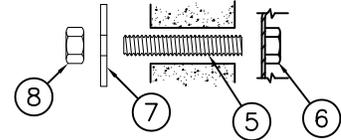
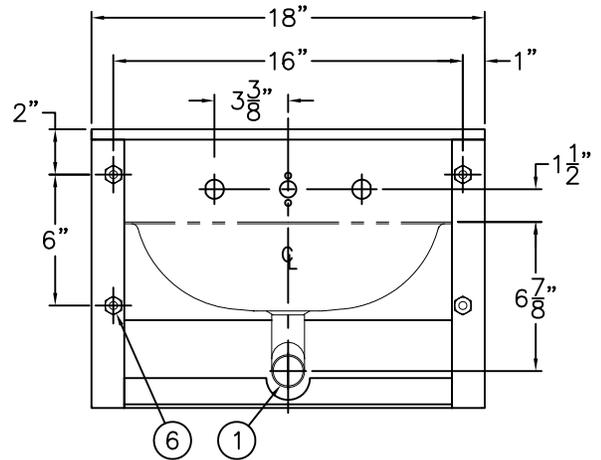
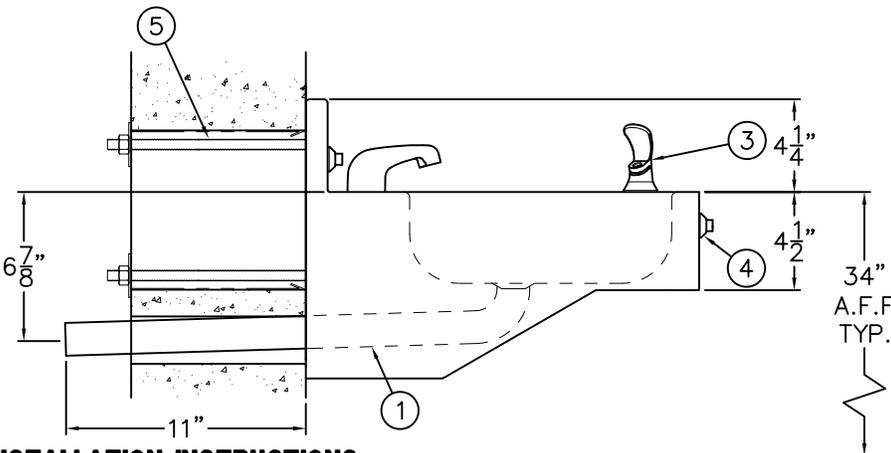


REFERENCE DRAWINGS	
HARDWARE PACKAGE	9957-900-001
-SW SLEEVE / -MT TEMPLATE	9925-212-001
AIR CONTROL CONNECTION	9900-006-003
-4 AIR-CONTROL (HOT & COLD)	9905-000-003
-MVC1 S/T TIME-TROL	9900-001-004
-EVS1 S/T MASTER-TROL	9905-330-004



MOUNTING DETAIL



INSTALLATION INSTRUCTIONS:

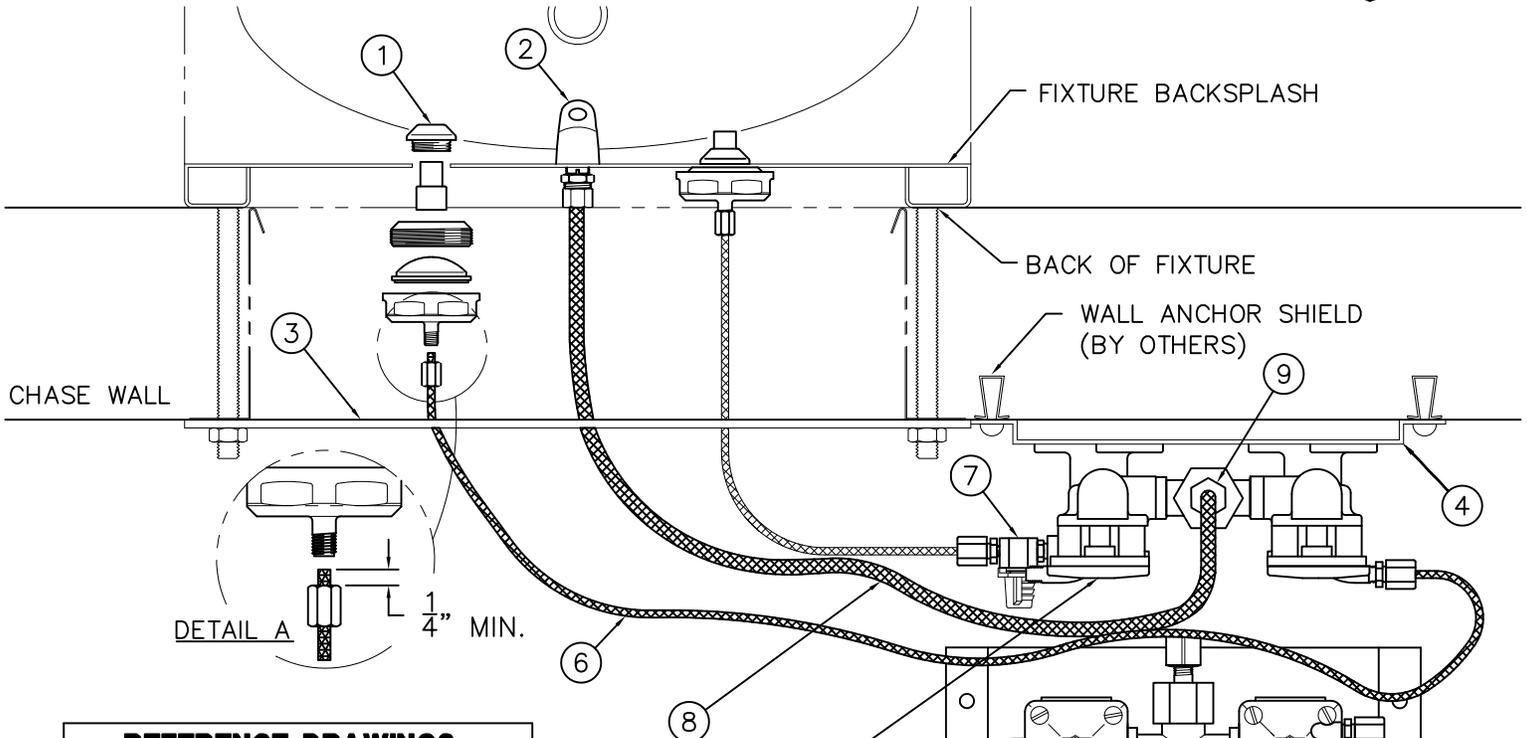
- A- ROUGH-IN FOR FIXTURE WASTE OUTLET:
1-1/2" O.D. ELBOW PLAIN END (1) PROVIDED.
- B- SEE REFERENCE DRAWING BOX FOR APPROPRIATE VALVE INSTALLATION SHEETS.
- C- REMOVE THE ACCESS PANEL (2) TO INSTALL OPTIONAL -DMB DECK MOUNTED BUBBLER (3) AND PUSHBUTTON (4).
- D- THREAD 1/2" X 13 UNC STUDS (5) INTO ANCHOR TAPPINGS (6) ON REAR OF FIXTURE. STUDS (5) MUST HAVE A MINIMUM OF 1/2" ENGAGEMENT.
- E- ALIGN STUDS (5) WITH THRU ANCHORING WALL OPENINGS OR THRU OPENINGS ON OPTIONAL -SW WALL SLEEVE AND SLIDE FIXTURE TO WALL.

