Introduction

Purpose

This manual provides installation instructions for the Distribution Box (D-Box) PA0306XX20. The D-Box provides an interface between Gilbarco® consoles and controllers with two-wire current loop and one of the following:

- Dispensing units
- CRIND® devices

Note: Current D-Boxes are available only with dual interface boards. Early D-Boxes were available with single or dual interface boards.

IMPORTANT INFORMATION
Do not install this equipment unless you have proper training for installing equipment in a hazardous location.

Intended Users

This manual is intended for Gilbarco trained and certified Authorized Service Contractors (ASCs).

Table of Contents

Required Tools

Following tools are required for installing the D-Box:

- Drill
- Megger® Tester
- Phillips® Screwdriver
- Slotted-tip Screwdriver

Parts List

PA03060020 D-Box

Following parts are required for installing the PA03060020 D-Box:

Item	Description	Part Number	Quantity
1	Assembly, D-Box	T19505-G3	1
2	Packing, D-Box	PK0943	1
3	Kit, Documentation Package	K94212-01	1
4	Cord, Set, Power 115 Voltage Alternate Current (VAC), Plug/Receptacle	Q11121-01	1
5	Assembly, Cable, Mass Terminal Assembly (MTA) Pigtails	R19263-G1	4

PA03061020 D-Box

Following parts required for installing the PA03061020 D-Box:

Item	Description	Part Number	Quantity
1	Assembly, D-Box	T19505-G4	1
2	Conformité Européenne (CE) Decal	N23725	1
3	Packing, D-Box	PK0943	1
4	Kit, Documentation Package	K94212-01	1
5	Power Cord, 230 VAC, 3 Conductor, Right Angle Female Connector	Q11736-02	1
6	Assembly, Cable MTA Pigtails	R19263-G1	4

Required Reading

Read the safety information provided in “Important Safety Information” on page 4 before you begin installation.

Read NFPA 30A and NFPA 70®

Before installing the equipment, read, understand, and follow:

- The National Electrical Code (NFPA 70)
- The Automotive and Marine Service Code (NFPA 30A)
- Any national, state, and local codes that apply

Failure to install the equipment in accordance with these codes may adversely affect the safe use and operation of the equipment.

Related Documents

Document Number	Title	GOLD℠ Library
FE-321	Gilbarco STP Isolation Relay Box PA0287 120 VAC	Engineering Diagrams
FE-363	Field Wiring Diagram Encore® 500/700 (M07555 Power Supply Only)	• Encore and Eclipse® • Encore and Eclipse Installers • Engineering Diagrams
FE-364	Field Wiring Diagram Encore 300	• Encore and Eclipse • Encore and Eclipse Installers • Engineering Diagrams

Document Number	Title	GOLD℠ Library
MDE-2530	Pump and Dispenser Installation Manual	Footprint and Elevations
MDE-2531	Gilbarco Pump and Dispenser Start-Up and Service	• Pump & Dispenser Start-Up • Service Manual
MDE-2755	STP Control and Dispenser Isolation Relay Box (PA0287)	• Advantage® and Legacy® • Encore and Eclipse • Encore and Eclipse Installers
MDE-3620	Point of Sale (POS) Systems Site Preparation Manual	Site Prep
MDE-3816	Passport® Hardware Start-up and Service Manual	• Passport • Service Manual
MDE-5083	Passport Hardware Start-up and Service Manual for PX60 Platform	Passport

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractors
AWG	American Wire Gauge
CE	Conformité Européenne
CRIND	Card Reader in Dispenser
CSA	Canadian Standards Association
D-Box	Distribution Box
EDH	Enhanced Dispenser Hub
ESD	Electrostatic Discharge
GOLD	Gilbarco Online Documentation
MTA	Mass Terminal Assembly
NEC®	National Electrical Code
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
PCB	Printed Circuit Board
POS	Point of Sale
RFI	Radio Frequency Interference
STP	Submersible Turbine Pump
TAC	Technical Assistance Center
TWI	Two-wire Interface
UL®	Underwriters Laboratories
UTP	Unshielded Twisted-pair
VAC	Voltage Alternate Current

Important Safety Information

Notes: 1) Save this Important Safety Information section in a readily accessible location.

2) Although DEF is non-flammable, Diesel is flammable. Therefore, for DEF cabinets that are attached to Diesel dispensers, follow all the notes in this section that pertain to flammable fuels.

This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining, or servicing this product. Before performing any task on this product, read this safety information and the applicable sections in this manual, where additional hazards and safety precautions for your task will be found. Fire, explosion, electrical shock, or pressure release could occur and cause death or serious injury, if these safe service procedures are not followed.

