

Installation Instructions for 2200 High Capacity Truck Pump

Supplement to 101073

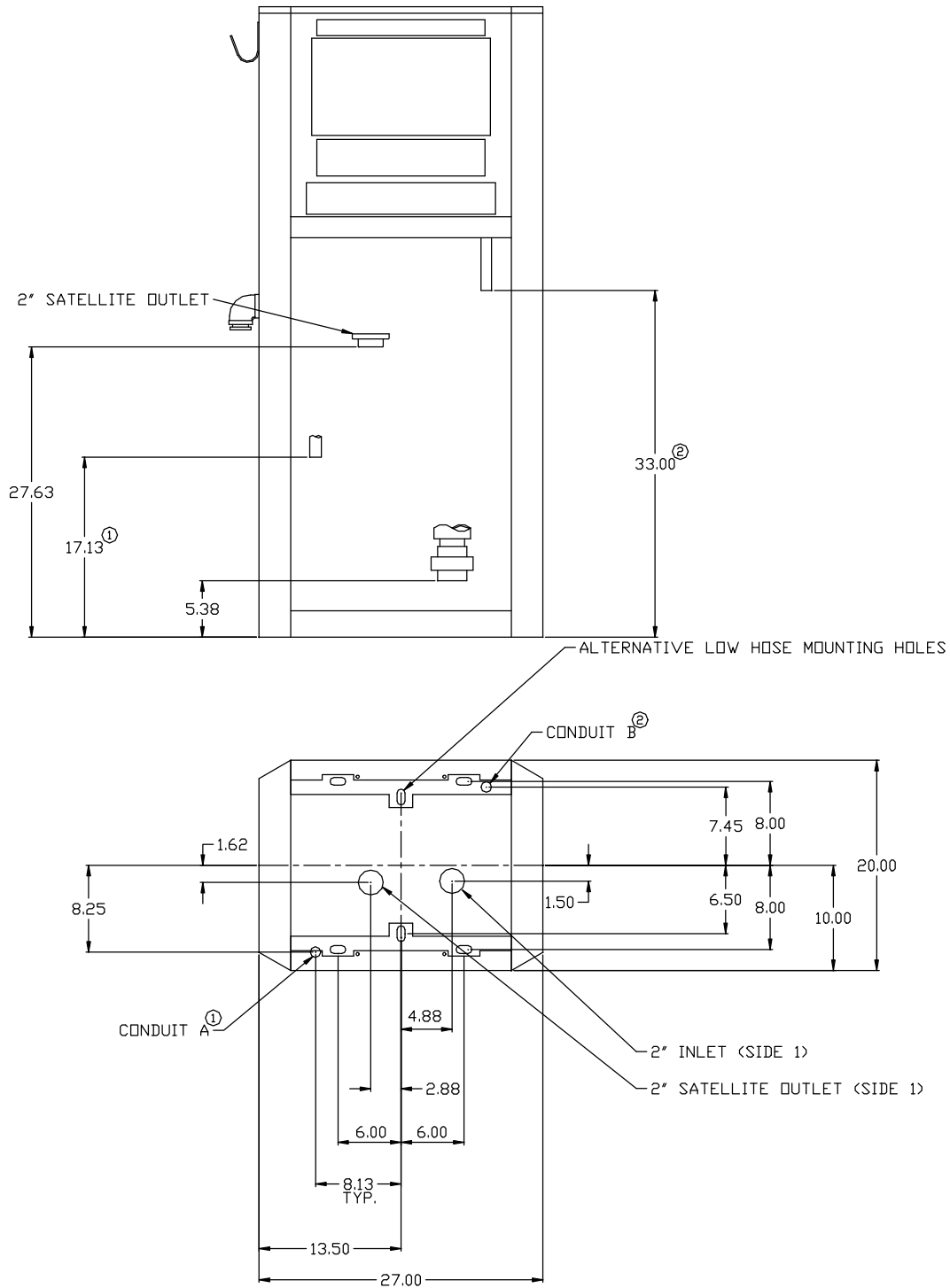
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Installation must be in accordance with the National Electrical Code (NFPA 70), the Automotive and Marine Service Station Code (NFPA 30A), and all state and local codes.

Single Master

NOTES:

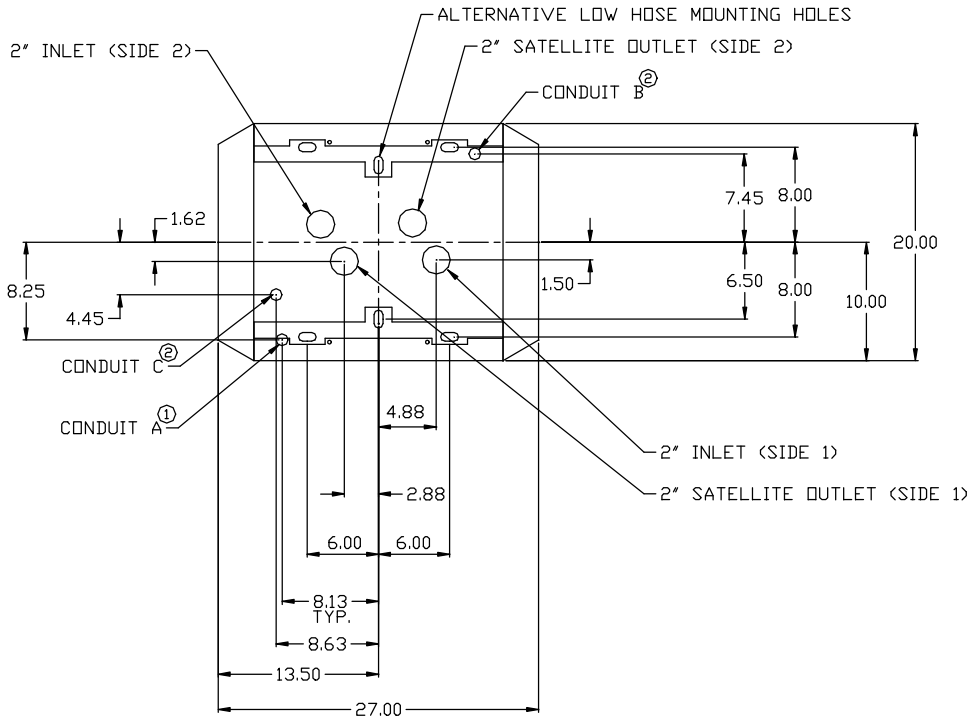
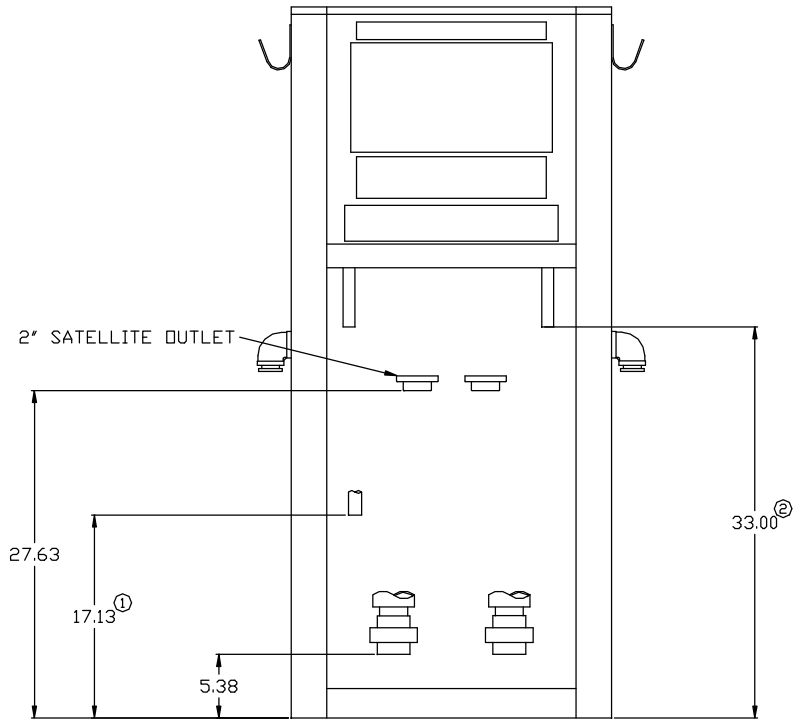
- 1) CONDUIT A SUPPLIED AS 3/4" MALE THREAD FOR CONNECTION TO STATION WIRING.
- 2) CONDUIT B SUPPLIED WITH SATELLITE.
- 3) FORMED CONDUIT SHAPED SIMILAR TO FIG. 13 OF 101073 WILL BE NEEDED FOR FIELD CONNECTION.
- 4) ALL CONDUITS MUST BE POTTED AT TIME OF INSTALATION.



Twin Master

NOTES:

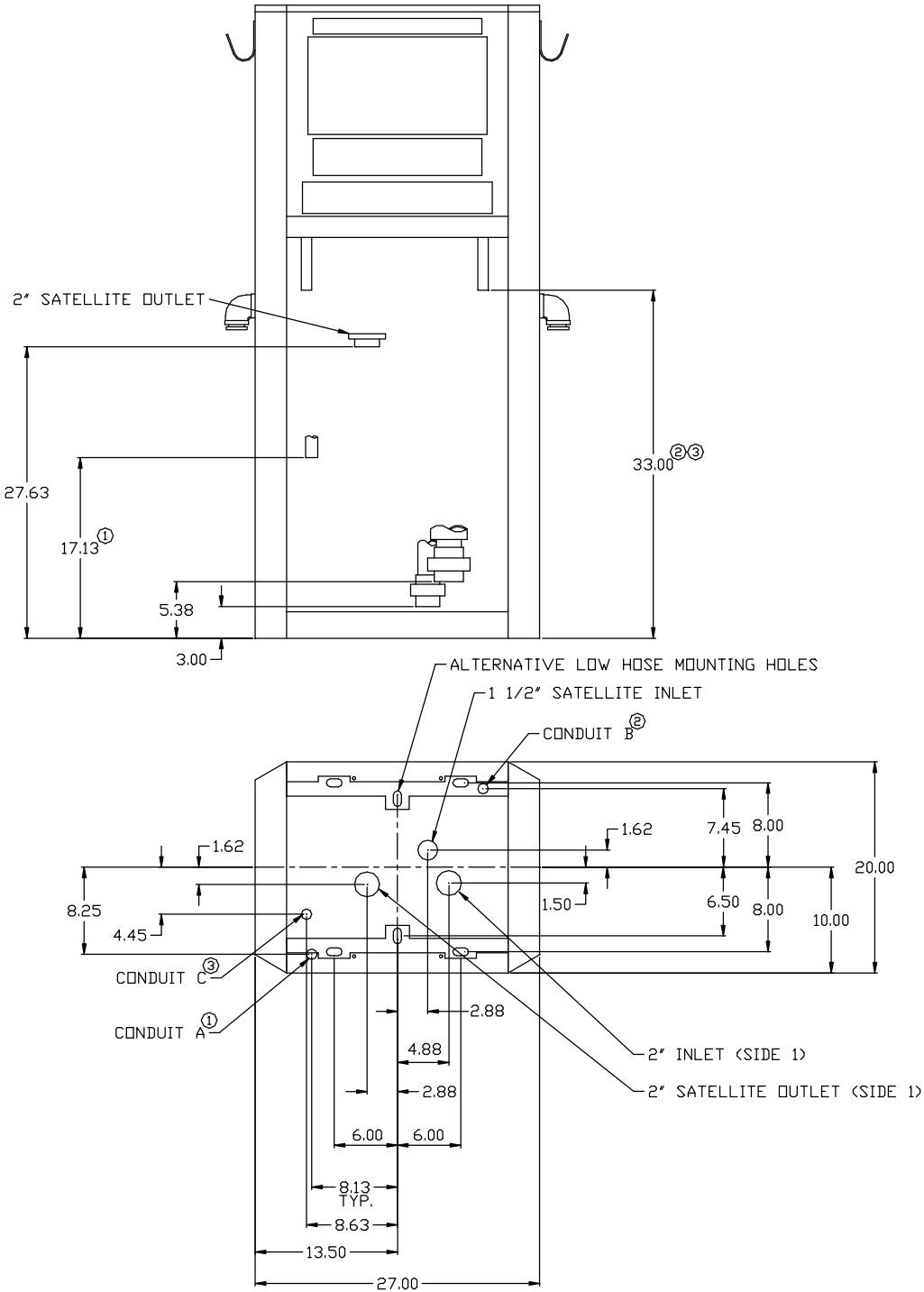
- 1) CONDUIT A SUPPLIED AS 3/4" MALE THREAD FOR CONNECTION TO STATION WIRING.
- 2) CONDUIT B & C SUPPLIED WITH SATELLITE.
- 3) FORMED CONDUIT SHAPED SIMILAR TO FIG. 13 OF 101073 WILL BE NEEDED FOR FIELD CONNECTION.
- 4) ALL CONDUITS MUST BE POTTED AT TIME OF INSTALATION.



