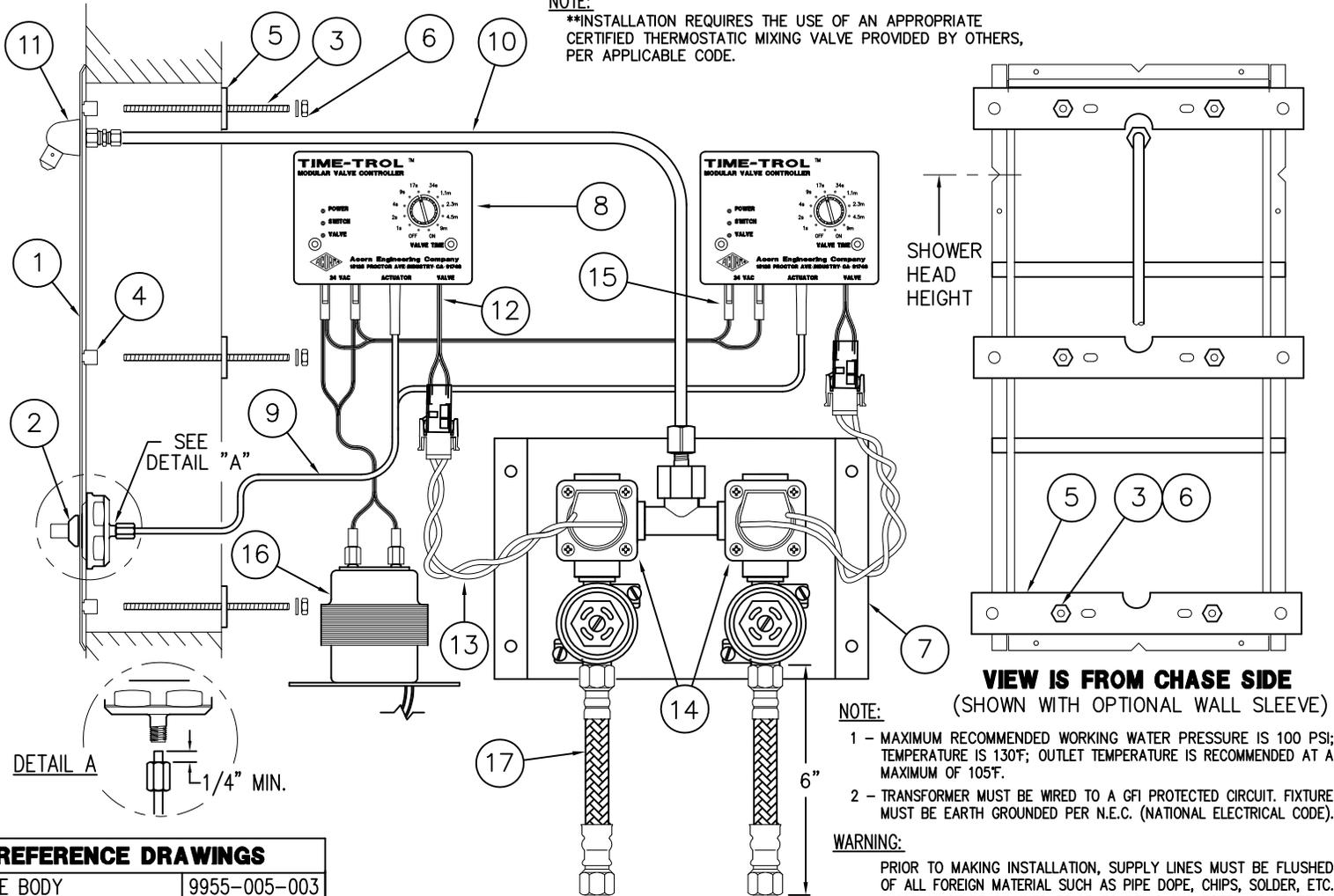




**NOTE:**

\*\*INSTALLATION REQUIRES THE USE OF AN APPROPRIATE CERTIFIED THERMOSTATIC MIXING VALVE PROVIDED BY OTHERS, PER APPLICABLE CODE.