Preliminary Precautions
You are working in a potentially dangerous environment of flammable fuels, vapors, and high voltage or pressures. Only trained or authorized individuals knowledgeable in the related procedures should install, inspect, maintain, or service this equipment.

Emergency Total Electrical Shut-Off
The first and most important information you must know is how to stop all fuel flow to the pump/dispenser and island. Locate the switch or circuit breakers that shut off all power to all fueling equipment, dispensing devices, and Submerged Turbine Pumps (STPs).

⚠ WARNING

The EMERGENCY STOP, ALL STOP, and PUMP STOP buttons at the cashier's station WILL NOT shut off electrical power to the pump/dispenser. This means that even if you activate these stops, fuel may continue to flow uncontrolled.

You must use the TOTAL ELECTRICAL SHUT-OFF in the case of an emergency and not the console's ALL STOP and PUMP STOP or similar keys.

Total Electrical Shut-Off Before Access
Any procedure that requires access to electrical components or the electronics of the dispenser requires total electrical shut off of that unit. Understand the function and location of this switch or circuit breaker before inspecting, installing, maintaining, or servicing Gilbarco equipment.

Evacuating, Barricading, and Shutting Off
Any procedure that requires access to the pump/dispenser or STPs requires the following actions:

- An evacuation of all unauthorized persons and vehicles from the work area
- Use of safety tape, cones, or barricades at the affected unit(s)
- A total electrical shut-off of the affected unit(s)

Read the Manual
Read, understand, and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand a procedure, call the Technical Assistance Center (TAC) at 1-800-743-7501. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

Follow the Regulations
Applicable information is available in National Fire Protection Association (NFPA) 30A; *Code for Motor Fuel Dispensing Facilities and Repair Garages*, NFPA 70; *National Electrical Code (NEC)*, Occupational Safety and Health Administration (OSHA) regulations and federal, state, and local codes. All these regulations must be followed. Failure to install, inspect, maintain, or service this equipment in accordance with these codes, regulations, and standards may lead to legal citations with penalties or affect the safe use and operation of the equipment.

Replacement Parts
Use only genuine Gilbarco replacement parts and retrofit kits on your pump/dispenser. Using parts other than genuine Gilbarco replacement parts could create a safety hazard and violate local regulations.

Safety Symbols and Warning Words

This section provides important information about warning symbols and boxes.

Alert Symbol

This safety alert symbol is used in this manual and on warning labels to alert you to a precaution which must be followed to prevent potential personal safety hazards. Obey safety directives that follow this symbol to avoid possible injury or death.

Signal Words
These signal words used in this manual and on warning labels tell you the seriousness of particular safety hazards. The precautions below must be followed to prevent death, injury, or damage to the equipment:

DANGER: Alerts you to a hazard or unsafe practice which will result in death or serious injury.

WARNING: Alerts you to a hazard or unsafe practice that could result in death or serious injury.

CAUTION with Alert symbol: Designates a hazard or unsafe practice which may result in minor injury.

CAUTION without Alert symbol: Designates a hazard or unsafe practice which may result in property or equipment damage.

Working With Fuels and Electrical Energy

Prevent Explosions and Fires
Fuels and their vapors will explode or burn, if ignited. Spilled or leaking fuels cause vapors. Even filling customer tanks will cause potentially dangerous vapors in the vicinity of the dispenser or island.

DEF is non-flammable. Therefore, explosion and fire safety warnings do not apply to DEF lines.

No Open Fire

Open flames from matches, lighters, welding torches, or other sources can ignite fuels and their vapors.

No Sparks - No Smoking

Sparks from starting vehicles, starting, or using power tools, burning cigarettes, cigars, or pipes can also ignite fuels and their vapors. Static electricity, including an electrostatic charge on your body, can cause a spark sufficient to ignite fuel vapors. Every time you get out of a vehicle, touch the metal of your vehicle, to discharge any electrostatic charge before you approach the dispenser island.

Working Alone

It is highly recommended that someone who is capable of rendering first aid be present during servicing. Familiarize yourself with Cardiopulmonary Resuscitation (CPR) methods, if you work with or around high voltages. This information is available from the American Red Cross. Always advise the station personnel about where you will be working, and caution them not to activate power while you are working on the equipment. Use the OSHA Lockout/Tagout procedures. If you are not familiar with this requirement, refer to this information in the service manual and OSHA documentation.

