INSTALLATION

3/V390/U to 3/V590/U Dispenser Conversion Kit

DRESSER
Wayne

Installation Manual for 3/V390/U to 3/V590/U Dispenser Conversion Kit

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Section 1

Before You Start

1.1 Introduction

This manual describes how to install the Wayne 3/V390/U to 3/V590/U Conversion Kit in a Vista dispenser without Wayne Trac. Refer to the following table for identification of the retrofit kit.

Table 1-1 3/V390/U TO 3/V590/U Retrofit Kit

Part Number	Kit Description
889336-001	CNVT 3/V390/U TO 3/V590/U

Before retrofitting dispensers, any installation or modification must comply with the requirements of the National Electrical Code (NFPA 70), the Automotive and Marine Service Station Code (NFPA 30A) and any other applicable codes.

WARNING: EQUIPMENT MUST BE SERVICED IN ACCORDANCE WITH NFPA30 AND NFPA30(A) REQUIREMENTS. "LOCKOUT/TAGOUT" REQUIREMENTS OF THE U.S.DEPT. OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) MAY ALSO APPLY. REFER TO TITLE 29, PART 1910 OF THE CODE FEDERAL REGULATIONS (29CFR1910), CONTROL OF HAZARDOUS ENERGY SOURCE (LOCKOUT/TAGOUT).

Important: You must wear an anti-static wrist strap (part number 916962 or equivalent) securely attached to an earth ground when handling circuit boards, electronic components or assemblies, or when reaching into the Site Controller or dispenser computer enclosure. Do not use power tools.

1.2 Kit Overview and Parts List

Refer to Photo 1 and the Parts List Table 1-2 below and make sure you have all the parts.

Table 1-2 889336-001 Kit Parts List

Item No.	Part No.	Description	Qty.
1	001-202047-000	OUTLET PLUG	4
2	001-921130-000	O-RING	4
3	005-302140-HRN	PULSER WIRE HARNESS	1
4	887344-002	VALVE CABLE ASS'Y	1
5	000-507284-000	BLT 5/16X3/4 HH	2
6	001-916931-000	WASHER	4
7	004-916931-000	WASHER	2
8	000-511883-000	NUT 5/16-18	2
9	883172-003	DECAL (not shown)	1
10	920680	INSTALLATION MANUAL	1
11	918195	INLET PLUG	1
12	122438	Lo OCTANE LABEL (not shown)	2
13	122439	Hi OCTANE LABEL (not shown	2

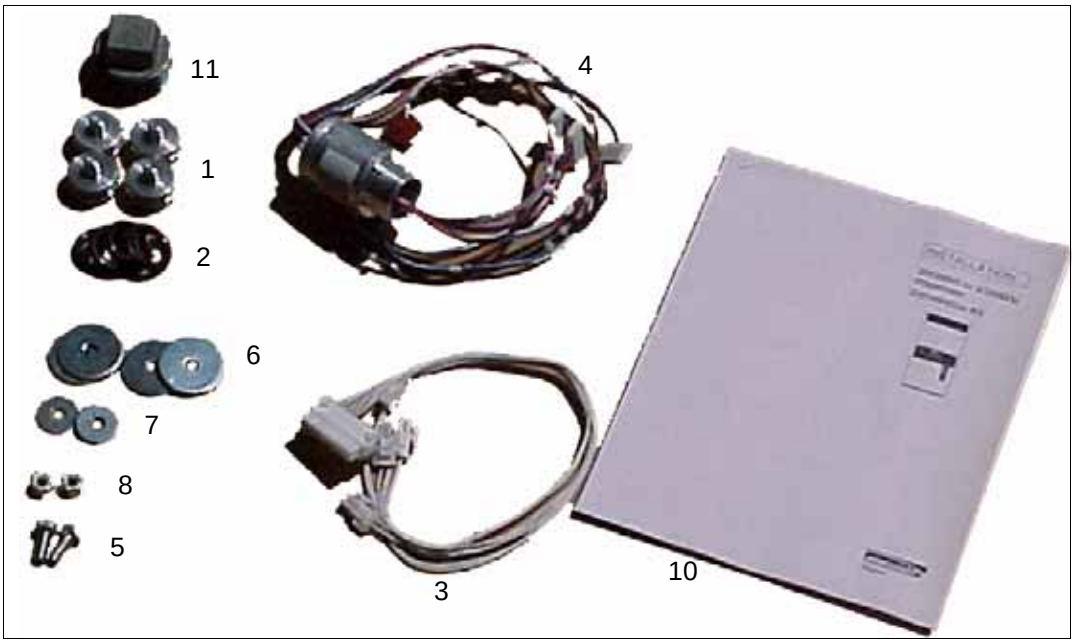


PHOTO 1. PARTS INCLUDED IN THE KIT

1.3 Unpacking and Inspection

Complete the following steps:

1. Before opening any cartons, count the number of cartons and verify the carton count against the supplied packing list.
2. Inspect the cartons for damage made during transit.
3. File claim information with the carrier on the bill of lading.
4. Retain cartons suspected of damage for future claim purposes.

