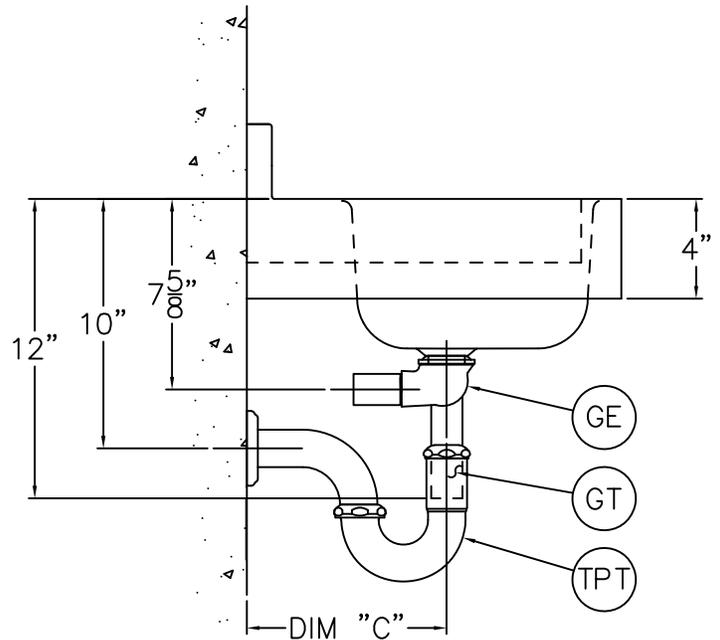
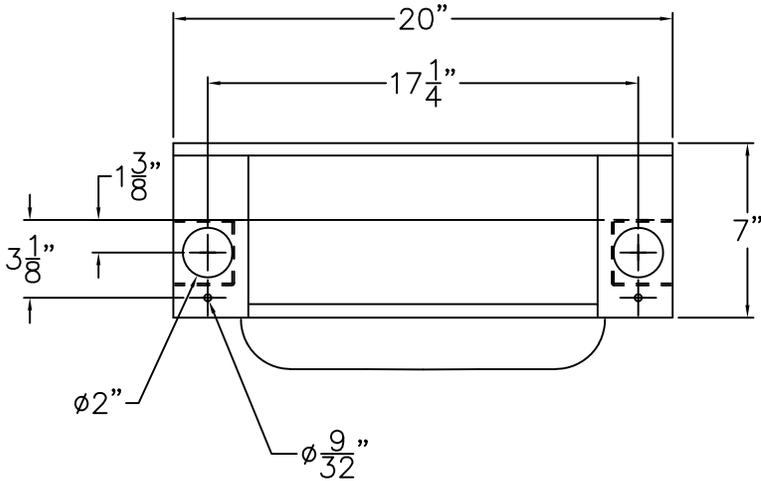
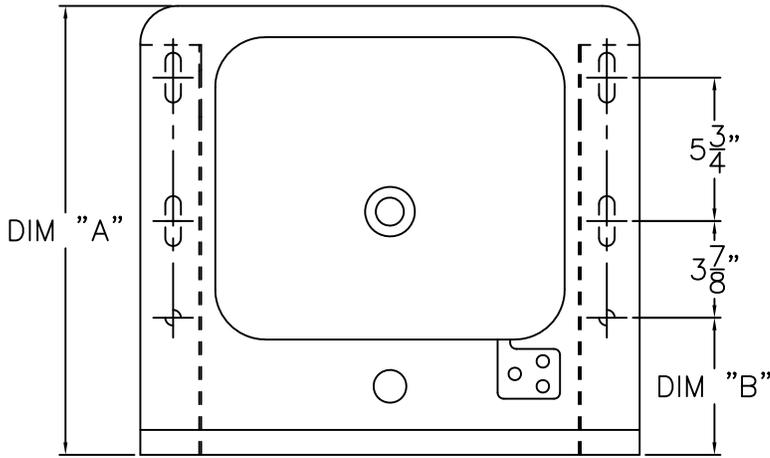




MODEL No.	'A' DIM.	'B' DIM.	'C' DIM.
1950-LC	15"	2-1/2"	8"
1951-LC	18"	5-1/2"	9-3/4"

REFERENCE DRAWINGS	
-AB -EE -TE	9908-000-001
Hot & Cold Valve	9908-103-001
Single Temp Valve	9908-104-001



**RECOMMENDED CARRIER MODELS:**

(PROVIDED BY OTHERS)

SMITH #700, 710, 720 or EQUAL

**INSTALLATION INSTRUCTIONS**

A- SEE TABLE FOR VALVE INSTALLATION SHEET.