Working With Electricity Safely

Ensure that you use safe and established practices in working with electrical devices. Poorly wired devices may cause a fire, explosion, or electrical shock. Ensure that grounding connections are properly made. Take care that sealing devices and compounds are in place. Ensure that you do not pinch wires when replacing covers. Follow OSHA Lockout/Tagout requirements. Station employees and service contractors need to understand and comply with this program completely to ensure safety while the equipment is down.

Hazardous Materials

Some materials present inside electronic enclosures may present a health hazard if not handled correctly. Ensure that you clean hands after handling equipment. Do not place any equipment in the mouth.

⚠ WARNING

The pump/dispenser contains a chemical known to the State of California to cause cancer.

⚠ WARNING

The pump/dispenser contains a chemical known to the State of California to cause birth defects or other reproductive harm.

In an Emergency

Inform Emergency Personnel

Compile the following information and inform emergency personnel:

- Location of accident (for example, address, front/back of building, and so on)
- Nature of accident (for example, possible heart attack, run over by car, burns, and so on)
- Age of victim (for example, baby, teenager, middle-age, elderly)
- Whether or not victim has received first aid (for example, stopped bleeding by pressure, and so on)
- Whether or not a victim has vomited (for example, if swallowed or inhaled something, and so on)

⚠ WARNING

Gasoline/DEF ingested may cause unconsciousness and burns to internal organs. Do not induce vomiting. Keep airway open. Oxygen may be needed at scene. Seek medical advice immediately.

⚠ WARNING

DEF generates ammonia gas at higher temperatures. When opening enclosed panels, allow the unit to air out to avoid breathing vapors.
If respiratory difficulties develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention.

⚠ WARNING

Gasoline inhaled may cause unconsciousness and burns to lips, mouth, and lungs. Keep airway open. Seek medical advice immediately.

⚠ WARNING

Gasoline/DEF spilled in eyes may cause burns to eye tissue. Irrigate eyes with water for approximately 15 minutes. Seek medical advice immediately.

⚠ WARNING

Gasoline/DEF spilled on skin may cause burns. Wash area thoroughly with clear water. Seek medical advice immediately.

⚠ WARNING

DEF is mildly corrosive. Avoid contact with eyes, skin, and clothing. Ensure that eyewash stations and safety showers are close to the work location. Seek medical advice/recommended treatment if DEF spills into eyes.

IMPORTANT: Oxygen may be needed at scene if gasoline has been ingested or inhaled. Seek medical advice immediately.

Lockout/Tagout

Lockout/Tagout covers servicing and maintenance of machines and equipment in which the unexpected energization or start-up of the machine(s) or equipment or release of stored energy could cause injury to employees or personnel. Lockout/Tagout applies to all mechanical, hydraulic, chemical, or other energy, but does not cover electrical hazards. Subpart S of 29 CFR Part 1910 - Electrical Hazards, 29 CFR Part 1910.333 contains specific Lockout/Tagout provision for electrical hazards.

Overview

⚠ WARNING

Under no circumstances should a D-Box be used for normal operation with the cover removed. The cover protects personnel and the environment from potential safety hazards associated with electronic circuitry.

CAUTION

When the D-Box is used at smaller sites (two-wire runs less than 100 feet with few fueling positions), components on the boards may fail. Refer to "Appendix: Rewiring Transformer for Smaller Sites" on page 15 for modifications to rework the D-Box to avoid this issue.

The D-Box provides an interface between Gilbarco consoles and controllers with Two-wire Interface (TWI) current loop and dispensing units, and CRIND devices. The distribution board(s) are fixed at 45 mA interface to the controller and are set standard at 45 mA output to dispensing units or CRIND devices. Additional field jumper settings are provided to select 30 mA for other non-Gilbarco Underwriters Laboratories (UL)-listed dispensers.

Note: Interface cables between the D-Box and the console/controller are not included with the D-Box, and must be ordered separately. Refer to "TWI (Current Loop)" on page 10 for proper length and type of cable required. Two pieces each of these cables are supplied with Passport systems.

The D-Box houses the power supply transformer and a removable tray with up to two Printed Circuit Boards (PCB). Each PCB contains a power supply, an opto-coupled current loop interface, eight dispenser current loops, and automatic isolation circuitry.

Two four-channel MTA connectors are provided for each circuit board for field wiring (see Figure 4 on page 14).

The Passport Enhanced Dispenser Hub [EDH (PA0403 or PA0415)] requires this D-Box. For wiring connections, see Figure 3 on page 13.

There are eight individual current data loops for dispensing units on each distribution board. The two boards installed in a D-Box can be configured as either of the following:

- Two separate inputs with each input controlling eight data loops.
- One input controlling 16 data loops.