Caution: You must wear an anti-static wrist strap, part number 916962 when removing electronic components from static packages. Attach the wrist strap to an earth grounding point to prevent possible damage from static electricity.

5. Remove all equipment from the shipping cartons and carefully inspect for visible damage.

Important: Any damage should be brought to the attention of the carrier and claims made immediately. Return all equipment to the respective cartons for protection until actual installation is made. Save all cartons until it is certain that return shipments are not required.

6. Check supplied graphics (such as ad panel and dial face graphics) prior to start of installation.

1.4 Returning Damaged Components

Parts or components returned to the factory under warranty or for repair are subject to damage if not packaged properly. Complete the following steps to return parts or components to the factory.

1. Place electronic components in an anti-static bag, then in the original shipping cartons for return shipment to the factory.

Important: NOTE:If original shipping cartons are not available use a sturdy cardboard container and suitable packing materials such as anti-static polyethylene foam or bubble pack, to ensure the component is firmly packed.

2. Include a Return Parts Tag with the defective component describing the particular problem with the part.
3. Make sure adequate insurance is provided when returning parts to the factory.

WARNING: If the parts or components arrive at our factory in a damaged condition and it is determined that the damage is a direct result of inadequate or improper packaging, the damage will not be covered under the original warranty. The customer or distributor will be held responsible for the cost of repairs necessary to correct or replace the damaged parts.

1.5 Required Tools

Refer to Table 1-3 for a list of tools required to install the retrofit kit.

Table 1-3 Required Tools

Quantity	Description
1	Phillips Screwdriver (medium and small)
1	Slotted Screwdriver (medium and small)
1	1/4" to 3/4" Combo Wrenches
1	12" Cresent Wrench
1	Channel Locks
1	3/8" Ratchet
1	1/4" to 3/4" 3/8" Drive Sockets
1	3/8" Ratchet Extension
1	Ladder
1	Metric Allen Wrench Set
1	Electrical Tape
1	Bezel Key

1.6 Power Ratings

Refer to Table 1-4 for power ratings for dispensers equipped with the Conversion kit.

Table 1-4 Power Ratings

Circuits Powered	Nominal Voltage	Amps
Dispenser Electronics	120 VAC, 60 Hz	7.4

Section 2

Removing Old Hardware

2.1 Introduction

This section explains how to remove the old hardware in preparation for the installation of the conversion kit.

2.2 Removal of Old Components

To remove the old components from the dispenser, perform the following steps.

1. Record all totalizer readings and unit prices on the dispenser.
2. Remove all doors and place in a safe location.
3. Place the anti-static wrist strap on your wrist and attach the other end of the wrist strap to an earth grounding point.
4. Unlock the bezel assemblies and disconnect the CAT power and data cables. Disconnect the grade select cables and any other cables connected to the bezel for each side of the dispenser.
5. Remove bezels and set aside.
6. Remove the top cover and right side outer column, shown in Figure 2-1. Save the hardware for later use.

