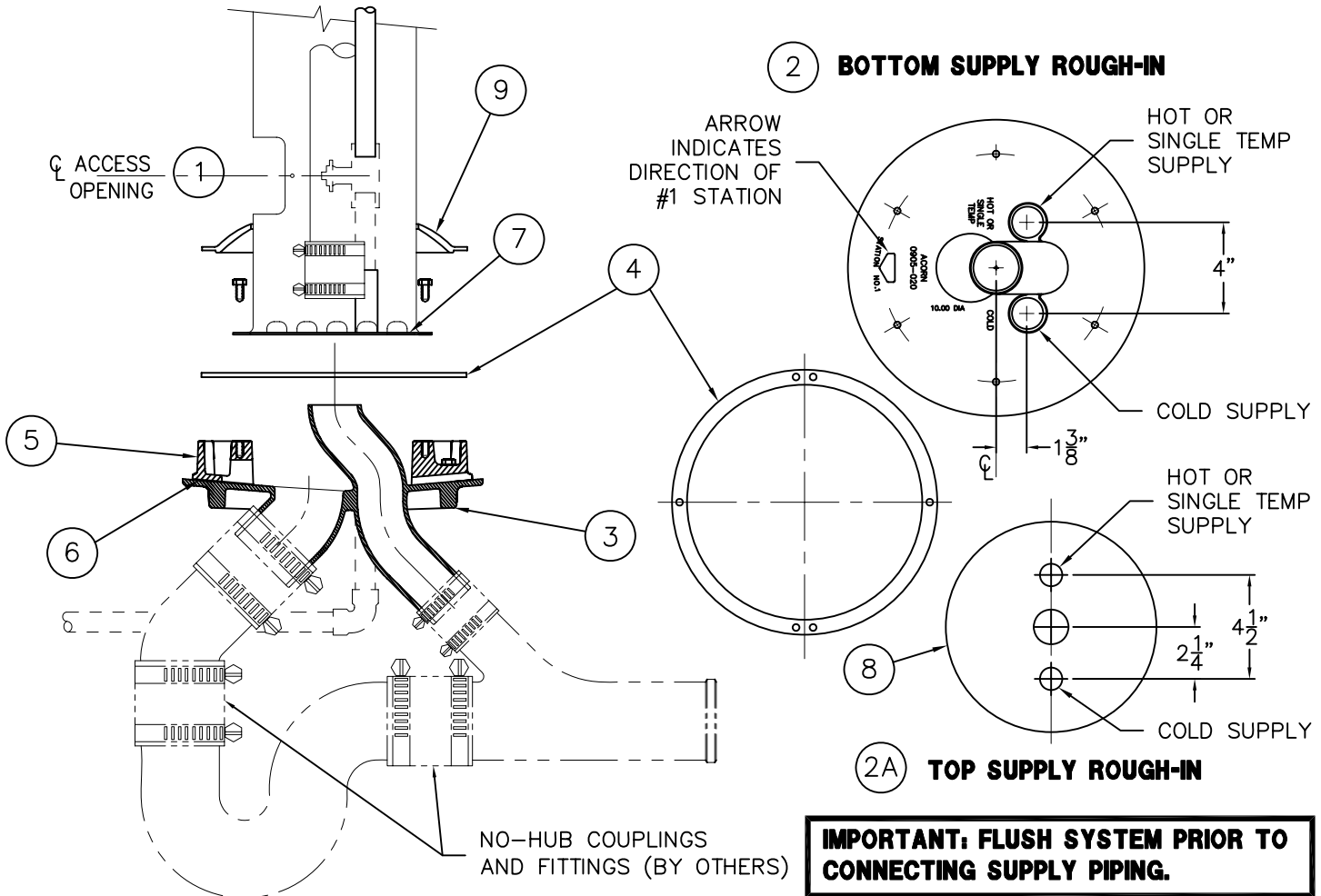




INSTALLATION INSTRUCTIONS:

A-ROUGH-IN SUPPLY & WASTE: REFERENCE THE #1 STATION TO ROUGH-IN SUPPLY AND WASTE REQUIREMENTS. TO PROVIDE A REFERENCE FOR THE DISCHARGE PATTERN SHOWN ON ARCHITECTURAL PLANS OR TO SUIT JOB REQUIREMENTS, THE #1 STATION LOCATION IS INDICATED ON THE DRAIN BASE BY AN ARROW AND ON THE COLUMN BY THE LOCATION OF THE ACCESS OPENING (1).

B-INSTALL THE DRAIN BASE: PROVIDE 3/4" NCT PIPING AND CAP-OFF. ROUGH-IN FOR DIMENSIONS SHOWN (2) WITH ADDITIONAL ALLOWANCE FOR FITTING TO EXACT DIMENSION LATER. ROUGH-IN WASTE AND VENT PIPING. SUPPORT AND LEVEL DRAIN (3) SUCH THAT THE FINISHED FLOOR IS FLUSH WITH TOP OF DISPOSABLE SCREED GUIDE (4). FINISHED FLOOR SHOULD BE SUFFICIENT SLOPE TO PROVIDE PROPER DRAINAGE. WHEN WATERPROOF MEMBRANE (BY OTHERS) IS SPECIFIED, REMOVE CLAMPING COLLAR (5) PRIOR TO MEMBRANE (6) INSTALLATION. RE-INSTALL CLAMPING COLLAR.

C-PREPARATION FOR SETTING SHOWER COLUMN: ACORN PROVIDE UNIT SUPPLY CONNECTION AT THE APPROXIMATELY

HORIZONTAL CENTERLINE OF THE ACCESS OPENING (1) FOR BOTTOM SUPPLY AND TO A POINT 3" BELOW THE TOP OF THE SPRAYHEAD FOR TOP SUPPLY. CUT OFF THE PREVIOUSLY INSTALLED SUPPLIES TO CORRECT HEIGHT.

D-INSTALLING SHOWER COLUMN: UNFASTEN SCREED GUIDE FROM DRAIN BODY AND DISCARD. REMOVE ACCESS PANEL FROM COLUMN ASSEMBLY AND PLACE COLUMN ONTO DRAIN BASE. ALIGN ACCESS OPENING (1) WITH #1 STATION LOCATION ON DRAIN. BOLT COLUMN FLANGE (7) TO DRAIN. CONNECT UNIT SUPPLIES WITH INSTALLER PROVIDED COUPLING OR OPTIONAL UNIT STOPS (-GG). STOPS ARE RECOMMENDED FOR ALL INSTALLATIONS. SEE DWG No.# 9940-240-001 FOR INSTALLATION DETAILS. FOR BOTTOM SUPPLY SOLDER JOINTS THROUGH ACCESS OPENING (1) AND REPLACE ACCESS PANEL. FOR TOP SUPPLY SOLDER JOINT THROUGH TOP OF SPRAYHEAD AND REPLACE SPRAYHEAD COVER (8) INSTALL DOME GRATE (9) WITH VANDAL RESISTANT SCREWS PROVIDED.



ACORN ENGINEERING COMPANY
P.O. BOX 3527 INDUSTRY, CA. 91744
(626) 336-4561 FAX (626) 961-2200

TITLE

T15 TOP AND B15 BOTTOM SUPPLY-VENT THRU COLUMN-DOME GRATE DRAIN BASE

MANUFACTURE DATE

APRIL 1992

TO PRESENT

DATE ISSUED

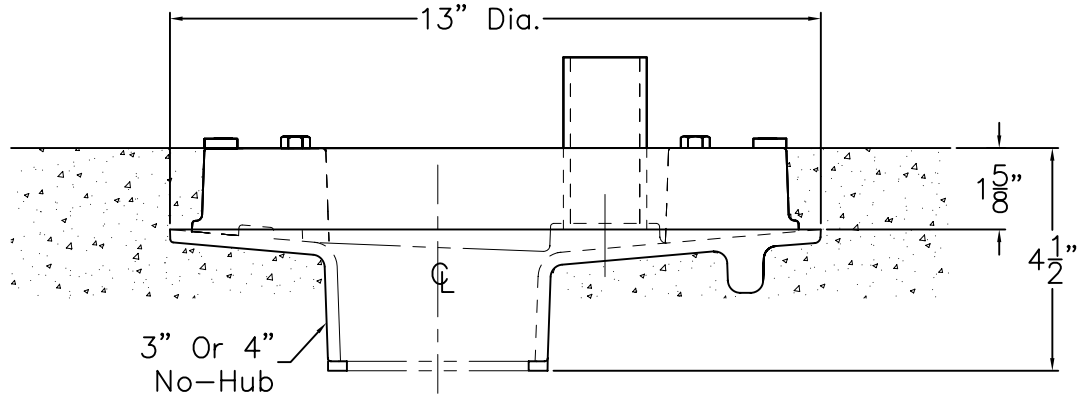
04/01/92

DATE REVISED

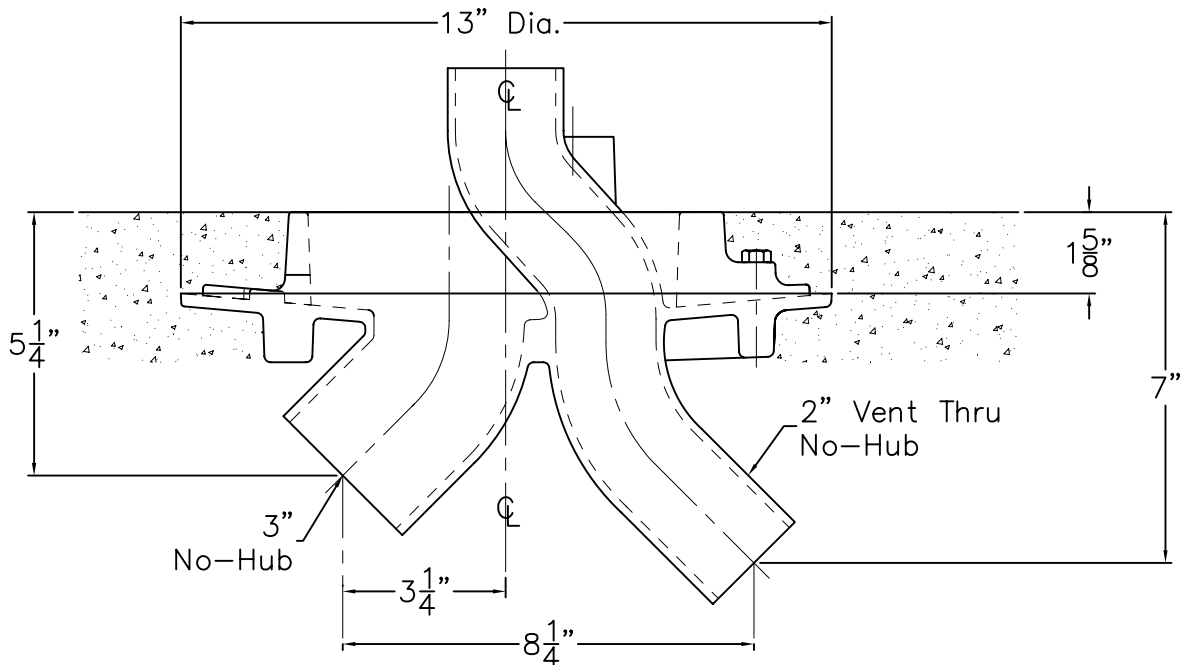
06/08/11

DRAWING NUMBER

9900-205-002



T11/B11 - T21/B21
Vent Off Drain Style



T15/B15 - T25/B25
Vent Thru Drain Style

THIS SHEET IS FOR USE WHEN FLOOR IS TO BE POURED PRIOR TO RECEIPT OF FLOOR DRAIN. INSTALLER IS RESPONSIBLE FOR WASTE / VENT PIPING.