- F- FROM CHASE SIDE TIGHTEN WASHERS (7) AND NUTS (8) PROVIDED ON EXPOSED STUDS (5) TO 60 LBS.
- G- MAKE UP LAVY WASTE CONNECTIONS: WASTE OUTLET (1) SUITABLE FOR A COMPRESSION CONNECTION.

NOTE: REFER TO ADA ACCESSIBILITY GUIDELINES FOR COMPLETE INSTALLATION REQUIREMENTS.

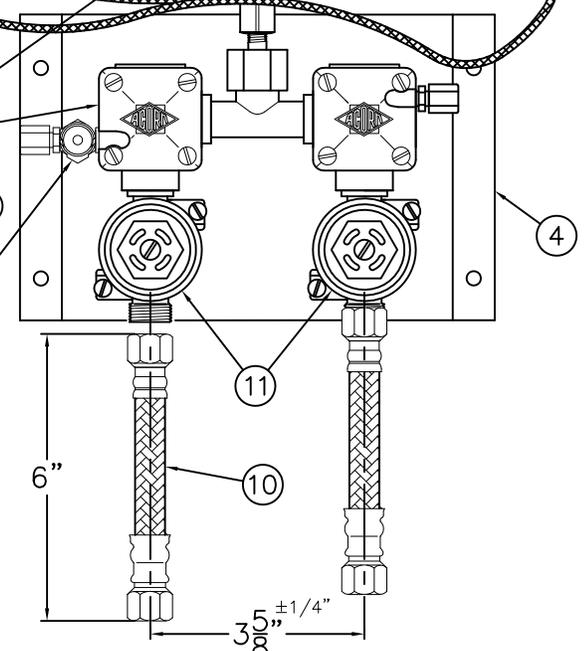
NOTE: FIXTURE IS SHOWN ON AN 8" WALL. FOR INSTALLATION ON SMALLER WALLS LAVY WASTE TAILPIECE CAN BE TRIMMED TO FIT BY INSTALLER.

ACORN ENGINEERING COMPANY P.O. BOX 3527 Industry, CA 91744 15125 Proctor Ave Industry, CA 91746 (626) 336-4561 FAX (626) 961-2200	TITLE 18" ADA LAVATORY, RECTANGULAR BASIN #1652LRB-ADA		
	MANUFACTURE DATE JANUARY 2012 TO PRESENT	DATE ISSUED 06/25/12	DRAWING NUMBER 9925-304-001