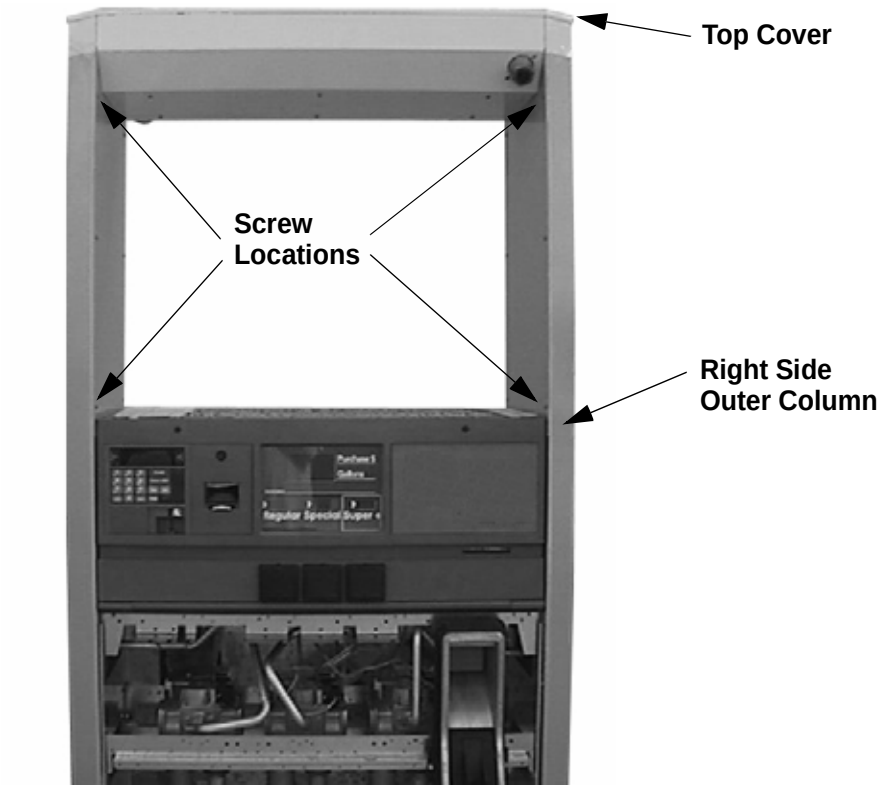


Figure 2-1 Outer Column Screw Locations

7. Close all emergency shut-off valves then try to dispense from each grade on both side 1 and side 2 of the dispenser, verifying that the valves are closed.
8. Turn off power to the dispenser.

Caution: Verify that all power sources have been turned off to the dispenser before proceeding.

9. Remove the junction box cover.
10. Detach the ISB from the vapor barrier, disconnect the Pulser/Nozzle switch harness, p/n 2-302140-HRN, from the bottom of ISB. See Figure 2-2. Save ISB and all hardware for later use.
11. Disconnect the Pulser/Nozzle switch harness, p/n 2-302140-HRN, from the pulsers and nozzle switches then remove the harness from the vapor barrier. Save hardware for reuse.
12. Disconnect solenoid valve wires and remove cable assy p/n 887344-001. See Figure 2-3.

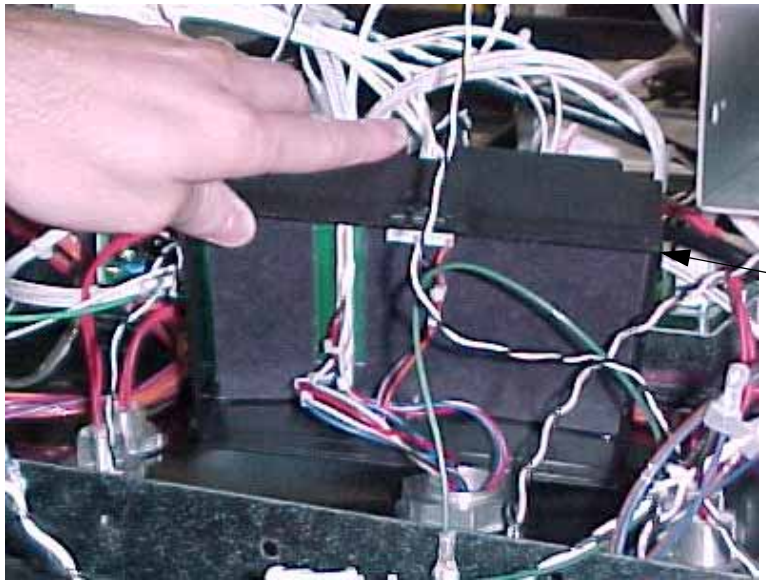


Figure 2-2 Disconnect Wire Harness from ISB

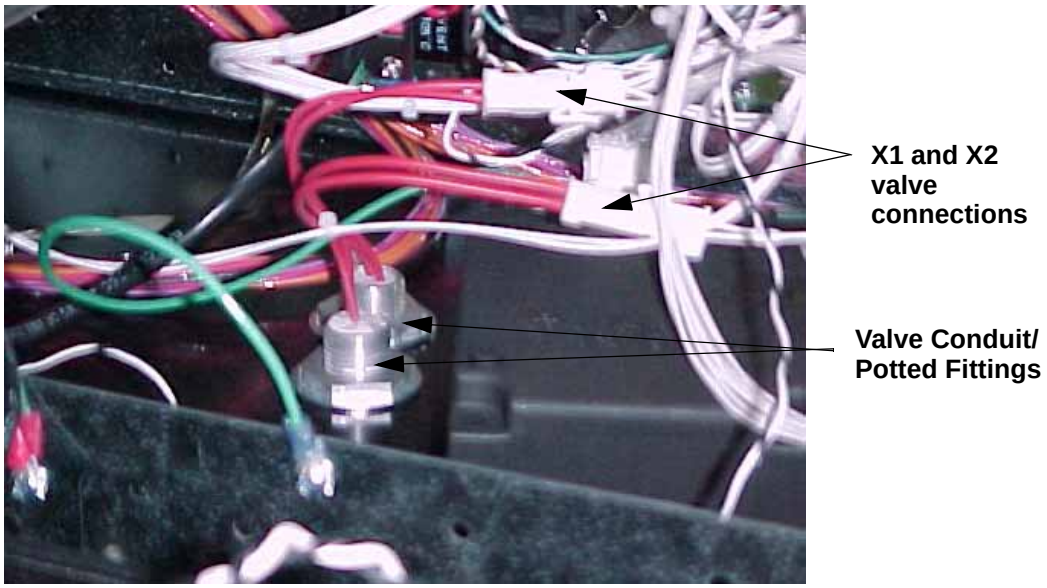


Figure 2-3 Remove Solenoid Valve Connections

2.3 Removal of Product Tubes and Valves

To remove the old product tubes from the dispenser, perform the following steps.