DIMENSIONS SHOWN ABOVE ARE FOR REFERENCE ONLY. FOR BLOCK OUT, INSTALLER MUST LEAVE ROOM FOR ACCESS TO ASSEMBLE SHIELDED BAND COUPLINGS (BY OTHERS) BENEATH THE FLOOR.

NOTE: FOR VENT OFF DRAIN TYPES A J.R. SMITH CO. "SPEEDI-SET" OR "TY-SEAL" WASTE ADAPTER MAY BE USED (CHECK LOCAL CODES) WHICH ELIMINATES ACCESS BENEATH THE DRAIN.



ACORN ENGINEERING COMPANY
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TITLE

COLUMN SHOWER DRAIN BASE BLOCKOUT INSTRUCTIONS

MANUFACTURE DATE

JAN. 1992

TO PRESENT

DATE ISSUED

08/25/93

DATE REVISED

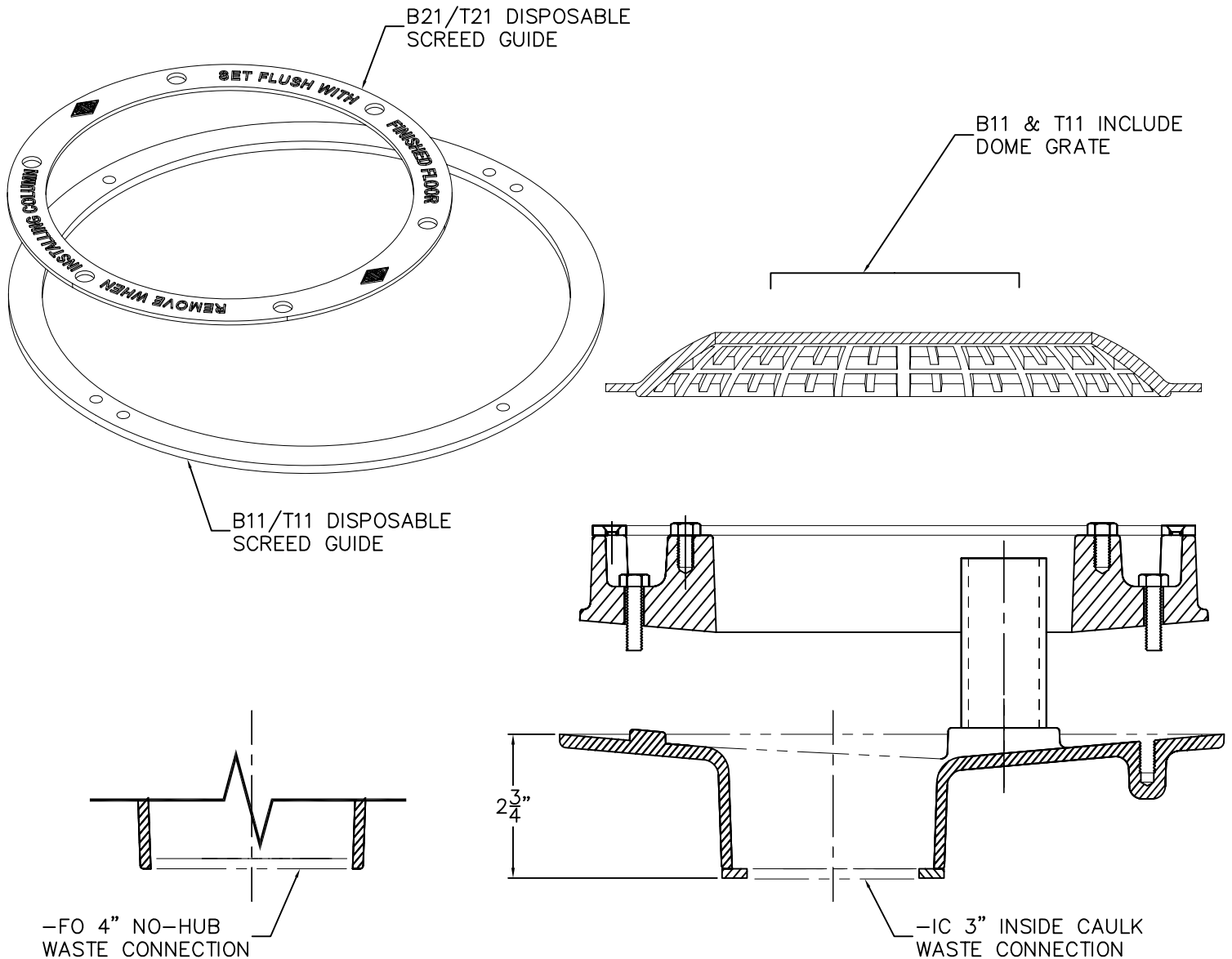
11/16/07

DRAWING NUMBER

9900-235-001



REFERENCE DRAWINGS	
COLUMN DRAIN	DRAWING NUMBER
B11/T11 3" IC CONNECTION w/ GRATE	9974-010-001
B11/T11 -FO 4" NO-HUB w/ GRATE	9974-011-001
B21/T21 3" IC CONNECTION	9974-000-001
B21/T21 -FO 4" NO-HUB	9974-001-001



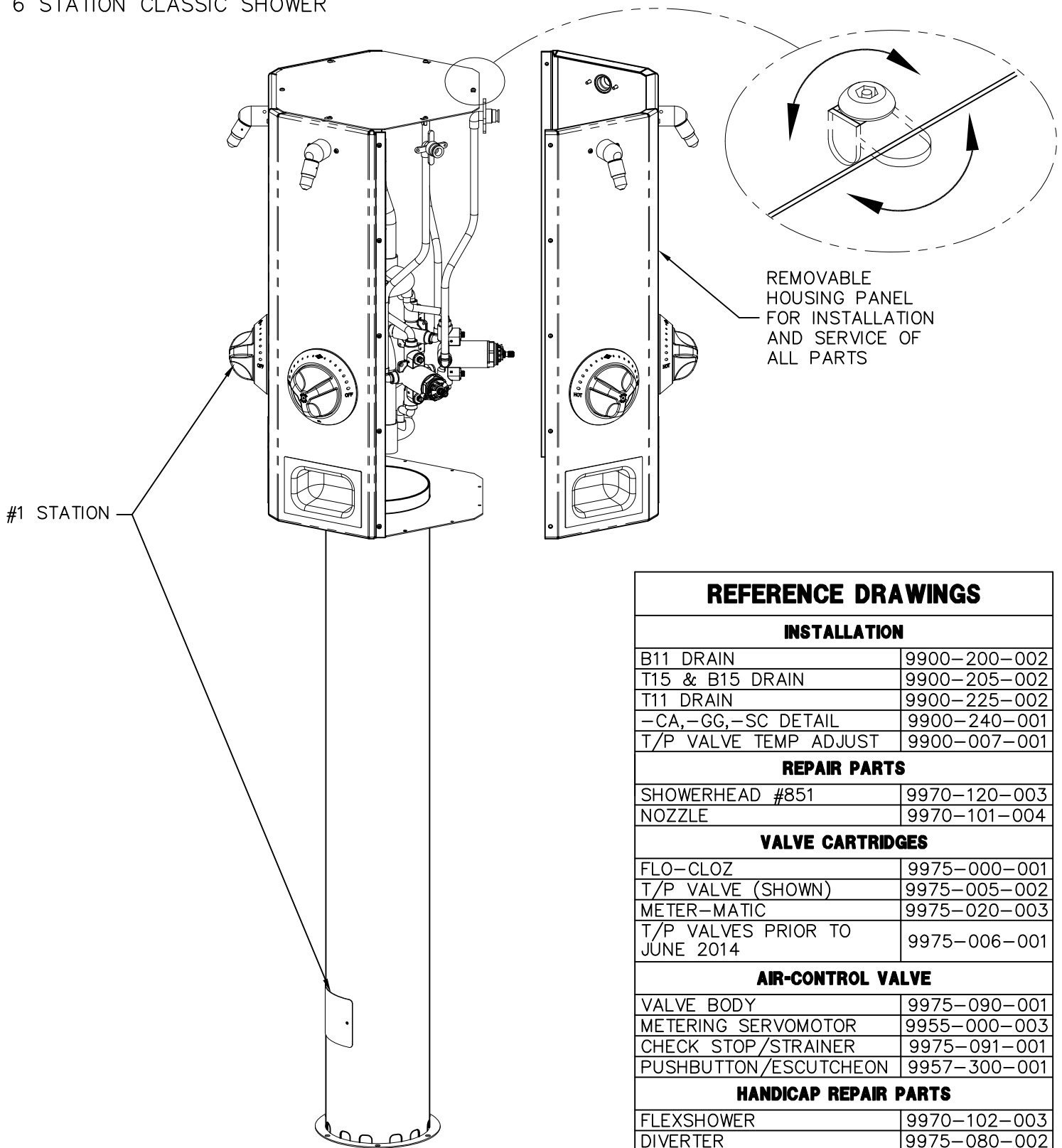
ACORN COLUMN SHOWER DRAIN BASE WITH SUFFIX OPTION -IC 3" INSIDE CAULK WASTE CONNECTION OR -FO 4" NO-HUB CONNECTION STYLES ONLY.

THIS OPTION ALLOWS FOR INSTALLATION OF DRAINS USING A 3" INSIDE CAULK WASTE CONNECTION FOR B11, T11, B21 & T21 MODELS. AN OPTIONAL -FO 4" NO-HUB CONNECTION IS ALTERNATIVELY AVAILABLE.

 ACORN ENGINEERING COMPANY P.O. BOX 3527 INDUSTRY, CA. 91744 (626) 336-4561 FAX (626) 961-2200	TITLE VENT OFF DRAIN FOR 3" INSIDE CAULK / 4" NO-HUB CONNECTION		
	MANUFACTURE DATE MARCH 1993 TO PRESENT	DATE ISSUED 01/27/94	DRAWING NUMBER 9900-226-002
		DATE REVISED 12/10/08	



6 STATION CLASSIC SHOWER



REFERENCE DRAWINGS

INSTALLATION

B11 DRAIN	9900-200-002
T15 & B15 DRAIN	9900-205-002
T11 DRAIN	9900-225-002
-CA,-GG,-SC DETAIL	9900-240-001
T/P VALVE TEMP ADJUST	9900-007-001

REPAIR PARTS

SHOWERHEAD #851	9970-120-003
NOZZLE	9970-101-004

VALVE CARTRIDGES

FLO-CLOZ	9975-000-001
T/P VALVE (SHOWN)	9975-005-002
METER-MATIC	9975-020-003
T/P VALVES PRIOR TO JUNE 2014	9975-006-001

AIR-CONTROL VALVE

VALVE BODY	9975-090-001
METERING SERVOMOTOR	9955-000-003
CHECK STOP/STRAINER	9975-091-001
PUSHBUTTON/ESCUTCHEON	9957-300-001

HANDICAP REPAIR PARTS

FLEXSHOWER	9970-102-003
DIVERTER	9975-080-002



ACORN ENGINEERING COMPANY
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(626) 336-4561 FAX (626) 961-2200