B- INSTALL MOUNTING CARRIER PER CARRIER MANUFACTURER SPECIFICATIONS.

C- MOUNT FIXTURE OVER CARRIER ARMS.  
SECURE CARRIER TO LAVY PER MANUFACTURER SPECIFICATIONS.

D- MAKE WASTE CONNECTIONS. DIMENSIONS VARY DEPENDING ON OPTIONAL WASTE CONNECTION SELECTED:

-GE GRID STRAINER WITH CLOSE ELBOW-  
1-1/4" OD COMPRESSION CONNECTION

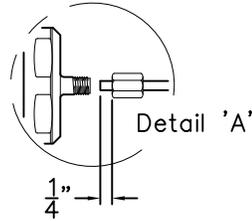
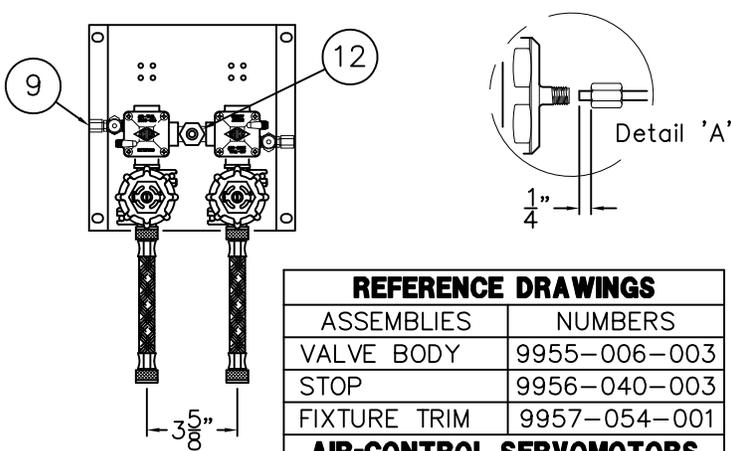
-GT GRID STRAINER WITH TAILPIECE-  
1-1/4" OD COMPRESSION CONNECTION

-TPT TUBING P-TRAP 1-1/4" x 1-1/2" OD

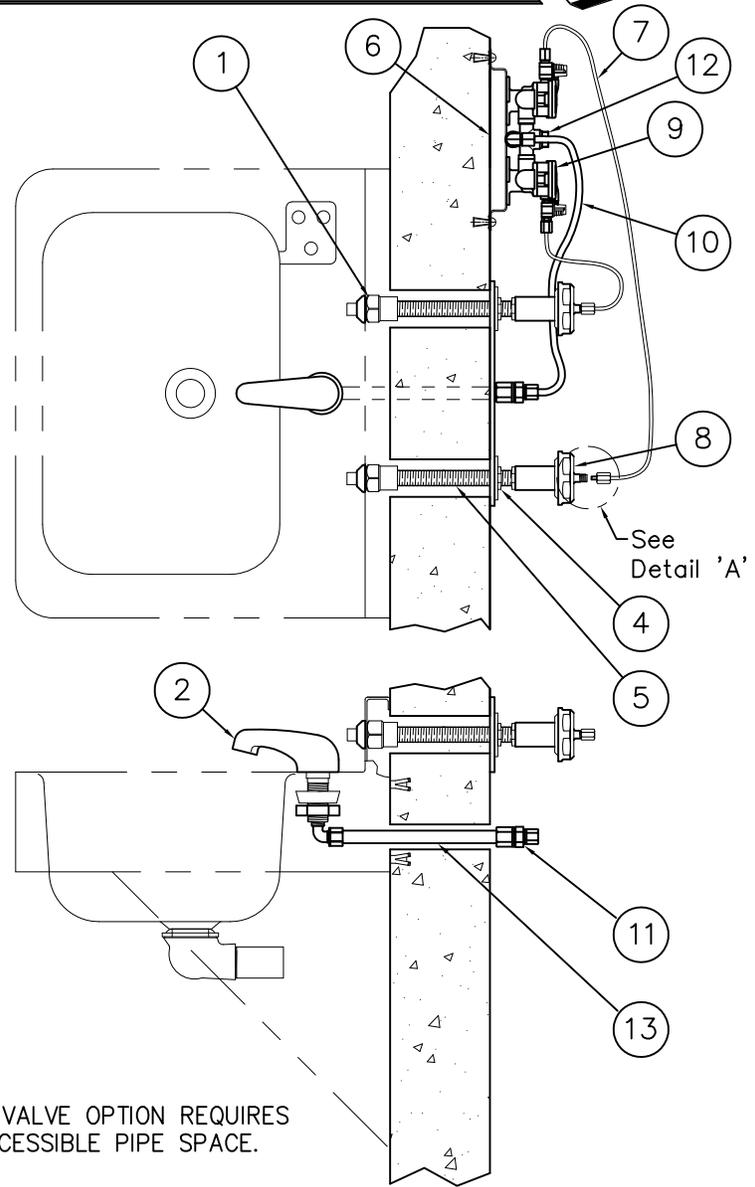
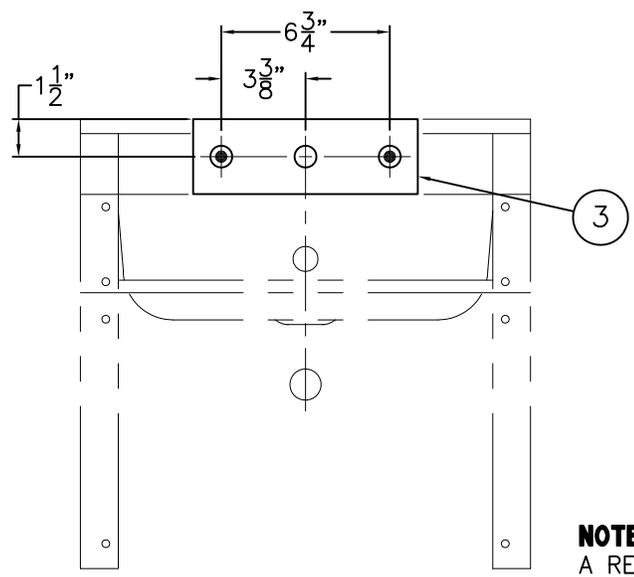
E- ROUGH-IN PLUMBING AND FLUSH SUPPLY LINES.

