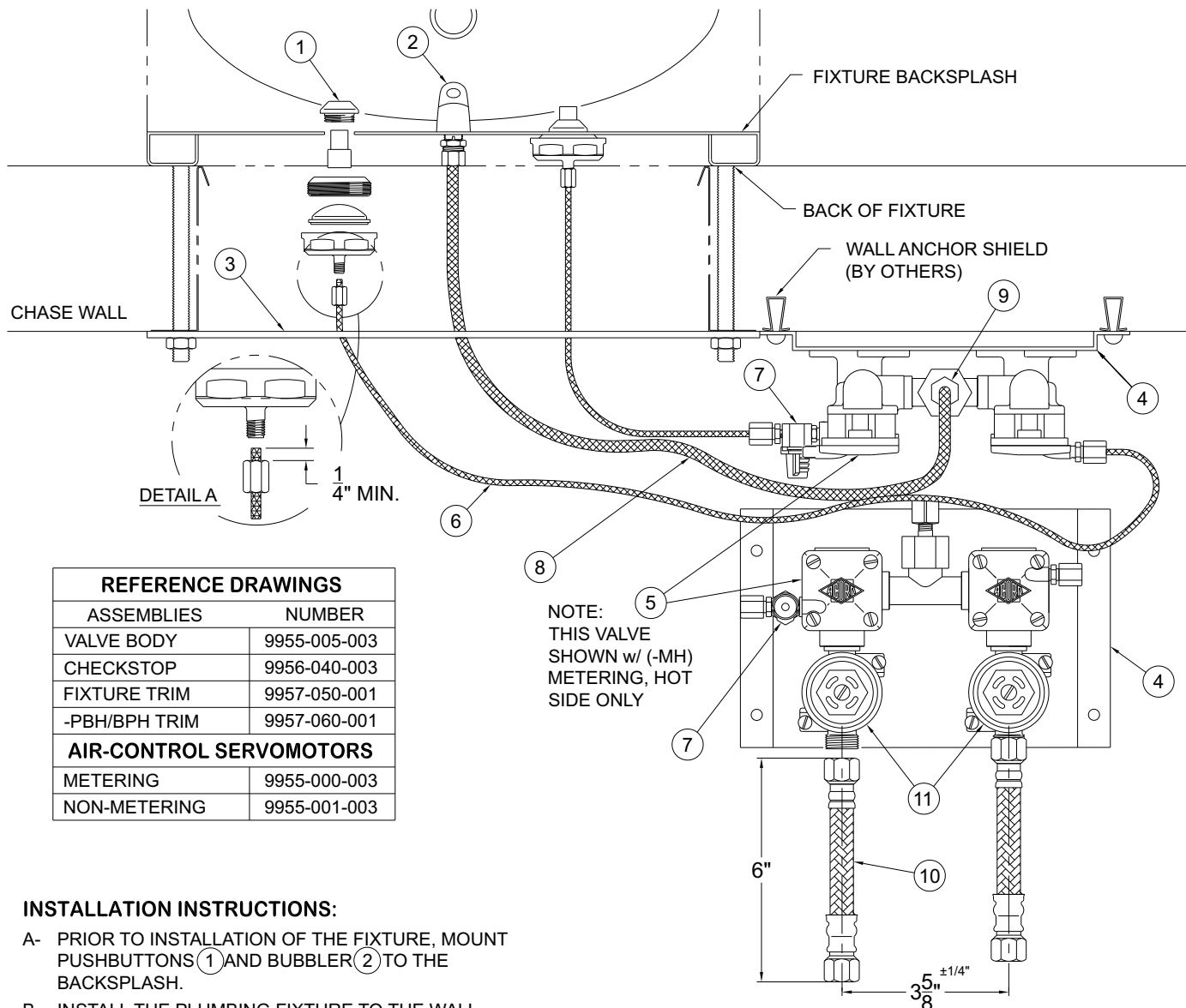
(See **Penal-Ware® Model Numbers & Options Section**)

- ☐ -BC Bubbler, Code
- ☐ -BP Bubbler, Penal
- ☐ -BPH Bubbler, Penal Hemispherical
- ☐ -BRS Brass Body Valve
- ☐ -LF Lavy Filler
- ☐ -M Metering
- ☐ -MA Manifold Valve: ☐ 2 ☐ 3 ☐ 4
- ☐ -MH Metering Hot Side Only
- ☐ -PBH Hemispherical Pushbutton
- ☐ -PBP Pushrod Activated Pushbutton



PENAL-WARE® -04 SERIES

9905-000-003



REFERENCE DRAWINGS	
ASSEMBLIES	NUMBER
VALVE BODY	9955-005-003
CHECKSTOP	9956-040-003
FIXTURE TRIM	9957-050-001
-PBH/BPH TRIM	9957-060-001
AIR-CONTROL SERVOMOTORS	
METERING	9955-000-003
NON-METERING	9955-001-003

INSTALLATION INSTRUCTIONS:

- PRIOR TO INSTALLATION OF THE FIXTURE, MOUNT PUSHBUTTONS (1) AND BUBBLER (2) TO THE BACKSPASH.
- INSTALL THE PLUMBING FIXTURE TO THE WALL INCLUDING UPPER SUPPORT PLATE (3).
- MOUNT THE AIR-CONTROL VALVE ASSEMBLY (4). LOCATE AS REQUIRED. MAXIMUM ALLOWABLE DISTANCE BETWEEN PUSHBUTTON (1) AND AIR-CONTROL SERVOMOTOR (5) IS 10 FEET. WALL ANCHORING HARDWARE ARE BY OTHERS.
- CONNECT 1/8" O.D. POLYETHYLENE AIR LINES (6) TO PUSHBUTTONS (1) AND SERVOMOTOR (5). HAND TIGHTEN USING FERRULE NUTS PROVIDED. SEE DETAIL A. NOTE: WHEN METERING VALVES ARE SPECIFIED, AIR LINES CONNECT DIRECTLY TO VALVE TIMER (7).
- CONNECT 1/4" O.D. POLYETHYLENE WATER LINE (8) TO BUBBLER (2) AND COMPRESSION NUT (9). HAND TIGHTEN USING FERRULE NUTS PROVIDED.

NOTE:
MAXIMUM RECOMMENDED WORKING WATER PRESSURE IS 100 PSI; TEMPERATURE IS 130° F; OUTLET TEMPERATURE IS RECOMMENDED AT A MAXIMUM OF 105° F.
WARNING:
PRIOR TO MAKING INSTALLATION, SUPPLY LINES MUST BE FLUSHED OF ALL FOREIGN MATERIAL SUCH AS PIPE DOPE, CHIPS, SOLDER, ETC. VALVE MUST BE DRAINED PRIOR TO BEING SUBJECTED TO FREEZING TEMPERATURES. MAXIMUM RECOMMENDED OUTLET WATER TEMPERATURE IS 105° F.

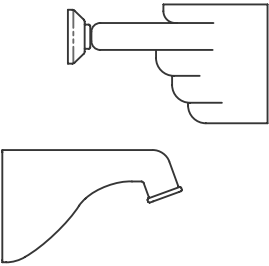
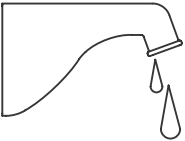
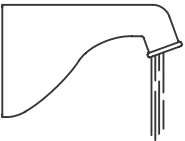
- AFTER THOROUGHLY FLUSHING THE SUPPLY LINES, MAKE-UP 1/2" NPS FEMALE SUPPLY CONNECTIONS. NOTE: SUPPLY INLET CONNECTION WILL ACCOMMODATE 1/2" NPT MALE ADAPTER. THREAD FLEX CONNECTOR HOSE (10) TO CHECKSTOPS (11) AND TO SUPPLY STUB OUTS.
- SEE APPROPRIATE SERVOMOTOR REFERENCE DRAWING FOR DETAILS AND TIMING INSTRUCTIONS.



AIR-CONTROLLED VALVE MAINTENANCE INSTRUCTIONS - METERING

9940-005-002

METERING AIR-CONTROLLED VALVES - (DELAYED ACTING)

<i>CONDITION:</i>	<i>SOLUTION:</i>
NO WATER FLOW: 	1.1 Check water main supply - open. 1.2 Inspect checkstops - open. 1.3 Inspect checkstop strainer for debris. 1.4 Check 1/8" O.D. tubing and fittings for leaks. 1.5 Check pushbutton air diaphragm for holes. 1.6 Check servomotor diaphragm center hole for blockage. 1.7 Check servomotor upper diaphragm for damage.
WATER DRIPS / WON'T SHUT OFF: 	2.1 Check servomotor timer assembly. 2.2 Check servomotor diaphragm offset hole for debris. 2.3 Check servomotor seat for build-up or damage. 2.4 Check servomotor plate and diaphragm for obstruction.
REDUCED WATER FLOW: 	3.1 Check valve riser tubing for crimping. 3.2 Inspect checkstop strainer for debris. 3.3 Check valve flow control for blockage. 3.4 (Washfountains) Check nozzle assembly for debris.

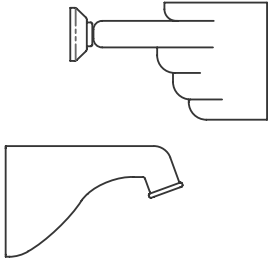
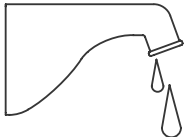
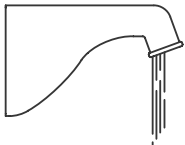
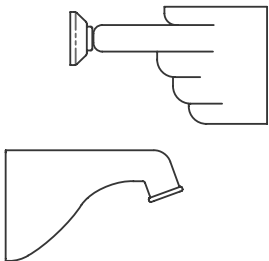
Refer to drawing #9940-006-003 for Air-Controlled Valve Maintenance Detail to locate solutions above.
Refer to Acorn Operations And Maintenance Manual for installation instructions and repair parts drawings.



AIR-CONTROLLED VALVE MAINTENANCE INSTRUCTIONS - NON-METERING

9940-000-002

NON-METERING AIR-CONTROLLED VALVES (DIRECT ACTING)

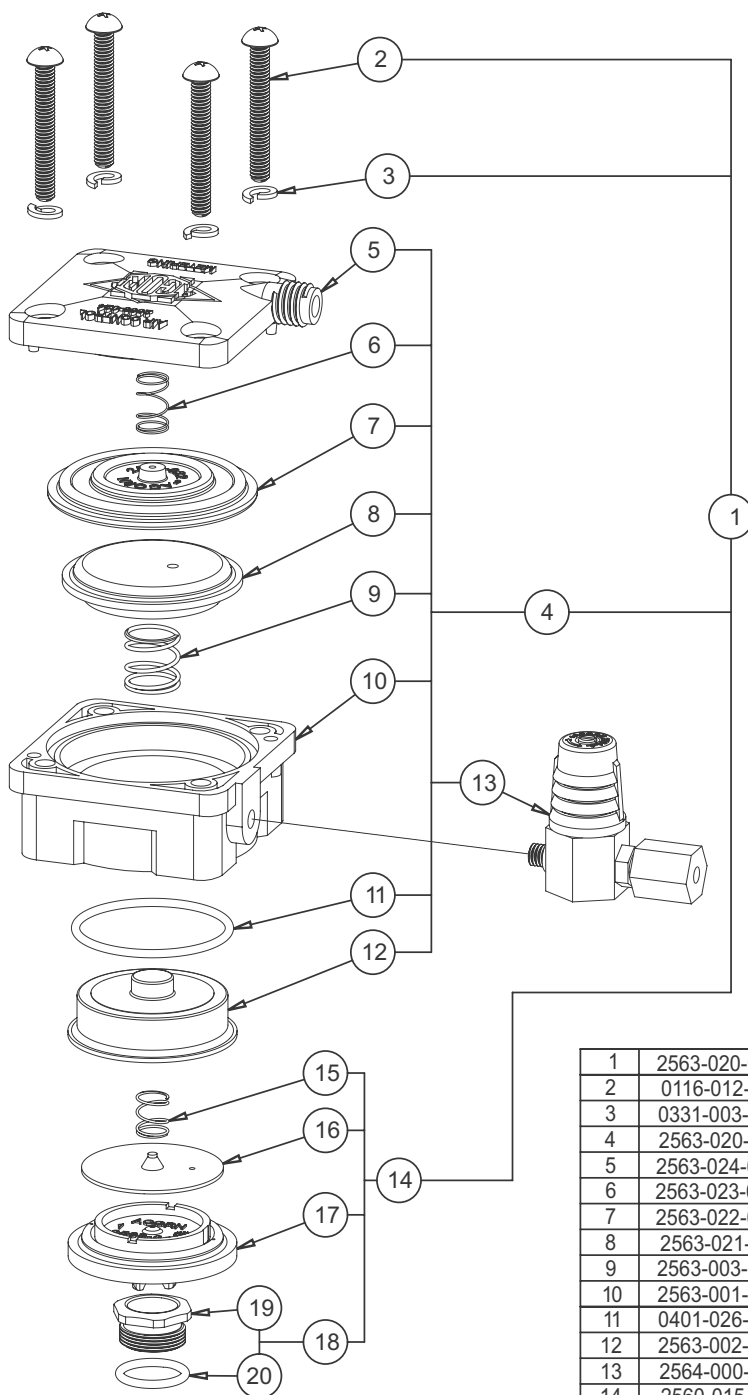
<i>CONDITION:</i>	<i>SOLUTION:</i>
NO WATER FLOW: 	1.1 Check water main supply - open. 1.2 Inspect checkstops - open. 1.3 Inspect checkstop strainer for debris. 1.4 Check 1/8" O.D. tubing and fittings for leaks. 1.5 Check pushbutton air diaphragm for holes. 1.6 Check servomotor diaphragm center hole for blockage.
WATER DRIP / WON'T SHUT OFF: 	2.1 Check servomotor diaphragm offset hole for debris. 2.2 Check servomotor seat for build-up or damage. 2.3 Check servomotor plate and diaphragm for obstruction.
REDUCED WATER FLOW: 	3.1 Check valve riser tubing for crimping. 3.2 Inspect checkstop strainer for debris. 3.3 Check valve flow control for blockage. 3.4 (Washfountains) Check nozzle assembly for debris.
PREMATURE WATER SHUTOFF: 	4.1 Check 1/8" O.D. tubing and fittings for leaks. 4.2 Check pushbutton air diaphragm for holes.

Refer to drawing #9940-001-003 for Air-Controlled Valve Maintenance Detail to locate solutions above.
Refer to Acorn Operations and Maintenance Manual for installation instructions and repair parts drawings.



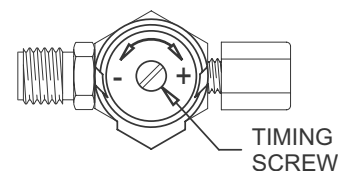
AIR-CONTROL METERING SERVOMOTOR ASSEMBLY

9955-000-003



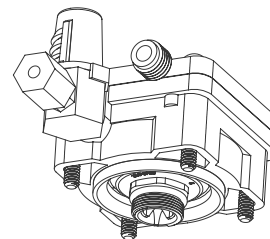
NOTE:
REMOVE ASSEMBLY (18)
FOR PLASTIC BODY INSTALL

TOP VIEW ITEM # (13)

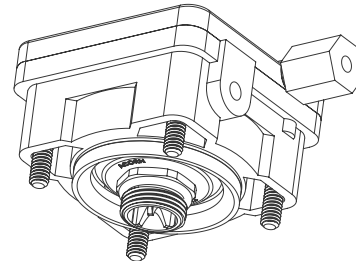


SCALE x 2

TIMING IS ADJUSTABLE FROM 5 TO 60 SECONDS AND IS ACCOMPLISHED BY ROTATING TIMING SCREW. TURNING THE SCREW CLOCKWISE INCREASES WHILE COUNTERCLOCKWISE DECREASES TIMING.



1	2563-020-002	AIR-CONTROL METERING ASSEMBLY
2	0116-012-000	#8-32 x 1-1/4" LG PHILLIPS ROUND HEAD
3	0331-003-000	#8 LOCKWASHER
4	2563-020-001	METERING MOTOR ASSEMBLY
5	2563-024-000	METERING COVER PLATE
6	2563-023-000	METERING AIR DIAPHRAGM SPRING
7	2563-022-000	METERING AIR DIAPHRAGM
8	2563-021-001	MAGNET CUP ASSEMBLY
9	2563-003-000	ACTUATOR SPRING
10	2563-001-000	MOTOR HOUSING
11	0401-026-000	O-RING
12	2563-002-199	SEPARATOR CUP
13	2564-000-001	TIMER ASSEMBLY
14	2560-015-001	SEAT ASSEMBLY
15	2563-008-000	PILOT ORIFICE PLATE SPRING
16	2563-019-001	PILOT ORIFICE PLATE ASSEMBLY
17	2563-010-001	WATER DIAPHRAGM ASSEMBLY
18	2580-000-001	SEAT ASSEMBLY
19	2580-000-000	SEAT
20	0401-014-000	SEAT O-RING
ITEM	PART NUMBER	DESCRIPTION

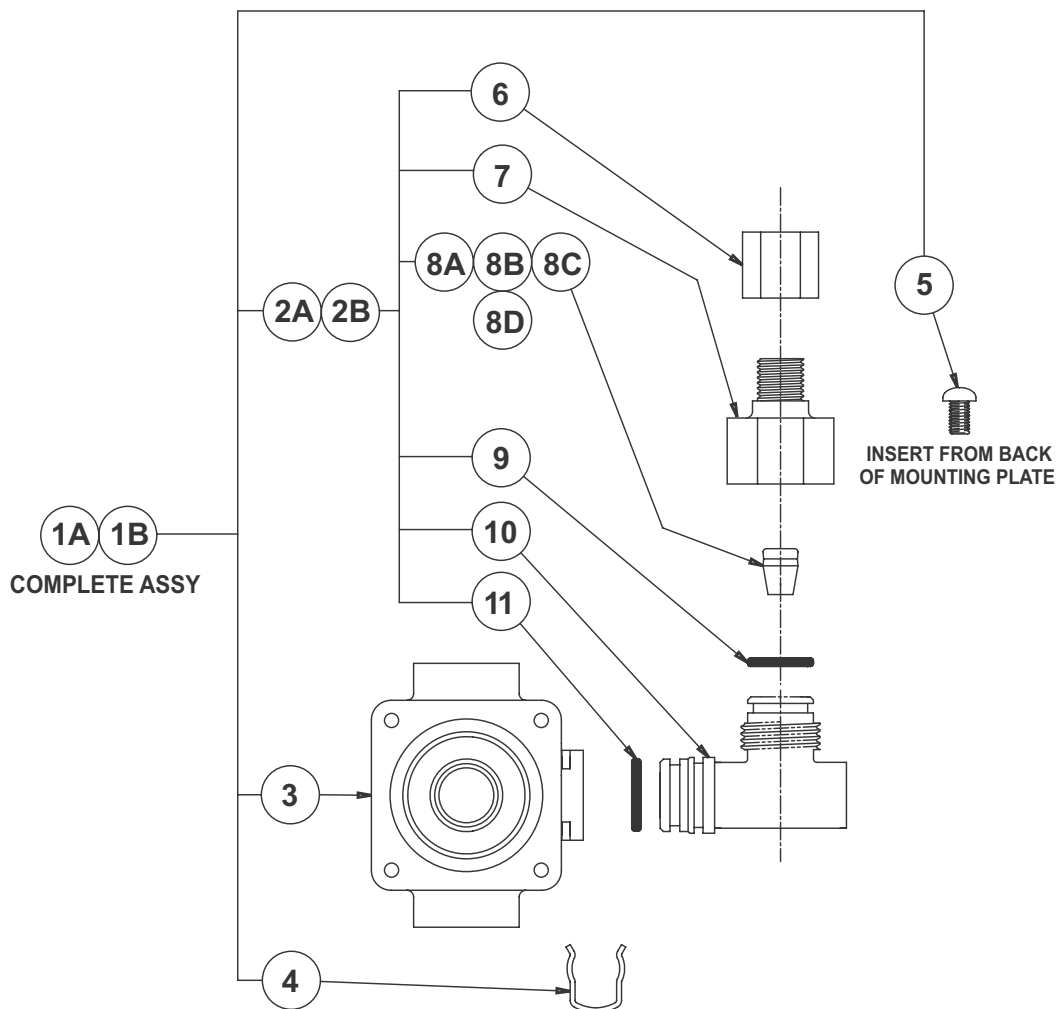


1	2563-000-002	DIRECT ACTING ASSEMBLY
2	0116-012-000	#8-32 x 1-1/4" PHILLIPS ROUND HEAD
3	0331-003-000	#8 LOCKWASHER
4	1895-450-000	1/8" PLASTIC COMPRESSION NUT
5	2563-000-001	DIRECT ACTING MOTOR ASSEMBLY
6	2563-008-000	PILOT ORIFICE PLATE SPRING
7	2563-019-001	PILOT ORIFICE PLATE ASSEMBLY
8	2563-010-001	WATER DIAPHRAGM ASSEMBLY
9	2563-007-000	DIRECT ACTING COVER PLATE
10	2563-004-001	DIRECT ACTING DIAPHRAGM ASSEMBLY
11	2563-003-000	ACTUATOR SPRING
12	2563-001-000	MOTOR HOUSING
13	0401-026-000	SEPARATOR CUP O-RING
14	2563-002-199	SEPARATOR CUP
15	2580-000-000	AIR-CONTROL VALVE SEAT
16	0401-014-000	BRASS SEAT O-RING
17	2580-000-001	SEAT ASSEMBLY
18	2560-015-001	WATER CHAMBER ASSEMBLY
ITEM	PART NUMBER	DESCRIPTION



SINGLE TEMP AIR-CONTROL VALVE BODY ASSEMBLY (-3)