TITLE

CLASSIC COLUMN SHOWERS 600 SERIES

MANUFACTURE DATE

APRIL 1980

TO PRESENT

DATE ISSUED

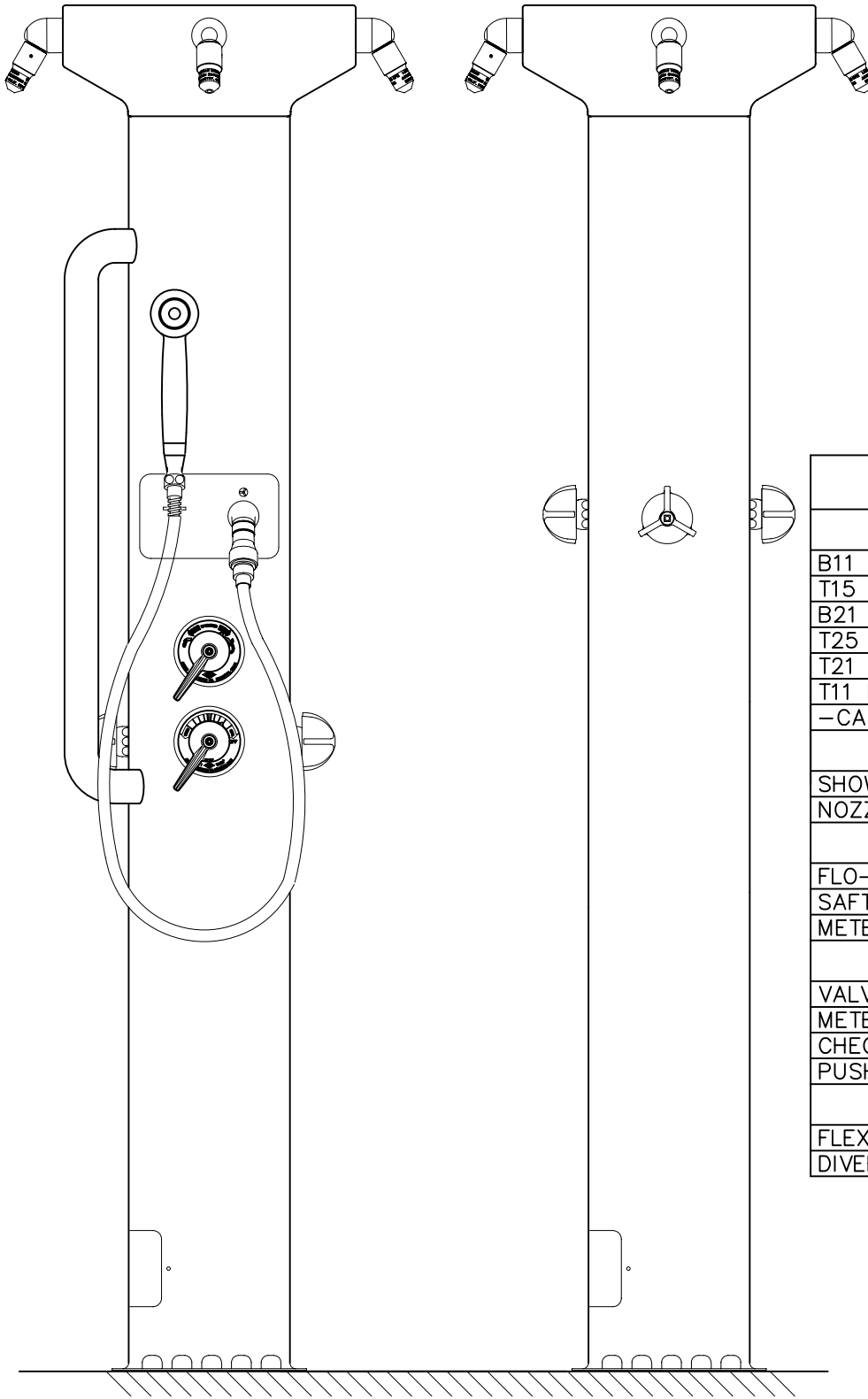
07/25/02

DATE REVISED

02/01/14 E

DRAWING NUMBER

9900-229-001



-HC CAPITAL SHWR.

CAPITAL SHWR.

REFERENCE DRAWINGS**DRAIN BASE INSTALLATION**

B11 DRAIN	9900-200-002
T15 & B15 DRAIN	9900-205-002
B21 DRAIN	9900-210-002
T25 & B25 DRAIN	9900-215-002
T21 DRAIN	9900-220-002
T11 DRAIN	9900-225-002
-CA, -GG, -SC DETAIL	9900-240-001

REPAIR PARTS

SHOWERHEAD #852	9970-120-003
NOZZLE	9970-101-004

VALVE CARTRIDGES

FLO-CLOZ	9975-000-001
SAFTI-TROL	9975-033-001
METER-MATIC	9975-020-003

AIR-CONTROL VALVE

VALVE BODY	9975-090-001
METERING SERVOMOTOR	9955-000-003
CHECK STOP/STRAINER	9975-091-001
PUSHBUTTON/ESCUTCHEON	9957-300-001

HANDICAP REPAIR PARTS

FLEXSHOWER	9970-102-003
DIVERTER	9975-080-001



ACORN ENGINEERING COMPANY
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TITLE

CAPITAL COLUMN SHOWERS 700 SERIES (INCLUDES -HC)

MANUFACTURE DATE

APRIL 1980**TO PRESENT**

DATE ISSUED

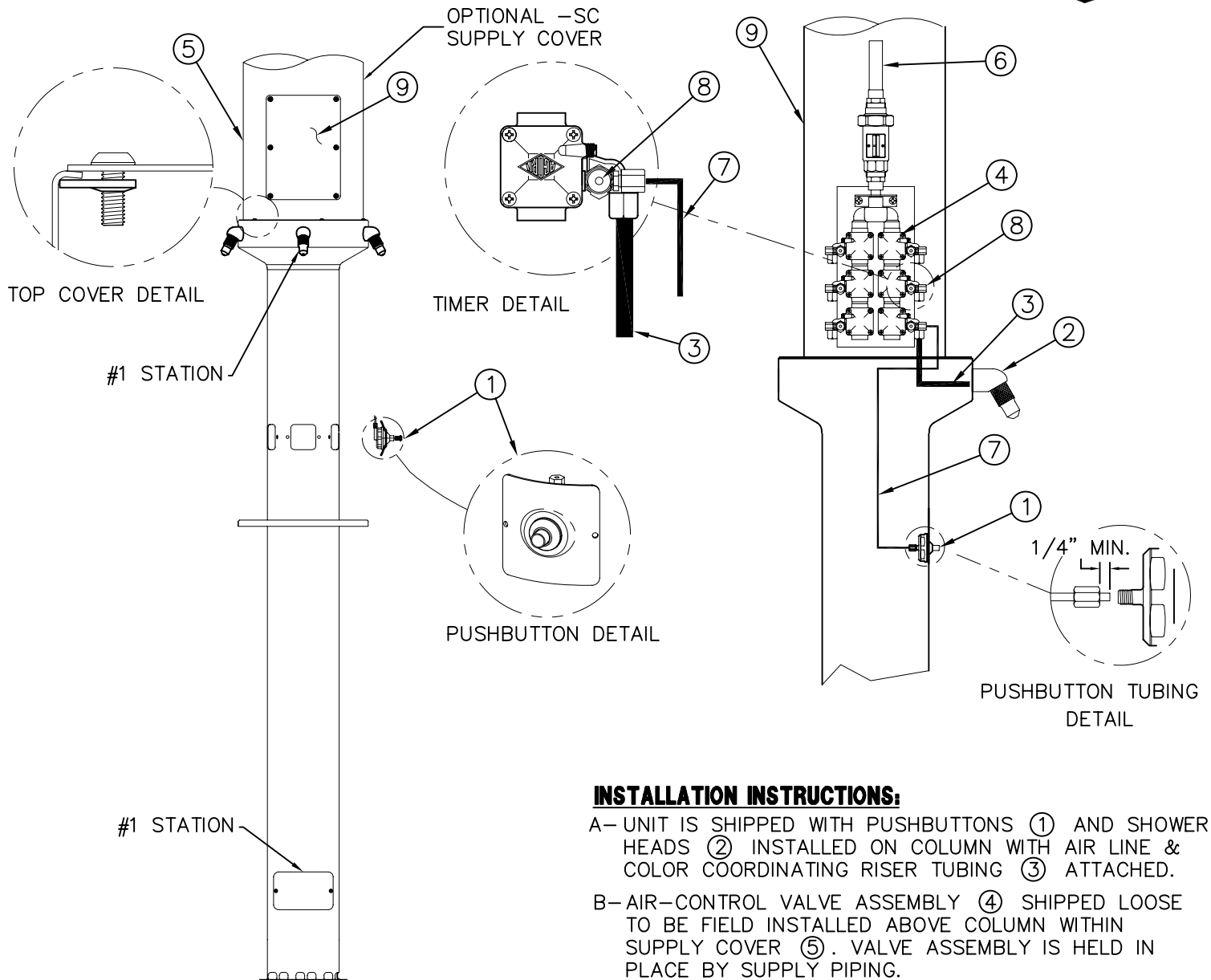
12/01/89

DATE REVISED

07/19/11

DRAWING NUMBER

9900-230-001



REFERENCE DRAWING

AIR-CONTROL CONNE | 9900-006-003

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.

INSTALLATION INSTRUCTIONS:

- A—UNIT IS SHIPPED WITH PUSHBUTTONS ① AND SHOWER HEADS ② INSTALLED ON COLUMN WITH AIR LINE & COLOR COORDINATING RISER TUBING ③ ATTACHED.
- B—AIR-CONTROL VALVE ASSEMBLY ④ SHIPPED LOOSE TO BE FIELD INSTALLED ABOVE COLUMN WITHIN SUPPLY COVER ⑤. VALVE ASSEMBLY IS HELD IN PLACE BY SUPPLY PIPING.
- C—POSITION THE AIR-CONTROL VALVE ASSEMBLY ③ WITHIN SUPPLY COVER ⑤ OR IN CEILING WITHIN 10 FEET OF PUSHBUTTON ①.
- D—AFTER THOROUGHLY FLUSHING SUPPLY LINE, MAKE UP SUPPLY CONNECTION ⑥ (3/4" NCT).
- E—CONNECT 1/8" OD POLYETHYLENE AIR LINES ⑦ FROM PUSHBUTTONS ① TO VALVE TIMERS ⑧.
- F—CONNECT 1/4" OD POLYETHYLENE WATER LINES ③ TO SHOWERHEAD ② AND VALVE ASSEMBLY ③, HAND-TIGHTEN USING FERRULE NUTS PROVIDED. REPEAT THIS PROCEDURE AT EACH STATION.
- G—WITH ACCESS PANEL ⑨ REMOVED, ADJUST VALVE TIMING AT TIMER ASSEMBLY ⑧. TIMING IS ADJUSTABLE FROM 5 TO 60 SECONDS.