Master/Satellite Combo

NOTES:

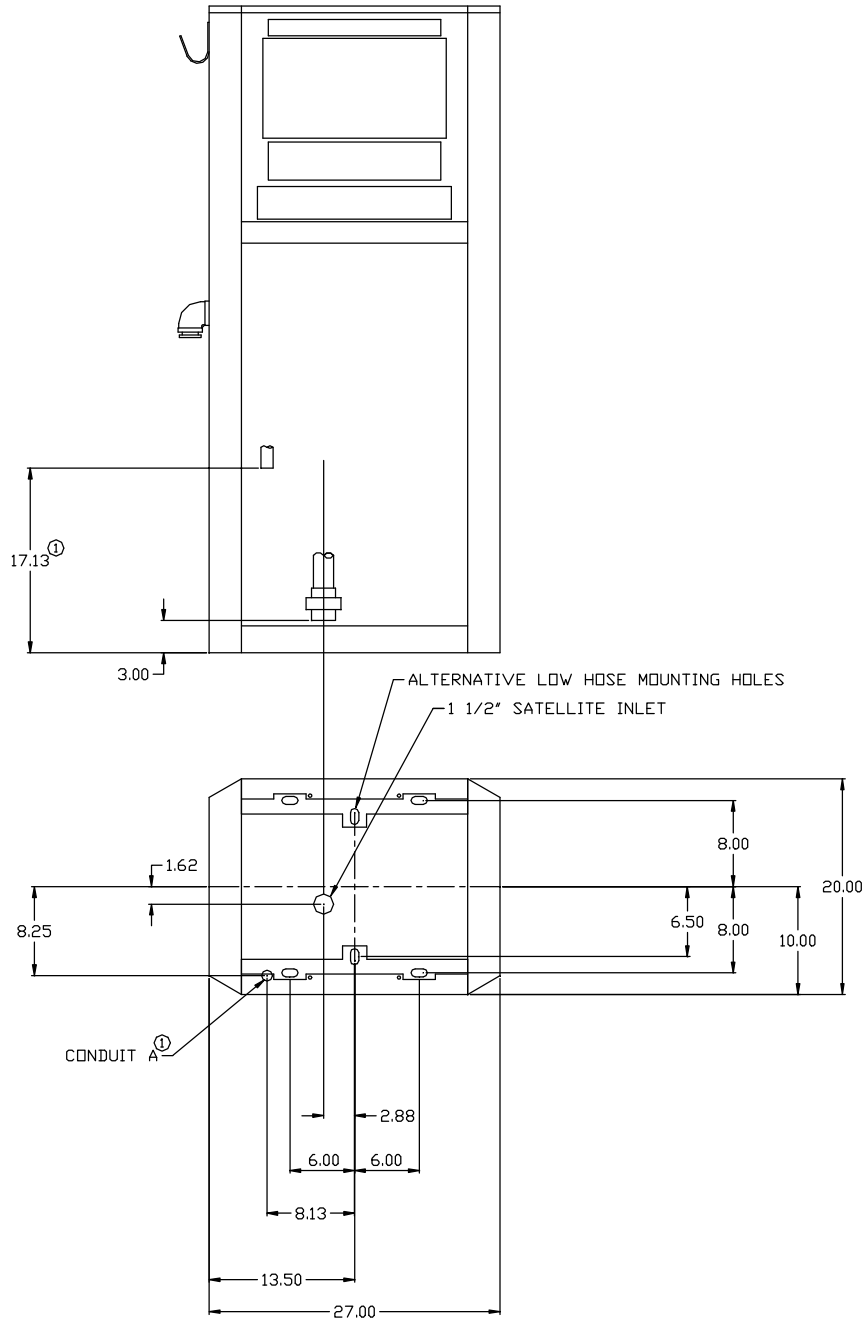
- 1) CONDUIT A SUPPLIED AS 3/4" MALE THREAD FOR CONNECTION TO STATION WIRING.
- 2) CONDUIT B SUPPLIED AS 3/4" MALE THREAD FOR SATELLITE TO MASTER CONNECTION.
- 3) CONDUIT C SUPPLIED WITH SATELLITE.
- 4) FORMED CONDUIT SHAPED SIMILAR TO FIG. 13 OF 101073 WILL BE NEEDED FOR FIELD CONNECTION.
- 5) ALL CONDUITS MUST BE POTTED AT TIME OF INSTALATION.



Satellite

NOTES:

- 1) CONDUIT A SUPPLIED AS 3/4" MALE THREAD FOR SATELLITE TO MASTER CONNECTION.
- 2) FORMED CONDUIT SHAPED SIMILAR TO FIG. 13 OF 101073 WILL BE NEEDED FOR FIELD CONNECTION.
- 3) ALL CONDUITS MUST BE POTTED AT TIME OF INSTALATION.



Satellite Hydraulic Installation

1. Remove the Satellite Installation package from the Satellite dispenser.
This package should contain the following:

Flange Adapter #	(1)
Flange O-ring #	(1)
Satellite Control board #	(1) Set aside for control installation.
Display Pigtail harness #	(1) Set aside for control installation.
Valve Pigtail harness #	(1) Set aside for control installation.
Circuit board standoff #	(4) Set aside for control installation.
Satellite Conduit #	(1) Set aside for control installation.
Conduit Nut #	(1) Set aside for control installation.

2. **Close emergency valve and relieve pressure from Master dispenser. Disconnect AC power.** More than one disconnect may be required to de-energize a dispenser.
3. Remove and retain the four screws(1) holding cap plate on the "T" fitting.
4. Remove and discard the cap plate(2) and the O-ring(3) under the cap plate.
5. Install satellite pipe (4) (installer supplied) to adapter flange(5). Pipe must be ASTM Schedul 40 pipe. Pipe joint must be made with UL Clasified gasoline-resistant pipe-joint sealing compound.
6. Bolt adapter flange assembly and new O-ring(6) to "T" fitting using four screws(1) removed above.
7. Install remaining connections while holding satellite pipe securely.