**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	
VALVE BODY	9955-005-003
STOPS	9956-040-003
FIXTURE TRIM	9957-300-001
SHOWER HEAD	9970-000-003
MOUNTING HDWR.	9957-900-001
-SW SLEEVE/-MT TEMPLATE	9925-263-001

ELECTRICAL COMPONENTS	
VALVE CONTROLLER	9955-025-001
SOLENOID VALVE	9955-020-002
TRANSFORMER	9955-020-002
WIRING COMPONENTS	9955-020-002

**INSTALLATION INSTRUCTIONS:**

- A- PRIOR TO INSTALLATION OF THE SHOWER PANEL (1), MOUNT PUSHBUTTONS (2) TO THE PANEL.
- B- HAND TIGHTEN (6) MOUNTING STUDS (3) INTO NUTS (4) ON THE BACK OF SHOWER PANEL (1). PLACE SHOWER PANEL AGAINST WALL OPENING. FROM CHASE SIDE, MOUNT BACK PLATES (5) ONTO STUDS; ATTACH WITH NUTS & WASHERS (6). NOTE: DO NOT EXCEED 6.5 FT/LBS MAXIMUM TORQUE ON MOUNTING NUTS (6).
- C- MOUNT SOLENOID VALVE ASSEMBLY (7) AS REQUIRED WITHIN 10 FEET OF THE FIXTURE. WALL FASTENERS BY OTHERS.
- D- MOUNT VALVE CONTROLLERS (8) AS REQUIRED WITHIN 100 FEET OF THE PUSHBUTTON. CONNECT 1/8" O.D. POLYETHYLENE AIR LINES (9) FROM PUSHBUTTONS (2) TO CONTROLLERS (8) POSITIONS MARKED "ACTUATOR". HAND TIGHTEN THE FERRULE NUTS AT PUSHBUTTONS. SEE DETAIL "A".

- E- CONNECT 1/4" O.D. RISER TUBING (10) FROM SHOWER HEAD (11) TO VALVE ASSEMBLY (7) OUTLET. TIGHTEN THE FERRULE NUTS PROVIDED WATERTIGHT.
- H- CONNECT WIRES (12) (MARKED "VALVE") FROM CONTROLLER TO WIRES (13) FROM SOLENOID VALVES (14). ASSEMBLE USING THE WIRE CONNECTORS PROVIDED. EXTENSION WIRE MAY BE INCLUDED - IF ORDERED.
- I- CONNECT WIRES (15) FROM TRANSFORMER (24VAC) (16) TO VALVE CONTROLLERS (8) IN PARALLEL. ASSEMBLE USING THE WIRE CONNECTORS PROVIDED. EXTENSION WIRES FROM THE TRANSFORMER MAY BE INCLUDED - IF ORDERED.
- J- AFTER THOROUGHLY FLUSHING THE SUPPLY LINES, MAKE-UP SUPPLY CONNECTION (1/2" NPS FEMALE). THREAD THE FLEX CONNECTOR HOSE (17) FROM THE VALVE INLET TO SUPPLY STUB-OUT. (NOTE: THE SUPPLY INLET CONNECTION WILL ACCOMMODATE 1/2" NPT MALE ADAPTER.)
- K- SET TIMING ON THE VALVE CONTROLLER (8) AT DESIRED SETTING FOR FLOW DURATION.