**ACORN ENGINEERING COMPANY**  
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15125 Proctor Ave Industry, CA 91746  
(626) 336-4561 FAX (626) 961-2200

<b>TITLE</b>		
<b>DURA-WARE 1950 &amp; 1951 LAVATORIES WITH -LC MOUNTING CARRIER</b>		
<b>MANUFACTURE DATE</b>	<b>DATE ISSUED</b>	<b>DRAWING NUMBER</b>
<b>JAN 1980</b>	<b>9-1-92</b>	<b>9908-009-001</b>
<b>TO PRESENT</b>	<b>DATE REVISED</b>	
	<b>D 02/19/25</b>	



REFERENCE DRAWINGS	
ASSEMBLIES	NUMBERS
VALVE BODY	9955-006-003
STOP	9956-040-003
FIXTURE TRIM	9957-054-001
AIR-CONTROL SERVOMOTORS	
METERING	9955-000-003
NON-METERING	9955-001-003



**NOTE:** THIS VALVE OPTION REQUIRES A REAR ACCESSIBLE PIPE SPACE.

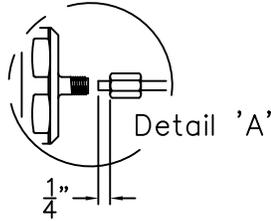
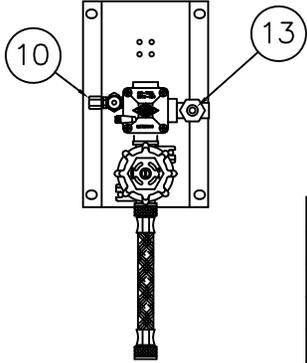
**INSTALLATION INSTRUCTIONS:**

- A- PRIOR TO INSTALLATION OF THE FIXTURE, MOUNT PUSHBUTTON (1) TO BACK SPLASH AND SPOUT (2) TO DECK.
- B- INSTALL THE FIXTURE TO THE WALL INCLUDING UPPER VALVE SUPPORT PLATE (3).
- C- TO ADJUST PUSH-BUTTON ASSEMBLY: LOOSEN THE LOCK NUT (4) AND ROTATE THE ADJUSTING SLEEVE (5) AS REQUIRED. WHEN PROPERLY ADJUSTED, THERE WILL BE NO PLAY AND ONLY MINOR TENSION AT THE BUTTON.
- D- MOUNT THE AIR-CONTROL VALVE (6). LOCATE AS REQ'D. MAX. ALLOWABLE DISTANCE BETWEEN PUSHBUTTON AND AIR-CONTROL SERVO-MOTOR IS 10 FEET. WALL FASTENERS BY OTHERS.
- E- CONNECT 1/8" O.D. POLYETHYLENE AIR LINES (7) TO DIAPHRAGM RETAINERS (8) AND SERVOMOTORS (9) HAND TIGHT. USE FERRULE NUTS PROVIDED. SEE DETAIL 'A'.