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

NOTE:
THIS VALVE
SHOWN w/ (-MH)
METERING, HOT
SIDE ONLY



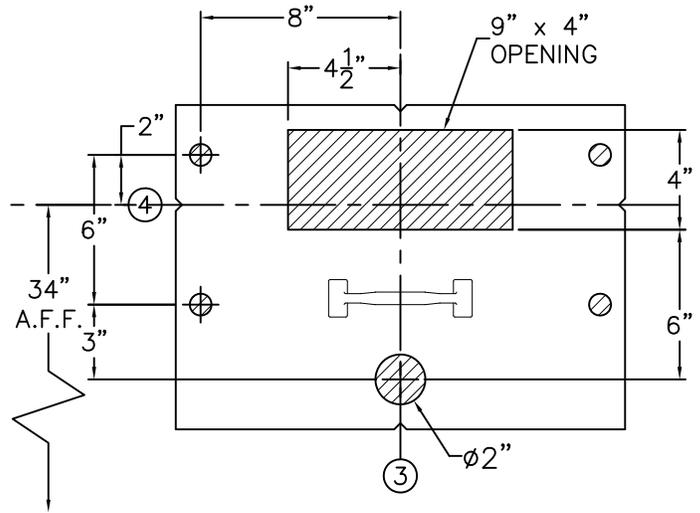
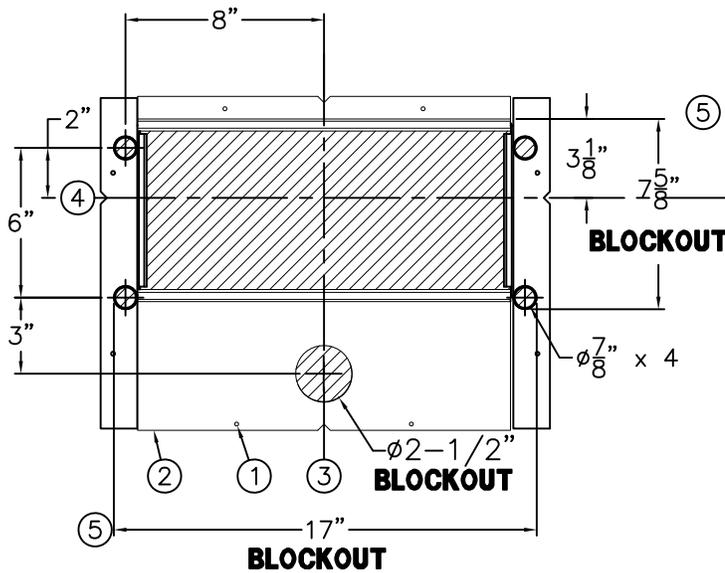
NOTE:
MAXIMUM RECOMMENDED WORKING WATER PRESSURE IS 100 PSI; TEMPERATURE IS 130° F; OUTLET TEMPERATURE IS RECOMMENDED AT A MAXIMUM OF 105° F.
WARNING:
PRIOR TO MAKING INSTALLATION, SUPPLY LINES MUST BE FLUSHED OF ALL FOREIGN MATERIAL SUCH AS PIPE DOPE, CHIPS, SOLDER, ETC. VALVE MUST BE DRAINED PRIOR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

INSTALLATION INSTRUCTIONS:

- A- PRIOR TO INSTALLATION OF THE FIXTURE, MOUNT PUSHBUTTONS ① AND BUBBLER ② TO THE BACKSPLASH.
- B- INSTALL THE PLUMBING FIXTURE TO THE WALL INCLUDING UPPER SUPPORT PLATE ③.
- C- 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.
- D- 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.
- E- CONNECT 1/4" O.D. POLYETHYLENE WATER LINE ⑧ TO BUBBLER ② AND COMPRESSION NUT ⑨. HAND TIGHTEN USING FERRULE NUTS PROVIDED.

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

<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 (04-SERIES) HOT & COLD AIR-CONTROL VALVE ASSEMBLY - NEW STYLE</p>		
	<p>MANUFACTURE DATE SEPT 1995 TO PRESENT</p>	<p>DATE ISSUED 11/1/95</p> <p>DATE REVISED 07/15/10</p>	<p>DRAWING NUMBER 9905-000-003</p>



WALL SLEEVE

BOTH VIEWS ARE FROM CELL SIDE

METAL TEMPLATE

SHADED AREAS ARE REQUIRED WALL OPENINGS

WALL SLEEVE (-SW)

SLEEVES ARE INSTALLED IN FORMS (USING NAIL HOLES ① PROVIDED) OR GROUTED INTO BLOCK WALLS, BECOMING A PERMANENT PART OF THE WALL.

- A. INSTALLED SLEEVE WITH FLANGE ② ON CHASE SIDE OF WALL.
- B. LOCATE TOP AND BOTTOM NOTCHES AT VERTICAL CENTERLINE ③ OF PLUMBING FIXTURE.
- C. LOCATE SIDE NOTCHES ④ AT DIMENSIONS SHOWN, MEASURED FROM THE FINISHED FLOOR ON CELL (FIXTURE) SIDE. THIS WILL LOCATE DECK HEIGHT.

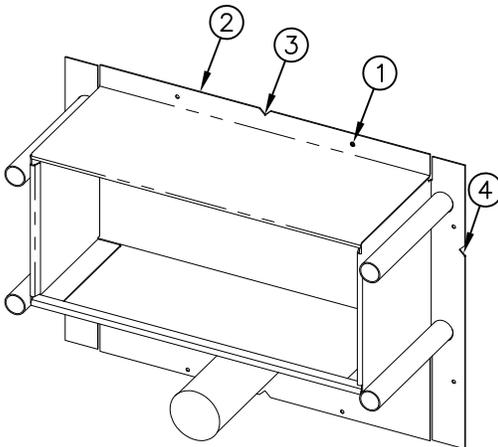
NOTES:

- 1. FOR POURED WALL CONSTRUCTION, TEMPORARY BRACING SHOULD BE INSTALLED WITHIN SLEEVE OPENING TO PREVENT DEFORMATION TO SLEEVE WHICH MAY OCCUR DURING POUR. DO NOT POUR CONCRETE DIRECTLY ON TOP OF WALL SLEEVE.
- 2. WHEN SLEEVES ARE NOT AVAILABLE BLOCKOUT FOR SLEEVE OPENING IN WALL PER DIMENSIONS SHOWN ⑤.