ACORN ENGINEERING COMPANY
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(626) 336-4561 FAX (626) 961-2200

TITLE

CAPITAL SHOWER w/ -T TOP SUPPLY w/ AIR-CONTROL & -SC SUPPLY COVER

MANUFACTURE DATE

JANUARY 1994
TO PRESENT

DATE ISSUED

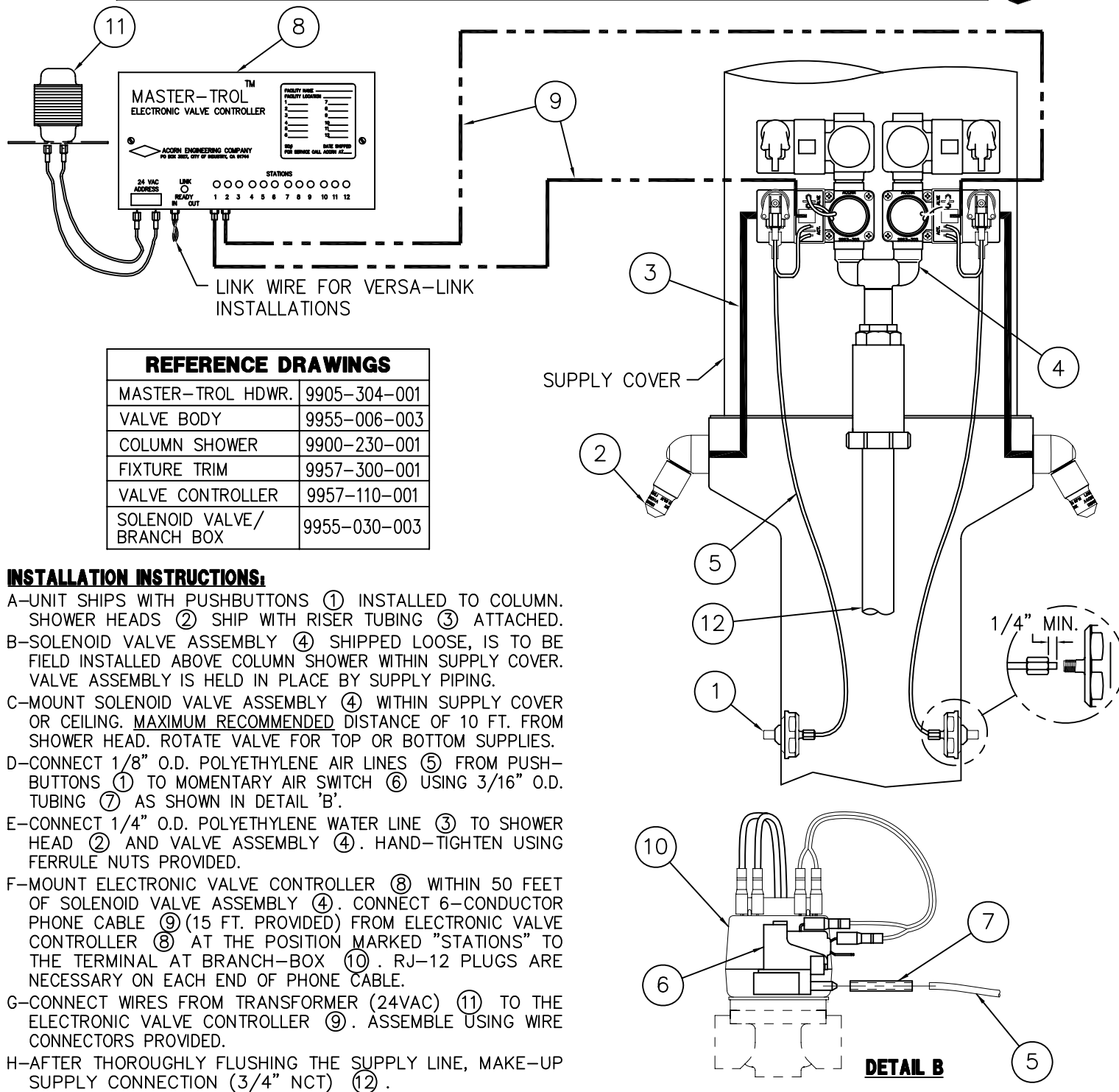
10/28/98

DATE REVISED

07/22/11

DRAWING NUMBER

9900-231-001



REFERENCE DRAWINGS

MASTER-TROL HDWR.	9905-304-001
VALVE BODY	9955-006-003
COLUMN SHOWER	9900-230-001
FIXTURE TRIM	9957-300-001
VALVE CONTROLLER	9957-110-001
SOLENOID VALVE/ BRANCH BOX	9955-030-003

INSTALLATION INSTRUCTIONS:

- A-UNIT SHIPS WITH PUSHBUTTONS ① INSTALLED TO COLUMN. SHOWER HEADS ② SHIP WITH RISER TUBING ③ ATTACHED.
- B-SOLENOID VALVE ASSEMBLY ④ SHIPPED LOOSE, IS TO BE FIELD INSTALLED ABOVE COLUMN SHOWER WITHIN SUPPLY COVER. VALVE ASSEMBLY IS HELD IN PLACE BY SUPPLY PIPING.
- C-MOUNT SOLENOID VALVE ASSEMBLY ④ WITHIN SUPPLY COVER OR CEILING. MAXIMUM RECOMMENDED DISTANCE OF 10 FT. FROM SHOWER HEAD. ROTATE VALVE FOR TOP OR BOTTOM SUPPLIES.
- D-CONNECT 1/8" O.D. POLYETHYLENE AIR LINES ⑤ FROM PUSHBUTTONS ① TO MOMENTARY AIR SWITCH ⑥ USING 3/16" O.D. TUBING ⑦ AS SHOWN IN DETAIL 'B'.
- E-CONNECT 1/4" O.D. POLYETHYLENE WATER LINE ③ TO SHOWER HEAD ② AND VALVE ASSEMBLY ④. HAND-TIGHTEN USING FERRULE NUTS PROVIDED.
- F-MOUNT ELECTRONIC VALVE CONTROLLER ⑧ WITHIN 50 FEET OF SOLENOID VALVE ASSEMBLY ④. CONNECT 6-CONDUCTOR PHONE CABLE ⑨ (15 FT. PROVIDED) FROM ELECTRONIC VALVE CONTROLLER ⑧ AT THE POSITION MARKED "STATIONS" TO THE TERMINAL AT BRANCH-BOX ⑩. RJ-12 PLUGS ARE NECESSARY ON EACH END OF PHONE CABLE.
- G-CONNECT WIRES FROM TRANSFORMER (24VAC) ⑪ TO THE ELECTRONIC VALVE CONTROLLER ⑧. ASSEMBLE USING WIRE CONNECTORS PROVIDED.
- H-AFTER THOROUGHLY FLUSHING THE SUPPLY LINE, MAKE-UP SUPPLY CONNECTION (3/4" NCT) ⑫.

NOTE:

WATER FLOW PRESSURE 25/100 PSI MIN/MAX. RECOMMENDED OUTLET TEMPERATURE 105°F MAX. FLUSH ALL SUPPLY LINES THOROUGHLY BEFORE CONNECTING. DRAIN VALVE PRIOR TO FREEZING TEMPERATURES. TRANSFORMER MUST BE WIRED TO GFI PROTECTED CIRCUIT. FIXTURE MUST BE EARTH GROUNDED PER NATIONAL ELECTRICAL CODE.

GENERAL NOTES:

- DO NOT CRIMP OR CUT VALVE WIRE WHILE IT IS STILL CONNECTED TO THE CONTROLLER.
- ALL WIRES SHOULD BE TESTED FOR CONTINUITY SHORT CIRCUIT BEFORE INSTALLATION.
- ALL WIRES MUST BE CRIMPED PROPERLY BEFORE INSTALLATION.



ACORN ENGINEERING COMPANY
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TITLE

CAPITAL COLUMN SHOWER WITH SINGLE TEMP MASTER-TROL VALVE (-EVS-1)

MANUFACTURE DATE

APRIL 1, 1998

TO PRESENT

DATE ISSUED

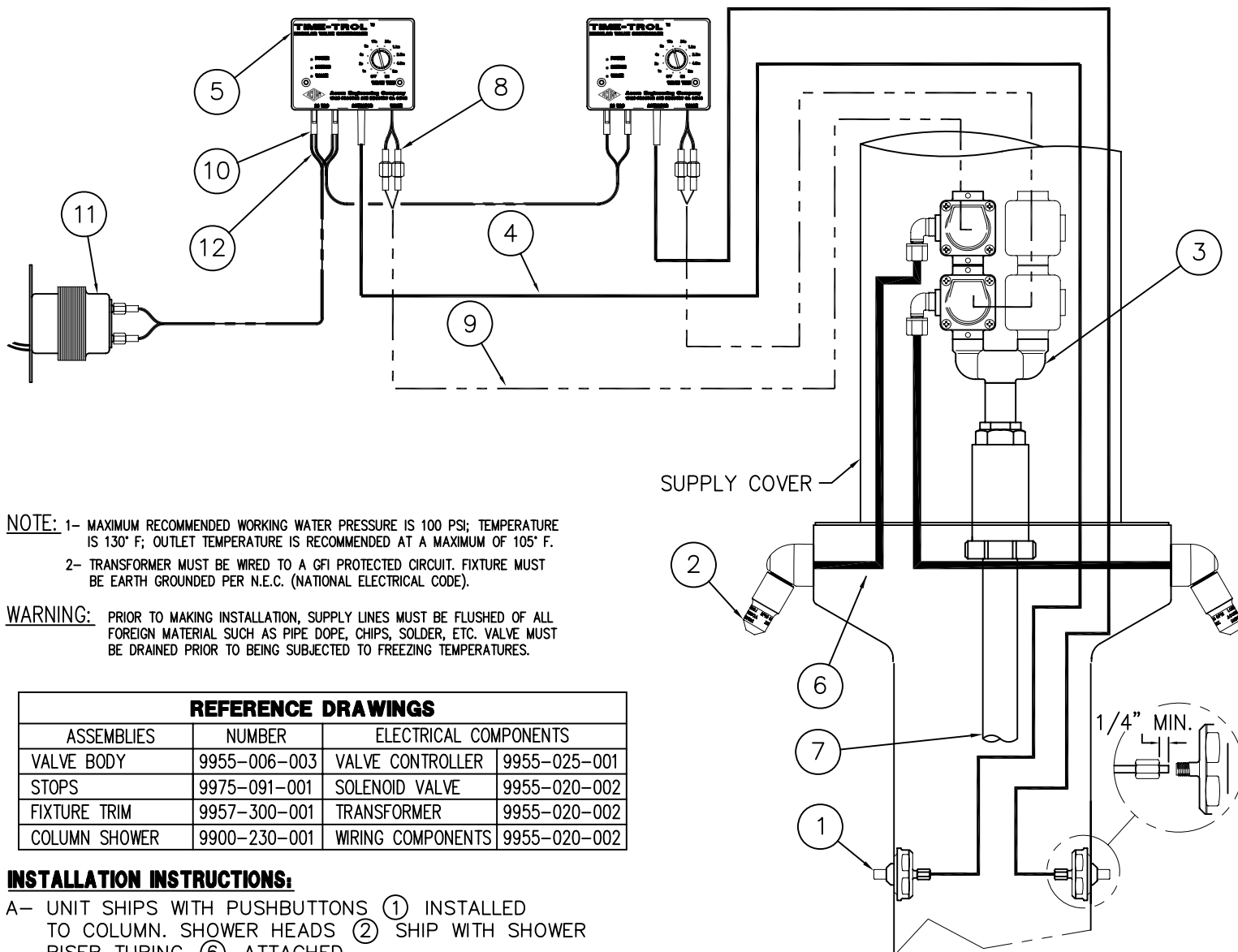
01/01/93

DATE REVISED

06/03/11

DRAWING NUMBER

9900-260-001



NOTE: 1- MAXIMUM RECOMMENDED WORKING WATER PRESSURE IS 100 PSI; TEMPERATURE IS 130° F; OUTLET TEMPERATURE IS RECOMMENDED AT A MAXIMUM OF 105° F.

2- TRANSFORMER MUST BE WIRED TO A GFI PROTECTED CIRCUIT. FIXTURE MUST BE EARTH GROUNDED PER N.E.C. (NATIONAL ELECTRICAL CODE).

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.