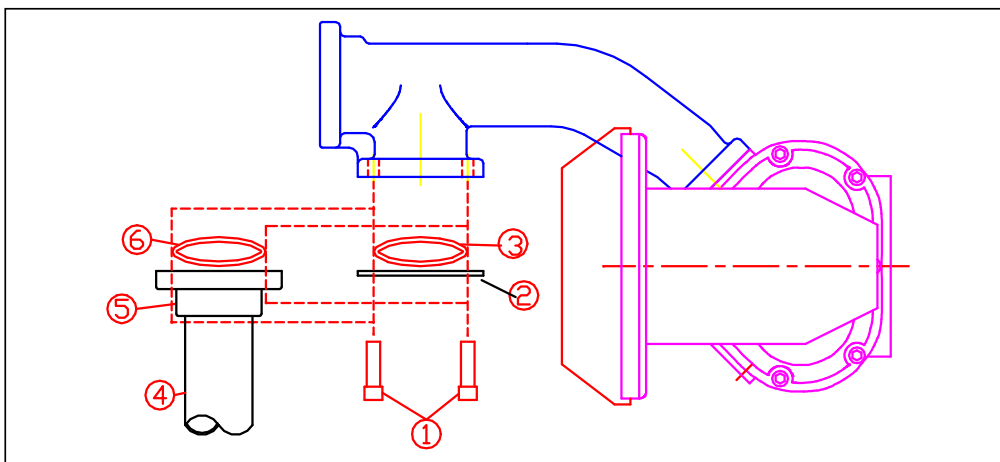


Figure 1

Field Wiring Instructions

The following instructions are written for a single satellite being added to a master dispenser. These steps will be required for each master side that has an associated satellite.

Field Modifications To Master Dispenser

1. **Disconnect AC power** from the Master and Satellite dispensers. More than one disconnect may be required to de-energize a dispenser.

2. Master Dispenser modifications.

2.1 Remove the metal knock out plugs from 1 pair of holes. Install the satellite conduit to field conduit through holes in airgap decks. Tighten conduit nut to top airgap deck. See Figure 2.

2.2. Install the 4 circuit board standoffs into the 4 holes on the channel rail to the right of the Power Supply / IO board. Mount the Satellite control board on these 4 standoffs. See Page 8 Figure 3.
(Use the Power Supply / IO board mounting as an example, the Satellite Control board will mount the same way.)

2.3. Unplug the Master Solenoid Valve assembly from JP2 on the Power Supply / IO board and re-install this plug into J4 on the Satellite Control board.

2.4. Unplug the Auxiliary Display cable (if used) from JP2 on the Main Display / CPU board and re-install this plug into J2 on the Satellite Control board.

2.5. Install the Display Pigtail between JP2 on the Main Display / CPU board and J1 on the Satellite Control board.

2.6. Install the Valve Pigtail between JP2 on the Power Supply / IO board and J3 on the Satellite Control board.

2.7. Connect the 2 RED / YEL Pump Handle field wires, from the Satellite Dispenser, to the Pump Handle terminal strip (TS1). Route wires through wire clips and trim.