Each data loop has both current regulation and automatic isolation circuitry. The dispenser data-loop drivers operate from an unregulated 12 VDC supply at 45 mA for Gilbarco dispensers and CRIND devices, or 30 mA for other non-Gilbarco UL-listed dispensers selected by jump jacks on board (for wiring connections, see Figure 3 on page 13).

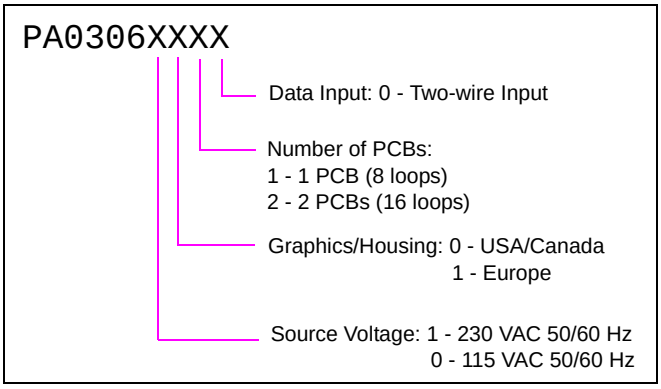
Notes: 1) Each distribution board must be dedicated for use with Gilbarco 45 mA dispensing units, CRIND devices, or 30 mA for other non-Gilbarco UL-listed dispensers. No mixing of differing current loop equipment on a distribution board is allowed.

2) Connect only one dispenser or CRIND to any one data-loop channel. The wiring distance between the D-Box and dispensers is not to exceed 2600 feet (5200 feet of total wire), and requires twisted-pair stranded 14 American Wire Gauge (AWG) wire. Daisy chaining is not allowed with this unit. Shielded wire is not recommended for dispensers.

Model Number Breakdown

Figure 1 shows the model number breakdown of the D-Box.

Figure 1: PA0306XXXX Model Number Breakdown



Specifications

Following tables list the physical, electrical, and operating environmental details of the D-Box:

Model Number - PA0306XXXX

Dimensions	
Height	7 - 13/16 inches
Width	16 - 9/32 inches
Depth	5 - 15/32 inches
Weight	5 lbs.

Dedicated Isolated Ground Receptacle	
USA/Canada	115 VAC nominal, 50/60 Hz
International	230 VAC nominal, 50/60 Hz

Current
0.5 amp at 115 VAC
0.25 amp at 230 VAC

Operating Environment	
Minimum Temperature	+32 °F (0 °C)
Maximum Temperature	+130 °F (+55 °C)
Humidity	5 - 95% Rh (non-condensing)

Preliminary Preparation

Unpacking Equipment

When the equipment arrives at the installation site, each unit should be unpacked and inspected for possible shipping damage. If damage is evident, it must be reported to the carrier. Shipping damage is not covered under Gilbarco's warranty policy. After visual inspection, place the unit back in its shipping carton to prevent undue exposure to the elements, and store indoors until ready for installation.

Basic Site Criteria

Installation of the D-Box must be in accordance with the NEC NFPA 70, the Automotive and Marine Service Station Code NFPA 30A, and any state or local electrical requirements.

For Canadian installations, use the Canadian Electrical Code CSA C22.2.

The site must be equipped with electric service allowing compliance with all installation requirements of a complete fueling system.

An enclosed weather-protected structure must be located on the site for housing the D-Box. Room ambient temperature or weather-protected containment structure temperature must not exceed 130 °F (55 °C). This maximum temperature is allowed only if the equipment is allowed free air flow.

Megger testing of field wiring must be completed prior to connecting wires to the D-Box.

The data cabling between the D-Box and the system controller must be kept separate from all other power and control lines.

Physical Placement

Locate the D-Box in an area not subjected to extreme temperature variations (the D-Box is not weather proof). Refer to "Operating Environment" on page 8. The ambient temperature must remain relatively constant. Do not install the D-Box in a position subject to direct sunlight. If conditions so dictate, provide a suitable sunscreen.

The PA0306 D-Box is suitable for use over hazardous locations. The box must be installed at least 18 inches above the floor. Locate the D-Box in an area which minimizes the possibility of liquids being spilled onto it.

Allow several inches clearance on the left side of the D-Box for the AC power cord. Allow 2 inches clearance above the box for removing the cover.