- NOTE: WHEN METERING VALVES ARE SPECIFIED, THE AIR LINES CONNECT DIRECTLY TO THE TIMER.
- F- CONNECT 1/4" OD POLYETHYLENE WATER LINE (10) TO SPOUT COMPRESSION NUT (11) AND SERVOMOTOR COMPRESSION FITTING (12) USING FERRULE NUTS PROVIDED. ATTACH 1/4" NOM. COPPER TUBING (13) TO SPOUT.
- G- AFTER THOROUGHLY FLUSHING THE SUPPLY LINES, MAKE-UP SUPPLY CONNECTIONS (1/2" NPT).
- H- SEE APPROPRIATE SERVOMOTOR REFERENCE DRAWING FOR DETAILS AND TIMING INSTRUCTIONS.

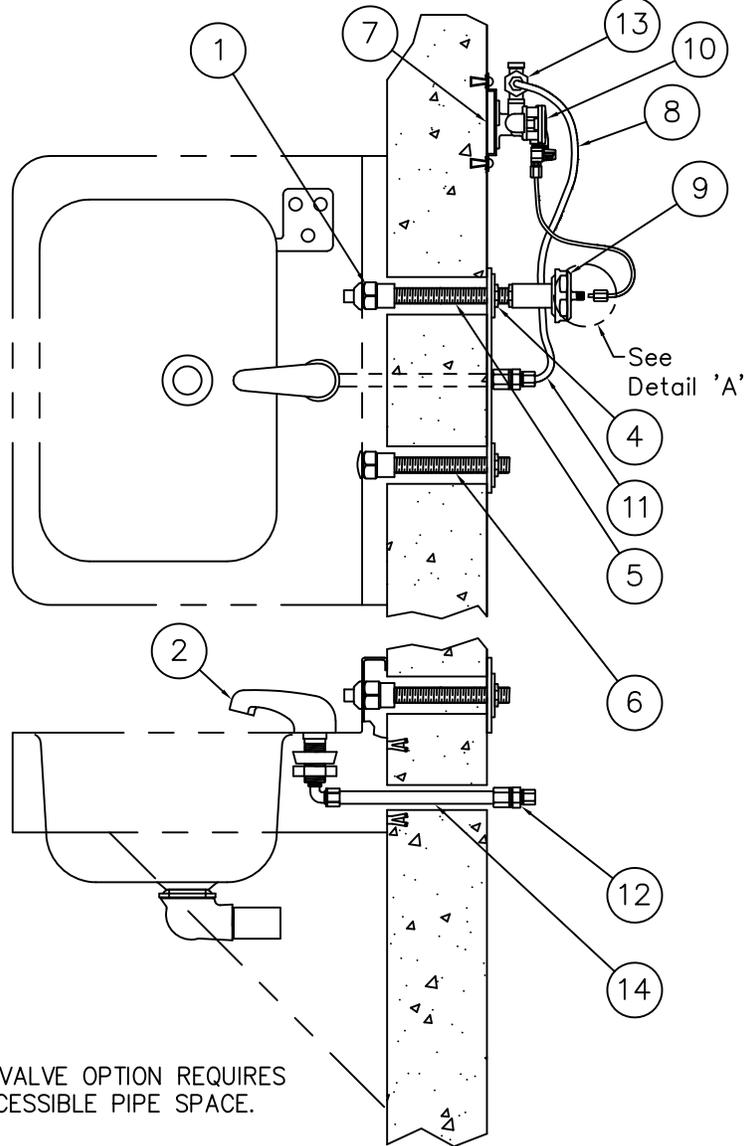
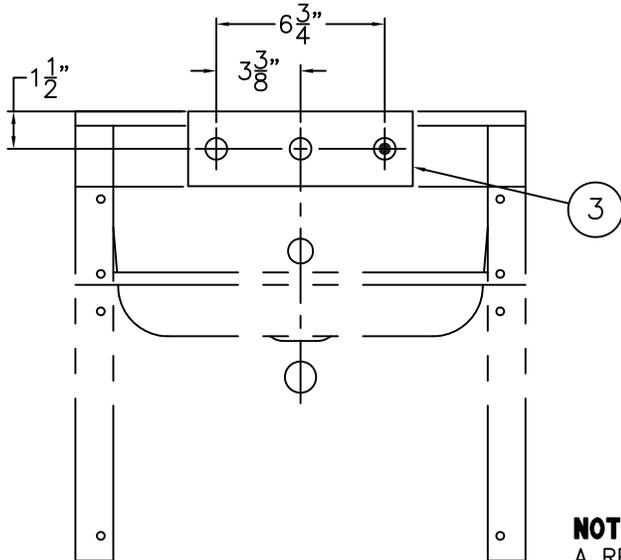
**NOTE:** WATER FLOW PRESSURE 25/100 PSI MIN/MAX. RECOMMENDED OUTLET TEMPERATURE 105° MAX. FLUSH ALL SUPPLY LINES THOROUGHLY BEFORE CONNECTING. DRAIN VALVE PRIOR TO FREEZING TEMPERATURES.