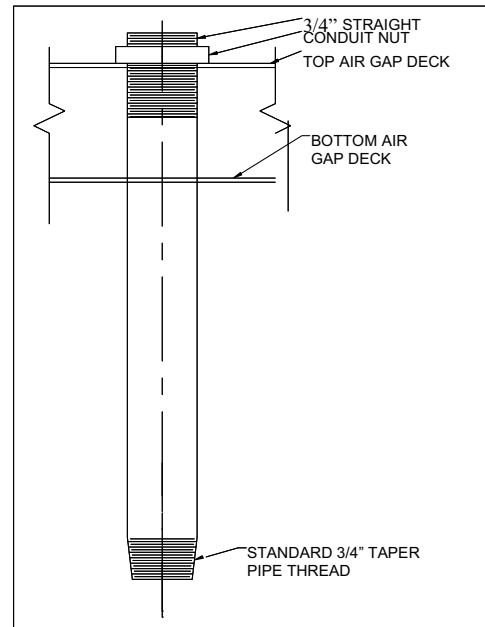


Figure 2

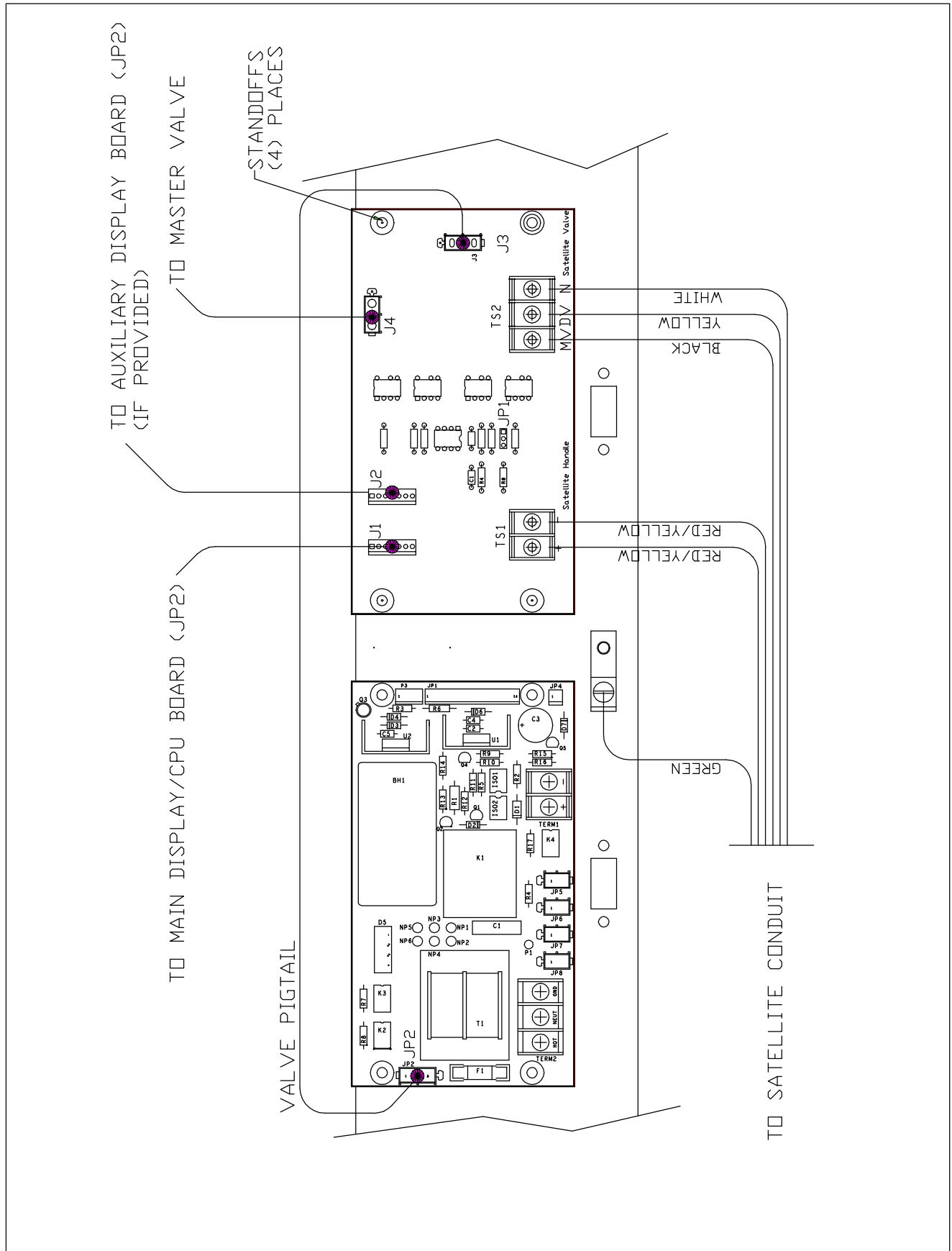


Figure 3

- 2.8. Connect the BLK, YEL, and WHT solenoid valve field wires, from the Satellite Dispenser, to the valve terminal strip (TS2). Route wires through wire clips and trim.

BLK connects to TS2-MV
YEL connects to TS2-DV
WHT connects to TS2-N

- 2.9. Connect the GRN Earth ground field wire, from the Satellite Dispenser, to the channel rail Earth ground connection.

3. Satellite Dispenser connections

- 3.1. Connect 2 RED / YEL Pump Handle field wires, from the Master Dispenser, to the terminal strip (9 and 10). Route wires through wire clips and trim.

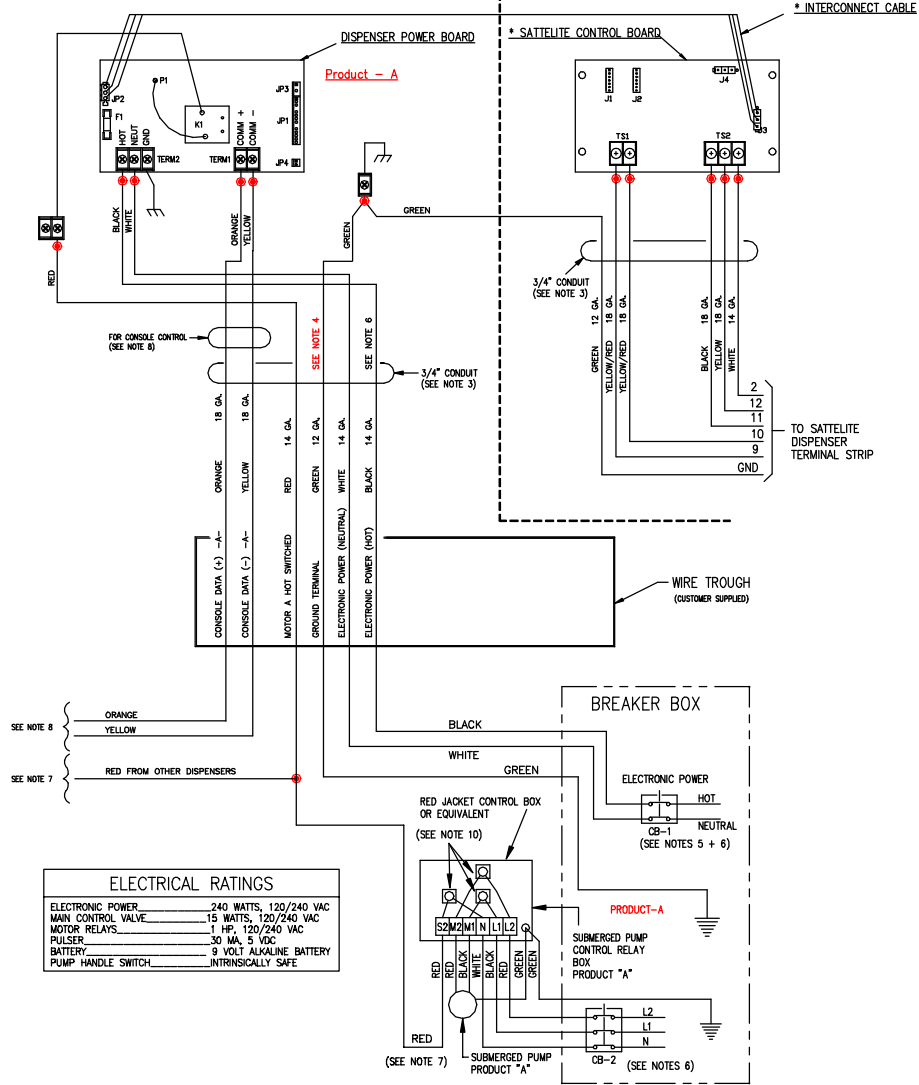
- 3.2. Connect the BLK, YEL, and WHT valve field wires, from the Master Dispenser, to the terminal strip. Route wires through wire clips and trim.

BLK connects to 11
YEL connects to 12
WHT connects to 2
Green connects to Ground Lug

4. Pot the conduit and wiring in the Master and Satellite Dispensers. Refer to “How to Install and Pot Electrical Wiring for a Bennett Dispenser” section of the “Horizon 2200 Series Installation Manual” (page 23) for instruction on wire potting.
5. To configure the satellite unit for simultaneous fueling: place shunt jumper on right two pins of header JP1. Simultaneous fueling will allow flow from the master and satellite dispensers at the same time. Not allowed in all locals; Check with applicable codes for compliance.
To configure the satellite unit for exclusive fueling: place shunt jumper on left two pins of header JP1. Exclusive fueling allows only the master or the satellite to be flowing at any given time.