Electrical Wiring Requirements

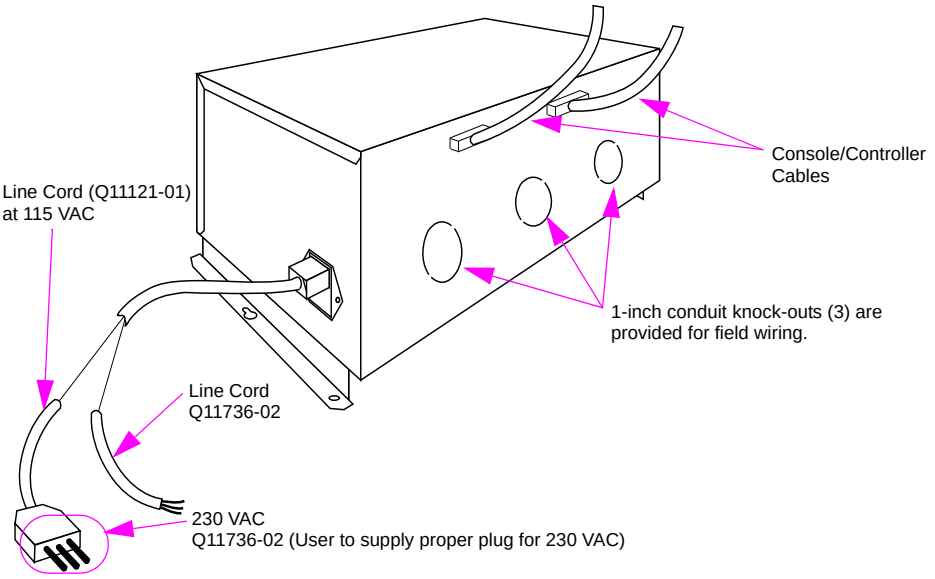
The receptacle providing power to the D-Box must be a properly installed isolated ground receptacle (Hubbell® #IG5261 or equivalent). This type receptacle is easily identified by its bright orange color and by the triangle embossed into the face of the outlet. The green grounding screw must be attached to the grounding conductor.

- All electrical wiring must conform to NEC and local wiring codes, as well as the criteria in this manual and *MDE-3620 Point of Sale (POS) Systems Site Preparation Manual*.
- One conduit from the breaker panel to the D-Box location is required. The conduit must contain three 14 AWG wires: 115 VAC hot, neutral, and ground; or 230 VAC L1, L2, and Ground. Do not use the electrical conduit to provide earth ground.
- The circuit powering the D-Box must not power other devices. This circuit must not share a conduit with wiring for devices drawing high amperage (compressor, freezer, and so on) or devices that are sources of Radio Frequency Interference [RFI (TV, microwave, intercom, etc.)].
- The AC outlet must be within 6 feet of the D-Box (see Figure 2 on page 10). Do not use extension cords.

  Note: The box and associated wiring must not be located closer than 12 inches to an electronically noisy device, such as a variable speed Submersible Turbine Pump (STP) controller or associated wiring.
- The receptacle is to be installed in accordance with *MDE-3620 Point of Sale (POS) Systems Site Preparation Manual*.

  Note: For 230 VAC operation, a 9-foot detachable line cord is provided. It is the customer's responsibility to supply a plug for the cord that meets local electrical codes and UL requirements.

Figure 2: Interface Cabling Between D-Box and Controller



*Note: **Isolated Receptacle** - User to supply proper receptacle to meet local electrical code requirements. The receptacle providing power to the PA0306 must be a properly isolated ground receptacle (Hubbell #IG 5261 or the equivalent). The green grounding screw must be attached to the grounding conductor.*

Passport System

Use the cables listed in the following table to connect the D-Box direct to the two-wire loop ports:

TWI (Current Loop)

Cable Part Number	Cable Length (in feet)
Q13850-03	3
Q13850-06	6
Q13850-10	10
Q13850-15	15
Q13850-25	25
Q13850-50	50
Q13850-100	100
Q13850-150	150
Q13850-200	200

Data Cabling Requirements

For the correct controller to the D-Box data cable, refer to "TWI (Current Loop)" on page 10.

Neatly install all cables so that they are protected from damage or accidental disconnection. Route the cables along a wall or under a counter and secure with cable-ties or suitable cable clamps.

Do not route data wires over fluorescent light, compressor wiring, etc., nor within 12 inches of electronically noisy devices, such as variable speed STP controllers or associated wiring.

Use a 9-pin D-Sub receptacle to 8-pin Modular Jack Gender Mender (Q13180-11) to convert the Transac System 1000™ console 9-pin plug D-Sub on underside panel to modular jack receptacle to connect the cables above. That can also be used for pre-existing sites on end of molded D-Sub cable if that cable must remain due to difficult prior installation.