<p>ACORN ENGINEERING COMPANY P.O. BOX 3527 Industry, CA 91744 15125 Proctor Ave Industry, CA 91746 (626) 336-4561 FAX (626) 961-2200</p>	<p>TITLE <b>REAR MOUNTED HOT &amp; COLD AIR-CONTROL VALVE CAT. #1950-04 &amp; #1951-04</b></p>	
	<p>MANUFACTURE DATE</p> <p><b>JAN 1994</b></p> <p><b>TO PRESENT</b></p>	<p>DATE ISSUED</p> <p><b>12/08/93</b></p> <p>DATE REVISED</p> <p><b>08/24/11</b></p>



REFERENCE DRAWINGS	
ASSEMBLIES	NUMBERS
VALVE BODY	9955-006-003
STOP	9956-040-003
FIXTURE TRIM	9957-054-001
AIR-CONTROL SERVOMOTORS	
METERING	9955-000-003
NON-METERING	9955-001-003

Optional Metering Valve Shown



**NOTE:** THIS VALVE OPTION REQUIRES A REAR ACCESSIBLE PIPE SPACE.

**INSTALLATION INSTRUCTIONS:**

- A- PRIOR TO INSTALLATION OF THE FIXTURE, MOUNT PUSHBUTTON (1) TO BACK SPLASH AND SPOUT (2) TO DECK.
- B- INSTALL THE FIXTURE TO THE WALL INCLUDING UPPER VALVE SUPPORT PLATE (3).
- C- TO ADJUST PUSH-BUTTON ASSEMBLY: LOOSEN THE LOCK NUT (4) AND ROTATE THE ADJUSTING SLEEVE (5) AS REQUIRED. WHEN PROPERLY ADJUSTED, THERE WILL BE NO PLAY AND ONLY MINOR TENSION AT THE BUTTON. INSTALL BLANK PUSHBOTTON ASSEMBLY TO PROVIDE ADDITIONAL FIXTURE SUPPORT (6).
- D- MOUNT THE AIR-CONTROL VALVE (7). LOCATE AS REQ'D. MAX. ALLOWABLE DISTANCE BETWEEN PUSHBUTTON AND AIR-CONTROL SERVO-MOTOR IS 10 FEET. WALL FASTENERS BY OTHERS.
- E- CONNECT 1/8" O.D. POLYETHEYENE AIR LINES (8) TO DIAPHRAGM RETAINERS (9) AND SERVOMOTORS (10) HAND TIGHT. USE FERRULE NUTS PROVIDED. SEE DETAIL 'A'.

- NOTE: WHEN METERING VALVES ARE SPECIFIED, THE AIR LINES CONNECT DIRECTLY TO THE TIMER. PUSHBUTTON SHOWN FOR TEMPERED WATER SUPPLY MAY BE POSITIONED OPPOSITE.
- F- CONNECT 1/4" OD POLYETHYLENE WATER LINE (11) TO SPOUT COMPRESSION NUT (12) AND SERVOMOTOR COMPRESSION FITTING (13) USING FERRULE NUTS PROVIDED. ATTACH 1/4" NOM. COPPER TUBING (14) TO SPOUT.
- G- AFTER THOROUGHLY FLUSHING THE SUPPLY LINES, MAKE-UP SUPPLY CONNECTIONS (1/2" NPT).
- H- SEE APPROPRIATE SERVOMOTOR REFERENCE DRAWING FOR DETAILS AND TIMING INSTRUCTIONS.