WIRING & INSTALLATION INFORMATION
2211 SERIES SINGLE MASTER TRUCK PUMP

* OPTIONAL – SUPPLIED
 WITH SATELLITE DISPENSER
 SEE INSTALLATION MANUAL FOR INSTALLATION DETAILS



NOTES FOR REMOTE WIRING DIAGRAM

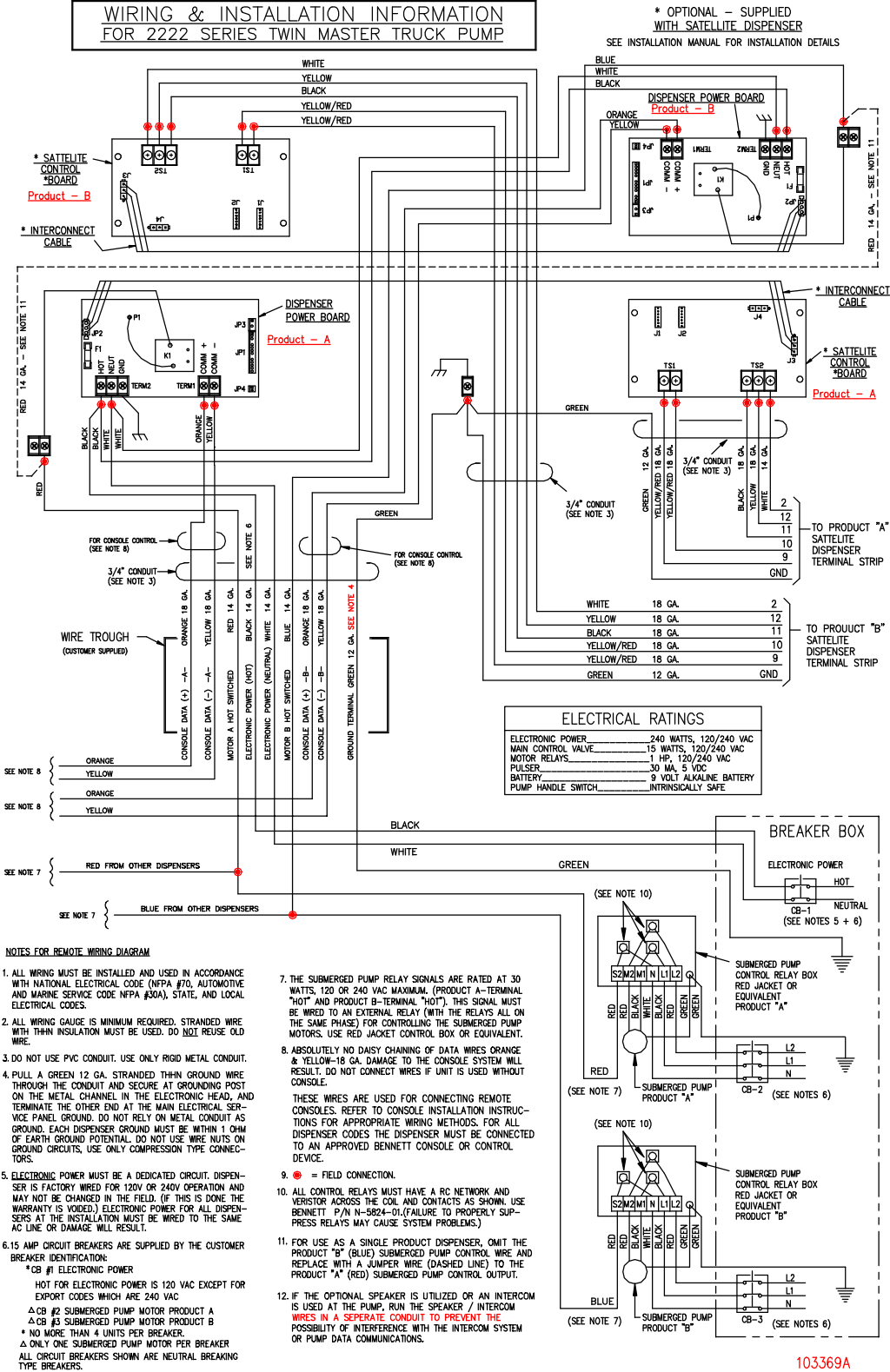
- ALL WIRING MUST BE INSTALLED AND USED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NFPA #70, AUTOMOTIVE AND MARINE SERVICE CODE NFPA #30A), STATE, AND LOCAL ELECTRICAL CODES.
- ALL WIRING GAUGE IS MINIMUM REQUIRED. STRANDED WIRE WITH THIN INSULATION MUST BE USED. DO NOT REUSE OLD WIRE.
- DO NOT USE PVC CONDUIT. USE ONLY RIGID METAL CONDUIT.
- PULL A GREEN 12 GA. STRANDED THIN GROUND WIRE THROUGH THE CONDUIT AND SECURE AT GROUNDING POST ON THE METAL CHANNEL IN THE ELECTRONIC HEAD, AND TERMINATE THE OTHER END AT THE MAIN ELECTRICAL SERVICE PANEL GROUND. DO NOT RELY ON METAL CONDUIT AS GROUND. EACH DISPENSER GROUND MUST BE WITHIN 1 OHM OF EARTH GROUND POTENTIAL. DO NOT USE WIRE NUTS ON GROUND CIRCUITS. USE ONLY COMPRESSION TYPE CONNECTORS.
- ELECTRONIC POWER MUST BE A DEDICATED CIRCUIT. DISPENSER IS FACTORY WIRED FOR 120V OR 240V OPERATION AND MAY NOT BE CHANGED IN THE FIELD. (IF THIS IS DONE THE WARRANTY IS VOIDED.) ELECTRONIC POWER FOR ALL DISPENSERS AT THE INSTALLATION MUST BE WIRED TO THE SAME AC LINE OR DAMAGE WILL RESULT.

- 6.15 AMP CIRCUIT BREAKERS ARE SUPPLIED BY THE CUSTOMER
 BREAKER IDENTIFICATION:
 * CB #1 ELECTRONIC POWER
 HOT FOR ELECTRONIC POWER IS 120 VAC EXCEPT FOR EXPORT CODES WHICH ARE 240 VAC
 Δ CB #2 SUBMERGED PUMP MOTOR PRODUCT A
 Δ CB #3 SUBMERGED PUMP MOTOR PRODUCT B
 * NO MORE THAN 4 UNITS PER BREAKER
 Δ ONLY ONE SUBMERGED PUMP MOTOR PER BREAKER
 ALL CIRCUIT BREAKERS SHOWN ARE NEUTRAL BREAKING TYPE BREAKERS.
- THE SUBMERGED PUMP RELAY SIGNALS ARE RATED AT 30 WATTS, 120 OR 240 VAC MAXIMUM. (PRODUCT A-TERMINAL "HOT" AND PRODUCT B-TERMINAL "HOT"). THIS SIGNAL MUST BE WIRED TO AN EXTERNAL RELAY (WITH THE RELAYS ALL ON THE SAME PHASE) FOR CONTROLLING THE SUBMERGED PUMP MOTORS. USE RED JACKET CONTROL BOX OR EQUIVALENT.