Important: Be sure that excess product is captured when removing product tubes and disposed of properly.

1. Disconnect product tubes from the outlet assemblies, stabilizer bracket and solenoid valves, then remove the (2) product tubes shown in Figure 2-4; right side as referenced from side 1.
2. Viewing meters left to right from side 1, remove the solenoid valves and conduit assemblies attached to the right meter, Figure 2-5.

Figure 2-4 Product Tubes

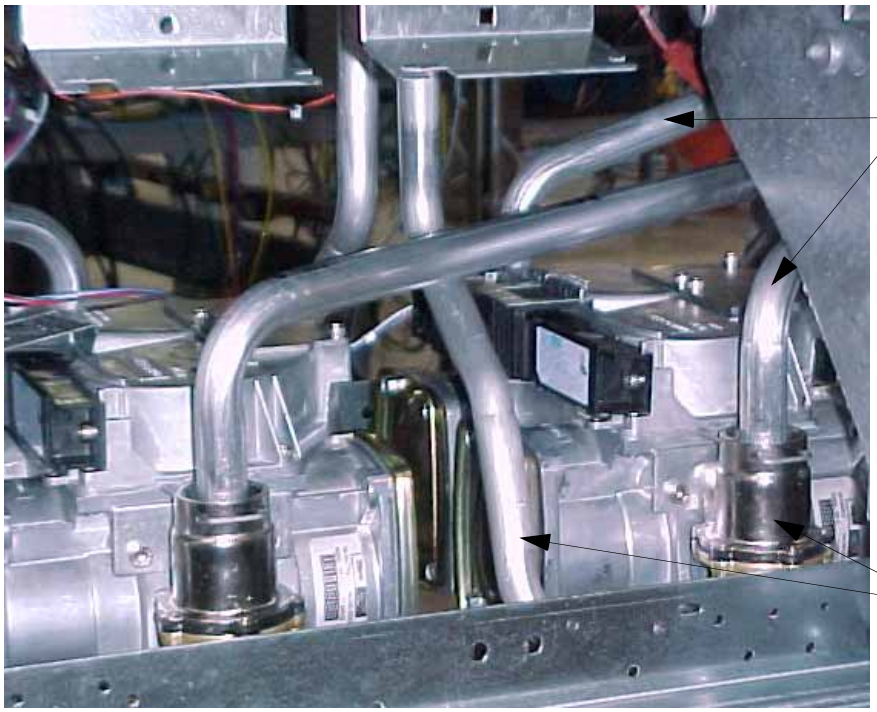


Figure 2-5 Right Meter

Section 3

Installing New Hardware

3.1 Introduction

This section explains how to install the new hardware from the conversion kit into the dispenser and electronic head.

3.2 Installation of the New Hardware

To install the new components from the conversion kit, perform the following steps.

1. Lubricate the O-Rings from the kit p/n 1-921130 with vasoline and install onto the outlet plugs p/n 1-202047. See Figure 3-1.

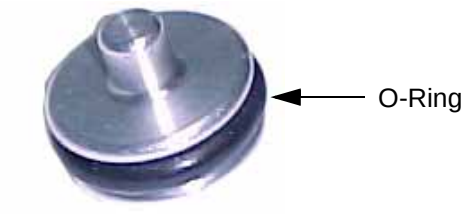


Figure 3-1 Outlet Plug with O-Ring

2. Install (2) outlet plugs in the right meter outlets.
3. Install (2) outlet plugs in the unused hose outlets at top of dispenser. See Figures 3-2 and 3-3.