METAL TEMPLATE (-MT)

TEMPLATES ARE USED TO LAYOUT REQUIRED WALL OPENINGS FOR SUBSEQUENT FLAME CUTTING OR CORE DRILLING.

- A. STRIKE A HORIZONTAL CHALK LINE ④ ON WALL AT DIMENSION SHOWN, MEASURED FROM THE FINISHED FLOOR ON CELL (FIXTURE) SIDE. THIS WILL LOCATE CENTERLINE FOR HORIZONTAL NOTCHES ON TEMPLATE.
- B. STRIKE A VERTICAL CHALK LINE ③ ON THE WALL TO INDICATE CENTERLINE OF FIXTURE. THIS WILL LOCATE CENTERLINE FOR VERTICAL NOTCHES ON TEMPLATE.
- C. PLACE TEMPLATE AGAINST WALL. LOCATE NOTCHES ALONG CHALK LINES, MARK WALL FOR REQUIRED OPENINGS.



WALL SLEEVE (-SW)

ACORN ENGINEERING COMPANY
P.O. BOX 3527 Industry, CA 91744
15125 Proctor Ave Industry, CA 91746
(626) 336-4561 FAX (626) 961-2200

TITLE **-SW WALL SLEEVE/-MT METAL TEMPLATE 1652-ADA, 1652LRB-ADA, 1652-VAC**

MANUFACTURE DATE

**JUNE 1971
TO PRESENT**

DATE ISSUED

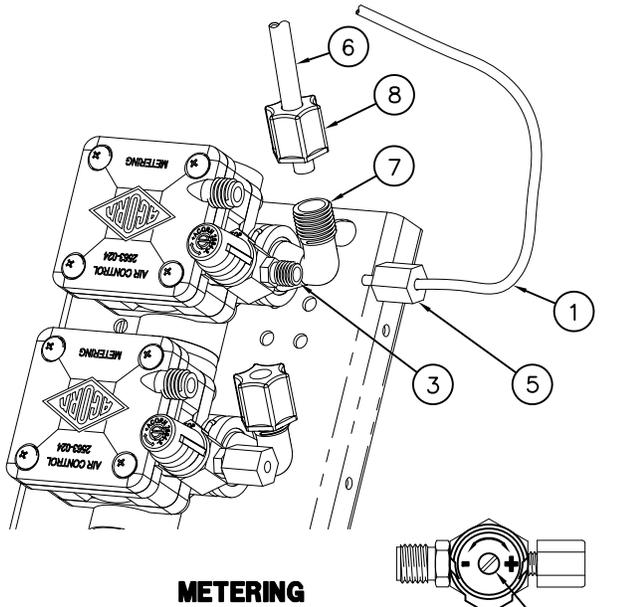
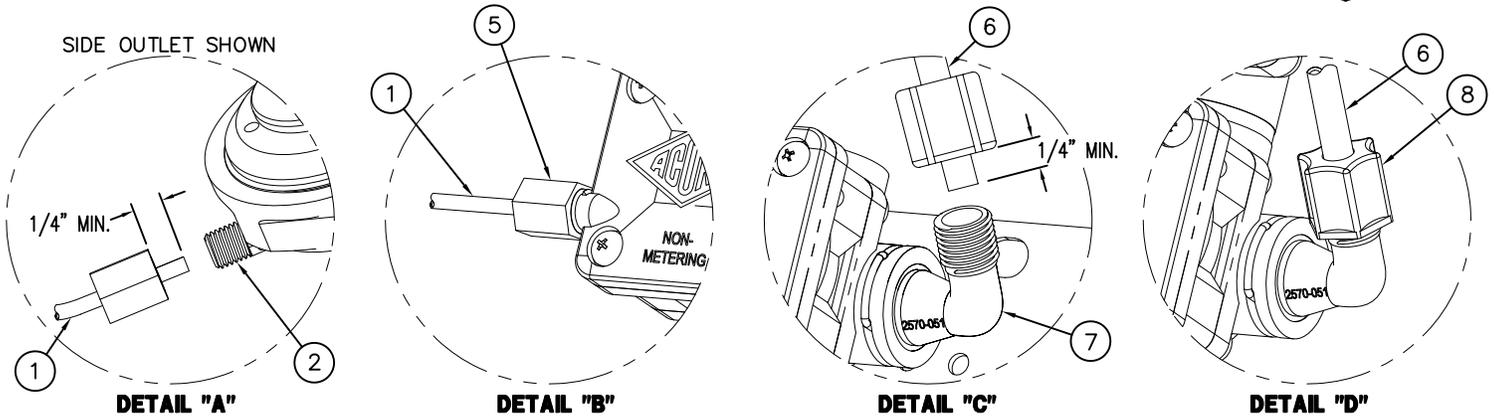
03/01/90

DATE REVISED

06/27/12

DRAWING NUMBER

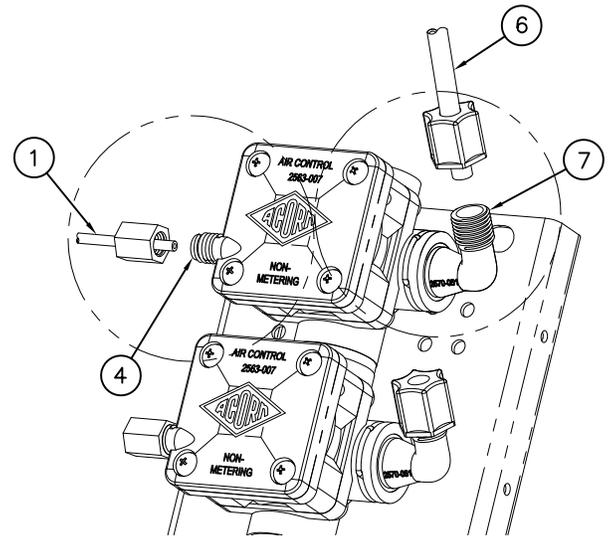
9925-212-001



METERING

TIMING SCREW

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



NON-METERING DIRECT ACTING

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:

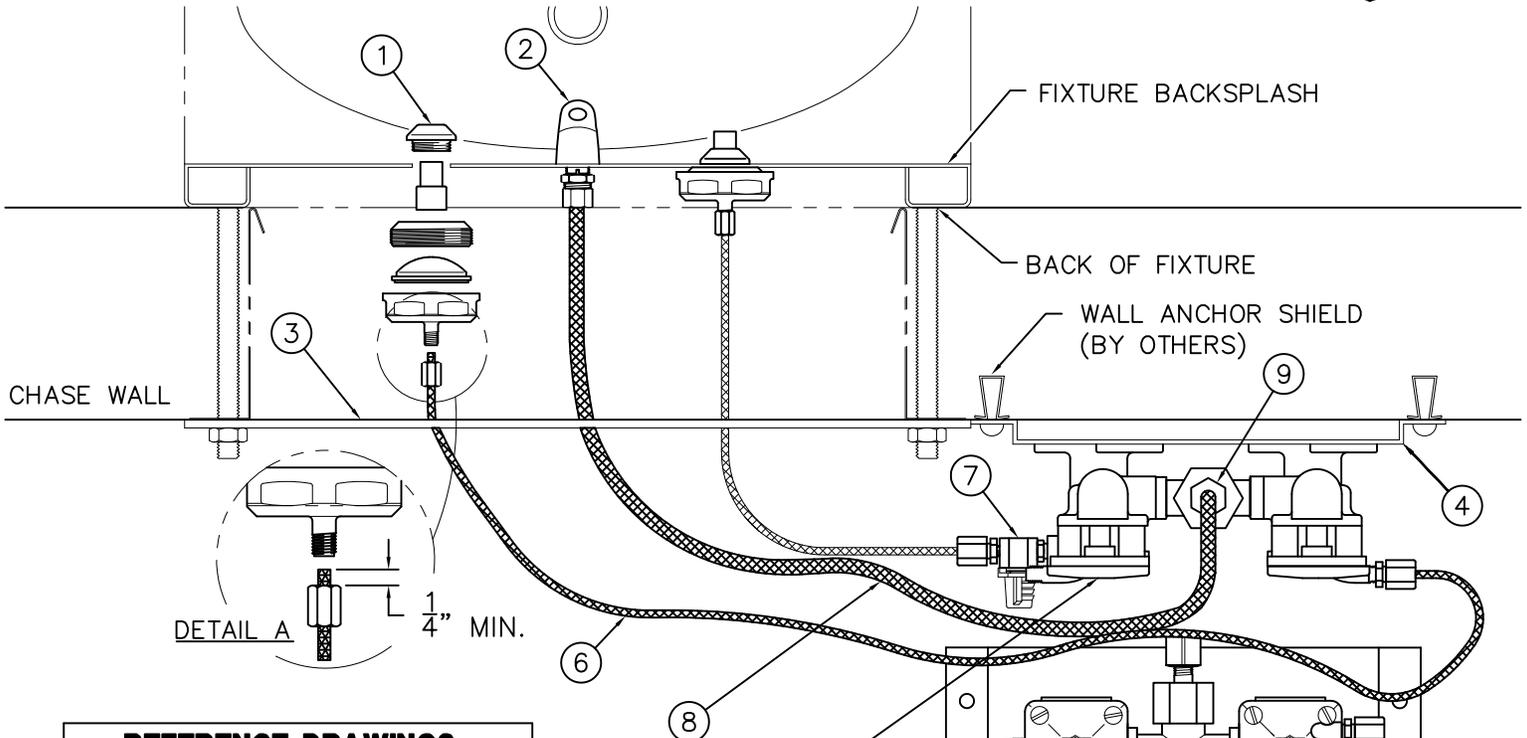
- A- MOUNT FIXTURE IN ACCORDANCE TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- B- ASSEMBLE SPOUTS AND PUSHBUTTONS TO FIXTURE.
- C- CONNECT 1/8" O.D. POLYETHYLENE AIR LINE ① TO PUSHBUTTON ②, AND VALVE TIMER ASSEMBLY ③ SEE DETAIL "A". NOTE: FOR DIRECT ACTING: ASSEMBLE TO AIR PORT ④, SEE DETAIL "B". HAND 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.