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TITLE

**PENAL-PAK WALL SHOWERS - HOT & COLD TIME-TROL - CAT. #1741-MVC2**

MANUFACTURE DATE

**SEPT 1995  
TO PRESENT**

DATE ISSUED

**06/20/95**

DATE REVISED

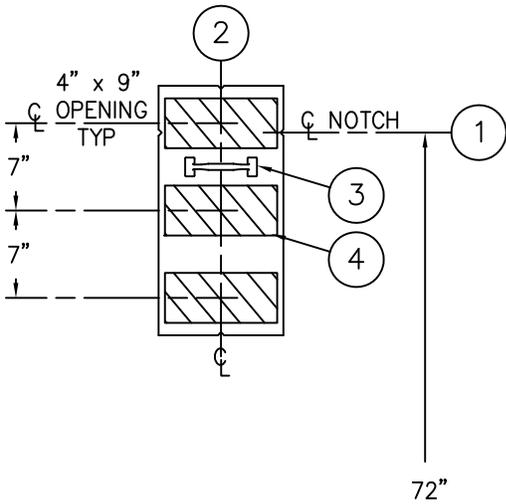
**05/24/10**

DRAWING NUMBER

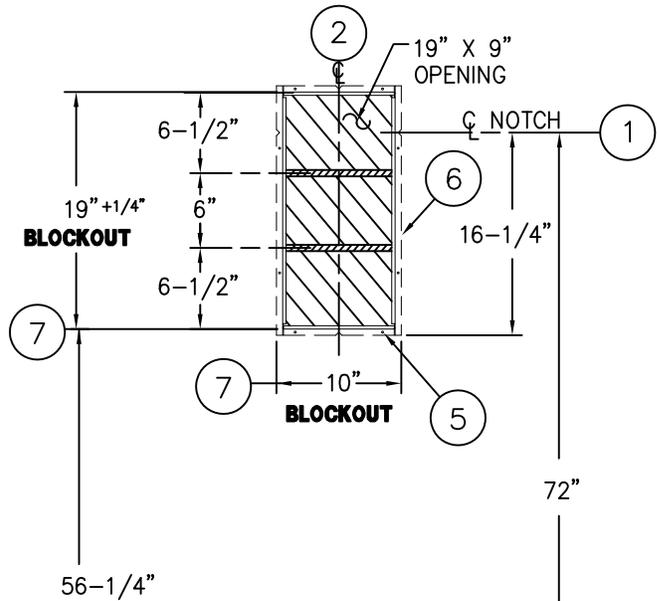
**9905-216-002**



**BOTH VIEWS ARE FROM CELL SIDE**  
 SHADED AREAS ARE REQUIRED WALL OPENINGS



**METAL TEMPLATE (-MT)**



**WALL SLEEVE (-SW)**

**INSTALLATION INSTRUCTIONS**

**METAL TEMPLATES (-MT)**

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

- A- STRIKE A HORIZONTAL CHALKLINE (1) ON THE WALL 72" ABOVE FINISHED FLOOR. THIS WILL LOCATE CENTERLINE FOR HORIZONTAL NOTCHES ON TEMPLATE.
- B- STRIKE A VERTICAL CHALKLINE (2) ON THE WALL TO INDICATE CENTERLINE OF FIXTURE. THIS WILL LOCATE FOR VERTICAL NOTCHES ON TEMPLATE.
- C- USING HANDLE (3) ON TEMPLATE (4), PLACE TEMPLATE AGAINST THE WALL, LOCATING NOTCHES AT CHALKLINES. MARK FOR WALL OPENINGS.

**WALL SLEEVES (-SW)**

SLEEVES ARE INSTALLED IN FORMS (USING NAIL HOLES (5) PROVIDED) OR GROUTED INTO BLOCK WALLS, BECOMING A PERMANENT PART OF THE WALL.