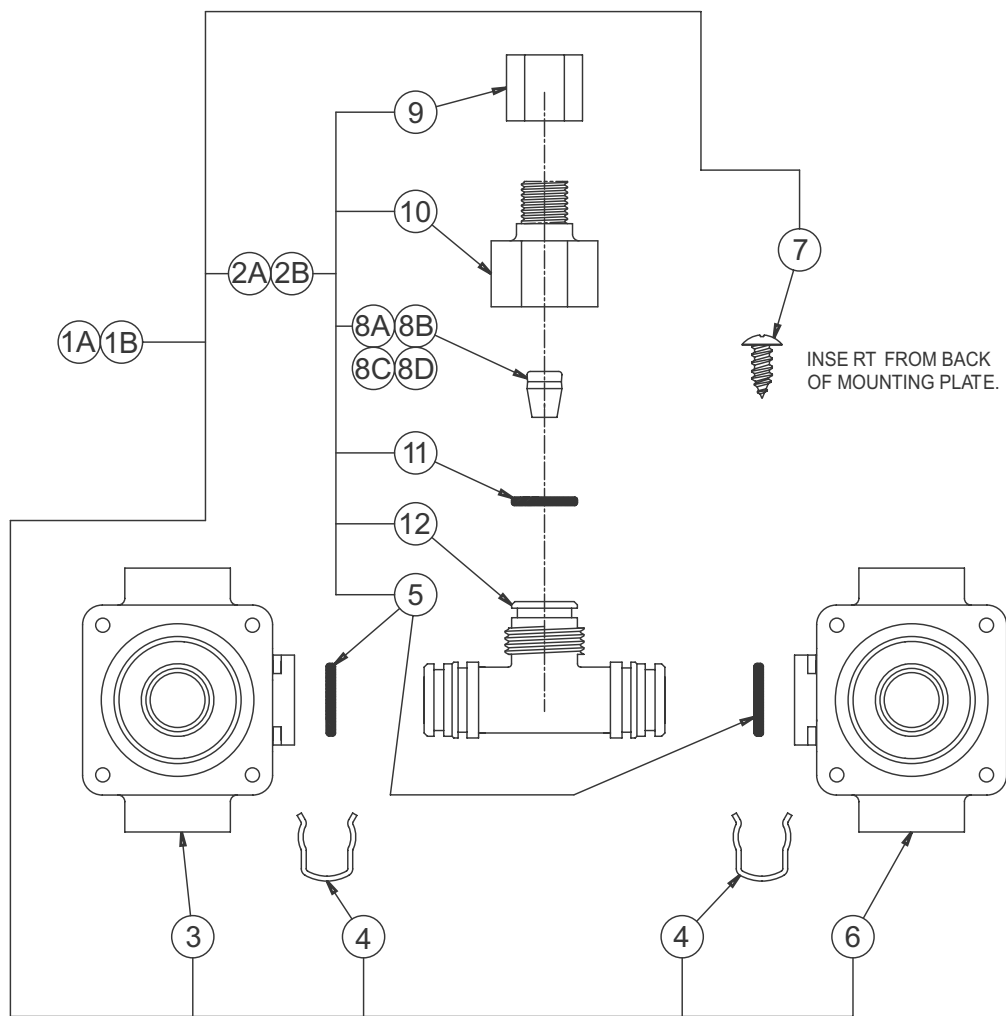
9955-006-003



1A	2590-202-001	S/T VALVE BODY .5 GPM -LAVY
1B	2590-203-001	S/T VALVE BODY 2.5 GPM -SHOWER
2A	2570-045-001	SINGLE TEMP TEE ASSY .5 GPM -LAVY
2B	2570-046-001	SINGLE TEMP TEE ASSY 2.5 GPM -SHOWER
3	2570-027-000	LH VALVE BODY
4	0326-100-000	RETAINING CLIP
5	0124-010-000	#10-32 x 1/2" STN STL SCREW
6	1895-451-000	1/4" FERRULE NUT
7	2570-042-000	FLOW CONTROL ADAPTER
8A	0469-005-000	FLOW CONTROL .5 GPM -LAVY
8B	0469-025-000	FLOW CONTROL 2.5 GPM -SHOWER
8C	0469-022-000	FLOW CONTROL 2.2 GPM -SHOWER
8D	0469-007-000	FLOW CONTROL .7 GPM -DRINKING FOUNTAIN
9	0401-014-000	O-RING
10	2570-045-000	SINGLE TEMP TEE BODY
11	0401-015-000	O-RING
ITE	ART NUMBER	DESCRIPTION



HOT & COLD AIR-CONTROL VALVE BODY ASSEMBLY (-4)
9955-005-003



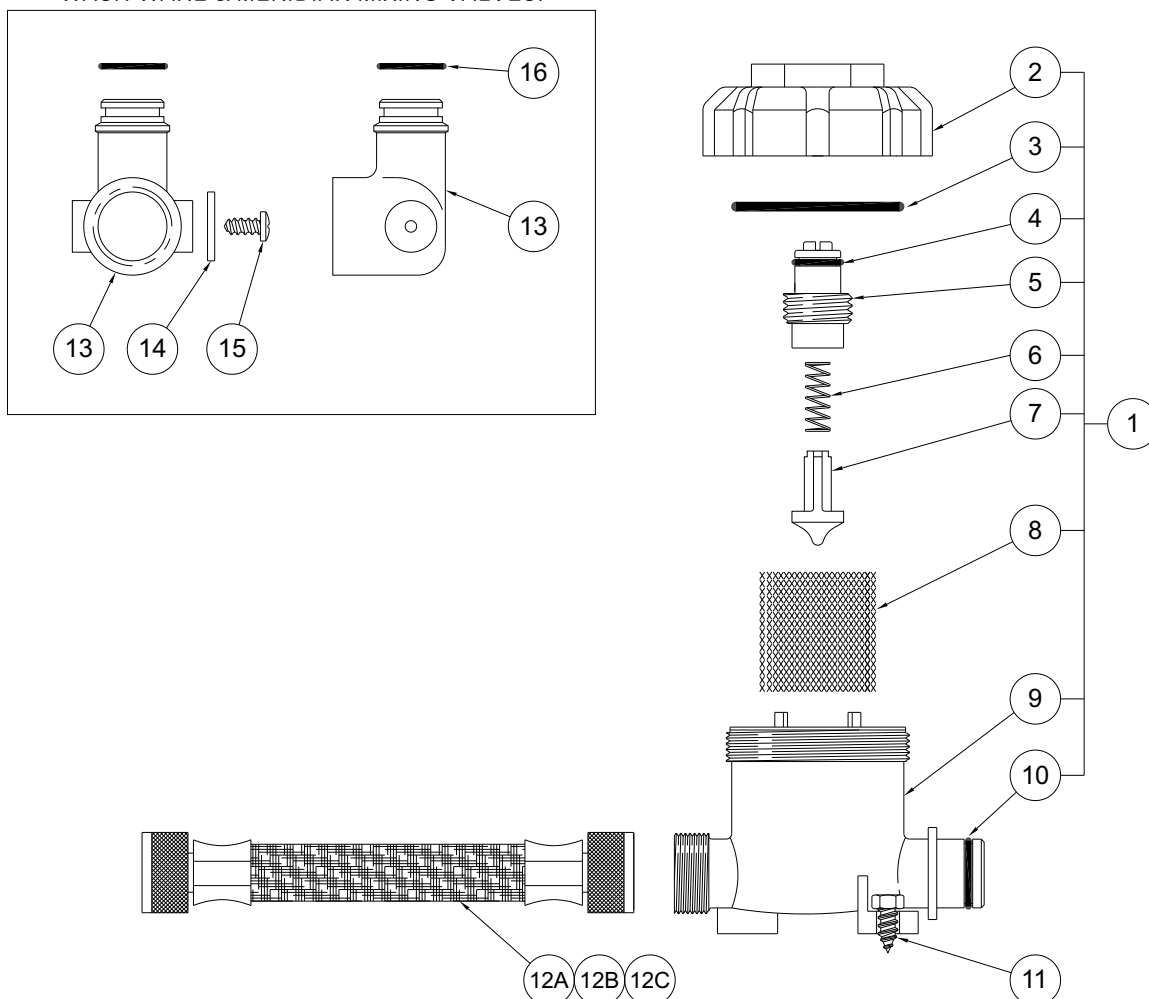
1A	2590-200-001	H & C VALVE BODY, .5GPM - LAVY	8A	0469-005-000	FLOW CONTROL .5GPM - LAVY
1B	2590-201-001	H & C VALVE BODY, 2.5GPM - SHOWER	8B	0469-025-000	FLOW CONTROL 2.5GPM - SHOWER
2A	2570-040-001	H & C MIXING TEE ASSY, .5GPM - LAVY	8C	0469-022-000	FLOW CONTROL 2.2GPM - SHOWER
2B	2570-043-001	H & C MIXING TEE ASSY, 2.5GPM - SHWR	8D	0469-007-000	FLOW CONTROL .7GPM - DRINKING FOUN
3	2570-027-000	LEFT HAND VALVE BODY	9	1895-451-000	1/4" FERRULE NUT
4	0326-100-000	RETAINING CLIP	10	2570-042-000	FLOW CONTROL ADAPTER
5	0401-015-000	O-RING	11	0401-014-000	O-RING
6	2570-026-000	RIGHT HAND VALVE BODY	12	2570-041-000	MIXING TEE BODY
7	0124-010-000	#10-32 x 1/2" SS PHILLIPS HEAD SCREW			
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



PLASTIC AIR-CONTROL CHECKSTOP ASSEMBLY

9956-040-003

ELBOW ASSEMBLY USED ONLY ON
WASH-WARE & MERIDIAN MIXING VALVES.

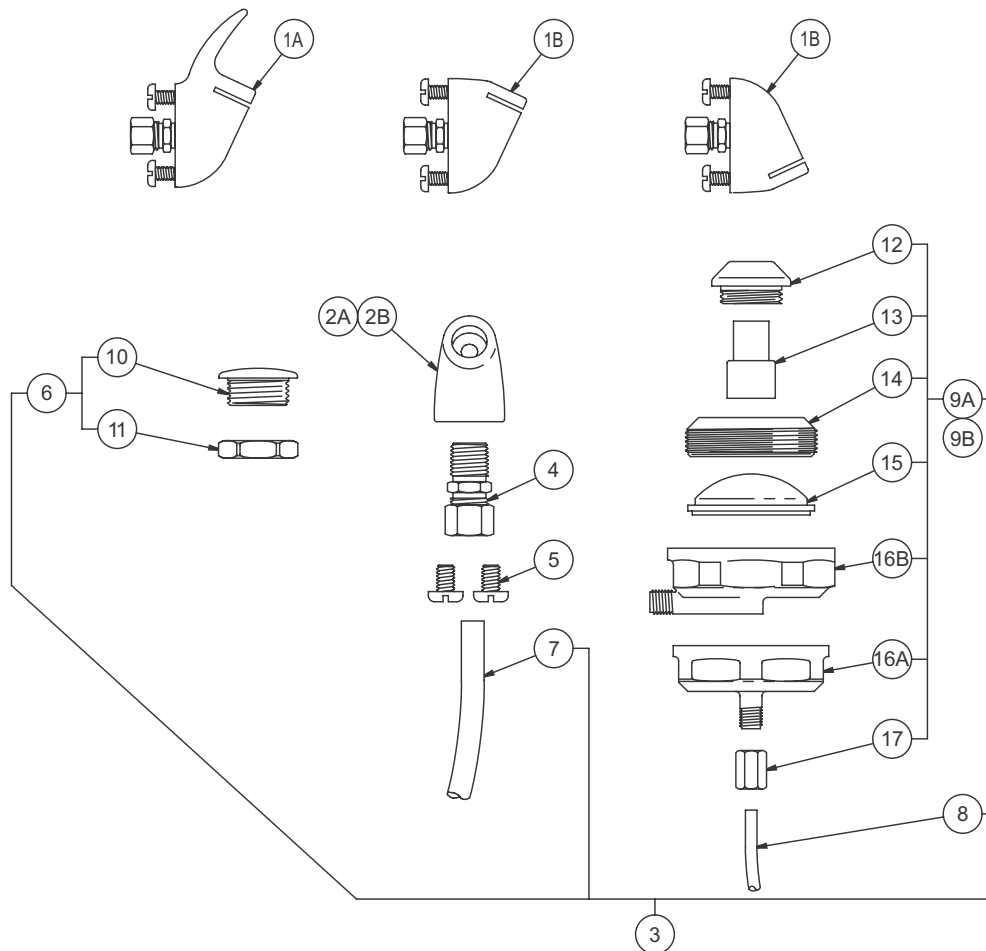


1	2570-000-001	CHECKSTOP STRAINER ASSEMBLY
2	2570-012-000	STOP BONNET
3	0401-129-000	O-RING
4	0401-012-000	O-RING
5	2570-015-199	STOP STEM
6	2415-002-000	SPRING
7	2570-014-000	CHECK STEM
8	2570-018-000	STRAINER
9	2570-011-001	STOP BODY ASSEMBLY
10	0401-016-000	O-RING
11	0124-005-000	#10 x 1/2" HX HEAD SELF
12A	2195-010-000	1/2" NPS x 6-1/4" STN. STL. INLET HOSE
12B	2195-015-000	1/2" NPS x 15-3/4" STN. STL. INLET HOSE
12C	2195-024-000	1/2" NPS x 24" STN. STL. INLET HOSE
13	2570-001-199	M x F PLASTIC ELBOW
14	0331-034-000	SPACER WASHER
15	0124-030-000	#8 x 3/8" PAN HEAD SCREW
16	0401-015-000	O-RING
ITEM	PART NUMBER	DESCRIPTION



SINGLE TEMP, AIR-CONTROL FIXTURE TRIM

9957-051-001

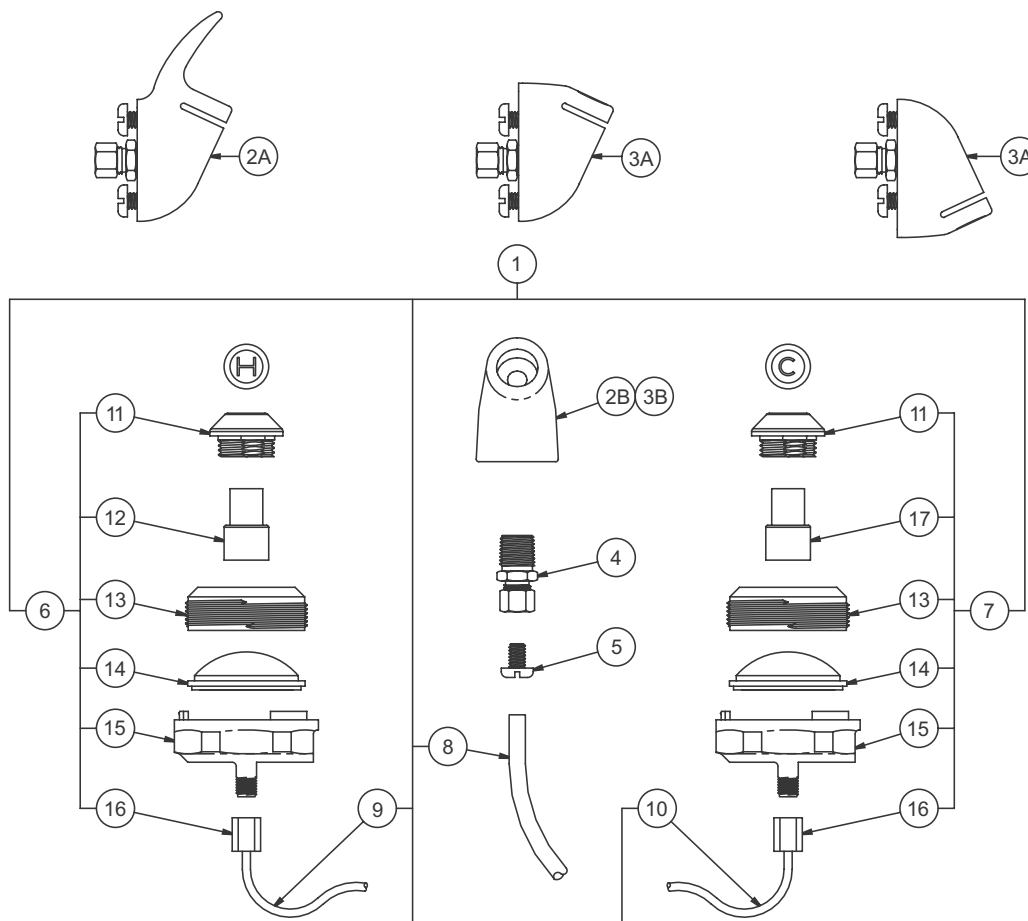


1A	4025-010-001	BUBBLER w/ MOUTHGUARD HARDWARE PKG
1B	4025-011-001	PENAL FILLER/BUBBLER HARDWARE
2A	4025-000-199	BUBBLER w/ MOUTHGUARD
2B	4025-001-199	PENAL FILLER/BUBBLER
3	4016-101-001	S/TEMP AIR-CONTROL FIXTURE TRIM
4	1895-002-000	1/4" TUBE x 1/4" NPT COMPRESSION FITTING
5	0126-004-000	#1/4-20 x 3/8" PAN HEAD SCREW
6	4005-050-001	BLANK ESCUTCHEON ASSEMBLY
7	2160-000-000	1/4" OD x 10 FEET SUPPLY TUBE
8	2150-000-000	1/8" OD x 10 FEET AIR TUBE
9A	2566-050-001	S/T BACK OUTLET PUSHBUTTON ASSEMBLY
9B	2566-025-001	S/T SIDE OUTLET PUSHBUTTON ASSEMBLY
10	4005-050-199	BLANK ESCUTCHEON
11	4015-001-199	RETAINER NUT
12	2566-020-199	ESCUTCHEON
13	2566-025-000	BLANK PUSHBUTTON
14	2566-022-000	ESCUTCHEON RETAINER
15	2566-001-000	DIAPHRAGM
16A	2566-056-199	DIAPHRAGM RETAINER, BACK OUTLET
16B	2566-055-199	DIAPHRAGM RETAINER, SIDE OUTLET
17	1895-450-000	1/8" FERRULE NUT
ITEM	PART NUMBER	DESCRIPTION



H & C PENAL AIR-CONTROL FIXTURE TRIM

9957-050-001

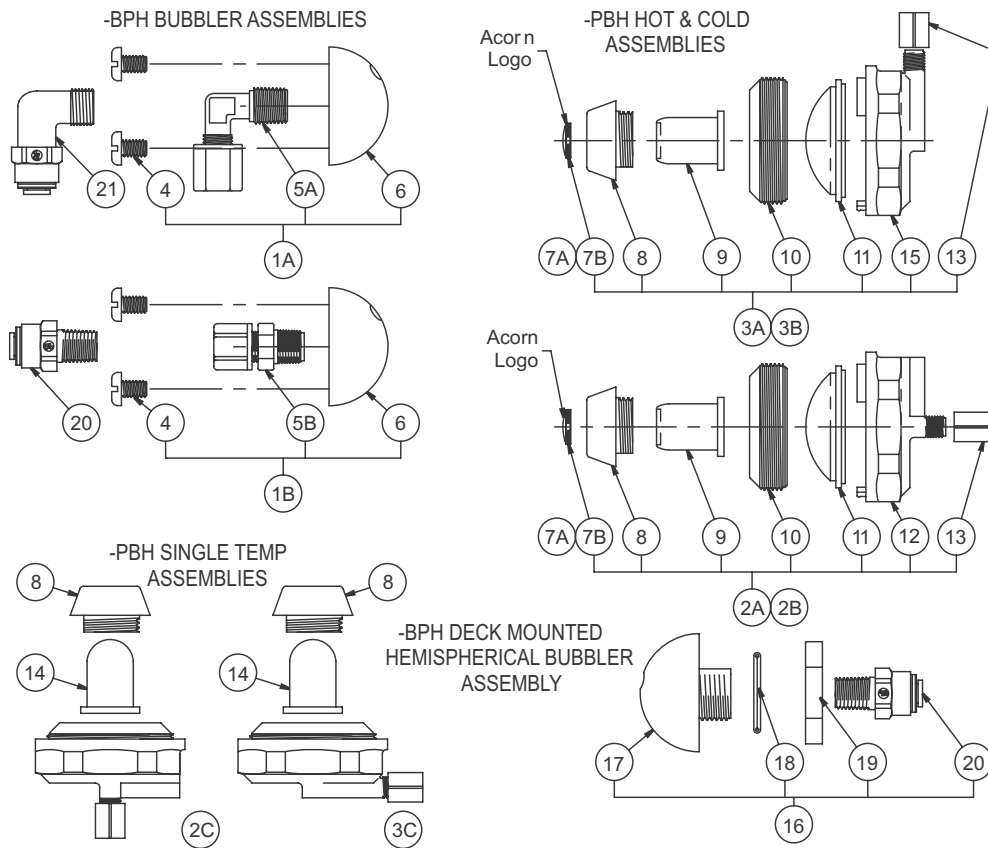


1	4016-100-001	H&C PENAL PUSHBUTTON ASSEMBLY
2A	4025-010-001	CODE BUBBLER w/ HARDWARE
2B	4025-000-199	CODE BUBBLER LESS HARDWARE
3A	4025-011-001	FILLER/BUBBLER w/ HARDWARE
3B	4025-001-199	FILLER/BUBBLER LESS HARDWARE
4	1895-002-000	1/4" TUBE x 1/4" NPT COMPRESSION FITTING
5	0126-504-000	#1/4-20 x 3/8" PAN HEAD SLOTTED SCREW
6	2566-051-001	PUSHBUTTON ASSEMBLY -HOT
7	2566-052-001	PUSHBUTTON ASSEMBLY -COLD
8	2160-010-199	1/4" O.D. x 10 FEET PE TUBING -CLEAR
9	2153-010-199	1/8" OD x 10 FEET PE TUBING -RED
10	2155-010-199	1/8" OD x 10 FEET PE TUBING -BLUE
11	2566-020-199	ESCUTCHEON
12	2566-026-000	PUSHBUTTON -HOT
13	2566-022-000	ESCUTCHEON RETAINER
14	2566-001-000	DIAPHRAGM
15	2566-056-199	DIAPHRAGM RETAINER
16	1895-450-000	1/8" COMPRESSION NUT
17	2566-027-000	PUSHBUTTON -COLD
ITEM	PART NUMBER	DESCRIPTION