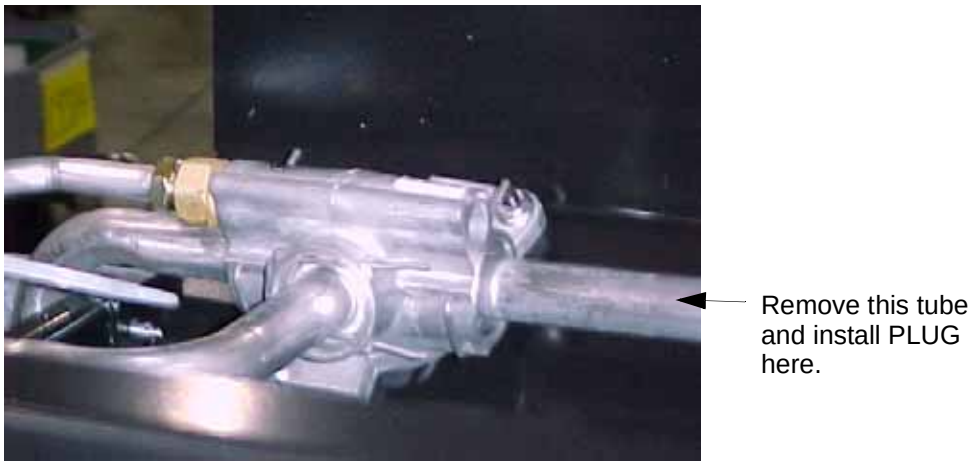


Figure 3-2 Hose Outlet Left Side (Side 2)

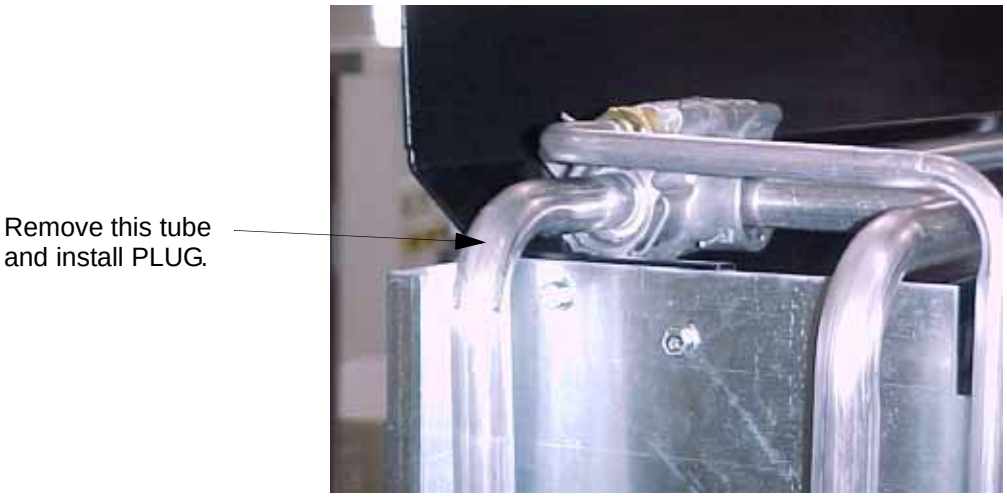


Figure 3-3 Hose Outlet Right Side (Side 1)

4. Install the new pulser/nozzle switch harness p/n 5-302140-HRN into the vapor barrier. See Figure 3-4. Reuse hardware that was removed earlier and ensure that a washer is used above and below the vapor barrier.

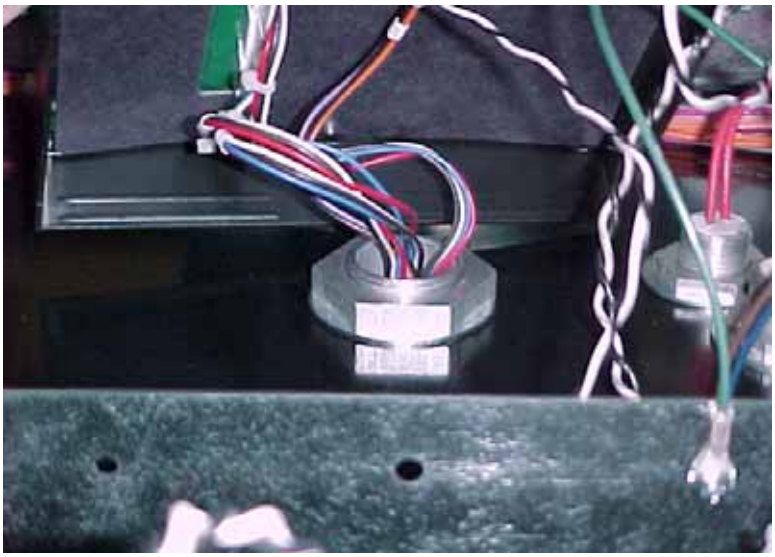


Figure 3-4 Pulser/Nozzle Wire Harness View From Side 2

5. Connect the pulser/nozzle switch harness to the ISB according to the labels on the harness. Securely attach the ISB ground wire if removed and then re-attach the ISB to the vapor barrier. See the wiring diagram 5-6632-D in Appendix A.