**NOTE:** WATER FLOW PRESSURE 25/100 PSI MIN/MAX. RECOMMENDED OUTLET TEMPERATURE 105° MAX. FLUSH ALL SUPPLY LINES THOROUGHLY BEFORE CONNECTING. DRAIN VALVE PRIOR TO FREEZING TEMPERATURES.



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TITLE **REAR MOUNTED SINGLE TEMP AIR-CONTROL VALVE CAT. #1950-03 & #1951-03**

MANUFACTURE DATE

**JAN 1994  
TO PRESENT**

DATE ISSUED

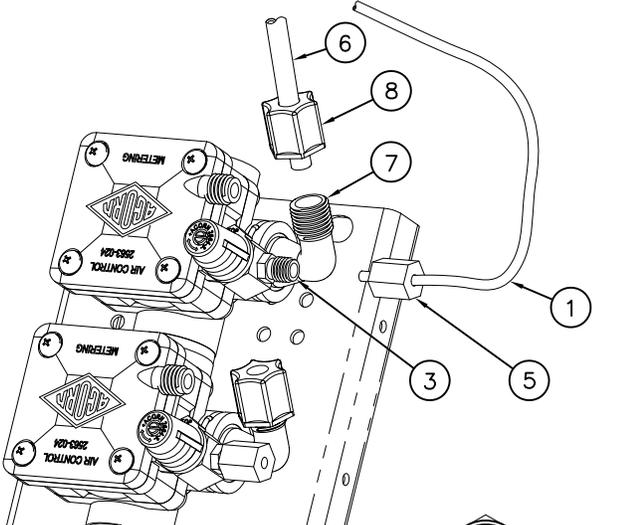
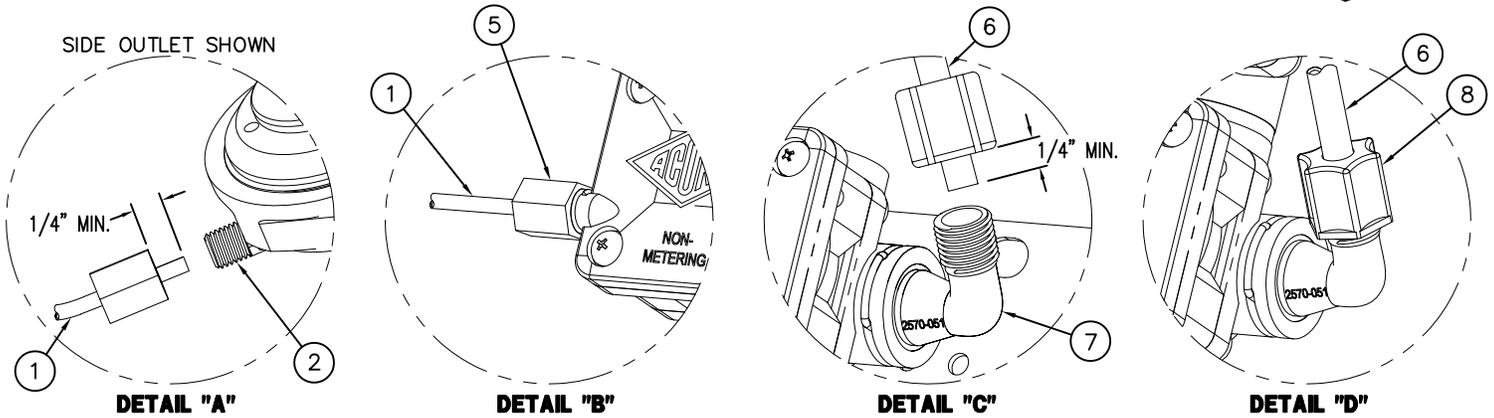
**02-03-99**