SUICIDE RESISTANT FIXTURE TRIM

9957-060-001

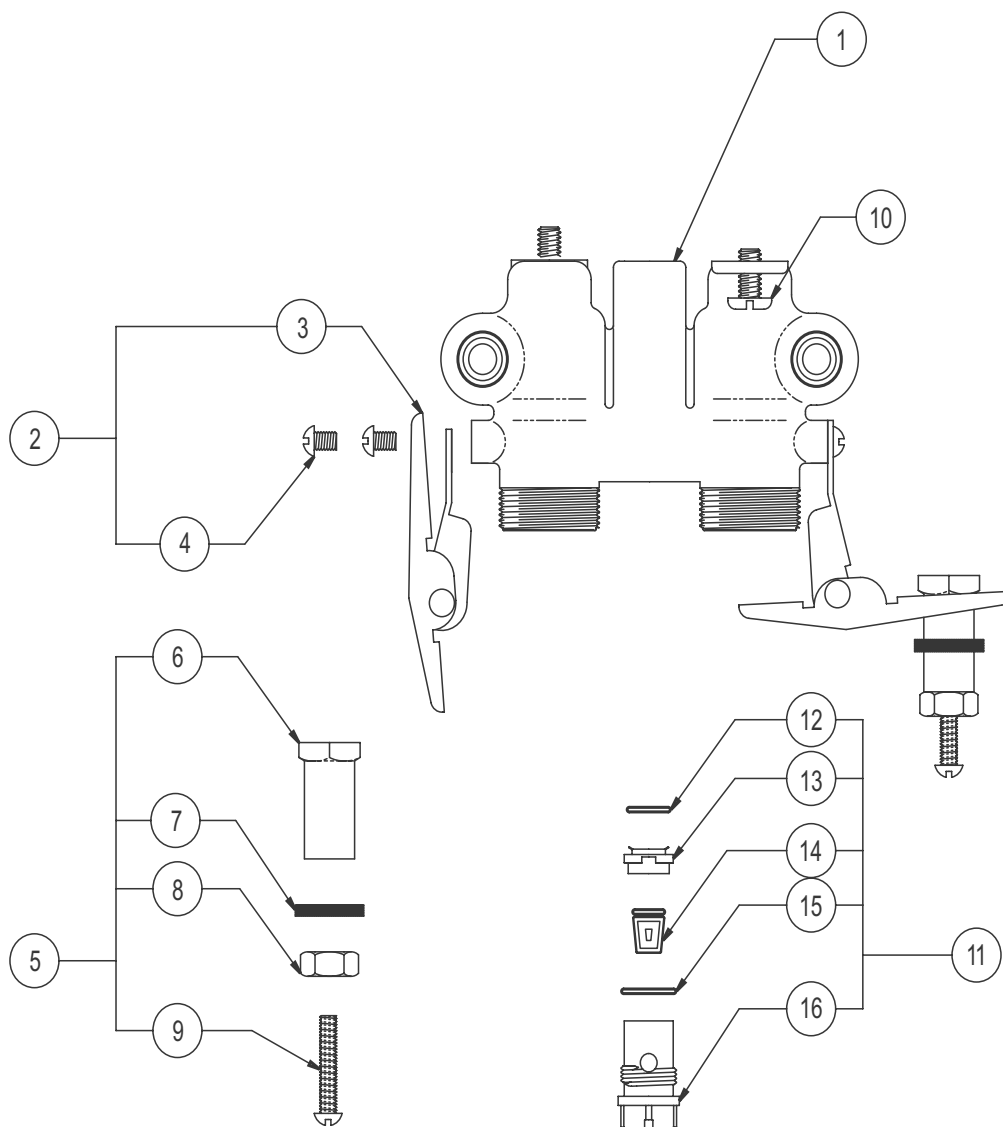


1A	4025-050-001	HEMI-BUBBLER, ROUND w/ ELBOW ASSY
1B	4025-051-001	HEMI-BUBBLER ROUND, w/ STRAIGHT ASSY
2A	2566-191-001	HEMI-PUSHBUTTON, "HOT" BCK OUT ASSY
2B	2566-192-001	HEMI-PUSHBUTTON, "COLD" BCK OUT ASSY
2C	2566-150-001	HEMI-PUSHBUTTON, S/TEMP BCK OUT ASSY
3A	2566-201-001	HEMI-PUSHBUTTON, "HOT" SIDE OUT ASSY
3B	2566-202-001	HEMI-PUSHBUTTON, "COLD" SIDE OUT ASSY
3C	2566-160-001	HEMI-PUSHBUTTON, S/TEMP SIDE OUT ASSY
4	0126-504-000	#1/4-20 x 3/8" PAN HEAD SCREW
5A	1895-152-000	1/4" TUBE x 1/4" NPT NYLON ELBOW
5B	1895-002-000	1/4" TUBE x 1/4" NPT NYLON STRAIGHT
6	4025-050-199	HEMISPHERICAL BUBBLER
7A	2292-113-000	"HOT" RED ACORN LOGO BUTTON
7B	2292-114-000	"COLD" BLUE ACORN LOGO BUTTON
8	4005-030-199	ESCUTCHEON FOR HEMISPHERICAL P/B
9	4005-035-199	PUSHBUTTON FOR LOGO BUTTON
10	2566-022-000	ESCUTCHEON RETAINER
11	2566-001-000	DIAPHRAGM
12	2566-056-199	DIAPHRAGM RETAINER BACK OUTLET
13	1895-450-000	1/8" FERRULE NUT
14	4005-031-199	SINGLE TEMP PUSHBUTTON
15	2566-055-199	DIAPHRAGM RETAINER SIDE OUTLET
16	4854-007-001	-BPH HEMISPHERICAL DECK BUBBLER ASSY
17	4025-070-199	DECK MOUNTED HEMISPHERICAL BUBBLER
18	0401-120-000	O-RING
19	0308-020-000	1/2" NPSMI BRASS NUT
20	1895-125-000	1/4" NPT x 1/4" OD PUSH-IN
21	1895-705-000	1/4" NPT x 1/4" OD PUSH-IN ELBOW
ITEM	PART NUMBER	DESCRIPTION



VALVE BODY ASSEMBLY FOR PENAL-TROL VALVE

9955-050-002

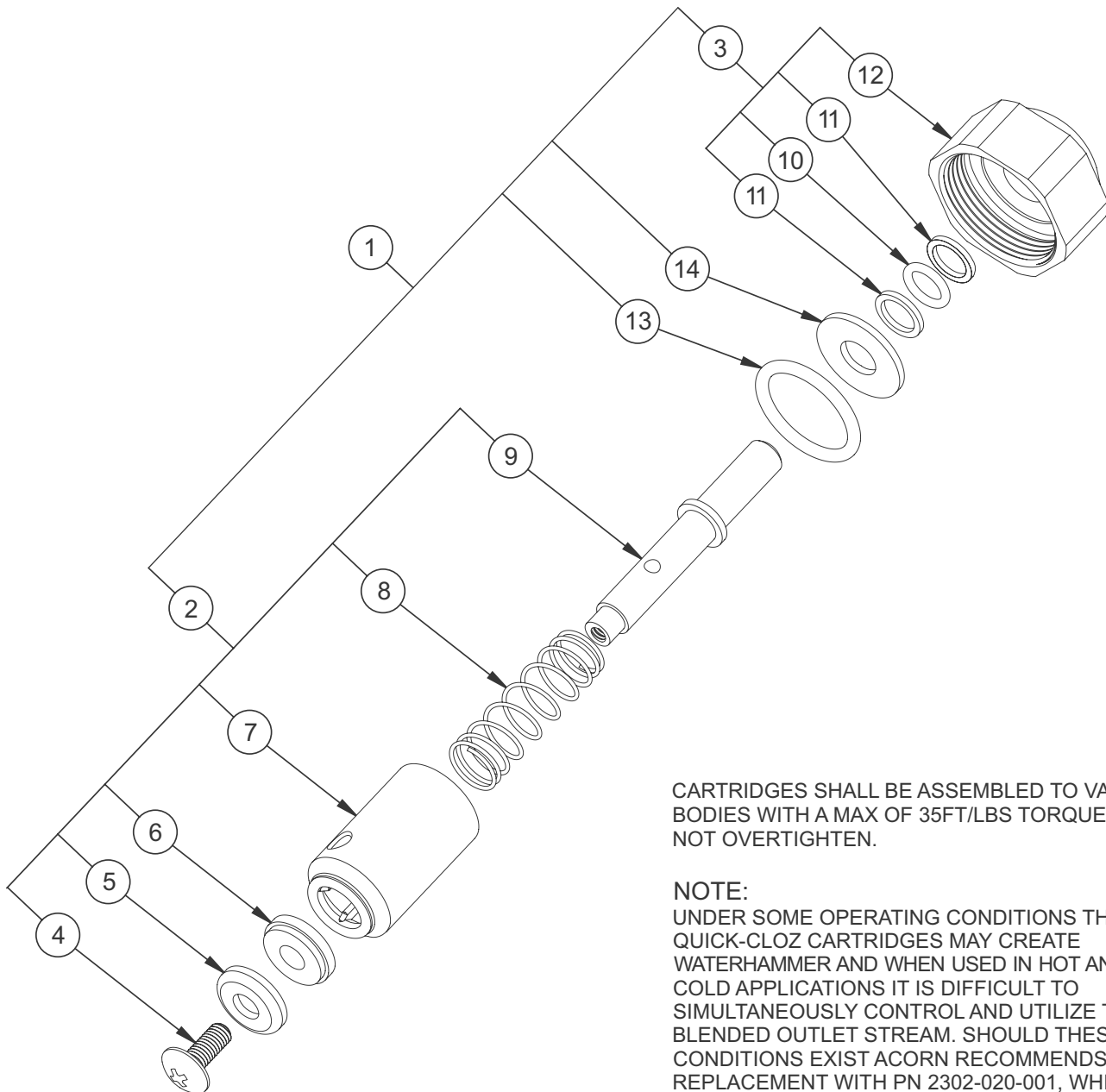


1	2310-020-199	VALVE BODY (3/8" NCT INLET)
2	2314-000-002	ROCKER/FULCRUM ASSEMBLY
3	2314-000-001	ROCKER/FULCRUM SUB ASSEMBLY
4	0116-004-000	#10 -32 x 1/4" LONG ROUND HEAD SCREW
5	2315-000-001	ADJUSTING CUP ASSEMBLY
6	2315-000-199	ADJUSTING CUP
7	2315-001-000	ADJUSTING CUP RETAINER
8	0302-004-000	#10-32 ADJ NUT
9	0106-014-000	#10-32 x 1" LONG ROUND HEAD SCREW
10	0126-004-000	1/4"-20 x 3/8" LONG PAN HEAD SCREW
11	2312-003-001	.5 GPM FLO-CONTROL ASSEMBLY
12	0401-012-000	O-RING
13	2312-002-000	FLO-CONTROL RETAINER
14	0469-005-000	.5 GPM FLO-CONTROL
15	0401-014-000	O-RING
16	2312-003-000	FLO-CONTROL PLUG
ITEM	PART NUMBER	DESCRIPTION



QUICK-CLOZ VALVE CARTRIDGE FOR PENAL-TROL VALVE

9955-200-001



CARTRIDGES SHALL BE ASSEMBLED TO VALVE BODIES WITH A MAX OF 35FT/LBS TORQUE. DO NOT OVERTIGHTEN.

NOTE:

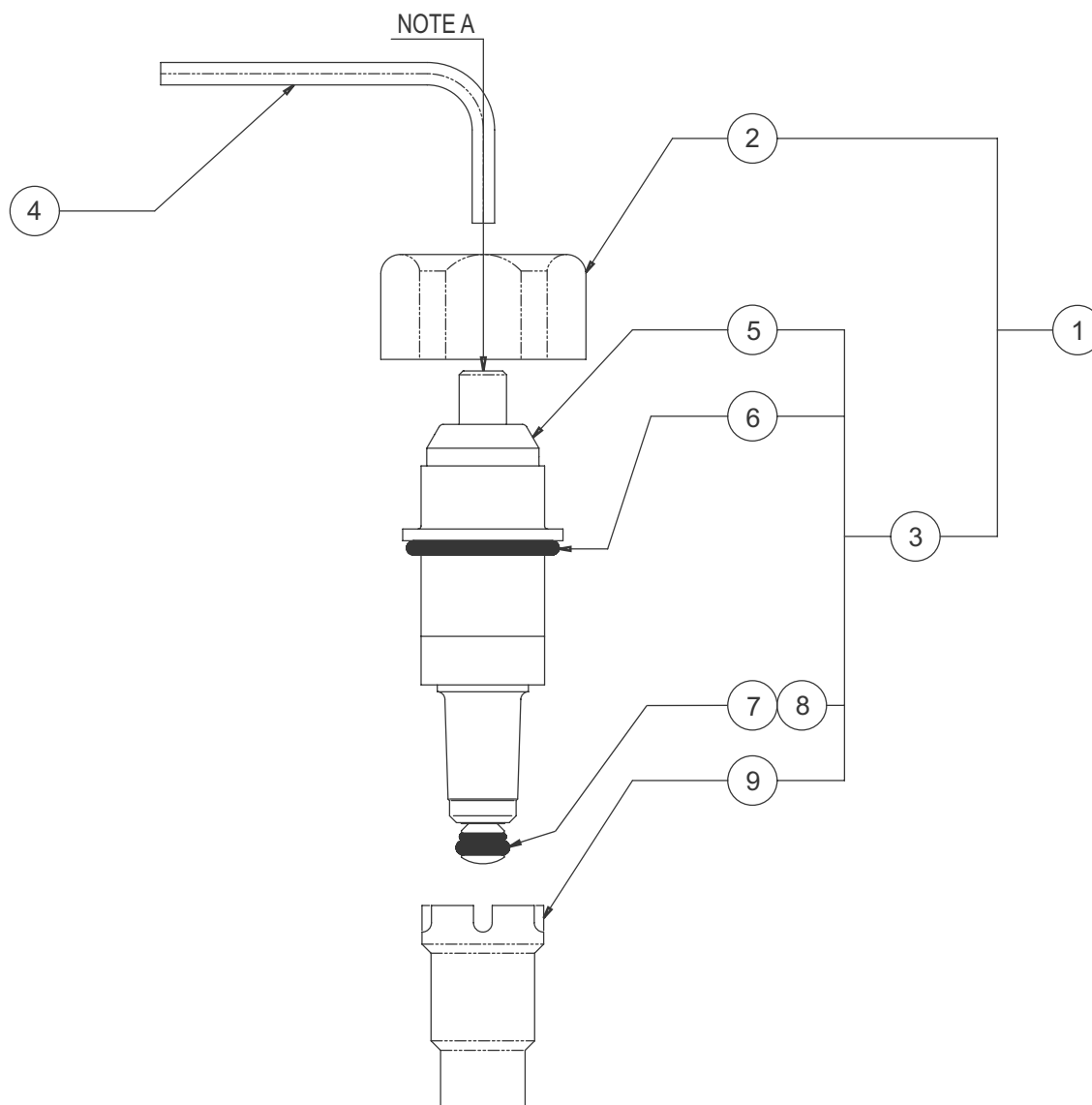
UNDER SOME OPERATING CONDITIONS THESE QUICK-CLOZ CARTRIDGES MAY CREATE WATERHAMMER AND WHEN USED IN HOT AND COLD APPLICATIONS IT IS DIFFICULT TO SIMULTANEOUSLY CONTROL AND UTILIZE THE BLENDED OUTLET STREAM. SHOULD THESE CONDITIONS EXIST ACORN RECOMMENDS REPLACEMENT WITH PN 2302-020-001, WHICH ELIMINATES WATERHAMMER AND METERS, AS SET, UP TO ONE MINUTE.

1	2304-000-001	CARTRIDGE ASSY -COMPLETE	8	1380-004-000	SPRING
2	2304-001-001	CARTRIDGE ASSY -LESS BONNET	9	2304-001-199	ROD
3	2305-010-001	BONNET ASSY	10	0401-011-000	O-RING
4	0116-010-000	#10-32 x 1/2" PHIL	11	0409-011-000	BACK-UP RING
5	2260-009-199	DISK RETAINER	12	2305-010-199	BONNET
6	0439-002-000	GASKET DISK	13	0401-117-000	O-RING
7	2305-014-000	SLEEVE & SEAT	14	2305-013-000	RETAINER
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



“PENAL-MATIC” (-M FLUID METERING) CARTRIDGE FOR PENAL-TROL VALVES

9955-300-003



NOTE A

A- Timing is adjustable from 5 to 60 seconds and is accomplished by inserting hex wrench, item #4 into the hole in the stem. Turning the needle clockwise increases timing, counterclockwise decreases timing. Do not attempt to remove the timing needle -to do so will void the warranty.

Changes in water pressure and/or temperature will affect timing and may require readjustment.

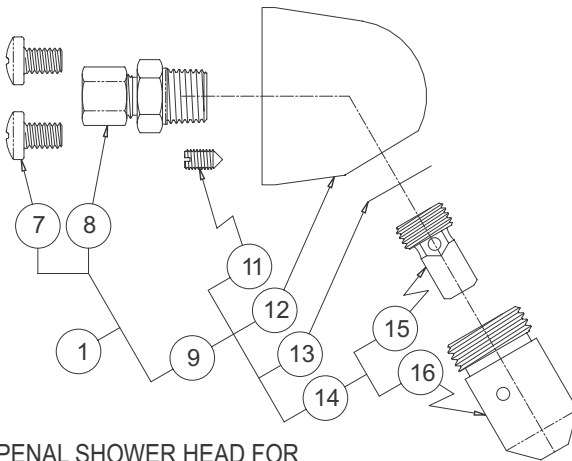
B- Bonnet, Item #2, shall be assembled to valve body with a max of 35 ft/lbs. Do not overtighten.

1	2302-020-001	CARTRIDGE ASSY w/BONNET	6	0401-117-000	O-RING
2	2309-023-199	BONNET	7	0403-104-000	O-RING
3	2302-000-001	CARTRIDGE ASSEMBLY	8	0401-006-000	O-RING
4	0298-003-000	3/32" ALLEN WRENCH	9	2302-005-000	SEAT (5/16" CLOSURE)
5	2302-003-002	BODY ASSEMBLY			
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION

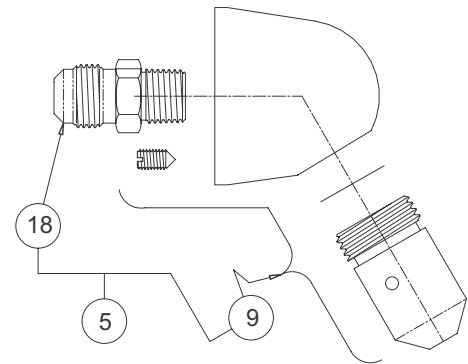


PENAL SHOWER HEADS

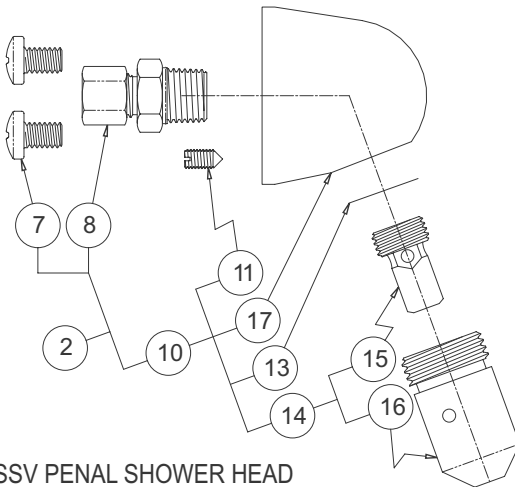
9970-000-003



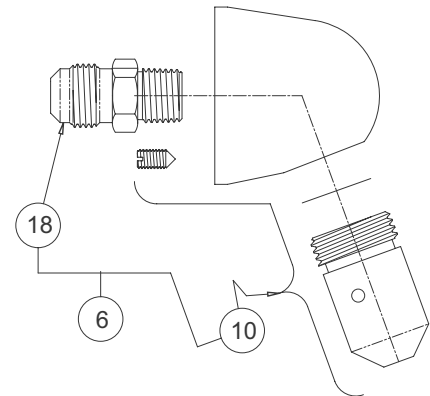
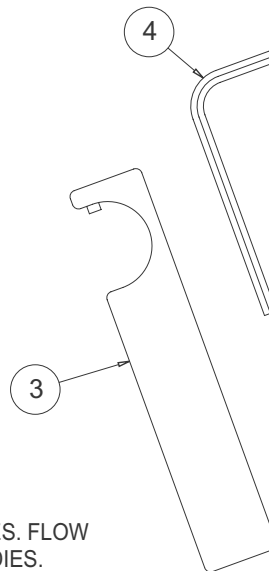
PENAL SHOWER HEAD FOR
AIR-CONTROL VALVE



PENAL SHOWER HEAD FOR
PENAL-TROL VALVE



-SSV PENAL SHOWER HEAD
FOR AIR-CONTROL VALVE



-SSV PENAL SHOWER HEAD
FOR PENAL-TROL VALVE

NOTE:

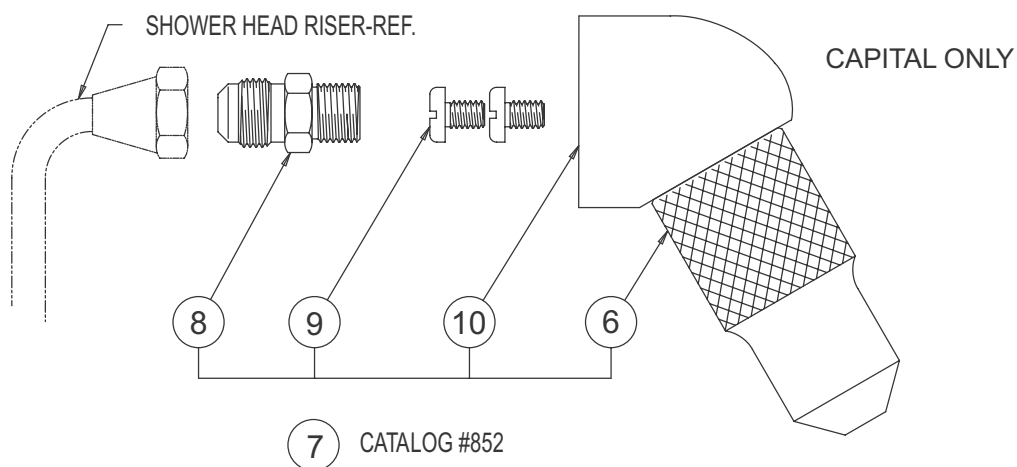
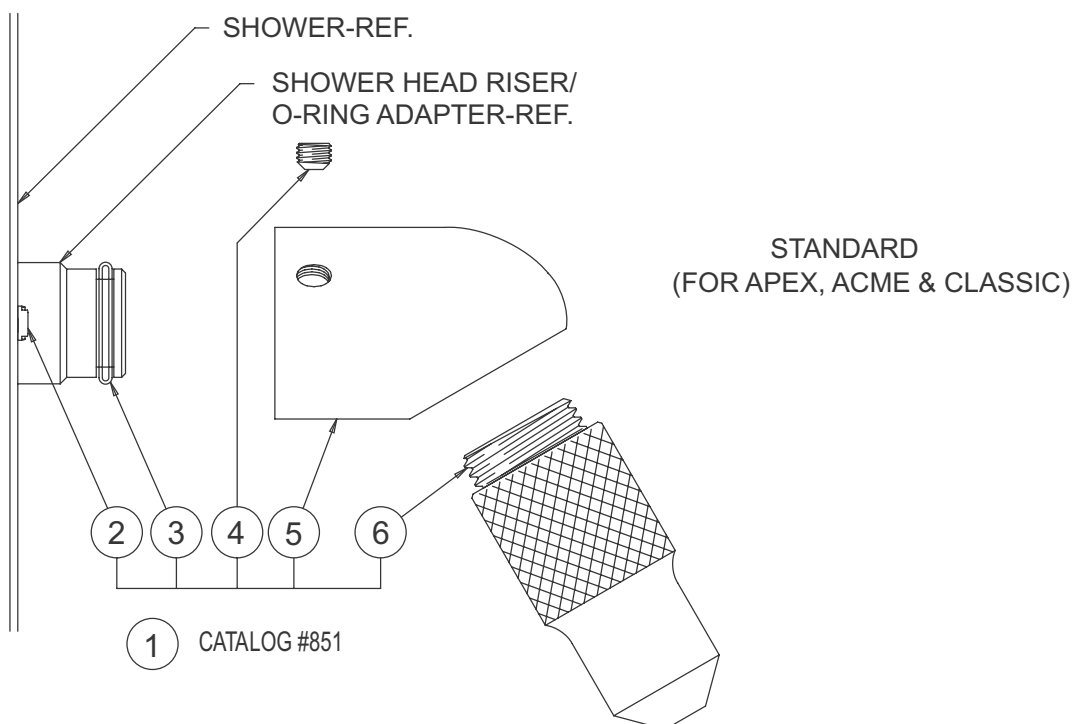
- 1- THESE SHOWER HEADS ARE USED WITH PENAL VALVES. FLOW CONTROLS ARE LOCATED IN APPLICABLE VALVE BODIES.
- 2- ADJUST SPRAY PATTERN BY ROTATING THE ADJUSTABLE INSERT WITH A 1/8" ALLEN WRENCH (ACCESS THROUGH THE SHOWER NOZZLE ORIFICE).
- 3- THESE HEADS USED ON MODEL 1730 AND 1741 SERIES.