**NOTE:** 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.

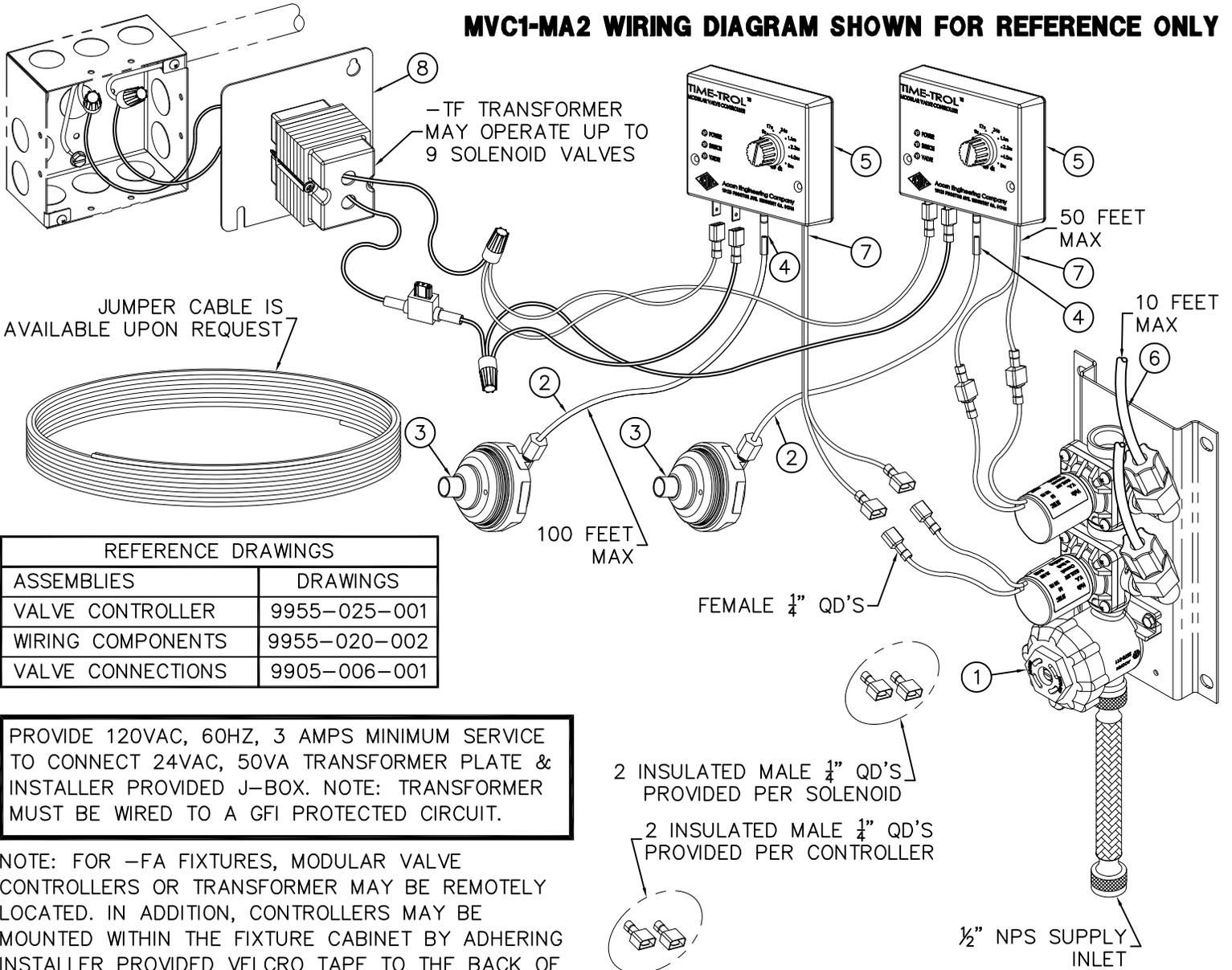
- A- INSTALL SLEEVE WITH FLANGE (6) ON CHASE SIDE OF WALL.
- B- TOP AND BOTTOM NOTCHES TO BE LOCATED AT VERTICAL CENTERLINE (2) OF SLEEVE.
- C- SIDE NOTCHES (1) TO BE LOCATED AT 72" ABOVE THE FINISHED CELL SIDE FLOOR (SHOWER HEAD DISCHARGE HEIGHT).
- D- WHEN SLEEVES ARE NOT AVAILABLE USE BLOCKOUT DIMENSIONS SHOWN (7).

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TITLE <b>SLEEVES AND TEMPLATES (CAT. #1741-2 &amp; #1741-4) H &amp; C</b>		
MANUFACTURE DATE <b>DEC 1981 TO PRESENT</b>	DATE ISSUED <b>3-1-90</b>	DRAWING NUMBER <b>9925-263-001</b>
	DATE REVISED <b>1/30/96</b>	



**MVC1-MA2 WIRING DIAGRAM SHOWN FOR REFERENCE ONLY**



JUMPER CABLE IS AVAILABLE UPON REQUEST

REFERENCE DRAWINGS	
ASSEMBLIES	DRAWINGS
VALVE CONTROLLER	9955-025-001
WIRING COMPONENTS	9955-020-002
VALVE CONNECTIONS	9905-006-001

PROVIDE 120VAC, 60HZ, 3 AMPS MINIMUM SERVICE TO CONNECT 24VAC, 50VA TRANSFORMER PLATE & INSTALLER PROVIDED J-BOX. NOTE: TRANSFORMER MUST BE WIRED TO A GFI PROTECTED CIRCUIT.

NOTE: FOR -FA FIXTURES, MODULAR VALVE CONTROLLERS OR TRANSFORMER MAY BE REMOTELY LOCATED. IN ADDITION, CONTROLLERS MAY BE MOUNTED WITHIN THE FIXTURE CABINET BY ADHERING INSTALLER PROVIDED VELCRO TAPE TO THE BACK OF THE CONTROLLER AND ONTO FIXTURE CABINET.