REFERENCE DRAWINGS

ASSEMBLIES	NUMBER	ELECTRICAL COMPONENTS
VALVE BODY	9955-006-003	VALVE CONTROLLER 9955-025-001
STOPS	9975-091-001	SOLENOID VALVE 9955-020-002
FIXTURE TRIM	9957-300-001	TRANSFORMER 9955-020-002
COLUMN SHOWER	9900-230-001	WIRING COMPONENTS 9955-020-002

INSTALLATION INSTRUCTIONS:

- A- UNIT SHIPS WITH PUSHBUTTONS ① INSTALLED TO COLUMN. SHOWER HEADS ② SHIP WITH SHOWER RISER TUBING ⑥ ATTACHED.
- B- SOLENOID VALVE ASSEMBLY ③ SHIPPED LOOSE, IS TO BE FIELD INSTALLED ABOVE COLUMN WITHIN SUPPLY COVER. VALVE ASSEMBLY IS HELD IN PLACE BY SUPPLY PIPING.
- C- MOUNT THE SOLENOID VALVE ASSEMBLY ③ WITHIN SUPPLY COVER OR CEILING (MAX. 10 FT. FROM SHOWER HEAD). ROTATE VALVE ASSEMBLY FOR TOP OR BOTTOM SUPPLIES.
- D- LOCATE VALVE CONTROLLERS ⑤ (SEE NOTE). CONNECT 1/8" OD POLYETHYLENE AIR LINES ④ FROM PUSHBUTTONS ① TO VALVE CONTROLLERS ⑤. INSERT AIR LINE INTO VALVE CONTROLLER ⑤ AT POSITION MARKED "ACTUATOR". **NOTE:** LOCATE VALVE CONTROLLERS AS REQUIRED, A MAXIMUM OF 100 FEET FROM FIXTURE, OR INSIDE SUPPLY COVER. RUN WIRING / TUBING THRU SUPPLY COVER OR COLUMN. **NOTE:** TRANSFORMER MAY BE MOUNTED w/CONTROLLERS.
- E- CONNECT 1/4" OD POLYETHYLENE WATER LINE ⑥ TO SHOWER HEAD ② AND VALVE ASSEMBLY ③ HAND-TIGHTEN USING FERRULE NUTS PROVIDED.
- F- CONNECT WIRES ⑧ FROM VALVE CONTROLLER MARKED "VALVE" TO WIRES ⑨ FROM SOLENOID VALVE. ASSEMBLE USING WIRE CONNECTORS PROVIDED.
- G- CONNECT WIRES FROM TRANSFORMER (24VAC) ⑪ TO VALVE CONTROLLER ⑩. ASSEMBLE USING WIRE CONNECTORS PROVIDED. ASSEMBLE 24VAC WIRES TO ADDITIONAL VALVE CONTROLLERS IN PARALLEL BY ATTACHING JUMPER WIRE TO SPADE CONNECTOR FITTINGS ⑫.
- H- AFTER THOROUGHLY FLUSHING THE SUPPLY LINES, MAKE UP SUPPLY CONNECTIONS (3/4" NCT) ⑦.
- I- SET TIMING ON VALVE CONTROLLER AT DESIRED SETTING FOR FLOW DURATION.



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(626) 336-4561 FAX (626) 961-2200

TITLE

CAPITAL COLUMN SHOWER WITH SINGLE TEMP TIME-TROL VALVE (-MVC-1)

MANUFACTURE DATE

MAY 1994

TO PRESENT

DATE ISSUED

12/6/95

DATE REVISED

07/19/11

DRAWING NUMBER

9900-233-001



TOP SUPPLY DETAIL
-GG UNIT SHUTOFF VALVE

4-1/2"

CEILING ANCHORS BY OTHERS

OPTIONAL -CA CEILING ANCHOR PLATE WITH VANDAL RESISTANT SCREWS. THIS OPTION IS RECOMMENDED FOR ATTACHING AN OPTIONAL -SC SUPPLY COVER TO A SUSPENDED CEILING. WHEN SPECIFIED THE CONTRACTOR MUST PROVIDE A SECURE MOUNTING TO THE UNDERSIDE OF THE CEILING ABOVE SO THAT THIS ANCHOR PLATE WILL BE SET FLUSH WITH THE SURFACE OF THE FINISHED CEILING. WHEN INSTALLED IN THIS MANNER THE CEILING ANCHOR PLATE PROVIDES A SECURE, FIRM BASE FOR THE SUPPLY COVER.

OPTIONAL -SC TELESOPING SUPPLY COVER IS RECOMMENDED ON TOP SUPPLY AND/OR VENT THRU MODELS, IN ORDER TO CONCEAL THE VENT AND/OR SUPPLY PIPING. THE LOWER ASSEMBLY INCLUDES THE TOP COVER AND IS ATTACHED TO THE SPRAYHEAD WITH VANDAL RESISTANT SCREWS AND ECCENTRIC NUTS. THE UPPER PORTION ALLOWS $\pm 2"$ OF ADJUSTMENT AND ATTACHES TO THE CEILING WITH FASTENERS BY OTHERS. SUFFIX -CA CEILING ANCHOR PLATE, SHOULD ALWAYS BE USED WHEN SUSPENDED CEILINGS ARE INVOLVED.

IMPORTANT: SUPPLY COVER MUST BE INSTALLED PRIOR TO CONNECTING SUPPLY OR VENT PIPING.

OPTIONAL -GG UNIT SHUTOFF VALVES ARE RECOMMENDED FOR ALL INSTALLATIONS. SEE APPLICABLE INSTALLATION DRAWINGS FOR ADDITIONAL ROUGH-IN DETAILS AS SHOWN BELOW:

REFERENCE DRAWING

INSTALLATION

B11-NO HUB DOME GRATE	9900-200-002
B15/T15 WITH DOME GRATE	9900-205-002
B21 INTEGRAL DRAIN BASE	9900-210-002
B25/T25 VENT THRU COLUMN	9900-215-002
T21 INTEGRAL DRAIN BASE	9900-220-002
T11 TOP SUPPLY DOME GRATE	9900-225-002

REPAIR PARTS

B21/T21 3" VENT OFF	9974-000-001
B21/T21 -FO 4" VENT OFF	9974-001-001
B25/T25 3" VENT THRU	9974-005-001
B11/T11 VENT OFF D. GRATE	9974-010-001
B15/T15 VENT THRU D. GRATE	9974-015-001

TOP COVER
MOUNTING DETAIL

ECCENTRIC NUT

BOTTOM SUPPLY DETAIL
-GG UNIT SHUTOFF VALVE

4"

1-3/8"

STA #1



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TITLE

SUFFIX OPTIONS, -CA, -GG AND -SC FOR COLUMN SHOWERS

MANUFACTURE DATE

**APRIL 1992
TO PRESENT**

DATE ISSUED

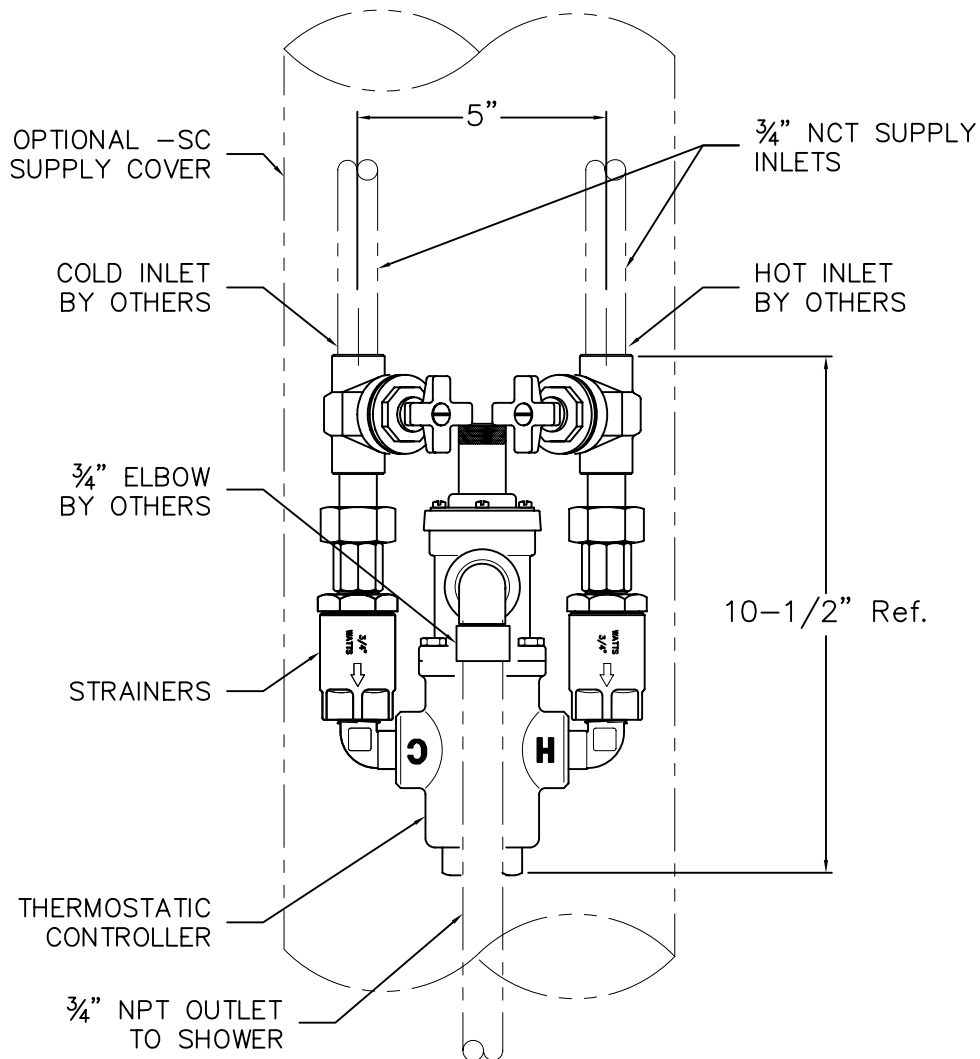
04/01/92

DATE REVISED

07/29/11

DRAWING NUMBER

9900-240-001



NOTE: MAXIMUM WATER INLET PRESSURE IS 100 PSI. MINIMUM INLET TEMPERATURE IS 200 DEGREES.

INSTALLATION INSTRUCTIONS:

- A- ROUGH-IN SHOWER SUPPLIES PER APPROPRIATE INSTALLATION DETAIL.
- B- OPTIONAL -TC THERMOSTATIC CONTROLLER IS SHIPPED LOOSE. VALVE IS INTENDED FOR INSTALLATION WITHIN -SC SUPPLY INLET CONNECTIONS (USE CAUTION TO AVOID OVERHEATING THE STOP BODY CARTRIDGE).
- C- CONNECT $\frac{3}{4}$ " NPT OUTLET LINE FROM -TC TO SHOWER MANIFOLD SUPPLY INLET. FOR HOT AND COLD CONTROL VALVE MODELS CONNECT OUTLET TO THE HOT SIDE SUPPLY INLET.
- D- OPTIONAL -TC VALVE OUTLET TEMPERATURE CAN BE ADJUSTED FROM 65 TO 115 DEGREES. RECOMMENDED OUTLET TEMPERATURE.