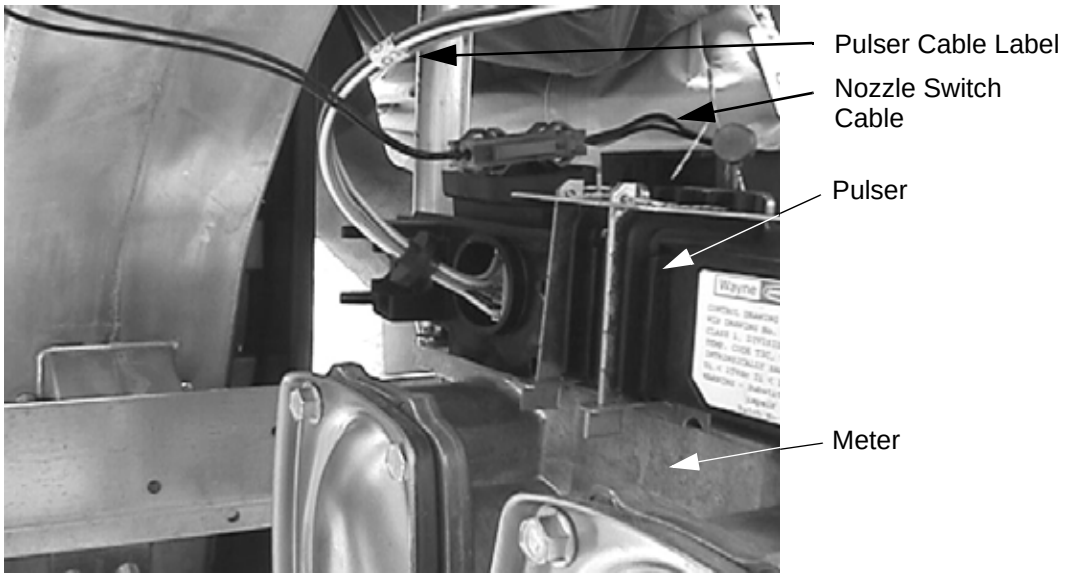


Figure 3-5 Pulser Cable Installation

6. Connect the new pulser/nozzle switch harness cable labelled HI to the middle pulser and the cable labelled LO to the left pulser. Re-use grommet and cover removed earlier. See Figure 3-5.
7. Connect the pulser/nozzle switch harness to the nozzle switch for side 1 and side 2 according to the label on the harness.
8. Install hardware from kit in the **two** holes in vapor barrier where the potted fittings/conduits were located for the right meter valves. Install hardware in both holes per Figure 3-6.
9. Install the new valve power cable, p/n 887344-002, according to the wiring diagram 5-6632-D.

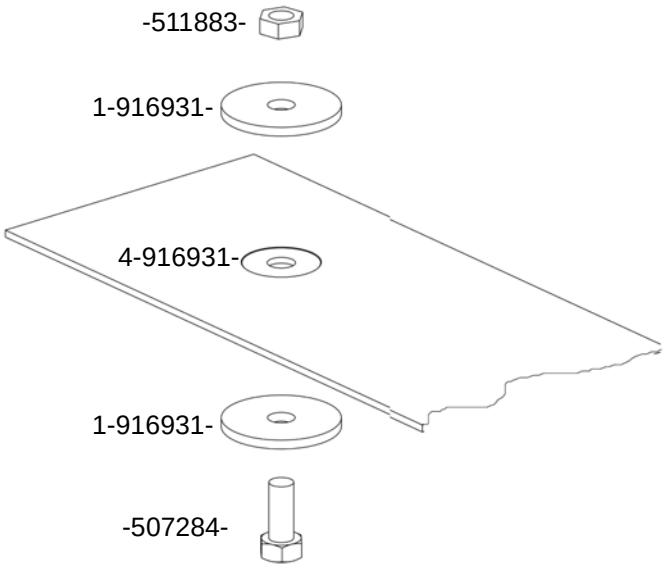


Figure 3-6 Hardware Stack-up for Vapor Barrier Seal

10. Make the electrical connections in the junction box (terminals 3 and 4) for the Relay Select lines according to the wiring diagram 5-6632-D provided in the manual.
11. Make any additional wiring harness connections according to wiring diagram 5-6632-D.
12. Replace the Junction Box cover using all of the bolts and tighten wrench tight.
13. Apply the octane labels, p/n 122438 and 122439, to both sides of the Lo and Hi product meters.
14. Disconnect the inlet union and remove the emergency shut off valve, refer to Figure 3-7.
15. Install p/n 918195 inlet plug in the inlet union.
16. Install cap on the product inlet. Note: The cap is not provided in the kit.
17. Reconnect wiring to the bezels.

3.3 Testing the Installation

1. Turn power on to the dispenser.
2. If the dispenser pump software is not Rev 36, refer to the servTerm manual for instructions and upgrade pump code to Rev 36.
3. Load the dispenser template for a 3/V590/U. See 920547 servTerm instruction manual.
4. Close and lock the bezels.
5. Open the emergency shut off valves for the left and middle product.

Note: The meter position on the dispenser is determined from Side 1 of the dispenser.