Field Wiring for Data Cables

Use the following modular jack parts for field wiring:

Number	Description
Q13241-01	In-line 8-pin modular jack receptacle to receptacle coupling.
Q13241-02	Wall-mount single 8-pin modular jack receptacle to field wiring.
Q13241-05	3-way splitter

Note: Use 14 AWG stranded or solid wire between wall receptacles.

Field Wiring Requirements

A wiring trough is required in the vicinity of the D-Box for terminating the conduit runs from the dispensers. Three 1-inch knockouts are provided on the bottom of the D-Box for running conduit between the box and the wiring trough.

Use 14 AWG stranded twisted-pair wire for data wires to Gilbarco dispensing equipment. Leave plenty of wire exposed as a service loop in the wiring trough. 16 inches of exposed wire is needed inside the D-Box.

Note: In the main conduit, for communications use only twisted-pair, two-wire data pairs. Do not use shielded wire.

Unshielded Twisted-pair (UTP) wire is required for two-wire communication wiring for new installations. Previously wired stations may continue to use tested existing non-twisted pair wiring that has been tested for short circuits and continuity and passed. However, twisted pair wiring is recommended for existing wired stations known to have communications problems between the console and dispensers.

When pulling wires, be careful to avoid damage to the insulation.

Installing D-Box

To install the D-Box, proceed as follows:

1. Loosen the two screws on the bottom-front of the D-Box and lift the cover.
2. Carefully remove and discard any packing material from the D-Box.
3. Disconnect the cable from the distribution board(s) at P101. Disconnect the wiring pigtails from P106 and P107 (for wiring connections, see Figure 3 on page 13).

CAUTION

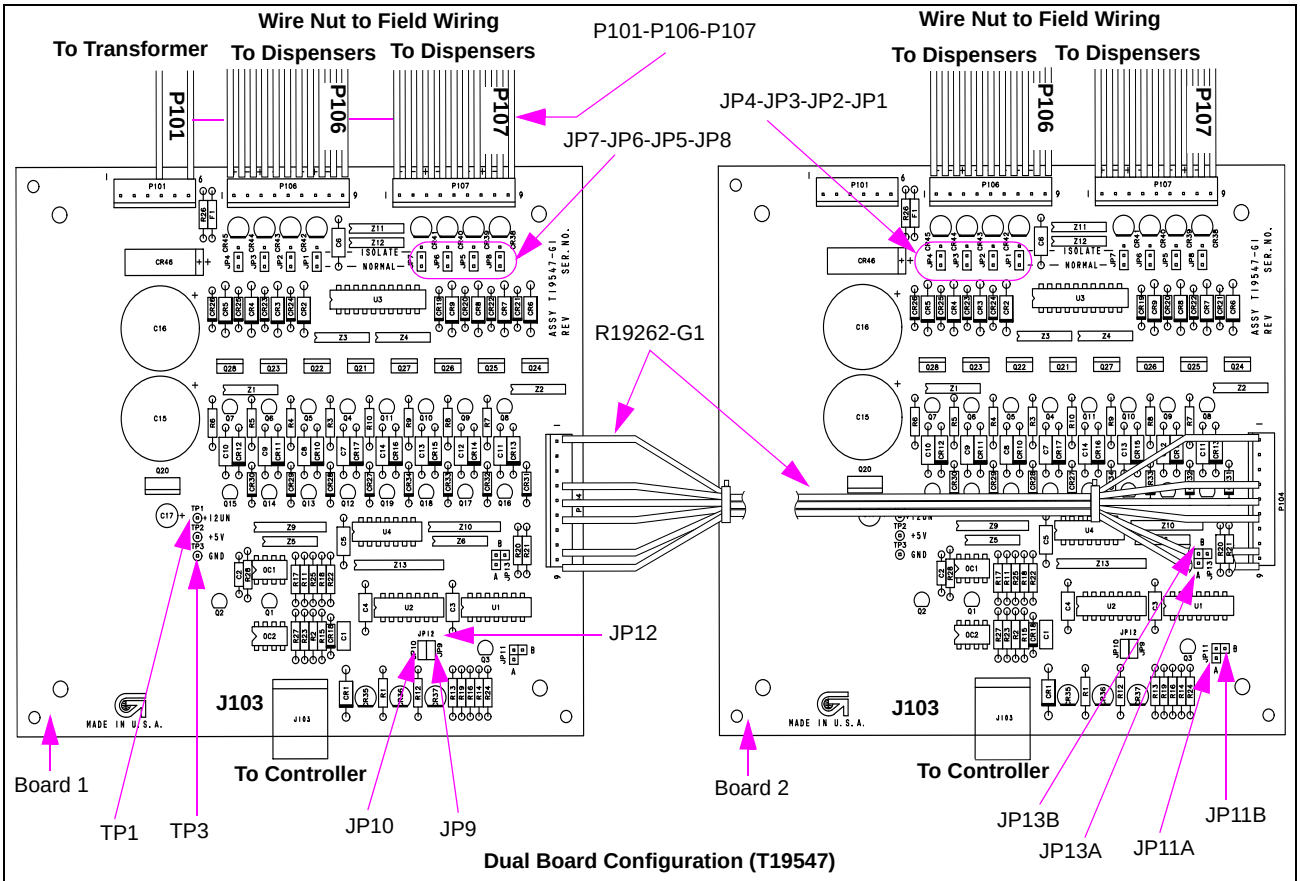
Working on PCBs without connecting to a ground or discharging static can damage electronic parts. Use a properly grounded Electrostatic Discharge (ESD) wrist strap and store parts in antistatic storage bags.