**INSTALLATION INSTRUCTIONS:**

- A- ROUGH-IN & INSTALL FIXTURE PER MANUFACTURER'S INSTRUCTIONS.
- B- MOUNT SOLENOID VALVE ASSEMBLY (1) WITHIN THE CHASE OR FIXTURE FRAME / CABINET AS REQUIRED A MAXIMUM OF 10 FEET FROM THE FIXTURE.
- C- CONNECT AIR TUBING (2) TO MOUNTED PUSHBUTTON ASSEMBLY (3) AND HAND TIGHTEN FERRULE NUT. CONNECT THE TAG END OF THE AIR TUBING (2) TO THE VALVE CONTROLLER TUBE (4) AT THE POSITION MARKED "ACTUATOR" ON THE CONTROLLER (5). AIR TUBING FITS INSIDE THE CONTROLLER TUBE (4).

- 2 INSULATED MALE 1/4" QD'S PROVIDED PER SOLENOID
- 2 INSULATED MALE 1/4" QD'S PROVIDED PER CONTROLLER

- D- CONNECT RISER TUBING (6) TO VALVE ASSEMBLY AND FIXTURE DISCHARGE CONNECTOR. HAND TIGHTEN USING FERRULE NUTS PROVIDED.
- E- CONNECT CONTROLLER WIRES (7) (INDICATED AS "VALVE" ON THE CONTROLLER) FROM VALVE CONTROLLER (2) TO SOLENOID VALVE (1).
- F- MAKE UP CONNECTIONS FROM TRANSFORMER (8) TO CONTROLLERS IN PARALLEL AS SHOWN.
- G- AFTER THOROUGHLY FLUSHING SUPPLY LINES MAKE UP SUPPLY CONNECTIONS.
- H- SET TIMING ON VALVE CONTROLLER (5) TO DESIRED FLOW DURATION.