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TITLE

-TC THERMOSTATIC CONTROLLER VALVE FOR TOP SUPPLY UNITS

MANUFACTURE DATE

APRIL 1980

TO PRESENT

DATE ISSUED

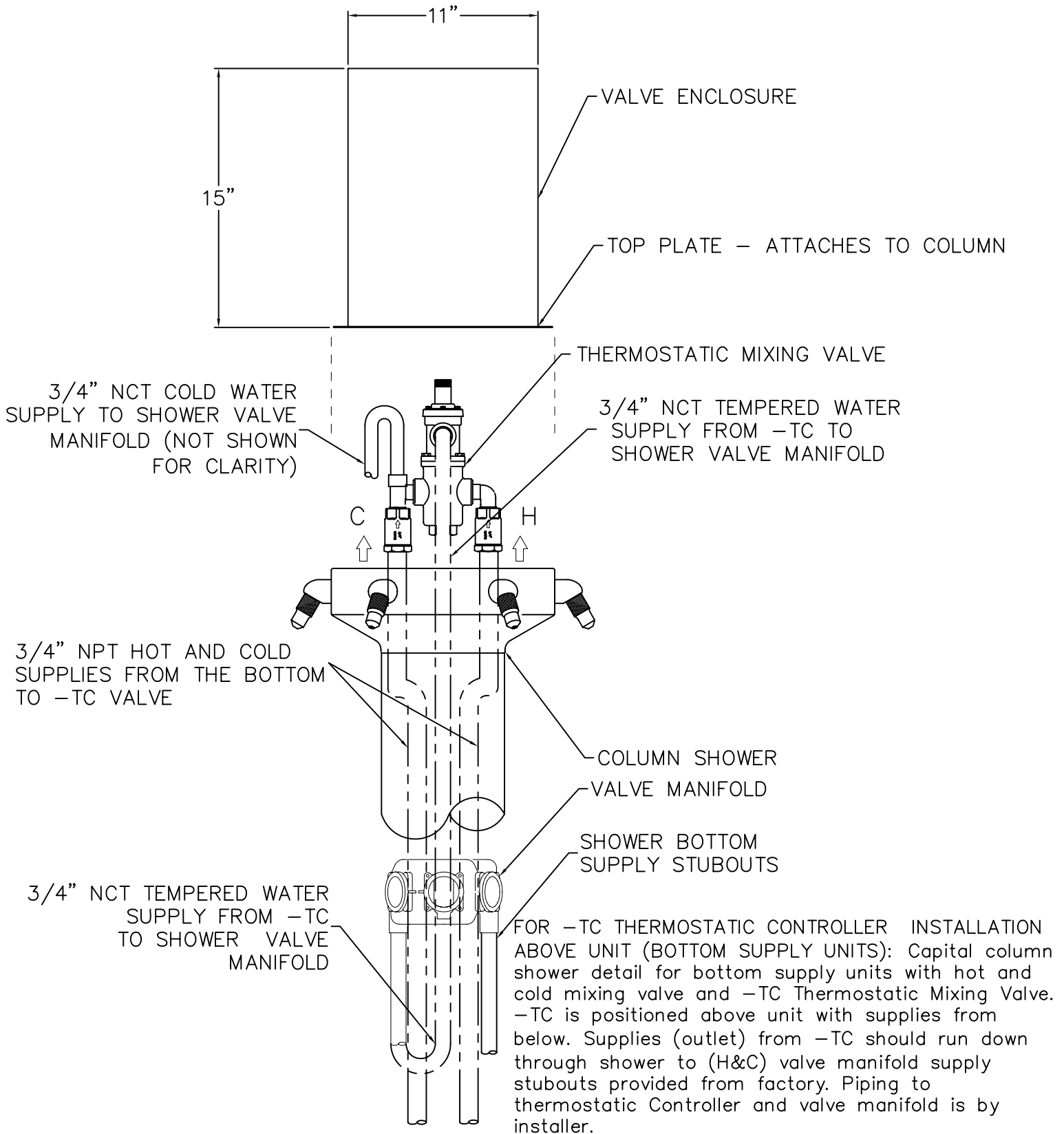
7/15/97

DATE REVISED

07/27/11

DRAWING NUMBER

9900-242-001



ACORN ENGINEERING COMPANY
P.O. BOX 3527 INDUSTRY, CA. 91744
(626) 336-4561 FAX (626) 961-2200

TITLE

-TC THERMOSTATIC CONTROLLER INSTALL FOR MIXING VALVES

MANUFACTURE DATE

APRIL 1980**TO PRESENT**

DATE ISSUED

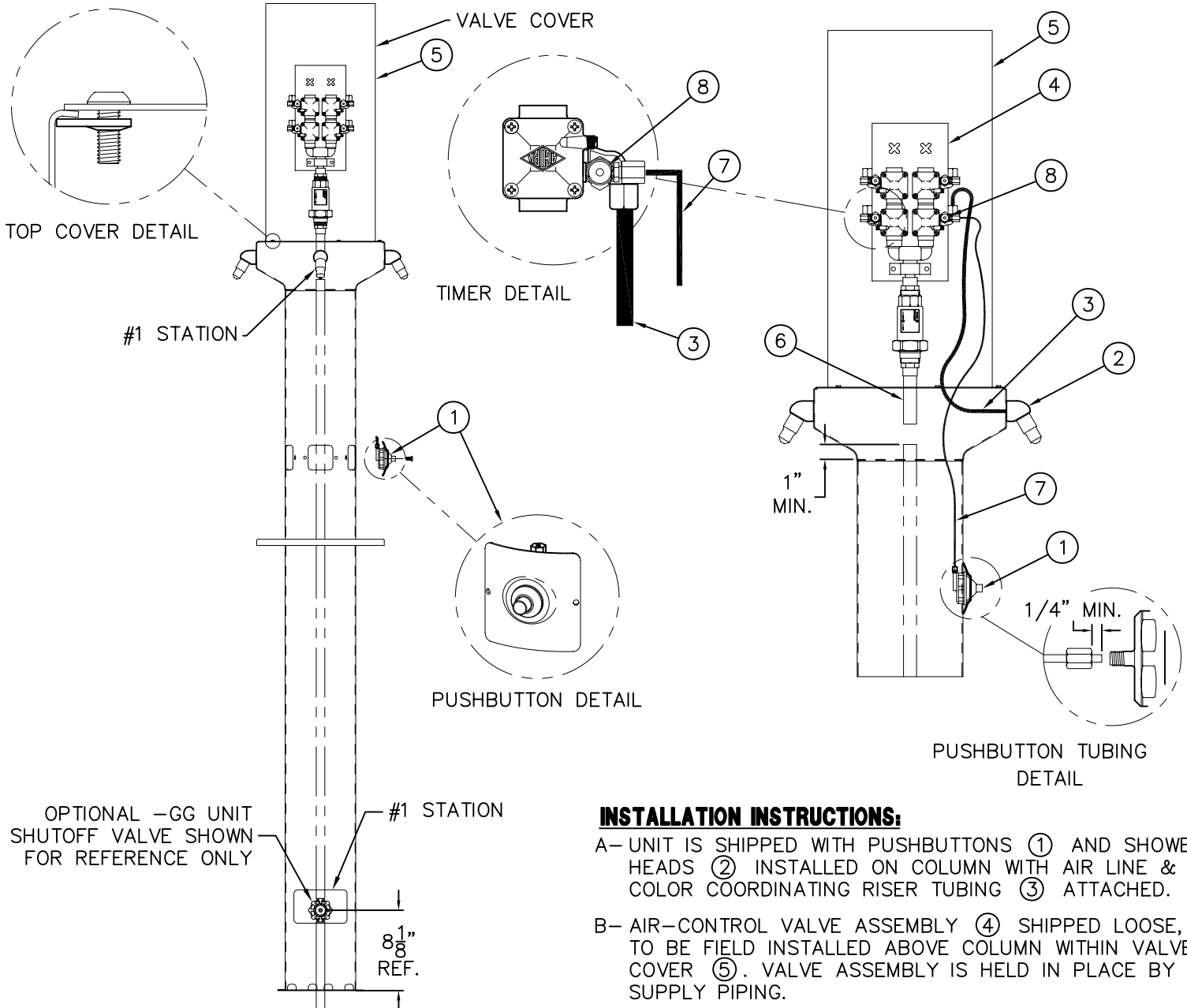
7/28/98

DATE REVISED

07/29/11

DRAWING NUMBER

9900-244-001



REFERENCE DRAWING

AIR-CONTROL CONNE | 9900-006-003

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.

INSTALLATION INSTRUCTIONS:

- A- UNIT IS SHIPPED WITH PUSHBUTTONS ① AND SHOWER HEADS ② INSTALLED ON COLUMN WITH AIR LINE & COLOR COORDINATING RISER TUBING ③ ATTACHED.
- B- AIR-CONTROL VALVE ASSEMBLY ④ SHIPPED LOOSE, TO BE FIELD INSTALLED ABOVE COLUMN WITHIN VALVE COVER ⑤. VALVE ASSEMBLY IS HELD IN PLACE BY SUPPLY PIPING.
- C- AFTER THOROUGHLY FLUSHING SUPPLY LINE, MAKE UP CONNECTION TO 3/4" NCT STRAINER INLET ⑥.
- D- CONNECT 1/8" OD POLYETHYLENE AIR LINES ⑦ FROM PUSHBUTTON ① TO VALVE TIMER ⑧.
- E- CONNECT 1/4" OD POLYETHYLENE WATER LINE ③ FROM SHOWER HEADS ② TO VALVE ASSEMBLY ④, HAND-TIGHTEN USING FERRULE NUTS PROVIDED. REPEAT THIS PROCEDURE AT EACH STATION.
- F- WITH VALVE COVER ⑤ REMOVED, ADJUST VALVE TIMING AT TIMER ASSEMBLY ⑧. TIMING IS ADJUSTABLE FROM 5 TO 60 SECONDS.