- ABSOLUTELY NO DAISY CHAINING OF DATA WIRES ORANGE & YELLOW-18 GA. DAMAGE TO THE CONSOLE SYSTEM WILL RESULT. DO NOT CONNECT WIRES IF UNIT IS USED WITHOUT CONSOLE.
 THESE WIRES ARE USED FOR CONNECTING REMOTE CONSOLES. REFER TO CONSOLE INSTALLATION INSTRUCTIONS FOR APPROPRIATE WIRING METHODS. FOR ALL DISPENSER CODES THE DISPENSER MUST BE CONNECTED TO AN APPROVED BENNETT CONSOLE OR CONTROL DEVICE.
- = FIELD CONNECTION.
- ALL CONTROL RELAYS MUST HAVE A RC NETWORK AND VERISTOR ACROSS THE COIL AND CONTACTS AS SHOWN. USE BENNETT P/N N-5824-01.(FAILURE TO PROPERLY SUPPRESS RELAYS MAY CAUSE SYSTEM PROBLEMS.)
- IF THE OPTIONAL SPEAKER IS UTILIZED OR AN INTERCOM IS USED AT THE PUMP, RUN THE SPEAKER / INTERCOM WIRES IN A SEPARATE CONDUIT TO PREVENT THE POSSIBILITY OF INTERFERENCE WITH THE INTERCOM SYSTEM OR PUMP DATA COMMUNICATIONS.

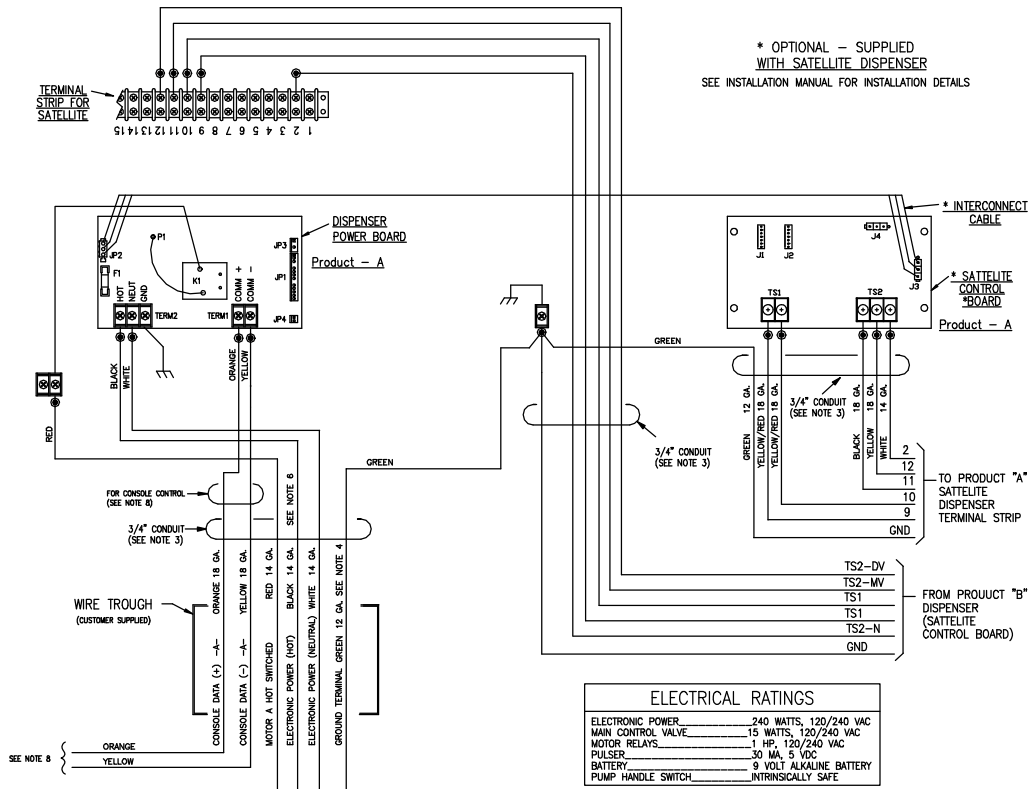
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WIRING & INSTALLATION INFORMATION FOR 2222 SERIES TWIN MASTER TRUCK PUMP



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WIRING & INSTALLATION INFORMATION 2222 SERIES MASTER/SATELLITE TRUCK PUMP

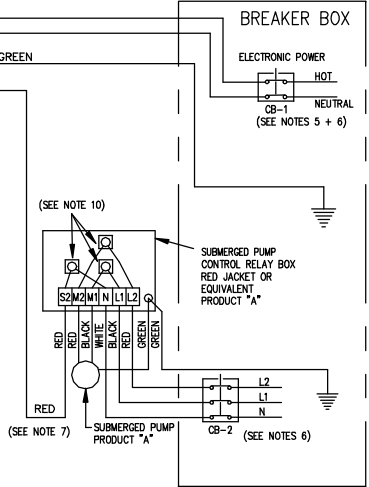


ELECTRICAL RATINGS	
ELECTRONIC POWER	240 WATTS, 120/240 VAC
MAIN CONTROL VALVE	15 WATTS, 120/240 VAC
MOTOR RELAYS	1 HP, 120/240 VAC
PULSER	30 MA, 5 VDC
BATTERY	9 VOLT ALKALINE BATTERY
PUMP HANDLE SWITCH	INTRINSICALLY SAFE