1	1244-005-002	AIR-CONTROL SHOWER HEAD ASSEMBLY	10	1244-010-001	SHOWER HEAD ASSEMBLY -SSV
2	1244-010-002	AIR-CONTROL SHOWER HEAD ASSY -SSV	11	0816-002-000	#10-32 x 3/8" CONE POINT SET SCREW
3	0356-000-001	PENAL SHOWER HEAD WRENCH	12	1244-001-199	PENAL SHOWER HEAD
4	0298-004-000	1/8" ALLEN WRENCH	13	0421-019-000	GASKET
5	1244-001-001	PENAL-TROL SHOWER HEAD ASSEMBLY	14	1241-001-001	SHOWER NOZZLE ASSEMBLY
6	1244-002-001	PENAL-TROL SHOWER HEAD ASSY -SSV	15	1188-000-199	ADJUSTABLE INSERT
7	0126-504-000	1/4-20 x 3/8" PHIL PAN HEAD SCREW	16	1241-001-199	SHOWER NOZZLE
8	1895-002-000	1/4" NPT x 1/4" OD MALE CONNECTOR	17	1244-002-199	-SSV PENAL SHOWER HEAD
9	1244-005-001	SHOWER HEAD ASSEMBLY	18	1891-007-000	3/8" FLARE x 1/4" MALE CONNECTOR
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



STANDARD SHOWER HEAD MODEL #851 & #852

9970-120-003

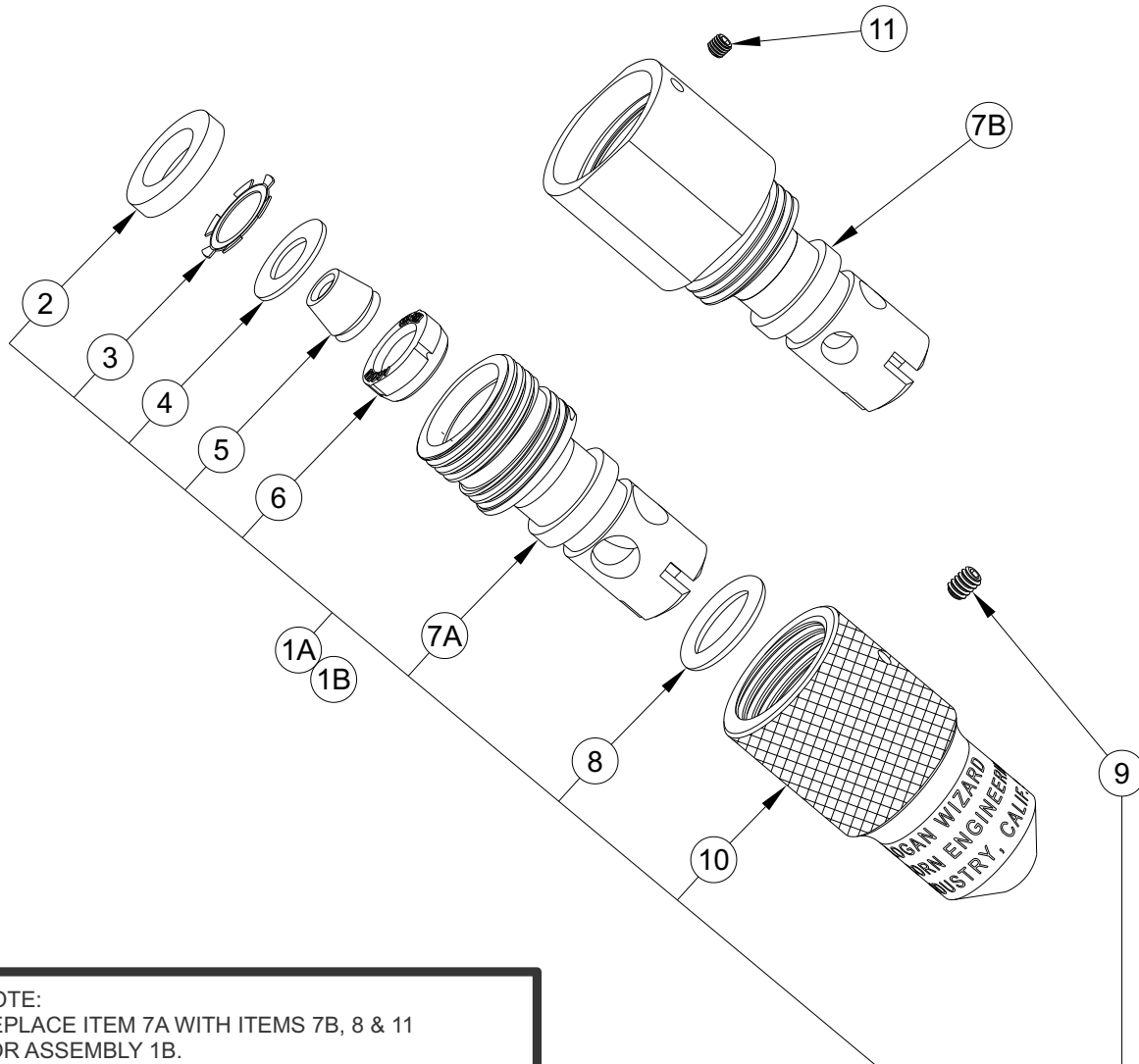


1	1140-000-001	#851 SHOWER HEAD ASSY -STD	6	1192-010-001	SHOWER NOZZLE ASSEMBLY
2	0112-002-000	#10-32 x 1/2" UNF CTR REJECT	7	1141-010-001	#852 SHWR HD ASSY -CAPITAL
3	0401-115-000	O-RING	8	1891-007-000	3/8" TUBE x 1/2" NPT CONN FLARE
4	0181-014-000	1/4"-28 x 3/16" SET SCREW	9	0112-002-000	#10-32 x 1/2" BUTTON HD MS
5	1140-000-199	SHOWER HEAD BRACKET -STD	10	1141-000-199	SHOWER BRACKET -CAPITAL
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



SHOWER NOZZLE ASSEMBLY - RIGID HEAD

9970-101-004



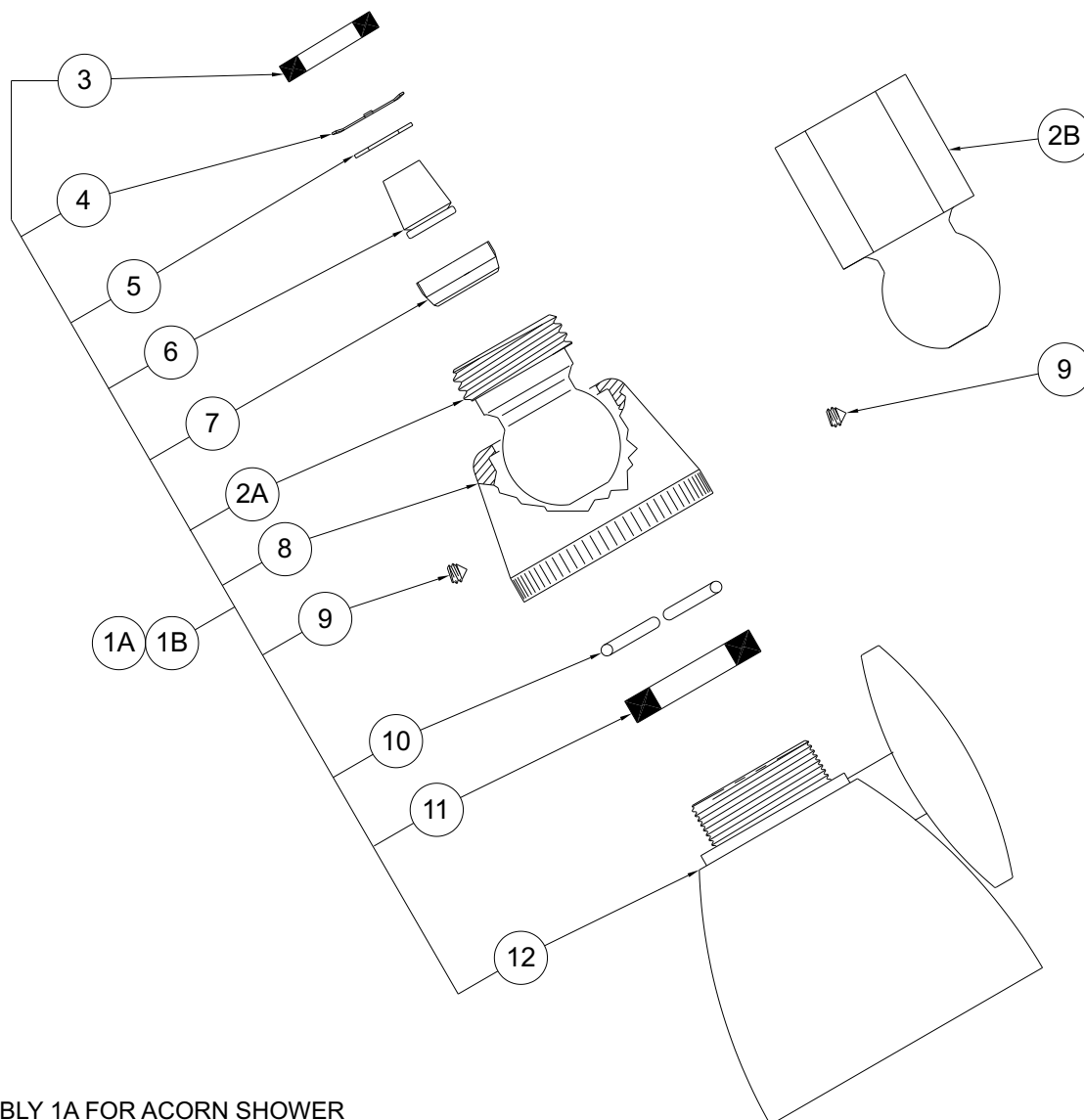
NOTE:
REPLACE ITEM 7A WITH ITEMS 7B, 8 & 11
FOR ASSEMBLY 1B.
USE ASSEMBLY 1A FOR ACORN SHOWER HEAD
BRACKETS.
USE ASSEMBLY 1B FOR BENT ARM
APPLICATIONS.

1A	1192-010-001	SHOWER HEAD ASSEMBLY, MALE	7A	1192-100-199	CAP RECEIVER, MALE
1B	1190-010-001	SHOWER HEAD ASSEMBLY, FEMALE	7B	1190-100-199	CAP RECEIVER, FEMALE
2	0421-019-000	GASKET	8	0401-112-000	O-RING
3	0326-011-000	RETAINING GASKET	9	0181-011-000	#6-32 x 3/16" SET SCREW
4	0331-027-000	FLAT WASHER	10	1185-000-199	SHOWER CAP
5	0469-022-000	2.2 GPM FLO-CONTROL	11	0181-012-000	#6-32 x 7/64" SET SCREW
6	1295-100-000	FLO-CONTROL			
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



MULTI-STREAM

9970-050-004



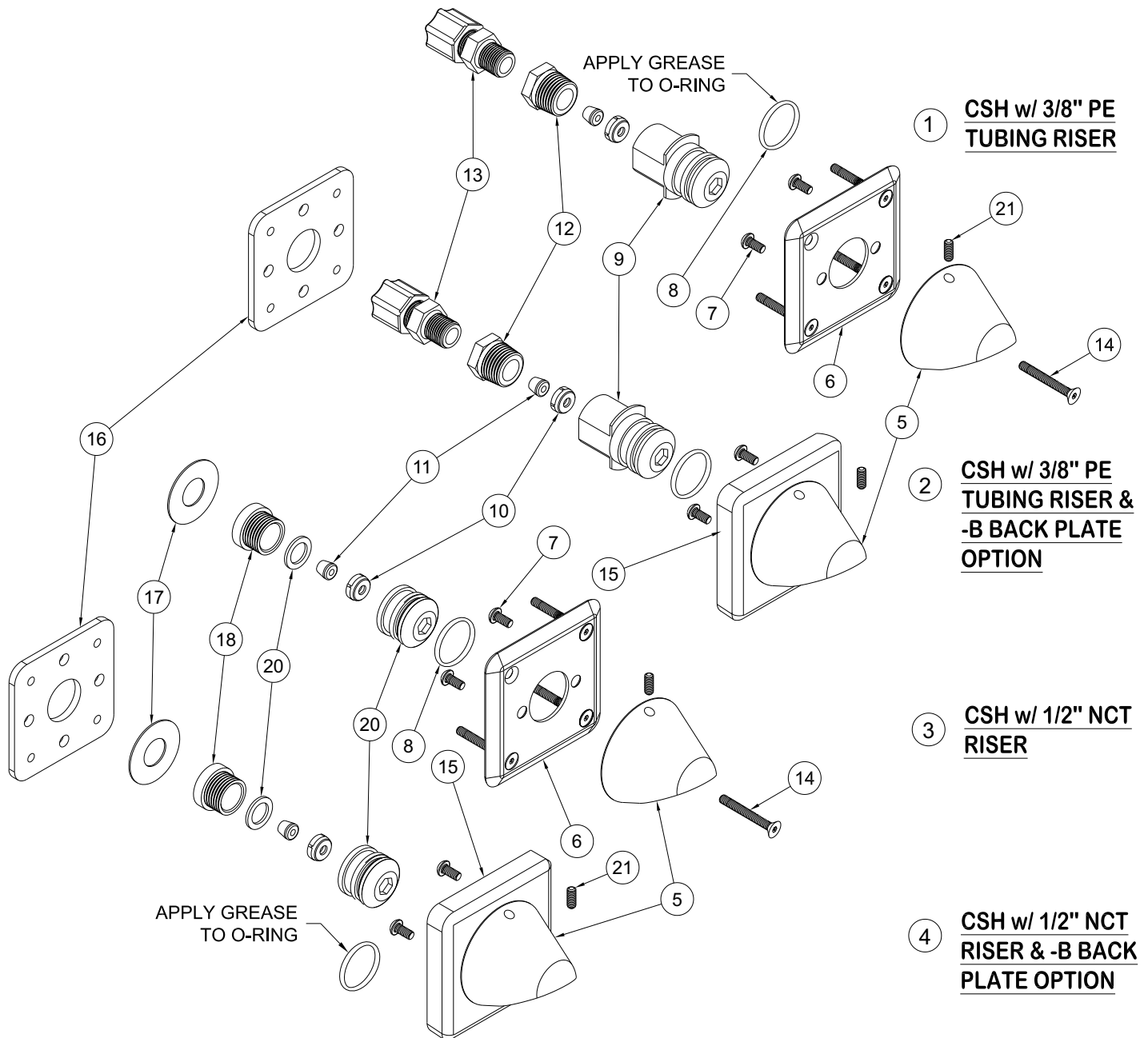
NOTE:
USE ASSEMBLY 1A FOR ACORN SHOWER
HEAD BRACKETS.
USE ASSEMBLY 1B FOR BENT ARM
APPLICATIONS.
REPLACE ITEM 2A WITH ITEM 2B AND ITEM 9.

1A	1205-020-001	SHOWER HEAD ASSEMBLY	6	0469-022-000	2.2 GPM FLO-CONTROL
1B	1205-021-001	SHOWER HEAD BENT ARM ASSY	7	1295-100-000	LOWER FLO-CONTROL RETAINER
2A	1180-100-199	BALL JOINT BODY	8	1207-000-299	BALL JOINT NUT
2B	1174-100-199	BALL JOINT BODY, BENT ARM	9	0181-012-000	#6-32 x 1/8" SET SCREW
3	0421-019-000	WASHER PE	10	1172-000-199	RETAINING RING
4	0326-011-000	UPPER FLO-CONTROL RETAINER	11	0434-120-000	GRAPHITE INPREG WASHER
5	0331-027-000	.593" OD x .312" ID x .031" WASHER	12	1205-000-000	SHOWER HEAD
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



SUICIDE RESISTANT CONICAL SHOWER HEAD

9970-009-001



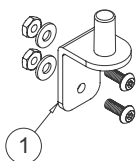
1	1146-100-001	CSH ASSY -3/8" PE RISER TUBING	12	1823-213-000	1/2" NPTE x 3/8" NPTI BUSHING
2	SG5CSH07-001	CSH-B ASSY -3/8" PE RISER TUBING	13	1895-004-000	3/8" NPTE x 3/8" TUBE MALE FITTING
3	SG5CSH00-001	CSH ASSY -1/2" NCT RISER	14	0152-003-000	#10-32 x 1-1/2" FLAT HEAD SCREW
4	SG5CSH05-001	CSH-B ASSY -1/2" NCT RISER	15	SG5CSH05-002	CSH-B MOUNTING PLATE
5	1146-000-002	SHOWER HEAD ASSEMBLY	16	45205-003-199	BACKPLATE
6	1146-060-199	SHOWER HEAD PLATE	17	0331-011-199	RETAINING WASHER
7	0112-007-000	1/4-20 x 1/2" BUTTON HEAD SCREW	18	SG5CSH06-199	1" DIA. BRASS ADAPTER
8	0401-116-000	O-RING	19	1146-005-199	SHOWER HEAD ADAPTER
9	1146-007-199	SHOWER HEAD ADAPTER	20	0431-013-000	NEOPRENE WASHER
10	1295-100-000	FLO-CONTROL RETAINER	21	0181-025-000	#M5 x 8 x 14mm SET SCREW
11	0469-022-000	FLO-CONTROL 2.2 GPM			
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



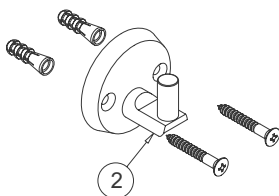
FLEX SHOWERHEAD MODELS SUFFIX OPTION -FX

9970-102-003

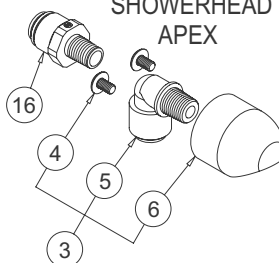
PANEL MOUNTING
BRACKET



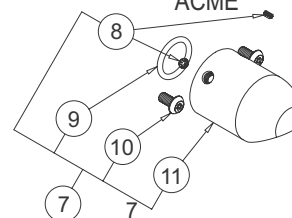
WALL MOUNTING
BRACKET



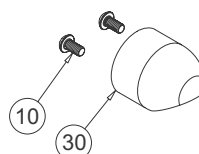
SHOWERHEAD
APEX



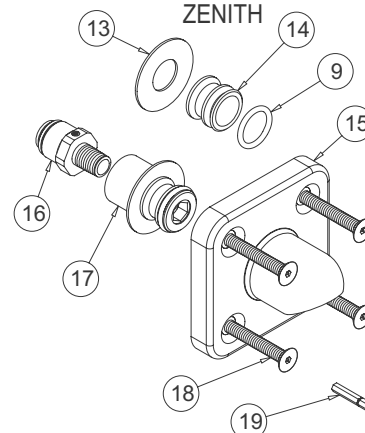
SHOWERHEAD
ACME



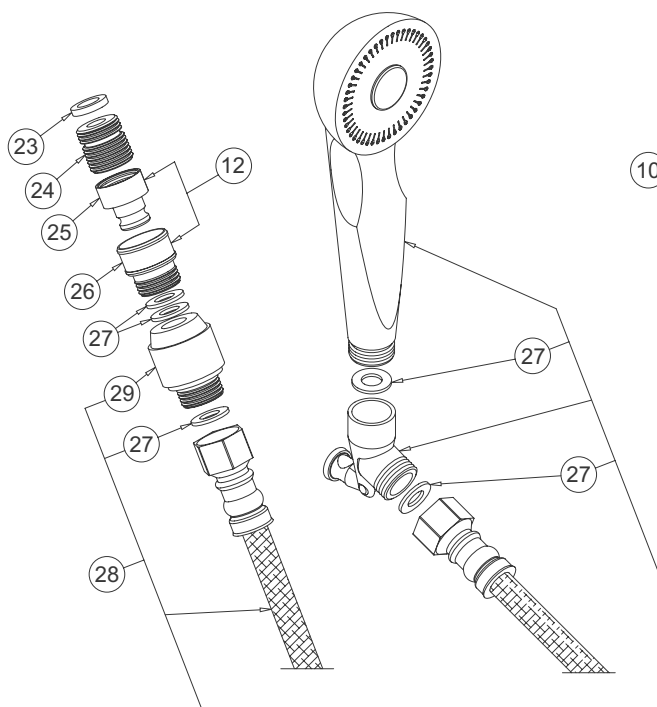
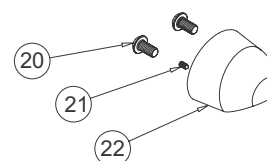
SHOWERHEAD
CAPITAL