6. Select mid grade and purge the air from the system.
7. Check for fluid leaks. Use STP by energizing mid grade for 1 minute with nozzles closed. Visually inspect all connections and correct any leaks if necessary.
8. Replace top cover, column covers and doors.

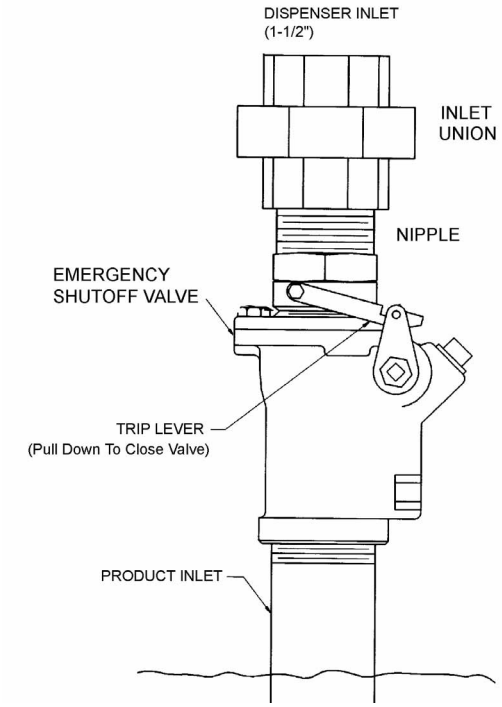
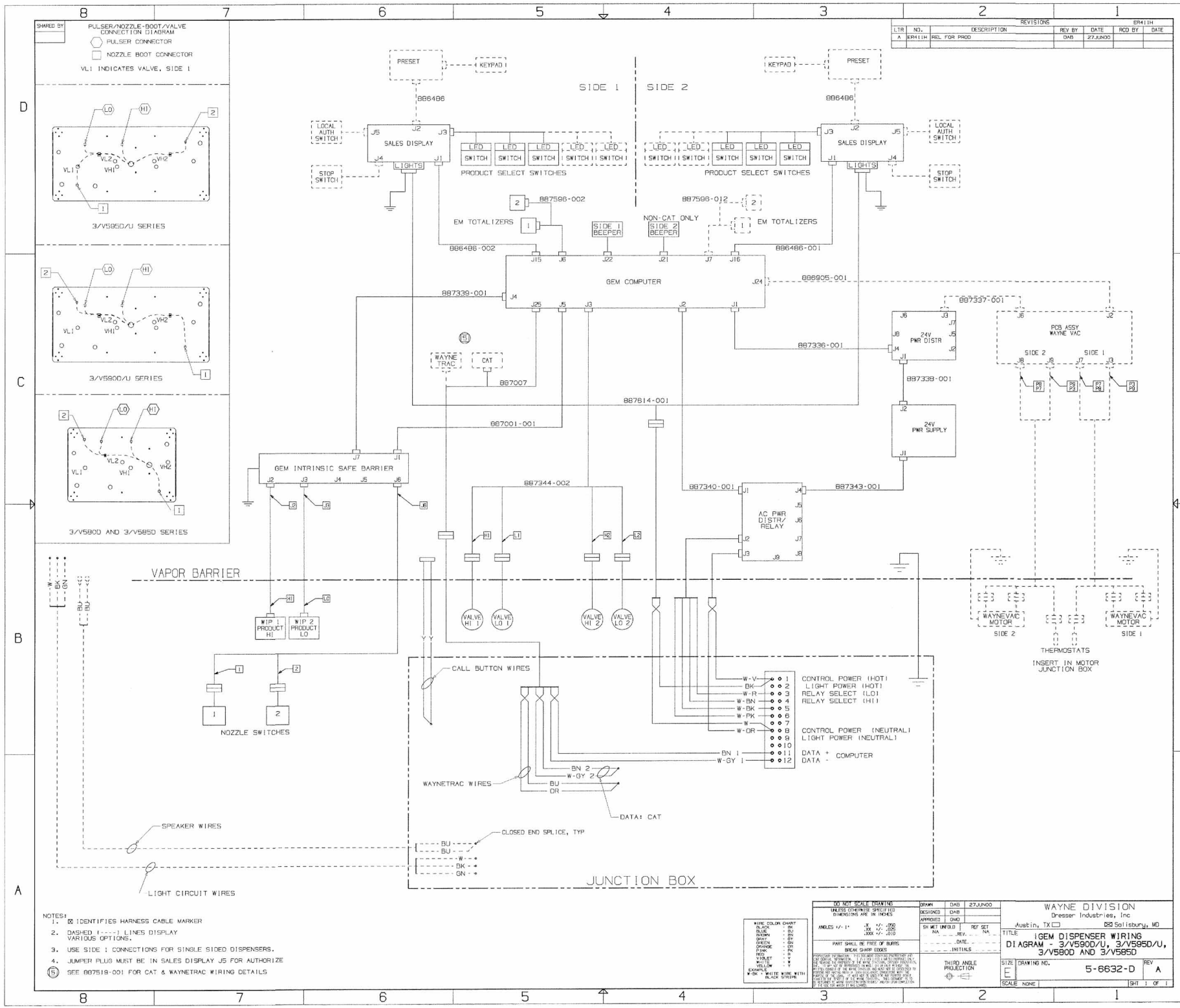


Figure 3-7 Emergency Valve

Appendix A

Wiring Diagram

Refer to the following wiring diagram, 5-6632-D, when installing the 3/V390/U to 3/V590/U Conversion kit.