ACORN ENGINEERING COMPANY
P.O. BOX 3527 Industry, CA 91744
15125 Proctor Ave Industry, CA 91746
(626) 336-4561 FAX (626) 961-2200

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

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



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

NOTE:
THIS VALVE
SHOWN w/ (-MH)
METERING, HOT
SIDE ONLY

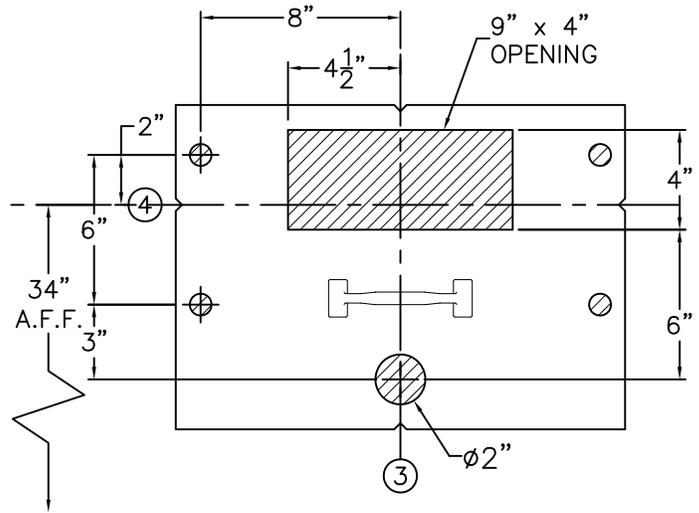
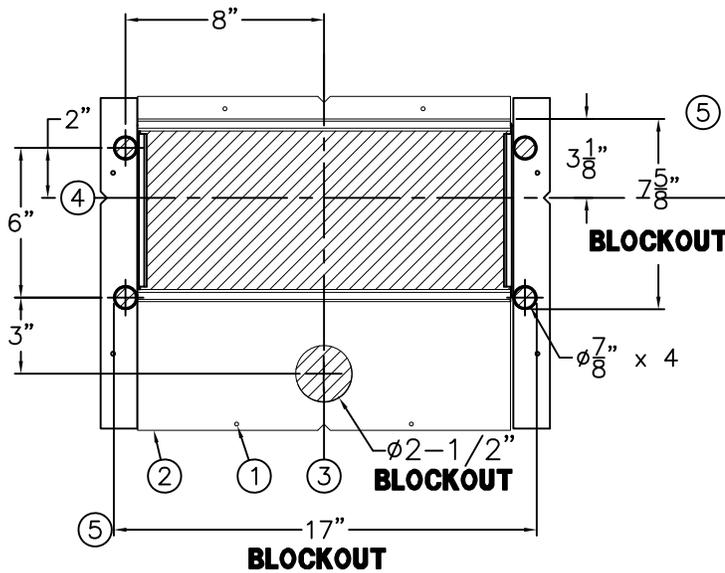
INSTALLATION INSTRUCTIONS:

- A- PRIOR TO INSTALLATION OF THE FIXTURE, MOUNT PUSHBUTTONS ① AND BUBBLER ② TO THE BACKSPLASH.
- B- INSTALL THE PLUMBING FIXTURE TO THE WALL INCLUDING UPPER SUPPORT PLATE ③.
- C- 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.
- D- 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.
- E- 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.

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

<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 (04-SERIES) HOT & COLD AIR-CONTROL VALVE ASSEMBLY - NEW STYLE</p>	
	<p>MANUFACTURE DATE SEPT 1995 TO PRESENT</p>	<p>DATE ISSUED 11/1/95</p> <p>DATE REVISED 07/15/10</p>



WALL SLEEVE

BOTH VIEWS ARE FROM CELL SIDE

METAL TEMPLATE

SHADED AREAS ARE REQUIRED WALL OPENINGS

WALL SLEEVE (-SW)

SLEEVES ARE INSTALLED IN FORMS (USING NAIL HOLES ① PROVIDED) OR GROUTED INTO BLOCK WALLS, BECOMING A PERMANENT PART OF THE WALL.

- A. INSTALLED SLEEVE WITH FLANGE ② ON CHASE SIDE OF WALL.
- B. LOCATE TOP AND BOTTOM NOTCHES AT VERTICAL CENTERLINE ③ OF PLUMBING FIXTURE.
- C. LOCATE SIDE NOTCHES ④ AT DIMENSIONS SHOWN, MEASURED FROM THE FINISHED FLOOR ON CELL (FIXTURE) SIDE. THIS WILL LOCATE DECK HEIGHT.

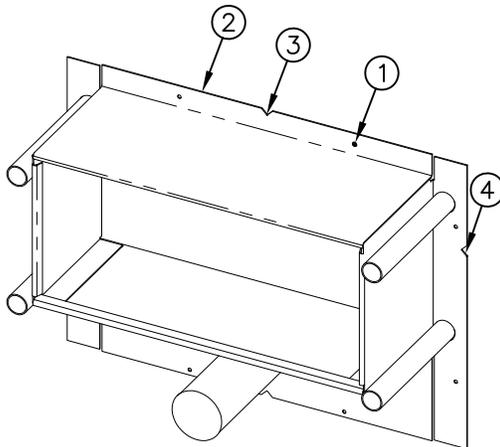
NOTES:

- 1. FOR POURED WALL CONSTRUCTION, TEMPORARY BRACING SHOULD BE INSTALLED WITHIN SLEEVE OPENING TO PREVENT DEFORMATION TO SLEEVE WHICH MAY OCCUR DURING POUR. DO NOT POUR CONCRETE DIRECTLY ON TOP OF WALL SLEEVE.
- 2. WHEN SLEEVES ARE NOT AVAILABLE BLOCKOUT FOR SLEEVE OPENING IN WALL PER DIMENSIONS SHOWN ⑤.

METAL TEMPLATE (-MT)

TEMPLATES ARE USED TO LAYOUT REQUIRED WALL OPENINGS FOR SUBSEQUENT FLAME CUTTING OR CORE DRILLING.