SHOWERHEAD
ZENITH



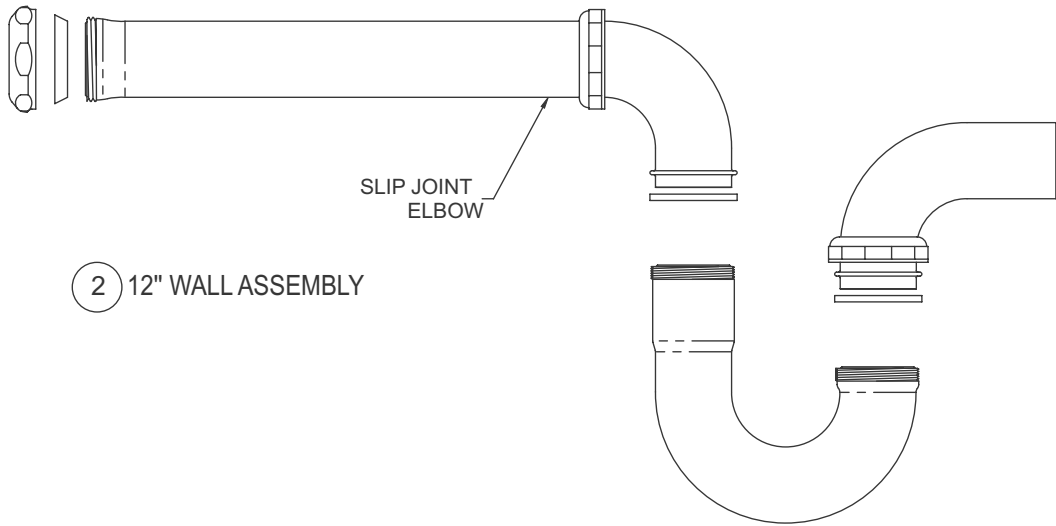
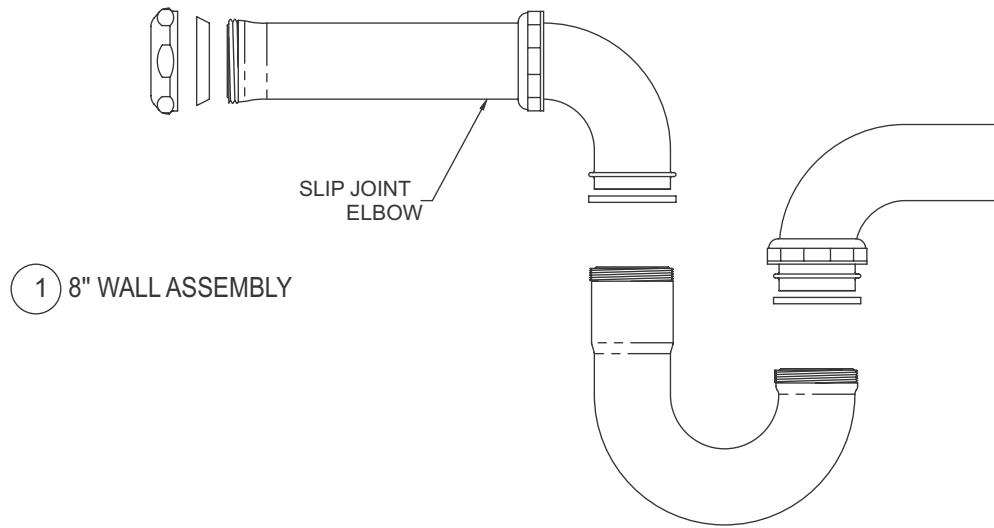
SHOWERHEAD
PENAL



1	1295-010-002	HAND SHOWER BRACKET- PANEL MT	16	1895-126-000	3/8" OD x 1/4" NPT PUSH-IN FITTING
2	1293-008-000	HAND SHOWER BRACKET- WALL MT	17	1131-005-001	1/4" NPT x O-RING INLET ADAPTER
3	1141-025-001	APEX SHOWER HEAD ASSEMBLY	18	0152-022-000	1/4"-20 x 1-1/4" ALLEN HD SCREW
4	0116-016-000	#10-32 x 3/8" PHIL TRUSS HD SCREW	19	0296-025-199	CENTER REJECT ALLEN DRIVER BIT
5	1895-707-000	3/8" OD x 1/4" NPT PUSH-IN ELBOW	20	0126-504-000	1/4"-20 x 3/8" PHIL PAN HD SCREW
6	1141-000-199	APEX SHOWER HEAD	21	0186-002-000	#10-32 AL CONE POINT SET SCREW
7	1140-005-001	ACME SHOWER HEAD ASSEMBLY	22	1244-001-199	PENAL SHOWER HEAD
8	0181-014-000	1/4"-28 x 3/16" ALLEN HD SET SCREW	23	0421-019-000	GASKET
9	0401-115-000	O-RING	24	1160-001-199	1/2" NPS INLET x 1/2" NPT OUTLET
10	0112-002-000	#10-32 x 1/2" AL BUTTON HD SCREW	25	1296-004-000	1/2" NPT QUICK DISCONNECT PLUG
11	1140-000-199	O-RING INLET SHOWER HEAD	26	1295-003-000	QUICK DISCONNECT SOCKET
12	1295-003-001	PLUG & SOCKET ASSEMBLY (-QD)	27	1293-002-000	GASKET
13	0331-011-000	RETAINING WASHER	28	1293-001-001	FLEX HAND SHOWER ASSEMBLY
14	1130-000-199	COPPER x O-RING INLET ADAPTER	29	1293-003-000	VACUUM BREAKER
15	1110-000-050	FLANGED SHOWER HD- REAR INLET	30	1141-000-299	CAPITAL SHOWER HEAD
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



-LW1 LAVY THRU-WALL EXTENSION, P-TRAP 1-1/2" O.D.
9985-300-002



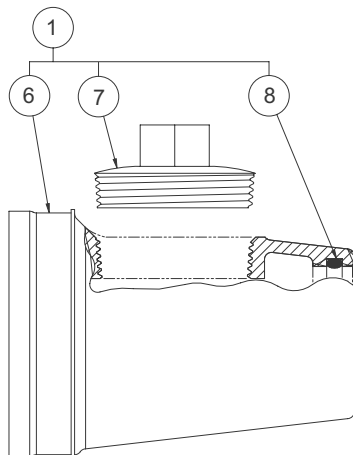
1	4953-280-000	LAVY THRU WALL WASTE- 8" WALL	2	4953-282-000	LAVY THRU WASTE WALL -12" WALL
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



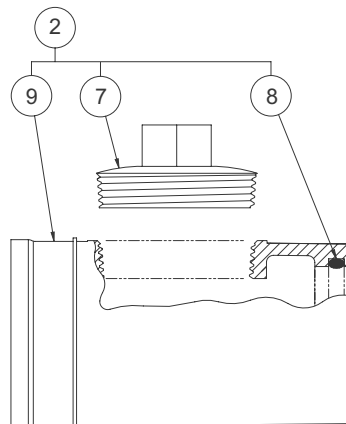
CLEANOUT WITH O-RING NO-HUB & WASTE FITTINGS

9985-125-002

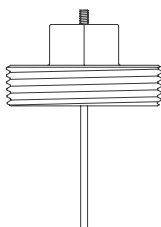
SUFFIX -CO1
4" NO-HUB TO 2-3/8" O.D. O-RING



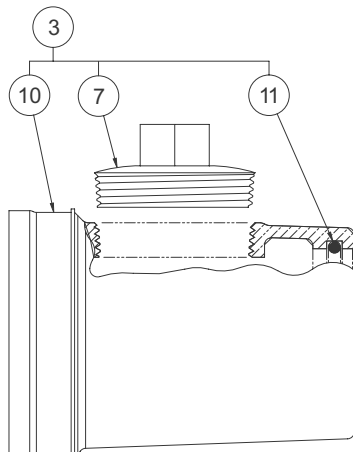
SUFFIX -CO1-3
3" NO-HUB TO 2-3/8" O.D. O-RING



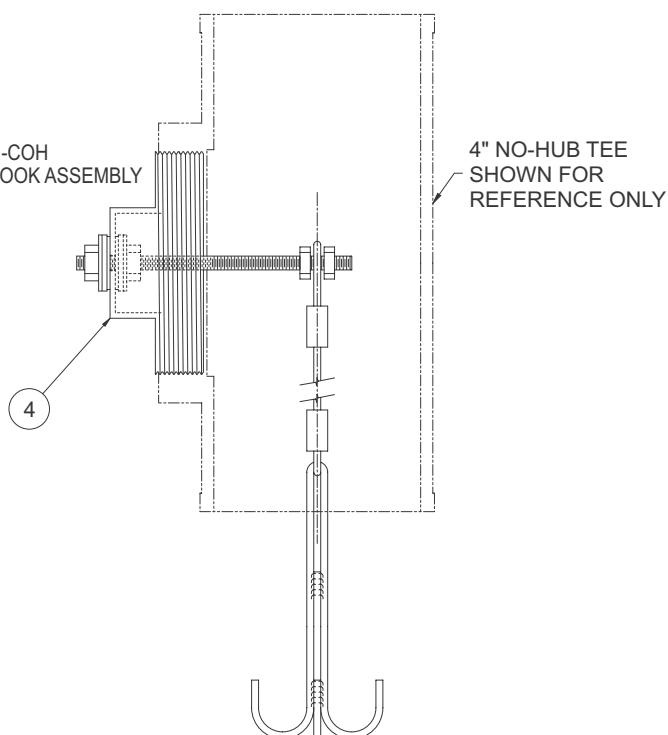
5
-PC PINNED CLEAN-OUT
PLUG 2-1/2" NPT
ASSEMBLY



SUFFIX -CO1-WO3
4" NO-HUB TO 3" O.D. O-RING



SUFFIX -COH
CLEANOUT HOOK ASSEMBLY

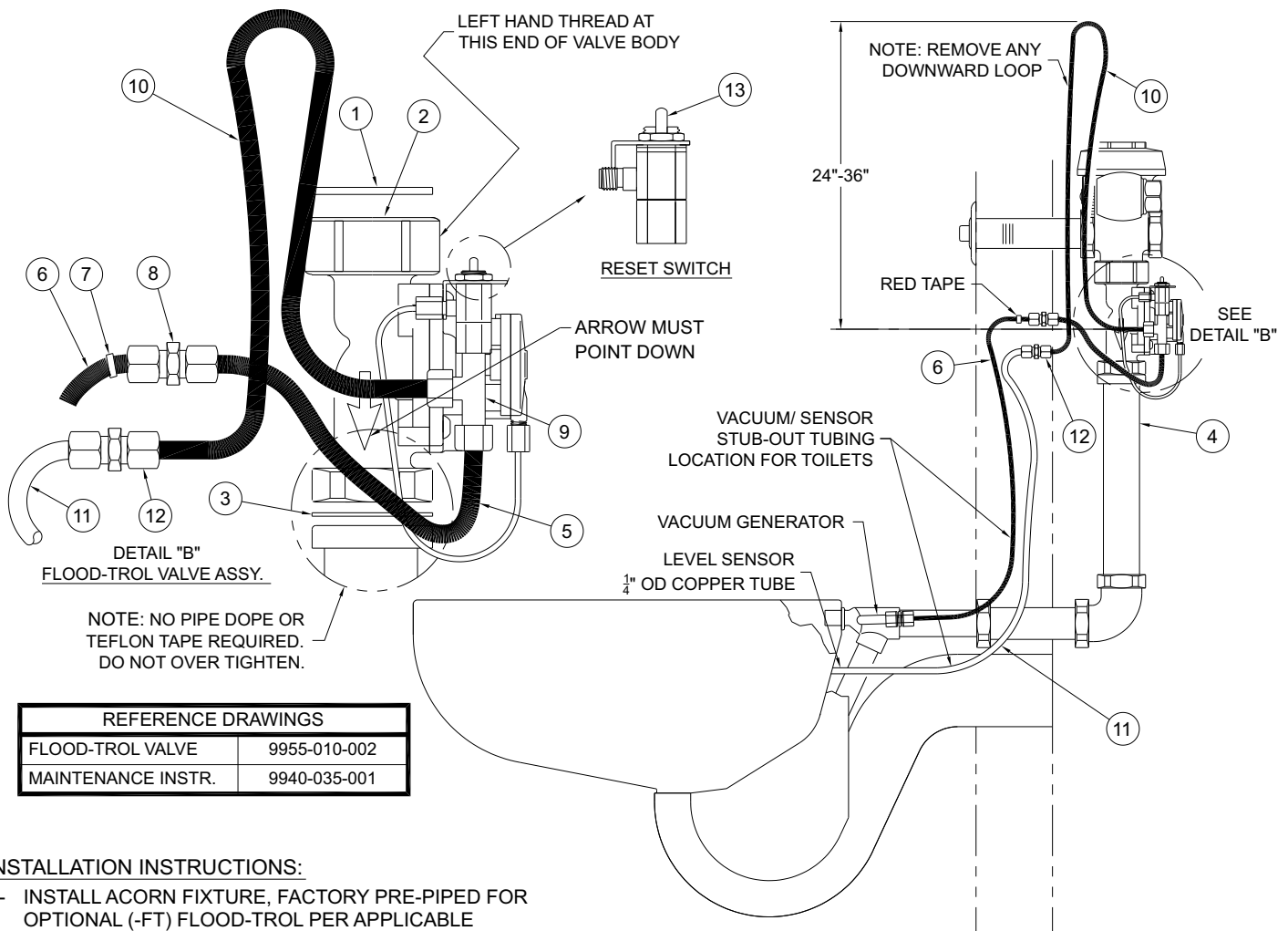


1	4908-069-001	4" NO-HUB TO 2-3/8" WASTE CONN	7	1834-081-000	DWV PLUG (PLASTIC)
2	4908-064-001	3" NO-HUB TO 2-3/8" WASTE CONN	8	0401-332-000	O-RING
3	4913-040-001	4" NO-HUB TO 3" WASTE CONN	9	4908-060-199	3" NO-HUB CONN w/CLEANOUT
4	4913-105-001	VERTICAL CLEAN-OUT HOOK ASSY	10	4903-040-199	4" NO-HUB CONN w/ CLEANOUT
5	1836-081-001	-PC PINNED CLEAN-OUT PLG ASSY	11	0401-337-000	O-RING
6	4908-065-199	4" NO-HUB CONN w/CLEANOUT			
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



SUFFIX (-FT) IN-LINE FLOOD-TROL ASSEMBLY - MANUAL RESET

9905-090-003



NOTE: NO PIPE DOPE OR
TEFLON TAPE REQUIRED.
DO NOT OVER TIGHTEN.

REFERENCE DRAWINGS

FLOOD-TROL VALVE	9955-010-002
MAINTENANCE INSTR.	9940-035-001

INSTALLATION INSTRUCTIONS:

- INSTALL ACORN FIXTURE, FACTORY PRE-PIPED FOR OPTIONAL (-FT) FLOOD-TROL PER APPLICABLE PRODUCT INSTALLATION INSTRUCTIONS.
- POSITION SEALING GASKET (1) ON BOTTOM OF FLUSH VALVE AND INSTALL FLOOD-TROL VALVE BODY (2) (NOTE: ARROW ON FLOOD-TROL BODY (2) MUST POINT DOWN). POSITION GASKET (3) BELOW FLOOD-TROL BODY. SECURE FLOOD-TROL BODY FACING OUT OR IN A MANNER THAT WOULD FACILITATE FUTURE SERVICING AND MAINTENANCE. DO NOT BLOCK. INSTALL VACUUM BREAKER TUBING (4) TO BOTTOM OF FLOOD-TROL VALVE (2). BE AWARE THAT WHEN USING A FLUSH VALVE NOT ORDERED FROM ACORN THE VACUUM BREAKER TUBE MUST BE 4-5/8" SHORTER THAN STANDARD. INLET SIDE OF FLOOD-TROL VALVE (2) HAS LEFT HANDED THREADS.
- COMPLETE REMAINDER OF FLUSH VALVE INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS.
- CONNECT 1/4" O.D. VACUUM GENERATOR TUBING (5) TO 1/4" COPPER TUBING STUB-OUT (6) (TUBING STUB-OUT (6) IS TAGGED WITH RED TAPE (7) WITH COMPRESSION ADAPTER (8) AT FIXTURE AND TO TEE FITTING (9) AT FLOOD-TROL VALVE (2) AS SHOWN (CONNECTIONS TO TEE FITTING ARE INTERCHANGEABLE). NOTE: ADAPTER (8) MUST BE INSTALLED WITH METAL FERRULE GRIPPER ON COPPER TUBE SIDE.

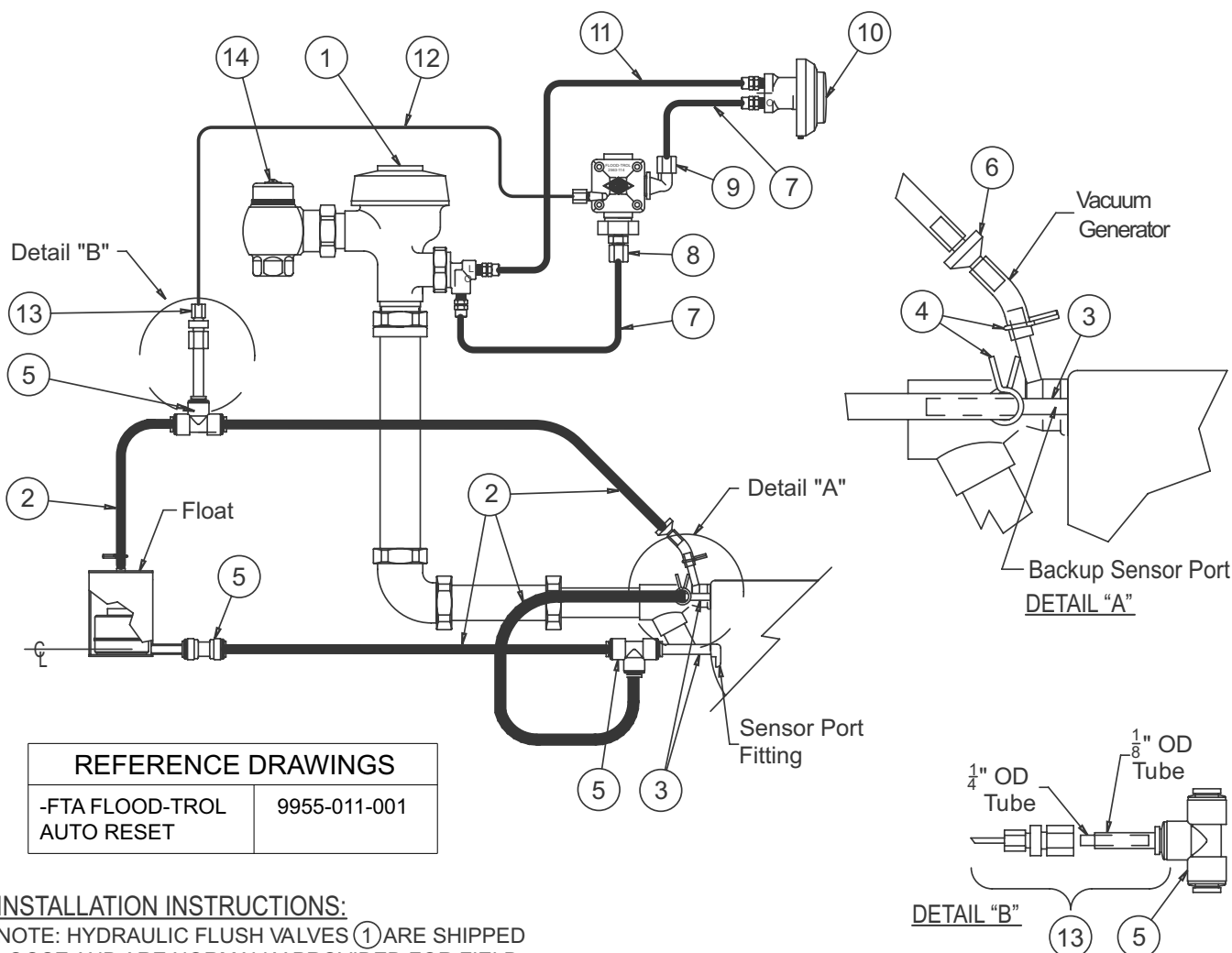
NOTE: MINIMUM 30 PSI FLOW PRESSURE REQUIRED. FLUSH ALL LINES PRIOR TO INSTALLATION. FOR MAINTENANCE, INSTRUCTIONS REFER TO DRAWING #9940-035-001.

- ASSEMBLE 1/4" OD x 7 FEET POLYETHYLENE LEVEL SENSOR TUBING (10) TO 1/4" OD COPPER TUBING STUB-OUT (11) USING 1/4" COMPRESSION CONNECTOR (12) AS SHOWN. VERTICALLY LOOP TUBING (10) A MINIMUM OF 24" ABOVE TEE (9) AND COMPLETE CONNECTION TO TEE FITTING (9).
- AFTER FLOOD-TROL VALVE HAS BEEN ACTIVATED DUE TO TOILET OVERFLOW CONDITION, THE WATER LEVEL IN TOILET MUST BE RETURNED TO NORMAL AND RESET SWITCH (13) MUST BE DEPRESSED TO RETURN VALVE TO OPEN CONDITION. FLUSH & RESET REPEATEDLY UNTIL VACUUM LINES ARE CLEAR OF WATER THAT CAUSED ACTIVATION.