PULSER/NOZZLE-BOOT/VALVE CONNECTION DIAGRAM
PULSER CONNECTOR
NOZZLE BOOT CONNECTOR
VL1 INDICATES VALVE, SIDE 1
3/V5950/U SERIES
3/V5900/U SERIES
3/V580D AND 3/V585D SERIES
REVISIONS
LTR NO. DESCRIPTION REV BY DATE RCD BY DATE
A ER411H REL FOR PROD DAB 27JUN00
PRESET
KEYPAD
886486
SIDE 1
SIDE 2
LOCAL AUTH SWITCH
STOP SWITCH
SALES DISPLAY
LED SWITCH
PRODUCT SELECT SWITCHES
LIGHTS
887596-002
887596-012
EM TOTALIZERS
NON-CAT ONLY
SIDE 1 BEEPER
SIDE 2 BEEPER
886486-002
886486-001
GEM COMPUTER
886905-001
887339-001
887337-001
24V PWR DISTR
887336-001
PCB ASSY WAYNE VAC
WAYNE TRAC
CAT
887007
887614-001
887001-001
GEM INTRINSIC SAFE BARRIER
887344-002
887340-001
887343-001
24V PWR SUPPLY
AC PWR DISTR/ RELAY
VAPOR BARRIER
WIP 1 PRODUCT HI
WIP 2 PRODUCT LO
VALVE HI 1
VALVE LO 1
VALVE HI 2
VALVE LO 2
WAYNEVAC MOTOR
SIDE 2
SIDE 1
THERMOSTATS
INSERT IN MOTOR JUNCTION BOX
NOZZLE SWITCHES
CALL BUTTON WIRES
W-V CONTROL POWER (HOT)
BK LIGHT POWER (HOT)
W-R RELAY SELECT (LO)
W-BN RELAY SELECT (HI)
W-BK
W-PK
W CONTROL POWER (NEUTRAL)
W-OR LIGHT POWER (NEUTRAL)
BN 1 DATA + COMPUTER
W-GY 1 DATA -
WAYNETRAC WIRES
BN 2
W-GY 2
BU
OR
DATA: CAT
SPEAKER WIRES
CLOSED END SPLICE, TYP
LIGHT CIRCUIT WIRES
JUNCTION BOX
NOTES:
1. ⊠ IDENTIFIES HARNESS CABLE MARKER
2. DASHED (----) LINES DISPLAY VARIOUS OPTIONS.
3. USE SIDE 1 CONNECTIONS FOR SINGLE SIDED DISPENSERS.
4. JUMPER PLUG MUST BE IN SALES DISPLAY J5 FOR AUTHORIZE
5. SEE 887519-001 FOR CAT & WAYNETRAC WIRING DETAILS
WIRE COLOR CHART
BLACK - BK
BLUE - BU
BROWN - BN
GRAY - GY
GREEN - GN
ORANGE - OR
PINK - PK
RED - R
VIOLET - V
WHITE - W
YELLOW - Y
EXAMPLE: W-BK = WHITE WIRE WITH BLACK STRIPE
DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
ANGLES +/- 1° X +/- .062 XX +/- .025 XXX +/- .010
PART SHALL BE FREE OF BURRS
BREAK SHARP EDGES
THIRD ANGLE PROJECTION
DRAWN DAB 27JUN00
DESIGNED DAB
APPROVED DMD
SH MET UNFOLD NA REF SET NA
REV.
DATE
INITIALS
WAYNE DIVISION
Dresser Industries, Inc
Austin, TX ☐ ⊠ Salisbury, MD
TITLE GEM DISPENSER WIRING DIAGRAM - 3/V590D/U, 3/V595D/U, 3/V580D AND 3/V585D
SIZE E
DRAWING NO. 5-6632-D
REV A
SCALE NONE
SHT 1 OF 1
005-006632-00d-1-0a.hgl deb DTEBOI 11:49

INSTALLATION MANUAL

3/V390/U to 3/V590/U DISPENSER CONVERSION KIT

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Dresser Wayne, Dresser, Inc. 3814 Jarrett Way, Austin, TX 78728 (512) 388-8311
Part No. 920680 Rev A

6/03