DATE REVISED

**08/24/11**

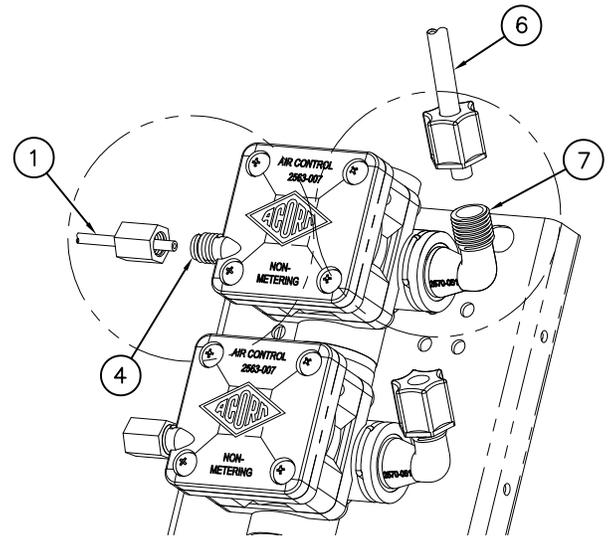
DRAWING NUMBER

**9908-104-001**



**METERING**

TIMING SCREW



**NON-METERING DIRECT ACTING**

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

**REFERENCE DRAWINGS**

REFERENCE DRAWINGS	
ASSEMBLIES	DRAWING
VALVE BODY	9955-006-003
CHECKSTOP	9956-040-003
FIXTURE TRIM	9957-051-001
AIR-CONTROL SERVOMOTORS	
METERING	9955-000-003
NON-METERING	9955-001-003

**NOTE:**

- 1) ALL TUBING SHOULD BE CUT SQUARE AND BE FREE OF BURRS OR DEFORMITIES TO ENSURE A WATER TIGHT CONNECTION.
- 2) EXTEND TUBING AT LEAST 1/4" BEYOND FERRULE NUT BEFORE INSERTING TUBING INTO CONNECTION OPENING BEFORE TIGHTENING.
- 3) TUBING SHOULD BE FREE OF KINKS FOR PROPER OPERATION
- 4) 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.

**INSTALLATION INSTRUCTIONS:**

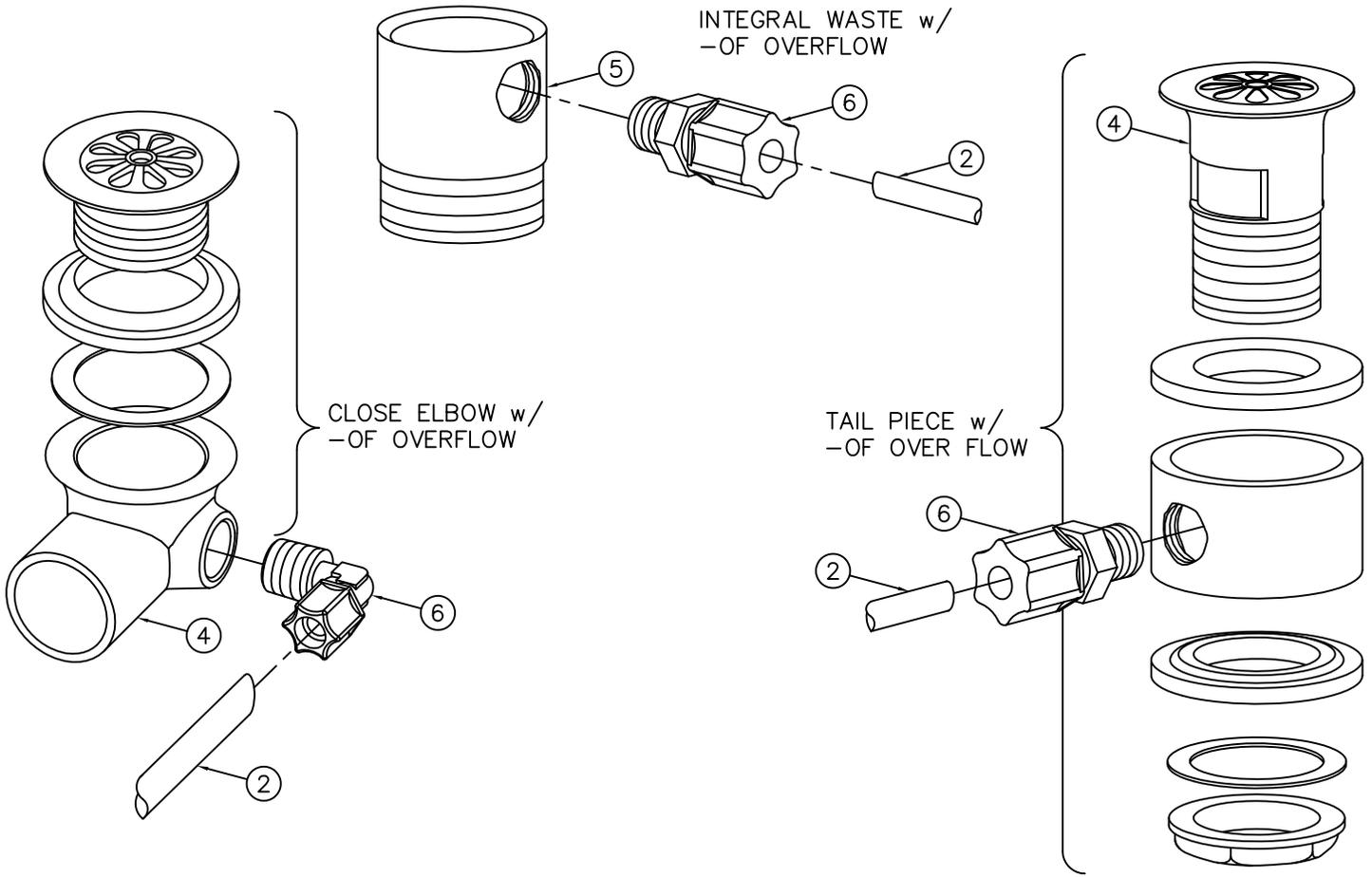
- A- MOUNT FIXTURE IN ACCORDANCE TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- B- ASSEMBLE SPOUTS AND PUSHBUTTONS TO FIXTURE.
- C- CONNECT 1/8" O.D. POLYETHYLENE AIR LINE (1) TO PUSHBUTTON (2), AND VALVE TIMER ASSEMBLY (3) SEE DETAIL "A". NOTE: FOR DIRECT ACTING: ASSEMBLE TO AIR PORT (4), SEE DETAIL "B". HAND TIGHTEN FERRULE NUT (5) PROVIDED.
- D- CONNECT 1/4" O.D. POLYETHYLENE WATER LINES (6) TO VALVE ASSEMBLY ELBOW (7) SEE DETAILS "C", AND "D". HAND TIGHTEN FERRULE NUT (8) PROVIDED.
- E- AFTER THOROUGHLY FLUSHING SUPPLY LINES MAKE UP CONNECTIONS TO VALVE ASSEMBLY INLET(S) 1/2" NPT OR 1/2" NPS FLEX HOSE AS REQUIRED.