PREFIX (-FA, -FTA) HYDRAULIC FLOOD-TROL AUTO RESET

9905-091-001



REFERENCE DRAWINGS

-FTA FLOOD-TROL AUTO RESET	9955-011-001
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INSTALLATION INSTRUCTIONS:

NOTE: HYDRAULIC FLUSH VALVES (1) ARE SHIPPED LOOSE AND ARE NORMALLY PROVIDED FOR FIELD INSTALLATION IN -FA FRONT ACCESS FIXTURES, 1428 & ADA TOILETS & COMBYS. FLOAT TANK IS FACTORY WELDED TO TOILET P-TRAP.

- A- INSTALL ACORN FIXTURE, FACTORY PRE-PIPED FOR FTA FLOOD-TROL SUFFIX OPTION PER INSTALLATION INSTRUCTIONS PROVIDED.
- B- INSTALL 3/8" OD SENSOR TUBES (2) AS SHOWN TO PLUMBING FIXTURE STUB-OUTS (3) WITH HOSE CLAMPS (4) AND PUSH-IN FITTINGS (5) PROVIDED. INSTALL CHECK VALVE (6) AS SHOWN IN DETAIL "A".
- C- CUT 1/4" OD, "O" TUBE (7) IN HALF & INSTALL TO "O" COMPRESSION FITTING ON VALVE BODY (1) & FLOOD-TROL VALVE INLET (8). CONNECT REMAINING BLACK TUBE (7) TO FLOOD-TROL VALVE ELBOW (9) & "O" COMPRESSION FITTING ON PUSHBUTTON (10). INSTALL 1/4" OD, "L" TUBE (11) TO "L" COMPRESSION FITTING ON FLUSH VALVE BODY (1) AND "L" COMPRESSION FITTING ON PUSHBUTTON (10).

- D- CONNECT 1/8" OD TUBE (12) FROM FLOOD-TROL VALVE TO 1/8" x 1/4" SENSOR UNION (13). SEE DETAIL "B" FOR 1/4" TO 3/8" TRANSITION DETAIL.

- E- FOR MAINTENANCE INSTRUCTIONS REFER TO DRAWING #9940-035-001.

- F- AFTER THOROUGHLY FLUSHING SUPPLY LINES. MAKE UP 1" NPTI SUPPLY CONNECTIONS (14).

NOTE: MOUNTING LOCATION MUST ALLOW FOR CONNECTION OF FLUSH VALVE HIGH PRESSURE LINE TO FLOOD-TROL. USE TEFLON TAPE ON ALL PIPE CONNECTIONS.

NOTE: RECOMMENDED WORKING WATER PRESSURE IS 25 TO 100 PSI.

WARNING: PRIOR TO COMPLETING INSTALLATION, SUPPLY LINES MUST BE FLUSHED OF ALL FOREIGN MATERIAL SUCH AS PIPE DOPE, CHIPS, SOLDER, ETC. VALVE MUST BE DRAINED PRIOR TO BEING SUBJECTED TO FREEZING TEMPERATURES.



FLOOD-TROL ANTI-FLOOD DEVICE MAINTENANCE INSTRUCTIONS (-FT & -FTA)

9940-035-001

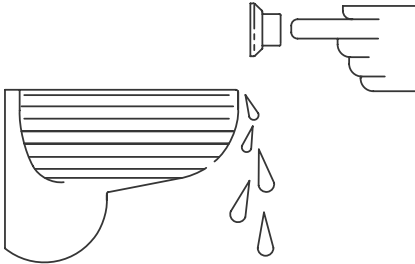
FLOOD-TROL (-FT & -FTA) ANTI-FLOOD SYSTEM VALVE

NORMAL VALVE OPERATION IS IN THE OPEN POSITION UNTIL TRIGGERED CLOSED WHEN A HIGH WATER LEVEL CONDITION IN THE TOILET BOWL IS PRESENT.

CONDITION:

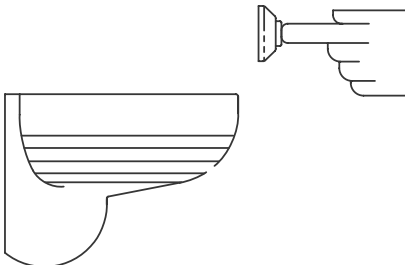
SOLUTION:

WATER KEEPS FLOWING
IN AN OVERFLOW CONDITION:



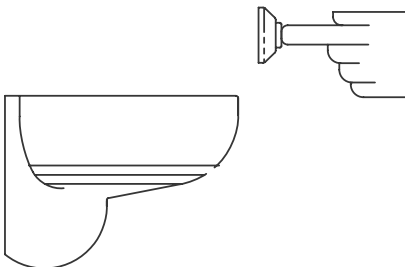
- 1.1 Check all tubing and fittings for leaks.
- 1.2 Check offset hole in lower diaphragm for debris.
- 1.3 Check valve body seat for build-up or damage.
- 1.4 Check pilot orifice plate for debris or damage.
- 1.5 Check float in float tank for freedom of movement (-FTA Auto-reset only).

NO WATER WILL FLOW:
(TOILET WILL NOT FLUSH.)



- 2.1 Make sure all water supply stops are open.
- 2.2 Make sure the reset button has been pushed. (-FT Manual reset only).
- 2.3 Check toilet bowl sensor port fitting for debris.
- 2.4 Check center orifice hole in bonnet for debris.
- 2.5 Check pilot orifice (offset) hole in bonnet for debris.
- 2.6 Check flush valve for proper operation.
- 2.7 Check float tank & tubing for debris (-FTA Auto-reset).

PREMATURE WATER SHUTOFF:



- 3.1 Check toilet bowl sensor port fitting for debris.
- 3.2 Check for kinks in the plastic and copper tubing.
- 3.3 Float tank lid orifice clogged (-FTA Auto-reset only).
- 3.4 Check valve defective (-FTA Auto-reset only).

Refer to Acorn Operations And Maintenance Manual for the the following:

Refer to drawing #9905-090-003 for (-FT) Flood-Trol Installation.

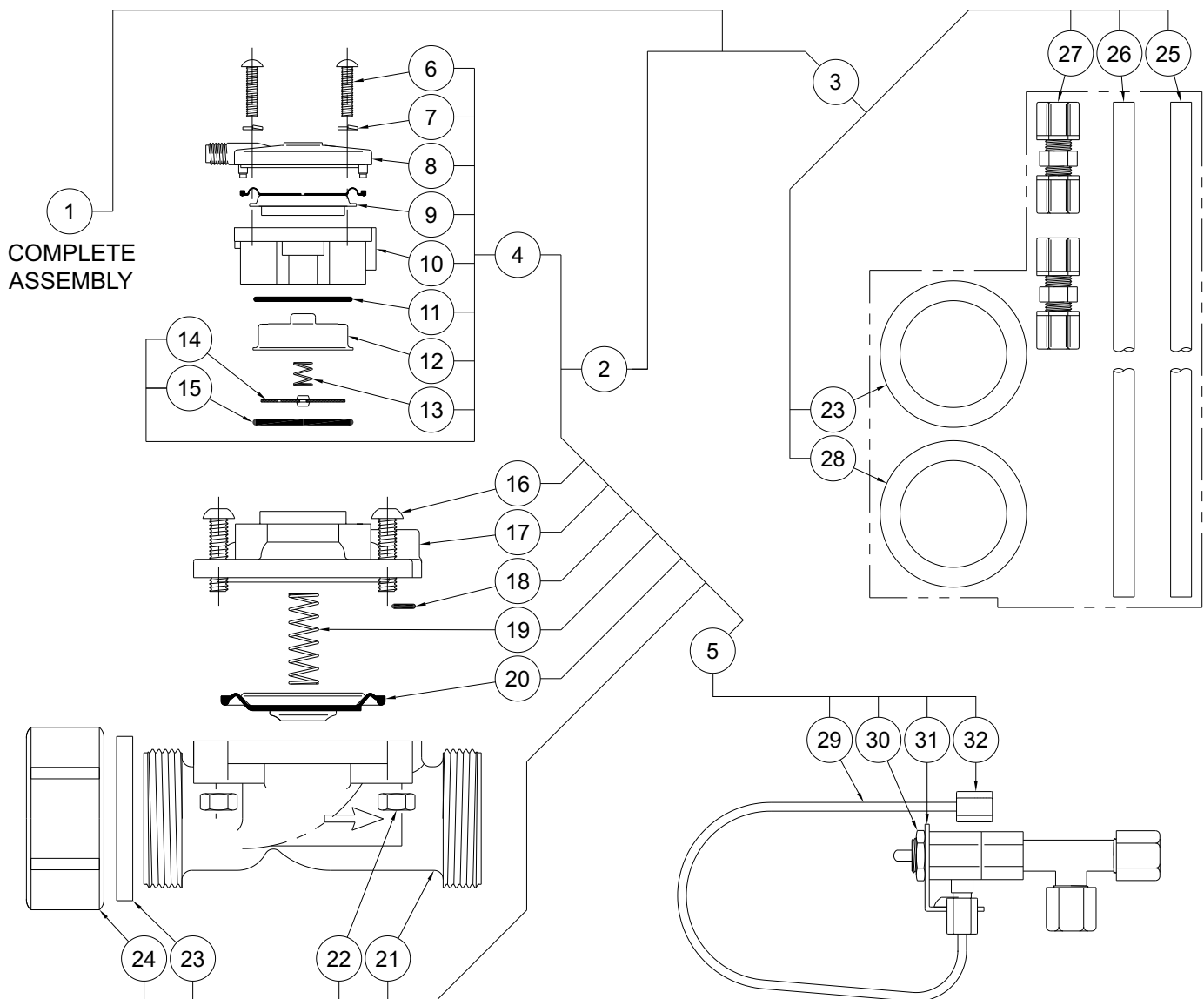
Refer to drawing #9905-095-002 for (-FTA) Flood-Trol Auto-reset Installation.

Refer to drawing #9955-010-002 for Parts breakdown of -FT & -FTA valves.



FLOOD-TROL (FT) VALVE ASSEMBLY

9905-010-002

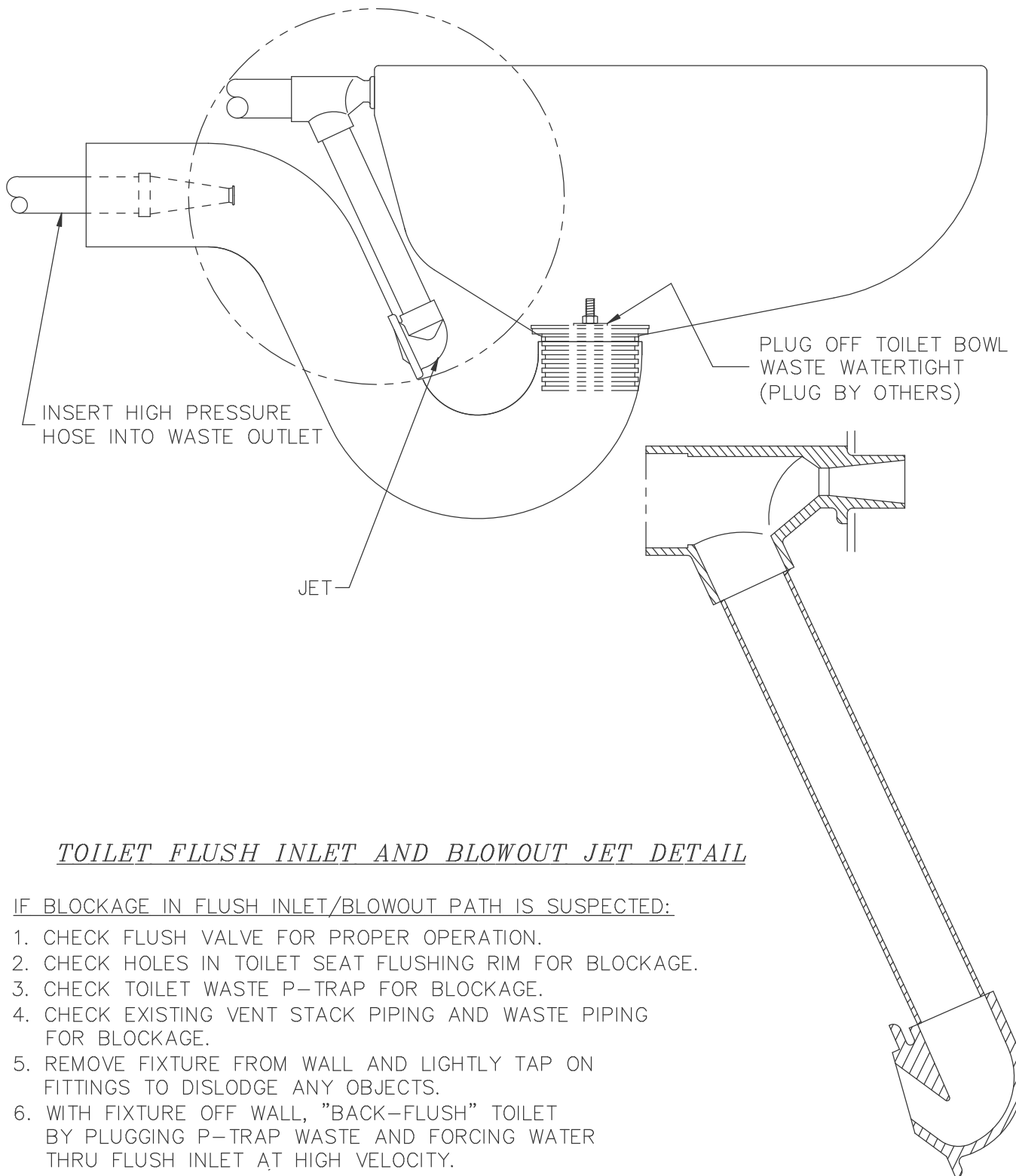


1	2563-080-001	VALVE ASSEMBLY- COMPLETE	17	2563-081-001	BONNET ASSEMBLY
2	2563-080-002	VALVE ASSEMBLY LESS TUBING	18	0401-007-000	O-RING
3	2563-140-001	RESET SWITCH INTERCONNECT ASSY	19	2563-108-000	SPRING
4	2563-100-002	UPPER VALVE BODY ASSEMBLY	20	2563-103-001	DIAPHRAGM ASSEMBLY
5	2563-130-002	RESET VALVE ASSEMBLY	21	2563-080-000	FLOOD-TROL BODY
6	0116-012-000	#8-32 x 1-1/4" PHILLIPS HEAD SCREW	22	0302-005-000	1/4"-20 STAINLESS STEEL NUT
7	0331-003-000	#8 LOCKWASHER	23	2563-086-000	SEALING GASKET
8	2563-114-000	COVER PLATE	24	2563-085-000	L/R HAND FLOOD-TROL NUT
9	2563-121-001	DIAPHRAGM ASSEMBLY	25	2160-007-199	1/4" OD x 7' LOW DENSITY PE (CLEAR)
10	2563-001-000	MOTOR HOUSING	26	2160-003-199	1/4" OD x 3 FT TUBING
11	0401-026-000	O-RING	27	1895-102-001	1/4" UNION CONN w/ GRIPPER ASSY
12	2563-002-199	SEPARATOR CUP	28	0411-022-000	FLOOD-TROL GASKET
13	2563-008-000	PILOT ORIFICE PLATE SPRING	29	2150-001-199	1/8" OD x 12" LOW DENSITY PE TUBE
14	2563-019-001	PILOT ORIFICE PLATE ASSEMBLY	30	2563-132-199	LOCKNUT
15	0401-124-000	O-RING	31	2563-145-001	MOUNTING BRACKET ASSEMBLY
16	0116-106-000	1/4"-20 x 1" RND HD PHIL SS SCREW	32	1895-450-000	1/8" COMPRESSION NUT
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



TOILET FLUSH INLET & BLOWOUT DETAIL

ENG-020



IF BLOCKAGE IN FLUSH INLET/BLOWOUT PATH IS SUSPECTED:

1. CHECK FLUSH VALVE FOR PROPER OPERATION.
2. CHECK HOLES IN TOILET SEAT FLUSHING RIM FOR BLOCKAGE.
3. CHECK TOILET WASTE P-TRAP FOR BLOCKAGE.
4. CHECK EXISTING VENT STACK PIPING AND WASTE PIPING FOR BLOCKAGE.
5. REMOVE FIXTURE FROM WALL AND LIGHTLY TAP ON FITTINGS TO DISLODGE ANY OBJECTS.
6. WITH FIXTURE OFF WALL, "BACK-FLUSH" TOILET BY PLUGGING P-TRAP WASTE AND FORCING WATER THRU FLUSH INLET AT HIGH VELOCITY.

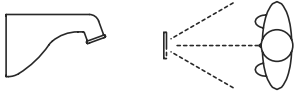


TROUBLESHOOTING FOR SENSOR OPERATED VALVES

9940-012-001

9 VOLT DC SENSOR OPERATED VALVES

NORMAL VALVE FUNCTION: 9 Volt DC sensor operated valve has flow time of 90 seconds maximum. to reactivate, the user must move out of and return to the sensing area.

CONDITION: WATER DOES NOT FLOW					
INDICATORS:	PROBABLE CAUSE:	SOLUTION:	INDICATORS:	PROBABLE CAUSE:	SOLUTION:
Sensor ashes continuously every two seconds when hands are within range.	- Low battery warning.	- Replace battery.			
Sensor does not ash when the users hands are within range.	- Circuit breaker tripped.	- Reset circuit breaker.			
	- Battery completely used up.	- Replace battery.			
	- Defective 9VDC transformer.	- Replace transformer.			
	- Transformer polarity crossed.	- Replace transformer. (Sensor may be damaged & need replacement.)			
	- Unit is in "Security Mode" after 90 seconds of constant detection.	- Remove sources of detection. Wait 30 seconds before checking.			
	- Range is too shor	- Increase range.			
	- Range is too long	- Decrease range and wait 30 seconds.			
	- Sensor is picking up a highly reflective surface.	- Eliminate cause of reflection. Wait 30 seconds before checking.			
Sensor flashes once when the users hands are within range.	- Defective sensor.	- Replace sensor.			
	- Stops or water main closed.	- Open stops or water main.			
	- Bad sensor to solenoid connection.	- Ensure wires make proper contact.			
	- Debris or scale in solenoid assembly.	- Remove solenoid, pull out plunger and spring, and clean with scale remover solution or pressurized air.			
	- Debris or scale in diaphragm.	- Remove diaphragm and clean.			
	- Debris or scale in strainer	- Remove strainer and clean.			
CONDITION: WATER FLOWS CONTINUOUSLY					
INDICTORS:	PROBABLE CAUSE:	SOLUTION:	INDICTORS:	PROBABLE CAUSE:	SOLUTION:
Sensor ashes when users hands are within range.	- Debris or scale in diaphragm.	- Remove diaphragm and clean.			
	- Diaphragm is defective or torn.	- Replace diaphragm.			
Sensor does not flash when the users hands are within range.	- Sensor is dirty or covered.	- Clean or uncover sensor and wait 30 seconds.			
	- Range too long or highly reflective surface, sunlight, bright lights, etc. are triggering sensor.	- Decrease range and wait 30 seconds.			
		- Eliminate cause of reflection or correct lighting problem.			
CONDITION: WATER FLOWS CONTINUOUSLY BUT STOPS WHEN HANDS ARE WITHIN RANGE					
INDICATORS:	PROBABLE CAUSE:	SOLUTION:	INDICATORS:	PROBABLE CAUSE:	SOLUTION:
Water runs continuously when sensor not activated. Sensor flashes when hands are within range and water shuts off.	- Solenoid polarity crossed.	- Disconnect solenoid and reverse polarity.			

MINIMUM / MAXIMUM WATER PRESSURE (PSI) 30 / 100. MAXIMUM WATER TEMPERATURE 130°F.

Refer to Acorn Operations and Maintenance Manual for installation instructions and repair parts.



MAINTENANCE INSTRUCTIONS FOR 24V SENSOR OPERATED VALVES

9940-010-003

START UP MODE:

The Acorn -SO is a 24VAC sensor and includes a manual range adjustment. Sensor range adjustments may be made using adjustment screw on back of sensor.

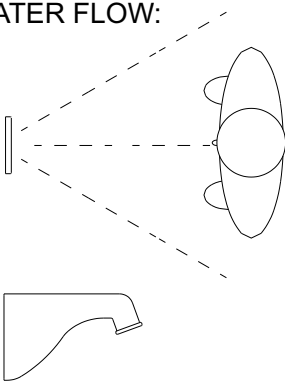
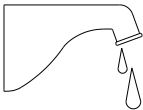
The Start Up Mode will take approximately five (5) minutes to complete its full cycle and it is important that no target is present in front of the sensor during this time. A steady red light visible in the center of the oval sensor window indicates the sensor is in Start Up Mode. If the red light is flashing, this indicates that the sensor is picking up a target. Unless this target is a permanent fixture in the sensor's environment (i.e. a wall or stall door) it must be removed from the view of the sensor. If this target is permanent the sensor will attempt to adapt itself around this target. When Start Up Mode is complete the steady red light will go off.

NOTE:

1. If the 24VAC power supply is interrupted for more than fifteen (15) seconds the Start Up Mode will automatically repeat itself when the power is restored.
2. If the indicator light flashes three (3) times quickly, then three (3) times slowly and continues to repeat this sequence, this indicates incorrect wiring or a short in the 24VAC power supply.

NORMAL VALVE FUNCTION:

One second time delay when sensor is activated by user. Time of flow is 30 seconds. To reactivate, the user must move out of and return to the sensing area. When installed in the shower, flow continues indefinitely until user moves from sensing area.

CONDITION:	PROBABLE CAUSE:
NO WATER FLOW: 	1.1 Stops or main water supply may be closed. 1.2 When using -T/P mixing valve, both supplies must be open to supply adequate water flow. 1.3 Clogged strainer. 1.4 Clogged water diaphragm. 1.5 Loose wiring connections. 1.6 Blown fuse at transformer. 1.7 Circuit breaker shut off.
WATER WON'T SHUT OFF 	2.1 Adjacent objects may be triggering the sensor. 2.2 Sensor malfunction.
WATER DRIPS 	3.1 Clogged water diaphragm.