NOTES FOR REMOTE WIRING DIAGRAM

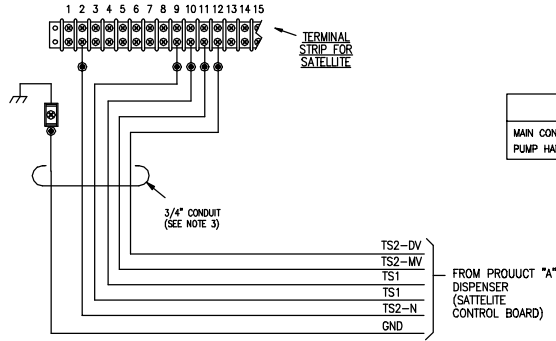
1. ALL WIRING MUST BE INSTALLED AND USED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NFPA #70, AUTOMOTIVE AND MARINE SERVICE CODE NFPA #30A), STATE, AND LOCAL ELECTRICAL CODES.
2. ALL WIRING GAUGE IS MINIMUM REQUIRED. STRANDED WIRE WITH THIN INSULATION MUST BE USED. DO NOT REUSE OLD WIRE.
3. DO NOT USE PVC CONDUIT. USE ONLY RIGID METAL CONDUIT.
4. PULL A GREEN 12 GA. STRANDED THIN GROUND WIRE THROUGH THE CONDUIT AND SECURE AT GROUNDING POST ON THE METAL CHANNEL IN THE ELECTRONIC HEAD, AND TERMINATE THE OTHER END AT THE MAIN ELECTRICAL SERVICE PANEL GROUND. DO NOT RELY ON METAL CONDUIT AS GROUND. EACH DISPENSER GROUND MUST BE WITHIN 1 OHM OF EARTH GROUND POTENTIAL. DO NOT USE WIRE NUTS ON GROUND CIRCUITS. USE ONLY COMPRESSION TYPE CONNECTORS.
5. ELECTRONIC POWER MUST BE A DEDICATED CIRCUIT. DISPENSER IS FACTORY WIRE FOR 120V OR 240V OPERATION AND MAY NOT BE CHANGED IN THE FIELD. (IF THIS IS DONE THE WARRANTY IS VOIDED.) ELECTRONIC POWER FOR ALL DISPENSERS AT THE INSTALLATION MUST BE WIRED TO THE SAME AC LINE OR DAMAGE WILL RESULT.
6. 15 AMP CIRCUIT BREAKERS ARE SUPPLIED BY THE CUSTOMER BREAKER IDENTIFICATION:
 * CB #1 ELECTRONIC POWER
 HOT FOR ELECTRONIC POWER IS 120 VAC EXCEPT FOR EXPORT CODES WHICH ARE 240 VAC
 Δ CB #2 SUBMERGED PUMP MOTOR PRODUCT A
 Δ CB #3 SUBMERGED PUMP MOTOR PRODUCT B
 * NO MORE THAN 4 UNITS PER BREAKER.
 Δ ONLY ONE SUBMERGED PUMP MOTOR PER BREAKER
 ALL CIRCUIT BREAKERS SHOWN ARE NEUTRAL BREAKING TYPE BREAKERS.
7. THE SUBMERGED PUMP RELAY SIGNALS ARE RATED AT 30 WATTS, 120 OR 240 VAC MAXIMUM. (PRODUCT A-TERMINAL "HOT" AND PRODUCT B-TERMINAL "HOT"). THIS SIGNAL MUST BE WIRED TO AN EXTERNAL RELAY (WITH THE RELAYS ALL ON THE SAME PHASE) FOR CONTROLLING THE SUBMERGED PUMP MOTORS. USE RED JACKET CONTROL BOX OR EQUIVALENT.
8. ABSOLUTELY NO DAISY CHAINING OF DATA WIRES ORANGE & YELLOW-18 GA. DAMAGE TO THE CONSOLE SYSTEM WILL RESULT. DO NOT CONNECT WIRES IF UNIT IS USED WITHOUT CONSOLE.

 THESE WIRES ARE USED FOR CONNECTING REMOTE CONSOLES. REFER TO CONSOLE INSTALLATION INSTRUCTIONS FOR APPROPRIATE WIRING METHODS. FOR ALL DISPENSER CODES THE DISPENSER MUST BE CONNECTED TO AN APPROVED BENNETT CONSOLE OR CONTROL DEVICE.
9. ● = FIELD CONNECTION.
10. ALL CONTROL RELAYS MUST HAVE A RC NETWORK AND VERISTOR ACROSS THE COIL AND CONTACTS AS SHOWN. USE BENNETT P/N N-5824-01.(FAILURE TO PROPERLY SUPPRESS RELAYS MAY CAUSE SYSTEM PROBLEMS.)
11. IF THE OPTIONAL SPEAKER IS UTILIZED OR AN INTERCOM IS USED AT THE PUMP, RUN THE SPEAKER / INTERCOM WIRES IN A SEPARATE CONDUIT TO PREVENT THE POSSIBILITY OF INTERFERENCE WITH THE INTERCOM SYSTEM OR PUMP DATA COMMUNICATIONS.



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**WIRING & INSTALLATION INFORMATION
FOR 2211 SERIES SATELLITE TRUCK PUMP**



ELECTRICAL RATINGS	
MAIN CONTROL VALVE	15 WATTS, 120/240 VAC
PUMP HANDLE SWITCH	INTRINSICALLY SAFE

NOTES FOR REMOTE WIRING DIAGRAM

1. ALL WIRING MUST BE INSTALLED AND USED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NFPA #70, AUTOMOTIVE AND MARINE SERVICE CODE NFPA #30A), STATE, AND LOCAL ELECTRICAL CODES.
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3. DO NOT USE PVC CONDUIT. USE ONLY RIGID METAL CONDUIT.
4. PULL A GREEN 12 GA. STRANDED THIN GROUND WIRE THROUGH THE CONDUIT AND SECURE AT GROUNDING POST ON THE METAL CHANNEL IN THE ELECTRONIC HEAD, AND TERMINATE THE OTHER END AT THE MAIN ELECTRICAL SERVICE PANEL GROUND. DO NOT RELY ON METAL CONDUIT AS GROUND. EACH DISPENSER GROUND MUST BE WITHIN 1 OHM OF EARTH GROUND POTENTIAL. DO NOT USE WIRE NUTS ON GROUND CIRCUITS. USE ONLY COMPRESSION TYPE CONNECTORS.
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6. IF THE OPTIONAL SPEAKER IS UTILIZED OR AN INTERCOM IS USED AT THE PUMP, RUN THE SPEAKER / INTERCOM WIRES IN A SEPERATE CONDUIT TO PREVENT THE POSSIBILITY OF INTERFERENCE WITH THE INTERCOM SYSTEM OR PUMP DATA COMMUNICATIONS.

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