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TITLE

CAPITAL SHOWER w/ -B BOTTOM SUPPLY, AIR-CONTROL & -VC VALVE COVER

MANUFACTURE DATE

JANUARY 1994
TO PRESENT

DATE ISSUED

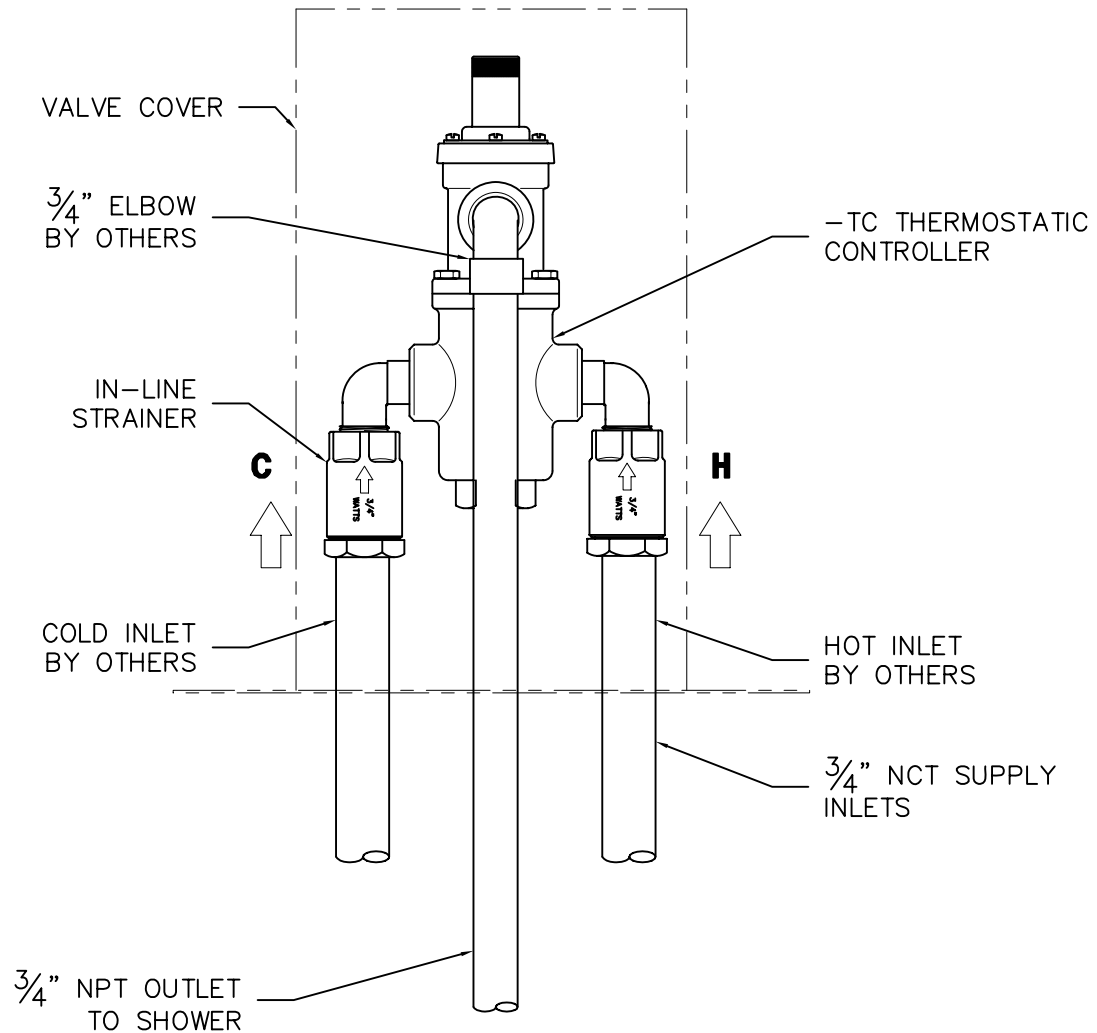
11/30/09

DATE REVISED

07/22/11

DRAWING NUMBER

9900-232-001



NOTE: MAXIMUM WATER INLET PRESSURE IS 100 PSI. MINIMUM INLET TEMPERATURE IS 200 DEGREES.

INSTALLATION INSTRUCTIONS:

- A- ROUGH-IN SHOWER SUPPLIES PER APPROPRIATE INSTALLATION DETAIL.
- B- OPTIONAL -TC THERMOSTATIC CONTROLLER IS SHIPPED LOOSE. VALVE IS INTENDED FOR FIELD INSTALLATION ABOVE SPRAYHEAD WITH SUPPLIES FROM BELOW.

- C- CONNECT $\frac{3}{4}$ " NPT OUTLET LINE FROM -TC TO SHOWER MANIFOLD HOT SIDE SUPPLY INLET. TEMPERED WATER FROM -TC SHOULD RUN DOWN THROUGH SHOWER COLUMN TO (H&C) VALVE MANIFOLD
- D- $\frac{3}{4}$ " NPT PIPING CONNECTION TO THERMOSTATIC CONTROLLER AND VALVE MANIFOLD IS BY INSTALLER



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TITLE

-TC THERMOSTATIC CONTROLLER VALVE FOR BOTTOM SUPPLY UNITS

MANUFACTURE DATE

APRIL 1980

TO PRESENT

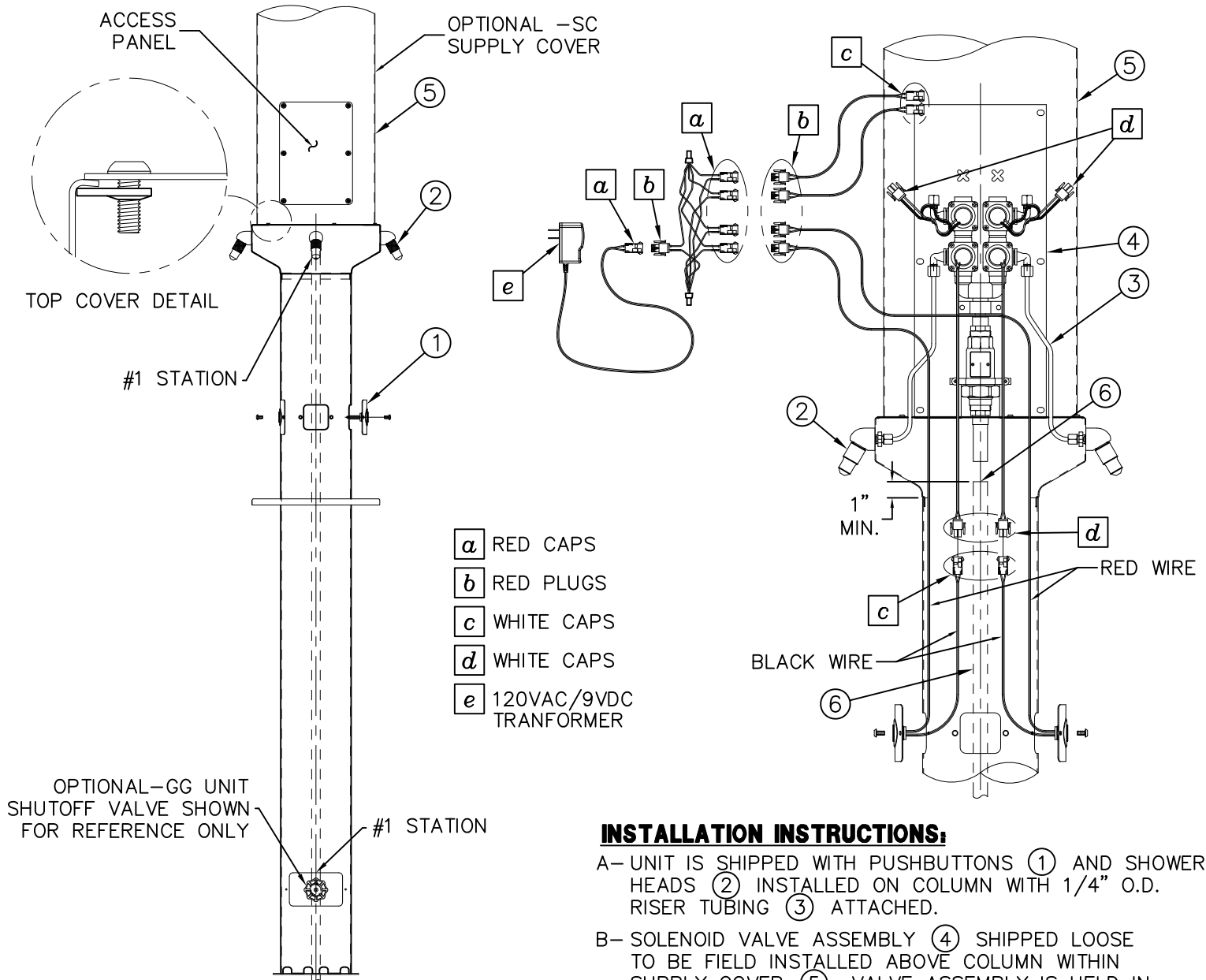
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DRAWING NUMBER

9900-243-001



INSTALLATION INSTRUCTIONS:

- A- UNIT IS SHIPPED WITH PUSHBUTTONS ① AND SHOWER HEADS ② INSTALLED ON COLUMN WITH 1/4" O.D. RISER TUBING ③ ATTACHED.
- B- SOLENOID VALVE ASSEMBLY ④ SHIPPED LOOSE TO BE FIELD INSTALLED ABOVE COLUMN WITHIN SUPPLY COVER ⑤. VALVE ASSEMBLY IS HELD IN PLACE BY SUPPLY PIPING ⑥ BY OTHERS.
- C- AFTER THOROUGHLY FLUSHING SUPPLY LINE, MAKE UP SUPPLY CONNECTION ⑥ (3/4" NCT).
- D- POSITION THE SOLENOID VALVE ASSEMBLY ④ WITHIN SUPPLY COVER ⑤.
- E- CONNECT 1/4" O.D. RISER TUBE ③ FROM SOLENOID VALVE ④ TO SHOWERHEADS ② HAND TIGHTEN FERRULE NUTS.
- F- CONNECT SOLENOID VALVE, POWER SUPPLY AND PUSHBUTTON WIRING AS SHOWN ON DETAIL.
- G- COMPLETE THE INSTALLATION OF THE UNIT ACCORDING TO THE UNITS INSTALLATION INSTRUCTIONS.

REFERENCE DRAWING

-PPZ 9VDC PARTS	9955-019-002
-PPZ PROGRAMMING	9940-009-001

NOTE:

- 1- MAXIMUM RECOMMENDED WORKING WATER PRESSURE IS 100 PSI; TEMPERATURE IS 130° F; OUTLET TEMPERATURE IS RECOMMENDED AT A MAXIMUM OF 105° F.
- 2- PROVIDE 110-120VAC/60Hz/3A (MAX) ELECTRICAL SERVICE FOR FACTORY PROVIDED 120VAC/9VDC, 660mA PLUG-IN TRANSFORMER. TRANSFORMER MUST BE WIRED TO A GFI PROTECTED CIRCUIT. FIXTURE MUST BE EARTH GROUND PER N.E.C. (NATIONAL ELECTRIC CODE).

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.



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TITLE

CAPITAL SHOWER -B BOTTOM SUPPLY w/ -PPZ PROGRAM PIEZO PUSHBUTTON

MANUFACTURE DATE

**OCTOBER 2013
TO PRESENT**

DATE ISSUED

10/25/13

DATE REVISED

DRAWING NUMBER

9900-235-001



Programable Piezo Pushbutton Programming Instructions (Flow Time Adjustment)

The Button is factory set an 8 sec. timing cycle, if an 8 sec. cycle is adequate, then **no** programming adjustment is required.



NOTE: Read the entire document before trying to program the piezo pushbutton.

THE TIME SETTINGS PROGRAM USES 3 DIFFERENT TIMING MODES:

- **1 second timing mode:** Each push of the button adds 1 second to the total timing cycle.
- **5 second timing mode:** Each push of the button adds 5 seconds to the total timing cycle.
- **20 second timing mode:** Each push of the button adds 20 seconds to the total timing cycle.

To program the piezo pushbutton, you will need to be able to see the back of the piezo pushbutton.

Prevision must be made to access the back of the piezo pushbutton. There is an LED on the back of the piezo pushbutton under a layer of transparent epoxy, used as a programming indicator light.



NOTE: This programming procedure moves along rapidly, there is only about 2 or 3 seconds between programming operations.

In order to start the programming the piezo pushbutton, the button must be powered down. Disconnect the red power cable and wait 20 seconds, then reconnect the red power cable.

As soon as the cable is reconnected the LED will start flashing, it will flash 4 times, then stays on for 3 seconds. During the 3 second period, push the piezo button once, the LED will go out, now you are in the **1 sec timing mode** and each time the button is pushed the LED will flash, adding 1 sec to the total timing cycle.

To move on to the **5 sec timing mode**, pause and wait for the LED to flash 2 times, now you are in the 5 sec timing mode. Each time the button is pushed the LED will flash, adding 5 sec to the total timing cycle.

To move on to the **20 sec timing mode**, pause and wait for the LED to flash 3 times, now you are in the 20 sec timing mode and each time the button is pushed the LED will flash, adding 20 sec to the total timing cycle. After programing is complete, pause and wait for the LED to flash 4 times and then 5 times, which completes the programming.