MINIMUM / MAXIMUM WATER PRESSURE (PSI) 30 / 125. MAXIMUM WATER TEMPERATURE 130°F.

Refer to drawing #9955-016-002 for parts breakdown of items listed above.

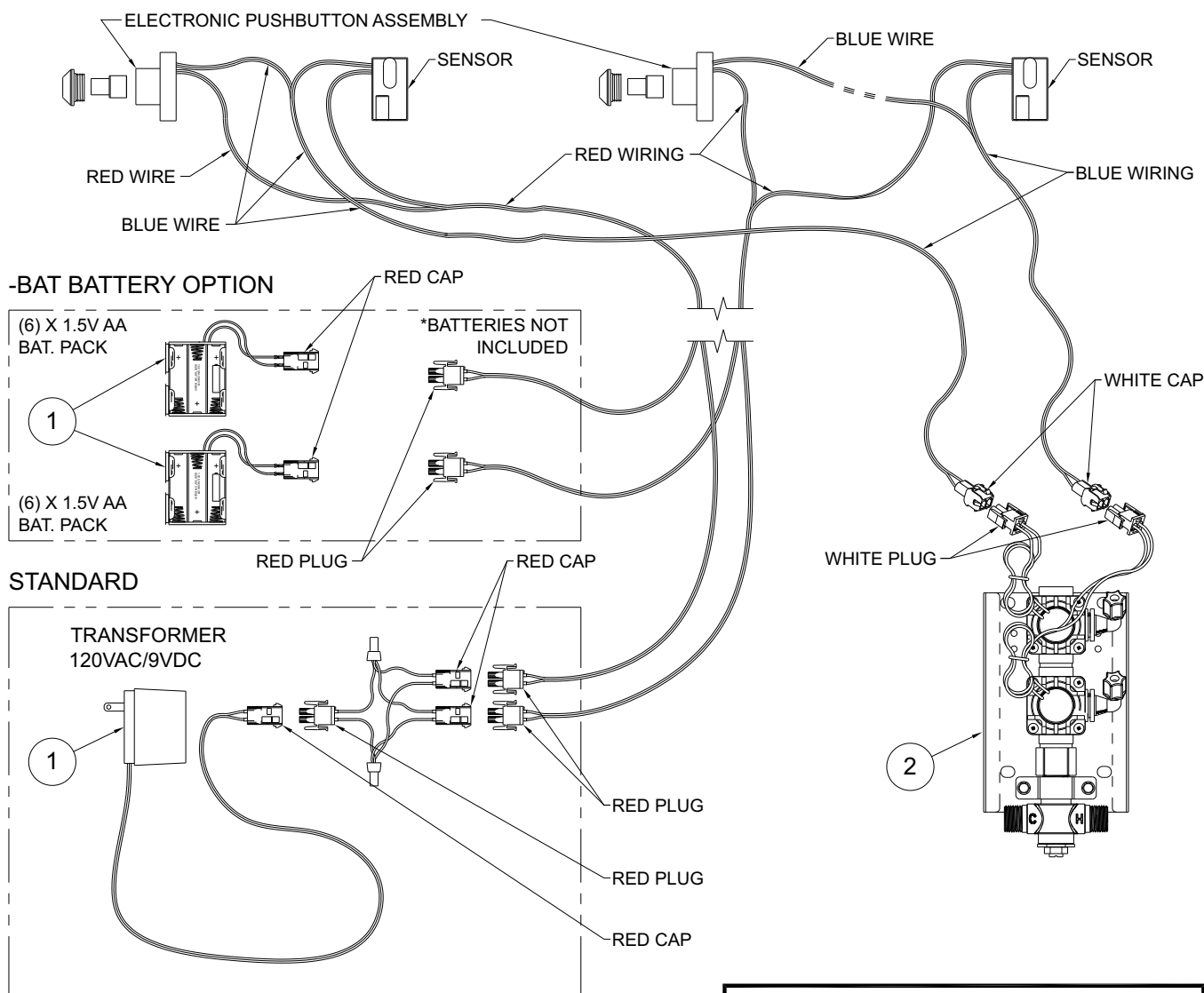
Refer to Acorn Operations And Maintenance Manual for installation instructions and repair parts.



ELECTRONIC PUSHBUTTON OR SENSOR INSTALL INSTRUCTIONS

9927-221-004

TWO STATION WIRING DIAGRAM SHOWN



INSTALLATION INSTRUCTIONS:

- A- USING APPROPRIATE INSTALLATION INSTRUCTIONS, MOUNT FIXTURE TO WALL AND MAKE-UP WASTE PIPING CONNECTIONS. SENSOR OR ELECTRONIC PUSHBUTTON ARE FACTORY INSTALLED. POWER SUPPLY ① AND VALVE ② SHIPPED LOOSE.
- B- INSTALL SOLENOID VALVE ASSEMBLY ② ON THE WALL (FASTENERS AND WALL ANCHORS BY OTHERS), MAKING SURE THAT THE VALVE WILL BE WITHIN BOTTOM ENCLOSURE.
- C- CONNECT WATER SUPPLY (AFTER FLUSHING LINES) TO VALVE, AND VALVE RISER TO SPOUTS AS PER UNIT INSTALLATION INSTRUCTIONS.

- D- CONNECT SOLENOID VALVE, POWER SUPPLY AND SENSOR WIRING AS SHOWN ON DETAIL.
- E- COMPLETE THE INSTALLATION OF THE UNIT ACCORDING TO THE UNITS INSTALLATION INSTRUCTIONS.

NOTE:

- 1- PLUG-IN TRANSFORMER INCLUDES BUILT-IN SECONDARY FUSE. IN THE EVENT OF POWER SURGE TRANSFORMER MAY REQUIRE REPLACEMENT.
- 2- ELECTRICAL RECEPTACLE MUST BE WIRED TO A GFI PROTECTED CIRCUIT. FIXTURE MUST BE EARTH GROUNDED PER N.E.C. (NATIONAL ELECTRICAL CODE).

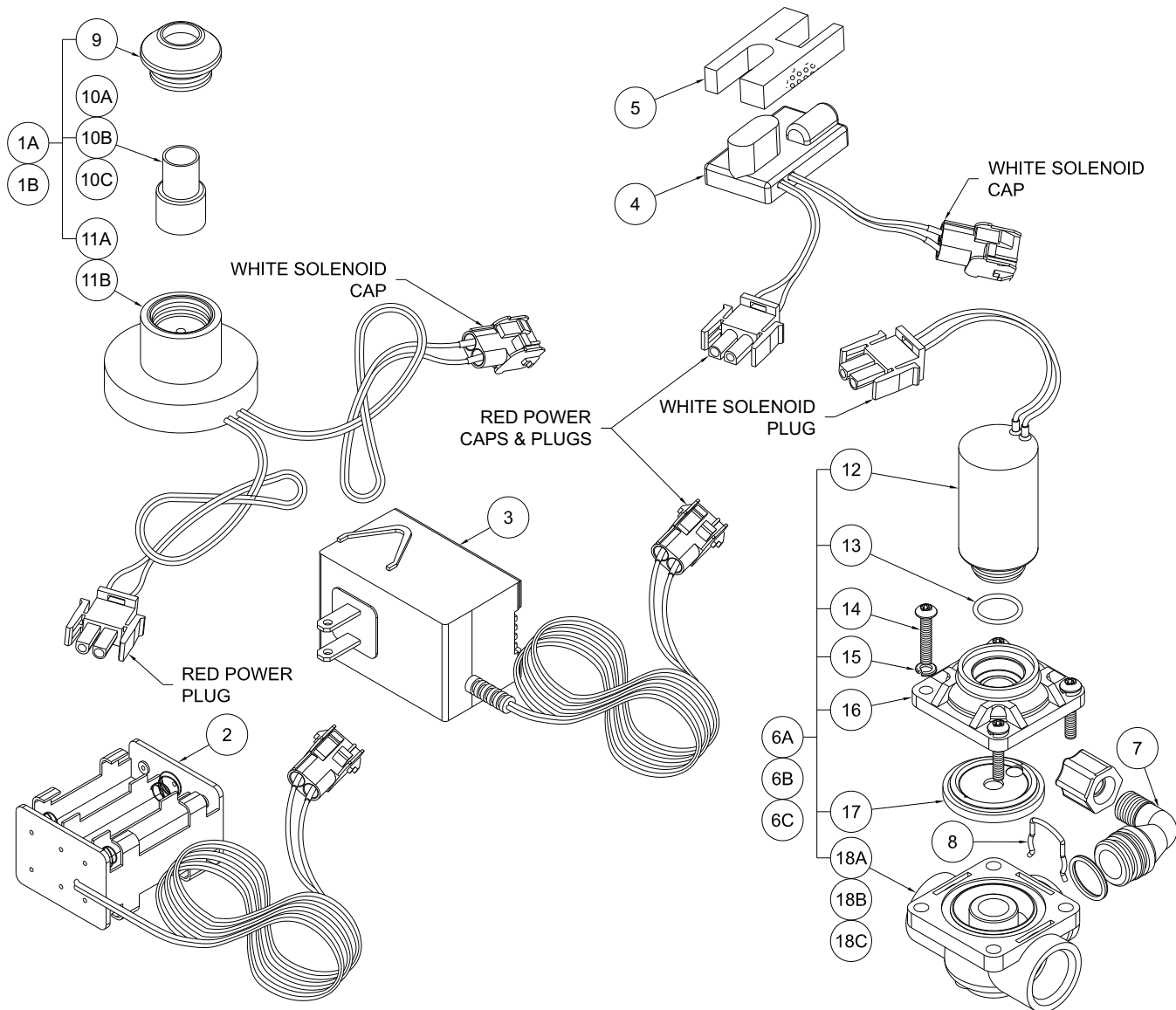
REFERENCE DRAWINGS

9VDC SENSOR & PARTS	9955-019-001
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ELECTRONIC PUSHBUTTON INSTALL INSTRUCTIONS

9955-019-001

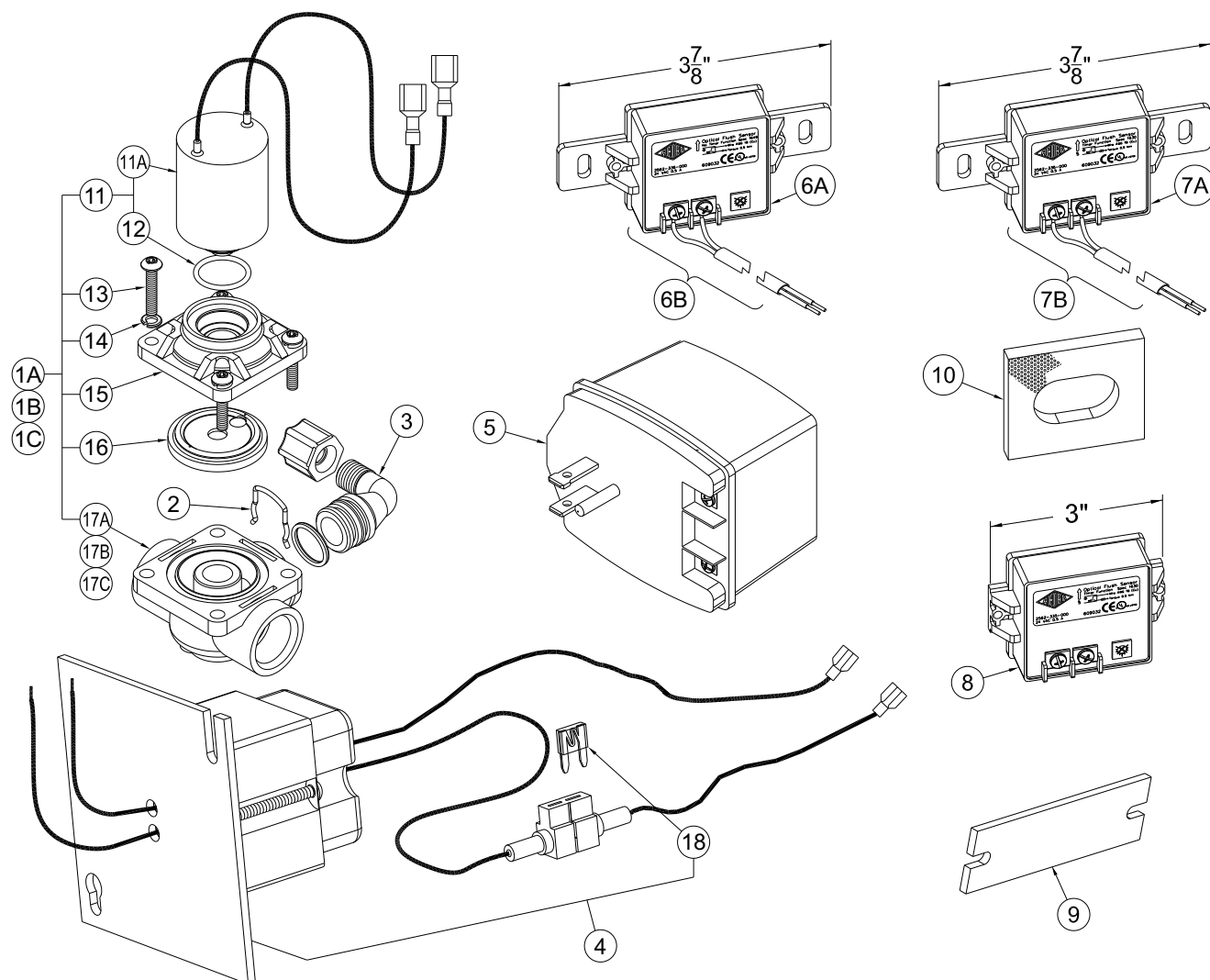


1A	2566-370-001	15 SEC ELECT PUSHBUTTON ASSY	10B	2566-026-000	PUSHBUTTON - "H"
1B	2566-373-001	60 SEC ELECT PUSHBUTTON ASSY	10C	2566-027-000	PUSHBUTTON - "C"
2	0710-357-001	AA SIX PACK BATTERY BOX ASSY	11A	2566-370-002	15 SEC ELECT PUSHBUTTON w/CONN
3	0711-410-001	9VDC PLUG-IN TRANSFORMER ASSY	11B	2566-373-002	60 SEC ELECT PUSHBUTTON w/CONN
4	2562-373-001	9VDC ELECTRONIC EYE SENSOR ASSY	12	2563-326-001	9VDC SOLENOID ASSEMBLY
5	6212-101-199	SENSOR EYE SPACER	13	0401-015-000	O-RING
6A	2570-132-001	P VALVE ASSY w/9VDC SOLENOID -LH	14	6502-043-000	#8-32 x 1/2" LONG PHIL RD HEAD
6B	2570-131-001	P VALVE ASSY w/9VDC SOLENOID -RH	15	0331-003-000	#8 LOCKWASHER
6C	2570-130-001	P VALVE ASSY w/9VDC SOLENOID -MA	16	2570-061-000	PLASTIC SOLENOID BONNET
7	2570-051-001	1/4" OD PLASTIC ELBOW ASSEMBLY	17	2563-010-001	WATER DIAPHRAGM ASSEMBLY
8	0326-100-000	RETAINING CLIP- PLASTIC	18A	2570-027-000	PLASTIC VALVE BODY -LH
9	2566-020-199	PUSHBUTTON ESCUTCHEON	18B	2570-026-000	PLASTIC VALVE BODY -RH
10A	2566-025-000	PUSHBUTTON - BLANK	18C	2570-025-000	PLASTIC VALVE BODY -MA
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



SENSOR & SOLENOID VALVE ASSEMBLY

9955-015-002



NOTE: WHEN REPLACING THE SENSOR ON CIRCULAR SPRAYHEADS ENSURE TO REPLACE THE SENSOR FOAM GASKET AS WELL.

1A	2570-117-001	P VALVE ASSY w/24VDC SOLENOID -LH	10	2562-320-000	SENSOR FOAM GASKET, SS WASH
1B	2570-116-001	P VALVE ASSY w/24VDC SOLENOID -RH	11	2563-305-002	24VDC SOLENOID ASSY w/ O-RING
1C	2570-115-001	P VALVE ASSY w/24VDC SOLENOID -MA	11A	2563-305-001	24VDC SOLENOID ASSY LESS O-RING
2	0326-100-000	RETAINING CLIP- PLASTIC	12	0401-117-000	O-RING
3	2570-051-001	1/4" OD PLASTIC ELBOW ASSEMBLY	13	6502-043-000	#8-32 x 1/2" LONG PHIL RD HEAD
4	0710-700-001	120VAC/24VAC XFMR ON 4" SQ PLATE	14	0331-003-000	#8 SPLIT LOCKWASHER
5	0710-725-000	120VAC/120VAC PLUG-IN TRANSFORMR	15	2570-061-000	PLASTIC SOLENOID BONNET
6A	2562-336-000	24VAC SENSOR, LESS TIMER	16	2563-010-001	WATER DIAPHRAGM ASSEMBLY
6B	2562-336-001	24VAC SENSOR w/ WIRE, LESS TIMER	17A	2570-027-000	PLASTIC VALVE BODY -LH
7A	2562-335-000	24VAC SENSOR, TIMER	17B	2570-026-000	PLASTIC VALVE BODY -RH
7B	2652-331-001	24VAC SENSOR w/ WIRE, TIMER	17C	2570-025-000	PLASTIC VALVE BODY -MA
8	6210-059-199	24VAC SENSOR, TIMER 3"	18	0713-060-000	3 AMP .32 VOLT MINI FUSE
9	2562-334-000	24VAC SENSOR LENS			
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION



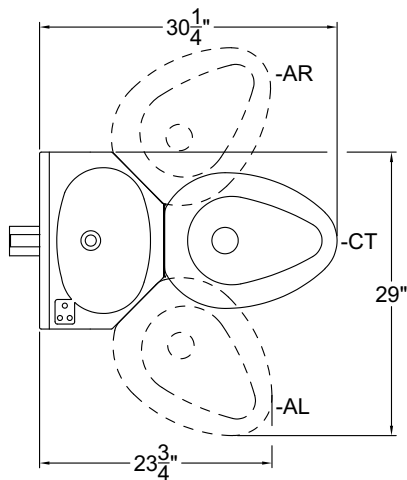
Replace-Ware® R1418 Series Modified 18" Lav-Toilet Comby



R1418-CT-2-BP-04-FV-PHLF

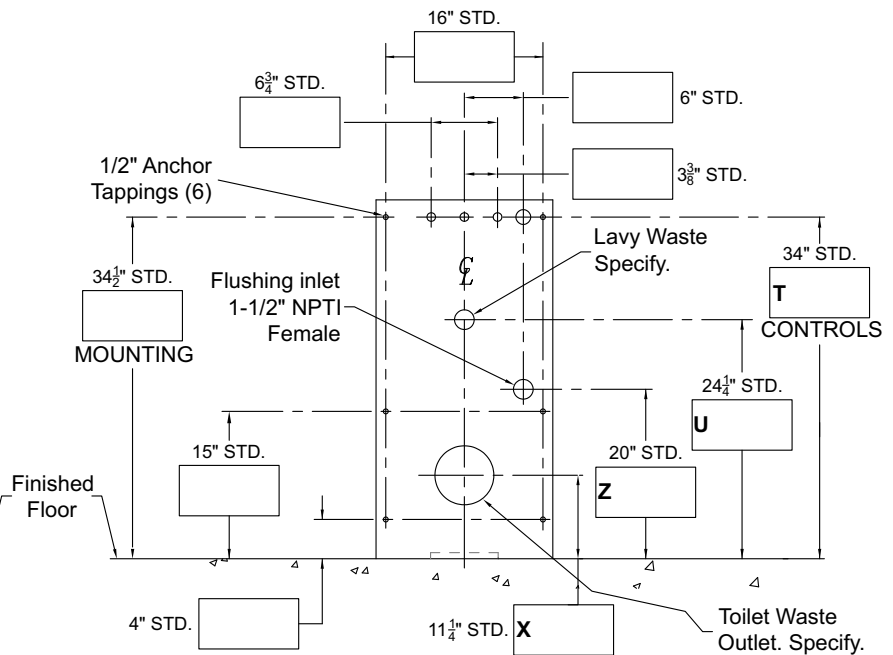
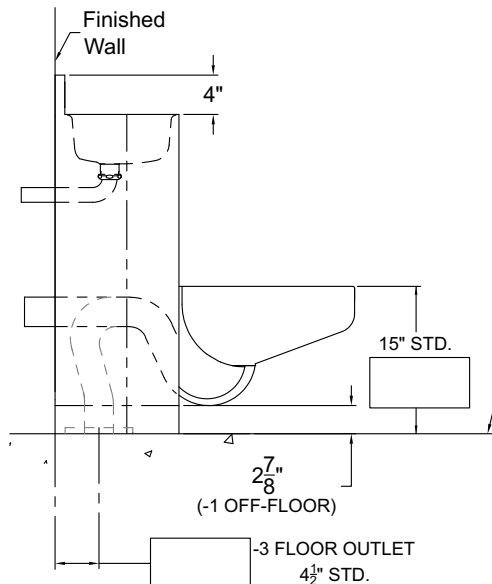


R1418-AL-2-BP-04-FV-PHC



MUST SPECIFY:

LAVY WASTE:	SPECIFY PUNCHING IF RE-USING EXISTING VALVE:		
☐ 1 1/4" NPT FEMALE			1-1/8" DIA.
☐ 1 1/2" NPT FEMALE			1-1/8" SQ.
☐ 1 1/2" O.D. PLAIN END			7/8" DIA. "D"
Flush Valve Button Punching Diameter:			1 1/2" STD.



ROUGH-IN VIEW FROM FIXTURE SIDE
-AR ANGLED RIGHT SHOWN -AL ANGLED LEFT OPPOSITE

ALL DIMENSIONS ARE FROM FINISHED FLOOR, OR FINISHED WALL



Replace-Ware® R1418: Modified 18" Lav-Toilet Comby

Modified 18" Lav-Toilet Comby - Replacement

Acorn R1418-REPL Lav-Toilet Comby is designed to replace a variety of existing combination fixtures using existing waste and mounting hardware.

Fixture is arranged to be installed on finished wall and serviced from an accessible pipe chase.

Cabinet and Toilet Bowl are fabricated from 14 gage, type 304 stainless steel and is seamless welded construction with a satin finish. The inside of the toilet bowl has a satin finish. Cabinet interior is sound-deadened with fire-resistant material. There are no accessible voids or crevices where contraband can be concealed.