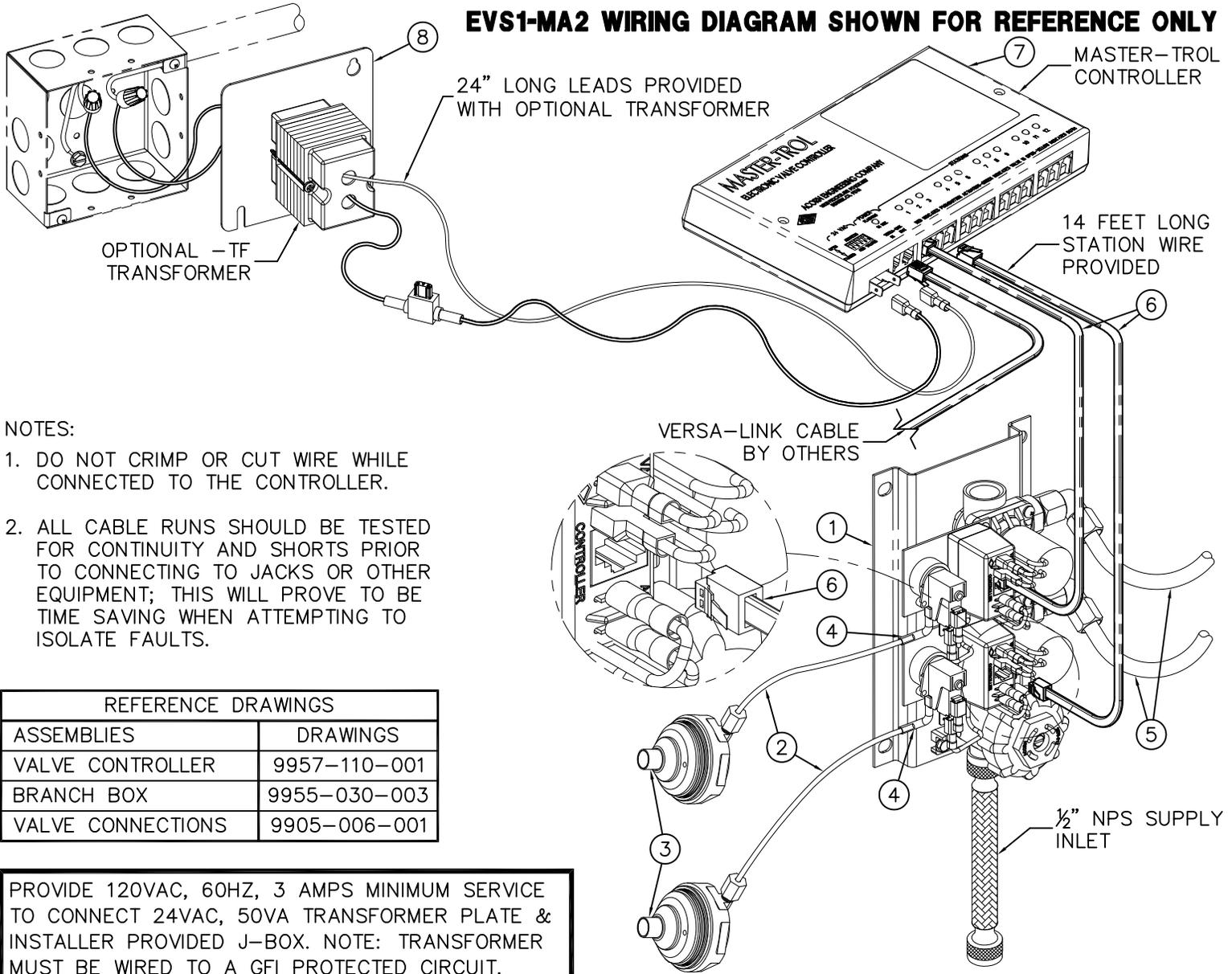


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TITLE <b>MVC1 TIME-TROL SINGLE TEMP VALVE INSTALLATION</b>		
MANUFACTURE DATE <b>MAY 1990 TO PRESENT</b>	DATE ISSUED <b>08/05/10</b>	DRAWING NUMBER <b>9900-001-004</b>
	DATE REVISED <b>01/11/13</b>	



**EVS1-MA2 WIRING DIAGRAM SHOWN FOR REFERENCE ONLY**



**NOTES:**

1. DO NOT CRIMP OR CUT WIRE WHILE CONNECTED TO THE CONTROLLER.
2. ALL CABLE RUNS SHOULD BE TESTED FOR CONTINUITY AND SHORTS PRIOR TO CONNECTING TO JACKS OR OTHER EQUIPMENT; THIS WILL PROVE TO BE TIME SAVING WHEN ATTEMPTING TO ISOLATE FAULTS.

REFERENCE DRAWINGS	
ASSEMBLIES	DRAWINGS
VALVE CONTROLLER	9957-110-001
BRANCH BOX	9955-030-003
VALVE CONNECTIONS	9905-006-001

PROVIDE 120VAC, 60HZ, 3 AMPS MINIMUM SERVICE TO CONNECT 24VAC, 50VA TRANSFORMER PLATE & INSTALLER PROVIDED J-BOX. NOTE: TRANSFORMER MUST BE WIRED TO A GFI PROTECTED CIRCUIT.

**INSTALLATION INSTRUCTIONS:**

- A. ROUGH-IN & INSTALL FIXTURE PER MANUFACTURER'S INSTRUCTIONS.
- B. MOUNT SOLENOID VALVE ASSEMBLY ① WITHIN THE CHASE OR FIXTURE FRAME / CABINET AS REQUIRED A MAXIMUM OF 10 FEET FROM THE FIXTURE.
- C. CONNECT AIR TUBING ② TO MOUNTED PUSHBUTTON ASSEMBLY ③ AND HAND TIGHTEN FERRULE NUT. CONNECT THE TAG END OF THE AIR TUBING ② TO THE BRANCH BOX PRESSURE SWITCH 3/16" OD TUBE ④. AIR TUBING ② FITS INSIDE THE PRESSURE SWITCH 3/16" OD TUBE ④.
- D. CONNECT RISER TUBING ⑤ TO VALVE ASSEMBLY AND FIXTURE DISCHARGE CONNECTOR. HAND TIGHTEN USING FERRULE NUTS PROVIDED.
- E. CONNECT STATION WIRE ⑥ TO BRANCH BOX AND APPROPRIATE LOCATION ON CONTROLLER.
- F. MAKE UP CONNECTIONS FROM TRANSFORMER ⑧ TO CONTROLLER AS SHOWN.
- G. AFTER THOROUGHLY FLUSHING SUPPLY LINES MAKE UP SUPPLY CONNECTIONS.

<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>EVS1 MASTER-TROL SINGLE TEMP VALVE INSTALLATION</b></p>		
	<p>MANUFACTURE DATE</p> <p><b>MAY 1998</b></p> <p><b>TO PRESENT</b></p>	<p>DATE ISSUED</p> <p><b>12/09/10</b></p>	<p>DRAWING NUMBER</p> <p><b>9905-330-004</b></p>
		<p>DATE REVISED</p>	