- A. STRIKE A HORIZONTAL CHALK LINE ④ ON WALL AT DIMENSION SHOWN, MEASURED FROM THE FINISHED FLOOR ON CELL (FIXTURE) SIDE. THIS WILL LOCATE CENTERLINE FOR HORIZONTAL NOTCHES ON TEMPLATE.
- B. STRIKE A VERTICAL CHALK LINE ③ ON THE WALL TO INDICATE CENTERLINE OF FIXTURE. THIS WILL LOCATE CENTERLINE FOR VERTICAL NOTCHES ON TEMPLATE.
- C. PLACE TEMPLATE AGAINST WALL. LOCATE NOTCHES ALONG CHALK LINES, MARK WALL FOR REQUIRED OPENINGS.



WALL SLEEVE (-SW)

ACORN ENGINEERING COMPANY
P.O. BOX 3527 Industry, CA 91744
15125 Proctor Ave Industry, CA 91746
(626) 336-4561 FAX (626) 961-2200

TITLE **-SW WALL SLEEVE/-MT METAL TEMPLATE 1652-ADA, 1652LRB-ADA, 1652-VAC**

MANUFACTURE DATE

**JUNE 1971
TO PRESENT**

DATE ISSUED

03/01/90

DATE REVISED

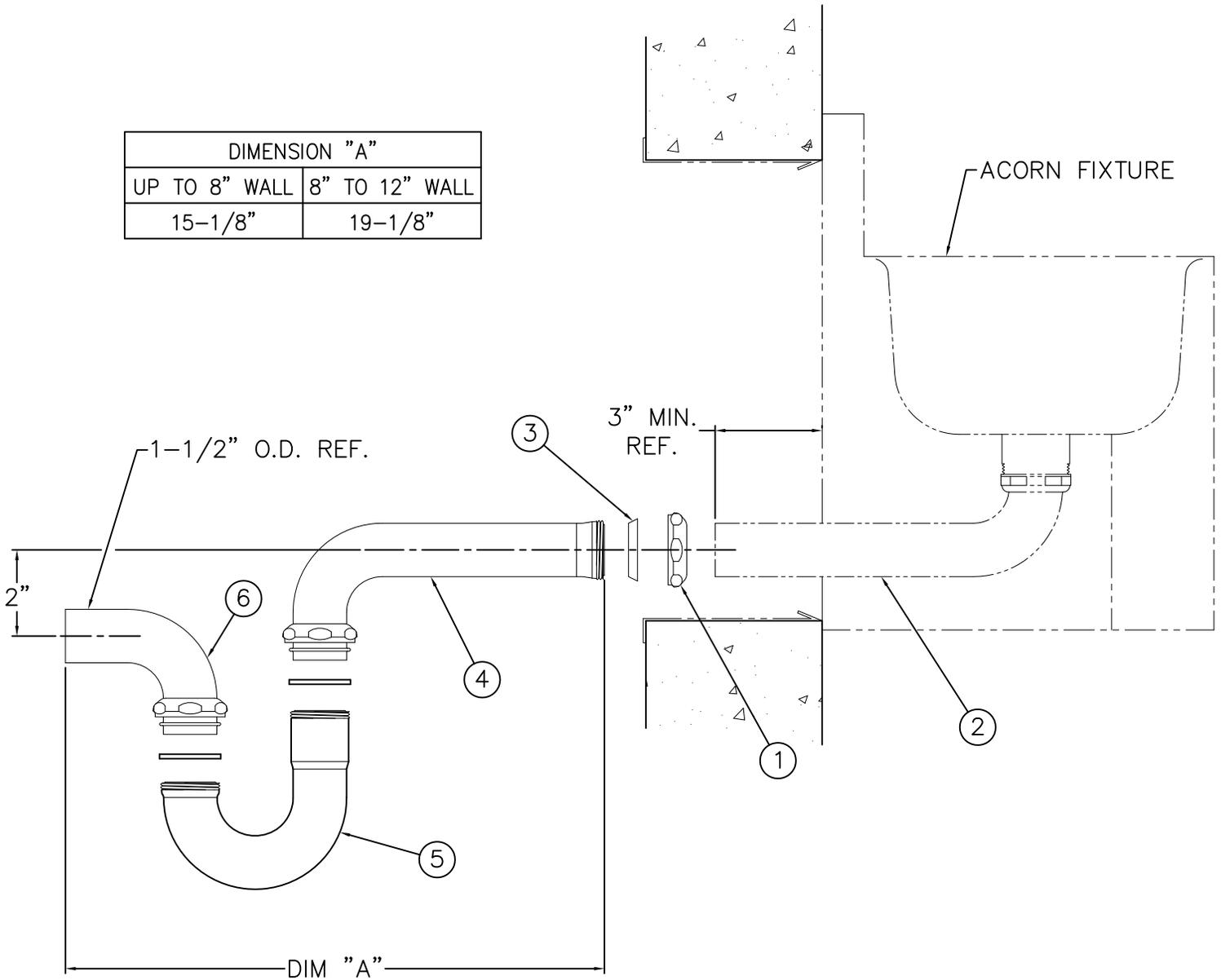
06/27/12

DRAWING NUMBER

9925-212-001



DIMENSION "A"	
UP TO 8" WALL	8" TO 12" WALL
15-1/8"	19-1/8"