- When a **timing mode is not required** then **do not** push the button and wait for the next timing mode.
- Each timing mode (1 sec, 5 sec or 20 sec timing mode) can be sequenced up to 100 times, that is the number of times, the button can be pushed, to increase the total timing cycle in each timing mode.



Programmable Piezo Pushbutton Programming Instructions (Flow Time Adjustment)

WORKSHEET

(FILL IN ALL BOXES, WHICH WILL SIMPLIFY THE PROGRAMMING PROCEDURE)

Fill in all the
Boxes below



Determine the
number of seconds
per timing cycle

PROGRAMING STEPS:

- Power down piezo button for 10 seconds.
- Reconnect power.
- LED flashes, then stay on.
- While the LED is steady on, push button.
- LED turns off.

1 Push = 1 Second

x 1 = sec



- You are in the 1 sec timing mode, immediately push the button, 1 push equals 1 sec added to the total timing cycle.
- Pause and wait for the LED to flash 2 times.

ADD

1 Push = 5 Seconds

x 5 = sec



- You are in the 5 sec timing mode, immediately push the button, 1 push equals 5 sec added to the total timing cycle.
- Pause and wait for the LED to flash 3 times.

ADD

1 Push = 20 Seconds

x 20 = sec



- You are in the 20 sec timing mode, immediately push the button, 1 push equals 20 sec added to the total timing cycle.

EQUALS

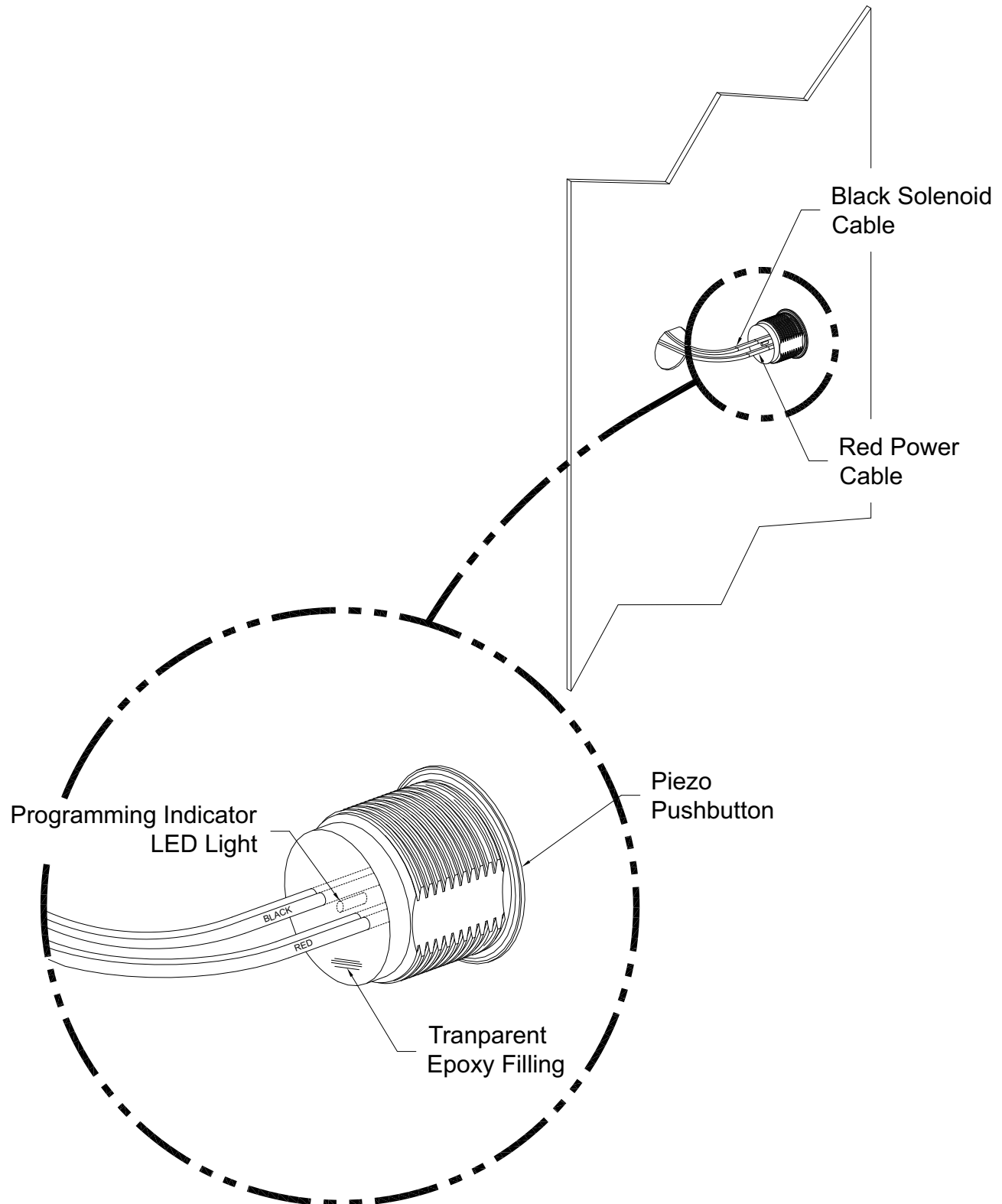
Total timing cycle equals

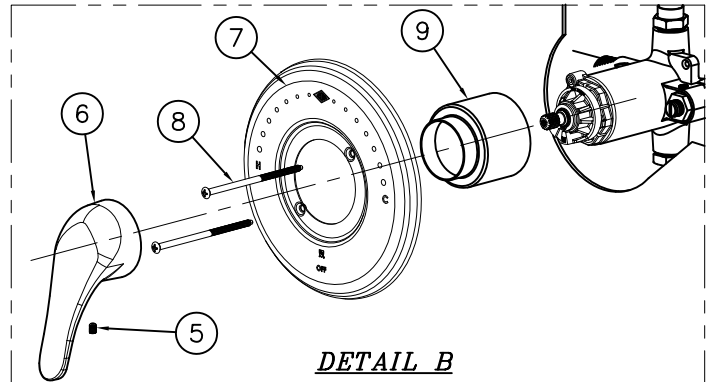
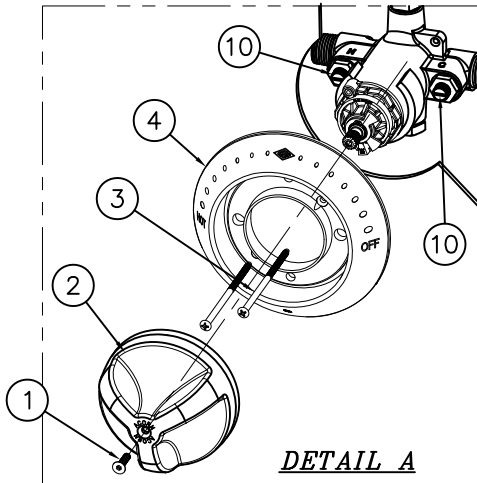
seconds



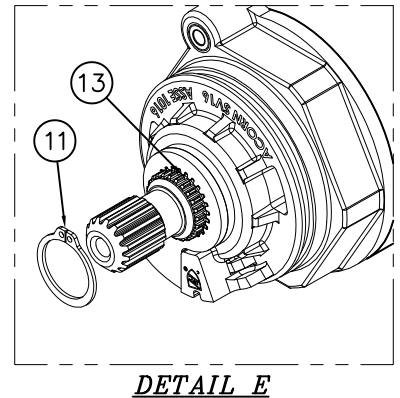
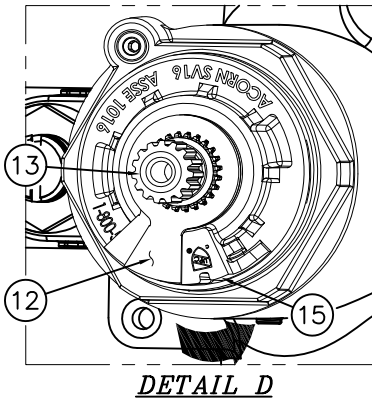
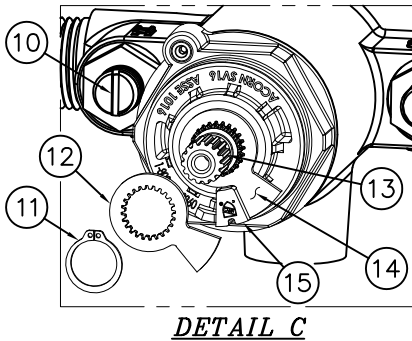
INSTALLATION, OPERATIONS & MAINTENANCE MANUAL

Please visit www.acorneng.com
for most current specifications.



**REFERENCE DRAWINGS**

ASSEMBLIES	NUMBER
T/P VALVE	9975-005-002

**INSTRUCTIONS:**

A-REMOVE TRI-LEVER HANDLE TRIM: SEE DETAIL A

a-REMOVE HANDLE SCREW ① AND REMOVE HANDLE ②.

b-REMOVE ESCUTCHEON ③ BY REMOVING SCREWS ④.

FOR OPTIONAL -LVR LEVER HANDLE TRIM: SEE DETAIL B

a-REMOVE SET SCREW ⑤ AND HANDLE ⑥.

b-REMOVE ESCUTCHEON ⑦ BY REMOVING SCREWS ⑧.

c-PULL OFF VALVE SLEEVE ⑨.

TEMPERATURE ADJUSTMENT:

B-ENSURE MAIN WATER SUPPLY IS ON.

C-ENSURE CHECK STOPS ⑩ ARE OPEN.

D-ENSURE VALVE IS IN THE OFF POSTION.

E-USING SNAP RING PLIERS REMOVE RETAINING RING ⑪ AND THE FIRST TEMPERATURE LIMIT WASHER ⑫ ONLY FROM VALVE STEM ⑬. SEE DETAIL C.

NOTE: IF SECOND TEMPERATURE LIMIT WASHER ⑭ COMES OFF, RESETING OF THE OFF STOP MAY BE REQUIRED, KEY AS CLOSE AS POSSIBLE ON THE COUNTER-CLOCKWISE SIDE OF BONNET STOP ⑮. USING HANDLE ② OR ⑥ SLIGHTLY OPEN AND CLOSE VALVE TO ENSURE WATER WILL SHUT OFF. DETAIL C.

TEMPERATURE ADJUSTMENT: CONTINUED:

F-USING HANDLE ② OR ⑥ TURN VALVE STEM ⑬ COUNTER-CLOCKWISE TO INCREASE HOT, CHECKING OUTLET TEMPERATURE UNTIL DESIRED TEMPERATURE IS REACHED (RECOMMENDED 105° TO 110°). SLIDE FIRST TEMPERATURE LIMIT WASHER ⑧ OVER VALVE STEM ⑫ AND ENSURE SIDE OF WASHER RESTS AS CLOSE AS POSSIBLE TO COUNTER-CLOCKWISE SIDE OF BONNET LIMIT STOP ⑮. DETAIL D.

G-WITH VALVE IN THE "ON" POSTION AND WATER RUNNING, USING SNAP RING PLIERS INSTALL RETAINING RING ⑪. ENSURE RETAINING RING ⑪ IS INSERTED PROPERLY INTO GROOVE ON VALVE STEM ⑬. DETAIL E.

H-REINSTALL TRIM IN REVERSE ORDER.



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TITLE

-8 T/P TEMP/PRESS BALANCING MIXING VALVE - TEMPERATURE ADJUSTMENT

MANUFACTURE DATE

APRIL 2014**PRESENT**

DATE ISSUED

05/01/14

DATE REVISED

08/25/14 A

DRAWING NUMBER

9900-007-001