4. Slide the distribution board mounting plate up and out of the D-Box and remove the boards avoiding unnecessary damage to the components when mounting the box.
5. Mount the D-Box to the wall, and ensure to:
   - allow clearance on the left side to connect the AC cable.
   - allow clearance above the D-Box so that the cover can be removed.
   - mount the D-Box within 6 feet of the AC outlet.
6. Install the conduit for data wires between the wiring trough and the D-Box. Pull data wires up into the D-Box leaving 16 inches of wire inside the D-Box. This allows for easy installation of the wiring pigtails.
7. Connect the data wires to the pigtails (see Figure 4 on page 14).
8. Replace the distribution board mounting plate. Reconnect P101, P106, and P107 (for wiring connections, see Figure 3 on page 13) as required to the board(s).
9. Connect the data cable(s) to the 8-pin modular jack connectors.
10. Verify that the jumper settings are set correctly for your configuration (for wiring connections, see Figure 3 on page 13).
11. Plug in the AC power cord.
12. Change the jump jacks (JP1 through JP8) one at a time to the NORMAL position (for wiring connections, see Figure 3 on page 13). Verify operation of the card readers and/or dispensing units.
13. Replace the D-Box cover and secure with screws.

D-Box Wiring

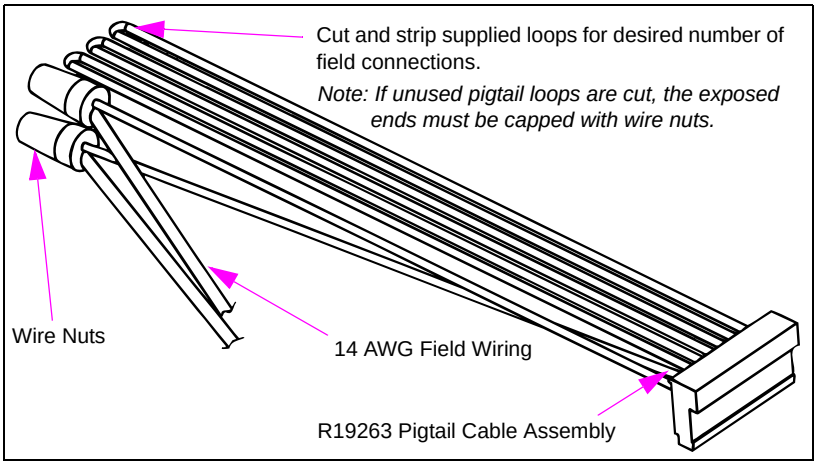
Figure 3 shows the D-Box board layout with dispenser connections.

Figure 3: D-Box Board Layout



Description	Board 1 Jumper Settings	Board 2 Jumper Settings
2 boards, 1 input, 16 loops interface to all TWI consoles/controllers.	JP13A – In JP11B – In JP12 – In	JP13B – In JP11A – In JP12 – In
2 boards, 2 inputs, 8 loops interface to all TWI consoles/controllers.	JP13B – In JP11B – In JP12 – In	JP13B – In JP11B –In JP12 – In
2 boards, 1 input, 16 loops, 30 mA for Non-Gilbarco UL Listed dispensers. Interfaces to 45 mA controllers.	JP13A – In JP11B – In JP10 – In	JP13B – In JP11A – In JP10 – In
2 boards, 2 inputs, 8 loops, 30 mA for Non-Gilbarco UL Listed dispensers. Interfaces to 45 mA controllers.	JP13B – In JP11B – In JP10 – In	JP13B – In JP11B – In JP10 – In

Figure 4: Field Wiring to MTA Pigtails



Appendix: Rewiring Transformer for Smaller Sites

For smaller sites (two-wire wiring runs less than 100 feet) with few fueling positions, transistors Q21 through Q28 may overheat. In those cases, proceed as follows:

⚠ WARNING

Do NOT attempt to rewire the transformer with power applied.