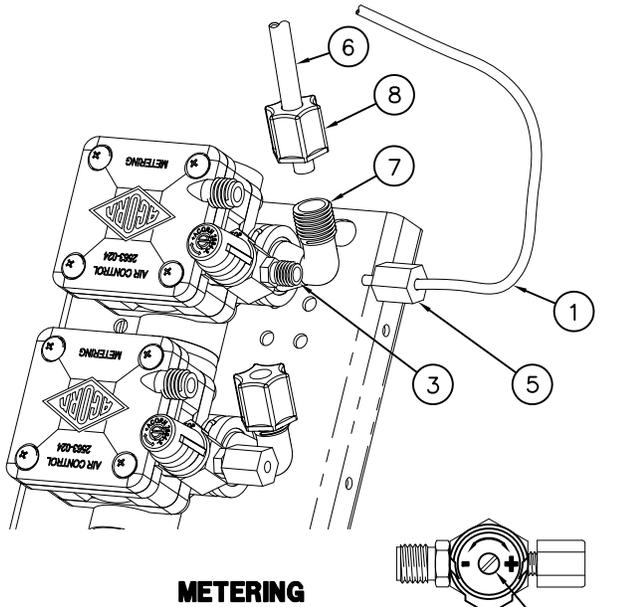
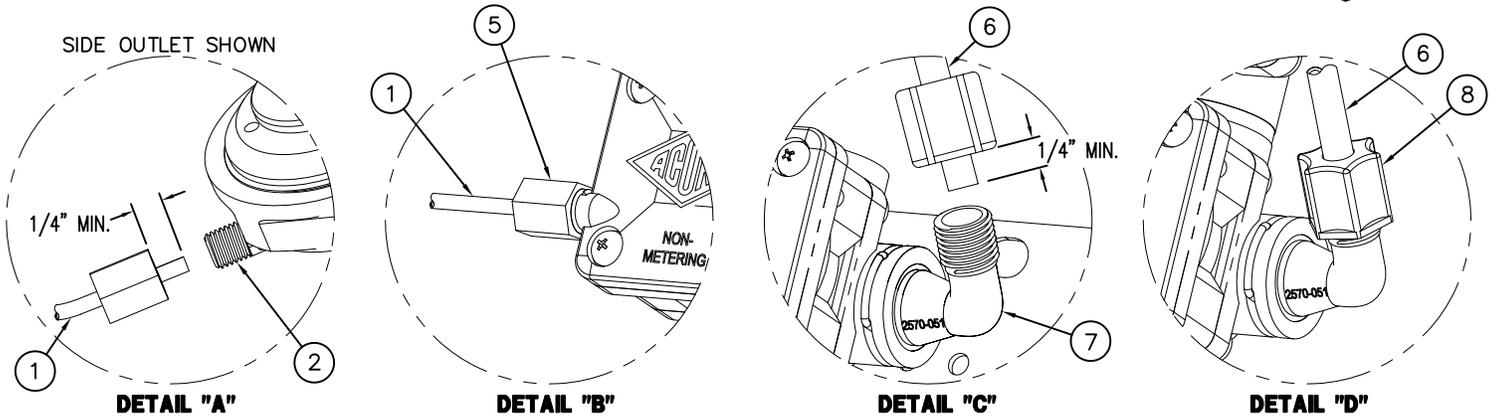
INSTALLATION INSTRUCTIONS:

A- AFTER INSTALLING ACORN UNIT ON FINISHED WALL, SLIP COMPRESSION NUT ① OVER 1-1/2" O.D. PLAIN END WASTE ②. USING COMPRESSION GASKET ③, AND NUT ① MAKE-UP COMPRESSION CONNECTION WITH SLIP JOINT ELBOW ④.

B- REMOVABLE TUBULAR P-TRAP ⑤ CONNECTS TO SLIP JOINT ELBOW ④ AND PLAIN END ELBOW ⑥ WITH COMPRESSION CONNECTIONS AS SHOWN.

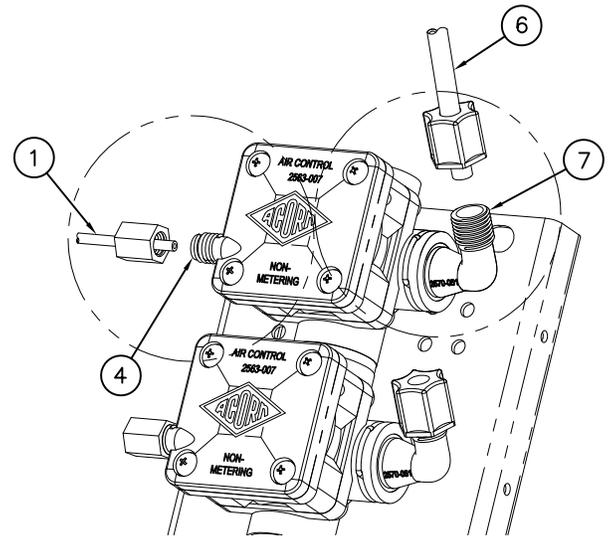
NOTE: TUBULAR P-TRAP IS REMOVABLE IN ORDER TO ALLOW FOR WASTE CLEANOUT.

<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 LAVATORY THRU-WALL WASTE CONNECTION w/ P-TRAP & CLEANOUT CAT. # -LW1</p>		
	<p>MANUFACTURE DATE APRIL 30, 1998 TO PRESENT</p>	<p>DATE ISSUED 3/19/98</p>	<p>DRAWING NUMBER 9925-065-002</p>
		<p>DATE REVISED 4/23/98</p>	



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

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.

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.



ACORN ENGINEERING COMPANY
P.O. BOX 3527 Industry, CA 91744
15125 Proctor Ave Industry, CA 91746
(626) 336-4561 FAX (626) 961-2200

TITLE HAND OPERATED AIR-CONTROL VALVE CONNECTIONS

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