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**TITLE HAND OPERATED AIR-CONTROL VALVE CONNECTIONS**

MANUFACTURE DATE	DATE ISSUED	DRAWING NUMBER
<b>JANUARY 1999</b>	<b>04/22/10</b>	<b>9905-006-001</b>
<b>TO PRESENT</b>	DATE REVISED	
	<b>10/11/10</b>	



**NOTES:**

- TEFLON TAPE IS RECOMMENDED FOR ALL THREAD CONNECTIONS.
- APPLY BEAD OF PLUMBER'S PUTTY TO DRAIN DEPRESSION ON BASIN PRIOR TO ASSEMBLING DRAIN TO UNIT. REMOVE ANY EXCESSIVE PUTTY IF NECESSARY.

**INSTALLATION INSTRUCTIONS:**

- A- ASSEMBLE 3/8" NPT x 3/8" OD ELBOW (1) TO 3/8" PE TUBE PROVIDED (2). THREAD OVERFLOW INSERT (3) THROUGH OVERFLOW OPENING(S) IN BASIN AND HAND TIGHTEN THE INSERT (3) TO THE ELBOW ASSEMBLY.
- B- ASSEMBLE APPLICABLE WASTE CONNECTION (4) TO DRAIN OPENING AS SHOWN. NOTE: INTEGRAL DRAIN (5) REQUIRES NO ASSEMBLY.

- C- FIT 3/8" OD PE TUBING (2) FROM OVERFLOW CONNECTION (1) TO OVERFLOW CONNECTION ON WASTE ASSEMBLY. NOTE: INSTALLER MAY CUT PE TUBING TO LENGTH. TIGHTEN 3/8" NPT x 3/8" OD TUBE CONNECTION PROVIDED (6) TO 3/8" OD PE TUBE (2). TIGHTEN TO (4) OR (5) WASTE ASSEMBLY AS SHOWN.

<p>ACORN ENGINEERING COMPANY P.O. BOX 3527 Industry, CA 91744 15125 Proctor Ave Industry, CA 91746 (626) 336-4561 FAX (626) 961-2200</p>	<p>TITLE <b>OPTIONAL -OF OVERFLOW WASTE ASSEMBLY</b></p>		
	<p>MANUFACTURE DATE</p> <p><b>JULY 2008</b></p> <p><b>TO PRESENT</b></p>	<p>DATE ISSUED</p> <p><b>07/21/08</b></p>	<p>DRAWING NUMBER</p> <p><b>9927-008-001</b></p>
		<p>DATE REVISED</p> <p><b>01/06/14</b></p>	