Follow the lockout/tagout procedures in "Important Safety Information" on page 4.

Accessing Transformer

To access the transformer for rewiring, proceed as follows:

1. Turn off the breaker associated with the dedicated receptacle supplying power to the D-Box and lockout/tagout.
2. Unplug the power cord from the dedicated outlet.
3. Unplug the power cord from the D-Box.
4. Remove the D-Box cover.
5. Disconnect dispenser-loop wiring, POS cables, and transformer power from the D-Box boards.
6. Remove the board tray to expose the transformer.
7. Remove the shield that surrounds the transformer.
8. Remove the transformer from the mounting studs.

Rewiring Transformer

To rewire the transformer, proceed as follows:

1 Remove the loop-back (see Figure 5) from the side of the transformer opposite the wiring going to the AC receptacle (see Figure 6).

Figure 5: Removing Loop-back Connection

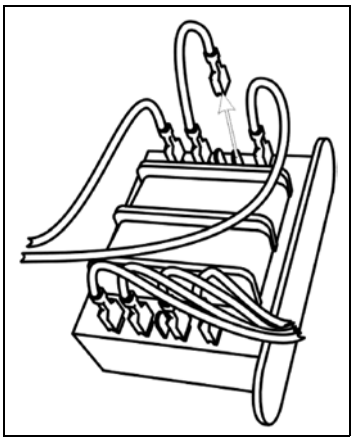
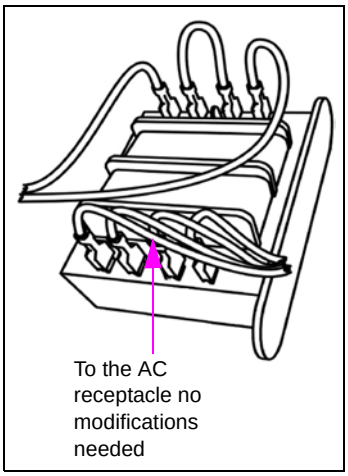
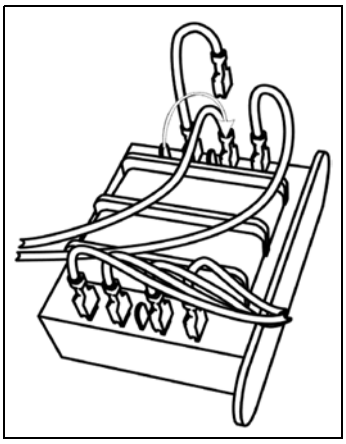


Figure 6: AC Receptacle Wiring



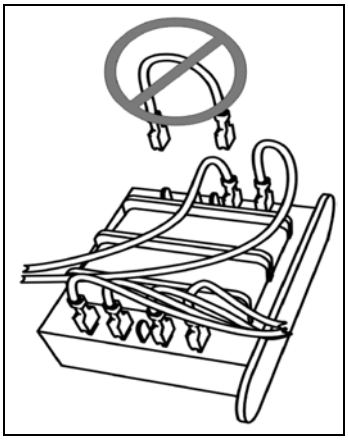
2 Remove one secondary connection from the top of the transformer and move that secondary connection to the contact from where the loop-back was removed in step 1 on page 16 (see Figure 7).

Figure 7: Moving Secondary Connection



3 Remove the loop-back connection and discard it (see Figure 8).

Figure 8: Removing Loop-back Connection



Returning Transformer to Service

To return the transformer to service, proceeds as follows:

1 Reinstall the transformer onto its studs and reassemble the transformer shield and D-Box board tray.

2 Reinstall the AC power cord to the D-Box.

3 Plug the AC cord back into the isolated and dedicated receptacle.

4 Remove the lockout/tagout tags.

5 Apply power by turning on the associated circuit breaker.

6 Take voltage readings between the TP1 (+12UN) and TP3 (GND) pins on each of the boards (for wiring connections, see Figure 3 on page 13).

7 Verify that the voltage readings are between 11 and 12 VDC.

8 Reinstall the D-Box cover.

⚠ WARNING

Do NOT operate the D-Box without a cover or with ventilation holes drilled in the cover.

If any holes have been drilled in the cover or fans installed, or if the cover was removed and discarded, you must replace the cover. Do not reinstall any fans.

9 Verify that there is proper communication between the dispensers/pumps and console.

GILBARCO VEEDER-ROOT

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