Lavatory Bowl Standard Oval Bowl is 14-3/4" x 9-1/2" x 5" deep. Waste connection size and type must be specified.

Toilet is blowout jet type with elongated bowl manufactured to ASME A112.19.3-2008 and CSA B45.4-2008 requirements and will flush with a minimum of 25 PSI flow pressure when used in conjunction with a minimum of 1.6 GPF. Trap has a minimum 3-1/2" seal and will pass a 2-1/8" ball. Toilet waste outlet connection is 2-3/8" plain end unless otherwise specified.

WALL THICKNESS AND TYPE (Must Specify)

Thickness: _____ Type: ☐ Concrete ☐ Block ☐ Steel

MODEL AND OPTIONS SELECTION:

BASE MODEL NUMBER

☒ R1418 18" Lav-Toilet Comby

TOILET ORIENTATION (Must Specify)

- ☐ -AL Angled Left
☐ -AR Angled Right
☐ -CT Centered Toilet

FIXTURE MOUNTING AND WASTE (Must Specify)

- ☐ -1 Off-Floor, Wall Outlet
☐ -2 On-Floor, Wall Outlet
☐ -3 On-Floor, Floor Outlet

BUBBLER SELECTION

- ☐ -BC Bubbler, Code
☐ -BP Bubbler, Penal
☐ -BPH Bubbler, Penal Hemispherical
☐ -LF Lav-Filler

VALVE SELECTION

- ☐ -03 Air-Control, Single Temperature
☐ -04 Air-Control, H & C
☐ -09 Punched for Valve by Others (Specify Punching)
☐ -EVS1 Electronic Valve System - Single Temp
☐ -EVSP1 Electronic Valve Sys. w/ Piezo Pushbutton
☐ -EVS2 Electronic Valve System - Hot & Cold
☐ -EVSP2 Electronic Valve Sys. w/ Piezo Pushbuttons
☐ -MVC1 Time-Trol - Single Temp
☐ -MVC1-BAT Time-Trol - Single Temp Battery Operated
☐ -MVC2 Time-Trol - Hot & Cold
☐ -MVC2-BAT Time-Trol - Hot & Cold Battery Operated

FLUSH VALVE GPF's (Must Specify)

- ☐ -HET-1.28 GPF
☐ -ULF-1.6 GPF
☐ -3.5 GPF

FLUSH VALVE OPTIONS (Must Specify)

- ☐ -FVBO Flush Valve by Others
☐ -EVSVF Master-Trol Flush Valve
☐ -FV Flush Valve
☐ -FVH Flush Valve Hydraulic
☐ -MVCFV Time-Trol Flush Valve

PRODUCT OPTIONS

- ☐ -CI Cycle Interrupt for Time-Trol Valves
☐ -CO1 Cleanout w/ O-Ring Connection to No-Hub 4" (Plain End Only)
☐ -CO1-3 Cleanout w/ O-Ring Connection to No-Hub 3" (Plain End Only, N/A with -WO3)
☐ -COH Cleanout Hook Assembly
☐ -CW Combined Waste
☐ -EG Enviro-Glaze, Specify Color: _____
☐ Toilet Exterior Only
☐ Toilet Interior
☐ -FMT Fixture Mounted Trim
☐ -FT Flood-Trol
☐ -FTA Flood-Trol, Auto-Reset
☐ -FTE Flood-Trol, Electronic
☐ -FVO Flush Valve Opposite In Lieu of Standard Location
☐ -FVT Flush Valve Thru Wall Connector
☐ -GW Gasketed Toilet Waste
☐ -HET High Efficiency Toilet
☐ -HPS High Polish Seat #7 Finish
☐ -HS Hinged Seat
☐ -IS Integral Shelf
☐ -LPFV Less Punching for Flush Valve
☐ -LW1 Lavy Thru-Wall Extension with P-Trap
☐ -LWE Lavy Waste Extension (3" Standard)
Specify Length Beyond Fixture: _____
☐ -M Metering
☐ -MA Manifolded Valve ☐ 2 ☐ 3 ☐ 4
☐ -MH Metering, Hot Side Only
☐ -MT Metal Template (Only 1 Required Per Project)
☐ -OF Lavatory Overflow
☐ -PBH Hemispherical Pushbutton
☐ -PBP Pushrod Activated Pushbutton
☐ -PC Pinned Cleanout Plug
☐ -PH Paper Holder ☐ L ☐ R ☐ C ☐ LF ☐ RF
☐ -PT P-Trap Waste
☐ -SPS Suicide Prevention Skirt
☐ -TB Toothbrush Holder ☐ Left ☐ Right
☐ -TF Transformer, 120VAC to 24VAC
☐ -TG 12 Gage Cabinet
☐ -TH Towel Hook ☐ Single ☐ Double ☐ Left ☐ Right
☐ -TSC Toilet Shipping Cover
☐ -TWE Toilet Waste Extension (3" Standard)
Specify Length Beyond Fixture: _____
☐ -VAC Acorn Vac System
☐ -VG1 Vent Grille, 5-3/4" x 8-3/4" ☐ L ☐ R ☐ LF ☐ RF
☐ -VG2 Vent Grille, 8-3/4" x 13" (Bottom Only)
☐ -WO3 3" Toilet P-Trap (3.5 GPF Only)
☐ -WO3B 3" Waste Outlet from 2-3/8" Waste (1.6 or 3.5 GPF)



Dura-Ware: R2100

Replacement Toilet for Most Vitreous China Closet Fixtures

The **R2100** is designed to replace a variety of existing front mount wall-hung fixtures with 3-point mounting. Unit includes a contoured integral seat with satin finish in addition to punching for a hinged seat by others. Unit is fabricated from 16 gage, type 304 stainless steel and is seamless welded construction with exposed exterior & interior surfaces having a satin finish.

Toilet is Blowout Jet type with elongated bowl manufactured to comply with ASME A112.19.3-2008 and CSA B45.4-2008 standards. Toilet requires a minimum of 25 PSI flow pressure and uses a minimum water consumption of 1.28 gallons per flush. Trap has a minimum 3-1/2" seal, will pass a 2-1/8" ball and is fully enclosed. Toilet has a 1-1/2" NPT flushing inlet connection and a gasketed waste outlet.

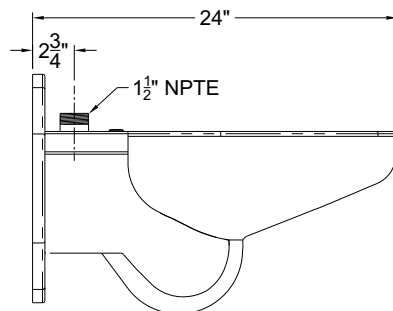
GUIDE SPECIFICATION

Provide and install Acorn Replacement Blowout Jet Toilet (specify model number and options). Fixture shall be fabricated from 16 gage, type 304 stainless steel. Construction shall be seamless welded and exposed surfaces shall have a satin finish with an integral contoured toilet seat. Toilet shall be concealed blowout jet type with an elongated bowl and a self-draining flushing rim. Toilet shall be ASME A112.19.3-2008 and CSA B45.4-2008 compliant. Toilet requires a minimum of 25 PSI flow pressure and uses a minimum water consumption of 1.28 gpf. Toilet trap shall have a minimum 3-1/2" seal that shall pass a 2-1/8" diameter ball and be fully enclosed. Toilet waste outlet shall be a gasketed waste.

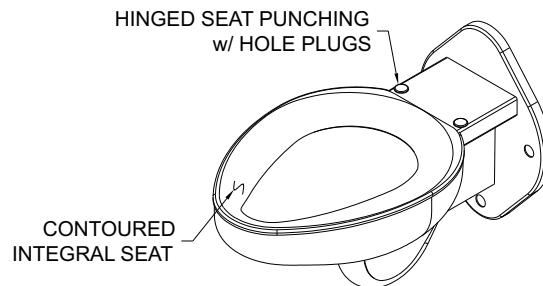


Must specify:

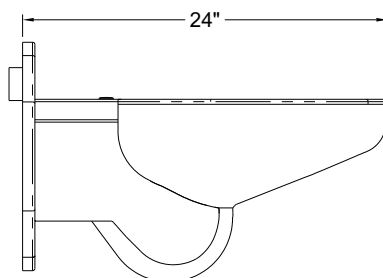
- ☐ - **R2100-T-1**
- ☐ - **R2100-W-1**



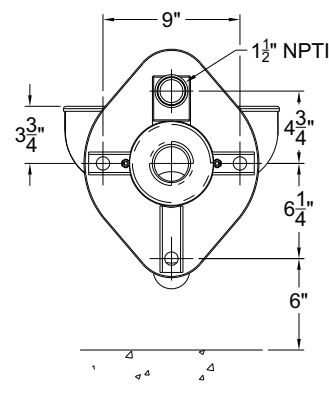
R2100-T-1



R2100-W-1
SHOWN



R2100-W-1





Dura-Ware: R2105

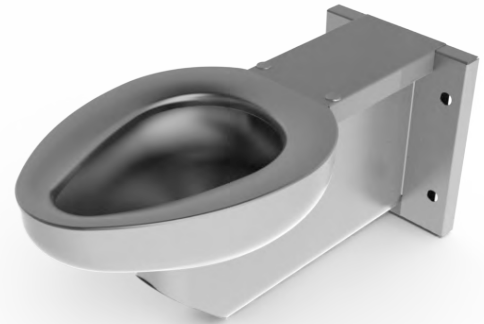
Replacement Toilet for Most Vitreous China Closet Fixtures

The **R2105** is designed to replace a variety of existing front mount wall-hung fixtures with 4-point mounting. Unit includes a contoured integral seat with satin finish in addition to punching for a hinged seat by others. Unit is fabricated from 16 gage, type 304 stainless steel and is seamless welded construction with exposed exterior & interior surfaces having a satin finish.

Toilet is Siphon Jet type with elongated bowl manufactured to comply with ASME A112.19.3-2008 and CSA B45.4-2008 standards. Toilet requires a minimum of 25 PSI flow pressure and uses a minimum water consumption of 1.28 gallons per flush. Trap has a minimum 3-1/2" seal, will pass a 2-1/8" ball and is fully enclosed. Toilet has a 1-1/2" NPT flush valve connection and a gasketed waste outlet.

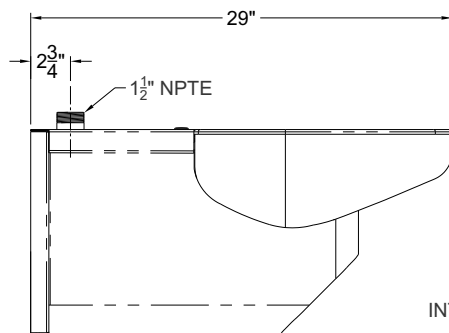
GUIDE SPECIFICATION

Provide and install Acorn Replacement Siphon Jet Toilet (specify model number and options). Fixture shall be fabricated from 16 gage, type 304 stainless steel. Construction shall be seamless welded and exposed surfaces shall have a satin finish with an integral contoured toilet seat. Toilet shall be concealed blowout jet type with an elongated bowl and a self-draining flushing rim. Toilet shall be ASME A112.19.3-2008 and CSA B45.4-2008 compliant. Toilet requires a minimum of 25 PSI flow pressure and uses a minimum water consumption of 1.28 gpf. Toilet trap shall have a minimum 3-1/2" seal that shall pass a 2-1/8" diameter ball and be fully enclosed. Toilet waste outlet shall be a gasketed waste.

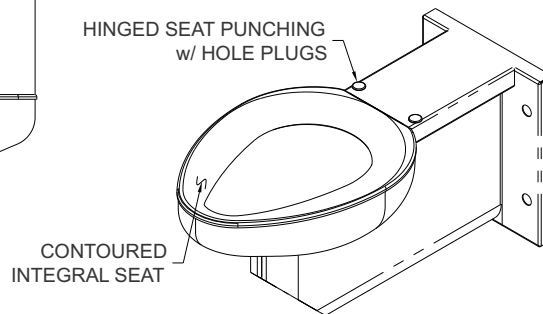


Must specify:

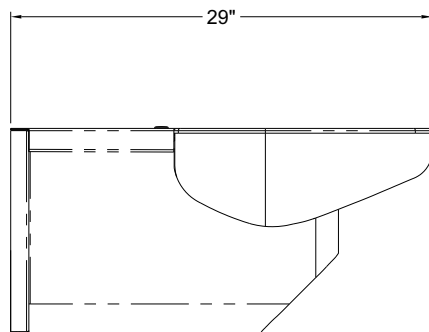
- ☐ - **R2105-T-1**
- ☐ - **R2105-W-1**



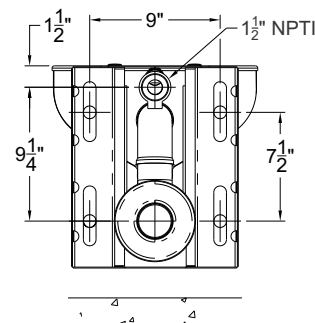
R2105-T-1



R2105-W-1
SHOWN



R2105-W-1





Dura-Ware: R2115

Replacement Toilet for Most Vitreous China Closet Fixtures

The R2115 Closet Fixture is designed to replace a variety of existing front mount on floor fixtures. Unit includes a contoured integral seat with satin finish in addition to punching for hinged seat by others. Unit is fabricated from 16 gage, type 304 stainless steel and is seamless welded construction with exposed exterior & interior surfaces having a satin finish.

Toilet is Siphon Jet type with elongated bowl manufactured to ASME A112.19.3-2008 and CSA B45.4-2008 requirements and will flush with a minimum of 25 PSI flow pressure when used in conjunction with an appropriate flush valve. Trap has a minimum 3-1/2" seal, will pass a 2-1/8" ball and is fully enclosed. Wall flange is reinforced for maximum strength and includes 1-1/2" NPT flushing inlet connection and gasket waste outlet.

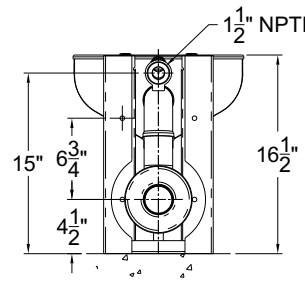
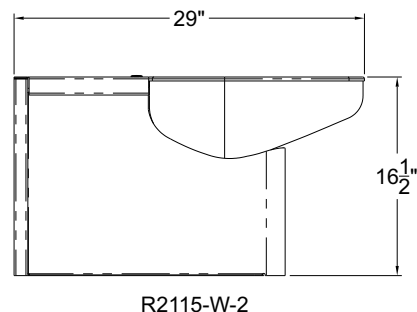
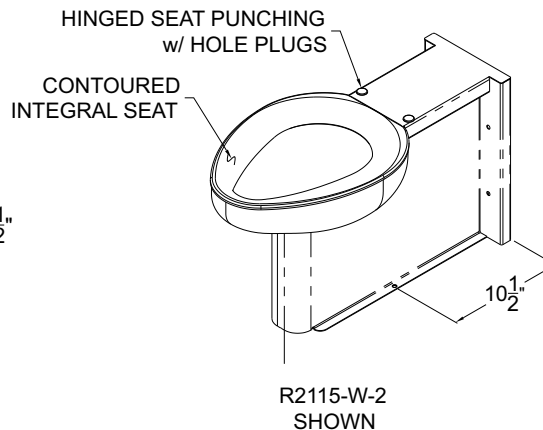
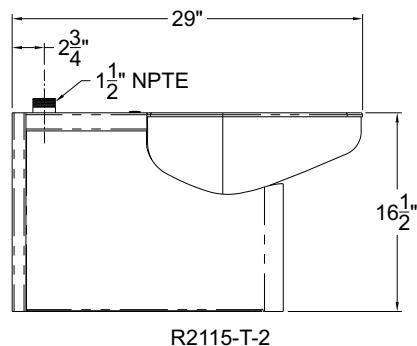
GUIDE SPECIFICATION

Provide and install Acorn Replacement Siphon Jet Toilet (specify model number and options). Fixture shall be fabricated from 16 gage, type 304 stainless steel. Construction shall be seamless welded and exposed surfaces shall have a satin finish with an integral contoured toilet seat. Toilet shall be concealed blowout jet type with an elongated bowl and a self-draining flushing rim. Toilet shall meet ASME A112.19.3-2008 and CSA B45.4-2008 requirements and will flush with a minimum of 25 PSI flow pressure. Toilet trap shall have a minimum 3-1/2" seal that shall pass a 2-1/8" diameter ball and be fully enclosed. Toilet waste outlet shall be gasket waste.



Must specify:

- ☐ - **R2115-T-2**
- ☐ - **R2115-W-2**





Dura-Ware: R2141-3

Replacement Toilet for Most Vitreous China Closet Fixtures

The R2141 -3 Closet Fixture is designed to replace a variety of existing front mount, free standing, on-floor fixtures with bottom waste outlet. Unit includes a contoured integral seat in addition to punching for hinged seat by others, a fully enclosed back and intended to meet most popular rough-ins at 10" and 12" from finished wall. Unit is fabricated from 16 gage, type 304 stainless steel and is seamless welded construction with exposed exterior & interior surfaces having a satin finish.

Toilet is Siphon Jet type with elongated bowl manufactured to ASME A112.19.3-2008 and CSA B45.4-2008 requirements and will flush with a minimum of 25 PSI flow pressure when used in conjunction with an appropriate flush valve. Trap has a minimum 3-1/2" seal, will pass a 2-1/8" ball and is fully enclosed. Floor flange is reinforced for maximum strength and includes 1-1/2" NPT flushing inlet connection and gasket waste outlet.

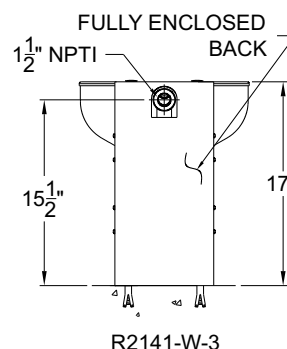
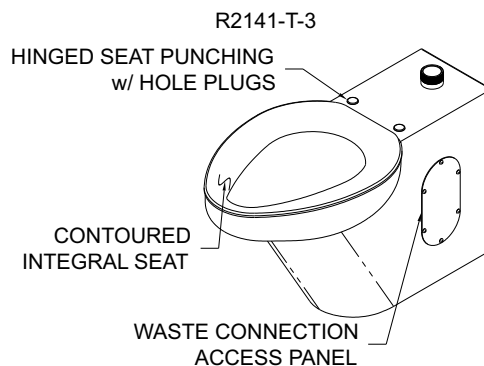
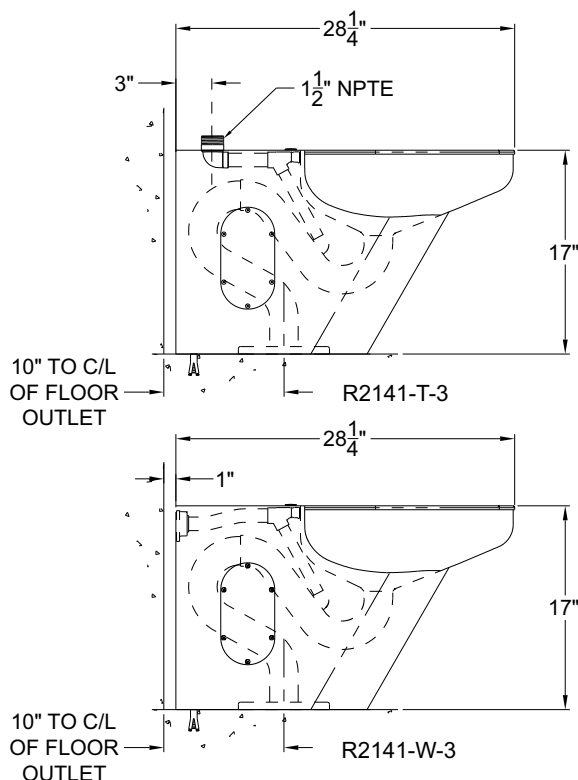
GUIDE SPECIFICATION

Provide and install an ADA 2010 Compliant Acorn Replacement Siphon Jet Toilet (specify model number and options). Fixture shall be fabricated from 16 gage, type 304 stainless steel. Construction shall be seamless welded and exposed surfaces shall have a satin finish with an integral contoured toilet seat. Toilet shall be siphon jet type with an elongated bowl and a self-draining flushing rim. Toilet shall meet ASME A112.19.3-2008 and CSA B45.4-2008 requirements and will flush with a minimum of 25 PSI flow pressure. Toilet trap shall have a minimum 3-1/2" seal that shall pass a 2-1/8" diameter ball and be fully enclosed. Toilet waste outlet shall be gasket waste.



Must specify:

- ☐ - R2141-T-3
- ☐ - R2141-W-3





Acorn Engineering

Acorn Engineering produces a wide spectrum of engineering plumbing products for institutional, commercial, and industrial markets. Their products include combys, washbasins, toilets, urinals, showers and electronic valve controls, to name a few.

PRODUCT GROUPS

Meridian - Combining precision engineering with contemporary good looks and durability, it is the choice specified by discerning owners, architects, engineers, contractors and designers



Wash-Ware® - These washfountains combine unique space-saving designs without compromising basic durability and functionality. Designed to accommodate one to eight individuals simultaneously, Wash-Ware® washfountains are an ideal choice for high traffic environments.



Shower-Ware® - Constructed of heavy-gage stainless steel, these fixtures are durable and vandal-resistant to provide years of virtually maintenance-free use. Using the Time-Trol electronic valve control system to conserve water usage makes this combination ideal for high usage shower applications such as beaches, schools, gyms and most locker room environments, where conserving water and maximizing the use of available space is critical.



Terrazzo-Ware® - Available in a variety of colors and configuration, these pre-cast mop sinks and shower bases are built of a one-piece design making it an ideal choice for easy-installation and maintenance.



Dura-Ware® - For installations that require a durable yet economical choice, these fixtures provide a variety of stainless steel fixtures and configuration choices. Easy to install and maintain, these fixtures are engineered to withstand high-traffic use.



Penal-Ware® - Manufactured of heavy-gage stainless steel, the line of high security, vandal-resistant fixtures are engineered and specifically designed to meet durability requirements for withstanding high usage demands and potential abuse commonly found in an institutional or correctional facility environment.





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